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A DESIGN STUDY FOR TOXIC ROCKET EXHAUST GAS CLEANING

J. W. Garrett, et al

ARO, Inc.

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FOREWORD

The work reported herein was requested and sponsored by the Air Force Rocket Propulsion Laboratory (AFRPL), Air Force Systems Command (AFSC), Edwards AFB, California, and was in response to purchase request 6365000C077001. Direct contact for information and approvals was with AFRPL, TSCE (M. Raleigh), and all specifications, drawings, and operational instructions were sent to that office.

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This technical report has been reviewed and is approved.

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ABSTRACT

A literature and equipment survey resulted in the selection of a high gas velocity chemical spray scrubber as the method for cleaning toxic products from rocket exhaust gases. The study included application of this type of system to 1,000-, 5,000-, 50,000-, and 250,000-lb-thrust rockets. A pilot model system was designed (and specifications and drawings were prepared) for a 5,000-lb-thrust rocket engine.

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NOMENCLATURE

A	Area
C_D	Coefficient of drag of drop
CP	Mass fraction of pollutant in gas phase
C_p	Specific heat
CV	Mass fraction of pollutant plus absorbent in gas phase
D	Diameter of drop
F	Mass of liquid/unit mass of noncondensable gas (force in Appendix III)
H	Enthalpy
HR	Heat of reaction
h	Heat transfer coefficient
ISP	Specific impulse
J	Mechanical equivalent of heat, ft-lbf/Btu
K	Mass transfer coefficient
L	Heat of vaporization
M	Mach number
MW	Molecular weight
m	Mass

$\dot{m}$	Mass flow rate
P	Pressure
Pr	Prandtl number
R	Specific gas constant, ft-lbf/lbm-°R
Re	Reynolds number
Sc	Schmidt number
T	Temperature, static
U	Velocity
V	Volume flow rate, ft^3/sec
X	Mole fraction
η	Subsonic diffuser efficiency (assumed = 0.6)
γ	Ratio of specific heats at constant pressure
μ	Viscosity
ρ	Density

SUBSCRIPTS

b	Inbleed
d	Diffuser or duct
g	Gas
ℓ	Liquid
nc	Noncondensable
p	Pollutant
r	Rocket
s	Static
st	Steam
t	Total
v	Vapor
1	Scrubber duct inlet
2	Scrubber duct outlet

SUPERSCRIPTS

$'$	Primary
$''$	Secondary
$*$	Nozzle throat

SECTION I
INTRODUCTION

The problem of rocket exhaust gas cleaning is of common interest to the Air Force Rocket Propulsion Laboratory (AFRPL) and the Arnold Engineering Development Center (AEDC) since rockets are tested at ambient and altitude simulated conditions at both facilities. The emphasis is on ambient testing at AFRPL and on simulated altitude testing at AEDC. The AFRPL desired to procure devices to clean the rocket exhaust gas from their ambient test stands, and AEDC had experience in cleaning gases in the altitude test cells. The AEDC was requested to do a study of the state-of-the-art of gas cleaning and to design a pilot model gas cleaning system suitable for use with a 5,000-lb-thrust rocket unit. Since AFRPL operates several different test stands which are rated for different thrust levels, the selected system design must also be applicable to test stands having thrust capabilities of 50,000 and 250,000 lb. From this design study, AEDC could expect to gain information which could be applied to improve the efficiency of the exhaust gas cleaning systems in the simulated altitude test facilities and the design of a total containment test cell.

As a result of this study, the system selected for cleaning rocket exhaust gases can remove hydrogen fluoride, hydrogen chloride, and nitrogen dioxide. The system is also capable of removing fine solid particles such as aluminum oxide and beryllium oxides. Most equipment and systems available commercially operate under steady-state conditions and for long periods of time; therefore, special consideration of the rocket testing characteristics of short operating times and large flow rates was made.

The selected system is a wet venturi-type scrubber and consists of a gas collection duct or diffuser, a spray section, a mixing section, an entrained moisture eliminator or demister, and a waste water disposal system or evaporation pond.

SECTION II
PHASE I: LITERATURE SEARCH AND SYSTEM SELECTION

The performance requirements of the system to be designed were: (1) it must clean rocket exhaust gases of the toxic gases hydrogen fluoride, hydrogen chloride, and nitrogen oxide compounds, (2) it must also be capable of removing fine solids such as aluminum oxide and beryllium

oxide, (3) the system must be adaptable so it can be scaled and the same principle used for rockets having thrust levels of 50,000 and 250,000 lb, (4) the system should have low capital investment, low operational costs, and low maintenance costs, and (5) the system should be simple in operation, suitable to the special mode of rocket testing of intermittent operation, and adaptable to a variety of propellant combinations and high gas flow rates.

A search for current cleaning practices in commercial and government operations was made in periodicals, reports, reference textbooks, and handbooks and by direct contact with operating personnel. Information was desired on scrubbers of any sort which had been used on hydrogen fluoride, hydrogen chloride, and nitrogen oxide gases or on aluminum oxide or beryllium solids. Also reports or articles on gases such as fluorine, hydrogen fluoride, hydrogen chloride, chlorine, and nitrogen oxides were searched for cleaning or removal methods. Periodicals, such as Chemical Engineering, Plant Engineering, Mechanical Engineering, Journal of Air Pollution Control Association, Design News, Machine Design, Journal of Air Conditioning, Heating and Ventilation, Environmental Science and Technology, and Science and Technology, were included in the search for current methods of cleaning gases. From these periodicals, nine survey-type articles (Refs. 1 through 9) were found, which describe the types of cleaners used and in which are compared efficiency, application, and costs.

From these sources, it was found that the possible ways of cleaning gases are mechanical collectors, electrostatic precipitators, wet scrubber, dry scrubber, packed towers, cryogenic condensing, dilution, chimney disposal, and filters. Each method of cleaning was studied to determine if it could be applied to the problem. The advantages, disadvantages, and/or limitations were considered.

The mechanical collectors are reasonable in initial investment and operational costs. However, their efficiency on particles 10μ and smaller is below 95 percent (Refs. 1, 2, 4, 7, and 9), and they do not remove toxic gases.

Electrostatic precipitators are high in efficiency on small particles (Refs. 1, 2, and 5) but do not remove gases; therefore, they are unacceptable as a single cleaning unit for this application.

The wet scrubber has high efficiency on small particles (Refs. 1, 2, 3, 5, 6, 8, and 9) and will work with both solids and gases. The gases may be removed by absorption into the water or by the use of suitable solutions for reaction with a given pollutant gas or gases (Refs. 2 through 6).

Dry scrubbing or absorption has been used in the removal of fluorine (by alumina) and sulfur dioxide (by limestone) from gas streams (Ref. 4). Not enough information or experience with other gases is available to make this an acceptable system. Also the removal of the resulting solid particles requires an additional device.

Vertical packed towers are useful as removers of gases but the efficiency is low on solid particles (Refs. 2, 5, and 6). They also require large areas to maintain low velocity through the bed. If they are used as absorber units for gases, they require recharging or regeneration in many cases such as the removal of fluorine with a charcoal bed (Refs. 1, 3, and 4).

Cryogenic condensing could be used to condense the toxic gases, but the toxic product still exists and must be removed. The large heat transfer areas required make it quite expensive. Also, the effectiveness of solid particle removal is not known.

The dilution and chimney disposal methods were discarded as being unacceptable. They are the same basic method, dilution, with the difference being disposal position. Dilution of the toxic gases to acceptable tolerance limits in parts per million is not a satisfactory way of disposal because the total amount of contaminants is still discharged into the air.

Filters would give very high removal of solid particles (Refs. 1, 2, 4, 5, and 9); however, they will not remove gases.

This study revealed that the wet scrubber has a high collection efficiency on both solids and gases. It has the required flexibility which makes it useful with different gases by changing the spray solution to match the gas to be cleaned. Therefore, the wet scrubber was selected for detailed study for this particular application. Wet scrubbers are available in many types. The major classifications are cross-flow, counter-current, wet cyclone, venturi, and vertical air washer. Of these classifications, the venturi provides the highest efficiency (Refs. 1, 2, 3, 4, 6, 8, and 9). The high efficiency of the venturi scrubber depends on high relative velocities, fine droplet size, and high turbulence (Refs. 1, 4, 5, 6, 8, and 9). Since in this application a very high gas velocity is available, the main disadvantage of a venturi scrubber (high power costs to achieve a high gas velocity) is not present. Fine droplet size can be achieved by injecting into the high velocity gas (Refs. 1, 5, and 9). Scrubbers using the venturi principle have been built to clean the gases from turbojet engine models (Refs. 10 and 11). Both of these units gave very high collection efficiency.

Selection of a wet venturi-type scrubber as the process to be used to remove the toxic gases and solid particles from the rocket exhaust gas required the selection of other components to fit it to the test area. Functions of the inlet ducting were to collect the rocket exhaust gas, maintain a high gas velocity, and recover sufficient pressure to maintain flow during tailoff rocket conditions. A properly sized diffuser will do these functions, is simple to build, and is well understood and scalable. During startup, a diffuser will aspirate gases into the scrubber and during tailoff continue to operate as rocket chamber pressure decreases, thereby preventing blowback on the rocket nozzle. For short firing times, the diffuser can be uncooled, thus keeping the cost down.

One other component was necessary to complete the unit. The exit gases from the scrubber section will contain droplets of liquid. A device to remove these was necessary. The characteristics desired were high removal efficiency of particles smaller than 5μ, low pressure drop, low structural weight, low operating cost, and low maintenance. Some of the types of units which were considered are impingement plates, settling chamber, cyclones, filters, packings, and electrostatic precipitators. The first three types are not efficient enough to accomplish the job. The electrostatic units were considered unsafe as the scrubber gases may contain combustibles. They are also expensive to install, maintain, and operate. Most filter units are not suitable for wet collection as they clog up. This left some sort of packing as the method of demisting.

The remaining major component of the system was some method of disposing of the collected pollutants and chemicals. A water treatment plant was available on site; however, some of the products do not lend to simple chemical treatment. The system selected must treat a variety of products and must be scalable to large rocket test areas at a reasonable cost. A water treatment plant to chemically treat the products was expensive; therefore, some simple solution was needed. To dump the liquids on the desert at AFRPL was not permitted because the dissolved salts might reach the water table and pollute it. The very high natural evaporation rate was utilized by using an evaporation pond which was lined with an impervious material. The water will evaporate leaving the products of cleaning behind. As the chemicals accumulate, they may be removed and reclaimed, or if reclaiming is impractical, the pond can be filled and covered with earth.

The system (Fig. 1, Appendix I) selected for further study and design consisted of four basic components: a gas collector duct or diffuser, a spray scrubber section, a mist eliminator, and an evaporation pond.

The diffuser and scrubber sections were kept small in size to maintain the high velocity of the rocket exhaust gases. Partial recovery of the rocket exhaust gas velocity will provide the pressure differential necessary to achieve flow through the mist eliminator section. The small ducting is more economical to build. In the higher thrust rated scrubbers, the size of the ducting would have major effects on the construction costs.

SECTION III
PHASE II: DESIGN OF CLEANING SYSTEM FOR 5,000-LB-THRUST ROCKETS

The system selected for the pilot model, 5,000-lb-thrust, rocket exhaust gas cleaner consisted of four main sections: a diffuser, a wet scrubber, a demister, and an evaporation pond (Fig. 1). A simple cylindrical diffuser with a converging conical inlet was selected because it would collect the lead flow propellants as a result of aspirating action of the sprays. The diffuser would also maintain the high gas velocities, would provide sufficient pressure ratio to maintain flow against a higher than ambient pressure in the spray section during rocket operation, and would continue to pump as rocket chamber pressure decreased during rocket tailoff, thereby preventing excessive blowback at rocket shutoff. It could be positioned so as not to interfere with thrust measurements on the test engine. The diffuser can be individually sized for each propellant combination and rocket flow rate, and for short test periods, 30 sec and less, it can be operated without special cooling. Because of the simple design, cost would be minimal. Much study has been done with these types of units (Ref. 12); therefore, the design for the different sized units can be done with confidence.

The wet scrubber was selected for the following reasons: (1) the high rocket gas velocity can be used to achieve high efficiency in cleaning solids and gases, (2) changing spray solutions allows a particular contaminating gas to be removed, (3) the spraying solutions cool the gases, and (4) the spray systems and ducting are simple and economical to construct.

The scrubbing liquid injection system should provide a cloud of small drops uniformly distributed in the gas. Since the removal process is one of mass transfer at a drop surface, the efficiency of the process increases as the total liquid surface is increased (Ref. 13). Thus for a given total quantity of liquid, the efficiency increases as the particle size is reduced. Nonuniformities in liquid loading cause some volumes of gas

to have a higher cleaning efficiency and others a lower efficiency than that produced by the average loading. However, reducing the liquid loading causes a greater reduction in efficiency than increasing the loading by the same amount increases the efficiency. Therefore, any nonuniformity in loading will result in less cleaning than would be given by the uniform average loading.

The scrubber duct should provide a sufficient contact time for the mass transfer to the liquid drops to approach equilibrium. The flow process should induce turbulence into the gas/liquid mixture primarily to ensure good mixing between the drops and the gas.

A demister is required to remove the entrained droplets. The cross-flow packed-type unit has high efficiencies, low pressure drop, and simple construction. It also requires low velocities which would permit the addition of other types of filter medium or additional thickness if a reduction in total emission is required.

The treatment of the waste liquids by an evaporation pond was selected because this method is most economical. It was also acceptable because it did not return the polluted liquid to the soil and made possible the recovery of some of the chemicals without expensive treatment. The 5,000-lb-thrust unit could use the toxic waste water treatment plant at AFRPL; however, the cost of piping to reach the treatment plant would exceed the cost of the evaporation pond, and then verification of the operation of the evaporation pond would not have been accomplished for study of expansion to large engine test sites.

3.1 DIFFUSER DESIGN

The factors which were considered in the design of the diffuser are rocket exhaust gas flow rates, gas properties, rocket nozzle throat diameter, rocket nozzle exit diameter, rocket nozzle length, rocket nozzle exit flow angle, run duration, pumping ratio desired, lead-flow pumping, minimum blowback from scrubber at rocket tailoff, and secondary flow pumped by diffuser.

The diffuser must be able to (1) capture the rocket exhaust gases during ignition, operation, and tailoff, (2) provide a pressure increase to ensure flow through the scrubber, (3) maintain a high exhaust gas velocity to provide for scrubbing, and (4) accomplish these things without interfering with rocket thrust measurements. During the ignition phase of liquid-propellant rockets, the mass flow and nozzle exit gas velocity are low which requires special procedures to ensure the

capture of these lead-flow gases. This was done by using a conical inlet on the diffuser to permit placing the diffuser inlet to within 1 in. of the nozzle exit and by directing the first bank of spray nozzles downstream. The conical inlet provides clearance at the nozzle exit so that the pressure gradient does not affect thrust measurements yet is close so that the low velocity gases are captured. The first bank of spray nozzles serves as an aspirating pump for these low velocity gases and pulls them into the scrubber region. Ambient air is also induced at this time and during the rocket operating period. This secondary flow influences the performance of the diffuser and imposes an additional gas load on the system. Provisions were made to spray water into the boundary layer at the inlet along the wall during the run. This water helps cool the diffuser and substitutes for the secondary air. Since the water assists in the cleaning process, it does not become an additional load. The maximum amount of secondary flow and the secondary Mach number at which it occurs are shown in Appendix III.

If the diffuser remains "started" during tailoff or during a reduction in rocket chamber pressure, the rocket exhaust gases continue to flow into the scrubber. When the diffuser breaks down, the higher than atmospheric pressure in the scrubber causes backflow out of the diffuser. By properly sizing the diffuser, this effect can be minimized. By the time the rocket chamber pressure has reached the breakdown value, the mass flow of the rocket is very much reduced. This reduces the pressure inside the scrubber and enables the aspirating action of the spray nozzles to maintain flow and thus reduce blowback.

It has been found that the diffuser length to diameter ratio (L/D) has an influence on the pressure ratio required for "started" flow (Ref. 12). An L/D of 8 has proved to be the most satisfactory and was used in this design. The nozzle throat diameter, the operating chamber pressure, the nozzle exit flow angle, and the pumping pressure ratio desired (desired to be low in this case and assumed to be 1.1) are among the main factors which influence the diameter of the diffuser. The diffuser selected for the 5,000-lb-thrust unit was 8 in. in diameter, based on nozzle exit diameter for correct expansion to ambient pressure. The largest diameter required was that for the H_2-F_2 propellants and, therefore, was the basis of the selection. The pressure required to break down the flow was determined and was found to be satisfactory for all propellants. The diffuser exit Mach number and velocity for all propellants were also determined. Appendix III contains this information for the 5,000-, 50,000-, and 250,000-lb-thrust units. Also included is information on the secondary mass flow ($\dot{m}''$) which is induced as the Mach number (M_3'') in the secondary area is increased. If the Mach number of the secondary flow (M'') between the exit plane of the nozzle

and the diffuser should reach high subsonic values, the local pressure on the nozzle exterior surface then could be less than ambient and, therefore, cause a change in thrust. As shown in Appendix III, the maximum secondary flow is achieved at an inlet Mach number less than one; therefore, the discharge pressure at the nozzle exit should be nearly ambient for all propellants.

3.2 LIQUID INJECTION SYSTEM

The diffuser will discharge a gas which is, on the average, supersonic and very hot. The gas enthalpy will be typically 3000 to 4000 Btu/lb depending on the propellant combination. High velocity is desirable since the particle size of the atomized drops decreases as the gas velocity increases (Ref. 14). However, the high enthalpy introduces an added complication in that 25 to 30 percent of the added liquid will vaporize.

The problem of an adequate drop size to maximize liquid surface and to prevent evaporation to a dry crystal during the cooling and cleaning process was investigated by mathematically modeling the heat, mass, and momentum transfer processes which occur when drops are sprayed into a hot gas.

The assumptions of this model are:

1. The drops are uniformly dispersed in the gas and do not interact with each other.
2. The properties of the gas and spray are one dimensional; that is, there are no variations of properties in the radial direction.
3. Gas film coefficients provide the only resistance to transport.
4. The drops are uniform in temperature and composition.
5. The vapor pressure of the pollutant dissolved in the liquid is assumed to be zero. This is valid when the pollutant reacts chemically with the liquid to form a nonvolatile compound.
6. All gases obey the perfect gas law. The equations which are solved are:

Transport of pollutant species between phases,

$$dm_p/dx = (\pi D^2 K_p X_p MW_p)/U_\ell$$

Transport of absorbent vapor between phases,

$$dm_v/dx = \pi D^2 K_v [(X_v - X_{vs})/(1 - X_{vs})] MW_v/U_\ell$$

Transport of momentum between phases,

$$dU_\ell/dx = (U_g - U_\ell)(dm_p/dx + dm_v/dx)/(m_p + m_v) + \pi D^2/8 \rho_\ell CD|(U_g - U_\ell)|(U_g - U_\ell)/[U_\ell (m_p + m_v)]$$

Conservation of absorbent mass,

$$dF_\ell/dx = [F_\ell (dm_v/dx + dm_p/dx)]/(m_v + m_p)$$

Transport of energy,

$$dT_\ell/dx = \pi D^2 h (T_g - T_\ell)/U_\ell + (H_v - H_\ell) dm_v/dx + (H_p - H_{p\ell}) dm_p/dx/[C_{p\ell}(m_p + m_v)]$$

Conservation of momentum,

$$dV_g/dx = (CV - 1)(F_\ell dU_\ell/dx + U_g dF_\ell/dx) - dP/dx/\rho_g U_g + V_g (1 - CV) dF_\ell/dx$$

Conservation of energy

$$\begin{aligned} dT_g/dx = 1/C_{pg} \{ & (H_g + U_g^2/2)(1 - CV) dF_\ell/dx \\ & - U_g dU_g/dx - (1 - CV)[(H_\ell + V_\ell^2/2) dF_\ell/dx \\ & + F_\ell (C_{p\ell} + U_\ell dU_\ell/dx)] \\ & + (H_p - H_v)(1 - CV)[(m_p/(m_v + m_p)) dF_\ell/dx \\ & + F_\ell (m_v dm_p/dx - m_p dm_v/dx)/(m_p + m_v) \\ & - CP dF_\ell/dx] \} \end{aligned}$$

The transport coefficients were calculated by first calculating the viscosity as a function of temperature and composition then assuming a Prandtl number of 0.7 to obtain the thermal conductivity and a Schmidt number of 0.7 to obtain the diffusivity.

The transport coefficients are:

$$C_D = 24/Re\ (1 + 0.15\ Re^{0.687}) \quad \text{(Ref. 15)}$$

$$K_p = K_v = (2 + 0.6\ Re^{0.5}\ Sc^{0.33})\left(\frac{\mu}{D \times Sc \times MW}\right) \quad \text{(Ref. 16)}$$

$$h = (2 + 0.6\ Re^{0.5}\ Pr^{0.33})[(CP_g/D) \times P_v]$$

All temperature dependent properties used in evaluating transport coefficients were evaluated at $(T_g + T_\ell)/2$. A theoretical correction was made for the effect of surface mass transfer on the transport coefficients (Ref. 17).

These equations were solved with prescribed initial conditions on a digital computer to give the concentration of pollutant as a function of distance from the injection station.

The only practical way to mix a liquid with a supersonic stream is to inject the liquid in a solid stream into the gas jet and allow the high velocity gas to shear the liquid into fine drops. The nozzles should not be placed directly into the supersonic high temperature stream because of the excessive heat and drag loads. The amount of penetration and of area which may be covered by a single nozzle is limited; therefore, it was decided to divide the flow from the diffuser into a number of nearly equal areas and to attempt to cover each of these from a single nozzle. Figure 2 shows the area of the duct covered by each spray nozzle. The sprays are divided into three banks. The jets from the upstream bank cover the outer annulus of the nozzles on a 10-in.-diam circle. The second bank of nozzles is on a 5-1/2-in.-diam circle so that the jets can cover the second annulus. The third bank covers the center of the gas stream from a 2-3/4-in.-diam circle. The first bank of nozzles is pointed downstream at 45 deg and skewed off a radial line by 20 deg. This will maintain a slight airflow into the scrubber by the pumping action of the liquid jets before rocket ignition and after tailoff. It is expected that, by skewing the jets to prevent impact on the duct centerline, splashing into the diffuser will not occur during rocket off-operation. The second bank of nozzles is inclined 30 deg downstream, again to provide a pumping action.

Figure 3 shows the cleaning efficiency as a function of distance for an H_2-F_2 rocket engine. The cleaning efficiency is defined as the mass of pollutant removed divided by the mass of pollutant in the rocket gases. The initial conditions for the calculations were:

Rocket mass flow	14 lb/sec
Diffuser exit static temperature	4500°F
Inlet duct diameter	8 in.
Percent HF by mass	98
Water-to-exhaust gas ratio	10:1
Pressure (constant)	1 atm

Although 50μ particles do a much better job of cleaning (>99.9 percent removal at 10 ft compared with 99.3 percent for 100μ particles), both sizes give a high theoretical removal efficiency. The results also show that improving the atomization of the scrubbing liquid is much more effective than adding length to the scrubber. The results are for a highly idealized system and should not be accepted qualitatively.

The major conclusion from this analysis is that it is sufficient to design a scrubbing liquid injector system which will produce a uniform distribution of drops of about 50μ diameter.

Much work has been done on the injection of liquids into high velocity gas streams (Refs. 14 and 18 through 22). No results were found which combine the conditions found in an exhaust gas scrubber, that is, high dynamic pressures, high gas temperatures, and high liquid loading.

The correlation from Ref. 21 for a water jet penetration into a supersonic stream has been used:

$$N = 6.77\left(\frac{d_j}{M_\infty}\right)\left(\frac{P_j}{P_\infty}\right)^{0.51}$$

where

N = maximum penetration of the drops

d_j = diameter of liquid jet

P_j = jet total pressure

P_∞ = free-stream static pressure

M_∞ = free-stream Mach number

For the current design, the maximum penetration is about 3 in. Based on the design (Fig. 2), this is a greater penetration than is necessary. However, there are several reasons why overpenetration is much less serious than insufficient penetration: (1) the gas on the outside of the gas jet will be recirculated and have a greater chance to contact liquid than that in the center, (2) impaction of liquid on the downstream spray bars will further aid the mixing of the gas and liquid in the outer edges, and (3) an inadequately penetrated core might maintain itself through the mixing duct with a high velocity and high temperature which could destroy the demisting equipment.

It is difficult to find data from which the drop size may be estimated since the diameter of the injected liquid jet is an important parameter and the jets in the gas cleaner are much larger than any reported in the literature. An estimate may be obtained from a correlation of data in Ref. 22. An extrapolation of these results gives an estimate of drop size of about 20μ. Even drops several times this large should give satisfactory results as shown by this analysis.

3.3 SCRUBBING LIQUID

A liquid used to scrub a gas should have the following properties:

1. High solubility for the pollutant,
2. Low vapor pressure of the pollutant in solution,
3. Low cost,
4. Low toxicity, and
5. High heat of vaporization and low heat of solution of pollutant.

Any material chosen will, of necessity, be a compromise; however, water or a water-based solution seems an obvious choice. One property in which plain water is deficient is that the vapor pressure of hydrogen fluoride (HF) is rather high at the design equilibrium concentration and temperature. This can be overcome by adding a material to the water which will react with the HF. The only other disadvantage of water is the rather high heat of solution of HF which adds to the heat load of the system.

The possible materials which could be added to water are (in order of increasing cost):

1. Calcium hydroxide (CaOH)—This material was eliminated because of the limited solubility of both CaOH and calcium fluoride (CaF_2) in water. It would be necessary to handle slurries containing 20 to 30 percent solids both on injection and on removal. This presents severe material handling problems. An additional difficulty is that, when HF dissolves in a drop of CaOH slurry, CaF_2 is formed on the surface of the particle, and this can block further reactions with the CaOH in the center of the particle. The low cost of CaOH and the insolubility and relatively low toxicity of CaF_2 make CaOH an attractive possibility for later investigation.
2. Sodium hydroxide (NaOH)—Sodium fluoride (NaF) has a limited solubility in water and the hazards of plugging the demisting section with crystals of this material make NaOH a rather poor choice.
3. Potassium hydroxide (KOH)—This material was selected as the best choice at this time. The KOH and potassium fluoride (KF) are both very soluble in water, and no crystallization should occur. It is felt that this factor outweighs the higher cost of KOH.

For gases containing nitrogen dioxide (NO_2) as a pollutant, the strong caustics NaOH and KOH should be the best absorbents. However, nitric oxide (NO) has a low solubility in aqueous solutions, and none of these materials would be particularly good.

The operating conditions for scrubbing the gases from a 5,000-lb-thrust H_2-F_2 rocket with a KOH solution in a 3-ft-diam duct are given in Table I (Appendix II).

3.4 SCRUBBER DUCT

The calculations which defined the ideal performance of a scrubber indicate that having length to provide contact time between the drops and the gas is relatively unimportant since a few feet of contact distance is all that is required. The most important reason for length is to provide sufficient time to intimately mix the drops and the gas and to allow the nonuniformities in the flow to level out. Experience with diffusers at AEDC indicate that the latter requires about 10 diameters.

A momentum balance may be written around a cylindrical scrubber duct with a sudden expansion inlet with the following assumptions:

1. The exit flow is one dimensional and at equilibrium,
2. The sprays contribute no momentum in the axial direction,
3. There is no spray bar drag or duct wall friction, and
4. Inbleed flow is neglected.

The momentum balance equation is

$$F + P_1 (A - A_d) = P_2 A + \frac{\dot{m}_2 U_2}{g} \tag{1}$$

and $\dot{m}_2$ is defined as

$$\rho_2 U_2 A = \dot{m}_r + \dot{m}_\ell = \dot{m}_2 \tag{2}$$

Dividing Eq. (1) by $\dot{m}_r$ gives

$$ISP + P_1(A - A_d)/\dot{m}_r = P_2 A/\dot{m}_r + (1 + \dot{m}_\ell/\dot{m}_r)U_2/g \tag{3}$$

where

$$\rho_2 = \dot{m}_2/V_2 = (\dot{m}_2/\dot{m}_r)/(V_2/\dot{m}_r)$$

and from Eq. (2)

$$U_2 = (\dot{m}_r/A)(V_2/\dot{m}_r) \tag{4}$$

Substituting Eq. (4) into Eq. (3) and solving for the pressure rise give

$$(P_2 - P_1) = (\dot{m}_r/A)[ISP - (1 + \dot{m}_\ell/\dot{m}_r)(\dot{m}_r/gA)(V_2/\dot{m}_r)] - p_1 A_d/A \tag{5}$$

Since there will be very little pressure drop through the demisting section, the volume of gas/unit mass of rocket exhaust ($V_2/\dot{m}_r$) may be evaluated at one atmosphere and will depend on the enthalpy and composition of the rocket gas and the liquid flow to rocket flow ratio ($\dot{m}_2/\dot{m}_r$).

An enthalpy balance on the duct gives

$$\dot{m}_r H_{r_1} + \dot{m}_b (C_{pb} T_b + HR_b) + \dot{m}_p HR_p + \dot{m}_{\ell_1} T_{\ell_1} = \dot{m}_r H_{r_2} + \dot{m}_\ell T_2 + \dot{m}_{st}(T_2 + L_2) + \dot{m}_b C_{pb} T_2 \quad (6)$$

The total steam flow comes from evaporated water, water in the rocket gas, and water formed by burning the oxygen in the inbleed air with hydrogen from the rocket. The total steam flow is

$$\dot{m}_{st_2} = \dot{m}_{st} + 0.33 \times 9/8 \, \dot{m}_b + \dot{m}_r - \dot{m}_p - \dot{m}_{nc} \quad (7)$$

The partial pressure of the steam is

$$P_{st_2} = P_2 * (\dot{m}_{st_2}/18)/(\dot{m}_{st_2}/18 + \dot{m}_{nc}/MW_{nc} + 0.77 \, \dot{m}_b/28) \quad (8)$$

If the effect of the dissolved solids on the vapor pressure is neglected, the temperature (T_2) will be the temperature at which the vapor pressure of water is P_{s_2}. Rewriting Eq. (6) gives

$$\dot{m}_{st} = \left\{\dot{m}_r (H_r - H_{r_2}) + \dot{m}_b [HR_b + C_{pb} (T_b - T_2)] + m_{\ell_1} (T_{\ell_1} - T_2) + m_p HR_p\right\}/L_2 \quad (9)$$

Equations (8) and (9) and the vapor pressure relationship were solved by iteration to give the conditions at the exit of the scrubber. The inbleed was assumed to be 10 percent of the rocket flow, and the pressure was assumed to be 13.8 psi. These results are shown graphically in Figs. 4 through 17. For exact values, the tabulated data in Appendix V should be used.

These calculations give an idealized performance. The gas properties at the scrubber exit were calculated, neglecting the effect of dissolved salts on the vapor pressure of the water; otherwise equilibrium conditions were used. The pressure rises in the duct neglect all drag forces except in Fig. 5 where an estimate of spray bar drag was included in the momentum equations. Based on these results, a duct diameter of 3 ft was selected as giving a nearly optimum pressure rise with all the propellant combinations in the 5,000-lb-thrust engine.

By examining those figures which show pressure rise versus scrubber duct diameter (for example, Figs. 11d and e), an estimate of the range of thrust levels which may be tested in a given size scrubber duct can be made. As an illustration, consider the 3-ft-diam duct with an H_2-F_2 engine and assume a cooling water-to-propellant flow rate of 15; the scrubber duct will act as a diffuser pump from a thrust level of 1,000 to 6,000 lb with the capability to pump better if the mass flow increases. With engines having thrust levels greater than 6,000 lb, the pumping action will decrease if the mass flow or thrust level increases. This pumping capability decreases rapidly, and the possibility of a pressure greater than atmospheric in the scrubber duct increases. This decrease occurs because the pressure drop is a function of the square of the rocket mass flow as shown by the pressure rise equation [Eq. (5)].

If the duct size selected gives more pressure rise than is needed to flow the gas through the demister, two things will happen. The pressure in the recirculation zone will drop, or the flow at the exit of the duct will have a high velocity core. One or both of these effects must occur to satisfy the momentum balance. A somewhat reduced pressure at the inlet to the duct is desirable since it will reduce the chance of blowback during tailoff. A high velocity core is not detrimental if the core is adequately penetrated by the sprays and the velocity is not high enough to cause excessive erosion of the demisting section by droplet impact. A high velocity core is, however, an indication of a lack of mixing and an excess of momentum over that required. In this case, additional turbulence generators could be installed in the duct to improve the mixing.

3.5 DEMISTER SYSTEM

The selection of a packed-type unit for demisting the clean gas was based primarily on efficiency of collection, economy of operation, and flexibility.

Packed-type units are available in many configurations and packing materials. The configurations considered are shown in Fig. 18. All three configurations will work with the main differences being demister inlet face velocity. For the pilot model; simplicity, economy, and convenience were deciding factors in the selection of a straight-through, horizontal, end discharge unit (Fig. 18c). The straight-through flow path will be satisfactory for the 1,000-, 5,000-, and possibly the 50,000-lb-thrust units. However, because of location and size, the 250,000-lb-thrust units may require another arrangement. The vertical,

side, three side, and asymmetrical discharge units would require some devices to turn the gas flow. These same gas turning devices could be used as large droplet separators. However, this complicated the design and, therefore, increased the cost. Since the 5,000-lb-thrust unit will be a pilot model, a convergent exit section was needed to provide for mounting sampling instrumentation during testing.

The casing material of the demister will contribute largely to the cost since this may be the largest part of the scrubbing system. Therefore, a lightweight corrosion resistant material is most desirable. Fiber glass reinforced plastics (FRP) provide light weight and corrosion resistance and were selected as the casing material since the gas temperature at the demister section is below 250°F. Substantial savings in structural material for the larger units can be made by using FRP. Installed costs of FRP are approximately the same as mild steel and less than stainless, clad, or lined materials (Ref. 6).

Packing material requirements are corrosion resistance, void fraction, large number of interstitial points, low-pressure drop, lightweight, and ease of handling. Those types of packings studied were Berl Saddles, Pall rings, Raschig rings, spiral rings, cross partition rings, screen mesh, Tellerettes®, crushed rock, and sand. Materials considered were stainless steel, ceramics, and plastics. Based on least weight, satisfactory corrosion and temperature endurance, pressure drop, efficiency of collection, and ease of handling, the Tellerettes plastic packing was selected. This patented design is distributed by The Ceilcote Company of Berea, Ohio. The 5,000-lb-thrust demister consisted of a 2-ft-thick bed of Tellerettes with the gas flow horizontal. Inlet flow area of 240 ft^2 provides a face velocity of approximately 7 ft/sec. Satisfactory operation can be achieved with face velocities from 4 to 10 ft/sec. Uniform flow distribution and entrapment of the larger liquid droplets are achieved by baffling in the inlet transition section.

Efficiencies of 99-percent removal of all particles over 5μ are expected, which is within the performance desired at this time. If greater efficiencies become a requirement at some future time, the face velocity through the packing is acceptable for use with fabric filters which could be added without extensive ducting changes.

3.6 WASTE SCRUBBING LIQUID DISPOSAL

The problem of disposal or recovery of the waste scrubbing liquid has been investigated. There are a number of problems and alternatives

which must be considered. Four reasons for considering some processing necessary are:

1. To recover the water for reuse,
2. To reduce the volume of waste material which must be handled,
3. To change the form of the pollutant to something less toxic or easier to dispose of, and
4. To recover a valuable chemical.

The system was designed for minimum water usage to reduce liquid pumping and storage costs. In this system, item 1 is probably not important because the waste solutions are already quite concentrated and it would be difficult to recover water by such processes as reverse osmosis or ion exchange. It is felt that, if item 2 is the major consideration, solar evaporation in ponds is the simplest and cheapest method to use for a system to be installed at AFRPL where the solar evaporation rate is about 90 in./yr.

The pollutants considered in this study are HF, HCl, NO_x, and BeO. Of these, BeO is a solid which may be filtered or precipitated, and only the fluorides can be precipitated with a cheap chemical, i.e., lime. If item 3 is a consideration, adding lime to the evaporation pond will precipitate CaF_2 which is quite insoluble leaving KOH in solution. The KOH will gradually change to K_2CO_3 from absorption of CO_2 from the air. When the pond is dry, there will be no very toxic materials present (except BeO).

There are only two materials which are probably worth recovering in a pure form. One is BeO which is very toxic and also valuable. It is recommended that, if motors containing beryllium are fired, the liquid from the scrubber be ducted to a sealed tank and then filtered to remove the BeO. Under some circumstances, KOH might be worth recovering. This can be done by adding lime which will precipitate CaF and regenerate the KOH which can then be reused. It has been estimated that a 5,000-lb-thrust engine fired 3000 sec a year would require about $5,000 worth of KOH a year for scrubbing. It does not seem that on this scale any recovery could be justified economically. For large engines or more extensive testing, the recovery might be economically feasible. If different propellants are used which contain Cl or NO_x, chlorides and nitrates will build up in solution and eventually may crystallize in the scrubber. In this case, a partial recovery might be feasible where enough fresh solution is added each time to ensure that

all salts will stay in solution. Still another partial recovery method might be feasible. During the startup and shutdown phase of each firing, there is very little pollutant in the gas, and therefore, the scrubbing solutions are only partly contaminated. If the discharge from the scrubber were diverted to a separate pond during those times, the solution could then be reused probably without treatment. This would be especially useful for short firings where startup and shutdown are a sizable percentage of the total time.

Since the pilot model system has been designed primarily to clean the exhaust products of an H_2-F_2 engine and since these products are probably the most toxic, a suggested shakedown test program has been included as Appendix IV.

SECTION IV
COST ESTIMATES

The cost estimates presented herein are for three units: a 5,000-lb-thrust rocket exhaust gas cleaner (pilot model), a 50,000-lb-thrust unit, and a 250,000-lb-thrust unit. The estimates for these scrubbers are divided into purchased and installed costs and are further divided by the method used to derive the costs. These cost data (based on 1969-1970 prices) can be updated using a cost index such as the Marshall and Stevens Index (Ref. 23), which is published periodically in Chemical Engineering.

The estimate for the 5,000-lb-thrust cleaner unit was derived from costs presented by the unit designers (AEDC estimate) using accepted techniques based on experience and catalog price data. This approach is accurate, but time consuming, and was necessary because the 5,000-lb-thrust unit is to be constructed immediately. However, this method of cost estimating results in large resource expenditures which may not always be necessary, especially if the exercise is merely a feasibility study. Therefore, an accurate short-cut method was needed to estimate the cost of the 50,000- and 250,000-lb-thrust units because AFRPL plans eventually to acquire units of this size. However, they did not wish to release a costly design contract before the 5,000-lb-thrust unit was operated as an instrumented "Pilot Model" to supply data for scaling parameters. The theoretical design of the 5,000-lb-thrust unit requires confirmation to reduce the risks involved in designing the larger, more costly units.

The 5,000-lb-thrust unit design cost estimate was confirmed by using multiple estimating techniques published in Refs. 23 through 26. The results agreed so well that it was possible to consider using the published techniques to provide cost estimates for the larger units as well.

One of the published methods (Ref. 23) is the popular "six-tenths" rule or "exponent method" which relates capital costs and size or capacity by the following:

$$C_2/C_1 = (S_2/S_1)^n$$

where

$n = 0.6$ for completed plant

C_1 = cost of pilot model

C_2 = cost of scaled-up unit

S_1 = size of pilot model

S_2 = size of scaled-up unit

The size must be represented by the significant dimension such as flow capacity (cfm), thrust capacity, or, even in some cases, simple size dimensions. However, capacity is usually more desirable than dimensions of hardware.

The second published method of estimating costs (Ref. 25) was a logical, simplified illustration of basic costs which any design group would have to consider. This was a direct comparison with the costs developed by the AEDC design team for the AFRPL exhaust gas cleaning system (5,000-lb-thrust unit). Since the purpose of the 5,000-lb-thrust rocket exhaust gas cleaner design effort was to get the best system that up-to-date theoretical analysis could provide, the costs may not have been optimum. However, when compared with costs of other scrubbing systems, these data indicate that this is also the least expensive system that could be acquired and be consistent with required performance.

4.1 ESTIMATES FOR 5,000-LB-THRUST UNIT

1. The AEDC design team estimate is as follows:

a.	Off-site (prefabricated) purchase items (spray scrubber, mist eliminator, pond liner, and shipping)	$ 70,090
b.	On-site construction purchase items (includes fence, pond, instrumentation tray, pump, hydraulic control, and drain system)	23,014
c.	Two 12,000-gal tanks (supplied by AFRPL)	11,500
d.	Piping, valves (supplied by AFRPL)	$ 4,000
e.	Total purchase cost	$108,604
f.	Site preparation-installation	20,466
g.	Contractor administration-profit	28,390
h.	Installed cost	$157,460
i.	Grand total (1.6 times installed cost) (Ref. 26)	$251,936

2. The exponent method estimate is as follows:

a.	Diffuser	$ 2,000
b.	Scrubber	26,400
c.	Pumps	4,000
d.	Mist eliminator	43,500
e.	Two 12,000-gal tanks	12,800
f.	Evaporation pond	15,000
g.	Total purchase cost (based on Ref. 23)	$103,700
h.	Installed cost (1.43 times purchase cost)	$145,180
i.	Grand total (1.6 times installed cost, (Ref. 26)	$232,228

3. Cost estimates based on Ref. 25 are a result of a careful study by the authors of Ref. 25 of the literature of suppliers, installers, and operators of air pollution control equipment. "The cost information was reviewed by experts from the gas cleaning equipment industry . . ." (Ref. 25, page 447). These cost data reflect an industry review of 1968 prices.

		Purchase	Installed
a.	Scrubber at 120,000 cfm (Fig. 3)(Ref. 25)	$35,000	$105,000
b.	Wet collector, demister (Fig. 3)(Ref. 25)	35,000	105,000
c.	Purchase cost	$70,000	
d.	Grand total installed cost (1968 prices)		$210,000
e.	Grand total (adjusted to 1970 CE Cost Plant Index) (Ref. 27)		$235,200

4.2 ESTIMATES FOR 50,000-LB-THRUST UNIT

1. $C_2/C_1 = (S_2/S_1)^n$ from Refs. 23 and 24, use $\eta = 0.6$

where

C_2 = cost of 50,000-lb-thrust unit

C_1 = cost of 5,000-lb-thrust unit (use $240,000)

S_2 = 50,000 lb

S_1 = 5,000 lb

Substituting values in the above equation gives

$$C_2 = 240,000\ (50,000/5,000)^{0.6}$$

$$= \$955,200$$

2. 150,000 (3) + (150,000)(3) = $900,000 (from Ref. 25, pages 448-449, use Fig. 3)

4.3 ESTIMATES FOR 250,000-LB-THRUST UNIT

1. $C_2 = 240,000\ (250,000/5,000)^{0.6}$

$= \$2,508,000$ (using Refs. 23 and 24).

2. 700,000 (3) + 700,000 (2) = $3,500,000 (using Ref. 25)

4.4 COMPARISON OF COSTS

Unit Size	Grand Total Installed Costs: AEDC Design Estimate	Exponent Method (Refs. 23 and 24)	Industry Review (Ref. 25)
5,000-lb thrust	$251,936	$ 232,228	$ 235,200
50,000-lb thrust	---	955,200	900,000
250,000-lb thrust	---	2,508,000	3,500,000

The final installed costs for the 5,000-lb-thrust unit agree very well, considering the diversity of the various estimating methods; therefore, this estimate is considered acceptable for use in scaling the costs of the larger units. As a result, the $240,000 scaling cost ($C_1$) was derived from the final installed costs (grand total installed costs) of the 5,000-lb-thrust unit. The resulting cost estimates are ±25 percent. It should be noted here that all figures presented should be adjusted by a cost-price index before use as current estimates.

SECTION V
SUMMARY

A survey of the state-of-the-art of cleaning toxic gases from rocket exhaust gases resulted in the selection of a system which would remove the toxic products and provide a method for disposal of these products. The removal system consists of spraying a KOH solution into the high velocity gas which chemically cleans the gas. The resultant compounds are flushed to an imperviously lined evaporation pond where the water evaporates and the salts are collected. The system selected should be applicable to engines of different thrust levels provided components are properly sized.

After selecting a system to clean the gases, design drawings and specifications were prepared for a pilot model sized to handle a 5,000-lb-thrust rocket.

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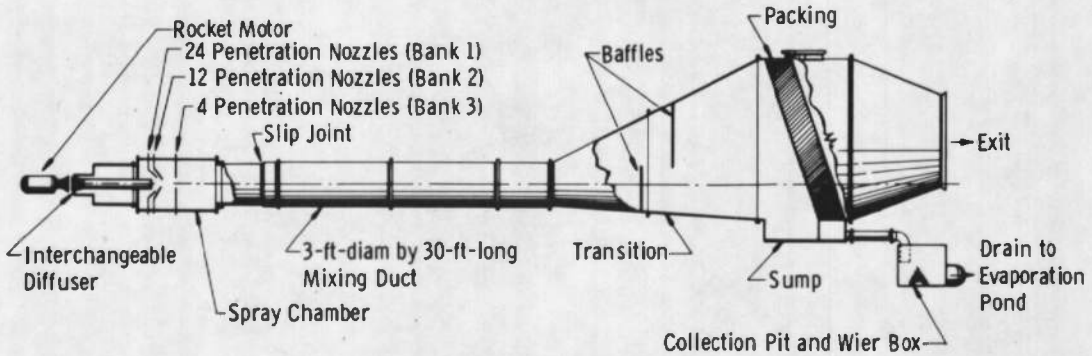
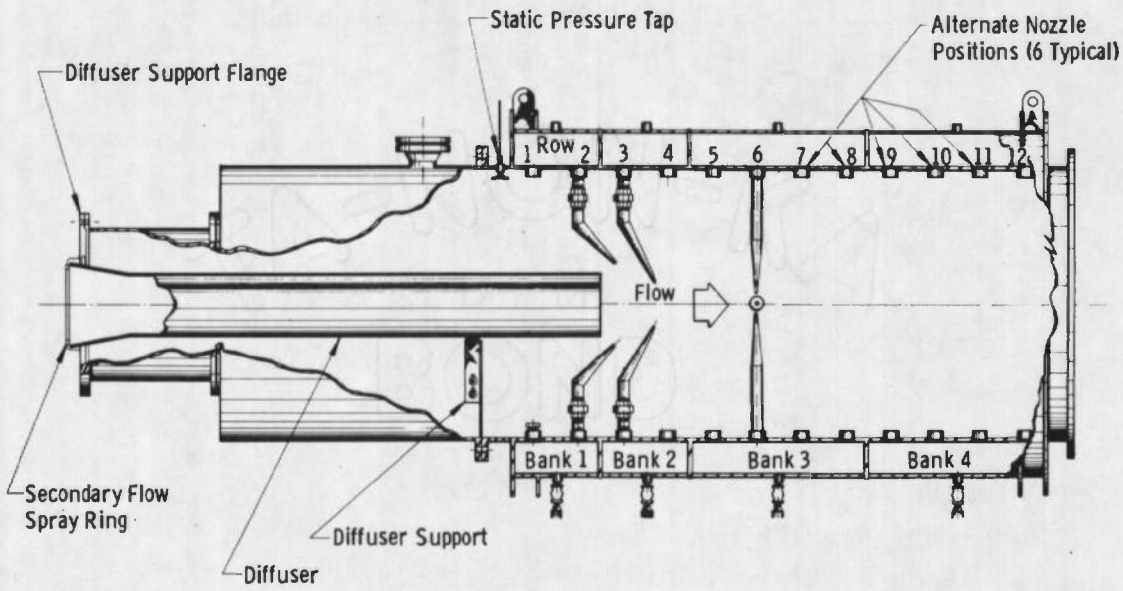
APPENDIXES

I. ILLUSTRATIONS
II. TABLES
III. INLET DIFFUSER DESIGN
IV. SUGGESTED SCRUBBER TEST PROGRAM FOR 5,000-LB THRUST
V. COMPUTER DATA SHEETS

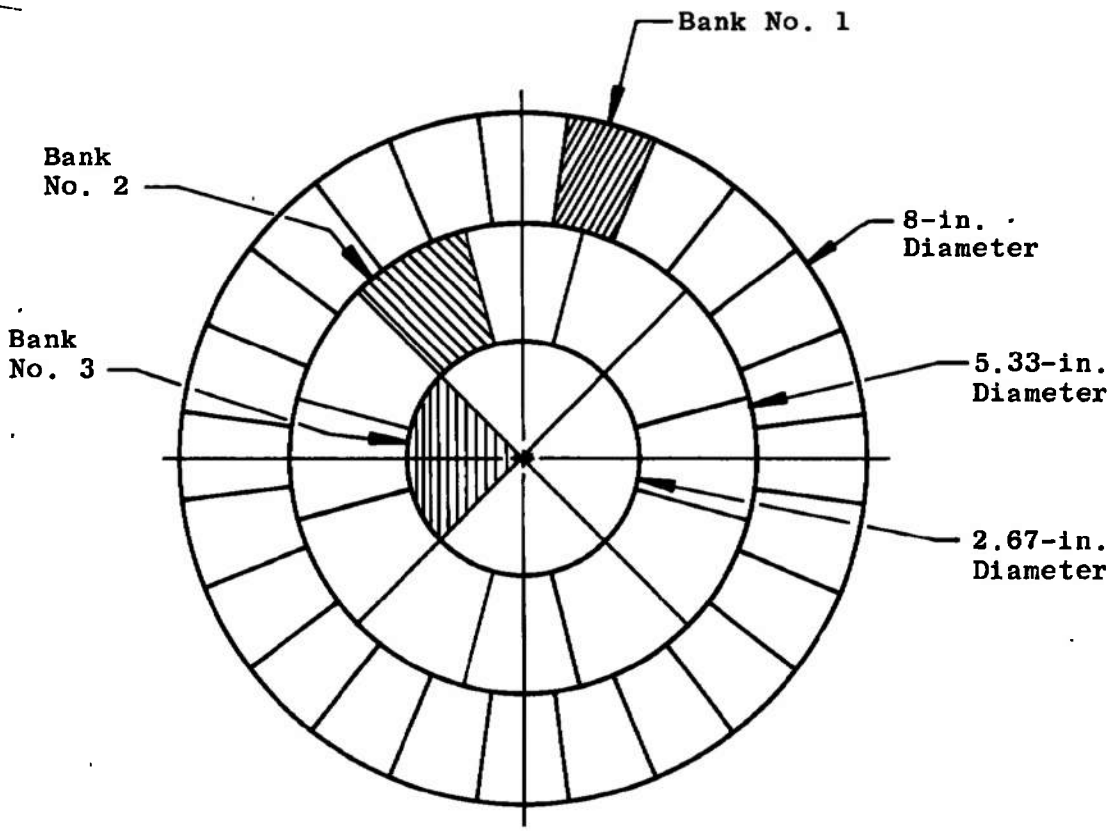


a. Complete System



b. Details of Inlet Region

Fig. 1 Scrubber System Components



Bank	1	2	3
Diameter Nozzle	0.344 in.	0.377 in.	0.377 in.
Number of Nozzles	24	12	4
Flow Area/Nozzle	1.396 $in.^2$	1.396 $in.^2$	1.164 $in.^2$

Fig. 2 Design Area for Each Spray Nozzle

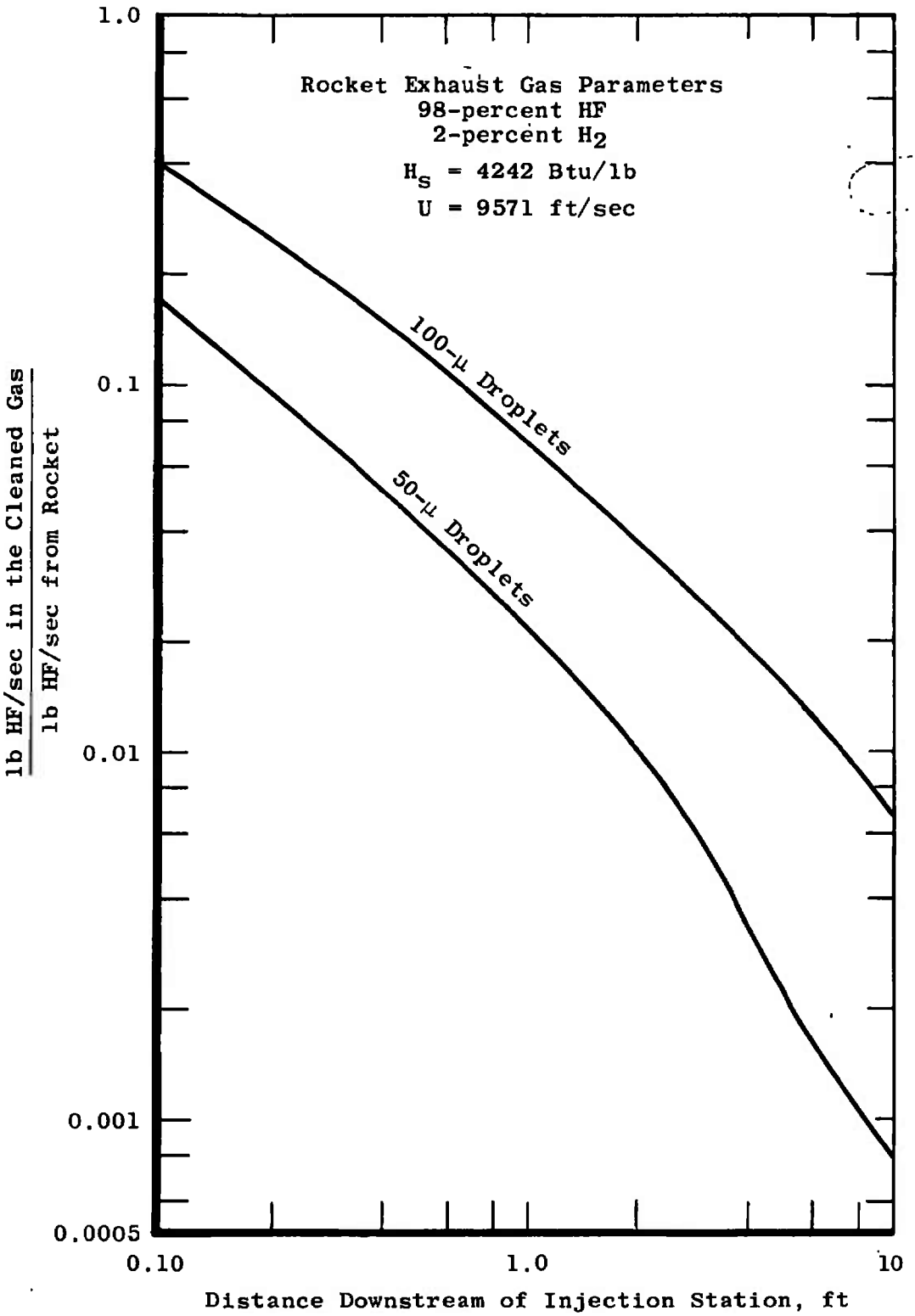


Fig. 3 Ideal Cleaning Efficiency

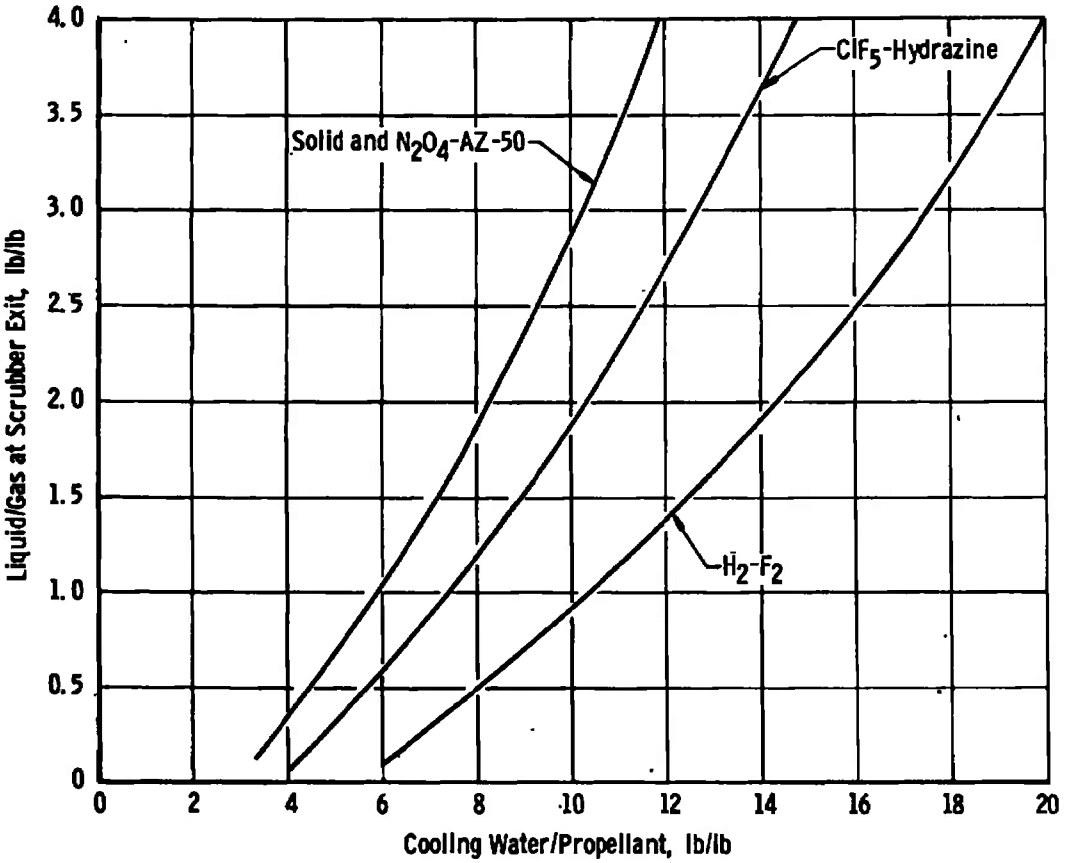


Fig. 4 Liquid-to-Gas Ratio for All Propellants

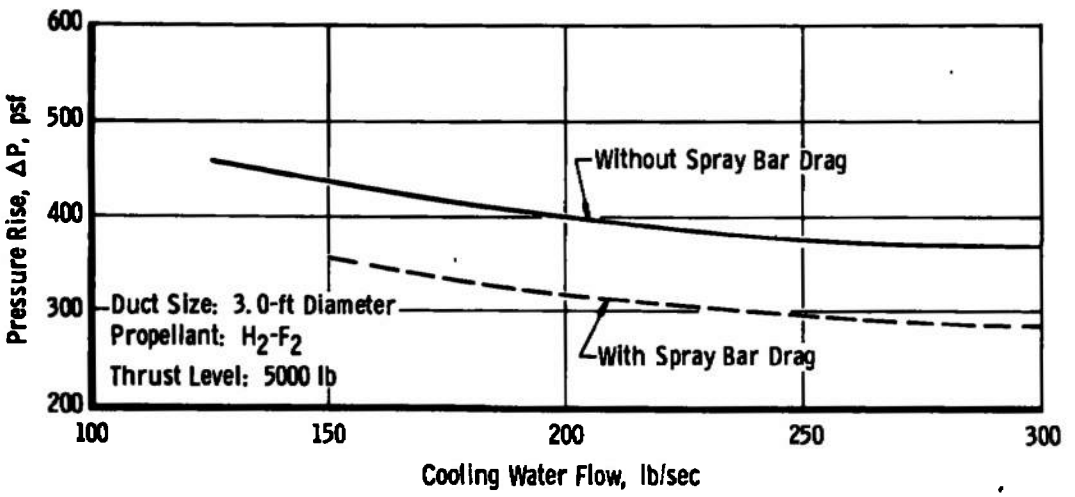


Fig. 5 Drag Corrections for Scrubber Pressure Drop

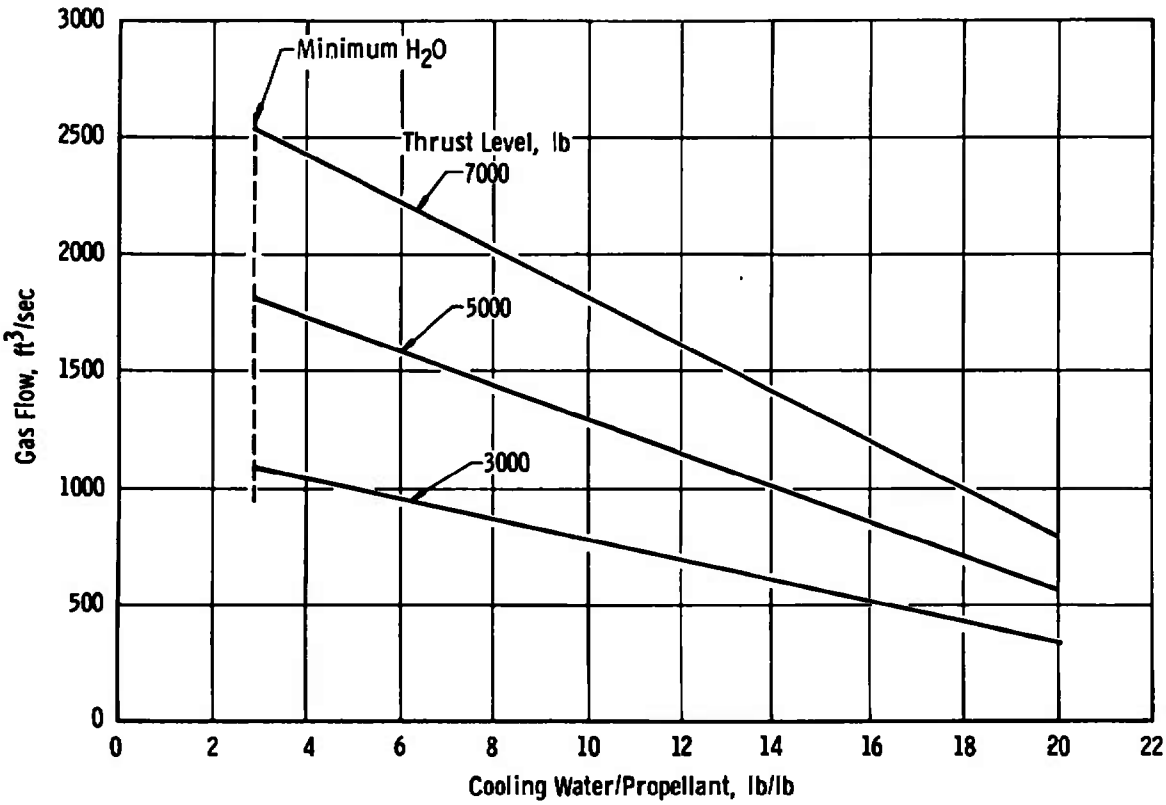


Fig. 6 Gas Flow Rates for N_2O_4-AZ-50 Propellants

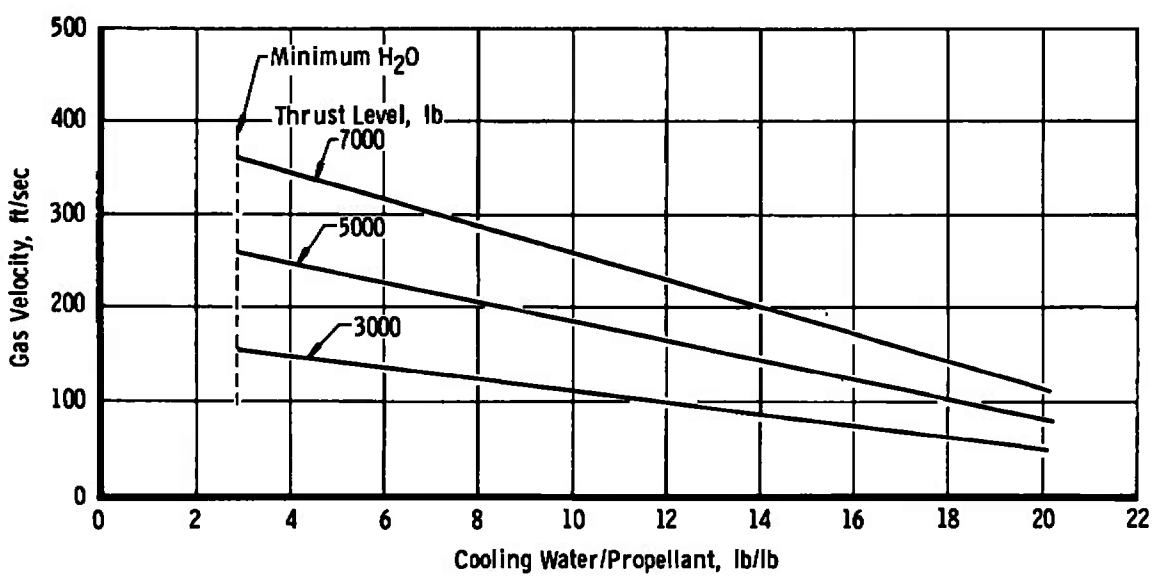


Fig. 7 Gas Velocities in 3-ft-diam Duct with N_2O_4-AZ-50 Propellants

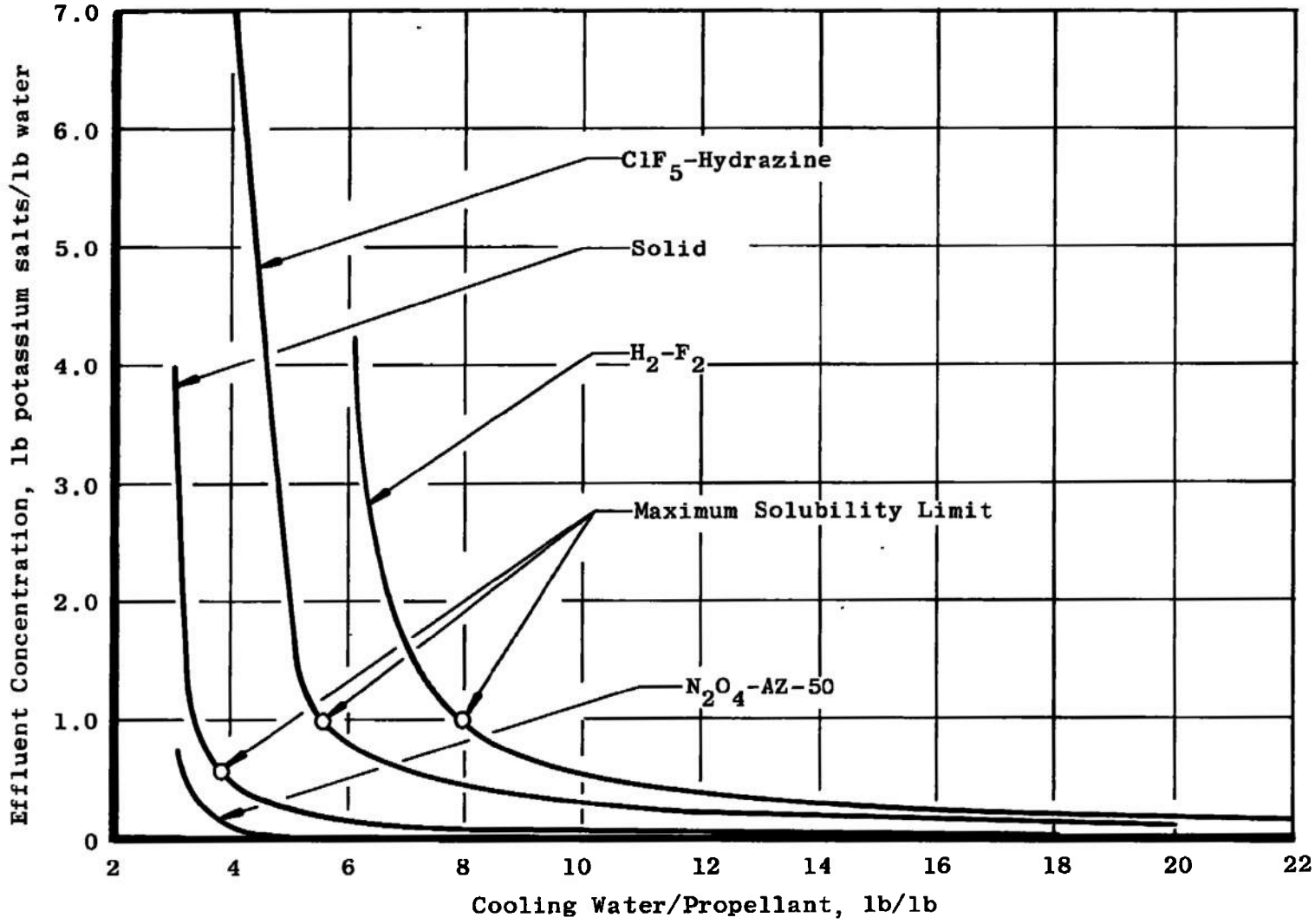


Fig. 8 Concentration of Potassium Salts in Scrubber Effluent

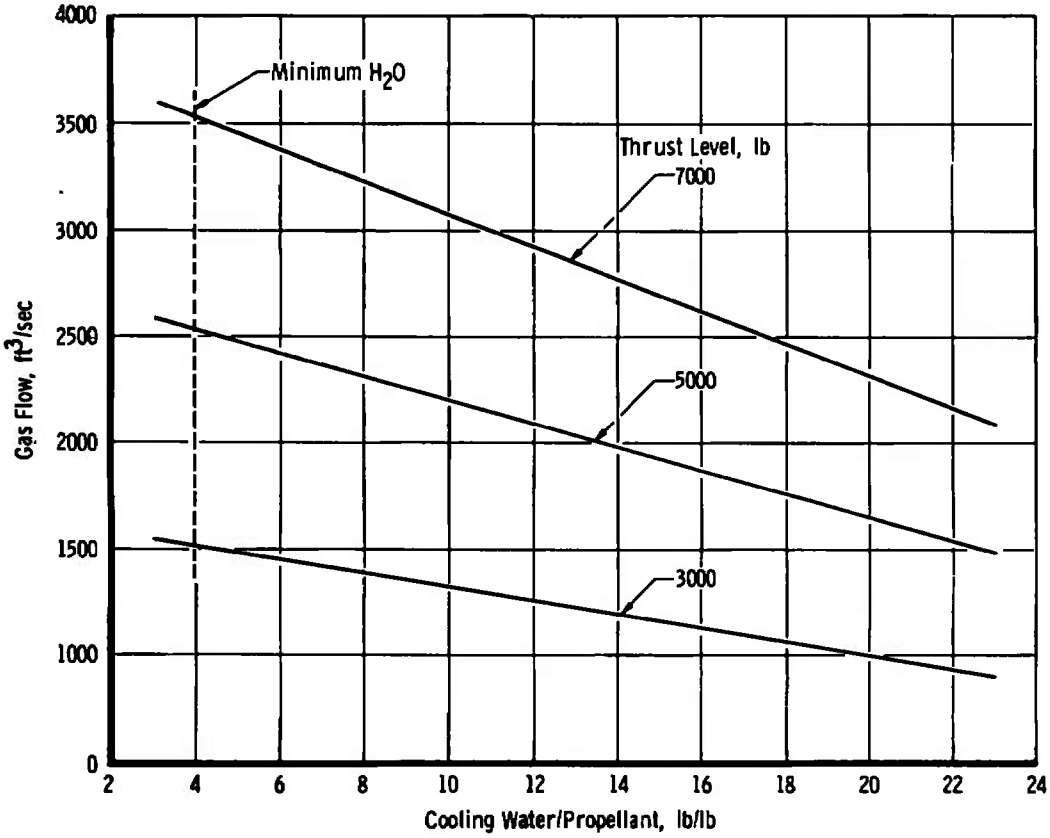


Fig. 9 Gas Flow Rates for H_2-F_2 Propellants

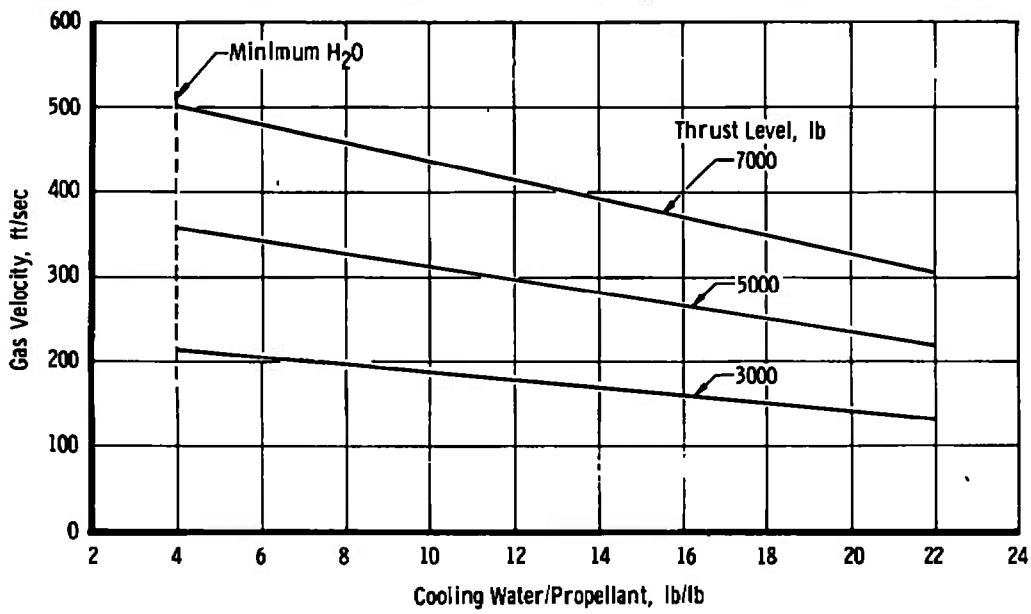
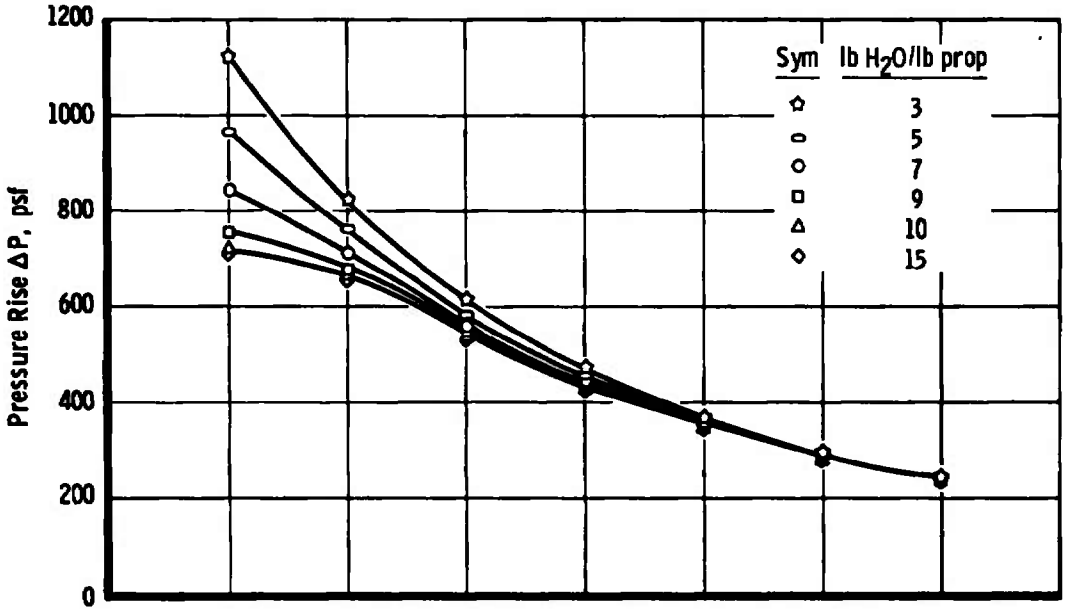
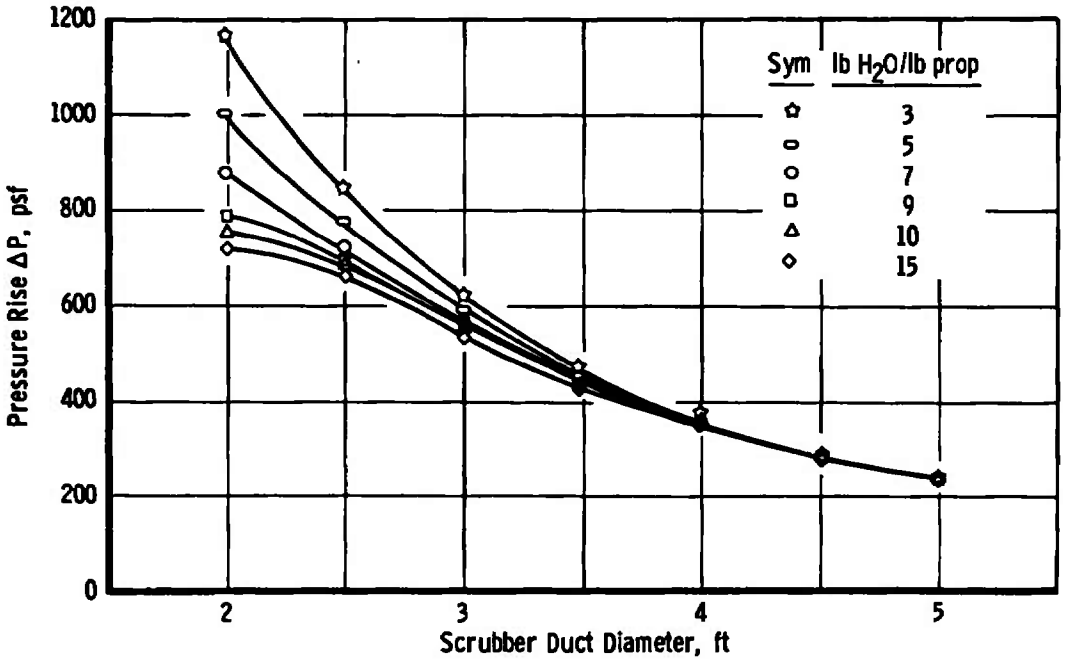


Fig. 10 Gas Velocities in 3-ft-diam Duct with H_2-F_2 Propellants

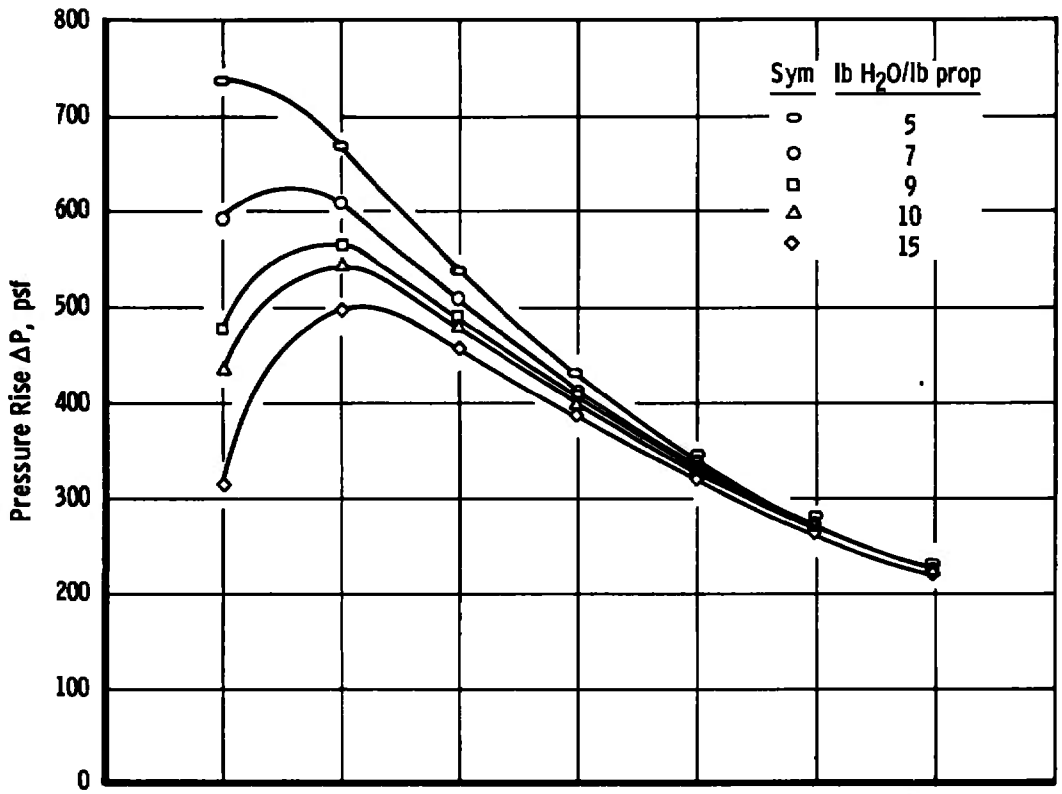


a. Solid Propellant, 5,000-lb Thrust

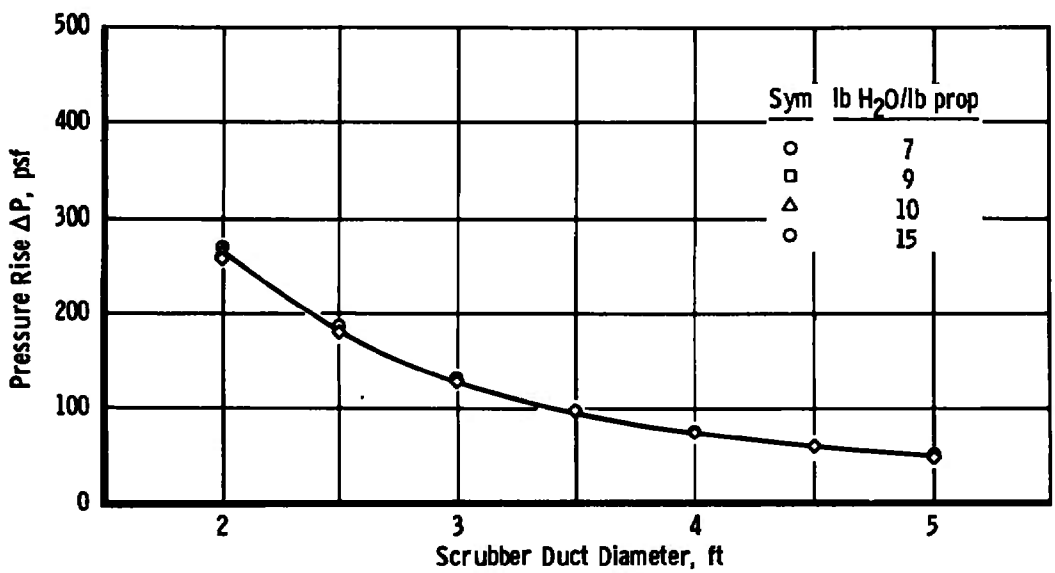


b. N_2O_4-AZ-50 Propellant, 5,000-lb Thrust

Fig. 11 Pressure Rise through Various Size Ducts

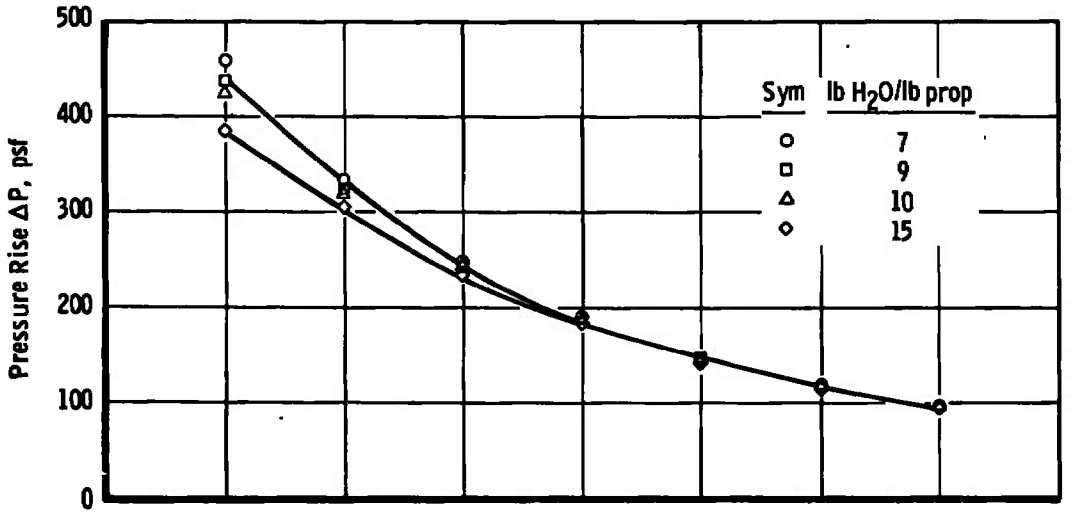


c. ClF_5-Hydrazine Propellant, 5,000-lb Thrust.

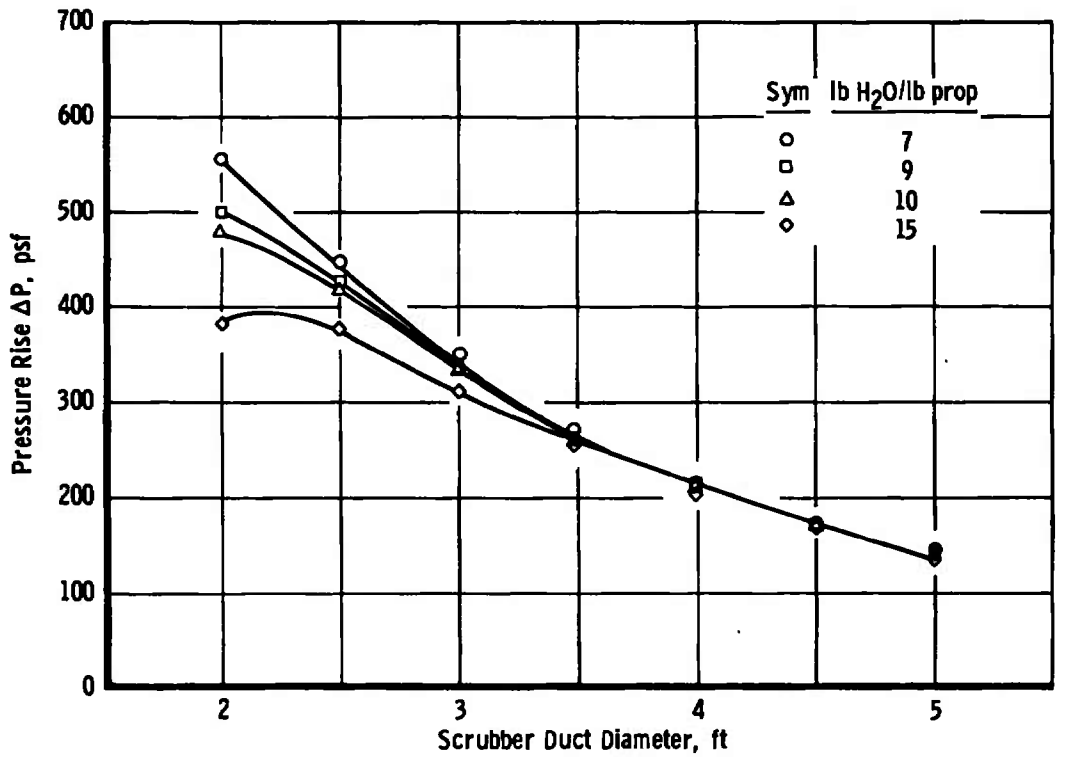


d. H_2-F_2 Propellant, 1,000-lb Thrust

Fig. 11 Continued

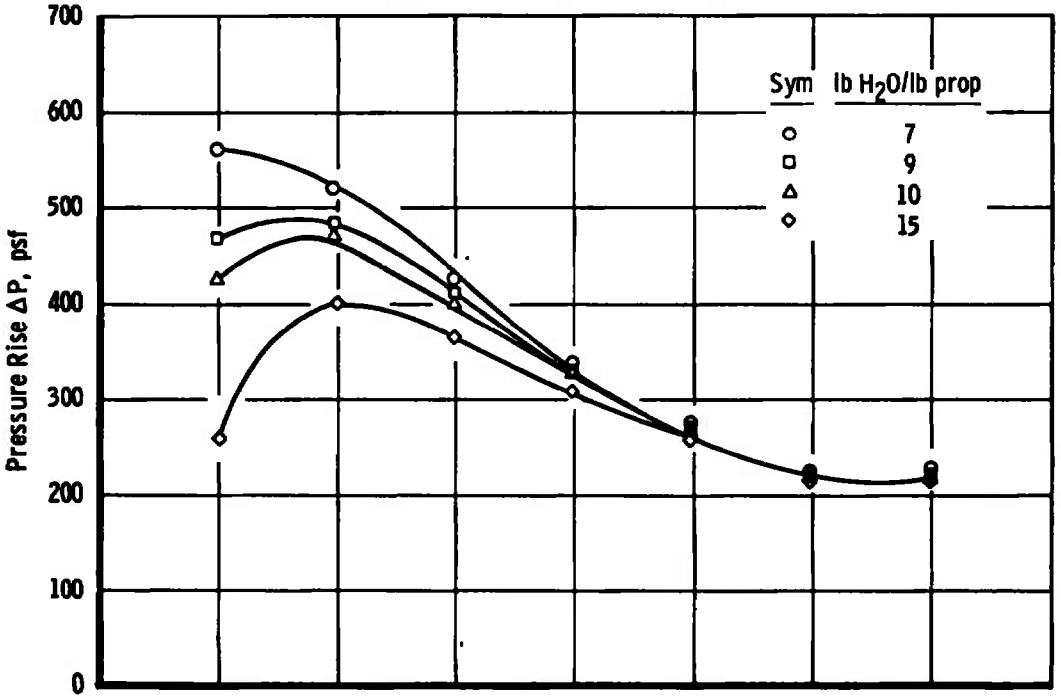


e. H_2-F_2 Propellant, 2,000-lb Thrust

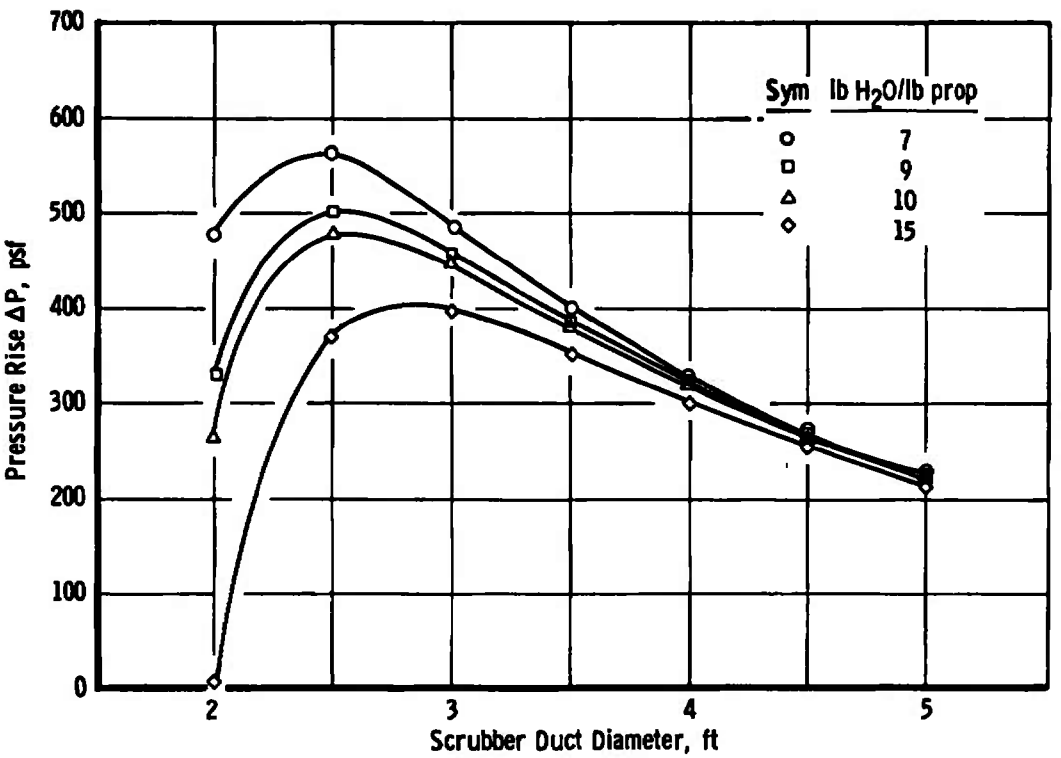


f. H_2-F_2 Propellant, 3,000-lb Thrust

Fig. 11 Continued

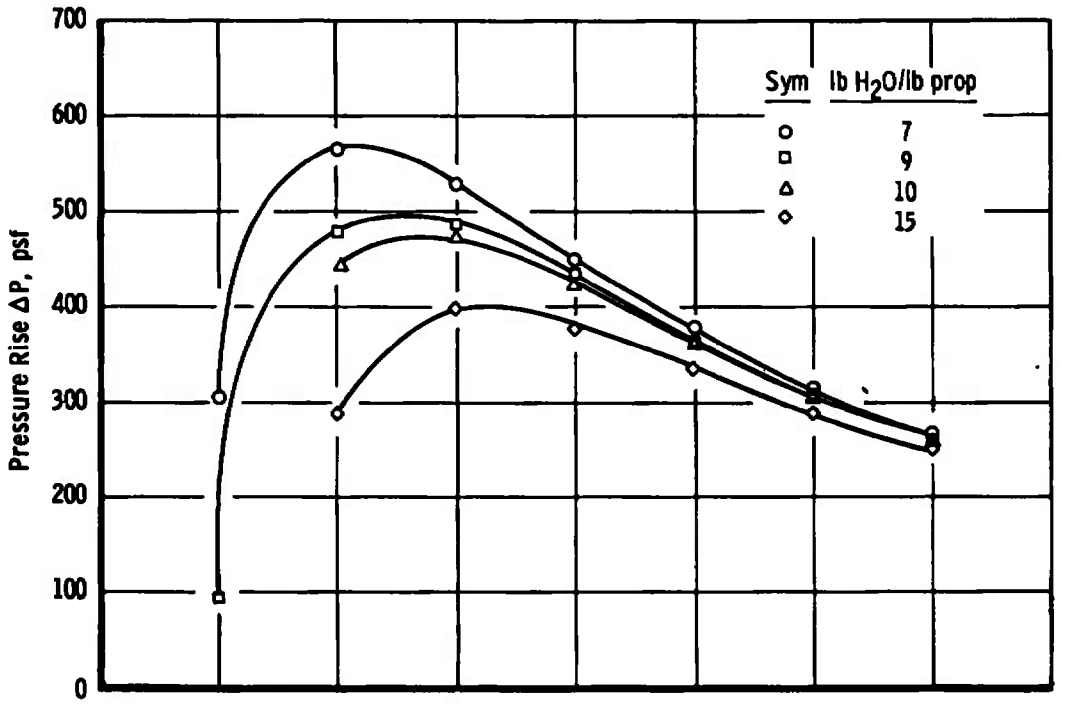


g. H_2-F_2 Propellant, 4,000-lb Thrust

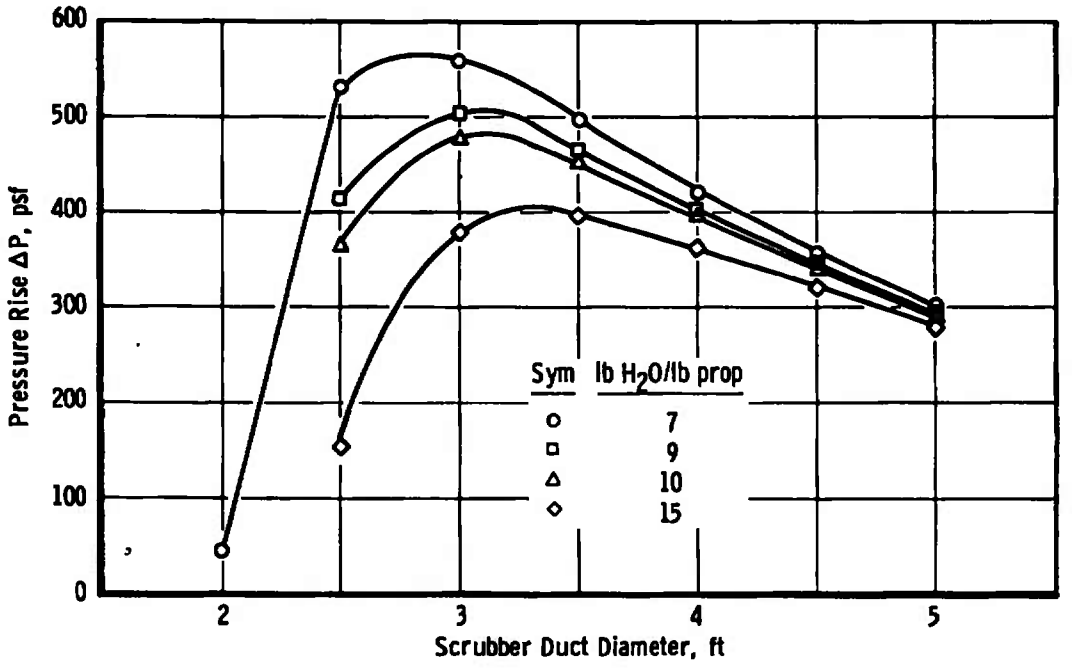


h. H_2-F_2 Propellant, 5,000-lb Thrust

Fig. 11 Continued

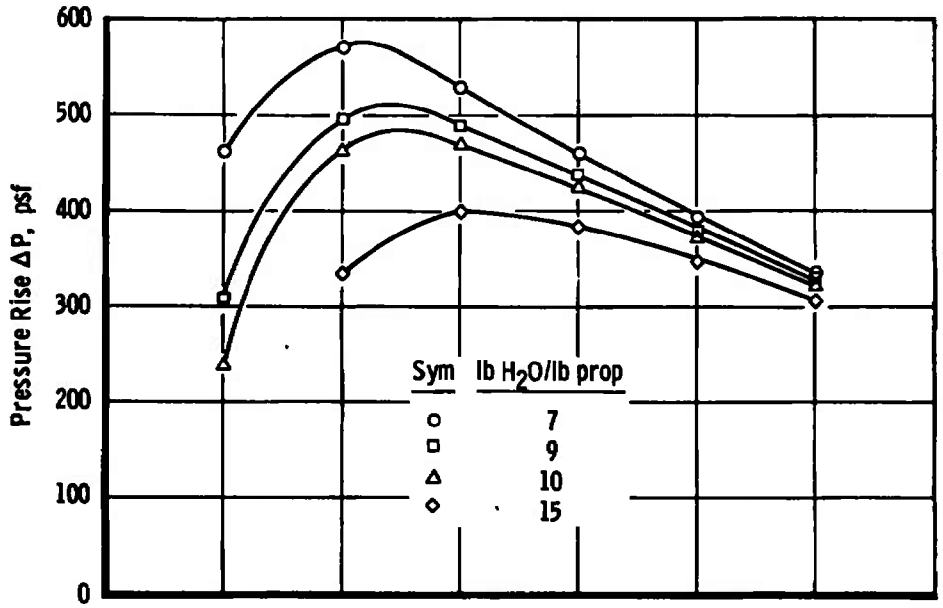


i. H_2-F_2 Propellant, 6,000-lb Thrust

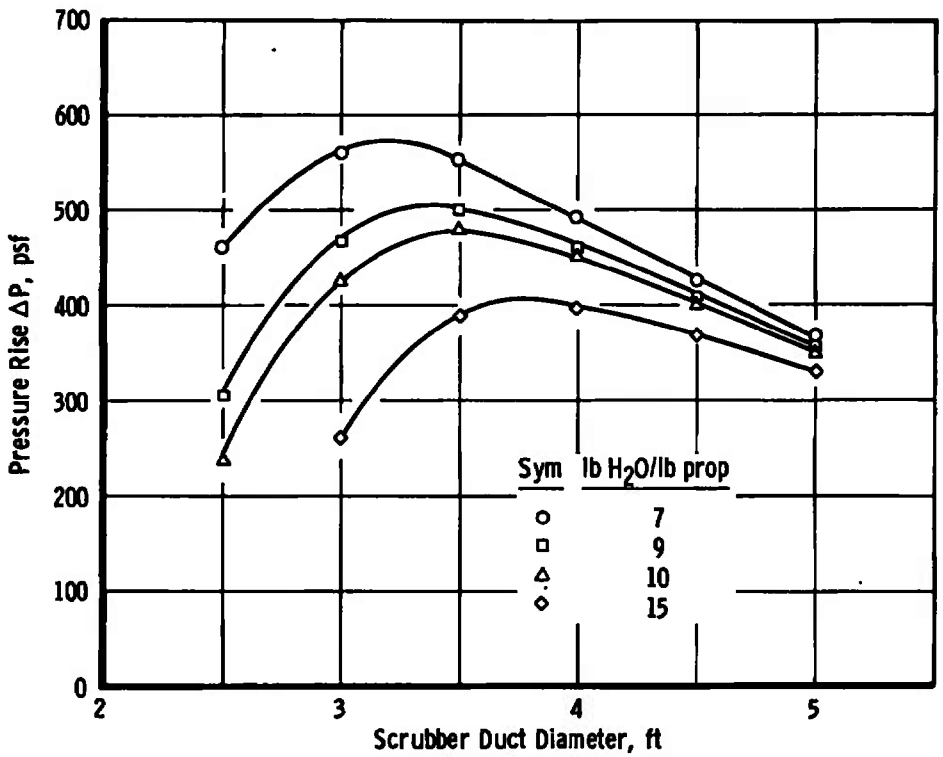


j. H_2-F_2 Propellant, 7,000-lb Thrust

Fig. 11 Continued



k. H_2-F_2 Propellant, 8,000-lb Thrust



l. H_2-F_2 Propellant, 9,000-lb Thrust

Fig. 11 Concluded

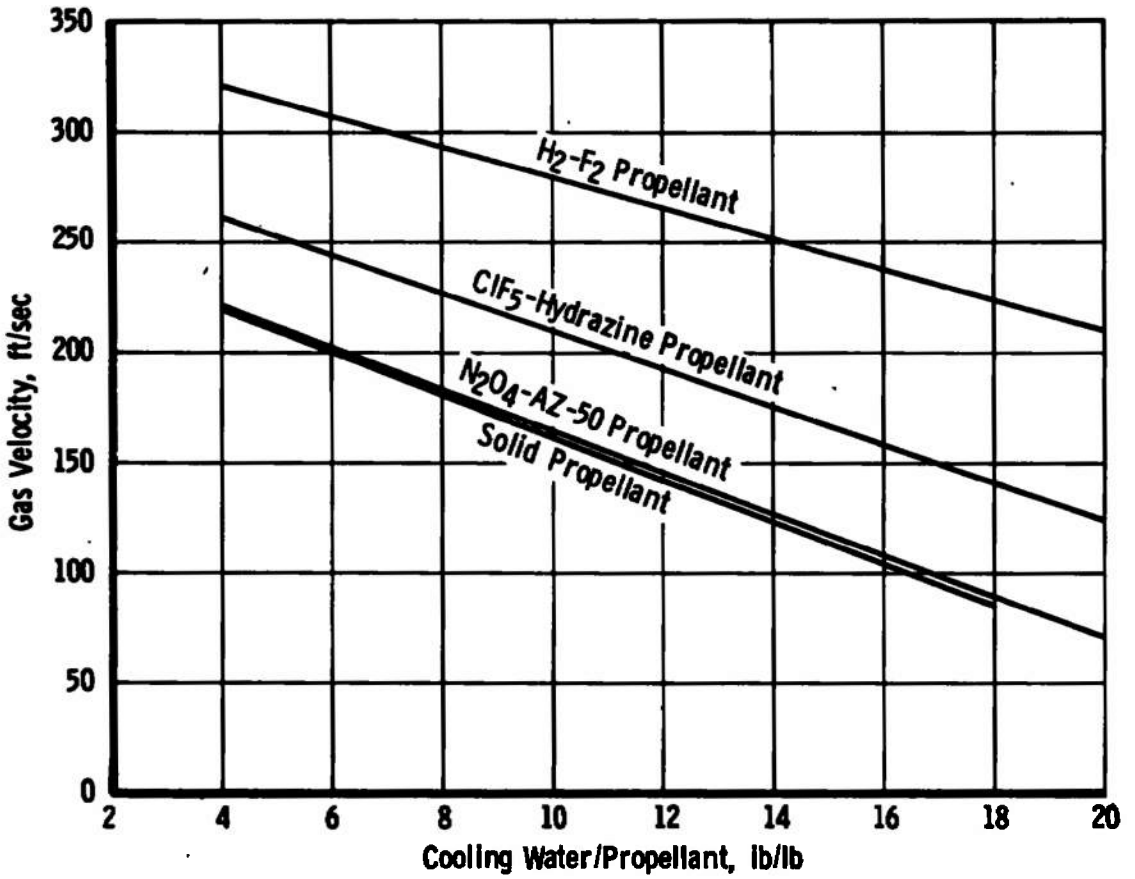


Fig. 12 Gas Velocities in 10-ft-diam Duct for 50,000-lb-Thrust Engines

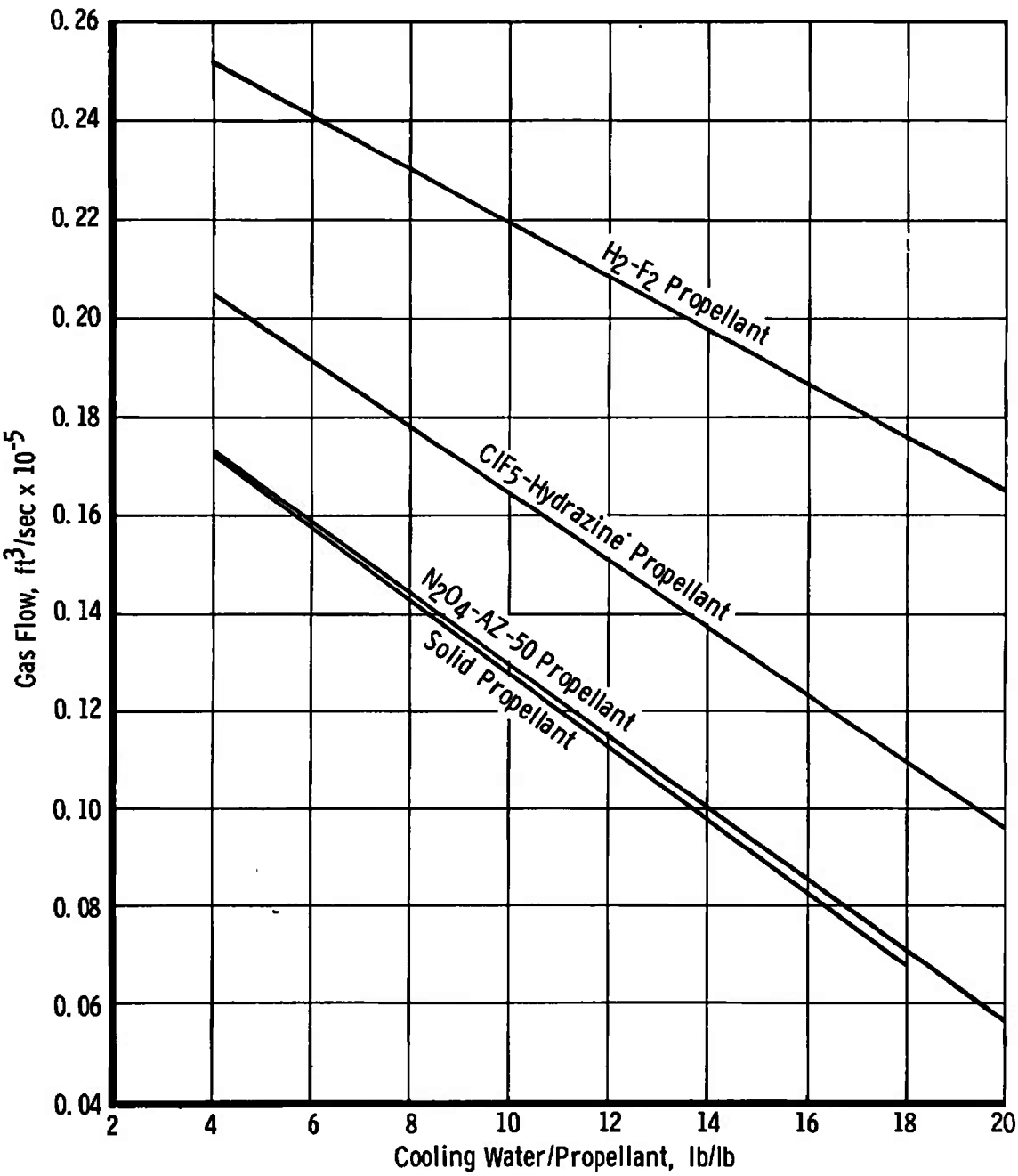
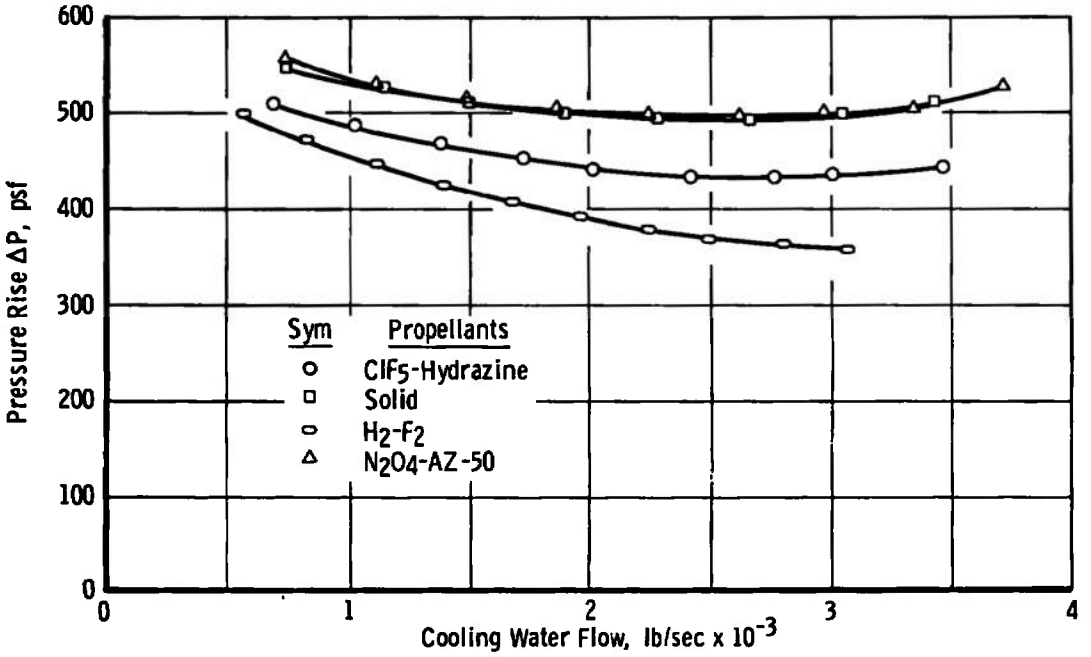
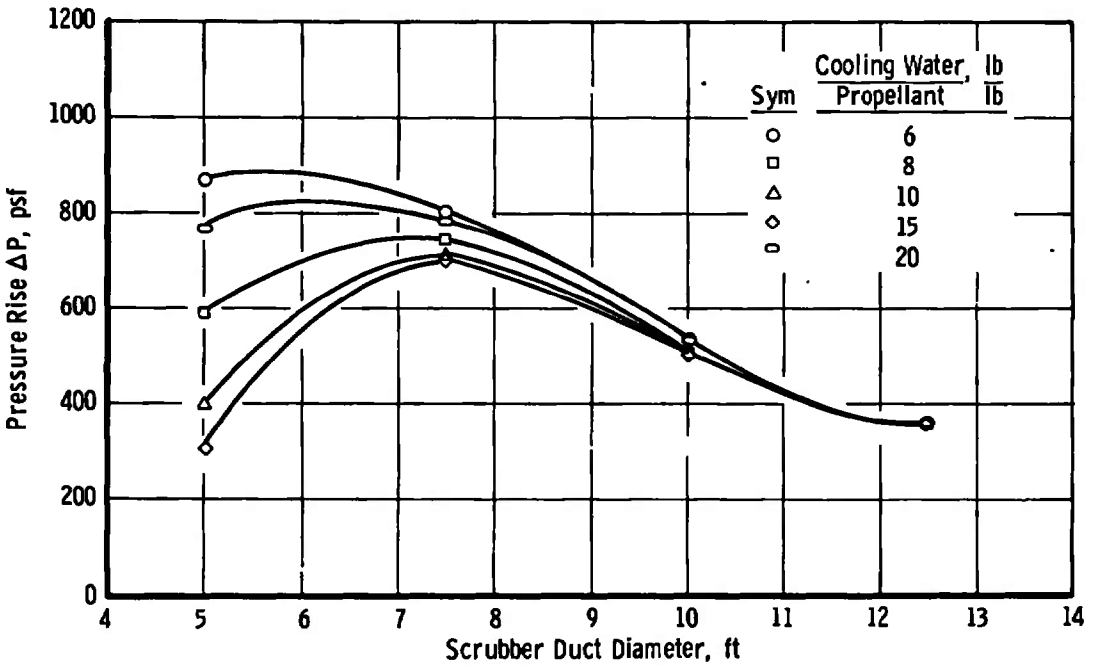


Fig. 13 Gas Flow Rates in 10-ft-diam Duct for 50,000-lb-Thrust Engines

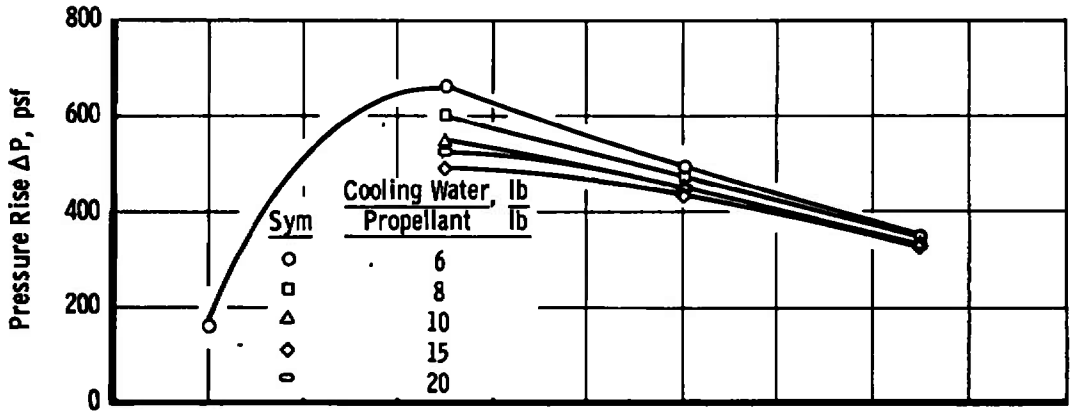


a. 10-ft-diam Duct

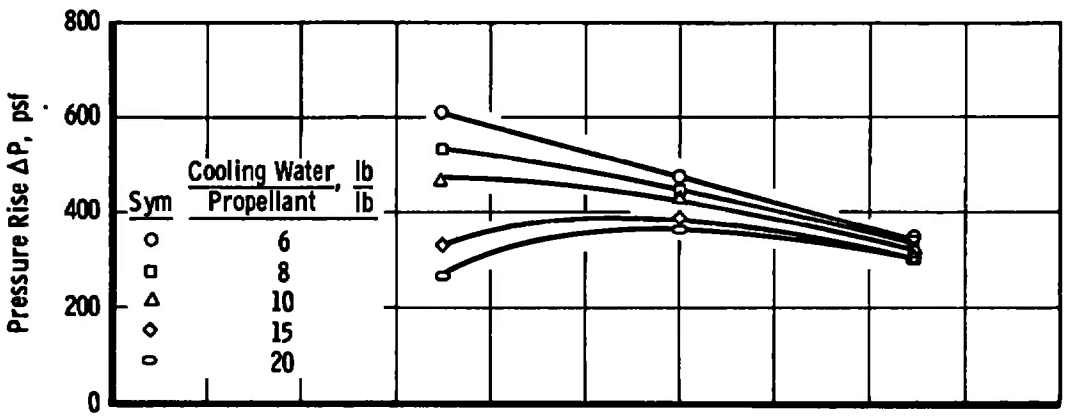


b. N_2O_4-AZ-50 Propellant

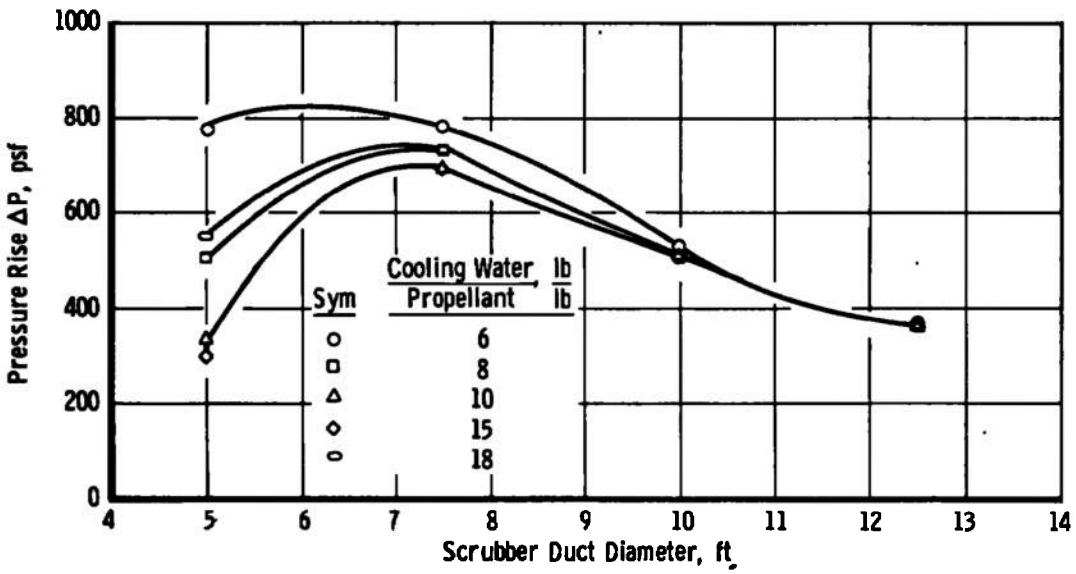
Fig. 14 Scrubber Pressure Rise for 50,000-lb-Thrust Engines



c. ClF_5-Hydrazine Propellant.

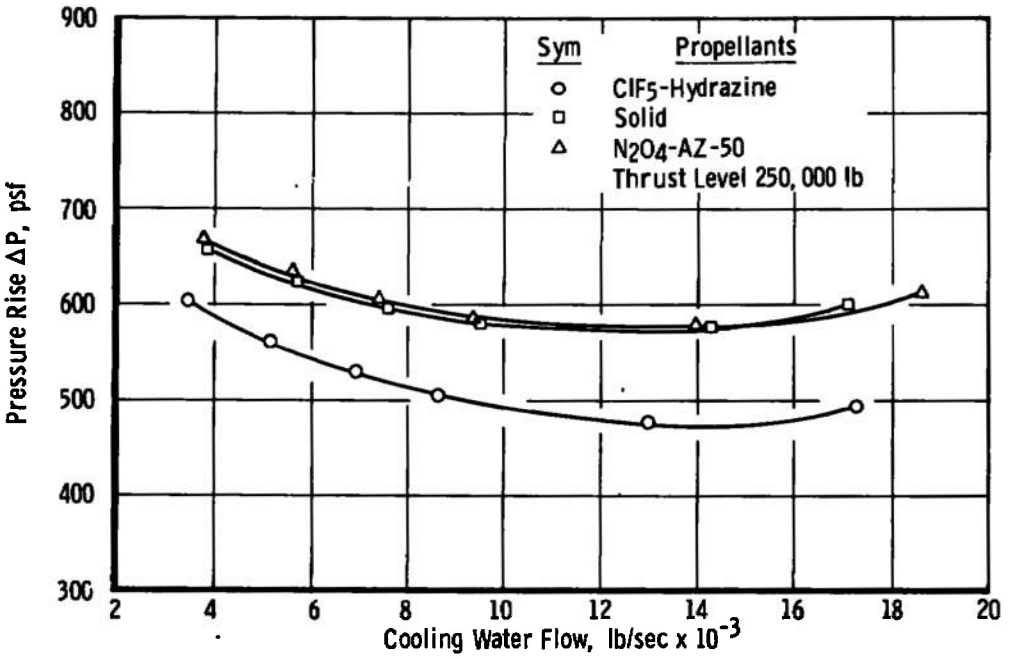


d. H_2-F_2 Propellant

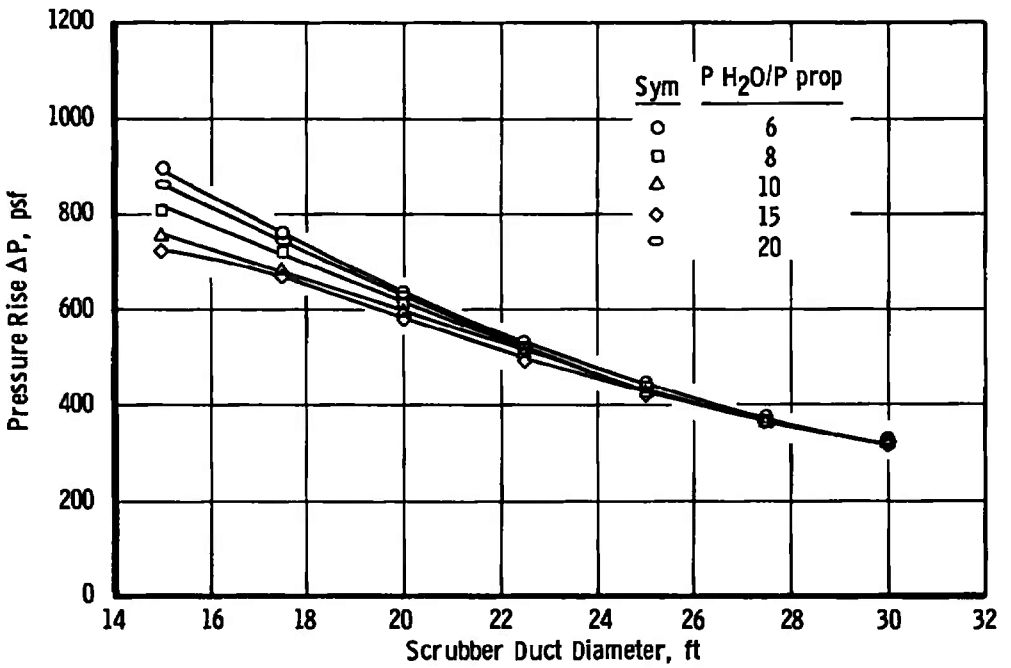


e. Solid Propellant

Fig. 14 Concluded

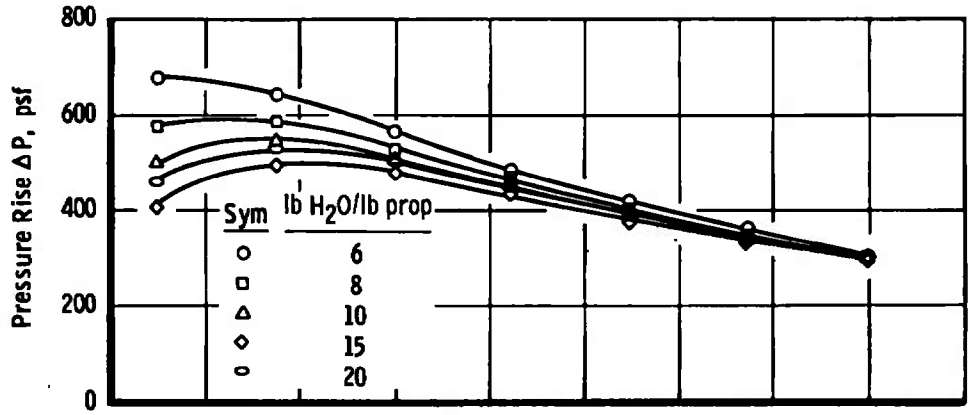


a. 20-ft-diam Duct

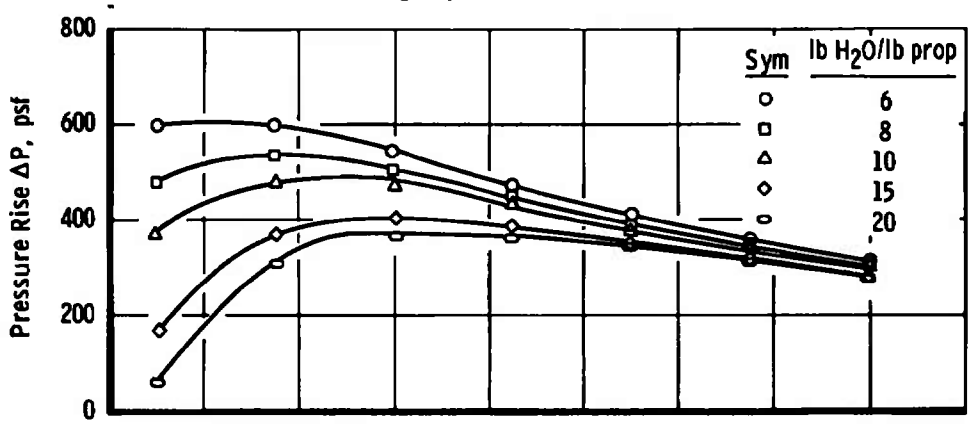


b. N_2O_4-AZ-50 Propellant

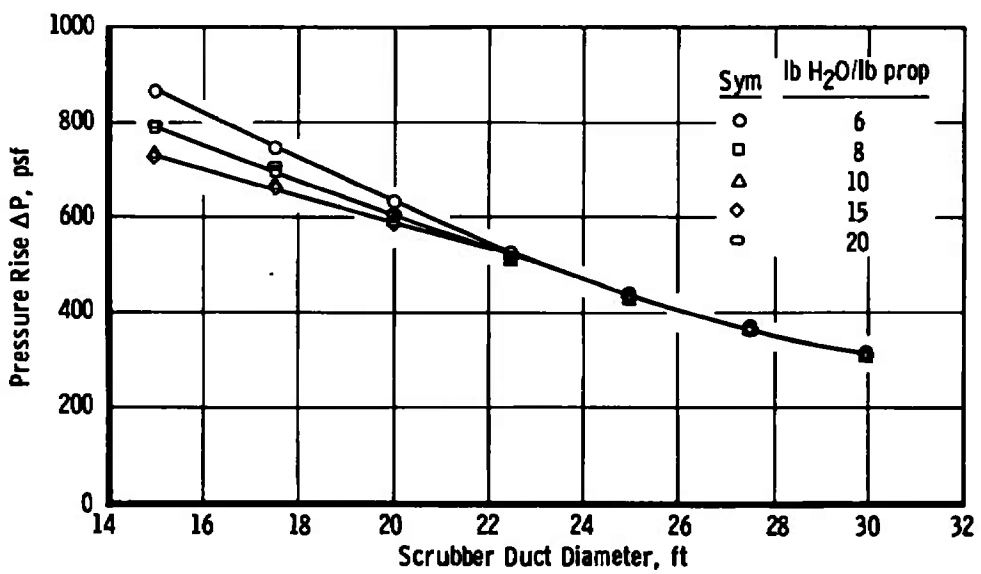
Fig. 15 Scrubber Pressure Rise for 250,000-lb-Thrust Engines



c. ClF_5-Hydrazine Propellant



d. H_2F_2 Propellant



e. Solid Propellant

Fig. 15 Concluded

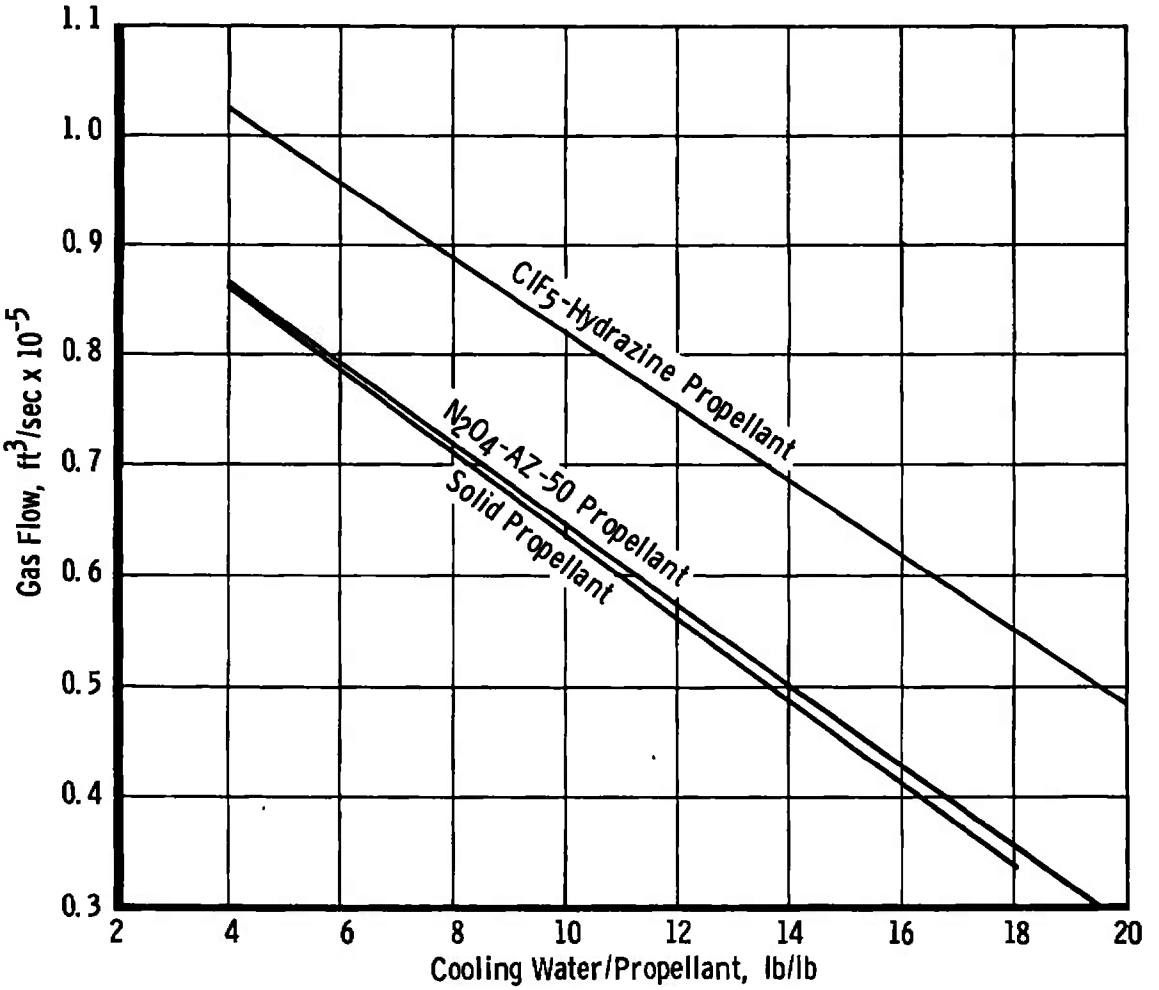


Fig. 16 Gas Flow Rates for 250,000-lb-Thrust Engines

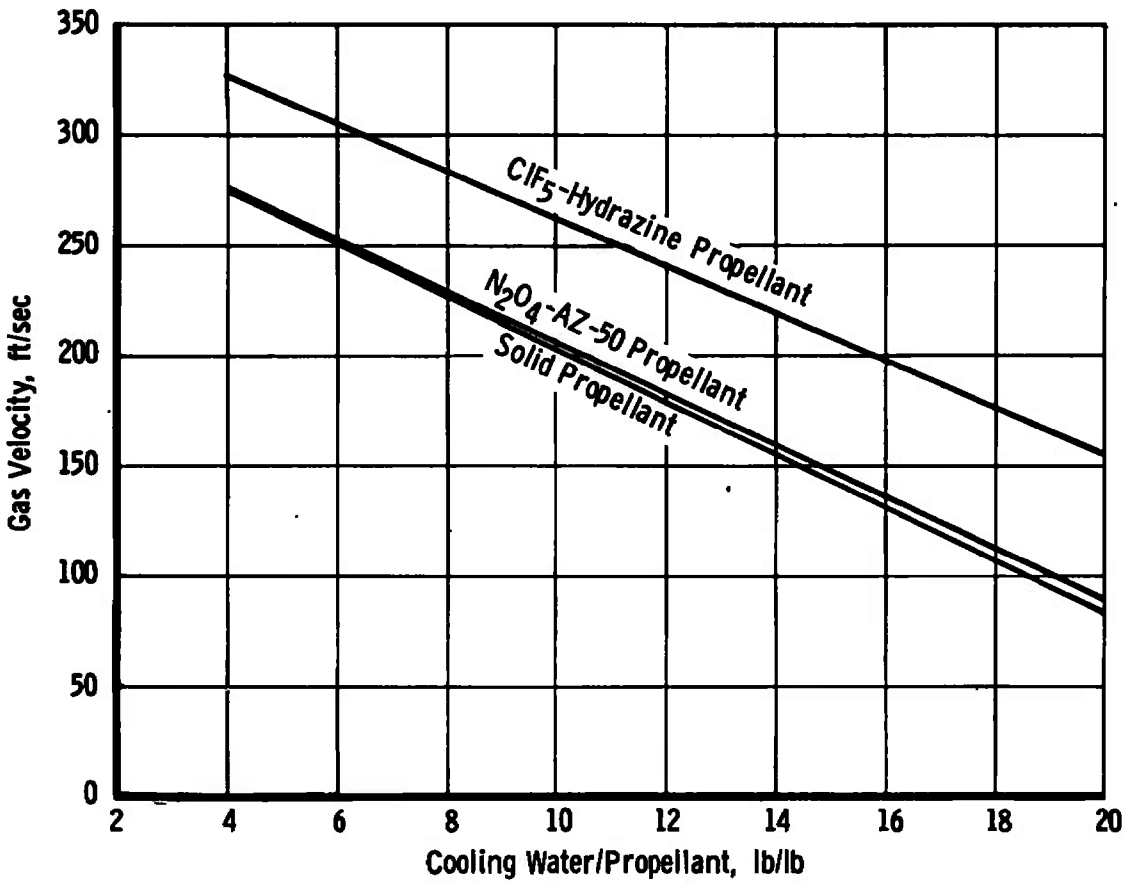
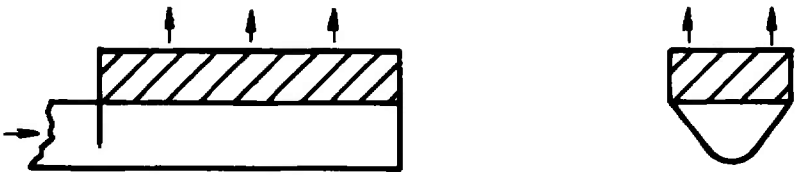
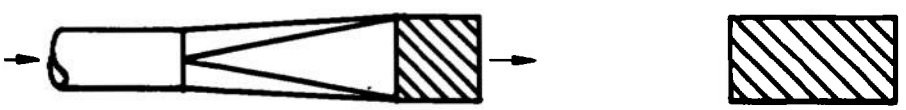


Fig. 17 Gas Velocities in 20-ft-diam Duct for 250,000-lb-Thrust Engines

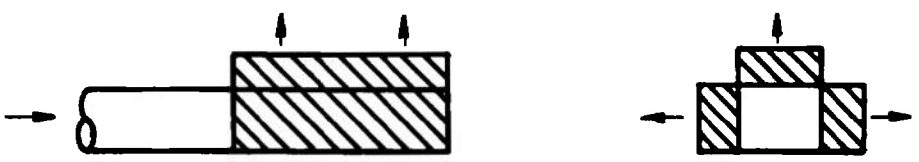


a. Vertical Outlet

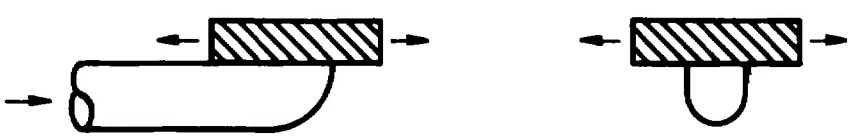
b. Side Outlet



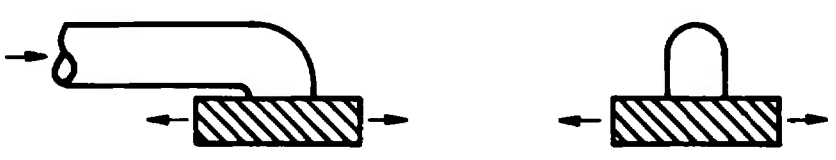
c. End Outlet



d. Three Sides Outlet



e. Asymmetrical Outlet, Bottom Inlet



f. Asymmetrical Outlet, Top Inlet

Fig. 18 Demister Configurations

TABLE I
SCRUBBER FLOW PROPERTIES

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1399+02	.3994+01	.2927+02	.3838+02	.3575+03	.4156+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.9944							
-.2287+02	.9272+02	.2523+04	-.2467-00	.4336+02	.5376+03	.3570+03	-.1738+01
P-H2O/P-PROP= 4.0000							
-.2278+02	.9271+02	.2523+04	-.2457-00	.4338+02	.5375+03	.3569+03	-.1745+01
P-H2O/P-PROP= 5.0000							
-.6749+01	.9067+02	.2468+04	-.7444-01	.4792+02	.5198+03	.3492+03	-.5889+01
P-H2O/P-PROP= 6.0000							
.9284+01	.8862+02	.2413+04	.1048+00	.5221+02	.5030+03	.3414+03	.4281+01
P-H2O/P-PROP= 7.0000							
.2532+02	.8657+02	.2358+04	.2925-00	.5626+02	.4871+03	.3336+03	.1570+01
P-H2O/P-PROP= 8.0000							
.4135+02	.8452+02	.2303+04	.4892-00	.6007+02	.4722+03	.3259+03	.9612+00
P-H2O/P-PROP= 9.0000							
.5738+02	.8248+02	.2249+04	.6958+00	.6363+02	.4583+03	.3181+03	.6927+00
P-H2O/P-PROP= 10.0000							
.7342+02	.8043+02	.2194+04	.9128+00	.6695+02	.4453+03	.3103+03	.5414+00
P-H2O/P-PROP= 11.0000							
.8945+02	.7838+02	.2139+04	.1141+01	.7002+02	.4332+03	.3026+03	.4444+00
P-H2O/P-PROP= 12.0000							
.1065+03	.7633+02	.2084+04	.1382-01	.7285+02	.4221+03	.2948+03	.3768+00
P-H2O/P-PROP= 13.0000							
.1215+03	.7429+02	.2029+04	.1636-01	.7544+02	.4120+03	.2871+03	.3271+00
P-H2O/P-PROP= 14.0000							
.1376+03	.7224+02	.1974+04	.1904+01	.7778+02	.4028+03	.2793+03	.2890+00
P-H2O/P-PROP= 15.0000							
.1536+03	.7019+02	.1919+04	.2188+01	.7988+02	.3946+03	.2715+03	.2588+00
P-H2O/P-PROP= 16.0000							
.1696+03	.6814+02	.1864+04	.2489+01	.8174+02	.3874+03	.2638+03	.2343+00
P-H2O/P-PROP= 17.0000							
.1857+03	.6610+02	.1810+04	.2809+01	.8335+02	.3810+03	.2560+03	.2141+00
P-H2O/P-PROP= 18.0000							
.2017+03	.6405+02	.1755+04	.3149+01	.8472+02	.3757+03	.2482+03	.1971+00
P-H2O/P-PROP= 19.0000							
.2177+03	.6200+02	.1700+04	.3512+01	.8565+02	.3713+03	.2405+03	.1826+00
P-H2O/P-PROP= 20.0000							
.2338+03	.5995+02	.1645+04	.3899+01	.8673+02	.3678+03	.2327+03	.1700+00
P-H2O/P-PROP= 21.0000							
.2498+03	.5791+02	.1590+04	.4314+01	.8736+02	.3653+03	.2250+03	.1591+00
P-H2O/P-PROP= 22.0000							
.2658+03	.5586+02	.1535+04	.4759+01	.8776+02	.3638+03	.2172+03	.1495+00

Key:

P = Pounds
L = Liquid
G = Gas
V = Velocity
KX = Potassium Salts, lb
PP = Pound Propellant
DEL = Delta
LB = Pounds
PROP = Propellant

TABLE II
INLET DIFFUSER DESIGN CRITERIA FOR
5,000-LB-THRUST ENGINE

Propellant Combination	H_2-F_2	ClF_5-N_2H_4	N_2O_4-AZ-50	Solid
Engine Chamber Pressure, P_{ch}, psia	300	500	500	1000
Engine Chamber Temperature, T_{ch}, °K	4290	4087	4386	3442
Nozzle Exit Temperature, T_{ne}, °K	2985	2244	2190	2110
Nozzle Exit Velocity, ft/sec	11500	9305	8629	8436
Specific Impulse, I_s, sec	357	289	268	262
Engine Mass Flow, $\dot{w}$, lb/sec	14	17.3	18.6	19.2
Nozzle Area Ratio,[1] A_{ne}/A^*	3.97	5.93	5.93	9.98
Exhaust Gas, Molecular Weight	15.55	24.5	24.0	29.0
Exhaust Gas,[2] Effective γ, C_p/C_v	1.2	1.18	1.18	1.18
ΔEnthalpy from T_{ch} to T = 212 Btu/lb gas	4156	2958	2930	2693
H_2O Required to Cool Gas to 212°F, lb H_2O/lb gas	4.0	2.76	2.88	2.68
Area of Throat, A*, in.^{2}	11.13	6.45	6.27	3.02
Area of Nozzle Exit, A_{ne}, in.^{2}	44.25	38.2	37.2	30.1
Diameter of Throat, D*, in.	3.76	2.86	2.82	1.96
Diameter of Nozzle Exit, D_{ex}, in.	7.51	6.97	6.88	6.19

TABLE II (Concluded)

Propellant Combination	H_2-F_2	ClF_5-N_2H_4	N_2O_4-AZ-50	Solid
Area of Diffuser, A_D, in.^{2}	50	50	50	50
Diameter of Diffuser, D_o, in.	7.97	7.97	7.97	7.97
Estimated Average Velocity at Diffuser Exit, ft/sec	10819	8681	7917	7590
Maximum Mach Number at Diffuser Exit	2.589	2.770	2.778	2.943

Estimated Exhaust Gas Components at Equilibrium, 70 deg	F_2-H_2		ClF_5-N_2O_4		N_2O_4-AZ-50		Solid	
	Molecular Fraction	lb/sec	Molecular Fraction	lb/sec	Molecular Fraction	lb/sec	Molecular Fraction	lb/sec
H_2	0.221	0.4			0.273	0.459	0.2531	0.388
HF	0.779	13.6	0.708	12.72				
Cl_2			0.038	1.21				
HCl			0.062	2.04			0.1688	4.725
H_2O					0.4807	7.276	0.1652	2.560
N_2			0.192	1.32	0.3636	8.56	0.0841	1.810
CO					0.0430	1.012	0.2047	4.40
CO_2					0.0860	1.702	0.0212	0.952
NO_2					0[3]			
Al_2O_3							0.0756	4.350

[1]Nozzle area ratio based on a nozzle exit static pressure of ambient which is assumed to be 13.2 psia for 3000 ft elevation.

[2]The γ's used are those which from experience seem to be the effective γ, not theoretical.

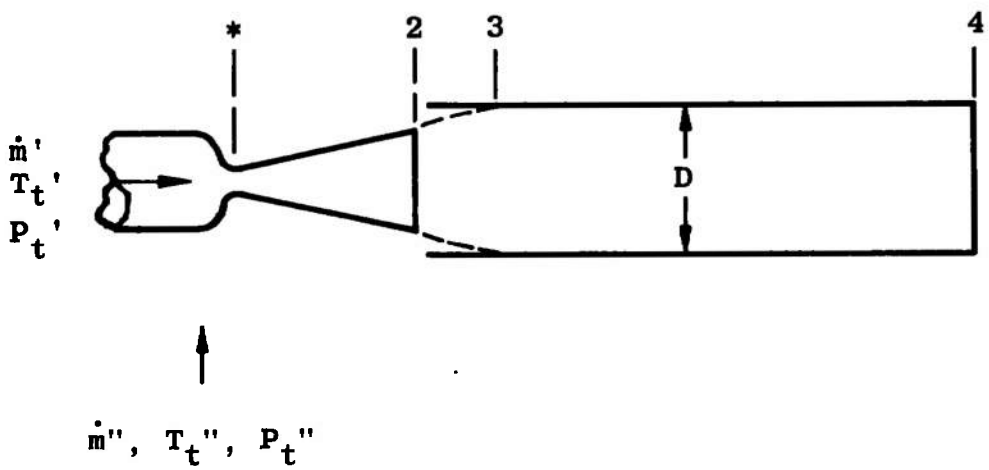
[3]Equilibrium calculations do not show any NO for these propellants; however, incomplete combustion may account for the presence of NO under actual operating conditions.

APPENDIX III
INLET DIFFUSER DESIGN

The design of the diffusers for the scrubber systems was based on constant area mixing equations (Ref. 28). The assumptions of the analysis are:

1. Isentropic flow of both primary and secondary fluids to plane 2.
2. Uniform static pressure distribution in plane 2.
3. Constant area mixing takes place with a shock giving subsonic conditions in plane 4.
4. Secondary flow was assumed to be steam, $\gamma = 1.3$.

The results of the use of these equations are presented in Table III-I and Fig. III-1. The input values for the calculations are shown in Table III-II. These equations are presented on the following pages.



$$P_t''/P_3 = \left[1 + \frac{\gamma'' - 1}{2} (M_3'')^2\right]^{\frac{\gamma''}{\gamma''-1}}$$

$$P_t'/P_3 = (P_t''/P_3)(P_t'/P_t'')$$

$$M_3' = \left[\frac{(P_t'/P_3)^{\frac{\gamma'-1}{\gamma'}} - 1}{\frac{\gamma' - 1}{2}}\right]^{\frac{1}{2}}$$

$$A_3'/A^* = \frac{1}{M_3'} \left\{\frac{2}{\gamma' + 1} \left[1 + \frac{\gamma' - 1}{2} (M_3')^2\right]\right\}^{\frac{\gamma'+1}{2(\gamma'-1)}}$$

$$A_3''/A_3' = \frac{A_d/A^*}{A_3'/A^*} - 1$$

$$\dot{m}''/\dot{m}' = \left(\frac{A_3''}{A_3'}\right)\left(\frac{M_3''}{M_3'}\right)\left\{\frac{\gamma'' R' T_t' \left[1 + \frac{\gamma'' - 1}{2} (M_3'')^2\right]}{\gamma' R'' T_t'' \left[1 + \frac{\gamma' - 1}{2} (M_3')^2\right]}\right\}^{\frac{1}{2}}$$

$$\dot{m}' = \frac{\dot{m}''}{(\dot{m}''/\dot{m}')}$$

$$\left(\frac{P}{P_t} \dot{m}\right)'_{M=1} = \sqrt{\frac{\gamma' g}{R'}} \left[\frac{2}{\gamma' + 1}\right]^{\frac{\gamma'+1}{2(\gamma'-1)}}$$

$$A^* = \frac{\dot{m}' \sqrt{T_t'}}{P_t' \left(\frac{P}{P_t} \dot{m}\right)_{M=1}'}$$

$$A_3' = (A_3'/A^*)\ A^*$$

$$A_3'' = (A_3''/A_3')\ A_3'$$

$$P_3 = P_t'/(P_t'/P_3)$$

$$F_4 = P_3 \left\{A_3' \left[1 + \gamma' (M_3')^2\right] + A_3'' \left[1 + \gamma'' (M_3'')^2\right]\right\}$$

$$\dot{m}_4 = \dot{m}' + \dot{m}''$$

$$R_4 = \frac{\dot{m}' R' + \dot{m}'' \cdot R''}{\dot{m}_4}$$

$$C_p' = \frac{R'}{J} \frac{\gamma'}{\gamma' - 1}$$

$$C_p'' = \frac{R''}{J} \frac{\gamma''}{\gamma'' - 1}$$

$$\dot{m}_4 C_{p_4} = \dot{m}' C_p' + \dot{m}'' C_p''$$

$$T_{t_4} = \frac{\dot{m}' C_p' T_t' + \dot{m}'' C_p'' T_t''}{\dot{m}_4 C_{p_4}}$$

$$\gamma_4 = \left[1 - \frac{R_4}{JC_{p_4}}\right]^{-1}$$

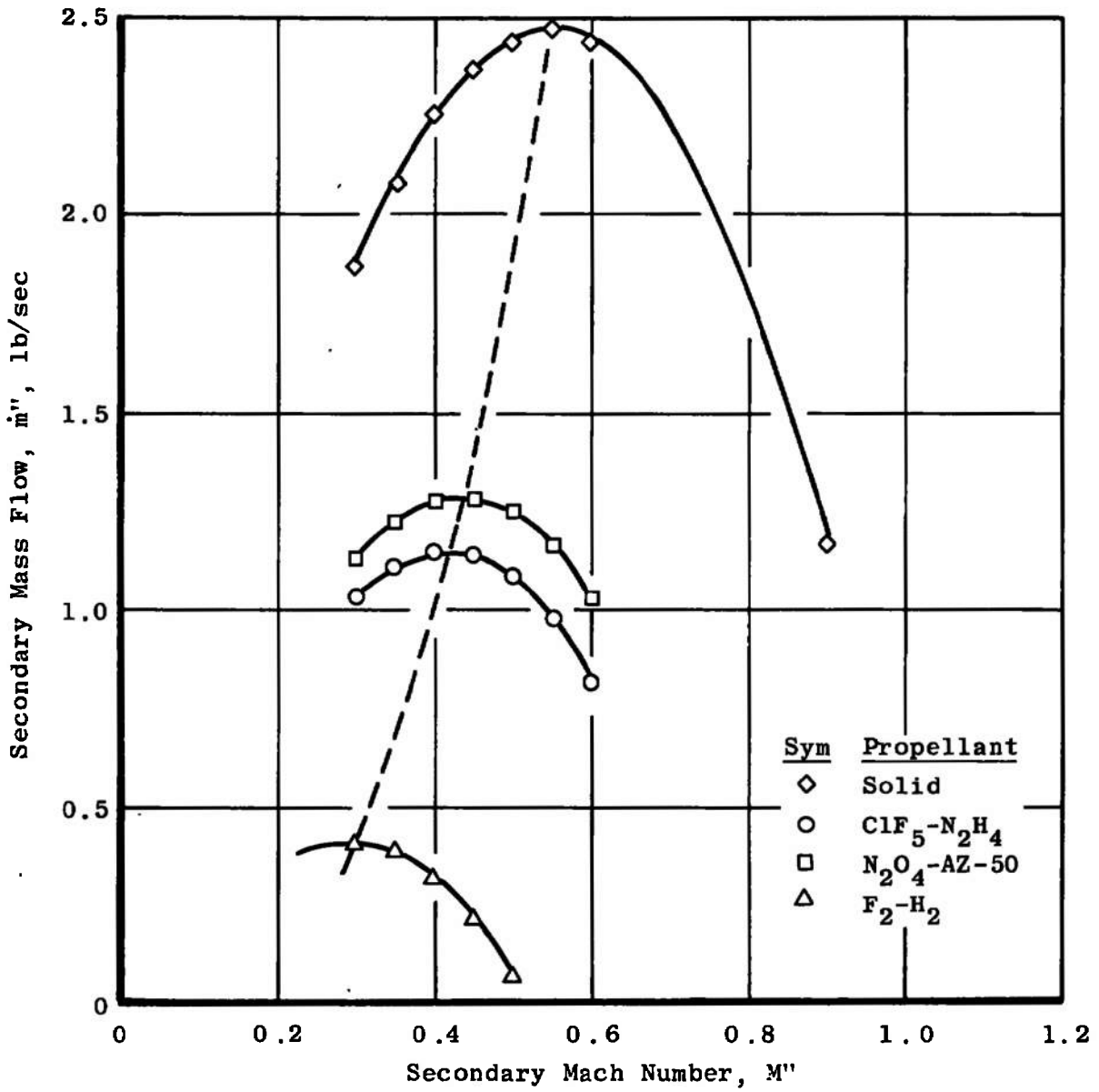
Let

$$G = (\dot{m}_4/F_4)^2 \frac{R_4 \, T_{t_4}}{\gamma_4 \, g} \qquad \text{and} \quad K = 1 - 2\gamma_4 \, G$$

$$M_4 = \left[\frac{K - \sqrt{K - 2G}}{1 - \gamma_4 \, K} \right]^{\frac{1}{2}}$$

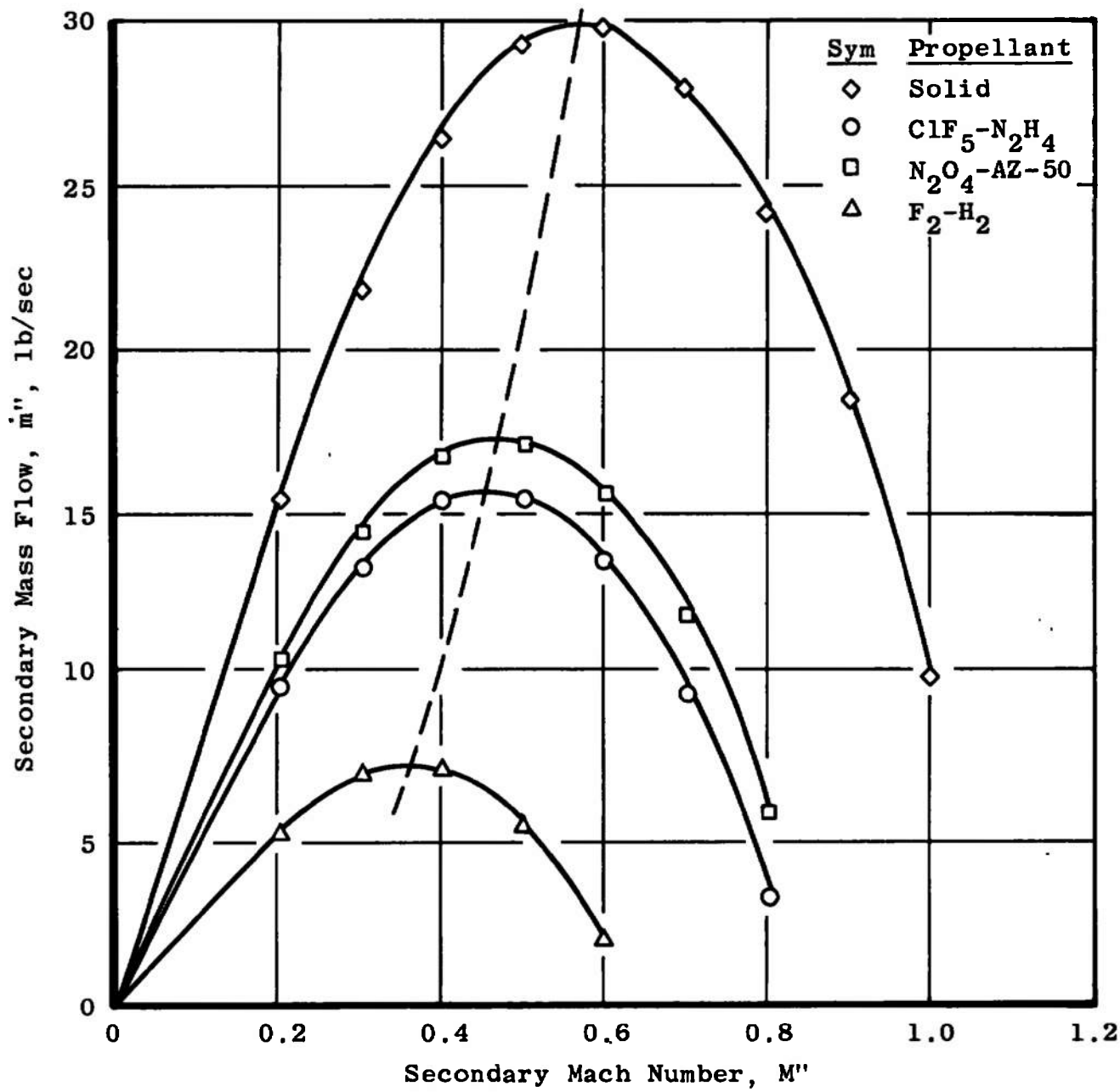
$$(P_t/P)_4 = \left[1 + \frac{\gamma - 1}{2} M_4^2 \right]^{\frac{\gamma_4}{\gamma_4 - 1}}$$

$$P_4 = \frac{F_4}{(A_d/A^*) \; A^* \; (1 + \gamma_4 \, M_4^2)}$$

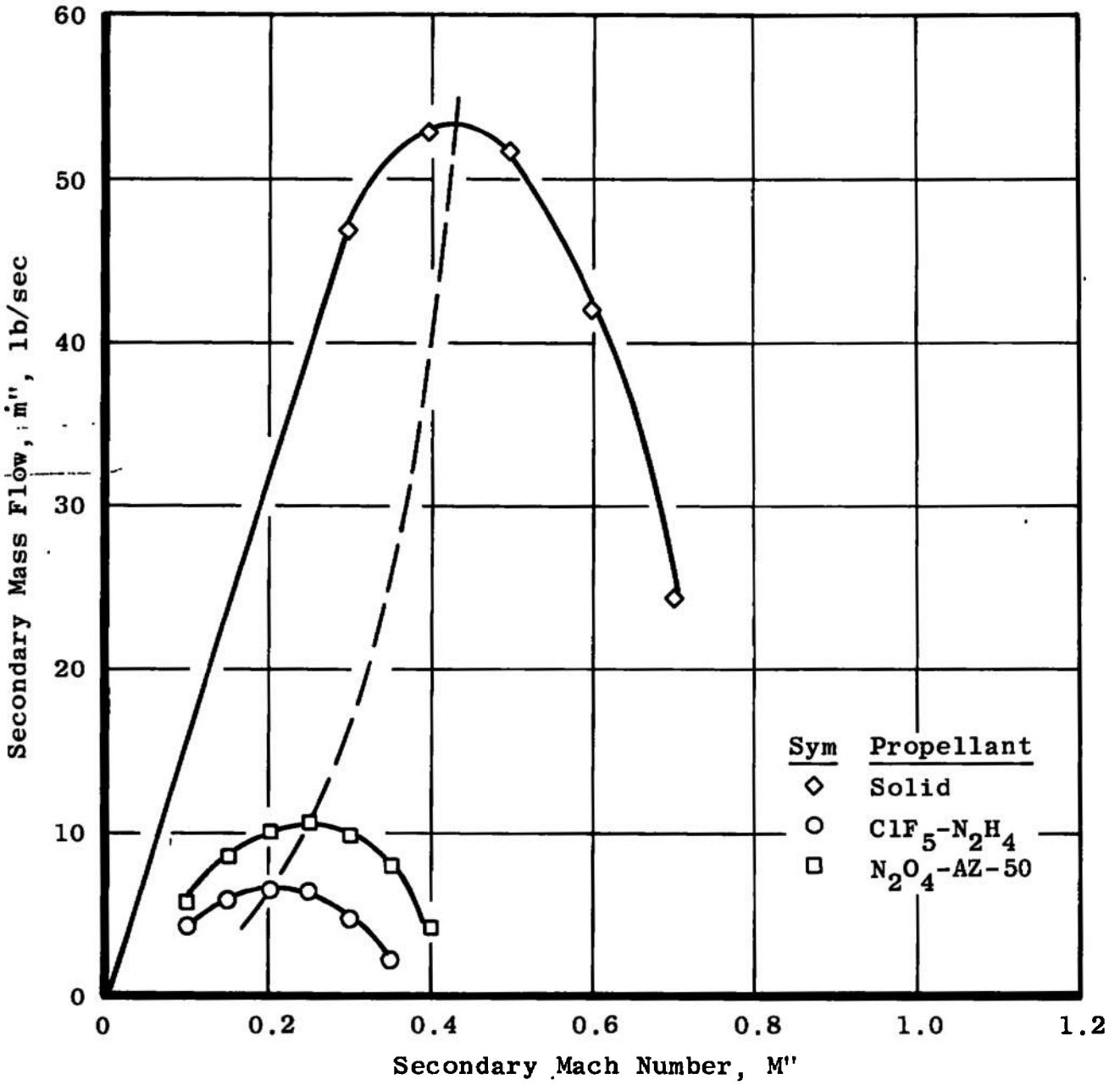


a. 5,000-lb-Thrust Engine, 8-in.-diam Diffuser

Fig. III-1 Secondary Mass Flow as a Function of Secondary Mach Number



b. 50,000-lb-Thrust Engine, 26-in.-diam Diffuser
Fig. III-1 (Continued)



c. 250,000-lb-Thrust Engine, 51.-in.-diam Diffuser
Fig. III-1 (Concluded)

TABLE III-I
DIFFUSER PERFORMANCE

	F_2-H_2	N_2O_4-AZ-50	ClF_5-N_2H_4	Solid
5,000-lb-Thrust System				
Nozzle exit diameter, in.	7.51	6.88	6.97	6.19
Diffuser diameter, in.	7.97	7.97	7.97	7.97
*Lowest engine chamber pressure for started operation, psia	41.22	66.90	67.81	133.66
*Maximum back pressure to which diffuser will pump, psia	98.25	100.90	99.55	101.00
*Diffuser exit velocity, ft/sec	10819	7917	8681	7590
*Diffuser exit Mach number	2.589	2.778	2.770	2.943
50,000-lb-Thrust System				
Nozzle exit diameter, in.	23.66	21.79	22.08	19.57
Diffuser diameter, in.	26.0	26.0	26.0	26.0
*Lowest engine chamber pressure for started operation, psia	43.23	69.66	71.54	139.42
*Maximum back pressure to which diffuser will pump, psia	93.69	96.90	94.35	96.83
*Diffuser exit velocity, ft/sec	10658	7813	8244	7391
*Diffuser exit Mach number	2.557	2.731	2.719	2.886
250,000-lb-Thrust System				
Nozzle exit diameter, in.		48.72	49.34	43.75
Diffuser diameter, in.		51.00	51.00	51.00
*Lowest engine chamber pressure for started operation, psia		55.62	56.37	109.67
*Maximum back pressure to which diffuser will pump, psia		121.35	119.75	123.10
*Diffuser exit velocity, ft/sec		8361	9201	8355
*Diffuser exit Mach number		2.879	2.879	3.134

*Theoretical values

TABLE III-II
INPUT PARAMETERS
CONSTANT AREA MIXING DIFFUSER DESIGN

Propellant		F_2-H_2	ClF_5-N_2H_4	N_2O_4-AZ-50	Solid
γ'		1.20	1.18	1.18	1.18
γ''		1.30	1.30	1.30	1.30
T_t', °R		7722	7357	5915	6196
T_t'', °R		672	672	672	672
R'		99.68	63.06	64.38	53.28
R"		85.83	85.83	85.83	85.83
P_t', psia		300	500	500	1000
P_t'', psia		13.2	13.2	13.2	13.2
η		0.6	0.6	0.6	0.6
M_3''	5,000	0.3 0.35 0.4 0.45 0.5	0.3 0.35 0.4 0.45 0.5 0.55 0.6	0.3 0.35 0.4 0.45 0.5 0.55 0.6	0.3 0.35 0.4 0.45 0.5 0.55 0.6 0.9
	50,000	0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0	0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0	0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0	0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0
	250,000	0.1 0.15 0.2 0.25	0.1 0.15 0.2 0.25	0.1 0.15 0.2 0.25	0.1 0.15 0.2 0.25
$\dot{m}'$	5,000	14.0	17.3	18.6	19.2
	50,000	140	173	186	192
	250,000	--	864	930	960
A_d/A^*	5,000	4.49	7.77	7.97	16.59
	50,000	4.77	8.25	8.45	17.62
	250,000	---	6.352	6.514	13.556

APPENDIX IV
SUGGESTED SCRUBBER TEST PROGRAM FOR 5,000-LB-THRUST

The purposes of this test program are to determine the effectiveness of the system "as built" and to determine which variations in geometry and operating parameters will produce the most efficient and economical cleaning of rocket exhaust gases. Cleaning solution concentration, flow rate, spray nozzle location, scrubbing duct length, and demister effectiveness are discussed.

By measuring the input to the system and the output of the system, the above items may be studied. The inputs to the system are the rocket exhaust products, scrubbing solution, and secondary flow. The outputs are drain solutions and the exhaust gas products at the outlet of the demister.

The system has been designed to operate with a variety of propellants—the most toxic of which was H_2-F_2. Therefore, it is recommended that the shakedown engine use fluorine compounds. The following test program has been prepared for this type of propellant. If desired, tests using other propellants, such as those with NO_x, HCl, or AL_2O_3 as exhaust gas constituents, can be conducted. The practical solution concentrations and flow rates to be used can be based on the theoretical calculations attached and the results of the F_2 tests.

The measurements which will be required for the test are as follows:

I. Capture Duct Inlet Parameters
   - A. Engine
     1. Engine oxidizer flow, $\dot{w}_o$
     2. Ambient air temperature
     3. Engine fuel flow, $\dot{w}_f$
     4. Engine chamber pressure
   - B. Secondary water flow supply pressure
   - C. Scrubbing solution
     1. Temperature of KOH supply
     2. Percent KOH
     3. Total flow rate
     4. Supply pressure, bank No. 1
     5. Supply pressure, bank No. 2
     6. Supply pressure, bank No. 3

II. Conditions at Demister Exit
   A. Drain solutions
      1. Flow over weir
      2. Temperature at drain
      3. Sample chemical analysis
   B. Gas
      1. Total pressure profile
      2. Static pressure along duct
      3. Gas sampler, exit scrubber
      4. Total pressure in gas sampler probe
      5. Static pressure in gas sampler probe
      6. Gas sample at exit of demister
      7. Temperature at exit of demister

The most significant data from the scrubber is the quantity of fluoride in the exhaust. The exhaust will consist of steam, noncondensable gas from the rocket (H_2) and from inbleed air (N_2 and O_2), unabsorbed HF, and spray which got through the demister consisting of water, KF, and KOH. If a sample were taken of the scrubber exhaust and condensed, the N_2, O_2, and H_2 may be used to calculate the inbleed air to rocket mass flow ratio. Total potassium is a measure of the spray getting through the demister. Total fluoride measures overall efficiency, and excess of fluoride over potassium gives the maximum efficiency of the gas to liquid scrubbing process, that is, excess fluoride must have been unabsorbed HF, but the remainder may have been KF in the spray or HF which was absorbed and neutralized during condensation of the sample. The ratio, condensed water minus the spray to noncondensables, gives sufficient data to calculate the water evaporated per pound of rocket gas. This is an additional method of calculating scrubber efficiency since the excess heat over that necessary to cool the rocket gas comes from the heat of solution of HF.

Scrubber drain flow rates and composition will give another measure of water evaporated and fluoride collected, both of which can be used to calculate efficiency.

Duct static pressures and exit plane total pressures will give information on the fluid mechanics in the scrubber duct. The total pressures will measure the uniformity of the flow at the exit plane. The exact interpretation of these data will be difficult because of the effect of the spray on the readings. Samples taken with these probes will give a measure of water loading in the gas and could show locations which were inadequately covered by spray. These readings will be only semiquantitative because of the difficulty of sampling in two-phase flow. The static pressure distribution in the duct will give a measure of the

excess stream momentum which could be used for additional mixing. Again, these results cannot be put on a quantitative basis but should be interpreted by someone with experience in this type of flow.

Measurements in the scrubber duct are primarily useful in indicating the type of changes which should be made to the system if the efficiency is less than desired.

The equations to reduce the sampling data at the demister exit are as follows:

The excess H_2 in the rocket exhaust is

$$(H_2/Ex) = \frac{(F/O) - (F/O)_{stoich}}{1 + (F/O)} \tag{IV-1}$$

Some or all of this may burn in the inbleed air:

$$\left(\frac{H_2/Ex}{2.016}\right)H_2 + \left(\frac{AIR}{Ex} \times \frac{0.2325}{32}\right)O_2 = \left(\frac{AIR}{Ex} \times \frac{0.7675}{28}\right)N_2 + A\ H_2O$$
$$+ \left(\frac{H_2/Ex}{2.016} - A\right)H_2 + \left(\frac{AIR}{Ex} \times \frac{0.2325}{32} - \frac{A}{2}\right)O_2$$
$$+ \left(\frac{AIR}{Ex} \times \frac{0.7675}{28}\right)N_2 \tag{IV-2}$$

$$O_2/N_2 = \frac{(AIR/Ex) \times \frac{0.2325}{32} - \frac{A}{2}}{(AIR/Ex) \times \frac{0.7675}{28}} \tag{IV-3}$$

$$H_2/N_2 = \frac{(H_2/Ex)/2.016 - A}{(AIR/Ex) \times \frac{0.7675}{28}} \tag{IV-4}$$

If the O_2/N_2 and the H_2/N_2 ratios are determined, A and AIR/Ex may be calculated. There are two limiting cases:

<u>No H_2</u>

$$A = (H_2/Ex)/2.016 \tag{IV-5}$$

<u>No O_2</u>

$$A = 2 \times AIR/Ex \times 0.2325/32 \tag{IV-6}$$

The remaining equation for O_2/N_2 or H_2/N_2 may then be solved for (AIR/Ex).

The total noncondensable/lb of exhaust is

$$(H_2/Ex) + (AIR/Ex) - 18.016\ A \tag{IV-7}$$

The heat input to the system comes from the heat energy of the rocket, the heat of reaction of the inbleed air with the hydrogen, and the heat of solution and reaction of HF in KOH solution. If the sensible heat of the spray solution $\left[(C_p(T_{BP} - T_{in}) \times W_{spray})/Ex\right]$ is subtracted from the total heat load, the remainder goes to evaporate water. Thus,

$$\begin{aligned} STEAM/Ex = \Big[& AH_{rocket} + (HF/Ex)_{absorbed} \times H_R \\ & + A \times \Delta H_{fH_2O} - C_{p_{liq}} (T_{BP} - T_{in}) \\ & \times W_{spray}/Ex \Big] \Big/ L_{H_2O} \end{aligned} \tag{IV-8}$$

The liquid from the scrubber is

$$\frac{W_{spray}}{Ex} - \frac{STEAM}{Ex} + \frac{18.016}{19.008} (HF/Ex)_{absorbed} \tag{IV-9}$$

and the concentration of potassium in the drain and the spray from the demister expressed as K is

$$\begin{aligned} & \frac{39.1}{56.1} \times \frac{W_{spray}}{Ex} \times \frac{KOH}{W_{spray}} \Big/ \frac{W_{spray}}{Ex} \\ & - \frac{STEAM}{Ex} + \frac{18.016}{19.008} \frac{HF}{Ex}_{absorbed} \end{aligned} \tag{IV-10}$$

It is assumed that the demister spray concentration is the same as that in the drain. The total water through the demister is

$$\begin{aligned} (cond/noncond)_{sample} \times & [(H_2/Ex) + AIR/Ex - 18.016A] \\ & = STEAM/Ex + D_{spray}/Ex \end{aligned} \tag{IV-11}$$

$$\frac{K}{\text{cond}}_{\text{sample}} = \frac{\frac{39.1}{56.1} \times \frac{W_{\text{spray}}}{Ex} \times \frac{KOH}{W_{\text{spray}}}}{\left(\frac{W_{\text{spray}}}{Ex} - \frac{STEAM}{Ex} + \frac{18.016}{19.008} \frac{HF}{Ex}_{\text{abs}}\right)}$$

$$\times \frac{\frac{D_{\text{spray}}}{Ex}}{\frac{STEAM}{Ex} + \frac{D_{\text{spray}}}{BP}} \qquad \text{(IV-12)}$$

Equations (IV-8), (IV-11), and (IV-12) are equations in the three unknowns: STEAM/Ex, $(HF/Ex)_{absorbed}$, D_{spray}/Ex.

The minimum cleaning efficiency can be measured from

$$\frac{F}{\text{cond}} = \frac{19/20 \ (HF/Ex)_{\text{not abs}}}{\frac{STEAM}{Ex} + \frac{D_{\text{spray}}}{Ex}}$$

Independent measurements of $(HF/Ex)_{abs}$, the liquid from the scrubber, and the concentration of potassium in the liquid can be obtained from the analysis of the liquid from the scrubber.

NOMENCLATURE

A	Moles H_2O formed from reaction with inbleed air per pound of exhaust
(AIR/Ex)	Mass ratio of inbleed air to total rocket flow
C_p	Specific heat of spray solution
cond/noncond	Mass ratio of condensable to noncondensables in the sample
D_{spray}/Ex	Mass ratio of liquid from the demister to the rocket flow
F/cond	Mass ratio of fluorine to the condensables
F/O	Fuel/oxidizer ratio in rocket
(HF/Ex)	Mass ratio of HF to rocket flow

HR	Heat of the reaction, $HF_{gas} + KOH_{sol} = KF_{sol} + H_2O_{lig}$ 2500 Btu/lb
(H_2/Ex)	Mass ratio of free H_2 to total rocket flow
H_2/N_2	Hydrogen to nitrogen volume ratio in exhaust sample
$\Delta H_{f_{H_2O}}$	Heat of formation of H_2O g/mole
ΔH_{rocket}	Total enthalpy of rocket gases above boiling point of spray solution
K/cond	Mass ratio of potassium to the condensables
KOH/spray	Mass ratio of KOH to H_2O in spray
L_{H_2O}	Heat of vaporization of H_2O
O_2/N_2	Oxygen-to-nitrogen volume ratio in exhaust sample
STEAM/Ex	Mass ratio of steam equated to rocket flow
T	Temperature
(W_{spray}/Ex)	Mass ratio of water injected to rocket flow

Test Program

I. Calibration—water only

Cold flow

Water flow through rotameter will calibrate weir flow.

Vary H_2O pressure to nozzle banks—establish steady-state conditions between test points.

Data Point	Spray Banks		
1	1	700 gpm	(98 psig)
2	1	800	(121 psig)
3	1	900	(147.5 psig)
4	1 and 3	850	(98 psig)
5	1 and 3	960	(121 psig)
6	1 and 3	1080	(147.5 psig)
7	1 and 2	1100	(98 psig)
8	1 and 2	1270	(121 psig)
9	1 and 2	1450	(147.5 psig)
10	1, 2, and 3	1300	(98 psig)
11	1, 2, and 3	1455	(121 psig)
12	1, 2, and 3	1620	(147.5 psig)

Plot flow data for each bank versus pressure.

Plot flow data for weir versus height.

II. Firing tests

Possible variables in scrubber

1. KOH percent
2. Solution flow rate
3. Spray nozzle positions
4. Spray nozzle number
5. Scrubber duct length

The actual KOH percent solutions and flow rates needed for maximum efficiency and economy will be determined by the propellants of the test motor. Ideally, the testing of the scrubber system would use an engine having fluorine as the oxidizer, an engine having N_2O_4 as the oxidizer, and a solid-propellant rocket motor with hydrogen chloride and aluminum oxide products. Each propellant would require different KOH percent solutions and flow rates. A typical run program follows if one assumes a 5,000-lb-thrust H_2-F_2 engine with a flow rate of 14 lb/sec. Figures IV-1 and IV-2 were used to determine the flow rates and KOH percent concentrations to be tested.

These flow rates are obtainable with the design arrangement of spray nozzles; if other variations are desired, spray nozzle arrangements will have to be changed. All spray banks are operated with equal pressure (see Fig. IV-2).

Data Point	Percent KOH Solution	gpm Flow
1	17	1700
2	17	1610
3	17	1550
4	17	1475
5	17	1400
6	16	1700
7	15	1700
8	19	1480
9	19	1415
10	19	1375
11	19	1300
12	18.4	1475
13	17.8	1475

The first data point is the most conservative in terms of cooling water supplied and excess KOH in solution. The assumption is made that the system will operate as designed. However, because of poor mixing of the exhaust gas and spray solution or the accumulation of liquid on the duct walls, improper cooling of the gas could exist if only the ideal or design values were used. Therefore, the initial test point would be the most conservative in terms of possible damage to the ducting and demister. The results of this first point will decide which points to use next. If, as discussed previously, pressure profiles or cleaning efficiency indicate that hardware modifications are necessary, these modifications should be made before proceeding. When a satisfactory performance run has been made at the initial design condition, then variations in cooling water flow rate or solution concentration will be made to find the most economical operating conditions. The most desirable initial points to be run are those in which the cooling water is excessive and the KOH percent solution is varied. Data points 1, 6, and 7 maintain a constant cooling flow and vary solution concentration.

It may be desirable to run a series of points without changing solution concentration as these data points would save time. Data points 1, 2, 3, 4, and 5 are at a constant concentration of 17 percent, and points 8, 9, 10, and 11 are at 19 percent. These data points vary cooling water flow rate and excess KOH solution. The effect of the variation of excess KOH can be established by data points 1, 4, 6, 7, 8, 12, and 13. These data points will maintain constant cooling flow rate and vary the excess KOH. Some inconvenience is necessary as solution concentration in the tanks must be changed between runs. Firing time for each data point would be that which is required to reach stable engine operation and approximately 5 sec steady-state time. From the data of these test points, the most efficient concentration of KOH and flow rate can be determined. During these runs, the pressure profile data at the demister inlet may indicate unsatisfactory mixing.

Some of the corrective steps which may be used are: (1) adjust the flow rate to individual banks (Fig. IV-2), (2) move nozzles to different positions along duct, (3) add spray nozzles at other stations in duct, and (4) add devices in the ducting to improve mixing.

If these adjustments are necessary and when they have been accomplished, the instrumentation rake should be moved to stations closer to the spray nozzles to determine if the scrubbing duct may be shortened. Additional runs will then be required to verify the efficiency of the shorter scrubbing duct.

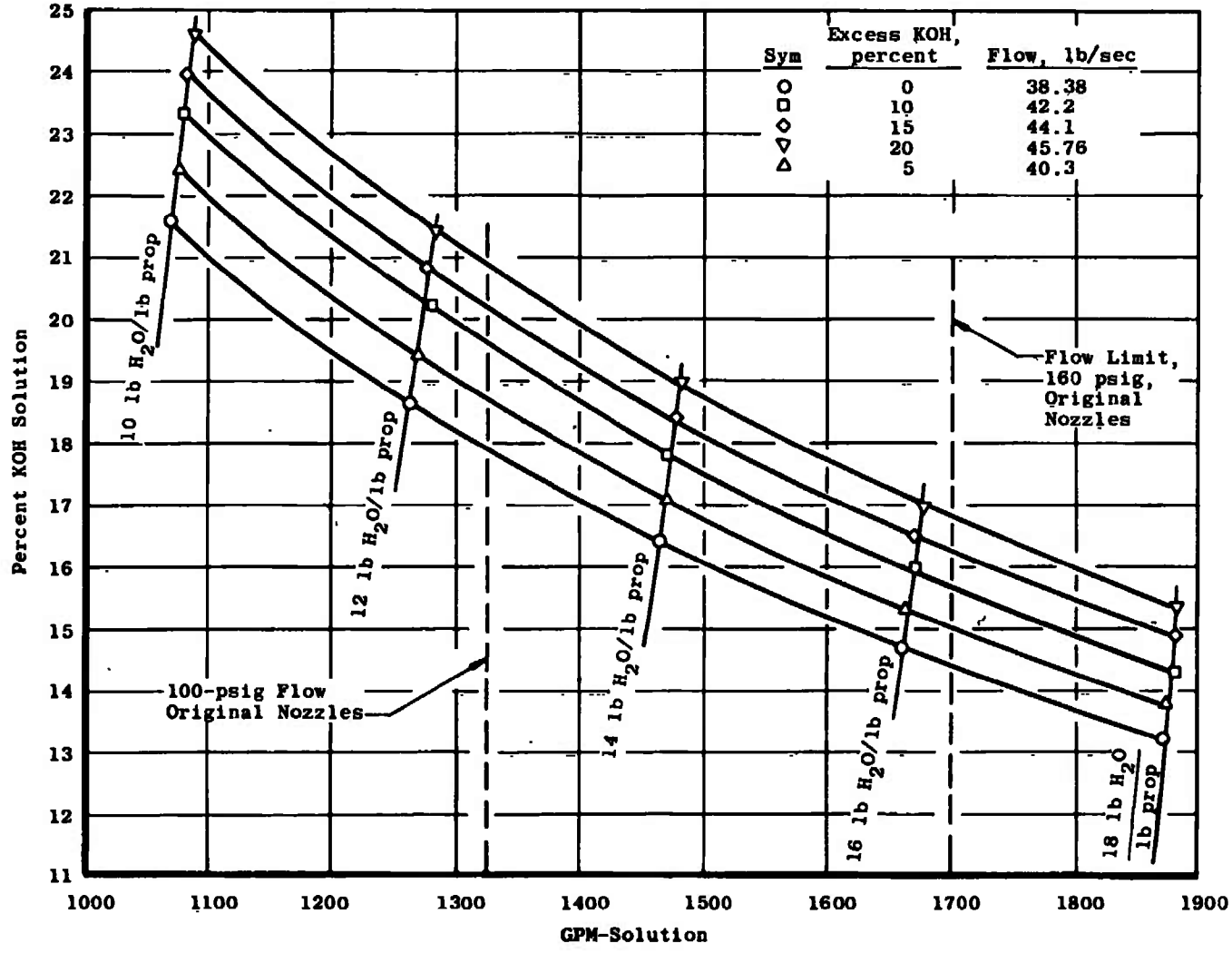


Fig. IV-1 Cleaning Solution Flows for 5,000-lb-Thrust H_2-F_2 Engine

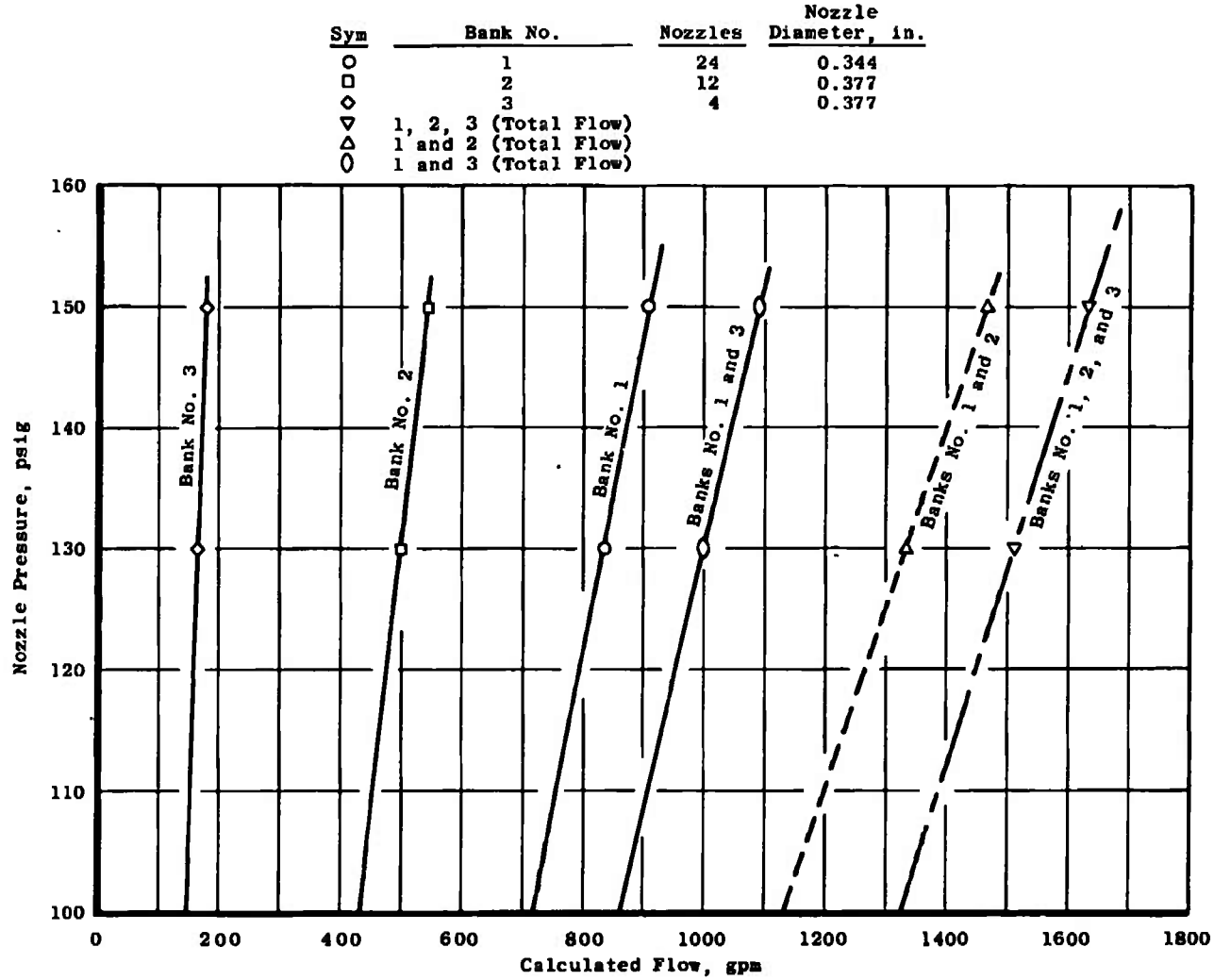


Fig. IV-2 Cleaning Solution Nozzle Flows

APPENDIX V
COMPUTER DATA SHEETS

This appendix contains the tabulated data from which the figures in the report were plotted. A Raytheon 520 digital computer was used to solve the equations derived in the report.

Calculations were made during the design study in which the duct size, cooling water, thrust level, and propellants were varied. The output of this computer program gives (1) the weight in pounds of liquid remaining after cooling the rocket gases to 210°F and heat absorbed from the chemical cleaning, (2) the weight of gas flowing in pounds which included the steam, unreacted gases, and portions of 10-percent secondary airflow, (3) the volume of the gas flowing in ft^3/sec, (4) the liquid-to-gas mass ratio, (5) the gas temperature at scrubber duct exit, (6) the pressure rise through the duct, (7) the average velocity at the exit of the scrubber duct, and (8) the ratio of the pounds of potassium salts per pound of water in the scrubber effluent.

The variable, pounds H_2O/pounds propellant, is shown as a whole number with the decimal point properly located. On all other numbers, the decimal is located according to the sign and digit at the end; for example, 0.2532 + 02 is read 25.32. The plus sign moves the decimal to the right, and the digit designates how many places.

The key which follows defines the abbreviations used in the headings of the data.

Identification of Tabulated Data Headings

Btu/PP	Btu/pound of propellant
CLF5-HYDRAZINE	Propellants used chlorine pentafluoride and hydrazine
DEL P-PSF	Pressure rise from inlet to exit scrubber, pounds per square foot, one dimensional
DIA-FT	Scrubber duct diameter in feet
GAS-FT3/SEC	Exhaust gases in duct, $feet^3$ per second
GAS-P/SEC	Exhaust gases in duct, pounds per second

H2-F2	Propellants used, hydrogen and fluorine
ISP	Specific impulse
KOH P/SEC	Potassium hydroxide, pounds per second
K X/H2O	Potassium salts in scrubber effluent, pounds per pound water
LB AIR/LB PROP	Pounds secondary air/pound propellant
L/G-P/P	Liquid to gas ratio, pounds per pound
LIQ-P/SEC	Scrubbing liquid in duct, pounds per second
N2O4-AZ50	Propellants used, nitrogen tetroxide and Aerozine-50
PROP-P/SEC	Propellant flow rate, pounds per second
SOLID	Propellant is a solid with aluminum
T DEG F	Calculated gas temperature at end of scrubber
THRUST	Rocket thrust, pounds force
V-FT/SEC	Velocity at scrubber duct exit, feet per second

Calculations Including Spray Bar Drag with 150-lb/sec Cooling Water

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

.2101+00	.1282+00	.4883+00	.3162+03	.9342+01	.2873+03

P-H2O/P-PROP= 10.7250

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1399+02	.3994+01	.2927+02	.3838+02	.3575+03	.4156+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.8504+02	.9128+02	.2154+04	.9317+00	.6920+02	.3548+03	.3047+03	.4674+00

CLF5-HYDRAZINE

.2101+00	.1282+00	.4867+00	.2559+03	.7170+01	.1880+03

P-H2O/P-PROP= 8.6760

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1729+02	.274 +01	.2083+02	.3337+02	.2892+03	.2958+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.9776+02	.798 +02	.1737+04	.1225+01	.3622+02	.4092+03	.2458+03	.3751+00

SOLID

.2101+00	.1282+00	.4835+00	.2321+03	.7658+01	.1545+03

P-H2O/P-PROP= 7.8660

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1907+02	.2679+01	.1896+02	.6815+01	.2622+03	.2693+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.1090+03	.6226+02	.1431+04	.1751+01	.2149+02	.4697+03	.2024+03	.9784-01

N2O4-A250

.2101+00	.1282+00	.4828+00	.2374+03	.8398+01	.1617+03

P-H2O/P-PROP= 8. 460

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1864+02	.2886+01	.2063+02	.9079+00	.2682+03	.2930+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.1103+03	.5846+02	.1437+04	.1887+01	.2177+02	.4747+03	.2033+03	.1602-01

Calculations Including Spray Bar Drag with 200-lb/sec Cooling Water

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

.2101+00	.1282+00	.4917+00	.3161+03	.6243+01	.2873+03

P-H2O/P-PROP= 14.3000.

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1399+02	.3994+01	.2927+02	.3838+02	.3575+03	.4156+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.1424+03	.8396+02	.1958+04	.1696+01	.7844+02	.3184+03	.2770+03	.2792+00

CLF5-HYDRAZINE

.2101+00	.1282+00	.4908+00	.2558+03	.4618+01	.1880+03

P-H2O/P-PROP= 11.5680

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1729+02	.2767+01	.2083+02	.3337+02	.2892+03	.2958+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.1551+03	.7248+02	.1541+04	.2140+01	.4013+02	.3854+03	.2180+03	.2365+00

SOLID

.2101+00	.1282+00	.4884+00	.2319+03	.5015+01	.1545+03

P-H2O/P-PROP= 10.4880

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1907+02	.2679+01	.1896+02	.6815+01	.2622+03	.2693+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.1663+03	.5494+02	.1235+04	.3028+01	.2382+02	.4524+03	.1747+03	.6413-01

N2O4-A50

.2101+00	.1282+00	.4877+00	.2373+03	.5580+01	.1617+03

P-H2O/P-PROP= 10.7280

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1854+02	.2686+01	.2063+02	.9079+00	.2682+03	.2930+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.1677+03	.5114+02	.1241+04	.3279+01	.2434+02	.4564+03	.1756+03	.1054-01

Calculations Including Spray Bar Drag with 250-lb/sec Cooling Water

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

.2101+00	.1282+00	.4940+00	.3160+03	.4317+01	.2873+03

P-H2O/P-PROP= 17.8750

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1399+02	.3994+01	.2927+02	.3838+02	.3575+03	.4156+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.1997+03	.7664+02	.1762+04	.2605+01	.8456+02	.2942+03	.2492+03	.1991+00

CLF5-HYDRAZINE

.2101+00	.1282+00	.4937+00	.2557+03	.3020+01	.1880+03

P-H2O/P-PROP= 14.4600

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1729+02	.276 +01	.2083+02	.3337+02	.2892+03	.2958+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.2124+03	.6516+02	.1345+04	.3260+01	.4201+02	.3740+03	.1903+03	.1726+00

SOLID

.2101+00	.1282+00	.4918+00	.2318+03	.3354+01	.1545+03

P-H2O/P-PROP= 13.1100

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1907+02	.2679+01	.1896+02	.6815+01	.2622+03	.2693+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.2237+03	.4762+02	.1038+04	.4697+01	.2447+02	.4474+03	.1469+03	.4769-01

N2O4-A50

.2101+00	.1282+00	.4911+00	.2372+03	.3811+01	.1617+03

P-H2O/P-PROP= 13.4100

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1864+02	.2886+01	.2063+02	.9079+00	.2682+03	.2930+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.2250+03	.4382+02	.1045+04	.5134+01	.2516+02	.4505+03	.1478+03	.7856-02

Calculations Including Spray Bar Drag with 300-lb/sec Cooling Water

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

.2101+00	.1282+00	.4957+00	.3160+03	.3005+01	.2873+03

P-H2O/P-PROP= 21.4500

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1399+02	.3994+01	.2927+02	.3838+02	.3575+03	.4156+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.2570+03	.6932+02	.1565+04	.3707+01	.8757+02	.2823+03	.2215+03	.1547+00

CLF5-HYDRAZINE

.2101+00	.1282+00	.4957+00	.2556+03	.1926+01	.1880+03

P-H2O/P-PROP= 17.3520

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1729+02	.2761+01	.2083+02	.3337+02	.2892+03	.2958+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.2697+03	.5784+02	.1149+04	.4663+01	.4185+02	.3748+03	.1625+03	.1360+00

SOLID

.2101+00	.1282+00	.4943+00	.2318+03	.2213+01	.1545+03

P-H2O/P-PROP= 15.7320

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1907+02	.2679+01	.1696+02	.6815+01	.2622+03	.2693+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.2810+03	.403 +02	.8423+03	.6973+01	.2344+02	.4547+03	.1192+03	.3796-01

N2O4-A50

.2101+00	.1282+00	.4937+00	.2371+03	.2598+01	.1617+03

P-H2O/P-PROP= 16. 920

PROP-P/SEC	MIN H2O/PP	MAX H2O/PP	K OH P/SEC	ISP	BTU/PP
.1864+02	.2886+01	.2063+02	.9079+00	.2682+03	.2930+04

FLOW PROPERTIES INCLUDING POLLUTANT/POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	A	DEL P-PSF	V-FT/SEC	K X/H2O
.2823+03	.365 +02	.8486+03	.7735+01	.2423+02	.4568+03	.1201+03	.6261-02

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 1000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2797+01	.7676+01	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.2436+01	.1742+02	.5134+03	.1398+00	.2075+03	.2743+03	.1634+03	.3264+01
P-H20/P-PROP= 7.0000							
.5628+01	.1703+02	.5020+03	.3305+00	.2075+03	.2708+03	.1598+03	.1413+01
P-H20/P-PROP= 8.0000							
.8820+01	.1663+02	.4905+03	.5302+00	.2074+03	.2676+03	.1561+03	.9013+00
P-H20/P-PROP= 9.0000							
.1201+02	.1624+02	.4791+03	.7396+00	.2074+03	.2646+03	.1525+03	.6618+00
P-H20/P-PROP= 10.0000							
.1520+02	.1585+02	.4677+03	.9595+00	.2073+03	.2617+03	.1489+03	.5229+00
P-H20/P-PROP= 11.0000							
.1839+02	.1545+02	.4563+03	.1190+01	.2073+03	.2591+03	.1453+03	.4322+00
P-H20/P-PROP= 12.0000							
.2159+02	.1506+02	.4450+03	.1433+01	.2072+03	.2567+03	.1416+03	.3683+00
P-H20/P-PROP= 13.0000							
.2478+02	.1466+02	.4336+03	.1689+01	.2072+03	.2544+03	.1380+03	.3209+00
P-H20/P-PROP= 14.0000							
.2797+02	.1427+02	.4222+03	.1959+01	.2071+03	.2524+03	.1344+03	.2843+00
P-H20/P-PROP= 15.0000							
.3116+02	.1388+02	.4109+03	.2245+01	.2071+03	.2505+03	.1308+03	.2552+00
P-H20/P-PROP= 16.0000							
.3434+02	.1349+02	.3995+03	.2546+01	.2070+03	.2489+03	.1272+03	.2315+00
P-H20/P-PROP= 17.0000							
.3753+02	.1310+02	.3882+03	.2866+01	.2069+03	.2474+03	.1236+03	.2118+00
P-H20/P-PROP= 18.0000							
.4072+02	.1271+02	.3769+03	.3205+01	.2069+03	.2462+03	.1200+03	.1952+00
P-H20/P-PROP= 19.0000							
.4391+02	.1231+02	.3656+03	.3566+01	.2068+03	.2451+03	.1164+03	.1810+00
P-H20/P-PROP= 20.0000							
.4710+02	.1192+02	.3544+03	.3949+01	.2067+03	.2443+03	.1128+03	.1688+00
P-H20/P-PROP= 21.0000							
.5028+02	.1154+02	.3431+03	.4359+01	.2066+03	.2436+03	.1092+03	.1581+00
P-H20/P-PROP= 22.0000							
.5347+02	.1115+02	.3319+03	.4796+01	.2065+03	.2431+03	.1056+03	.1487+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 2000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.5594+01	.1535+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.4871+01	.3485+02	.1027+04	.1398+00	.2075+03	.4605+03	.3268+03	.3264+01
P-H20/P-PROP= 7.0000							
.1126+02	.3406+02	.1004+04	.3305+00	.2075+03	.4468+03	.3196+03	.1413+01
P-H20/P-PROP= 8.0000							
.1764+02	.3327+02	.9811+03	.5302+00	.2074+03	.4338+03	.3123+03	.9013+00
P-H20/P-PROP= 9.0000							
.2402+02	.3248+02	.9583+03	.7396+00	.2074+03	.4216+03	.3050+03	.6618+00
P-H20/P-PROP= 10.0000							
.3041+02	.3169+02	.9355+03	.9595+00	.2073+03	.4103+03	.2978+03	.5229+00
P-H20/P-PROP= 11.0000							
.3679+02	.3090+02	.9127+03	.1190+01	.2073+03	.3997+03	.2905+03	.4322+00
P-H20/P-PROP= 12.0000							
.4317+02	.3012+02	.8899+03	.1433+01	.2072+03	.3900+03	.2833+03	.3683+00
P-H20/P-PROP= 13.0000							
.4955+02	.2933+02	.8672+03	.1689+01	.2072+03	.3810+03	.2760+03	.3209+00
P-H20/P-PROP= 14.0000							
.5593+02	.2854+02	.8445+03	.1959+01	.2071+03	.3729+03	.2688+03	.2843+00
P-H20/P-PROP= 15.0000							
.6231+02	.2776+02	.8218+03	.2245+01	.2071+03	.3655+03	.2616+03	.2552+00
P-H20/P-PROP= 16.0000							
.6869+02	.2698+02	.7991+03	.2546+01	.2070+03	.3589+03	.2544+03	.2315+00
P-H20/P-PROP= 17.0000							
.7507+02	.2619+02	.7765+03	.2866+01	.2069+03	.3531+03	.2472+03	.2118+00
P-H20/P-PROP= 18.0000							
.8144+02	.2541+02	.7538+03	.3205+01	.2069+03	.3481+03	.2400+03	.1952+00
P-H20/P-PROP= 19.0000							
.8782+02	.2463+02	.7313+03	.3566+01	.2068+03	.3438+03	.2328+03	.1810+00
P-H20/P-PROP= 20.0000							
.9419+02	.2385+02	.7087+03	.3949+01	.2067+03	.3404+03	.2256+03	.1688+00
P-H20/P-PROP= 21.0000							
.1006+03	.2307+02	.6862+03	.4359+01	.2066+03	.3377+03	.2184+03	.1581+00
P-H20/P-PROP= 22.0000							
.1069+03	.2230+02	.6638+03	.4796+01	.2065+03	.3358+03	.2113+03	.1487+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 3000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.8392+01	.2303+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	JEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.7307+01	.5227+02	.1540+04	.1398+00	.2075+03	.5587+03	.4902+03	.3264+01
P-H2O/P-PROP= 7.0000							
.1698+02	.5109+02	.1506+04	.3305+00	.2075+03	.5277+03	.4793+03	.1413+01
P-H2O/P-PROP= 8.0000							
.2646+02	.4990+02	.1472+04	.5302+00	.2074+03	.4986+03	.4684+03	.9013+00
P-H2O/P-PROP= 9.0000							
.3604+02	.4872+02	.1437+04	.7396+00	.2074+03	.4712+03	.4575+03	.6618+00
P-H2O/P-PROP= 10.0000							
.4561+02	.4754+02	.1403+04	.9595+00	.2073+03	.4457+03	.4467+03	.5229+00
P-H2O/P-PROP= 11.0000							
.5518+02	.4636+02	.1369+04	.1190+01	.2073+03	.4219+03	.4358+03	.4322+00
P-H2O/P-PROP= 12.0000							
.6476+02	.4517+02	.1335+04	.1433+01	.2072+03	.4000+03	.4249+03	.3683+00
P-H2O/P-PROP= 13.0000							
.7433+02	.4399+02	.1301+04	.1689+01	.2072+03	.3798+03	.4140+03	.3209+00
P-H2O/P-PROP= 14.0000							
.8390+02	.4282+02	.1267+04	.1959+01	.2071+03	.3614+03	.4032+03	.2843+00
P-H2O/P-PROP= 15.0000							
.9347+02	.4164+02	.1233+04	.2245+01	.2071+03	.3448+03	.3924+03	.2552+00
P-H2O/P-PROP= 16.0000							
.1030+03	.4046+02	.1199+04	.2546+01	.2070+03	.3300+03	.3815+03	.2315+00
P-H2O/P-PROP= 17.0000							
.1126+03	.3929+02	.1165+04	.2866+01	.2069+03	.3170+03	.3707+03	.2118+00
P-H2O/P-PROP= 18.0000							
.1222+03	.3812+02	.1131+04	.3205+01	.2069+03	.3057+03	.3599+03	.1952+00
P-H2O/P-PROP= 19.0000							
.1317+03	.3694+02	.1097+04	.3566+01	.2068+03	.2962+03	.3492+03	.1810+00
P-H2O/P-PROP= 20.0000							
.1413+03	.3577+02	.1063+04	.3949+01	.2067+03	.2884+03	.3384+03	.1688+00
P-H2O/P-PROP= 21.0000							
.1508+03	.3461+02	.1029+04	.4359+01	.2066+03	.2824+03	.3277+03	.1581+00
P-H2O/P-PROP= 22.0000							
.1604+03	.3344+02	.9957+03	.4796+01	.2065+03	.2781+03	.3169+03	.1487+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 4000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1119+02	.3070+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	JEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.9742+01	.6970+02	.2053+04	.1398+00	.2075+03	.5688+03	.6537+03	.3264+01
P-H2O/P-PROP= 7.0000							
.2251+02	.6812+02	.2008+04	.3305+00	.2075+03	.5136+03	.6391+03	.1413+01
P-H2O/P-PROP= 8.0000							
.3528+02	.6654+02	.1962+04	.5302+00	.2074+03	.4619+03	.6246+03	.9013+00
P-H2O/P-PROP= 9.0000							
.4805+02	.6496+02	.1917+04	.7396+00	.2074+03	.4138+03	.6100+03	.6618+00
P-H2O/P-PROP= 10.0000							
.6081+02	.6338+02	.1871+04	.9595+00	.2073+03	.3679+03	.5955+03	.5229+00
P-H2O/P-PROP= 11.0000							
.7358+02	.6181+02	.1825+04	.1190+01	.2073+03	.3257+03	.5810+03	.4322+00
P-H2O/P-PROP= 12.0000							
.8634+02	.6023+02	.1780+04	.1433+01	.2072+03	.2867+03	.5665+03	.3683+00
P-H2O/P-PROP= 13.0000							
.9910+02	.5866+02	.1734+04	.1689+01	.2072+03	.2508+03	.5521+03	.3209+00
P-H2O/P-PROP= 14.0000							
.1119+03	.5709+02	.1689+04	.1959+01	.2071+03	.2182+03	.5376+03	.2843+00
P-H2O/P-PROP= 15.0000							
.1246+03	.5552+02	.1644+04	.2245+01	.2071+03	.1886+03	.5232+03	.2552+00
P-H2O/P-PROP= 16.0000							
.1374+03	.5395+02	.1598+04	.2546+01	.2070+03	.1623+03	.5087+03	.2315+00
P-H2O/P-PROP= 17.0000							
.1501+03	.5238+02	.1553+04	.2866+01	.2069+03	.1391+03	.4943+03	.2118+00
P-H2O/P-PROP= 18.0000							
.1629+03	.5082+02	.1508+04	.3205+01	.2069+03	.1190+03	.4799+03	.1952+00
P-H2O/P-PROP= 19.0000							
.1756+03	.4926+02	.1463+04	.3566+01	.2068+03	.1021+03	.4655+03	.1810+00
P-H2O/P-PROP= 20.0000							
.1884+03	.4770+02	.1417+04	.3949+01	.2067+03	.8829+02	.4512+03	.1688+00
P-H2O/P-PROP= 21.0000							
.2011+03	.4614+02	.1372+04	.4359+01	.2066+03	.7759+02	.4369+03	.1581+00
P-H2O/P-PROP= 22.0000							
.2139+03	.4459+02	.1328+04	.4796+01	.2065+03	.6997+02	.4226+03	.1487+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1399+02	.3638+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1218+02	.8712+02	.2567+04	.1398+00	.2075+03	.4906+03	.8171+03	.3264+01
P-H20/P-PROP= 7.0000							
.2814+02	.8515+02	.2510+04	.3305+00	.2075+03	.4049+03	.7989+03	.1413+01
P-H20/P-PROP= 8.0000							
.4410+02	.8317+02	.2453+04	.5302+00	.2074+03	.3239+03	.7807+03	.9013+00
P-H20/P-PROP= 9.0000							
.6006+02	.8120+02	.2396+04	.7396+00	.2074+03	.2480+03	.7626+03	.6618+00
P-H20/P-PROP= 10.0000							
.7612+02	.7923+02	.2339+04	.9595+00	.2073+03	.1770+03	.7444+03	.5229+00
P-H20/P-PROP= 11.0000							
.9197+02	.7726+02	.2282+04	.1190+01	.2073+03	.1110+03	.7263+03	.4322+00
P-H20/P-PROP= 12.0000							
.1079+03	.7529+02	.2225+04	.1433+01	.2072+03	.5005+02	.7082+03	.3683+00
P-H20/P-PROP= 13.0000							
.1239+03	.7332+02	.2168+04	.1689+01	.2072+03	-.5971+01	.6901+03	.3209+00
P-H20/P-PROP= 14.0000							
.1398+03	.7136+02	.2111+04	.1959+01	.2071+03	-.5703+02	.6720+03	.2843+00
P-H20/P-PROP= 15.0000							
.1558+03	.6940+02	.2054+04	.2245+01	.2071+03	-.1031+03	.6539+03	.2552+00
P-H20/P-PROP= 16.0000							
.1717+03	.6744+02	.1998+04	.2546+01	.2070+03	-.1443+03	.6359+03	.2315+00
P-H20/P-PROP= 17.0000							
.1877+03	.6548+02	.1941+04	.2866+01	.2069+03	-.1806+03	.6179+03	.2118+00
P-H20/P-PROP= 18.0000							
.2036+03	.6353+02	.1885+04	.3205+01	.2069+03	-.2119+03	.5999+03	.1952+00
P-H20/P-PROP= 19.0000							
.2195+03	.6157+02	.1828+04	.3566+01	.2068+03	-.2384+03	.5819+03	.1810+00
P-H20/P-PROP= 20.0000							
.2355+03	.5962+02	.1772+04	.3949+01	.2067+03	-.2599+03	.5640+03	.1688+00
P-H20/P-PROP= 21.0000							
.2514+03	.5768+02	.1716+04	.4359+01	.2066+03	-.2767+03	.5461+03	.1581+00
P-H20/P-PROP= 22.0000							
.2673+03	.5574+02	.1659+04	.4796+01	.2065+03	-.2886+03	.5282+03	.1487+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 6000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1678+02	.4605+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1461+02	.1045+03	.3080+04	.1398+00	.2075+03	.3248+03	.9805+03	.3264+01
P-H20/P-PROP= 7.0000							
.3377+02	.1022+03	.3012+04	.3305+00	.2075+03	.2010+03	.9587+03	.1413+01
P-H20/P-PROP= 8.0000							
.5292+02	.9981+02	.2943+04	.5302+00	.2074+03	.8445+02	.9369+03	.9013+00
P-H20/P-PROP= 9.0000							
.7207+02	.9744+02	.2875+04	.7396+00	.2074+03	-.2492+02	.9151+03	.6618+00
P-H20/P-PROP= 10.0000							
.9122+02	.9507+02	.2806+04	.9595+00	.2073+03	-.1271+03	.8933+03	.5229+00
P-H20/P-PROP= 11.0000							
.1104+03	.9271+02	.2738+04	.1190+01	.2073+03	-.2221+03	.8715+03	.4322+00
P-H20/P-PROP= 12.0000							
.1295+03	.9035+02	.2670+04	.1433+01	.2072+03	-.3099+03	.8498+03	.3683+00
P-H20/P-PROP= 13.0000							
.1487+03	.8799+02	.2602+04	.1689+01	.2072+03	-.3906+03	.8281+03	.3209+00
P-H20/P-PROP= 14.0000							
.1678+03	.8563+02	.2533+04	.1959+01	.2071+03	-.4641+03	.8064+03	.2843+00
P-H20/P-PROP= 15.0000							
.1869+03	.8328+02	.2465+04	.2245+01	.2071+03	-.5305+03	.7847+03	.2552+00
P-H20/P-PROP= 16.0000							
.2061+03	.8093+02	.2397+04	.2546+01	.2070+03	-.5898+03	.7631+03	.2315+00
P-H20/P-PROP= 17.0000							
.2252+03	.7858+02	.2329+04	.2866+01	.2069+03	-.6420+03	.7415+03	.2118+00
P-H20/P-PROP= 18.0000							
.2443+03	.7623+02	.2262+04	.3205+01	.2069+03	-.6871+03	.7199+03	.1952+00
P-H20/P-PROP= 19.0000							
.2635+03	.7389+02	.2194+04	.3566+01	.2068+03	-.7252+03	.6983+03	.1810+00
P-H20/P-PROP= 20.0000							
.2826+03	.7155+02	.2126+04	.3949+01	.2067+03	-.7563+03	.6768+03	.1688+00
P-H20/P-PROP= 21.0000							
.3017+03	.6922+02	.2059+04	.4359+01	.2066+03	-.7804+03	.6553+03	.1581+00
P-H20/P-PROP= 22.0000							
.3208+03	.6689+02	.1991+04	.4796+01	.2065+03	-.7975+03	.6339+03	.1487+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 7000.

RE-12

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1958+02	.5573+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1705+02	.1220+03	.3594+04	.1398+00	.2075+03	.7072+02	.1144+04	.3264+01
P-H20/P-PROP= 7.0000							
.3940+02	.1192+03	.3514+04	.3305+00	.2075+03	-.9776+02	.1118+04	.1413+01
P-H20/P-PROP= 8.0000							
.6174+02	.1164+03	.3434+04	.5302+00	.2074+03	-.2564+03	.1093+04	.9013+00
P-H20/P-PROP= 9.0000							
.8408+02	.1137+03	.3354+04	.7396+00	.2074+03	-.4053+03	.1068+04	.6618+00
P-H20/P-PROP= 10.0000							
.1064+03	.1109+03	.3274+04	.9595+00	.2073+03	-.5444+03	.1042+04	.5229+00
P-H20/P-PROP= 11.0000							
.1298+03	.1082+03	.3194+04	.1190+01	.2073+03	-.6736+03	.1017+04	.4322+00
P-H20/P-PROP= 12.0000							
.1511+03	.1054+03	.3115+04	.1433+01	.2072+03	-.7932+03	.9914+03	.3683+00
P-H20/P-PROP= 13.0000							
.1734+03	.1027+03	.3035+04	.1689+01	.2072+03	-.9030+03	.9661+03	.3209+00
P-H20/P-PROP= 14.0000							
.1958+03	.9990+02	.2956+04	.1959+01	.2071+03	-.1003+04	.9408+03	.2843+00
P-H20/P-PROP= 15.0000							
.2181+03	.9716+02	.2876+04	.2245+01	.2071+03	-.1093+04	.9155+03	.2552+00
P-H20/P-PROP= 16.0000							
.2404+03	.9441+02	.2797+04	.2546+01	.2070+03	-.1174+04	.8903+03	.2315+00
P-H20/P-PROP= 17.0000							
.2627+03	.9167+02	.2718+04	.2866+01	.2069+03	-.1245+04	.8650+03	.2118+00
P-H20/P-PROP= 18.0000							
.2851+03	.8894+02	.2638+04	.3205+01	.2069+03	-.1307+04	.8399+03	.1952+00
P-H20/P-PROP= 19.0000							
.3074+03	.8620+02	.2559+04	.3566+01	.2068+03	-.1358+04	.8147+03	.1810+00
P-H20/P-PROP= 20.0000							
.3297+03	.8347+02	.2481+04	.3949+01	.2067+03	-.1401+04	.7896+03	.1688+00
P-H20/P-PROP= 21.0000							
.3520+03	.8075+02	.2402+04	.4359+01	.2066+03	-.1434+04	.7645+03	.1581+00
P-H20/P-PROP= 22.0000							
.3743+03	.7803+02	.2323+04	.4796+01	.2065+03	-.1457+04	.7395+03	.1487+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 8000.

RE-12

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2238+02	.6140+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1948+02	.1394+03	.4107+04	.1398+00	.2075+03	-.2714+03	.1307+04	.3264+01
P-H20/P-PROP= 7.0000							
.4502+02	.1362+03	.4016+04	.3305+00	.2075+03	-.4915+03	.1278+04	.1413+01
P-H20/P-PROP= 8.0000							
.7056+02	.1331+03	.3924+04	.5302+00	.2074+03	-.6987+03	.1249+04	.9013+00
P-H20/P-PROP= 9.0000							
.9609+02	.1299+03	.3833+04	.7396+00	.2074+03	-.8931+03	.1220+04	.6618+00
P-H20/P-PROP= 10.0000							
.1216+03	.1268+03	.3742+04	.9595+00	.2073+03	-.1075+04	.1191+04	.5229+00
P-H20/P-PROP= 11.0000							
.1472+03	.1236+03	.3651+04	.1190+01	.2073+03	-.1244+04	.1162+04	.4322+00
P-H20/P-PROP= 12.0000							
.1727+03	.1205+03	.3560+04	.1433+01	.2072+03	-.1400+04	.1133+04	.3683+00
P-H20/P-PROP= 13.0000							
.1982+03	.1173+03	.3469+04	.1689+01	.2072+03	-.1543+04	.1104+04	.3209+00
P-H20/P-PROP= 14.0000							
.2237+03	.1142+03	.3378+04	.1959+01	.2071+03	-.1674+04	.1075+04	.2843+00
P-H20/P-PROP= 15.0000							
.2492+03	.1110+03	.3287+04	.2245+01	.2071+03	-.1792+04	.1046+04	.2552+00
P-H20/P-PROP= 16.0000							
.2748+03	.1079+03	.3196+04	.2546+01	.2070+03	-.1897+04	.1017+04	.2315+00
P-H20/P-PROP= 17.0000							
.3003+03	.1048+03	.3106+04	.2866+01	.2069+03	-.1990+04	.9886+03	.2118+00
P-H20/P-PROP= 18.0000							
.3258+03	.1016+03	.3015+04	.3205+01	.2069+03	-.2070+04	.9598+03	.1952+00
P-H20/P-PROP= 19.0000							
.3513+03	.9852+02	.2925+04	.3566+01	.2068+03	-.2138+04	.9311+03	.1810+00
P-H20/P-PROP= 20.0000							
.3768+03	.9540+02	.2835+04	.3949+01	.2067+03	-.2193+04	.9024+03	.1688+00
P-H20/P-PROP= 21.0000							
.4023+03	.9229+02	.2745+04	.4359+01	.2066+03	-.2236+04	.8737+03	.1581+00
P-H20/P-PROP= 22.0000							
.4277+03	.8918+02	.2655+04	.4796+01	.2065+03	-.2267+04	.8452+03	.1487+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 9000.

H2-F2

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.2917+02	.6908+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.2142+02	.1348+03	.4020+04	.1398+00	.2075+03	-.7016+03	.1471+04	.3264+01
P-H2O/P-PROP= 7.0000							
.5065+02	.1513+03	.4518+04	.3355+00	.2075+03	-.9801+03	.1438+04	.1413+01
P-H2O/P-PROP= 8.0000							
.7936+02	.1497+03	.4415+04	.5302+00	.2074+03	-.1242+04	.1405+04	.9013+00
P-H2O/P-PROP= 9.0000							
.1081+03	.1462+03	.4312+04	.7396+00	.2074+03	-.1488+04	.1373+04	.6618+00
P-H2O/P-PROP= 10.0000							
.1368+03	.1426+03	.4210+04	.9595+00	.2073+03	-.1718+04	.1340+04	.5229+00
P-H2O/P-PROP= 11.0000							
.1655+03	.1391+03	.4107+04	.1190+01	.2073+03	-.1932+04	.1307+04	.4322+00
P-H2O/P-PROP= 12.0000							
.1943+03	.1355+03	.4005+04	.1433+01	.2072+03	-.2130+04	.1275+04	.3683+00
P-H2O/P-PROP= 13.0000							
.2230+03	.1320+03	.3902+04	.1689+01	.2072+03	-.2311+04	.1242+04	.3209+00
P-H2O/P-PROP= 14.0000							
.2517+03	.1284+03	.3800+04	.1959+01	.2071+03	-.2477+04	.1210+04	.2843+00
P-H2O/P-PROP= 15.0000							
.2804+03	.1249+03	.3698+04	.2245+01	.2071+03	-.2626+04	.1177+04	.2552+00
P-H2O/P-PROP= 16.0000							
.3091+03	.1214+03	.3596+04	.2546+01	.2070+03	-.2759+04	.1145+04	.2315+00
P-H2O/P-PROP= 17.0000							
.3378+03	.1179+03	.3494+04	.2866+01	.2069+03	-.2877+04	.1112+04	.2118+00
P-H2O/P-PROP= 18.0000							
.3665+03	.1143+03	.3392+04	.3205+01	.2069+03	-.2976+04	.1080+04	.1952+00
P-H2O/P-PROP= 19.0000							
.3952+03	.1108+03	.3291+04	.3566+01	.2068+03	-.3064+04	.1047+04	.1810+00
P-H2O/P-PROP= 20.0000							
.4239+03	.1073+03	.3189+04	.3949+01	.2067+03	-.3134+04	.1015+04	.1688+00
P-H2O/P-PROP= 21.0000							
.4525+03	.1038+03	.3088+04	.4359+01	.2066+03	-.3188+04	.9830+03	.1581+00
P-H2O/P-PROP= 22.0000							
.4812+03	.1003+03	.2987+04	.4796+01	.2065+03	-.3227+04	.9508+03	.1487+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 1000.

H2-F2

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.2797+01	.7075+01	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.2446+01	.1742+02	.5134+03	.1398+00	.2075+03	.1857+03	.1046+03	.3264+01
P-H2O/P-PROP= 7.0000							
.5628+01	.1703+02	.5020+03	.3355+00	.2075+03	.1843+03	.1023+03	.1413+01
P-H2O/P-PROP= 8.0000							
.8820+01	.1663+02	.4905+03	.5302+00	.2074+03	.1830+03	.9993+02	.9013+00
P-H2O/P-PROP= 9.0000							
.1201+02	.1624+02	.4791+03	.7396+00	.2074+03	.1817+03	.9761+02	.6618+00
P-H2O/P-PROP= 10.0000							
.1520+02	.1585+02	.4677+03	.9595+00	.2073+03	.1805+03	.9529+02	.5229+00
P-H2O/P-PROP= 11.0000							
.1839+02	.1545+02	.4563+03	.1190+01	.2073+03	.1795+03	.9297+02	.4322+00
P-H2O/P-PROP= 12.0000							
.2159+02	.1506+02	.4450+03	.1433+01	.2072+03	.1785+03	.9065+02	.3683+00
P-H2O/P-PROP= 13.0000							
.2478+02	.1466+02	.4336+03	.1689+01	.2072+03	.1775+03	.8833+02	.3209+00
P-H2O/P-PROP= 14.0000							
.2797+02	.1427+02	.4222+03	.1959+01	.2071+03	.1767+03	.8602+02	.2843+00
P-H2O/P-PROP= 15.0000							
.3116+02	.1386+02	.4109+03	.2245+01	.2071+03	.1760+03	.8370+02	.2552+00
P-H2O/P-PROP= 16.0000							
.3434+02	.1349+02	.3995+03	.2546+01	.2070+03	.1753+03	.8140+02	.2315+00
P-H2O/P-PROP= 17.0000							
.3753+02	.1310+02	.3882+03	.2866+01	.2069+03	.1747+03	.7909+02	.2118+00
P-H2O/P-PROP= 18.0000							
.4072+02	.1271+02	.3769+03	.3205+01	.2069+03	.1742+03	.7679+02	.1952+00
P-H2O/P-PROP= 19.0000							
.4391+02	.1231+02	.3656+03	.3566+01	.2068+03	.1737+03	.7449+02	.1810+00
P-H2O/P-PROP= 20.0000							
.4710+02	.1192+02	.3544+03	.3949+01	.2067+03	.1734+03	.7219+02	.1688+00
P-H2O/P-PROP= 21.0000							
.5028+02	.1154+02	.3431+03	.4359+01	.2066+03	.1731+03	.6990+02	.1581+00
P-H2O/P-PROP= 22.0000							
.5347+02	.1115+02	.3319+03	.4796+01	.2065+03	.1729+03	.6761+02	.1487+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 2000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.5594+01	.1535+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.4871+01	.3495+02	.1027+04	.1398+00	.2075+03	.3353+03	.2092+03	.3264+01
P-H2O/P-PROP= 7.0000							
.1126+02	.3406+02	.1004+04	.3305+00	.2075+03	.3297+03	.2045+03	.1413+01
P-H2O/P-PROP= 8.0000							
.1764+02	.3327+02	.9811+03	.5302+00	.2074+03	.3244+03	.1999+03	.9013+00
P-H2O/P-PROP= 9.0000							
.2402+02	.3248+02	.9583+03	.7396+00	.2074+03	.3194+03	.1952+03	.6618+00
P-H2O/P-PROP= 10.0000							
.3041+02	.3169+02	.9355+03	.9595+00	.2073+03	.3147+03	.1906+03	.5229+00
P-H2O/P-PROP= 11.0000							
.3679+02	.3090+02	.9127+03	.1190+01	.2073+03	.3104+03	.1859+03	.4322+00
P-H2O/P-PROP= 12.0000							
.4317+02	.3012+02	.8899+03	.1433+01	.2072+03	.3064+03	.1813+03	.3683+00
P-H2O/P-PROP= 13.0000							
.4955+02	.2933+02	.8672+03	.1689+01	.2072+03	.3027+03	.1767+03	.3209+00
P-H2O/P-PROP= 14.0000							
.5593+02	.2854+02	.8445+03	.1959+01	.2071+03	.2994+03	.1720+03	.2843+00
P-H2O/P-PROP= 15.0000							
.6231+02	.2776+02	.8218+03	.2245+01	.2071+03	.2964+03	.1674+03	.2552+00
P-H2O/P-PROP= 16.0000							
.6869+02	.2698+02	.7991+03	.2546+01	.2070+03	.2937+03	.1628+03	.2315+00
P-H2O/P-PROP= 17.0000							
.7507+02	.2619+02	.7765+03	.2866+01	.2069+03	.2913+03	.1582+03	.2118+00
P-H2O/P-PROP= 18.0000							
.8144+02	.2541+02	.7538+03	.3205+01	.2069+03	.2892+03	.1536+03	.1952+00
P-H2O/P-PROP= 19.0000							
.8782+02	.2463+02	.7313+03	.3566+01	.2068+03	.2875+03	.1490+03	.1810+00
P-H2O/P-PROP= 20.0000							
.9419+02	.2385+02	.7087+03	.3949+01	.2067+03	.2861+03	.1444+03	.1688+00
P-H2O/P-PROP= 21.0000							
.1006+03	.2307+02	.6862+03	.4359+01	.2066+03	.2850+03	.1398+03	.1581+00
P-H2O/P-PROP= 22.0000							
.1069+03	.2230+02	.6638+03	.4796+01	.2065+03	.2842+03	.1352+03	.1487+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 3000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.8392+01	.2303+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.7307+01	.5227+02	.1540+04	.1398+00	.2075+03	.4488+03	.3138+03	.3264+01
P-H2O/P-PROP= 7.0000							
.1688+02	.5109+02	.1506+04	.3305+00	.2075+03	.4362+03	.3068+03	.1413+01
P-H2O/P-PROP= 8.0000							
.2646+02	.4990+02	.1472+04	.5302+00	.2074+03	.4242+03	.2998+03	.9013+00
P-H2O/P-PROP= 9.0000							
.3604+02	.4872+02	.1437+04	.7396+00	.2074+03	.4130+03	.2928+03	.6618+00
P-H2O/P-PROP= 10.0000							
.4561+02	.4754+02	.1403+04	.9595+00	.2073+03	.4026+03	.2859+03	.5229+00
P-H2O/P-PROP= 11.0000							
.5518+02	.4636+02	.1369+04	.1190+01	.2073+03	.3928+03	.2789+03	.4322+00
P-H2O/P-PROP= 12.0000							
.6476+02	.4517+02	.1335+04	.1433+01	.2072+03	.3839+03	.2719+03	.3683+00
P-H2O/P-PROP= 13.0000							
.7433+02	.4399+02	.1301+04	.1689+01	.2072+03	.3756+03	.2650+03	.3209+00
P-H2O/P-PROP= 14.0000							
.8390+02	.4282+02	.1267+04	.1959+01	.2071+03	.3681+03	.2580+03	.2843+00
P-H2O/P-PROP= 15.0000							
.9347+02	.4164+02	.1233+04	.2245+01	.2071+03	.3613+03	.2511+03	.2552+00
P-H2O/P-PROP= 16.0000							
.1030+03	.4046+02	.1199+04	.2546+01	.2070+03	.3552+03	.2442+03	.2315+00
P-H2O/P-PROP= 17.0000							
.1126+03	.3929+02	.1165+04	.2866+01	.2069+03	.3499+03	.2373+03	.2118+00
P-H2O/P-PROP= 18.0000							
.1222+03	.3812+02	.1131+04	.3205+01	.2069+03	.3452+03	.2304+03	.1952+00
P-H2O/P-PROP= 19.0000							
.1317+03	.3694+02	.1097+04	.3566+01	.2068+03	.3413+03	.2235+03	.1810+00
P-H2O/P-PROP= 20.0000							
.1413+03	.3577+02	.1063+04	.3949+01	.2067+03	.3381+03	.2166+03	.1688+00
P-H2O/P-PROP= 21.0000							
.1508+03	.3461+02	.1029+04	.4359+01	.2066+03	.3357+03	.2097+03	.1581+00
P-H2O/P-PROP= 22.0000							
.1604+03	.3344+02	.9957+03	.4796+01	.2065+03	.3339+03	.2028+03	.1487+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 4000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1119+02	.3070+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.9742+01	.6970+02	.2053+04	.1398+00	.2075+03	.5263+03	.4183+03	.3264+01
P-H2O/P-PROP= 7.0000							
.2251+02	.6812+02	.2008+04	.3305+00	.2075+03	.5038+03	.4090+03	.1413+01
P-H2O/P-PROP= 8.0000							
.3528+02	.6654+02	.1962+04	.5302+00	.2074+03	.4826+03	.3997+03	.9013+00
P-H2O/P-PROP= 9.0000							
.4805+02	.6496+02	.1917+04	.7396+00	.2074+03	.4627+03	.3904+03	.6618+00
P-H2O/P-PROP= 10.0000							
.6081+02	.6338+02	.1871+04	.9595+00	.2073+03	.4441+03	.3811+03	.5229+00
P-H2O/P-PROP= 11.0000							
.7358+02	.6181+02	.1825+04	.1190+01	.2073+03	.4268+03	.3719+03	.4322+00
P-H2O/P-PROP= 12.0000							
.8634+02	.6023+02	.1780+04	.1433+01	.2072+03	.4108+03	.3626+03	.3683+00
P-H2O/P-PROP= 13.0000							
.9910+02	.5866+02	.1734+04	.1689+01	.2072+03	.3961+03	.3533+03	.3209+00
P-H2O/P-PROP= 14.0000							
.1119+03	.5709+02	.1689+04	.1959+01	.2071+03	.3827+03	.3441+03	.2843+00
P-H2O/P-PROP= 15.0000							
.1246+03	.5552+02	.1644+04	.2245+01	.2071+03	.3706+03	.3348+03	.2552+00
P-H2O/P-PROP= 16.0000							
.1374+03	.5395+02	.1598+04	.2546+01	.2070+03	.3598+03	.3256+03	.2315+00
P-H2O/P-PROP= 17.0000							
.1501+03	.5238+02	.1553+04	.2866+01	.2069+03	.3503+03	.3164+03	.2118+00
P-H2O/P-PROP= 18.0000							
.1629+03	.5082+02	.1508+04	.3205+01	.2069+03	.3421+03	.3071+03	.1952+00
P-H2O/P-PROP= 19.0000							
.1756+03	.4926+02	.1463+04	.3566+01	.2068+03	.3352+03	.2979+03	.1810+00
P-H2O/P-PROP= 20.0000							
.1884+03	.4770+02	.1417+04	.3949+01	.2067+03	.3295+03	.2888+03	.1688+00
P-H2O/P-PROP= 21.0000							
.2011+03	.4614+02	.1372+04	.4359+01	.2066+03	.3251+03	.2796+03	.1581+00
P-H2O/P-PROP= 22.0000							
.2139+03	.4459+02	.1328+04	.4796+01	.2065+03	.3220+03	.2705+03	.1487+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1399+02	.3838+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.1218+02	.8712+02	.2567+04	.1398+00	.2075+03	.5677+03	.5229+03	.3264+01
P-H2O/P-PROP= 7.0000							
.2814+02	.8515+02	.2510+04	.3305+00	.2075+03	.5325+03	.5113+03	.1413+01
P-H2O/P-PROP= 8.0000							
.4410+02	.8317+02	.2453+04	.5302+00	.2074+03	.4994+03	.4997+03	.9013+00
P-H2O/P-PROP= 9.0000							
.6006+02	.8120+02	.2396+04	.7396+00	.2074+03	.4683+03	.4880+03	.6618+00
P-H2O/P-PROP= 10.0000							
.7602+02	.7923+02	.2339+04	.9595+00	.2073+03	.4392+03	.4764+03	.5229+00
P-H2O/P-PROP= 11.0000							
.9197+02	.7726+02	.2282+04	.1190+01	.2073+03	.4122+03	.4648+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1079+03	.7529+02	.2225+04	.1433+01	.2072+03	.3872+03	.4532+03	.3683+00
P-H2O/P-PROP= 13.0000							
.1239+03	.7332+02	.2168+04	.1689+01	.2072+03	.3643+03	.4417+03	.3209+00
P-H2O/P-PROP= 14.0000							
.1398+03	.7136+02	.2111+04	.1959+01	.2071+03	.3433+03	.4301+03	.2843+00
P-H2O/P-PROP= 15.0000							
.1558+03	.6940+02	.2054+04	.2245+01	.2071+03	.3245+03	.4185+03	.2552+00
P-H2O/P-PROP= 16.0000							
.1717+03	.6744+02	.1998+04	.2546+01	.2070+03	.3076+03	.4070+03	.2315+00
P-H2O/P-PROP= 17.0000							
.1877+03	.6548+02	.1941+04	.2866+01	.2069+03	.2927+03	.3954+03	.2118+00
P-H2O/P-PROP= 18.0000							
.2036+03	.6353+02	.1885+04	.3205+01	.2069+03	.2799+03	.3839+03	.1952+00
P-H2O/P-PROP= 19.0000							
.2195+03	.6157+02	.1828+04	.3566+01	.2068+03	.2691+03	.3724+03	.1810+00
P-H2O/P-PROP= 20.0000							
.2355+03	.5962+02	.1772+04	.3949+01	.2067+03	.2602+03	.3610+03	.1688+00
P-H2O/P-PROP= 21.0000							
.2514+03	.5768+02	.1716+04	.4359+01	.2066+03	.2534+03	.3495+03	.1581+00
P-H2O/P-PROP= 22.0000							
.2673+03	.5574+02	.1659+04	.4796+01	.2065+03	.2485+03	.3381+03	.1487+00

DIA-FT= 2.50 Lb AIR/LB PROP= .1000 THRUST= 6000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1675+02	.4605+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.1441+02	.1045+03	.3080+04	.1398+00	.2075+03	.5731+03	.6275+03	.3264+01
P-H2O/P-PROP= 7.0000							
.1677+02	.1022+03	.3012+04	.1365+00	.2075+03	.5224+03	.6135+03	.1413+01
P-H2O/P-PROP= 8.0000							
.5292+02	.9981+02	.2943+04	.5302+00	.2074+03	.4746+03	.5996+03	.9013+00
P-H2O/P-PROP= 9.0000							
.7207+02	.9744+02	.2875+04	.7396+00	.2074+03	.4298+03	.5856+03	.6618+00
P-H2O/P-PROP= 10.0000							
.9122+02	.9507+02	.2806+04	.9595+00	.2073+03	.3880+03	.5717+03	.5229+00
P-H2O/P-PROP= 11.0000							
.1104+03	.9271+02	.2738+04	.1190+01	.2073+03	.3491+03	.5578+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1295+03	.9035+02	.2670+04	.1433+01	.2072+03	.3131+03	.5439+03	.3683+00
P-H2O/P-PROP= 13.0000							
.1487+03	.8799+02	.2602+04	.1689+01	.2072+03	.2801+03	.5300+03	.3209+00
P-H2O/P-PROP= 14.0000							
.1678+03	.8563+02	.2533+04	.1959+01	.2071+03	.2499+03	.5161+03	.2843+00
P-H2O/P-PROP= 15.0001							
.1869+03	.8328+02	.2465+04	.2245+01	.2071+03	.2227+03	.5022+03	.2552+00
P-H2O/P-PROP= 16.0001							
.2061+03	.8093+02	.2397+04	.2546+01	.2070+03	.1985+03	.4884+03	.2315+00
P-H2O/P-PROP= 17.0000							
.2252+03	.7858+02	.2329+04	.2866+01	.2069+03	.1771+03	.4745+03	.2118+00
P-H2O/P-PROP= 18.0000							
.2443+03	.7623+02	.2262+04	.3205+01	.2069+03	.1586+03	.4607+03	.1952+00
P-H2O/P-PROP= 19.0000							
.2635+03	.7389+02	.2194+04	.3566+01	.2068+03	.1430+03	.4469+03	.1810+00
P-H2O/P-PROP= 20.0000							
.2826+03	.7155+02	.2126+04	.3949+01	.2067+03	.1303+03	.4331+03	.1688+00
P-H2O/P-PROP= 21.0000							
.3017+03	.6922+02	.2059+04	.4359+01	.2066+03	.1204+03	.4194+03	.1581+00
P-H2O/P-PROP= 22.0000							
.3208+03	.6689+02	.1991+04	.4796+01	.2065+03	.1134+03	.4057+03	.1487+00

DIA-FT= 2.50 Lb AIR/LB PROP= .1000 THRUST= 2000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1958+02	.5573+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.1705+02	.1220+03	.3994+04	.1398+00	.2075+03	.5423+03	.7321+03	.3264+01
P-H2O/P-PROP= 7.0000							
.3940+02	.1192+03	.3514+04	.3305+00	.2075+03	.4733+03	.7158+03	.1413+01
P-H2O/P-PROP= 8.0000							
.6174+02	.1164+03	.3434+04	.5302+00	.2074+03	.4085+03	.6995+03	.9013+00
P-H2O/P-PROP= 9.0000							
.8408+02	.1137+03	.3354+04	.7396+00	.2074+03	.3474+03	.6833+03	.6618+00
P-H2O/P-PROP= 10.0000							
.1064+03	.1109+03	.3274+04	.9595+00	.2073+03	.2904+03	.6670+03	.5229+00
P-H2O/P-PROP= 11.0000							
.1288+03	.1082+03	.3194+04	.1190+01	.2073+03	.2374+03	.6508+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1511+03	.1054+03	.3115+04	.1433+01	.2072+03	.1885+03	.6345+03	.3683+00
P-H2O/P-PROP= 13.0000							
.1734+03	.1027+03	.3035+04	.1689+01	.2072+03	.1435+03	.6183+03	.3209+00
P-H2O/P-PROP= 14.0000							
.1958+03	.9990+02	.2956+04	.1959+01	.2071+03	.1025+03	.6021+03	.2843+00
P-H2O/P-PROP= 15.0000							
.2181+03	.9716+02	.2876+04	.2245+01	.2071+03	.6551+02	.5859+03	.2552+00
P-H2O/P-PROP= 16.0000							
.2404+03	.9441+02	.2797+04	.2546+01	.2070+03	.3245+02	.5698+03	.2315+00
P-H2O/P-PROP= 17.0000							
.2627+03	.9167+02	.2718+04	.2866+01	.2069+03	.3353+01	.5536+03	.2118+00
P-H2O/P-PROP= 18.0000							
.2851+03	.8894+02	.2638+04	.3205+01	.2069+03	-.2181+02	.5375+03	.1952+00
P-H2O/P-PROP= 19.0000							
.3074+03	.8620+02	.2559+04	.3566+01	.2068+03	-.4304+02	.5214+03	.1810+00
P-H2O/P-PROP= 20.0000							
.3297+03	.8347+02	.2481+04	.3949+01	.2067+03	-.6037+02	.5053+03	.1688+00
P-H2O/P-PROP= 21.0000							
.3520+03	.8075+02	.2402+04	.4359+01	.2066+03	-.7380+02	.4893+03	.1581+00
P-H2O/P-PROP= 22.0000							
.3743+03	.7803+02	.2323+04	.4796+01	.2065+03	-.8336+02	.4733+03	.1487+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 8000.

H2-F2

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.2258+02	.6140+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.1948+02	.1394+03	.4107+04	.1398+00	.2075+03	.4752+03	.8367+03	.3264+01
P-H2O/P-PROP= 7.0000							
.4502+02	.1362+03	.4016+04	.3305+00	.2075+03	.3854+03	.8181+03	.1413+01
P-H2O/P-PROP= 8.0000							
.7056+02	.1331+03	.3924+04	.5302+00	.2074+03	.3005+03	.7995+03	.9013+00
P-H2O/P-PROP= 9.0000							
.9609+02	.1299+03	.3833+04	.7396+00	.2074+03	.2209+03	.7809+03	.6618+00
P-H2O/P-PROP= 10.0000							
.1216+03	.1268+03	.3742+04	.9595+00	.2073+03	.1465+03	.7623+03	.5229+00
P-H2O/P-PROP= 11.0000							
.1472+03	.1236+03	.3651+04	.1190+01	.2073+03	.7731+02	.7437+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1727+03	.1205+03	.3560+04	.1433+01	.2072+03	.1336+02	.7252+03	.3683+00
P-H2O/P-PROP= 13.0000							
.1982+03	.1173+03	.3469+04	.1689+01	.2072+03	-.4538+02	.7066+03	.3209+00
P-H2O/P-PROP= 14.0000							
.2237+03	.1142+03	.3378+04	.1959+01	.2071+03	-.9891+02	.6881+03	.2843+00
P-H2O/P-PROP= 15.0000							
.2492+03	.1110+03	.3287+04	.2245+01	.2071+03	-.1473+03	.6696+03	.2552+00
P-H2O/P-PROP= 16.0000							
.2748+03	.1079+03	.3196+04	.2546+01	.2070+03	-.1904+03	.6512+03	.2315+00
P-H2O/P-PROP= 17.0000							
.3003+03	.1048+03	.3106+04	.2866+01	.2069+03	-.2284+03	.6327+03	.2118+00
P-H2O/P-PROP= 18.0000							
.3258+03	.1016+03	.3015+04	.3205+01	.2069+03	-.2613+03	.6143+03	.1952+00
P-H2O/P-PROP= 19.0000							
.3513+03	.9852+02	.2925+04	.3566+01	.2068+03	-.2890+03	.5959+03	.1810+00
P-H2O/P-PROP= 20.0000							
.3768+03	.9540+02	.2835+04	.3949+01	.2067+03	-.3117+03	.5775+03	.1688+00
P-H2O/P-PROP= 21.0000							
.4023+03	.9229+02	.2745+04	.4359+01	.2066+03	-.3292+03	.5592+03	.1581+00
P-H2O/P-PROP= 22.0000							
.4277+03	.8918+02	.2655+04	.4796+01	.2065+03	-.3417+03	.5409+03	.1487+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 9000.

H2-F2

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.2517+02	.6908+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.2192+02	.1568+03	.4620+04	.1398+00	.2075+03	.3727+03	.9413+03	.3264+01
P-H2O/P-PROP= 7.0000							
.5065+02	.1533+03	.4518+04	.3305+00	.2075+03	.2586+03	.9203+03	.1413+01
P-H2O/P-PROP= 8.0000							
.7938+02	.1497+03	.4415+04	.5302+00	.2074+03	.1512+03	.8994+03	.9013+00
P-H2O/P-PROP= 9.0000							
.1081+03	.1462+03	.4312+04	.7396+00	.2074+03	.5037+02	.8785+03	.6618+00
P-H2O/P-PROP= 10.0000							
.1368+03	.1426+03	.4210+04	.9595+00	.2073+03	-.4379+02	.8576+03	.5229+00
P-H2O/P-PROP= 11.0000							
.1655+03	.1391+03	.4107+04	.1190+01	.2073+03	-.1513+03	.8367+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1943+03	.1355+03	.4005+04	.1433+01	.2072+03	-.2123+03	.8158+03	.3683+00
P-H2O/P-PROP= 13.0000							
.2230+03	.1320+03	.3902+04	.1689+01	.2072+03	-.2866+03	.7950+03	.3209+00
P-H2O/P-PROP= 14.0000							
.2517+03	.1284+03	.3800+04	.1959+01	.2071+03	-.3544+03	.7741+03	.2843+00
P-H2O/P-PROP= 15.0000							
.2804+03	.1249+03	.3698+04	.2245+01	.2071+03	-.4156+03	.7533+03	.2552+00
P-H2O/P-PROP= 16.0000							
.3091+03	.1214+03	.3596+04	.2546+01	.2070+03	-.4702+03	.7326+03	.2315+00
P-H2O/P-PROP= 17.0000							
.3378+03	.1179+03	.3494+04	.2866+01	.2069+03	-.5183+03	.7118+03	.2118+00
P-H2O/P-PROP= 18.0000							
.3665+03	.1143+03	.3392+04	.3205+01	.2069+03	-.5599+03	.6911+03	.1952+00
P-H2O/P-PROP= 19.0000							
.3952+03	.1108+03	.3291+04	.3566+01	.2068+03	-.5950+03	.6704+03	.1810+00
P-H2O/P-PROP= 20.0000							
.4239+03	.1073+03	.3189+04	.3949+01	.2067+03	-.6236+03	.6497+03	.1688+00
P-H2O/P-PROP= 21.0000							
.4525+03	.1038+03	.3088+04	.4359+01	.2066+03	-.6458+03	.6291+03	.1581+00
P-H2O/P-PROP= 22.0000							
.4812+03	.1003+03	.2987+04	.4796+01	.2065+03	-.6616+03	.6085+03	.1487+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 1000.

M=F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2797+01	.7676+01	.3975+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.2436+01	.1742+02	.5134+03	.1398+00	.2075+03	.1328+03	.7263+02	.3264+01
P-H2O/P-PROP= 7.0000							
.5628+01	.1703+02	.5020+03	.3305+00	.2075+03	.1321+03	.7101+02	.1413+01
P-H2O/P-PROP= 8.0000							
.8820+01	.1663+02	.4905+03	.5302+00	.2074+03	.1313+03	.6940+02	.9013+00
P-H2O/P-PROP= 9.0000							
.1201+02	.1624+02	.4791+03	.7396+00	.2074+03	.1309+03	.6778+02	.6618+00
P-H2O/P-PROP= 10.0000							
.1520+02	.1585+02	.4677+03	.9595+00	.2073+03	.1303+03	.6617+02	.5229+00
P-H2O/P-PROP= 11.0000							
.1839+02	.1545+02	.4563+03	.1190+01	.2073+03	.1298+03	.6456+02	.4322+00
P-H2O/P-PROP= 12.0000							
.2159+02	.1506+02	.4450+03	.1433+01	.2072+03	.1293+03	.6295+02	.3683+00
P-H2O/P-PROP= 13.0000							
.2478+02	.1466+02	.4336+03	.1689+01	.2072+03	.1289+03	.6134+02	.3209+00
P-H2O/P-PROP= 14.0000							
.2797+02	.1427+02	.4222+03	.1959+01	.2071+03	.1284+03	.5973+02	.2843+00
P-H2O/P-PROP= 15.0000							
.3116+02	.1388+02	.4109+03	.2245+01	.2071+03	.1281+03	.5813+02	.2552+00
P-H2O/P-PROP= 16.0000							
.3434+02	.1349+02	.3995+03	.2546+01	.2070+03	.1278+03	.5652+02	.2315+00
P-H2O/P-PROP= 17.0000							
.3753+02	.1310+02	.3882+03	.2866+01	.2069+03	.1275+03	.5492+02	.2118+00
P-H2O/P-PROP= 18.0000							
.4072+02	.1271+02	.3769+03	.3205+01	.2069+03	.1272+03	.5332+02	.1952+00
P-H2O/P-PROP= 19.0000							
.4391+02	.1231+02	.3656+03	.3566+01	.2068+03	.1270+03	.5173+02	.1810+00
P-H2O/P-PROP= 20.0000							
.4710+02	.1192+02	.3544+03	.3949+01	.2067+03	.1268+03	.5013+02	.1688+00
P-H2O/P-PROP= 21.0000							
.5028+02	.1154+02	.3431+03	.4359+01	.2066+03	.1267+03	.4854+02	.1581+00
P-H2O/P-PROP= 22.0000							
.5347+02	.1115+02	.3319+03	.4796+01	.2065+03	.1266+03	.4695+02	.1487+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 2000.

M=F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.5594+01	.1535+02	.3975+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.4871+01	.3485+02	.1027+04	.1398+00	.2075+03	.2482+03	.1453+03	.3264+01
P-H2O/P-PROP= 7.0000							
.1126+02	.3406+02	.1004+04	.3305+00	.2075+03	.2454+03	.1420+03	.1413+01
P-H2O/P-PROP= 8.0000							
.1764+02	.3327+02	.9811+03	.5302+00	.2074+03	.2429+03	.1388+03	.9013+00
P-H2O/P-PROP= 9.0000							
.2402+02	.3248+02	.9583+03	.7396+00	.2074+03	.2403+03	.1356+03	.6618+00
P-H2O/P-PROP= 10.0000							
.3041+02	.3169+02	.9355+03	.9595+00	.2073+03	.2382+03	.1323+03	.5229+00
P-H2O/P-PROP= 11.0000							
.3679+02	.3090+02	.9127+03	.1190+01	.2073+03	.2362+03	.1291+03	.4322+00
P-H2O/P-PROP= 12.0000							
.4317+02	.3012+02	.8899+03	.1433+01	.2072+03	.2342+03	.1259+03	.3683+00
P-H2O/P-PROP= 13.0000							
.4955+02	.2933+02	.8672+03	.1689+01	.2072+03	.2325+03	.1227+03	.3209+00
P-H2O/P-PROP= 14.0000							
.5593+02	.2854+02	.8445+03	.1959+01	.2071+03	.2310+03	.1195+03	.2843+00
P-H2O/P-PROP= 15.0000							
.6231+02	.2776+02	.8218+03	.2245+01	.2071+03	.2294+03	.1163+03	.2552+00
P-H2O/P-PROP= 16.0000							
.6869+02	.2698+02	.7991+03	.2546+01	.2070+03	.2281+03	.1130+03	.2315+00
P-H2O/P-PROP= 17.0000							
.7507+02	.2619+02	.7765+03	.2866+01	.2069+03	.2269+03	.1098+03	.2118+00
P-H2O/P-PROP= 18.0000							
.8144+02	.2541+02	.7538+03	.3205+01	.2069+03	.2259+03	.1066+03	.1952+00
P-H2O/P-PROP= 19.0000							
.8782+02	.2463+02	.7313+03	.3566+01	.2068+03	.2251+03	.1035+03	.1810+00
P-H2O/P-PROP= 20.0000							
.9419+02	.2385+02	.7087+03	.3949+01	.2067+03	.2244+03	.1003+03	.1688+00
P-H2O/P-PROP= 21.0000							
.1006+03	.2307+02	.6862+03	.4359+01	.2066+03	.2239+03	.9708+02	.1581+00
P-H2O/P-PROP= 22.0000							
.1069+03	.2230+02	.6638+03	.4796+01	.2065+03	.2235+03	.9391+02	.1487+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 3000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6372+01	.2303+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.7307+01	.5227+02	.1540+04	.1398+00	.2075+03	.3461+03	.2179+03	.3264+01
P-H2O/P-PROP= 7.0000							
.1648+02	.5109+02	.1506+04	.3305+00	.2075+03	.3400+03	.2130+03	.1413+01
P-H2O/P-PROP= 8.0000							
.2646+02	.4993+02	.1472+04	.5302+00	.2074+03	.3343+03	.2082+03	.9013+00
P-H2O/P-PROP= 9.0000							
.3614+02	.4872+02	.1437+04	.7396+00	.2074+03	.3289+03	.2033+03	.6618+00
P-H2O/P-PROP= 10.0000							
.4561+02	.4754+02	.1403+04	.9595+00	.2073+03	.3238+03	.1985+03	.5229+00
P-H2O/P-PROP= 11.0000							
.5518+02	.4636+02	.1369+04	.1190+01	.2073+03	.3191+03	.1937+03	.4322+00
P-H2O/P-PROP= 12.0000							
.6476+02	.4517+02	.1335+04	.1433+01	.2072+03	.3148+03	.1888+03	.3683+00
P-H2O/P-PROP= 13.0000							
.7443+02	.4399+02	.1301+04	.1689+01	.2072+03	.3108+03	.1840+03	.3209+00
P-H2O/P-PROP= 14.0000							
.8390+02	.4282+02	.1267+04	.1959+01	.2071+03	.3072+03	.1792+03	.2843+00
P-H2O/P-PROP= 15.0000							
.9347+02	.4164+02	.1233+04	.2245+01	.2071+03	.3039+03	.1744+03	.2552+00
P-H2O/P-PROP= 16.0000							
.1030+03	.4046+02	.1199+04	.2546+01	.2070+03	.3010+03	.1696+03	.2315+00
P-H2O/P-PROP= 17.0000							
.1126+03	.3929+02	.1165+04	.2866+01	.2069+03	.2984+03	.1648+03	.2118+00
P-H2O/P-PROP= 18.0000							
.1222+03	.3812+02	.1131+04	.3205+01	.2069+03	.2962+03	.1600+03	.1952+00
P-H2O/P-PROP= 19.0000							
.1317+03	.3694+02	.1097+04	.3566+01	.2068+03	.2943+03	.1552+03	.1810+00
P-H2O/P-PROP= 20.0000							
.1413+03	.3577+02	.1063+04	.3949+01	.2067+03	.2928+03	.1504+03	.1688+00
P-H2O/P-PROP= 21.0000							
.1508+03	.3461+02	.1029+04	.4359+01	.2066+03	.2916+03	.1456+03	.1581+00
P-H2O/P-PROP= 22.0000							
.1604+03	.3344+02	.9957+03	.4796+01	.2065+03	.2907+03	.1409+03	.1487+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 4000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1119+02	.3070+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.9742+01	.6970+02	.2053+04	.1398+00	.2075+03	.4267+03	.2905+03	.3264+01
P-H2O/P-PROP= 7.0000							
.2251+02	.6812+02	.2008+04	.3305+00	.2075+03	.4159+03	.2840+03	.1413+01
P-H2O/P-PROP= 8.0000							
.3528+02	.6654+02	.1962+04	.5302+00	.2074+03	.4056+03	.2776+03	.9013+00
P-H2O/P-PROP= 9.0000							
.4815+02	.6496+02	.1917+04	.7396+00	.2074+03	.3961+03	.2711+03	.6618+00
P-H2O/P-PROP= 10.0000							
.6051+02	.6338+02	.1871+04	.9595+00	.2073+03	.3871+03	.2647+03	.5229+00
P-H2O/P-PROP= 11.0000							
.7358+02	.6181+02	.1825+04	.1190+01	.2073+03	.3787+03	.2582+03	.4322+00
P-H2O/P-PROP= 12.0000							
.8634+02	.6023+02	.1780+04	.1433+01	.2072+03	.3710+03	.2518+03	.3683+00
P-H2O/P-PROP= 13.0000							
.9910+02	.5866+02	.1734+04	.1689+01	.2072+03	.3639+03	.2454+03	.3209+00
P-H2O/P-PROP= 14.0000							
.1119+03	.5709+02	.1689+04	.1959+01	.2071+03	.3575+03	.2389+03	.2843+00
P-H2O/P-PROP= 15.0000							
.1246+03	.5552+02	.1644+04	.2245+01	.2071+03	.3516+03	.2325+03	.2552+00
P-H2O/P-PROP= 16.0000							
.1374+03	.5395+02	.1598+04	.2546+01	.2070+03	.3464+03	.2261+03	.2315+00
P-H2O/P-PROP= 17.0000							
.1501+03	.5238+02	.1553+04	.2866+01	.2069+03	.3419+03	.2197+03	.2118+00
P-H2O/P-PROP= 18.0000							
.1629+03	.5082+02	.1508+04	.3205+01	.2069+03	.3379+03	.2133+03	.1952+00
P-H2O/P-PROP= 19.0000							
.1756+03	.4926+02	.1463+04	.3566+01	.2068+03	.3346+03	.2069+03	.1810+00
P-H2O/P-PROP= 20.0000							
.1884+03	.4770+02	.1417+04	.3949+01	.2067+03	.3318+03	.2005+03	.1688+00
P-H2O/P-PROP= 21.0000							
.2011+03	.4614+02	.1372+04	.4359+01	.2066+03	.3297+03	.1942+03	.1581+00
P-H2O/P-PROP= 22.0000							
.2139+03	.4459+02	.1326+04	.4796+01	.2065+03	.3282+03	.1878+03	.1487+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1399+02	.3638+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1218+02	.8712+02	.2567+04	.1398+00	.2075+03	.4899+03	.3631+03	.3264+01
P-H20/P-PROP= 7.0000							
.2814+02	.8515+02	.2510+04	.3305+00	.2075+03	.4730+03	.3551+03	.1413+01
P-H20/P-PROP= 8.0000							
.4410+02	.8317+02	.2453+04	.5302+00	.2074+03	.4570+03	.3470+03	.9013+00
P-H20/P-PROP= 9.0000							
.6006+02	.8120+02	.2396+04	.7396+00	.2074+03	.4420+03	.3389+03	.6618+00
P-H20/P-PROP= 10.0000							
.7602+02	.7923+02	.2339+04	.9595+00	.2073+03	.4279+03	.3309+03	.5229+00
P-H20/P-PROP= 11.0000							
.9197+02	.7726+02	.2282+04	.1190+01	.2073+03	.4149+03	.3228+03	.4322+00
P-H20/P-PROP= 12.0000							
.1079+03	.7529+02	.2225+04	.1433+01	.2072+03	.4029+03	.3147+03	.3683+00
P-H20/P-PROP= 13.0000							
.1239+03	.7332+02	.2168+04	.1689+01	.2072+03	.3918+03	.3067+03	.3209+00
P-H20/P-PROP= 14.0000							
.1398+03	.7136+02	.2111+04	.1959+01	.2071+03	.3817+03	.2987+03	.2843+00
P-H20/P-PROP= 15.0000							
.1556+03	.6940+02	.2054+04	.2245+01	.2071+03	.3726+03	.2906+03	.2552+00
P-H20/P-PROP= 16.0000							
.1717+03	.6744+02	.1998+04	.2546+01	.2070+03	.3645+03	.2826+03	.2315+00
P-H20/P-PROP= 17.0000							
.1877+03	.6548+02	.1941+04	.2866+01	.2069+03	.3573+03	.2746+03	.2118+00
P-H20/P-PROP= 18.0000							
.2036+03	.6353+02	.1885+04	.3205+01	.2069+03	.3511+03	.2666+03	.1952+00
P-H20/P-PROP= 19.0000							
.2195+03	.6157+02	.1828+04	.3566+01	.2068+03	.3459+03	.2586+03	.1810+00
P-H20/P-PROP= 20.0000							
.2355+03	.5962+02	.1772+04	.3949+01	.2067+03	.3416+03	.2507+03	.1688+00
P-H20/P-PROP= 21.0000							
.2514+03	.5768+02	.1716+04	.4359+01	.2066+03	.3383+03	.2427+03	.1581+00
P-H20/P-PROP= 22.0000							
.2673+03	.5574+02	.1659+04	.4796+01	.2065+03	.3360+03	.2348+03	.1487+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 6000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1678+02	.4605+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1461+02	.1045+03	.3080+04	.1398+00	.2075+03	.5357+03	.4358+03	.3264+01
P-H20/P-PROP= 7.0000							
.3377+02	.1022+03	.3012+04	.3305+00	.2075+03	.5113+03	.4261+03	.1413+01
P-H20/P-PROP= 8.0000							
.5292+02	.9981+02	.2943+04	.5302+00	.2074+03	.4886+03	.4164+03	.9013+00
P-H20/P-PROP= 9.0000							
.7207+02	.9744+02	.2875+04	.7396+00	.2074+03	.4667+03	.4067+03	.6618+00
P-H20/P-PROP= 10.0000							
.9122+02	.9507+02	.2806+04	.9595+00	.2073+03	.4465+03	.3970+03	.5229+00
P-H20/P-PROP= 11.0000							
.1104+03	.9271+02	.2738+04	.1190+01	.2073+03	.4277+03	.3874+03	.4322+00
P-H20/P-PROP= 12.0000							
.1295+03	.9035+02	.2670+04	.1433+01	.2072+03	.4104+03	.3777+03	.3683+00
P-H20/P-PROP= 13.0000							
.1487+03	.8799+02	.2602+04	.1689+01	.2072+03	.3944+03	.3680+03	.3209+00
P-H20/P-PROP= 14.0000							
.1678+03	.8563+02	.2533+04	.1959+01	.2071+03	.3799+03	.3584+03	.2843+00
P-H20/P-PROP= 15.0000							
.1869+03	.8328+02	.2465+04	.2245+01	.2071+03	.3668+03	.3488+03	.2552+00
P-H20/P-PROP= 16.0000							
.2061+03	.8093+02	.2397+04	.2546+01	.2070+03	.3551+03	.3391+03	.2315+00
P-H20/P-PROP= 17.0000							
.2252+03	.7858+02	.2329+04	.2866+01	.2069+03	.3448+03	.3295+03	.2118+00
P-H20/P-PROP= 18.0000							
.2443+03	.7623+02	.2262+04	.3205+01	.2069+03	.3358+03	.3199+03	.1952+00
P-H20/P-PROP= 19.0000							
.2635+03	.7389+02	.2194+04	.3566+01	.2068+03	.3283+03	.3104+03	.1810+00
P-H20/P-PROP= 20.0000							
.2826+03	.7155+02	.2126+04	.3949+01	.2067+03	.3222+03	.3008+03	.1688+00
P-H20/P-PROP= 21.0000							
.3017+03	.6922+02	.2059+04	.4359+01	.2066+03	.3174+03	.2912+03	.1581+00
P-H20/P-PROP= 22.0000							
.3208+03	.6689+02	.1991+04	.4796+01	.2065+03	.3140+03	.2817+03	.1487+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 7000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1956+02	.5373+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.1705+02	.1220+03	.3594+04	.1398+00	.2075+03	.5641+03	.5084+03	.3264+01
P-H2O/P-PROP= 7.0000							
.3940+02	.1192+03	.3514+04	.3305+00	.2075+03	.5309+03	.4971+03	.1413+01
P-H2O/P-PROP= 8.0000							
.6174+02	.1164+03	.3434+04	.5302+00	.2074+03	.4995+03	.4858+03	.9013+00
P-H2O/P-PROP= 9.0000							
.8408+02	.1137+03	.3354+04	.7396+00	.2074+03	.4701+03	.4745+03	.6618+00
P-H2O/P-PROP= 10.0000							
.1064+03	.1109+03	.3274+04	.9595+00	.2073+03	.4426+03	.4632+03	.5229+00
P-H2O/P-PROP= 11.0000							
.1286+03	.1082+03	.3194+04	.1190+01	.2073+03	.4171+03	.4519+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1511+03	.1054+03	.3115+04	.1433+01	.2072+03	.3935+03	.4406+03	.3683+00
P-H2O/P-PROP= 13.0000							
.1734+03	.1027+03	.3035+04	.1689+01	.2072+03	.3718+03	.4294+03	.3209+00
P-H2O/P-PROP= 14.0000							
.1958+03	.9990+02	.2956+04	.1959+01	.2071+03	.3520+03	.4181+03	.2843+00
P-H2O/P-PROP= 15.0000							
.2181+03	.9716+02	.2876+04	.2245+01	.2071+03	.3342+03	.4069+03	.2552+00
P-H2O/P-PROP= 16.0000							
.2404+03	.9441+02	.2797+04	.2546+01	.2070+03	.3182+03	.3957+03	.2315+00
P-H2O/P-PROP= 17.0000							
.2627+03	.9167+02	.2718+04	.2866+01	.2069+03	.3042+03	.3845+03	.2118+00
P-H2O/P-PROP= 18.0000							
.2851+03	.8894+02	.2638+04	.3205+01	.2069+03	.2921+03	.3733+03	.1952+00
P-H2O/P-PROP= 19.0000							
.3074+03	.8620+02	.2559+04	.3566+01	.2068+03	.2818+03	.3621+03	.1810+00
P-H2O/P-PROP= 20.0000							
.3297+03	.8347+02	.2481+04	.3949+01	.2067+03	.2735+03	.3509+03	.1688+00
P-H2O/P-PROP= 21.0000							
.3520+03	.8075+02	.2402+04	.4359+01	.2066+03	.2670+03	.3398+03	.1581+00
P-H2O/P-PROP= 22.0000							
.3743+03	.7803+02	.2323+04	.4796+01	.2065+03	.2624+03	.3287+03	.1487+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 8000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2236+02	.6140+02	.3975+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.1948+02	.1394+03	.4107+04	.1398+00	.2075+03	.5752+03	.5810+03	.3264+01
P-H2O/P-PROP= 7.0000							
.4502+02	.1362+03	.4016+04	.3305+00	.2075+03	.5317+03	.5681+03	.1413+01
P-H2O/P-PROP= 8.0000							
.7056+02	.1331+03	.3924+04	.5302+00	.2074+03	.4908+03	.5552+03	.9013+00
P-H2O/P-PROP= 9.0000							
.9609+02	.1299+03	.3833+04	.7396+00	.2074+03	.4525+03	.5423+03	.6618+00
P-H2O/P-PROP= 10.0000							
.1216+03	.1268+03	.3742+04	.9595+00	.2073+03	.4169+03	.5294+03	.5229+00
P-H2O/P-PROP= 11.0000							
.1472+03	.1236+03	.3651+04	.1190+01	.2073+03	.3831+03	.5165+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1727+03	.1205+03	.3560+04	.1433+01	.2072+03	.3523+03	.5036+03	.3683+00
P-H2O/P-PROP= 13.0000							
.1982+03	.1173+03	.3469+04	.1689+01	.2072+03	.3239+03	.4907+03	.3209+00
P-H2O/P-PROP= 14.0000							
.2237+03	.1142+03	.3378+04	.1959+01	.2071+03	.2981+03	.4779+03	.2843+00
P-H2O/P-PROP= 15.0000							
.2492+03	.1110+03	.3287+04	.2245+01	.2071+03	.2748+03	.4650+03	.2552+00
P-H2O/P-PROP= 16.0000							
.2748+03	.1079+03	.3196+04	.2546+01	.2070+03	.2540+03	.4522+03	.2315+00
P-H2O/P-PROP= 17.0000							
.3003+03	.1048+03	.3106+04	.2866+01	.2069+03	.2357+03	.4394+03	.2118+00
P-H2O/P-PROP= 18.0000							
.3258+03	.1016+03	.3015+04	.3205+01	.2069+03	.2198+03	.4266+03	.1952+00
P-H2O/P-PROP= 19.0000							
.3513+03	.9852+02	.2925+04	.3566+01	.2068+03	.2064+03	.4138+03	.1810+00
P-H2O/P-PROP= 20.0000							
.3768+03	.9540+02	.2835+04	.3949+01	.2067+03	.1953+03	.4011+03	.1688+00
P-H2O/P-PROP= 21.0000							
.4023+03	.9229+02	.2745+04	.4359+01	.2066+03	.1871+03	.3883+03	.1581+00
P-H2O/P-PROP= 22.0000							
.4277+03	.8918+02	.2655+04	.4796+01	.2065+03	.1810+03	.3756+03	.1487+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 9000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2517+02	.6908+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.2192+02	.1548+03	.4620+04	.1398+00	.2075+03	.5688+03	.6537+03	.3264+01
P-H20/P-PROP= 7.0000							
.5065+02	.1533+03	.4518+04	.3305+00	.2075+03	.5136+03	.6391+03	.1413+01
P-H20/P-PROP= 8.0000							
.7938+02	.1497+03	.4415+04	.5302+00	.2074+03	.4619+03	.6246+03	.9013+00
P-H20/P-PROP= 9.0000							
.1081+03	.1462+03	.4312+04	.7396+00	.2074+03	.4133+03	.6100+03	.6618+00
P-H20/P-PROP= 10.0000							
.1368+03	.1426+03	.4210+04	.9595+00	.2073+03	.3679+03	.5955+03	.5229+00
P-H20/P-PROP= 11.0000							
.1655+03	.1391+03	.4107+04	.1190+01	.2073+03	.3257+03	.5810+03	.4322+00
P-H20/P-PROP= 12.0000							
.1943+03	.1355+03	.4005+04	.1433+01	.2072+03	.2867+03	.5665+03	.3683+00
P-H20/P-PROP= 13.0000							
.2230+03	.1320+03	.3902+04	.1689+01	.2072+03	.2508+03	.5521+03	.3209+00
P-H20/P-PROP= 14.0000							
.2517+03	.1284+03	.3800+04	.1959+01	.2071+03	.2182+03	.5376+03	.2843+00
P-H20/P-PROP= 15.0000							
.2804+03	.1249+03	.3698+04	.2245+01	.2071+03	.1886+03	.5232+03	.2552+00
P-H20/P-PROP= 16.0000							
.3091+03	.1214+03	.3596+04	.2546+01	.2070+03	.1623+03	.5087+03	.2315+00
P-H20/P-PROP= 17.0000							
.3378+03	.1179+03	.3494+04	.2866+01	.2069+03	.1391+03	.4943+03	.2118+00
P-H20/P-PROP= 18.0000							
.3665+03	.1143+03	.3392+04	.3205+01	.2069+03	.1190+03	.4799+03	.1952+00
P-H20/P-PROP= 19.0000							
.3952+03	.1108+03	.3291+04	.3566+01	.2068+03	.1021+03	.4655+03	.1810+00
P-H20/P-PROP= 20.0000							
.4239+03	.1073+03	.3189+04	.3949+01	.2067+03	.8829+02	.4512+03	.1688+00
P-H20/P-PROP= 21.0000							
.4525+03	.1038+03	.3088+04	.4359+01	.2066+03	.7759+02	.4369+03	.1581+00
P-H20/P-PROP= 22.0000							
.4812+03	.1003+03	.2987+04	.4796+01	.2065+03	.6997+02	.4226+03	.1487+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 1000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2797+01	.7676+01	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.2436+01	.1742+02	.5134+03	.1398+00	.2075+03	.9924+02	.5336+02	.3264+01
P-H20/P-PROP= 7.0000							
.5628+01	.1703+02	.5020+03	.3305+00	.2075+03	.9884+02	.5217+02	.1413+01
P-H20/P-PROP= 8.0000							
.8820+01	.1663+02	.4905+03	.5302+00	.2074+03	.9853+02	.5099+02	.9013+00
P-H20/P-PROP= 9.0000							
.1201+02	.1624+02	.4791+03	.7396+00	.2074+03	.9821+02	.4980+02	.6618+00
P-H20/P-PROP= 10.0000							
.1520+02	.1585+02	.4677+03	.9595+00	.2073+03	.9791+02	.4862+02	.5229+00
P-H20/P-PROP= 11.0000							
.1839+02	.1545+02	.4563+03	.1190+01	.2073+03	.9762+02	.4743+02	.4322+00
P-H20/P-PROP= 12.0000							
.2159+02	.1506+02	.4450+03	.1433+01	.2072+03	.9736+02	.4625+02	.3683+00
P-H20/P-PROP= 13.0000							
.2478+02	.1466+02	.4336+03	.1689+01	.2072+03	.9713+02	.4507+02	.3209+00
P-H20/P-PROP= 14.0000							
.2797+02	.1427+02	.4222+03	.1959+01	.2071+03	.9691+02	.4389+02	.2843+00
P-H20/P-PROP= 15.0000							
.3116+02	.1388+02	.4109+03	.2245+01	.2071+03	.9671+02	.4271+02	.2552+00
P-H20/P-PROP= 16.0000							
.3434+02	.1349+02	.3995+03	.2546+01	.2070+03	.9654+02	.4153+02	.2315+00
P-H20/P-PROP= 17.0000							
.3753+02	.1310+02	.3882+03	.2866+01	.2069+03	.9638+02	.4035+02	.2118+00
P-H20/P-PROP= 18.0000							
.4072+02	.1271+02	.3769+03	.3205+01	.2069+03	.9625+02	.3918+02	.1952+00
P-H20/P-PROP= 19.0000							
.4391+02	.1231+02	.3656+03	.3566+01	.2068+03	.9613+02	.3800+02	.1810+00
P-H20/P-PROP= 20.0000							
.4710+02	.1192+02	.3544+03	.3949+01	.2067+03	.9604+02	.3683+02	.1688+00
P-H20/P-PROP= 21.0000							
.5028+02	.1154+02	.3431+03	.4359+01	.2066+03	.9597+02	.3566+02	.1581+00
P-H20/P-PROP= 22.0000							
.5347+02	.1115+02	.3319+03	.4796+01	.2065+03	.9592+02	.3450+02	.1487+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 2000.

H2-O2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.5594+01	.1535+02	.3975+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.4871+01	.3485+02	.1027+04	.1398+00	.2075+03	.1891+03	.1067+03	.3264+01
P-H2O/P-PROP= 7.0000							
.1176+02	.3406+02	.1004+04	.3305+00	.2075+03	.1876+03	.1043+03	.1413+01
P-H2O/P-PROP= 8.0000							
.1764+02	.3327+02	.9811+03	.5302+00	.2074+03	.1863+03	.1020+03	.9013+00
P-H2O/P-PROP= 9.0000							
.2412+02	.3246+02	.9583+03	.7396+00	.2074+03	.1850+03	.9969+02	.6618+00
P-H2O/P-PROP= 10.0000							
.3141+02	.3169+02	.9355+03	.9595+00	.2073+03	.1837+03	.9723+02	.5229+00
P-H2O/P-PROP= 11.0000							
.3969+02	.3090+02	.9127+03	.1190+01	.2073+03	.1826+03	.9486+02	.4322+00
P-H2O/P-PROP= 12.0000							
.4917+02	.3012+02	.8899+03	.1433+01	.2072+03	.1816+03	.9250+02	.3683+00
P-H2O/P-PROP= 13.0000							
.4955+02	.2933+02	.8672+03	.1689+01	.2072+03	.1806+03	.9013+02	.3209+00
P-H2O/P-PROP= 14.0000							
.3593+02	.2854+02	.8445+03	.1959+01	.2071+03	.1798+03	.8777+02	.2843+00
P-H2O/P-PROP= 15.0000							
.6231+02	.2776+02	.8218+03	.2245+01	.2071+03	.1790+03	.8541+02	.2552+00
P-H2O/P-PROP= 16.0000							
.6869+02	.2698+02	.7991+03	.2546+01	.2070+03	.1783+03	.8306+02	.2315+00
P-H2O/P-PROP= 17.0000							
.7507+02	.2619+02	.7765+03	.2866+01	.2069+03	.1776+03	.8070+02	.2118+00
P-H2O/P-PROP= 18.0000							
.8144+02	.2541+02	.7538+03	.3205+01	.2069+03	.1771+03	.7835+02	.1952+00
P-H2O/P-PROP= 19.0000							
.8782+02	.2463+02	.7313+03	.3566+01	.2068+03	.1767+03	.7601+02	.1810+00
P-H2O/P-PROP= 20.0000							
.9419+02	.2385+02	.7087+03	.3949+01	.2067+03	.1763+03	.7366+02	.1688+00
P-H2O/P-PROP= 21.0000							
.1006+03	.2307+02	.6862+03	.4359+01	.2066+03	.1760+03	.7133+02	.1581+00
P-H2O/P-PROP= 22.0000							
.1069+03	.2230+02	.6638+03	.4796+01	.2065+03	.1758+03	.6899+02	.1487+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 3000.

H2-O2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.8392+01	.2303+02	.3975+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.7307+01	.5227+02	.1540+04	.1398+00	.2075+03	.2696+03	.1601+03	.3264+01
P-H2O/P-PROP= 7.0000							
.1688+02	.5109+02	.1506+04	.3305+00	.2075+03	.2663+03	.1565+03	.1413+01
P-H2O/P-PROP= 8.0000							
.2646+02	.4990+02	.1472+04	.5302+00	.2074+03	.2632+03	.1530+03	.9013+00
P-H2O/P-PROP= 9.0000							
.3604+02	.4872+02	.1437+04	.7396+00	.2074+03	.2602+03	.1494+03	.6618+00
P-H2O/P-PROP= 10.0000							
.4561+02	.4754+02	.1403+04	.9595+00	.2073+03	.2572+03	.1458+03	.5229+00
P-H2O/P-PROP= 11.0000							
.5518+02	.4636+02	.1369+04	.1190+01	.2073+03	.2550+03	.1423+03	.4322+00
P-H2O/P-PROP= 12.0000							
.6476+02	.4517+02	.1335+04	.1433+01	.2072+03	.2526+03	.1387+03	.3683+00
P-H2O/P-PROP= 13.0000							
.7433+02	.4399+02	.1301+04	.1689+01	.2072+03	.2505+03	.1352+03	.3209+00
P-H2O/P-PROP= 14.0000							
.8390+02	.4282+02	.1267+04	.1959+01	.2071+03	.2485+03	.1317+03	.2843+00
P-H2O/P-PROP= 15.0000							
.9347+02	.4164+02	.1233+04	.2245+01	.2071+03	.2468+03	.1281+03	.2552+00
P-H2O/P-PROP= 16.0000							
.1030+03	.4046+02	.1199+04	.2546+01	.2070+03	.2452+03	.1246+03	.2315+00
P-H2O/P-PROP= 17.0000							
.1126+03	.3929+02	.1165+04	.2866+01	.2069+03	.2436+03	.1211+03	.2118+00
P-H2O/P-PROP= 18.0000							
.1222+03	.3812+02	.1131+04	.3205+01	.2069+03	.2426+03	.1175+03	.1952+00
P-H2O/P-PROP= 19.0000							
.1317+03	.3694+02	.1097+04	.3566+01	.2068+03	.2416+03	.1140+03	.1810+00
P-H2O/P-PROP= 20.0000							
.1413+03	.3577+02	.1063+04	.3949+01	.2067+03	.2407+03	.1105+03	.1688+00
P-H2O/P-PROP= 21.0000							
.1508+03	.3461+02	.1029+04	.4359+01	.2066+03	.2401+03	.1070+03	.1581+00
P-H2O/P-PROP= 22.0000							
.1604+03	.3344+02	.9957+03	.4796+01	.2065+03	.2397+03	.1035+03	.1487+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 4000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1119+02	.3070+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.9742+01	.6970+02	.2053+04	.1398+00	.2075+03	.3406+03	.2134+03	.3264+01
P-H20/P-PROP= 7.0000							
.2251+02	.6812+02	.2008+04	.3305+00	.2075+03	.3348+03	.2087+03	.1413+01
P-H20/P-PROP= 8.0000							
.3528+02	.6654+02	.1962+04	.5302+00	.2074+03	.3293+03	.2039+03	.9013+00
P-H20/P-PROP= 9.0000							
.4835+02	.6496+02	.1917+04	.7396+00	.2074+03	.3241+03	.1992+03	.6618+00
P-H20/P-PROP= 10.0000							
.6081+02	.6338+02	.1871+04	.9595+00	.2073+03	.3192+03	.1945+03	.5229+00
P-H20/P-PROP= 11.0000							
.7358+02	.6181+02	.1825+04	.1190+01	.2073+03	.3147+03	.1897+03	.4322+00
P-H20/P-PROP= 12.0000							
.8634+02	.6023+02	.1780+04	.1433+01	.2072+03	.3106+03	.1850+03	.3683+00
P-H20/P-PROP= 13.0000							
.9910+02	.5866+02	.1734+04	.1689+01	.2072+03	.3067+03	.1803+03	.3209+00
P-H20/P-PROP= 14.0000							
.1119+03	.5709+02	.1689+04	.1959+01	.2071+03	.3033+03	.1755+03	.2843+00
P-H20/P-PROP= 15.0000							
.1246+03	.5552+02	.1644+04	.2245+01	.2071+03	.3001+03	.1708+03	.2552+00
P-H20/P-PROP= 16.0000							
.1374+03	.5395+02	.1598+04	.2546+01	.2070+03	.2973+03	.1661+03	.2315+00
P-H20/P-PROP= 17.0000							
.1501+03	.5238+02	.1553+04	.2866+01	.2069+03	.2948+03	.1614+03	.2118+00
P-H20/P-PROP= 18.0000							
.1629+03	.5082+02	.1508+04	.3205+01	.2069+03	.2927+03	.1567+03	.1952+00
P-H20/P-PROP= 19.0000							
.1756+03	.4926+02	.1463+04	.3566+01	.2068+03	.2909+03	.1520+03	.1810+00
P-H20/P-PROP= 20.0000							
.1884+03	.4770+02	.1417+04	.3949+01	.2067+03	.2894+03	.1473+03	.1688+00
P-H20/P-PROP= 21.0000							
.2011+03	.4614+02	.1372+04	.4359+01	.2066+03	.2883+03	.1427+03	.1581+00
P-H20/P-PROP= 22.0000							
.2139+03	.4459+02	.1328+04	.4796+01	.2065+03	.2875+03	.1380+03	.1487+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1399+02	.3838+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1218+02	.8712+02	.2567+04	.1398+00	.2075+03	.4023+03	.2668+03	.3264+01
P-H20/P-PROP= 7.0000							
.2814+02	.8515+02	.2510+04	.3305+00	.2075+03	.3932+03	.2609+03	.1413+01
P-H20/P-PROP= 8.0000							
.4410+02	.8317+02	.2453+04	.5302+00	.2074+03	.3845+03	.2549+03	.9013+00
P-H20/P-PROP= 9.0000							
.6006+02	.8120+02	.2396+04	.7396+00	.2074+03	.3764+03	.2490+03	.6618+00
P-H20/P-PROP= 10.0000							
.7602+02	.7923+02	.2339+04	.9595+00	.2073+03	.3689+03	.2431+03	.5229+00
P-H20/P-PROP= 11.0000							
.9197+02	.7726+02	.2282+04	.1190+01	.2073+03	.3618+03	.2372+03	.4322+00
P-H20/P-PROP= 12.0000							
.1079+03	.7529+02	.2225+04	.1433+01	.2072+03	.3553+03	.2312+03	.3683+00
P-H20/P-PROP= 13.0000							
.1239+03	.7332+02	.2168+04	.1689+01	.2072+03	.3494+03	.2253+03	.3209+00
P-H20/P-PROP= 14.0000							
.1398+03	.7136+02	.2111+04	.1959+01	.2071+03	.3439+03	.2194+03	.2843+00
P-H20/P-PROP= 15.0000							
.1558+03	.6940+02	.2054+04	.2245+01	.2071+03	.3390+03	.2135+03	.2552+00
P-H20/P-PROP= 16.0000							
.1717+03	.6744+02	.1998+04	.2546+01	.2070+03	.3346+03	.2076+03	.2315+00
P-H20/P-PROP= 17.0000							
.1877+03	.6548+02	.1941+04	.2866+01	.2069+03	.3307+03	.2018+03	.2118+00
P-H20/P-PROP= 18.0000							
.2036+03	.6353+02	.1885+04	.3205+01	.2069+03	.3274+03	.1959+03	.1952+00
P-H20/P-PROP= 19.0000							
.2195+03	.6157+02	.1828+04	.3566+01	.2068+03	.3246+03	.1900+03	.1810+00
P-H20/P-PROP= 20.0000							
.2355+03	.5962+02	.1772+04	.3949+01	.2067+03	.3223+03	.1842+03	.1688+00
P-H20/P-PROP= 21.0000							
.2514+03	.5768+02	.1716+04	.4359+01	.2066+03	.3205+03	.1783+03	.1581+00
P-H20/P-PROP= 22.0000							
.2673+03	.5574+02	.1659+04	.4796+01	.2065+03	.3192+03	.1725+03	.1487+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 6000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1678+02	.4605+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.1441+02	.1045+03	.3080+04	.1398+00	.2075+03	.4546+03	.3202+03	.3264+01
P-H2O/P-PROP= 7.0000							
.3377+02	.1022+03	.3012+04	.3305+00	.2075+03	.4414+03	.3130+03	.1413+01
P-H2O/P-PROP= 8.0000							
.5292+02	.9981+02	.2943+04	.5302+00	.2074+03	.4290+03	.3059+03	.9013+00
P-H2O/P-PROP= 9.0000							
.7207+02	.9744+02	.2875+04	.7396+00	.2074+03	.4173+03	.2988+03	.6618+00
P-H2O/P-PROP= 10.0000							
.9122+02	.9507+02	.2806+04	.9595+00	.2073+03	.4064+03	.2917+03	.5229+00
P-H2O/P-PROP= 11.0000							
.1104+03	.9271+02	.2738+04	.1190+01	.2073+03	.3963+03	.2846+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1295+03	.9035+02	.2670+04	.1433+01	.2072+03	.3870+03	.2775+03	.3683+00
P-H2O/P-PROP= 13.0000							
.1487+03	.8799+02	.2602+04	.1689+01	.2072+03	.3784+03	.2704+03	.3209+00
P-H2O/P-PROP= 14.0000							
.1678+03	.8563+02	.2533+04	.1959+01	.2071+03	.3705+03	.2633+03	.2843+00
P-H2O/P-PROP= 15.0000							
.1869+03	.8328+02	.2465+04	.2245+01	.2071+03	.3634+03	.2562+03	.2552+00
P-H2O/P-PROP= 16.0000							
.2061+03	.8093+02	.2397+04	.2546+01	.2070+03	.3571+03	.2492+03	.2315+00
P-H2O/P-PROP= 17.0000							
.2252+03	.7858+02	.2329+04	.2866+01	.2069+03	.3515+03	.2421+03	.2118+00
P-H2O/P-PROP= 18.0000							
.2443+03	.7623+02	.2262+04	.3205+01	.2069+03	.3467+03	.2351+03	.1952+00
P-H2O/P-PROP= 19.0000							
.2635+03	.7389+02	.2194+04	.3566+01	.2068+03	.3427+03	.2280+03	.1810+00
P-H2O/P-PROP= 20.0000							
.2826+03	.7155+02	.2126+04	.3949+01	.2067+03	.3394+03	.2210+03	.1688+00
P-H2O/P-PROP= 21.0000							
.3017+03	.6922+02	.2059+04	.4359+01	.2066+03	.3368+03	.2140+03	.1581+00
P-H2O/P-PROP= 22.0000							
.3208+03	.6689+02	.1991+04	.4796+01	.2065+03	.3350+03	.2070+03	.1487+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 7000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1958+02	.5373+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.1705+02	.1220+03	.3594+04	.1398+00	.2075+03	.4975+03	.3735+03	.3264+01
P-H2O/P-PROP= 7.0000							
.3940+02	.1192+03	.3514+04	.3305+00	.2075+03	.4796+03	.3652+03	.1413+01
P-H2O/P-PROP= 8.0000							
.6174+02	.1164+03	.3434+04	.5302+00	.2074+03	.4627+03	.3569+03	.9013+00
P-H2O/P-PROP= 9.0000							
.8408+02	.1137+03	.3354+04	.7396+00	.2074+03	.4468+03	.3486+03	.6618+00
P-H2O/P-PROP= 10.0000							
.1064+03	.1109+03	.3274+04	.9595+00	.2073+03	.4320+03	.3403+03	.5229+00
P-H2O/P-PROP= 11.0000							
.1288+03	.1082+03	.3194+04	.1190+01	.2073+03	.4182+03	.3320+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1511+03	.1054+03	.3115+04	.1433+01	.2072+03	.4054+03	.3237+03	.3683+00
P-H2O/P-PROP= 13.0000							
.1734+03	.1027+03	.3035+04	.1689+01	.2072+03	.3937+03	.3155+03	.3209+00
P-H2O/P-PROP= 14.0000							
.1958+03	.9990+02	.2956+04	.1959+01	.2071+03	.3831+03	.3072+03	.2843+00
P-H2O/P-PROP= 15.0000							
.2181+03	.9716+02	.2876+04	.2245+01	.2071+03	.3734+03	.2989+03	.2552+00
P-H2O/P-PROP= 16.0000							
.2404+03	.9441+02	.2797+04	.2546+01	.2070+03	.3648+03	.2907+03	.2315+00
P-H2O/P-PROP= 17.0000							
.2627+03	.9167+02	.2718+04	.2866+01	.2069+03	.3572+03	.2825+03	.2118+00
P-H2O/P-PROP= 18.0000							
.2851+03	.8894+02	.2638+04	.3205+01	.2069+03	.3507+03	.2742+03	.1952+00
P-H2O/P-PROP= 19.0000							
.3074+03	.8620+02	.2559+04	.3566+01	.2068+03	.3452+03	.2660+03	.1810+00
P-H2O/P-PROP= 20.0000							
.3297+03	.8347+02	.2481+04	.3949+01	.2067+03	.3406+03	.2578+03	.1688+00
P-H2O/P-PROP= 21.0000							
.3520+03	.8075+02	.2402+04	.4359+01	.2066+03	.3372+03	.2496+03	.1581+00
P-H2O/P-PROP= 22.0000							
.3743+03	.7803+02	.2323+04	.4796+01	.2065+03	.3347+03	.2415+03	.1487+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 8000.

H2-H2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2236+02	.6140+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	VEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.1948+02	.1394+03	.4107+04	.1398+00	.2075+03	.5311+03	.4269+03	.3264+01
P-H2O/P-PROP= 7.0000							
.4502+02	.1362+03	.4016+04	.3305+00	.2075+03	.5076+03	.4174+03	.1413+01
P-H2O/P-PROP= 8.0000							
.7036+02	.1331+03	.3924+04	.5302+00	.2074+03	.4855+03	.4079+03	.9013+00
P-H2O/P-PROP= 9.0000							
.9439+02	.1299+03	.3833+04	.7396+00	.2074+03	.4646+03	.3984+03	.6618+00
P-H2O/P-PROP= 10.0000							
.1216+03	.1268+03	.3742+04	.9595+00	.2073+03	.4454+03	.3889+03	.5229+00
P-H2O/P-PROP= 11.0000							
.1472+03	.1236+03	.3651+04	.1190+01	.2073+03	.4274+03	.3794+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1727+03	.1205+03	.3560+04	.1433+01	.2072+03	.4107+03	.3700+03	.3683+00
P-H2O/P-PROP= 13.0000							
.1982+03	.1173+03	.3469+04	.1689+01	.2072+03	.3952+03	.3605+03	.3209+00
P-H2O/P-PROP= 14.0000							
.2237+03	.1142+03	.3378+04	.1959+01	.2071+03	.3815+03	.3511+03	.2843+00
P-H2O/P-PROP= 15.0000							
.2492+03	.1110+03	.3287+04	.2245+01	.2071+03	.3689+03	.3417+03	.2552+00
P-H2O/P-PROP= 16.0000							
.2748+03	.1079+03	.3196+04	.2546+01	.2070+03	.3577+03	.3322+03	.2315+00
P-H2O/P-PROP= 17.0000							
.3003+03	.1048+03	.3106+04	.2866+01	.2069+03	.3478+03	.3228+03	.2118+00
P-H2O/P-PROP= 18.0000							
.3258+03	.1016+03	.3015+04	.3205+01	.2069+03	.3393+03	.3134+03	.1952+00
P-H2O/P-PROP= 19.0000							
.3513+03	.9852+02	.2925+04	.3566+01	.2068+03	.3320+03	.3040+03	.1810+00
P-H2O/P-PROP= 20.0000							
.3768+03	.9540+02	.2835+04	.3949+01	.2067+03	.3261+03	.2947+03	.1688+00
P-H2O/P-PROP= 21.0000							
.4023+03	.9229+02	.2745+04	.4359+01	.2066+03	.3216+03	.2853+03	.1581+00
P-H2O/P-PROP= 22.0000							
.4277+03	.8918+02	.2655+04	.4796+01	.2065+03	.3184+03	.2760+03	.1487+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 9000.

H2-H2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2517+02	.6908+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	VEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.2192+02	.1568+03	.4620+04	.1398+00	.2075+03	.5552+03	.4802+03	.3264+01
P-H2O/P-PROP= 7.0000							
.5065+02	.1533+03	.4518+04	.3305+00	.2075+03	.5305+03	.4696+03	.1413+01
P-H2O/P-PROP= 8.0000							
.7918+02	.1497+03	.4415+04	.5302+00	.2074+03	.4975+03	.4589+03	.9013+00
P-H2O/P-PROP= 9.0000							
.1081+03	.1462+03	.4312+04	.7396+00	.2074+03	.4713+03	.4482+03	.6618+00
P-H2O/P-PROP= 10.0000							
.1368+03	.1426+03	.4210+04	.9595+00	.2073+03	.4466+03	.4375+03	.5229+00
P-H2O/P-PROP= 11.0000							
.1655+03	.1391+03	.4107+04	.1190+01	.2073+03	.4240+03	.4269+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1943+03	.1355+03	.4005+04	.1433+01	.2072+03	.4029+03	.4162+03	.3683+00
P-H2O/P-PROP= 13.0000							
.2230+03	.1320+03	.3902+04	.1689+01	.2072+03	.3836+03	.4056+03	.3209+00
P-H2O/P-PROP= 14.0000							
.2517+03	.1284+03	.3800+04	.1959+01	.2071+03	.3659+03	.3950+03	.2843+00
P-H2O/P-PROP= 15.0000							
.2804+03	.1249+03	.3698+04	.2245+01	.2071+03	.3500+03	.3844+03	.2552+00
P-H2O/P-PROP= 16.0000							
.3091+03	.1214+03	.3596+04	.2546+01	.2070+03	.3356+03	.3738+03	.2315+00
P-H2O/P-PROP= 17.0000							
.3378+03	.1179+03	.3494+04	.2866+01	.2069+03	.3233+03	.3632+03	.2118+00
P-H2O/P-PROP= 18.0000							
.3665+03	.1143+03	.3392+04	.3205+01	.2069+03	.3124+03	.3526+03	.1952+00
P-H2O/P-PROP= 19.0000							
.3952+03	.1108+03	.3291+04	.3566+01	.2068+03	.3033+03	.3420+03	.1810+00
P-H2O/P-PROP= 20.0000							
.4239+03	.1073+03	.3189+04	.3949+01	.2067+03	.2958+03	.3315+03	.1688+00
P-H2O/P-PROP= 21.0000							
.4525+03	.1038+03	.3088+04	.4359+01	.2066+03	.2901+03	.3210+03	.1581+00
P-H2O/P-PROP= 22.0000							
.4812+03	.1003+03	.2987+04	.4796+01	.2065+03	.2859+03	.3105+03	.1487+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 1000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2747+01	.7676+01	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.2436+01	.1742+02	.5134+03	.1398+00	.2075+03	.7683+02	.4085+02	.3264+01
P-H20/P-PROP= 7.0000							
.5628+01	.1703+02	.5020+03	.3305+00	.2075+03	.7661+02	.3994+02	.1413+01
P-H20/P-PROP= 8.0000							
.8820+01	.1663+02	.4905+03	.5302+00	.2074+03	.7641+02	.3904+02	.9013+00
P-H20/P-PROP= 9.0000							
.1211+02	.1624+02	.4791+03	.7396+00	.2074+03	.7622+02	.3813+02	.6618+00
P-H20/P-PROP= 10.0000							
.1520+02	.1585+02	.4677+03	.9595+00	.2073+03	.7604+02	.3722+02	.5229+00
P-H20/P-PROP= 11.0000							
.1839+02	.1545+02	.4563+03	.1190+01	.2073+03	.7588+02	.3631+02	.4322+00
P-H20/P-PROP= 12.0000							
.2159+02	.1506+02	.4450+03	.1433+01	.2072+03	.7572+02	.3541+02	.3683+00
P-H20/P-PROP= 13.0000							
.2478+02	.1466+02	.4336+03	.1689+01	.2072+03	.7558+02	.3450+02	.3209+00
P-H20/P-PROP= 14.0000							
.2797+02	.1427+02	.4222+03	.1959+01	.2071+03	.7546+02	.3360+02	.2843+00
P-H20/P-PROP= 15.0000							
.3116+02	.1388+02	.4109+03	.2245+01	.2071+03	.7534+02	.3270+02	.2552+00
P-H20/P-PROP= 16.0000							
.3434+02	.1349+02	.3995+03	.2546+01	.2070+03	.7524+02	.3180+02	.2315+00
P-H20/P-PROP= 17.0000							
.3753+02	.1310+02	.3882+03	.2866+01	.2069+03	.7515+02	.3089+02	.2118+00
P-H20/P-PROP= 18.0000							
.4072+02	.1271+02	.3769+03	.3205+01	.2069+03	.7507+02	.2999+02	.1952+00
P-H20/P-PROP= 19.0000							
.4391+02	.1231+02	.3656+03	.3566+01	.2068+03	.7500+02	.2910+02	.1810+00
P-H20/P-PROP= 20.0000							
.4710+02	.1192+02	.3544+03	.3949+01	.2067+03	.7495+02	.2820+02	.1688+00
P-H20/P-PROP= 21.0000							
.5028+02	.1154+02	.3431+03	.4359+01	.2066+03	.7491+02	.2730+02	.1581+00
P-H20/P-PROP= 22.0000							
.5347+02	.1115+02	.3319+03	.4796+01	.2065+03	.7488+02	.2641+02	.1487+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 2000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.5594+01	.1535+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.4871+01	.3485+02	.1027+04	.1398+00	.2075+03	.1481+03	.8171+02	.3264+01
P-H20/P-PROP= 7.0000							
.1126+02	.3406+02	.1004+04	.3305+00	.2075+03	.1473+03	.7969+02	.1413+01
P-H20/P-PROP= 8.0000							
.1764+02	.3327+02	.9811+03	.5302+00	.2074+03	.1465+03	.7807+02	.9013+00
P-H20/P-PROP= 9.0000							
.2402+02	.3248+02	.9583+03	.7396+00	.2074+03	.1457+03	.7626+02	.6618+00
P-H20/P-PROP= 10.0000							
.3041+02	.3169+02	.9355+03	.9595+00	.2073+03	.1450+03	.7444+02	.5229+00
P-H20/P-PROP= 11.0000							
.3679+02	.3090+02	.9127+03	.1190+01	.2073+03	.1444+03	.7263+02	.4322+00
P-H20/P-PROP= 12.0000							
.4317+02	.3012+02	.8899+03	.1433+01	.2072+03	.1437+03	.7082+02	.3683+00
P-H20/P-PROP= 13.0000							
.4955+02	.2933+02	.8672+03	.1689+01	.2072+03	.1432+03	.6901+02	.3209+00
P-H20/P-PROP= 14.0000							
.5593+02	.2854+02	.8445+03	.1959+01	.2071+03	.1427+03	.6720+02	.2843+00
P-H20/P-PROP= 15.0000							
.6231+02	.2776+02	.8218+03	.2245+01	.2071+03	.1422+03	.6539+02	.2552+00
P-H20/P-PROP= 16.0000							
.6869+02	.2698+02	.7991+03	.2546+01	.2070+03	.1418+03	.6359+02	.2315+00
P-H20/P-PROP= 17.0000							
.7507+02	.2619+02	.7765+03	.2866+01	.2069+03	.1414+03	.6179+02	.2118+00
P-H20/P-PROP= 18.0000							
.8144+02	.2541+02	.7538+03	.3205+01	.2069+03	.1411+03	.5999+02	.1952+00
P-H20/P-PROP= 19.0000							
.8782+02	.2463+02	.7313+03	.3566+01	.2068+03	.1409+03	.5819+02	.1810+00
P-H20/P-PROP= 20.0000							
.9419+02	.2385+02	.7087+03	.3949+01	.2067+03	.1406+03	.5640+02	.1688+00
P-H20/P-PROP= 21.0000							
.1006+03	.2307+02	.6862+03	.4359+01	.2066+03	.1405+03	.5461+02	.1581+00
P-H20/P-PROP= 22.0000							
.1069+03	.2230+02	.6638+03	.4796+01	.2065+03	.1404+03	.5282+02	.1487+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 3000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.8392+01	.2303+02	.3975+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.7307+01	.5227+02	.1540+04	.1398+00	.2075+03	.2140+03	.1226+03	.3264+01
P-H20/P-PROP= 7.0000							
.1688+02	.5109+02	.1506+04	.3305+00	.2075+03	.2120+03	.1198+03	.1413+01
P-H20/P-PROP= 8.0000							
.2646+02	.4990+02	.1472+04	.5302+00	.2074+03	.2102+03	.1171+03	.9013+00
P-H20/P-PROP= 9.0000							
.3604+02	.4872+02	.1437+04	.7396+00	.2074+03	.2085+03	.1144+03	.6618+00
P-H20/P-PROP= 10.0000							
.4561+02	.4754+02	.1403+04	.9595+00	.2073+03	.2069+03	.1117+03	.5229+00
P-H20/P-PROP= 11.0000							
.5518+02	.4636+02	.1369+04	.1190+01	.2073+03	.2054+03	.1089+03	.4322+00
P-H20/P-PROP= 12.0000							
.6476+02	.4517+02	.1335+04	.1433+01	.2072+03	.2041+03	.1062+03	.3683+00
P-H20/P-PROP= 13.0000							
.7433+02	.4399+02	.1301+04	.1689+01	.2072+03	.2028+03	.1035+03	.3209+00
P-H20/P-PROP= 14.0000							
.8390+02	.4282+02	.1267+04	.1959+01	.2071+03	.2016+03	.1008+03	.2843+00
P-H20/P-PROP= 15.0000							
.9347+02	.4164+02	.1233+04	.2245+01	.2071+03	.2006+03	.9809+02	.2552+00
P-H20/P-PROP= 16.0000							
.1030+03	.4046+02	.1199+04	.2546+01	.2070+03	.1997+03	.9539+02	.2315+00
P-H20/P-PROP= 17.0000							
.1126+03	.3929+02	.1165+04	.2866+01	.2069+03	.1989+03	.9268+02	.2118+00
P-H20/P-PROP= 18.0000							
.1222+03	.3812+02	.1131+04	.3205+01	.2069+03	.1982+03	.8998+02	.1952+00
P-H20/P-PROP= 19.0000							
.1317+03	.3694+02	.1097+04	.3566+01	.2068+03	.1976+03	.8729+02	.1810+00
P-H20/P-PROP= 20.0000							
.1413+03	.3577+02	.1063+04	.3949+01	.2067+03	.1971+03	.8460+02	.1688+00
P-H20/P-PROP= 21.0000							
.1508+03	.3461+02	.1029+04	.4359+01	.2066+03	.1967+03	.8191+02	.1581+00
P-H20/P-PROP= 22.0000							
.1604+03	.3344+02	.9957+03	.4796+01	.2065+03	.1964+03	.7923+02	.1487+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 4000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1119+02	.3070+02	.3975+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.9742+01	.6970+02	.2053+04	.1398+00	.2075+03	.2743+03	.1634+03	.3264+01
P-H20/P-PROP= 7.0000							
.2251+02	.6812+02	.2008+04	.3305+00	.2075+03	.2708+03	.1598+03	.1413+01
P-H20/P-PROP= 8.0000							
.3528+02	.6654+02	.1962+04	.5302+00	.2074+03	.2676+03	.1561+03	.9013+00
P-H20/P-PROP= 9.0000							
.4805+02	.6496+02	.1917+04	.7396+00	.2074+03	.2646+03	.1525+03	.6618+00
P-H20/P-PROP= 10.0000							
.6081+02	.6338+02	.1871+04	.9595+00	.2073+03	.2617+03	.1489+03	.5229+00
P-H20/P-PROP= 11.0000							
.7358+02	.6181+02	.1825+04	.1190+01	.2073+03	.2591+03	.1453+03	.4322+00
P-H20/P-PROP= 12.0000							
.8634+02	.6023+02	.1780+04	.1433+01	.2072+03	.2567+03	.1416+03	.3683+00
P-H20/P-PROP= 13.0000							
.9910+02	.5866+02	.1734+04	.1689+01	.2072+03	.2544+03	.1380+03	.3209+00
P-H20/P-PROP= 14.0000							
.1119+03	.5709+02	.1689+04	.1959+01	.2071+03	.2524+03	.1344+03	.2843+00
P-H20/P-PROP= 15.0000							
.1246+03	.5552+02	.1644+04	.2245+01	.2071+03	.2505+03	.1308+03	.2552+00
P-H20/P-PROP= 16.0000							
.1374+03	.5395+02	.1598+04	.2546+01	.2070+03	.2489+03	.1272+03	.2315+00
P-H20/P-PROP= 17.0000							
.1501+03	.5238+02	.1553+04	.2866+01	.2069+03	.2474+03	.1236+03	.2118+00
P-H20/P-PROP= 18.0000							
.1629+03	.5082+02	.1508+04	.3205+01	.2069+03	.2462+03	.1200+03	.1952+00
P-H20/P-PROP= 19.0000							
.1756+03	.4926+02	.1463+04	.3566+01	.2068+03	.2451+03	.1164+03	.1810+00
P-H20/P-PROP= 20.0000							
.1884+03	.4770+02	.1417+04	.3949+01	.2067+03	.2443+03	.1128+03	.1688+00
P-H20/P-PROP= 21.0000							
.2011+03	.4614+02	.1372+04	.4359+01	.2066+03	.2436+03	.1092+03	.1581+00
P-H20/P-PROP= 22.0000							
.2139+03	.4459+02	.1328+04	.4796+01	.2065+03	.2431+03	.1056+03	.1487+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1399+02	.3838+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1218+02	.8712+02	.2567+04	.1398+00	.2075+03	.3291+03	.2043+03	.3254+01
P-H20/P-PROP= 7.0000							
.2814+02	.8515+02	.2510+04	.3305+00	.2075+03	.3237+03	.1997+03	.1413+01
P-H20/P-PROP= 8.0000							
.4410+02	.8317+02	.2453+04	.5302+00	.2074+03	.3187+03	.1952+03	.9013+00
P-H20/P-PROP= 9.0000							
.6006+02	.8120+02	.2396+04	.7396+00	.2074+03	.3139+03	.1906+03	.6618+00
P-H20/P-PROP= 10.0000							
.7602+02	.7923+02	.2339+04	.9595+00	.2073+03	.3095+03	.1861+03	.5229+00
P-H20/P-PROP= 11.0000							
.9197+02	.7726+02	.2282+04	.1190+01	.2073+03	.3054+03	.1816+03	.4322+00
P-H20/P-PROP= 12.0000							
.1079+03	.7529+02	.2225+04	.1433+01	.2072+03	.3015+03	.1770+03	.3683+00
P-H20/P-PROP= 13.0000							
.1239+03	.7332+02	.2168+04	.1689+01	.2072+03	.2980+03	.1725+03	.3209+00
P-H20/P-PROP= 14.0000							
.1398+03	.7136+02	.2111+04	.1959+01	.2071+03	.2944+03	.1680+03	.2843+00
P-H20/P-PROP= 15.0000							
.1558+03	.6940+02	.2054+04	.2245+01	.2071+03	.2920+03	.1635+03	.2552+00
P-H20/P-PROP= 16.0000							
.1717+03	.6744+02	.1998+04	.2546+01	.2070+03	.2894+03	.1590+03	.2315+00
P-H20/P-PROP= 17.0000							
.1877+03	.6548+02	.1941+04	.2866+01	.2069+03	.2871+03	.1545+03	.2118+00
P-H20/P-PROP= 18.0000							
.2036+03	.6353+02	.1885+04	.3205+01	.2069+03	.2852+03	.1500+03	.1952+00
P-H20/P-PROP= 19.0000							
.2195+03	.6157+02	.1828+04	.3566+01	.2068+03	.2835+03	.1455+03	.1810+00
P-H20/P-PROP= 20.0000							
.2355+03	.5962+02	.1772+04	.3949+01	.2067+03	.2822+03	.1410+03	.1688+00
P-H20/P-PROP= 21.0000							
.2514+03	.5766+02	.1716+04	.4359+01	.2066+03	.2811+03	.1365+03	.1581+00
P-H20/P-PROP= 22.0000							
.2673+03	.5574+02	.1659+04	.4796+01	.2065+03	.2804+03	.1321+03	.1487+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 6000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1678+02	.4605+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1461+02	.1045+03	.3080+04	.1398+00	.2075+03	.3784+03	.2451+03	.3264+01
P-H20/P-PROP= 7.0000							
.3377+02	.1022+03	.3012+04	.3305+00	.2075+03	.3707+03	.2397+03	.1413+01
P-H20/P-PROP= 8.0000							
.5292+02	.9981+02	.2943+04	.5302+00	.2074+03	.3634+03	.2342+03	.9013+00
P-H20/P-PROP= 9.0000							
.7207+02	.9744+02	.2875+04	.7396+00	.2074+03	.3565+03	.2288+03	.6618+00
P-H20/P-PROP= 10.0000							
.9122+02	.9507+02	.2806+04	.9595+00	.2073+03	.3502+03	.2233+03	.5229+00
P-H20/P-PROP= 11.0000							
.1104+03	.9271+02	.2738+04	.1190+01	.2073+03	.3442+03	.2179+03	.4322+00
P-H20/P-PROP= 12.0000							
.1295+03	.9035+02	.2670+04	.1433+01	.2072+03	.3387+03	.2125+03	.3683+00
P-H20/P-PROP= 13.0000							
.1487+03	.8799+02	.2602+04	.1689+01	.2072+03	.3337+03	.2070+03	.3209+00
P-H20/P-PROP= 14.0000							
.1678+03	.8563+02	.2533+04	.1959+01	.2071+03	.3291+03	.2016+03	.2843+00
P-H20/P-PROP= 15.0000							
.1869+03	.8328+02	.2465+04	.2245+01	.2071+03	.3249+03	.1962+03	.2552+00
P-H20/P-PROP= 16.0000							
.2061+03	.8093+02	.2397+04	.2546+01	.2070+03	.3212+03	.1908+03	.2315+00
P-H20/P-PROP= 17.0000							
.2252+03	.7858+02	.2329+04	.2866+01	.2069+03	.3180+03	.1854+03	.2118+00
P-H20/P-PROP= 18.0000							
.2443+03	.7623+02	.2262+04	.3205+01	.2069+03	.3152+03	.1800+03	.1952+00
P-H20/P-PROP= 19.0000							
.2635+03	.7389+02	.2194+04	.3566+01	.2068+03	.3128+03	.1746+03	.1810+00
P-H20/P-PROP= 20.0000							
.2826+03	.7155+02	.2126+04	.3949+01	.2067+03	.3108+03	.1692+03	.1688+00
P-H20/P-PROP= 21.0000							
.3017+03	.6922+02	.2059+04	.4359+01	.2066+03	.3093+03	.1638+03	.1581+00
P-H20/P-PROP= 22.0000							
.3208+03	.6689+02	.1991+04	.4796+01	.2065+03	.3083+03	.1585+03	.1487+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 7000.

H2-F2

PROP-P/SEC	KOM P/SEC	ISP	BTU/PP
.1998+02	.5373+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1705+02	.1220+03	.3594+04	.1398+00	.2075+03	.4222+03	.2860+03	.3264+01
P-H20/P-PROP= 7.0000							
.3940+02	.1192+03	.3514+04	.3305+00	.2075+03	.4117+03	.2796+03	.1413+01
P-H20/P-PROP= 8.0000							
.6174+02	.1164+03	.3434+04	.5302+00	.2074+03	.4010+03	.2733+03	.9013+00
P-H20/P-PROP= 9.0000							
.8418+02	.1137+03	.3354+04	.7296+00	.2074+03	.3925+03	.2669+03	.6618+00
P-H20/P-PROP= 10.0000							
.1064+03	.1109+03	.3274+04	.9295+00	.2073+03	.3838+03	.2605+03	.5229+00
P-H20/P-PROP= 11.0000							
.1288+03	.1082+03	.3194+04	.1190+01	.2073+03	.3757+03	.2542+03	.4322+00
P-H20/P-PROP= 12.0000							
.1511+03	.1054+03	.3115+04	.1433+01	.2072+03	.3682+03	.2479+03	.3683+00
P-H20/P-PROP= 13.0000							
.1734+03	.1027+03	.3035+04	.1689+01	.2072+03	.3613+03	.2415+03	.3209+00
P-H20/P-PROP= 14.0000							
.1956+03	.9990+02	.2956+04	.1959+01	.2071+03	.3551+03	.2352+03	.2843+00
P-H20/P-PROP= 15.0000							
.2181+03	.9716+02	.2876+04	.2245+01	.2071+03	.3494+03	.2289+03	.2552+00
P-H20/P-PROP= 16.0000							
.2404+03	.9441+02	.2797+04	.2546+01	.2070+03	.3444+03	.2226+03	.2315+00
P-H20/P-PROP= 17.0000							
.2627+03	.9167+02	.2718+04	.2866+01	.2069+03	.3400+03	.2163+03	.2118+00
P-H20/P-PROP= 18.0000							
.2851+03	.8894+02	.2638+04	.3205+01	.2069+03	.3361+03	.2100+03	.1952+00
P-H20/P-PROP= 19.0000							
.3074+03	.8620+02	.2559+04	.3566+01	.2068+03	.3329+03	.2037+03	.1810+00
P-H20/P-PROP= 20.0000							
.3297+03	.8347+02	.2481+04	.3949+01	.2067+03	.3302+03	.1974+03	.1688+00
P-H20/P-PROP= 21.0000							
.3520+03	.8075+02	.2402+04	.4359+01	.2066+03	.3282+03	.1911+03	.1581+00
P-H20/P-PROP= 22.0000							
.3743+03	.7803+02	.2323+04	.4796+01	.2065+03	.3267+03	.1849+03	.1487+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 8000.

H2-F2

PROP-P/SEC	KOM P/SEC	ISP	BTU/PP
.2238+02	.6140+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1948+02	.1394+03	.4107+04	.1398+00	.2075+03	.4603+03	.3268+03	.3264+01
P-H20/P-PROP= 7.0000							
.4502+02	.1362+03	.4016+04	.3305+00	.2075+03	.4486+03	.3196+03	.1413+01
P-H20/P-PROP= 8.0000							
.7056+02	.1331+03	.3924+04	.5302+00	.2074+03	.4338+03	.3123+03	.9013+00
P-H20/P-PROP= 9.0000							
.9609+02	.1299+03	.3833+04	.7296+00	.2074+03	.4216+03	.3050+03	.6618+00
P-H20/P-PROP= 10.0000							
.1216+03	.1268+03	.3742+04	.9295+00	.2073+03	.4103+03	.2978+03	.5229+00
P-H20/P-PROP= 11.0000							
.1472+03	.1236+03	.3651+04	.1190+01	.2073+03	.3997+03	.2905+03	.4322+00
P-H20/P-PROP= 12.0000							
.1727+03	.1205+03	.3560+04	.1433+01	.2072+03	.3900+03	.2833+03	.3683+00
P-H20/P-PROP= 13.0000							
.1982+03	.1173+03	.3469+04	.1689+01	.2072+03	.3810+03	.2760+03	.3209+00
P-H20/P-PROP= 14.0000							
.2237+03	.1142+03	.3378+04	.1959+01	.2071+03	.3729+03	.2688+03	.2843+00
P-H20/P-PROP= 15.0000							
.2492+03	.1110+03	.3287+04	.2245+01	.2071+03	.3655+03	.2616+03	.2552+00
P-H20/P-PROP= 16.0000							
.2748+03	.1079+03	.3196+04	.2546+01	.2070+03	.3589+03	.2544+03	.2315+00
P-H20/P-PROP= 17.0000							
.3003+03	.1048+03	.3106+04	.2866+01	.2069+03	.3531+03	.2472+03	.2118+00
P-H20/P-PROP= 18.0000							
.3258+03	.1016+03	.3015+04	.3205+01	.2069+03	.3481+03	.2400+03	.1952+00
P-H20/P-PROP= 19.0000							
.3513+03	.9852+02	.2925+04	.3566+01	.2068+03	.3438+03	.2328+03	.1810+00
P-H20/P-PROP= 20.0000							
.3768+03	.9540+02	.2835+04	.3949+01	.2067+03	.3404+03	.2256+03	.1688+00
P-H20/P-PROP= 21.0000							
.4023+03	.9229+02	.2745+04	.4359+01	.2066+03	.3377+03	.2184+03	.1581+00
P-H20/P-PROP= 22.0000							
.4277+03	.8918+02	.2655+04	.4796+01	.2065+03	.3358+03	.2113+03	.1487+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 9000.

H2-F2

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.2517+02	.6978+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIN-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.2192+02	.1568+03	.4620+04	.1398+00	.2075+03	.4933+03	.3677+03	.3264+01
P-H20/P-PROP= 7.0000							
.5065+02	.1533+03	.4518+04	.3305+00	.2075+03	.4759+03	.3595+03	.1413+01
P-H20/P-PROP= 8.0000							
.7938+02	.1497+03	.4415+04	.5302+00	.2074+03	.4595+03	.3513+03	.9013+00
P-H20/P-PROP= 9.0000							
.1041+03	.1462+03	.4312+04	.7396+00	.2074+03	.4441+03	.3432+03	.6618+00
P-H20/P-PROP= 10.0000							
.1368+03	.1426+03	.4210+04	.9595+00	.2073+03	.4298+03	.3350+03	.5229+00
P-H20/P-PROP= 11.0000							
.1655+03	.1391+03	.4107+04	.1190+01	.2073+03	.4164+03	.3268+03	.4322+00
P-H20/P-PROP= 12.0000							
.1943+03	.1355+03	.4005+04	.1433+01	.2072+03	.4040+03	.3187+03	.3683+00
P-H20/P-PROP= 13.0000							
.2230+03	.1320+03	.3902+04	.1689+01	.2072+03	.3927+03	.3105+03	.3209+00
P-H20/P-PROP= 14.0000							
.2517+03	.1284+03	.3800+04	.1959+01	.2071+03	.3824+03	.3024+03	.2843+00
P-H20/P-PROP= 15.0000							
.2804+03	.1249+03	.3698+04	.2245+01	.2071+03	.3730+03	.2943+03	.2552+00
P-H20/P-PROP= 16.0000							
.3091+03	.1214+03	.3596+04	.2546+01	.2070+03	.3647+03	.2862+03	.2315+00
P-H20/P-PROP= 17.0000							
.3378+03	.1179+03	.3494+04	.2866+01	.2069+03	.3575+03	.2780+03	.2118+00
P-H20/P-PROP= 18.0000							
.3665+03	.1143+03	.3392+04	.3205+01	.2069+03	.3510+03	.2700+03	.1952+00
P-H20/P-PROP= 19.0000							
.3952+03	.1108+03	.3291+04	.3566+01	.2068+03	.3456+03	.2619+03	.1810+00
P-H20/P-PROP= 20.0000							
.4239+03	.1073+03	.3189+04	.3949+01	.2067+03	.3415+03	.2538+03	.1688+00
P-H20/P-PROP= 21.0000							
.4525+03	.1038+03	.3088+04	.4359+01	.2066+03	.3379+03	.2457+03	.1581+00
P-H20/P-PROP= 22.0000							
.4812+03	.1003+03	.2987+04	.4796+01	.2065+03	.3355+03	.2377+03	.1487+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 1000.

H2-F2

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.2797+01	.7676+01	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIN-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.2436+01	.1742+02	.5134+03	.1398+00	.2075+03	.6116+02	.3228+02	.3264+01
P-H20/P-PROP= 7.0000							
.5628+01	.1703+02	.5020+03	.3305+00	.2075+03	.6102+02	.3156+02	.1413+01
P-H20/P-PROP= 8.0000							
.8820+01	.1663+02	.4905+03	.5302+00	.2074+03	.6090+02	.3084+02	.9013+00
P-H20/P-PROP= 9.0000							
.1201+02	.1624+02	.4791+03	.7396+00	.2074+03	.6078+02	.3013+02	.6618+00
P-H20/P-PROP= 10.0000							
.1520+02	.1585+02	.4677+03	.9595+00	.2073+03	.6067+02	.2941+02	.5229+00
P-H20/P-PROP= 11.0000							
.1839+02	.1545+02	.4563+03	.1190+01	.2073+03	.6057+02	.2869+02	.4322+00
P-H20/P-PROP= 12.0000							
.2159+02	.1506+02	.4450+03	.1433+01	.2072+03	.6047+02	.2798+02	.3683+00
P-H20/P-PROP= 13.0000							
.2478+02	.1466+02	.4336+03	.1689+01	.2072+03	.6038+02	.2726+02	.3209+00
P-H20/P-PROP= 14.0000							
.2797+02	.1427+02	.4222+03	.1959+01	.2071+03	.6030+02	.2655+02	.2843+00
P-H20/P-PROP= 15.0000							
.3116+02	.1388+02	.4109+03	.2245+01	.2071+03	.6023+02	.2583+02	.2552+00
P-H20/P-PROP= 16.0000							
.3434+02	.1349+02	.3995+03	.2546+01	.2070+03	.6017+02	.2512+02	.2315+00
P-H20/P-PROP= 17.0000							
.3753+02	.1310+02	.3882+03	.2866+01	.2069+03	.6011+02	.2441+02	.2118+00
P-H20/P-PROP= 18.0000							
.4072+02	.1271+02	.3769+03	.3205+01	.2069+03	.6006+02	.2370+02	.1952+00
P-H20/P-PROP= 19.0000							
.4391+02	.1231+02	.3656+03	.3566+01	.2068+03	.6002+02	.2299+02	.1810+00
P-H20/P-PROP= 20.0000							
.4710+02	.1192+02	.3544+03	.3949+01	.2067+03	.5999+02	.2228+02	.1688+00
P-H20/P-PROP= 21.0000							
.5028+02	.1154+02	.3431+03	.4359+01	.2066+03	.5996+02	.2157+02	.1581+00
P-H20/P-PROP= 22.0000							
.5347+02	.1115+02	.3319+03	.4796+01	.2065+03	.5994+02	.2087+02	.1487+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 2000. /

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.5594+01	.1545+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.4871+01	.3485+02	.1027+04	.1398+00	.2075+03	.1189+03	.6456+02	.3264+01
P-H20/P-PROP= 7.0000							
.1126+02	.3406+02	.1004+04	.3305+00	.2075+03	.1183+03	.6312+02	.1413+01
P-H20/P-PROP= 8.0000							
.1764+02	.3327+02	.9811+03	.5302+00	.2074+03	.1178+03	.6169+02	.9013+00
P-H20/P-PROP= 9.0000							
.2402+02	.3248+02	.9583+03	.7396+00	.2074+03	.1174+03	.6025+02	.6618+00
P-H20/P-PROP= 10.0000							
.3041+02	.3169+02	.9355+03	.9595+00	.2073+03	.1169+03	.5882+02	.5229+00
P-H20/P-PROP= 11.0000							
.3679+02	.3090+02	.9127+03	.1190+01	.2073+03	.1165+03	.5739+02	.4322+00
P-H20/P-PROP= 12.0000							
.4317+02	.3012+02	.8899+03	.1433+01	.2072+03	.1161+03	.5595+02	.3683+00
P-H20/P-PROP= 13.0000							
.4955+02	.2933+02	.8672+03	.1689+01	.2072+03	.1158+03	.5452+02	.3209+00
P-H20/P-PROP= 14.0000							
.5593+02	.2854+02	.8445+03	.1959+01	.2071+03	.1155+03	.5310+02	.2843+00
P-H20/P-PROP= 15.0000							
.6231+02	.2776+02	.8219+03	.2245+01	.2071+03	.1152+03	.5167+02	.2552+00
P-H20/P-PROP= 16.0000							
.6869+02	.2698+02	.7991+03	.2546+01	.2070+03	.1149+03	.5024+02	.2315+00
P-H20/P-PROP= 17.0000							
.7507+02	.2619+02	.7765+03	.2866+01	.2069+03	.1147+03	.4882+02	.2118+00
P-H20/P-PROP= 18.0000							
.8144+02	.2541+02	.7538+03	.3205+01	.2069+03	.1145+03	.4740+02	.1952+00
P-H20/P-PROP= 19.0000							
.8782+02	.2463+02	.7313+03	.3566+01	.2068+03	.1143+03	.4598+02	.1810+00
P-H20/P-PROP= 20.0000							
.9419+02	.2385+02	.7087+03	.3949+01	.2067+03	.1142+03	.4456+02	.1688+00
P-H20/P-PROP= 21.0000							
.1006+03	.2307+02	.6862+03	.4359+01	.2066+03	.1141+03	.4315+02	.1581+00
P-H20/P-PROP= 22.0000							
.1069+03	.2230+02	.6638+03	.4796+01	.2065+03	.1140+03	.4174+02	.1487+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 3000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.8392+01	.2303+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.7307+01	.5227+02	.1540+04	.1398+00	.2075+03	.1732+03	.9684+02	.3264+01
P-H20/P-PROP= 7.0000							
.1689+02	.5109+02	.1506+04	.3305+00	.2075+03	.1724+03	.9468+02	.1413+01
P-H20/P-PROP= 8.0000							
.2646+02	.4990+02	.1472+04	.5302+00	.2074+03	.1716+03	.9253+02	.9013+00
P-H20/P-PROP= 9.0000							
.3604+02	.4872+02	.1437+04	.7396+00	.2074+03	.1708+03	.9038+02	.6618+00
P-H20/P-PROP= 10.0000							
.4561+02	.4754+02	.1403+04	.9595+00	.2073+03	.1688+03	.8823+02	.5229+00
P-H20/P-PROP= 11.0000							
.5518+02	.4636+02	.1369+04	.1190+01	.2073+03	.1678+03	.8608+02	.4322+00
P-H20/P-PROP= 12.0000							
.6476+02	.4517+02	.1335+04	.1433+01	.2072+03	.1670+03	.8393+02	.3683+00
P-H20/P-PROP= 13.0000							
.7433+02	.4399+02	.1301+04	.1689+01	.2072+03	.1662+03	.8179+02	.3209+00
P-H20/P-PROP= 14.0000							
.8390+02	.4282+02	.1267+04	.1959+01	.2071+03	.1655+03	.7964+02	.2843+00
P-H20/P-PROP= 15.0000							
.9347+02	.4164+02	.1233+04	.2245+01	.2071+03	.1648+03	.7750+02	.2552+00
P-H20/P-PROP= 16.0000							
.1030+03	.4046+02	.1199+04	.2546+01	.2070+03	.1642+03	.7537+02	.2315+00
P-H20/P-PROP= 17.0000							
.1126+03	.3929+02	.1165+04	.2866+01	.2069+03	.1637+03	.7323+02	.2118+00
P-H20/P-PROP= 18.0000							
.1222+03	.3812+02	.1131+04	.3205+01	.2069+03	.1633+03	.7110+02	.1952+00
P-H20/P-PROP= 19.0000							
.1317+03	.3694+02	.1097+04	.3566+01	.2068+03	.1629+03	.6897+02	.1810+00
P-H20/P-PROP= 20.0000							
.1413+03	.3577+02	.1063+04	.3949+01	.2067+03	.1626+03	.6684+02	.1688+00
P-H20/P-PROP= 21.0000							
.1508+03	.3461+02	.1029+04	.4359+01	.2066+03	.1624+03	.6472+02	.1581+00
P-H20/P-PROP= 22.0000							
.1604+03	.3344+02	.9957+03	.4796+01	.2065+03	.1622+03	.6260+02	.1487+00

DIA-FT= 4.50 O/F AIR/LB PROP= .1000 THRUST= 4000.

H2-F2

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.1119+02	.3070+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.9742+01	.6473+02	.2053+04	.1398+00	.2075+03	.2240+03	.1291+03	.3264+01
P-H20/P-PROP= 7.0000							
.2251+02	.6612+02	.2008+04	.3315+00	.2075+03	.2219+03	.1262+03	.1413+01
P-H20/P-PROP= 8.0000							
.3528+02	.6654+02	.1962+04	.5302+00	.2074+03	.2199+03	.1234+03	.9013+00
P-H20/P-PROP= 9.0000							
.4815+02	.6696+02	.1917+04	.7396+00	.2074+03	.2180+03	.1205+03	.6618+00
P-H20/P-PROP= 10.0000							
.6001+02	.6738+02	.1871+04	.9595+00	.2073+03	.2162+03	.1176+03	.5229+00
P-H20/P-PROP= 11.0000							
.7358+02	.6781+02	.1825+04	.1190+01	.2073+03	.2143+03	.1148+03	.4322+00
P-H20/P-PROP= 12.0000							
.8684+02	.6823+02	.1780+04	.1433+01	.2072+03	.2124+03	.1119+03	.3683+00
P-H20/P-PROP= 13.0000							
.9916+02	.6866+02	.1734+04	.1689+01	.2072+03	.2106+03	.1090+03	.3209+00
P-H20/P-PROP= 14.0000							
.1119+03	.6909+02	.1689+04	.1959+01	.2071+03	.2087+03	.1062+03	.2843+00
P-H20/P-PROP= 15.0000							
.1246+03	.6952+02	.1644+04	.2245+01	.2071+03	.2069+03	.1033+03	.2552+00
P-H20/P-PROP= 16.0000							
.1374+03	.6995+02	.1598+04	.2546+01	.2070+03	.2052+03	.1005+03	.2315+00
P-H20/P-PROP= 17.0000							
.1501+03	.7038+02	.1553+04	.2866+01	.2069+03	.2033+03	.9764+02	.2118+00
P-H20/P-PROP= 18.0000							
.1629+03	.7082+02	.1508+04	.3205+01	.2069+03	.2015+03	.9480+02	.1952+00
P-H20/P-PROP= 19.0000							
.1756+03	.7126+02	.1463+04	.3566+01	.2068+03	.1996+03	.9196+02	.1810+00
P-H20/P-PROP= 20.0000							
.1884+03	.7170+02	.1417+04	.3949+01	.2067+03	.1978+03	.8913+02	.1688+00
P-H20/P-PROP= 21.0000							
.2011+03	.7214+02	.1372+04	.4359+01	.2066+03	.1959+03	.8630+02	.1581+00
P-H20/P-PROP= 22.0000							
.2139+03	.7259+02	.1328+04	.4796+01	.2065+03	.1940+03	.8347+02	.1487+00

DIA-FT= 4.50 O/F AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.1399+02	.3836+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1218+02	.8712+02	.2567+04	.1398+00	.2075+03	.2714+03	.1614+03	.3264+01
P-H20/P-PROP= 7.0000							
.2814+02	.8815+02	.2510+04	.3305+00	.2075+03	.2681+03	.1578+03	.1413+01
P-H20/P-PROP= 8.0000							
.4410+02	.8917+02	.2453+04	.5302+00	.2074+03	.2649+03	.1542+03	.9013+00
P-H20/P-PROP= 9.0000							
.6006+02	.9020+02	.2396+04	.7396+00	.2074+03	.2620+03	.1506+03	.6618+00
P-H20/P-PROP= 10.0000							
.7602+02	.9123+02	.2339+04	.9595+00	.2073+03	.2592+03	.1470+03	.5229+00
P-H20/P-PROP= 11.0000							
.9197+02	.9226+02	.2282+04	.1190+01	.2073+03	.2566+03	.1435+03	.4322+00
P-H20/P-PROP= 12.0000							
.1079+03	.9329+02	.2225+04	.1433+01	.2072+03	.2542+03	.1399+03	.3683+00
P-H20/P-PROP= 13.0000							
.1239+03	.9432+02	.2168+04	.1689+01	.2072+03	.2521+03	.1363+03	.3209+00
P-H20/P-PROP= 14.0000							
.1398+03	.9536+02	.2111+04	.1959+01	.2071+03	.2501+03	.1327+03	.2843+00
P-H20/P-PROP= 15.0000							
.1558+03	.9640+02	.2054+04	.2245+01	.2071+03	.2483+03	.1292+03	.2552+00
P-H20/P-PROP= 16.0000							
.1717+03	.9744+02	.1998+04	.2546+01	.2070+03	.2467+03	.1256+03	.2315+00
P-H20/P-PROP= 17.0000							
.1877+03	.9848+02	.1941+04	.2866+01	.2069+03	.2452+03	.1221+03	.2118+00
P-H20/P-PROP= 18.0000							
.2036+03	.9953+02	.1885+04	.3205+01	.2069+03	.2440+03	.1185+03	.1952+00
P-H20/P-PROP= 19.0000							
.2195+03	.1006+03	.1828+04	.3566+01	.2068+03	.2430+03	.1149+03	.1810+00
P-H20/P-PROP= 20.0000							
.2355+03	.1016+03	.1772+04	.3949+01	.2067+03	.2421+03	.1114+03	.1688+00
P-H20/P-PROP= 21.0000							
.2514+03	.1027+03	.1716+04	.4359+01	.2066+03	.2413+03	.1079+03	.1581+00
P-H20/P-PROP= 22.0000							
.2673+03	.1037+03	.1659+04	.4796+01	.2065+03	.2410+03	.1043+03	.1487+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

PROP-P/SEC	KOM P/SEC	ISP	BTU/PP
.1678+02	.4605+02	.3375+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP=	6.0000						
.1491+02	.1045+03	.3080+04	.1398+00	.2075+03	.3154+03	.1937+03	.3264+01
P-H20/P-PROP=	7.0000						
.3377+02	.1022+03	.3012+04	.3305+00	.2075+03	.3106+03	.1894+03	.1413+01
P-H20/P-PROP=	8.0000						
.5282+02	.9981+02	.2943+04	.5302+00	.2074+03	.3060+03	.1851+03	.9013+00
P-H20/P-PROP=	9.0000						
.7217+02	.9744+02	.2875+04	.7496+00	.2074+03	.3010+03	.1838+03	.6618+00
P-H20/P-PROP=	10.0000						
.9122+02	.9507+02	.2806+04	.9595+00	.2073+03	.2978+03	.1765+03	.5229+00
P-H20/P-PROP=	11.0000						
.1104+03	.9271+02	.2738+04	.1190+01	.2073+03	.2941+03	.1722+03	.4322+00
P-H20/P-PROP=	12.0000						
.1295+03	.9035+02	.2670+04	.1433+01	.2072+03	.2900+03	.1679+03	.3683+00
P-H20/P-PROP=	13.0000						
.1487+03	.8799+02	.2602+04	.1689+01	.2072+03	.2859+03	.1636+03	.3209+00
P-H20/P-PROP=	14.0000						
.1678+03	.8563+02	.2533+04	.1959+01	.2071+03	.2846+03	.1593+03	.2843+00
P-H20/P-PROP=	15.0000						
.1869+03	.8328+02	.2465+04	.2245+01	.2071+03	.2820+03	.1550+03	.2552+00
P-H20/P-PROP=	16.0000						
.2061+03	.8093+02	.2397+04	.2546+01	.2070+03	.2797+03	.1507+03	.2315+00
P-H20/P-PROP=	17.0000						
.2252+03	.7858+02	.2329+04	.2866+01	.2069+03	.2777+03	.1465+03	.2116+00
P-H20/P-PROP=	18.0000						
.2443+03	.7623+02	.2262+04	.3205+01	.2069+03	.2754+03	.1422+03	.1952+00
P-H20/P-PROP=	19.0000						
.2635+03	.7389+02	.2194+04	.3566+01	.2068+03	.2744+03	.1379+03	.1810+00
P-H20/P-PROP=	20.0000						
.2826+03	.7155+02	.2126+04	.3949+01	.2067+03	.2732+03	.1337+03	.1688+00
P-H20/P-PROP=	21.0000						
.3017+03	.6922+02	.2059+04	.4359+01	.2066+03	.2726+03	.1294+03	.1581+00
P-H20/P-PROP=	22.0000						
.3208+03	.6689+02	.1991+04	.4796+01	.2065+03	.2716+03	.1252+03	.1487+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 7000.

H2-F2

PROP-P/SEC	KOM P/SEC	ISP	BTU/PP
.1958+02	.5373+02	.3375+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP=	6.0000						
.1705+02	.1220+03	.3594+04	.1398+00	.2075+03	.3680+03	.2260+03	.3264+01
P-H20/P-PROP=	7.0000						
.3940+02	.1192+03	.3514+04	.3305+00	.2075+03	.3494+03	.2209+03	.1413+01
P-H20/P-PROP=	8.0000						
.6174+02	.1164+03	.3434+04	.5302+00	.2074+03	.3432+03	.2159+03	.9013+00
P-H20/P-PROP=	9.0000						
.8415+02	.1137+03	.3354+04	.7496+00	.2074+03	.3374+03	.2109+03	.6618+00
P-H20/P-PROP=	10.0000						
.1064+03	.1109+03	.3274+04	.9595+00	.2073+03	.3320+03	.2059+03	.5229+00
P-H20/P-PROP=	11.0000						
.1288+03	.1082+03	.3194+04	.1190+01	.2073+03	.3269+03	.2009+03	.4322+00
P-H20/P-PROP=	12.0000						
.1511+03	.1054+03	.3115+04	.1433+01	.2072+03	.3222+03	.1958+03	.3683+00
P-H20/P-PROP=	13.0000						
.1734+03	.1027+03	.3035+04	.1689+01	.2072+03	.3180+03	.1908+03	.3209+00
P-H20/P-PROP=	14.0000						
.1958+03	.9993+02	.2956+04	.1959+01	.2071+03	.3141+03	.1858+03	.2843+00
P-H20/P-PROP=	15.0000						
.2181+03	.9716+02	.2876+04	.2245+01	.2071+03	.3105+03	.1808+03	.2552+00
P-H20/P-PROP=	16.0000						
.2404+03	.9441+02	.2797+04	.2546+01	.2070+03	.3074+03	.1759+03	.2315+00
P-H20/P-PROP=	17.0000						
.2627+03	.9167+02	.2718+04	.2866+01	.2069+03	.3046+03	.1709+03	.2118+00
P-H20/P-PROP=	18.0000						
.2851+03	.8894+02	.2638+04	.3205+01	.2069+03	.3022+03	.1659+03	.1952+00
P-H20/P-PROP=	19.0000						
.3074+03	.8620+02	.2559+04	.3566+01	.2068+03	.3002+03	.1609+03	.1810+00
P-H20/P-PROP=	20.0000						
.3297+03	.8347+02	.2481+04	.3949+01	.2067+03	.2985+03	.1560+03	.1688+00
P-H20/P-PROP=	21.0000						
.3520+03	.8075+02	.2402+04	.4359+01	.2066+03	.2973+03	.1510+03	.1581+00
P-H20/P-PROP=	22.0000						
.3743+03	.7803+02	.2323+04	.4796+01	.2065+03	.2964+03	.1461+03	.1487+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 8000.

H2-F2

PROP-P/SEC	KGH P/SEC	ISP	BTU/PP
.2634+02	.6144+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC L/G-P/P		T DEG F	JET P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1948+02	.1394+03	.4107+04	.1398+00	.2075+03	.3931+03	.2582+03	.3264+01
P-H20/P-PROP= 7.0000							
.4562+02	.1382+03	.4016+04	.3305+00	.2075+03	.3845+03	.2525+03	.1413+01
P-H20/P-PROP= 8.0000							
.7056+02	.1331+03	.3924+04	.5302+00	.2074+03	.3764+03	.2467+03	.9013+00
P-H20/P-PROP= 9.0000							
.9609+02	.1299+03	.3833+04	.7396+00	.2074+03	.3688+03	.2410+03	.6616+00
P-H20/P-PROP= 10.0000							
.1216+03	.1268+03	.3742+04	.9595+00	.2073+03	.3617+03	.2353+03	.5229+00
P-H20/P-PROP= 11.0000							
.1472+03	.1236+03	.3651+04	.1190+01	.2073+03	.3551+03	.2295+03	.4322+00
P-H20/P-PROP= 12.0000							
.1727+03	.1215+03	.3561+04	.1433+01	.2072+03	.3490+03	.2238+03	.3683+00
P-H20/P-PROP= 13.0000							
.1982+03	.1173+03	.3469+04	.1689+01	.2072+03	.3434+03	.2181+03	.3209+00
P-H20/P-PROP= 14.0000							
.2237+03	.1142+03	.3378+04	.1959+01	.2071+03	.3386+03	.2124+03	.2843+00
P-H20/P-PROP= 15.0000							
.2492+03	.1110+03	.3287+04	.2245+01	.2071+03	.3337+03	.2067+03	.2552+00
P-H20/P-PROP= 16.0000							
.2748+03	.1079+03	.3196+04	.2546+01	.2070+03	.3296+03	.2010+03	.2315+00
P-H20/P-PROP= 17.0000							
.3003+03	.1048+03	.3106+04	.2866+01	.2069+03	.3260+03	.1953+03	.2118+00
P-H20/P-PROP= 18.0000							
.3258+03	.1016+03	.3015+04	.3205+01	.2069+03	.3229+03	.1896+03	.1952+00
P-H20/P-PROP= 19.0000							
.3513+03	.9852+02	.2925+04	.3566+01	.2068+03	.3202+03	.1839+03	.1810+00
P-H20/P-PROP= 20.0000							
.3768+03	.9540+02	.2835+04	.3949+01	.2067+03	.3181+03	.1783+03	.1688+00
P-H20/P-PROP= 21.0000							
.4023+03	.9229+02	.2745+04	.4359+01	.2066+03	.3164+03	.1726+03	.1581+00
P-H20/P-PROP= 22.0000							
.4277+03	.8918+02	.2655+04	.4796+01	.2065+03	.3152+03	.1669+03	.1487+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 9000.

H2-F2

PROP-P/SEC	KGH P/SEC	ISP	BTU/PP
.2917+02	.6908+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC L/G-P/P		T DEG F	JET P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.2192+02	.1568+03	.4620+04	.1398+00	.2075+03	.4267+03	.2905+03	.3264+01
P-H20/P-PROP= 7.0000							
.5165+02	.1553+03	.4518+04	.3305+00	.2075+03	.4159+03	.2840+03	.1413+01
P-H20/P-PROP= 8.0000							
.7988+02	.1497+03	.4415+04	.5302+00	.2074+03	.4056+03	.2776+03	.9013+00
P-H20/P-PROP= 9.0000							
.1081+03	.1462+03	.4312+04	.7396+00	.2074+03	.3960+03	.2711+03	.6616+00
P-H20/P-PROP= 10.0000							
.1366+03	.1426+03	.4210+04	.9595+00	.2073+03	.3871+03	.2647+03	.5229+00
P-H20/P-PROP= 11.0000							
.1655+03	.1391+03	.4107+04	.1190+01	.2073+03	.3787+03	.2582+03	.4322+00
P-H20/P-PROP= 12.0000							
.1943+03	.1355+03	.4005+04	.1433+01	.2072+03	.3710+03	.2518+03	.3683+00
P-H20/P-PROP= 13.0000							
.2230+03	.1320+03	.3902+04	.1689+01	.2072+03	.3639+03	.2454+03	.3209+00
P-H20/P-PROP= 14.0000							
.2517+03	.1284+03	.3800+04	.1959+01	.2071+03	.3575+03	.2389+03	.2843+00
P-H20/P-PROP= 15.0000							
.2804+03	.1249+03	.3698+04	.2245+01	.2071+03	.3516+03	.2325+03	.2552+00
P-H20/P-PROP= 16.0000							
.3091+03	.1214+03	.3596+04	.2546+01	.2070+03	.3464+03	.2261+03	.2315+00
P-H20/P-PROP= 17.0000							
.3378+03	.1179+03	.3494+04	.2866+01	.2069+03	.3419+03	.2197+03	.2118+00
P-H20/P-PROP= 18.0000							
.3665+03	.1143+03	.3392+04	.3205+01	.2069+03	.3379+03	.2133+03	.1952+00
P-H20/P-PROP= 19.0000							
.3952+03	.1108+03	.3291+04	.3566+01	.2068+03	.3346+03	.2069+03	.1810+00
P-H20/P-PROP= 20.0000							
.4239+03	.1073+03	.3189+04	.3949+01	.2067+03	.3318+03	.2005+03	.1688+00
P-H20/P-PROP= 21.0000							
.4525+03	.1038+03	.3088+04	.4359+01	.2066+03	.3297+03	.1942+03	.1581+00
P-H20/P-PROP= 22.0000							
.4812+03	.1003+03	.2987+04	.4796+01	.2065+03	.3282+03	.1878+03	.1487+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 1000.

H2-F2

PROP-P/SEC	KG- P/SEC	ISP	BTU/PP
.2797+01	.7676+01	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.2496+01	.1742+02	.5134+03	.1398+00	.2075+03	.4960+02	.2615+02	.3264+01
P-H20/P-PROP= 7.0000							
.5628+01	.1703+02	.5020+03	.3405+00	.2075+03	.4971+02	.2556+02	.1413+01
P-H20/P-PROP= 8.0000							
.8820+01	.1663+02	.4905+03	.5302+00	.2074+03	.4963+02	.2498+02	.9013+00
P-H20/P-PROP= 9.0000							
.1201+02	.1624+02	.4791+03	.7396+00	.2074+03	.4955+02	.2440+02	.6618+00
P-H20/P-PROP= 10.0000							
.1520+02	.1585+02	.4677+03	.9595+00	.2073+03	.4946+02	.2382+02	.5229+00
P-H20/P-PROP= 11.0000							
.1849+02	.1545+02	.4563+03	.1190+01	.2073+03	.4941+02	.2324+02	.4322+00
P-H20/P-PROP= 12.0000							
.2189+02	.1506+02	.4450+03	.1433+01	.2072+03	.4935+02	.2266+02	.3683+00
P-H20/P-PROP= 13.0000							
.2476+02	.1466+02	.4336+03	.1689+01	.2072+03	.4929+02	.2208+02	.3209+00
P-H20/P-PROP= 14.0000							
.2797+02	.1427+02	.4222+03	.1959+01	.2071+03	.4924+02	.2150+02	.2843+00
P-H20/P-PROP= 15.0000							
.3116+02	.1386+02	.4109+03	.2245+01	.2071+03	.4919+02	.2093+02	.2552+00
P-H20/P-PROP= 16.0000							
.3434+02	.1349+02	.3995+03	.2546+01	.2070+03	.4913+02	.2035+02	.2315+00
P-H20/P-PROP= 17.0000							
.3753+02	.1310+02	.3882+03	.2866+01	.2069+03	.4912+02	.1977+02	.2118+00
P-H20/P-PROP= 18.0000							
.4072+02	.1271+02	.3769+03	.3205+01	.2069+03	.4908+02	.1920+02	.1952+00
P-H20/P-PROP= 19.0000							
.4391+02	.1231+02	.3656+03	.3566+01	.2068+03	.4906+02	.1862+02	.1810+00
P-H20/P-PROP= 20.0000							
.4710+02	.1192+02	.3544+03	.3949+01	.2067+03	.4903+02	.1805+02	.1688+00
P-H20/P-PROP= 21.0000							
.5028+02	.1154+02	.3431+03	.4359+01	.2066+03	.4902+02	.1747+02	.1581+00
P-H20/P-PROP= 22.0000							
.5347+02	.1115+02	.3319+03	.4796+01	.2065+03	.4900+02	.1690+02	.1487+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 2000.

H2-F2

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.5594+01	.1535+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.4471+01	.3485+02	.1027+04	.1398+00	.2075+03	.9735+02	.5229+02	.3264+01
P-H20/P-PROP= 7.0000							
.1126+02	.3406+02	.1004+04	.3305+00	.2075+03	.9730+02	.5113+02	.1413+01
P-H20/P-PROP= 8.0000							
.1764+02	.3327+02	.9811+03	.5302+00	.2074+03	.9667+02	.4997+02	.9013+00
P-H20/P-PROP= 9.0000							
.2402+02	.3248+02	.9583+03	.7396+00	.2074+03	.9636+02	.4880+02	.6618+00
P-H20/P-PROP= 10.0000							
.3041+02	.3169+02	.9355+03	.9595+00	.2073+03	.9607+02	.4764+02	.5229+00
P-H20/P-PROP= 11.0000							
.3679+02	.3090+02	.9127+03	.1190+01	.2073+03	.9580+02	.4648+02	.4322+00
P-H20/P-PROP= 12.0000							
.4317+02	.3012+02	.8899+03	.1433+01	.2072+03	.9555+02	.4532+02	.3683+00
P-H20/P-PROP= 13.0000							
.4955+02	.2933+02	.8672+03	.1689+01	.2072+03	.9532+02	.4417+02	.3209+00
P-H20/P-PROP= 14.0000							
.5593+02	.2854+02	.8445+03	.1959+01	.2071+03	.9511+02	.4301+02	.2843+00
P-H20/P-PROP= 15.0000							
.6231+02	.2776+02	.8218+03	.2245+01	.2071+03	.9492+02	.4185+02	.2552+00
P-H20/P-PROP= 16.0000							
.6869+02	.2698+02	.7991+03	.2546+01	.2070+03	.9475+02	.4070+02	.2315+00
P-H20/P-PROP= 17.0000							
.7507+02	.2619+02	.7765+03	.2866+01	.2069+03	.9461+02	.3954+02	.2118+00
P-H20/P-PROP= 18.0000							
.8144+02	.2541+02	.7538+03	.3205+01	.2069+03	.9447+02	.3839+02	.1952+00
P-H20/P-PROP= 19.0000							
.8782+02	.2463+02	.7313+03	.3566+01	.2068+03	.9436+02	.3724+02	.1810+00
P-H20/P-PROP= 20.0000							
.9419+02	.2385+02	.7087+03	.3949+01	.2067+03	.9426+02	.3610+02	.1688+00
P-H20/P-PROP= 21.0000							
.1006+03	.2307+02	.6862+03	.4359+01	.2066+03	.9421+02	.3495+02	.1581+00
P-H20/P-PROP= 22.0000							
.1069+03	.2230+02	.6638+03	.4796+01	.2065+03	.9416+02	.3381+02	.1487+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 3000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.8392+01	.2303+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.7307+01	.5227+02	.1540+04	.1398+00	.2075+03	.1426+03	.7844+02	.3264+01
P-H20/P-PROP= 7.0000							
.1688+02	.5109+02	.1536+04	.3305+00	.2075+03	.1419+03	.7669+02	.1413+01
P-H20/P-PROP= 8.0000							
.2646+02	.4990+02	.1472+04	.5302+00	.2074+03	.1411+03	.7495+02	.9013+00
P-H20/P-PROP= 9.0000							
.3604+02	.4872+02	.1437+04	.7396+00	.2074+03	.1404+03	.7321+02	.6618+00
P-H20/P-PROP= 10.0000							
.4561+02	.4754+02	.1403+04	.9595+00	.2073+03	.1398+03	.7146+02	.5229+00
P-H20/P-PROP= 11.0000							
.5518+02	.4636+02	.1369+04	.1190+01	.2073+03	.1391+03	.6972+02	.4322+00
P-H20/P-PROP= 12.0000							
.6476+02	.4517+02	.1335+04	.1433+01	.2072+03	.1386+03	.6798+02	.3683+00
P-H20/P-PROP= 13.0000							
.7433+02	.4399+02	.1301+04	.1689+01	.2072+03	.1381+03	.6625+02	.3209+00
P-H20/P-PROP= 14.0000							
.8390+02	.4282+02	.1267+04	.1959+01	.2071+03	.1376+03	.6451+02	.2843+00
P-H20/P-PROP= 15.0000							
.9347+02	.4164+02	.1233+04	.2245+01	.2071+03	.1372+03	.6278+02	.2552+00
P-H20/P-PROP= 16.0000							
.1030+03	.4046+02	.1199+04	.2546+01	.2070+03	.1368+03	.6105+02	.2315+00
P-H20/P-PROP= 17.0000							
.1126+03	.3929+02	.1165+04	.2866+01	.2069+03	.1365+03	.5932+02	.2118+00
P-H20/P-PROP= 18.0000							
.1222+03	.3812+02	.1131+04	.3205+01	.2069+03	.1362+03	.5759+02	.1952+00
P-H20/P-PROP= 19.0000							
.1317+03	.3694+02	.1097+04	.3566+01	.2068+03	.1359+03	.5587+02	.1810+00
P-H20/P-PROP= 20.0000							
.1413+03	.3577+02	.1063+04	.3949+01	.2067+03	.1357+03	.5414+02	.1688+00
P-H20/P-PROP= 21.0000							
.1508+03	.3461+02	.1029+04	.4359+01	.2066+03	.1356+03	.5242+02	.1581+00
P-H20/P-PROP= 22.0000							
.1604+03	.3344+02	.9957+03	.4796+01	.2065+03	.1355+03	.5071+02	.1487+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 4000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1119+02	.3070+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.9742+01	.6970+02	.2053+04	.1398+00	.2075+03	.1857+03	.1046+03	.3264+01
P-H20/P-PROP= 7.0000							
.2251+02	.6812+02	.2008+04	.3305+00	.2075+03	.1843+03	.1023+03	.1413+01
P-H20/P-PROP= 8.0000							
.3528+02	.6654+02	.1962+04	.5302+00	.2074+03	.1830+03	.9993+02	.9013+00
P-H20/P-PROP= 9.0000							
.4805+02	.6496+02	.1917+04	.7396+00	.2074+03	.1817+03	.9761+02	.6618+00
P-H20/P-PROP= 10.0000							
.6081+02	.6338+02	.1871+04	.9595+00	.2073+03	.1805+03	.9529+02	.5229+00
P-H20/P-PROP= 11.0000							
.7358+02	.6181+02	.1825+04	.1190+01	.2073+03	.1795+03	.9297+02	.4322+00
P-H20/P-PROP= 12.0000							
.8634+02	.6023+02	.1780+04	.1433+01	.2072+03	.1785+03	.9065+02	.3683+00
P-H20/P-PROP= 13.0000							
.9910+02	.5866+02	.1734+04	.1689+01	.2072+03	.1775+03	.8833+02	.3209+00
P-H20/P-PROP= 14.0000							
.1119+03	.5709+02	.1689+04	.1959+01	.2071+03	.1767+03	.8602+02	.2843+00
P-H20/P-PROP= 15.0000							
.1246+03	.5552+02	.1644+04	.2245+01	.2071+03	.1760+03	.8370+02	.2552+00
P-H20/P-PROP= 16.0000							
.1374+03	.5395+02	.1598+04	.2546+01	.2070+03	.1753+03	.8140+02	.2315+00
P-H20/P-PROP= 17.0000							
.1501+03	.5238+02	.1553+04	.2866+01	.2069+03	.1747+03	.7909+02	.2118+00
P-H20/P-PROP= 18.0000							
.1629+03	.5082+02	.1508+04	.3205+01	.2069+03	.1742+03	.7679+02	.1952+00
P-H20/P-PROP= 19.0000							
.1756+03	.4926+02	.1463+04	.3566+01	.2068+03	.1737+03	.7449+02	.1810+00
P-H20/P-PROP= 20.0000							
.1884+03	.4770+02	.1417+04	.3949+01	.2067+03	.1734+03	.7219+02	.1688+00
P-H20/P-PROP= 21.0000							
.2011+03	.4614+02	.1372+04	.4359+01	.2066+03	.1731+03	.6990+02	.1581+00
P-H20/P-PROP= 22.0000							
.2139+03	.4459+02	.1328+04	.4796+01	.2065+03	.1729+03	.6761+02	.1487+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 5000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1399+02	.3838+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1218+02	.8712+02	.2567+04	.1398+00	.2075+03	.2269+03	.1307+03	.3264+01
P-H20/P-PROP= 7.0000							
.2814+02	.8515+02	.2510+04	.3305+00	.2075+03	.2243+03	.1278+03	.1413+01
P-H20/P-PROP= 8.0000							
.4410+02	.8317+02	.2453+04	.5302+00	.2074+03	.2222+03	.1249+03	.9013+00
P-H20/P-PROP= 9.0000							
.6006+02	.8120+02	.2396+04	.7396+00	.2074+03	.2203+03	.1220+03	.6618+00
P-H20/P-PROP= 10.0000							
.7602+02	.7923+02	.2339+04	.9595+00	.2073+03	.2184+03	.1191+03	.5229+00
P-H20/P-PROP= 11.0000							
.9197+02	.7726+02	.2282+04	.1190+01	.2073+03	.2167+03	.1162+03	.4322+00
P-H20/P-PROP= 12.0000							
.1079+03	.7529+02	.2225+04	.1433+01	.2072+03	.2152+03	.1133+03	.3683+00
P-H20/P-PROP= 13.0000							
.1239+03	.7332+02	.2168+04	.1689+01	.2072+03	.2138+03	.1104+03	.3209+00
P-H20/P-PROP= 14.0000							
.1398+03	.7136+02	.2111+04	.1959+01	.2071+03	.2124+03	.1075+03	.2843+00
P-H20/P-PROP= 15.0000							
.1558+03	.6940+02	.2054+04	.2245+01	.2071+03	.2113+03	.1046+03	.2552+00
P-H20/P-PROP= 16.0000							
.1717+03	.6744+02	.1998+04	.2546+01	.2070+03	.2102+03	.1017+03	.2315+00
P-H20/P-PROP= 17.0000							
.1877+03	.6548+02	.1941+04	.2866+01	.2069+03	.2093+03	.9886+02	.2118+00
P-H20/P-PROP= 18.0000							
.2036+03	.6353+02	.1885+04	.3205+01	.2069+03	.2085+03	.9598+02	.1952+00
P-H20/P-PROP= 19.0000							
.2195+03	.6157+02	.1828+04	.3566+01	.2068+03	.2078+03	.9311+02	.1810+00
P-H20/P-PROP= 20.0000							
.2355+03	.5962+02	.1772+04	.3949+01	.2067+03	.2073+03	.9024+02	.1688+00
P-H20/P-PROP= 21.0000							
.2514+03	.5768+02	.1716+04	.4359+01	.2066+03	.2068+03	.8737+02	.1581+00
P-H20/P-PROP= 22.0000							
.2673+03	.5574+02	.1659+04	.4796+01	.2065+03	.2065+03	.8452+02	.1487+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 6000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1678+02	.4605+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1461+02	.1045+03	.3080+04	.1398+00	.2075+03	.2650+03	.1569+03	.3264+01
P-H20/P-PROP= 7.0000							
.3377+02	.1022+03	.3012+04	.3305+00	.2075+03	.2618+03	.1534+03	.1413+01
P-H20/P-PROP= 8.0000							
.5292+02	.9981+02	.2943+04	.5302+00	.2074+03	.2588+03	.1499+03	.9013+00
P-H20/P-PROP= 9.0000							
.7207+02	.9744+02	.2875+04	.7396+00	.2074+03	.2560+03	.1464+03	.6618+00
P-H20/P-PROP= 10.0000							
.9122+02	.9507+02	.2806+04	.9595+00	.2073+03	.2534+03	.1429+03	.5229+00
P-H20/P-PROP= 11.0000							
.1104+03	.9271+02	.2738+04	.1190+01	.2073+03	.2510+03	.1394+03	.4322+00
P-H20/P-PROP= 12.0000							
.1295+03	.9035+02	.2670+04	.1433+01	.2072+03	.2488+03	.1360+03	.3683+00
P-H20/P-PROP= 13.0000							
.1487+03	.8799+02	.2602+04	.1689+01	.2072+03	.2467+03	.1325+03	.3209+00
P-H20/P-PROP= 14.0000							
.1678+03	.8563+02	.2533+04	.1959+01	.2071+03	.2448+03	.1290+03	.2843+00
P-H20/P-PROP= 15.0000							
.1869+03	.8328+02	.2465+04	.2245+01	.2071+03	.2431+03	.1256+03	.2552+00
P-H20/P-PROP= 16.0000							
.2061+03	.8093+02	.2397+04	.2546+01	.2070+03	.2416+03	.1221+03	.2315+00
P-H20/P-PROP= 17.0000							
.2252+03	.7858+02	.2329+04	.2866+01	.2069+03	.2403+03	.1186+03	.2118+00
P-H20/P-PROP= 18.0000							
.2443+03	.7623+02	.2262+04	.3205+01	.2069+03	.2391+03	.1152+03	.1952+00
P-H20/P-PROP= 19.0000							
.2635+03	.7389+02	.2194+04	.3566+01	.2068+03	.2381+03	.1117+03	.1810+00
P-H20/P-PROP= 20.0000							
.2826+03	.7155+02	.2126+04	.3949+01	.2067+03	.2373+03	.1083+03	.1688+00
P-H20/P-PROP= 21.0000							
.3017+03	.6922+02	.2059+04	.4359+01	.2066+03	.2367+03	.1048+03	.1581+00
P-H20/P-PROP= 22.0000							
.3208+03	.6689+02	.1991+04	.4796+01	.2065+03	.2363+03	.1014+03	.1487+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 7000.

H2-F2

PROP-P/SEC	KNH P/SEC	ISP	BTU/PP
.1958+02	.5373+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	VEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1705+02	.1220+03	.3594+04	.1398+00	.2075+03	.3013+03	.1830+03	.3264+01
P-H20/P-PROP= 7.0000							
.3940+02	.1192+03	.3514+04	.3305+00	.2075+03	.2970+03	.1790+03	.1413+01
P-H20/P-PROP= 8.0000							
.6174+02	.1164+03	.3434+04	.5302+00	.2074+03	.2929+03	.1749+03	.9013+00
P-H20/P-PROP= 9.0000							
.8408+02	.1137+03	.3354+04	.7396+00	.2074+03	.2891+03	.1708+03	.6618+00
P-H20/P-PROP= 10.0000							
.1064+03	.1109+03	.3274+04	.9595+00	.2073+03	.2855+03	.1667+03	.5229+00
P-H20/P-PROP= 11.0000							
.1288+03	.1082+03	.3194+04	.1190+01	.2073+03	.2822+03	.1627+03	.4322+00
P-H20/P-PROP= 12.0000							
.1511+03	.1054+03	.3115+04	.1433+01	.2072+03	.2792+03	.1586+03	.3683+00
P-H20/P-PROP= 13.0000							
.1734+03	.1027+03	.3035+04	.1689+01	.2072+03	.2764+03	.1546+03	.3209+00
P-H20/P-PROP= 14.0000							
.1958+03	.9993+02	.2956+04	.1959+01	.2071+03	.2738+03	.1505+03	.2843+00
P-H20/P-PROP= 15.0000							
.2181+03	.9716+02	.2876+04	.2245+01	.2071+03	.2715+03	.1465+03	.2552+00
P-H20/P-PROP= 16.0000							
.2404+03	.9441+02	.2797+04	.2546+01	.2070+03	.2694+03	.1424+03	.2315+00
P-H20/P-PROP= 17.0000							
.2627+03	.9167+02	.2718+04	.2866+01	.2069+03	.2676+03	.1384+03	.2118+00
P-H20/P-PROP= 18.0000							
.2851+03	.8894+02	.2638+04	.3205+01	.2069+03	.2660+03	.1344+03	.1952+00
P-H20/P-PROP= 19.0000							
.3074+03	.8623+02	.2559+04	.3566+01	.2068+03	.2647+03	.1304+03	.1810+00
P-H20/P-PROP= 20.0000							
.3297+03	.8347+02	.2481+04	.3949+01	.2067+03	.2636+03	.1263+03	.1688+00
P-H20/P-PROP= 21.0000							
.3520+03	.8075+02	.2402+04	.4359+01	.2066+03	.2628+03	.1223+03	.1581+00
P-H20/P-PROP= 22.0000							
.3743+03	.7803+02	.2323+04	.4796+01	.2065+03	.2622+03	.1183+03	.1487+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 8000.

H2-F2

PROP-P/SEC	KNH P/SEC	ISP	BTU/PP
.2238+02	.6140+02	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	VEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1948+02	.1394+03	.4107+04	.1398+00	.2075+03	.3353+03	.2092+03	.3264+01
P-H20/P-PROP= 7.0000							
.4502+02	.1362+03	.4016+04	.3305+00	.2075+03	.3297+03	.2045+03	.1413+01
P-H20/P-PROP= 8.0000							
.7056+02	.1331+03	.3924+04	.5302+00	.2074+03	.3244+03	.1999+03	.9013+00
P-H20/P-PROP= 9.0000							
.9609+02	.1299+03	.3833+04	.7396+00	.2074+03	.3194+03	.1952+03	.6618+00
P-H20/P-PROP= 10.0000							
.1216+03	.1268+03	.3742+04	.9595+00	.2073+03	.3147+03	.1906+03	.5229+00
P-H20/P-PROP= 11.0000							
.1472+03	.1236+03	.3651+04	.1190+01	.2073+03	.3104+03	.1859+03	.4322+00
P-H20/P-PROP= 12.0000							
.1727+03	.1205+03	.3560+04	.1433+01	.2072+03	.3064+03	.1813+03	.3683+00
P-H20/P-PROP= 13.0000							
.1982+03	.1173+03	.3469+04	.1689+01	.2072+03	.3027+03	.1767+03	.3209+00
P-H20/P-PROP= 14.0000							
.2237+03	.1142+03	.3378+04	.1959+01	.2071+03	.2994+03	.1720+03	.2843+00
P-H20/P-PROP= 15.0000							
.2492+03	.1110+03	.3287+04	.2245+01	.2071+03	.2964+03	.1674+03	.2552+00
P-H20/P-PROP= 16.0000							
.2748+03	.1079+03	.3196+04	.2546+01	.2070+03	.2937+03	.1628+03	.2315+00
P-H20/P-PROP= 17.0000							
.3003+03	.1048+03	.3106+04	.2866+01	.2069+03	.2913+03	.1582+03	.2118+00
P-H20/P-PROP= 18.0000							
.3258+03	.1016+03	.3015+04	.3205+01	.2069+03	.2892+03	.1536+03	.1952+00
P-H20/P-PROP= 19.0000							
.3513+03	.9852+02	.2925+04	.3566+01	.2068+03	.2875+03	.1490+03	.1810+00
P-H20/P-PROP= 20.0000							
.3768+03	.9540+02	.2835+04	.3949+01	.2067+03	.2861+03	.1444+03	.1688+00
P-H20/P-PROP= 21.0000							
.4023+03	.9229+02	.2745+04	.4359+01	.2066+03	.2850+03	.1398+03	.1581+00
P-H20/P-PROP= 22.0000							
.4277+03	.8918+02	.2655+04	.4796+01	.2065+03	.2842+03	.1352+03	.1487+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 9000.

H2-F2

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.2517+02	.6908+02	.3975+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.2192+02	.1568+03	.4620+04	.1398+00	.2075+03	.3671+03	.2353+03	.3264+01
P-H2O/P-PROP= 7.0000							
.5065+02	.1533+03	.4518+04	.3305+00	.2075+03	.3599+03	.2301+03	.1413+01
P-H2O/P-PROP= 8.0000							
.7938+02	.1497+03	.4415+04	.5302+00	.2074+03	.3532+03	.2248+03	.9013+00
P-H2O/P-PROP= 9.0000							
.1061+03	.1462+03	.4312+04	.7296+00	.2074+03	.3469+03	.2196+03	.6618+00
P-H2O/P-PROP= 10.0000							
.1368+03	.1426+03	.4210+04	.9595+00	.2073+03	.3410+03	.2144+03	.5229+00
P-H2O/P-PROP= 11.0000							
.1655+03	.1391+03	.4107+04	.1190+01	.2073+03	.3356+03	.2092+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1943+03	.1355+03	.4005+04	.1433+01	.2072+03	.3305+03	.2040+03	.3683+00
P-H2O/P-PROP= 13.0000							
.2230+03	.1320+03	.3902+04	.1689+01	.2072+03	.3259+03	.1987+03	.3209+00
P-H2O/P-PROP= 14.0000							
.2517+03	.1284+03	.3800+04	.1959+01	.2071+03	.3216+03	.1935+03	.2843+00
P-H2O/P-PROP= 15.0000							
.2804+03	.1249+03	.3698+04	.2245+01	.2071+03	.3178+03	.1883+03	.2552+00
P-H2O/P-PROP= 16.0000							
.3091+03	.1214+03	.3596+04	.2546+01	.2070+03	.3144+03	.1831+03	.2315+00
P-H2O/P-PROP= 17.0000							
.3378+03	.1179+03	.3494+04	.2866+01	.2069+03	.3114+03	.1780+03	.2118+00
P-H2O/P-PROP= 18.0000							
.3665+03	.1143+03	.3392+04	.3205+01	.2069+03	.3088+03	.1728+03	.1952+00
P-H2O/P-PROP= 19.0000							
.3952+03	.1108+03	.3291+04	.3566+01	.2068+03	.3066+03	.1676+03	.1810+00
P-H2O/P-PROP= 20.0000							
.4239+03	.1073+03	.3189+04	.3949+01	.2067+03	.3048+03	.1624+03	.1688+00
P-H2O/P-PROP= 21.0000							
.4525+03	.1038+03	.3088+04	.4359+01	.2066+03	.3034+03	.1573+03	.1581+00
P-H2O/P-PROP= 22.0000							
.4812+03	.1003+03	.2987+04	.4796+01	.2065+03	.3024+03	.1521+03	.1487+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 1000.

CLFS-HYDRAZINE

PROP-P/SEC	KGH P/SEC	ISP	BTU/PP
.3458+01	.6674+01	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1759+01	.1598+02	.4473+03	.1108+00	.2072+03	.2846+03	.1424+03	.4169+01
P-H20/P-PROP= 5.0000							
.5704+01	.1539+02	.4332+03	.3707+00	.2071+03	.2809+03	.1379+03	.1286+01
P-H20/P-PROP= 6.0000							
.9649+01	.1490+02	.4191+03	.6475+00	.2070+03	.2776+03	.1334+03	.7601+00
P-H20/P-PROP= 7.0000							
.1359+02	.1442+02	.4051+03	.9429+00	.2070+03	.2745+03	.1289+03	.5396+00
P-H20/P-PROP= 8.0000							
.1754+02	.1393+02	.3911+03	.1259+01	.2069+03	.2716+03	.1245+03	.4182+00
P-H20/P-PROP= 9.0000							
.2148+02	.1345+02	.3770+03	.1597+01	.2068+03	.2694+03	.1200+03	.3415+00
P-H20/P-PROP= 10.0000							
.2542+02	.1296+02	.3631+03	.1961+01	.2067+03	.2672+03	.1156+03	.2885+00
P-H20/P-PROP= 11.0000							
.2936+02	.1248+02	.3491+03	.2353+01	.2066+03	.2654+03	.1111+03	.2498+00
P-H20/P-PROP= 12.0000							
.3330+02	.1200+02	.3352+03	.2775+01	.2065+03	.2639+03	.1067+03	.2202+00
P-H20/P-PROP= 13.0000							
.3724+02	.1152+02	.3213+03	.3233+01	.2064+03	.2626+03	.1023+03	.1970+00
P-H20/P-PROP= 14.0000							
.4117+02	.1104+02	.3074+03	.3730+01	.2062+03	.2617+03	.9785+02	.1781+00
P-H20/P-PROP= 15.0000							
.4511+02	.1056+02	.2936+03	.4272+01	.2061+03	.2610+03	.9346+02	.1626+00
P-H20/P-PROP= 16.0000							
.4904+02	.1008+02	.2798+03	.4864+01	.2059+03	.2607+03	.8907+02	.1495+00
P-H20/P-PROP= 17.0000							
.5298+02	.9610+01	.2661+03	.5513+01	.2057+03	.2606+03	.8471+02	.1384+00
P-H20/P-PROP= 18.0000							
.5691+02	.9138+01	.2525+03	.6227+01	.2055+03	.2608+03	.8036+02	.1289+00
P-H20/P-PROP= 19.0000							
.6085+02	.8669+01	.2389+03	.7018+01	.2053+03	.2613+03	.7604+02	.1206+00
P-H20/P-PROP= 20.0000							
.6476+02	.8202+01	.2254+03	.7895+01	.2051+03	.2621+03	.7175+02	.1133+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 2000.

CLFS-HYDRAZINE

PROP-P/SEC	KGH P/SEC	ISP	BTU/PP
.6916+01	.1335+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.3519+01	.3175+02	.8946+03	.1108+00	.2072+03	.5017+03	.2848+03	.4169+01
P-H20/P-PROP= 5.0000							
.1141+02	.3078+02	.8664+03	.3707+00	.2071+03	.4871+03	.2758+03	.1286+01
P-H20/P-PROP= 6.0000							
.1930+02	.2980+02	.8383+03	.6475+00	.2070+03	.4737+03	.2668+03	.7601+00
P-H20/P-PROP= 7.0000							
.2718+02	.2883+02	.8102+03	.9429+00	.2070+03	.4616+03	.2579+03	.5396+00
P-H20/P-PROP= 8.0000							
.3507+02	.2786+02	.7821+03	.1259+01	.2069+03	.4506+03	.2490+03	.4182+00
P-H20/P-PROP= 9.0000							
.4296+02	.2689+02	.7541+03	.1597+01	.2068+03	.4409+03	.2400+03	.3415+00
P-H20/P-PROP= 10.0000							
.5084+02	.2593+02	.7261+03	.1961+01	.2067+03	.4324+03	.2311+03	.2885+00
P-H20/P-PROP= 11.0000							
.5872+02	.2496+02	.6982+03	.2353+01	.2066+03	.4250+03	.2222+03	.2498+00
P-H20/P-PROP= 12.0000							
.6660+02	.2400+02	.6703+03	.2775+01	.2065+03	.4188+03	.2134+03	.2202+00
P-H20/P-PROP= 13.0000							
.7448+02	.2303+02	.6426+03	.3233+01	.2064+03	.4139+03	.2045+03	.1970+00
P-H20/P-PROP= 14.0000							
.8235+02	.2208+02	.6148+03	.3730+01	.2062+03	.4101+03	.1957+03	.1781+00
P-H20/P-PROP= 15.0000							
.9022+02	.2112+02	.5872+03	.4272+01	.2061+03	.4075+03	.1869+03	.1626+00
P-H20/P-PROP= 16.0000							
.9809+02	.2017+02	.5597+03	.4864+01	.2059+03	.4061+03	.1781+03	.1495+00
P-H20/P-PROP= 17.0000							
.1060+03	.1922+02	.5322+03	.5513+01	.2057+03	.4058+03	.1694+03	.1384+00
P-H20/P-PROP= 18.0000							
.1138+03	.1828+02	.5049+03	.6227+01	.2055+03	.4066+03	.1607+03	.1289+00
P-H20/P-PROP= 19.0000							
.1217+03	.1734+02	.4778+03	.7018+01	.2053+03	.4086+03	.1521+03	.1206+00
P-H20/P-PROP= 20.0000							
.1295+03	.1640+02	.4508+03	.7895+01	.2051+03	.4117+03	.1435+03	.1133+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 3000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1037+02	.2002+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.5278+01	.4763+02	.1342+04	.1108+00	.2072+03	.6514+03	.4271+03	.4169+01
P-H20/P-PROP= 5.0000							
.1711+02	.4617+02	.1300+04	.3707+00	.2071+03	.6189+03	.4137+03	.1286+01
P-H20/P-PROP= 6.0000							
.2895+02	.4471+02	.1257+04	.6475+00	.2070+03	.5884+03	.4003+03	.7601+00
P-H20/P-PROP= 7.0000							
.4078+02	.4325+02	.1215+04	.9429+00	.2070+03	.5610+03	.3868+03	.5396+00
P-H20/P-PROP= 8.0000							
.5261+02	.4179+02	.1173+04	.1259+01	.2069+03	.5364+03	.3734+03	.4182+00
P-H20/P-PROP= 9.0000							
.6443+02	.4034+02	.1131+04	.1597+01	.2068+03	.5145+03	.3601+03	.3415+00
P-H20/P-PROP= 10.0000							
.7626+02	.3889+02	.1089+04	.1961+01	.2067+03	.4952+03	.3467+03	.2885+00
P-H20/P-PROP= 11.0000							
.8808+02	.3744+02	.1047+04	.2353+01	.2066+03	.4787+03	.3334+03	.2498+00
P-H20/P-PROP= 12.0000							
.9990+02	.3599+02	.1006+04	.2775+01	.2065+03	.4649+03	.3201+03	.2202+00
P-H20/P-PROP= 13.0000							
.1117+03	.3455+02	.9638+03	.3233+01	.2064+03	.4538+03	.3068+03	.1970+00
P-H20/P-PROP= 14.0000							
.1235+03	.3311+02	.9222+03	.3730+01	.2062+03	.4453+03	.2936+03	.1781+00
P-H20/P-PROP= 15.0000							
.1353+03	.3168+02	.8808+03	.4272+01	.2061+03	.4394+03	.2804+03	.1626+00
P-H20/P-PROP= 16.0000							
.1471+03	.3025+02	.8395+03	.4864+01	.2059+03	.4362+03	.2672+03	.1495+00
P-H20/P-PROP= 17.0000							
.1589+03	.2883+02	.7984+03	.5513+01	.2057+03	.4356+03	.2541+03	.1384+00
P-H20/P-PROP= 18.0000							
.1707+03	.2741+02	.7574+03	.6227+01	.2055+03	.4375+03	.2411+03	.1289+00
P-H20/P-PROP= 19.0000							
.1825+03	.2601+02	.7167+03	.7018+01	.2053+03	.4419+03	.2281+03	.1206+00
P-H20/P-PROP= 20.0000							
.1943+03	.2461+02	.6762+03	.7895+01	.2051+03	.4488+03	.2153+03	.1133+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 4000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1383+02	.2669+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.7037+01	.6350+02	.1789+04	.1108+00	.2072+03	.7336+03	.5695+03	.4169+01
P-H20/P-PROP= 5.0000							
.2282+02	.6155+02	.1733+04	.3707+00	.2071+03	.6752+03	.5516+03	.1286+01
P-H20/P-PROP= 6.0000							
.3859+02	.5961+02	.1677+04	.6475+00	.2070+03	.6217+03	.5337+03	.7601+00
P-H20/P-PROP= 7.0000							
.5437+02	.5766+02	.1620+04	.9429+00	.2070+03	.5730+03	.5158+03	.5396+00
P-H20/P-PROP= 8.0000							
.7014+02	.5572+02	.1564+04	.1259+01	.2069+03	.5291+03	.4979+03	.4182+00
P-H20/P-PROP= 9.0000							
.8591+02	.5379+02	.1508+04	.1597+01	.2068+03	.4902+03	.4801+03	.3415+00
P-H20/P-PROP= 10.0000							
.1017+03	.5185+02	.1452+04	.1961+01	.2067+03	.4560+03	.4623+03	.2885+00
P-H20/P-PROP= 11.0000							
.1174+03	.4992+02	.1396+04	.2353+01	.2066+03	.4267+03	.4445+03	.2498+00
P-H20/P-PROP= 12.0000							
.1332+03	.4799+02	.1341+04	.2775+01	.2065+03	.4021+03	.4268+03	.2202+00
P-H20/P-PROP= 13.0000							
.1490+03	.4607+02	.1285+04	.3233+01	.2064+03	.3823+03	.4091+03	.1970+00
P-H20/P-PROP= 14.0000							
.1647+03	.4415+02	.1230+04	.3730+01	.2062+03	.3672+03	.3914+03	.1781+00
P-H20/P-PROP= 15.0000							
.1804+03	.4224+02	.1174+04	.4272+01	.2061+03	.3568+03	.3738+03	.1626+00
P-H20/P-PROP= 16.0000							
.1962+03	.4034+02	.1119+04	.4864+01	.2059+03	.3511+03	.3563+03	.1495+00
P-H20/P-PROP= 17.0000							
.2119+03	.3844+02	.1064+04	.5513+01	.2057+03	.3499+03	.3388+03	.1384+00
P-H20/P-PROP= 18.0000							
.2276+03	.3655+02	.1010+04	.6227+01	.2055+03	.3533+03	.3215+03	.1289+00
P-H20/P-PROP= 19.0000							
.2433+03	.3467+02	.9556+03	.7018+01	.2053+03	.3612+03	.3042+03	.1206+00
P-H20/P-PROP= 20.0000							
.2590+03	.3281+02	.9017+03	.7895+01	.2051+03	.3734+03	.2870+03	.1133+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 5000.

CL-5-HYDRAZINE

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.1729+02	.3337+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.8796+02	.7938+02	.2236+04	.1108+00	.2072+03	.7464+03	.7119+03	.4169+01
P-H2O/P-PROP= 5.0000							
.2852+02	.7694+02	.2166+04	.3707+00	.2071+03	.6571+03	.6895+03	.1286+01
P-H2O/P-PROP= 6.0000							
.4824+02	.7451+02	.2096+04	.6475+00	.2070+03	.5734+03	.6671+03	.7601+00
P-H2O/P-PROP= 7.0000							
.6796+02	.7208+02	.2025+04	.9429+00	.2070+03	.4974+03	.6447+03	.5396+00
P-H2O/P-PROP= 8.0000							
.8768+02	.6965+02	.1955+04	.1259+01	.2069+03	.4289+03	.6224+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1074+03	.6723+02	.1885+04	.1597+01	.2068+03	.3680+03	.6001+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1271+03	.6481+02	.1815+04	.1961+01	.2067+03	.3146+03	.5778+03	.2885+00
P-H2O/P-PROP= 11.0000							
.1468+03	.6240+02	.1746+04	.2353+01	.2066+03	.2688+03	.5556+03	.2498+00
P-H2O/P-PROP= 12.0000							
.1665+03	.5999+02	.1676+04	.2775+01	.2065+03	.2304+03	.5334+03	.2202+00
P-H2O/P-PROP= 13.0000							
.1862+03	.5759+02	.1606+04	.3233+01	.2064+03	.1994+03	.5113+03	.1970+00
P-H2O/P-PROP= 14.0000							
.2059+03	.5519+02	.1537+04	.3730+01	.2062+03	.1758+03	.4893+03	.1781+00
P-H2O/P-PROP= 15.0000							
.2256+03	.5280+02	.1468+04	.4272+01	.2061+03	.1596+03	.4673+03	.1626+00
P-H2O/P-PROP= 16.0000							
.2452+03	.5042+02	.1399+04	.4864+01	.2059+03	.1506+03	.4454+03	.1495+00
P-H2O/P-PROP= 17.0000							
.2649+03	.4805+02	.1331+04	.5513+01	.2057+03	.1489+03	.4235+03	.1384+00
P-H2O/P-PROP= 18.0000							
.2845+03	.4569+02	.1262+04	.6227+01	.2055+03	.1542+03	.4018+03	.1289+00
P-H2O/P-PROP= 19.0000							
.3042+03	.4334+02	.1194+04	.7018+01	.2053+03	.1665+03	.3802+03	.1206+00
P-H2O/P-PROP= 20.0000							
.3238+03	.4101+02	.1127+04	.7895+01	.2051+03	.1856+03	.3588+03	.1133+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 6000.

CL-5-HYDRAZINE

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.2075+02	.4004+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1056+02	.9525+02	.2684+04	.1108+00	.2072+03	.6957+03	.8543+03	.4169+01
P-H2O/P-PROP= 5.0000							
.3423+02	.9233+02	.2599+04	.3707+00	.2071+03	.5643+03	.8274+03	.1286+01
P-H2O/P-PROP= 6.0000							
.5789+02	.8941+02	.2515+04	.6475+00	.2070+03	.4438+03	.8005+03	.7601+00
P-H2O/P-PROP= 7.0000							
.8155+02	.8650+02	.2431+04	.9429+00	.2070+03	.3342+03	.7737+03	.5396+00
P-H2O/P-PROP= 8.0000							
.1052+03	.8358+02	.2346+04	.1259+01	.2069+03	.2356+03	.7469+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1289+03	.8068+02	.2262+04	.1597+01	.2068+03	.1479+03	.7201+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1525+03	.7778+02	.2178+04	.1961+01	.2067+03	.7107+02	.6934+03	.2885+00
P-H2O/P-PROP= 11.0000							
.1762+03	.7488+02	.2095+04	.2353+01	.2066+03	.5025+01	.6667+03	.2498+00
P-H2O/P-PROP= 12.0000							
.1998+03	.7199+02	.2011+04	.2775+01	.2065+03	-.5026+02	.6401+03	.2202+00
P-H2O/P-PROP= 13.0000							
.2234+03	.6910+02	.1928+04	.3233+01	.2064+03	-.9483+02	.6136+03	.1970+00
P-H2O/P-PROP= 14.0000							
.2470+03	.6623+02	.1844+04	.3730+01	.2062+03	-.1288+03	.5871+03	.1781+00
P-H2O/P-PROP= 15.0000							
.2707+03	.6336+02	.1762+04	.4272+01	.2061+03	-.1521+03	.5607+03	.1626+00
P-H2O/P-PROP= 16.0000							
.2943+03	.6050+02	.1679+04	.4864+01	.2059+03	-.1651+03	.5344+03	.1495+00
P-H2O/P-PROP= 17.0000							
.3179+03	.5766+02	.1597+04	.5513+01	.2057+03	-.1676+03	.5083+03	.1384+00
P-H2O/P-PROP= 18.0000							
.3414+03	.5483+02	.1515+04	.6227+01	.2055+03	-.1600+03	.4822+03	.1289+00
P-H2O/P-PROP= 19.0000							
.3650+03	.5201+02	.1433+04	.7018+01	.2053+03	-.1423+03	.4563+03	.1206+00
P-H2O/P-PROP= 20.0000							
.3885+03	.4921+02	.1352+04	.7895+01	.2051+03	-.1147+03	.4305+03	.1133+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 7000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2420+02	.4672+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1252+02	.1111+03	.3131+04	.1108+00	.2072+03	.5756+03	.9966+03	.4169+01
P-H20/P-PROP= 5.0000							
.3993+02	.1077+03	.3032+04	.3707+00	.2071+03	.3967+03	.9653+03	.1286+01
P-H20/P-PROP= 6.0000							
.6754+02	.1043+03	.2934+04	.6475+00	.2070+03	.2327+03	.9339+03	.7601+00
P-H20/P-PROP= 7.0000							
.9515+02	.1009+03	.2836+04	.9429+00	.2070+03	.8358+02	.9026+03	.5396+00
P-H20/P-PROP= 8.0000							
.1227+03	.9752+02	.2737+04	.1259+01	.2069+03	-.5063+02	.8713+03	.4182+00
P-H20/P-PROP= 9.0000							
.1503+03	.9412+02	.2639+04	.1597+01	.2068+03	-.1700+03	.8401+03	.3415+00
P-H20/P-PROP= 10.0000							
.1779+03	.9074+02	.2541+04	.1961+01	.2067+03	-.2746+03	.8090+03	.2885+00
P-H20/P-PROP= 11.0000							
.2055+03	.8736+02	.2444+04	.2353+01	.2066+03	-.3645+03	.7779+03	.2498+00
P-H20/P-PROP= 12.0000							
.2331+03	.8399+02	.2346+04	.2775+01	.2065+03	-.4398+03	.7468+03	.2202+00
P-H20/P-PROP= 13.0000							
.2607+03	.8062+02	.2249+04	.3233+01	.2064+03	-.5004+03	.7159+03	.1970+00
P-H20/P-PROP= 14.0000							
.2882+03	.7727+02	.2152+04	.3730+01	.2062+03	-.5466+03	.6850+03	.1781+00
P-H20/P-PROP= 15.0000							
.3158+03	.7392+02	.2055+04	.4272+01	.2061+03	-.5785+03	.6542+03	.1626+00
P-H20/P-PROP= 16.0000							
.3433+03	.7059+02	.1959+04	.4864+01	.2059+03	-.5960+03	.6235+03	.1495+00
P-H20/P-PROP= 17.0000							
.3708+03	.6727+02	.1863+04	.5513+01	.2057+03	-.5995+03	.5930+03	.1384+00
P-H20/P-PROP= 18.0000							
.3983+03	.6397+02	.1767+04	.6227+01	.2055+03	-.5891+03	.5626+03	.1289+00
P-H20/P-PROP= 19.0000							
.4258+03	.6068+02	.1672+04	.7018+01	.2053+03	-.5650+03	.5323+03	.1206+00
P-H20/P-PROP= 20.0000							
.4533+03	.5742+02	.1578+04	.7895+01	.2051+03	-.5275+03	.5023+03	.1133+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 8000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2766+02	.5339+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1407+02	.1270+03	.3578+04	.1108+00	.2072+03	.3880+03	.1139+04	.4169+01
P-H20/P-PROP= 5.0000							
.4565+02	.1231+03	.3466+04	.3707+00	.2071+03	.1543+03	.1103+04	.1286+01
P-H20/P-PROP= 6.0000							
.7719+02	.1192+03	.3353+04	.6475+00	.2070+03	-.5990+02	.1067+04	.7601+00
P-H20/P-PROP= 7.0000							
.1087+03	.1153+03	.3241+04	.9429+00	.2070+03	-.2546+03	.1032+04	.5396+00
P-H20/P-PROP= 8.0000							
.1403+03	.1114+03	.3128+04	.1259+01	.2069+03	-.4299+03	.9958+03	.4182+00
P-H20/P-PROP= 9.0000							
.1718+03	.1076+03	.3016+04	.1597+01	.2068+03	-.5859+03	.9602+03	.3415+00
P-H20/P-PROP= 10.0000							
.2034+03	.1037+03	.2904+04	.1961+01	.2067+03	-.7225+03	.9245+03	.2885+00
P-H20/P-PROP= 11.0000							
.2349+03	.9984+02	.2793+04	.2353+01	.2066+03	-.8399+03	.8890+03	.2498+00
P-H20/P-PROP= 12.0000							
.2664+03	.9598+02	.2681+04	.2775+01	.2065+03	-.9382+03	.8535+03	.2202+00
P-H20/P-PROP= 13.0000							
.2979+03	.9214+02	.2570+04	.3233+01	.2064+03	-.1017+04	.8181+03	.1970+00
P-H20/P-PROP= 14.0000							
.3294+03	.8830+02	.2459+04	.3730+01	.2062+03	-.1078+04	.7828+03	.1781+00
P-H20/P-PROP= 15.0000							
.3609+03	.8448+02	.2349+04	.4272+01	.2061+03	-.1119+04	.7477+03	.1626+00
P-H20/P-PROP= 16.0000							
.3924+03	.8067+02	.2239+04	.4864+01	.2059+03	-.1142+04	.7126+03	.1495+00
P-H20/P-PROP= 17.0000							
.4238+03	.7688+02	.2129+04	.5513+01	.2057+03	-.1147+04	.6777+03	.1384+00
P-H20/P-PROP= 18.0000							
.4553+03	.7310+02	.2020+04	.6227+01	.2055+03	-.1133+04	.6429+03	.1289+00
P-H20/P-PROP= 19.0000							
.4867+03	.6935+02	.1911+04	.7018+01	.2053+03	-.1102+04	.6084+03	.1206+00
P-H20/P-PROP= 20.0000							
.5181+03	.6562+02	.1803+04	.7895+01	.2051+03	-.1053+04	.5740+03	.1133+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 9000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3112+02	.6006+02	.2892+03	.2956+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1583+02	.1429+03	.4026+04	.1108+00	.2072+03	.1330+03	.1281+04	.4169+01
P-H2O/P-PROP= 5.0000							
.5134+02	.1385+03	.3899+04	.3707+00	.2071+03	-.1628+03	.1241+04	.1286+01
P-H2O/P-PROP= 6.0000							
.8694+02	.1341+03	.3772+04	.6475+00	.2070+03	-.4339+03	.1201+04	.7601+01
P-H2O/P-PROP= 7.0000							
.1223+03	.1297+03	.3646+04	.9429+00	.2070+03	-.6804+03	.1161+04	.5396+00
P-H2O/P-PROP= 8.0000							
.1578+03	.1254+03	.3520+04	.1259+01	.2069+03	-.9022+03	.1120+04	.4182+00
P-H2O/P-PROP= 9.0000							
.1933+03	.1210+03	.3393+04	.1597+01	.2068+03	-.1100+04	.1080+04	.3415+00
P-H2O/P-PROP= 10.0000							
.2288+03	.1167+03	.3268+04	.1961+01	.2067+03	-.1273+04	.1040+04	.2885+00
P-H2O/P-PROP= 11.0000							
.2642+03	.1123+03	.3142+04	.2353+01	.2066+03	-.1421+04	.1000+04	.2498+00
P-H2O/P-PROP= 12.0000							
.2997+03	.1080+03	.3017+04	.2775+01	.2065+03	-.1549+04	.9602+03	.2202+00
P-H2O/P-PROP= 13.0000							
.3351+03	.1037+03	.2891+04	.3233+01	.2064+03	-.1646+04	.9204+03	.1970+00
P-H2O/P-PROP= 14.0000							
.3706+03	.9934+02	.2767+04	.3730+01	.2062+03	-.1722+04	.8807+03	.1781+00
P-H2O/P-PROP= 15.0000							
.4060+03	.9504+02	.2642+04	.4272+01	.2061+03	-.1775+04	.8411+03	.1626+00
P-H2O/P-PROP= 16.0000							
.4414+03	.9076+02	.2518+04	.4864+01	.2059+03	-.1804+04	.8017+03	.1495+00
P-H2O/P-PROP= 17.0000							
.4768+03	.8649+02	.2395+04	.5513+01	.2057+03	-.1810+04	.7624+03	.1384+00
P-H2O/P-PROP= 18.0000							
.5122+03	.8224+02	.2272+04	.6227+01	.2055+03	-.1792+04	.7233+03	.1289+00
P-H2O/P-PROP= 19.0000							
.5475+03	.7802+02	.2150+04	.7018+01	.2053+03	-.1753+04	.6844+03	.1206+00
P-H2O/P-PROP= 20.0000							
.5828+03	.7382+02	.2029+04	.7895+01	.2051+03	-.1691+04	.6458+03	.1133+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 1000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3458+01	.6674+01	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1759+01	.1588+02	.4473+03	.1108+00	.2072+03	.1699+03	.9112+02	.4169+01
P-H2O/P-PROP= 5.0000							
.5704+01	.1539+02	.4332+03	.3707+00	.2071+03	.1884+03	.8825+02	.1286+01
P-H2O/P-PROP= 6.0000							
.9649+01	.1490+02	.4191+03	.6475+00	.2070+03	.1870+03	.8539+02	.7601+00
P-H2O/P-PROP= 7.0000							
.1359+02	.1442+02	.4051+03	.9429+00	.2070+03	.1856+03	.8252+02	.5396+00
P-H2O/P-PROP= 8.0000							
.1754+02	.1393+02	.3911+03	.1259+01	.2069+03	.1847+03	.7967+02	.4182+00
P-H2O/P-PROP= 9.0000							
.2148+02	.1345+02	.3770+03	.1597+01	.2068+03	.1837+03	.7681+02	.3415+00
P-H2O/P-PROP= 10.0000							
.2542+02	.1296+02	.3631+03	.1961+01	.2067+03	.1826+03	.7396+02	.2885+00
P-H2O/P-PROP= 11.0000							
.2936+02	.1248+02	.3491+03	.2353+01	.2066+03	.1820+03	.7112+02	.2498+00
P-H2O/P-PROP= 12.0000							
.3330+02	.1200+02	.3352+03	.2775+01	.2065+03	.1814+03	.6828+02	.2202+00
P-H2O/P-PROP= 13.0000							
.3724+02	.1152+02	.3213+03	.3233+01	.2064+03	.1809+03	.6545+02	.1970+00
P-H2O/P-PROP= 14.0000							
.4117+02	.1104+02	.3074+03	.3730+01	.2062+03	.1805+03	.6263+02	.1781+00
P-H2O/P-PROP= 15.0000							
.4511+02	.1056+02	.2936+03	.4272+01	.2061+03	.1803+03	.5981+02	.1626+00
P-H2O/P-PROP= 16.0000							
.4904+02	.1008+02	.2798+03	.4864+01	.2059+03	.1801+03	.5701+02	.1495+00
P-H2O/P-PROP= 17.0000							
.5298+02	.9610+01	.2661+03	.5513+01	.2057+03	.1801+03	.5421+02	.1384+00
P-H2O/P-PROP= 18.0000							
.5691+02	.9138+01	.2525+03	.6227+01	.2055+03	.1802+03	.5143+02	.1289+00
P-H2O/P-PROP= 19.0000							
.6083+02	.8669+01	.2389+03	.7018+01	.2053+03	.1804+03	.4867+02	.1206+00
P-H2O/P-PROP= 20.0000							
.6476+02	.8202+01	.2254+03	.7895+01	.2051+03	.1807+03	.4592+02	.1133+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 2000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6916+01	.1335+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.3519+01	.3175+02	.8946+03	.1108+00	.2072+03	.3522+03	.1822+03	.4169+01
P-H2O/P-PROP= 5.0000							
.1141+02	.3078+02	.8664+03	.3707+00	.2071+03	.3462+03	.1765+03	.1286+01
P-H2O/P-PROP= 6.0000							
.1930+02	.2980+02	.8383+03	.6475+00	.2070+03	.3401+03	.1708+03	.7601+00
P-H2O/P-PROP= 7.0000							
.2718+02	.2883+02	.8102+03	.9429+00	.2070+03	.3357+03	.1650+03	.5396+00
P-H2O/P-PROP= 8.0000							
.3507+02	.2786+02	.7821+03	.1259+01	.2069+03	.3312+03	.1593+03	.4182+00
P-H2O/P-PROP= 9.0000							
.4296+02	.2689+02	.7541+03	.1597+01	.2068+03	.3273+03	.1536+03	.3415+00
P-H2O/P-PROP= 10.0000							
.5084+02	.2593+02	.7261+03	.1961+01	.2067+03	.3238+03	.1479+03	.2885+00
P-H2O/P-PROP= 11.0000							
.5872+02	.2496+02	.6982+03	.2353+01	.2066+03	.3207+03	.1422+03	.2498+00
P-H2O/P-PROP= 12.0000							
.6660+02	.2400+02	.6703+03	.2775+01	.2065+03	.3182+03	.1366+03	.2202+00
P-H2O/P-PROP= 13.0000							
.7448+02	.2303+02	.6426+03	.3233+01	.2064+03	.3162+03	.1309+03	.1970+00
P-H2O/P-PROP= 14.0000							
.8235+02	.2208+02	.6148+03	.3730+01	.2062+03	.3147+03	.1253+03	.1781+00
P-H2O/P-PROP= 15.0000							
.9022+02	.2112+02	.5872+03	.4272+01	.2061+03	.3136+03	.1196+03	.1626+00
P-H2O/P-PROP= 16.0000							
.9809+02	.2017+02	.5597+03	.4864+01	.2059+03	.3130+03	.1140+03	.1495+00
P-H2O/P-PROP= 17.0000							
.1060+03	.1922+02	.5322+03	.5513+01	.2057+03	.3129+03	.1084+03	.1384+00
P-H2O/P-PROP= 18.0000							
.1138+03	.1828+02	.5049+03	.6227+01	.2055+03	.3132+03	.1029+03	.1289+00
P-H2O/P-PROP= 19.0000							
.1217+03	.1734+02	.4778+03	.7018+01	.2053+03	.3140+03	.9734+02	.1206+00
P-H2O/P-PROP= 20.0000							
.1295+03	.1640+02	.4508+03	.7895+01	.2051+03	.3153+03	.9184+02	.1133+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 3000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1037+02	.2002+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.5278+01	.4763+02	.1342+04	.1108+00	.2072+03	.4868+03	.2734+03	.4169+01
P-H2O/P-PROP= 5.0000							
.1711+02	.4617+02	.1300+04	.3707+00	.2071+03	.4734+03	.2648+03	.1286+01
P-H2O/P-PROP= 6.0000							
.2895+02	.4471+02	.1257+04	.6475+00	.2070+03	.4610+03	.2562+03	.7601+00
P-H2O/P-PROP= 7.0000							
.4078+02	.4325+02	.1215+04	.9429+00	.2070+03	.4498+03	.2476+03	.5396+00
P-H2O/P-PROP= 8.0000							
.5261+02	.4179+02	.1173+04	.1259+01	.2069+03	.4397+03	.2390+03	.4182+00
P-H2O/P-PROP= 9.0000							
.6443+02	.4034+02	.1131+04	.1597+01	.2068+03	.4307+03	.2304+03	.3415+00
P-H2O/P-PROP= 10.0000							
.7626+02	.3889+02	.1089+04	.1961+01	.2067+03	.4229+03	.2219+03	.2885+00
P-H2O/P-PROP= 11.0000							
.8808+02	.3744+02	.1047+04	.2353+01	.2066+03	.4161+03	.2134+03	.2498+00
P-H2O/P-PROP= 12.0000							
.9990+02	.3599+02	.1006+04	.2775+01	.2065+03	.4104+03	.2048+03	.2202+00
P-H2O/P-PROP= 13.0000							
.1117+03	.3455+02	.9638+03	.3233+01	.2064+03	.4059+03	.1964+03	.1970+00
P-H2O/P-PROP= 14.0000							
.1235+03	.3311+02	.9222+03	.3730+01	.2062+03	.4024+03	.1879+03	.1781+00
P-H2O/P-PROP= 15.0000							
.1353+03	.3168+02	.8808+03	.4272+01	.2061+03	.4000+03	.1794+03	.1626+00
P-H2O/P-PROP= 16.0000							
.1471+03	.3025+02	.8395+03	.4864+01	.2059+03	.3987+03	.1710+03	.1495+00
P-H2O/P-PROP= 17.0000							
.1589+03	.2883+02	.7984+03	.5513+01	.2057+03	.3984+03	.1626+03	.1384+00
P-H2O/P-PROP= 18.0000							
.1707+03	.2741+02	.7574+03	.6227+01	.2055+03	.3992+03	.1543+03	.1289+00
P-H2O/P-PROP= 19.0000							
.1825+03	.2601+02	.7167+03	.7018+01	.2053+03	.4010+03	.1460+03	.1206+00
P-H2O/P-PROP= 20.0000							
.1943+03	.2461+02	.6762+03	.7895+01	.2051+03	.4038+03	.1378+03	.1133+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 4000.

CLFS-HYDRAZINE

PROP-P/SEC	KGH P/SEC	ISP	BTU/PP
.1583+02	.2669+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.7037+01	.6350+02	.1789+04	.1108+00	.2072+03	.5939+03	.3645+03	.4169+01
P-H2O/P-PROP= 5.0000							
.2262+02	.6155+02	.1733+04	.3707+00	.2071+03	.5699+03	.3530+03	.1286+01
P-H2O/P-PROP= 6.0000							
.3659+02	.5961+02	.1677+04	.6475+00	.2070+03	.5480+03	.3415+03	.7601+00
P-H2O/P-PROP= 7.0000							
.5437+02	.5766+02	.1620+04	.9429+00	.2070+03	.5280+03	.3301+03	.5396+00
P-H2O/P-PROP= 8.0000							
.7014+02	.5572+02	.1564+04	.1259+01	.2069+03	.5101+03	.3187+03	.4182+00
P-H2O/P-PROP= 9.0000							
.8591+02	.5379+02	.1508+04	.1597+01	.2068+03	.4941+03	.3072+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1017+03	.5185+02	.1452+04	.1961+01	.2067+03	.4801+03	.2959+03	.2885+00
P-H2O/P-PROP= 11.0000							
.1174+03	.4992+02	.1396+04	.2353+01	.2066+03	.4681+03	.2845+03	.2498+00
P-H2O/P-PROP= 12.0000							
.1332+03	.4799+02	.1341+04	.2775+01	.2065+03	.4580+03	.2731+03	.2202+00
P-H2O/P-PROP= 13.0000							
.1490+03	.4607+02	.1285+04	.3233+01	.2064+03	.4499+03	.2618+03	.1970+00
P-H2O/P-PROP= 14.0000							
.1647+03	.4415+02	.1230+04	.3730+01	.2062+03	.4438+03	.2505+03	.1781+00
P-H2O/P-PROP= 15.0000							
.1804+03	.4224+02	.1174+04	.4272+01	.2061+03	.4395+03	.2392+03	.1626+00
P-H2O/P-PROP= 16.0000							
.1962+03	.4034+02	.1119+04	.4864+01	.2059+03	.4372+03	.2280+03	.1495+00
P-H2O/P-PROP= 17.0000							
.2119+03	.3844+02	.1064+04	.5513+01	.2057+03	.4367+03	.2169+03	.1384+00
P-H2O/P-PROP= 18.0000							
.2276+03	.3655+02	.1010+04	.6227+01	.2055+03	.4381+03	.2057+03	.1289+00
P-H2O/P-PROP= 19.0000							
.2433+03	.3467+02	.9556+03	.7018+01	.2053+03	.4413+03	.1947+03	.1206+00
P-H2O/P-PROP= 20.0000							
.2590+03	.3281+02	.9017+03	.7895+01	.2051+03	.4463+03	.1837+03	.1133+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 5000.

CLFS-HYDRAZINE

PROP-P/SEC	KGH P/SEC	ISP	BTU/PP
.1729+02	.3337+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.8796+01	.7938+02	.2236+04	.1108+00	.2072+03	.6732+03	.4556+03	.4169+01
P-H2O/P-PROP= 5.0000							
.2852+02	.7694+02	.2166+04	.3707+00	.2071+03	.6458+03	.4413+03	.1286+01
P-H2O/P-PROP= 6.0000							
.4824+02	.7451+02	.2096+04	.6475+00	.2070+03	.6016+03	.4269+03	.7601+00
P-H2O/P-PROP= 7.0000							
.6796+02	.7208+02	.2025+04	.9429+00	.2070+03	.5704+03	.4126+03	.5396+00
P-H2O/P-PROP= 8.0000							
.8768+02	.6965+02	.1955+04	.1259+01	.2069+03	.5424+03	.3983+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1074+03	.6723+02	.1885+04	.1597+01	.2068+03	.5174+03	.3841+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1271+03	.6481+02	.1815+04	.1961+01	.2067+03	.4956+03	.3698+03	.2885+00
P-H2O/P-PROP= 11.0000							
.1468+03	.6240+02	.1746+04	.2353+01	.2066+03	.4768+03	.3556+03	.2498+00
P-H2O/P-PROP= 12.0000							
.1665+03	.5999+02	.1676+04	.2775+01	.2065+03	.4611+03	.3414+03	.2202+00
P-H2O/P-PROP= 13.0000							
.1862+03	.5759+02	.1606+04	.3233+01	.2064+03	.4484+03	.3273+03	.1970+00
P-H2O/P-PROP= 14.0000							
.2059+03	.5519+02	.1537+04	.3730+01	.2062+03	.4387+03	.3131+03	.1781+00
P-H2O/P-PROP= 15.0000							
.2256+03	.5280+02	.1468+04	.4272+01	.2061+03	.4321+03	.2991+03	.1626+00
P-H2O/P-PROP= 16.0000							
.2452+03	.5042+02	.1399+04	.4864+01	.2059+03	.4284+03	.2850+03	.1495+00
P-H2O/P-PROP= 17.0000							
.2649+03	.4805+02	.1331+04	.5513+01	.2057+03	.4277+03	.2711+03	.1384+00
P-H2O/P-PROP= 18.0000							
.2845+03	.4569+02	.1262+04	.6227+01	.2055+03	.4298+03	.2572+03	.1289+00
P-H2O/P-PROP= 19.0000							
.3042+03	.4334+02	.1194+04	.7018+01	.2053+03	.4349+03	.2433+03	.1206+00
P-H2O/P-PROP= 20.0000							
.3238+03	.4101+02	.1127+04	.7895+01	.2051+03	.4427+03	.2296+03	.1133+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 6000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.207+02	.4004+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1056+02	.9525+02	.2684+04	.1108+00	.2072+03	.7250+03	.5467+03	.4169+01
P-H20/P-PROP= 5.0000							
.3423+02	.9233+02	.2599+04	.3707+00	.2071+03	.6712+03	.5295+03	.1286+01
P-H20/P-PROP= 6.0000							
.5769+02	.8941+02	.2515+04	.6475+00	.2070+03	.6218+03	.5123+03	.7601+00
P-H20/P-PROP= 7.0000							
.8155+02	.8650+02	.2431+04	.9429+00	.2070+03	.5769+03	.4951+03	.5396+00
P-H20/P-PROP= 8.0000							
.1052+03	.8358+02	.2346+04	.1259+01	.2069+03	.5366+03	.4780+03	.4182+00
P-H20/P-PROP= 9.0000							
.1289+03	.8068+02	.2262+04	.1597+01	.2068+03	.5006+03	.4609+03	.3415+00
P-H20/P-PROP= 10.0000							
.1525+03	.7778+02	.2178+04	.1961+01	.2067+03	.4691+03	.4438+03	.2885+00
P-H20/P-PROP= 11.0000							
.1762+03	.7488+02	.2095+04	.2353+01	.2066+03	.4421+03	.4267+03	.2498+00
P-H20/P-PROP= 12.0000							
.1998+03	.7199+02	.2011+04	.2775+01	.2065+03	.4195+03	.4097+03	.2202+00
P-H20/P-PROP= 13.0000							
.2234+03	.6910+02	.1928+04	.3233+01	.2064+03	.4012+03	.3927+03	.1970+00
P-H20/P-PROP= 14.0000							
.2470+03	.6623+02	.1844+04	.3730+01	.2062+03	.3873+03	.3758+03	.1781+00
P-H20/P-PROP= 15.0000							
.2707+03	.6336+02	.1762+04	.4272+01	.2061+03	.3777+03	.3589+03	.1626+00
P-H20/P-PROP= 16.0000							
.2943+03	.6050+02	.1679+04	.4864+01	.2059+03	.3724+03	.3420+03	.1495+00
P-H20/P-PROP= 17.0000							
.3179+03	.5766+02	.1597+04	.5513+01	.2057+03	.3714+03	.3253+03	.1384+00
P-H20/P-PROP= 18.0000							
.3414+03	.5483+02	.1515+04	.6227+01	.2055+03	.3745+03	.3086+03	.1289+00
P-H20/P-PROP= 19.0000							
.3650+03	.5201+02	.1433+04	.7018+01	.2053+03	.3818+03	.2920+03	.1206+00
P-H20/P-PROP= 20.0000							
.3885+03	.4921+02	.1352+04	.7895+01	.2051+03	.3930+03	.2755+03	.1133+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 7000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2420+02	.4672+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1232+02	.1111+03	.3131+04	.1108+00	.2072+03	.7491+03	.6379+03	.4169+01
P-H20/P-PROP= 5.0000							
.3993+02	.1077+03	.3032+04	.3707+00	.2071+03	.6758+03	.6178+03	.1286+01
P-H20/P-PROP= 6.0000							
.6754+02	.1043+03	.2934+04	.6475+00	.2070+03	.6087+03	.5977+03	.7601+00
P-H20/P-PROP= 7.0000							
.9515+02	.1009+03	.2836+04	.9429+00	.2070+03	.5476+03	.5777+03	.5396+00
P-H20/P-PROP= 8.0000							
.1227+03	.9752+02	.2737+04	.1259+01	.2069+03	.4926+03	.5577+03	.4182+00
P-H20/P-PROP= 9.0000							
.1503+03	.9412+02	.2639+04	.1597+01	.2068+03	.4437+03	.5377+03	.3415+00
P-H20/P-PROP= 10.0000							
.1779+03	.9074+02	.2541+04	.1961+01	.2067+03	.4009+03	.5177+03	.2885+00
P-H20/P-PROP= 11.0000							
.2055+03	.8736+02	.2444+04	.2353+01	.2066+03	.3641+03	.4978+03	.2498+00
P-H20/P-PROP= 12.0000							
.2331+03	.8399+02	.2346+04	.2775+01	.2065+03	.3332+03	.4780+03	.2202+00
P-H20/P-PROP= 13.0000							
.2607+03	.8062+02	.2249+04	.3233+01	.2064+03	.3084+03	.4582+03	.1970+00
P-H20/P-PROP= 14.0000							
.2882+03	.7727+02	.2152+04	.3730+01	.2062+03	.2895+03	.4384+03	.1781+00
P-H20/P-PROP= 15.0000							
.3158+03	.7392+02	.2055+04	.4272+01	.2061+03	.2764+03	.4187+03	.1626+00
P-H20/P-PROP= 16.0000							
.3433+03	.7059+02	.1959+04	.4864+01	.2059+03	.2692+03	.3991+03	.1495+00
P-H20/P-PROP= 17.0000							
.3708+03	.6727+02	.1863+04	.5513+01	.2057+03	.2678+03	.3795+03	.1384+00
P-H20/P-PROP= 18.0000							
.3983+03	.6397+02	.1767+04	.6227+01	.2055+03	.2721+03	.3600+03	.1289+00
P-H20/P-PROP= 19.0000							
.4258+03	.6068+02	.1672+04	.7018+01	.2053+03	.2820+03	.3407+03	.1206+00
P-H20/P-PROP= 20.0000							
.4533+03	.5742+02	.1578+04	.7895+01	.2051+03	.2973+03	.3214+03	.1133+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 8000.

CLF5-HYDRAZINE

PROP-P/SEC	KOM P/SEC	ISP	BTU/PP
.2766+02	.5339+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1407+02	.1270+03	.3578+04	.1108+00	.2072+03	.7456+03	.7290+03	.4169+01
P-H20/P-PROP= 5.0000							
.4565+02	.1231+03	.3466+04	.3707+00	.2071+03	.6499+03	.7060+03	.1286+01
P-H20/P-PROP= 6.0000							
.7719+02	.1192+03	.3353+04	.6475+00	.2070+03	.5622+03	.6831+03	.7601+00
P-H20/P-PROP= 7.0000							
.1087+03	.1153+03	.3241+04	.9429+00	.2070+03	.4824+03	.6602+03	.5396+00
P-H20/P-PROP= 8.0000							
.1403+03	.1114+03	.3128+04	.1259+01	.2069+03	.4106+03	.6373+03	.4182+00
P-H20/P-PROP= 9.0000							
.1718+03	.1076+03	.3016+04	.1597+01	.2068+03	.3467+03	.6145+03	.3415+00
P-H20/P-PROP= 10.0000							
.2034+03	.1037+03	.2904+04	.1961+01	.2067+03	.2908+03	.5917+03	.2885+00
P-H20/P-PROP= 11.0000							
.2349+03	.9984+02	.2793+04	.2353+01	.2066+03	.2427+03	.5690+03	.2498+00
P-H20/P-PROP= 12.0000							
.2664+03	.9598+02	.2681+04	.2775+01	.2065+03	.2024+03	.5463+03	.2202+00
P-H20/P-PROP= 13.0000							
.2979+03	.9214+02	.2570+04	.3233+01	.2064+03	.1700+03	.5236+03	.1970+00
P-H20/P-PROP= 14.0000							
.3294+03	.8830+02	.2459+04	.3730+01	.2062+03	.1453+03	.5010+03	.1781+00
P-H20/P-PROP= 15.0000							
.3609+03	.8448+02	.2349+04	.4272+01	.2061+03	.1282+03	.4785+03	.1626+00
P-H20/P-PROP= 16.0000							
.3924+03	.8067+02	.2239+04	.4864+01	.2059+03	.1188+03	.4561+03	.1495+00
P-H20/P-PROP= 17.0000							
.4238+03	.7688+02	.2129+04	.5513+01	.2057+03	.1170+03	.4337+03	.1384+00
P-H20/P-PROP= 18.0000							
.4553+03	.7310+02	.2020+04	.6227+01	.2055+03	.1229+03	.4115+03	.1289+00
P-H20/P-PROP= 19.0000							
.4867+03	.6935+02	.1911+04	.7018+01	.2053+03	.1354+03	.3893+03	.1206+00
P-H20/P-PROP= 20.0000							
.5181+03	.6562+02	.1803+04	.7895+01	.2051+03	.1555+03	.3674+03	.1133+00

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 9000.

CLF5-HYDRAZINE

PROP-P/SEC	KOM P/SEC	ISP	BTU/PP
.3112+02	.6006+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1583+02	.1429+03	.4026+04	.1108+00	.2072+03	.7145+03	.8201+03	.4169+01
P-H20/P-PROP= 5.0000							
.5134+02	.1385+03	.3899+04	.3707+00	.2071+03	.5934+03	.7943+03	.1286+01
P-H20/P-PROP= 6.0000							
.8684+02	.1341+03	.3772+04	.6475+00	.2070+03	.4823+03	.7685+03	.7601+00
P-H20/P-PROP= 7.0000							
.1223+03	.1297+03	.3646+04	.9429+00	.2070+03	.3814+03	.7427+03	.5396+00
P-H20/P-PROP= 8.0000							
.1578+03	.1254+03	.3520+04	.1259+01	.2069+03	.2903+03	.7170+03	.4182+00
P-H20/P-PROP= 9.0000							
.1933+03	.1210+03	.3393+04	.1597+01	.2068+03	.2097+03	.6913+03	.3415+00
P-H20/P-PROP= 10.0000							
.2288+03	.1167+03	.3268+04	.1961+01	.2067+03	.1388+03	.6657+03	.2885+00
P-H20/P-PROP= 11.0000							
.2642+03	.1123+03	.3142+04	.2353+01	.2066+03	.7797+02	.6401+03	.2498+00
P-H20/P-PROP= 12.0000							
.2997+03	.1080+03	.3017+04	.2775+01	.2065+03	.2702+02	.6145+03	.2202+00
P-H20/P-PROP= 13.0000							
.3351+03	.1037+03	.2891+04	.3233+01	.2064+03	-.1406+02	.5891+03	.1970+00
P-H20/P-PROP= 14.0000							
.3706+03	.9934+02	.2767+04	.3730+01	.2062+03	-.4533+02	.5636+03	.1781+00
P-H20/P-PROP= 15.0000							
.4060+03	.9504+02	.2642+04	.4272+01	.2061+03	-.6688+02	.5383+03	.1626+00
P-H20/P-PROP= 16.0000							
.4414+03	.9076+02	.2518+04	.4864+01	.2059+03	-.7878+02	.5131+03	.1495+00
P-H20/P-PROP= 17.0000							
.4768+03	.8649+02	.2395+04	.5513+01	.2057+03	-.8114+02	.4879+03	.1384+00
P-H20/P-PROP= 18.0000							
.5122+03	.8224+02	.2272+04	.6227+01	.2055+03	-.7408+02	.4629+03	.1289+00
P-H20/P-PROP= 19.0000							
.5475+03	.7802+02	.2150+04	.7018+01	.2053+03	-.5777+02	.4380+03	.1206+00
P-H20/P-PROP= 20.0000							
.5828+03	.7382+02	.2029+04	.7895+01	.2051+03	-.3239+02	.4133+03	.1133+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 1000.

CL-5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3458+01	.6674+01	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/M20
P-M20/P-PROP= 4.0000							
.1759+01	.1588+02	.4473+03	.1108+00	.2072+03	.1348+03	.6328+02	.4169+01
P-M20/P-PROP= 5.0000							
.5704+01	.1939+02	.4332+03	.3707+00	.2071+03	.1341+03	.6129+02	.1286+01
P-M20/P-PROP= 6.0000							
.9649+01	.1490+02	.4191+03	.6475+00	.2070+03	.1334+03	.5930+02	.7601+00
P-M20/P-PROP= 7.0000							
.1359+02	.1442+02	.4051+03	.9429+00	.2070+03	.1328+03	.5731+02	.5396+00
P-M20/P-PROP= 8.0000							
.1754+02	.1393+02	.3911+03	.1259+01	.2069+03	.1321+03	.5532+02	.4182+00
P-M20/P-PROP= 9.0000							
.2148+02	.1345+02	.3770+03	.1597+01	.2068+03	.1314+03	.5334+02	.3415+00
P-M20/P-PROP= 10.0000							
.2542+02	.1296+02	.3631+03	.1961+01	.2067+03	.1314+03	.5136+02	.2885+00
P-M20/P-PROP= 11.0000							
.2936+02	.1248+02	.3491+03	.2353+01	.2066+03	.1310+03	.4939+02	.2498+00
P-M20/P-PROP= 12.0000							
.3330+02	.1200+02	.3352+03	.2775+01	.2065+03	.1307+03	.4742+02	.2202+00
P-M20/P-PROP= 13.0000							
.3724+02	.1152+02	.3213+03	.3233+01	.2064+03	.1305+03	.4545+02	.1970+00
P-M20/P-PROP= 14.0000							
.4117+02	.1104+02	.3074+03	.3730+01	.2062+03	.1303+03	.4349+02	.1781+00
P-M20/P-PROP= 15.0000							
.4511+02	.1056+02	.2936+03	.4272+01	.2061+03	.1302+03	.4154+02	.1626+00
P-M20/P-PROP= 16.0000							
.4904+02	.1008+02	.2798+03	.4864+01	.2059+03	.1301+03	.3959+02	.1495+00
P-M20/P-PROP= 17.0000							
.5298+02	.9610+01	.2661+03	.5513+01	.2057+03	.1301+03	.3765+02	.1384+00
P-M20/P-PROP= 18.0000							
.5691+02	.9138+01	.2525+03	.6227+01	.2055+03	.1301+03	.3572+02	.1289+00
P-M20/P-PROP= 19.0000							
.6083+02	.8669+01	.2389+03	.7018+01	.2053+03	.1302+03	.3380+02	.1206+00
P-M20/P-PROP= 20.0000							
.6476+02	.8202+01	.2254+03	.7895+01	.2051+03	.1304+03	.3189+02	.1133+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 2000.

CL-5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6916+01	.1335+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/M20
P-M20/P-PROP= 4.0000							
.3519+01	.3175+02	.8946+03	.1108+00	.2072+03	.2563+03	.1266+03	.4169+01
P-M20/P-PROP= 5.0000							
.1141+02	.3078+02	.8664+03	.3707+00	.2071+03	.2534+03	.1226+03	.1286+01
P-M20/P-PROP= 6.0000							
.1930+02	.2980+02	.8383+03	.6475+00	.2070+03	.2508+03	.1186+03	.7601+00
P-M20/P-PROP= 7.0000							
.2718+02	.2883+02	.8102+03	.9429+00	.2070+03	.2484+03	.1146+03	.5396+00
P-M20/P-PROP= 8.0000							
.3507+02	.2746+02	.7821+03	.1259+01	.2069+03	.2462+03	.1106+03	.4182+00
P-M20/P-PROP= 9.0000							
.4296+02	.2689+02	.7541+03	.1597+01	.2068+03	.2443+03	.1067+03	.3415+00
P-M20/P-PROP= 10.0000							
.5084+02	.2593+02	.7261+03	.1961+01	.2067+03	.2426+03	.1027+03	.2885+00
P-M20/P-PROP= 11.0000							
.5872+02	.2496+02	.6982+03	.2353+01	.2066+03	.2411+03	.9878+02	.2498+00
P-M20/P-PROP= 12.0000							
.6660+02	.2400+02	.6703+03	.2775+01	.2065+03	.2399+03	.9484+02	.2202+00
P-M20/P-PROP= 13.0000							
.7448+02	.2303+02	.6426+03	.3233+01	.2064+03	.2389+03	.9090+02	.1970+00
P-M20/P-PROP= 14.0000							
.8235+02	.2208+02	.6148+03	.3730+01	.2062+03	.2382+03	.8698+02	.1781+00
P-M20/P-PROP= 15.0000							
.9022+02	.2112+02	.5872+03	.4272+01	.2061+03	.2377+03	.8307+02	.1626+00
P-M20/P-PROP= 16.0000							
.9809+02	.2017+02	.5597+03	.4864+01	.2059+03	.2374+03	.7918+02	.1495+00
P-M20/P-PROP= 17.0000							
.1060+03	.1922+02	.5322+03	.5513+01	.2057+03	.2373+03	.7530+02	.1384+00
P-M20/P-PROP= 18.0000							
.1138+03	.1828+02	.5049+03	.6227+01	.2055+03	.2375+03	.7144+02	.1289+00
P-M20/P-PROP= 19.0000							
.1217+03	.1734+02	.4778+03	.7018+01	.2053+03	.2379+03	.6759+02	.1206+00
P-M20/P-PROP= 20.0000							
.1295+03	.1640+02	.4508+03	.7895+01	.2051+03	.2385+03	.6378+02	.1133+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 3000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1057+02	.2002+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.5278+01	.4763+02	.1542+04	.1108+00	.2072+03	.3645+03	.1898+03	.4169+01
P-H20/P-PROP= 5.0000							
.1111+02	.4617+02	.1300+04	.3707+00	.2071+03	.3580+03	.1839+03	.1286+01
P-H20/P-PROP= 6.0000							
.2895+02	.4471+02	.1257+04	.6475+00	.2070+03	.3520+03	.1779+03	.7601+00
P-H20/P-PROP= 7.0000							
.4078+02	.4325+02	.1215+04	.9429+00	.2070+03	.3466+03	.1719+03	.5396+00
P-H20/P-PROP= 8.0000							
.5261+02	.4179+02	.1173+04	.1259+01	.2069+03	.3417+03	.1660+03	.4182+00
P-H20/P-PROP= 9.0000							
.6443+02	.4034+02	.1131+04	.1597+01	.2068+03	.3374+03	.1600+03	.3415+00
P-H20/P-PROP= 10.0000							
.7626+02	.3889+02	.1089+04	.1961+01	.2067+03	.3336+03	.1541+03	.2885+00
P-H20/P-PROP= 11.0000							
.8808+02	.3744+02	.1047+04	.2353+01	.2066+03	.3304+03	.1482+03	.2498+00
P-H20/P-PROP= 12.0000							
.9990+02	.3599+02	.1006+04	.2775+01	.2065+03	.3276+03	.1423+03	.2202+00
P-H20/P-PROP= 13.0000							
.1117+03	.3455+02	.9638+03	.3233+01	.2064+03	.3254+03	.1364+03	.1970+00
P-H20/P-PROP= 14.0000							
.1235+03	.3311+02	.9222+03	.3730+01	.2062+03	.3237+03	.1305+03	.1781+00
P-H20/P-PROP= 15.0000							
.1353+03	.3168+02	.8808+03	.4272+01	.2061+03	.3226+03	.1246+03	.1626+00
P-H20/P-PROP= 16.0000							
.1471+03	.3025+02	.8395+03	.4864+01	.2059+03	.3220+03	.1188+03	.1495+00
P-H20/P-PROP= 17.0000							
.1589+03	.2883+02	.7984+03	.5513+01	.2057+03	.3218+03	.1129+03	.1384+00
P-H20/P-PROP= 18.0000							
.1707+03	.2741+02	.7574+03	.6227+01	.2055+03	.3222+03	.1072+03	.1289+00
P-H20/P-PROP= 19.0000							
.1825+03	.2601+02	.7167+03	.7018+01	.2053+03	.3231+03	.1014+03	.1206+00
P-H20/P-PROP= 20.0000							
.1943+03	.2461+02	.6762+03	.7895+01	.2051+03	.3244+03	.9567+02	.1133+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 4000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1383+02	.2669+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.7037+01	.6350+02	.1789+04	.1108+00	.2072+03	.4593+03	.2531+03	.4169+01
P-H20/P-PROP= 5.0000							
.2282+02	.6155+02	.1733+04	.3707+00	.2071+03	.4476+03	.2451+03	.1286+01
P-H20/P-PROP= 6.0000							
.3859+02	.5961+02	.1677+04	.6475+00	.2070+03	.4372+03	.2372+03	.7601+00
P-H20/P-PROP= 7.0000							
.5437+02	.5766+02	.1620+04	.9429+00	.2070+03	.4275+03	.2292+03	.5396+00
P-H20/P-PROP= 8.0000							
.7014+02	.5572+02	.1564+04	.1259+01	.2069+03	.4189+03	.2213+03	.4182+00
P-H20/P-PROP= 9.0000							
.8591+02	.5379+02	.1508+04	.1597+01	.2068+03	.4112+03	.2134+03	.3415+00
P-H20/P-PROP= 10.0000							
.1017+03	.5185+02	.1452+04	.1961+01	.2067+03	.4045+03	.2055+03	.2885+00
P-H20/P-PROP= 11.0000							
.1174+03	.4992+02	.1396+04	.2353+01	.2066+03	.3987+03	.1976+03	.2498+00
P-H20/P-PROP= 12.0000							
.1332+03	.4799+02	.1341+04	.2775+01	.2065+03	.3936+03	.1897+03	.2202+00
P-H20/P-PROP= 13.0000							
.1490+03	.4607+02	.1285+04	.3233+01	.2064+03	.3899+03	.1818+03	.1970+00
P-H20/P-PROP= 14.0000							
.1647+03	.4415+02	.1230+04	.3730+01	.2062+03	.3869+03	.1740+03	.1781+00
P-H20/P-PROP= 15.0000							
.1804+03	.4224+02	.1174+04	.4272+01	.2061+03	.3849+03	.1661+03	.1626+00
P-H20/P-PROP= 16.0000							
.1962+03	.4034+02	.1119+04	.4864+01	.2059+03	.3837+03	.1584+03	.1495+00
P-H20/P-PROP= 17.0000							
.2119+03	.3844+02	.1064+04	.5513+01	.2057+03	.3835+03	.1506+03	.1384+00
P-H20/P-PROP= 18.0000							
.2276+03	.3655+02	.1010+04	.6227+01	.2055+03	.3842+03	.1429+03	.1289+00
P-H20/P-PROP= 19.0000							
.2433+03	.3467+02	.9556+03	.7018+01	.2053+03	.3857+03	.1352+03	.1206+00
P-H20/P-PROP= 20.0000							
.2590+03	.3281+02	.9017+03	.7895+01	.2051+03	.3881+03	.1276+03	.1133+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 5000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1729+02	.3337+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.8796+01	.7938+02	.2236+04	.1108+00	.2072+03	.5406+03	.3164+03	.4169+01
P-H20/P-PROP= 5.0000							
.2852+02	.7694+02	.2166+04	.3707+00	.2071+03	.5228+03	.3064+03	.1286+01
P-H20/P-PROP= 6.0000							
.4824+02	.7451+02	.2096+04	.6475+00	.2070+03	.5063+03	.2965+03	.7601+00
P-H20/P-PROP= 7.0000							
.6796+02	.7208+02	.2025+04	.9429+00	.2070+03	.4914+03	.2865+03	.5396+00
P-H20/P-PROP= 8.0000							
.8768+02	.6965+02	.1955+04	.1259+01	.2069+03	.4777+03	.2766+03	.4182+00
P-H20/P-PROP= 9.0000							
.1074+03	.6723+02	.1885+04	.1597+01	.2068+03	.4657+03	.2667+03	.3415+00
P-H20/P-PROP= 10.0000							
.1271+03	.6481+02	.1815+04	.1961+01	.2067+03	.4551+03	.2568+03	.2885+00
P-H20/P-PROP= 11.0000							
.1468+03	.6240+02	.1746+04	.2353+01	.2066+03	.4461+03	.2469+03	.2498+00
P-H20/P-PROP= 12.0000							
.1665+03	.5999+02	.1676+04	.2775+01	.2065+03	.4385+03	.2371+03	.2202+00
P-H20/P-PROP= 13.0000							
.1862+03	.5759+02	.1606+04	.3233+01	.2064+03	.4324+03	.2273+03	.1970+00
P-H20/P-PROP= 14.0000							
.2059+03	.5519+02	.1537+04	.3730+01	.2062+03	.4277+03	.2175+03	.1781+00
P-H20/P-PROP= 15.0000							
.2256+03	.5280+02	.1468+04	.4272+01	.2061+03	.4245+03	.2077+03	.1626+00
P-H20/P-PROP= 16.0000							
.2452+03	.5042+02	.1399+04	.4864+01	.2059+03	.4227+03	.1979+03	.1495+00
P-H20/P-PROP= 17.0000							
.2649+03	.4805+02	.1331+04	.5513+01	.2057+03	.4224+03	.1882+03	.1384+00
P-H20/P-PROP= 18.0000							
.2845+03	.4569+02	.1262+04	.6227+01	.2055+03	.4234+03	.1786+03	.1289+00
P-H20/P-PROP= 19.0000							
.3042+03	.4334+02	.1194+04	.7018+01	.2053+03	.4259+03	.1690+03	.1206+00
P-H20/P-PROP= 20.0000							
.3238+03	.4101+02	.1127+04	.7895+01	.2051+03	.4296+03	.1594+03	.1133+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 6000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2075+02	.4004+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1056+02	.9525+02	.2684+04	.1108+00	.2072+03	.6090+03	.3797+03	.4169+01
P-H20/P-PROP= 5.0000							
.3423+02	.9233+02	.2599+04	.3707+00	.2071+03	.5830+03	.3677+03	.1286+01
P-H20/P-PROP= 6.0000							
.5789+02	.8941+02	.2515+04	.6475+00	.2070+03	.5592+03	.3558+03	.7601+00
P-H20/P-PROP= 7.0000							
.8155+02	.8650+02	.2431+04	.9429+00	.2070+03	.5376+03	.3439+03	.5396+00
P-H20/P-PROP= 8.0000							
.1052+03	.8358+02	.2346+04	.1259+01	.2069+03	.5181+03	.3319+03	.4182+00
P-H20/P-PROP= 9.0000							
.1289+03	.8068+02	.2262+04	.1597+01	.2068+03	.5008+03	.3201+03	.3415+00
P-H20/P-PROP= 10.0000							
.1525+03	.7778+02	.2178+04	.1961+01	.2067+03	.4856+03	.3082+03	.2885+00
P-H20/P-PROP= 11.0000							
.1762+03	.7488+02	.2095+04	.2353+01	.2066+03	.4726+03	.2963+03	.2498+00
P-H20/P-PROP= 12.0000							
.1998+03	.7199+02	.2011+04	.2775+01	.2065+03	.4616+03	.2845+03	.2202+00
P-H20/P-PROP= 13.0000							
.2234+03	.6910+02	.1928+04	.3233+01	.2064+03	.4526+03	.2727+03	.1970+00
P-H20/P-PROP= 14.0000							
.2470+03	.6623+02	.1844+04	.3730+01	.2062+03	.4461+03	.2609+03	.1781+00
P-H20/P-PROP= 15.0000							
.2707+03	.6336+02	.1762+04	.4272+01	.2061+03	.4415+03	.2492+03	.1626+00
P-H20/P-PROP= 16.0000							
.2943+03	.6050+02	.1679+04	.4864 01	.2059+03	.4390+03	.2375+03	.1495+00
P-H20/P-PROP= 17.0000							
.3179+03	.5766+02	.1597+04	.5513+01	.2057+03	.4385+03	.2259+03	.1384+00
P-H20/P-PROP= 18.0000							
.3414+03	.5483+02	.1515+04	.6227+01	.2055+03	.4400+03	.2143+03	.1289+00
P-H20/P-PROP= 19.0000							
.3650+03	.5201+02	.1433+04	.7018+01	.2053+03	.4435+03	.2028+03	.1206+00
P-H20/P-PROP= 20.0000							
.3885+03	.4921+02	.1352+04	.7895+01	.2051+03	.4489+03	.1913+03	.1133+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 7000.

CL-5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2420+02	.4672+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1232+02	.1111+03	.3131+04	.1108+00	.2072+03	.6639+03	.4430+03	.4169+01
P-H20/P-PROP= 5.0000							
.3993+02	.1077+03	.3032+04	.3707+00	.2071+03	.6285+03	.4290+03	.1286+01
P-H20/P-PROP= 6.0000							
.6754+02	.1043+03	.2934+04	.6475+00	.2070+03	.5961+03	.4151+03	.7601+00
P-H20/P-PROP= 7.0000							
.9515+02	.1009+03	.2836+04	.9429+00	.2070+03	.5667+03	.4012+03	.5396+00
P-H20/P-PROP= 8.0000							
.1227+03	.9752+02	.2737+04	.1259+01	.2069+03	.5402+03	.3873+03	.4182+00
P-H20/P-PROP= 9.0000							
.1503+03	.9412+02	.2639+04	.1597+01	.2068+03	.5166+03	.3734+03	.3415+00
P-H20/P-PROP= 10.0000							
.1779+03	.9074+02	.2541+04	.1961+01	.2067+03	.4959+03	.3595+03	.2885+00
P-H20/P-PROP= 11.0000							
.2055+03	.8736+02	.2444+04	.2353+01	.2066+03	.4782+03	.3457+03	.2498+00
P-H20/P-PROP= 12.0000							
.2331+03	.8399+02	.2346+04	.2775+01	.2065+03	.4633+03	.3319+03	.2202+00
P-H20/P-PROP= 13.0000							
.2607+03	.8062+02	.2249+04	.3233+01	.2064+03	.4513+03	.3182+03	.1970+00
P-H20/P-PROP= 14.0000							
.2882+03	.7727+02	.2152+04	.3730+01	.2062+03	.4422+03	.3044+03	.1781+00
P-H20/P-PROP= 15.0000							
.3158+03	.7392+02	.2055+04	.4272+01	.2061+03	.4359+03	.2908+03	.1626+00
P-H20/P-PROP= 16.0000							
.3434+03	.7059+02	.1959+04	.4864+01	.2059+03	.4324+03	.2771+03	.1495+00
P-H20/P-PROP= 17.0000							
.3708+03	.6727+02	.1863+04	.5513+01	.2057+03	.4317+03	.2635+03	.1384+00
P-H20/P-PROP= 18.0000							
.3983+03	.6397+02	.1767+04	.6227+01	.2055+03	.4338+03	.2500+03	.1289+00
P-H20/P-PROP= 19.0000							
.4258+03	.6068+02	.1672+04	.7018+01	.2053+03	.4386+03	.2366+03	.1206+00
P-H20/P-PROP= 20.0000							
.4533+03	.5742+02	.1578+04	.7895+01	.2051+03	.4460+03	.2232+03	.1133+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 8000.

CL-5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2766+02	.5339+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1407+02	.1270+03	.3578+04	.1108+00	.2072+03	.7054+03	.5062+03	.4169+01
P-H20/P-PROP= 5.0000							
.4563+02	.1231+03	.3466+04	.3707+00	.2071+03	.6592+03	.4903+03	.1286+01
P-H20/P-PROP= 6.0000							
.7719+02	.1192+03	.3353+04	.6475+00	.2070+03	.6169+03	.4744+03	.7601+00
P-H20/P-PROP= 7.0000							
.1087+03	.1153+03	.3241+04	.9429+00	.2070+03	.5785+03	.4585+03	.5396+00
P-H20/P-PROP= 8.0000							
.1403+03	.1114+03	.3128+04	.1259+01	.2069+03	.5438+03	.4426+03	.4182+00
P-H20/P-PROP= 9.0000							
.1718+03	.1076+03	.3016+04	.1597+01	.2068+03	.5130+03	.4267+03	.3415+00
P-H20/P-PROP= 10.0000							
.2034+03	.1037+03	.2904+04	.1961+01	.2067+03	.4861+03	.4109+03	.2885+00
P-H20/P-PROP= 11.0000							
.2349+03	.9984+02	.2793+04	.2353+01	.2066+03	.4629+03	.3951+03	.2498+00
P-H20/P-PROP= 12.0000							
.2664+03	.9598+02	.2681+04	.2775+01	.2065+03	.4434+03	.3793+03	.2202+00
P-H20/P-PROP= 13.0000							
.2979+03	.9214+02	.2570+04	.3233+01	.2064+03	.4278+03	.3636+03	.1970+00
P-H20/P-PROP= 14.0000							
.3294+03	.8830+02	.2459+04	.3730+01	.2062+03	.4159+03	.3479+03	.1781+00
P-H20/P-PROP= 15.0000							
.3609+03	.8446+02	.2349+04	.4272+01	.2061+03	.4077+03	.3323+03	.1626+00
P-H20/P-PROP= 16.0000							
.3924+03	.8067+02	.2239+04	.4864+01	.2059+03	.4031+03	.3167+03	.1495+00
P-H20/P-PROP= 17.0000							
.4238+03	.7688+02	.2129+04	.5513+01	.2057+03	.4022+03	.3012+03	.1384+00
P-H20/P-PROP= 18.0000							
.4553+03	.7310+02	.2020+04	.6227+01	.2055+03	.4049+03	.2857+03	.1289+00
P-H20/P-PROP= 19.0000							
.4867+03	.6935+02	.1911+04	.7018+01	.2053+03	.4111+03	.2704+03	.1206+00
P-H20/P-PROP= 20.0000							
.5181+03	.6562+02	.1803+04	.7895+01	.2051+03	.4206+03	.2551+03	.1133+00

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 9000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3112+02	.6006+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1583+02	.1429+03	.4026+04	.1108+00	.2072+03	.7336+03	.5695+03	.4169+01
P-H20/P-PROP= 5.0000							
.5134+02	.1385+03	.3899+04	.3707+00	.2071+03	.6752+03	.5516+03	.1286+01
P-H20/P-PROP= 6.0000							
.8684+02	.1341+03	.3772+04	.6475+00	.2070+03	.6217+03	.5337+03	.7601+00
P-H20/P-PROP= 7.0000							
.1223+03	.1297+03	.3646+04	.9429+00	.2070+03	.5730+03	.5158+03	.5396+00
P-H20/P-PROP= 8.0000							
.1578+03	.1254+03	.3520+04	.1259+01	.2069+03	.5291+03	.4979+03	.4182+00
P-H20/P-PROP= 9.0000							
.1933+03	.1210+03	.3393+04	.1597+01	.2068+03	.4902+03	.4801+03	.3415+00
P-H20/P-PROP= 10.0000							
.2288+03	.1167+03	.3268+04	.1961+01	.2067+03	.4560+03	.4623+03	.2885+00
P-H20/P-PROP= 11.0000							
.2642+03	.1123+03	.3142+04	.2353+01	.2066+03	.4267+03	.4445+03	.2498+00
P-H20/P-PROP= 12.0000							
.2997+03	.1080+03	.3017+04	.2775+01	.2065+03	.4021+03	.4268+03	.2202+00
P-H20/P-PROP= 13.0000							
.3351+03	.1037+03	.2891+04	.3233+01	.2064+03	.3825+03	.4091+03	.1970+00
P-H20/P-PROP= 14.0000							
.3706+03	.9934+02	.2767+04	.3730+01	.2062+03	.3672+03	.3914+03	.1781+00
P-H20/P-PROP= 15.0000							
.4060+03	.9504+02	.2642+04	.4272+01	.2061+03	.3568+03	.3738+03	.1626+00
P-H20/P-PROP= 16.0000							
.4414+03	.9076+02	.2518+04	.4864+01	.2059+03	.3511+03	.3563+03	.1495+00
P-H20/P-PROP= 17.0000							
.4768+03	.8649+02	.2395+04	.5513+01	.2057+03	.3499+03	.3388+03	.1384+00
P-H20/P-PROP= 18.0000							
.5122+03	.8224+02	.2272+04	.6227+01	.2055+03	.3533+03	.3215+03	.1289+00
P-H20/P-PROP= 19.0000							
.5475+03	.7802+02	.2150+04	.7018+01	.2053+03	.3612+03	.3042+03	.1206+00
P-H20/P-PROP= 20.0000							
.5828+03	.7382+02	.2029+04	.7895+01	.2051+03	.3734+03	.2870+03	.1133+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 1000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3458+01	.6674+01	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1759+01	.1588+02	.4473+03	.1108+00	.2072+03	.1003+03	.4649+02	.4169+01
P-H20/P-PROP= 5.0000							
.5704+01	.1539+02	.4332+03	.3707+00	.2071+03	.9995+02	.4503+02	.1286+01
P-H20/P-PROP= 6.0000							
.9649+01	.1490+02	.4191+03	.6475+00	.2070+03	.9960+02	.4356+02	.7601+00
P-H20/P-PROP= 7.0000							
.1359+02	.1442+02	.4051+03	.9429+00	.2070+03	.9927+02	.4210+02	.5396+00
P-H20/P-PROP= 8.0000							
.1754+02	.1393+02	.3911+03	.1259+01	.2069+03	.9898+02	.4065+02	.4182+00
P-H20/P-PROP= 9.0000							
.2148+02	.1345+02	.3770+03	.1597+01	.2068+03	.9872+02	.3919+02	.3415+00
P-H20/P-PROP= 10.0000							
.2542+02	.1296+02	.3631+03	.1961+01	.2067+03	.9849+02	.3774+02	.2885+00
P-H20/P-PROP= 11.0000							
.2936+02	.1246+02	.3491+03	.2353+01	.2066+03	.9830+02	.3629+02	.2498+00
P-H20/P-PROP= 12.0000							
.3330+02	.1200+02	.3352+03	.2775+01	.2065+03	.9813+02	.3484+02	.2202+00
P-H20/P-PROP= 13.0000							
.3724+02	.1152+02	.3213+03	.3233+01	.2064+03	.9800+02	.3339+02	.1970+00
P-H20/P-PROP= 14.0000							
.4117+02	.1104+02	.3074+03	.3730+01	.2062+03	.9790+02	.3195+02	.1781+00
P-H20/P-PROP= 15.0000							
.4511+02	.1056+02	.2936+03	.4272+01	.2061+03	.9783+02	.3052+02	.1626+00
P-H20/P-PROP= 16.0000							
.4904+02	.1008+02	.2798+03	.4864+01	.2059+03	.9779+02	.2909+02	.1495+00
P-H20/P-PROP= 17.0000							
.5298+02	.9610+01	.2661+03	.5513+01	.2057+03	.9779+02	.2766+02	.1384+00
P-H20/P-PROP= 18.0000							
.5691+02	.9138+01	.2525+03	.6227+01	.2055+03	.9781+02	.2624+02	.1289+00
P-H20/P-PROP= 19.0000							
.6083+02	.8669+01	.2389+03	.7018+01	.2053+03	.9786+02	.2483+02	.1206+00
P-H20/P-PROP= 20.0000							
.6476+02	.8202+01	.2254+03	.7895+01	.2051+03	.9794+02	.2343+02	.1133+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 2000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6916+01	.1335+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.3519+01	.3175+02	.8946+03	.1108+00	.2072+03	.1935+03	.9298+02	.4169+01
P-H2O/P-PROP= 5.0000							
.1141+02	.3078+02	.8664+03	.3707+00	.2071+03	.1919+03	.9005+02	.1286+01
P-H2O/P-PROP= 6.0000							
.1930+02	.2980+02	.8383+03	.6475+00	.2070+03	.1905+03	.8713+02	.7601+00
P-H2O/P-PROP= 7.0000							
.2718+02	.2883+02	.8102+03	.9429+00	.2070+03	.1892+03	.8421+02	.5396+00
P-H2O/P-PROP= 8.0000							
.3507+02	.2786+02	.7821+03	.1259+01	.2069+03	.1880+03	.8129+02	.4182+00
P-H2O/P-PROP= 9.0000							
.4296+02	.2689+02	.7541+03	.1597+01	.2068+03	.1870+03	.7838+02	.3415+00
P-H2O/P-PROP= 10.0000							
.5084+02	.2593+02	.7261+03	.1961+01	.2067+03	.1861+03	.7547+02	.2885+00
P-H2O/P-PROP= 11.0000							
.5872+02	.2496+02	.6982+03	.2353+01	.2066+03	.1853+03	.7257+02	.2498+00
P-H2O/P-PROP= 12.0000							
.6660+02	.2400+02	.6703+03	.2775+01	.2065+03	.1847+03	.6968+02	.2202+00
P-H2O/P-PROP= 13.0000							
.7448+02	.2303+02	.6426+03	.3233+01	.2064+03	.1841+03	.6679+02	.1970+00
P-H2O/P-PROP= 14.0000							
.8235+02	.2208+02	.6148+03	.3730+01	.2062+03	.1837+03	.6391+02	.1781+00
P-H2O/P-PROP= 15.0000							
.9022+02	.2112+02	.5872+03	.4272+01	.2061+03	.1834+03	.6103+02	.1626+00
P-H2O/P-PROP= 16.0000							
.9809+02	.2017+02	.5597+03	.4864+01	.2059+03	.1833+03	.5817+02	.1495+00
P-H2O/P-PROP= 17.0000							
.1060+03	.1922+02	.5322+03	.5513+01	.2057+03	.1833+03	.5532+02	.1384+00
P-H2O/P-PROP= 18.0000							
.1138+03	.1828+02	.5049+03	.6227+01	.2055+03	.1834+03	.5248+02	.1289+00
P-H2O/P-PROP= 19.0000							
.1217+03	.1734+02	.4778+03	.7018+01	.2053+03	.1836+03	.4966+02	.1206+00
P-H2O/P-PROP= 20.0000							
.1295+03	.1640+02	.4508+03	.7895+01	.2051+03	.1839+03	.4686+02	.1133+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 3000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1037+02	.2002+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

L.Q-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.5278+01	.4763+02	.1342+04	.1108+00	.2072+03	.2795+03	.1395+03	.4169+01
P-H2O/P-PROP= 5.0000							
.1711+02	.4617+02	.1300+04	.3707+00	.2071+03	.2759+03	.1351+03	.1286+01
P-H2O/P-PROP= 6.0000							
.2895+02	.4471+02	.1257+04	.6475+00	.2070+03	.2727+03	.1307+03	.7601+00
P-H2O/P-PROP= 7.0000							
.4078+02	.4325+02	.1215+04	.9429+00	.2070+03	.2698+03	.1263+03	.5396+00
P-H2O/P-PROP= 8.0000							
.5261+02	.4179+02	.1173+04	.1259+01	.2069+03	.2672+03	.1219+03	.4182+00
P-H2O/P-PROP= 9.0000							
.6443+02	.4034+02	.1131+04	.1597+01	.2068+03	.2649+03	.1176+03	.3415+00
P-H2O/P-PROP= 10.0000							
.7626+02	.3889+02	.1089+04	.1961+01	.2067+03	.2628+03	.1132+03	.2885+00
P-H2O/P-PROP= 11.0000							
.8808+02	.3744+02	.1047+04	.2353+01	.2066+03	.2610+03	.1089+03	.2498+00
P-H2O/P-PROP= 12.0000							
.9990+02	.3599+02	.1006+04	.2775+01	.2065+03	.2596+03	.1045+03	.2202+00
P-H2O/P-PROP= 13.0000							
.1117+03	.3455+02	.9638+03	.3233+01	.2064+03	.2584+03	.1002+03	.1970+00
P-H2O/P-PROP= 14.0000							
.1235+03	.3311+02	.9222+03	.3730+01	.2062+03	.2575+03	.9586+02	.1781+00
P-H2O/P-PROP= 15.0000							
.1353+03	.3168+02	.8808+03	.4272+01	.2061+03	.2569+03	.9155+02	.1626+00
P-H2O/P-PROP= 16.0000							
.1471+03	.3025+02	.8395+03	.4864+01	.2059+03	.2565+03	.8726+02	.1495+00
P-H2O/P-PROP= 17.0000							
.1589+03	.2883+02	.7984+03	.5513+01	.2057+03	.2564+03	.8298+02	.1384+00
P-H2O/P-PROP= 18.0000							
.1707+03	.2741+02	.7574+03	.6227+01	.2055+03	.2566+03	.7872+02	.1289+00
P-H2O/P-PROP= 19.0000							
.1825+03	.2601+02	.7167+03	.7018+01	.2053+03	.2571+03	.7449+02	.1206+00
P-H2O/P-PROP= 20.0000							
.1943+03	.2461+02	.6762+03	.7895+01	.2051+03	.2579+03	.7029+02	.1133+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 4000.

CLFS-HYDRAZINE

PROP-P/SEC	KOM P/SEC	ISP	BTU/PP
.1383+02	.2669+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.7037+01	.6350+02	.1789+04	.1108+00	.2072+03	.3582+03	.1860+03	.4169+01
P-H20/P-PROP= 5.0000							
.2252+02	.6155+02	.1733+04	.3707+00	.2071+03	.3520+03	.1801+03	.1286+01
P-H20/P-PROP= 6.0000							
.3859+02	.5961+02	.1677+04	.6475+00	.2070+03	.3466+03	.1743+03	.7601+00
P-H20/P-PROP= 7.0000							
.5437+02	.5766+02	.1620+04	.9429+00	.2070+03	.3411+03	.1684+03	.5396+00
P-H20/P-PROP= 8.0000							
.7014+02	.5572+02	.1564+04	.1259+01	.2069+03	.3364+03	.1626+03	.4182+00
P-H20/P-PROP= 9.0000							
.8591+02	.5379+02	.1508+04	.1597+01	.2068+03	.3323+03	.1568+03	.3415+00
P-H20/P-PROP= 10.0000							
.1017+03	.5185+02	.1452+04	.1961+01	.2067+03	.3286+03	.1509+03	.2885+00
P-H20/P-PROP= 11.0000							
.1174+03	.4992+02	.1396+04	.2353+01	.2066+03	.3255+03	.1451+03	.2498+00
P-H20/P-PROP= 12.0000							
.1332+03	.4799+02	.1341+04	.2775+01	.2065+03	.3229+03	.1394+03	.2202+00
P-H20/P-PROP= 13.0000							
.1490+03	.4607+02	.1285+04	.3233+01	.2064+03	.3208+03	.1336+03	.1970+00
P-H20/P-PROP= 14.0000							
.1647+03	.4415+02	.1230+04	.3730+01	.2062+03	.3191+03	.1278+03	.1781+00
P-H20/P-PROP= 15.0000							
.1804+03	.4224+02	.1174+04	.4272+01	.2061+03	.3180+03	.1221+03	.1626+00
P-H20/P-PROP= 16.0000							
.1962+03	.4034+02	.1119+04	.4864+01	.2059+03	.3174+03	.1163+03	.1495+00
P-H20/P-PROP= 17.0000							
.2119+03	.3844+02	.1064+04	.5513+01	.2057+03	.3173+03	.1106+03	.1384+00
P-H20/P-PROP= 18.0000							
.2276+03	.3655+02	.1010+04	.6227+01	.2055+03	.3177+03	.1050+03	.1289+00
P-H20/P-PROP= 19.0000							
.2433+03	.3467+02	.9556+03	.7018+01	.2053+03	.3185+03	.9932+02	.1206+00
P-H20/P-PROP= 20.0000							
.2590+03	.3281+02	.9017+03	.7895+01	.2051+03	.3196+03	.9372+02	.1133+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 5000.

CLFS-HYDRAZINE

PROP-P/SEC	KOM P/SEC	ISP	BTU/PP
.1729+02	.3337+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.8796+01	.7938+02	.2236+04	.1108+00	.2072+03	.4296+03	.2325+03	.4169+01
P-H20/P-PROP= 5.0000							
.2852+02	.7694+02	.2166+04	.3707+00	.2071+03	.4201+03	.2251+03	.1286+01
P-H20/P-PROP= 6.0000							
.4824+02	.7451+02	.2096+04	.6475+00	.2070+03	.4111+03	.2178+03	.7601+00
P-H20/P-PROP= 7.0000							
.6796+02	.7208+02	.2025+04	.9429+00	.2070+03	.4030+03	.2105+03	.5396+00
P-H20/P-PROP= 8.0000							
.8768+02	.6965+02	.1955+04	.1259+01	.2069+03	.3957+03	.2032+03	.4182+00
P-H20/P-PROP= 9.0000							
.1074+03	.6723+02	.1885+04	.1597+01	.2068+03	.3892+03	.1959+03	.3415+00
P-H20/P-PROP= 10.0000							
.1271+03	.6481+02	.1815+04	.1961+01	.2067+03	.3835+03	.1887+03	.2885+00
P-H20/P-PROP= 11.0000							
.1468+03	.6240+02	.1746+04	.2353+01	.2066+03	.3787+03	.1814+03	.2498+00
P-H20/P-PROP= 12.0000							
.1665+03	.5999+02	.1676+04	.2775+01	.2065+03	.3746+03	.1742+03	.2202+00
P-H20/P-PROP= 13.0000							
.1862+03	.5759+02	.1606+04	.3233+01	.2064+03	.3713+03	.1670+03	.1970+00
P-H20/P-PROP= 14.0000							
.2059+03	.5519+02	.1537+04	.3730+01	.2062+03	.3687+03	.1598+03	.1781+00
P-H20/P-PROP= 15.0000							
.2256+03	.5280+02	.1468+04	.4272+01	.2061+03	.3670+03	.1526+03	.1626+00
P-H20/P-PROP= 16.0000							
.2452+03	.5042+02	.1399+04	.4864+01	.2059+03	.3661+03	.1454+03	.1495+00
P-H20/P-PROP= 17.0000							
.2649+03	.4805+02	.1331+04	.5513+01	.2057+03	.3659+03	.1383+03	.1384+00
P-H20/P-PROP= 18.0000							
.2845+03	.4569+02	.1262+04	.6227+01	.2055+03	.3664+03	.1312+03	.1289+00
P-H20/P-PROP= 19.0000							
.3042+03	.4334+02	.1194+04	.7018+01	.2053+03	.3677+03	.1242+03	.1206+00
P-H20/P-PROP= 20.0000							
.3238+03	.4101+02	.1127+04	.7895+01	.2051+03	.3698+03	.1171+03	.1133+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 6000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2075+02	.4004+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1056+02	.9525+02	.2684+04	.1106+00	.2072+03	.4942+03	.2789+03	.4169+01
P-H2O/P-PROP= 5.0000							
.5423+02	.9233+02	.2599+04	.3707+00	.2071+03	.4802+03	.2702+03	.1286+01
P-H2O/P-PROP= 6.0000							
.5749+02	.8941+02	.2515+04	.6475+00	.2070+03	.4673+03	.2614+03	.7601+00
P-H2O/P-PROP= 7.0000							
.8135+02	.8650+02	.2431+04	.9429+00	.2070+03	.4556+03	.2526+03	.5396+00
P-H2O/P-PROP= 8.0000							
.1092+03	.8358+02	.2346+04	.1259+01	.2069+03	.4451+03	.2439+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1289+03	.8068+02	.2262+04	.1597+01	.2068+03	.4356+03	.2351+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1535+03	.7778+02	.2178+04	.1961+01	.2067+03	.4276+03	.2264+03	.2885+00
P-H2O/P-PROP= 11.0000							
.1762+03	.7488+02	.2095+04	.2353+01	.2066+03	.4205+03	.2177+03	.2498+00
P-H2O/P-PROP= 12.0000							
.1998+03	.7199+02	.2011+04	.2775+01	.2065+03	.4146+03	.2090+03	.2202+00
P-H2O/P-PROP= 13.0000							
.2234+03	.6910+02	.1928+04	.3233+01	.2064+03	.4099+03	.2004+03	.1970+00
P-H2O/P-PROP= 14.0000							
.2470+03	.6623+02	.1844+04	.3730+01	.2062+03	.4063+03	.1917+03	.1781+00
P-H2O/P-PROP= 15.0000							
.2707+03	.6336+02	.1762+04	.4272+01	.2061+03	.4038+03	.1831+03	.1626+00
P-H2O/P-PROP= 16.0000							
.2943+03	.6050+02	.1679+04	.4864+01	.2059+03	.4024+03	.1745+03	.1495+00
P-H2O/P-PROP= 17.0000							
.3179+03	.5766+02	.1597+04	.5513+01	.2057+03	.4021+03	.1660+03	.1384+00
P-H2O/P-PROP= 18.0000							
.3414+03	.5483+02	.1515+04	.6227+01	.2055+03	.4029+03	.1574+03	.1289+00
P-H2O/P-PROP= 19.0000							
.3650+03	.5201+02	.1433+04	.7018+01	.2053+03	.4046+03	.1490+03	.1206+00
P-H2O/P-PROP= 20.0000							
.3885+03	.4921+02	.1352+04	.7895+01	.2051+03	.4078+03	.1406+03	.1133+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 7000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2420+02	.4672+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1232+02	.1111+03	.3131+04	.1108+00	.2072+03	.5914+03	.3254+03	.4169+01
P-H2O/P-PROP= 5.0000							
.3993+02	.1077+03	.3032+04	.3707+00	.2071+03	.5525+03	.3152+03	.1286+01
P-H2O/P-PROP= 6.0000							
.6754+02	.1043+03	.2934+04	.6475+00	.2070+03	.5146+03	.3050+03	.7601+00
P-H2O/P-PROP= 7.0000							
.9515+02	.1009+03	.2836+04	.9429+00	.2070+03	.4989+03	.2947+03	.5396+00
P-H2O/P-PROP= 8.0000							
.1227+03	.9752+02	.2737+04	.1259+01	.2069+03	.4846+03	.2845+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1503+03	.9412+02	.2639+04	.1597+01	.2068+03	.4719+03	.2743+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1779+03	.9074+02	.2541+04	.1961+01	.2067+03	.4607+03	.2642+03	.2885+00
P-H2O/P-PROP= 11.0000							
.2055+03	.8736+02	.2444+04	.2353+01	.2066+03	.4511+03	.2540+03	.2498+00
P-H2O/P-PROP= 12.0000							
.2331+03	.8399+02	.2346+04	.2775+01	.2065+03	.4431+03	.2439+03	.2202+00
P-H2O/P-PROP= 13.0000							
.2607+03	.8062+02	.2249+04	.3233+01	.2064+03	.4366+03	.2338+03	.1970+00
P-H2O/P-PROP= 14.0000							
.2882+03	.7727+02	.2152+04	.3730+01	.2062+03	.4317+03	.2237+03	.1781+00
P-H2O/P-PROP= 15.0000							
.3158+03	.7392+02	.2055+04	.4272+01	.2061+03	.4283+03	.2136+03	.1626+00
P-H2O/P-PROP= 16.0000							
.3434+03	.7059+02	.1959+04	.4864+01	.2059+03	.4264+03	.2036+03	.1495+00
P-H2O/P-PROP= 17.0000							
.3708+03	.6727+02	.1863+04	.5513+01	.2057+03	.4261+03	.1936+03	.1384+00
P-H2O/P-PROP= 18.0000							
.3983+03	.6397+02	.1767+04	.6227+01	.2055+03	.4272+03	.1837+03	.1289+00
P-H2O/P-PROP= 19.0000							
.4258+03	.6066+02	.1672+04	.7018+01	.2053+03	.4298+03	.1738+03	.1206+00
P-H2O/P-PROP= 20.0000							
.4533+03	.5742+02	.1578+04	.7895+01	.2051+03	.4338+03	.1640+03	.1133+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 8000.

CL-5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2766+02	.5539+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1407+02	.1270+03	.3578+04	.1108+00	.2072+03	.6014+03	.3719+03	.4169+01
P-H20/P-PROP= 5.0000							
.4563+02	.1231+03	.3466+04	.3707+00	.2071+03	.5764+03	.3602+03	.1286+01
P-H20/P-PROP= 6.0000							
.7719+02	.1192+03	.3353+04	.6475+00	.2070+03	.5536+03	.3485+03	.7601+00
P-H20/P-PROP= 7.0000							
.1087+03	.1153+03	.3241+04	.9429+00	.2070+03	.5328+03	.3368+03	.5396+00
P-H20/P-PROP= 8.0000							
.1403+03	.1114+03	.3128+04	.1259+01	.2069+03	.5142+03	.3252+03	.4182+00
P-H20/P-PROP= 9.0000							
.1718+03	.1076+03	.3016+04	.1597+01	.2068+03	.4975+03	.3135+03	.3415+00
P-H20/P-PROP= 10.0000							
.2034+03	.1037+03	.2904+04	.1961+01	.2067+03	.4830+03	.3019+03	.2885+00
P-H20/P-PROP= 11.0000							
.2349+03	.9984+02	.2793+04	.2353+01	.2066+03	.4704+03	.2903+03	.2498+00
P-H20/P-PROP= 12.0000							
.2664+03	.9598+02	.2681+04	.2775+01	.2065+03	.4600+03	.2787+03	.2202+00
P-H20/P-PROP= 13.0000							
.2979+03	.9214+02	.2570+04	.3233+01	.2064+03	.4515+03	.2671+03	.1970+00
P-H20/P-PROP= 14.0000							
.3294+03	.8830+02	.2459+04	.3730+01	.2062+03	.4451+03	.2556+03	.1781+00
P-H20/P-PROP= 15.0000							
.3609+03	.8448+02	.2349+04	.4272+01	.2061+03	.4407+03	.2441+03	.1626+00
P-H20/P-PROP= 16.0000							
.3924+03	.8067+02	.2239+04	.4864+01	.2059+03	.4382+03	.2327+03	.1495+00
P-H20/P-PROP= 17.0000							
.4238+03	.7688+02	.2129+04	.5513+01	.2057+03	.4377+03	.2213+03	.1384+00
P-H20/P-PROP= 18.0000							
.4553+03	.7310+02	.2020+04	.6227+01	.2055+03	.4392+03	.2099+03	.1289+00
P-H20/P-PROP= 19.0000							
.4867+03	.6935+02	.1911+04	.7018+01	.2053+03	.4425+03	.1986+03	.1206+00
P-H20/P-PROP= 20.0000							
.5181+03	.6562+02	.1803+04	.7895+01	.2051+03	.4477+03	.1874+03	.1133+00

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 9000.

CL-5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3112+02	.6006+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1583+02	.1429+03	.4026+04	.1108+00	.2072+03	.6442+03	.4184+03	.4169+01
P-H20/P-PROP= 5.0000							
.5134+02	.1385+03	.3899+04	.3707+00	.2071+03	.6126+03	.4052+03	.1286+01
P-H20/P-PROP= 6.0000							
.8684+02	.1341+03	.3772+04	.6475+00	.2070+03	.5837+03	.3921+03	.7601+00
P-H20/P-PROP= 7.0000							
.1223+03	.1297+03	.3646+04	.9429+00	.2070+03	.5575+03	.3789+03	.5396+00
P-H20/P-PROP= 8.0000							
.1578+03	.1254+03	.3520+04	.1259+01	.2069+03	.5338+03	.3658+03	.4182+00
P-H20/P-PROP= 9.0000							
.1933+03	.1210+03	.3393+04	.1597+01	.2068+03	.5126+03	.3527+03	.3415+00
P-H20/P-PROP= 10.0000							
.2288+03	.1167+03	.3268+04	.1961+01	.2067+03	.4940+03	.3396+03	.2885+00
P-H20/P-PROP= 11.0000							
.2642+03	.1123+03	.3142+04	.2353+01	.2066+03	.4780+03	.3266+03	.2498+00
P-H20/P-PROP= 12.0000							
.2997+03	.1080+03	.3017+04	.2775+01	.2065+03	.4652+03	.3135+03	.2202+00
P-H20/P-PROP= 13.0000							
.3351+03	.1037+03	.2891+04	.3233+01	.2064+03	.4549+03	.3005+03	.1970+00
P-H20/P-PROP= 14.0000							
.3706+03	.9934+02	.2767+04	.3730+01	.2062+03	.4464+03	.2876+03	.1781+00
P-H20/P-PROP= 15.0000							
.4060+03	.9504+02	.2642+04	.4272+01	.2061+03	.4406+03	.2746+03	.1626+00
P-H20/P-PROP= 16.0000							
.4414+03	.9076+02	.2518+04	.4864+01	.2059+03	.4377+03	.2618+03	.1495+00
P-H20/P-PROP= 17.0000							
.4768+03	.8649+02	.2395+04	.5513+01	.2057+03	.4371+03	.2489+03	.1384+00
P-H20/P-PROP= 18.0000							
.5122+03	.8224+02	.2272+04	.6227+01	.2055+03	.4389+03	.2362+03	.1289+00
P-H20/P-PROP= 19.0000							
.5475+03	.7802+02	.2150+04	.7018+01	.2053+03	.4431+03	.2235+03	.1206+00
P-H20/P-PROP= 20.0000							
.5826+03	.7382+02	.2029+04	.7895+01	.2051+03	.4497+03	.2109+03	.1133+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 1000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3456+01	.6674+01	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1759+01	.1548+02	.4473+03	.1108+00	.2072+03	.7747+02	.3559+02	.4169+01
P-H2O/P-PROP= 5.0000							
.5714+01	.1939+02	.4632+03	.3707+00	.2071+03	.7724+02	.3447+02	.1286+01
P-H2O/P-PROP= 6.0000							
.9649+01	.1490+02	.4191+03	.6475+00	.2070+03	.7703+02	.3335+02	.7601+00
P-H2O/P-PROP= 7.0000							
.1359+02	.1442+02	.4051+03	.9429+00	.2070+03	.7684+02	.3224+02	.5396+00
P-H2O/P-PROP= 8.0000							
.1754+02	.1393+02	.3911+03	.1259+01	.2069+03	.7667+02	.3112+02	.4182+00
P-H2O/P-PROP= 9.0000							
.2148+02	.1345+02	.3770+03	.1597+01	.2068+03	.7652+02	.3000+02	.3415+00
P-H2O/P-PROP= 10.0000							
.2542+02	.1296+02	.3631+03	.1961+01	.2067+03	.7639+02	.2889+02	.2885+00
P-H2O/P-PROP= 11.0000							
.2936+02	.1248+02	.3491+03	.2353+01	.2066+03	.7627+02	.2778+02	.2498+00
P-H2O/P-PROP= 12.0000							
.3330+02	.1200+02	.3352+03	.2775+01	.2065+03	.7618+02	.2667+02	.2202+00
P-H2O/P-PROP= 13.0000							
.3724+02	.1152+02	.3213+03	.3233+01	.2064+03	.7610+02	.2557+02	.1970+00
P-H2O/P-PROP= 14.0000							
.4117+02	.1104+02	.3074+03	.3730+01	.2062+03	.7604+02	.2446+02	.1781+00
P-H2O/P-PROP= 15.0000							
.4511+02	.1056+02	.2936+03	.4272+01	.2061+03	.7600+02	.2336+02	.1626+00
P-H2O/P-PROP= 16.0000							
.4904+02	.1008+02	.2798+03	.4864+01	.2059+03	.7598+02	.2227+02	.1495+00
P-H2O/P-PROP= 17.0000							
.5298+02	.9610+01	.2661+03	.5513+01	.2057+03	.7597+02	.2118+02	.1384+00
P-H2O/P-PROP= 18.0000							
.5691+02	.9138+01	.2525+03	.6227+01	.2055+03	.7598+02	.2009+02	.1289+00
P-H2O/P-PROP= 19.0000							
.6083+02	.8669+01	.2389+03	.7018+01	.2053+03	.7602+02	.1901+02	.1206+00
P-H2O/P-PROP= 20.0000							
.6476+02	.8202+01	.2254+03	.7895+01	.2051+03	.7606+02	.1794+02	.1133+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 2000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6916+01	.1335+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.3519+01	.3175+02	.8946+03	.1108+00	.2072+03	.1507+03	.7119+02	.4169+01
P-H2O/P-PROP= 5.0000							
.1141+02	.3978+02	.8664+03	.3707+00	.2071+03	.1494+03	.6895+02	.1286+01
P-H2O/P-PROP= 6.0000							
.1930+02	.2980+02	.8383+03	.6475+00	.2070+03	.1480+03	.6671+02	.7601+00
P-H2O/P-PROP= 7.0000							
.2718+02	.2883+02	.8102+03	.9429+00	.2070+03	.1482+03	.6447+02	.5396+00
P-H2O/P-PROP= 8.0000							
.3507+02	.2786+02	.7821+03	.1259+01	.2069+03	.1475+03	.6224+02	.4182+00
P-H2O/P-PROP= 9.0000							
.4296+02	.2689+02	.7541+03	.1597+01	.2068+03	.1469+03	.6001+02	.3415+00
P-H2O/P-PROP= 10.0000							
.5084+02	.2593+02	.7261+03	.1961+01	.2067+03	.1464+03	.5778+02	.2885+00
P-H2O/P-PROP= 11.0000							
.5872+02	.2496+02	.6982+03	.2353+01	.2066+03	.1459+03	.5556+02	.2498+00
P-H2O/P-PROP= 12.0000							
.6660+02	.2400+02	.6703+03	.2775+01	.2065+03	.1455+03	.5334+02	.2202+00
P-H2O/P-PROP= 13.0000							
.7448+02	.2303+02	.6426+03	.3233+01	.2064+03	.1452+03	.5113+02	.1970+00
P-H2O/P-PROP= 14.0000							
.8235+02	.2208+02	.6148+03	.3730+01	.2062+03	.1450+03	.4893+02	.1781+00
P-H2O/P-PROP= 15.0000							
.9022+02	.2112+02	.5872+03	.4272+01	.2061+03	.1446+03	.4673+02	.1626+00
P-H2O/P-PROP= 16.0000							
.9809+02	.2017+02	.5597+03	.4864+01	.2059+03	.1447+03	.4454+02	.1495+00
P-H2O/P-PROP= 17.0000							
.1060+03	.1922+02	.5322+03	.5513+01	.2057+03	.1447+03	.4235+02	.1384+00
P-H2O/P-PROP= 18.0000							
.1138+03	.1828+02	.5049+03	.6227+01	.2055+03	.1448+03	.4018+02	.1289+00
P-H2O/P-PROP= 19.0000							
.1217+03	.1734+02	.4778+03	.7018+01	.2053+03	.1449+03	.3802+02	.1206+00
P-H2O/P-PROP= 20.0000							
.1295+03	.1640+02	.4508+03	.7895+01	.2051+03	.1451+03	.3588+02	.1133+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 3000.

CL-5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1037+02	.2002+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.5278+01	.4743+02	.1342+04	.1108+00	.2072+03	.2198+03	.1068+03	.4169+01
P-H20/P-PROP= 5.0000							
.1711+02	.4617+02	.1300+04	.3707+00	.2071+03	.2177+03	.1034+03	.1286+01
P-H20/P-PROP= 6.0000							
.2895+02	.4471+02	.1257+04	.6475+00	.2070+03	.2156+03	.1001+03	.7601+00
P-H20/P-PROP= 7.0000							
.4078+02	.4325+02	.1215+04	.9429+00	.2070+03	.2141+03	.9671+02	.5396+00
P-H20/P-PROP= 8.0000							
.5261+02	.4179+02	.1173+04	.1259+01	.2069+03	.2126+03	.9336+02	.4182+00
P-H20/P-PROP= 9.0000							
.6443+02	.4034+02	.1131+04	.1597+01	.2068+03	.2112+03	.9001+02	.3415+00
P-H20/P-PROP= 10.0000							
.7626+02	.3889+02	.1089+04	.1961+01	.2067+03	.2100+03	.8668+02	.2885+00
P-H20/P-PROP= 11.0000							
.8808+02	.3744+02	.1047+04	.2353+01	.2066+03	.2090+03	.8334+02	.2498+00
P-H20/P-PROP= 12.0000							
.9990+02	.3599+02	.1006+04	.2775+01	.2065+03	.2081+03	.8002+02	.2202+00
P-H20/P-PROP= 13.0000							
.1117+03	.3455+02	.9638+03	.3233+01	.2064+03	.2074+03	.7670+02	.1970+00
P-H20/P-PROP= 14.0000							
.1235+03	.3311+02	.9222+03	.3730+01	.2062+03	.2069+03	.7339+02	.1781+00
P-H20/P-PROP= 15.0000							
.1353+03	.3166+02	.8808+03	.4272+01	.2061+03	.2065+03	.7009+02	.1626+00
P-H20/P-PROP= 16.0000							
.1471+03	.3025+02	.8395+03	.4864+01	.2059+03	.2063+03	.6681+02	.1495+00
P-H20/P-PROP= 17.0000							
.1589+03	.2883+02	.7984+03	.5513+01	.2057+03	.2063+03	.6353+02	.1384+00
P-H20/P-PROP= 18.0000							
.1707+03	.2741+02	.7574+03	.6227+01	.2055+03	.2064+03	.6027+02	.1289+00
P-H20/P-PROP= 19.0000							
.1825+03	.2601+02	.7167+03	.7018+01	.2053+03	.2067+03	.5703+02	.1206+00
P-H20/P-PROP= 20.0000							
.1943+03	.2461+02	.6762+03	.7895+01	.2051+03	.2071+03	.5381+02	.1133+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 4000.

CL-5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1383+02	.2669+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.7037+01	.6350+02	.1789+04	.1108+00	.2072+03	.2846+03	.1424+03	.4169+01
P-H20/P-PROP= 5.0000							
.2282+02	.6155+02	.1733+04	.3707+00	.2071+03	.2809+03	.1379+03	.1286+01
P-H20/P-PROP= 6.0000							
.3859+02	.5961+02	.1677+04	.6475+00	.2070+03	.2776+03	.1334+03	.7601+00
P-H20/P-PROP= 7.0000							
.5437+02	.5766+02	.1620+04	.9429+00	.2070+03	.2745+03	.1289+03	.5396+00
P-H20/P-PROP= 8.0000							
.7014+02	.5572+02	.1564+04	.1259+01	.2069+03	.2718+03	.1245+03	.4182+00
P-H20/P-PROP= 9.0000							
.8591+02	.5379+02	.1508+04	.1597+01	.2068+03	.2694+03	.1200+03	.3415+00
P-H20/P-PROP= 10.0000							
.1017+03	.5185+02	.1452+04	.1961+01	.2067+03	.2672+03	.1156+03	.2885+00
P-H20/P-PROP= 11.0000							
.1174+03	.4992+02	.1396+04	.2353+01	.2066+03	.2654+03	.1111+03	.2498+00
P-H20/P-PROP= 12.0000							
.1332+03	.4799+02	.1341+04	.2775+01	.2065+03	.2639+03	.1067+03	.2202+00
P-H20/P-PROP= 13.0000							
.1490+03	.4607+02	.1285+04	.3233+01	.2064+03	.2626+03	.1023+03	.1970+00
P-H20/P-PROP= 14.0000							
.1647+03	.4415+02	.1230+04	.3730+01	.2062+03	.2617+03	.9785+02	.1781+00
P-H20/P-PROP= 15.0000							
.1804+03	.4224+02	.1174+04	.4272+01	.2061+03	.2610+03	.9346+02	.1626+00
P-H20/P-PROP= 16.0000							
.1962+03	.4034+02	.1119+04	.4864+01	.2059+03	.2607+03	.8907+02	.1495+00
P-H20/P-PROP= 17.0000							
.2119+03	.3844+02	.1064+04	.5513+01	.2057+03	.2606+03	.8471+02	.1384+00
P-H20/P-PROP= 18.0000							
.2276+03	.3655+02	.1010+04	.6227+01	.2055+03	.2606+03	.8036+02	.1289+00
P-H20/P-PROP= 19.0000							
.2433+03	.3467+02	.9556+03	.7018+01	.2053+03	.2613+03	.7604+02	.1206+00
P-H20/P-PROP= 20.0000							
.2590+03	.3281+02	.9017+03	.7895+01	.2051+03	.2621+03	.7175+02	.1133+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 5000.

CL-B-HYDRAZINE

PROP-P/SEC	MDH P/SEC	ISP	BTU/PP
.1729+02	.3337+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.8796+01	.7938+02	.2236+04	.1108+00	.2072+03	.3452+03	.1780+03	.4169+01
P-H20/P-PROP= 5.0000							
.2852+02	.7694+02	.2166+04	.3707+00	.2071+03	.3395+03	.1724+03	.1286+01
P-H20/P-PROP= 6.0000							
.4824+02	.7451+02	.2096+04	.6475+00	.2070+03	.3343+03	.1668+03	.7601+00
P-H20/P-PROP= 7.0000							
.6796+02	.7208+02	.2025+04	.9429+00	.2070+03	.3295+03	.1612+03	.5396+00
P-H20/P-PROP= 8.0000							
.8768+02	.6965+02	.1955+04	.1259+01	.2069+03	.3252+03	.1556+03	.4182+00
P-H20/P-PROP= 9.0000							
.1074+03	.6723+02	.1885+04	.1597+01	.2068+03	.3214+03	.1500+03	.3415+00
P-H20/P-PROP= 10.0000							
.1271+03	.6481+02	.1815+04	.1961+01	.2067+03	.3181+03	.1445+03	.2885+00
P-H20/P-PROP= 11.0000							
.1468+03	.6240+02	.1746+04	.2353+01	.2066+03	.3152+03	.1389+03	.2498+00
P-H20/P-PROP= 12.0000							
.1665+03	.5999+02	.1676+04	.2775+01	.2065+03	.3128+03	.1334+03	.2202+00
P-H20/P-PROP= 13.0000							
.1862+03	.5759+02	.1606+04	.3233+01	.2064+03	.3109+03	.1278+03	.1970+00
P-H20/P-PROP= 14.0000							
.2059+03	.5519+02	.1537+04	.3730+01	.2062+03	.3094+03	.1223+03	.1781+00
P-H20/P-PROP= 15.0000							
.2256+03	.5280+02	.1468+04	.4272+01	.2061+03	.3084+03	.1168+03	.1626+00
P-H20/P-PROP= 16.0000							
.2452+03	.5042+02	.1399+04	.4864+01	.2059+03	.3076+03	.1113+03	.1495+00
P-H20/P-PROP= 17.0000							
.2649+03	.4805+02	.1331+04	.5513+01	.2057+03	.3077+03	.1059+03	.1384+00
P-H20/P-PROP= 18.0000							
.2845+03	.4569+02	.1262+04	.6227+01	.2055+03	.3081+03	.1005+03	.1289+00
P-H20/P-PROP= 19.0000							
.3042+03	.4334+02	.1194+04	.7018+01	.2053+03	.3088+03	.9506+02	.1206+00
P-H20/P-PROP= 20.0000							
.3238+03	.4101+02	.1127+04	.7895+01	.2051+03	.3100+03	.8969+02	.1133+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 6000.

CL-B-HYDRAZINE

PROP-P/SEC	MDH P/SEC	ISP	BTU/PP
.2075+02	.4004+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1056+02	.9525+02	.2684+04	.1108+00	.2072+03	.4016+03	.2136+03	.4169+01
P-H20/P-PROP= 5.0000							
.3423+02	.9233+02	.2599+04	.3707+00	.2071+03	.3934+03	.2068+03	.1286+01
P-H20/P-PROP= 6.0000							
.5789+02	.8941+02	.2515+04	.6475+00	.2070+03	.3858+03	.2001+03	.7601+00
P-H20/P-PROP= 7.0000							
.8155+02	.8650+02	.2431+04	.9429+00	.2070+03	.3790+03	.1934+03	.5396+00
P-H20/P-PROP= 8.0000							
.1052+03	.8358+02	.2346+04	.1259+01	.2069+03	.3728+03	.1867+03	.4182+00
P-H20/P-PROP= 9.0000							
.1289+03	.8068+02	.2262+04	.1597+01	.2068+03	.3673+03	.1800+03	.3415+00
P-H20/P-PROP= 10.0000							
.1525+03	.7778+02	.2178+04	.1961+01	.2067+03	.3625+03	.1734+03	.2885+00
P-H20/P-PROP= 11.0000							
.1762+03	.7488+02	.2095+04	.2353+01	.2066+03	.3584+03	.1667+03	.2498+00
P-H20/P-PROP= 12.0000							
.1998+03	.7199+02	.2011+04	.2775+01	.2065+03	.3550+03	.1600+03	.2202+00
P-H20/P-PROP= 13.0000							
.2234+03	.6910+02	.1928+04	.3233+01	.2064+03	.3522+03	.1534+03	.1970+00
P-H20/P-PROP= 14.0000							
.2470+03	.6623+02	.1844+04	.3730+01	.2062+03	.3501+03	.1468+03	.1781+00
P-H20/P-PROP= 15.0000							
.2707+03	.6336+02	.1762+04	.4272+01	.2061+03	.3486+03	.1402+03	.1626+00
P-H20/P-PROP= 16.0000							
.2943+03	.6050+02	.1679+04	.4864+01	.2059+03	.3478+03	.1336+03	.1495+00
P-H20/P-PROP= 17.0000							
.3179+03	.5766+02	.1597+04	.5513+01	.2057+03	.3475+03	.1271+03	.1384+00
P-H20/P-PROP= 18.0000							
.3414+03	.5483+02	.1515+04	.6227+01	.2055+03	.3481+03	.1205+03	.1289+00
P-H20/P-PROP= 19.0000							
.3650+03	.5201+02	.1433+04	.7018+01	.2053+03	.3492+03	.1141+03	.1206+00
P-H20/P-PROP= 20.0000							
.3885+03	.4921+02	.1352+04	.7895+01	.2051+03	.3509+03	.1076+03	.1133+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 7000.

CL-5-HYDRAZINE

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.2470+02	.4672+02	.2892+03	.2956+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1232+02	.1111+03	.3131+04	.1108+00	.2072+03	.4536+03	.2492+03	.4169+01
P-H20/P-PROP= 5.0000							
.3993+02	.1077+03	.3032+04	.3707+00	.2071+03	.4426+03	.2413+03	.1286+01
P-H20/P-PROP= 6.0000							
.6754+02	.1043+03	.2934+04	.6475+00	.2070+03	.4323+03	.2335+03	.7601+00
P-H20/P-PROP= 7.0000							
.9515+02	.1009+03	.2836+04	.9429+00	.2070+03	.4230+03	.2257+03	.5396+00
P-H20/P-PROP= 8.0000							
.1227+03	.9752+02	.2737+04	.1259+01	.2069+03	.4146+03	.2178+03	.4182+00
P-H20/P-PROP= 9.0000							
.1503+03	.9412+02	.2639+04	.1597+01	.2068+03	.4072+03	.2100+03	.3415+00
P-H20/P-PROP= 10.0000							
.1779+03	.9074+02	.2541+04	.1961+01	.2067+03	.4006+03	.2022+03	.2885+00
P-H20/P-PROP= 11.0000							
.2055+03	.8736+02	.2444+04	.2353+01	.2066+03	.3950+03	.1945+03	.2498+00
P-H20/P-PROP= 12.0000							
.2331+03	.8399+02	.2346+04	.2775+01	.2065+03	.3903+03	.1867+03	.2202+00
P-H20/P-PROP= 13.0000							
.2607+03	.8062+02	.2249+04	.3233+01	.2064+03	.3865+03	.1790+03	.1970+00
P-H20/P-PROP= 14.0000							
.2882+03	.7727+02	.2152+04	.3730+01	.2062+03	.3836+03	.1712+03	.1781+00
P-H20/P-PROP= 15.0000							
.3158+03	.7392+02	.2055+04	.4272+01	.2061+03	.3816+03	.1635+03	.1626+00
P-H20/P-PROP= 16.0000							
.3433+03	.7059+02	.1959+04	.4864+01	.2059+03	.3805+03	.1559+03	.1495+00
P-H20/P-PROP= 17.0000							
.3708+03	.6727+02	.1863+04	.5513+01	.2057+03	.3803+03	.1482+03	.1384+00
P-H20/P-PROP= 18.0000							
.3983+03	.6397+02	.1767+04	.6227+01	.2055+03	.3810+03	.1406+03	.1289+00
P-H20/P-PROP= 19.0000							
.4258+03	.6068+02	.1672+04	.7018+01	.2053+03	.3825+03	.1331+03	.1206+00
P-H20/P-PROP= 20.0000							
.4533+03	.5742+02	.1578+04	.7895+01	.2051+03	.3848+03	.1256+03	.1133+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 8000.

CL-5-HYDRAZINE

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.2756+02	.5339+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1407+02	.1270+03	.3578+04	.1108+00	.2072+03	.5017+03	.2848+03	.4169+01
P-H20/P-PROP= 5.0000							
.4563+02	.1231+03	.3466+04	.3707+00	.2071+03	.4871+03	.2758+03	.1286+01
P-H20/P-PROP= 6.0000							
.7719+02	.1192+03	.3353+04	.6475+00	.2070+03	.4737+03	.2668+03	.7601+00
P-H20/P-PROP= 7.0000							
.1087+03	.1153+03	.3241+04	.9429+00	.2070+03	.4616+03	.2579+03	.5396+00
P-H20/P-PROP= 8.0000							
.1403+03	.1114+03	.3128+04	.1259+01	.2069+03	.4506+03	.2490+03	.4182+00
P-H20/P-PROP= 9.0000							
.1718+03	.1076+03	.3016+04	.1597+01	.2068+03	.4409+03	.2400+03	.3415+00
P-H20/P-PROP= 10.0000							
.2034+03	.1037+03	.2904+04	.1961+01	.2067+03	.4323+03	.2311+03	.2885+00
P-H20/P-PROP= 11.0000							
.2349+03	.9984+02	.2793+04	.2353+01	.2066+03	.4250+03	.2222+03	.2498+00
P-H20/P-PROP= 12.0000							
.2664+03	.9598+02	.2681+04	.2775+01	.2065+03	.4188+03	.2134+03	.2202+00
P-H20/P-PROP= 13.0000							
.2979+03	.9214+02	.2570+04	.3233+01	.2064+03	.4139+03	.2045+03	.1970+00
P-H20/P-PROP= 14.0000							
.3294+03	.8830+02	.2459+04	.3730+01	.2062+03	.4101+03	.1957+03	.1781+00
P-H20/P-PROP= 15.0000							
.3609+03	.8448+02	.2349+04	.4272+01	.2061+03	.4075+03	.1869+03	.1626+00
P-H20/P-PROP= 16.0000							
.3924+03	.8067+02	.2239+04	.4864+01	.2059+03	.4061+03	.1781+03	.1495+00
P-H20/P-PROP= 17.0000							
.4238+03	.7688+02	.2129+04	.5513+01	.2057+03	.4058+03	.1694+03	.1384+00
P-H20/P-PROP= 18.0000							
.4553+03	.7310+02	.2020+04	.6227+01	.2055+03	.4066+03	.1607+03	.1289+00
P-H20/P-PROP= 19.0000							
.4867+03	.6935+02	.1911+04	.7018+01	.2053+03	.4086+03	.1521+03	.1206+00
P-H20/P-PROP= 20.0000							
.5181+03	.6562+02	.1803+04	.7895+01	.2051+03	.4117+03	.1435+03	.1133+00

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 9000.

CL-5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3112+02	.6006+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1563+02	.1429+03	.4026+04	.1108+00	.2072+03	.5459+03	.3203+03	.4169+01
P-H20/P-PROP= 5.0000							
.5134+02	.1385+03	.3899+04	.3707+00	.2071+03	.5270+03	.3103+03	.1286+01
P-H20/P-PROP= 6.0000							
.8664+02	.1341+03	.3772+04	.6475+00	.2070+03	.5100+03	.3002+03	.7601+00
P-H20/P-PROP= 7.0000							
.1223+03	.1297+03	.3646+04	.9429+00	.2070+03	.4946+03	.2901+03	.5396+00
P-H20/P-PROP= 8.0000							
.1578+03	.1254+03	.3520+04	.1259+01	.2069+03	.4808+03	.2801+03	.4182+00
P-H20/P-PROP= 9.0000							
.1933+03	.1210+03	.3393+04	.1597+01	.2068+03	.4684+03	.2700+03	.3415+00
P-H20/P-PROP= 10.0000							
.2288+03	.1167+03	.3268+04	.1961+01	.2067+03	.4576+03	.2600+03	.2885+00
P-H20/P-PROP= 11.0000							
.2642+03	.1123+03	.3142+04	.2353+01	.2066+03	.4483+03	.2500+03	.2498+00
P-H20/P-PROP= 12.0000							
.2997+03	.1080+03	.3017+04	.2775+01	.2065+03	.4406+03	.2401+03	.2202+00
P-H20/P-PROP= 13.0000							
.3351+03	.1037+03	.2891+04	.3233+01	.2064+03	.4343+03	.2301+03	.1970+00
P-H20/P-PROP= 14.0000							
.3706+03	.9934+02	.2767+04	.3730+01	.2062+03	.4295+03	.2202+03	.1781+00
P-H20/P-PROP= 15.0000							
.4060+03	.9504+02	.2642+04	.4272+01	.2061+03	.4262+03	.2103+03	.1626+00
P-H20/P-PROP= 16.0000							
.4414+03	.9076+02	.2518+04	.4864+01	.2059+03	.4244+03	.2004+03	.1495+00
P-H20/P-PROP= 17.0000							
.4768+03	.8649+02	.2395+04	.5513+01	.2057+03	.4241+03	.1906+03	.1384+00
P-H20/P-PROP= 18.0000							
.5122+03	.8224+02	.2272+04	.6227+01	.2055+03	.4251+03	.1808+03	.1289+00
P-H20/P-PROP= 19.0000							
.5475+03	.7802+02	.2150+04	.7018+01	.2053+03	.4276+03	.1711+03	.1206+00
P-H20/P-PROP= 20.0000							
.5828+03	.7382+02	.2029+04	.7895+01	.2051+03	.4315+03	.1614+03	.1133+00

LIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 1000.

CL-5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3458+01	.6674+01	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1737+01	.1588+02	.4473+03	.1108+00	.2072+03	.6156+02	.2812+02	.4169+01
P-H20/P-PROP= 5.0000							
.5704+01	.1539+02	.4332+03	.3707+00	.2071+03	.6142+02	.2724+02	.1286+01
P-H20/P-PROP= 6.0000							
.9649+01	.1490+02	.4191+03	.6475+00	.2070+03	.6129+02	.2635+02	.7601+00
P-H20/P-PROP= 7.0000							
.1359+02	.1442+02	.4051+03	.9429+00	.2070+03	.6117+02	.2547+02	.5396+00
P-H20/P-PROP= 8.0000							
.1754+02	.1393+02	.3911+03	.1259+01	.2069+03	.6106+02	.2459+02	.4182+00
P-H20/P-PROP= 9.0000							
.2148+02	.1345+02	.3770+03	.1597+01	.2068+03	.6097+02	.2371+02	.3415+00
P-H20/P-PROP= 10.0000							
.2542+02	.1296+02	.3631+03	.1961+01	.2067+03	.6088+02	.2283+02	.2885+00
P-H20/P-PROP= 11.0000							
.2936+02	.1248+02	.3491+03	.2353+01	.2066+03	.6081+02	.2195+02	.2498+00
P-H20/P-PROP= 12.0000							
.3330+02	.1200+02	.3352+03	.2775+01	.2065+03	.6075+02	.2107+02	.2202+00
P-H20/P-PROP= 13.0000							
.3724+02	.1152+02	.3213+03	.3233+01	.2064+03	.6070+02	.2020+02	.1970+00
P-H20/P-PROP= 14.0000							
.4117+02	.1104+02	.3074+03	.3730+01	.2062+03	.6067+02	.1933+02	.1781+00
P-H20/P-PROP= 15.0000							
.4511+02	.1056+02	.2936+03	.4272+01	.2061+03	.6064+02	.1846+02	.1626+00
P-H20/P-PROP= 16.0000							
.4904+02	.1008+02	.2798+03	.4864+01	.2059+03	.6063+02	.1759+02	.1495+00
P-H20/P-PROP= 17.0000							
.5298+02	.9610+01	.2661+03	.5513+01	.2057+03	.6062+02	.1673+02	.1384+00
P-H20/P-PROP= 18.0000							
.5691+02	.9138+01	.2525+03	.6227+01	.2055+03	.6063+02	.1587+02	.1289+00
P-H20/P-PROP= 19.0000							
.6083+02	.8669+01	.2389+03	.7018+01	.2053+03	.6065+02	.1502+02	.1206+00
P-H20/P-PROP= 20.0000							
.6476+02	.8202+01	.2254+03	.7895+01	.2051+03	.6068+02	.1417+02	.1133+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 2000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6916+01	.1345+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.3519+01	.3175+02	.8946+03	.1108+00	.2072+03	.1209+03	.5625+02	.4169+01
P-H2O/P-PROP= 5.0000							
.1141+02	.3078+02	.8664+03	.3707+00	.2071+03	.1199+03	.5448+02	.1286+01
P-H2O/P-PROP= 6.0000							
.1930+02	.2980+02	.8383+03	.6475+00	.2070+03	.1194+03	.5271+02	.7601+00
P-H2O/P-PROP= 7.0000							
.2716+02	.2883+02	.8102+03	.9429+00	.2070+03	.1189+03	.5094+02	.5396+00
P-H2O/P-PROP= 8.0000							
.3507+02	.2786+02	.7821+03	.1259+01	.2069+03	.1185+03	.4918+02	.4182+00
P-H2O/P-PROP= 9.0000							
.4296+02	.2689+02	.7541+03	.1597+01	.2068+03	.1181+03	.4741+02	.3415+00
P-H2O/P-PROP= 10.0000							
.5084+02	.2593+02	.7261+03	.1961+01	.2067+03	.1178+03	.4566+02	.2885+00
P-H2O/P-PROP= 11.0000							
.5872+02	.2496+02	.6982+03	.2353+01	.2066+03	.1175+03	.4390+02	.2498+00
P-H2O/P-PROP= 12.0000							
.6660+02	.2400+02	.6703+03	.2775+01	.2065+03	.1173+03	.4215+02	.2202+00
P-H2O/P-PROP= 13.0000							
.7448+02	.2303+02	.6426+03	.3233+01	.2064+03	.1171+03	.4040+02	.1970+00
P-H2O/P-PROP= 14.0000							
.8235+02	.2208+02	.6148+03	.3730+01	.2062+03	.1169+03	.3866+02	.1781+00
P-H2O/P-PROP= 15.0000							
.9022+02	.2112+02	.5872+03	.4272+01	.2061+03	.1168+03	.3692+02	.1626+00
P-H2O/P-PROP= 16.0000							
.9809+02	.2017+02	.5597+03	.4864+01	.2059+03	.1168+03	.3519+02	.1495+00
P-H2O/P-PROP= 17.0000							
.1060+03	.1922+02	.5322+03	.5513+01	.2057+03	.1167+03	.3347+02	.1384+00
P-H2O/P-PROP= 18.0000							
.1138+03	.1828+02	.5049+03	.6227+01	.2055+03	.1168+03	.3175+02	.1289+00
P-H2O/P-PROP= 19.0000							
.1217+03	.1734+02	.4778+03	.7018+01	.2053+03	.1169+03	.3004+02	.1206+00
P-H2O/P-PROP= 20.0000							
.1295+03	.1640+02	.4508+03	.7895+01	.2051+03	.1170+03	.2835+02	.1133+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 3000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1037+02	.2002+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.5278+01	.4763+02	.1342+04	.1108+00	.2072+03	.1768+03	.8437+02	.4169+01
P-H2O/P-PROP= 5.0000							
.1711+02	.4617+02	.1300+04	.3707+00	.2071+03	.1755+03	.8172+02	.1286+01
P-H2O/P-PROP= 6.0000							
.2895+02	.4471+02	.1257+04	.6475+00	.2070+03	.1743+03	.7906+02	.7601+00
P-H2O/P-PROP= 7.0000							
.4078+02	.4325+02	.1215+04	.9429+00	.2070+03	.1733+03	.7641+02	.5396+00
P-H2O/P-PROP= 8.0000							
.5261+02	.4179+02	.1173+04	.1259+01	.2069+03	.1723+03	.7377+02	.4182+00
P-H2O/P-PROP= 9.0000							
.6443+02	.4034+02	.1131+04	.1597+01	.2068+03	.1714+03	.7112+02	.3415+00
P-H2O/P-PROP= 10.0000							
.7626+02	.3889+02	.1089+04	.1961+01	.2067+03	.1707+03	.6848+02	.2885+00
P-H2O/P-PROP= 11.0000							
.8808+02	.3744+02	.1047+04	.2353+01	.2066+03	.1700+03	.6585+02	.2498+00
P-H2O/P-PROP= 12.0000							
.9990+02	.3599+02	.1006+04	.2775+01	.2065+03	.1695+03	.6322+02	.2202+00
P-H2O/P-PROP= 13.0000							
.1117+03	.3455+02	.9638+03	.3233+01	.2064+03	.1691+03	.6060+02	.1970+00
P-H2O/P-PROP= 14.0000							
.1235+03	.3311+02	.9222+03	.3730+01	.2062+03	.1687+03	.5799+02	.1781+00
P-H2O/P-PROP= 15.0000							
.1353+03	.3168+02	.8808+03	.4272+01	.2061+03	.1685+03	.5538+02	.1626+00
P-H2O/P-PROP= 16.0000							
.1471+03	.3025+02	.8395+03	.4864+01	.2059+03	.1684+03	.5278+02	.1495+00
P-H2O/P-PROP= 17.0000							
.1589+03	.2883+02	.7984+03	.5513+01	.2057+03	.1684+03	.5020+02	.1384+00
P-H2O/P-PROP= 18.0000							
.1707+03	.2741+02	.7574+03	.6227+01	.2055+03	.1684+03	.4762+02	.1289+00
P-H2O/P-PROP= 19.0000							
.1825+03	.2601+02	.7167+03	.7018+01	.2053+03	.1686+03	.4506+02	.1206+00
P-H2O/P-PROP= 20.0000							
.1943+03	.2461+02	.6762+03	.7895+01	.2051+03	.1689+03	.4252+02	.1133+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 4000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1383+02	.2869+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	VEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.7037+01	.6350+02	.1789+04	.1108+00	.2072+03	.2303+03	.1125+03	.4169+01
P-H20/P-PROP= 5.0000							
.2252+02	.6155+02	.1733+04	.3707+00	.2071+03	.2282+03	.1090+03	.1286+01
P-H20/P-PROP= 6.0000							
.3859+02	.5961+02	.1677+04	.6475+00	.2070+03	.2261+03	.1054+03	.7601+00
P-H20/P-PROP= 7.0000							
.5467+02	.5766+02	.1620+04	.9429+00	.2070+03	.2242+03	.1019+03	.5396+00
P-H20/P-PROP= 8.0000							
.7014+02	.5572+02	.1564+04	.1259+01	.2069+03	.2225+03	.9835+02	.4182+00
P-H20/P-PROP= 9.0000							
.8591+02	.5379+02	.1508+04	.1597+01	.2068+03	.2210+03	.9483+02	.3415+00
P-H20/P-PROP= 10.0000							
.1017+03	.5185+02	.1452+04	.1961+01	.2067+03	.2196+03	.9131+02	.2885+00
P-H20/P-PROP= 11.0000							
.1174+03	.4992+02	.1396+04	.2353+01	.2066+03	.2185+03	.8780+02	.2498+00
P-H20/P-PROP= 12.0000							
.1332+03	.4799+02	.1341+04	.2775+01	.2065+03	.2175+03	.8430+02	.2202+00
P-H20/P-PROP= 13.0000							
.1490+03	.4607+02	.1285+04	.3233+01	.2064+03	.2167+03	.8080+02	.1970+00
P-H20/P-PROP= 14.0000							
.1647+03	.4415+02	.1230+04	.3730+01	.2062+03	.2162+03	.7732+02	.1781+00
P-H20/P-PROP= 15.0000							
.1804+03	.4224+02	.1174+04	.4272+01	.2061+03	.2157+03	.7384+02	.1626+00
P-H20/P-PROP= 16.0000							
.1962+03	.4034+02	.1119+04	.4864+01	.2059+03	.2155+03	.7038+02	.1495+00
P-H20/P-PROP= 17.0000							
.2119+03	.3844+02	.1064+04	.5513+01	.2057+03	.2155+03	.6693+02	.1384+00
P-H20/P-PROP= 18.0000							
.2276+03	.3655+02	.1010+04	.6227+01	.2055+03	.2156+03	.6350+02	.1289+00
P-H20/P-PROP= 19.0000							
.2433+03	.3467+02	.9556+03	.7018+01	.2053+03	.2159+03	.6008+02	.1206+00
P-H20/P-PROP= 20.0000							
.2590+03	.3281+02	.9017+03	.7895+01	.2051+03	.2164+03	.5669+02	.1133+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 5000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1729+02	.3587+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	VEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.8796+01	.7938+02	.2236+04	.1108+00	.2072+03	.2879+03	.1406+03	.4169+01
P-H20/P-PROP= 5.0000							
.2815+02	.7694+02	.2166+04	.3707+00	.2071+03	.2779+03	.1362+03	.1286+01
P-H20/P-PROP= 6.0000							
.4824+02	.7451+02	.2096+04	.6475+00	.2070+03	.2747+03	.1318+03	.7601+00
P-H20/P-PROP= 7.0000							
.6796+02	.7208+02	.2025+04	.9429+00	.2070+03	.2717+03	.1274+03	.5396+00
P-H20/P-PROP= 8.0000							
.8768+02	.6965+02	.1955+04	.1259+01	.2069+03	.2690+03	.1229+03	.4182+00
P-H20/P-PROP= 9.0000							
.1074+03	.6723+02	.1885+04	.1597+01	.2068+03	.2666+03	.1185+03	.3415+00
P-H20/P-PROP= 10.0000							
.1271+03	.6481+02	.1815+04	.1961+01	.2067+03	.2646+03	.1141+03	.2885+00
P-H20/P-PROP= 11.0000							
.1468+03	.6240+02	.1746+04	.2353+01	.2066+03	.2628+03	.1098+03	.2498+00
P-H20/P-PROP= 12.0000							
.1665+03	.5999+02	.1676+04	.2775+01	.2065+03	.2613+03	.1054+03	.2202+00
P-H20/P-PROP= 13.0000							
.1862+03	.5759+02	.1606+04	.3233+01	.2064+03	.2601+03	.1010+03	.1970+00
P-H20/P-PROP= 14.0000							
.2059+03	.5519+02	.1537+04	.3730+01	.2062+03	.2591+03	.9665+02	.1781+00
P-H20/P-PROP= 15.0000							
.2256+03	.5280+02	.1468+04	.4272+01	.2061+03	.2585+03	.9230+02	.1626+00
P-H20/P-PROP= 16.0000							
.2452+03	.5042+02	.1399+04	.4864+01	.2059+03	.2582+03	.8797+02	.1495+00
P-H20/P-PROP= 17.0000							
.2649+03	.4805+02	.1331+04	.5513+01	.2057+03	.2581+03	.8366+02	.1384+00
P-H20/P-PROP= 18.0000							
.2845+03	.4569+02	.1262+04	.6227+01	.2055+03	.2583+03	.7937+02	.1289+00
P-H20/P-PROP= 19.0000							
.3042+03	.4334+02	.1194+04	.7018+01	.2053+03	.2586+03	.7511+02	.1206+00
P-H20/P-PROP= 20.0000							
.3238+03	.4101+02	.1127+04	.7895+01	.2051+03	.2590+03	.7087+02	.1133+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 6000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2079+02	.4004+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1056+02	.9525+02	.2084+04	.1108+00	.2072+03	.3299+03	.1687+03	.4169+01
P-H2O/P-PROP= 5.0000							
.3423+02	.9233+02	.2599+04	.3707+00	.2071+03	.3248+03	.1634+03	.1286+01
P-H2O/P-PROP= 6.0000							
.5749+02	.8941+02	.2515+04	.6475+00	.2070+03	.3201+03	.1581+03	.7601+00
P-H2O/P-PROP= 7.0000							
.8155+02	.8650+02	.2431+04	.9429+00	.2070+03	.3156+03	.1528+03	.5396+00
P-H2O/P-PROP= 8.0000							
.1052+03	.8358+02	.2346+04	.1259+01	.2069+03	.3119+03	.1475+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1289+03	.8068+02	.2262+04	.1597+01	.2068+03	.3085+03	.1422+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1525+03	.7778+02	.2178+04	.1961+01	.2067+03	.3055+03	.1370+03	.2885+00
P-H2O/P-PROP= 11.0000							
.1762+03	.7488+02	.2095+04	.2353+01	.2066+03	.3029+03	.1317+03	.2498+00
P-H2O/P-PROP= 12.0000							
.1998+03	.7199+02	.2011+04	.2775+01	.2065+03	.3006+03	.1264+03	.2202+00
P-H2O/P-PROP= 13.0000							
.2234+03	.6910+02	.1928+04	.3233+01	.2064+03	.2990+03	.1212+03	.1970+00
P-H2O/P-PROP= 14.0000							
.2470+03	.6623+02	.1844+04	.3730+01	.2062+03	.2977+03	.1160+03	.1781+00
P-H2O/P-PROP= 15.0000							
.2707+03	.6336+02	.1762+04	.4272+01	.2061+03	.2968+03	.1108+03	.1626+00
P-H2O/P-PROP= 16.0000							
.2943+03	.6050+02	.1679+04	.4864+01	.2059+03	.2963+03	.1056+03	.1495+00
P-H2O/P-PROP= 17.0000							
.3179+03	.5766+02	.1597+04	.5513+01	.2057+03	.2962+03	.1004+03	.1384+00
P-H2O/P-PROP= 18.0000							
.3414+03	.5483+02	.1515+04	.6227+01	.2055+03	.2965+03	.9525+02	.1289+00
P-H2O/P-PROP= 19.0000							
.3650+03	.5201+02	.1433+04	.7018+01	.2053+03	.2972+03	.9013+02	.1206+00
P-H2O/P-PROP= 20.0000							
.3885+03	.4921+02	.1352+04	.7895+01	.2051+03	.2983+03	.8504+02	.1133+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 7000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2420+02	.4672+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1232+02	.1111+03	.3131+04	.1108+00	.2072+03	.3757+03	.1969+03	.4169+01
P-H2O/P-PROP= 5.0000							
.3993+02	.1077+03	.3032+04	.3707+00	.2071+03	.3687+03	.1907+03	.1286+01
P-H2O/P-PROP= 6.0000							
.6754+02	.1043+03	.2934+04	.6475+00	.2070+03	.3623+03	.1845+03	.7601+00
P-H2O/P-PROP= 7.0000							
.9515+02	.1009+03	.2836+04	.9429+00	.2070+03	.3565+03	.1783+03	.5396+00
P-H2O/P-PROP= 8.0000							
.1227+03	.9752+02	.2737+04	.1259+01	.2069+03	.3512+03	.1721+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1503+03	.9412+02	.2639+04	.1597+01	.2068+03	.3466+03	.1660+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1779+03	.9074+02	.2541+04	.1961+01	.2067+03	.3425+03	.1598+03	.2885+00
P-H2O/P-PROP= 11.0000							
.2055+03	.8736+02	.2444+04	.2353+01	.2066+03	.3390+03	.1537+03	.2498+00
P-H2O/P-PROP= 12.0000							
.2331+03	.8399+02	.2346+04	.2775+01	.2065+03	.3360+03	.1475+03	.2202+00
P-H2O/P-PROP= 13.0000							
.2607+03	.8062+02	.2249+04	.3233+01	.2064+03	.3337+03	.1414+03	.1970+00
P-H2O/P-PROP= 14.0000							
.2882+03	.7727+02	.2152+04	.3730+01	.2062+03	.3319+03	.1353+03	.1781+00
P-H2O/P-PROP= 15.0000							
.3158+03	.7392+02	.2055+04	.4272+01	.2061+03	.3306+03	.1292+03	.1626+00
P-H2O/P-PROP= 16.0000							
.3433+03	.7059+02	.1959+04	.4864+01	.2059+03	.3299+03	.1232+03	.1495+00
P-H2O/P-PROP= 17.0000							
.3708+03	.6727+02	.1863+04	.5513+01	.2057+03	.3298+03	.1171+03	.1384+00
P-H2O/P-PROP= 18.0000							
.3983+03	.6397+02	.1767+04	.6227+01	.2055+03	.3302+03	.1111+03	.1289+00
P-H2O/P-PROP= 19.0000							
.4258+03	.6068+02	.1672+04	.7018+01	.2053+03	.3312+03	.1051+03	.1206+00
P-H2O/P-PROP= 20.0000							
.4533+03	.5742+02	.1578+04	.7895+01	.2051+03	.3326+03	.9921+02	.1133+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 8000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2766+02	.5539+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1407+02	.1270+03	.3578+04	.1108+00	.2072+03	.4186+03	.2250+03	.4169+01
P-H2O/P-PROP= 5.0000							
.4583+02	.1231+03	.3466+04	.3707+00	.2071+03	.4097+03	.2179+03	.1286+01
P-H2O/P-PROP= 6.0000							
.7719+02	.1192+03	.3353+04	.6475+00	.2070+03	.4013+03	.2108+03	.7601+00
P-H2O/P-PROP= 7.0000							
.1087+03	.1153+03	.3241+04	.9429+00	.2070+03	.3937+03	.2038+03	.5396+00
P-H2O/P-PROP= 8.0000							
.1403+03	.1114+03	.3128+04	.1259+01	.2069+03	.3869+03	.1967+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1718+03	.1076+03	.3016+04	.1597+01	.2068+03	.3808+03	.1897+03	.3415+00
P-H2O/P-PROP= 10.0000							
.2034+03	.1037+03	.2904+04	.1961+01	.2067+03	.3755+03	.1826+03	.2885+00
P-H2O/P-PROP= 11.0000							
.2349+03	.9984+02	.2793+04	.2353+01	.2066+03	.3709+03	.1756+03	.2498+00
P-H2O/P-PROP= 12.0000							
.2664+03	.9598+02	.2681+04	.2775+01	.2065+03	.3670+03	.1686+03	.2202+00
P-H2O/P-PROP= 13.0000							
.2979+03	.9214+02	.2570+04	.3233+01	.2064+03	.3640+03	.1616+03	.1970+00
P-H2O/P-PROP= 14.0000							
.3294+03	.8830+02	.2459+04	.3730+01	.2062+03	.3616+03	.1546+03	.1781+00
P-H2O/P-PROP= 15.0000							
.3609+03	.8448+02	.2349+04	.4272+01	.2061+03	.3600+03	.1477+03	.1626+00
P-H2O/P-PROP= 16.0000							
.3924+03	.8067+02	.2239+04	.4864+01	.2059+03	.3591+03	.1408+03	.1495+00
P-H2O/P-PROP= 17.0000							
.4236+03	.7688+02	.2129+04	.5513+01	.2057+03	.3589+03	.1339+03	.1384+00
P-H2O/P-PROP= 18.0000							
.4553+03	.7310+02	.2020+04	.6227+01	.2055+03	.3594+03	.1270+03	.1289+00
P-H2O/P-PROP= 19.0000							
.4867+03	.6935+02	.1911+04	.7018+01	.2053+03	.3607+03	.1202+03	.1206+00
P-H2O/P-PROP= 20.0000							
.5181+03	.6562+02	.1803+04	.7895+01	.2051+03	.3626+03	.1134+03	.1133+00

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 9000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3112+02	.6006+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1583+02	.1429+03	.4026+04	.1108+00	.2072+03	.4593+03	.2531+03	.4169+01
P-H2O/P-PROP= 5.0000							
.5134+02	.1385+03	.3899+04	.3707+00	.2071+03	.4476+03	.2451+03	.1286+01
P-H2O/P-PROP= 6.0000							
.8684+02	.1341+03	.3772+04	.6475+00	.2070+03	.4372+03	.2372+03	.7601+00
P-H2O/P-PROP= 7.0000							
.1223+03	.1297+03	.3646+04	.9429+00	.2070+03	.4276+03	.2292+03	.5396+00
P-H2O/P-PROP= 8.0000							
.1578+03	.1254+03	.3520+04	.1259+01	.2069+03	.4189+03	.2213+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1933+03	.1210+03	.3393+04	.1597+01	.2068+03	.4112+03	.2134+03	.3415+00
P-H2O/P-PROP= 10.0000							
.2288+03	.1167+03	.3268+04	.1961+01	.2067+03	.4045+03	.2055+03	.2885+00
P-H2O/P-PROP= 11.0000							
.2642+03	.1123+03	.3142+04	.2353+01	.2066+03	.3987+03	.1976+03	.2498+00
P-H2O/P-PROP= 12.0000							
.2997+03	.1080+03	.3017+04	.2775+01	.2065+03	.3938+03	.1897+03	.2202+00
P-H2O/P-PROP= 13.0000							
.3351+03	.1037+03	.2891+04	.3233+01	.2064+03	.3899+03	.1818+03	.1970+00
P-H2O/P-PROP= 14.0000							
.3706+03	.9934+02	.2767+04	.3730+01	.2062+03	.3869+03	.1740+03	.1781+00
P-H2O/P-PROP= 15.0000							
.4060+03	.9504+02	.2642+04	.4272+01	.2061+03	.3849+03	.1661+03	.1626+00
P-H2O/P-PROP= 16.0000							
.4414+03	.9076+02	.2518+04	.4864+01	.2059+03	.3837+03	.1584+03	.1495+00
P-H2O/P-PROP= 17.0000							
.4768+03	.8649+02	.2395+04	.5513+01	.2057+03	.3835+03	.1506+03	.1384+00
P-H2O/P-PROP= 18.0000							
.5122+03	.8224+02	.2272+04	.6227+01	.2055+03	.3842+03	.1429+03	.1289+00
P-H2O/P-PROP= 19.0000							
.5475+03	.7802+02	.2150+04	.7018+01	.2053+03	.3857+03	.1352+03	.1206+00
P-H2O/P-PROP= 20.0000							
.5828+03	.7382+02	.2029+04	.7895+01	.2051+03	.3881+03	.1278+03	.1133+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 1000.

CL F5-HYDRAZINE

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.3458+01	.6674+01	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1729+01	.1548+02	.4473+03	.1108+00	.2072+03	.5007+02	.2278+02	.4169+01
P-H2O/P-PROP= 5.0000							
.5704+01	.1539+02	.4332+03	.3707+00	.2071+03	.4997+02	.2206+02	.1286+01
P-H2O/P-PROP= 6.0000							
.9549+01	.1490+02	.4191+03	.6475+00	.2070+03	.4989+02	.2135+02	.7601+00
P-H2O/P-PROP= 7.0000							
.1339+02	.1442+02	.4051+03	.9429+00	.2070+03	.4981+02	.2063+02	.5396+00
P-H2O/P-PROP= 8.0000							
.1724+02	.1393+02	.3911+03	.1259+01	.2069+03	.4974+02	.1992+02	.4182+00
P-H2O/P-PROP= 9.0000							
.2148+02	.1345+02	.3770+03	.1597+01	.2068+03	.4966+02	.1920+02	.3415+00
P-H2O/P-PROP= 10.0000							
.2542+02	.1296+02	.3631+03	.1961+01	.2067+03	.4962+02	.1849+02	.2885+00
P-H2O/P-PROP= 11.0000							
.2936+02	.1246+02	.3491+03	.2353+01	.2066+03	.4958+02	.1778+02	.2498+00
P-H2O/P-PROP= 12.0000							
.3330+02	.1200+02	.3352+03	.2775+01	.2065+03	.4954+02	.1707+02	.2202+00
P-H2O/P-PROP= 13.0000							
.3724+02	.1152+02	.3213+03	.3233+01	.2064+03	.4950+02	.1636+02	.1970+00
P-H2O/P-PROP= 14.0000							
.4117+02	.1104+02	.3074+03	.3730+01	.2062+03	.4948+02	.1566+02	.1781+00
P-H2O/P-PROP= 15.0000							
.4511+02	.1056+02	.2936+03	.4272+01	.2061+03	.4946+02	.1495+02	.1626+00
P-H2O/P-PROP= 16.0000							
.4904+02	.1008+02	.2798+03	.4864+01	.2059+03	.4945+02	.1425+02	.1495+00
P-H2O/P-PROP= 17.0000							
.5298+02	.9610+01	.2661+03	.5513+01	.2057+03	.4945+02	.1355+02	.1384+00
P-H2O/P-PROP= 18.0000							
.5691+02	.9138+01	.2525+03	.6227+01	.2055+03	.4946+02	.1286+02	.1289+00
P-H2O/P-PROP= 19.0000							
.6083+02	.8669+01	.2389+03	.7018+01	.2053+03	.4947+02	.1217+02	.1206+00
P-H2O/P-PROP= 20.0000							
.6476+02	.8202+01	.2254+03	.7895+01	.2051+03	.4949+02	.1148+02	.1133+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 2000.

CL F5-HYDRAZINE

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.6916+01	.1335+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.3519+01	.3175+02	.8946+03	.1108+00	.2072+03	.9841+02	.4556+02	.4169+01
P-H2O/P-PROP= 5.0000							
.1141+02	.3078+02	.8664+03	.3707+00	.2071+03	.9803+02	.4413+02	.1286+01
P-H2O/P-PROP= 6.0000							
.1930+02	.2980+02	.8383+03	.6475+00	.2070+03	.9769+02	.4269+02	.7601+00
P-H2O/P-PROP= 7.0000							
.2718+02	.2883+02	.8102+03	.9429+00	.2070+03	.9738+02	.4126+02	.5396+00
P-H2O/P-PROP= 8.0000							
.3507+02	.2786+02	.7821+03	.1259+01	.2069+03	.9710+02	.3983+02	.4182+00
P-H2O/P-PROP= 9.0000							
.4296+02	.2689+02	.7541+03	.1597+01	.2068+03	.9685+02	.3841+02	.3415+00
P-H2O/P-PROP= 10.0000							
.5084+02	.2593+02	.7261+03	.1961+01	.2067+03	.9663+02	.3698+02	.2885+00
P-H2O/P-PROP= 11.0000							
.5872+02	.2496+02	.6982+03	.2353+01	.2066+03	.9644+02	.3556+02	.2498+00
P-H2O/P-PROP= 12.0000							
.6660+02	.2400+02	.6703+03	.2775+01	.2065+03	.9628+02	.3414+02	.2202+00
P-H2O/P-PROP= 13.0000							
.7448+02	.2303+02	.6426+03	.3233+01	.2064+03	.9616+02	.3273+02	.1970+00
P-H2O/P-PROP= 14.0000							
.8235+02	.2208+02	.6148+03	.3730+01	.2062+03	.9606+02	.3131+02	.1781+00
P-H2O/P-PROP= 15.0000							
.9022+02	.2112+02	.5872+03	.4272+01	.2061+03	.9599+02	.2991+02	.1626+00
P-H2O/P-PROP= 16.0000							
.9809+02	.2017+02	.5597+03	.4864+01	.2059+03	.9596+02	.2850+02	.1495+00
P-H2O/P-PROP= 17.0000							
.1060+03	.1922+02	.5322+03	.5513+01	.2057+03	.9595+02	.2711+02	.1384+00
P-H2O/P-PROP= 18.0000							
.1138+03	.1828+02	.5049+03	.6227+01	.2055+03	.9597+02	.2572+02	.1289+00
P-H2O/P-PROP= 19.0000							
.1217+03	.1734+02	.4778+03	.7018+01	.2053+03	.9602+02	.2433+02	.1206+00
P-H2O/P-PROP= 20.0000							
.1295+03	.1640+02	.4508+03	.7895+01	.2051+03	.9610+02	.2296+02	.1133+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 3000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1037+02	.2002+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.5278+01	.4763+02	.1342+04	.1108+00	.2072+03	.1450+03	.6834+02	.4169+01
P-H20/P-PROP= 5.0000							
.1711+02	.4617+02	.1300+04	.3707+00	.2071+03	.1442+03	.6619+02	.1286+01
P-H20/P-PROP= 6.0000							
.2895+02	.4471+02	.1257+04	.6475+00	.2070+03	.1434+03	.6404+02	.7601+00
P-H20/P-PROP= 7.0000							
.4078+02	.4325+02	.1215+04	.9429+00	.2070+03	.1427+03	.6189+02	.5396+00
P-H20/P-PROP= 8.0000							
.5261+02	.4179+02	.1173+04	.1259+01	.2069+03	.1421+03	.5975+02	.4182+00
P-H20/P-PROP= 9.0000							
.6443+02	.4034+02	.1131+04	.1597+01	.2068+03	.1415+03	.5761+02	.3415+00
P-H20/P-PROP= 10.0000							
.7626+02	.3889+02	.1089+04	.1961+01	.2067+03	.1410+03	.5547+02	.2885+00
P-H20/P-PROP= 11.0000							
.8808+02	.3744+02	.1047+04	.2353+01	.2066+03	.1406+03	.5334+02	.2498+00
P-H20/P-PROP= 12.0000							
.9990+02	.3599+02	.1006+04	.2775+01	.2065+03	.1402+03	.5121+02	.2202+00
P-H20/P-PROP= 13.0000							
.1117+03	.3455+02	.9638+03	.3233+01	.2064+03	.1400+03	.4909+02	.1970+00
P-H20/P-PROP= 14.0000							
.1235+03	.3311+02	.9222+03	.3730+01	.2062+03	.1397+03	.4697+02	.1781+00
P-H20/P-PROP= 15.0000							
.1353+03	.3168+02	.8808+03	.4272+01	.2061+03	.1396+03	.4486+02	.1626+00
P-H20/P-PROP= 16.0000							
.1471+03	.3025+02	.8395+03	.4864+01	.2059+03	.1395+03	.4276+02	.1495+00
P-H20/P-PROP= 17.0000							
.1589+03	.2883+02	.7984+03	.5513+01	.2057+03	.1395+03	.4066+02	.1384+00
P-H20/P-PROP= 18.0000							
.1707+03	.2741+02	.7574+03	.6227+01	.2055+03	.1395+03	.3858+02	.1289+00
P-H20/P-PROP= 19.0000							
.1825+03	.2601+02	.7167+03	.7019+01	.2053+03	.1397+03	.3650+02	.1206+00
P-H20/P-PROP= 20.0000							
.1943+03	.2461+02	.6762+03	.7895+01	.2051+03	.1398+03	.3444+02	.1133+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 4000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1383+02	.2669+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.7037+01	.6350+02	.1789+04	.1108+00	.2072+03	.1899+03	.9112+02	.4169+01
P-H20/P-PROP= 5.0000							
.2282+02	.6155+02	.1733+04	.3707+00	.2071+03	.1884+03	.8825+02	.1286+01
P-H20/P-PROP= 6.0000							
.3859+02	.5961+02	.1677+04	.6475+00	.2070+03	.1870+03	.8539+02	.7601+00
P-H20/P-PROP= 7.0000							
.5437+02	.5766+02	.1620+04	.9429+00	.2070+03	.1856+03	.8252+02	.5396+00
P-H20/P-PROP= 8.0000							
.7014+02	.5572+02	.1564+04	.1259+01	.2069+03	.1847+03	.7967+02	.4182+00
P-H20/P-PROP= 9.0000							
.8591+02	.5379+02	.1508+04	.1597+01	.2068+03	.1837+03	.7681+02	.3415+00
P-H20/P-PROP= 10.0000							
.1017+03	.5185+02	.1452+04	.1961+01	.2067+03	.1828+03	.7396+02	.2885+00
P-H20/P-PROP= 11.0000							
.1174+03	.4992+02	.1396+04	.2353+01	.2066+03	.1820+03	.7112+02	.2498+00
P-H20/P-PROP= 12.0000							
.1332+03	.4799+02	.1341+04	.2775+01	.2065+03	.1814+03	.6828+02	.2202+00
P-H20/P-PROP= 13.0000							
.1490+03	.4607+02	.1285+04	.3233+01	.2064+03	.1809+03	.6545+02	.1970+00
P-H20/P-PROP= 14.0000							
.1647+03	.4415+02	.1230+04	.3730+01	.2062+03	.1805+03	.6263+02	.1781+00
P-H20/P-PROP= 15.0000							
.1804+03	.4224+02	.1174+04	.4272+01	.2061+03	.1803+03	.5981+02	.1626+00
P-H20/P-PROP= 16.0000							
.1962+03	.4034+02	.1119+04	.4864+01	.2059+03	.1801+03	.5701+02	.1495+00
P-H20/P-PROP= 17.0000							
.2119+03	.3844+02	.1064+04	.5513+01	.2057+03	.1801+03	.5421+02	.1384+00
P-H20/P-PROP= 18.0000							
.2276+03	.3655+02	.1010+04	.6227+01	.2055+03	.1802+03	.5143+02	.1289+00
P-H20/P-PROP= 19.0000							
.2433+03	.3467+02	.9586+03	.7018+01	.2053+03	.1804+03	.4867+02	.1206+00
P-H20/P-PROP= 20.0000							
.2590+03	.3281+02	.9017+03	.7895+01	.2051+03	.1807+03	.4592+02	.1133+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 5000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1729+02	.3337+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.8796+01	.7938+02	.2236+04	.1108+00	.2072+03	.2331+03	.1139+03	.4169+01
P-H2O/P-PROP= 5.0000							
.2852+02	.7694+02	.2166+04	.3707+00	.2071+03	.2307+03	.1103+03	.1286+01
P-H2O/P-PROP= 6.0000							
.4824+02	.7451+02	.2096+04	.6475+00	.2070+03	.2286+03	.1067+03	.7601+00
P-H2O/P-PROP= 7.0000							
.6796+02	.7208+02	.2025+04	.9429+00	.2070+03	.2266+03	.1032+03	.5396+00
P-H2O/P-PROP= 8.0000							
.8768+02	.6965+02	.1955+04	.1259+01	.2069+03	.2249+03	.9958+02	.4182+00
P-H2O/P-PROP= 9.0000							
.1074+03	.6723+02	.1885+04	.1597+01	.2068+03	.2233+03	.9602+02	.3415+00
P-H2O/P-PROP= 10.0000							
.1271+03	.6481+02	.1815+04	.1961+01	.2067+03	.2220+03	.9245+02	.2885+00
P-H2O/P-PROP= 11.0000							
.1468+03	.6240+02	.1746+04	.2353+01	.2066+03	.2208+03	.8890+02	.2498+00
P-H2O/P-PROP= 12.0000							
.1665+03	.5999+02	.1676+04	.2775+01	.2065+03	.2198+03	.8535+02	.2202+00
P-H2O/P-PROP= 13.0000							
.1862+03	.5759+02	.1606+04	.3233+01	.2064+03	.2190+03	.8181+02	.1970+00
P-H2O/P-PROP= 14.0000							
.2059+03	.5519+02	.1537+04	.3730+01	.2062+03	.2184+03	.7828+02	.1781+00
P-H2O/P-PROP= 15.0000							
.2256+03	.5280+02	.1468+04	.4272+01	.2061+03	.2180+03	.7477+02	.1626+00
P-H2O/P-PROP= 16.0000							
.2452+03	.5042+02	.1399+04	.4864+01	.2059+03	.2178+03	.7126+02	.1495+00
P-H2O/P-PROP= 17.0000							
.2649+03	.4805+02	.1331+04	.5513+01	.2057+03	.2177+03	.6777+02	.1384+00
P-H2O/P-PROP= 18.0000							
.2845+03	.4569+02	.1262+04	.6227+01	.2055+03	.2179+03	.6429+02	.1289+00
P-H2O/P-PROP= 19.0000							
.3042+03	.4334+02	.1194+04	.7018+01	.2053+03	.2182+03	.6084+02	.1206+00
P-H2O/P-PROP= 20.0000							
.3238+03	.4101+02	.1127+04	.7895+01	.2051+03	.2187+03	.5740+02	.1133+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 6000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2075+02	.4004+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1056+02	.9525+02	.2684+04	.1108+00	.2072+03	.2745+03	.1367+03	.4169+01
P-H2O/P-PROP= 5.0000							
.3423+02	.9233+02	.2599+04	.3707+00	.2071+03	.2711+03	.1324+03	.1286+01
P-H2O/P-PROP= 6.0000							
.5789+02	.8941+02	.2515+04	.6475+00	.2070+03	.2680+03	.1281+03	.7601+00
P-H2O/P-PROP= 7.0000							
.8155+02	.8650+02	.2431+04	.9429+00	.2070+03	.2652+03	.1238+03	.5396+00
P-H2O/P-PROP= 8.0000							
.1052+03	.8358+02	.2346+04	.1259+01	.2069+03	.2627+03	.1195+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1289+03	.8068+02	.2262+04	.1597+01	.2068+03	.2605+03	.1152+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1525+03	.7778+02	.2178+04	.1961+01	.2067+03	.2585+03	.1109+03	.2885+00
P-H2O/P-PROP= 11.0000							
.1762+03	.7488+02	.2095+04	.2353+01	.2066+03	.2568+03	.1067+03	.2498+00
P-H2O/P-PROP= 12.0000							
.1998+03	.7199+02	.2011+04	.2775+01	.2065+03	.2554+03	.1024+03	.2202+00
P-H2O/P-PROP= 13.0000							
.2234+03	.6910+02	.1928+04	.3233+01	.2064+03	.2543+03	.9818+02	.1970+00
P-H2O/P-PROP= 14.0000							
.2470+03	.6623+02	.1844+04	.3730+01	.2062+03	.2534+03	.9394+02	.1781+00
P-H2O/P-PROP= 15.0000							
.2707+03	.6336+02	.1762+04	.4272+01	.2061+03	.2528+03	.8972+02	.1626+00
P-H2O/P-PROP= 16.0000							
.2943+03	.6050+02	.1679+04	.4864+01	.2059+03	.2525+03	.8551+02	.1495+00
P-H2O/P-PROP= 17.0000							
.3179+03	.5766+02	.1597+04	.5513+01	.2057+03	.2524+03	.8132+02	.1384+00
P-H2O/P-PROP= 18.0000							
.3414+03	.5483+02	.1515+04	.6227+01	.2055+03	.2526+03	.7715+02	.1289+00
P-H2O/P-PROP= 19.0000							
.3650+03	.5201+02	.1433+04	.7018+01	.2053+03	.2530+03	.7300+02	.1206+00
P-H2O/P-PROP= 20.0000							
.3885+03	.4921+02	.1352+04	.7895+01	.2051+03	.2538+03	.6888+02	.1133+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 7000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2420+02	.4672+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1232+02	.1111+03	.3131+04	.1108+00	.2072+03	.3142+03	.1595+03	.4169+01
P-H20/P-PROP= 5.0000							
.3993+02	.1077+03	.3032+04	.3707+00	.2071+03	.3096+03	.1544+03	.1286+01
P-H20/P-PROP= 6.0000							
.6794+02	.1043+03	.2934+04	.6475+00	.2070+03	.3054+03	.1494+03	.7601+00
P-H20/P-PROP= 7.0000							
.9515+02	.1009+03	.2836+04	.9429+00	.2070+03	.3010+03	.1444+03	.5396+00
P-H20/P-PROP= 8.0000							
.1227+03	.9752+02	.2737+04	.1259+01	.2069+03	.2982+03	.1394+03	.4182+00
P-H20/P-PROP= 9.0000							
.1503+03	.9412+02	.2639+04	.1597+01	.2068+03	.2951+03	.1344+03	.3415+00
P-H20/P-PROP= 10.0000							
.1779+03	.9074+02	.2541+04	.1961+01	.2067+03	.2924+03	.1294+03	.2885+00
P-H20/P-PROP= 11.0000							
.2055+03	.8736+02	.2444+04	.2353+01	.2066+03	.2901+03	.1245+03	.2498+00
P-H20/P-PROP= 12.0000							
.2331+03	.8399+02	.2346+04	.2775+01	.2065+03	.2882+03	.1195+03	.2202+00
P-H20/P-PROP= 13.0000							
.2607+03	.8062+02	.2249+04	.3233+01	.2064+03	.2867+03	.1145+03	.1970+00
P-H20/P-PROP= 14.0000							
.2882+03	.7727+02	.2152+04	.3730+01	.2062+03	.2855+03	.1096+03	.1781+00
P-H20/P-PROP= 15.0000							
.3158+03	.7392+02	.2055+04	.4272+01	.2061+03	.2847+03	.1047+03	.1626+00
P-H20/P-PROP= 16.0000							
.3433+03	.7059+02	.1959+04	.4864+01	.2059+03	.2842+03	.9976+02	.1495+00
P-H20/P-PROP= 17.0000							
.3708+03	.6727+02	.1863+04	.5513+01	.2057+03	.2841+03	.9487+02	.1384+00
P-H20/P-PROP= 18.0000							
.3983+03	.6397+02	.1767+04	.6227+01	.2055+03	.2844+03	.9001+02	.1289+00
P-H20/P-PROP= 19.0000							
.4256+03	.6068+02	.1672+04	.7018+01	.2053+03	.2850+03	.8517+02	.1206+00
P-H20/P-PROP= 20.0000							
.4533+03	.5742+02	.1578+04	.7895+01	.2051+03	.2860+03	.8036+02	.1133+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 8000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2766+02	.5339+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.1407+02	.1270+03	.3578+04	.1108+00	.2072+03	.3522+03	.1822+03	.4169+01
P-H20/P-PROP= 5.0000							
.4563+02	.1231+03	.3466+04	.3707+00	.2071+03	.3462+03	.1765+03	.1286+01
P-H20/P-PROP= 6.0000							
.7719+02	.1192+03	.3353+04	.6475+00	.2070+03	.3407+03	.1708+03	.7601+00
P-H20/P-PROP= 7.0000							
.1087+03	.1153+03	.3241+04	.9429+00	.2070+03	.3357+03	.1650+03	.5396+00
P-H20/P-PROP= 8.0000							
.1403+03	.1114+03	.3128+04	.1259+01	.2069+03	.3312+03	.1593+03	.4182+00
P-H20/P-PROP= 9.0000							
.1718+03	.1076+03	.3016+04	.1597+01	.2068+03	.3273+03	.1536+03	.3415+00
P-H20/P-PROP= 10.0000							
.2034+03	.1037+03	.2904+04	.1961+01	.2067+03	.3236+03	.1479+03	.2885+00
P-H20/P-PROP= 11.0000							
.2349+03	.9984+02	.2793+04	.2353+01	.2066+03	.3207+03	.1422+03	.2498+00
P-H20/P-PROP= 12.0000							
.2664+03	.9598+02	.2681+04	.2775+01	.2065+03	.3182+03	.1366+03	.2202+00
P-H20/P-PROP= 13.0000							
.2979+03	.9214+02	.2570+04	.3233+01	.2064+03	.3162+03	.1309+03	.1970+00
P-H20/P-PROP= 14.0000							
.3294+03	.8830+02	.2459+04	.3730+01	.2062+03	.3147+03	.1253+03	.1781+00
P-H20/P-PROP= 15.0000							
.3609+03	.8448+02	.2349+04	.4272+01	.2061+03	.3136+03	.1196+03	.1626+00
P-H20/P-PROP= 16.0000							
.3924+03	.8067+02	.2239+04	.4864+01	.2059+03	.3130+03	.1140+03	.1495+00
P-H20/P-PROP= 17.0000							
.4238+03	.7688+02	.2129+04	.5513+01	.2057+03	.3129+03	.1084+03	.1384+00
P-H20/P-PROP= 18.0000							
.4553+03	.7310+02	.2020+04	.6227+01	.2055+03	.3132+03	.1029+03	.1289+00
P-H20/P-PROP= 19.0000							
.4867+03	.6935+02	.1911+04	.7018+01	.2053+03	.3140+03	.9734+02	.1206+00
P-H20/P-PROP= 20.0000							
.5181+03	.6562+02	.1803+04	.7895+01	.2051+03	.3153+03	.9184+02	.1133+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 9000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3112+02	.6006+02	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.1583+02	.1429+03	.4026+04	.1108+00	.2072+03	.3884+03	.2050+03	.4169+01
P-H2O/P-PROP= 5.0000							
.1934+02	.1385+03	.3899+04	.3707+00	.2071+03	.3809+03	.1986+03	.1286+01
P-H2O/P-PROP= 6.0000							
.2284+02	.1341+03	.3772+04	.6475+00	.2070+03	.3739+03	.1921+03	.7601+00
P-H2O/P-PROP= 7.0000							
.2623+02	.1297+03	.3646+04	.9429+00	.2070+03	.3676+03	.1857+03	.5396+00
P-H2O/P-PROP= 8.0000							
.2978+02	.1254+03	.3520+04	.1259+01	.2069+03	.3614+03	.1792+03	.4182+00
P-H2O/P-PROP= 9.0000							
.3333+02	.1210+03	.3393+04	.1597+01	.2068+03	.3569+03	.1728+03	.3415+00
P-H2O/P-PROP= 10.0000							
.3688+02	.1167+03	.3268+04	.1961+01	.2067+03	.3525+03	.1664+03	.2885+00
P-H2O/P-PROP= 11.0000							
.4042+03	.1123+03	.3142+04	.2353+01	.2066+03	.3487+03	.1600+03	.2498+00
P-H2O/P-PROP= 12.0000							
.4397+03	.1080+03	.3017+04	.2775+01	.2065+03	.3452+03	.1536+03	.2202+00
P-H2O/P-PROP= 13.0000							
.4751+03	.1037+03	.2891+04	.3233+01	.2064+03	.3429+03	.1473+03	.1970+00
P-H2O/P-PROP= 14.0000							
.5106+03	.9914+02	.2767+04	.3730+01	.2062+03	.3409+03	.1409+03	.1781+00
P-H2O/P-PROP= 15.0000							
.5460+03	.9504+02	.2642+04	.4272+01	.2061+03	.3396+03	.1346+03	.1626+00
P-H2O/P-PROP= 16.0000							
.5814+03	.9076+02	.2518+04	.4864+01	.2059+03	.3389+03	.1283+03	.1495+00
P-H2O/P-PROP= 17.0000							
.6168+03	.8649+02	.2395+04	.5513+01	.2057+03	.3387+03	.1220+03	.1384+00
P-H2O/P-PROP= 18.0000							
.6522+03	.8224+02	.2272+04	.6227+01	.2055+03	.3391+03	.1157+03	.1289+00
P-H2O/P-PROP= 19.0000							
.6875+03	.7802+02	.2150+04	.7018+01	.2053+03	.3402+03	.1095+03	.1206+00
P-H2O/P-PROP= 20.0000							
.7228+03	.7382+02	.2029+04	.7895+01	.2051+03	.3418+03	.1033+03	.1133+00

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 1000.

N2O4-A50

PROP-P/SEC	KOM P/SEC	ISP	BTU/PP
.3729+01	.1816+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL-P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1084+01	.1420+02	.3790+03	.7629-01	.2032+03	.3003+03	.1206+03	.3262+00
P-H2O/P-PROP= 4.0000							
.5319+01	.1370+02	.3643+03	.3883+00	.2029+03	.2967+03	.1160+03	.6646-01
P-H2O/P-PROP= 5.0000							
.9551+01	.1319+02	.3498+03	.7240+00	.2026+03	.2933+03	.1113+03	.3701-01
P-H2O/P-PROP= 6.0000							
.1378+02	.1269+02	.3352+03	.1086+01	.2023+03	.2900+03	.1067+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1801+02	.1219+02	.3208+03	.1477+01	.2020+03	.2866+03	.1021+03	.1963-01
P-H2O/P-PROP= 8.0000							
.2223+02	.1170+02	.3065+03	.1900+01	.2016+03	.2858+03	.9757+02	.1590-01
P-H2O/P-PROP= 9.0000							
.2645+02	.1121+02	.2923+03	.2360+01	.2012+03	.2838+03	.9305+02	.1336-01
P-H2O/P-PROP= 10.0000							
.3066+02	.1072+02	.2783+03	.2860+01	.2008+03	.2822+03	.8858+02	.1153-01
P-H2O/P-PROP= 11.0000							
.3486+02	.1026+02	.2648+03	.3399+01	.2003+03	.2809+03	.8428+02	.1014-01
P-H2O/P-PROP= 12.0000							
.3908+02	.9760+01	.2504+03	.4005+01	.1998+03	.2800+03	.7971+02	.9044-02
P-H2O/P-PROP= 13.0000							
.4327+02	.9304+01	.2372+03	.4650+01	.1992+03	.2792+03	.7551+02	.8169-02
P-H2O/P-PROP= 14.0000							
.4745+02	.8849+01	.2240+03	.5362+01	.1986+03	.2788+03	.7131+02	.7449-02
P-H2O/P-PROP= 15.0000							
.5162+02	.8406+01	.2112+03	.6141+01	.1978+03	.2785+03	.6722+02	.6847-02
P-H2O/P-PROP= 16.0000							
.5578+02	.7976+01	.1988+03	.6992+01	.1970+03	.2785+03	.6328+02	.6337-02
P-H2O/P-PROP= 17.0000							
.5996+02	.7525+01	.1857+03	.7968+01	.1961+03	.2790+03	.5910+02	.5895-02
P-H2O/P-PROP= 18.0000							
.6411+02	.7109+01	.1736+03	.9018+01	.1950+03	.2795+03	.5525+02	.5514-02
P-H2O/P-PROP= 19.0000							
.6824+02	.6703+01	.1618+03	.1018+02	.1938+03	.2803+03	.5150+02	.5180-02
P-H2O/P-PROP= 20.0000							
.7231+02	.6367+01	.1520+03	.1136+02	.1927+03	.2808+03	.4840+02	.4889-02

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 2000.

N2O4-A50

PROP-P/SEC	KOM P/SEC	ISP	BTU/PP
.7457+01	.3632+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2167+01	.2841+02	.7580+03	.7629-01	.2032+03	.5646+03	.2413+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1064+02	.2739+02	.7287+03	.3883+00	.2029+03	.5505+03	.2319+03	.6646-01
P-H2O/P-PROP= 5.0000							
.1910+02	.2639+02	.6995+03	.7240+00	.2026+03	.5373+03	.2227+03	.3701-01
P-H2O/P-PROP= 6.0000							
.2756+02	.2538+02	.6705+03	.1086+01	.2023+03	.5257+03	.2134+03	.2565-01
P-H2O/P-PROP= 7.0000							
.3602+02	.2439+02	.6417+03	.1477+01	.2020+03	.5154+03	.2043+03	.1963-01
P-H2O/P-PROP= 8.0000							
.4446+02	.2340+02	.6130+03	.1900+01	.2016+03	.5069+03	.1951+03	.1590-01
P-H2O/P-PROP= 9.0000							
.5290+02	.2242+02	.5846+03	.2360+01	.2012+03	.4986+03	.1861+03	.1336-01
P-H2O/P-PROP= 10.0000							
.6133+02	.2144+02	.5565+03	.2860+01	.2008+03	.4923+03	.1772+03	.1153-01
P-H2O/P-PROP= 11.0000							
.6972+02	.2051+02	.5295+03	.3399+01	.2003+03	.4869+03	.1686+03	.1014-01
P-H2O/P-PROP= 12.0000							
.7817+02	.1952+02	.5008+03	.4005+01	.1998+03	.4833+03	.1594+03	.9044-02
P-H2O/P-PROP= 13.0000							
.8654+02	.1861+02	.4744+03	.4650+01	.1992+03	.4802+03	.1510+03	.8169-02
P-H2O/P-PROP= 14.0000							
.9490+02	.1770+02	.4480+03	.5362+01	.1986+03	.4784+03	.1426+03	.7449-02
P-H2O/P-PROP= 15.0000							
.1032+03	.1681+02	.4224+03	.6141+01	.1978+03	.4775+03	.1344+03	.6847-02
P-H2O/P-PROP= 16.0000							
.1116+03	.1596+02	.3976+03	.6992+01	.1970+03	.4776+03	.1266+03	.6337-02
P-H2O/P-PROP= 17.0000							
.1199+03	.1509+02	.3713+03	.7968+01	.1961+03	.4794+03	.1182+03	.5895-02
P-H2O/P-PROP= 18.0000							
.1282+03	.1422+02	.3471+03	.9018+01	.1950+03	.4815+03	.1105+03	.5514-02
P-H2O/P-PROP= 19.0000							
.1365+03	.1342+02	.3236+03	.1018+02	.1938+03	.4844+03	.1030+03	.5180-02
P-H2O/P-PROP= 20.0000							
.1446+03	.1273+02	.3041+03	.1136+02	.1927+03	.4864+03	.9680+02	.4889-02

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 3000.

N2H4-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1119+02	.5447+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.3251+01	.4261+02	.1137+04	.7629-01	.2032+03	.7929+03	.3619+03	.3262+00
P-H20/P-PROP= 4.0000							
.1596+02	.4109+02	.1093+04	.3863+00	.2029+03	.7607+03	.3479+03	.6646-01
P-H20/P-PROP= 5.0000							
.2865+02	.3958+02	.1049+04	.7240+00	.2026+03	.7313+03	.3340+03	.3701-01
P-H20/P-PROP= 6.0000							
.4134+02	.3807+02	.1006+04	.1086+01	.2023+03	.7054+03	.3201+03	.2565-01
P-H20/P-PROP= 7.0000							
.5402+02	.3658+02	.9625+03	.1477+01	.2020+03	.6826+03	.3064+03	.1963-01
P-H20/P-PROP= 8.0000							
.6669+02	.3510+02	.9196+03	.1900+01	.2016+03	.6621+03	.2927+03	.1590-01
P-H20/P-PROP= 9.0000							
.7935+02	.3362+02	.8770+03	.2360+01	.2012+03	.6448+03	.2792+03	.1336-01
P-H20/P-PROP= 10.0000							
.9199+02	.3217+02	.8348+03	.2860+01	.2008+03	.6304+03	.2657+03	.1153-01
P-H20/P-PROP= 11.0000							
.1046+03	.3077+02	.7943+03	.3399+01	.2003+03	.6181+03	.2528+03	.1014-01
P-H20/P-PROP= 12.0000							
.1173+03	.2928+02	.7512+03	.4005+01	.1998+03	.6094+03	.2391+03	.9044-02
P-H20/P-PROP= 13.0000							
.1296+03	.2791+02	.7116+03	.4650+01	.1992+03	.6031+03	.2265+03	.8169-02
P-H20/P-PROP= 14.0000							
.1424+03	.2655+02	.6721+03	.5362+01	.1986+03	.5990+03	.2139+03	.7449-02
P-H20/P-PROP= 15.0000							
.1549+03	.2522+02	.6336+03	.6141+01	.1978+03	.5970+03	.2017+03	.6847-02
P-H20/P-PROP= 16.0000							
.1673+03	.2393+02	.5964+03	.6992+01	.1970+03	.5971+03	.1898+03	.6337-02
P-H20/P-PROP= 17.0000							
.1799+03	.2267+02	.5597+03	.7968+01	.1961+03	.6011+03	.1776+03	.5895-02
P-H20/P-PROP= 18.0000							
.1923+03	.2143+02	.5207+03	.9018+01	.1950+03	.6058+03	.1658+03	.5514-02
P-H20/P-PROP= 19.0000							
.2047+03	.2011+02	.4854+03	.1018+02	.1938+03	.6124+03	.1545+03	.5180-02
P-H20/P-PROP= 20.0000							
.2169+03	.1910+02	.4561+03	.1136+02	.1927+03	.6170+03	.1452+03	.4889-02

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 4000.

N2H4-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1491+02	.7263+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.4334+01	.5681+02	.1516+04	.7629-01	.2032+03	.9852+03	.4826+03	.3262+00
P-H20/P-PROP= 4.0000							
.2127+02	.5479+02	.1457+04	.3863+00	.2029+03	.9279+03	.4639+03	.6646-01
P-H20/P-PROP= 5.0000							
.3821+02	.5277+02	.1399+04	.7240+00	.2026+03	.8761+03	.4453+03	.3701-01
P-H20/P-PROP= 6.0000							
.5513+02	.5077+02	.1341+04	.1086+01	.2023+03	.8297+03	.4269+03	.2565-01
P-H20/P-PROP= 7.0000							
.7203+02	.4877+02	.1283+04	.1477+01	.2020+03	.7885+03	.4085+03	.1963-01
P-H20/P-PROP= 8.0000							
.8893+02	.4679+02	.1226+04	.1900+01	.2016+03	.7526+03	.3903+03	.1590-01
P-H20/P-PROP= 9.0000							
.1058+03	.4483+02	.1169+04	.2360+01	.2012+03	.7218+03	.3722+03	.1336-01
P-H20/P-PROP= 10.0000							
.1227+03	.4289+02	.1113+04	.2860+01	.2008+03	.6961+03	.3543+03	.1153-01
P-H20/P-PROP= 11.0000							
.1394+03	.4102+02	.1059+04	.3399+01	.2003+03	.6744+03	.3371+03	.1014-01
P-H20/P-PROP= 12.0000							
.1563+03	.3904+02	.1002+04	.4005+01	.1998+03	.6599+03	.3188+03	.9044-02
P-H20/P-PROP= 13.0000							
.1731+03	.3722+02	.9488+03	.4650+01	.1992+03	.6477+03	.3020+03	.8169-02
P-H20/P-PROP= 14.0000							
.1898+03	.3540+02	.6961+03	.5362+01	.1986+03	.6404+03	.2852+03	.7449-02
P-H20/P-PROP= 15.0000							
.2065+03	.3362+02	.8448+03	.6141+01	.1978+03	.6370+03	.2689+03	.6847-02
P-H20/P-PROP= 16.0000							
.2231+03	.3191+02	.7952+03	.6992+01	.1970+03	.6370+03	.2531+03	.6337-02
P-H20/P-PROP= 17.0000							
.2396+03	.3010+02	.7426+03	.7968+01	.1961+03	.6442+03	.2364+03	.5895-02
P-H20/P-PROP= 18.0000							
.2564+03	.2843+02	.6943+03	.9018+01	.1950+03	.6526+03	.2210+03	.5514-02
P-H20/P-PROP= 19.0000							
.2730+03	.2691+02	.6472+03	.1018+02	.1938+03	.6643+03	.2060+03	.5180-02
P-H20/P-PROP= 20.0000							
.2892+03	.2547+02	.6082+03	.1136+02	.1927+03	.6725+03	.1936+03	.4889-02

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 5000.

N2O4-A250

PROP-P/SEC	KGH P/SEC	ISP	BTU/PP
.1464+02	.9079+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5418+01	.7102+02	.1095+04	.7629-01	.2032+03	.1141+04	.6032+03	.3252+00
P-H2O/P-PROP= 4.0000							
.2659+02	.6848+02	.1822+04	.3883+00	.2029+03	.1052+04	.5799+03	.6646-01
P-H2O/P-PROP= 5.0000							
.4776+02	.6598+02	.1749+04	.7240+00	.2026+03	.9710+03	.5567+03	.3701-01
P-H2O/P-PROP= 6.0000							
.6891+02	.6346+02	.1676+04	.1086+01	.2023+03	.8984+03	.5336+03	.2565-01
P-H2O/P-PROP= 7.0000							
.9004+02	.6097+02	.1604+04	.1477+01	.2020+03	.8341+03	.5106+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1112+03	.5849+02	.1533+04	.1900+01	.2016+03	.7780+03	.4878+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1323+03	.5604+02	.1462+04	.2360+01	.2012+03	.7300+03	.4653+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1533+03	.5361+02	.1391+04	.2860+01	.2008+03	.6896+03	.4429+03	.1153-01
P-H2O/P-PROP= 11.0000							
.1743+03	.5120+02	.1324+04	.3399+01	.2003+03	.6559+03	.4214+03	.1014-01
P-H2O/P-PROP= 12.0000							
.1954+03	.4880+02	.1252+04	.4005+01	.1998+03	.6332+03	.3985+03	.9044-02
P-H2O/P-PROP= 13.0000							
.2163+03	.4652+02	.1186+04	.4650+01	.1992+03	.6141+03	.3775+03	.8169-02
P-H2O/P-PROP= 14.0000							
.2373+03	.4425+02	.1120+04	.5362+01	.1986+03	.6027+03	.3565+03	.7449-02
P-H2O/P-PROP= 15.0000							
.2581+03	.4203+02	.1056+04	.6141+01	.1978+03	.5974+03	.3361+03	.6847-02
P-H2O/P-PROP= 16.0000							
.2789+03	.3989+02	.9940+03	.6992+01	.1970+03	.5975+03	.3164+03	.6337-02
P-H2O/P-PROP= 17.0000							
.2998+03	.3762+02	.9283+03	.7968+01	.1961+03	.6087+03	.2955+03	.5895-02
P-H2O/P-PROP= 18.0000							
.3205+03	.3554+02	.8679+03	.9018+01	.1950+03	.6218+03	.2763+03	.5514-02
P-H2O/P-PROP= 19.0000							
.3412+03	.3351+02	.8090+03	.1018+02	.1938+03	.6401+03	.2575+03	.5180-02
P-H2O/P-PROP= 20.0000							
.3615+03	.3184+02	.7602+03	.1136+02	.1927+03	.6528+03	.2420+03	.4889-02

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 6000.

N2O4-A250

PROP-P/SEC	KGH P/SEC	ISP	BTU/PP
.2237+02	.1089+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6502+01	.8522+02	.2274+04	.7629-01	.2032+03	.1262+04	.7238+03	.3262+00
P-H2O/P-PROP= 4.0000							
.3191+02	.8218+02	.2186+04	.3883+00	.2029+03	.1133+04	.6958+03	.6646-01
P-H2O/P-PROP= 5.0000							
.5731+02	.7916+02	.2099+04	.7240+00	.2026+03	.1016+04	.6680+03	.3701-01
P-H2O/P-PROP= 6.0000							
.8269+02	.7615+02	.2011+04	.1086+01	.2023+03	.9118+03	.6403+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1080+03	.7316+02	.1925+04	.1477+01	.2020+03	.8192+03	.6128+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1334+03	.7019+02	.1839+04	.1900+01	.2016+03	.7384+03	.5854+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1587+03	.6725+02	.1754+04	.2360+01	.2012+03	.6692+03	.5583+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1840+03	.6433+02	.1670+04	.2860+01	.2008+03	.6113+03	.5315+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2092+03	.6154+02	.1589+04	.3399+01	.2003+03	.5629+03	.5057+03	.1014-01
P-H2O/P-PROP= 12.0000							
.2345+03	.5856+02	.1502+04	.4005+01	.1998+03	.5298+03	.4782+03	.9044-02
P-H2O/P-PROP= 13.0000							
.2596+03	.5582+02	.1423+04	.4650+01	.1992+03	.5023+03	.4530+03	.8169-02
P-H2O/P-PROP= 14.0000							
.2847+03	.5309+02	.1344+04	.5362+01	.1986+03	.4859+03	.4279+03	.7449-02
P-H2O/P-PROP= 15.0000							
.3097+03	.5044+02	.1267+04	.6141+01	.1978+03	.4783+03	.4033+03	.6847-02
P-H2O/P-PROP= 16.0000							
.3347+03	.4787+02	.1193+04	.6992+01	.1970+03	.4784+03	.3797+03	.6337-02
P-H2O/P-PROP= 17.0000							
.3598+03	.4515+02	.1114+04	.7968+01	.1961+03	.4946+03	.3546+03	.5895-02
P-H2O/P-PROP= 18.0000							
.3846+03	.4265+02	.1041+04	.9018+01	.1950+03	.5134+03	.3315+03	.5514-02
P-H2O/P-PROP= 19.0000							
.4094+03	.4022+02	.9708+03	.1018+02	.1938+03	.5397+03	.3090+03	.5180-02
P-H2O/P-PROP= 20.0000							
.4338+03	.3820+02	.9123+03	.1136+02	.1927+03	.5581+03	.2904+03	.4889-02

DIA-FT= 2.00 LH AIR/LB PROP= .1000 THRUST= 7000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2610+02	.1271+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.7585+01	.9942+02	.2653+04	.7629-01	.2032+03	.1346+04	.8445+03	.3262+00
P-H2O/P-PROP= 4.0000							
.3723+02	.9588+02	.2550+04	.3883+00	.2029+03	.1171+04	.8118+03	.6646-01
P-H2O/P-PROP= 5.0000							
.6686+02	.9235+02	.2448+04	.7240+00	.2026+03	.1012+04	.7793+03	.3701-01
P-H2O/P-PROP= 6.0000							
.9647+02	.8884+02	.2347+04	.1086+01	.2023+03	.8697+03	.7470+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1261+03	.8535+02	.2246+04	.1477+01	.2020+03	.7436+03	.7149+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1556+03	.8189+02	.2146+04	.1900+01	.2016+03	.6337+03	.6830+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1852+03	.7846+02	.2046+04	.2360+01	.2012+03	.5395+03	.6514+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2147+03	.7506+02	.1948+04	.2860+01	.2008+03	.4607+03	.6200+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2440+03	.7179+02	.1853+04	.3399+01	.2003+03	.3942+03	.5900+03	.1014-01
P-H2O/P-PROP= 12.0000							
.2736+03	.6832+02	.1753+04	.4005+01	.1998+03	.3497+03	.5579+03	.9044-02
P-H2O/P-PROP= 13.0000							
.3029+03	.6513+02	.1660+04	.4650+01	.1992+03	.3124+03	.5285+03	.8169-02
P-H2O/P-PROP= 14.0000							
.3322+03	.6194+02	.1568+04	.5362+01	.1986+03	.2901+03	.4992+03	.7449-02
P-H2O/P-PROP= 15.0000							
.3614+03	.5884+02	.1478+04	.6141+01	.1978+03	.2797+03	.4706+03	.6847-02
P-H2O/P-PROP= 16.0000							
.3905+03	.5585+02	.1392+04	.6992+01	.1970+03	.2798+03	.4429+03	.6337-02
P-H2O/P-PROP= 17.0000							
.4197+03	.5267+02	.1300+04	.7968+01	.1961+03	.3018+03	.4137+03	.5895-02
P-H2O/P-PROP= 18.0000							
.4487+03	.4976+02	.1215+04	.9018+01	.1950+03	.3274+03	.3868+03	.5514-02
P-H2O/P-PROP= 19.0000							
.4777+03	.4692+02	.1133+04	.1018+02	.1938+03	.3633+03	.3605+03	.5180-02
P-H2O/P-PROP= 20.0000							
.5061+03	.4457+02	.1064+04	.1136+02	.1927+03	.3883+03	.3388+03	.4889-02

DIA-FT= 2.00 LH AIR/LB PROP= .1000 THRUST= 8000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2983+02	.1453+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.8669+01	.1136+03	.3032+04	.7629-01	.2032+03	.1394+04	.9651+03	.3262+00
P-H2O/P-PROP= 4.0000							
.4255+02	.1096+03	.2915+04	.3883+00	.2029+03	.1165+04	.9278+03	.6646-01
P-H2O/P-PROP= 5.0000							
.7641+02	.1055+03	.2798+04	.7240+00	.2026+03	.9579+03	.8907+03	.3701-01
P-H2O/P-PROP= 6.0000							
.1103+03	.1015+03	.2682+04	.1086+01	.2023+03	.7721+03	.8537+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1441+03	.9755+02	.2567+04	.1477+01	.2020+03	.6079+03	.8170+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1779+03	.9359+02	.2452+04	.1900+01	.2016+03	.4639+03	.7805+03	.1590-01
P-H2O/P-PROP= 9.0000							
.2116+03	.8966+02	.2339+04	.2360+01	.2012+03	.3408+03	.7444+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2453+03	.8578+02	.2226+04	.2860+01	.2008+03	.2379+03	.7086+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2789+03	.8205+02	.2118+04	.3399+01	.2003+03	.1511+03	.6742+03	.1014-01
P-H2O/P-PROP= 12.0000							
.3127+03	.7808+02	.2003+04	.4005+01	.1998+03	.9303+02	.6377+03	.9044-02
P-H2O/P-PROP= 13.0000							
.3461+03	.7443+02	.1898+04	.4650+01	.1992+03	.4421+02	.6041+03	.8169-02
P-H2O/P-PROP= 14.0000							
.3796+03	.7079+02	.1792+04	.5362+01	.1986+03	.1506+02	.5705+03	.7449-02
P-H2O/P-PROP= 15.0000							
.4130+03	.6725+02	.1690+04	.6141+01	.1978+03	.1504+01	.5378+03	.6847-02
P-H2O/P-PROP= 16.0000							
.4462+03	.6383+02	.1590+04	.6992+01	.1970+03	.1638+01	.5062+03	.6337-02
P-H2O/P-PROP= 17.0000							
.4797+03	.6020+02	.1485+04	.7968+01	.1961+03	.3043+02	.4728+03	.5895-02
P-H2O/P-PROP= 18.0000							
.5129+03	.5687+02	.1389+04	.9018+01	.1950+03	.6381+02	.4420+03	.5514-02
P-H2O/P-PROP= 19.0000							
.5459+03	.5362+02	.1294+04	.1018+02	.1938+03	.1107+03	.4120+03	.5180-02
P-H2O/P-PROP= 20.0000							
.5784+03	.5094+02	.1216+04	.1136+02	.1927+03	.1433+03	.3872+03	.4889-02

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 9000.

N2H4-AIR
PROP-P/SEC KGM-P/SEC ISP BTU/PP
.3359+02 .1524+01 .2682+03 .2936+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	VEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.9752+01	.1276+03	.3411+04	.7629-01	.2032+03	.1407+04	.1086+04	.3262+00
P-H2O/P-PROP= 4.0000							
.4707+02	.1263+03	.3279+04	.3883+00	.2029+03	.1117+04	.1044+04	.6646-01
P-H2O/P-PROP= 5.0000							
.8596+02	.1147+03	.3148+04	.7240+00	.2026+03	.8543+03	.1002+04	.3701-01
P-H2O/P-PROP= 6.0000							
.1240+03	.1142+03	.3017+04	.1086+01	.2023+03	.8191+03	.9604+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1621+03	.1077+03	.2887+04	.1477+01	.2020+03	.4108+03	.9191+03	.1963-01
P-H2O/P-PROP= 8.0000							
.2001+03	.1053+03	.2759+04	.1900+01	.2016+03	.2290+03	.8781+03	.1590-01
P-H2O/P-PROP= 9.0000							
.2381+03	.1039+03	.2631+04	.2360+01	.2012+03	.7525+02	.8375+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2760+03	.9955-02	.2504+04	.2860+01	.2008+03	-.5696+02	.7972+03	.1153-01
P-H2O/P-PROP= 11.0000							
.3137+03	.9230+02	.2383+04	.3399+01	.2003+03	-.1669+03	.7585+03	.1014-01
P-H2O/P-PROP= 12.0000							
.3516+03	.8794+02	.2254+04	.4105+01	.1998+03	-.2404+03	.7174+03	.9044-02
P-H2O/P-PROP= 13.0000							
.3894+03	.8374+02	.2135+04	.4650+01	.1992+03	-.3022+03	.6796+03	.8169-02
P-H2O/P-PROP= 14.0000							
.4271+03	.7964+02	.2016+04	.5362+01	.1986+03	-.3590+03	.6418+03	.7449-02
P-H2O/P-PROP= 15.0000							
.4646+03	.7565+02	.1901+04	.6141+01	.1978+03	-.3562+03	.6050+03	.6847-02
P-H2O/P-PROP= 16.0000							
.5020+03	.7180+02	.1789+04	.6992+01	.1970+03	-.3560+03	.5695+03	.6337-02
P-H2O/P-PROP= 17.0000							
.5397+03	.6772+02	.1671+04	.7968+01	.1961+03	-.3196+03	.5319+03	.5895-02
P-H2O/P-PROP= 18.0000							
.5770+03	.6398+02	.1562+04	.9016+01	.1950+03	-.2773+03	.4973+03	.5514-02
P-H2O/P-PROP= 19.0000							
.6142+03	.6033+02	.1456+04	.1018+02	.1938+03	-.2180+03	.4635+03	.5180-02
P-H2O/P-PROP= 20.0000							
.6507+03	.5730+02	.1366+04	.1136+02	.1927+03	-.1767+03	.4356+03	.4849-02

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 1000.

N2H4-AIR
PROP-P/SEC KGM-P/SEC ISP BTU/PP
.3729+01 .1816+00 .2682+03 .2936+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	VEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1084+01	.1420+02	.3790+03	.7629-01	.2032+03	.1963+03	.7721+02	.3262+00
P-H2O/P-PROP= 4.0000							
.5319+01	.1370+02	.3643+03	.3883+00	.2029+03	.1949+03	.7422+02	.6646-01
P-H2O/P-PROP= 5.0000							
.9551+01	.1319+02	.3498+03	.7240+00	.2026+03	.1936+03	.7125+02	.3701-01
P-H2O/P-PROP= 6.0000							
.1378+02	.1269+02	.3352+03	.1086+01	.2023+03	.1924+03	.6830+02	.2565-01
P-H2O/P-PROP= 7.0000							
.1801+02	.1219+02	.3208+03	.1477+01	.2020+03	.1913+03	.6536+02	.1963-01
P-H2O/P-PROP= 8.0000							
.2223+02	.1170+02	.3065+03	.1900+01	.2016+03	.1904+03	.6244+02	.1590-01
P-H2O/P-PROP= 9.0000							
.2645+02	.1121+02	.2923+03	.2360+01	.2012+03	.1895+03	.5955+02	.1336-01
P-H2O/P-PROP= 10.0000							
.3066+02	.1072+02	.2783+03	.2860+01	.2008+03	.1889+03	.5669+02	.1153-01
P-H2O/P-PROP= 11.0000							
.3486+02	.1026+02	.2648+03	.3399+01	.2003+03	.1884+03	.5394+02	.1014-01
P-H2O/P-PROP= 12.0000							
.3918+02	.9750+01	.2504+03	.4005+01	.1998+03	.1880+03	.5101+02	.9044-02
P-H2O/P-PROP= 13.0000							
.4327+02	.9304+01	.2372+03	.4650+01	.1992+03	.1877+03	.4832+02	.8169-02
P-H2O/P-PROP= 14.0000							
.4745+02	.8849+01	.2240+03	.5362+01	.1986+03	.1875+03	.4564+02	.7449-02
P-H2O/P-PROP= 15.0000							
.5162+02	.8406+01	.2112+03	.6141+01	.1978+03	.1874+03	.4302+02	.6847-02
P-H2O/P-PROP= 16.0000							
.5578+02	.7978+01	.1988+03	.6992+01	.1970+03	.1874+03	.4050+02	.6337-02
P-H2O/P-PROP= 17.0000							
.5996+02	.7525+01	.1857+03	.7968+01	.1961+03	.1876+03	.3782+02	.5895-02
P-H2O/P-PROP= 18.0000							
.6411+02	.7109+01	.1736+03	.9016+01	.1950+03	.1878+03	.3536+02	.5514-02
P-H2O/P-PROP= 19.0000							
.6824+02	.6703+01	.1618+03	.1018+02	.1938+03	.1881+03	.3296+02	.5180-02
P-H2O/P-PROP= 20.0000							
.7231+02	.6367+01	.1520+03	.1136+02	.1927+03	.1883+03	.3098+02	.4849-02

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 2000.

N2O4-A50
PROP-P/SEC KOH P/SEC ISP BTU/PP
.7457+01 .3632+00 .2682+03 .2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2147+01	.2841+02	.7580+03	.7629-01	.2032+03	.3779+03	.1944+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1064+02	.2739+02	.7287+03	.3883+00	.2029+03	.3721+03	.1484+03	.6646-01
P-H2O/P-PROP= 5.0000							
.1910+02	.2639+02	.6995+03	.7240+00	.2026+03	.3668+03	.1425+03	.3701-01
P-H2O/P-PROP= 6.0000							
.2756+02	.2538+02	.6705+03	.1086+01	.2023+03	.3620+03	.1366+03	.2565-01
P-H2O/P-PROP= 7.0000							
.3602+02	.2439+02	.6417+03	.1477+01	.2020+03	.3578+03	.1307+03	.1963-01
P-H2O/P-PROP= 8.0000							
.4446+02	.2340+02	.6130+03	.1900+01	.2016+03	.3541+03	.1249+03	.1590-01
P-H2O/P-PROP= 9.0000							
.5290+02	.2242+02	.5846+03	.2360+01	.2012+03	.3510+03	.1191+03	.1336-01
P-H2O/P-PROP= 10.0000							
.6133+02	.2144+02	.5565+03	.2860+01	.2008+03	.3483+03	.1134+03	.1153-01
P-H2O/P-PROP= 11.0000							
.6972+02	.2051+02	.5295+03	.3399+01	.2003+03	.3461+03	.1079+03	.1014-01
P-H2O/P-PROP= 12.0000							
.7817+02	.1952+02	.5008+03	.4005+01	.1998+03	.3446+03	.1020+03	.9044-02
P-H2O/P-PROP= 13.0000							
.8654+02	.1861+02	.4744+03	.4650+01	.1992+03	.3434+03	.9665+02	.8169-02
P-H2O/P-PROP= 14.0000							
.9490+02	.1770+02	.4480+03	.5362+01	.1986+03	.3426+03	.9128+02	.7449-02
P-H2O/P-PROP= 15.0000							
.1032+03	.1681+02	.4224+03	.6141+01	.1978+03	.3423+03	.8605+02	.6847-02
P-H2O/P-PROP= 16.0000							
.1116+03	.1596+02	.3976+03	.6992+01	.1970+03	.3423+03	.8100+02	.6337-02
P-H2O/P-PROP= 17.0000							
.1199+03	.1505+02	.3713+03	.7968+01	.1961+03	.3430+03	.7564+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1282+03	.1422+02	.3471+03	.9018+01	.1950+03	.3439+03	.7072+02	.5514-02
P-H2O/P-PROP= 19.0000							
.1365+03	.1341+02	.3236+03	.1018+02	.1938+03	.3451+03	.6592+02	.5180-02
P-H2O/P-PROP= 20.0000							
.1446+03	.1273+02	.3041+03	.1136+02	.1927+03	.3459+03	.6195+02	.4889-02

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 3000.

N2O4-A50
PROP-P/SEC KOH P/SEC ISP BTU/PP
.1119+02 .5447+00 .2682+03 .2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3251+01	.4261+02	.1137+04	.7629-01	.2032+03	.5448+03	.2316+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1596+02	.4109+02	.1093+04	.3883+00	.2029+03	.5310+03	.2227+03	.6646-01
P-H2O/P-PROP= 5.0000							
.2865+02	.3958+02	.1049+04	.7240+00	.2026+03	.5197+03	.2138+03	.3701-01
P-H2O/P-PROP= 6.0000							
.4134+02	.3807+02	.1006+04	.1086+01	.2023+03	.5090+03	.2049+03	.2565-01
P-H2O/P-PROP= 7.0000							
.5402+02	.3658+02	.9625+03	.1477+01	.2020+03	.4995+03	.1961+03	.1963-01
P-H2O/P-PROP= 8.0000							
.6669+02	.3510+02	.9196+03	.1900+01	.2016+03	.4912+03	.1873+03	.1590-01
P-H2O/P-PROP= 9.0000							
.7935+02	.3362+02	.8770+03	.2360+01	.2012+03	.4841+03	.1787+03	.1336-01
P-H2O/P-PROP= 10.0000							
.9199+02	.3217+02	.8348+03	.2860+01	.2008+03	.4782+03	.1701+03	.1153-01
P-H2O/P-PROP= 11.0000							
.1046+03	.3077+02	.7943+03	.3399+01	.2003+03	.4732+03	.1618+03	.1014-01
P-H2O/P-PROP= 12.0000							
.1173+03	.2928+02	.7512+03	.4005+01	.1998+03	.4698+03	.1530+03	.9044-02
P-H2O/P-PROP= 13.0000							
.1298+03	.2791+02	.7116+03	.4650+01	.1992+03	.4670+03	.1450+03	.8169-02
P-H2O/P-PROP= 14.0000							
.1424+03	.2655+02	.6721+03	.5362+01	.1986+03	.4653+03	.1369+03	.7449-02
P-H2O/P-PROP= 15.0000							
.1549+03	.2522+02	.6336+03	.6141+01	.1978+03	.4646+03	.1291+03	.6847-02
P-H2O/P-PROP= 16.0000							
.1673+03	.2393+02	.5964+03	.6992+01	.1970+03	.4646+03	.1215+03	.6337-02
P-H2O/P-PROP= 17.0000							
.1799+03	.2257+02	.5570+03	.7968+01	.1961+03	.4662+03	.1135+03	.5895-02
P-H2O/P-PROP= 18.0000							
.1923+03	.2133+02	.5207+03	.9018+01	.1950+03	.4682+03	.1061+03	.5514-02
P-H2O/P-PROP= 19.0000							
.2047+03	.2011+02	.4854+03	.1018+02	.1938+03	.4709+03	.9889+02	.5180-02
P-H2O/P-PROP= 20.0000							
.2169+03	.1910+02	.4561+03	.1136+02	.1927+03	.4727+03	.9293+02	.4889-02

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 4000.

N2H4-A250

PROP-P/SEC	XCH P/SEC	ISP	BTU/PP
.1491+02	.7253+00	.2642+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.4354+01	.5681+02	.1516+04	.7629-01	.2032+03	.6964+03	.3088+03	.3262+00
P-H20/P-PROP= 4.0000							
.2167+02	.5479+02	.1457+04	.3883+00	.2029+03	.6734+03	.2969+03	.6646-01
P-H20/P-PROP= 5.0000							
.3821+02	.5277+02	.1399+04	.7240+00	.2026+03	.6522+03	.2850+03	.3701-01
P-H20/P-PROP= 6.0000							
.5513+02	.5077+02	.1341+04	.1086+01	.2023+03	.6332+03	.2732+03	.2565-01
P-H20/P-PROP= 7.0000							
.7205+02	.4877+02	.1283+04	.1477+01	.2020+03	.6165+03	.2614+03	.1963-01
P-H20/P-PROP= 8.0000							
.8893+02	.4679+02	.1226+04	.1900+01	.2016+03	.6015+03	.2498+03	.1590-01
P-H20/P-PROP= 9.0000							
.1056+03	.4483+02	.1169+04	.2360+01	.2012+03	.5890+03	.2382+03	.1336-01
P-H20/P-PROP= 10.0000							
.1227+03	.4289+02	.1113+04	.2860+01	.2008+03	.5785+03	.2268+03	.1153-01
P-H20/P-PROP= 11.0000							
.1394+03	.4102+02	.1059+04	.3399+01	.2003+03	.5696+03	.2158+03	.1014-01
P-H20/P-PROP= 12.0000							
.1553+03	.3904+02	.1002+04	.4005+01	.1998+03	.5636+03	.2040+03	.9044-02
P-H20/P-PROP= 13.0000							
.1731+03	.3722+02	.9488+03	.4650+01	.1992+03	.5586+03	.1933+03	.8169-02
P-H20/P-PROP= 14.0000							
.1898+03	.3540+02	.8961+03	.5362+01	.1986+03	.5557+03	.1826+03	.7449-02
P-H20/P-PROP= 15.0000							
.2075+03	.3362+02	.8448+03	.6141+01	.1978+03	.5543+03	.1721+03	.6847-02
P-H20/P-PROP= 16.0000							
.2241+03	.3191+02	.7952+03	.6992+01	.1970+03	.5543+03	.1620+03	.6337-02
P-H20/P-PROP= 17.0000							
.2398+03	.3010+02	.7426+03	.7968+01	.1961+03	.5572+03	.1513+03	.5895-02
P-H20/P-PROP= 18.0000							
.2584+03	.2843+02	.6943+03	.9018+01	.1950+03	.5607+03	.1414+03	.5514-02
P-H20/P-PROP= 19.0000							
.2730+03	.2691+02	.6472+03	.1018+02	.1938+03	.5655+03	.1318+03	.5180-02
P-H20/P-PROP= 20.0000							
.2892+03	.2547+02	.6082+03	.1136+02	.1927+03	.5686+03	.1239+03	.4889-02

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 5000.

N2H4-A250

PROP-P/SEC	XCH P/SEC	ISP	BTU/PP
.1864+02	.9079+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.5418+01	.7102+02	.1895+04	.7629-01	.2032+03	.8343+03	.3860+03	.3262+00
P-H20/P-PROP= 4.0000							
.2659+02	.6848+02	.1822+04	.3883+00	.2029+03	.7976+03	.3711+03	.6646-01
P-H20/P-PROP= 5.0000							
.4776+02	.6596+02	.1749+04	.7240+00	.2026+03	.7644+03	.3563+03	.3701-01
P-H20/P-PROP= 6.0000							
.6891+02	.6346+02	.1676+04	.1086+01	.2023+03	.7347+03	.3415+03	.2565-01
P-H20/P-PROP= 7.0000							
.9004+02	.6097+02	.1604+04	.1477+01	.2020+03	.7084+03	.3268+03	.1963-01
P-H20/P-PROP= 8.0000							
.1112+03	.5849+02	.1533+04	.1900+01	.2016+03	.6854+03	.3122+03	.1590-01
P-H20/P-PROP= 9.0000							
.1323+03	.5604+02	.1462+04	.2360+01	.2012+03	.6657+03	.2978+03	.1336-01
P-H20/P-PROP= 10.0000							
.1533+03	.5361+02	.1391+04	.2860+01	.2008+03	.6492+03	.2834+03	.1153-01
P-H20/P-PROP= 11.0000							
.1743+03	.5128+02	.1324+04	.3399+01	.2003+03	.6353+03	.2697+03	.1014-01
P-H20/P-PROP= 12.0000							
.1954+03	.4893+02	.1252+04	.4005+01	.1998+03	.6236+03	.2551+03	.9044-02
P-H20/P-PROP= 13.0000							
.2163+03	.4652+02	.1186+04	.4650+01	.1992+03	.6182+03	.2416+03	.8169-02
P-H20/P-PROP= 14.0000							
.2373+03	.4425+02	.1120+04	.5362+01	.1986+03	.6136+03	.2282+03	.7449-02
P-H20/P-PROP= 15.0000							
.2581+03	.4203+02	.1056+04	.6141+01	.1978+03	.6114+03	.2151+03	.6847-02
P-H20/P-PROP= 16.0000							
.2789+03	.3989+02	.9940+03	.6992+01	.1970+03	.6114+03	.2025+03	.6337-02
P-H20/P-PROP= 17.0000							
.2986+03	.3762+02	.9283+03	.7968+01	.1961+03	.6160+03	.1891+03	.5895-02
P-H20/P-PROP= 18.0000							
.3205+03	.3554+02	.8679+03	.9018+01	.1950+03	.6214+03	.1768+03	.5514-02
P-H20/P-PROP= 19.0000							
.3412+03	.3351+02	.8090+03	.1018+02	.1938+03	.6289+03	.1648+03	.5180-02
P-H20/P-PROP= 20.0000							
.3615+03	.3144+02	.7602+03	.1136+02	.1927+03	.6341+03	.1549+03	.4889-02

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 6000.

N2O4-AZ50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2237+02	.1059+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6502+01	.8522+02	.2274+04	.7629-01	.2032+03	.9569+03	.4633+03	.3262+00
P-H2O/P-PROP= 4.0000							
.3191+02	.8218+02	.2186+04	.3883+00	.2029+03	.9041+03	.4453+03	.6646-01
P-H2O/P-PROP= 5.0000							
.5741+02	.7916+02	.2099+04	.7240+00	.2026+03	.8563+03	.4275+03	.3701-01
P-H2O/P-PROP= 6.0000							
.8269+02	.7615+02	.2011+04	.1086+01	.2023+03	.8135+03	.4098+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1080+03	.7316+02	.1925+04	.1477+01	.2020+03	.7756+03	.3922+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1334+03	.7019+02	.1839+04	.1900+01	.2016+03	.7425+03	.3747+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1587+03	.6725+02	.1754+04	.2360+01	.2012+03	.7141+03	.3573+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1840+03	.6433+02	.1670+04	.2860+01	.2008+03	.6904+03	.3401+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2092+03	.6144+02	.1589+04	.3399+01	.2003+03	.6704+03	.3236+03	.1014-01
P-H2O/P-PROP= 12.0000							
.2345+03	.5856+02	.1502+04	.4005+01	.1998+03	.6570+03	.3061+03	.9044-02
P-H2O/P-PROP= 13.0000							
.2598+03	.5582+02	.1423+04	.4650+01	.1992+03	.6458+03	.2899+03	.8169-02
P-H2O/P-PROP= 14.0000							
.2847+03	.5309+02	.1344+04	.5362+01	.1986+03	.6391+03	.2738+03	.7449-02
P-H2O/P-PROP= 15.0000							
.3097+03	.5044+02	.1267+04	.6141+01	.1978+03	.6360+03	.2581+03	.6847-02
P-H2O/P-PROP= 16.0000							
.3347+03	.4787+02	.1193+04	.6992+01	.1970+03	.6360+03	.2430+03	.6337-02
P-H2O/P-PROP= 17.0000							
.3598+03	.4515+02	.1114+04	.7968+01	.1961+03	.6426+03	.2269+03	.5895-02
P-H2O/P-PROP= 18.0000							
.3846+03	.4265+02	.1041+04	.9018+01	.1950+03	.6503+03	.2122+03	.5514-02
P-H2O/P-PROP= 19.0000							
.4094+03	.4022+02	.9708+03	.1018+02	.1938+03	.6611+03	.1978+03	.5180-02
P-H2O/P-PROP= 20.0000							
.4338+03	.3820+02	.9123+03	.1136+02	.1927+03	.6686+03	.1859+03	.4889-02

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 7000.

N2O4-AZ50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2610+02	.1271+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.7585+01	.9942+02	.2653+04	.7629-01	.2032+03	.1065+04	.5405+03	.3262+00
P-H2O/P-PROP= 4.0000							
.3723+02	.9588+02	.2559+04	.3883+00	.2029+03	.9929+03	.5196+03	.6646-01
P-H2O/P-PROP= 5.0000							
.6686+02	.9235+02	.2468+04	.7240+00	.2026+03	.9279+03	.4988+03	.3701-01
P-H2O/P-PROP= 6.0000							
.9647+02	.8884+02	.2347+04	.1086+01	.2023+03	.8696+03	.4781+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1261+03	.8535+02	.2246+04	.1477+01	.2020+03	.8180+03	.4575+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1556+03	.8189+02	.2146+04	.1900+01	.2016+03	.7729+03	.4371+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1852+03	.7846+02	.2046+04	.2360+01	.2012+03	.7343+03	.4169+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2147+03	.7506+02	.1948+04	.2860+01	.2008+03	.7021+03	.3968+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2440+03	.7179+02	.1853+04	.3399+01	.2003+03	.6748+03	.3776+03	.1014-01
P-H2O/P-PROP= 12.0000							
.2736+03	.6832+02	.1753+04	.4005+01	.1998+03	.6566+03	.3571+03	.9044-02
P-H2O/P-PROP= 13.0000							
.3029+03	.6513+02	.1660+04	.4650+01	.1992+03	.6413+03	.3383+03	.8169-02
P-H2O/P-PROP= 14.0000							
.3322+03	.6194+02	.1568+04	.5362+01	.1986+03	.6322+03	.3195+03	.7449-02
P-H2O/P-PROP= 15.0000							
.3614+03	.5884+02	.1478+04	.6141+01	.1978+03	.6279+03	.3012+03	.6847-02
P-H2O/P-PROP= 16.0000							
.3905+03	.5585+02	.1392+04	.6992+01	.1970+03	.6280+03	.2835+03	.6337-02
P-H2O/P-PROP= 17.0000							
.4197+03	.5287+02	.1300+04	.7968+01	.1961+03	.6370+03	.2647+03	.5895-02
P-H2O/P-PROP= 18.0000							
.4487+03	.4976+02	.1215+04	.9018+01	.1950+03	.6475+03	.2475+03	.5514-02
P-H2O/P-PROP= 19.0000							
.4777+03	.4692+02	.1133+04	.1018+02	.1938+03	.6622+03	.2307+03	.5180-02
P-H2O/P-PROP= 20.0000							
.5061+03	.4457+02	.1064+04	.1136+02	.1927+03	.6724+03	.2168+03	.4889-02

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 8000.

N2O4-AZ50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2963+02	.1453+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6669+01	.1136+03	.3032+04	.7629-01	.2032+03	.1158+04	.6177+03	.3262+00
P-H2O/P-PROP= 4.0000							
.4255+02	.1096+03	.2915+04	.3883+00	.2029+03	.1064+04	.5938+03	.6646-01
P-H2O/P-PROP= 5.0000							
.7641+02	.1055+03	.2798+04	.7240+00	.2026+03	.9791+03	.5700+03	.3701-01
P-H2O/P-PROP= 6.0000							
.1103+03	.1015+03	.2682+04	.1086+01	.2023+03	.9030+03	.5464+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1441+03	.9755+02	.2567+04	.1477+01	.2020+03	.8355+03	.5229+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1779+03	.9359+02	.2452+04	.1900+01	.2016+03	.7767+03	.4996+03	.1590-01
P-H2O/P-PROP= 9.0000							
.2116+03	.8966+02	.2339+04	.2360+01	.2012+03	.7263+03	.4764+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2453+03	.8578+02	.2226+04	.2860+01	.2008+03	.6842+03	.4535+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2789+03	.8205+02	.2118+04	.3399+01	.2003+03	.6486+03	.4315+03	.1014-01
P-H2O/P-PROP= 12.0000							
.3127+03	.7808+02	.2003+04	.4005+01	.1998+03	.6248+03	.4081+03	.9044-02
P-H2O/P-PROP= 13.0000							
.3461+03	.7443+02	.1898+04	.4650+01	.1992+03	.6048+03	.3866+03	.8169-02
P-H2O/P-PROP= 14.0000							
.3796+03	.7079+02	.1792+04	.5362+01	.1986+03	.5929+03	.3651+03	.7449-02
P-H2O/P-PROP= 15.0000							
.4130+03	.6725+02	.1690+04	.6141+01	.1978+03	.5873+03	.3442+03	.6847-02
P-H2O/P-PROP= 16.0000							
.4462+03	.6383+02	.1590+04	.6992+01	.1970+03	.5874+03	.3240+03	.6337-02
P-H2O/P-PROP= 17.0000							
.4797+03	.6020+02	.1485+04	.7968+01	.1961+03	.5992+03	.3026+03	.5895-02
P-H2O/P-PROP= 18.0000							
.5129+03	.5687+02	.1389+04	.9018+01	.1950+03	.6128+03	.2829+03	.5514-02
P-H2O/P-PROP= 19.0000							
.5459+03	.5362+02	.1294+04	.1018+02	.1938+03	.6321+03	.2637+03	.5180-02
P-H2O/P-PROP= 20.0000							
.5784+03	.5094+02	.1216+04	.1136+02	.1927+03	.6454+03	.2478+03	.4889-02

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 9000.

N2O4-AZ50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3336+02	.1634+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.9752+01	.1278+03	.3411+04	.7629-01	.2032+03	.1236+04	.6949+03	.3262+00
P-H2O/P-PROP= 4.0000							
.4787+02	.1233+03	.3279+04	.3883+00	.2029+03	.1117+04	.6680+03	.6646-01
P-H2O/P-PROP= 5.0000							
.8596+02	.1187+03	.3148+04	.7240+00	.2026+03	.1010+04	.6413+03	.3701-01
P-H2O/P-PROP= 6.0000							
.1240+03	.1142+03	.3017+04	.1086+01	.2023+03	.9136+03	.6147+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1621+03	.1097+03	.2887+04	.1477+01	.2020+03	.8283+03	.5882+03	.1963-01
P-H2O/P-PROP= 8.0000							
.2001+03	.1053+03	.2759+04	.1900+01	.2016+03	.7538+03	.5620+03	.1590-01
P-H2O/P-PROP= 9.0000							
.2381+03	.1009+03	.2631+04	.2360+01	.2012+03	.6900+03	.5360+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2760+03	.9650+02	.2504+04	.2860+01	.2008+03	.6367+03	.5102+03	.1153-01
P-H2O/P-PROP= 11.0000							
.3137+03	.9230+02	.2383+04	.3399+01	.2003+03	.5917+03	.4854+03	.1014-01
P-H2O/P-PROP= 12.0000							
.3518+03	.8784+02	.2254+04	.4005+01	.1998+03	.5616+03	.4591+03	.9044-02
P-H2O/P-PROP= 13.0000							
.3894+03	.8374+02	.2135+04	.4650+01	.1992+03	.5363+03	.4349+03	.8169-02
P-H2O/P-PROP= 14.0000							
.4271+03	.7964+02	.2016+04	.5362+01	.1986+03	.5212+03	.4107+03	.7449-02
P-H2O/P-PROP= 15.0000							
.4646+03	.7565+02	.1901+04	.6141+01	.1978+03	.5142+03	.3872+03	.6847-02
P-H2O/P-PROP= 16.0000							
.5020+03	.7180+02	.1789+04	.6992+01	.1970+03	.5142+03	.3645+03	.6337-02
P-H2O/P-PROP= 17.0000							
.5397+03	.6772+02	.1671+04	.7968+01	.1961+03	.5292+03	.3404+03	.5895-02
P-H2O/P-PROP= 18.0000							
.5770+03	.6398+02	.1562+04	.9018+01	.1950+03	.5465+03	.3182+03	.5514-02
P-H2O/P-PROP= 19.0000							
.6142+03	.6033+02	.1456+04	.1018+02	.1938+03	.5708+03	.2967+03	.5180-02
P-H2O/P-PROP= 20.0000							
.6507+03	.5730+02	.1368+04	.1136+02	.1927+03	.5877+03	.2788+03	.4889-02

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 1000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3729+01	.1816+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1084+01	.1420+02	.3790+03	.7629-01	.2032+03	.1379+03	.5362+02	.3262+00
P-H2O/P-PROP= 4.0000							
.5319+01	.1370+02	.3643+03	.3883+00	.2029+03	.1372+03	.5154+02	.6646-01
P-H2O/P-PROP= 5.0000							
.9551+01	.1319+02	.3498+03	.7240+00	.2026+03	.1366+03	.4948+02	.3701-01
P-H2O/P-PROP= 6.0000							
.1378+02	.1269+02	.3352+03	.1086+01	.2023+03	.1360+03	.4743+02	.2565-01
P-H2O/P-PROP= 7.0000							
.1801+02	.1219+02	.3208+03	.1477+01	.2020+03	.1355+03	.4539+02	.1963-01
P-H2O/P-PROP= 8.0000							
.2223+02	.1170+02	.3065+03	.1900+01	.2016+03	.1350+03	.4336+02	.1590-01
P-H2O/P-PROP= 9.0000							
.2645+02	.1121+02	.2923+03	.2360+01	.2012+03	.1347+03	.4136+02	.1336-01
P-H2O/P-PROP= 10.0000							
.3066+02	.1072+02	.2783+03	.2860+01	.2008+03	.1343+03	.3937+02	.1153-01
P-H2O/P-PROP= 11.0000							
.3486+02	.1026+02	.2648+03	.3399+01	.2003+03	.1341+03	.3746+02	.1014-01
P-H2O/P-PROP= 12.0000							
.3908+02	.9760+01	.2504+03	.4005+01	.1998+03	.1339+03	.3543+02	.9044-02
P-H2O/P-PROP= 13.0000							
.4327+02	.9304+01	.2372+03	.4650+01	.1992+03	.1337+03	.3356+02	.8169-02
P-H2O/P-PROP= 14.0000							
.4745+02	.8849+01	.2240+03	.5362+01	.1986+03	.1337+03	.3169+02	.7449-02
P-H2O/P-PROP= 15.0000							
.5162+02	.8406+01	.2112+03	.6141+01	.1978+03	.1336+03	.2988+02	.6847-02
P-H2O/P-PROP= 16.0000							
.5578+02	.7978+01	.1988+03	.6992+01	.1970+03	.1336+03	.2812+02	.6337-02
P-H2O/P-PROP= 17.0000							
.5996+02	.7525+01	.1857+03	.7968+01	.1961+03	.1337+03	.2626+02	.5895-02
P-H2O/P-PROP= 18.0000							
.6411+02	.7109+01	.1736+03	.9018+01	.1950+03	.1338+03	.2456+02	.5514-02
P-H2O/P-PROP= 19.0000							
.6824+02	.6703+01	.1618+03	.1018+02	.1938+03	.1340+03	.2289+02	.5180-02
P-H2O/P-PROP= 20.0000							
.7231+02	.6367+01	.1520+03	.1136+02	.1927+03	.1341+03	.2151+02	.4889-02

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 2000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.7457+01	.3632+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2167+01	.2841+02	.7580+03	.7629-01	.2032+03	.2687+03	.1072+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1064+02	.2739+02	.7287+03	.3883+00	.2029+03	.2659+03	.1031+03	.6646-01
P-H2O/P-PROP= 5.0000							
.1910+02	.2639+02	.6995+03	.7240+00	.2026+03	.2633+03	.9896+02	.3701-01
P-H2O/P-PROP= 6.0000							
.2756+02	.2538+02	.6705+03	.1086+01	.2023+03	.2610+03	.9486+02	.2565-01
P-H2O/P-PROP= 7.0000							
.3602+02	.2439+02	.6417+03	.1477+01	.2020+03	.2590+03	.9078+02	.1963-01
P-H2O/P-PROP= 8.0000							
.4446+02	.2340+02	.6130+03	.1900+01	.2016+03	.2572+03	.8673+02	.1590-01
P-H2O/P-PROP= 9.0000							
.5290+02	.2242+02	.5846+03	.2360+01	.2012+03	.2557+03	.8271+02	.1336-01
P-H2O/P-PROP= 10.0000							
.6133+02	.2144+02	.5565+03	.2860+01	.2008+03	.2544+03	.7873+02	.1153-01
P-H2O/P-PROP= 11.0000							
.6972+02	.2051+02	.5295+03	.3399+01	.2003+03	.2534+03	.7491+02	.1014-01
P-H2O/P-PROP= 12.0000							
.7817+02	.1952+02	.5008+03	.4005+01	.1998+03	.2527+03	.7085+02	.9044-02
P-H2O/P-PROP= 13.0000							
.8654+02	.1861+02	.4744+03	.4650+01	.1992+03	.2521+03	.6712+02	.8169-02
P-H2O/P-PROP= 14.0000							
.9490+02	.1770+02	.4480+03	.5362+01	.1986+03	.2517+03	.6339+02	.7449-02
P-H2O/P-PROP= 15.0000							
.1032+03	.1681+02	.4224+03	.6141+01	.1978+03	.2515+03	.5976+02	.6847-02
P-H2O/P-PROP= 16.0000							
.1116+03	.1596+02	.3976+03	.6992+01	.1970+03	.2515+03	.5625+02	.6337-02
P-H2O/P-PROP= 17.0000							
.1199+03	.1505+02	.3713+03	.7968+01	.1961+03	.2519+03	.5253+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1282+03	.1422+02	.3471+03	.9018+01	.1950+03	.2523+03	.4911+02	.5514-02
P-H2O/P-PROP= 19.0000							
.1365+03	.1341+02	.3236+03	.1018+02	.1938+03	.2529+03	.4578+02	.5180-02
P-H2O/P-PROP= 20.0000							
.1446+03	.1273+02	.3041+03	.1136+02	.1927+03	.2533+03	.4302+02	.4889-02

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 3000.

N2O4-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1119+02	.5447+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3291+01	.4261+02	.1137+04	.7629-01	.2032+03	.3924+03	.1609+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1596+02	.4109+02	.1093+04	.3883+00	.2029+03	.3861+03	.1546+03	.6646-01
P-H2O/P-PROP= 5.0000							
.2865+02	.3958+02	.1049+04	.7240+00	.2026+03	.3803+03	.1484+03	.3701-01
P-H2O/P-PROP= 6.0000							
.4134+02	.3807+02	.1006+04	.1086+01	.2023+03	.3751+03	.1423+03	.2565-01
P-H2O/P-PROP= 7.0000							
.5402+02	.3658+02	.9625+03	.1477+01	.2020+03	.3706+03	.1362+03	.1963-01
P-H2O/P-PROP= 8.0000							
.6669+02	.3510+02	.9196+03	.1900+01	.2016+03	.3666+03	.1301+03	.1590-01
P-H2O/P-PROP= 9.0000							
.7935+02	.3362+02	.8770+03	.2360+01	.2012+03	.3631+03	.1241+03	.1336-01
P-H2O/P-PROP= 10.0000							
.9199+02	.3217+02	.8348+03	.2860+01	.2008+03	.3603+03	.1181+03	.1153-01
P-H2O/P-PROP= 11.0000							
.1046+03	.3077+02	.7943+03	.3399+01	.2003+03	.3579+03	.1124+03	.1014-01
P-H2O/P-PROP= 12.0000							
.1173+03	.2928+02	.7512+03	.4005+01	.1998+03	.3563+03	.1063+03	.9044-02
P-H2O/P-PROP= 13.0000							
.1298+03	.2791+02	.7116+03	.4650+01	.1992+03	.3549+03	.1007+03	.8169-02
P-H2O/P-PROP= 14.0000							
.1424+03	.2655+02	.6721+03	.5362+01	.1986+03	.3541+03	.9508+02	.7449-02
P-H2O/P-PROP= 15.0000							
.1549+03	.2522+02	.6336+03	.6141+01	.1978+03	.3537+03	.8963+02	.6847-02
P-H2O/P-PROP= 16.0000							
.1673+03	.2393+02	.5964+03	.6992+01	.1970+03	.3537+03	.8437+02	.6337-02
P-H2O/P-PROP= 17.0000							
.1799+03	.2257+02	.5570+03	.7968+01	.1961+03	.3545+03	.7879+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1923+03	.2133+02	.5207+03	.9018+01	.1950+03	.3555+03	.7367+02	.5514-02
P-H2O/P-PROP= 19.0000							
.2047+03	.2011+02	.4854+03	.1018+02	.1938+03	.3568+03	.6867+02	.5180-02
P-H2O/P-PROP= 20.0000							
.2169+03	.1910+02	.4561+03	.1136+02	.1927+03	.3577+03	.6453+02	.4889-02

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 4000.

N2O4-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1491+02	.7263+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.4334+01	.5681+02	.1516+04	.7629-01	.2032+03	.5090+03	.2145+03	.3262+00
P-H2O/P-PROP= 4.0000							
.2127+02	.5479+02	.1457+04	.3883+00	.2029+03	.4977+03	.2062+03	.6646-01
P-H2O/P-PROP= 5.0000							
.3821+02	.5277+02	.1399+04	.7240+00	.2026+03	.4874+03	.1979+03	.3701-01
P-H2O/P-PROP= 6.0000							
.5513+02	.5077+02	.1341+04	.1086+01	.2023+03	.4783+03	.1897+03	.2565-01
P-H2O/P-PROP= 7.0000							
.7203+02	.4877+02	.1283+04	.1477+01	.2020+03	.4701+03	.1816+03	.1963-01
P-H2O/P-PROP= 8.0000							
.8893+02	.4679+02	.1226+04	.1900+01	.2016+03	.4630+03	.1735+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1058+03	.4483+02	.1169+04	.2360+01	.2012+03	.4570+03	.1654+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1227+03	.4289+02	.1113+04	.2860+01	.2008+03	.4519+03	.1575+03	.1153-01
P-H2O/P-PROP= 11.0000							
.1394+03	.4102+02	.1059+04	.3399+01	.2003+03	.4476+03	.1498+03	.1014-01
P-H2O/P-PROP= 12.0000							
.1563+03	.3904+02	.1002+04	.4005+01	.1998+03	.4447+03	.1417+03	.9044-02
P-H2O/P-PROP= 13.0000							
.1731+03	.3722+02	.9488+03	.4650+01	.1992+03	.4423+03	.1342+03	.8169-02
P-H2O/P-PROP= 14.0000							
.1898+03	.3540+02	.8961+03	.5362+01	.1986+03	.4409+03	.1268+03	.7449-02
P-H2O/P-PROP= 15.0000							
.2065+03	.3362+02	.8448+03	.6141+01	.1978+03	.4402+03	.1195+03	.6847-02
P-H2O/P-PROP= 16.0000							
.2231+03	.3191+02	.7952+03	.6992+01	.1970+03	.4402+03	.1125+03	.6337-02
P-H2O/P-PROP= 17.0000							
.2398+03	.3010+02	.7426+03	.7968+01	.1961+03	.4416+03	.1051+03	.5895-02
P-H2O/P-PROP= 18.0000							
.2564+03	.2843+02	.6943+03	.9018+01	.1950+03	.4433+03	.9822+02	.5514-02
P-H2O/P-PROP= 19.0000							
.2730+03	.2681+02	.6472+03	.1018+02	.1938+03	.4456+03	.9156+02	.5180-02
P-H2O/P-PROP= 20.0000							
.2892+03	.2547+02	.6082+03	.1136+02	.1927+03	.4472+03	.8604+02	.4889-02

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 5000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1864+02	.9079+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5418+01	.7102+02	.1895+04	.7629-01	.2032+03	.6185+03	.2681+03	.3262+00
P-H2O/P-PROP= 4.0000							
.2659+02	.6848+02	.1822+04	.3683+00	.2029+03	.6008+03	.2577+03	.6646-01
P-H2O/P-PROP= 5.0000							
.4776+02	.6596+02	.1749+04	.7240+00	.2026+03	.5848+03	.2474+03	.3701-01
P-H2O/P-PROP= 6.0000							
.6891+02	.6346+02	.1676+04	.1086+01	.2023+03	.5704+03	.2371+03	.2565-01
P-H2O/P-PROP= 7.0000							
.9004+02	.6097+02	.1604+04	.1477+01	.2020+03	.5577+03	.2269+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1112+03	.5849+02	.1533+04	.1900+01	.2016+03	.5467+03	.2168+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1323+03	.5604+02	.1462+04	.2360+01	.2012+03	.5372+03	.2068+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1533+03	.5361+02	.1391+04	.2860+01	.2008+03	.5292+03	.1968+03	.1153-01
P-H2O/P-PROP= 11.0000							
.1743+03	.5120+02	.1324+04	.3399+01	.2003+03	.5225+03	.1873+03	.1014-01
P-H2O/P-PROP= 12.0000							
.1954+03	.4880+02	.1252+04	.4005+01	.1998+03	.5181+03	.1771+03	.9044-02
P-H2O/P-PROP= 13.0000							
.2163+03	.4652+02	.1186+04	.4650+01	.1992+03	.5143+03	.1678+03	.8169-02
P-H2O/P-PROP= 14.0000							
.2373+03	.4425+02	.1120+04	.5362+01	.1986+03	.5120+03	.1585+03	.7449-02
P-H2O/P-PROP= 15.0000							
.2581+03	.4203+02	.1056+04	.6141+01	.1978+03	.5110+03	.1494+03	.6847-02
P-H2O/P-PROP= 16.0000							
.2789+03	.3989+02	.9940+03	.6992+01	.1970+03	.5110+03	.1406+03	.6337-02
P-H2O/P-PROP= 17.0000							
.2998+03	.3782+02	.9283+03	.7968+01	.1961+03	.5132+03	.1313+03	.5895-02
P-H2O/P-PROP= 18.0000							
.3205+03	.3554+02	.8679+03	.9018+01	.1950+03	.5158+03	.1228+03	.5514-02
P-H2O/P-PROP= 19.0000							
.3412+03	.3351+02	.8090+03	.1018+02	.1938+03	.5194+03	.1145+03	.5180-02
P-H2O/P-PROP= 20.0000							
.3615+03	.3144+02	.7602+03	.1136+02	.1927+03	.5219+03	.1076+03	.4889-02

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 6000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2237+02	.1089+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6502+01	.8522+02	.2274+04	.7629-01	.2032+03	.7208+03	.3217+03	.3262+00
P-H2O/P-PROP= 4.0000							
.3191+02	.8218+02	.2186+04	.3683+00	.2029+03	.6954+03	.3093+03	.6646-01
P-H2O/P-PROP= 5.0000							
.5731+02	.7916+02	.2099+04	.7240+00	.2026+03	.6723+03	.2969+03	.3701-01
P-H2O/P-PROP= 6.0000							
.8269+02	.7615+02	.2011+04	.1086+01	.2023+03	.6517+03	.2846+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1080+03	.7316+02	.1925+04	.1477+01	.2020+03	.6334+03	.2723+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1334+03	.7019+02	.1839+04	.1900+01	.2016+03	.6174+03	.2602+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1587+03	.6725+02	.1754+04	.2360+01	.2012+03	.6038+03	.2481+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1840+03	.6433+02	.1670+04	.2860+01	.2008+03	.5923+03	.2362+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2092+03	.6154+02	.1589+04	.3399+01	.2003+03	.5827+03	.2247+03	.1014-01
P-H2O/P-PROP= 12.0000							
.2345+03	.5856+02	.1502+04	.4005+01	.1998+03	.5762+03	.2126+03	.9044-02
P-H2O/P-PROP= 13.0000							
.2596+03	.5582+02	.1423+04	.4650+01	.1992+03	.5708+03	.2014+03	.8169-02
P-H2O/P-PROP= 14.0000							
.2847+03	.5309+02	.1344+04	.5362+01	.1986+03	.5676+03	.1902+03	.7449-02
P-H2O/P-PROP= 15.0000							
.3097+03	.5044+02	.1267+04	.6141+01	.1978+03	.5661+03	.1793+03	.6847-02
P-H2O/P-PROP= 16.0000							
.3347+03	.4787+02	.1193+04	.6992+01	.1970+03	.5661+03	.1687+03	.6337-02
P-H2O/P-PROP= 17.0000							
.3598+03	.4515+02	.1114+04	.7968+01	.1961+03	.5693+03	.1576+03	.5895-02
P-H2O/P-PROP= 18.0000							
.3846+03	.4265+02	.1041+04	.9018+01	.1950+03	.5730+03	.1473+03	.5514-02
P-H2O/P-PROP= 19.0000							
.4094+03	.4022+02	.9708+03	.1018+02	.1938+03	.5762+03	.1373+03	.5180-02
P-H2O/P-PROP= 20.0000							
.4338+03	.3820+02	.9123+03	.1136+02	.1927+03	.5818+03	.1291+03	.4889-02

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 7000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2610+02	.1271+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.7585+01	.9942+02	.2653+04	.7629-01	.2032+03	.8181+03	.3753+03	.3262+00
P-H20/P-PROP= 4.0000							
.3723+02	.9568+02	.2550+04	.3883+00	.2029+03	.7814+03	.3608+03	.6646-01
P-H20/P-PROP= 5.0000							
.6636+02	.9235+02	.2448+04	.7240+00	.2026+03	.7501+03	.3464+03	.3701-01
P-H20/P-PROP= 6.0000							
.9647+02	.8884+02	.2347+04	.1086+01	.2023+03	.7220+03	.3320+03	.2565-01
P-H20/P-PROP= 7.0000							
.1261+03	.8535+02	.2246+04	.1477+01	.2020+03	.6971+03	.3177+03	.1963-01
P-H20/P-PROP= 8.0000							
.1556+03	.8189+02	.2146+04	.1900+01	.2016+03	.6753+03	.3035+03	.1590-01
P-H20/P-PROP= 9.0000							
.1852+03	.7846+02	.2046+04	.2360+01	.2012+03	.6567+03	.2895+03	.1336-01
P-H20/P-PROP= 10.0000							
.2147+03	.7506+02	.1948+04	.2860+01	.2008+03	.6412+03	.2756+03	.1153-01
P-H20/P-PROP= 11.0000							
.2440+03	.7179+02	.1853+04	.3399+01	.2003+03	.6280+03	.2622+03	.1014-01
P-H20/P-PROP= 12.0000							
.2736+03	.6832+02	.1753+04	.4005+01	.1998+03	.6193+03	.2480+03	.9044-02
P-H20/P-PROP= 13.0000							
.3029+03	.6513+02	.1660+04	.4650+01	.1992+03	.6119+03	.2349+03	.8169-02
P-H20/P-PROP= 14.0000							
.3322+03	.6194+02	.1568+04	.5362+01	.1986+03	.6075+03	.2219+03	.7449-02
P-H20/P-PROP= 15.0000							
.3614+03	.5884+02	.1478+04	.6141+01	.1978+03	.6054+03	.2091+03	.6847-02
P-H20/P-PROP= 16.0000							
.3905+03	.5585+02	.1392+04	.6992+01	.1970+03	.6054+03	.1969+03	.6337-02
P-H20/P-PROP= 17.0000							
.4197+03	.5267+02	.1300+04	.7968+01	.1961+03	.6098+03	.1839+03	.5895-02
P-H20/P-PROP= 18.0000							
.4487+03	.4976+02	.1215+04	.9018+01	.1950+03	.6148+03	.1719+03	.5514-02
P-H20/P-PROP= 19.0000							
.4777+03	.4692+02	.1133+04	.1018+02	.1938+03	.6219+03	.1602+03	.5180-02
P-H20/P-PROP= 20.0000							
.5061+03	.4457+02	.1064+04	.1136+02	.1927+03	.6269+03	.1506+03	.4889-02

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 8000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2983+02	.1453+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.8669+01	.1136+03	.3032+04	.7629-01	.2032+03	.9042+03	.4289+03	.3262+00
P-H20/P-PROP= 4.0000							
.4255+02	.1096+03	.2915+04	.3883+00	.2029+03	.8584+03	.4124+03	.6646-01
P-H20/P-PROP= 5.0000							
.7641+02	.1055+03	.2798+04	.7240+00	.2026+03	.8180+03	.3958+03	.3701-01
P-H20/P-PROP= 6.0000							
.1103+03	.1015+03	.2682+04	.1086+01	.2023+03	.7814+03	.3794+03	.2565-01
P-H20/P-PROP= 7.0000							
.1441+03	.9755+02	.2567+04	.1477+01	.2020+03	.7488+03	.3631+03	.1963-01
P-H20/P-PROP= 8.0000							
.1779+03	.9359+02	.2452+04	.1900+01	.2016+03	.7204+03	.3469+03	.1590-01
P-H20/P-PROP= 9.0000							
.2116+03	.8966+02	.2339+04	.2360+01	.2012+03	.6961+03	.3308+03	.1336-01
P-H20/P-PROP= 10.0000							
.2453+03	.8578+02	.2226+04	.2860+01	.2008+03	.6758+03	.3149+03	.1153-01
P-H20/P-PROP= 11.0000							
.2789+03	.8205+02	.2118+04	.3399+01	.2003+03	.6586+03	.2997+03	.1014-01
P-H20/P-PROP= 12.0000							
.3127+03	.7838+02	.2003+04	.4005+01	.1998+03	.6471+03	.2834+03	.9044-02
P-H20/P-PROP= 13.0000							
.3461+03	.7443+02	.1898+04	.4650+01	.1992+03	.6375+03	.2685+03	.8169-02
P-H20/P-PROP= 14.0000							
.3796+03	.7079+02	.1792+04	.5362+01	.1986+03	.6317+03	.2535+03	.7449-02
P-H20/P-PROP= 15.0000							
.4130+03	.6725+02	.1690+04	.6141+01	.1978+03	.6291+03	.2390+03	.6847-02
P-H20/P-PROP= 16.0000							
.4462+03	.6383+02	.1590+04	.6992+01	.1970+03	.6291+03	.2250+03	.6337-02
P-H20/P-PROP= 17.0000							
.4797+03	.6020+02	.1485+04	.7968+01	.1961+03	.6348+03	.2101+03	.5895-02
P-H20/P-PROP= 18.0000							
.5129+03	.5687+02	.1389+04	.9018+01	.1950+03	.6414+03	.1964+03	.5514-02
P-H20/P-PROP= 19.0000							
.5459+03	.5362+02	.1294+04	.1018+02	.1938+03	.6500+03	.1831+03	.5180-02
P-H20/P-PROP= 20.0000							
.5784+03	.5094+02	.1216+04	.1136+02	.1927+03	.6571+03	.1721+03	.4889-02

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 9000.

N2O4-A-50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3356+02	.1634+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.9752+01	.1278+03	.3411+04	.7629-01	.2032+03	.9852+03	.4626+03	.3262+00
P-H2O/P-PROP= 4.0000							
.4767+02	.1233+03	.3279+04	.3883+00	.2029+03	.9279+03	.4639+03	.6646-01
P-H2O/P-PROP= 5.0000							
.8596+02	.1187+03	.3148+04	.7240+00	.2026+03	.8761+03	.4453+03	.3701-01
P-H2O/P-PROP= 6.0000							
.1240+03	.1142+03	.3017+04	.1086+01	.2023+03	.8297+03	.4269+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1621+03	.1097+03	.2887+04	.1477+01	.2020+03	.7883+03	.4085+03	.1963-01
P-H2O/P-PROP= 8.0000							
.2001+03	.1053+03	.2759+04	.1900+01	.2016+03	.7526+03	.3903+03	.1590-01
P-H2O/P-PROP= 9.0000							
.2381+03	.1009+03	.2631+04	.2360+01	.2012+03	.7218+03	.3722+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2760+03	.9650+02	.2504+04	.2860+01	.2008+03	.6961+03	.3543+03	.1153-01
P-H2O/P-PROP= 11.0000							
.3137+03	.9230+02	.2383+04	.3399+01	.2003+03	.6744+03	.3371+03	.1014-01
P-H2O/P-PROP= 12.0000							
.3518+03	.8784+02	.2254+04	.4005+01	.1998+03	.6599+03	.3188+03	.9044-02
P-H2O/P-PROP= 13.0000							
.3894+03	.8374+02	.2135+04	.4650+01	.1992+03	.6477+03	.3020+03	.8169-02
P-H2O/P-PROP= 14.0000							
.4271+03	.7964+02	.2016+04	.5362+01	.1986+03	.6404+03	.2852+03	.7449-02
P-H2O/P-PROP= 15.0000							
.4646+03	.7565+02	.1901+04	.6141+01	.1978+03	.6370+03	.2689+03	.6847-02
P-H2O/P-PROP= 16.0000							
.5020+03	.7180+02	.1789+04	.6992+01	.1970+03	.6370+03	.2531+03	.6337-02
P-H2O/P-PROP= 17.0000							
.5397+03	.6772+02	.1671+04	.7968+01	.1961+03	.6442+03	.2364+03	.5895-02
P-H2O/P-PROP= 18.0000							
.5770+03	.6398+02	.1562+04	.9018+01	.1950+03	.6526+03	.2210+03	.5514-02
P-H2O/P-PROP= 19.0000							
.6142+03	.6033+02	.1456+04	.1018+02	.1938+03	.6643+03	.2060+03	.5180-02
P-H2O/P-PROP= 20.0000							
.6507+03	.5730+02	.1368+04	.1136+02	.1927+03	.6725+03	.1936+03	.4889-02

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 1000.

N2O4-A-50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3729+01	.1816+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1084+01	.1420+02	.3790+03	.7629-01	.2032+03	.1020+03	.3939+02	.3262+00
P-H2O/P-PROP= 4.0000							
.5319+01	.1370+02	.3643+03	.3883+00	.2029+03	.1016+03	.3787+02	.6646-01
P-H2O/P-PROP= 5.0000							
.9551+01	.1319+02	.3498+03	.7240+00	.2026+03	.1013+03	.3635+02	.3701-01
P-H2O/P-PROP= 6.0000							
.1378+02	.1269+02	.3352+03	.1086+01	.2023+03	.1010+03	.3485+02	.2565-01
P-H2O/P-PROP= 7.0000							
.1801+02	.1219+02	.3208+03	.1477+01	.2020+03	.1007+03	.3335+02	.1963-01
P-H2O/P-PROP= 8.0000							
.2223+02	.1170+02	.3065+03	.1900+01	.2016+03	.1005+03	.3186+02	.1590-01
P-H2O/P-PROP= 9.0000							
.2645+02	.1121+02	.2923+03	.2360+01	.2012+03	.1003+03	.3038+02	.1336-01
P-H2O/P-PROP= 10.0000							
.3066+02	.1072+02	.2783+03	.2860+01	.2008+03	.1001+03	.2892+02	.1153-01
P-H2O/P-PROP= 11.0000							
.3486+02	.1026+02	.2648+03	.3399+01	.2003+03	.9995+02	.2752+02	.1014-01
P-H2O/P-PROP= 12.0000							
.3908+02	.9760+01	.2504+03	.4005+01	.1998+03	.9985+02	.2603+02	.9044-02
P-H2O/P-PROP= 13.0000							
.4327+02	.9304+01	.2372+03	.4650+01	.1992+03	.9977+02	.2466+02	.8169-02
P-H2O/P-PROP= 14.0000							
.4745+02	.8849+01	.2240+03	.5362+01	.1986+03	.9972+02	.2328+02	.7449-02
P-H2O/P-PROP= 15.0000							
.5162+02	.8406+01	.2112+03	.6141+01	.1978+03	.9970+02	.2195+02	.6847-02
P-H2O/P-PROP= 16.0000							
.5578+02	.7978+01	.1988+03	.6992+01	.1970+03	.9970+02	.2066+02	.6337-02
P-H2O/P-PROP= 17.0000							
.5996+02	.7525+01	.1857+03	.7968+01	.1961+03	.9975+02	.1930+02	.5895-02
P-H2O/P-PROP= 18.0000							
.6411+02	.7109+01	.1736+03	.9018+01	.1950+03	.9980+02	.1804+02	.5514-02
P-H2O/P-PROP= 19.0000							
.6824+02	.6703+01	.1618+03	.1018+02	.1938+03	.9986+02	.1682+02	.5180-02
P-H2O/P-PROP= 20.0000							
.7231+02	.6367+01	.1520+03	.1136+02	.1927+03	.9994+02	.1580+02	.4889-02

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 2000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.7457+01	.3632+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2167+01	.2841+02	.7580+03	.7629-01	.2032+03	.2002+03	.7878+02	.3262+00
P-H2O/P-PROP= 4.0000							
.1064+02	.2739+02	.7287+03	.3883+00	.2029+03	.1987+03	.7574+02	.6646-01
P-H2O/P-PROP= 5.0000							
.1910+02	.2639+02	.6995+03	.7240+00	.2026+03	.1973+03	.7271+02	.3701-01
P-H2O/P-PROP= 6.0000							
.2756+02	.2538+02	.6705+03	.1086+01	.2023+03	.1961+03	.6969+02	.2565-01
P-H2O/P-PROP= 7.0000							
.3602+02	.2439+02	.6417+03	.1477+01	.2020+03	.1950+03	.6669+02	.1963-01
P-H2O/P-PROP= 8.0000							
.4446+02	.2340+02	.6130+03	.1900+01	.2016+03	.1940+03	.6372+02	.1590-01
P-H2O/P-PROP= 9.0000							
.5290+02	.2242+02	.5846+03	.2360+01	.2012+03	.1932+03	.6077+02	.1336-01
P-H2O/P-PROP= 10.0000							
.6133+02	.2144+02	.5565+03	.2860+01	.2008+03	.1925+03	.5785+02	.1153-01
P-H2O/P-PROP= 11.0000							
.6972+02	.2051+02	.5295+03	.3399+01	.2003+03	.1919+03	.5504+02	.1014-01
P-H2O/P-PROP= 12.0000							
.7817+02	.1952+02	.5008+03	.4005+01	.1998+03	.1915+03	.5205+02	.9044-02
P-H2O/P-PROP= 13.0000							
.8654+02	.1861+02	.4744+03	.4650+01	.1992+03	.1912+03	.4931+02	.8169-02
P-H2O/P-PROP= 14.0000							
.9490+02	.1770+02	.4480+03	.5362+01	.1986+03	.1910+03	.4657+02	.7449-02
P-H2O/P-PROP= 15.0000							
.1032+03	.1681+02	.4224+03	.6141+01	.1978+03	.1909+03	.4390+02	.6847-02
P-H2O/P-PROP= 16.0000							
.1116+03	.1596+02	.3976+03	.6992+01	.1970+03	.1909+03	.4132+02	.6337-02
P-H2O/P-PROP= 17.0000							
.1199+03	.1505+02	.3713+03	.7968+01	.1961+03	.1911+03	.3859+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1282+03	.1422+02	.3471+03	.9018+01	.1950+03	.1913+03	.3608+02	.5514-02
P-H2O/P-PROP= 19.0000							
.1365+03	.1341+02	.3236+03	.1018+02	.1938+03	.1916+03	.3363+02	.5180-02
P-H2O/P-PROP= 20.0000							
.1446+03	.1273+02	.3041+03	.1136+02	.1927+03	.1919+03	.3161+02	.4889-02

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 3000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1119+02	.5447+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3251+01	.4261+02	.1137+04	.7629-01	.2032+03	.2943+03	.1182+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1596+02	.4109+02	.1093+04	.3883+00	.2029+03	.2911+03	.1136+03	.6646-01
P-H2O/P-PROP= 5.0000							
.2865+02	.3958+02	.1049+04	.7240+00	.2026+03	.2880+03	.1091+03	.3701-01
P-H2O/P-PROP= 6.0000							
.4134+02	.3807+02	.1006+04	.1086+01	.2023+03	.2852+03	.1045+03	.2565-01
P-H2O/P-PROP= 7.0000							
.5402+02	.3658+02	.9625+03	.1477+01	.2020+03	.2827+03	.1000+03	.1963-01
P-H2O/P-PROP= 8.0000							
.6669+02	.3510+02	.9196+03	.1900+01	.2016+03	.2806+03	.9558+02	.1590-01
P-H2O/P-PROP= 9.0000							
.7935+02	.3362+02	.8770+03	.2360+01	.2012+03	.2787+03	.9115+02	.1336-01
P-H2O/P-PROP= 10.0000							
.9199+02	.3217+02	.8348+03	.2860+01	.2008+03	.2772+03	.8677+02	.1153-01
P-H2O/P-PROP= 11.0000							
.1046+03	.3077+02	.7943+03	.3399+01	.2003+03	.2759+03	.8256+02	.1014-01
P-H2O/P-PROP= 12.0000							
.1173+03	.2928+02	.7512+03	.4005+01	.1998+03	.2750+03	.7808+02	.9044-02
P-H2O/P-PROP= 13.0000							
.1298+03	.2791+02	.7116+03	.4650+01	.1992+03	.2743+03	.7397+02	.8169-02
P-H2O/P-PROP= 14.0000							
.1424+03	.2655+02	.6721+03	.5362+01	.1986+03	.2739+03	.6985+02	.7449-02
P-H2O/P-PROP= 15.0000							
.1549+03	.2522+02	.6336+03	.6141+01	.1978+03	.2737+03	.6585+02	.6847-02
P-H2O/P-PROP= 16.0000							
.1673+03	.2393+02	.5964+03	.6992+01	.1970+03	.2737+03	.6199+02	.6337-02
P-H2O/P-PROP= 17.0000							
.1799+03	.2257+02	.5570+03	.7968+01	.1961+03	.2741+03	.5789+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1923+03	.2133+02	.5207+03	.9018+01	.1950+03	.2746+03	.5412+02	.5514-02
P-H2O/P-PROP= 19.0000							
.2047+03	.2011+02	.4854+03	.1018+02	.1938+03	.2753+03	.5045+02	.5180-02
P-H2O/P-PROP= 20.0000							
.2169+03	.1910+02	.4561+03	.1136+02	.1927+03	.2758+03	.4741+02	.4889-02

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 4000.

N2O4-AZ50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1491+02	.7263+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.4334+01	.5691+02	.1516+04	.7629-01	.2032+03	.3850+03	.1576+03	.3262+00
P-H2O/P-PROP= 4.0000							
.2127+02	.5479+02	.1457+04	.3883+00	.2029+03	.3789+03	.1515+03	.6646-01
P-H2O/P-PROP= 5.0000							
.3821+02	.5277+02	.1399+04	.7240+00	.2026+03	.3734+03	.1454+03	.3701-01
P-H2O/P-PROP= 6.0000							
.5513+02	.5077+02	.1341+04	.1086+01	.2023+03	.3685+03	.1394+03	.2565-01
P-H2O/P-PROP= 7.0000							
.7203+02	.4877+02	.1283+04	.1477+01	.2020+03	.3641+03	.1334+03	.1983-01
P-H2O/P-PROP= 8.0000							
.8893+02	.4679+02	.1226+04	.1900+01	.2016+03	.3602+03	.1274+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1058+03	.4483+02	.1169+04	.2360+01	.2012+03	.3570+03	.1215+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1227+03	.4289+02	.1113+04	.2860+01	.2008+03	.3542+03	.1157+03	.1153-01
P-H2O/P-PROP= 11.0000							
.1394+03	.4102+02	.1059+04	.3399+01	.2003+03	.3519+03	.1101+03	.1014-01
P-H2O/P-PROP= 12.0000							
.1563+03	.3904+02	.1002+04	.4005+01	.1998+03	.3504+03	.1041+03	.9044-02
P-H2O/P-PROP= 13.0000							
.1731+03	.3722+02	.9488+03	.4650+01	.1992+03	.3491+03	.9862+02	.8169-02
P-H2O/P-PROP= 14.0000							
.1898+03	.3540+02	.8961+03	.5362+01	.1986+03	.3486+03	.9314+02	.7449-02
P-H2O/P-PROP= 15.0000							
.2065+03	.3362+02	.8448+03	.6141+01	.1978+03	.3479+03	.8780+02	.6847-02
P-H2O/P-PROP= 16.0000							
.2231+03	.3191+02	.7952+03	.6992+01	.1970+03	.3479+03	.8265+02	.6337-02
P-H2O/P-PROP= 17.0000							
.2398+03	.3010+02	.7426+03	.7968+01	.1961+03	.3487+03	.7719+02	.5895-02
P-H2O/P-PROP= 18.0000							
.2564+03	.2843+02	.6943+03	.9018+01	.1950+03	.3496+03	.7216+02	.5514-02
P-H2O/P-PROP= 19.0000							
.2730+03	.2681+02	.6472+03	.1018+02	.1938+03	.3508+03	.6727+02	.5180-02
P-H2O/P-PROP= 20.0000							
.2892+03	.2547+02	.6082+03	.1136+02	.1927+03	.3517+03	.6322+02	.4889-02

DIA-FT= 5.50 LB AIR/LB PROP= .1000 THRUST= 5000.

N2O4-AZ50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1864+02	.9079+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5418+01	.7102+02	.1895+04	.7629-01	.2032+03	.4717+03	.1970+03	.3262+00
P-H2O/P-PROP= 4.0000							
.2659+02	.6848+02	.1822+04	.3883+00	.2029+03	.4622+03	.1893+03	.6646-01
P-H2O/P-PROP= 5.0000							
.4776+02	.6596+02	.1749+04	.7240+00	.2026+03	.4535+03	.1818+03	.3701-01
P-H2O/P-PROP= 6.0000							
.6891+02	.6346+02	.1676+04	.1086+01	.2023+03	.4458+03	.1742+03	.2565-01
P-H2O/P-PROP= 7.0000							
.9004+02	.6097+02	.1604+04	.1477+01	.2020+03	.4389+03	.1667+03	.1983-01
P-H2O/P-PROP= 8.0000							
.1112+03	.5849+02	.1533+04	.1900+01	.2016+03	.4330+03	.1593+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1323+03	.5604+02	.1462+04	.2360+01	.2012+03	.4278+03	.1519+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1533+03	.5361+02	.1391+04	.2860+01	.2008+03	.4235+03	.1446+03	.1153-01
P-H2O/P-PROP= 11.0000							
.1743+03	.5128+02	.1324+04	.3399+01	.2003+03	.4199+03	.1376+03	.1014-01
P-H2O/P-PROP= 12.0000							
.1954+03	.4880+02	.1252+04	.4005+01	.1998+03	.4175+03	.1301+03	.9044-02
P-H2O/P-PROP= 13.0000							
.2163+03	.4652+02	.1186+04	.4650+01	.1992+03	.4155+03	.1233+03	.8169-02
P-H2O/P-PROP= 14.0000							
.2373+03	.4425+02	.1120+04	.5362+01	.1986+03	.4143+03	.1164+03	.7449-02
P-H2O/P-PROP= 15.0000							
.2581+03	.4203+02	.1056+04	.6141+01	.1978+03	.4137+03	.1098+03	.6847-02
P-H2O/P-PROP= 16.0000							
.2789+03	.3989+02	.9940+03	.6992+01	.1970+03	.4137+03	.1033+03	.6337-02
P-H2O/P-PROP= 17.0000							
.2998+03	.3762+02	.9283+03	.7968+01	.1961+03	.4149+03	.9648+02	.5895-02
P-H2O/P-PROP= 18.0000							
.3205+03	.3554+02	.8679+03	.9018+01	.1950+03	.4163+03	.9021+02	.5514-02
P-H2O/P-PROP= 19.0000							
.3412+03	.3351+02	.8090+03	.1018+02	.1938+03	.4182+03	.8409+02	.5180-02
P-H2O/P-PROP= 20.0000							
.3615+03	.3184+02	.7602+03	.1136+02	.1927+03	.4196+03	.7902+02	.4889-02

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 6000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2237+02	.1089+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6502+01	.8522+02	.2274+04	.7629-01	.2032+03	.5545+03	.2364+03	.3262+00
P-H2O/P-PROP= 4.0000							
.3191+02	.8218+02	.2186+04	.3883+00	.2029+03	.5408+03	.2272+03	.6646-01
P-H2O/P-PROP= 5.0000							
.5731+02	.7916+02	.2099+04	.7240+00	.2026+03	.5284+03	.2181+03	.3701-01
P-H2O/P-PROP= 6.0000							
.8269+02	.7615+02	.2011+04	.1086+01	.2023+03	.5172+03	.2091+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1080+03	.7316+02	.1925+04	.1477+01	.2020+03	.5073+03	.2001+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1334+03	.7019+02	.1839+04	.1900+01	.2016+03	.4987+03	.1912+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1587+03	.6725+02	.1754+04	.2360+01	.2012+03	.4913+03	.1823+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1840+03	.6433+02	.1670+04	.2860+01	.2008+03	.4852+03	.1735+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2092+03	.6154+02	.1589+04	.3399+01	.2003+03	.4800+03	.1651+03	.1014-01
P-H2O/P-PROP= 12.0000							
.2345+03	.5856+02	.1502+04	.4005+01	.1998+03	.4765+03	.1562+03	.9044-02
P-H2O/P-PROP= 13.0000							
.2596+03	.5582+02	.1423+04	.4650+01	.1992+03	.4736+03	.1479+03	.8169-02
P-H2O/P-PROP= 14.0000							
.2847+03	.5309+02	.1344+04	.5362+01	.1986+03	.4718+03	.1397+03	.7449-02
P-H2O/P-PROP= 15.0000							
.3097+03	.5044+02	.1267+04	.6141+01	.1978+03	.4710+03	.1317+03	.6847-02
P-H2O/P-PROP= 16.0000							
.3347+03	.4787+02	.1193+04	.6992+01	.1970+03	.4710+03	.1240+03	.6337-02
P-H2O/P-PROP= 17.0000							
.3598+03	.4515+02	.1114+04	.7968+01	.1961+03	.4727+03	.1158+03	.5895-02
P-H2O/P-PROP= 18.0000							
.3846+03	.4265+02	.1041+04	.9018+01	.1950+03	.4747+03	.1082+03	.5514-02
P-H2O/P-PROP= 19.0000							
.4094+03	.4022+02	.9708+03	.1018+02	.1938+03	.4775+03	.1009+03	.5180-02
P-H2O/P-PROP= 20.0000							
.4338+03	.3820+02	.9123+03	.1136+02	.1927+03	.4795+03	.9482+02	.4889-02

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= .7000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2610+02	.1271+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.7585+01	.9942+02	.2653+04	.7629-01	.2032+03	.6335+03	.2757+03	.3262+00
P-H2O/P-PROP= 4.0000							
.3723+02	.9588+02	.2550+04	.3883+00	.2029+03	.6148+03	.2651+03	.6646-01
P-H2O/P-PROP= 5.0000							
.6696+02	.9235+02	.2448+04	.7240+00	.2026+03	.5979+03	.2545+03	.3701-01
P-H2O/P-PROP= 6.0000							
.9647+02	.8884+02	.2347+04	.1086+01	.2023+03	.5827+03	.2439+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1261+03	.8535+02	.2246+04	.1477+01	.2020+03	.5693+03	.2334+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1556+03	.8189+02	.2146+04	.1900+01	.2016+03	.5576+03	.2230+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1852+03	.7846+02	.2046+04	.2360+01	.2012+03	.5475+03	.2127+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2147+03	.7506+02	.1948+04	.2860+01	.2008+03	.5391+03	.2025+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2440+03	.7179+02	.1853+04	.3399+01	.2003+03	.5320+03	.1926+03	.1014-01
P-H2O/P-PROP= 12.0000							
.2736+03	.6832+02	.1753+04	.4005+01	.1998+03	.5273+03	.1822+03	.9044-02
P-H2O/P-PROP= 13.0000							
.3029+03	.6513+02	.1660+04	.4650+01	.1992+03	.5233+03	.1726+03	.8169-02
P-H2O/P-PROP= 14.0000							
.3322+03	.6194+02	.1568+04	.5362+01	.1986+03	.5209+03	.1630+03	.7449-02
P-H2O/P-PROP= 15.0000							
.3614+03	.5884+02	.1478+04	.6141+01	.1978+03	.5198+03	.1537+03	.6847-02
P-H2O/P-PROP= 16.0000							
.3905+03	.5585+02	.1392+04	.6992+01	.1970+03	.5198+03	.1446+03	.6337-02
P-H2O/P-PROP= 17.0000							
.4197+03	.5267+02	.1300+04	.7968+01	.1961+03	.5222+03	.1351+03	.5895-02
P-H2O/P-PROP= 18.0000							
.4487+03	.4976+02	.1215+04	.9018+01	.1950+03	.5249+03	.1263+03	.5514-02
P-H2O/P-PROP= 19.0000							
.4777+03	.4692+02	.1133+04	.1018+02	.1938+03	.5287+03	.1177+03	.5180-02
P-H2O/P-PROP= 20.0000							
.5061+03	.4457+02	.1064+04	.1136+02	.1927+03	.5314+03	.1106+03	.4889-02

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 8000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2983+02	.1453+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.8669+01	.1136+03	.3032+04	.7629-01	.2032+03	.7087+03	.3151+03	.3262+00
P-H20/P-PROP= 4.0000							
.4255+02	.1096+03	.2915+04	.3883+00	.2029+03	.6842+03	.3030+03	.6646-01
P-H20/P-PROP= 5.0000							
.7641+02	.1055+03	.2798+04	.7240+00	.2026+03	.6621+03	.2908+03	.3701-01
P-H20/P-PROP= 6.0000							
.1103+03	.1015+03	.2682+04	.1086+01	.2023+03	.6423+03	.2788+03	.2565-01
P-H20/P-PROP= 7.0000							
.1441+03	.9755+02	.2567+04	.1477+01	.2020+03	.6248+03	.2668+03	.1963-01
P-H20/P-PROP= 8.0000							
.1779+03	.9359+02	.2452+04	.1900+01	.2016+03	.6095+03	.2549+03	.1590-01
P-H20/P-PROP= 9.0000							
.2116+03	.8966+02	.2339+04	.2360+01	.2012+03	.5963+03	.2431+03	.1336-01
P-H20/P-PROP= 10.0000							
.2453+03	.8578+02	.2226+04	.2880+01	.2008+03	.5854+03	.2314+03	.1153-01
P-H20/P-PROP= 11.0000							
.2789+03	.8205+02	.2118+04	.3399+01	.2003+03	.5761+03	.2202+03	.1014-01
P-H20/P-PROP= 12.0000							
.3127+03	.7808+02	.2003+04	.4005+01	.1998+03	.5699+03	.2082+03	.9044-02
P-H20/P-PROP= 13.0000							
.3461+03	.7443+02	.1898+04	.4650+01	.1992+03	.5647+03	.1972+03	.8169-02
P-H20/P-PROP= 14.0000							
.3796+03	.7079+02	.1792+04	.5362+01	.1986+03	.5616+03	.1863+03	.7449-02
P-H20/P-PROP= 15.0000							
.4130+03	.6725+02	.1690+04	.6141+01	.1978+03	.5602+03	.1756+03	.6847-02
P-H20/P-PROP= 16.0000							
.4462+03	.6383+02	.1590+04	.6992+01	.1970+03	.5602+03	.1653+03	.6337-02
P-H20/P-PROP= 17.0000							
.4797+03	.6020+02	.1485+04	.7968+01	.1961+03	.5632+03	.1544+03	.5895-02
P-H20/P-PROP= 18.0000							
.5129+03	.5687+02	.1389+04	.9018+01	.1950+03	.5668+03	.1443+03	.5514-02
P-H20/P-PROP= 19.0000							
.5459+03	.5362+02	.1294+04	.1018+02	.1938+03	.5718+03	.1345+03	.5180-02
P-H20/P-PROP= 20.0000							
.5784+03	.5094+02	.1216+04	.1136+02	.1927+03	.5753+03	.1264+03	.4889-02

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 9000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3356+02	.1634+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.9752+01	.1278+03	.3411+04	.7629-01	.2032+03	.7800+03	.3545+03	.3262+00
P-H20/P-PROP= 4.0000							
.4787+02	.1233+03	.3279+04	.3883+00	.2029+03	.7491+03	.3408+03	.6646-01
P-H20/P-PROP= 5.0000							
.8596+02	.1187+03	.3148+04	.7240+00	.2026+03	.7211+03	.3272+03	.3701-01
P-H20/P-PROP= 6.0000							
.1240+03	.1142+03	.3017+04	.1086+01	.2023+03	.6960+03	.3136+03	.2565-01
P-H20/P-PROP= 7.0000							
.1621+03	.1097+03	.2887+04	.1477+01	.2020+03	.6738+03	.3001+03	.1963-01
P-H20/P-PROP= 8.0000							
.2001+03	.1053+03	.2759+04	.1900+01	.2016+03	.6544+03	.2867+03	.1590-01
P-H20/P-PROP= 9.0000							
.2381+03	.1009+03	.2631+04	.2360+01	.2012+03	.6378+03	.2735+03	.1336-01
P-H20/P-PROP= 10.0000							
.2760+03	.9650+02	.2504+04	.2880+01	.2008+03	.6239+03	.2603+03	.1153-01
P-H20/P-PROP= 11.0000							
.3137+03	.9230+02	.2383+04	.3399+01	.2003+03	.6122+03	.2477+03	.1014-01
P-H20/P-PROP= 12.0000							
.3518+03	.8784+02	.2254+04	.4005+01	.1998+03	.6044+03	.2342+03	.9044-02
P-H20/P-PROP= 13.0000							
.3894+03	.8374+02	.2135+04	.4650+01	.1992+03	.5978+03	.2219+03	.8169-02
P-H20/P-PROP= 14.0000							
.4271+03	.7964+02	.2016+04	.5362+01	.1986+03	.5938+03	.2096+03	.7449-02
P-H20/P-PROP= 15.0000							
.4646+03	.7565+02	.1901+04	.6141+01	.1978+03	.5920+03	.1976+03	.6847-02
P-H20/P-PROP= 16.0000							
.5020+03	.7186+02	.1789+04	.6992+01	.1970+03	.5920+03	.1860+03	.6337-02
P-H20/P-PROP= 17.0000							
.5397+03	.6772+02	.1671+04	.7968+01	.1961+03	.5959+03	.1737+03	.5895-02
P-H20/P-PROP= 18.0000							
.5770+03	.6398+02	.1562+04	.9018+01	.1950+03	.6004+03	.1624+03	.5514-02
P-H20/P-PROP= 19.0000							
.6142+03	.6033+02	.1456+04	.1018+02	.1938+03	.6068+03	.1514+03	.5180-02
P-H20/P-PROP= 20.0000							
.6507+03	.5730+02	.1368+04	.1136+02	.1927+03	.6112+03	.1422+03	.4889-02

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 1000.

N2O4-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3729+01	.1816+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1384+01	.1420+02	.3790+03	.7629-01	.2032+03	.7845+02	.3016+02	.3262+00
P-H2O/P-PROP= 4.0000							
.5319+01	.1370+02	.3643+03	.3883+00	.2029+03	.7823+02	.2899+02	.6646-01
P-H2O/P-PROP= 5.0000							
.9551+01	.1319+02	.3498+03	.7240+00	.2026+03	.7803+02	.2783+02	.3701-01
P-H2O/P-PROP= 6.0000							
.1378+02	.1269+02	.3352+03	.1086+01	.2023+03	.7785+02	.2668+02	.2565-01
P-H2O/P-PROP= 7.0000							
.1801+02	.1219+02	.3208+03	.1477+01	.2020+03	.7768+02	.2553+02	.1963-01
P-H2O/P-PROP= 8.0000							
.2223+02	.1170+02	.3065+03	.1900+01	.2016+03	.7754+02	.2439+02	.1590-01
P-H2O/P-PROP= 9.0000							
.2645+02	.1121+02	.2923+03	.2360+01	.2012+03	.7742+02	.2326+02	.1336-01
P-H2O/P-PROP= 10.0000							
.3066+02	.1072+02	.2783+03	.2860+01	.2008+03	.7732+02	.2214+02	.1153-01
P-H2O/P-PROP= 11.0000							
.3486+02	.1026+02	.2648+03	.3399+01	.2003+03	.7724+02	.2107+02	.1014-01
P-H2O/P-PROP= 12.0000							
.3908+02	.9760+01	.2504+03	.4005+01	.1998+03	.7718+02	.1993+02	.9044-02
P-H2O/P-PROP= 13.0000							
.4327+02	.9304+01	.2372+03	.4650+01	.1992+03	.7713+02	.1888+02	.8169-02
P-H2O/P-PROP= 14.0000							
.4745+02	.8849+01	.2240+03	.5362+01	.1986+03	.7711+02	.1783+02	.7449-02
P-H2O/P-PROP= 15.0000							
.5162+02	.8406+01	.2112+03	.6141+01	.1978+03	.7709+02	.1681+02	.6847-02
P-H2O/P-PROP= 16.0000							
.5578+02	.7978+01	.1988+03	.6992+01	.1970+03	.7709+02	.1582+02	.6337-02
P-H2O/P-PROP= 17.0000							
.5996+02	.7525+01	.1857+03	.7968+01	.1961+03	.7712+02	.1477+02	.5895-02
P-H2O/P-PROP= 18.0000							
.6411+02	.7109+01	.1736+03	.9018+01	.1950+03	.7715+02	.1381+02	.5514-02
P-H2O/P-PROP= 19.0000							
.6824+02	.6703+01	.1618+03	.1018+02	.1938+03	.7720+02	.1288+02	.5180-02
P-H2O/P-PROP= 20.0000							
.7231+02	.6367+01	.1520+03	.1136+02	.1927+03	.7723+02	.1210+02	.4889-02

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 2000.

N2O4-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.7457+01	.3632+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2167+01	.2841+02	.7580+03	.7629-01	.2032+03	.1547+03	.6032+02	.3262+00
P-H2O/P-PROP= 4.0000							
.1064+02	.2739+02	.7287+03	.3883+00	.2029+03	.1538+03	.5799+02	.6646-01
P-H2O/P-PROP= 5.0000							
.1910+02	.2639+02	.6995+03	.7240+00	.2026+03	.1530+03	.5567+02	.3701-01
P-H2O/P-PROP= 6.0000							
.2756+02	.2538+02	.6705+03	.1086+01	.2023+03	.1522+03	.5336+02	.2565-01
P-H2O/P-PROP= 7.0000							
.3602+02	.2439+02	.6417+03	.1477+01	.2020+03	.1516+03	.5106+02	.1963-01
P-H2O/P-PROP= 8.0000							
.4446+02	.2340+02	.6130+03	.1900+01	.2016+03	.1510+03	.4878+02	.1590-01
P-H2O/P-PROP= 9.0000							
.5290+02	.2242+02	.5846+03	.2360+01	.2012+03	.1505+03	.4653+02	.1336-01
P-H2O/P-PROP= 10.0000							
.6133+02	.2144+02	.5565+03	.2860+01	.2008+03	.1501+03	.4429+02	.1153-01
P-H2O/P-PROP= 11.0000							
.6972+02	.2051+02	.5295+03	.3399+01	.2003+03	.1498+03	.4214+02	.1014-01
P-H2O/P-PROP= 12.0000							
.7817+02	.1952+02	.5008+03	.4005+01	.1998+03	.1496+03	.3985+02	.9044-02
P-H2O/P-PROP= 13.0000							
.8654+02	.1861+02	.4744+03	.4650+01	.1992+03	.1494+03	.3775+02	.8169-02
P-H2O/P-PROP= 14.0000							
.9490+02	.1770+02	.4480+03	.5362+01	.1986+03	.1493+03	.3565+02	.7449-02
P-H2O/P-PROP= 15.0000							
.1032+03	.1681+02	.4224+03	.6141+01	.1978+03	.1492+03	.3361+02	.6847-02
P-H2O/P-PROP= 16.0000							
.1116+03	.1596+02	.3976+03	.6992+01	.1970+03	.1492+03	.3164+02	.6337-02
P-H2O/P-PROP= 17.0000							
.1199+03	.1505+02	.3713+03	.7968+01	.1961+03	.1493+03	.2955+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1282+03	.1422+02	.3471+03	.9018+01	.1950+03	.1495+03	.2763+02	.5514-02
P-H2O/P-PROP= 19.0000							
.1365+03	.1341+02	.3236+03	.1018+02	.1938+03	.1496+03	.2575+02	.5180-02
P-H2O/P-PROP= 20.0000							
.1446+03	.1273+02	.3041+03	.1136+02	.1927+03	.1498+03	.2420+02	.4889-02

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 3000.

N2O4-A50

PROP-P/SEC	KOM P/SEC	ISP	BTU/PP
.1119+02	.5447+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.3291+01	.4261+02	.1137+04	.7629-01	.2032+03	.2256+03	.9048+02	.3262+00
P-H20/P-PROP= 4.0000							
.1596+02	.4109+02	.1093+04	.3883+00	.2029+03	.2266+03	.8696+02	.6646-01
P-H20/P-PROP= 5.0000							
.2865+02	.3958+02	.1049+04	.7240+00	.2026+03	.2248+03	.8350+02	.3701-01
P-H20/P-PROP= 6.0000							
.4134+02	.3807+02	.1006+04	.1086+01	.2023+03	.2231+03	.8004+02	.2565-01
P-H20/P-PROP= 7.0000							
.5402+02	.3658+02	.9625+03	.1477+01	.2020+03	.2217+03	.7659+02	.1963-01
P-H20/P-PROP= 8.0000							
.6669+02	.3510+02	.9196+03	.1908+01	.2016+03	.2204+03	.7318+02	.1590-01
P-H20/P-PROP= 9.0000							
.7935+02	.3362+02	.8770+03	.2360+01	.2012+03	.2193+03	.6979+02	.1336-01
P-H20/P-PROP= 10.0000							
.9199+02	.3217+02	.8348+03	.2860+01	.2008+03	.2184+03	.6643+02	.1153-01
P-H20/P-PROP= 11.0000							
.1046+03	.3077+02	.7943+03	.3399+01	.2003+03	.2177+03	.6321+02	.1014-01
P-H20/P-PROP= 12.0000							
.1173+03	.2928+02	.7512+03	.4005+01	.1998+03	.2172+03	.5978+02	.9044-02
P-H20/P-PROP= 13.0000							
.1298+03	.2791+02	.7116+03	.4650+01	.1992+03	.2167+03	.5663+02	.8169-02
P-H20/P-PROP= 14.0000							
.1424+03	.2655+02	.6721+03	.5362+01	.1986+03	.2165+03	.5348+02	.7449-02
P-H20/P-PROP= 15.0000							
.1549+03	.2522+02	.6336+03	.6141+01	.1978+03	.2164+03	.5042+02	.6847-02
P-H20/P-PROP= 16.0000							
.1673+03	.2393+02	.5964+03	.6992+01	.1970+03	.2164+03	.4746+02	.6337-02
P-H20/P-PROP= 17.0000							
.1799+03	.2257+02	.5570+03	.7968+01	.1961+03	.2166+03	.4432+02	.5895-02
P-H20/P-PROP= 18.0000							
.1923+03	.2133+02	.5207+03	.9018+01	.1950+03	.2169+03	.4144+02	.5514-02
P-H20/P-PROP= 19.0000							
.2047+03	.2011+02	.4854+03	.1018+02	.1938+03	.2173+03	.3863+02	.5180-02
P-H20/P-PROP= 20.0000							
.2169+03	.1910+02	.4561+03	.1136+02	.1927+03	.2176+03	.3630+02	.4889-02

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 4000.

N2O4-A50

PROP-P/SEC	KOM P/SEC	ISP	BTU/PP
.1491+02	.7263+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.4334+01	.5681+02	.1516+04	.7629-01	.2032+03	.3003+03	.1206+03	.3262+00
P-H20/P-PROP= 4.0000							
.2127+02	.5479+02	.1457+04	.3883+00	.2029+03	.2967+03	.1160+03	.6646-01
P-H20/P-PROP= 5.0000							
.3821+02	.5277+02	.1399+04	.7240+00	.2026+03	.2935+03	.1113+03	.3701-01
P-H20/P-PROP= 6.0000							
.5513+02	.5077+02	.1341+04	.1086+01	.2023+03	.2906+03	.1067+03	.2565-01
P-H20/P-PROP= 7.0000							
.7203+02	.4877+02	.1283+04	.1477+01	.2020+03	.2880+03	.1021+03	.1963-01
P-H20/P-PROP= 8.0000							
.8893+02	.4679+02	.1226+04	.1900+01	.2016+03	.2858+03	.9757+02	.1590-01
P-H20/P-PROP= 9.0000							
.1058+03	.4483+02	.1169+04	.2360+01	.2012+03	.2838+03	.9305+02	.1336-01
P-H20/P-PROP= 10.0000							
.1227+03	.4289+02	.1113+04	.2860+01	.2008+03	.2822+03	.8858+02	.1153-01
P-H20/P-PROP= 11.0000							
.1394+03	.4102+02	.1059+04	.3399+01	.2003+03	.2809+03	.8428+02	.1014-01
P-H20/P-PROP= 12.0000							
.1563+03	.3904+02	.1002+04	.4005+01	.1998+03	.2800+03	.7971+02	.9044-02
P-H20/P-PROP= 13.0000							
.1731+03	.3722+02	.9488+03	.4650+01	.1992+03	.2792+03	.7551+02	.8169-02
P-H20/P-PROP= 14.0000							
.1898+03	.3540+02	.8961+03	.5362+01	.1986+03	.2788+03	.7131+02	.7449-02
P-H20/P-PROP= 15.0000							
.2065+03	.3362+02	.8448+03	.6141+01	.1978+03	.2785+03	.6722+02	.6847-02
P-H20/P-PROP= 16.0000							
.2231+03	.3191+02	.7952+03	.6992+01	.1970+03	.2785+03	.6328+02	.6337-02
P-H20/P-PROP= 17.0000							
.2398+03	.3010+02	.7426+03	.7968+01	.1961+03	.2790+03	.5910+02	.5895-02
P-H20/P-PROP= 18.0000							
.2564+03	.2843+02	.6943+03	.9018+01	.1950+03	.2795+03	.5525+02	.5514-02
P-H20/P-PROP= 19.0000							
.2730+03	.2681+02	.6472+03	.1018+02	.1938+03	.2803+03	.5150+02	.5180-02
P-H20/P-PROP= 20.0000							
.2892+03	.2547+02	.6082+03	.1136+02	.1927+03	.2808+03	.4840+02	.4889-02

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 5000.

N2O4-AZ50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1864+02	.9079+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

L/O-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5418+01	.7102+02	.1895+04	.7629-01	.2032+03	.3698+03	.1508+03	.3262+00
P-H2O/P-PROP= 4.0000							
.2659+02	.6848+02	.1822+04	.3883+00	.2029+03	.3642+03	.1450+03	.6646-01
P-H2O/P-PROP= 5.0000							
.4776+02	.6596+02	.1749+04	.7240+00	.2026+03	.3591+03	.1392+03	.3701-01
P-H2O/P-PROP= 6.0000							
.6891+02	.6346+02	.1676+04	.1086+01	.2023+03	.3540+03	.1334+03	.2565-01
P-H2O/P-PROP= 7.0000							
.9004+02	.6097+02	.1604+04	.1477+01	.2020+03	.3506+03	.1277+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1112+03	.5849+02	.1533+04	.1900+01	.2016+03	.3470+03	.1220+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1323+03	.5604+02	.1462+04	.2360+01	.2012+03	.3440+03	.1163+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1533+03	.5361+02	.1391+04	.2860+01	.2008+03	.3415+03	.1107+03	.1153-01
P-H2O/P-PROP= 11.0000							
.1743+03	.5128+02	.1324+04	.3399+01	.2003+03	.3394+03	.1053+03	.1014-01
P-H2O/P-PROP= 12.0000							
.1954+03	.4880+02	.1252+04	.4005+01	.1998+03	.3380+03	.9963+02	.9044-02
P-H2O/P-PROP= 13.0000							
.2163+03	.4652+02	.1186+04	.4650+01	.1992+03	.3368+03	.9438+02	.8169-02
P-H2O/P-PROP= 14.0000							
.2373+03	.4425+02	.1120+04	.5362+01	.1986+03	.3361+03	.8914+02	.7449-02
P-H2O/P-PROP= 15.0000							
.2581+03	.4203+02	.1056+04	.6141+01	.1978+03	.3358+03	.8403+02	.6847-02
P-H2O/P-PROP= 16.0000							
.2789+03	.3989+02	.9940+03	.6992+01	.1970+03	.3358+03	.7910+02	.6337-02
P-H2O/P-PROP= 17.0000							
.2998+03	.3762+02	.9283+03	.7968+01	.1961+03	.3365+03	.7387+02	.5895-02
P-H2O/P-PROP= 18.0000							
.3205+03	.3554+02	.8679+03	.9018+01	.1950+03	.3373+03	.6906+02	.5514-02
P-H2O/P-PROP= 19.0000							
.3412+03	.3351+02	.8090+03	.1018+02	.1938+03	.3384+03	.6438+02	.5180-02
P-H2O/P-PROP= 20.0000							
.3615+03	.3184+02	.7602+03	.1136+02	.1927+03	.3392+03	.6050+02	.4889-02

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 6000.

N2O4-AZ50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2237+02	.1089+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

L/O-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6502+01	.8522+02	.2274+04	.7629-01	.2032+03	.4370+03	.1810+03	.3262+00
P-H2O/P-PROP= 4.0000							
.3191+02	.8218+02	.2186+04	.3883+00	.2029+03	.4289+03	.1740+03	.6646-01
P-H2O/P-PROP= 5.0000							
.5731+02	.7916+02	.2099+04	.7240+00	.2026+03	.4216+03	.1670+03	.3701-01
P-H2O/P-PROP= 6.0000							
.8269+02	.7615+02	.2011+04	.1086+01	.2023+03	.4151+03	.1601+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1080+03	.7316+02	.1925+04	.1477+01	.2020+03	.4093+03	.1532+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1334+03	.7019+02	.1839+04	.1900+01	.2016+03	.4043+03	.1464+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1587+03	.6725+02	.1754+04	.2360+01	.2012+03	.3999+03	.1396+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1840+03	.6433+02	.1670+04	.2860+01	.2008+03	.3963+03	.1329+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2092+03	.6154+02	.1589+04	.3399+01	.2003+03	.3933+03	.1264+03	.1014-01
P-H2O/P-PROP= 12.0000							
.2345+03	.5856+02	.1502+04	.4005+01	.1998+03	.3912+03	.1196+03	.9044-02
P-H2O/P-PROP= 13.0000							
.2596+03	.5582+02	.1423+04	.4650+01	.1992+03	.3895+03	.1133+03	.8169-02
P-H2O/P-PROP= 14.0000							
.2847+03	.5309+02	.1344+04	.5362+01	.1986+03	.3885+03	.1070+03	.7449-02
P-H2O/P-PROP= 15.0000							
.3097+03	.5044+02	.1267+04	.6141+01	.1978+03	.3880+03	.1008+03	.6847-02
P-H2O/P-PROP= 16.0000							
.3347+03	.4747+02	.1193+04	.6992+01	.1970+03	.3880+03	.9492+02	.6337-02
P-H2O/P-PROP= 17.0000							
.3598+03	.4515+02	.1114+04	.7968+01	.1961+03	.3890+03	.8864+02	.5895-02
P-H2O/P-PROP= 18.0000							
.3846+03	.4265+02	.1041+04	.9018+01	.1950+03	.3902+03	.8288+02	.5514-02
P-H2O/P-PROP= 19.0000							
.4094+03	.4022+02	.9708+03	.1018+02	.1938+03	.3918+03	.7725+02	.5180-02
P-H2O/P-PROP= 20.0000							
.4336+03	.3820+02	.9123+03	.1136+02	.1927+03	.3930+03	.7269+02	.4889-02

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 7000.

N2O4-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2610+02	.1271+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.7585+01	.9942+02	.2653+04	.7629-01	.2032+03	.5019+03	.2111+03	.3262+00
P-H20/P-PROP= 4.0000							
.3723+02	.9588+02	.2550+04	.3883+00	.2029+03	.4910+03	.2030+03	.6646-01
P-H20/P-PROP= 5.0000							
.6686+02	.9235+02	.2448+04	.7240+00	.2026+03	.4810+03	.1948+03	.3701-01
P-H20/P-PROP= 6.0000							
.9647+02	.8884+02	.2347+04	.1086+01	.2023+03	.4721+03	.1868+03	.2565-01
P-H20/P-PROP= 7.0000							
.1261+03	.8535+02	.2246+04	.1477+01	.2020+03	.4643+03	.1787+03	.1963-01
P-H20/P-PROP= 8.0000							
.1556+03	.8189+02	.2146+04	.1900+01	.2016+03	.4574+03	.1707+03	.1590-01
P-H20/P-PROP= 9.0000							
.1852+03	.7846+02	.2046+04	.2360+01	.2012+03	.4515+03	.1628+03	.1336-01
P-H20/P-PROP= 10.0000							
.2147+03	.7506+02	.1948+04	.2860+01	.2008+03	.4466+03	.1550+03	.1153-01
P-H20/P-PROP= 11.0000							
.2440+03	.7179+02	.1853+04	.3399+01	.2003+03	.4424+03	.1475+03	.1014-01
P-H20/P-PROP= 12.0000							
.2736+03	.6832+02	.1753+04	.4005+01	.1998+03	.4396+03	.1395+03	.9044-02
P-H20/P-PROP= 13.0000							
.3029+03	.6513+02	.1660+04	.4650+01	.1992+03	.4373+03	.1321+03	.8169-02
P-H20/P-PROP= 14.0000							
.3322+03	.6194+02	.1568+04	.5362+01	.1986+03	.4359+03	.1248+03	.7449-02
P-H20/P-PROP= 15.0000							
.3614+03	.5884+02	.1478+04	.6141+01	.1978+03	.4353+03	.1176+03	.6847-02
P-H20/P-PROP= 16.0000							
.3905+03	.5545+02	.1392+04	.6992+01	.1970+03	.4353+03	.1107+03	.6337-02
P-H20/P-PROP= 17.0000							
.4197+03	.5267+02	.1300+04	.7968+01	.1961+03	.4366+03	.1034+03	.5895-02
P-H20/P-PROP= 18.0000							
.4487+03	.4976+02	.1215+04	.9018+01	.1950+03	.4382+03	.9669+02	.5514-02
P-H20/P-PROP= 19.0000							
.4777+03	.4692+02	.1133+04	.1018+02	.1938+03	.4405+03	.9013+02	.5180-02
P-H20/P-PROP= 20.0000							
.5061+03	.4457+02	.1064+04	.1136+02	.1927+03	.4421+03	.8470+02	.4889-02

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 8000.

N2O4-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2983+02	.1453+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.8669+01	.1136+03	.3032+04	.7629-01	.2032+03	.5646+03	.2413+03	.3262+00
P-H20/P-PROP= 4.0000							
.4255+02	.1096+03	.2915+04	.3883+00	.2029+03	.5503+03	.2319+03	.6646-01
P-H20/P-PROP= 5.0000							
.7641+02	.1055+03	.2798+04	.7240+00	.2026+03	.5373+03	.2227+03	.3701-01
P-H20/P-PROP= 6.0000							
.1103+03	.1015+03	.2682+04	.1086+01	.2023+03	.5257+03	.2134+03	.2565-01
P-H20/P-PROP= 7.0000							
.1441+03	.9755+02	.2567+04	.1477+01	.2020+03	.5154+03	.2043+03	.1963-01
P-H20/P-PROP= 8.0000							
.1779+03	.9359+02	.2452+04	.1900+01	.2016+03	.5069+03	.1951+03	.1590-01
P-H20/P-PROP= 9.0000							
.2116+03	.8966+02	.2339+04	.2360+01	.2012+03	.4988+03	.1861+03	.1336-01
P-H20/P-PROP= 10.0000							
.2453+03	.8578+02	.2226+04	.2860+01	.2008+03	.4923+03	.1772+03	.1153-01
P-H20/P-PROP= 11.0000							
.2789+03	.8205+02	.2118+04	.3399+01	.2003+03	.4869+03	.1686+03	.1014-01
P-H20/P-PROP= 12.0000							
.3127+03	.7808+02	.2003+04	.4005+01	.1998+03	.4833+03	.1594+03	.9044-02
P-H20/P-PROP= 13.0000							
.3461+03	.7443+02	.1898+04	.4650+01	.1992+03	.4802+03	.1510+03	.8169-02
P-H20/P-PROP= 14.0000							
.3796+03	.7079+02	.1792+04	.5362+01	.1986+03	.4784+03	.1426+03	.7449-02
P-H20/P-PROP= 15.0000							
.4130+03	.6725+02	.1690+04	.6141+01	.1978+03	.4776+03	.1344+03	.6847-02
P-H20/P-PROP= 16.0000							
.4462+03	.6383+02	.1590+04	.6992+01	.1970+03	.4776+03	.1266+03	.6337-02
P-H20/P-PROP= 17.0000							
.4797+03	.6020+02	.1485+04	.7968+01	.1961+03	.4794+03	.1182+03	.5895-02
P-H20/P-PROP= 18.0000							
.5129+03	.5687+02	.1389+04	.9018+01	.1950+03	.4815+03	.1105+03	.5514-02
P-H20/P-PROP= 19.0000							
.5459+03	.5362+02	.1294+04	.1018+02	.1938+03	.4844+03	.1030+03	.5180-02
P-H20/P-PROP= 20.0000							
.5784+03	.5094+02	.1216+04	.1136+02	.1927+03	.4864+03	.9680+02	.4889-02

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 9000.

N2O4-A250

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.3356+02	.1634+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.9752+01	.1276+03	.3411+04	.7629-01	.2032+03	.6251+03	.2714+03	.3262+00
P-H2O/P-PROP= 4.0000							
.4787+02	.1233+03	.3279+04	.3883+00	.2029+03	.6069+03	.2609+03	.6646-01
P-H2O/P-PROP= 5.0000							
.6596+02	.1187+03	.3148+04	.7240+00	.2026+03	.5905+03	.2505+03	.3701-01
P-H2O/P-PROP= 6.0000							
.1240+03	.1142+03	.3017+04	.1086+01	.2023+03	.5758+03	.2401+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1621+03	.1097+03	.2887+04	.1477+01	.2020+03	.5628+03	.2298+03	.1963-01
P-H2O/P-PROP= 8.0000							
.2001+03	.1053+03	.2759+04	.1900+01	.2016+03	.5515+03	.2195+03	.1590-01
P-H2O/P-PROP= 9.0000							
.2381+03	.1009+03	.2631+04	.2360+01	.2012+03	.5417+03	.2094+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2760+03	.9650+02	.2504+04	.2860+01	.2008+03	.5336+03	.1993+03	.1153-01
P-H2O/P-PROP= 11.0000							
.3137+03	.9230+02	.2383+04	.3399+01	.2003+03	.5267+03	.1896+03	.1014-01
P-H2O/P-PROP= 12.0000							
.3518+03	.8794+02	.2254+04	.4005+01	.1998+03	.5221+03	.1793+03	.9044-02
P-H2O/P-PROP= 13.0000							
.3894+03	.8374+02	.2135+04	.4650+01	.1992+03	.5183+03	.1699+03	.8169-02
P-H2O/P-PROP= 14.0000							
.4271+03	.7964+02	.2016+04	.5362+01	.1986+03	.5160+03	.1604+03	.7449-02
P-H2O/P-PROP= 15.0000							
.4646+03	.7565+02	.1901+04	.6141+01	.1978+03	.5149+03	.1513+03	.6847-02
P-H2O/P-PROP= 16.0000							
.5020+03	.7180+02	.1789+04	.6992+01	.1970+03	.5149+03	.1424+03	.6337-02
P-H2O/P-PROP= 17.0000							
.5397+03	.6772+02	.1671+04	.7968+01	.1961+03	.5172+03	.1330+03	.5895-02
P-H2O/P-PROP= 18.0000							
.5770+03	.6398+02	.1562+04	.9018+01	.1950+03	.5198+03	.1243+03	.5514-02
P-H2O/P-PROP= 19.0000							
.6142+03	.6033+02	.1456+04	.1018+02	.1938+03	.5235+03	.1159+03	.5180-02
P-H2O/P-PROP= 20.0000							
.6507+03	.5730+02	.1368+04	.1136+02	.1927+03	.5261+03	.1089+03	.4889-02

DIA-FT= 4.20 LB AIR/LB PROP= .1000 THRUST= 1000.

N2O4-A250

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.3729+01	.1816+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1084+01	.1420+02	.3790+03	.7629-01	.2032+03	.6217+02	.2383+02	.3262+00
P-H2O/P-PROP= 4.0000							
.5319+01	.1370+02	.3643+03	.3883+00	.2029+03	.6203+02	.2291+02	.6646-01
P-H2O/P-PROP= 5.0000							
.9551+01	.1319+02	.3498+03	.7240+00	.2026+03	.6191+02	.2199+02	.3701-01
P-H2O/P-PROP= 6.0000							
.1378+02	.1269+02	.3352+03	.1086+01	.2023+03	.6179+02	.2108+02	.2565-01
P-H2O/P-PROP= 7.0000							
.1801+02	.1219+02	.3206+03	.1477+01	.2020+03	.6169+02	.2017+02	.1963-01
P-H2O/P-PROP= 8.0000							
.2223+02	.1170+02	.3065+03	.1900+01	.2016+03	.6161+02	.1927+02	.1590-01
P-H2O/P-PROP= 9.0000							
.2645+02	.1121+02	.2923+03	.2360+01	.2012+03	.6153+02	.1838+02	.1336-01
P-H2O/P-PROP= 10.0000							
.3066+02	.1072+02	.2783+03	.2860+01	.2008+03	.6147+02	.1750+02	.1153-01
P-H2O/P-PROP= 11.0000							
.3486+02	.1026+02	.2648+03	.3399+01	.2003+03	.6142+02	.1665+02	.1014-01
P-H2O/P-PROP= 12.0000							
.3908+02	.9760+01	.2504+03	.4005+01	.1998+03	.6138+02	.1574+02	.9044-02
P-H2O/P-PROP= 13.0000							
.4327+02	.9304+01	.2372+03	.4650+01	.1992+03	.6135+02	.1491+02	.8169-02
P-H2O/P-PROP= 14.0000							
.4745+02	.8849+01	.2240+03	.5362+01	.1986+03	.6133+02	.1409+02	.7449-02
P-H2O/P-PROP= 15.0000							
.5162+02	.8406+01	.2112+03	.6141+01	.1978+03	.6133+02	.1328+02	.6847-02
P-H2O/P-PROP= 16.0000							
.5578+02	.7978+01	.1988+03	.6992+01	.1970+03	.6133+02	.1250+02	.6337-02
P-H2O/P-PROP= 17.0000							
.5996+02	.7525+01	.1857+03	.7968+01	.1961+03	.6134+02	.1167+02	.5895-02
P-H2O/P-PROP= 18.0000							
.6411+02	.7109+01	.1736+03	.9018+01	.1950+03	.6136+02	.1091+02	.5514-02
P-H2O/P-PROP= 19.0000							
.6824+02	.6703+01	.1618+03	.1018+02	.1938+03	.6139+02	.1017+02	.5180-02
P-H2O/P-PROP= 20.0000							
.7231+02	.6367+01	.1520+03	.1136+02	.1927+03	.6141+02	.9560+01	.4889-02

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 2000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.7457+01	.3632+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2157+01	.2841+02	.7580+03	.7629-01	.2032+03	.1229+03	.4766+02	.3262+00
P-H2O/P-PROP= 4.0000							
.1084+02	.2739+02	.7287+03	.3883+00	.2029+03	.1224+03	.4582+02	.6646-01
P-H2O/P-PROP= 5.0000							
.1910+02	.2639+02	.6995+03	.7240+00	.2026+03	.1219+03	.4398+02	.3701-01
P-H2O/P-PROP= 6.0000							
.2756+02	.2538+02	.6705+03	.1086+01	.2023+03	.1214+03	.4216+02	.2565-01
P-H2O/P-PROP= 7.0000							
.3602+02	.2439+02	.6417+03	.1477+01	.2020+03	.1210+03	.4035+02	.1963-01
P-H2O/P-PROP= 8.0000							
.4446+02	.2340+02	.6130+03	.1900+01	.2016+03	.1207+03	.3855+02	.1590-01
P-H2O/P-PROP= 9.0000							
.5290+02	.2242+02	.5846+03	.2360+01	.2012+03	.1204+03	.3676+02	.1336-01
P-H2O/P-PROP= 10.0000							
.6133+02	.2144+02	.5565+03	.2860+01	.2008+03	.1201+03	.3499+02	.1153-01
P-H2O/P-PROP= 11.0000							
.6972+02	.2051+02	.5295+03	.3399+01	.2003+03	.1199+03	.3330+02	.1014-01
P-H2O/P-PROP= 12.0000							
.7817+02	.1952+02	.5008+03	.4005+01	.1998+03	.1198+03	.3149+02	.9044-02
P-H2O/P-PROP= 13.0000							
.8654+02	.1861+02	.4744+03	.4650+01	.1992+03	.1197+03	.2983+02	.8169-02
P-H2O/P-PROP= 14.0000							
.9490+02	.1770+02	.4480+03	.5362+01	.1986+03	.1196+03	.2817+02	.7449-02
P-H2O/P-PROP= 15.0000							
.1032+03	.1681+02	.4224+03	.6141+01	.1978+03	.1195+03	.2656+02	.6847-02
P-H2O/P-PROP= 16.0000							
.1116+03	.1596+02	.3976+03	.6992+01	.1970+03	.1195+03	.2500+02	.6337-02
P-H2O/P-PROP= 17.0000							
.1199+03	.1505+02	.3713+03	.7968+01	.1961+03	.1196+03	.2335+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1282+03	.1422+02	.3471+03	.9018+01	.1950+03	.1197+03	.2183+02	.5514-02
P-H2O/P-PROP= 19.0000							
.1365+03	.1341+02	.3236+03	.1018+02	.1938+03	.1198+03	.2035+02	.5180-02
P-H2O/P-PROP= 20.0000							
.1446+03	.1273+02	.3041+03	.1136+02	.1927+03	.1199+03	.1912+02	.4889-02

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 3000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1119+02	.5447+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3231+01	.4261+02	.1137+04	.7629-01	.2032+03	.1823+03	.7149+02	.3262+00
P-H2O/P-PROP= 4.0000							
.1596+02	.4109+02	.1093+04	.3883+00	.2029+03	.1811+03	.6873+02	.6646-01
P-H2O/P-PROP= 5.0000							
.2865+02	.3958+02	.1049+04	.7240+00	.2026+03	.1799+03	.6597+02	.3701-01
P-H2O/P-PROP= 6.0000							
.4134+02	.3807+02	.1006+04	.1086+01	.2023+03	.1789+03	.6324+02	.2565-01
P-H2O/P-PROP= 7.0000							
.5402+02	.3658+02	.9625+03	.1477+01	.2020+03	.1780+03	.6052+02	.1963-01
P-H2O/P-PROP= 8.0000							
.6669+02	.3510+02	.9196+03	.1900+01	.2016+03	.1772+03	.5782+02	.1590-01
P-H2O/P-PROP= 9.0000							
.7935+02	.3362+02	.8770+03	.2360+01	.2012+03	.1765+03	.5514+02	.1336-01
P-H2O/P-PROP= 10.0000							
.9199+02	.3217+02	.8348+03	.2860+01	.2008+03	.1760+03	.5249+02	.1153-01
P-H2O/P-PROP= 11.0000							
.1046+03	.3077+02	.7943+03	.3399+01	.2003+03	.1755+03	.4994+02	.1014-01
P-H2O/P-PROP= 12.0000							
.1173+03	.2928+02	.7512+03	.4005+01	.1998+03	.1752+03	.4723+02	.9044-02
P-H2O/P-PROP= 13.0000							
.1298+03	.2791+02	.7116+03	.4650+01	.1992+03	.1749+03	.4474+02	.8169-02
P-H2O/P-PROP= 14.0000							
.1424+03	.2655+02	.6721+03	.5362+01	.1986+03	.1747+03	.4226+02	.7449-02
P-H2O/P-PROP= 15.0000							
.1549+03	.2522+02	.6336+03	.6141+01	.1978+03	.1747+03	.3984+02	.6847-02
P-H2O/P-PROP= 16.0000							
.1673+03	.2393+02	.5964+03	.6992+01	.1970+03	.1747+03	.3750+02	.6337-02
P-H2O/P-PROP= 17.0000							
.1799+03	.2257+02	.5570+03	.7968+01	.1961+03	.1748+03	.3502+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1923+03	.2133+02	.5207+03	.9018+01	.1950+03	.1750+03	.3274+02	.5514-02
P-H2O/P-PROP= 19.0000							
.2047+03	.2011+02	.4854+03	.1018+02	.1938+03	.1753+03	.3052+02	.5180-02
P-H2O/P-PROP= 20.0000							
.2169+03	.1910+02	.4561+03	.1136+02	.1927+03	.1754+03	.2868+02	.4889-02

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 4000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1491+02	.7263+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.4434+01	.5681+02	.1916+04	.7629-01	.2032+03	.2403+03	.9532+02	.3262+00
P-H2O/P-PROP= 4.0000							
.2127+02	.5479+02	.1457+04	.3883+00	.2029+03	.2380+03	.9163+02	.6646-01
P-H2O/P-PROP= 5.0000							
.3821+02	.5277+02	.1399+04	.7240+00	.2026+03	.2360+03	.8797+02	.3701-01
P-H2O/P-PROP= 6.0000							
.5513+02	.5077+02	.1341+04	.1086+01	.2023+03	.2342+03	.8432+02	.2565-01
P-H2O/P-PROP= 7.0000							
.7203+02	.4877+02	.1283+04	.1477+01	.2020+03	.2326+03	.8069+02	.1963-01
P-H2O/P-PROP= 8.0000							
.8893+02	.4679+02	.1226+04	.1900+01	.2016+03	.2312+03	.7709+02	.1590-01
P-H2O/P-PROP= 9.0000							
.1058+03	.4483+02	.1169+04	.2360+01	.2012+03	.2300+03	.7352+02	.1336-01
P-H2O/P-PROP= 10.0000							
.1227+03	.4289+02	.1113+04	.2860+01	.2008+03	.2290+03	.6999+02	.1153-01
P-H2O/P-PROP= 11.0000							
.1394+03	.4102+02	.1059+04	.3399+01	.2003+03	.2281+03	.6659+02	.1014-01
P-H2O/P-PROP= 12.0000							
.1563+03	.3904+02	.1002+04	.4005+01	.1998+03	.2276+03	.6298+02	.9044-02
P-H2O/P-PROP= 13.0000							
.1731+03	.3722+02	.9468+03	.4650+01	.1992+03	.2271+03	.5966+02	.8169-02
P-H2O/P-PROP= 14.0000							
.1898+03	.3540+02	.8961+03	.5362+01	.1986+03	.2268+03	.5634+02	.7449-02
P-H2O/P-PROP= 15.0000							
.2065+03	.3362+02	.8448+03	.6141+01	.1978+03	.2267+03	.5312+02	.6847-02
P-H2O/P-PROP= 16.0000							
.2231+03	.3191+02	.7952+03	.6992+01	.1970+03	.2267+03	.5000+02	.6337-02
P-H2O/P-PROP= 17.0000							
.2398+03	.3010+02	.7426+03	.7968+01	.1961+03	.2270+03	.4669+02	.5895-02
P-H2O/P-PROP= 18.0000							
.2564+03	.2843+02	.6943+03	.9018+01	.1950+03	.2273+03	.4365+02	.5514-02
P-H2O/P-PROP= 19.0000							
.2730+03	.2681+02	.6472+03	.1018+02	.1938+03	.2277+03	.4069+02	.5180-02
P-H2O/P-PROP= 20.0000							
.2892+03	.2547+02	.6082+03	.1136+02	.1927+03	.2281+03	.3824+02	.4889-02

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 5000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1864+02	.9079+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5418+01	.7102+02	.1895+04	.7629-01	.2032+03	.2968+03	.1192+03	.3262+00
P-H2O/P-PROP= 4.0000							
.2659+02	.6846+02	.1822+04	.3883+00	.2029+03	.2933+03	.1145+03	.6646-01
P-H2O/P-PROP= 5.0000							
.4776+02	.6596+02	.1749+04	.7240+00	.2026+03	.2902+03	.1100+03	.3701-01
P-H2O/P-PROP= 6.0000							
.6891+02	.6346+02	.1676+04	.1086+01	.2023+03	.2873+03	.1054+03	.2565-01
P-H2O/P-PROP= 7.0000							
.9004+02	.6097+02	.1604+04	.1477+01	.2020+03	.2848+03	.1009+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1112+03	.5849+02	.1533+04	.1900+01	.2016+03	.2826+03	.9636+02	.1590-01
P-H2O/P-PROP= 9.0000							
.1323+03	.5604+02	.1462+04	.2360+01	.2012+03	.2808+03	.9190+02	.1336-01
P-H2O/P-PROP= 10.0000							
.1533+03	.5361+02	.1391+04	.2860+01	.2008+03	.2792+03	.8748+02	.1153-01
P-H2O/P-PROP= 11.0000							
.1743+03	.5128+02	.1324+04	.3399+01	.2003+03	.2779+03	.8324+02	.1014-01
P-H2O/P-PROP= 12.0000							
.1954+03	.4880+02	.1252+04	.4005+01	.1998+03	.2770+03	.7872+02	.9044-02
P-H2O/P-PROP= 13.0000							
.2163+03	.4652+02	.1186+04	.4650+01	.1992+03	.2762+03	.7457+02	.8169-02
P-H2O/P-PROP= 14.0000							
.2373+03	.4425+02	.1120+04	.5362+01	.1986+03	.2758+03	.7043+02	.7449-02
P-H2O/P-PROP= 15.0000							
.2581+03	.4203+02	.1056+04	.6141+01	.1978+03	.2756+03	.6639+02	.6847-02
P-H2O/P-PROP= 16.0000							
.2789+03	.3949+02	.9940+03	.6992+01	.1970+03	.2756+03	.6250+02	.6337-02
P-H2O/P-PROP= 17.0000							
.2998+03	.3762+02	.9263+03	.7968+01	.1961+03	.2760+03	.5837+02	.5895-02
P-H2O/P-PROP= 18.0000							
.3205+03	.3554+02	.8679+03	.9018+01	.1950+03	.2765+03	.5457+02	.5514-02
P-H2O/P-PROP= 19.0000							
.3412+03	.3351+02	.8090+03	.1018+02	.1938+03	.2773+03	.5087+02	.5180-02
P-H2O/P-PROP= 20.0000							
.3615+03	.3184+02	.7602+03	.1136+02	.1927+03	.2778+03	.4780+02	.4889-02

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 6000.

N2O4-A-50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2237+02	.1089+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6902+01	.8522+02	.2274+04	.7629-01	.2032+03	.3520+03	.1430+03	.3262+00
P-H2O/P-PROP= 4.0000							
.3191+02	.8218+02	.2186+04	.3883+00	.2029+03	.3469+03	.1375+03	.6646-01
P-H2O/P-PROP= 5.0000							
.5731+02	.7916+02	.2099+04	.7240+00	.2026+03	.3424+03	.1319+03	.3701-01
P-H2O/P-PROP= 6.0000							
.8269+02	.7615+02	.2011+04	.1086+01	.2023+03	.3383+03	.1265+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1080+03	.7316+02	.1925+04	.1477+01	.2020+03	.3347+03	.1210+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1334+03	.7019+02	.1839+04	.1900+01	.2016+03	.3316+03	.1156+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1587+03	.6725+02	.1754+04	.2360+01	.2012+03	.3288+03	.1103+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1840+03	.6433+02	.1670+04	.2860+01	.2008+03	.3266+03	.1050+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2092+03	.6154+02	.1589+04	.3399+01	.2003+03	.3247+03	.9989+02	.1014-01
P-H2O/P-PROP= 12.0000							
.2345+03	.5856+02	.1502+04	.4005+01	.1998+03	.3234+03	.9447+02	.9044-02
P-H2O/P-PROP= 13.0000							
.2596+03	.5582+02	.1423+04	.4650+01	.1992+03	.3223+03	.8949+02	.8169-02
P-H2O/P-PROP= 14.0000							
.2847+03	.5309+02	.1344+04	.5362+01	.1986+03	.3217+03	.8452+02	.7449-02
P-H2O/P-PROP= 15.0000							
.3097+03	.5044+02	.1267+04	.6141+01	.1978+03	.3214+03	.7967+02	.6847-02
P-H2O/P-PROP= 16.0000							
.3347+03	.4787+02	.1193+04	.6992+01	.1970+03	.3214+03	.7500+02	.6337-02
P-H2O/P-PROP= 17.0000							
.3598+03	.4515+02	.1114+04	.7968+01	.1961+03	.3220+03	.7004+02	.5895-02
P-H2O/P-PROP= 18.0000							
.3846+03	.4265+02	.1041+04	.9018+01	.1950+03	.3228+03	.6548+02	.5514-02
P-H2O/P-PROP= 19.0000							
.4094+03	.4022+02	.9708+03	.1018+02	.1938+03	.3238+03	.6104+02	.5180-02
P-H2O/P-PROP= 20.0000							
.4338+03	.3820+02	.9123+03	.1136+02	.1927+03	.3245+03	.5736+02	.4889-02

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 7000.

N2O4-A-50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2610+02	.1271+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.7585+01	.9942+02	.2653+04	.7629-01	.2032+03	.4057+03	.1668+03	.3262+00
P-H2O/P-PROP= 4.0000							
.3723+02	.9588+02	.2550+04	.3883+00	.2029+03	.3989+03	.1604+03	.6646-01
P-H2O/P-PROP= 5.0000							
.6686+02	.9235+02	.2448+04	.7240+00	.2026+03	.3927+03	.1539+03	.3701-01
P-H2O/P-PROP= 6.0000							
.9647+02	.8884+02	.2347+04	.1086+01	.2023+03	.3871+03	.1476+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1261+03	.8535+02	.2246+04	.1477+01	.2020+03	.3822+03	.1412+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1556+03	.8189+02	.2146+04	.1900+01	.2016+03	.3779+03	.1349+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1852+03	.7846+02	.2046+04	.2360+01	.2012+03	.3742+03	.1287+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2147+03	.7506+02	.1948+04	.2860+01	.2008+03	.3712+03	.1225+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2440+03	.7179+02	.1853+04	.3399+01	.2003+03	.3686+03	.1165+03	.1014-01
P-H2O/P-PROP= 12.0000							
.2736+03	.6832+02	.1753+04	.4005+01	.1998+03	.3668+03	.1102+03	.9044-02
P-H2O/P-PROP= 13.0000							
.3029+03	.6513+02	.1660+04	.4650+01	.1992+03	.3654+03	.1044+03	.8169-02
P-H2O/P-PROP= 14.0000							
.3322+03	.6194+02	.1568+04	.5362+01	.1986+03	.3645+03	.9860+02	.7449-02
P-H2O/P-PROP= 15.0000							
.3614+03	.5884+02	.1478+04	.6141+01	.1978+03	.3641+03	.9295+02	.6847-02
P-H2O/P-PROP= 16.0000							
.3905+03	.5585+02	.1392+04	.6992+01	.1970+03	.3641+03	.8750+02	.6337-02
P-H2O/P-PROP= 17.0000							
.4197+03	.5267+02	.1300+04	.7968+01	.1961+03	.3650+03	.8171+02	.5895-02
P-H2O/P-PROP= 18.0000							
.4487+03	.4976+02	.1215+04	.9018+01	.1950+03	.3660+03	.7640+02	.5514-02
P-H2O/P-PROP= 19.0000							
.4777+03	.4692+02	.1133+04	.1018+02	.1938+03	.3674+03	.7121+02	.5180-02
P-H2O/P-PROP= 20.0000							
.5061+03	.4457+02	.1064+04	.1136+02	.1927+03	.3683+03	.6692+02	.4889-02

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 8000.

N2O4-AZ50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2983+02	.1453+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.8649+01	.1136+03	.3032+04	.7629-01	.2032+03	.4581+03	.1906+03	.3262+00
P-H20/P-PROP= 4.0000							
.4255+02	.1096+03	.2915+04	.3883+00	.2029+03	.4491+03	.1833+03	.6646-01
P-H20/P-PROP= 5.0000							
.7641+02	.1055+03	.2798+04	.7240+00	.2026+03	.4410+03	.1759+03	.3701-01
P-H20/P-PROP= 6.0000							
.1103+03	.1015+03	.2682+04	.1086+01	.2023+03	.4338+03	.1686+03	.2565-01
P-H20/P-PROP= 7.0000							
.1441+03	.9755+02	.2567+04	.1477+01	.2020+03	.4274+03	.1614+03	.1963-01
P-H20/P-PROP= 8.0000							
.1779+03	.9359+02	.2452+04	.1900+01	.2016+03	.4218+03	.1542+03	.1590-01
P-H20/P-PROP= 9.0000							
.2116+03	.8966+02	.2339+04	.2360+01	.2012+03	.4170+03	.1470+03	.1336-01
P-H20/P-PROP= 10.0000							
.2453+03	.8578+02	.2226+04	.2860+01	.2008+03	.4129+03	.1400+03	.1153-01
P-H20/P-PROP= 11.0000							
.2789+03	.8205+02	.2118+04	.3399+01	.2003+03	.4095+03	.1332+03	.1014-01
P-H20/P-PROP= 12.0000							
.3127+03	.7808+02	.2003+04	.4005+01	.1998+03	.4073+03	.1260+03	.9044-02
P-H20/P-PROP= 13.0000							
.3461+03	.7443+02	.1898+04	.4650+01	.1992+03	.4054+03	.1193+03	.8169-02
P-H20/P-PROP= 14.0000							
.3796+03	.7079+02	.1792+04	.5362+01	.1986+03	.4042+03	.1127+03	.7449-02
P-H20/P-PROP= 15.0000							
.4130+03	.6725+02	.1690+04	.6141+01	.1978+03	.4037+03	.1062+03	.6847-02
P-H20/P-PROP= 16.0000							
.4462+03	.6383+02	.1590+04	.6992+01	.1970+03	.4037+03	.1000+03	.6337-02
P-H20/P-PROP= 17.0000							
.4797+03	.6020+02	.1485+04	.7968+01	.1961+03	.4048+03	.9339+02	.5895-02
P-H20/P-PROP= 18.0000							
.5129+03	.5687+02	.1389+04	.9018+01	.1950+03	.4061+03	.8731+02	.5514-02
P-H20/P-PROP= 19.0000							
.5459+03	.5362+02	.1294+04	.1018+02	.1938+03	.4080+03	.8139+02	.5180-02
P-H20/P-PROP= 20.0000							
.5784+03	.5094+02	.1216+04	.1136+02	.1927+03	.4092+03	.7648+02	.4889-02

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 9000.

N2O4-AZ50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3356+02	.1634+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.9752+01	.1278+03	.3411+04	.7629-01	.2032+03	.5090+03	.2145+03	.3262+00
P-H20/P-PROP= 4.0000							
.4787+02	.1233+03	.3279+04	.3883+00	.2029+03	.4977+03	.2062+03	.6646-01
P-H20/P-PROP= 5.0000							
.8596+02	.1187+03	.3148+04	.7240+00	.2026+03	.4874+03	.1979+03	.3701-01
P-H20/P-PROP= 6.0000							
.1240+03	.1142+03	.3017+04	.1086+01	.2023+03	.4783+03	.1897+03	.2565-01
P-H20/P-PROP= 7.0000							
.1621+03	.1097+03	.2887+04	.1477+01	.2020+03	.4701+03	.1816+03	.1963-01
P-H20/P-PROP= 8.0000							
.2001+03	.1053+03	.2759+04	.1900+01	.2016+03	.4630+03	.1735+03	.1590-01
P-H20/P-PROP= 9.0000							
.2381+03	.1009+03	.2631+04	.2360+01	.2012+03	.4570+03	.1654+03	.1336-01
P-H20/P-PROP= 10.0000							
.2760+03	.9650+02	.2504+04	.2860+01	.2008+03	.4519+03	.1575+03	.1153-01
P-H20/P-PROP= 11.0000							
.3137+03	.9230+02	.2383+04	.3399+01	.2003+03	.4476+03	.1498+03	.1014-01
P-H20/P-PROP= 12.0000							
.3518+03	.8784+02	.2254+04	.4005+01	.1998+03	.4447+03	.1417+03	.9044-02
P-H20/P-PROP= 13.0000							
.3894+03	.8374+02	.2135+04	.4650+01	.1992+03	.4423+03	.1342+03	.8169-02
P-H20/P-PROP= 14.0000							
.4271+03	.7964+02	.2016+04	.5362+01	.1986+03	.4409+03	.1268+03	.7449-02
P-H20/P-PROP= 15.0000							
.4646+03	.7565+02	.1901+04	.6141+01	.1978+03	.4402+03	.1195+03	.6847-02
P-H20/P-PROP= 16.0000							
.5020+03	.7180+02	.1789+04	.6992+01	.1970+03	.4402+03	.1125+03	.6337-02
P-H20/P-PROP= 17.0000							
.5397+03	.6772+02	.1671+04	.7968+01	.1961+03	.4416+03	.1051+03	.5895-02
P-H20/P-PROP= 18.0000							
.5770+03	.6398+02	.1562+04	.9018+01	.1950+03	.4433+03	.9822+02	.5514-02
P-H20/P-PROP= 19.0000							
.6142+03	.6033+02	.1456+04	.1018+02	.1938+03	.4456+03	.9156+02	.5180-02
P-H20/P-PROP= 20.0000							
.6507+03	.5730+02	.1368+04	.1136+02	.1927+03	.4472+03	.8604+02	.4889-02

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 1000.

N2O4-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3729+01	.1616+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1084+01	.1420+02	.3790+03	.7629-01	.2032+03	.5047+02	.1930+02	.3262+00
P-H2O/P-PROP= 4.0000							
.5319+01	.1370+02	.3643+03	.3883+00	.2029+03	.5038+02	.1856+02	.6646-01
P-H2O/P-PROP= 5.0000							
.9551+01	.1319+02	.3498+03	.7240+00	.2026+03	.5029+02	.1781+02	.3701-01
P-H2O/P-PROP= 6.0000							
.1378+02	.1269+02	.3352+03	.1086+01	.2023+03	.5022+02	.1707+02	.2565-01
P-H2O/P-PROP= 7.0000							
.1801+02	.1219+02	.3208+03	.1477+01	.2020+03	.5015+02	.1634+02	.1963-01
P-H2O/P-PROP= 8.0000							
.2223+02	.1170+02	.3065+03	.1900+01	.2016+03	.5010+02	.1561+02	.1590-01
P-H2O/P-PROP= 9.0000							
.2645+02	.1121+02	.2923+03	.2360+01	.2012+03	.5005+02	.1489+02	.1336-01
P-H2O/P-PROP= 10.0000							
.3066+02	.1072+02	.2783+03	.2860+01	.2008+03	.5001+02	.1417+02	.1153-01
P-H2O/P-PROP= 11.0000							
.3486+02	.1026+02	.2648+03	.3399+01	.2003+03	.4997+02	.1348+02	.1014-01
P-H2O/P-PROP= 12.0000							
.3908+02	.9760+01	.2504+03	.4005+01	.1998+03	.4995+02	.1275+02	.9044-02
P-H2O/P-PROP= 13.0000							
.4327+02	.9304+01	.2372+03	.4650+01	.1992+03	.4993+02	.1208+02	.8169-02
P-H2O/P-PROP= 14.0000							
.4745+02	.8849+01	.2240+03	.5362+01	.1986+03	.4992+02	.1141+02	.7449-02
P-H2O/P-PROP= 15.0000							
.5162+02	.8406+01	.2112+03	.6141+01	.1978+03	.4991+02	.1076+02	.6847-02
P-H2O/P-PROP= 16.0000							
.5578+02	.7978+01	.1988+03	.6992+01	.1970+03	.4991+02	.1012+02	.6337-02
P-H2O/P-PROP= 17.0000							
.5996+02	.7525+01	.1857+03	.7968+01	.1961+03	.4992+02	.9455+01	.5895-02
P-H2O/P-PROP= 18.0000							
.6411+02	.7109+01	.1736+03	.9018+01	.1950+03	.4994+02	.8840+01	.5514-02
P-H2O/P-PROP= 19.0000							
.6824+02	.6703+01	.1618+03	.1018+02	.1938+03	.4996+02	.8241+01	.5180-02
P-H2O/P-PROP= 20.0000							
.7231+02	.6367+01	.1520+03	.1136+02	.1927+03	.4997+02	.7744+01	.4889-02

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 2000.

N2O4-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.7457+01	.3632+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2167+01	.2841+02	.7580+03	.7629-01	.2032+03	.1000+03	.3860+02	.3262+00
P-H2O/P-PROP= 4.0000							
.1064+02	.2739+02	.7287+03	.3883+00	.2029+03	.9965+02	.3711+02	.6646-01
P-H2O/P-PROP= 5.0000							
.1910+02	.2639+02	.6995+03	.7240+00	.2026+03	.9932+02	.3563+02	.3701-01
P-H2O/P-PROP= 6.0000							
.2756+02	.2538+02	.6705+03	.1086+01	.2023+03	.9902+02	.3415+02	.2565-01
P-H2O/P-PROP= 7.0000							
.3602+02	.2439+02	.6417+03	.1477+01	.2020+03	.9876+02	.3268+02	.1963-01
P-H2O/P-PROP= 8.0000							
.4446+02	.2340+02	.6130+03	.1900+01	.2016+03	.9853+02	.3122+02	.1590-01
P-H2O/P-PROP= 9.0000							
.5290+02	.2242+02	.5846+03	.2360+01	.2012+03	.9833+02	.2978+02	.1336-01
P-H2O/P-PROP= 10.0000							
.6133+02	.2144+02	.5565+03	.2860+01	.2008+03	.9817+02	.2834+02	.1153-01
P-H2O/P-PROP= 11.0000							
.6972+02	.2051+02	.5295+03	.3399+01	.2003+03	.9803+02	.2697+02	.1014-01
P-H2O/P-PROP= 12.0000							
.7817+02	.1952+02	.5008+03	.4005+01	.1998+03	.9793+02	.2551+02	.9044-02
P-H2O/P-PROP= 13.0000							
.8654+02	.1861+02	.4744+03	.4650+01	.1992+03	.9786+02	.2416+02	.8169-02
P-H2O/P-PROP= 14.0000							
.9490+02	.1770+02	.4480+03	.5362+01	.1986+03	.9781+02	.2282+02	.7449-02
P-H2O/P-PROP= 15.0000							
.1032+03	.1681+02	.4224+03	.6141+01	.1978+03	.9779+02	.2151+02	.6847-02
P-H2O/P-PROP= 16.0000							
.1116+03	.1596+02	.3976+03	.6992+01	.1970+03	.9779+02	.2025+02	.6337-02
P-H2O/P-PROP= 17.0000							
.1199+03	.1505+02	.3713+03	.7968+01	.1961+03	.9783+02	.1891+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1282+03	.1422+02	.3471+03	.9018+01	.1950+03	.9789+02	.1768+02	.5514-02
P-H2O/P-PROP= 19.0000							
.1365+03	.1341+02	.3236+03	.1018+02	.1938+03	.9796+02	.1648+02	.5180-02
P-H2O/P-PROP= 20.0000							
.1446+03	.1273+02	.3041+03	.1136+02	.1927+03	.9802+02	.1549+02	.4889-02

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 3000.

N204-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1119+02	.5447+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3251+01	.4261+02	.1137+04	.7629-01	.2032+03	.1486+03	.5791+02	.3262+00
P-H2O/P-PROP= 4.0000							
.1596+02	.4109+02	.1093+04	.3883+00	.2029+03	.1478+03	.5567+02	.6646-01
P-H2O/P-PROP= 5.0000							
.2865+02	.3958+02	.1049+04	.7240+00	.2026+03	.1471+03	.5344+02	.3701-01
P-H2O/P-PROP= 6.0000							
.4134+02	.3807+02	.1006+04	.1086+01	.2023+03	.1464+03	.5122+02	.2565-01
P-H2O/P-PROP= 7.0000							
.5402+02	.3656+02	.9625+03	.1477+01	.2020+03	.1458+03	.4902+02	.1963-01
P-H2O/P-PROP= 8.0000							
.6669+02	.3510+02	.9196+03	.1900+01	.2016+03	.1453+03	.4683+02	.1590-01
P-H2O/P-PROP= 9.0000							
.7935+02	.3362+02	.8770+03	.2360+01	.2012+03	.1448+03	.4466+02	.1336-01
P-H2O/P-PROP= 10.0000							
.9199+02	.3217+02	.8548+03	.2860+01	.2008+03	.1445+03	.4252+02	.1153-01
P-H2O/P-PROP= 11.0000							
.1046+03	.3077+02	.7943+03	.3399+01	.2003+03	.1442+03	.4045+02	.1014-01
P-H2O/P-PROP= 12.0000							
.1173+03	.2928+02	.7512+03	.4005+01	.1998+03	.1440+03	.3826+02	.9044-02
P-H2O/P-PROP= 13.0000							
.1298+03	.2791+02	.7116+03	.4650+01	.1992+03	.1438+03	.3624+02	.8169-02
P-H2O/P-PROP= 14.0000							
.1424+03	.2655+02	.6721+03	.5362+01	.1986+03	.1437+03	.3423+02	.7449-02
P-H2O/P-PROP= 15.0000							
.1549+03	.2522+02	.6336+03	.6141+01	.1978+03	.1436+03	.3227+02	.6847-02
P-H2O/P-PROP= 16.0000							
.1673+03	.2393+02	.5964+03	.6992+01	.1970+03	.1436+03	.3037+02	.6337-02
P-H2O/P-PROP= 17.0000							
.1799+03	.2257+02	.5570+03	.7968+01	.1961+03	.1437+03	.2837+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1923+03	.2133+02	.5207+03	.9018+01	.1950+03	.1439+03	.2652+02	.5514-02
P-H2O/P-PROP= 19.0000							
.2047+03	.2011+02	.4854+03	.1018+02	.1938+03	.1440+03	.2472+02	.5180-02
P-H2O/P-PROP= 20.0000							
.2169+03	.1910+02	.4561+03	.1136+02	.1927+03	.1441+03	.2323+02	.4889-02

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 4000.

N204-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1491+02	.7263+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.4334+01	.5681+02	.1516+04	.7629-01	.2032+03	.1963+03	.7721+02	.3262+00
P-H2O/P-PROP= 4.0000							
.2127+02	.5479+02	.1457+04	.3883+00	.2029+03	.1949+03	.7422+02	.6646-01
P-H2O/P-PROP= 5.0000							
.3821+02	.5277+02	.1399+04	.7240+00	.2026+03	.1936+03	.7125+02	.3701-01
P-H2O/P-PROP= 6.0000							
.5513+02	.5077+02	.1341+04	.1086+01	.2023+03	.1924+03	.6830+02	.2565-01
P-H2O/P-PROP= 7.0000							
.7203+02	.4877+02	.1283+04	.1477+01	.2020+03	.1913+03	.6536+02	.1963-01
P-H2O/P-PROP= 8.0000							
.8893+02	.4679+02	.1226+04	.1900+01	.2016+03	.1904+03	.6244+02	.1590-01
P-H2O/P-PROP= 9.0000							
.1058+03	.4483+02	.1169+04	.2360+01	.2012+03	.1896+03	.5955+02	.1336-01
P-H2O/P-PROP= 10.0000							
.1227+03	.4289+02	.1113+04	.2860+01	.2008+03	.1889+03	.5669+02	.1153-01
P-H2O/P-PROP= 11.0000							
.1394+03	.4102+02	.1059+04	.3399+01	.2003+03	.1884+03	.5394+02	.1014-01
P-H2O/P-PROP= 12.0000							
.1563+03	.3904+02	.1002+04	.4005+01	.1998+03	.1880+03	.5101+02	.9044-02
P-H2O/P-PROP= 13.0000							
.1731+03	.3722+02	.9488+03	.4650+01	.1992+03	.1877+03	.4832+02	.8169-02
P-H2O/P-PROP= 14.0000							
.1898+03	.3540+02	.8961+03	.5362+01	.1986+03	.1875+03	.4564+02	.7449-02
P-H2O/P-PROP= 15.0000							
.2065+03	.3362+02	.8448+03	.6141+01	.1978+03	.1874+03	.4302+02	.6847-02
P-H2O/P-PROP= 16.0000							
.2231+03	.3191+02	.7952+03	.6992+01	.1970+03	.1874+03	.4050+02	.6337-02
P-H2O/P-PROP= 17.0000							
.2398+03	.3010+02	.7426+03	.7968+01	.1961+03	.1876+03	.3782+02	.5895-02
P-H2O/P-PROP= 18.0000							
.2564+03	.2843+02	.6943+03	.9018+01	.1950+03	.1878+03	.3536+02	.5514-02
P-H2O/P-PROP= 19.0000							
.2730+03	.2681+02	.6472+03	.1018+02	.1938+03	.1881+03	.3296+02	.5180-02
P-H2O/P-PROP= 20.0000							
.2892+03	.2547+02	.6082+03	.1136+02	.1927+03	.1883+03	.3098+02	.4889-02

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 5000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1864+02	.9079+00	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5418+01	.7102+02	.1895+04	.7629-01	.2032+03	.2431+03	.9651+02	.3262+00
P-H2O/P-PROP= 4.0000							
.2659+02	.6848+02	.1822+04	.3883+00	.2029+03	.2408+03	.9278+02	.6646-01
P-H2O/P-PROP= 5.0000							
.4776+02	.6596+02	.1749+04	.7240+00	.2026+03	.2388+03	.8907+02	.3701-01
P-H2O/P-PROP= 6.0000							
.6891+02	.6346+02	.1676+04	.1086+01	.2023+03	.2369+03	.8537+02	.2565-01
P-H2O/P-PROP= 7.0000							
.9004+02	.6097+02	.1604+04	.1477+01	.2020+03	.2353+03	.8170+02	.1963-01
P-H2O/P-PROP= 8.0000							
.1112+03	.5849+02	.1533+04	.1900+01	.2016+03	.2338+03	.7805+02	.1590-01
P-H2O/P-PROP= 9.0000							
.1323+03	.5604+02	.1462+04	.2360+01	.2012+03	.2326+03	.7444+02	.1336-01
P-H2O/P-PROP= 10.0000							
.1533+03	.5361+02	.1391+04	.2860+01	.2008+03	.2316+03	.7086+02	.1153-01
P-H2O/P-PROP= 11.0000							
.1743+03	.5128+02	.1324+04	.3399+01	.2003+03	.2307+03	.6742+02	.1014-01
P-H2O/P-PROP= 12.0000							
.1954+03	.4880+02	.1252+04	.4005+01	.1998+03	.2301+03	.6377+02	.9044-02
P-H2O/P-PROP= 13.0000							
.2163+03	.4652+02	.1186+04	.4650+01	.1992+03	.2296+03	.6041+02	.8169-02
P-H2O/P-PROP= 14.0000							
.2373+03	.4425+02	.1120+04	.5362+01	.1986+03	.2293+03	.5705+02	.7449-02
P-H2O/P-PROP= 15.0000							
.2581+03	.4203+02	.1056+04	.6141+01	.1978+03	.2292+03	.5378+02	.6847-02
P-H2O/P-PROP= 16.0000							
.2789+03	.3989+02	.9940+03	.6992+01	.1970+03	.2292+03	.5062+02	.6337-02
P-H2O/P-PROP= 17.0000							
.2998+03	.3762+02	.9283+03	.7968+01	.1961+03	.2295+03	.4728+02	.5895-02
P-H2O/P-PROP= 18.0000							
.3205+03	.3554+02	.8679+03	.9018+01	.1950+03	.2298+03	.4420+02	.5514-02
P-H2O/P-PROP= 19.0000							
.3412+03	.3351+02	.8096+03	.1018+02	.1938+03	.2303+03	.4120+02	.5180-02
P-H2O/P-PROP= 20.0000							
.3615+03	.3184+02	.7602+03	.1136+02	.1927+03	.2306+03	.3872+02	.4889-02

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 6000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2237+02	.1089+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6502+01	.8522+02	.2274+04	.7629-01	.2032+03	.2890+03	.1158+03	.3262+00
P-H2O/P-PROP= 4.0000							
.3191+02	.8218+02	.2186+04	.3883+00	.2029+03	.2857+03	.1113+03	.6646-01
P-H2O/P-PROP= 5.0000							
.5731+02	.7916+02	.2099+04	.7240+00	.2026+03	.2827+03	.1069+03	.3701-01
P-H2O/P-PROP= 6.0000							
.8269+02	.7615+02	.2011+04	.1086+01	.2023+03	.2800+03	.1024+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1080+03	.7316+02	.1925+04	.1477+01	.2020+03	.2777+03	.9804+02	.1963-01
P-H2O/P-PROP= 8.0000							
.1334+03	.7019+02	.1839+04	.1900+01	.2016+03	.2756+03	.9367+02	.1590-01
P-H2O/P-PROP= 9.0000							
.1587+03	.6725+02	.1754+04	.2360+01	.2012+03	.2738+03	.8933+02	.1336-01
P-H2O/P-PROP= 10.0000							
.1840+03	.6433+02	.1670+04	.2860+01	.2008+03	.2723+03	.8503+02	.1153-01
P-H2O/P-PROP= 11.0000							
.2092+03	.6154+02	.1589+04	.3399+01	.2003+03	.2711+03	.8091+02	.1014-01
P-H2O/P-PROP= 12.0000							
.2345+03	.5856+02	.1502+04	.4005+01	.1998+03	.2703+03	.7652+02	.9044-02
P-H2O/P-PROP= 13.0000							
.2596+03	.5582+02	.1423+04	.4650+01	.1992+03	.2695+03	.7249+02	.8169-02
P-H2O/P-PROP= 14.0000							
.2847+03	.5309+02	.1344+04	.5362+01	.1986+03	.2691+03	.6846+02	.7449-02
P-H2O/P-PROP= 15.0000							
.3097+03	.5044+02	.1267+04	.6141+01	.1978+03	.2689+03	.6454+02	.6847-02
P-H2O/P-PROP= 16.0000							
.3347+03	.4787+02	.1193+04	.6992+01	.1970+03	.2689+03	.6075+02	.6337-02
P-H2O/P-PROP= 17.0000							
.3598+03	.4515+02	.1114+04	.7968+01	.1961+03	.2693+03	.5673+02	.5895-02
P-H2O/P-PROP= 18.0000							
.3846+03	.4265+02	.1041+04	.9018+01	.1950+03	.2698+03	.5304+02	.5514-02
P-H2O/P-PROP= 19.0000							
.4094+03	.4022+02	.9708+03	.1018+02	.1938+03	.2705+03	.4944+02	.5180-02
P-H2O/P-PROP= 20.0000							
.4338+03	.3820+02	.9123+03	.1136+02	.1927+03	.2710+03	.4646+02	.4889-02

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 7000.

N204-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2610+02	.1271+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.7585+01	.9942+02	.2653+04	.7629-01	.2032+03	.3339+03	.1351+03	.3262+00
P-H2O/P-PROP= 4.0000							
.3723+02	.9568+02	.2550+04	.3883+00	.2029+03	.3294+03	.1299+03	.6646-01
P-H2O/P-PROP= 5.0000							
.6686+02	.9235+02	.2448+04	.7240+00	.2026+03	.3254+03	.1247+03	.3701-01
P-H2O/P-PROP= 6.0000							
.9647+02	.8884+02	.2347+04	.1086+01	.2023+03	.3217+03	.1195+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1261+03	.8535+02	.2246+04	.1477+01	.2020+03	.3185+03	.1144+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1556+03	.8189+02	.2146+04	.1900+01	.2016+03	.3157+03	.1093+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1852+03	.7846+02	.2046+04	.2360+01	.2012+03	.3133+03	.1042+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2147+03	.7506+02	.1948+04	.2860+01	.2008+03	.3113+03	.9920+02	.1153-01
P-H2O/P-PROP= 11.0000							
.2440+03	.7179+02	.1853+04	.3399+01	.2003+03	.3096+03	.9439+02	.1014-01
P-H2O/P-PROP= 12.0000							
.2736+03	.6832+02	.1753+04	.4005+01	.1998+03	.3084+03	.8927+02	.9044-02
P-H2O/P-PROP= 13.0000							
.3029+03	.6513+02	.1660+04	.4650+01	.1992+03	.3075+03	.8457+02	.8169-02
P-H2O/P-PROP= 14.0000							
.3322+03	.6194+02	.1568+04	.5362+01	.1986+03	.3069+03	.7987+02	.7449-02
P-H2O/P-PROP= 15.0000							
.3614+03	.5884+02	.1478+04	.6141+01	.1978+03	.3066+03	.7529+02	.6847-02
P-H2O/P-PROP= 16.0000							
.3905+03	.5585+02	.1392+04	.6992+01	.1970+03	.3066+03	.7087+02	.6337-02
P-H2O/P-PROP= 17.0000							
.4197+03	.5267+02	.1300+04	.7968+01	.1961+03	.3072+03	.6619+02	.5895-02
P-H2O/P-PROP= 18.0000							
.4487+03	.4976+02	.1215+04	.9018+01	.1950+03	.3078+03	.6188+02	.5514-02
P-H2O/P-PROP= 19.0000							
.4777+03	.4692+02	.1133+04	.1018+02	.1938+03	.3088+03	.5768+02	.5180-02
P-H2O/P-PROP= 20.0000							
.5061+03	.4457+02	.1064+04	.1136+02	.1927+03	.3094+03	.5421+02	.4889-02

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 8000.

N204-A250

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2983+02	.1453+01	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.8669+01	.1136+03	.3032+04	.7629-01	.2032+03	.3779+03	.1544+03	.3262+00
P-H2O/P-PROP= 4.0000							
.4255+02	.1096+03	.2915+04	.3883+00	.2029+03	.3721+03	.1484+03	.6646-01
P-H2O/P-PROP= 5.0000							
.7641+02	.1055+03	.2798+04	.7240+00	.2026+03	.3668+03	.1425+03	.3701-01
P-H2O/P-PROP= 6.0000							
.1103+03	.1015+03	.2682+04	.1086+01	.2023+03	.3620+03	.1366+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1441+03	.9755+02	.2567+04	.1477+01	.2020+03	.3578+03	.1307+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1779+03	.9359+02	.2452+04	.1900+01	.2016+03	.3541+03	.1249+03	.1590-01
P-H2O/P-PROP= 9.0000							
.2116+03	.8966+02	.2339+04	.2360+01	.2012+03	.3510+03	.1191+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2453+03	.8578+02	.2226+04	.2860+01	.2008+03	.3483+03	.1134+03	.1153-01
P-H2O/P-PROP= 11.0000							
.2789+03	.8205+02	.2118+04	.3399+01	.2003+03	.3461+03	.1079+03	.1014-01
P-H2O/P-PROP= 12.0000							
.3127+03	.7808+02	.2003+04	.4005+01	.1998+03	.3446+03	.1020+03	.9044-02
P-H2O/P-PROP= 13.0000							
.3461+03	.7443+02	.1898+04	.4650+01	.1992+03	.3434+03	.9685+02	.8169-02
P-H2O/P-PROP= 14.0000							
.3796+03	.7079+02	.1792+04	.5362+01	.1986+03	.3426+03	.9128+02	.7449-02
P-H2O/P-PROP= 15.0000							
.4130+03	.6725+02	.1690+04	.6141+01	.1978+03	.3423+03	.8605+02	.6847-02
P-H2O/P-PROP= 16.0000							
.4462+03	.6383+02	.1590+04	.6992+01	.1970+03	.3423+03	.8100+02	.6337-02
P-H2O/P-PROP= 17.0000							
.4797+03	.6020+02	.1485+04	.7968+01	.1961+03	.3430+03	.7564+02	.5895-02
P-H2O/P-PROP= 18.0000							
.5129+03	.5687+02	.1389+04	.9018+01	.1950+03	.3439+03	.7072+02	.5514-02
P-H2O/P-PROP= 19.0000							
.5459+03	.5362+02	.1294+04	.1018+02	.1938+03	.3451+03	.6592+02	.5180-02
P-H2O/P-PROP= 20.0000							
.5784+03	.5094+02	.1216+04	.1136+02	.1927+03	.3459+03	.6195+02	.4889-02

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 9000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3356+02	.1634+01	.2882+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.9752+01	.1278+03	.3411+04	.7629-01	.2032+03	.4210+03	.1737+03	.3262+00
P-H2O/P-PROP= 4.0000							
.4767+02	.1233+03	.3279+04	.3883+00	.2029+03	.4136+03	.1670+03	.6646-01
P-H2O/P-PROP= 5.0000							
.8596+02	.1187+03	.3148+04	.7240+00	.2026+03	.4069+03	.1603+03	.3701-01
P-H2O/P-PROP= 6.0000							
.1240+03	.1142+03	.3017+04	.1086+01	.2023+03	.4009+03	.1537+03	.2565-01
P-H2O/P-PROP= 7.0000							
.1621+03	.1097+03	.2887+04	.1477+01	.2020+03	.3955+03	.1471+03	.1963-01
P-H2O/P-PROP= 8.0000							
.2001+03	.1053+03	.2759+04	.1900+01	.2016+03	.3909+03	.1405+03	.1590-01
P-H2O/P-PROP= 9.0000							
.2381+03	.1009+03	.2631+04	.2360+01	.2012+03	.3869+03	.1340+03	.1336-01
P-H2O/P-PROP= 10.0000							
.2760+03	.9650+02	.2504+04	.2860+01	.2008+03	.3836+03	.1275+03	.1153-01
P-H2O/P-PROP= 11.0000							
.3137+03	.9230+02	.2383+04	.3399+01	.2003+03	.3808+03	.1214+03	.1014-01
P-H2O/P-PROP= 12.0000							
.3518+03	.8784+02	.2254+04	.4005+01	.1998+03	.3789+03	.1148+03	.9044-02
P-H2O/P-PROP= 13.0000							
.3894+03	.8374+02	.2135+04	.4650+01	.1992+03	.3773+03	.1087+03	.8169-02
P-H2O/P-PROP= 14.0000							
.4271+03	.7964+02	.2016+04	.5362+01	.1986+03	.3764+03	.1027+03	.7449-02
P-H2O/P-PROP= 15.0000							
.4646+03	.7565+02	.1901+04	.6141+01	.1978+03	.3759+03	.9680+02	.6847-02
P-H2O/P-PROP= 16.0000							
.5020+03	.7180+02	.1789+04	.6992+01	.1970+03	.3759+03	.9112+02	.6337-02
P-H2O/P-PROP= 17.0000							
.5397+03	.6772+02	.1671+04	.7968+01	.1961+03	.3769+03	.8510+02	.5895-02
P-H2O/P-PROP= 18.0000							
.5770+03	.6398+02	.1562+04	.9018+01	.1950+03	.3779+03	.7956+02	.5514-02
P-H2O/P-PROP= 19.0000							
.6142+03	.6033+02	.1456+04	.1018+02	.1938+03	.3795+03	.7416+02	.5180-02
P-H2O/P-PROP= 20.0000							
.6507+03	.5730+02	.1368+04	.1136+02	.1927+03	.3805+03	.6969+02	.4889-02

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 1000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3814+01	.1363+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1297+01	.1434+02	.4097+03	.9041-01	.1991+03	.2969+03	.1304+03	.1646+01
P-H2O/P-PROP= 4.0000							
.5610+01	.1384+02	.3953+03	.4053+00	.1987+03	.2929+03	.1258+03	.3803+00
P-H2O/P-PROP= 5.0000							
.9919+01	.1335+02	.3809+03	.7432+00	.1982+03	.2893+03	.1213+03	.2151+00
P-H2O/P-PROP= 6.0000							
.1422+02	.1286+02	.3667+03	.1106+01	.1977+03	.2859+03	.1167+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1852+02	.1237+02	.3526+03	.1497+01	.1972+03	.2829+03	.1123+03	.1152+00
P-H2O/P-PROP= 8.0000							
.2282+02	.1189+02	.3388+03	.1919+01	.1967+03	.2803+03	.1078+03	.9351-01
P-H2O/P-PROP= 9.0000							
.2710+02	.1142+02	.3251+03	.2374+01	.1961+03	.2779+03	.1035+03	.7872-01
P-H2O/P-PROP= 10.0000							
.3138+02	.1095+02	.3116+03	.2865+01	.1954+03	.2758+03	.9918+02	.6799-01
P-H2O/P-PROP= 11.0000							
.3565+02	.1050+02	.2984+03	.3395+01	.1947+03	.2741+03	.9498+02	.5985-01
P-H2O/P-PROP= 12.0000							
.3993+02	.1003+02	.2848+03	.3980+01	.1939+03	.2727+03	.9067+02	.5343-01
P-H2O/P-PROP= 13.0000							
.4419+02	.9588+01	.2720+03	.4608+01	.1931+03	.2715+03	.8657+02	.4828-01
P-H2O/P-PROP= 14.0000							
.4843+02	.9155+01	.2594+03	.5291+01	.1922+03	.2705+03	.8255+02	.4405-01
P-H2O/P-PROP= 15.0000							
.5267+02	.8731+01	.2470+03	.6033+01	.1912+03	.2698+03	.7863+02	.4050-01
P-H2O/P-PROP= 16.0000							
.5690+02	.8317+01	.2350+03	.6842+01	.1901+03	.2694+03	.7480+02	.3750-01
P-H2O/P-PROP= 17.0000							
.6108+02	.7951+01	.2243+03	.7682+01	.1890+03	.2689+03	.7141+02	.3493-01
P-H2O/P-PROP= 18.0000							
.6526+02	.7583+01	.2136+03	.8606+01	.1878+03	.2687+03	.6800+02	.3269-01

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 2000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.7628+01	.2726+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2593+01	.2868+02	.8195+03	.9041-01	.1991+03	.5504+03	.2608+03	.1646+01
P-H2O/P-PROP= 4.0000							
.1122+02	.2768+02	.7905+03	.4053+00	.1987+03	.5350+03	.2516+03	.3803+00
P-H2O/P-PROP= 5.0000							
.1984+02	.2669+02	.7619+03	.7432+00	.1982+03	.5204+03	.2425+03	.2151+00
P-H2O/P-PROP= 6.0000							
.2845+02	.2571+02	.7334+03	.1106+01	.1977+03	.5071+03	.2335+03	.1500+00
P-H2O/P-PROP= 7.0000							
.3704+02	.2474+02	.7053+03	.1497+01	.1972+03	.4951+03	.2245+03	.1152+00
P-H2O/P-PROP= 8.0000							
.4563+02	.2378+02	.6775+03	.1919+01	.1967+03	.4845+03	.2157+03	.9351-01
P-H2O/P-PROP= 9.0000							
.5420+02	.2284+02	.6501+03	.2374+01	.1961+03	.4750+03	.2069+03	.7872-01
P-H2O/P-PROP= 10.0000							
.6276+02	.2191+02	.6232+03	.2865+01	.1954+03	.4667+03	.1984+03	.6799-01
P-H2O/P-PROP= 11.0000							
.7130+02	.2100+02	.5968+03	.3395+01	.1947+03	.4596+03	.1900+03	.5985-01
P-H2O/P-PROP= 12.0000							
.7986+02	.2006+02	.5697+03	.3980+01	.1939+03	.4540+03	.1813+03	.5343-01
P-H2O/P-PROP= 13.0000							
.8837+02	.1918+02	.5439+03	.4608+01	.1931+03	.4492+03	.1731+03	.4828-01
P-H2O/P-PROP= 14.0000							
.9687+02	.1831+02	.5187+03	.5291+01	.1922+03	.4454+03	.1651+03	.4405-01
P-H2O/P-PROP= 15.0000							
.1053+03	.1746+02	.4941+03	.6033+01	.1912+03	.4427+03	.1573+03	.4050-01
P-H2O/P-PROP= 16.0000							
.1138+03	.1663+02	.4700+03	.6842+01	.1901+03	.4408+03	.1496+03	.3750-01
P-H2O/P-PROP= 17.0000							
.1222+03	.1590+02	.4487+03	.7682+01	.1890+03	.4389+03	.1428+03	.3493-01
P-H2O/P-PROP= 18.0000							
.1305+03	.1517+02	.4272+03	.8606+01	.1878+03	.4381+03	.1360+03	.3269-01

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 3000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1144+02	.4089+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3890+01	.4302+02	.1229+04	.9041-01	.1991+03	.7621+03	.3913+03	.1646+01
P-H2O/P-PROP= 4.0000							
.1683+02	.4152+02	.1186+04	.4053+00	.1987+03	.7262+03	.3775+03	.3803+00
P-H2O/P-PROP= 5.0000							
.2976+02	.4004+02	.1143+04	.7432+00	.1982+03	.6934+03	.3638+03	.2151+00
P-H2O/P-PROP= 6.0000							
.4267+02	.3857+02	.1100+04	.1106+01	.1977+03	.6635+03	.3502+03	.1500+00
P-H2O/P-PROP= 7.0000							
.5557+02	.3711+02	.1058+04	.1497+01	.1972+03	.6366+03	.3368+03	.1152+00
P-H2O/P-PROP= 8.0000							
.6845+02	.3567+02	.1016+04	.1919+01	.1967+03	.6126+03	.3235+03	.9351-01
P-H2O/P-PROP= 9.0000							
.8131+02	.3426+02	.9752+03	.2374+01	.1961+03	.5913+03	.3104+03	.7872-01
P-H2O/P-PROP= 10.0000							
.9414+02	.3286+02	.9348+03	.2865+01	.1954+03	.5727+03	.2975+03	.6799-01
P-H2O/P-PROP= 11.0000							
.1069+03	.3150+02	.8952+03	.3395+01	.1947+03	.5567+03	.2849+03	.5985-01
P-H2O/P-PROP= 12.0000							
.1198+03	.3010+02	.8545+03	.3980+01	.1939+03	.5440+03	.2720+03	.5343-01
P-H2O/P-PROP= 13.0000							
.1326+03	.2877+02	.8159+03	.4608+01	.1931+03	.5332+03	.2597+03	.4828-01
P-H2O/P-PROP= 14.0000							
.1453+03	.2746+02	.7781+03	.5291+01	.1922+03	.5247+03	.2477+03	.4405-01
P-H2O/P-PROP= 15.0000							
.1580+03	.2619+02	.7411+03	.6033+01	.1912+03	.5185+03	.2359+03	.4050-01
P-H2O/P-PROP= 16.0000							
.1707+03	.2495+02	.7050+03	.6842+01	.1901+03	.5144+03	.2244+03	.3750-01
P-H2O/P-PROP= 17.0000							
.1832+03	.2385+02	.6730+03	.7682+01	.1890+03	.5101+03	.2142+03	.3493-01
P-H2O/P-PROP= 18.0000							
.1958+03	.2275+02	.6409+03	.8606+01	.1878+03	.5083+03	.2040+03	.3269-01

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 4000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1526+02	.5452+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5186+01	.5736+02	.1639+04	.9041-01	.1991+03	.9304+03	.5217+03	.1646+01
P-H2O/P-PROP= 4.0000							
.2244+02	.5536+02	.1581+04	.4053+00	.1987+03	.8666+03	.5033+03	.3803+00
P-H2O/P-PROP= 5.0000							
.3967+02	.5338+02	.1524+04	.7432+00	.1982+03	.8082+03	.4850+03	.2151+00
P-H2O/P-PROP= 6.0000							
.5689+02	.5142+02	.1467+04	.1106+01	.1977+03	.7552+03	.4669+03	.1500+00
P-H2O/P-PROP= 7.0000							
.7409+02	.4948+02	.1411+04	.1497+01	.1972+03	.7073+03	.4490+03	.1152+00
P-H2O/P-PROP= 8.0000							
.9126+02	.4756+02	.1355+04	.1919+01	.1967+03	.6646+03	.4313+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1084+03	.4567+02	.1300+04	.2374+01	.1961+03	.6268+03	.4139+03	.7872-01
P-H2O/P-PROP= 10.0000							
.1255+03	.4382+02	.1246+04	.2865+01	.1954+03	.5937+03	.3967+03	.6799-01
P-H2O/P-PROP= 11.0000							
.1426+03	.4200+02	.1194+04	.3395+01	.1947+03	.5652+03	.3799+03	.5985-01
P-H2O/P-PROP= 12.0000							
.1597+03	.4013+02	.1139+04	.3980+01	.1939+03	.5427+03	.3627+03	.5343-01
P-H2O/P-PROP= 13.0000							
.1767+03	.3835+02	.1088+04	.4608+01	.1931+03	.5235+03	.3463+03	.4828-01
P-H2O/P-PROP= 14.0000							
.1937+03	.3662+02	.1037+04	.5291+01	.1922+03	.5085+03	.3302+03	.4405-01
P-H2O/P-PROP= 15.0000							
.2107+03	.3492+02	.9881+03	.6033+01	.1912+03	.4974+03	.3145+03	.4050-01
P-H2O/P-PROP= 16.0000							
.2276+03	.3327+02	.9400+03	.6842+01	.1901+03	.4901+03	.2992+03	.3750-01
P-H2O/P-PROP= 17.0000							
.2443+03	.3180+02	.8973+03	.7682+01	.1890+03	.4825+03	.2856+03	.3493+01
P-H2O/P-PROP= 18.0000							
.2610+03	.3033+02	.8545+03	.8606+01	.1878+03	.4792+03	.2720+03	.3269+01

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 5000.

SOLID

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.1907+02	.6815+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.6483+01	.7170+02	.2049+04	.9041-01	.1991+03	.1056+04	.6921+03	.1646+01
P-H20/P-PROP= 4.0000							
.2805+02	.6921+02	.1976+04	.4053+00	.1987+03	.9562+03	.6291+03	.3803+00
P-H20/P-PROP= 5.0000							
.4959+02	.6673+02	.1905+04	.7432+00	.1982+03	.8650+03	.6063+03	.2151+00
P-H20/P-PROP= 6.0000							
.7112+02	.6428+02	.1834+04	.1106+01	.1977+03	.7821+03	.5837+03	.1500+00
P-H20/P-PROP= 7.0000							
.9261+02	.6185+02	.1763+04	.1497+01	.1972+03	.7073+03	.5613+03	.1152+00
P-H20/P-PROP= 8.0000							
.1141+03	.5945+02	.1694+04	.1919+01	.1967+03	.6403+03	.5392+03	.9351-01
P-H20/P-PROP= 9.0000							
.1355+03	.5709+02	.1625+04	.2374+01	.1961+03	.5815+03	.5173+03	.7872-01
P-H20/P-PROP= 10.0000							
.1569+03	.5477+02	.1558+04	.2865+01	.1954+03	.5296+03	.4959+03	.6799-01
P-H20/P-PROP= 11.0000							
.1782+03	.5249+02	.1492+04	.3395+01	.1947+03	.4853+03	.4749+03	.5985-01
P-H20/P-PROP= 12.0000							
.1996+03	.5026+02	.1424+04	.3980+01	.1939+03	.4501+03	.4533+03	.5343-01
P-H20/P-PROP= 13.0000							
.2209+03	.4794+02	.1360+04	.4608+01	.1931+03	.4201+03	.4328+03	.4828-01
P-H20/P-PROP= 14.0000							
.2422+03	.4577+02	.1297+04	.5291+01	.1922+03	.3966+03	.4128+03	.4405-01
P-H20/P-PROP= 15.0000							
.2634+03	.4365+02	.1235+04	.6033+01	.1912+03	.3792+03	.3932+03	.4050-01
P-H20/P-PROP= 16.0000							
.2845+03	.4158+02	.1175+04	.6842+01	.1901+03	.3678+03	.3740+03	.3750-01
P-H20/P-PROP= 17.0000							
.3054+03	.3975+02	.1122+04	.7682+01	.1890+03	.3560+03	.3570+03	.3493-01
P-H20/P-PROP= 18.0000							
.3263+03	.3792+02	.1068+04	.8606+01	.1878+03	.3509+03	.3400+03	.3269-01

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 6000.

SOLID

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.2288+02	.8178+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.7779+01	.8604+02	.2458+04	.9041-01	.1991+03	.1139+04	.7825+03	.1646+01
P-H20/P-PROP= 4.0000							
.3366+02	.8305+02	.2372+04	.4053+00	.1987+03	.9950+03	.7549+03	.3803+00
P-H20/P-PROP= 5.0000							
.5951+02	.8008+02	.2286+04	.7432+00	.1982+03	.8636+03	.7275+03	.2151+00
P-H20/P-PROP= 6.0000							
.8534+02	.7713+02	.2200+04	.1106+01	.1977+03	.7442+03	.7004+03	.1500+00
P-H20/P-PROP= 7.0000							
.1111+03	.7422+02	.2116+04	.1497+01	.1972+03	.6366+03	.6735+03	.1152+00
P-H20/P-PROP= 8.0000							
.1369+03	.7135+02	.2033+04	.1919+01	.1967+03	.5404+03	.6470+03	.9351-01
P-H20/P-PROP= 9.0000							
.1626+03	.6851+02	.1950+04	.2374+01	.1961+03	.4553+03	.6208+03	.7872-01
P-H20/P-PROP= 10.0000							
.1883+03	.6572+02	.1870+04	.2865+01	.1954+03	.3810+03	.5951+03	.6799-01
P-H20/P-PROP= 11.0000							
.2139+03	.6299+02	.1790+04	.3395+01	.1947+03	.3168+03	.5699+03	.5985-01
P-H20/P-PROP= 12.0000							
.2396+03	.6019+02	.1709+04	.3980+01	.1939+03	.2661+03	.5440+03	.5343-01
P-H20/P-PROP= 13.0000							
.2651+03	.5753+02	.1632+04	.4608+01	.1931+03	.2230+03	.5194+03	.4828-01
P-H20/P-PROP= 14.0000							
.2906+03	.5493+02	.1556+04	.5291+01	.1922+03	.1891+03	.4953+03	.4405-01
P-H20/P-PROP= 15.0000							
.3160+03	.5239+02	.1482+04	.6033+01	.1912+03	.1641+03	.4718+03	.4050-01
P-H20/P-PROP= 16.0000							
.3414+03	.4990+02	.1410+04	.6842+01	.1901+03	.1477+03	.4488+03	.3750-01
P-H20/P-PROP= 17.0000							
.3665+03	.4771+02	.1346+04	.7682+01	.1890+03	.1307+03	.4284+03	.3493-01
P-H20/P-PROP= 18.0000							
.3916+03	.4550+02	.1282+04	.8606+01	.1878+03	.1233+03	.4080+03	.3269-01

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 7000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2670+02	.9542+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.9076+01	.1004+03	.2868+04	.9041-01	.1991+03	.1178+04	.9130+03	.1646+01
P-H2O/P-PROP= 4.0000							
.3927+02	.9589+02	.2767+04	.4053+00	.1987+03	.9829+03	.8807+03	.3803+00
P-H2O/P-PROP= 5.0000							
.6943+02	.9342+02	.2666+04	.7432+00	.1982+03	.8041+03	.8488+03	.2151+00
P-H2O/P-PROP= 6.0000							
.9956+02	.8999+02	.2567+04	.1106+01	.1977+03	.6416+03	.8171+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1297+03	.8659+02	.2469+04	.1497+01	.1972+03	.4951+03	.7858+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1597+03	.8324+02	.2371+04	.1919+01	.1967+03	.3641+03	.7548+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1897+03	.7993+02	.2275+04	.2374+01	.1961+03	.2484+03	.7243+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2197+03	.7668+02	.2181+04	.2865+01	.1954+03	.1472+03	.6943+03	.6799-01
P-H2O/P-PROP= 11.0000							
.2495+03	.7349+02	.2089+04	.3395+01	.1947+03	.5987+02	.6649+03	.5985-01
P-H2O/P-PROP= 12.0000							
.2795+03	.7022+02	.1994+04	.3960+01	.1939+03	-.9114+01	.6347+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3093+03	.6712+02	.1904+04	.4608+01	.1931+03	-.6790+02	.6060+03	.4828-01
P-H2O/P-PROP= 14.0000							
.3390+03	.6408+02	.1815+04	.5291+01	.1922+03	-.1140+03	.5779+03	.4405-01
P-H2O/P-PROP= 15.0000							
.3687+03	.6112+02	.1729+04	.6033+01	.1912+03	-.1480+03	.5504+03	.4050-01
P-H2O/P-PROP= 16.0000							
.3983+03	.5822+02	.1645+04	.6842+01	.1901+03	-.1704+03	.5236+03	.3750-01
P-H2O/P-PROP= 17.0000							
.4276+03	.5566+02	.1570+04	.7682+01	.1890+03	-.1935+03	.4999+03	.3493-01
P-H2O/P-PROP= 18.0000							
.4568+03	.5308+02	.1495+04	.8606+01	.1878+03	-.2035+03	.4760+03	.3269-01

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 8000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3051+02	.1090+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1037+02	.1147+03	.3278+04	.9041-01	.1991+03	.1175+04	.1043+04	.1646+01
P-H2O/P-PROP= 4.0000							
.4488+02	.1107+03	.3162+04	.4053+00	.1987+03	.9200+03	.1007+04	.3803+00
P-H2O/P-PROP= 5.0000							
.7935+02	.1068+03	.3047+04	.7432+00	.1982+03	.6865+03	.9700+03	.2151+00
P-H2O/P-PROP= 6.0000							
.1138+03	.1028+03	.2934+04	.1106+01	.1977+03	.4742+03	.9338+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1482+03	.9896+02	.2821+04	.1497+01	.1972+03	.2828+03	.8980+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1825+03	.9513+02	.2710+04	.1919+01	.1967+03	.1118+03	.8626+03	.9351-01
P-H2O/P-PROP= 9.0000							
.2168+03	.9135+02	.2600+04	.2374+01	.1961+03	-.3938+02	.8278+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2510+03	.8763+02	.2493+04	.2865+01	.1954+03	-.1716+03	.7935+03	.6799-01
P-H2O/P-PROP= 11.0000							
.2852+03	.8399+02	.2387+04	.3395+01	.1947+03	-.2856+03	.7598+03	.5985-01
P-H2O/P-PROP= 12.0000							
.3194+03	.8026+02	.2279+04	.3960+01	.1939+03	-.3757+03	.7253+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3535+03	.7671+02	.2176+04	.4608+01	.1931+03	-.4529+03	.6925+03	.4828-01
P-H2O/P-PROP= 14.0000							
.3875+03	.7324+02	.2075+04	.5291+01	.1922+03	-.5127+03	.6604+03	.4405-01
P-H2O/P-PROP= 15.0000							
.4214+03	.6985+02	.1976+04	.6033+01	.1912+03	-.5571+03	.6291+03	.4050-01
P-H2O/P-PROP= 16.0000							
.4552+03	.6654+02	.1880+04	.6842+01	.1901+03	-.5863+03	.5984+03	.3750-01
P-H2O/P-PROP= 17.0000							
.4886+03	.6361+02	.1795+04	.7682+01	.1890+03	-.6165+03	.5713+03	.3493-01
P-H2O/P-PROP= 18.0000							
.5221+03	.6067+02	.1709+04	.8606+01	.1878+03	-.6296+03	.5440+03	.3269-01

DIA-FT= 2.00 LB AIR/LB PROP= .1000 THRUST= 9000.

SOLID PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3432+02	.1227+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1187+02	.1291+03	.3688+04	.9041-01	.1991+03	.1129+04	.1174+04	.1646+01
P-H2O/P-PROP= 4.0000							
.5049+02	.1246+03	.3557+04	.4053+00	.1987+03	.8063+03	.1132+04	.3803+00
P-H2O/P-PROP= 5.0000							
.8927+02	.1201+03	.3428+04	.7432+00	.1982+03	.5107+03	.1091+04	.2151+00
P-H2O/P-PROP= 6.0000							
.1286+03	.1157+03	.3300+04	.1106+01	.1977+03	.2421+03	.1051+04	.1500+00
P-H2O/P-PROP= 7.0000							
.1667+03	.1113+03	.3174+04	.1497+01	.1972+03	-.1522+00	.1010+04	.1152+00
P-H2O/P-PROP= 8.0000							
.2053+03	.1070+03	.3049+04	.1919+01	.1967+03	-.2166+03	.9705+03	.9351-01
P-H2O/P-PROP= 9.0000							
.2439+03	.1028+03	.2926+04	.2374+01	.1961+03	-.4079+03	.9312+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2824+03	.9859+02	.2804+04	.2865+01	.1954+03	-.5752+03	.8926+03	.6799-01
P-H2O/P-PROP= 11.0000							
.3208+03	.9449+02	.2685+04	.3395+01	.1947+03	-.7195+03	.8548+03	.5985-01
P-H2O/P-PROP= 12.0000							
.3594+03	.9029+02	.2563+04	.3980+01	.1939+03	-.8336+03	.8160+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3977+03	.8630+02	.2448+04	.4608+01	.1931+03	-.9308+03	.7791+03	.4828-01
P-H2O/P-PROP= 14.0000							
.4359+03	.8239+02	.2334+04	.5291+01	.1922+03	-.1007+04	.7430+03	.4405-01
P-H2O/P-PROP= 15.0000							
.4741+03	.7858+02	.2223+04	.6033+01	.1912+03	-.1063+04	.7077+03	.4050-01
P-H2O/P-PROP= 16.0000							
.5121+03	.7485+02	.2115+04	.6842+01	.1901+03	-.1100+04	.6732+03	.3750-01
P-H2O/P-PROP= 17.0000							
.5497+03	.7156+02	.2019+04	.7682+01	.1890+03	-.1138+04	.6427+03	.3493-01
P-H2O/P-PROP= 18.0000							
.5874+03	.6825+02	.1923+04	.8606+01	.1878+03	-.1155+04	.6120+03	.3269-01

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 1000.

SOLID PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3814+01	.1363+01	.2022+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1297+01	.1434+02	.4097+03	.9041-01	.1991+03	.1949+03	.8347+02	.1646+01
P-H2O/P-PROP= 4.0000							
.5610+01	.1384+02	.3953+03	.4053+00	.1987+03	.1933+03	.8052+02	.3803+00
P-H2O/P-PROP= 5.0000							
.9919+01	.1335+02	.3809+03	.7432+00	.1982+03	.1918+03	.7760+02	.2151+00
P-H2O/P-PROP= 6.0000							
.1422+02	.1286+02	.3667+03	.1106+01	.1977+03	.1905+03	.7471+02	.1500+00
P-H2O/P-PROP= 7.0000							
.1852+02	.1237+02	.3526+03	.1497+01	.1972+03	.1892+03	.7184+02	.1152+00
P-H2O/P-PROP= 8.0000							
.2282+02	.1189+02	.3388+03	.1919+01	.1967+03	.1881+03	.6901+02	.9351-01
P-H2O/P-PROP= 9.0000							
.2710+02	.1142+02	.3251+03	.2374+01	.1961+03	.1872+03	.6622+02	.7872-01
P-H2O/P-PROP= 10.0000							
.3138+02	.1095+02	.3116+03	.2865+01	.1954+03	.1863+03	.6348+02	.6799-01
P-H2O/P-PROP= 11.0000							
.3565+02	.1050+02	.2984+03	.3395+01	.1947+03	.1856+03	.6079+02	.5985-01
P-H2O/P-PROP= 12.0000							
.3993+02	.1003+02	.2848+03	.3980+01	.1939+03	.1850+03	.5803+02	.5343-01
P-H2O/P-PROP= 13.0000							
.4419+02	.9588+01	.2720+03	.4608+01	.1931+03	.1845+03	.5540+02	.4828-01
P-H2O/P-PROP= 14.0000							
.4843+02	.9155+01	.2594+03	.5291+01	.1922+03	.1841+03	.5284+02	.4405-01
P-H2O/P-PROP= 15.0000							
.5267+02	.8731+01	.2470+03	.6033+01	.1912+03	.1839+03	.5033+02	.4050-01
P-H2O/P-PROP= 16.0000							
.5690+02	.8317+01	.2350+03	.6842+01	.1901+03	.1837+03	.4787+02	.3750-01
P-H2O/P-PROP= 17.0000							
.6108+02	.7951+01	.2243+03	.7682+01	.1890+03	.1835+03	.4570+02	.3493-01
P-H2O/P-PROP= 18.0000							
.6526+02	.7583+01	.2136+03	.8606+01	.1878+03	.1834+03	.4352+02	.3269-01

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 2000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.7628+01	.2726+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.2593+01	.2868+02	.8195+03	.9041-01	.1991+03	.3725+03	.1669+03	.1646+01
P-H20/P-PROP= 4.0000							
.1122+02	.2766+02	.7905+03	.4053+00	.1987+03	.3658+03	.1610+03	.3803+00
P-H20/P-PROP= 5.0000							
.1984+02	.2669+02	.7619+03	.7432+00	.1982+03	.3598+03	.1552+03	.2151+00
P-H20/P-PROP= 6.0000							
.2845+02	.2571+02	.7334+03	.1106+01	.1977+03	.3544+03	.1494+03	.1500+00
P-H20/P-PROP= 7.0000							
.3704+02	.2474+02	.7053+03	.1497+01	.1972+03	.3495+03	.1437+03	.1152+00
P-H20/P-PROP= 8.0000							
.4563+02	.2378+02	.6775+03	.1919+01	.1967+03	.3451+03	.1380+03	.9351-01
P-H20/P-PROP= 9.0000							
.5420+02	.2284+02	.6501+03	.2374+01	.1961+03	.3412+03	.1324+03	.7872-01
P-H20/P-PROP= 10.0000							
.6276+02	.2191+02	.6232+03	.2865+01	.1954+03	.3379+03	.1270+03	.6799-01
P-H20/P-PROP= 11.0000							
.7130+02	.2100+02	.5968+03	.3395+01	.1947+03	.3349+03	.1216+03	.5985-01
P-H20/P-PROP= 12.0000							
.7986+02	.2006+02	.5697+03	.3980+01	.1939+03	.3326+03	.1161+03	.5343-01
P-H20/P-PROP= 13.0000							
.8837+02	.1918+02	.5439+03	.4608+01	.1931+03	.3307+03	.1108+03	.4828-01
P-H20/P-PROP= 14.0000							
.9687+02	.1831+02	.5187+03	.5291+01	.1922+03	.3291+03	.1057+03	.4405-01
P-H20/P-PROP= 15.0000							
.1053+03	.1746+02	.4941+03	.6033+01	.1912+03	.3280+03	.1007+03	.4050-01
P-H20/P-PROP= 16.0000							
.1138+03	.1663+02	.4700+03	.6842+01	.1901+03	.3272+03	.9574+02	.3750-01
P-H20/P-PROP= 17.0000							
.1222+03	.1590+02	.4487+03	.7682+01	.1890+03	.3265+03	.9140+02	.3493-01
P-H20/P-PROP= 18.0000							
.1305+03	.1517+02	.4272+03	.8606+01	.1878+03	.3261+03	.8704+02	.3269-01

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 3000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1144+02	.4089+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.3890+01	.4302+02	.1229+04	.9041-01	.1991+03	.5322+03	.2504+03	.1646+01
P-H20/P-PROP= 4.0000							
.1683+02	.4152+02	.1186+04	.4053+00	.1987+03	.5175+03	.2416+03	.3803+00
P-H20/P-PROP= 5.0000							
.2976+02	.4004+02	.1143+04	.7432+00	.1982+03	.5040+03	.2328+03	.2151+00
P-H20/P-PROP= 6.0000							
.4267+02	.3857+02	.1100+04	.1106+01	.1977+03	.4918+03	.2241+03	.1500+00
P-H20/P-PROP= 7.0000							
.5557+02	.3711+02	.1058+04	.1497+01	.1972+03	.4808+03	.2155+03	.1152+00
P-H20/P-PROP= 8.0000							
.6845+02	.3567+02	.1016+04	.1919+01	.1967+03	.4709+03	.2070+03	.9351-01
P-H20/P-PROP= 9.0000							
.8131+02	.3426+02	.9752+03	.2374+01	.1961+03	.4622+03	.1987+03	.7872-01
P-H20/P-PROP= 10.0000							
.9414+02	.3286+02	.9348+03	.2865+01	.1954+03	.4546+03	.1904+03	.6799-01
P-H20/P-PROP= 11.0000							
.1069+03	.3150+02	.8952+03	.3395+01	.1947+03	.4480+03	.1824+03	.5985-01
P-H20/P-PROP= 12.0000							
.1198+03	.3010+02	.8545+03	.3980+01	.1939+03	.4428+03	.1741+03	.5343-01
P-H20/P-PROP= 13.0000							
.1326+03	.2877+02	.8159+03	.4608+01	.1931+03	.4384+03	.1662+03	.4828-01
P-H20/P-PROP= 14.0000							
.1453+03	.2746+02	.7781+03	.5291+01	.1922+03	.4350+03	.1585+03	.4405-01
P-H20/P-PROP= 15.0000							
.1580+03	.2619+02	.7411+03	.6033+01	.1912+03	.4324+03	.1510+03	.4050-01
P-H20/P-PROP= 16.0000							
.1707+03	.2495+02	.7050+03	.6842+01	.1901+03	.4307+03	.1436+03	.3750-01
P-H20/P-PROP= 17.0000							
.1832+03	.2385+02	.6730+03	.7682+01	.1890+03	.4290+03	.1371+03	.3493-01
P-H20/P-PROP= 18.0000							
.1958+03	.2275+02	.6409+03	.8606+01	.1878+03	.4282+03	.1306+03	.3269-01

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 4000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1526+02	.5452+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.5166+01	.5736+02	.1639+04	.9041-01	.1991+03	.6745+03	.3339+03	.1646+01
P-H20/P-PROP= 4.0000							
.2234+02	.5536+02	.1581+04	.4053+00	.1987+03	.6486+03	.3221+03	.3803+00
P-H20/P-PROP= 5.0000							
.3967+02	.5338+02	.1524+04	.7432+00	.1982+03	.6244+03	.3104+03	.2151+00
P-H20/P-PROP= 6.0000							
.5689+02	.5142+02	.1467+04	.1106+01	.1977+03	.6027+03	.2988+03	.1500+00
P-H20/P-PROP= 7.0000							
.7409+02	.4948+02	.1411+04	.1497+01	.1972+03	.5831+03	.2874+03	.1152+00
P-H20/P-PROP= 8.0000							
.9126+02	.4756+02	.1355+04	.1919+01	.1967+03	.5656+03	.2760+03	.9351-01
P-H20/P-PROP= 9.0000							
.1084+03	.4567+02	.1300+04	.2374+01	.1961+03	.5501+03	.2649+03	.7872-01
P-H20/P-PROP= 10.0000							
.1255+03	.4382+02	.1246+04	.2865+01	.1954+03	.5366+03	.2539+03	.6799-01
P-H20/P-PROP= 11.0000							
.1426+03	.4200+02	.1194+04	.3395+01	.1947+03	.5249+03	.2431+03	.5985-01
P-H20/P-PROP= 12.0000							
.1597+03	.4013+02	.1139+04	.3980+01	.1939+03	.5156+03	.2321+03	.5343-01
P-H20/P-PROP= 13.0000							
.1767+03	.3835+02	.1088+04	.4608+01	.1931+03	.5078+03	.2216+03	.4828-01
P-H20/P-PROP= 14.0000							
.1937+03	.3662+02	.1037+04	.5291+01	.1922+03	.5016+03	.2113+03	.4405-01
P-H20/P-PROP= 15.0000							
.2107+03	.3492+02	.9881+03	.6033+01	.1912+03	.4971+03	.2013+03	.4050-01
P-H20/P-PROP= 16.0000							
.2276+03	.3327+02	.9400+03	.6842+01	.1901+03	.4941+03	.1915+03	.3750-01
P-H20/P-PROP= 17.0000							
.2443+03	.3180+02	.8973+03	.7682+01	.1890+03	.4910+03	.1828+03	.3493-01
P-H20/P-PROP= 18.0000							
.2610+03	.3033+02	.8545+03	.8606+01	.1878+03	.4897+03	.1741+03	.3269-01

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 5000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1907+02	.6815+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.6463+01	.7170+02	.2049+04	.9041-01	.1991+03	.7992+03	.4174+03	.1646+01
P-H20/P-PROP= 4.0000							
.2805+02	.6921+02	.1976+04	.4053+00	.1987+03	.7584+03	.4026+03	.3803+00
P-H20/P-PROP= 5.0000							
.4959+02	.6673+02	.1905+04	.7432+00	.1982+03	.7210+03	.3880+03	.2151+00
P-H20/P-PROP= 6.0000							
.7112+02	.6428+02	.1834+04	.1106+01	.1977+03	.6870+03	.3735+03	.1500+00
P-H20/P-PROP= 7.0000							
.9261+02	.6185+02	.1763+04	.1497+01	.1972+03	.6564+03	.3592+03	.1152+00
P-H20/P-PROP= 8.0000							
.1141+03	.5945+02	.1694+04	.1919+01	.1967+03	.6291+03	.3451+03	.9351-01
P-H20/P-PROP= 9.0000							
.1355+03	.5709+02	.1625+04	.2374+01	.1961+03	.6049+03	.3311+03	.7872-01
P-H20/P-PROP= 10.0000							
.1569+03	.5477+02	.1558+04	.2865+01	.1954+03	.5837+03	.3174+03	.6799-01
P-H20/P-PROP= 11.0000							
.1782+03	.5249+02	.1492+04	.3395+01	.1947+03	.5655+03	.3039+03	.5985-01
P-H20/P-PROP= 12.0000							
.1996+03	.5016+02	.1424+04	.3980+01	.1939+03	.5511+03	.2901+03	.5343-01
P-H20/P-PROP= 13.0000							
.2209+03	.4794+02	.1360+04	.4608+01	.1931+03	.5388+03	.2770+03	.4828-01
P-H20/P-PROP= 14.0000							
.2422+03	.4577+02	.1297+04	.5291+01	.1922+03	.5291+03	.2642+03	.4405-01
P-H20/P-PROP= 15.0000							
.2634+03	.4365+02	.1235+04	.6033+01	.1912+03	.5220+03	.2516+03	.4050-01
P-H20/P-PROP= 16.0000							
.2845+03	.4158+02	.1175+04	.6842+01	.1901+03	.5174+03	.2394+03	.3750-01
P-H20/P-PROP= 17.0000							
.3054+03	.3975+02	.1122+04	.7682+01	.1890+03	.5125+03	.2285+03	.3493-01
P-H20/P-PROP= 18.0000							
.3263+03	.3792+02	.1068+04	.8606+01	.1878+03	.5104+03	.2176+03	.3269-01

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 6000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2288+02	.8178+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP=	3.0000						
.7779+01	.8604+02	.2458+04	.9041-01	.1991+03	.9064+03	.5008+03	.1646+01
P-H2O/P-PROP=	4.0000						
.3366+02	.8305+02	.2372+04	.4053+00	.1987+03	.8476+03	.4831+03	.3803+00
P-H2O/P-PROP=	5.0000						
.5951+02	.8008+02	.2286+04	.7432+00	.1982+03	.7938+03	.4656+03	.2151+00
P-H2O/P-PROP=	6.0000						
.8534+02	.7713+02	.2200+04	.1106+01	.1977+03	.7449+03	.4482+03	.1500+00
P-H2O/P-PROP=	7.0000						
.1111+03	.7422+02	.2116+04	.1497+01	.1972+03	.7008+03	.4311+03	.1152+00
P-H2O/P-PROP=	8.0000						
.1369+03	.7135+02	.2033+04	.1919+01	.1967+03	.6614+03	.4141+03	.9351-01
P-H2O/P-PROP=	9.0000						
.1626+03	.6851+02	.1950+04	.2374+01	.1961+03	.6265+03	.3973+03	.7872-01
P-H2O/P-PROP=	10.0000						
.1883+03	.6572+02	.1870+04	.2865+01	.1954+03	.5961+03	.3809+03	.6799-01
P-H2O/P-PROP=	11.0000						
.2139+03	.6299+02	.1790+04	.3395+01	.1947+03	.5698+03	.3647+03	.5985-01
P-H2O/P-PROP=	12.0000						
.2396+03	.6019+02	.1709+04	.3980+01	.1939+03	.5490+03	.3482+03	.5343-01
P-H2O/P-PROP=	13.0000						
.2651+03	.5753+02	.1632+04	.4608+01	.1931+03	.5314+03	.3324+03	.4828-01
P-H2O/P-PROP=	14.0000						
.2906+03	.5493+02	.1556+04	.5291+01	.1922+03	.5175+03	.3170+03	.4405-01
P-H2O/P-PROP=	15.0000						
.3160+03	.5239+02	.1482+04	.6033+01	.1912+03	.5073+03	.3020+03	.4050-01
P-H2O/P-PROP=	16.0000						
.3414+03	.4990+02	.1410+04	.6842+01	.1901+03	.5005+03	.2872+03	.3750-01
P-H2O/P-PROP=	17.0000						
.3665+03	.4771+02	.1346+04	.7682+01	.1890+03	.4936+03	.2742+03	.3493-01
P-H2O/P-PROP=	18.0000						
.3916+03	.4550+02	.1282+04	.8606+01	.1878+03	.4906+03	.2611+03	.3269-01

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 7000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2670+02	.9542+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP=	3.0000						
.9076+01	.1004+03	.2868+04	.9041-01	.1991+03	.9960+03	.5843+03	.1646+01
P-H2O/P-PROP=	4.0000						
.3927+02	.9689+02	.2767+04	.4053+00	.1987+03	.9160+03	.5637+03	.3803+00
P-H2O/P-PROP=	5.0000						
.6943+02	.9342+02	.2666+04	.7432+00	.1982+03	.8427+03	.5432+03	.2151+00
P-H2O/P-PROP=	6.0000						
.9956+02	.8999+02	.2567+04	.1106+01	.1977+03	.7762+03	.5230+03	.1500+00
P-H2O/P-PROP=	7.0000						
.1297+03	.8659+02	.2469+04	.1497+01	.1972+03	.7162+03	.5029+03	.1152+00
P-H2O/P-PROP=	8.0000						
.1597+03	.8324+02	.2371+04	.1919+01	.1967+03	.6625+03	.4831+03	.9351-01
P-H2O/P-PROP=	9.0000						
.1897+03	.7993+02	.2275+04	.2374+01	.1961+03	.6151+03	.4635+03	.7872-01
P-H2O/P-PROP=	10.0000						
.2197+03	.7668+02	.2181+04	.2865+01	.1954+03	.5737+03	.4443+03	.6799-01
P-H2O/P-PROP=	11.0000						
.2495+03	.7349+02	.2089+04	.3395+01	.1947+03	.5379+03	.4255+03	.5985-01
P-H2O/P-PROP=	12.0000						
.2795+03	.7022+02	.1994+04	.3980+01	.1939+03	.5096+03	.4062+03	.5343-01
P-H2O/P-PROP=	13.0000						
.3093+03	.6712+02	.1904+04	.4608+01	.1931+03	.4856+03	.3878+03	.4828-01
P-H2O/P-PROP=	14.0000						
.3390+03	.6408+02	.1815+04	.5291+01	.1922+03	.4667+03	.3698+03	.4405-01
P-H2O/P-PROP=	15.0000						
.3687+03	.6112+02	.1729+04	.6033+01	.1912+03	.4528+03	.3523+03	.4050-01
P-H2O/P-PROP=	16.0000						
.3983+03	.5822+02	.1645+04	.6842+01	.1901+03	.4436+03	.3351+03	.3750-01
P-H2O/P-PROP=	17.0000						
.4276+03	.5566+02	.1570+04	.7682+01	.1890+03	.4341+03	.3199+03	.3493-01
P-H2O/P-PROP=	18.0000						
.4568+03	.5308+02	.1495+04	.8606+01	.1878+03	.4300+03	.3046+03	.3269-01

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 8000.

SOLID PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3051+02	.1090+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1037+02	.1147+03	.3278+04	.9041-01	.1991+03	.1066+04	.6678+03	.1646+01
P-H2O/P-PROP= 4.0000							
.4486+02	.1107+03	.3162+04	.4053+00	.1987+03	.9636+03	.6442+03	.3803+00
P-H2O/P-PROP= 5.0000							
.7935+02	.1068+03	.3047+04	.7432+00	.1982+03	.8679+03	.6208+03	.2151+00
P-H2O/P-PROP= 6.0000							
.1136+03	.1028+03	.2934+04	.1106+01	.1977+03	.7809+03	.5977+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1462+03	.9896+02	.2821+04	.1497+01	.1972+03	.7026+03	.5747+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1825+03	.9513+02	.2710+04	.1919+01	.1967+03	.6325+03	.5521+03	.9351-01
P-H2O/P-PROP= 9.0000							
.2168+03	.9135+02	.2600+04	.2374+01	.1961+03	.5706+03	.5298+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2510+03	.8763+02	.2493+04	.2865+01	.1954+03	.5164+03	.5078+03	.6799-01
P-H2O/P-PROP= 11.0000							
.2852+03	.8399+02	.2387+04	.3395+01	.1947+03	.4697+03	.4863+03	.5985-01
P-H2O/P-PROP= 12.0000							
.3194+03	.8026+02	.2279+04	.3980+01	.1939+03	.4328+03	.4642+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3535+03	.7671+02	.2176+04	.4608+01	.1931+03	.4014+03	.4432+03	.4828-01
P-H2O/P-PROP= 14.0000							
.3875+03	.7324+02	.2075+04	.5291+01	.1922+03	.3767+03	.4227+03	.4405-01
P-H2O/P-PROP= 15.0000							
.4214+03	.6985+02	.1976+04	.6033+01	.1912+03	.3585+03	.4026+03	.4050-01
P-H2O/P-PROP= 16.0000							
.4552+03	.6654+02	.1880+04	.6842+01	.1901+03	.3466+03	.3830+03	.3750-01
P-H2O/P-PROP= 17.0000							
.4886+03	.6361+02	.1795+04	.7682+01	.1890+03	.3342+03	.3656+03	.3493-01
P-H2O/P-PROP= 18.0000							
.5221+03	.6067+02	.1709+04	.8606+01	.1878+03	.3288+03	.3482+03	.3269-01

DIA-FT= 2.50 LB AIR/LB PROP= .1000 THRUST= 9000.

SOLID PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3432+02	.1227+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1167+02	.1291+03	.3688+04	.9041-01	.1991+03	.1199+04	.7512+03	.1646+01
P-H2O/P-PROP= 4.0000							
.5049+02	.1246+03	.3557+04	.4053+00	.1987+03	.9903+03	.7247+03	.3803+00
P-H2O/P-PROP= 5.0000							
.8927+02	.1201+03	.3428+04	.7432+00	.1982+03	.8692+03	.6984+03	.2151+00
P-H2O/P-PROP= 6.0000							
.1280+03	.1157+03	.3300+04	.1106+01	.1977+03	.7592+03	.6724+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1667+03	.1113+03	.3174+04	.1497+01	.1972+03	.6600+03	.6466+03	.1152+00
P-H2O/P-PROP= 8.0000							
.2053+03	.1070+03	.3049+04	.1919+01	.1967+03	.5713+03	.6211+03	.9351-01
P-H2O/P-PROP= 9.0000							
.2439+03	.1028+03	.2926+04	.2374+01	.1961+03	.4930+03	.5960+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2824+03	.9859+02	.2804+04	.2865+01	.1954+03	.4244+03	.5713+03	.6799-01
P-H2O/P-PROP= 11.0000							
.3208+03	.9449+02	.2685+04	.3395+01	.1947+03	.3653+03	.5471+03	.5985-01
P-H2O/P-PROP= 12.0000							
.3594+03	.9029+02	.2563+04	.3980+01	.1939+03	.3186+03	.5222+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3977+03	.8630+02	.2448+04	.4608+01	.1931+03	.2786+03	.4986+03	.4828-01
P-H2O/P-PROP= 14.0000							
.4359+03	.8239+02	.2334+04	.5291+01	.1922+03	.2476+03	.4755+03	.4405-01
P-H2O/P-PROP= 15.0000							
.4741+03	.7858+02	.2223+04	.6033+01	.1912+03	.2246+03	.4529+03	.4050-01
P-H2O/P-PROP= 16.0000							
.5121+03	.7485+02	.2115+04	.6842+01	.1901+03	.2094+03	.4308+03	.3750-01
P-H2O/P-PROP= 17.0000							
.5497+03	.7156+02	.2019+04	.7682+01	.1890+03	.1938+03	.4113+03	.3493-01
P-H2O/P-PROP= 18.0000							
.5874+03	.6825+02	.1923+04	.8606+01	.1878+03	.1870+03	.3917+03	.3269-01

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 1000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3814+01	.1363+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.1297+01	.1434+02	.4097+03	.9041-01	.1991+03	.1372+03	.5797+02	.1646+01
P-H20/P-PROP= 4.0000							
.5610+01	.1384+02	.3953+03	.4053+00	.1987+03	.1365+03	.5592+02	.3803+00
P-H20/P-PROP= 5.0000							
.9919+01	.1335+02	.3809+03	.7432+00	.1982+03	.1357+03	.5389+02	.2151+00
P-H20/P-PROP= 6.0000							
.1422+02	.1286+02	.3667+03	.1106+01	.1977+03	.1351+03	.5188+02	.1500+00
P-H20/P-PROP= 7.0000							
.1852+02	.1237+02	.3526+03	.1497+01	.1972+03	.1345+03	.4989+02	.1152+00
P-H20/P-PROP= 8.0000							
.2262+02	.1189+02	.3388+03	.1919+01	.1967+03	.1340+03	.4792+02	.9351-01
P-H20/P-PROP= 9.0000							
.2710+02	.1142+02	.3251+03	.2374+01	.1961+03	.1335+03	.4599+02	.7872-01
P-H20/P-PROP= 10.0000							
.3138+02	.1095+02	.3116+03	.2865+01	.1954+03	.1331+03	.4408+02	.6799-01
P-H20/P-PROP= 11.0000							
.3565+02	.1050+02	.2984+03	.3395+01	.1947+03	.1327+03	.4221+02	.5985-01
P-H20/P-PROP= 12.0000							
.3993+02	.1003+02	.2848+03	.3980+01	.1939+03	.1325+03	.4030+02	.5343-01
P-H20/P-PROP= 13.0000							
.4419+02	.9588+01	.2720+03	.4608+01	.1931+03	.1322+03	.3847+02	.4828-01
P-H20/P-PROP= 14.0000							
.4843+02	.9155+01	.2594+03	.5291+01	.1922+03	.1320+03	.3669+02	.4405-01
P-H20/P-PROP= 15.0000							
.5267+02	.8731+01	.2470+03	.6033+01	.1912+03	.1319+03	.3495+02	.4050-01
P-H20/P-PROP= 16.0000							
.5690+02	.8317+01	.2350+03	.6842+01	.1901+03	.1318+03	.3324+02	.3750-01
P-H20/P-PROP= 17.0000							
.6106+02	.7951+01	.2243+03	.7682+01	.1890+03	.1317+03	.3174+02	.3493-01
P-H20/P-PROP= 18.0000							
.6526+02	.7583+01	.2136+03	.8606+01	.1878+03	.1317+03	.3022+02	.3269-01

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 2000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.7628+01	.2726+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.2593+01	.2868+02	.8195+03	.9041-01	.1991+03	.2660+03	.1159+03	.1646+01
P-H20/P-PROP= 4.0000							
.1122+02	.2768+02	.7905+03	.4053+00	.1987+03	.2629+03	.1118+03	.3803+00
P-H20/P-PROP= 5.0000							
.1984+02	.2669+02	.7619+03	.7432+00	.1982+03	.2600+03	.1078+03	.2151+00
P-H20/P-PROP= 6.0000							
.2845+02	.2571+02	.7334+03	.1106+01	.1977+03	.2574+03	.1038+03	.1500+00
P-H20/P-PROP= 7.0000							
.3704+02	.2474+02	.7053+03	.1497+01	.1972+03	.2550+03	.9978+02	.1152+00
P-H20/P-PROP= 8.0000							
.4563+02	.2378+02	.6775+03	.1919+01	.1967+03	.2529+03	.9585+02	.9351-01
P-H20/P-PROP= 9.0000							
.5420+02	.2284+02	.6501+03	.2374+01	.1961+03	.2510+03	.9197+02	.7872-01
P-H20/P-PROP= 10.0000							
.6276+02	.2191+02	.6232+03	.2865+01	.1954+03	.2494+03	.8816+02	.6799-01
P-H20/P-PROP= 11.0000							
.7130+02	.2100+02	.5968+03	.3395+01	.1947+03	.2480+03	.8443+02	.5985-01
P-H20/P-PROP= 12.0000							
.7986+02	.2006+02	.5697+03	.3980+01	.1939+03	.2469+03	.8059+02	.5343-01
P-H20/P-PROP= 13.0000							
.8837+02	.1918+02	.5439+03	.4608+01	.1931+03	.2459+03	.7695+02	.4828-01
P-H20/P-PROP= 14.0000							
.9687+02	.1831+02	.5187+03	.5291+01	.1922+03	.2452+03	.7338+02	.4405-01
P-H20/P-PROP= 15.0000							
.1053+03	.1746+02	.4941+03	.6033+01	.1912+03	.2446+03	.6990+02	.4050-01
P-H20/P-PROP= 16.0000							
.1138+03	.1663+02	.4700+03	.6842+01	.1901+03	.2443+03	.6649+02	.3750-01
P-H20/P-PROP= 17.0000							
.1222+03	.1590+02	.4487+03	.7682+01	.1890+03	.2439+03	.6347+02	.3493-01
P-H20/P-PROP= 18.0000							
.1305+03	.1517+02	.4272+03	.8606+01	.1878+03	.2437+03	.6044+02	.3269-01

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 3000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1144+02	.4089+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3890+01	.4302+02	.1229+04	.9041-01	.1991+03	.3863+03	.1739+03	.1646+01
P-H2O/P-PROP= 4.0000							
.1683+02	.4152+02	.1186+04	.4053+00	.1987+03	.3792+03	.1678+03	.3803+00
P-H2O/P-PROP= 5.0000							
.2976+02	.4004+02	.1143+04	.7432+00	.1982+03	.3727+03	.1617+03	.2151+00
P-H2O/P-PROP= 6.0000							
.4267+02	.3857+02	.1100+04	.1106+01	.1977+03	.3669+03	.1556+03	.1500+00
P-H2O/P-PROP= 7.0000							
.5557+02	.3711+02	.1058+04	.1497+01	.1972+03	.3615+03	.1497+03	.1152+00
P-H2O/P-PROP= 8.0000							
.6845+02	.3567+02	.1016+04	.1919+01	.1967+03	.3568+03	.1438+03	.9351-01
P-H2O/P-PROP= 9.0000							
.8131+02	.3426+02	.9752+03	.2374+01	.1961+03	.3526+03	.1380+03	.7872-01
P-H2O/P-PROP= 10.0000							
.9414+02	.3286+02	.9348+03	.2865+01	.1954+03	.3489+03	.1322+03	.6799-01
P-H2O/P-PROP= 11.0000							
.1069+03	.3150+02	.8952+03	.3395+01	.1947+03	.3457+03	.1266+03	.5985-01
P-H2O/P-PROP= 12.0000							
.1196+03	.3010+02	.8545+03	.3980+01	.1939+03	.3432+03	.1209+03	.5343-01
P-H2O/P-PROP= 13.0000							
.1326+03	.2877+02	.8159+03	.4608+01	.1931+03	.3411+03	.1154+03	.4828-01
P-H2O/P-PROP= 14.0000							
.1453+03	.2746+02	.7781+03	.5291+01	.1922+03	.3394+03	.1101+03	.4405-01
P-H2O/P-PROP= 15.0000							
.1580+03	.2619+02	.7411+03	.6033+01	.1912+03	.3382+03	.1048+03	.4050-01
P-H2O/P-PROP= 16.0000							
.1707+03	.2495+02	.7050+03	.6842+01	.1901+03	.3374+03	.9973+02	.3750-01
P-H2O/P-PROP= 17.0000							
.1832+03	.2385+02	.6730+03	.7682+01	.1890+03	.3366+03	.9521+02	.3493-01
P-H2O/P-PROP= 18.0000							
.1958+03	.2275+02	.6409+03	.8606+01	.1878+03	.3362+03	.9066+02	.3269-01

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 4000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1526+02	.5452+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5186+01	.5736+02	.1639+04	.9041-01	.1991+03	.4982+03	.2319+03	.1646+01
P-H2O/P-PROP= 4.0000							
.2244+02	.5536+02	.1581+04	.4053+00	.1987+03	.4856+03	.2237+03	.3803+00
P-H2O/P-PROP= 5.0000							
.3967+02	.5338+02	.1524+04	.7432+00	.1982+03	.4740+03	.2156+03	.2151+00
P-H2O/P-PROP= 6.0000							
.5689+02	.5142+02	.1467+04	.1106+01	.1977+03	.4636+03	.2075+03	.1500+00
P-H2O/P-PROP= 7.0000							
.7409+02	.4948+02	.1411+04	.1497+01	.1972+03	.4541+03	.1996+03	.1152+00
P-H2O/P-PROP= 8.0000							
.9126+02	.4756+02	.1355+04	.1919+01	.1967+03	.4457+03	.1917+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1084+03	.4567+02	.1300+04	.2374+01	.1961+03	.4382+03	.1839+03	.7872-01
P-H2O/P-PROP= 10.0000							
.1255+03	.4382+02	.1246+04	.2865+01	.1954+03	.4317+03	.1763+03	.6799-01
P-H2O/P-PROP= 11.0000							
.1426+03	.4200+02	.1194+04	.3395+01	.1947+03	.4260+03	.1689+03	.5985-01
P-H2O/P-PROP= 12.0000							
.1597+03	.4013+02	.1139+04	.3980+01	.1939+03	.4216+03	.1612+03	.5343-01
P-H2O/P-PROP= 13.0000							
.1767+03	.3835+02	.1088+04	.4608+01	.1931+03	.4178+03	.1539+03	.4828-01
P-H2O/P-PROP= 14.0000							
.1937+03	.3662+02	.1037+04	.5291+01	.1922+03	.4146+03	.1468+03	.4405-01
P-H2O/P-PROP= 15.0000							
.2107+03	.3492+02	.9881+03	.6033+01	.1912+03	.4126+03	.1398+03	.4050-01
P-H2O/P-PROP= 16.0000							
.2276+03	.3327+02	.9400+03	.6842+01	.1901+03	.4112+03	.1330+03	.3750-01
P-H2O/P-PROP= 17.0000							
.2443+03	.3180+02	.8973+03	.7682+01	.1890+03	.4097+03	.1269+03	.3493-01
P-H2O/P-PROP= 18.0000							
.2610+03	.3033+02	.8545+03	.8606+01	.1878+03	.4090+03	.1209+03	.3269-01

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 5000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1967+02	.6815+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6483+01	.7170+02	.2049+04	.9041-01	.1991+03	.6016+03	.2898+03	.1646+01
P-H2O/P-PROP= 4.0000							
.2805+02	.6921+02	.1976+04	.4053+00	.1987+03	.5819+03	.2796+03	.3803+00
P-H2O/P-PROP= 5.0000							
.4959+02	.6673+02	.1905+04	.7432+00	.1982+03	.5638+03	.2695+03	.2151+00
P-H2O/P-PROP= 6.0000							
.7112+02	.6428+02	.1834+04	.1106+01	.1977+03	.5475+03	.2594+03	.1500+00
P-H2O/P-PROP= 7.0000							
.9261+02	.6185+02	.1763+04	.1497+01	.1972+03	.5327+03	.2495+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1141+03	.5945+02	.1694+04	.1919+01	.1967+03	.5195+03	.2396+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1355+03	.5709+02	.1625+04	.2374+01	.1961+03	.5078+03	.2299+03	.7872-01
P-H2O/P-PROP= 10.0000							
.1569+03	.5477+02	.1558+04	.2865+01	.1954+03	.4976+03	.2204+03	.6799-01
P-H2O/P-PROP= 11.0000							
.1782+03	.5249+02	.1492+04	.3395+01	.1947+03	.4888+03	.2111+03	.5985-01
P-H2O/P-PROP= 12.0000							
.1996+03	.5016+02	.1424+04	.3980+01	.1939+03	.4819+03	.2015+03	.5343-01
P-H2O/P-PROP= 13.0000							
.2209+03	.4794+02	.1360+04	.4608+01	.1931+03	.4760+03	.1924+03	.4828-01
P-H2O/P-PROP= 14.0000							
.2422+03	.4577+02	.1297+04	.5291+01	.1922+03	.4713+03	.1835+03	.4405-01
P-H2O/P-PROP= 15.0000							
.2634+03	.4365+02	.1235+04	.6033+01	.1912+03	.4679+03	.1747+03	.4050-01
P-H2O/P-PROP= 16.0000							
.2845+03	.4158+02	.1175+04	.6842+01	.1901+03	.4656+03	.1662+03	.3750-01
P-H2O/P-PROP= 17.0000							
.3054+03	.3975+02	.1122+04	.7682+01	.1890+03	.4633+03	.1587+03	.3493-01
P-H2O/P-PROP= 18.0000							
.3263+03	.3792+02	.1068+04	.8606+01	.1878+03	.4623+03	.1511+03	.3269-01

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 6000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2288+02	.8178+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.7779+01	.8604+02	.2458+04	.9041-01	.1991+03	.6965+03	.3478+03	.1646+01
P-H2O/P-PROP= 4.0000							
.3366+02	.8305+02	.2372+04	.4053+00	.1987+03	.6681+03	.3355+03	.3803+00
P-H2O/P-PROP= 5.0000							
.5951+02	.8008+02	.2286+04	.7432+00	.1982+03	.6422+03	.3233+03	.2151+00
P-H2O/P-PROP= 6.0000							
.8534+02	.7713+02	.2200+04	.1106+01	.1977+03	.6186+03	.3113+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1111+03	.7422+02	.2116+04	.1497+01	.1972+03	.5973+03	.2993+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1369+03	.7135+02	.2033+04	.1919+01	.1967+03	.5783+03	.2875+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1626+03	.6851+02	.1950+04	.2374+01	.1961+03	.5615+03	.2759+03	.7872-01
P-H2O/P-PROP= 10.0000							
.1883+03	.6572+02	.1870+04	.2865+01	.1954+03	.5468+03	.2645+03	.6799-01
P-H2O/P-PROP= 11.0000							
.2139+03	.6299+02	.1790+04	.3395+01	.1947+03	.5342+03	.2533+03	.5985-01
P-H2O/P-PROP= 12.0000							
.2396+03	.6019+02	.1709+04	.3980+01	.1939+03	.5241+03	.2416+03	.5343-01
P-H2O/P-PROP= 13.0000							
.2651+03	.5753+02	.1632+04	.4608+01	.1931+03	.5156+03	.2308+03	.4828-01
P-H2O/P-PROP= 14.0000							
.2906+03	.5493+02	.1556+04	.5291+01	.1922+03	.5089+03	.2201+03	.4405-01
P-H2O/P-PROP= 15.0000							
.3160+03	.5239+02	.1482+04	.6033+01	.1912+03	.5040+03	.2097+03	.4050-01
P-H2O/P-PROP= 16.0000							
.3414+03	.4990+02	.1410+04	.6842+01	.1901+03	.5007+03	.1995+03	.3750-01
P-H2O/P-PROP= 17.0000							
.3665+03	.4771+02	.1346+04	.7682+01	.1890+03	.4974+03	.1904+03	.3493-01
P-H2O/P-PROP= 18.0000							
.3916+03	.4550+02	.1282+04	.8606+01	.1878+03	.4959+03	.1813+03	.3269-01

7651

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 7000.

.951
.964

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2670+02	.9542+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.9076+01	.1004+03	.2868+04	.9041-01	.1991+03	.7829+03	.4056+03	.1646+01
P-H2O/P-PROP= 4.0000							
.3927+02	.9689+02	.2767+04	.4053+00	.1987+03	.7443+03	.3914+03	.3803+00
P-H2O/P-PROP= 5.0000							
.8943+02	.9342+02	.2666+04	.7432+00	.1982+03	.7090+03	.3772+03	.2151+00
P-H2O/P-PROP= 6.0000							
.9956+02	.8999+02	.2567+04	.1106+01	.1977+03	.6769+03	.3632+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1297+03	.8659+02	.2469+04	.1497+01	.1972+03	.6480+03	.3492+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1597+03	.8324+02	.2371+04	.1919+01	.1967+03	.6221+03	.3355+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1897+03	.7993+02	.2275+04	.2374+01	.1961+03	.5992+03	.3219+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2197+03	.7668+02	.2181+04	.2865+01	.1954+03	.5792+03	.3086+03	.6799-01
P-H2O/P-PROP= 11.0000							
.2495+03	.7349+02	.2089+04	.3395+01	.1947+03	.5620+03	.2955+03	.5985-01
P-H2O/P-PROP= 12.0000							
.2795+03	.7022+02	.1994+04	.3980+01	.1939+03	.5484+03	.2821+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3093+03	.6712+02	.1904+04	.4608+01	.1931+03	.5368+03	.2693+03	.4828-01
P-H2O/P-PROP= 14.0000							
.3390+03	.6408+02	.1815+04	.5291+01	.1922+03	.5277+03	.2568+03	.4405-01
P-H2O/P-PROP= 15.0000							
.3687+03	.6112+02	.1729+04	.6033+01	.1912+03	.5209+03	.2446+03	.4050-01
P-H2O/P-PROP= 16.0000							
.3983+03	.5822+02	.1645+04	.6842+01	.1901+03	.5165+03	.2327+03	.3750-01
P-H2O/P-PROP= 17.0000							
.4276+03	.5566+02	.1570+04	.7682+01	.1890+03	.5119+03	.2222+03	.3493-01
P-H2O/P-PROP= 18.0000							
.4568+03	.5308+02	.1495+04	.8606+01	.1878+03	.5100+03	.2116+03	.3269-01

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 8000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3051+02	.1090+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1037+02	.1147+03	.3278+04	.9041-01	.1991+03	.8609+03	.4637+03	.1646+01
P-H2O/P-PROP= 4.0000							
.4488+02	.1107+03	.3162+04	.4053+00	.1987+03	.8185+03	.4474+03	.3803+00
P-H2O/P-PROP= 5.0000							
.7935+02	.1068+03	.3047+04	.7432+00	.1982+03	.7844+03	.4311+03	.2151+00
P-H2O/P-PROP= 6.0000							
.1138+03	.1028+03	.2934+04	.1106+01	.1977+03	.7224+03	.4150+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1482+03	.9896+02	.2821+04	.1497+01	.1972+03	.6846+03	.3991+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1825+03	.9513+02	.2710+04	.1919+01	.1967+03	.6509+03	.3834+03	.9351-01
P-H2O/P-PROP= 9.0000							
.2160+03	.9135+02	.2600+04	.2374+01	.1961+03	.6210+03	.3679+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2510+03	.8763+02	.2493+04	.2865+01	.1954+03	.5949+03	.3526+03	.6799-01
P-H2O/P-PROP= 11.0000							
.2852+03	.8399+02	.2387+04	.3395+01	.1947+03	.5724+03	.3377+03	.5985-01
P-H2O/P-PROP= 12.0000							
.3194+03	.8026+02	.2279+04	.3980+01	.1939+03	.5546+03	.3224+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3535+03	.7671+02	.2176+04	.4608+01	.1931+03	.5394+03	.3078+03	.4828-01
P-H2O/P-PROP= 14.0000							
.3875+03	.7324+02	.2075+04	.5291+01	.1922+03	.5275+03	.2935+03	.4405-01
P-H2O/P-PROP= 15.0000							
.4214+03	.6985+02	.1976+04	.6033+01	.1912+03	.5187+03	.2796+03	.4050-01
P-H2O/P-PROP= 16.0000							
.4552+03	.6654+02	.1880+04	.6842+01	.1901+03	.5130+03	.2660+03	.3750-01
P-H2O/P-PROP= 17.0000							
.4886+03	.6361+02	.1795+04	.7682+01	.1890+03	.5070+03	.2539+03	.3493-01
P-H2O/P-PROP= 18.0000							
.5221+03	.6067+02	.1709+04	.8606+01	.1878+03	.5044+03	.2418+03	.3269-01

DIA-FT= 3.00 LB AIR/LB PROP= .1000 THRUST= 9000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3432+02	.1227+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1167+02	.1291+03	.3688+04	.9041-01	.1991+03	.9304+03	.5217+03	.1646+01
P-H2O/P-PROP= 4.0000							
.5049+02	.1246+03	.3557+04	.4053+00	.1987+03	.8666+03	.5033+03	.3803+00
P-H2O/P-PROP= 5.0000							
.8927+02	.1201+03	.3428+04	.7432+00	.1982+03	.8082+03	.4850+03	.2151+00
P-H2O/P-PROP= 6.0000							
.1280+03	.1157+03	.3300+04	.1106+01	.1977+03	.7552+03	.4669+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1667+03	.1113+03	.3174+04	.1497+01	.1972+03	.7073+03	.4490+03	.1152+00
P-H2O/P-PROP= 8.0000							
.2053+03	.1070+03	.3049+04	.1919+01	.1967+03	.6646+03	.4313+03	.9351-01
P-H2O/P-PROP= 9.0000							
.2439+03	.1028+03	.2926+04	.2374+01	.1961+03	.6268+03	.4139+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2824+03	.9859+02	.2804+04	.2865+01	.1954+03	.5937+03	.3967+03	.6799-01
P-H2O/P-PROP= 11.0000							
.3208+03	.9449+02	.2685+04	.3395+01	.1947+03	.5652+03	.3799+03	.5985-01
P-H2O/P-PROP= 12.0000							
.3594+03	.9029+02	.2563+04	.3980+01	.1939+03	.5427+03	.3627+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3977+03	.8630+02	.2448+04	.4608+01	.1931+03	.5235+03	.3463+03	.4828-01
P-H2O/P-PROP= 14.0000							
.4359+03	.8239+02	.2334+04	.5291+01	.1922+03	.5085+03	.3302+03	.4405-01
P-H2O/P-PROP= 15.0000							
.4741+03	.7858+02	.2223+04	.6033+01	.1912+03	.4974+03	.3145+03	.4050-01
P-H2O/P-PROP= 16.0000							
.5121+03	.7485+02	.2115+04	.6842+01	.1901+03	.4901+03	.2992+03	.3750-01
P-H2O/P-PROP= 17.0000							
.5497+03	.7156+02	.2019+04	.7682+01	.1890+03	.4825+03	.2856+03	.3493-01
P-H2O/P-PROP= 18.0000							
.5874+03	.6825+02	.1923+04	.8606+01	.1878+03	.4792+03	.2720+03	.3269-01

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 1000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3814+01	.1363+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1297+01	.1434+02	.4097+03	.9041-01	.1991+03	.1017+03	.4259+02	.1646+01
P-H2O/P-PROP= 4.0000							
.5610+01	.1384+02	.3953+03	.4053+00	.1987+03	.1012+03	.4108+02	.3803+00
P-H2O/P-PROP= 5.0000							
.9919+01	.1335+02	.3809+03	.7432+00	.1982+03	.1008+03	.3959+02	.2151+00
P-H2O/P-PROP= 6.0000							
.1422+02	.1286+02	.3667+03	.1106+01	.1977+03	.1005+03	.3812+02	.1500+00
P-H2O/P-PROP= 7.0000							
.1852+02	.1237+02	.3526+03	.1497+01	.1972+03	.1002+03	.3665+02	.1152+00
P-H2O/P-PROP= 8.0000							
.2282+02	.1189+02	.3388+03	.1919+01	.1967+03	.9988+02	.3521+02	.9351-01
P-H2O/P-PROP= 9.0000							
.2710+02	.1142+02	.3251+03	.2374+01	.1961+03	.9963+02	.3379+02	.7872-01
P-H2O/P-PROP= 10.0000							
.3138+02	.1095+02	.3116+03	.2865+01	.1954+03	.9941+02	.3239+02	.6799-01
P-H2O/P-PROP= 11.0000							
.3565+02	.1050+02	.2984+03	.3395+01	.1947+03	.9922+02	.3101+02	.5985-01
P-H2O/P-PROP= 12.0000							
.3993+02	.1003+02	.2848+03	.3980+01	.1939+03	.9907+02	.2961+02	.5343-01
P-H2O/P-PROP= 13.0000							
.4419+02	.9588+01	.2720+03	.4608+01	.1931+03	.9894+02	.2827+02	.4828-01
P-H2O/P-PROP= 14.0000							
.4843+02	.9155+01	.2594+03	.5291+01	.1922+03	.9884+02	.2696+02	.4405-01
P-H2O/P-PROP= 15.0000							
.5267+02	.8731+01	.2470+03	.6033+01	.1912+03	.9877+02	.2568+02	.4050-01
P-H2O/P-PROP= 16.0000							
.5690+02	.8317+01	.2350+03	.6842+01	.1901+03	.9872+02	.2442+02	.3750-01
P-H2O/P-PROP= 17.0000							
.6108+02	.7951+01	.2243+03	.7682+01	.1890+03	.9867+02	.2332+02	.3493-01
P-H2O/P-PROP= 18.0000							
.6526+02	.7583+01	.2136+03	.8606+01	.1878+03	.9865+02	.2220+02	.3269-01

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 2000.

SOLID PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.7628+01	.2726+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2593+01	.2868+02	.8195+03	.9041-01	.1991+03	.1987+03	.8517+02	.1646+01
P-H2O/P-PROP= 4.0000							
.1122+02	.2768+02	.7905+03	.4053+00	.1987+03	.1970+03	.8217+02	.3803+00
P-H2O/P-PROP= 5.0000							
.1984+02	.2669+02	.7619+03	.7432+00	.1982+03	.1955+03	.7919+02	.2151+00
P-H2O/P-PROP= 6.0000							
.2845+02	.2571+02	.7334+03	.1106+01	.1977+03	.1941+03	.7623+02	.1500+00
P-H2O/P-PROP= 7.0000							
.3704+02	.2474+02	.7053+03	.1497+01	.1972+03	.1928+03	.7331+02	.1152+00
P-H2O/P-PROP= 8.0000							
.4563+02	.2378+02	.6775+03	.1919+01	.1967+03	.1917+03	.7042+02	.9351-01
P-H2O/P-PROP= 9.0000							
.5420+02	.2284+02	.6501+03	.2374+01	.1961+03	.1906+03	.6757+02	.7872-01
P-H2O/P-PROP= 10.0000							
.6276+02	.2191+02	.6232+03	.2865+01	.1954+03	.1898+03	.6477+02	.6799-01
P-H2O/P-PROP= 11.0000							
.7130+02	.2100+02	.5968+03	.3395+01	.1947+03	.1890+03	.6203+02	.5985-01
P-H2O/P-PROP= 12.0000							
.7986+02	.2006+02	.5697+03	.3980+01	.1939+03	.1884+03	.5921+02	.5343-01
P-H2O/P-PROP= 13.0000							
.8837+02	.1918+02	.5439+03	.4608+01	.1931+03	.1879+03	.5653+02	.4828-01
P-H2O/P-PROP= 14.0000							
.9687+02	.1831+02	.5187+03	.5291+01	.1922+03	.1875+03	.5391+02	.4405-01
P-H2O/P-PROP= 15.0000							
.1053+03	.1746+02	.4941+03	.6033+01	.1912+03	.1872+03	.5135+02	.4050-01
P-H2O/P-PROP= 16.0000							
.1138+03	.1663+02	.4700+03	.6842+01	.1901+03	.1870+03	.4885+02	.3750-01
P-H2O/P-PROP= 17.0000							
.1222+03	.1590+02	.4487+03	.7682+01	.1890+03	.1868+03	.4663+02	.3493-01
P-H2O/P-PROP= 18.0000							
.1305+03	.1517+02	.4272+03	.8606+01	.1878+03	.1867+03	.4441+02	.3269-01

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 3000.

SOLID PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1144+02	.4089+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3890+01	.4302+02	.1229+04	.9041-01	.1991+03	.2913+03	.1278+03	.1646+01
P-H2O/P-PROP= 4.0000							
.1683+02	.4152+02	.1186+04	.4053+00	.1987+03	.2874+03	.1233+03	.3803+00
P-H2O/P-PROP= 5.0000							
.2976+02	.4004+02	.1143+04	.7432+00	.1982+03	.2839+03	.1188+03	.2151+00
P-H2O/P-PROP= 6.0000							
.4267+02	.3857+02	.1100+04	.1106+01	.1977+03	.2807+03	.1143+03	.1500+00
P-H2O/P-PROP= 7.0000							
.5557+02	.3711+02	.1058+04	.1497+01	.1972+03	.2779+03	.1100+03	.1152+00
P-H2O/P-PROP= 8.0000							
.6845+02	.3567+02	.1016+04	.1919+01	.1967+03	.2753+03	.1056+03	.9351-01
P-H2O/P-PROP= 9.0000							
.8131+02	.3426+02	.9752+03	.2374+01	.1961+03	.2730+03	.1014+03	.7872-01
P-H2O/P-PROP= 10.0000							
.9414+02	.3286+02	.9348+03	.2865+01	.1954+03	.2711+03	.9716+02	.6799-01
P-H2O/P-PROP= 11.0000							
.1069+03	.3150+02	.8952+03	.3395+01	.1947+03	.2694+03	.9304+02	.5985-01
P-H2O/P-PROP= 12.0000							
.1198+03	.3010+02	.8545+03	.3980+01	.1939+03	.2680+03	.8882+02	.5343-01
P-H2O/P-PROP= 13.0000							
.1326+03	.2877+02	.8159+03	.4608+01	.1931+03	.2669+03	.8480+02	.4828-01
P-H2O/P-PROP= 14.0000							
.1453+03	.2746+02	.7781+03	.5291+01	.1922+03	.2659+03	.8087+02	.4405-01
P-H2O/P-PROP= 15.0000							
.1580+03	.2619+02	.7411+03	.6033+01	.1912+03	.2653+03	.7703+02	.4050-01
P-H2O/P-PROP= 16.0000							
.1707+03	.2495+02	.7050+03	.6842+01	.1901+03	.2648+03	.7327+02	.3750-01
P-H2O/P-PROP= 17.0000							
.1832+03	.2385+02	.6730+03	.7682+01	.1890+03	.2644+03	.6995+02	.3493-01
P-H2O/P-PROP= 18.0000							
.1958+03	.2275+02	.6409+03	.8606+01	.1878+03	.2642+03	.6661+02	.3269-01

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 4000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1526+02	.5452+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5186+01	.5736+02	.1639+04	.9041-01	.1991+03	.3792+03	.1703+03	.1646+01
P-H2O/P-PROP= 4.0000							
.2244+02	.5536+02	.1581+04	.4053+00	.1987+03	.3724+03	.1643+03	.3803+00
P-H2O/P-PROP= 5.0000							
.3967+02	.5338+02	.1524+04	.7432+00	.1982+03	.3662+03	.1584+03	.2151+00
P-H2O/P-PROP= 6.0000							
.5689+02	.5142+02	.1467+04	.1106+01	.1977+03	.3605+03	.1525+03	.1500+00
P-H2O/P-PROP= 7.0000							
.7409+02	.4948+02	.1411+04	.1497+01	.1972+03	.3554+03	.1466+03	.1152+00
P-H2O/P-PROP= 8.0000							
.9126+02	.4756+02	.1355+04	.1919+01	.1967+03	.3509+03	.1408+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1084+03	.4567+02	.1300+04	.2374+01	.1961+03	.3468+03	.1351+03	.7872-01
P-H2O/P-PROP= 10.0000							
.1255+03	.4382+02	.1246+04	.2865+01	.1954+03	.3433+03	.1295+03	.6799-01
P-H2O/P-PROP= 11.0000							
.1426+03	.4200+02	.1194+04	.3395+01	.1947+03	.3403+03	.1241+03	.5985-01
P-H2O/P-PROP= 12.0000							
.1597+03	.4013+02	.1139+04	.3980+01	.1939+03	.3379+03	.1184+03	.5343-01
P-H2O/P-PROP= 13.0000							
.1767+03	.3835+02	.1088+04	.4608+01	.1931+03	.3358+03	.1131+03	.4828-01
P-H2O/P-PROP= 14.0000							
.1937+03	.3662+02	.1037+04	.5291+01	.1922+03	.3342+03	.1078+03	.4405-01
P-H2O/P-PROP= 15.0000							
.2107+03	.3492+02	.9881+03	.6033+01	.1912+03	.3330+03	.1027+03	.4050-01
P-H2O/P-PROP= 16.0000							
.2276+03	.3327+02	.9400+03	.6842+01	.1901+03	.3322+03	.9770+02	.3750-01
P-H2O/P-PROP= 17.0000							
.2443+03	.3168+02	.8973+03	.7682+01	.1890+03	.3314+03	.9327+02	.3493-01
P-H2O/P-PROP= 18.0000							
.2610+03	.3033+02	.8545+03	.8606+01	.1878+03	.3311+03	.8881+02	.3269-01

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 5000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1907+02	.6815+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL. P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6483+01	.7170+02	.2049+04	.9041-01	.1991+03	.4626+03	.2129+03	.1646+01
P-H2O/P-PROP= 4.0000							
.2805+02	.6921+02	.1976+04	.4053+00	.1987+03	.4520+03	.2054+03	.3803+00
P-H2O/P-PROP= 5.0000							
.4959+02	.6673+02	.1905+04	.7432+00	.1982+03	.4422+03	.1980+03	.2151+00
P-H2O/P-PROP= 6.0000							
.7112+02	.6428+02	.1834+04	.1106+01	.1977+03	.4334+03	.1906+03	.1500+00
P-H2O/P-PROP= 7.0000							
.9261+02	.6185+02	.1763+04	.1497+01	.1972+03	.4254+03	.1833+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1141+03	.5945+02	.1694+04	.1919+01	.1967+03	.4183+03	.1760+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1355+03	.5709+02	.1625+04	.2374+01	.1961+03	.4120+03	.1689+03	.7872-01
P-H2O/P-PROP= 10.0000							
.1569+03	.5477+02	.1558+04	.2865+01	.1954+03	.4065+03	.1619+03	.6799-01
P-H2O/P-PROP= 11.0000							
.1782+03	.5249+02	.1492+04	.3395+01	.1947+03	.4017+03	.1551+03	.5985-01
P-H2O/P-PROP= 12.0000							
.1996+03	.5016+02	.1424+04	.3980+01	.1939+03	.3980+03	.1480+03	.5343-01
P-H2O/P-PROP= 13.0000							
.2209+03	.4794+02	.1360+04	.4608+01	.1931+03	.3948+03	.1413+03	.4828-01
P-H2O/P-PROP= 14.0000							
.2422+03	.4577+02	.1297+04	.5291+01	.1922+03	.3923+03	.1348+03	.4405-01
P-H2O/P-PROP= 15.0000							
.2634+03	.4365+02	.1235+04	.6033+01	.1912+03	.3904+03	.1284+03	.4050-01
P-H2O/P-PROP= 16.0000							
.2845+03	.4158+02	.1175+04	.6842+01	.1901+03	.3892+03	.1221+03	.3750-01
P-H2O/P-PROP= 17.0000							
.3054+03	.3975+02	.1122+04	.7682+01	.1890+03	.3880+03	.1166+03	.3493-01
P-H2O/P-PROP= 18.0000							
.3263+03	.3792+02	.1068+04	.8606+01	.1878+03	.3874+03	.1110+03	.3269-01

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 6000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2268+02	.8178+01	.2622+03	.2695+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.7779+01	.8604+02	.2458+04	.9041-01	.1991+03	.5414+03	.2555+03	.1646+01
P-H20/P-PROP= 4.0000							
.3366+02	.8305+02	.2372+04	.4053+00	.1987+03	.5261+03	.2465+03	.3803+00
P-H20/P-PROP= 5.0000							
.5951+02	.8006+02	.2286+04	.7432+00	.1982+03	.5121+03	.2376+03	.2151+00
P-H20/P-PROP= 6.0000							
.8534+02	.7713+02	.2200+04	.1106+01	.1977+03	.4996+03	.2287+03	.1500+00
P-H20/P-PROP= 7.0000							
.1111+03	.7422+02	.2116+04	.1497+01	.1972+03	.4879+03	.2199+03	.1152+00
P-H20/P-PROP= 8.0000							
.1369+03	.7135+02	.2033+04	.1919+01	.1967+03	.4776+03	.2113+03	.9351-01
P-H20/P-PROP= 9.0000							
.1626+03	.6851+02	.1950+04	.2374+01	.1961+03	.4685+03	.2027+03	.7872-01
P-H20/P-PROP= 10.0000							
.1883+03	.6572+02	.1870+04	.2865+01	.1954+03	.4606+03	.1943+03	.6799-01
P-H20/P-PROP= 11.0000							
.2139+03	.6299+02	.1790+04	.3395+01	.1947+03	.4538+03	.1861+03	.5985-01
P-H20/P-PROP= 12.0000							
.2396+03	.6019+02	.1709+04	.3980+01	.1939+03	.4484+03	.1776+03	.5343-01
P-H20/P-PROP= 13.0000							
.2651+03	.5753+02	.1632+04	.4608+01	.1931+03	.4436+03	.1696+03	.4828-01
P-H20/P-PROP= 14.0000							
.2906+03	.5493+02	.1556+04	.5291+01	.1922+03	.4402+03	.1617+03	.4405-01
P-H20/P-PROP= 15.0000							
.3160+03	.5239+02	.1482+04	.6033+01	.1912+03	.4375+03	.1541+03	.4050-01
P-H20/P-PROP= 16.0000							
.3414+03	.4990+02	.1410+04	.6842+01	.1901+03	.4357+03	.1465+03	.3750-01
P-H20/P-PROP= 17.0000							
.3665+03	.4771+02	.1346+04	.7682+01	.1890+03	.4339+03	.1399+03	.3493-01
P-H20/P-PROP= 18.0000							
.3916+03	.4550+02	.1282+04	.8606+01	.1878+03	.4331+03	.1332+03	.3269-01

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 7000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2670+02	.9542+01	.2622+03	.2695+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.9076+01	.1004+03	.2868+04	.9041-01	.1991+03	.6156+03	.2981+03	.1646+01
P-H20/P-PROP= 4.0000							
.3927+02	.9689+02	.2767+04	.4053+00	.1987+03	.5946+03	.2876+03	.3803+00
P-H20/P-PROP= 5.0000							
.6943+02	.9342+02	.2666+04	.7432+00	.1982+03	.5757+03	.2772+03	.2151+00
P-H20/P-PROP= 6.0000							
.9956+02	.8999+02	.2567+04	.1106+01	.1977+03	.5584+03	.2668+03	.1500+00
P-H20/P-PROP= 7.0000							
.1297+03	.8659+02	.2469+04	.1497+01	.1972+03	.5428+03	.2566+03	.1152+00
P-H20/P-PROP= 8.0000							
.1597+03	.8324+02	.2371+04	.1919+01	.1967+03	.5286+03	.2465+03	.9351-01
P-H20/P-PROP= 9.0000							
.1897+03	.7993+02	.2275+04	.2374+01	.1961+03	.5163+03	.2365+03	.7872-01
P-H20/P-PROP= 10.0000							
.2197+03	.7668+02	.2181+04	.2865+01	.1954+03	.5057+03	.2267+03	.6799-01
P-H20/P-PROP= 11.0000							
.2495+03	.7349+02	.2089+04	.3395+01	.1947+03	.4964+03	.2171+03	.5985-01
P-H20/P-PROP= 12.0000							
.2795+03	.7022+02	.1994+04	.3980+01	.1939+03	.4890+03	.2072+03	.5343-01
P-H20/P-PROP= 13.0000							
.3093+03	.6712+02	.1904+04	.4608+01	.1931+03	.4828+03	.1979+03	.4828-01
P-H20/P-PROP= 14.0000							
.3390+03	.6408+02	.1815+04	.5291+01	.1922+03	.4778+03	.1887+03	.4405-01
P-H20/P-PROP= 15.0000							
.3687+03	.6112+02	.1729+04	.6033+01	.1912+03	.4742+03	.1797+03	.4050-01
P-H20/P-PROP= 16.0000							
.3983+03	.5822+02	.1645+04	.6842+01	.1901+03	.4718+03	.1710+03	.3750-01
P-H20/P-PROP= 17.0000							
.4276+03	.5566+02	.1570+04	.7682+01	.1890+03	.4694+03	.1632+03	.3493-01
P-H20/P-PROP= 18.0000							
.4568+03	.5308+02	.1495+04	.8606+01	.1878+03	.4685+03	.1554+03	.3269-01

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 8000.

SOLID PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3051+02	.1090+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1037+02	.1147+03	.3278+04	.9041-01	.1991+03	.6853+03	.3407+03	.1646+01
P-H2O/P-PROP= 4.0000							
.4488+02	.1107+03	.3162+04	.4053+00	.1987+03	.6581+03	.3287+03	.3803+00
P-H2O/P-PROP= 5.0000							
.7935+02	.1068+03	.3047+04	.7432+00	.1982+03	.6332+03	.3167+03	.2151+00
P-H2O/P-PROP= 6.0000							
.1138+03	.1028+03	.2934+04	.1106+01	.1977+03	.6106+03	.3049+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1492+03	.9896+02	.2821+04	.1497+01	.1972+03	.5902+03	.2932+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1825+03	.9513+02	.2710+04	.1919+01	.1967+03	.5719+03	.2817+03	.9351-01
P-H2O/P-PROP= 9.0000							
.2168+03	.9135+02	.2600+04	.2374+01	.1961+03	.5558+03	.2703+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2510+03	.8763+02	.2493+04	.2865+01	.1954+03	.5417+03	.2591+03	.6799-01
P-H2O/P-PROP= 11.0000							
.2852+03	.8399+02	.2387+04	.3395+01	.1947+03	.5295+03	.2481+03	.5985-01
P-H2O/P-PROP= 12.0000							
.3194+03	.8026+02	.2279+04	.3980+01	.1939+03	.5196+03	.2368+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3535+03	.7671+02	.2176+04	.4608+01	.1931+03	.5118+03	.2261+03	.4828-01
P-H2O/P-PROP= 14.0000							
.3875+03	.7324+02	.2075+04	.5291+01	.1922+03	.5053+03	.2157+03	.4405-01
P-H2O/P-PROP= 15.0000							
.4214+03	.6985+02	.1976+04	.6033+01	.1912+03	.5006+03	.2054+03	.4050-01
P-H2O/P-PROP= 16.0000							
.4552+03	.6654+02	.1880+04	.6842+01	.1901+03	.4975+03	.1954+03	.3750-01
P-H2O/P-PROP= 17.0000							
.4886+03	.6361+02	.1795+04	.7682+01	.1890+03	.4943+03	.1865+03	.3493-01
P-H2O/P-PROP= 18.0000							
.5221+03	.6067+02	.1709+04	.8606+01	.1878+03	.4929+03	.1776+03	.3269-01

DIA-FT= 3.50 LB AIR/LB PROP= .1000 THRUST= 9000.

SOLID PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3432+02	.1227+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1167+02	.1291+03	.3688+04	.9041-01	.1991+03	.7504+03	.3833+03	.1646+01
P-H2O/P-PROP= 4.0000							
.5049+02	.1246+03	.3557+04	.4053+00	.1987+03	.7160+03	.3698+03	.3803+00
P-H2O/P-PROP= 5.0000							
.8927+02	.1201+03	.3428+04	.7432+00	.1982+03	.6844+03	.3563+03	.2151+00
P-H2O/P-PROP= 6.0000							
.1280+03	.1157+03	.3300+04	.1106+01	.1977+03	.6558+03	.3430+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1667+03	.1113+03	.3174+04	.1497+01	.1972+03	.6300+03	.3299+03	.1152+00
P-H2O/P-PROP= 8.0000							
.2053+03	.1070+03	.3049+04	.1919+01	.1967+03	.6069+03	.3169+03	.9351-01
P-H2O/P-PROP= 9.0000							
.2439+03	.1028+03	.2926+04	.2374+01	.1961+03	.5865+03	.3041+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2824+03	.9659+02	.2804+04	.2865+01	.1954+03	.5687+03	.2915+03	.6799-01
P-H2O/P-PROP= 11.0000							
.3208+03	.9449+02	.2685+04	.3395+01	.1947+03	.5533+03	.2791+03	.5985-01
P-H2O/P-PROP= 12.0000							
.3594+03	.9029+02	.2563+04	.3980+01	.1939+03	.5411+03	.2664+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3977+03	.8630+02	.2448+04	.4608+01	.1931+03	.5308+03	.2544+03	.4828-01
P-H2O/P-PROP= 14.0000							
.4359+03	.8239+02	.2334+04	.5291+01	.1922+03	.5226+03	.2426+03	.4405-01
P-H2O/P-PROP= 15.0000							
.4741+03	.7858+02	.2223+04	.6033+01	.1912+03	.5166+03	.2311+03	.4050-01
P-H2O/P-PROP= 16.0000							
.5121+03	.7485+02	.2115+04	.6842+01	.1901+03	.5127+03	.2198+03	.3750-01
P-H2O/P-PROP= 17.0000							
.5497+03	.7156+02	.2019+04	.7682+01	.1890+03	.5086+03	.2099+03	.3493-01
P-H2O/P-PROP= 18.0000							
.5874+03	.6825+02	.1923+04	.8606+01	.1878+03	.5069+03	.1998+03	.3269-01

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 1000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3814+01	.1363+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.1297+01	.1434+02	.4097+03	.9041-01	.1991+03	.7824+02	.3261+02	.1646+01
P-H20/P-PROP= 4.0000							
.5610+01	.1384+02	.3953+03	.4053+00	.1987+03	.7799+02	.3146+02	.3803+00
P-H20/P-PROP= 5.0000							
.9919+01	.1335+02	.3809+03	.7432+00	.1982+03	.7776+02	.3031+02	.2151+00
P-H20/P-PROP= 6.0000							
.1422+02	.1286+02	.3667+03	.1106+01	.1977+03	.7755+02	.2918+02	.1500+00
P-H20/P-PROP= 7.0000							
.1852+02	.1237+02	.3526+03	.1497+01	.1972+03	.7737+02	.2806+02	.1152+00
P-H20/P-PROP= 8.0000							
.2282+02	.1189+02	.3388+03	.1919+01	.1967+03	.7720+02	.2696+02	.9351-01
P-H20/P-PROP= 9.0000							
.2710+02	.1142+02	.3251+03	.2374+01	.1961+03	.7705+02	.2587+02	.7872-01
P-H20/P-PROP= 10.0000							
.3138+02	.1095+02	.3116+03	.2865+01	.1954+03	.7692+02	.2480+02	.6799-01
P-H20/P-PROP= 11.0000							
.3565+02	.1050+02	.2984+03	.3395+01	.1947+03	.7681+02	.2375+02	.5985-01
P-H20/P-PROP= 12.0000							
.3993+02	.1003+02	.2848+03	.3980+01	.1939+03	.7672+02	.2267+02	.5343-01
P-H20/P-PROP= 13.0000							
.4419+02	.9588+01	.2720+03	.4608+01	.1931+03	.7665+02	.2164+02	.4828-01
P-H20/P-PROP= 14.0000							
.4843+02	.9155+01	.2594+03	.5291+01	.1922+03	.7659+02	.2064+02	.4405-01
P-H20/P-PROP= 15.0000							
.5267+02	.8731+01	.2470+03	.6033+01	.1912+03	.7655+02	.1966+02	.4050-01
P-H20/P-PROP= 16.0000							
.5690+02	.8317+01	.2350+03	.6842+01	.1901+03	.7652+02	.1870+02	.3750-01
P-H20/P-PROP= 17.0000							
.6118+02	.7951+01	.2243+03	.7682+01	.1890+03	.7649+02	.1785+02	.3493-01
P-H20/P-PROP= 18.0000							
.6526+02	.7583+01	.2136+03	.8606+01	.1878+03	.7648+02	.1700+02	.3269-01

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 2000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.7628+01	.2726+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.2593+01	.2868+02	.8195+03	.9041-01	.1991+03	.1536+03	.6521+02	.1646+01
P-H20/P-PROP= 4.0000							
.1122+02	.2768+02	.7905+03	.4053+00	.1987+03	.1528+03	.6291+02	.3803+00
P-H20/P-PROP= 5.0000							
.1984+02	.2669+02	.7619+03	.7432+00	.1982+03	.1519+03	.6063+02	.2151+00
P-H20/P-PROP= 6.0000							
.2845+02	.2571+02	.7334+03	.1106+01	.1977+03	.1511+03	.5837+02	.1500+00
P-H20/P-PROP= 7.0000							
.3704+02	.2474+02	.7053+03	.1497+01	.1972+03	.1503+03	.5613+02	.1152+00
P-H20/P-PROP= 8.0000							
.4563+02	.2378+02	.6775+03	.1919+01	.1967+03	.1496+03	.5392+02	.9351-01
P-H20/P-PROP= 9.0000							
.5420+02	.2284+02	.6501+03	.2374+01	.1961+03	.1491+03	.5173+02	.7872-01
P-H20/P-PROP= 10.0000							
.6276+02	.2191+02	.6232+03	.2865+01	.1954+03	.1485+03	.4959+02	.6799-01
P-H20/P-PROP= 11.0000							
.7130+02	.2100+02	.5968+03	.3395+01	.1947+03	.1481+03	.4749+02	.5985-01
P-H20/P-PROP= 12.0000							
.7986+02	.2006+02	.5697+03	.3980+01	.1939+03	.1477+03	.4533+02	.5343-01
P-H20/P-PROP= 13.0000							
.8837+02	.1918+02	.5439+03	.4608+01	.1931+03	.1474+03	.4328+02	.4828-01
P-H20/P-PROP= 14.0000							
.9687+02	.1831+02	.5187+03	.5291+01	.1922+03	.1472+03	.4128+02	.4405-01
P-H20/P-PROP= 15.0000							
.1053+03	.1746+02	.4941+03	.6033+01	.1912+03	.1470+03	.3932+02	.4050-01
P-H20/P-PROP= 16.0000							
.1138+03	.1663+02	.4700+03	.6842+01	.1901+03	.1469+03	.3740+02	.3750-01
P-H20/P-PROP= 17.0000							
.1222+03	.1590+02	.4487+03	.7682+01	.1890+03	.1468+03	.3570+02	.3493-01
P-H20/P-PROP= 18.0000							
.1305+03	.1517+02	.4272+03	.8606+01	.1878+03	.1468+03	.3400+02	.3269-01

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 3000.

SOLID
PROP-P/SEC KGM P/SEC ISP BTU/PP
.1144+02 .4089+01 .2922+03 .2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP=	3.0000						
.3890+01	.4302+02	.1229+04	.9041-01	.1991+03	.2267+03	.9782+02	.1646+01
P-H20/P-PROP=	4.0000						
.1683+02	.4152+02	.1186+04	.4053+00	.1987+03	.2244+03	.9687+02	.3803+00
P-H20/P-PROP=	5.0000						
.2976+02	.4004+02	.1143+04	.7432+00	.1982+03	.2224+03	.9094+02	.2151+00
P-H20/P-PROP=	6.0000						
.4267+02	.3857+02	.1100+04	.1106+01	.1977+03	.2205+03	.8755+02	.1500+00
P-H20/P-PROP=	7.0000						
.5557+02	.3711+02	.1058+04	.1497+01	.1972+03	.2188+03	.8419+02	.1152+00
P-H20/P-PROP=	8.0000						
.6845+02	.3567+02	.1016+04	.1919+01	.1967+03	.2173+03	.8087+02	.9351-01
P-H20/P-PROP=	9.0000						
.8131+02	.3426+02	.9752+03	.2374+01	.1961+03	.2160+03	.7760+02	.7872-01
P-H20/P-PROP=	10.0000						
.9414+02	.3286+02	.9348+03	.2865+01	.1954+03	.2148+03	.7439+02	.6799-01
P-H20/P-PROP=	11.0000						
.1069+03	.3150+02	.8952+03	.3395+01	.1947+03	.2138+03	.7124+02	.5985-01
P-H20/P-PROP=	12.0000						
.1198+03	.3010+02	.8545+03	.3980+01	.1939+03	.2131+03	.6800+02	.5343-01
P-H20/P-PROP=	13.0000						
.1326+03	.2877+02	.8159+03	.4608+01	.1931+03	.2124+03	.6493+02	.4828-01
P-H20/P-PROP=	14.0000						
.1453+03	.2746+02	.7781+03	.5291+01	.1922+03	.2116+03	.6192+02	.4405-01
P-H20/P-PROP=	15.0000						
.1580+03	.2619+02	.7411+03	.6033+01	.1912+03	.2115+03	.5897+02	.4050-01
P-H20/P-PROP=	16.0000						
.1707+03	.2495+02	.7050+03	.6842+01	.1901+03	.2112+03	.5610+02	.3750-01
P-H20/P-PROP=	17.0000						
.1832+03	.2385+02	.6730+03	.7682+01	.1890+03	.2109+03	.5356+02	.3493-01
P-H20/P-PROP=	18.0000						
.1958+03	.2275+02	.6409+03	.8606+01	.1878+03	.2108+03	.5100+02	.3269-01

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 4000.

SOLID
PROP-P/SEC KGM P/SEC ISP BTU/PP
.1526+02 .5452+01 .2622+03 .2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP=	3.0000						
.5186+01	.5736+02	.1639+04	.9041-01	.1991+03	.2969+03	.1304+03	.1646+01
P-H20/P-PROP=	4.0000						
.2244+02	.5536+02	.1581+04	.4053+00	.1987+03	.2929+03	.1258+03	.3803+00
P-H20/P-PROP=	5.0000						
.3967+02	.5338+02	.1524+04	.7432+00	.1982+03	.2893+03	.1213+03	.2151+00
P-H20/P-PROP=	6.0000						
.5689+02	.5142+02	.1467+04	.1106+01	.1977+03	.2859+03	.1167+03	.1500+00
P-H20/P-PROP=	7.0000						
.7409+02	.4948+02	.1411+04	.1497+01	.1972+03	.2829+03	.1123+03	.1152+00
P-H20/P-PROP=	8.0000						
.9126+02	.4756+02	.1355+04	.1919+01	.1967+03	.2803+03	.1078+03	.9351-01
P-H20/P-PROP=	9.0000						
.1084+03	.4567+02	.1300+04	.2374+01	.1961+03	.2779+03	.1035+03	.7872-01
P-H20/P-PROP=	10.0000						
.1255+03	.4382+02	.1246+04	.2865+01	.1954+03	.2758+03	.9918+02	.6799-01
P-H20/P-PROP=	11.0000						
.1426+03	.4200+02	.1194+04	.3395+01	.1947+03	.2741+03	.9498+02	.5985-01
P-H20/P-PROP=	12.0000						
.1597+03	.4013+02	.1139+04	.3980+01	.1939+03	.2727+03	.9067+02	.5343-01
P-H20/P-PROP=	13.0000						
.1767+03	.3835+02	.1088+04	.4608+01	.1931+03	.2715+03	.8657+02	.4828-01
P-H20/P-PROP=	14.0000						
.1937+03	.3662+02	.1037+04	.5291+01	.1922+03	.2705+03	.8255+02	.4405-01
P-H20/P-PROP=	15.0000						
.2107+03	.3492+02	.9881+03	.6033+01	.1912+03	.2698+03	.7863+02	.4050-01
P-H20/P-PROP=	16.0000						
.2276+03	.3327+02	.9400+03	.6842+01	.1901+03	.2694+03	.7480+02	.3750-01
P-H20/P-PROP=	17.0000						
.2443+03	.3180+02	.8973+03	.7682+01	.1890+03	.2689+03	.7141+02	.3493-01
P-H20/P-PROP=	18.0000						
.2610+03	.3033+02	.8545+03	.8606+01	.1878+03	.2687+03	.6800+02	.3269-01

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 5000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1907+02	.6015+01	.2822+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.6493+01	.7170+02	.2049+04	.9041-01	.1991+03	.3844+03	.1830+03	.1646+01
P-H20/P-PROP= 4.0000							
.2805+02	.6921+02	.1976+04	.4053+00	.1987+03	.3582+03	.1373+03	.3803+00
P-H20/P-PROP= 5.0000							
.4959+02	.6673+02	.1905+04	.7432+00	.1982+03	.3529+03	.1516+03	.2151+00
P-H20/P-PROP= 6.0000							
.7112+02	.6428+02	.1834+04	.1106+01	.1977+03	.3473+03	.1459+03	.1500+00
P-H20/P-PROP= 7.0000							
.9261+02	.6185+02	.1763+04	.1497+01	.1972+03	.3420+03	.1403+03	.1152+00
P-H20/P-PROP= 8.0000							
.1141+03	.5945+02	.1694+04	.1919+01	.1967+03	.3365+03	.1348+03	.9351-01
P-H20/P-PROP= 9.0000							
.1355+03	.5709+02	.1625+04	.2374+01	.1961+03	.3344+03	.1293+03	.7872-01
P-H20/P-PROP= 10.0000							
.1569+03	.5477+02	.1558+04	.2865+01	.1954+03	.3315+03	.1240+03	.6799-01
P-H20/P-PROP= 11.0000							
.1782+03	.5249+02	.1492+04	.3395+01	.1947+03	.3287+03	.1187+03	.5985-01
P-H20/P-PROP= 12.0000							
.1996+03	.5016+02	.1424+04	.3980+01	.1939+03	.3265+03	.1133+03	.5343-01
P-H20/P-PROP= 13.0000							
.2209+03	.4794+02	.1360+04	.4608+01	.1931+03	.3247+03	.1082+03	.4828-01
P-H20/P-PROP= 14.0000							
.2422+03	.4577+02	.1297+04	.5291+01	.1922+03	.3232+03	.1032+03	.4405-01
P-H20/P-PROP= 15.0000							
.2634+03	.4365+02	.1235+04	.6033+01	.1912+03	.3221+03	.9829+02	.4050-01
P-H20/P-PROP= 16.0000							
.2845+03	.4158+02	.1175+04	.6842+01	.1901+03	.3214+03	.9350+02	.3750-01
P-H20/P-PROP= 17.0000							
.3054+03	.3975+02	.1122+04	.7682+01	.1890+03	.3207+03	.8926+02	.3493-01
P-H20/P-PROP= 18.0000							
.3263+03	.3792+02	.1068+04	.8606+01	.1878+03	.3204+03	.8500+02	.3269-01

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 6000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2288+02	.8178+01	.2822+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.7779+01	.8604+02	.2458+04	.9041-01	.1991+03	.4295+03	.1956+03	.1646+01
P-H20/P-PROP= 4.0000							
.3366+02	.8305+02	.2372+04	.4053+00	.1987+03	.4203+03	.1887+03	.3803+00
P-H20/P-PROP= 5.0000							
.5951+02	.8008+02	.2286+04	.7432+00	.1982+03	.4121+03	.1819+03	.2151+00
P-H20/P-PROP= 6.0000							
.8534+02	.7713+02	.2200+04	.1106+01	.1977+03	.4046+03	.1751+03	.1500+00
P-H20/P-PROP= 7.0000							
.1111+03	.7422+02	.2116+04	.1497+01	.1972+03	.3979+03	.1684+03	.1152+00
P-H20/P-PROP= 8.0000							
.1369+03	.7135+02	.2033+04	.1919+01	.1967+03	.3919+03	.1617+03	.9351-01
P-H20/P-PROP= 9.0000							
.1626+03	.6851+02	.1950+04	.2374+01	.1961+03	.3866+03	.1552+03	.7872-01
P-H20/P-PROP= 10.0000							
.1884+03	.6572+02	.1870+04	.2865+01	.1954+03	.3819+03	.1488+03	.6799-01
P-H20/P-PROP= 11.0000							
.2139+03	.6299+02	.1790+04	.3395+01	.1947+03	.3779+03	.1425+03	.5985-01
P-H20/P-PROP= 12.0000							
.2396+03	.6019+02	.1709+04	.3980+01	.1939+03	.3747+03	.1360+03	.5343-01
P-H20/P-PROP= 13.0000							
.2651+03	.5753+02	.1632+04	.4608+01	.1931+03	.3720+03	.1299+03	.4828-01
P-H20/P-PROP= 14.0000							
.2906+03	.5493+02	.1556+04	.5291+01	.1922+03	.3699+03	.1238+03	.4405-01
P-H20/P-PROP= 15.0000							
.3160+03	.5239+02	.1482+04	.6033+01	.1912+03	.3684+03	.1179+03	.4050-01
P-H20/P-PROP= 16.0000							
.3414+03	.4990+02	.1410+04	.6842+01	.1901+03	.3673+03	.1122+03	.3750-01
P-H20/P-PROP= 17.0000							
.3665+03	.4771+02	.1346+04	.7682+01	.1890+03	.3663+03	.1071+03	.3493-01
P-H20/P-PROP= 18.0000							
.3916+03	.4550+02	.1282+04	.8606+01	.1878+03	.3656+03	.1020+03	.3269-01

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 7000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2670+02	.9542+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.9076+02	.1004+03	.2868+04	.9041-01	.1991+03	.4914+03	.2282+03	.1646+01
P-H20/P-PROP= 4.0000							
.3927+02	.9689+02	.2767+04	.4053+00	.1987+03	.4792+03	.2202+03	.3803+00
P-H20/P-PROP= 5.0000							
.6943+02	.9342+02	.2666+04	.7432+00	.1982+03	.4680+03	.2122+03	.2151+00
P-H20/P-PROP= 6.0000							
.9956+02	.8999+02	.2567+04	.1106+01	.1977+03	.4579+03	.2043+03	.1500+00
P-H20/P-PROP= 7.0000							
.1297+03	.8659+02	.2469+04	.1497+01	.1972+03	.4487+03	.1964+03	.1152+00
P-H20/P-PROP= 8.0000							
.1597+03	.8324+02	.2371+04	.1919+01	.1967+03	.4405+03	.1887+03	.9351-01
P-H20/P-PROP= 9.0000							
.1897+03	.7993+02	.2275+04	.2374+01	.1961+03	.4333+03	.1811+03	.7872-01
P-H20/P-PROP= 10.0000							
.2197+03	.7668+02	.2181+04	.2865+01	.1954+03	.4270+03	.1736+03	.6799-01
P-H20/P-PROP= 11.0000							
.2495+03	.7349+02	.2089+04	.3395+01	.1947+03	.4215+03	.1662+03	.5985-01
P-H20/P-PROP= 12.0000							
.2795+03	.7022+02	.1994+04	.3980+01	.1939+03	.4172+03	.1587+03	.5343-01
P-H20/P-PROP= 13.0000							
.3093+03	.6712+02	.1904+04	.4608+01	.1931+03	.4135+03	.1515+03	.4828-01
P-H20/P-PROP= 14.0000							
.3390+03	.6408+02	.1815+04	.5291+01	.1922+03	.4107+03	.1445+03	.4405-01
P-H20/P-PROP= 15.0000							
.3687+03	.6112+02	.1729+04	.6033+01	.1912+03	.4085+03	.1376+03	.4050-01
P-H20/P-PROP= 16.0000							
.3983+03	.5822+02	.1645+04	.6842+01	.1901+03	.4071+03	.1309+03	.3750-01
P-H20/P-PROP= 17.0000							
.4276+03	.5566+02	.1570+04	.7682+01	.1890+03	.4057+03	.1250+03	.3493-01
P-H20/P-PROP= 18.0000							
.4568+03	.5308+02	.1495+04	.8606+01	.1878+03	.4051+03	.1190+03	.3269-01

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 8000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3051+02	.1090+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.1037+02	.1147+03	.3278+04	.9041-01	.1991+03	.5509+03	.2608+03	.1646+01
P-H20/P-PROP= 4.0000							
.4468+02	.1107+03	.3162+04	.4053+00	.1987+03	.5350+03	.2516+03	.3803+00
P-H20/P-PROP= 5.0000							
.7935+02	.1068+03	.3047+04	.7432+00	.1982+03	.5204+03	.2425+03	.2151+00
P-H20/P-PROP= 6.0000							
.1138+03	.1028+03	.2934+04	.1106+01	.1977+03	.5071+03	.2335+03	.1500+00
P-H20/P-PROP= 7.0000							
.1482+03	.9896+02	.2821+04	.1497+01	.1972+03	.4951+03	.2245+03	.1152+00
P-H20/P-PROP= 8.0000							
.1825+03	.9513+02	.2710+04	.1919+01	.1967+03	.4845+03	.2157+03	.9351-01
P-H20/P-PROP= 9.0000							
.2166+03	.9135+02	.2600+04	.2374+01	.1961+03	.4750+03	.2069+03	.7872-01
P-H20/P-PROP= 10.0000							
.2510+03	.8763+02	.2493+04	.2865+01	.1954+03	.4667+03	.1984+03	.6799-01
P-H20/P-PROP= 11.0000							
.2852+03	.8399+02	.2387+04	.3395+01	.1947+03	.4596+03	.1900+03	.5985-01
P-H20/P-PROP= 12.0000							
.3194+03	.8026+02	.2279+04	.3980+01	.1939+03	.4540+03	.1813+03	.5343-01
P-H20/P-PROP= 13.0000							
.3535+03	.7671+02	.2176+04	.4608+01	.1931+03	.4492+03	.1731+03	.4828-01
P-H20/P-PROP= 14.0000							
.3875+03	.7324+02	.2075+04	.5291+01	.1922+03	.4454+03	.1651+03	.4405-01
P-H20/P-PROP= 15.0000							
.4214+03	.6985+02	.1976+04	.6033+01	.1912+03	.4427+03	.1573+03	.4050-01
P-H20/P-PROP= 16.0000							
.4552+03	.6654+02	.1880+04	.6842+01	.1901+03	.4408+03	.1496+03	.3750-01
P-H20/P-PROP= 17.0000							
.4886+03	.6361+02	.1795+04	.7682+01	.1890+03	.4389+03	.1428+03	.3493-01
P-H20/P-PROP= 18.0000							
.5221+03	.6067+02	.1709+04	.8606+01	.1878+03	.4381+03	.1360+03	.3269-01

DIA-FT= 4.00 LB AIR/LB PROP= .1000 THRUST= 9000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3442+02	.1227+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1167+02	.1291+03	.3688+04	.9041-01	.1991+03	.6077+03	.2934+03	.1646+01
P-H2O/P-PROP= 4.0000							
.5049+02	.1246+03	.3557+04	.4053+00	.1987+03	.5875+03	.2831+03	.3803+00
P-H2O/P-PROP= 5.0000							
.8927+02	.1201+03	.3428+04	.7432+00	.1982+03	.5691+03	.2728+03	.2151+00
P-H2O/P-PROP= 6.0000							
.1280+03	.1157+03	.3300+04	.1106+01	.1977+03	.5523+03	.2626+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1667+03	.1113+03	.3174+04	.1497+01	.1972+03	.5371+03	.2526+03	.1152+00
P-H2O/P-PROP= 8.0000							
.2093+03	.1070+03	.3049+04	.1919+01	.1967+03	.5236+03	.2426+03	.9351-01
P-H2O/P-PROP= 9.0000							
.2439+03	.1028+03	.2926+04	.2374+01	.1961+03	.5117+03	.2328+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2824+03	.9859+02	.2804+04	.2865+01	.1954+03	.5012+03	.2232+03	.6799-01
P-H2O/P-PROP= 11.0000							
.3208+03	.9449+02	.2685+04	.3395+01	.1947+03	.4922+03	.2137+03	.5985-01
P-H2O/P-PROP= 12.0000							
.3594+03	.9029+02	.2563+04	.3980+01	.1939+03	.4851+03	.2040+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3977+03	.8630+02	.2448+04	.4608+01	.1931+03	.4790+03	.1948+03	.4828-01
P-H2O/P-PROP= 14.0000							
.4359+03	.8239+02	.2334+04	.5291+01	.1922+03	.4742+03	.1857+03	.4405-01
P-H2O/P-PROP= 15.0000							
.4741+03	.7856+02	.2223+04	.6033+01	.1912+03	.4707+03	.1769+03	.4050-01
P-H2O/P-PROP= 16.0000							
.5121+03	.7485+02	.2115+04	.6842+01	.1901+03	.4684+03	.1683+03	.3750-01
P-H2O/P-PROP= 17.0000							
.5497+03	.7156+02	.2019+04	.7682+01	.1890+03	.4660+03	.1607+03	.3493-01
P-H2O/P-PROP= 18.0000							
.5874+03	.6825+02	.1923+04	.8606+01	.1878+03	.4650+03	.1530+03	.3269-01

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 1000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3814+01	.1363+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1297+01	.1434+02	.4097+03	.9041-01	.1991+03	.6204+02	.2576+02	.1646+01
P-H2O/P-PROP= 4.0000							
.5610+01	.1384+02	.3953+03	.4053+00	.1987+03	.6189+02	.2485+02	.3803+00
P-H2O/P-PROP= 5.0000							
.9919+01	.1335+02	.3809+03	.7432+00	.1982+03	.6174+02	.2395+02	.2151+00
P-H2O/P-PROP= 6.0000							
.1422+02	.1286+02	.3667+03	.1106+01	.1977+03	.6161+02	.2306+02	.1500+00
P-H2O/P-PROP= 7.0000							
.1852+02	.1237+02	.3526+03	.1497+01	.1972+03	.6150+02	.2217+02	.1152+00
P-H2O/P-PROP= 8.0000							
.2282+02	.1189+02	.3388+03	.1919+01	.1967+03	.6139+02	.2130+02	.9351-01
P-H2O/P-PROP= 9.0000							
.2710+02	.1142+02	.3251+03	.2374+01	.1961+03	.6130+02	.2044+02	.7872-01
P-H2O/P-PROP= 10.0000							
.3138+02	.1095+02	.3116+03	.2865+01	.1954+03	.6122+02	.1959+02	.6799-01
P-H2O/P-PROP= 11.0000							
.3565+02	.1050+02	.2984+03	.3395+01	.1947+03	.6115+02	.1876+02	.5985-01
P-H2O/P-PROP= 12.0000							
.3993+02	.1003+02	.2848+03	.3980+01	.1939+03	.6110+02	.1791+02	.5343-01
P-H2O/P-PROP= 13.0000							
.4419+02	.9586+01	.2720+03	.4608+01	.1931+03	.6105+02	.1710+02	.4828-01
P-H2O/P-PROP= 14.0000							
.4843+02	.9155+01	.2594+03	.5291+01	.1922+03	.6101+02	.1631+02	.4405-01
P-H2O/P-PROP= 15.0000							
.5267+02	.8731+01	.2470+03	.6033+01	.1912+03	.6098+02	.1553+02	.4050-01
P-H2O/P-PROP= 16.0000							
.5690+02	.8317+01	.2350+03	.6842+01	.1901+03	.6097+02	.1478+02	.3750-01
P-H2O/P-PROP= 17.0000							
.6108+02	.7951+01	.2243+03	.7682+01	.1890+03	.6095+02	.1411+02	.3493-01
P-H2O/P-PROP= 18.0000							
.6526+02	.7583+01	.2136+03	.8606+01	.1878+03	.6094+02	.1343+02	.3269-01

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 2000.

SOLID

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.7626+01	.2725+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2593+01	.2869+02	.8195+03	.9041-01	.1991+03	.1224+03	.5152+02	.1646+01
P-H2O/P-PROP= 4.0000							
.1122+02	.2768+02	.7905+03	.4053+00	.1987+03	.1218+03	.4971+02	.3803+00
P-H2O/P-PROP= 5.0000							
.1914+02	.2669+02	.7619+03	.7432+00	.1982+03	.1212+03	.4790+02	.2151+00
P-H2O/P-PROP= 6.0000							
.2845+02	.2571+02	.7334+03	.1106+01	.1977+03	.1207+03	.4612+02	.1500+00
P-H2O/P-PROP= 7.0000							
.3704+02	.2474+02	.7053+03	.1497+01	.1972+03	.1202+03	.4435+02	.1152+00
P-H2O/P-PROP= 8.0000							
.4563+02	.2378+02	.6775+03	.1919+01	.1967+03	.1196+03	.4260+02	.9351-01
P-H2O/P-PROP= 9.0000							
.5420+02	.2284+02	.6501+03	.2374+01	.1961+03	.1194+03	.4088+02	.7872-01
P-H2O/P-PROP= 10.0000							
.6276+02	.2191+02	.6232+03	.2865+01	.1954+03	.1191+03	.3918+02	.6799-01
P-H2O/P-PROP= 11.0000							
.7130+02	.2100+02	.5968+03	.3395+01	.1947+03	.1188+03	.3752+02	.5985-01
P-H2O/P-PROP= 12.0000							
.7986+02	.2006+02	.5697+03	.3980+01	.1939+03	.1186+03	.3582+02	.5343-01
P-H2O/P-PROP= 13.0000							
.8837+02	.1918+02	.5439+03	.4608+01	.1931+03	.1184+03	.3420+02	.4828-01
P-H2O/P-PROP= 14.0000							
.9687+02	.1831+02	.5187+03	.5291+01	.1922+03	.1183+03	.3261+02	.4405-01
P-H2O/P-PROP= 15.0000							
.1053+03	.1746+02	.4941+03	.6033+01	.1912+03	.1182+03	.3106+02	.4050-01
P-H2O/P-PROP= 16.0000							
.1138+03	.1663+02	.4700+03	.6842+01	.1901+03	.1181+03	.2955+02	.3750-01
P-H2O/P-PROP= 17.0000							
.1222+03	.1590+02	.4487+03	.7682+01	.1890+03	.1180+03	.2821+02	.3493-01
P-H2O/P-PROP= 18.0000							
.1305+03	.1517+02	.4272+03	.8606+01	.1878+03	.1180+03	.2686+02	.3269-01

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 3000.

SOLID

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.1144+02	.4089+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3890+01	.4302+02	.1229+04	.9041-01	.1991+03	.1811+03	.7729+02	.1646+01
P-H2O/P-PROP= 4.0000							
.1683+02	.4152+02	.1186+04	.4053+00	.1987+03	.1797+03	.7456+02	.3803+00
P-H2O/P-PROP= 5.0000							
.2976+02	.4004+02	.1143+04	.7432+00	.1982+03	.1784+03	.7185+02	.2151+00
P-H2O/P-PROP= 6.0000							
.4267+02	.3857+02	.1100+04	.1106+01	.1977+03	.1773+03	.6917+02	.1500+00
P-H2O/P-PROP= 7.0000							
.5557+02	.3711+02	.1058+04	.1497+01	.1972+03	.1762+03	.6652+02	.1152+00
P-H2O/P-PROP= 8.0000							
.6845+02	.3567+02	.1016+04	.1919+01	.1967+03	.1753+03	.6390+02	.9351-01
P-H2O/P-PROP= 9.0000							
.8131+02	.3426+02	.9752+03	.2374+01	.1961+03	.1744+03	.6132+02	.7872-01
P-H2O/P-PROP= 10.0000							
.9414+02	.3286+02	.9348+03	.2865+01	.1954+03	.1737+03	.5877+02	.6799-01
P-H2O/P-PROP= 11.0000							
.1069+03	.3150+02	.8952+03	.3395+01	.1947+03	.1731+03	.5628+02	.5985-01
P-H2O/P-PROP= 12.0000							
.1198+03	.3010+02	.8545+03	.3980+01	.1939+03	.1726+03	.5373+02	.5343-01
P-H2O/P-PROP= 13.0000							
.1326+03	.2877+02	.8159+03	.4608+01	.1931+03	.1722+03	.5130+02	.4828-01
P-H2O/P-PROP= 14.0000							
.1453+03	.2746+02	.7781+03	.5291+01	.1922+03	.1718+03	.4892+02	.4405-01
P-H2O/P-PROP= 15.0000							
.1580+03	.2619+02	.7411+03	.6033+01	.1912+03	.1716+03	.4660+02	.4050-01
P-H2O/P-PROP= 16.0000							
.1707+03	.2495+02	.7050+03	.6842+01	.1901+03	.1714+03	.4433+02	.3750-01
P-H2O/P-PROP= 17.0000							
.1832+03	.2385+02	.6730+03	.7682+01	.1890+03	.1713+03	.4232+02	.3493-01
P-H2O/P-PROP= 18.0000							
.1958+03	.2275+02	.6409+03	.8606+01	.1878+03	.1712+03	.4030+02	.3269-01

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 4000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1526+02	.5452+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5186+01	.5736+02	.1639+04	.9041-01	.1991+03	.2381+03	.1030+03	.1646+01
P-H2O/P-PROP= 4.0000							
.2244+02	.5536+02	.1581+04	.4053+00	.1987+03	.2356+03	.9941+02	.3803+00
P-H2O/P-PROP= 5.0000							
.3967+02	.5338+02	.1524+04	.7432+00	.1982+03	.2334+03	.9581+02	.2151+00
P-H2O/P-PROP= 6.0000							
.5689+02	.5142+02	.1467+04	.1106+01	.1977+03	.2314+03	.9223+02	.1500+00
P-H2O/P-PROP= 7.0000							
.7409+02	.4948+02	.1411+04	.1497+01	.1972+03	.2294+03	.8869+02	.1152+00
P-H2O/P-PROP= 8.0000							
.9126+02	.4756+02	.1355+04	.1919+01	.1967+03	.2278+03	.8520+02	.9351-01
P-H2O/P-PROP= 9.0000							
.1084+03	.4567+02	.1300+04	.2374+01	.1961+03	.2263+03	.8175+02	.7872-01
P-H2O/P-PROP= 10.0000							
.1255+03	.4382+02	.1246+04	.2865+01	.1954+03	.2250+03	.7837+02	.6799-01
P-H2O/P-PROP= 11.0000							
.1426+03	.4200+02	.1194+04	.3395+01	.1947+03	.2239+03	.7505+02	.5985-01
P-H2O/P-PROP= 12.0000							
.1597+03	.4013+02	.1139+04	.3980+01	.1939+03	.2230+03	.7164+02	.5343-01
P-H2O/P-PROP= 13.0000							
.1767+03	.3835+02	.1088+04	.4608+01	.1931+03	.2223+03	.6840+02	.4828-01
P-H2O/P-PROP= 14.0000							
.1937+03	.3662+02	.1037+04	.5291+01	.1922+03	.2217+03	.6523+02	.4405-01
P-H2O/P-PROP= 15.0000							
.2107+03	.3492+02	.9881+03	.6033+01	.1912+03	.2212+03	.6213+02	.4050-01
P-H2O/P-PROP= 16.0000							
.2276+03	.3327+02	.9400+03	.6842+01	.1901+03	.2209+03	.5910+02	.3750-01
P-H2O/P-PROP= 17.0000							
.2443+03	.3180+02	.8973+03	.7682+01	.1890+03	.2207+03	.5642+02	.3493-01
P-H2O/P-PROP= 18.0000							
.2610+03	.3033+02	.8545+03	.8606+01	.1878+03	.2205+03	.5373+02	.3269-01

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 5000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1917+02	.6815+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6483+01	.7170+02	.2049+04	.9041-01	.1991+03	.2935+03	.1288+03	.1646+01
P-H2O/P-PROP= 4.0000							
.2805+02	.6921+02	.1976+04	.4053+00	.1987+03	.2896+03	.1243+03	.3803+00
P-H2O/P-PROP= 5.0000							
.4959+02	.6673+02	.1905+04	.7432+00	.1982+03	.2860+03	.1198+03	.2151+00
P-H2O/P-PROP= 6.0000							
.7112+02	.6428+02	.1834+04	.1106+01	.1977+03	.2826+03	.1153+03	.1500+00
P-H2O/P-PROP= 7.0000							
.9261+02	.6185+02	.1763+04	.1497+01	.1972+03	.2799+03	.1109+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1141+03	.5945+02	.1694+04	.1919+01	.1967+03	.2773+03	.1065+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1355+03	.5709+02	.1625+04	.2374+01	.1961+03	.2750+03	.1022+03	.7872-01
P-H2O/P-PROP= 10.0000							
.1569+03	.5477+02	.1558+04	.2865+01	.1954+03	.2730+03	.9796+02	.6799-01
P-H2O/P-PROP= 11.0000							
.1782+03	.5249+02	.1492+04	.3395+01	.1947+03	.2712+03	.9381+02	.5985-01
P-H2O/P-PROP= 12.0000							
.1996+03	.5018+02	.1424+04	.3980+01	.1939+03	.2698+03	.8955+02	.5343-01
P-H2O/P-PROP= 13.0000							
.2209+03	.4794+02	.1360+04	.4608+01	.1931+03	.2687+03	.8550+02	.4828-01
P-H2O/P-PROP= 14.0000							
.2422+03	.4577+02	.1297+04	.5291+01	.1922+03	.2678+03	.8154+02	.4405-01
P-H2O/P-PROP= 15.0000							
.2634+03	.4365+02	.1235+04	.6033+01	.1912+03	.2671+03	.7766+02	.4050-01
P-H2O/P-PROP= 16.0000							
.2845+03	.4158+02	.1175+04	.6842+01	.1901+03	.2666+03	.7388+02	.3750-01
P-H2O/P-PROP= 17.0000							
.3054+03	.3975+02	.1122+04	.7682+01	.1890+03	.2662+03	.7053+02	.3493-01
P-H2O/P-PROP= 18.0000							
.3263+03	.3792+02	.1068+04	.8606+01	.1878+03	.2660+03	.6716+02	.3269-01

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 6000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2258+02	.8178+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.7779+01	.8004+02	.2458+04	.9041-01	.1991+03	.3472+03	.1546+03	.1646+01
P-H2O/P-PROP= 4.0000							
.3366+02	.8305+02	.2372+04	.4053+00	.1987+03	.3416+03	.1491+03	.3803+00
P-H2O/P-PROP= 5.0000							
.5951+02	.8008+02	.2286+04	.7432+00	.1982+03	.3364+03	.1437+03	.2151+00
P-H2O/P-PROP= 6.0000							
.8534+02	.7713+02	.2200+04	.1106+01	.1977+03	.3318+03	.1383+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1111+03	.7422+02	.2116+04	.1497+01	.1972+03	.3276+03	.1330+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1369+03	.7135+02	.2033+04	.1919+01	.1967+03	.3238+03	.1278+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1626+03	.6851+02	.1950+04	.2374+01	.1961+03	.3205+03	.1226+03	.7872-01
P-H2O/P-PROP= 10.0000							
.1883+03	.6572+02	.1870+04	.2865+01	.1954+03	.3176+03	.1175+03	.6799-01
P-H2O/P-PROP= 11.0000							
.2139+03	.6299+02	.1790+04	.3395+01	.1947+03	.3151+03	.1126+03	.5985-01
P-H2O/P-PROP= 12.0000							
.2396+03	.6019+02	.1709+04	.3980+01	.1939+03	.3131+03	.1075+03	.5343-01
P-H2O/P-PROP= 13.0000							
.2651+03	.5753+02	.1632+04	.4608+01	.1931+03	.3114+03	.1026+03	.4828-01
P-H2O/P-PROP= 14.0000							
.2906+03	.5493+02	.1556+04	.5291+01	.1922+03	.3101+03	.9784+02	.4405-01
P-H2O/P-PROP= 15.0000							
.3160+03	.5239+02	.1482+04	.6033+01	.1912+03	.3091+03	.9319+02	.4050-01
P-H2O/P-PROP= 16.0000							
.3414+03	.4990+02	.1410+04	.6842+01	.1901+03	.3085+03	.8865+02	.3750-01
P-H2O/P-PROP= 17.0000							
.3665+03	.4771+02	.1346+04	.7682+01	.1890+03	.3078+03	.8463+02	.3493-01
P-H2O/P-PROP= 18.0000							
.3916+03	.4550+02	.1282+04	.8606+01	.1878+03	.3076+03	.8059+02	.3269-01

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 7000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2670+02	.9542+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.9076+01	.1004+03	.2868+04	.9041-01	.1991+03	.3992+03	.1803+03	.1646+01
P-H2O/P-PROP= 4.0000							
.3927+02	.9689+02	.2767+04	.4053+00	.1987+03	.3915+03	.1740+03	.3803+00
P-H2O/P-PROP= 5.0000							
.6943+02	.9342+02	.2666+04	.7432+00	.1982+03	.3846+03	.1677+03	.2151+00
P-H2O/P-PROP= 6.0000							
.9956+02	.8999+02	.2567+04	.1106+01	.1977+03	.3782+03	.1614+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1297+03	.8659+02	.2469+04	.1497+01	.1972+03	.3725+03	.1552+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1597+03	.8324+02	.2371+04	.1919+01	.1967+03	.3674+03	.1491+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1897+03	.7993+02	.2275+04	.2374+01	.1961+03	.3629+03	.1431+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2197+03	.7668+02	.2181+04	.2865+01	.1954+03	.3589+03	.1371+03	.6799-01
P-H2O/P-PROP= 11.0000							
.2495+03	.7349+02	.2089+04	.3395+01	.1947+03	.3555+03	.1313+03	.5985-01
P-H2O/P-PROP= 12.0000							
.2795+03	.7022+02	.1994+04	.3980+01	.1939+03	.3528+03	.1254+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3093+03	.6712+02	.1904+04	.4608+01	.1931+03	.3503+03	.1197+03	.4828-01
P-H2O/P-PROP= 14.0000							
.3390+03	.6408+02	.1815+04	.5291+01	.1922+03	.3487+03	.1141+03	.4405-01
P-H2O/P-PROP= 15.0000							
.3687+03	.6112+02	.1729+04	.6033+01	.1912+03	.3474+03	.1087+03	.4050-01
P-H2O/P-PROP= 16.0000							
.3983+03	.5822+02	.1645+04	.6842+01	.1901+03	.3465+03	.1034+03	.3750-01
P-H2O/P-PROP= 17.0000							
.4276+03	.5566+02	.1570+04	.7682+01	.1890+03	.3456+03	.9874+02	.3493-01
P-H2O/P-PROP= 18.0000							
.4568+03	.5308+02	.1495+04	.8606+01	.1878+03	.3453+03	.9402+02	.3269-01

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= .8000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3051+02	.1090+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.1037+02	.1147+03	.3278+04	.9041-01	.1991+03	.4495+03	.2061+03	.1646+01
P-H20/P-PROP= 4.0000							
.4458+02	.1107+03	.3162+04	.4053+00	.1987+03	.4396+03	.1988+03	.3803+00
P-H20/P-PROP= 5.0000							
.7935+02	.1068+03	.3047+04	.7432+00	.1982+03	.4304+03	.1916+03	.2151+00
P-H20/P-PROP= 6.0000							
.1138+03	.1028+03	.2934+04	.1108+01	.1977+03	.4222+03	.1845+03	.1500+00
P-H20/P-PROP= 7.0000							
.1462+03	.9896+02	.2821+04	.1497+01	.1972+03	.4147+03	.1774+03	.1152+00
P-H20/P-PROP= 8.0000							
.1825+03	.9513+02	.2710+04	.1919+01	.1967+03	.4080+03	.1704+03	.9351-01
P-H20/P-PROP= 9.0000							
.2168+03	.9135+02	.2600+04	.2374+01	.1961+03	.4021+03	.1635+03	.7872-01
P-H20/P-PROP= 10.0000							
.2510+03	.8763+02	.2493+04	.2865+01	.1954+03	.3970+03	.1567+03	.6799-01
P-H20/P-PROP= 11.0000							
.2852+03	.8399+02	.2387+04	.3395+01	.1947+03	.3925+03	.1501+03	.5985-01
P-H20/P-PROP= 12.0000							
.3194+03	.8026+02	.2279+04	.3980+01	.1939+03	.3890+03	.1433+03	.5343-01
P-H20/P-PROP= 13.0000							
.3535+03	.7671+02	.2176+04	.4608+01	.1931+03	.3860+03	.1368+03	.4828-01
P-H20/P-PROP= 14.0000							
.3875+03	.7324+02	.2075+04	.5291+01	.1922+03	.3836+03	.1305+03	.4405-01
P-H20/P-PROP= 15.0000							
.4214+03	.6985+02	.1976+04	.6033+01	.1912+03	.3819+03	.1243+03	.4050-01
P-H20/P-PROP= 16.0000							
.4552+03	.6654+02	.1880+04	.6842+01	.1901+03	.3808+03	.1182+03	.3750-01
P-H20/P-PROP= 17.0000							
.4886+03	.6361+02	.1795+04	.7682+01	.1890+03	.3796+03	.1128+03	.3493-01
P-H20/P-PROP= 18.0000							
.5221+03	.6067+02	.1709+04	.8606+01	.1878+03	.3791+03	.1075+03	.3269-01

DIA-FT= 4.50 LB AIR/LB PROP= .1000 THRUST= 9000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3432+02	.1227+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.1167+02	.1291+03	.3688+04	.9041-01	.1991+03	.4982+03	.2319+03	.1646+01
P-H20/P-PROP= 4.0000							
.5049+02	.1246+03	.3557+04	.4053+00	.1987+03	.4856+03	.2237+03	.3803+00
P-H20/P-PROP= 5.0000							
.8927+02	.1201+03	.3428+04	.7432+00	.1982+03	.4740+03	.2156+03	.2151+00
P-H20/P-PROP= 6.0000							
.1280+03	.1157+03	.3300+04	.1108+01	.1977+03	.4636+03	.2075+03	.1500+00
P-H20/P-PROP= 7.0000							
.1647+03	.1113+03	.3174+04	.1497+01	.1972+03	.4541+03	.1996+03	.1152+00
P-H20/P-PROP= 8.0000							
.2053+03	.1070+03	.3049+04	.1919+01	.1967+03	.4457+03	.1917+03	.9351-01
P-H20/P-PROP= 9.0000							
.2439+03	.1028+03	.2926+04	.2374+01	.1961+03	.4382+03	.1839+03	.7872-01
P-H20/P-PROP= 10.0000							
.2824+03	.9859+02	.2804+04	.2865+01	.1954+03	.4317+03	.1763+03	.6799-01
P-H20/P-PROP= 11.0000							
.3208+03	.9449+02	.2685+04	.3395+01	.1947+03	.4260+03	.1689+03	.5985-01
P-H20/P-PROP= 12.0000							
.3594+03	.9029+02	.2563+04	.3980+01	.1939+03	.4216+03	.1612+03	.5343-01
P-H20/P-PROP= 13.0000							
.3977+03	.8630+02	.2448+04	.4608+01	.1931+03	.4178+03	.1539+03	.4828-01
P-H20/P-PROP= 14.0000							
.4359+03	.8239+02	.2334+04	.5291+01	.1922+03	.4148+03	.1468+03	.4405-01
P-H20/P-PROP= 15.0000							
.4741+03	.7858+02	.2223+04	.6033+01	.1912+03	.4126+03	.1398+03	.4050-01
P-H20/P-PROP= 16.0000							
.5121+03	.7485+02	.2115+04	.6842+01	.1901+03	.4112+03	.1330+03	.3750-01
P-H20/P-PROP= 17.0000							
.5497+03	.7156+02	.2019+04	.7682+01	.1890+03	.4097+03	.1269+03	.3493-01
P-H20/P-PROP= 18.0000							
.5874+03	.6825+02	.1923+04	.8606+01	.1878+03	.4090+03	.1209+03	.3269-01

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 1000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3814+01	.1563+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1247+01	.1434+02	.4097+03	.9041-01	.1991+03	.5056+02	.2197+02	.1646+01
P-H2O/P-PROP= 4.0000							
.5610+01	.1384+02	.3953+03	.4053+00	.1987+03	.5028+02	.2013+02	.3803+00
P-H2O/P-PROP= 5.0000							
.9919+01	.1335+02	.3809+03	.7432+00	.1982+03	.5019+02	.1940+02	.2151+00
P-H2O/P-PROP= 6.0000							
.1462+02	.1286+02	.3667+03	.1106+01	.1977+03	.5010+02	.1868+02	.1500+00
P-H2O/P-PROP= 7.0000							
.1852+02	.1237+02	.3526+03	.1497+01	.1972+03	.5002+02	.1796+02	.1152+00
P-H2O/P-PROP= 8.0000							
.2242+02	.1189+02	.3388+03	.1919+01	.1967+03	.4996+02	.1725+02	.9351-01
P-H2O/P-PROP= 9.0000							
.2710+02	.1142+02	.3251+03	.2374+01	.1961+03	.4990+02	.1656+02	.7872-01
P-H2O/P-PROP= 10.0000							
.3136+02	.1095+02	.3116+03	.2865+01	.1954+03	.4984+02	.1587+02	.6799-01
P-H2O/P-PROP= 11.0000							
.3565+02	.1050+02	.2984+03	.3395+01	.1947+03	.4980+02	.1520+02	.5985-01
P-H2O/P-PROP= 12.0000							
.3993+02	.1003+02	.2848+03	.3980+01	.1939+03	.4976+02	.1451+02	.5343-01
P-H2O/P-PROP= 13.0000							
.4419+02	.9588+01	.2720+03	.4608+01	.1931+03	.4973+02	.1385+02	.4828-01
P-H2O/P-PROP= 14.0000							
.4843+02	.9155+01	.2594+03	.5291+01	.1922+03	.4971+02	.1321+02	.4405-01
P-H2O/P-PROP= 15.0000							
.5267+02	.8731+01	.2470+03	.6033+01	.1912+03	.4969+02	.1258+02	.4050-01
P-H2O/P-PROP= 16.0000							
.5693+02	.8317+01	.2350+03	.6842+01	.1901+03	.4968+02	.1197+02	.3750-01
P-H2O/P-PROP= 17.0000							
.6118+02	.7911+01	.2243+03	.7682+01	.1890+03	.4966+02	.1143+02	.3493-01
P-H2O/P-PROP= 18.0000							
.6526+02	.7583+01	.2136+03	.8606+01	.1878+03	.4966+02	.1088+02	.3269-01

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 2000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.7628+01	.2726+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2593+01	.2868+02	.8195+03	.9041-01	.1991+03	.9967+02	.4174+02	.1646+01
P-H2O/P-PROP= 4.0000							
.1122+02	.2768+02	.7905+03	.4053+00	.1987+03	.9926+02	.4026+02	.3803+00
P-H2O/P-PROP= 5.0000							
.1984+02	.2669+02	.7619+03	.7432+00	.1982+03	.9886+02	.3880+02	.2151+00
P-H2O/P-PROP= 6.0000							
.2845+02	.2571+02	.7334+03	.1106+01	.1977+03	.9854+02	.3735+02	.1500+00
P-H2O/P-PROP= 7.0000							
.3704+02	.2474+02	.7053+03	.1497+01	.1972+03	.9824+02	.3592+02	.1152+00
P-H2O/P-PROP= 8.0000							
.4563+02	.2378+02	.6775+03	.1919+01	.1967+03	.9796+02	.3451+02	.9351-01
P-H2O/P-PROP= 9.0000							
.5420+02	.2284+02	.6501+03	.2374+01	.1961+03	.9772+02	.3311+02	.7872-01
P-H2O/P-PROP= 10.0000							
.6276+02	.2191+02	.6232+03	.2865+01	.1954+03	.9751+02	.3174+02	.6799-01
P-H2O/P-PROP= 11.0000							
.7130+02	.2100+02	.5968+03	.3395+01	.1947+03	.9733+02	.3039+02	.5985-01
P-H2O/P-PROP= 12.0000							
.7986+02	.2006+02	.5697+03	.3980+01	.1939+03	.9718+02	.2901+02	.5343-01
P-H2O/P-PROP= 13.0000							
.8837+02	.1918+02	.5439+03	.4608+01	.1931+03	.9706+02	.2770+02	.4828-01
P-H2O/P-PROP= 14.0000							
.9687+02	.1831+02	.5187+03	.5291+01	.1922+03	.9697+02	.2642+02	.4405-01
P-H2O/P-PROP= 15.0000							
.1053+03	.1746+02	.4941+03	.6033+01	.1912+03	.9689+02	.2516+02	.4050-01
P-H2O/P-PROP= 16.0000							
.1138+03	.1663+02	.4700+03	.6842+01	.1901+03	.9685+02	.2394+02	.3750-01
P-H2O/P-PROP= 17.0000							
.1222+03	.1590+02	.4487+03	.7682+01	.1890+03	.9680+02	.2285+02	.3493-01
P-H2O/P-PROP= 18.0000							
.1305+03	.1517+02	.4272+03	.8606+01	.1878+03	.9678+02	.2176+02	.3269-01

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 3000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1144+02	.4089+01	.2822+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.3890+01	.4302+02	.1229+04	.9041-01	.1991+03	.1479+03	.6260+02	.1646+01
P-H20/P-PROP= 4.0000							
.1663+02	.4152+02	.1186+04	.4053+00	.1987+03	.1469+03	.6039+02	.3803+00
P-H20/P-PROP= 5.0000							
.2976+02	.4004+02	.1143+04	.7432+00	.1982+03	.1461+03	.5820+02	.2151+00
P-H20/P-PROP= 6.0000							
.4267+02	.3857+02	.1100+04	.1106+01	.1977+03	.1453+03	.5603+02	.1500+00
P-H20/P-PROP= 7.0000							
.5557+02	.3711+02	.1058+04	.1497+01	.1972+03	.1446+03	.5388+02	.1152+00
P-H20/P-PROP= 8.0000							
.6845+02	.3567+02	.1016+04	.1919+01	.1967+03	.1440+03	.5176+02	.9351-01
P-H20/P-PROP= 9.0000							
.8131+02	.3426+02	.9752+03	.2374+01	.1961+03	.1435+03	.4967+02	.7872-01
P-H20/P-PROP= 10.0000							
.9414+02	.3286+02	.9348+03	.2865+01	.1954+03	.1430+03	.4761+02	.6799-01
P-H20/P-PROP= 11.0000							
.1069+03	.3150+02	.8952+03	.3395+01	.1947+03	.1426+03	.4559+02	.5985-01
P-H20/P-PROP= 12.0000							
.1198+03	.3010+02	.8545+03	.3980+01	.1939+03	.1423+03	.4352+02	.5343-01
P-H20/P-PROP= 13.0000							
.1326+03	.2877+02	.8159+03	.4608+01	.1931+03	.1420+03	.4155+02	.4828-01
P-H20/P-PROP= 14.0000							
.1453+03	.2746+02	.7781+03	.5291+01	.1922+03	.1418+03	.3963+02	.4405-01
P-H20/P-PROP= 15.0000							
.1580+03	.2619+02	.7411+03	.6033+01	.1912+03	.1416+03	.3774+02	.4050-01
P-H20/P-PROP= 16.0000							
.1707+03	.2495+02	.7050+03	.6842+01	.1901+03	.1415+03	.3590+02	.3750-01
P-H20/P-PROP= 17.0000							
.1832+03	.2385+02	.6730+03	.7682+01	.1890+03	.1414+03	.3428+02	.3493-01
P-H20/P-PROP= 18.0000							
.1956+03	.2275+02	.6409+03	.8606+01	.1878+03	.1414+03	.3264+02	.3269-01

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 4000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1526+02	.5452+01	.2822+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.5186+01	.5736+02	.1639+04	.9041-01	.1991+03	.1949+03	.8347+02	.1646+01
P-H20/P-PROP= 4.0000							
.2244+02	.5536+02	.1581+04	.4053+00	.1987+03	.1933+03	.8052+02	.3803+00
P-H20/P-PROP= 5.0000							
.3967+02	.5338+02	.1524+04	.7432+00	.1982+03	.1918+03	.7760+02	.2151+00
P-H20/P-PROP= 6.0000							
.5689+02	.5142+02	.1467+04	.1106+01	.1977+03	.1903+03	.7471+02	.1500+00
P-H20/P-PROP= 7.0000							
.7409+02	.4948+02	.1411+04	.1497+01	.1972+03	.1892+03	.7184+02	.1152+00
P-H20/P-PROP= 8.0000							
.9126+02	.4756+02	.1355+04	.1919+01	.1967+03	.1881+03	.6901+02	.9351-01
P-H20/P-PROP= 9.0000							
.1084+03	.4567+02	.1300+04	.2374+01	.1961+03	.1872+03	.6622+02	.7872-01
P-H20/P-PROP= 10.0000							
.1255+03	.4382+02	.1246+04	.2865+01	.1954+03	.1863+03	.6348+02	.6799-01
P-H20/P-PROP= 11.0000							
.1426+03	.4200+02	.1194+04	.3395+01	.1947+03	.1856+03	.6079+02	.5985-01
P-H20/P-PROP= 12.0000							
.1597+03	.4013+02	.1139+04	.3980+01	.1939+03	.1850+03	.5803+02	.5343-01
P-H20/P-PROP= 13.0000							
.1767+03	.3835+02	.1088+04	.4608+01	.1931+03	.1845+03	.5540+02	.4828-01
P-H20/P-PROP= 14.0000							
.1937+03	.3662+02	.1037+04	.5291+01	.1922+03	.1841+03	.5284+02	.4405-01
P-H20/P-PROP= 15.0000							
.2107+03	.3492+02	.9881+03	.6033+01	.1912+03	.1839+03	.5033+02	.4050-01
P-H20/P-PROP= 16.0000							
.2276+03	.3327+02	.9400+03	.6842+01	.1901+03	.1837+03	.4787+02	.3750-01
P-H20/P-PROP= 17.0000							
.2443+03	.3180+02	.8973+03	.7682+01	.1890+03	.1835+03	.4570+02	.3493-01
P-H20/P-PROP= 18.0000							
.2610+03	.3033+02	.8545+03	.8606+01	.1878+03	.1834+03	.4352+02	.3269-01

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 5000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1907+02	.6815+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6483+01	.7170+02	.2049+04	.9041-01	.1991+03	.2409+03	.1043+03	.1646+01
P-H2O/P-PROP= 4.0000							
.2805+02	.6921+02	.1976+04	.4053+00	.1987+03	.2384+03	.1007+03	.3803+00
P-H2O/P-PROP= 5.0000							
.4959+02	.6673+02	.1905+04	.7432+00	.1982+03	.2361+03	.9700+02	.2151+00
P-H2O/P-PROP= 6.0000							
.7112+02	.6428+02	.1834+04	.1106+01	.1977+03	.2339+03	.9338+02	.1500+00
P-H2O/P-PROP= 7.0000							
.9261+02	.6185+02	.1763+04	.1497+01	.1972+03	.2320+03	.8980+02	.1152+00
P-H2O/P-PROP= 8.0000							
.1141+03	.5945+02	.1694+04	.1919+01	.1967+03	.2303+03	.8626+02	.9351-01
P-H2O/P-PROP= 9.0000							
.1355+03	.5709+02	.1625+04	.2374+01	.1961+03	.2288+03	.8278+02	.7872-01
P-H2O/P-PROP= 10.0000							
.1569+03	.5477+02	.1558+04	.2865+01	.1954+03	.2275+03	.7935+02	.6799-01
P-H2O/P-PROP= 11.0000							
.1782+03	.5249+02	.1492+04	.3395+01	.1947+03	.2263+03	.7598+02	.5985-01
P-H2O/P-PROP= 12.0000							
.1996+03	.5026+02	.1424+04	.3980+01	.1939+03	.2254+03	.7253+02	.5343-01
P-H2O/P-PROP= 13.0000							
.2209+03	.4794+02	.1360+04	.4608+01	.1931+03	.2247+03	.6925+02	.4828-01
P-H2O/P-PROP= 14.0000							
.2422+03	.4577+02	.1297+04	.5291+01	.1922+03	.2241+03	.6604+02	.4405-01
P-H2O/P-PROP= 15.0000							
.2634+03	.4365+02	.1235+04	.6033+01	.1912+03	.2236+03	.6291+02	.4050-01
P-H2O/P-PROP= 16.0000							
.2845+03	.4158+02	.1175+04	.6842+01	.1901+03	.2233+03	.5984+02	.3750-01
P-H2O/P-PROP= 17.0000							
.3054+03	.3975+02	.1122+04	.7682+01	.1890+03	.2230+03	.5713+02	.3493-01
P-H2O/P-PROP= 18.0000							
.3263+03	.3792+02	.1068+04	.8606+01	.1878+03	.2229+03	.5440+02	.3269-01

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 6000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2288+02	.6178+01	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.7779+01	.8604+02	.2458+04	.9041-01	.1991+03	.2858+03	.1252+03	.1646+01
P-H2O/P-PROP= 4.0000							
.3366+02	.8305+02	.2372+04	.4053+00	.1987+03	.2822+03	.1208+03	.3803+00
P-H2O/P-PROP= 5.0000							
.5951+02	.8008+02	.2286+04	.7432+00	.1982+03	.2788+03	.1164+03	.2151+00
P-H2O/P-PROP= 6.0000							
.8534+02	.7713+02	.2200+04	.1106+01	.1977+03	.2757+03	.1121+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1111+03	.7422+02	.2116+04	.1497+01	.1972+03	.2730+03	.1078+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1369+03	.7135+02	.2033+04	.1919+01	.1967+03	.2705+03	.1035+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1626+03	.6851+02	.1950+04	.2374+01	.1961+03	.2683+03	.9933+02	.7872-01
P-H2O/P-PROP= 10.0000							
.1883+03	.6572+02	.1870+04	.2865+01	.1954+03	.2664+03	.9521+02	.6799-01
P-H2O/P-PROP= 11.0000							
.2139+03	.6299+02	.1790+04	.3395+01	.1947+03	.2648+03	.9118+02	.5985-01
P-H2O/P-PROP= 12.0000							
.2396+03	.6019+02	.1709+04	.3980+01	.1939+03	.2635+03	.8704+02	.5343-01
P-H2O/P-PROP= 13.0000							
.2651+03	.5753+02	.1632+04	.4608+01	.1931+03	.2624+03	.8310+02	.4828-01
P-H2O/P-PROP= 14.0000							
.2906+03	.5493+02	.1556+04	.5291+01	.1922+03	.2615+03	.7925+02	.4405-01
P-H2O/P-PROP= 15.0000							
.3160+03	.5239+02	.1482+04	.6033+01	.1912+03	.2609+03	.7549+02	.4050-01
P-H2O/P-PROP= 16.0000							
.3414+03	.4990+02	.1410+04	.6842+01	.1901+03	.2605+03	.7181+02	.3750-01
P-H2O/P-PROP= 17.0000							
.3665+03	.4771+02	.1346+04	.7682+01	.1890+03	.2600+03	.6855+02	.3493-01
P-H2O/P-PROP= 18.0000							
.3916+03	.4550+02	.1282+04	.8606+01	.1878+03	.2598+03	.6528+02	.3269-01

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 7000.

SOLID PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.2670+02	.9542+01	.2822+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.9076+01	.1004+03	.2868+04	.9041-01	.1991+03	.3290+03	.1461+03	.1646+01
P-H2O/P-PROP= 4.0000							
.3927+02	.9689+02	.2767+04	.4053+00	.1987+03	.3246+03	.1409+03	.3803+00
P-H2O/P-PROP= 5.0000							
.6943+02	.9342+02	.2666+04	.7432+00	.1982+03	.3201+03	.1358+03	.2151+00
P-H2O/P-PROP= 6.0000							
.9956+02	.8999+02	.2567+04	.1106+01	.1977+03	.3159+03	.1307+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1297+03	.8659+02	.2469+04	.1497+01	.1972+03	.3121+03	.1257+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1597+03	.8324+02	.2371+04	.1919+01	.1967+03	.3088+03	.1208+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1897+03	.7993+02	.2275+04	.2374+01	.1961+03	.3058+03	.1159+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2197+03	.7668+02	.2181+04	.2865+01	.1954+03	.3032+03	.1111+03	.6799-01
P-H2O/P-PROP= 11.0000							
.2495+03	.7349+02	.2089+04	.3395+01	.1947+03	.3010+03	.1064+03	.5985-01
P-H2O/P-PROP= 12.0000							
.2795+03	.7022+02	.1994+04	.3980+01	.1939+03	.2992+03	.1015+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3093+03	.6712+02	.1904+04	.4608+01	.1931+03	.2977+03	.9695+02	.4828-01
P-H2O/P-PROP= 14.0000							
.3390+03	.6408+02	.1815+04	.5291+01	.1922+03	.2966+03	.9246+02	.4405-01
P-H2O/P-PROP= 15.0000							
.3687+03	.6112+02	.1729+04	.6033+01	.1912+03	.2957+03	.8807+02	.4050-01
P-H2O/P-PROP= 16.0000							
.3983+03	.5822+02	.1645+04	.6842+01	.1901+03	.2951+03	.8378+02	.3750-01
P-H2O/P-PROP= 17.0000							
.4276+03	.5566+02	.1570+04	.7682+01	.1890+03	.2945+03	.7998+02	.3493-01
P-H2O/P-PROP= 18.0000							
.4568+03	.5308+02	.1495+04	.8606+01	.1878+03	.2943+03	.7616+02	.3269-01

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 8000.

SOLID PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3351+02	.1090+02	.2822+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.1067+02	.1147+03	.3278+04	.9041-01	.1991+03	.3723+03	.1669+03	.1646+01
P-H2O/P-PROP= 4.0000							
.4488+02	.1107+03	.3162+04	.4053+00	.1987+03	.3658+03	.1610+03	.3803+00
P-H2O/P-PROP= 5.0000							
.7935+02	.1068+03	.3047+04	.7432+00	.1982+03	.3598+03	.1552+03	.2151+00
P-H2O/P-PROP= 6.0000							
.1138+03	.1028+03	.2934+04	.1106+01	.1977+03	.3544+03	.1494+03	.1500+00
P-H2O/P-PROP= 7.0000							
.1482+03	.9896+02	.2821+04	.1497+01	.1972+03	.3495+03	.1437+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1825+03	.9513+02	.2710+04	.1919+01	.1967+03	.3451+03	.1380+03	.9351-01
P-H2O/P-PROP= 9.0000							
.2168+03	.9135+02	.2600+04	.2374+01	.1961+03	.3412+03	.1324+03	.7872-01
P-H2O/P-PROP= 10.0000							
.2510+03	.8763+02	.2493+04	.2865+01	.1954+03	.3379+03	.1270+03	.6799-01
P-H2O/P-PROP= 11.0000							
.2852+03	.8399+02	.2387+04	.3395+01	.1947+03	.3349+03	.1216+03	.5985-01
P-H2O/P-PROP= 12.0000							
.3194+03	.8026+02	.2279+04	.3980+01	.1939+03	.3326+03	.1161+03	.5343-01
P-H2O/P-PROP= 13.0000							
.3535+03	.7671+02	.2176+04	.4608+01	.1931+03	.3307+03	.1108+03	.4828-01
P-H2O/P-PROP= 14.0000							
.3875+03	.7324+02	.2075+04	.5291+01	.1922+03	.3291+03	.1057+03	.4405-01
P-H2O/P-PROP= 15.0000							
.4214+03	.6985+02	.1976+04	.6033+01	.1912+03	.3280+03	.1007+03	.4050-01
P-H2O/P-PROP= 16.0000							
.4552+03	.6654+02	.1880+04	.6842+01	.1901+03	.3272+03	.9574+02	.3750-01
P-H2O/P-PROP= 17.0000							
.4886+03	.6361+02	.1795+04	.7682+01	.1890+03	.3269+03	.9140+02	.3493-01
P-H2O/P-PROP= 18.0000							
.5221+03	.6067+02	.1709+04	.8606+01	.1878+03	.3261+03	.8704+02	.3269-01

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 9000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.3432+02	.1227+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.1167+02	.1291+03	.3688+04	.9041-01	.1991+03	.4139+03	.1878+03	.1646+01
P-H20/P-PROP= 4.0000							
.5049+02	.1246+03	.3557+04	.4053+00	.1987+03	.4057+03	.1812+03	.3803+00
P-H20/P-PROP= 5.0000							
.8927+02	.1201+03	.3428+04	.7432+00	.1982+03	.3981+03	.1746+03	.2151+00
P-H20/P-PROP= 6.0000							
.1260+03	.1157+03	.3300+04	.1106+01	.1977+03	.3914+03	.1681+03	.1500+00
P-H20/P-PROP= 7.0000							
.1667+03	.1113+03	.3174+04	.1497+01	.1972+03	.3850+03	.1616+03	.1152+00
P-H20/P-PROP= 8.0000							
.2053+03	.1070+03	.3049+04	.1919+01	.1967+03	.3795+03	.1553+03	.9351-01
P-H20/P-PROP= 9.0000							
.2439+03	.1028+03	.2926+04	.2374+01	.1961+03	.3746+03	.1490+03	.7872-01
P-H20/P-PROP= 10.0000							
.2824+03	.9859+02	.2804+04	.2865+01	.1954+03	.3703+03	.1428+03	.6799-01
P-H20/P-PROP= 11.0000							
.3208+03	.9449+02	.2685+04	.3395+01	.1947+03	.3666+03	.1368+03	.5985-01
P-H20/P-PROP= 12.0000							
.3594+03	.9029+02	.2563+04	.3980+01	.1939+03	.3637+03	.1306+03	.5343-01
P-H20/P-PROP= 13.0000							
.3977+03	.8630+02	.2448+04	.4608+01	.1931+03	.3612+03	.1247+03	.4828-01
P-H20/P-PROP= 14.0000							
.4359+03	.8239+02	.2334+04	.5291+01	.1922+03	.3593+03	.1189+03	.4405-01
P-H20/P-PROP= 15.0000							
.4741+03	.7858+02	.2223+04	.6033+01	.1912+03	.3578+03	.1132+03	.4050-01
P-H20/P-PROP= 16.0000							
.5121+03	.7485+02	.2115+04	.6842+01	.1901+03	.3569+03	.1077+03	.3750-01
P-H20/P-PROP= 17.0000							
.5497+03	.7156+02	.2019+04	.7682+01	.1890+03	.3559+03	.1028+03	.3493-01
P-H20/P-PROP= 18.0000							
.5874+03	.6825+02	.1923+04	.8606+01	.1878+03	.3555+03	.9792+02	.3269-01

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 50000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1399+03	.3838+03	.3975+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.1218+03	.8712+03	.2567+05	.1398+00	.2075+03	-.2714+03	.1307+04	.3264+01
P-H2O/P-PROP= 7.0000							
.2814+03	.8515+03	.2510+05	.3305+00	.2075+03	-.4915+03	.1278+04	.1413+01
P-H2O/P-PROP= 8.0000							
.4410+03	.8317+03	.2453+05	.5302+00	.2074+03	-.6987+03	.1249+04	.9013+00
P-H2O/P-PROP= 9.0000							
.6006+03	.8120+03	.2396+05	.7396+00	.2074+03	-.8931+03	.1220+04	.6618+00
P-H2O/P-PROP= 10.0000							
.7602+03	.7923+03	.2339+05	.9595+00	.2073+03	-.1079+04	.1191+04	.5229+00
P-H2O/P-PROP= 11.0000							
.9197+03	.7726+03	.2282+05	.1190+01	.2073+03	-.1244+04	.1162+04	.4322+00
P-H2O/P-PROP= 12.0000							
.1079+04	.7529+03	.2225+05	.1433+01	.2072+03	-.1400+04	.1133+04	.3683+00
P-H2O/P-PROP= 13.0000							
.1239+04	.7332+03	.2168+05	.1689+01	.2072+03	-.1543+04	.1104+04	.3209+00
P-H2O/P-PROP= 14.0000							
.1398+04	.7136+03	.2111+05	.1959+01	.2071+03	-.1674+04	.1075+04	.2843+00
P-H2O/P-PROP= 15.0000							
.1558+04	.6940+03	.2054+05	.2245+01	.2071+03	-.1792+04	.1046+04	.2552+00
P-H2O/P-PROP= 16.0000							
.1717+04	.6744+03	.1998+05	.2546+01	.2070+03	-.1897+04	.1017+04	.2315+00
P-H2O/P-PROP= 17.0000							
.1877+04	.6548+03	.1941+05	.2866+01	.2069+03	-.1990+04	.9886+03	.2118+00
P-H2O/P-PROP= 18.0000							
.2036+04	.6353+03	.1885+05	.3205+01	.2069+03	-.2070+04	.9598+03	.1952+00
P-H2O/P-PROP= 19.0000							
.2195+04	.6157+03	.1828+05	.3566+01	.2068+03	-.2138+04	.9311+03	.1810+00
P-H2O/P-PROP= 20.0000							
.2355+04	.5962+03	.1772+05	.3949+01	.2067+03	-.2193+04	.9024+03	.1688+00
P-H2O/P-PROP= 21.0000							
.2514+04	.5766+03	.1716+05	.4359+01	.2066+03	-.2236+04	.8737+03	.1581+00
P-H2O/P-PROP= 22.0000							
.2673+04	.5574+03	.1659+05	.4796+01	.2065+03	-.2267+04	.8452+03	.1487+00

DIA-FT= 7.50 LB AIR/LB PROP= .1000 THRUST= 50000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1399+03	.3838+03	.3975+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.1218+03	.8712+03	.2567+05	.1398+00	.2075+03	.5752+03	.5810+03	.3264+01
P-H2O/P-PROP= 7.0000							
.2814+03	.8515+03	.2510+05	.3305+00	.2075+03	.5317+03	.5681+03	.1413+01
P-H2O/P-PROP= 8.0000							
.4410+03	.8317+03	.2453+05	.5302+00	.2074+03	.4908+03	.5552+03	.9013+00
P-H2O/P-PROP= 9.0000							
.6006+03	.8120+03	.2396+05	.7396+00	.2074+03	.4523+03	.5423+03	.6618+00
P-H2O/P-PROP= 10.0000							
.7602+03	.7923+03	.2339+05	.9595+00	.2073+03	.4165+03	.5294+03	.5229+00
P-H2O/P-PROP= 11.0000							
.9197+03	.7726+03	.2282+05	.1190+01	.2073+03	.3831+03	.5165+03	.4322+00
P-H2O/P-PROP= 12.0000							
.1079+04	.7529+03	.2225+05	.1433+01	.2072+03	.3523+03	.5036+03	.3683+00
P-H2O/P-PROP= 13.0000							
.1239+04	.7332+03	.2168+05	.1689+01	.2072+03	.3239+03	.4907+03	.3209+00
P-H2O/P-PROP= 14.0000							
.1398+04	.7136+03	.2111+05	.1959+01	.2071+03	.2981+03	.4779+03	.2843+00
P-H2O/P-PROP= 15.0000							
.1558+04	.6940+03	.2054+05	.2245+01	.2071+03	.2748+03	.4650+03	.2552+00
P-H2O/P-PROP= 16.0000							
.1717+04	.6744+03	.1998+05	.2546+01	.2070+03	.2540+03	.4522+03	.2315+00
P-H2O/P-PROP= 17.0000							
.1877+04	.6548+03	.1941+05	.2866+01	.2069+03	.2357+03	.4394+03	.2118+00
P-H2O/P-PROP= 18.0000							
.2036+04	.6353+03	.1885+05	.3205+01	.2069+03	.2198+03	.4266+03	.1952+00
P-H2O/P-PROP= 19.0000							
.2195+04	.6157+03	.1828+05	.3566+01	.2068+03	.2064+03	.4138+03	.1810+00
P-H2O/P-PROP= 20.0000							
.2355+04	.5962+03	.1772+05	.3949+01	.2067+03	.1955+03	.4011+03	.1688+00
P-H2O/P-PROP= 21.0000							
.2514+04	.5766+03	.1716+05	.4359+01	.2066+03	.1871+03	.3883+03	.1581+00
P-H2O/P-PROP= 22.0000							
.2673+04	.5574+03	.1659+05	.4796+01	.2065+03	.1810+03	.3756+03	.1487+00

DIA-FT= 10.00 LB AIR/LB PROP= .1000 THRUST= 50000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1399+03	.3838+03	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1218+03	.8712+03	.2567+05	.1398+00	.2075+03	.4605+03	.3268+03	.3264+01
P-H20/P-PROP= 7.0000							
.2814+03	.8515+03	.2510+05	.3305+00	.2075+03	.4468+03	.3198+03	.1413+01
P-H20/P-PROP= 8.0000							
.4410+03	.8317+03	.2453+05	.5302+00	.2074+03	.4336+03	.3123+03	.9013+00
P-H20/P-PROP= 9.0000							
.6006+03	.8120+03	.2396+05	.7396+00	.2074+03	.4216+03	.3050+03	.6618+00
P-H20/P-PROP= 10.0000							
.7602+03	.7923+03	.2339+05	.9595+00	.2073+03	.4103+03	.2978+03	.5229+00
P-H20/P-PROP= 11.0000							
.9197+03	.7726+03	.2282+05	.1190+01	.2073+03	.3997+03	.2905+03	.4322+00
P-H20/P-PROP= 12.0000							
.1079+04	.7529+03	.2225+05	.1433+01	.2072+03	.3900+03	.2833+03	.3683+00
P-H20/P-PROP= 13.0000							
.1239+04	.7332+03	.2168+05	.1689+01	.2072+03	.3810+03	.2760+03	.3209+00
P-H20/P-PROP= 14.0000							
.1398+04	.7136+03	.2111+05	.1959+01	.2071+03	.3729+03	.2688+03	.2843+00
P-H20/P-PROP= 15.0000							
.1558+04	.6940+03	.2054+05	.2245+01	.2071+03	.3655+03	.2616+03	.2552+00
P-H20/P-PROP= 16.0000							
.1717+04	.6744+03	.1998+05	.2546+01	.2070+03	.3589+03	.2544+03	.2315+00
P-H20/P-PROP= 17.0000							
.1877+04	.6548+03	.1941+05	.2866+01	.2069+03	.3531+03	.2472+03	.2118+00
P-H20/P-PROP= 18.0000							
.2036+04	.6353+03	.1885+05	.3205+01	.2069+03	.3481+03	.2400+03	.1952+00
P-H20/P-PROP= 19.0000							
.2195+04	.6157+03	.1828+05	.3566+01	.2068+03	.3438+03	.2328+03	.1810+00
P-H20/P-PROP= 20.0000							
.2355+04	.5962+03	.1772+05	.3949+01	.2067+03	.3404+03	.2256+03	.1688+00
P-H20/P-PROP= 21.0000							
.2514+04	.5768+03	.1716+05	.4359+01	.2066+03	.3377+03	.2184+03	.1581+00
P-H20/P-PROP= 22.0000							
.2673+04	.5574+03	.1659+05	.4796+01	.2065+03	.3358+03	.2113+03	.1487+00

DIA-FT= 12.50 LB AIR/LB PROP= .1000 THRUST= 50000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1399+03	.3838+03	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.1218+03	.8712+03	.2567+05	.1398+00	.2075+03	.3353+03	.2092+03	.3264+01
P-H20/P-PROP= 7.0000							
.2814+03	.8515+03	.2510+05	.3305+00	.2075+03	.3297+03	.2045+03	.1413+01
P-H20/P-PROP= 8.0000							
.4410+03	.8317+03	.2453+05	.5302+00	.2074+03	.3244+03	.1999+03	.9013+00
P-H20/P-PROP= 9.0000							
.6006+03	.8120+03	.2396+05	.7396+00	.2074+03	.3194+03	.1952+03	.6618+00
P-H20/P-PROP= 10.0000							
.7602+03	.7923+03	.2339+05	.9595+00	.2073+03	.3147+03	.1906+03	.5229+00
P-H20/P-PROP= 11.0000							
.9197+03	.7726+03	.2282+05	.1190+01	.2073+03	.3104+03	.1859+03	.4322+00
P-H20/P-PROP= 12.0000							
.1079+04	.7529+03	.2225+05	.1433+01	.2072+03	.3064+03	.1813+03	.3683+00
P-H20/P-PROP= 13.0000							
.1239+04	.7332+03	.2168+05	.1689+01	.2072+03	.3027+03	.1767+03	.3209+00
P-H20/P-PROP= 14.0000							
.1398+04	.7136+03	.2111+05	.1959+01	.2071+03	.2994+03	.1720+03	.2843+00
P-H20/P-PROP= 15.0000							
.1558+04	.6940+03	.2054+05	.2245+01	.2071+03	.2964+03	.1674+03	.2552+00
P-H20/P-PROP= 16.0000							
.1717+04	.6744+03	.1998+05	.2546+01	.2070+03	.2937+03	.1628+03	.2315+00
P-H20/P-PROP= 17.0000							
.1877+04	.6548+03	.1941+05	.2866+01	.2069+03	.2913+03	.1582+03	.2118+00
P-H20/P-PROP= 18.0000							
.2036+04	.6353+03	.1885+05	.3205+01	.2069+03	.2892+03	.1536+03	.1952+00
P-H20/P-PROP= 19.0000							
.2195+04	.6157+03	.1828+05	.3566+01	.2068+03	.2875+03	.1490+03	.1810+00
P-H20/P-PROP= 20.0000							
.2355+04	.5962+03	.1772+05	.3949+01	.2067+03	.2861+03	.1444+03	.1688+00
P-H20/P-PROP= 21.0000							
.2514+04	.5768+03	.1716+05	.4359+01	.2066+03	.2850+03	.1398+03	.1581+00
P-H20/P-PROP= 22.0000							
.2673+04	.5574+03	.1659+05	.4796+01	.2065+03	.2842+03	.1352+03	.1487+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 50000.

N2H4-A-50
PROP-P/SEC KGM P/SEC ISP BTU/PP
.1864+03 .9079+01 .2682+03 .2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5418+02	.7102+03	.1895+05	.7629-01	.2032+03	.1394+04	.9651+03	.3262+00
P-H2O/P-PROP= 4.0000							
.2659+03	.6848+03	.1822+05	.3883+00	.2029+03	.1165+04	.9278+03	.6646-01
P-H2O/P-PROP= 5.0000							
.4776+03	.6596+03	.1749+05	.7240+00	.2026+03	.9579+03	.8907+03	.3701-01
P-H2O/P-PROP= 6.0000							
.6891+03	.6346+03	.1676+05	.1086+01	.2023+03	.7721+03	.8537+03	.2565-01
P-H2O/P-PROP= 7.0000							
.9004+03	.6097+03	.1604+05	.1477+01	.2020+03	.6079+03	.8170+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1112+04	.5849+03	.1533+05	.1900+01	.2016+03	.4639+03	.7805+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1323+04	.5604+03	.1462+05	.2360+01	.2012+03	.3408+03	.7444+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1533+04	.5361+03	.1391+05	.2860+01	.2008+03	.2379+03	.7086+03	.1153-01
P-H2O/P-PROP= 11.0000							
.1743+04	.5128+03	.1324+05	.3399+01	.2003+03	.1511+03	.6742+03	.1014-01
P-H2O/P-PROP= 12.0000							
.1954+04	.4880+03	.1252+05	.4005+01	.1998+03	.9303+02	.6377+03	.9044-02
P-H2O/P-PROP= 13.0000							
.2163+04	.4652+03	.1186+05	.4650+01	.1992+03	.4421+02	.6041+03	.8169-02
P-H2O/P-PROP= 14.0000							
.2373+04	.4425+03	.1120+05	.5362+01	.1986+03	.1506+02	.5705+03	.7449-02
P-H2O/P-PROP= 15.0000							
.2581+04	.4203+03	.1056+05	.6141+01	.1978+03	.1504+01	.5378+03	.6847-02
P-H2O/P-PROP= 16.0000							
.2789+04	.3989+03	.9940+04	.6992+01	.1970+03	.1638+01	.5062+03	.6337-02
P-H2O/P-PROP= 17.0000							
.2998+04	.3762+03	.9283+04	.7968+01	.1961+03	.3043+02	.4728+03	.5895-02
P-H2O/P-PROP= 18.0000							
.3205+04	.3554+03	.8679+04	.9018+01	.1950+03	.6361+02	.4420+03	.5514-02
P-H2O/P-PROP= 19.0000							
.3412+04	.3351+03	.8090+04	.1018+02	.1938+03	.1107+03	.4120+03	.5180-02
P-H2O/P-PROP= 20.0000							
.3615+04	.3184+03	.7602+04	.1136+02	.1927+03	.1433+03	.3872+03	.4889-02

DIA-FT= 7.50 LB AIR/LB PROP= .1000 THRUST= 50000.

N2H4-A-50
PROP-P/SEC KGM P/SEC ISP BTU/PP
.1864+03 .9079+01 .2682+03 .2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5418+02	.7102+03	.1895+05	.7629-01	.2032+03	.9042+03	.4289+03	.3262+00
P-H2O/P-PROP= 4.0000							
.2659+03	.6848+03	.1822+05	.3883+00	.2029+03	.8589+03	.4124+03	.6646-01
P-H2O/P-PROP= 5.0000							
.4776+03	.6596+03	.1749+05	.7240+00	.2026+03	.8180+03	.3958+03	.3701-01
P-H2O/P-PROP= 6.0000							
.6891+03	.6346+03	.1676+05	.1086+01	.2023+03	.7813+03	.3794+03	.2565-01
P-H2O/P-PROP= 7.0000							
.9004+03	.6097+03	.1604+05	.1477+01	.2020+03	.7488+03	.3631+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1112+04	.5849+03	.1533+05	.1900+01	.2016+03	.7204+03	.3469+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1323+04	.5604+03	.1462+05	.2360+01	.2012+03	.6961+03	.3308+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1533+04	.5361+03	.1391+05	.2860+01	.2008+03	.6758+03	.3149+03	.1153-01
P-H2O/P-PROP= 11.0000							
.1743+04	.5128+03	.1324+05	.3399+01	.2003+03	.6586+03	.2997+03	.1014-01
P-H2O/P-PROP= 12.0000							
.1954+04	.4880+03	.1252+05	.4005+01	.1998+03	.6471+03	.2834+03	.9044-02
P-H2O/P-PROP= 13.0000							
.2163+04	.4652+03	.1186+05	.4650+01	.1992+03	.6375+03	.2685+03	.8169-02
P-H2O/P-PROP= 14.0000							
.2373+04	.4425+03	.1120+05	.5362+01	.1986+03	.6317+03	.2535+03	.7449-02
P-H2O/P-PROP= 15.0000							
.2581+04	.4203+03	.1056+05	.6141+01	.1978+03	.6291+03	.2390+03	.6847-02
P-H2O/P-PROP= 16.0000							
.2789+04	.3989+03	.9940+04	.6992+01	.1970+03	.6291+03	.2250+03	.6337-02
P-H2O/P-PROP= 17.0000							
.2998+04	.3762+03	.9283+04	.7968+01	.1961+03	.6348+03	.2101+03	.5895-02
P-H2O/P-PROP= 18.0000							
.3205+04	.3554+03	.8679+04	.9018+01	.1950+03	.6414+03	.1964+03	.5514-02
P-H2O/P-PROP= 19.0000							
.3412+04	.3351+03	.8090+04	.1018+02	.1938+03	.6506+03	.1831+03	.5180-02
P-H2O/P-PROP= 20.0000							
.3615+04	.3184+03	.7602+04	.1136+02	.1927+03	.6571+03	.1721+03	.4889-02

DIA-FT= 10.00 LB AIR/LB PROP= .1000 THRUST= 50000.

N2O4-A50
PROP-P/SEC KGM P/SEC ISP BTU/PP
.1864+03 .9079+01 .2682+03 .2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5418+02	.7102+03	.1895+05	.7629-01	.2032+03	.5646+03	.2413+03	.3262+00
P-H2O/P-PROP= 4.0000							
.2659+03	.6848+03	.1822+05	.3883+00	.2029+03	.5503+03	.2319+03	.6646-01
P-H2O/P-PROP= 5.0000							
.4776+03	.6596+03	.1749+05	.7240+00	.2026+03	.5373+03	.2227+03	.3701-01
P-H2O/P-PROP= 6.0000							
.6891+03	.6346+03	.1676+05	.1086+01	.2023+03	.5257+03	.2134+03	.2565-01
P-H2O/P-PROP= 7.0000							
.9004+03	.6097+03	.1604+05	.1477+01	.2020+03	.5154+03	.2043+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1112+04	.5849+03	.1533+05	.1900+01	.2016+03	.5063+03	.1951+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1323+04	.5604+03	.1462+05	.2360+01	.2012+03	.4988+03	.1861+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1533+04	.5361+03	.1391+05	.2860+01	.2008+03	.4923+03	.1772+03	.1153-01
P-H2O/P-PROP= 11.0000							
.1743+04	.5128+03	.1324+05	.3399+01	.2003+03	.4869+03	.1686+03	.1014-01
P-H2O/P-PROP= 12.0000							
.1954+04	.4880+03	.1252+05	.4005+01	.1998+03	.4835+03	.1594+03	.9044-02
P-H2O/P-PROP= 13.0000							
.2163+04	.4652+03	.1186+05	.4650+01	.1992+03	.4802+03	.1510+03	.8169-02
P-H2O/P-PROP= 14.0000							
.2373+04	.4425+03	.1120+05	.5362+01	.1986+03	.4764+03	.1426+03	.7449-02
P-H2O/P-PROP= 15.0000							
.2581+04	.4203+03	.1056+05	.6141+01	.1978+03	.4776+03	.1344+03	.6847-02
P-H2O/P-PROP= 16.0000							
.2789+04	.3989+03	.9940+04	.6992+01	.1970+03	.4776+03	.1266+03	.6337-02
P-H2O/P-PROP= 17.0000							
.2998+04	.3762+03	.9283+04	.7968+01	.1961+03	.4794+03	.1182+03	.5895-02
P-H2O/P-PROP= 18.0000							
.3205+04	.3554+03	.8679+04	.9018+01	.1950+03	.4815+03	.1105+03	.5514-02
P-H2O/P-PROP= 19.0000							
.3412+04	.3351+03	.8090+04	.1018+02	.1938+03	.4844+03	.1030+03	.5180-02
P-H2O/P-PROP= 20.0000							
.3615+04	.3184+03	.7602+04	.1136+02	.1927+03	.4864+03	.9680+02	.4889-02

DIA-FT= 12.50 LB AIR/LB PROP= .1000 THRUST= 50000.

N2O4-A50
PROP-P/SEC KGM P/SEC ISP BTU/PP
.1864+03 .9079+01 .2682+03 .2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.5418+02	.7102+03	.1895+05	.7629-01	.2032+03	.3779+03	.1544+03	.3262+00
P-H2O/P-PROP= 4.0000							
.2659+03	.6848+03	.1822+05	.3883+00	.2029+03	.3721+03	.1484+03	.6646-01
P-H2O/P-PROP= 5.0000							
.4776+03	.6596+03	.1749+05	.7240+00	.2026+03	.3668+03	.1425+03	.3701-01
P-H2O/P-PROP= 6.0000							
.6891+03	.6346+03	.1676+05	.1086+01	.2023+03	.3620+03	.1366+03	.2565-01
P-H2O/P-PROP= 7.0000							
.9004+03	.6097+03	.1604+05	.1477+01	.2020+03	.3578+03	.1307+03	.1963-01
P-H2O/P-PROP= 8.0000							
.1112+04	.5849+03	.1533+05	.1900+01	.2016+03	.3541+03	.1249+03	.1590-01
P-H2O/P-PROP= 9.0000							
.1323+04	.5604+03	.1462+05	.2360+01	.2012+03	.3510+03	.1191+03	.1336-01
P-H2O/P-PROP= 10.0000							
.1533+04	.5361+03	.1391+05	.2860+01	.2008+03	.3485+03	.1134+03	.1153-01
P-H2O/P-PROP= 11.0000							
.1743+04	.5128+03	.1324+05	.3399+01	.2003+03	.3461+03	.1079+03	.1014-01
P-H2O/P-PROP= 12.0000							
.1954+04	.4880+03	.1252+05	.4005+01	.1998+03	.3446+03	.1020+03	.9044-02
P-H2O/P-PROP= 13.0000							
.2163+04	.4652+03	.1186+05	.4650+01	.1992+03	.3434+03	.9665+02	.8169-02
P-H2O/P-PROP= 14.0000							
.2373+04	.4425+03	.1120+05	.5362+01	.1986+03	.3426+03	.9128+02	.7449-02
P-H2O/P-PROP= 15.0000							
.2581+04	.4203+03	.1056+05	.6141+01	.1978+03	.3423+03	.8605+02	.6847-02
P-H2O/P-PROP= 16.0000							
.2789+04	.3989+03	.9940+04	.6992+01	.1970+03	.3423+03	.8100+02	.6337-02
P-H2O/P-PROP= 17.0000							
.2998+04	.3762+03	.9283+04	.7968+01	.1961+03	.3430+03	.7564+02	.5895-02
P-H2O/P-PROP= 18.0000							
.3205+04	.3554+03	.8679+04	.9018+01	.1950+03	.3439+03	.7072+02	.5514-02
P-H2O/P-PROP= 19.0000							
.3412+04	.3351+03	.8090+04	.1018+02	.1938+03	.3451+03	.6592+02	.5180-02
P-H2O/P-PROP= 20.0000							
.3615+04	.3184+03	.7602+04	.1136+02	.1927+03	.3459+03	.6195+02	.4889-02

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 50000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1729+03	.3337+03	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.8796+02	.7938+03	.2236+05	.1108+00	.2072+03	.3880+03	.1139+04	.4169+01
P-H2O/P-PROP= 5.0000							
.2852+03	.7694+03	.2166+05	.3707+00	.2071+03	.1544+03	.1103+04	.1286+01
P-H2O/P-PROP= 6.0000							
.4824+03	.7451+03	.2096+05	.6475+00	.2070+03	-.5990+02	.1067+04	.7601+00
P-H2O/P-PROP= 7.0000							
.6796+03	.7208+03	.2025+05	.9429+00	.2070+03	-.2546+03	.1032+04	.5396+00
P-H2O/P-PROP= 8.0000							
.8768+03	.6965+03	.1955+05	.1259+01	.2069+03	-.4299+03	.9958+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1074+04	.6723+03	.1885+05	.1597+01	.2068+03	-.5859+03	.9602+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1271+04	.6481+03	.1815+05	.1961+01	.2067+03	-.7225+03	.9245+03	.2885+00
P-H2O/P-PROP= 11.0000							
.1468+04	.6240+03	.1746+05	.2353+01	.2066+03	-.8399+03	.8890+03	.2498+00
P-H2O/P-PROP= 12.0000							
.1665+04	.5999+03	.1676+05	.2775+01	.2065+03	-.9382+03	.8535+03	.2202+00
P-H2O/P-PROP= 13.0000							
.1862+04	.5759+03	.1606+05	.3233+01	.2064+03	-.1017+04	.8181+03	.1970+00
P-H2O/P-PROP= 14.0000							
.2059+04	.5519+03	.1537+05	.3730+01	.2062+03	-.1078+04	.7828+03	.1781+00
P-H2O/P-PROP= 15.0000							
.2256+04	.5280+03	.1468+05	.4272+01	.2061+03	-.1119+04	.7477+03	.1626+00
P-H2O/P-PROP= 16.0000							
.2452+04	.5042+03	.1399+05	.4864+01	.2059+03	-.1142+04	.7126+03	.1495+00
P-H2O/P-PROP= 17.0000							
.2649+04	.4805+03	.1331+05	.5513+01	.2057+03	-.1147+04	.6777+03	.1384+00
P-H2O/P-PROP= 18.0000							
.2845+04	.4569+03	.1262+05	.6227+01	.2055+03	-.1133+04	.6429+03	.1289+00
P-H2O/P-PROP= 19.0000							
.3042+04	.4334+03	.1194+05	.7010+01	.2053+03	-.1102+04	.6084+03	.1206+00
P-H2O/P-PROP= 20.0000							
.3238+04	.4101+03	.1127+05	.7895+01	.2051+03	-.1053+04	.5740+03	.1133+00

DIA-FT= 7.50 LB AIR/LB PROP= .1000 THRUST= 50000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1729+03	.3337+03	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.8796+02	.7938+03	.2236+05	.1108+00	.2072+03	.7054+03	.5062+03	.4169+01
P-H2O/P-PROP= 5.0000							
.2852+03	.7694+03	.2166+05	.3707+00	.2071+03	.6592+03	.4903+03	.1286+01
P-H2O/P-PROP= 6.0000							
.4824+03	.7451+03	.2096+05	.6475+00	.2070+03	.6164+03	.4744+03	.7601+00
P-H2O/P-PROP= 7.0000							
.6796+03	.7208+03	.2025+05	.9429+00	.2070+03	.5765+03	.4585+03	.5396+00
P-H2O/P-PROP= 8.0000							
.8768+03	.6965+03	.1955+05	.1259+01	.2069+03	.5438+03	.4426+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1074+04	.6723+03	.1885+05	.1597+01	.2068+03	.5130+03	.4267+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1271+04	.6481+03	.1815+05	.1961+01	.2067+03	.4861+03	.4109+03	.2885+00
P-H2O/P-PROP= 11.0000							
.1468+04	.6240+03	.1746+05	.2353+01	.2066+03	.4629+03	.3951+03	.2498+00
P-H2O/P-PROP= 12.0000							
.1665+04	.5999+03	.1676+05	.2775+01	.2065+03	.4434+03	.3793+03	.2202+00
P-H2O/P-PROP= 13.0000							
.1862+04	.5759+03	.1606+05	.3233+01	.2064+03	.4276+03	.3636+03	.1970+00
P-H2O/P-PROP= 14.0000							
.2059+04	.5519+03	.1537+05	.3730+01	.2062+03	.4159+03	.3479+03	.1781+00
P-H2O/P-PROP= 15.0000							
.2256+04	.5280+03	.1468+05	.4272+01	.2061+03	.4077+03	.3323+03	.1626+00
P-H2O/P-PROP= 16.0000							
.2452+04	.5042+03	.1399+05	.4864+01	.2059+03	.4031+03	.3167+03	.1495+00
P-H2O/P-PROP= 17.0000							
.2649+04	.4805+03	.1331+05	.5513+01	.2057+03	.4022+03	.3012+03	.1384+00
P-H2O/P-PROP= 18.0000							
.2845+04	.4569+03	.1262+05	.6227+01	.2055+03	.4049+03	.2857+03	.1289+00
P-H2O/P-PROP= 19.0000							
.3042+04	.4334+03	.1194+05	.7018+01	.2053+03	.4111+03	.2704+03	.1206+00
P-H2O/P-PROP= 20.0000							
.3238+04	.4101+03	.1127+05	.7895+01	.2051+03	.4208+03	.2551+03	.1133+00

DIA-FT= 10.00 LB AIR/LB PROP= .1000 THRUST= 50000.

CLFS-HYDRAZINE

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.1729+03	.3337+03	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.8796+02	.7938+03	.2236+05	.1108+00	.2072+03	.5017+03	.2848+03	.4169+01
P-H2O/P-PROP= 5.0000							
.2852+03	.7694+03	.2166+05	.3707+00	.2071+03	.4871+03	.2758+03	.1286+01
P-H2O/P-PROP= 6.0000							
.4824+03	.7451+03	.2096+05	.6475+00	.2070+03	.4737+03	.2668+03	.7601+00
P-H2O/P-PROP= 7.0000							
.6796+03	.7208+03	.2025+05	.9429+00	.2070+03	.4616+03	.2579+03	.5396+00
P-H2O/P-PROP= 8.0000							
.8768+03	.6965+03	.1955+05	.1259+01	.2069+03	.4506+03	.2490+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1074+04	.6723+03	.1885+05	.1597+01	.2068+03	.4409+03	.2400+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1271+04	.6481+03	.1815+05	.1961+01	.2067+03	.4323+03	.2311+03	.2885+00
P-H2O/P-PROP= 11.0000							
.1468+04	.6240+03	.1746+05	.2353+01	.2066+03	.4250+03	.2222+03	.2498+00
P-H2O/P-PROP= 12.0000							
.1665+04	.5999+03	.1676+05	.2775+01	.2065+03	.4188+03	.2134+03	.2202+00
P-H2O/P-PROP= 13.0000							
.1862+04	.5759+03	.1606+05	.3233+01	.2064+03	.4139+03	.2045+03	.1970+00
P-H2O/P-PROP= 14.0000							
.2059+04	.5519+03	.1537+05	.3730+01	.2062+03	.4101+03	.1957+03	.1781+00
P-H2O/P-PROP= 15.0000							
.2256+04	.5280+03	.1468+05	.4272+01	.2061+03	.4075+03	.1869+03	.1626+00
P-H2O/P-PROP= 16.0000							
.2452+04	.5042+03	.1399+05	.4864+01	.2059+03	.4061+03	.1781+03	.1495+00
P-H2O/P-PROP= 17.0000							
.2649+04	.4805+03	.1331+05	.5513+01	.2057+03	.4058+03	.1694+03	.1384+00
P-H2O/P-PROP= 18.0000							
.2845+04	.4569+03	.1262+05	.6227+01	.2055+03	.4066+03	.1607+03	.1289+00
P-H2O/P-PROP= 19.0000							
.3042+04	.4334+03	.1194+05	.7018+01	.2053+03	.4086+03	.1521+03	.1206+00
P-H2O/P-PROP= 20.0000							
.3238+04	.4101+03	.1127+05	.7895+01	.2051+03	.4117+03	.1435+03	.1133+00

DIA-FT= 12.50 LB AIR/LB PROP= .1000 THRUST= 50000.

CLFS-HYDRAZINE

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.1729+03	.3337+03	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.8796+02	.7938+03	.2236+05	.1108+00	.2072+03	.3522+03	.1822+03	.4169+01
P-H2O/P-PROP= 5.0000							
.2852+03	.7694+03	.2166+05	.3707+00	.2071+03	.3462+03	.1765+03	.1286+01
P-H2O/P-PROP= 6.0000							
.4824+03	.7451+03	.2096+05	.6475+00	.2070+03	.3407+03	.1708+03	.7601+00
P-H2O/P-PROP= 7.0000							
.6796+03	.7208+03	.2025+05	.9429+00	.2070+03	.3357+03	.1650+03	.5396+00
P-H2O/P-PROP= 8.0000							
.8768+03	.6965+03	.1955+05	.1259+01	.2069+03	.3312+03	.1593+03	.4182+00
P-H2O/P-PROP= 9.0000							
.1074+04	.6723+03	.1885+05	.1597+01	.2068+03	.3273+03	.1536+03	.3415+00
P-H2O/P-PROP= 10.0000							
.1271+04	.6481+03	.1815+05	.1961+01	.2067+03	.3238+03	.1479+03	.2885+00
P-H2O/P-PROP= 11.0000							
.1468+04	.6240+03	.1746+05	.2353+01	.2066+03	.3207+03	.1422+03	.2498+00
P-H2O/P-PROP= 12.0000							
.1665+04	.5999+03	.1676+05	.2775+01	.2065+03	.3182+03	.1366+03	.2202+00
P-H2O/P-PROP= 13.0000							
.1862+04	.5759+03	.1606+05	.3233+01	.2064+03	.3162+03	.1309+03	.1970+00
P-H2O/P-PROP= 14.0000							
.2059+04	.5519+03	.1537+05	.3730+01	.2062+03	.3147+03	.1253+03	.1781+00
P-H2O/P-PROP= 15.0000							
.2256+04	.5280+03	.1468+05	.4272+01	.2061+03	.3136+03	.1196+03	.1626+00
P-H2O/P-PROP= 16.0000							
.2452+04	.5042+03	.1399+05	.4864+01	.2059+03	.3130+03	.1140+03	.1495+00
P-H2O/P-PROP= 17.0000							
.2649+04	.4805+03	.1331+05	.5513+01	.2057+03	.3129+03	.1084+03	.1384+00
P-H2O/P-PROP= 18.0000							
.2845+04	.4569+03	.1262+05	.6227+01	.2055+03	.3132+03	.1029+03	.1289+00
P-H2O/P-PROP= 19.0000							
.3042+04	.4334+03	.1194+05	.7018+01	.2053+03	.3140+03	.9734+02	.1206+00
P-H2O/P-PROP= 20.0000							
.3238+04	.4101+03	.1127+05	.7895+01	.2051+03	.3153+03	.9184+02	.1133+00

DIA-FT= 5.00 LB AIR/LB PROP= .1000 THRUST= 50000.

50000 / 262 = 191 #/s vs P/s = 717

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1907+03	.6815+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6483+02	.7170+03	.2049+05	.9041-01	.1991+03	.1175+04	.1043+04	.1646+01
P-H2O/P-PROP= 4.0000							
.2805+03	.6921+03	.1976+05	.4053+00	.1987+03	.9200+03	.1007+04	.3803+00
P-H2O/P-PROP= 5.0000							
.4959+03	.6673+03	.1905+05	.7432+00	.1982+03	.6869+03	.9700+03	.2151+00
P-H2O/P-PROP= 6.0000							
.7112+03	.6428+03	.1834+05	.1106+01	.1977+03	.4742+03	.9338+03	.1500+00
P-H2O/P-PROP= 7.0000							
.9261+03	.6185+03	.1763+05	.1497+01	.1972+03	.2826+03	.8980+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1141+04	.5945+03	.1694+05	.1919+01	.1967+03	.1118+03	.8626+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1355+04	.5709+03	.1625+05	.2374+01	.1961+03	-.3938+02	.8278+03	.7872-01
P-H2O/P-PROP= 10.0000							
.1569+04	.5477+03	.1558+05	.2865+01	.1954+03	-.1716+03	.7935+03	.6799-01
P-H2O/P-PROP= 11.0000							
.1782+04	.5249+03	.1492+05	.3395+01	.1947+03	-.2856+03	.7598+03	.5985-01
P-H2O/P-PROP= 12.0000							
.1996+04	.5016+03	.1424+05	.3980+01	.1939+03	-.3757+03	.7253+03	.5343-01
P-H2O/P-PROP= 13.0000							
.2209+04	.4794+03	.1360+05	.4608+01	.1931+03	-.4525+03	.6925+03	.4828-01
P-H2O/P-PROP= 14.0000							
.2422+04	.4577+03	.1297+05	.5291+01	.1922+03	-.5127+03	.6604+03	.4405-01
P-H2O/P-PROP= 15.0000							
.2634+04	.4365+03	.1235+05	.6033+01	.1912+03	-.5571+03	.6291+03	.4050-01
P-H2O/P-PROP= 16.0000							
.2845+04	.4158+03	.1175+05	.6842+01	.1901+03	-.5863+03	.5984+03	.3750-01
P-H2O/P-PROP= 17.0000							
.3054+04	.3975+03	.1122+05	.7682+01	.1890+03	-.6169+03	.5713+03	.3493-01
P-H2O/P-PROP= 18.0000							
.3263+04	.3792+03	.1068+05	.8606+01	.1878+03	-.6296+03	.5440+03	.3269-01

DIA-FT= 7.50 LB AIR/LB PROP= .1000 THRUST= 50000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1907+03	.6815+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.6483+02	.7170+03	.2049+05	.9041-01	.1991+03	.8609+03	.4637+03	.1646+01
P-H2O/P-PROP= 4.0000							
.2805+03	.6921+03	.1976+05	.4053+00	.1987+03	.8105+03	.4474+03	.3803+00
P-H2O/P-PROP= 5.0000							
.4959+03	.6673+03	.1905+05	.7432+00	.1982+03	.7644+03	.4311+03	.2151+00
P-H2O/P-PROP= 6.0000							
.7112+03	.6428+03	.1834+05	.1106+01	.1977+03	.7224+03	.4150+03	.1500+00
P-H2O/P-PROP= 7.0000							
.9261+03	.6185+03	.1763+05	.1497+01	.1972+03	.6846+03	.3991+03	.1152+00
P-H2O/P-PROP= 8.0000							
.1141+04	.5945+03	.1694+05	.1919+01	.1967+03	.6509+03	.3834+03	.9351-01
P-H2O/P-PROP= 9.0000							
.1355+04	.5709+03	.1625+05	.2374+01	.1961+03	.6210+03	.3679+03	.7872-01
P-H2O/P-PROP= 10.0000							
.1569+04	.5477+03	.1558+05	.2865+01	.1954+03	.5949+03	.3526+03	.6799-01
P-H2O/P-PROP= 11.0000							
.1782+04	.5249+03	.1492+05	.3395+01	.1947+03	.5724+03	.3377+03	.5985-01
P-H2O/P-PROP= 12.0000							
.1996+04	.5016+03	.1424+05	.3980+01	.1939+03	.5546+03	.3224+03	.5343-01
P-H2O/P-PROP= 13.0000							
.2209+04	.4794+03	.1360+05	.4608+01	.1931+03	.5394+03	.3078+03	.4828-01
P-H2O/P-PROP= 14.0000							
.2422+04	.4577+03	.1297+05	.5291+01	.1922+03	.5275+03	.2935+03	.4405-01
P-H2O/P-PROP= 15.0000							
.2634+04	.4365+03	.1235+05	.6033+01	.1912+03	.5187+03	.2796+03	.4050-01
P-H2O/P-PROP= 16.0000							
.2845+04	.4158+03	.1175+05	.6842+01	.1901+03	.5130+03	.2660+03	.3750-01
P-H2O/P-PROP= 17.0000							
.3054+04	.3975+03	.1122+05	.7682+01	.1890+03	.5070+03	.2539+03	.3493-01
P-H2O/P-PROP= 18.0000							
.3263+04	.3792+03	.1068+05	.8606+01	.1878+03	.5044+03	.2418+03	.3269-01

DIA-FT= 10.00 LB AIR/LB PROP= .1000 THRUST= 50000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1907+03	.6815+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.6463+02	.7170+03	.2049+05	.9041-01	.1991+03	.5509+03	.2608+03	.1646+01
P-H20/P-PROP= 4.0000							
.2805+03	.6921+03	.1976+05	.4053+00	.1987+03	.5350+03	.2516+03	.3803+00
P-H20/P-PROP= 5.0000							
.4959+03	.6673+03	.1905+05	.7432+00	.1982+03	.5204+03	.2425+03	.2151+00
P-H20/P-PROP= 6.0000							
.7112+03	.6428+03	.1834+05	.1106+01	.1977+03	.5071+03	.2335+03	.1500+00
P-H20/P-PROP= 7.0000							
.9261+03	.6185+03	.1763+05	.1497+01	.1972+03	.4951+03	.2245+03	.1152+00
P-H20/P-PROP= 8.0000							
.1141+04	.5945+03	.1694+05	.1919+01	.1967+03	.4845+03	.2157+03	.9351-01
P-H20/P-PROP= 9.0000							
.1355+04	.5709+03	.1625+05	.2374+01	.1961+03	.4750+03	.2069+03	.7872-01
P-H20/P-PROP= 10.0000							
.1569+04	.5477+03	.1558+05	.2865+01	.1954+03	.4667+03	.1984+03	.6799-01
P-H20/P-PROP= 11.0000							
.1782+04	.5249+03	.1492+05	.3395+01	.1947+03	.4596+03	.1900+03	.5985-01
P-H20/P-PROP= 12.0000							
.1996+04	.5016+03	.1424+05	.3960+01	.1939+03	.4540+03	.1813+03	.5343-01
P-H20/P-PROP= 13.0000							
.2209+04	.4794+03	.1360+05	.4608+01	.1931+03	.4492+03	.1731+03	.4828-01
P-H20/P-PROP= 14.0000							
.2422+04	.4577+03	.1297+05	.5291+01	.1922+03	.4454+03	.1651+03	.4405-01
P-H20/P-PROP= 15.0000							
.2634+04	.4365+03	.1235+05	.6033+01	.1912+03	.4427+03	.1573+03	.4050-01
P-H20/P-PROP= 16.0000							
.2845+04	.4158+03	.1175+05	.6842+01	.1901+03	.4408+03	.1496+03	.3750-01
P-H20/P-PROP= 17.0000							
.3054+04	.3975+03	.1122+05	.7682+01	.1890+03	.4389+03	.1428+03	.3493-01
P-H20/P-PROP= 18.0000							
.3263+04	.3792+03	.1068+05	.8606+01	.1878+03	.4381+03	.1360+03	.3269-01

DIA-FT= 12.50 LB AIR/LB PROP= .1000 THRUST= 50000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.1907+03	.6815+02	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.6463+02	.7170+03	.2049+05	.9041-01	.1991+03	.3723+03	.1669+03	.1646+01
P-H20/P-PROP= 4.0000							
.2805+03	.6921+03	.1976+05	.4053+00	.1987+03	.3658+03	.1610+03	.3803+00
P-H20/P-PROP= 5.0000							
.4959+03	.6673+03	.1905+05	.7432+00	.1982+03	.3598+03	.1552+03	.2151+00
P-H20/P-PROP= 6.0000							
.7112+03	.6428+03	.1834+05	.1106+01	.1977+03	.3544+03	.1494+03	.1500+00
P-H20/P-PROP= 7.0000							
.9261+03	.6185+03	.1763+05	.1497+01	.1972+03	.3495+03	.1437+03	.1152+00
P-H20/P-PROP= 8.0000							
.1141+04	.5945+03	.1694+05	.1919+01	.1967+03	.3451+03	.1380+03	.9351-01
P-H20/P-PROP= 9.0000							
.1355+04	.5709+03	.1625+05	.2374+01	.1961+03	.3412+03	.1324+03	.7872-01
P-H20/P-PROP= 10.0000							
.1569+04	.5477+03	.1558+05	.2865+01	.1954+03	.3379+03	.1270+03	.6799-01
P-H20/P-PROP= 11.0000							
.1782+04	.5249+03	.1492+05	.3395+01	.1947+03	.3349+03	.1216+03	.5985-01
P-H20/P-PROP= 12.0000							
.1996+04	.5016+03	.1424+05	.3960+01	.1939+03	.3326+03	.1161+03	.5343-01
P-H20/P-PROP= 13.0000							
.2209+04	.4794+03	.1360+05	.4608+01	.1931+03	.3307+03	.1108+03	.4828-01
P-H20/P-PROP= 14.0000							
.2422+04	.4577+03	.1297+05	.5291+01	.1922+03	.3291+03	.1057+03	.4405-01
P-H20/P-PROP= 15.0000							
.2634+04	.4365+03	.1235+05	.6033+01	.1912+03	.3280+03	.1007+03	.4050-01
P-H20/P-PROP= 16.0000							
.2845+04	.4158+03	.1175+05	.6842+01	.1901+03	.3272+03	.9574+02	.3750-01
P-H20/P-PROP= 17.0000							
.3054+04	.3975+03	.1122+05	.7682+01	.1890+03	.3269+03	.9140+02	.3493-01
P-H20/P-PROP= 18.0000							
.3263+04	.3792+03	.1068+05	.8606+01	.1878+03	.3261+03	.8704+02	.3269-01

DIA-FT= 15.00 LB AIR/LB PROP= .1000 THRUST= 250000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6993+03	.1919+04	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.6089+03	.4356+04	.1283+06	.1398+00	.2075+03	.5450+03	.7263+03	.3264+01
P-H20/P-PROP= 7.0000							
.1407+04	.4257+04	.1255+06	.3305+00	.2075+03	.4771+03	.7101+03	.1413+01
P-H20/P-PROP= 8.0000							
.2205+04	.4159+04	.1226+06	.5302+00	.2074+03	.4131+03	.6940+03	.9013+00
P-H20/P-PROP= 9.0000							
.3003+04	.4060+04	.1198+06	.7396+00	.2074+03	.3531+03	.6778+03	.6618+00
P-H20/P-PROP= 10.0000							
.3801+04	.3961+04	.1169+06	.9595+00	.2073+03	.2970+03	.6617+03	.5229+00
P-H20/P-PROP= 11.0000							
.4599+04	.3863+04	.1141+06	.1190+01	.2073+03	.2449+03	.6456+03	.4322+00
P-H20/P-PROP= 12.0000							
.5396+04	.3765+04	.1112+06	.1433+01	.2072+03	.1967+03	.6295+03	.3683+00
P-H20/P-PROP= 13.0000							
.6194+04	.3666+04	.1084+06	.1689+01	.2072+03	.1525+03	.6134+03	.3209+00
P-H20/P-PROP= 14.0000							
.6991+04	.3568+04	.1056+06	.1959+01	.2071+03	.1121+03	.5973+03	.2843+00
P-H20/P-PROP= 15.0000							
.7789+04	.3470+04	.1027+06	.2245+01	.2071+03	.7570+02	.5813+03	.2552+00
P-H20/P-PROP= 16.0000							
.8586+04	.3372+04	.9989+05	.2546+01	.2070+03	.4317+02	.5652+03	.2315+00
P-H20/P-PROP= 17.0000							
.9383+04	.3274+04	.9706+05	.2866+01	.2069+03	.1453+02	.5492+03	.2118+00
P-H20/P-PROP= 18.0000							
.1018+05	.3176+04	.9423+05	.3205+01	.2069+03	-.1024+02	.5332+03	.1952+00
P-H20/P-PROP= 19.0000							
.1098+05	.3079+04	.9141+05	.3566+01	.2068+03	-.3114+02	.5173+03	.1810+00
P-H20/P-PROP= 20.0000							
.1177+05	.2981+04	.8859+05	.3949+01	.2067+03	-.4819+02	.5013+03	.1688+00
P-H20/P-PROP= 21.0000							
.1257+05	.2884+04	.8578+05	.4359+01	.2066+03	-.6140+02	.4854+03	.1581+00
P-H20/P-PROP= 22.0000							
.1337+05	.2787+04	.8297+05	.4796+01	.2065+03	-.7081+02	.4695+03	.1487+00

DIA-FT= 17.50 LB AIR/LB PROP= .1000 THRUST= 250000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6993+03	.1919+04	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.6089+03	.4356+04	.1283+06	.1398+00	.2075+03	.5699+03	.5536+03	.3264+01
P-H20/P-PROP= 7.0000							
.1407+04	.4257+04	.1255+06	.3305+00	.2075+03	.5336+03	.5217+03	.1413+01
P-H20/P-PROP= 8.0000							
.2205+04	.4159+04	.1226+06	.5302+00	.2074+03	.4987+03	.5099+03	.9013+00
P-H20/P-PROP= 9.0000							
.3003+04	.4060+04	.1198+06	.7396+00	.2074+03	.4664+03	.4980+03	.6618+00
P-H20/P-PROP= 10.0000							
.3801+04	.3961+04	.1169+06	.9595+00	.2073+03	.4361+03	.4862+03	.5229+00
P-H20/P-PROP= 11.0000							
.4599+04	.3863+04	.1141+06	.1190+01	.2073+03	.4080+03	.4743+03	.4322+00
P-H20/P-PROP= 12.0000							
.5396+04	.3765+04	.1112+06	.1433+01	.2072+03	.3819+03	.4625+03	.3683+00
P-H20/P-PROP= 13.0000							
.6194+04	.3666+04	.1084+06	.1689+01	.2072+03	.3581+03	.4507+03	.3209+00
P-H20/P-PROP= 14.0000							
.6991+04	.3568+04	.1056+06	.1959+01	.2071+03	.3366+03	.4389+03	.2843+00
P-H20/P-PROP= 15.0000							
.7789+04	.3470+04	.1027+06	.2245+01	.2071+03	.3166+03	.4271+03	.2552+00
P-H20/P-PROP= 16.0000							
.8586+04	.3372+04	.9989+05	.2546+01	.2070+03	.2991+03	.4153+03	.2315+00
P-H20/P-PROP= 17.0000							
.9383+04	.3274+04	.9706+05	.2866+01	.2069+03	.2836+03	.4035+03	.2118+00
P-H20/P-PROP= 18.0000							
.1018+05	.3176+04	.9423+05	.3205+01	.2069+03	.2702+03	.3918+03	.1952+00
P-H20/P-PROP= 19.0000							
.1098+05	.3079+04	.9141+05	.3566+01	.2068+03	.2590+03	.3800+03	.1810+00
P-H20/P-PROP= 20.0000							
.1177+05	.2981+04	.8859+05	.3949+01	.2067+03	.2497+03	.3683+03	.1688+00
P-H20/P-PROP= 21.0000							
.1257+05	.2884+04	.8578+05	.4359+01	.2066+03	.2426+03	.3566+03	.1581+00
P-H20/P-PROP= 22.0000							
.1337+05	.2787+04	.8297+05	.4796+01	.2065+03	.2375+03	.3450+03	.1487+00

DIA-FT= 20.00 LB AIR/LB PROP= .1000 THRUST= 250000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6993+03	.1919+04	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.6089+03	.4356+04	.1283+06	.1398+00	.2075+03	.5206+03	.4085+03	.3264+01
P-H2O/P-PROP= 7.0000							
.1407+04	.4257+04	.1255+06	.3305+00	.2075+03	.4991+03	.3994+03	.1413+01
P-H2O/P-PROP= 8.0000							
.2205+04	.4159+04	.1226+06	.5302+00	.2074+03	.4789+03	.3904+03	.9013+00
P-H2O/P-PROP= 9.0000							
.3003+04	.4060+04	.1198+06	.7396+00	.2074+03	.4599+03	.3813+03	.6618+00
P-H2O/P-PROP= 10.0000							
.3801+04	.3961+04	.1169+06	.9595+00	.2073+03	.4421+03	.3722+03	.5229+00
P-H2O/P-PROP= 11.0000							
.4599+04	.3863+04	.1141+06	.1190+01	.2073+03	.4257+03	.3631+03	.4322+00
P-H2O/P-PROP= 12.0000							
.5396+04	.3765+04	.1112+06	.1433+01	.2072+03	.4104+03	.3541+03	.3683+00
P-H2O/P-PROP= 13.0000							
.6194+04	.3666+04	.1084+06	.1689+01	.2072+03	.3964+03	.3450+03	.3209+00
P-H2O/P-PROP= 14.0000							
.6991+04	.3568+04	.1056+06	.1959+01	.2071+03	.3836+03	.3360+03	.2843+00
P-H2O/P-PROP= 15.0000							
.7789+04	.3470+04	.1027+06	.2245+01	.2071+03	.3721+03	.3270+03	.2552+00
P-H2O/P-PROP= 16.0000							
.8586+04	.3372+04	.9989+05	.2546+01	.2070+03	.3618+03	.3180+03	.2315+00
P-H2O/P-PROP= 17.0000							
.9383+04	.3274+04	.9706+05	.2866+01	.2069+03	.3528+03	.3089+03	.2118+00
P-H2O/P-PROP= 18.0000							
.1018+05	.3176+04	.9423+05	.3205+01	.2069+03	.3449+03	.2999+03	.1952+00
P-H2O/P-PROP= 19.0000							
.1098+05	.3079+04	.9141+05	.3566+01	.2068+03	.3383+03	.2910+03	.1810+00
P-H2O/P-PROP= 20.0000							
.1177+05	.2981+04	.8859+05	.3949+01	.2067+03	.3329+03	.2820+03	.1688+00
P-H2O/P-PROP= 21.0000							
.1257+05	.2884+04	.8578+05	.4359+01	.2066+03	.3287+03	.2730+03	.1581+00
P-H2O/P-PROP= 22.0000							
.1337+05	.2787+04	.8297+05	.4796+01	.2065+03	.3258+03	.2641+03	.1487+00

DIA-FT= 22.50 LB AIR/LB PROP= .1000 THRUST= 250000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6993+03	.1919+04	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.6089+03	.4356+04	.1283+06	.1398+00	.2075+03	.4570+03	.3228+03	.3264+01
P-H2O/P-PROP= 7.0000							
.1407+04	.4257+04	.1255+06	.3305+00	.2075+03	.4436+03	.3156+03	.1413+01
P-H2O/P-PROP= 8.0000							
.2205+04	.4159+04	.1226+06	.5302+00	.2074+03	.4309+03	.3084+03	.9013+00
P-H2O/P-PROP= 9.0000							
.3003+04	.4060+04	.1198+06	.7396+00	.2074+03	.4191+03	.3013+03	.6618+00
P-H2O/P-PROP= 10.0000							
.3801+04	.3961+04	.1169+06	.9595+00	.2073+03	.4080+03	.2941+03	.5229+00
P-H2O/P-PROP= 11.0000							
.4599+04	.3863+04	.1141+06	.1190+01	.2073+03	.3977+03	.2869+03	.4322+00
P-H2O/P-PROP= 12.0000							
.5396+04	.3765+04	.1112+06	.1433+01	.2072+03	.3882+03	.2798+03	.3683+00
P-H2O/P-PROP= 13.0000							
.6194+04	.3666+04	.1084+06	.1689+01	.2072+03	.3794+03	.2726+03	.3209+00
P-H2O/P-PROP= 14.0000							
.6991+04	.3568+04	.1056+06	.1959+01	.2071+03	.3715+03	.2655+03	.2843+00
P-H2O/P-PROP= 15.0000							
.7789+04	.3470+04	.1027+06	.2245+01	.2071+03	.3643+03	.2583+03	.2552+00
P-H2O/P-PROP= 16.0000							
.8586+04	.3372+04	.9989+05	.2546+01	.2070+03	.3578+03	.2512+03	.2315+00
P-H2O/P-PROP= 17.0000							
.9383+04	.3274+04	.9706+05	.2866+01	.2069+03	.3522+03	.2441+03	.2118+00
P-H2O/P-PROP= 18.0000							
.1018+05	.3176+04	.9423+05	.3205+01	.2069+03	.3473+03	.2370+03	.1952+00
P-H2O/P-PROP= 19.0000							
.1098+05	.3079+04	.9141+05	.3566+01	.2068+03	.3432+03	.2299+03	.1810+00
P-H2O/P-PROP= 20.0000							
.1177+05	.2981+04	.8859+05	.3949+01	.2067+03	.3398+03	.2228+03	.1688+00
P-H2O/P-PROP= 21.0000							
.1257+05	.2884+04	.8578+05	.4359+01	.2066+03	.3372+03	.2157+03	.1581+00
P-H2O/P-PROP= 22.0000							
.1337+05	.2787+04	.8297+05	.4796+01	.2065+03	.3353+03	.2087+03	.1487+00

DIA-FT= 25.00 LB AIR/LB PROP= .1000 THRUST= 250000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6993+03	.1919+04	.3975+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.6089+03	.4356+04	.1283+06	.1398+00	.2075+03	.3966+03	.2615+03	.3264+01
P-H2O/P-PROP= 7.0000							
.1407+04	.4257+04	.1255+06	.3305+00	.2075+03	.3878+03	.2556+03	.1413+01
P-H2O/P-PROP= 8.0000							
.2205+04	.4159+04	.1226+06	.5302+00	.2074+03	.3790+03	.2498+03	.9013+00
P-H2O/P-PROP= 9.0000							
.3003+04	.4060+04	.1198+06	.7396+00	.2074+03	.3717+03	.2440+03	.6618+00
P-H2O/P-PROP= 10.0000							
.3801+04	.3961+04	.1169+06	.9595+00	.2073+03	.3644+03	.2382+03	.5229+00
P-H2O/P-PROP= 11.0000							
.4599+04	.3863+04	.1141+06	.1190+01	.2073+03	.3571+03	.2324+03	.4322+00
P-H2O/P-PROP= 12.0000							
.5396+04	.3765+04	.1112+06	.1433+01	.2072+03	.3514+03	.2266+03	.3683+00
P-H2O/P-PROP= 13.0000							
.6194+04	.3666+04	.1084+06	.1689+01	.2072+03	.3457+03	.2208+03	.3209+00
P-H2O/P-PROP= 14.0000							
.6991+04	.3568+04	.1056+06	.1959+01	.2071+03	.3400+03	.2150+03	.2843+00
P-H2O/P-PROP= 15.0000							
.7789+04	.3470+04	.1027+06	.2245+01	.2071+03	.3358+03	.2093+03	.2552+00
P-H2O/P-PROP= 16.0000							
.8586+04	.3372+04	.9989+05	.2546+01	.2070+03	.3315+03	.2035+03	.2315+00
P-H2O/P-PROP= 17.0000							
.9383+04	.3274+04	.9706+05	.2866+01	.2069+03	.3278+03	.1977+03	.2118+00
P-H2O/P-PROP= 18.0000							
.1018+05	.3176+04	.9423+05	.3205+01	.2069+03	.3246+03	.1920+03	.1952+00
P-H2O/P-PROP= 19.0000							
.1098+05	.3079+04	.9141+05	.3566+01	.2068+03	.3219+03	.1862+03	.1810+00
P-H2O/P-PROP= 20.0000							
.1177+05	.2981+04	.8859+05	.3949+01	.2067+03	.3197+03	.1805+03	.1688+00
P-H2O/P-PROP= 21.0000							
.1257+05	.2884+04	.8578+05	.4359+01	.2066+03	.3180+03	.1747+03	.1581+00
P-H2O/P-PROP= 22.0000							
.1337+05	.2787+04	.8297+05	.4796+01	.2065+03	.3168+03	.1690+03	.1487+00

DIA-FT= 27.50 LB AIR/LB PROP= .1000 THRUST= 250000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6993+03	.1919+04	.3975+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 6.0000							
.6089+03	.4356+04	.1283+06	.1398+00	.2075+03	.3439+03	.2161+03	.3264+01
P-H2O/P-PROP= 7.0000							
.1407+04	.4257+04	.1255+06	.3305+00	.2075+03	.3379+03	.2113+03	.1413+01
P-H2O/P-PROP= 8.0000							
.2205+04	.4159+04	.1226+06	.5302+00	.2074+03	.3322+03	.2065+03	.9013+00
P-H2O/P-PROP= 9.0000							
.3003+04	.4060+04	.1198+06	.7396+00	.2074+03	.3269+03	.2017+03	.6618+00
P-H2O/P-PROP= 10.0000							
.3801+04	.3961+04	.1169+06	.9595+00	.2073+03	.3220+03	.1969+03	.5229+00
P-H2O/P-PROP= 11.0000							
.4599+04	.3863+04	.1141+06	.1190+01	.2073+03	.3174+03	.1921+03	.4322+00
P-H2O/P-PROP= 12.0000							
.5396+04	.3765+04	.1112+06	.1433+01	.2072+03	.3131+03	.1873+03	.3683+00
P-H2O/P-PROP= 13.0000							
.6194+04	.3666+04	.1084+06	.1689+01	.2072+03	.3092+03	.1825+03	.3209+00
P-H2O/P-PROP= 14.0000							
.6991+04	.3568+04	.1056+06	.1959+01	.2071+03	.3056+03	.1777+03	.2843+00
P-H2O/P-PROP= 15.0000							
.7789+04	.3470+04	.1027+06	.2245+01	.2071+03	.3024+03	.1729+03	.2552+00
P-H2O/P-PROP= 16.0000							
.8586+04	.3372+04	.9989+05	.2546+01	.2070+03	.2995+03	.1682+03	.2315+00
P-H2O/P-PROP= 17.0000							
.9383+04	.3274+04	.9706+05	.2866+01	.2069+03	.2970+03	.1634+03	.2118+00
P-H2O/P-PROP= 18.0000							
.1018+05	.3176+04	.9423+05	.3205+01	.2069+03	.2948+03	.1587+03	.1952+00
P-H2O/P-PROP= 19.0000							
.1098+05	.3079+04	.9141+05	.3566+01	.2068+03	.2929+03	.1539+03	.1810+00
P-H2O/P-PROP= 20.0000							
.1177+05	.2981+04	.8859+05	.3949+01	.2067+03	.2914+03	.1492+03	.1688+00
P-H2O/P-PROP= 21.0000							
.1257+05	.2884+04	.8578+05	.4359+01	.2066+03	.2902+03	.1444+03	.1581+00
P-H2O/P-PROP= 22.0000							
.1337+05	.2787+04	.8297+05	.4796+01	.2065+03	.2894+03	.1397+03	.1487+00

DIA-FT= 30.00 LB AIR/LB PROP= .1000 THRUST= 250000.

H2-F2

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.6993+03	.1919+04	.3575+03	.4156+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	VEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 6.0000							
.6089+03	.4356+04	.1283+06	.1398+00	.2075+03	.2993+03	.1816+03	.3264+01
P-H20/P-PROP= 7.0000							
.1407+04	.4257+04	.1255+06	.3305+00	.2075+03	.2951+03	.1775+03	.1413+01
P-H20/P-PROP= 8.0000							
.2205+04	.4159+04	.1226+06	.5302+00	.2074+03	.2911+03	.1735+03	.9013+00
P-H20/P-PROP= 9.0000							
.3003+04	.4060+04	.1198+06	.7396+00	.2074+03	.2873+03	.1695+03	.6618+00
P-H20/P-PROP= 10.0000							
.3801+04	.3961+04	.1169+06	.9595+00	.2073+03	.2838+03	.1654+03	.5229+00
P-H20/P-PROP= 11.0000							
.4599+04	.3863+04	.1141+06	.1190+01	.2073+03	.2806+03	.1614+03	.4322+00
P-H20/P-PROP= 12.0000							
.5396+04	.3765+04	.1112+06	.1433+01	.2072+03	.2776+03	.1574+03	.3683+00
P-H20/P-PROP= 13.0000							
.6194+04	.3666+04	.1084+06	.1689+01	.2072+03	.2748+03	.1534+03	.3209+00
P-H20/P-PROP= 14.0000							
.6991+04	.3568+04	.1056+06	.1959+01	.2071+03	.2723+03	.1493+03	.2843+00
P-H20/P-PROP= 15.0000							
.7789+04	.3470+04	.1027+06	.2245+01	.2071+03	.2700+03	.1453+03	.2552+00
P-H20/P-PROP= 16.0000							
.8586+04	.3372+04	.9989+05	.2546+01	.2070+03	.2680+03	.1413+03	.2315+00
P-H20/P-PROP= 17.0000							
.9383+04	.3274+04	.9706+05	.2866+01	.2069+03	.2662+03	.1373+03	.2118+00
P-H20/P-PROP= 18.0000							
.1018+05	.3176+04	.9423+05	.3205+01	.2069+03	.2646+03	.1333+03	.1952+00
P-H20/P-PROP= 19.0000							
.1098+05	.3079+04	.9141+05	.3566+01	.2068+03	.2633+03	.1293+03	.1810+00
P-H20/P-PROP= 20.0000							
.1177+05	.2981+04	.8859+05	.3949+01	.2067+03	.2622+03	.1253+03	.1688+00
P-H20/P-PROP= 21.0000							
.1257+05	.2884+04	.8578+05	.4359+01	.2066+03	.2614+03	.1214+03	.1581+00
P-H20/P-PROP= 22.0000							
.1337+05	.2787+04	.8297+05	.4796+01	.2065+03	.2608+03	.1174+03	.1487+00

DIA-FT= 15.00 LB AIR/LB PROP= .1000 THRUST= 250000.

N2O4-A50

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.9321+03	.4540+02	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2709+03	.3551+04	.9475+05	.7629-01	.2032+03	.1059+04	.5362+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1330+04	.3424+04	.9109+05	.3883+00	.2029+03	.9884+03	.5154+03	.6646-01
P-H2O/P-PROP= 5.0000							
.2398+04	.3298+04	.8744+05	.7240+00	.2026+03	.9244+03	.4948+03	.3701-01
P-H2O/P-PROP= 6.0000							
.3445+04	.3173+04	.8381+05	.1086+01	.2023+03	.8671+03	.4743+03	.2565-01
P-H2O/P-PROP= 7.0000							
.4502+04	.3048+04	.8021+05	.1477+01	.2020+03	.8163+03	.4539+03	.1963-01
P-H2O/P-PROP= 8.0000							
.5558+04	.2925+04	.7663+05	.1900+01	.2016+03	.7719+03	.4336+03	.1590-01
P-H2O/P-PROP= 9.0000							
.6613+04	.2802+04	.7308+05	.2360+01	.2012+03	.7340+03	.4136+03	.1336-01
P-H2O/P-PROP= 10.0000							
.7666+04	.2681+04	.6957+05	.2860+01	.2008+03	.7022+03	.3937+03	.1153-01
P-H2O/P-PROP= 11.0000							
.8715+04	.2564+04	.6619+05	.3399+01	.2003+03	.6754+03	.3746+03	.1014-01
P-H2O/P-PROP= 12.0000							
.9771+04	.2440+04	.6260+05	.4005+01	.1998+03	.6575+03	.3543+03	.9044-02
P-H2O/P-PROP= 13.0000							
.1082+05	.2326+04	.5930+05	.4650+01	.1992+03	.6424+03	.3356+03	.8169-02
P-H2O/P-PROP= 14.0000							
.1186+05	.2212+04	.5601+05	.5362+01	.1986+03	.6334+03	.3169+03	.7449-02
P-H2O/P-PROP= 15.0000							
.1291+05	.2102+04	.5280+05	.6141+01	.1978+03	.6292+03	.2988+03	.6847-02
P-H2O/P-PROP= 16.0000							
.1395+05	.1995+04	.4970+05	.6992+01	.1970+03	.6293+03	.2812+03	.6337-02
P-H2O/P-PROP= 17.0000							
.1499+05	.1881+04	.4641+05	.7968+01	.1961+03	.6382+03	.2626+03	.5895-02
P-H2O/P-PROP= 18.0000							
.1603+05	.1777+04	.4339+05	.9018+01	.1950+03	.6485+03	.2456+03	.5514-02
P-H2O/P-PROP= 19.0000							
.1706+05	.1676+04	.4045+05	.1018+02	.1938+03	.6629+03	.2289+03	.5180-02
P-H2O/P-PROP= 20.0000							
.1808+05	.1592+04	.3801+05	.1136+02	.1927+03	.6730+03	.2151+03	.4889-02

DIA-FT= 17.50 LB AIR/LB PROP= .1000 THRUST= 250000.

N2O4-A50

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.9321+03	.4540+02	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2709+03	.3551+04	.9475+05	.7629-01	.2032+03	.8474+03	.3939+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1330+04	.3424+04	.9109+05	.3883+00	.2029+03	.8093+03	.3787+03	.6646-01
P-H2O/P-PROP= 5.0000							
.2398+04	.3298+04	.8744+05	.7240+00	.2026+03	.7747+03	.3635+03	.3701-01
P-H2O/P-PROP= 6.0000							
.3445+04	.3173+04	.8381+05	.1086+01	.2023+03	.7438+03	.3485+03	.2565-01
P-H2O/P-PROP= 7.0000							
.4502+04	.3048+04	.8021+05	.1477+01	.2020+03	.7164+03	.3335+03	.1963-01
P-H2O/P-PROP= 8.0000							
.5558+04	.2925+04	.7663+05	.1900+01	.2016+03	.6924+03	.3186+03	.1590-01
P-H2O/P-PROP= 9.0000							
.6613+04	.2802+04	.7308+05	.2360+01	.2012+03	.6719+03	.3038+03	.1336-01
P-H2O/P-PROP= 10.0000							
.7666+04	.2681+04	.6957+05	.2860+01	.2008+03	.6546+03	.2892+03	.1153-01
P-H2O/P-PROP= 11.0000							
.8715+04	.2564+04	.6619+05	.3399+01	.2003+03	.6403+03	.2752+03	.1014-01
P-H2O/P-PROP= 12.0000							
.9771+04	.2440+04	.6260+05	.4005+01	.1998+03	.6306+03	.2603+03	.9044-02
P-H2O/P-PROP= 13.0000							
.1082+05	.2326+04	.5930+05	.4650+01	.1992+03	.6225+03	.2466+03	.8169-02
P-H2O/P-PROP= 14.0000							
.1186+05	.2212+04	.5601+05	.5362+01	.1986+03	.6177+03	.2328+03	.7449-02
P-H2O/P-PROP= 15.0000							
.1291+05	.2102+04	.5280+05	.6141+01	.1978+03	.6154+03	.2195+03	.6847-02
P-H2O/P-PROP= 16.0000							
.1395+05	.1995+04	.4970+05	.6992+01	.1970+03	.6154+03	.2066+03	.6337-02
P-H2O/P-PROP= 17.0000							
.1499+05	.1881+04	.4641+05	.7968+01	.1961+03	.6202+03	.1930+03	.5895-02
P-H2O/P-PROP= 18.0000							
.1603+05	.1777+04	.4339+05	.9018+01	.1950+03	.6258+03	.1804+03	.5514-02
P-H2O/P-PROP= 19.0000							
.1706+05	.1676+04	.4045+05	.1018+02	.1938+03	.6336+03	.1682+03	.5180-02
P-H2O/P-PROP= 20.0000							
.1808+05	.1592+04	.3801+05	.1136+02	.1927+03	.6390+03	.1580+03	.4889-02

DIA-FT= 20.00 LB AIR/LB PROP= .1000 THRUST= 250000.

N2O4-A50

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.9321+03	.4540+02	.2802+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2709+03	.3551+04	.9475+05	.7629-01	.2032+03	.6833+03	.3016+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1330+04	.3424+04	.9109+05	.3883+00	.2029+03	.6609+03	.2899+03	.6646-01
P-H2O/P-PROP= 5.0000							
.2368+04	.3298+04	.8744+05	.7240+00	.2026+03	.6407+03	.2783+03	.3731-01
P-H2O/P-PROP= 6.0000							
.3445+04	.3173+04	.8381+05	.1086+01	.2023+03	.6225+03	.2668+03	.2565-01
P-H2O/P-PROP= 7.0000							
.4502+04	.3048+04	.8021+05	.1477+01	.2020+03	.6064+03	.2553+03	.1963-01
P-H2O/P-PROP= 8.0000							
.5558+04	.2925+04	.7663+05	.1900+01	.2016+03	.5924+03	.2439+03	.1590-01
P-H2O/P-PROP= 9.0000							
.6613+04	.2802+04	.7308+05	.2360+01	.2012+03	.5804+03	.2326+03	.1336-01
P-H2O/P-PROP= 10.0000							
.7666+04	.2681+04	.6957+05	.2860+01	.2008+03	.5703+03	.2214+03	.1153-01
P-H2O/P-PROP= 11.0000							
.8715+04	.2564+04	.6619+05	.3399+01	.2003+03	.5619+03	.2107+03	.1014-01
P-H2O/P-PROP= 12.0000							
.9771+04	.2440+04	.6260+05	.4005+01	.1998+03	.5562+03	.1993+03	.9044-02
P-H2O/P-PROP= 13.0000							
.1082+05	.2326+04	.5930+05	.4650+01	.1992+03	.5514+03	.1888+03	.8169-02
P-H2O/P-PROP= 14.0000							
.1186+05	.2212+04	.5601+05	.5362+01	.1986+03	.5486+03	.1783+03	.7449-02
P-H2O/P-PROP= 15.0000							
.1291+05	.2102+04	.5280+05	.6141+01	.1978+03	.5472+03	.1681+03	.6847-02
P-H2O/P-PROP= 16.0000							
.1395+05	.1995+04	.4970+05	.6992+01	.1970+03	.5473+03	.1582+03	.6337-02
P-H2O/P-PROP= 17.0000							
.1499+05	.1881+04	.4641+05	.7968+01	.1961+03	.5501+03	.1477+03	.5895-02
P-H2O/P-PROP= 18.0000							
.1603+05	.1777+04	.4339+05	.9018+01	.1950+03	.5533+03	.1381+03	.5514-02
P-H2O/P-PROP= 19.0000							
.1706+05	.1676+04	.4045+05	.1018+02	.1938+03	.5579+03	.1288+03	.5180-02
P-H2O/P-PROP= 20.0000							
.1808+05	.1592+04	.3801+05	.1136+02	.1927+03	.5611+03	.1210+03	.4889-02

DIA-FT= 22.50 LB AIR/LB PROP= .1000 THRUST= 250000.

N2O4-A50

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.9321+03	.4540+02	.2802+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2709+03	.3551+04	.9475+05	.7629-01	.2032+03	.5585+03	.2383+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1330+04	.3424+04	.9109+05	.3883+00	.2029+03	.5446+03	.2291+03	.6646-01
P-H2O/P-PROP= 5.0000							
.2368+04	.3298+04	.8744+05	.7240+00	.2026+03	.5319+03	.2199+03	.3701-01
P-H2O/P-PROP= 6.0000							
.3445+04	.3173+04	.8381+05	.1086+01	.2023+03	.5206+03	.2108+03	.2565-01
P-H2O/P-PROP= 7.0000							
.4502+04	.3048+04	.8021+05	.1477+01	.2020+03	.5106+03	.2017+03	.1963-01
P-H2O/P-PROP= 8.0000							
.5558+04	.2925+04	.7663+05	.1900+01	.2016+03	.5018+03	.1927+03	.1590-01
P-H2O/P-PROP= 9.0000							
.6613+04	.2802+04	.7308+05	.2360+01	.2012+03	.4943+03	.1838+03	.1336-01
P-H2O/P-PROP= 10.0000							
.7666+04	.2681+04	.6957+05	.2860+01	.2008+03	.4880+03	.1750+03	.1153-01
P-H2O/P-PROP= 11.0000							
.8715+04	.2564+04	.6619+05	.3399+01	.2003+03	.4827+03	.1665+03	.1014-01
P-H2O/P-PROP= 12.0000							
.9771+04	.2440+04	.6260+05	.4005+01	.1998+03	.4792+03	.1574+03	.9044-02
P-H2O/P-PROP= 13.0000							
.1082+05	.2326+04	.5930+05	.4650+01	.1992+03	.4762+03	.1491+03	.8169-02
P-H2O/P-PROP= 14.0000							
.1186+05	.2212+04	.5601+05	.5362+01	.1986+03	.4744+03	.1409+03	.7449-02
P-H2O/P-PROP= 15.0000							
.1291+05	.2102+04	.5280+05	.6141+01	.1978+03	.4736+03	.1328+03	.6847-02
P-H2O/P-PROP= 16.0000							
.1395+05	.1995+04	.4970+05	.6992+01	.1970+03	.4736+03	.1250+03	.6337-02
P-H2O/P-PROP= 17.0000							
.1499+05	.1881+04	.4641+05	.7968+01	.1961+03	.4754+03	.1167+03	.5895-02
P-H2O/P-PROP= 18.0000							
.1603+05	.1777+04	.4339+05	.9018+01	.1950+03	.4774+03	.1091+03	.5514-02
P-H2O/P-PROP= 19.0000							
.1706+05	.1676+04	.4045+05	.1018+02	.1938+03	.4803+03	.1017+03	.5180-02
P-H2O/P-PROP= 20.0000							
.1808+05	.1592+04	.3801+05	.1136+02	.1927+03	.4823+03	.9560+02	.4889-02

DIA-FT= 25.00 LB AIR/LB PROP= .1000 THRUST= 250000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.9321+03	.4540+02	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2709+03	.3551+04	.9475+05	.7629-01	.2032+03	.4632+03	.1930+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1330+04	.3424+04	.9109+05	.3883+00	.2029+03	.4541+03	.1856+03	.6646-01
P-H2O/P-PROP= 5.0000							
.2388+04	.3298+04	.8744+05	.7240+00	.2026+03	.4458+03	.1781+03	.3701-01
P-H2O/P-PROP= 6.0000							
.3445+04	.3173+04	.8381+05	.1086+01	.2023+03	.4383+03	.1707+03	.2565-01
P-H2O/P-PROP= 7.0000							
.4502+04	.3048+04	.8021+05	.1477+01	.2020+03	.4317+03	.1634+03	.1963-01
P-H2O/P-PROP= 8.0000							
.5558+04	.2925+04	.7663+05	.1900+01	.2016+03	.4260+03	.1561+03	.1590-01
P-H2O/P-PROP= 9.0000							
.6613+04	.2802+04	.7308+05	.2360+01	.2012+03	.4211+03	.1489+03	.1336-01
P-H2O/P-PROP= 10.0000							
.7666+04	.2681+04	.6957+05	.2860+01	.2008+03	.4170+03	.1417+03	.1153-01
P-H2O/P-PROP= 11.0000							
.8715+04	.2564+04	.6619+05	.3399+01	.2003+03	.4135+03	.1348+03	.1014-01
P-H2O/P-PROP= 12.0000							
.9771+04	.2440+04	.6260+05	.4005+01	.1998+03	.4112+03	.1275+03	.9044-02
P-H2O/P-PROP= 13.0000							
.1082+05	.2326+04	.5930+05	.4650+01	.1992+03	.4092+03	.1208+03	.8169-02
P-H2O/P-PROP= 14.0000							
.1186+05	.2212+04	.5601+05	.5362+01	.1986+03	.4080+03	.1141+03	.7449-02
P-H2O/P-PROP= 15.0000							
.1291+05	.2102+04	.5280+05	.6141+01	.1978+03	.4075+03	.1076+03	.6847-02
P-H2O/P-PROP= 16.0000							
.1395+05	.1995+04	.4970+05	.6992+01	.1970+03	.4075+03	.1012+03	.6337-02
P-H2O/P-PROP= 17.0000							
.1499+05	.1881+04	.4641+05	.7968+01	.1961+03	.4087+03	.9455+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1603+05	.1777+04	.4339+05	.9018+01	.1950+03	.4100+03	.8840+02	.5514-02
P-H2O/P-PROP= 19.0000							
.1706+05	.1676+04	.4045+05	.1018+02	.1938+03	.4119+03	.8241+02	.5180-02
P-H2O/P-PROP= 20.0000							
.1808+05	.1592+04	.3801+05	.1136+02	.1927+03	.4132+03	.7744+02	.4889-02

DIA-FT= 27.50 LB AIR/LB PROP= .1000 THRUST= 250000.

N2O4-A50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.9321+03	.4540+02	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2709+03	.3551+04	.9475+05	.7629-01	.2032+03	.3894+03	.1995+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1330+04	.3424+04	.9109+05	.3883+00	.2029+03	.3832+03	.1934+03	.6646-01
P-H2O/P-PROP= 5.0000							
.2388+04	.3298+04	.8744+05	.7240+00	.2026+03	.3775+03	.1472+03	.3701-01
P-H2O/P-PROP= 6.0000							
.3445+04	.3173+04	.8381+05	.1086+01	.2023+03	.3724+03	.1411+03	.2565-01
P-H2O/P-PROP= 7.0000							
.4502+04	.3048+04	.8021+05	.1477+01	.2020+03	.3679+03	.1350+03	.1963-01
P-H2O/P-PROP= 8.0000							
.5558+04	.2925+04	.7663+05	.1900+01	.2016+03	.3640+03	.1290+03	.1590-01
P-H2O/P-PROP= 9.0000							
.6613+04	.2802+04	.7308+05	.2360+01	.2012+03	.3606+03	.1230+03	.1336-01
P-H2O/P-PROP= 10.0000							
.7666+04	.2681+04	.6957+05	.2860+01	.2008+03	.3578+03	.1171+03	.1153-01
P-H2O/P-PROP= 11.0000							
.8715+04	.2564+04	.6619+05	.3399+01	.2003+03	.3555+03	.1114+03	.1014-01
P-H2O/P-PROP= 12.0000							
.9771+04	.2440+04	.6260+05	.4005+01	.1998+03	.3539+03	.1054+03	.9044-02
P-H2O/P-PROP= 13.0000							
.1082+05	.2326+04	.5930+05	.4650+01	.1992+03	.3525+03	.9984+02	.8169-02
P-H2O/P-PROP= 14.0000							
.1186+05	.2212+04	.5601+05	.5362+01	.1986+03	.3517+03	.9429+02	.7449-02
P-H2O/P-PROP= 15.0000							
.1291+05	.2102+04	.5280+05	.6141+01	.1978+03	.3514+03	.8889+02	.6847-02
P-H2O/P-PROP= 16.0000							
.1395+05	.1995+04	.4970+05	.6992+01	.1970+03	.3514+03	.8367+02	.6337-02
P-H2O/P-PROP= 17.0000							
.1499+05	.1881+04	.4641+05	.7968+01	.1961+03	.3522+03	.7814+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1603+05	.1777+04	.4339+05	.9018+01	.1950+03	.3531+03	.7306+02	.5514-02
P-H2O/P-PROP= 19.0000							
.1706+05	.1676+04	.4045+05	.1018+02	.1938+03	.3544+03	.6810+02	.5180-02
P-H2O/P-PROP= 20.0000							
.1808+05	.1592+04	.3801+05	.1136+02	.1927+03	.3553+03	.6400+02	.4889-02

DIA-FT= 30.00 LB AIR/LB PROP= .1000 THRUST= 250000.

N2O4-A/50

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.9321+03	.4540+02	.2682+03	.2930+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.2709+03	.3551+04	.9475+05	.7629-01	.2032+03	.3315+03	.1340+03	.3262+00
P-H2O/P-PROP= 4.0000							
.1330+04	.3424+04	.9109+05	.3883+00	.2029+03	.3270+03	.1289+03	.6846-01
P-H2O/P-PROP= 5.0000							
.2388+04	.3298+04	.8744+05	.7240+00	.2026+03	.3230+03	.1237+03	.3701-01
P-H2O/P-PROP= 6.0000							
.3445+04	.3173+04	.8381+05	.1086+01	.2023+03	.3195+03	.1186+03	.2565-01
P-H2O/P-PROP= 7.0000							
.4502+04	.3048+04	.8021+05	.1477+01	.2020+03	.3163+03	.1135+03	.1963-01
P-H2O/P-PROP= 8.0000							
.5558+04	.2925+04	.7663+05	.1900+01	.2016+03	.3135+03	.1084+03	.1590-01
P-H2O/P-PROP= 9.0000							
.6613+04	.2802+04	.7308+05	.2360+01	.2012+03	.3111+03	.1034+03	.1336-01
P-H2O/P-PROP= 10.0000							
.7666+04	.2681+04	.6957+05	.2860+01	.2008+03	.3091+03	.9842+02	.1153-01
P-H2O/P-PROP= 11.0000							
.8715+04	.2564+04	.6619+05	.3399+01	.2003+03	.3075+03	.9364+02	.1014-01
P-H2O/P-PROP= 12.0000							
.9771+04	.2440+04	.6260+05	.4005+01	.1998+03	.3064+03	.8858+02	.9044-02
P-H2O/P-PROP= 13.0000							
.1082+05	.2326+04	.5930+05	.4650+01	.1992+03	.3054+03	.8390+02	.8169-02
P-H2O/P-PROP= 14.0000							
.1186+05	.2212+04	.5601+05	.5362+01	.1986+03	.3048+03	.7923+02	.7449-02
P-H2O/P-PROP= 15.0000							
.1291+05	.2102+04	.5280+05	.6141+01	.1978+03	.3046+03	.7469+02	.6847-02
P-H2O/P-PROP= 16.0000							
.1395+05	.1995+04	.4970+05	.6992+01	.1970+03	.3046+03	.7031+02	.6337-02
P-H2O/P-PROP= 17.0000							
.1499+05	.1881+04	.4641+05	.7968+01	.1961+03	.3051+03	.6566+02	.5895-02
P-H2O/P-PROP= 18.0000							
.1603+05	.1777+04	.4339+05	.9018+01	.1950+03	.3058+03	.6139+02	.5514-02
P-H2O/P-PROP= 19.0000							
.1706+05	.1676+04	.4045+05	.1018+02	.1938+03	.3067+03	.5723+02	.5180-02
P-H2O/P-PROP= 20.0000							
.1808+05	.1592+04	.3801+05	.1136+02	.1927+03	.3073+03	.5378+02	.4889-02

DIA-FT= 15.00 LB AIR/LB PROP= .1000 THRUST= 250000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.8645+03	.1668+04	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.4398+03	.3969+04	.1118+06	.1108+00	.2072+03	.7485+03	.6328+03	.4169+01
P-H20/P-PROP= 5.0000							
.1426+04	.3847+04	.1083+06	.3707+00	.2071+03	.6764+03	.6129+03	.1286+01
P-H20/P-PROP= 6.0000							
.2412+04	.3725+04	.1048+06	.6475+00	.2070+03	.6104+03	.5930+03	.7601+00
P-H20/P-PROP= 7.0000							
.3398+04	.3604+04	.1013+06	.9429+00	.2070+03	.5502+03	.5731+03	.5396+00
P-H20/P-PROP= 8.0000							
.4384+04	.3483+04	.9776+05	.1259+01	.2069+03	.4961+03	.5532+03	.4182+00
P-H20/P-PROP= 9.0000							
.5369+04	.3362+04	.9426+05	.1597+01	.2068+03	.4479+03	.5334+03	.3415+00
P-H20/P-PROP= 10.0000							
.6355+04	.3241+04	.9077+05	.1961+01	.2067+03	.4058+03	.5136+03	.2885+00
P-H20/P-PROP= 11.0000							
.7340+04	.3120+04	.8728+05	.2353+01	.2066+03	.3695+03	.4939+03	.2498+00
P-H20/P-PROP= 12.0000							
.8325+04	.3000+04	.8379+05	.2775+01	.2065+03	.3392+03	.4742+03	.2202+00
P-H20/P-PROP= 13.0000							
.9309+04	.2879+04	.8032+05	.3233+01	.2064+03	.3147+03	.4545+03	.1970+00
P-H20/P-PROP= 14.0000							
.1029+05	.2760+04	.7685+05	.3730+01	.2062+03	.2961+03	.4349+03	.1781+00
P-H20/P-PROP= 15.0000							
.1128+05	.2640+04	.7340+05	.4272+01	.2061+03	.2833+03	.4154+03	.1626+00
P-H20/P-PROP= 16.0000							
.1226+05	.2521+04	.6996+05	.4864+01	.2059+03	.2762+03	.3959+03	.1495+00
P-H20/P-PROP= 17.0000							
.1324+05	.2402+04	.6653+05	.5513+01	.2057+03	.2748+03	.3765+03	.1384+00
P-H20/P-PROP= 18.0000							
.1423+05	.2284+04	.6312+05	.6227+01	.2055+03	.2790+03	.3572+03	.1289+00
P-H20/P-PROP= 19.0000							
.1521+05	.2167+04	.5972+05	.7018+01	.2053+03	.2887+03	.3380+03	.1206+00
P-H20/P-PROP= 20.0000							
.1619+05	.2051+04	.5635+05	.7895+01	.2051+03	.3038+03	.3189+03	.1133+00

DIA-FT= 17.50 LB AIR/LB PROP= .1000 THRUST= 250000.

CLFS-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.8645+03	.1668+04	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.4396+03	.3969+04	.1118+06	.1108+00	.2072+03	.6798+03	.4649+03	.4169+01
P-H20/P-PROP= 5.0000							
.1426+04	.3847+04	.1083+06	.3707+00	.2071+03	.6409+03	.4503+03	.1286+01
P-H20/P-PROP= 6.0000							
.2412+04	.3725+04	.1048+06	.6475+00	.2070+03	.6052+03	.4356+03	.7601+00
P-H20/P-PROP= 7.0000							
.3398+04	.3604+04	.1013+06	.9429+00	.2070+03	.5727+03	.4210+03	.5396+00
P-H20/P-PROP= 8.0000							
.4384+04	.3483+04	.9776+05	.1259+01	.2069+03	.5435+03	.4065+03	.4182+00
P-H20/P-PROP= 9.0000							
.5369+04	.3362+04	.9426+05	.1597+01	.2068+03	.5175+03	.3919+03	.3415+00
P-H20/P-PROP= 10.0000							
.6355+04	.3241+04	.9077+05	.1961+01	.2067+03	.4948+03	.3774+03	.2885+00
P-H20/P-PROP= 11.0000							
.7340+04	.3120+04	.8728+05	.2353+01	.2066+03	.4752+03	.3629+03	.2498+00
P-H20/P-PROP= 12.0000							
.8325+04	.3000+04	.8379+05	.2775+01	.2065+03	.4589+03	.3484+03	.2202+00
P-H20/P-PROP= 13.0000							
.9309+04	.2879+04	.8032+05	.3233+01	.2064+03	.4456+03	.3339+03	.1970+00
P-H20/P-PROP= 14.0000							
.1029+05	.2760+04	.7685+05	.3730+01	.2062+03	.4356+03	.3195+03	.1781+00
P-H20/P-PROP= 15.0000							
.1128+05	.2640+04	.7340+05	.4272+01	.2061+03	.4287+03	.3052+03	.1626+00
P-H20/P-PROP= 16.0000							
.1226+05	.2521+04	.6996+05	.4864+01	.2059+03	.4249+03	.2909+03	.1495+00
P-H20/P-PROP= 17.0000							
.1324+05	.2402+04	.6653+05	.5513+01	.2057+03	.4241+03	.2766+03	.1384+00
P-H20/P-PROP= 18.0000							
.1423+05	.2284+04	.6312+05	.6227+01	.2055+03	.4264+03	.2624+03	.1289+00
P-H20/P-PROP= 19.0000							
.1521+05	.2167+04	.5972+05	.7018+01	.2053+03	.4316+03	.2483+03	.1206+00
P-H20/P-PROP= 20.0000							
.1619+05	.2051+04	.5635+05	.7895+01	.2051+03	.4398+03	.2343+03	.1133+00

DIA-FT= 20.00 LB AIR/LB PROP= .1000 THRUST= 250000.

CL F5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.8645+03	.1668+04	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.4398+03	.3969+04	.1118+06	.1108+00	.2072+03	.5850+03	.3559+03	.4169+01
P-H20/P-PROP= 5.0000							
.1426+04	.3847+04	.1083+06	.3707+00	.2071+03	.5622+03	.3447+03	.1286+01
P-H20/P-PROP= 6.0000							
.2412+04	.3725+04	.1048+06	.6475+00	.2070+03	.5413+03	.3335+03	.7601+00
P-H20/P-PROP= 7.0000							
.3398+04	.3604+04	.1013+06	.9429+00	.2070+03	.5222+03	.3224+03	.5396+00
P-H20/P-PROP= 8.0000							
.4384+04	.3483+04	.9776+05	.1259+01	.2069+03	.5051+03	.3112+03	.4182+00
P-H20/P-PROP= 9.0000							
.5369+04	.3362+04	.9426+05	.1597+01	.2068+03	.4899+03	.3000+03	.3415+00
P-H20/P-PROP= 10.0000							
.6355+04	.3241+04	.9077+05	.1961+01	.2067+03	.4765+03	.2889+03	.2885+00
P-H20/P-PROP= 11.0000							
.7340+04	.3120+04	.8728+05	.2353+01	.2066+03	.4651+03	.2778+03	.2498+00
P-H20/P-PROP= 12.0000							
.8325+04	.3000+04	.8379+05	.2775+01	.2065+03	.4555+03	.2667+03	.2202+00
P-H20/P-PROP= 13.0000							
.9309+04	.2879+04	.8032+05	.3233+01	.2064+03	.4477+03	.2557+03	.1970+00
P-H20/P-PROP= 14.0000							
.1029+05	.2760+04	.7685+05	.3730+01	.2062+03	.4419+03	.2446+03	.1781+00
P-H20/P-PROP= 15.0000							
.1128+05	.2640+04	.7340+05	.4272+01	.2061+03	.4378+03	.2336+03	.1626+00
P-H20/P-PROP= 16.0000							
.1226+05	.2521+04	.6996+05	.4864+01	.2059+03	.4356+03	.2227+03	.1495+00
P-H20/P-PROP= 17.0000							
.1324+05	.2402+04	.6653+05	.5513+01	.2057+03	.4351+03	.2118+03	.1384+00
P-H20/P-PROP= 18.0000							
.1423+05	.2284+04	.6312+05	.6227+01	.2055+03	.4364+03	.2009+03	.1289+00
P-H20/P-PROP= 19.0000							
.1521+05	.2167+04	.5972+05	.7018+01	.2053+03	.4395+03	.1901+03	.1206+00
P-H20/P-PROP= 20.0000							
.1619+05	.2051+04	.5635+05	.7895+01	.2051+03	.4443+03	.1794+03	.1133+00

DIA-FT= 22.50 LB AIR/LB PROP= .1000 THRUST= 250000.

CL F5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.8645+03	.1668+04	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 4.0000							
.4398+03	.3969+04	.1118+06	.1108+00	.2072+03	.4972+03	.2812+03	.4169+01
P-H20/P-PROP= 5.0000							
.1426+04	.3847+04	.1083+06	.3707+00	.2071+03	.4829+03	.2724+03	.1286+01
P-H20/P-PROP= 6.0000							
.2412+04	.3725+04	.1048+06	.6475+00	.2070+03	.4699+03	.2635+03	.7601+00
P-H20/P-PROP= 7.0000							
.3398+04	.3604+04	.1013+06	.9429+00	.2070+03	.4580+03	.2547+03	.5396+00
P-H20/P-PROP= 8.0000							
.4384+04	.3483+04	.9776+05	.1259+01	.2069+03	.4473+03	.2459+03	.4182+00
P-H20/P-PROP= 9.0000							
.5369+04	.3362+04	.9426+05	.1597+01	.2068+03	.4378+03	.2371+03	.3415+00
P-H20/P-PROP= 10.0000							
.6355+04	.3241+04	.9077+05	.1961+01	.2067+03	.4295+03	.2283+03	.2885+00
P-H20/P-PROP= 11.0000							
.7340+04	.3120+04	.8728+05	.2353+01	.2066+03	.4223+03	.2195+03	.2498+00
P-H20/P-PROP= 12.0000							
.8325+04	.3000+04	.8379+05	.2775+01	.2065+03	.4163+03	.2107+03	.2202+00
P-H20/P-PROP= 13.0000							
.9309+04	.2879+04	.8032+05	.3233+01	.2064+03	.4115+03	.2020+03	.1970+00
P-H20/P-PROP= 14.0000							
.1029+05	.2760+04	.7685+05	.3730+01	.2062+03	.4078+03	.1933+03	.1781+00
P-H20/P-PROP= 15.0000							
.1128+05	.2640+04	.7340+05	.4272+01	.2061+03	.4053+03	.1846+03	.1626+00
P-H20/P-PROP= 16.0000							
.1226+05	.2521+04	.6996+05	.4864+01	.2059+03	.4039+03	.1759+03	.1495+00
P-H20/P-PROP= 17.0000							
.1324+05	.2402+04	.6653+05	.5513+01	.2057+03	.4036+03	.1673+03	.1384+00
P-H20/P-PROP= 18.0000							
.1423+05	.2284+04	.6312+05	.6227+01	.2055+03	.4044+03	.1587+03	.1289+00
P-H20/P-PROP= 19.0000							
.1521+05	.2167+04	.5972+05	.7018+01	.2053+03	.4063+03	.1502+03	.1206+00
P-H20/P-PROP= 20.0000							
.1619+05	.2051+04	.5635+05	.7895+01	.2051+03	.4093+03	.1417+03	.1133+00

DIA-FT= 25.00 LB AIR/LB PROP= .1000 THRUST= 250000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.8645+03	.1668+04	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	VEL P-PSF	V-FT/SEC	K X/M20
P-M20/P-PROP= 4.0000							
.4398+03	.3969+04	.1118+06	.1108+00	.2072+03	.4230+03	.2278+03	.4169+01
P-M20/P-PROP= 5.0000							
.1426+04	.3847+04	.1083+06	.3707+00	.2071+03	.4136+03	.2206+03	.1286+01
P-M20/P-PROP= 6.0000							
.2412+04	.3725+04	.1048+06	.6475+00	.2070+03	.4050+03	.2135+03	.7601+00
P-M20/P-PROP= 7.0000							
.3398+04	.3604+04	.1013+06	.9429+00	.2070+03	.3973+03	.2063+03	.5396+00
P-M20/P-PROP= 8.0000							
.4384+04	.3483+04	.9776+05	.1259+01	.2069+03	.3902+03	.1992+03	.4182+00
P-M20/P-PROP= 9.0000							
.5369+04	.3362+04	.9426+05	.1597+01	.2068+03	.3840+03	.1920+03	.3415+00
P-M20/P-PROP= 10.0000							
.6355+04	.3241+04	.9077+05	.1961+01	.2067+03	.3789+03	.1849+03	.2885+00
P-M20/P-PROP= 11.0000							
.7340+04	.3120+04	.8728+05	.2353+01	.2066+03	.3738+03	.1778+03	.2498+00
P-M20/P-PROP= 12.0000							
.8325+04	.3000+04	.8379+05	.2775+01	.2065+03	.3699+03	.1707+03	.2202+00
P-M20/P-PROP= 13.0000							
.9309+04	.2879+04	.8032+05	.3233+01	.2064+03	.3667+03	.1636+03	.1970+00
P-M20/P-PROP= 14.0000							
.1029+05	.2760+04	.7685+05	.3730+01	.2062+03	.3643+03	.1566+03	.1781+00
P-M20/P-PROP= 15.0000							
.1128+05	.2640+04	.7340+05	.4272+01	.2061+03	.3627+03	.1495+03	.1626+00
P-M20/P-PROP= 16.0000							
.1226+05	.2521+04	.6996+05	.4864+01	.2059+03	.3618+03	.1425+03	.1495+00
P-M20/P-PROP= 17.0000							
.1324+05	.2402+04	.6653+05	.5513+01	.2057+03	.3616+03	.1355+03	.1384+00
P-M20/P-PROP= 18.0000							
.1423+05	.2284+04	.6312+05	.6227+01	.2055+03	.3621+03	.1286+03	.1289+00
P-M20/P-PROP= 19.0000							
.1521+05	.2167+04	.5972+05	.7018+01	.2053+03	.3634+03	.1217+03	.1206+00
P-M20/P-PROP= 20.0000							
.1619+05	.2051+04	.5635+05	.7895+01	.2051+03	.3653+03	.1148+03	.1133+00

DIA-FT= 27.50 LB AIR/LB PROP= .1000 THRUST= 250000.

CLF5-HYDRAZINE

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.8645+03	.1668+04	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	VEL P-PSF	V-FT/SEC	K X/M20
P-M20/P-PROP= 4.0000							
.4398+03	.3969+04	.1118+06	.1108+00	.2072+03	.3619+03	.1883+03	.4169+01
P-M20/P-PROP= 5.0000							
.1426+04	.3847+04	.1083+06	.3707+00	.2071+03	.3556+03	.1823+03	.1286+01
P-M20/P-PROP= 6.0000							
.2412+04	.3725+04	.1048+06	.6475+00	.2070+03	.3497+03	.1764+03	.7601+00
P-M20/P-PROP= 7.0000							
.3398+04	.3604+04	.1013+06	.9429+00	.2070+03	.3444+03	.1705+03	.5396+00
P-M20/P-PROP= 8.0000							
.4384+04	.3483+04	.9776+05	.1259+01	.2069+03	.3396+03	.1646+03	.4182+00
P-M20/P-PROP= 9.0000							
.5369+04	.3362+04	.9426+05	.1597+01	.2068+03	.3353+03	.1587+03	.3415+00
P-M20/P-PROP= 10.0000							
.6355+04	.3241+04	.9077+05	.1961+01	.2067+03	.3316+03	.1528+03	.2885+00
P-M20/P-PROP= 11.0000							
.7340+04	.3120+04	.8728+05	.2353+01	.2066+03	.3284+03	.1469+03	.2498+00
P-M20/P-PROP= 12.0000							
.8325+04	.3000+04	.8379+05	.2775+01	.2065+03	.3257+03	.1411+03	.2202+00
P-M20/P-PROP= 13.0000							
.9309+04	.2879+04	.8032+05	.3233+01	.2064+03	.3235+03	.1352+03	.1970+00
P-M20/P-PROP= 14.0000							
.1029+05	.2760+04	.7685+05	.3730+01	.2062+03	.3219+03	.1294+03	.1781+00
P-M20/P-PROP= 15.0000							
.1128+05	.2640+04	.7340+05	.4272+01	.2061+03	.3208+03	.1236+03	.1626+00
P-M20/P-PROP= 16.0000							
.1226+05	.2521+04	.6996+05	.4864+01	.2059+03	.3201+03	.1178+03	.1495+00
P-M20/P-PROP= 17.0000							
.1324+05	.2402+04	.6653+05	.5513+01	.2057+03	.3200+03	.1120+03	.1384+00
P-M20/P-PROP= 18.0000							
.1423+05	.2284+04	.6312+05	.6227+01	.2055+03	.3204+03	.1063+03	.1289+00
P-M20/P-PROP= 19.0000							
.1521+05	.2167+04	.5972+05	.7018+01	.2053+03	.3212+03	.1006+03	.1206+00
P-M20/P-PROP= 20.0000							
.1619+05	.2051+04	.5635+05	.7895+01	.2051+03	.3226+03	.9488+02	.1133+00

DIA-FT= 30.00 LB AIR/LB PROP= .1000 THRUST= 250000.

CLF5-HYDRAZINE

PROP-P/SEC	KGW P/SEC	ISP	BTU/PP
.8645+03	.1668+04	.2892+03	.2958+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 4.0000							
.4398+03	.3969+04	.1118+06	.1108+00	.2072+03	.3120+03	.1582+03	.4169+01
P-H2O/P-PROP= 5.0000							
.1426+04	.3847+04	.1083+06	.3707+00	.2071+03	.3075+03	.1532+03	.1286+01
P-H2O/P-PROP= 6.0000							
.2412+04	.3725+04	.1048+06	.6475+00	.2070+03	.3034+03	.1482+03	.7601+00
P-H2O/P-PROP= 7.0000							
.3398+04	.3604+04	.1013+06	.9429+00	.2070+03	.2996+03	.1433+03	.5396+00
P-H2O/P-PROP= 8.0000							
.4384+04	.3483+04	.9776+05	.1259+01	.2069+03	.2963+03	.1383+03	.4182+00
P-H2O/P-PROP= 9.0000							
.5369+04	.3362+04	.9426+05	.1597+01	.2068+03	.2933+03	.1334+03	.3415+00
P-H2O/P-PROP= 10.0000							
.6355+04	.3241+04	.9077+05	.1961+01	.2067+03	.2906+03	.1284+03	.2885+00
P-H2O/P-PROP= 11.0000							
.7340+04	.3120+04	.8728+05	.2353+01	.2066+03	.2884+03	.1235+03	.2498+00
P-H2O/P-PROP= 12.0000							
.8325+04	.3000+04	.8379+05	.2775+01	.2065+03	.2865+03	.1185+03	.2202+00
P-H2O/P-PROP= 13.0000							
.9309+04	.2879+04	.8032+05	.3233+01	.2064+03	.2849+03	.1136+03	.1970+00
P-H2O/P-PROP= 14.0000							
.1029+05	.2760+04	.7685+05	.3730+01	.2062+03	.2838+03	.1087+03	.1781+00
P-H2O/P-PROP= 15.0000							
.1128+05	.2640+04	.7340+05	.4272+01	.2061+03	.2830+03	.1038+03	.1626+00
P-H2O/P-PROP= 16.0000							
.1226+05	.2521+04	.6996+05	.4864+01	.2059+03	.2825+03	.9897+02	.1495+00
P-H2O/P-PROP= 17.0000							
.1324+05	.2402+04	.6653+05	.5513+01	.2057+03	.2824+03	.9412+02	.1384+00
P-H2O/P-PROP= 18.0000							
.1423+05	.2284+04	.6312+05	.6227+01	.2055+03	.2827+03	.8929+02	.1289+00
P-H2O/P-PROP= 19.0000							
.1521+05	.2167+04	.5972+05	.7018+01	.2053+03	.2833+03	.8449+02	.1206+00
P-H2O/P-PROP= 20.0000							
.1619+05	.2051+04	.5635+05	.7895+01	.2051+03	.2843+03	.7972+02	.1133+00

DIA-FT= 15.00 LB AIR/LB PROP= .1000 THRUST= 250000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.9535+03	.3408+03	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3241+03	.3585+04	.1024+06	.9041-01	.1991+03	.9915+03	.5797+03	.1646+01
P-H2O/P-PROP= 4.0000							
.1402+04	.3460+04	.9882+05	.4053+00	.1987+03	.9127+03	.5592+03	.3803+00
P-H2O/P-PROP= 5.0000							
.2480+04	.3337+04	.9523+05	.7432+00	.1982+03	.8406+03	.5389+03	.2151+00
P-H2O/P-PROP= 6.0000							
.3556+04	.3214+04	.9168+05	.1106+01	.1977+03	.7751+03	.5188+03	.1500+00
P-H2O/P-PROP= 7.0000							
.4631+04	.3093+04	.8816+05	.1497+01	.1972+03	.7161+03	.4989+03	.1152+00
P-H2O/P-PROP= 8.0000							
.5704+04	.2973+04	.8469+05	.1919+01	.1967+03	.6633+03	.4792+03	.9351-01
P-H2O/P-PROP= 9.0000							
.6775+04	.2855+04	.8126+05	.2374+01	.1961+03	.6166+03	.4599+03	.7872-01
P-H2O/P-PROP= 10.0000							
.7845+04	.2738+04	.7790+05	.2865+01	.1954+03	.5758+03	.4408+03	.6799-01
P-H2O/P-PROP= 11.0000							
.8912+04	.2625+04	.7460+05	.3395+01	.1947+03	.5406+03	.4221+03	.5985-01
P-H2O/P-PROP= 12.0000							
.9982+04	.2508+04	.7121+05	.3980+01	.1939+03	.5128+03	.4030+03	.5343-01
P-H2O/P-PROP= 13.0000							
.1105+05	.2397+04	.6799+05	.4608+01	.1931+03	.4891+03	.3847+03	.4828-01
P-H2O/P-PROP= 14.0000							
.1211+05	.2289+04	.6484+05	.5291+01	.1922+03	.4705+03	.3669+03	.4405-01
P-H2O/P-PROP= 15.0000							
.1317+05	.2183+04	.6176+05	.6033+01	.1912+03	.4566+03	.3495+03	.4050-01
P-H2O/P-PROP= 16.0000							
.1423+05	.2079+04	.5875+05	.6842+01	.1901+03	.4478+03	.3324+03	.3750-01
P-H2O/P-PROP= 17.0000							
.1527+05	.1988+04	.5608+05	.7682+01	.1890+03	.4385+03	.3174+03	.3493-01
P-H2O/P-PROP= 18.0000							
.1632+05	.1896+04	.5341+05	.8606+01	.1878+03	.4345+03	.3022+03	.3269-01

DIA-FT= 17.50 LB AIR/LB PROP= .1000 THRUST= 250000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.9535+03	.3408+03	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3241+03	.3585+04	.1024+06	.9041-01	.1991+03	.8109+03	.4259+03	.1646+01
P-H2O/P-PROP= 4.0000							
.1402+04	.3460+04	.9882+05	.4053+00	.1987+03	.7684+03	.4108+03	.3803+00
P-H2O/P-PROP= 5.0000							
.2480+04	.3337+04	.9523+05	.7432+00	.1982+03	.7295+03	.3959+03	.2151+00
P-H2O/P-PROP= 6.0000							
.3556+04	.3214+04	.9168+05	.1106+01	.1977+03	.6942+03	.3812+03	.1500+00
P-H2O/P-PROP= 7.0000							
.4631+04	.3093+04	.8816+05	.1497+01	.1972+03	.6623+03	.3665+03	.1152+00
P-H2O/P-PROP= 8.0000							
.5704+04	.2973+04	.8469+05	.1919+01	.1967+03	.6338+03	.3521+03	.9351-01
P-H2O/P-PROP= 9.0000							
.6775+04	.2855+04	.8126+05	.2374+01	.1961+03	.6086+03	.3379+03	.7872-01
P-H2O/P-PROP= 10.0000							
.7845+04	.2738+04	.7790+05	.2865+01	.1954+03	.5866+03	.3239+03	.6799-01
P-H2O/P-PROP= 11.0000							
.8912+04	.2625+04	.7460+05	.3395+01	.1947+03	.5676+03	.3101+03	.5985-01
P-H2O/P-PROP= 12.0000							
.9982+04	.2508+04	.7121+05	.3980+01	.1939+03	.5526+03	.2961+03	.5343-01
P-H2O/P-PROP= 13.0000							
.1105+05	.2397+04	.6799+05	.4608+01	.1931+03	.5398+03	.2827+03	.4828-01
P-H2O/P-PROP= 14.0000							
.1211+05	.2289+04	.6484+05	.5291+01	.1922+03	.5297+03	.2696+03	.4405-01
P-H2O/P-PROP= 15.0000							
.1317+05	.2183+04	.6176+05	.6033+01	.1912+03	.5223+03	.2568+03	.4050-01
P-H2O/P-PROP= 16.0000							
.1423+05	.2079+04	.5875+05	.6842+01	.1901+03	.5175+03	.2442+03	.3750-01
P-H2O/P-PROP= 17.0000							
.1527+05	.1988+04	.5608+05	.7682+01	.1890+03	.5124+03	.2332+03	.3493-01
P-H2O/P-PROP= 18.0000							
.1632+05	.1896+04	.5341+05	.8606+01	.1878+03	.5103+03	.2220+03	.3269-01

DIA-FT= 20.00 LB AIR/LB PROP= .1000 THRUST= 250000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.9535+03	.3408+03	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.3241+03	.3585+04	.1024+06	.9041-01	.1991+03	.6619+03	.3261+03	.1646+01
P-H20/P-PROP= 4.0000							
.1402+04	.3460+04	.9882+05	.4053+00	.1987+03	.6369+03	.3146+03	.3803+00
P-H20/P-PROP= 5.0000							
.2480+04	.3337+04	.9523+05	.7432+00	.1982+03	.6141+03	.3031+03	.2151+00
P-H20/P-PROP= 6.0000							
.3556+04	.3214+04	.9168+05	.1106+01	.1977+03	.5934+03	.2918+03	.1500+00
P-H20/P-PROP= 7.0000							
.4631+04	.3093+04	.8816+05	.1497+01	.1972+03	.5747+03	.2806+03	.1152+00
P-H20/P-PROP= 8.0000							
.5704+04	.2973+04	.8469+05	.1919+01	.1967+03	.5580+03	.2696+03	.9351-01
P-H20/P-PROP= 9.0000							
.6775+04	.2855+04	.8126+05	.2374+01	.1961+03	.5433+03	.2587+03	.7872-01
P-H20/P-PROP= 10.0000							
.7845+04	.2738+04	.7790+05	.2865+01	.1954+03	.5303+03	.2480+03	.6799-01
P-H20/P-PROP= 11.0000							
.8912+04	.2625+04	.7460+05	.3395+01	.1947+03	.5192+03	.2375+03	.5985-01
P-H20/P-PROP= 12.0000							
.9982+04	.2508+04	.7121+05	.3980+01	.1939+03	.5104+03	.2267+03	.5343-01
P-H20/P-PROP= 13.0000							
.1105+05	.2397+04	.6799+05	.4608+01	.1931+03	.5029+03	.2164+03	.4828-01
P-H20/P-PROP= 14.0000							
.1211+05	.2289+04	.6484+05	.5291+01	.1922+03	.4970+03	.2064+03	.4405-01
P-H20/P-PROP= 15.0000							
.1317+05	.2183+04	.6176+05	.6033+01	.1912+03	.4927+03	.1966+03	.4050-01
P-H20/P-PROP= 16.0000							
.1423+05	.2079+04	.5875+05	.6842+01	.1901+03	.4898+03	.1870+03	.3750-01
P-H20/P-PROP= 17.0000							
.1527+05	.1988+04	.5608+05	.7682+01	.1890+03	.4869+03	.1785+03	.3493-01
P-H20/P-PROP= 18.0000							
.1632+05	.1896+04	.5341+05	.8606+01	.1878+03	.4856+03	.1700+03	.3269-01

DIA-FT= 22.50 LB AIR/LB PROP= .1000 THRUST= 250000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.9535+03	.3408+03	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.3241+03	.3585+04	.1024+06	.9041-01	.1991+03	.5452+03	.2576+03	.1646+01
P-H20/P-PROP= 4.0000							
.1402+04	.3460+04	.9882+05	.4053+00	.1987+03	.5296+03	.2485+03	.3803+00
P-H20/P-PROP= 5.0000							
.2480+04	.3337+04	.9523+05	.7432+00	.1982+03	.5154+03	.2395+03	.2151+00
P-H20/P-PROP= 6.0000							
.3556+04	.3214+04	.9168+05	.1106+01	.1977+03	.5024+03	.2306+03	.1500+00
P-H20/P-PROP= 7.0000							
.4631+04	.3093+04	.8816+05	.1497+01	.1972+03	.4908+03	.2217+03	.1152+00
P-H20/P-PROP= 8.0000							
.5704+04	.2973+04	.8469+05	.1919+01	.1967+03	.4803+03	.2130+03	.9351-01
P-H20/P-PROP= 9.0000							
.6775+04	.2855+04	.8126+05	.2374+01	.1961+03	.4711+03	.2044+03	.7872-01
P-H20/P-PROP= 10.0000							
.7845+04	.2738+04	.7790+05	.2865+01	.1954+03	.4631+03	.1959+03	.6799-01
P-H20/P-PROP= 11.0000							
.8912+04	.2625+04	.7460+05	.3395+01	.1947+03	.4561+03	.1876+03	.5985-01
P-H20/P-PROP= 12.0000							
.9982+04	.2508+04	.7121+05	.3980+01	.1939+03	.4506+03	.1791+03	.5343-01
P-H20/P-PROP= 13.0000							
.1105+05	.2397+04	.6799+05	.4608+01	.1931+03	.4459+03	.1710+03	.4828-01
P-H20/P-PROP= 14.0000							
.1211+05	.2289+04	.6484+05	.5291+01	.1922+03	.4423+03	.1631+03	.4405-01
P-H20/P-PROP= 15.0000							
.1317+05	.2183+04	.6176+05	.6033+01	.1912+03	.4396+03	.1553+03	.4050-01
P-H20/P-PROP= 16.0000							
.1423+05	.2079+04	.5875+05	.6842+01	.1901+03	.4378+03	.1478+03	.3750-01
P-H20/P-PROP= 17.0000							
.1527+05	.1988+04	.5608+05	.7682+01	.1890+03	.4359+03	.1411+03	.3493-01
P-H20/P-PROP= 18.0000							
.1632+05	.1896+04	.5341+05	.8606+01	.1878+03	.4351+03	.1343+03	.3269-01

P 953.5
H 2860 3:1
1716.3 18:1

DIA-FT= 25.00 LB AIR/LB PROP= .1000 THRUST= 250000.

SOLID

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.9535+03	.3478+03	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3241+03	.3585+04	.1024+06	.9041-01	.1991+03	.4545+03	.2087+03	.1646+01
P-H2O/P-PROP= 4.0000							
.1402+04	.3460+04	.9882+05	.4053+00	.1987+03	.4442+03	.2013+03	.3803+00
P-H2O/P-PROP= 5.0000							
.2450+04	.3337+04	.9523+05	.7432+00	.1982+03	.4349+03	.1940+03	.2151+00
P-H2O/P-PROP= 6.0000							
.3556+04	.3214+04	.9168+05	.1106+01	.1977+03	.4264+03	.1868+03	.1500+00
P-H2O/P-PROP= 7.0000							
.4631+04	.3093+04	.8816+05	.1497+01	.1972+03	.4186+03	.1796+03	.1152+00
P-H2O/P-PROP= 8.0000							
.5704+04	.2973+04	.8469+05	.1919+01	.1967+03	.4119+03	.1725+03	.9351-01
P-H2O/P-PROP= 9.0000							
.6775+04	.2855+04	.8126+05	.2374+01	.1961+03	.4059+03	.1656+03	.7872-01
P-H2O/P-PROP= 10.0000							
.7845+04	.2738+04	.7790+05	.2865+01	.1954+03	.4006+03	.1587+03	.6799-01
P-H2O/P-PROP= 11.0000							
.8912+04	.2625+04	.7460+05	.3395+01	.1947+03	.3960+03	.1520+03	.5985-01
P-H2O/P-PROP= 12.0000							
.9982+04	.2508+04	.7121+05	.3980+01	.1939+03	.3924+03	.1451+03	.5343-01
P-H2O/P-PROP= 13.0000							
.1105+05	.2397+04	.6799+05	.4608+01	.1931+03	.3893+03	.1385+03	.4828-01
P-H2O/P-PROP= 14.0000							
.1211+05	.2289+04	.6484+05	.5291+01	.1922+03	.3869+03	.1321+03	.4405-01
P-H2O/P-PROP= 15.0000							
.1317+05	.2183+04	.6176+05	.6033+01	.1912+03	.3852+03	.1258+03	.4050-01
P-H2O/P-PROP= 16.0000							
.1423+05	.2079+04	.5875+05	.6842+01	.1901+03	.3840+03	.1197+03	.3750-01
P-H2O/P-PROP= 17.0000							
.1527+05	.1988+04	.5608+05	.7682+01	.1890+03	.3828+03	.1143+03	.3493-01
P-H2O/P-PROP= 18.0000							
.1632+05	.1896+04	.5341+05	.8606+01	.1878+03	.3823+03	.1088+03	.3269-01

DIA-FT= 27.50 LB AIR/LB PROP= .1000 THRUST= 250000.

SOLID

PROP-P/SEC	KGM P/SEC	ISP	BTU/PP
.9535+03	.3478+03	.2622+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FT3/SEC	L/G-P/P	T DEG F	DEL P-PSF	V-FT/SEC	K X/H2O
P-H2O/P-PROP= 3.0000							
.3241+03	.3585+04	.1024+06	.9041-01	.1991+03	.3834+03	.1725+03	.1646+01
P-H2O/P-PROP= 4.0000							
.1402+04	.3460+04	.9882+05	.4053+00	.1987+03	.3765+03	.1664+03	.3803+00
P-H2O/P-PROP= 5.0000							
.2450+04	.3337+04	.9523+05	.7432+00	.1982+03	.3701+03	.1603+03	.2151+00
P-H2O/P-PROP= 6.0000							
.3556+04	.3214+04	.9168+05	.1106+01	.1977+03	.3643+03	.1544+03	.1500+00
P-H2O/P-PROP= 7.0000							
.4631+04	.3093+04	.8816+05	.1497+01	.1972+03	.3591+03	.1486+03	.1152+00
P-H2O/P-PROP= 8.0000							
.5704+04	.2973+04	.8469+05	.1919+01	.1967+03	.3544+03	.1426+03	.9351-01
P-H2O/P-PROP= 9.0000							
.6775+04	.2855+04	.8126+05	.2374+01	.1961+03	.3503+03	.1368+03	.7872-01
P-H2O/P-PROP= 10.0000							
.7845+04	.2738+04	.7790+05	.2865+01	.1954+03	.3467+03	.1312+03	.6799-01
P-H2O/P-PROP= 11.0000							
.8912+04	.2625+04	.7460+05	.3395+01	.1947+03	.3435+03	.1256+03	.5985-01
P-H2O/P-PROP= 12.0000							
.9982+04	.2508+04	.7121+05	.3980+01	.1939+03	.3411+03	.1199+03	.5343-01
P-H2O/P-PROP= 13.0000							
.1105+05	.2397+04	.6799+05	.4608+01	.1931+03	.3390+03	.1145+03	.4828-01
P-H2O/P-PROP= 14.0000							
.1211+05	.2289+04	.6484+05	.5291+01	.1922+03	.3373+03	.1092+03	.4405-01
P-H2O/P-PROP= 15.0000							
.1317+05	.2183+04	.6176+05	.6033+01	.1912+03	.3361+03	.1040+03	.4050-01
P-H2O/P-PROP= 16.0000							
.1423+05	.2079+04	.5875+05	.6842+01	.1901+03	.3353+03	.9891+02	.3750-01
P-H2O/P-PROP= 17.0000							
.1527+05	.1988+04	.5608+05	.7682+01	.1890+03	.3345+03	.9442+02	.3493-01
P-H2O/P-PROP= 18.0000							
.1632+05	.1896+04	.5341+05	.8606+01	.1878+03	.3341+03	.8992+02	.3269-01

DIA-FT= 30.00 LB AIR/LB PROP= .1000 THRUST= 250000.

SOLID

PROP-P/SEC	KOH P/SEC	ISP	BTU/PP
.9535+03	.3408+03	.2822+03	.2693+04

FLOW PROPERTIES WITH POLLUTANT REMOVED

LIQ-P/SEC	GAS-P/SEC	GAS-FTS/SEC	L/G-P/P	T DEG F	DEL P-PSI	V-FT/SEC	K X/H20
P-H20/P-PROP= 3.0000							
.3241+03	.3585+04	.1024+06	.9041-01	.1991+03	.3272+03	.1449+03	.1646+01
P-H20/P-PROP= 4.0000							
.1402+04	.3460+04	.9882+05	.4053+00	.1987+03	.3223+03	.1398+03	.3803+00
P-H20/P-PROP= 5.0000							
.2480+04	.3337+04	.9523+05	.7432+00	.1982+03	.3178+03	.1347+03	.2151+00
P-H20/P-PROP= 6.0000							
.3556+04	.3214+04	.9168+05	.1106+01	.1977+03	.3137+03	.1297+03	.1500+00
P-H20/P-PROP= 7.0000							
.4631+04	.3093+04	.8816+05	.1497+01	.1972+03	.3100+03	.1247+03	.1152+00
P-H20/P-PROP= 8.0000							
.5704+04	.2973+04	.8469+05	.1919+01	.1967+03	.3067+03	.1198+03	.9351-01
P-H20/P-PROP= 9.0000							
.6775+04	.2855+04	.8126+05	.2374+01	.1961+03	.3038+03	.1150+03	.7872-01
P-H20/P-PROP= 10.0000							
.7845+04	.2738+04	.7790+05	.2865+01	.1954+03	.3012+03	.1102+03	.6799-01
P-H20/P-PROP= 11.0000							
.8912+04	.2625+04	.7460+05	.3395+01	.1947+03	.2990+03	.1055+03	.5985-01
P-H20/P-PROP= 12.0000							
.9982+04	.2508+04	.7121+05	.3980+01	.1939+03	.2973+03	.1007+03	.5343-01
P-H20/P-PROP= 13.0000							
.1105+05	.2397+04	.6799+05	.4608+01	.1931+03	.2958+03	.9619+02	.4826-01
P-H20/P-PROP= 14.0000							
.1211+05	.2289+04	.6484+05	.5291+01	.1922+03	.2947+03	.9173+02	.4405-01
P-H20/P-PROP= 15.0000							
.1317+05	.2183+04	.6176+05	.6033+01	.1912+03	.2938+03	.8737+02	.4050-01
P-H20/P-PROP= 16.0000							
.1423+05	.2079+04	.5875+05	.6842+01	.1901+03	.2932+03	.8311+02	.3750-01
P-H20/P-PROP= 17.0000							
.1527+05	.1978+04	.5608+05	.7682+01	.1890+03	.2927+03	.7934+02	.3493-01
P-H20/P-PROP= 18.0000							
.1632+05	.1896+04	.5341+05	.8606+01	.1878+03	.2924+03	.7555+02	.3269-01

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13 ABSTRACT

A literature and equipment survey resulted in the selection of a high gas velocity chemical spray scrubber as the method for cleaning toxic products from rocket exhaust gases. The study included application of this type of system to 1,000-, 5,000-, 50,000-, and 250,000-lb-thrust rockets. A pilot model system was designed (and specifications and drawings were prepared) for a 5,000-lb-thrust rocket engine.

14. KEY WORDS	LINK A		LINK B		LINK C	
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