

**UNPARALLELED RELIABILITY.**

PLANT AIR PACKAGE CENTRIFUGAL COMPRESSORS FOR OIL-FREE ENGINEERED AIR.





## FS-ELLIOTT DELIVERS THE WORLD'S MOST RELIABLE SOURCE OF ENGINEERED AIR TO YOUR INDUSTRY.

In food and beverage processing. In automotive manufacturing. In pharmaceutical manufacturing, electronic component fabrication, mining operations, and many other fields. Wherever there is a requirement for engineered air, PAP PLUS centrifugal compressors from FS-Elliott offer an exclusive, purpose-built package of unparalleled benefits.

In addition to the traditional air applications, FS-Elliott is the leader in providing API 672 compressor packages. With our experienced engineering staff and vast installation base, we customize our compressor package designs to meet client specifications and demanding conditions. These compressor packages can be found in oil and gas production facilities, oil refineries, and chemical and petrochemical plants around the globe. These API 672 compressor packages are yet another example of FS-Elliott providing true engineered air where it really counts.

Our energy efficient machines not only save power, they save manpower – with reliability and ease of maintenance that let you stay focused on your business. And because PAP PLUS compressors deliver clean, 100% oil-free engineered air, you can rest easy knowing your air lines, instruments and processes will remain uncontaminated.

From the smallest to the largest compressor models, the FS-Elliott design philosophy is simple and consistent: we combine unyielding reliability with leading-edge technology to ensure that your vital operations will never be interrupted or compromised. This philosophy, along with comprehensive, full life-cycle service, has made FS-Elliott a world leader in engineered air technology.

**PAP PLUS CENTRIFUGAL AIR COMPRESSORS COMBINE EFFICIENCY, ECONOMY, AND RELIABILITY IN MODELS FROM 600 TO 18,000 CFM (1,020 TO 30,600 m<sup>3</sup>/hr); AND 200 TO 3,500 HP (150 TO 2,600 KW).**



# 10 WAYS WE ENSURE RELIABLE ENGINEERED AIR.

## 1. HIGH BASE-LOAD AND PART-LOAD EFFICIENCY

- Precision state-of-the-art impeller designs provide for highly efficient air compression.
- Optimized aerodynamic stage matching and intercooler efficiencies minimize power requirements.
- Backward-leaning impeller designs can effectively be controlled for optimum air flow.

## 2. OPTIMIZED OPERATIONAL EFFICIENCY THROUGHOUT THE ENTIRE YEAR

- PAP PLUS inlet control adjusts with ambient air temperature changes and plant load variations to conserve energy.

## 3. MINIMUM NUMBER OF MOVING PARTS

- No major sliding or rubbing parts to wear.
- No coating on rotating elements to wear.

## 4. ROBUST AND RELIABLE INDUSTRIAL DESIGN

- High-precision AGMA Quality 13 / ISO-DIN 4 helical gears to minimize noise and vibration.
- Self-adjusting tilting pad journal bearings adapt to load changes, providing superior stability compared to fixed geometry bearings.
- Double-acting thrust bearings to accommodate all load conditions.
- Stainless steel impellers resist corrosion and erosion.
- Precision component balanced rotors.

## 5. SUPERIOR PACKAGE DESIGN

- An "all-inclusive" designed package.
- Reliable and efficient trouble-free operation.
- Package is designed to assure low vibration levels.
- Self-contained, low-pressure lubrication system.

- Controls are easily accessible at the unit for local control.
- High-efficiency intercoolers are built into the package and designed to provide ease of maintainability and reliability.

## 6. SIMPLE, LOW-COST INSTALLATION

- Package is designed to minimize the number of external connections.
- Compact design minimizes foundation and floor space required.
- Quiet operation.

## 7. ELIMINATION OF AIR LINE OIL CONTAMINATION

- PAP PLUS is designed to be 100% oil-free.
- Cleanliness certification available.
- Plant process downtime caused by oil contamination is reduced to virtually zero.

## 8. EASE OF OPERATION

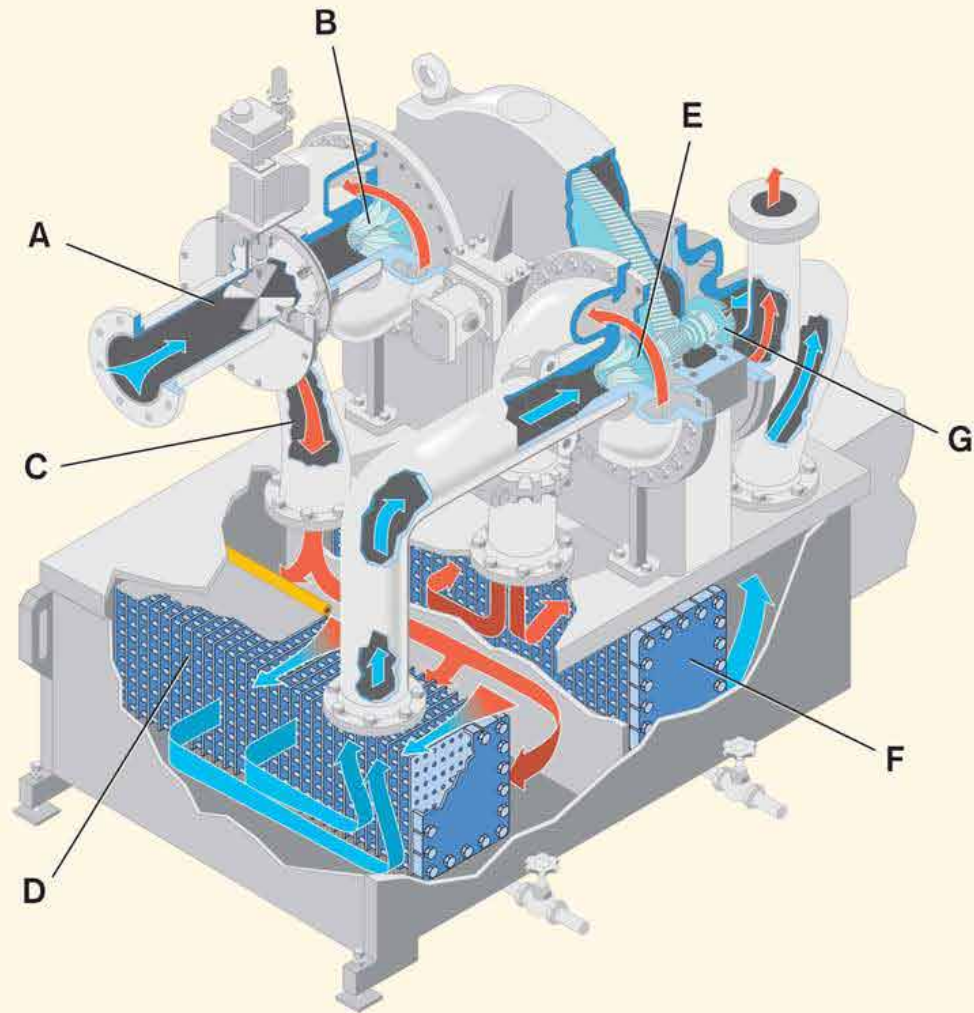
- Simple and easy-to-use menu driven controller operated via the newest high technology displays.
- Controller handles automatic start-up and shutdown sequence and prompts appropriate operator actions.
- Real time monitoring of temperatures, pressures, and vibration.

## 9. EASE OF MAINTENANCE

- Equipment components are easily accessible.
- Horizontal-split gearbox, pinion bearings, bull gear bearings, and seals permit easy inspection and service.
- Intercoolers may be cleaned in place by rodding.
- Bull gear and pinion gears can be replaced individually (i.e., not matched sets).

## 10. PROFESSIONAL SERVICE

- Reliable assistance available upon request.
- 24/7/365 responsiveness.
- Decades of professional service experience.
- Global service network.
- Complete service packages available, including operations and maintenance training.

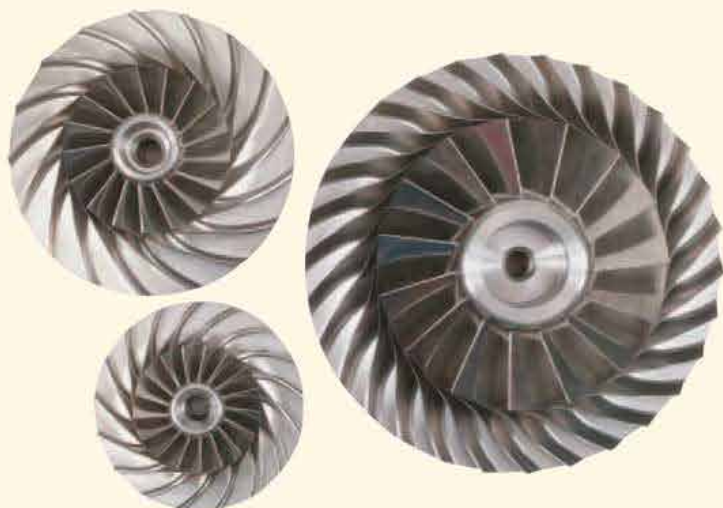
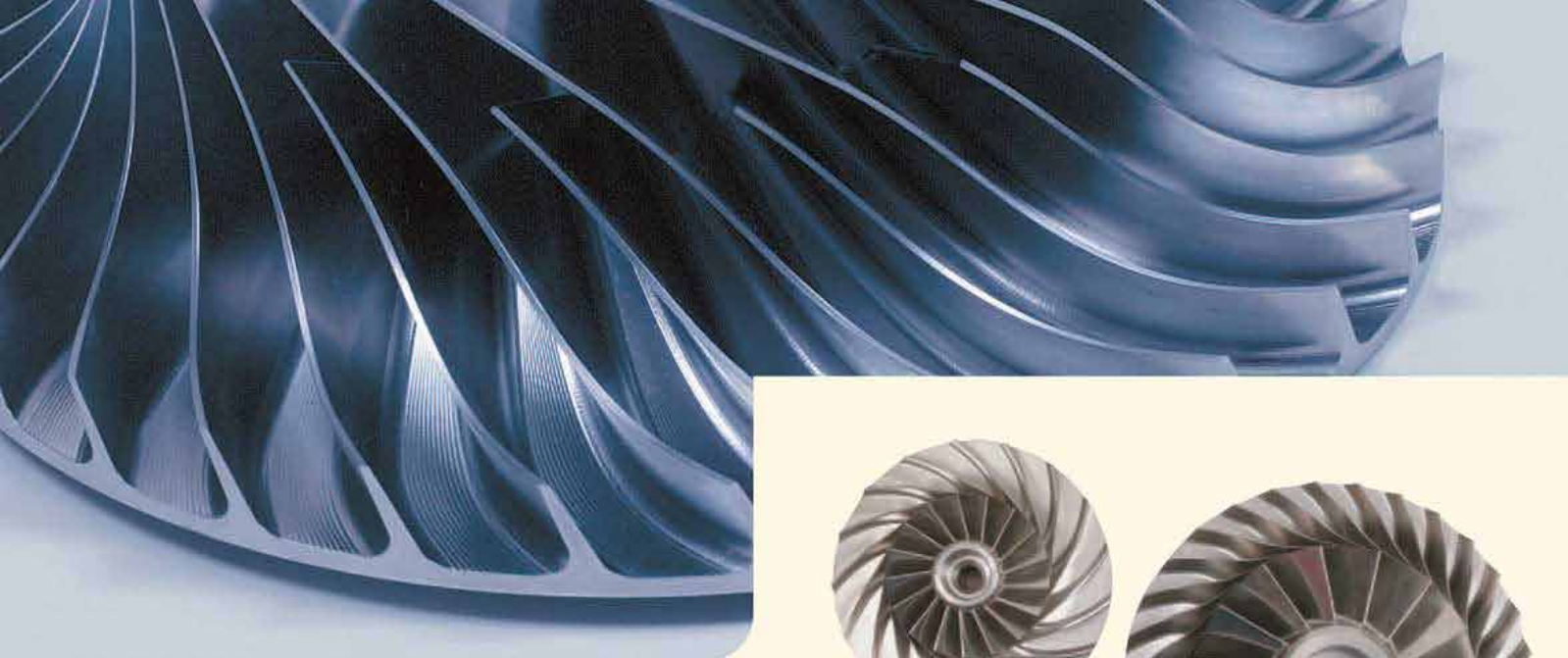


## IT'S SIMPLE: PAP PLUS COMPRESSORS DELIVER 100% OIL-FREE ENGINEERED AIR RELIABLY AND EFFICIENTLY.

Simplicity means reliability, and the design of the PAP PLUS compressor is simplicity defined. The only moving parts are a gear and the rotors. And, because this is a centrifugal design, there are no lubricated parts in the air passage – so you can count on getting oil-free engineered air.

### TYPICAL OPERATION

Ambient air enters the first stage through the inlet control device (A) where it is accelerated by the first impeller (B). A radial diffuser converts the air's velocity into pressure before the air enters an efficient scroll casing (C). Next, the air is ducted through interstage piping into the first intercooler (D). The cooled air then flows into the second stage impeller (E). The compression process is then repeated through a diffuser, into a scroll casing, and then into the second intercooler (F). Air from the second intercooler then moves through a third impeller (G), diffuser, and scroll casing before being discharged into the after cooler and the air system.



# IMPELLERS

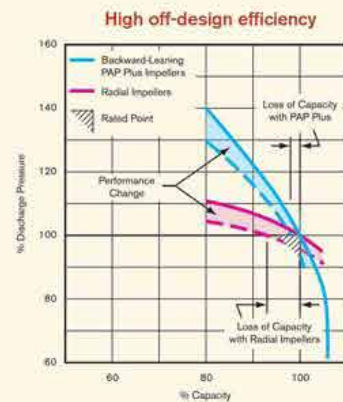
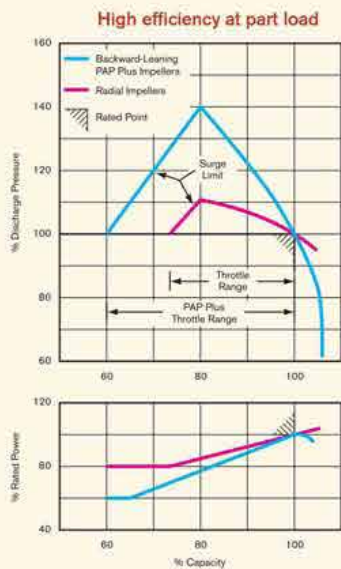
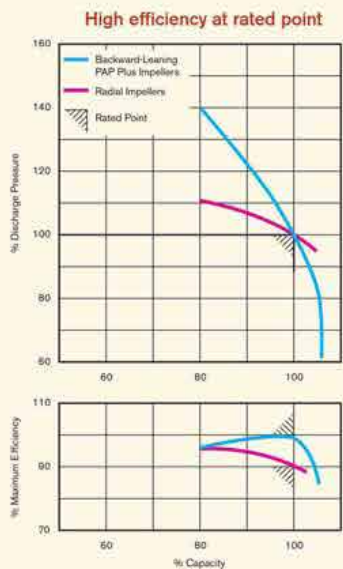
## BACKWARD-LEANING. FORWARD THINKING.

The impellers of the PAP PLUS compressor are stainless steel. The precipitation hardened, stainless steel material resists the corrosive and erosive action of atmospheric contaminants and water vapor that may pass through the inlet air filter.

The state-of-the-art backward-leaning impeller designs provide superior overall aerodynamic performance characteristics. Three important benefits are shown in the graphs below.

Backward-leaning impeller blades provide optimum efficiency throughout the operating range.

## PAP PLUS – LEADING-EDGE TECHNOLOGY



Backward-leaning impeller designs place the optimum compressor efficiency at the rated point.

Backward-leaning impeller designs produce a higher pressure rise over the entire compressor operating range. This inherent design characteristic makes it possible to reduce power consumption by throttling the compressor at part load. Radial or quasi-radial impeller designs do not yield as large a throttle range as the backward-leaning design.

The inherently greater pressure rise to surge of the backward-leaning impeller naturally provides for a more tolerant operation, especially when the actual site conditions differ from the original design parameters. High air or cooling water temperatures will reduce the output of a compressor. The backward-leaning impeller design experiences a smaller reduction in output. Overall, a backward-leaning impeller design provides excellent efficiency and is the most forgiving impeller design known today for centrifugal compressors.

# MECHANICAL DESIGN

## EVERY COMPONENT DESIGNED WITH YOUR NEEDS IN MIND.

The PAP PLUS compressor is derived from using current codes and industry standards as well as state-of-the-art technology for bearings, gears, and rotor dynamic design.

The compressor cut-away view depicts the typical PAP PLUS internals. The compressor driver is connected to the main drive shaft end of the bull gear through a flexible coupling. The single helical bull gear is supported by two horizontally-split sleeve journal bearings, while the thrust is absorbed in either direction by flat-land thrust bearings. The bull gear drives two pinions with mounted impellers. The pinion shafts are designed to operate at the optimized rotational speed for the best efficiency.

The aerodynamic configurations include one impeller mounted on one of the pinions and two impellers mounted on the other pinion. Each pinion and impeller assembly comprises a rotor, which is supported by two tilting pad journal bearings. Two tapered-land thrust bearings absorb the residual thrust force transmitted through two thrust faces on the pinion.

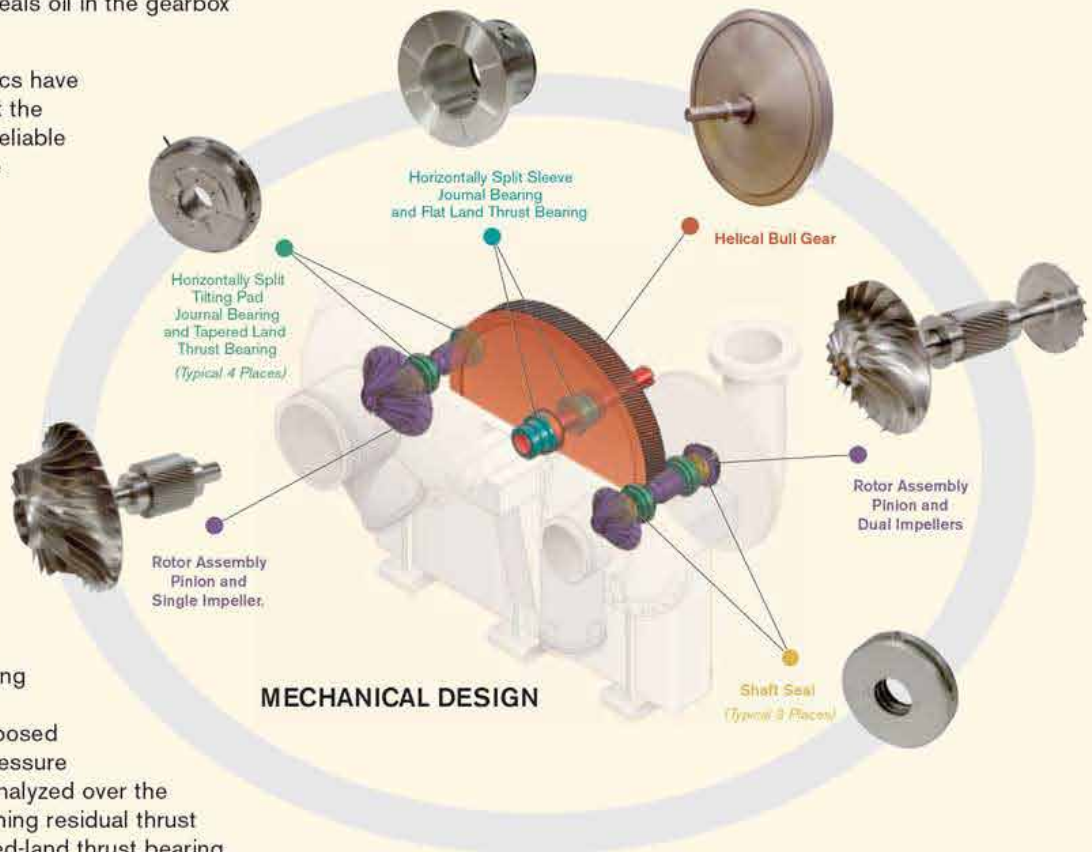
A shaft seal located at each impeller seals oil in the gearbox and out of the compression chamber.

PAP PLUS rotor dynamic characteristics have been meticulously analyzed to arrive at the ultimate design that assures smooth, reliable and lasting compressor operation. The most sophisticated state-of-the-art software tools were utilized to derive the rotor system configuration, which was then prototype tested and verified in the laboratory. Take note of the following features:

- Short rotor length. The compact shaft seal design of the PAP PLUS permits extremely short shaft lengths, which means that centrifugal forces are not amplified through a long lever arm.
- Rotors are supported by self-centering, horizontally-split tilting pad journal bearings for best stability through the entire operating range of loads and temperatures.
- The net resulting thrust forces imposed by the helical gears and the air pressure distribution on the impellers are analyzed over the entire operating range. Any remaining residual thrust forces are absorbed by the tapered-land thrust bearing.

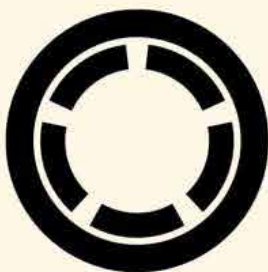


- For added reliability, each PAP PLUS rotor has its own thrust bearing system to absorb thrust where it is created, rather than transmitting the thrust forces through the bull gear to a single bearing.
- During running periods, the helical gear thrust force remains relatively constant while the pressure forces on the impeller can vary with operating conditions. Good design practice dictates that thrust absorbing capability in both axial directions. All PAP PLUS rotors have thrust capability in either axial direction via tapered-land thrust bearings.



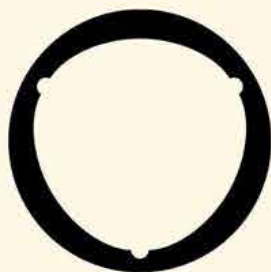


### JOURNAL BEARING FUNDAMENTALS



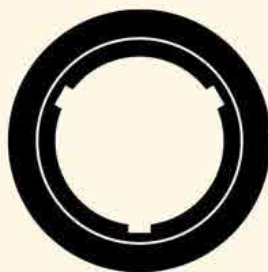
#### TILTING-PAD

- superior load-carrying capacity
- good stability & low vibration
- self-centering feature
- low oil supply pressure
- most tolerant design for accommodating shaft radial movement/eccentricity
- low frictional losses
- least sensitivity to damage by foreign matter
- simple and quick inspection
- low replacement cost



#### LOBE OR TILTED-PAD

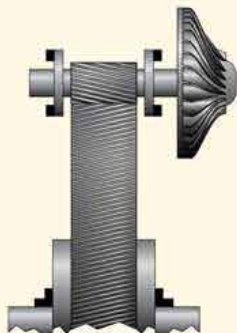
- good load-carrying capacity
- modest stability and low vibration
- no self centering feature – sensitive to misalignment
- low oil supply pressure
- moderately tolerant design for accommodating shaft radial movement/eccentricity
- low frictional losses
- moderate sensitivity to damage by foreign matter
- simple and quick inspection
- low replacement cost



#### HYDRODYNAMIC SQUEEZE FILM

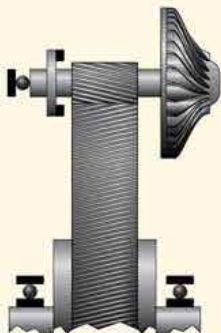
- superior load-carrying capacity
- good stability and low vibration
- self centering feature
- high oil supply pressure
- least tolerant design for accommodating shaft radial movement/eccentricity
- low frictional losses
- most sensitive to damage by foreign matter
- difficult and timely inspection
- high replacement cost

### THRUST BEARING FUNDAMENTALS



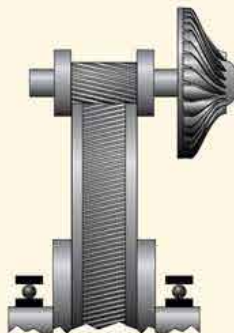
#### DOUBLE ACTING

- thrust absorbed at each rotor
- all bearings are double acting
- load-carrying capacity in both directions
- lightly loaded
- babbitt to metal construction
- can operate safely under all conditions



#### SINGLE ACTING

- thrust absorbed at each rotor
- rotor bearing is single acting
- load-carrying capacity in one direction
- lightly loaded
- babbitt to metal in one bearing
- rotor must be loaded in one direction only



#### RIDER RING

- thrust transmitted through drive train
- bearing is double acting
- load-carrying capacity in both directions
- heavily loaded
- steel to steel contact sensitive to damage by foreign matter
- must operate under clean conditions

Horizontally-split pinion bearing assemblies combine tilting-pad journal bearing and double acting tapered-land thrust bearings. These precision-designed packages assure smooth and stable operation over the entire compressor operating range (i.e. from low load to full load conditions).



PAP PLUS rotor design features extremely short shaft lengths. Every PAP PLUS rotor assembly is dynamic balanced.



PAP PLUS pinion shaft seal technology is the result of years of design and operational experience. The carbon ring seal assures oil-free air.



Bull gear bearings are horizontally-split for easy inspection and maintenance. The combination flat-land thrust bearings and sleeve journal bearings are made of steel with babbitt lining.

# PRESSURE LUBRICATION SYSTEM

## LUBRICATION WITHOUT CONTAMINATION.

The PAP PLUS oil lubrication system has proven its reliability through many years of successful operating experience. The system is self-contained within the compressor package and is designed for easy access and maintenance. The nominal operating pressure of 30–35 psig (2.0–2.4 bar g) was meticulously specified to minimize the frequency of maintenance and to maximize the system's long term reliability. This system provides for all of the package's needs, which include continuous oil flow to all bearings and gears, as well as the driver when required.

The oil lubrication system is designed with ease of inspection and maintenance as one of its primary goals. Therefore, all of the oil connections are positioned in the lower half of the gear case for quick and simple access to the bearings, gears, and pinions.

The oil reservoir is located within the package's baseplate. The reservoir interior is conveniently accessible through an oversized cover. Each reservoir has fill and drain connections and an easy-to-view oil level gauge.

The oil cooler is sized to provide cooling under design and off-design conditions. The full-flow oil filter eliminates contaminants 10 microns or larger, and its mounting location was selected for easy access to allow changing the filter without draining the reservoir.

The auxiliary oil pump, with electric motor drive, operates automatically during start-up, shutdown, and in emergency situations to provide additional overall package protection.

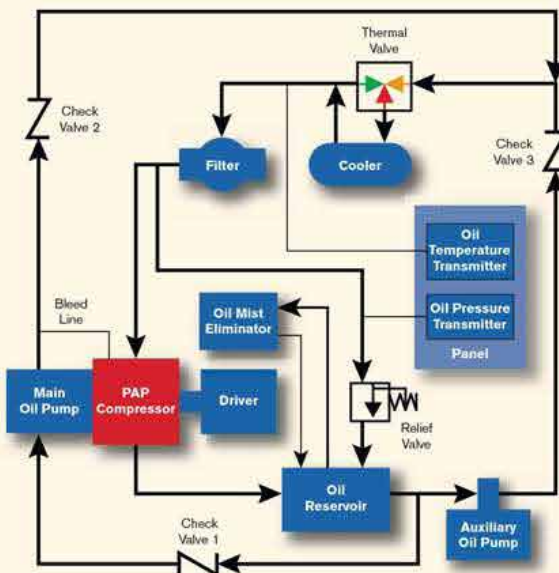
The positive-displacement main oil pump is directly driven by the bull gear or driver shaft. The pump is oversized and will continue to provide lubrication to the system during coast-down to a safe stop.



The system includes temperature and pressure control valves. Sensors continuously monitor the inlet oil pressure and temperature, and provide machinery protection. Alarm or trip functions activate in the unlikely event they are required.

The gearbox and reservoir operate at slightly above atmospheric pressure. Venting of the oil mist is done through a mist eliminator, which returns all of the coalesced oil to the reservoir.

For optimum operation and extended service life, FS-Elliott recommends the use of Corona Brand™ lubricant. The Corona Brand™ lubricant is supplied with all new FS-Elliott centrifugal compressors. This premium lubricant is designed for use with centrifugal compressor applications. This lubricant can also be retrofitted into existing installations.



**CORONA BRAND™ LUBRICANTS**  
The FS-Elliott Corona Brand™ lubricants are available in three container sizes: 330 gallon tote, 55 gallon drum and 5 gallon pail.





Easily accessible bolting facilitates the removal of the gear case cover.



Gear case cover lifts off easily, exposing gears, bearings, and seals – without removing any other components.



The bearing top half can be taken off after removing two screws. The bottom half of the bearing can be rolled out and removed from the casing for inspection. The two-piece seal assembly can be removed by sliding it into the bearing cavity area; then follow the same procedure that was utilized for removing the bearing.

## MAINTENANCE

### MINIMAL MAINTENANCE. MAXIMUM SIMPLICITY.

Centrifugal air compressors are popular because they operate reliably for long periods of time with minimal maintenance. This is made possible by a combination of features:

- Inherently low vibration
- No rubbing or direct wearing parts
- Optimum clearances between rotating and stationary parts
- No oscillating load
- Integrated engineering package design approach

The PAP PLUS compressor package design not only includes all of these features but also provides for easy access to critical components – thus simplifying and encouraging good preventative maintenance practices. PAP PLUS compressor construction permits fast, efficient inspection and maintenance during off hours and at scheduled intervals. Unexpected shutdowns and production interruptions are virtually eliminated. All scheduled maintenance work can be performed by your plant personnel, or FS-Elliott can provide a maintenance plan to fit your specific needs.

The gearing, intercoolers, aerodynamic parts, lubrication system and Control System are all independently accessible. Maintenance of any one of these items does not require the disassembly of other components or the exchange of large assemblies. Inspection and maintenance of the bearings and seals is another example of the PAP PLUS Ease-Of-Maintainability philosophy. There is no need to disassemble intercoolers or impellers/diffusers, or interstage piping and casings, or to disconnect the air or cooling water piping. The photos show that by simply lifting the cover, these components are totally accessible.

A complete maintenance operation, including removing the gear case cover, inspecting gears, bearings and seals, and reassembly can be accomplished within 3–8 hours, depending on the specific site situation. This procedure can be done without disturbing impellers, diffusers, air or water piping, or other components. Unlike others compressors, the unique PAP PLUS horizontal-split design was meticulously conceived to provide quick and easy local maintenance. There is no need to send components back to the factory. Compare this time-efficient procedure with some other compressor designs that require days to perform the same tasks.

# QUALITY ASSURANCE

## DESIGNED, BUILT, AND TESTED IN THE FS-ELLIOTT QUALITY TRADITION.

By the time a PAP PLUS compressor arrives at your site for installation, it has undergone a rigorous execution process covering the product design, manufacture and inspections governed by our ISO 9001:2000 Certified Quality Management System.

FS-Elliott's ISO 9001:2000 Certified Quality Management System encompasses the entire lifecycle of the product line, which includes the sales, marketing, engineering, purchasing, manufacturing, testing, and shipping. This quality process also assures that our suppliers are qualified and continuously monitored to the same high standards that we demand of ourselves. All PAP PLUS impellers meet rigorous quality requirements before being assembled into rotors that are then dynamically balanced to exacting standards that assure smooth operation. Pressurized components are hydro tested and every compressor is then given a thorough functional test.

Every PAP PLUS compressor embodies the know-how resulting from nearly 100 years of experience in designing, manufacturing, and testing quality centrifugal compressors.



Precision manufacturing processes and experienced craftsmen produce PAP PLUS compressor components to the high FS-Elliott quality standards.



Rotor assemblies are dynamically balanced.



A digital coordinate measuring machine is used to inspect impellers.

# INDUSTRIAL APPLICATIONS



A 3,030 CFM (5,150 m<sup>3</sup>/hr) industrial air compressor. This compressor is installed in a manufacturing facility located in Indonesia.



Two 4,200 CFM (7,140 m<sup>3</sup>/hr) PAP PLUS compressors supply 45 psi (3.1 bar) gage discharge pressure air to a glass manufacturing process.



Two of three 8,500 CFM (14,400 m<sup>3</sup>/hr) air compressors that supply compressed air for snowmaking, ensuring a plentiful amount of quality snow for the 2002 Winter Olympics.



A 1,500 CFM (2,550 m<sup>3</sup>/hr) industrial air compressor with "D" flange mounted motor, being used in a steel mill.



A 9,000 CFM (15,300 m<sup>3</sup>/hr) industrial air compressor. This photo shows one of several duplicate units supplying oil-free air in an electronic component fabrication facility located in Asia. The facility manufactures display screens.

# It's simple: The Polaris® Air Compressor Series delivers 100% oil-free engineered air reliably and efficiently.

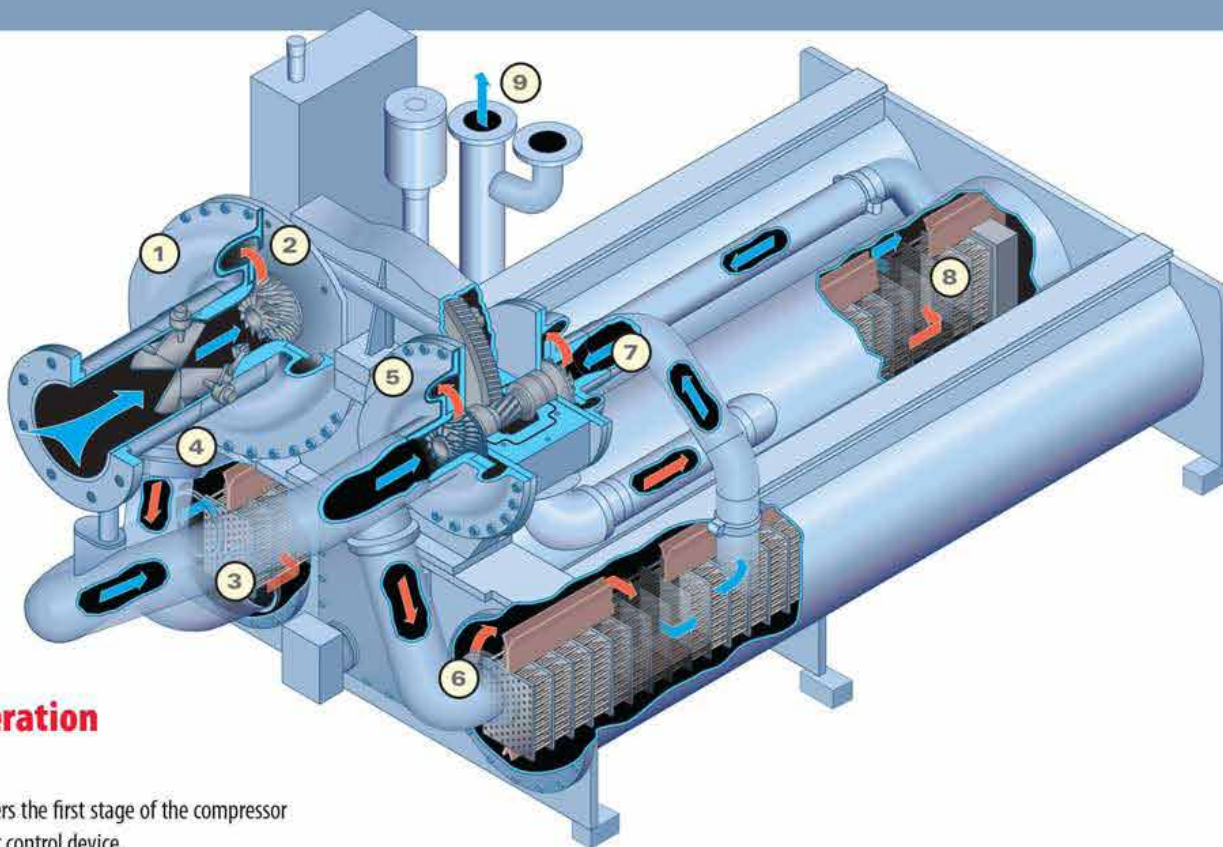
FS-Elliott's Polaris® Air Compressor Series incorporates the latest technology to ensure high efficiency, economy and reliability.

The Plant Air Package (PAP) compressor was introduced to the marketplace nearly 50 years ago. Since its introduction, thousands of units have been installed and operate worldwide.

- Electronics
- Steel Making
- Food and Beverage Processing
- Snow Making
- Utilities
- Textile
- Automotive
- Glass Making and P.E.T.
- Mining
- Air Separation
- Chemical
- And Many Other Markets

The Polaris® Air Compressor Series design features provide benefits ranging from ease of installation, operation and maintenance to highest efficiency.

1. High Base-load and Part-load Efficiency
2. Optimized Operational Efficiency Throughout the Entire Year
3. Minimum Number of Moving Parts
4. Robust and Reliable Industrial Design
5. Superior Package Design
6. Simple, Low-cost Installation
7. Elimination of Air Line Oil Contamination
8. Ease of Operation
9. Ease of Maintenance
10. Professional Service



## Typical Operation

**1** Ambient air enters the first stage of the compressor through the inlet control device.

**2** The air is accelerated by the first impeller. A radial diffuser converts the air's velocity into pressure before the air enters an efficient scroll casing.

**3** Air enters the first stage high efficiency intercooler and cools as it passes over the water-filled tubes with external fins in the bundle. The straight tubes are easily cleaned to maintain optimum performance.

**4** The lower velocity cooled air exits the tube bundle and makes two 90 degree turns. This turning and upward flow path separates the condensed moisture

from the cooled air and makes it unnecessary to use demister pads, which are a high maintenance item. The air travels through the large corrosion resistant epoxy coated plenum. Condensate is continuously drained through a drain valve located in the bottom of the intercooler's enclosure.

**5** The air exits the intercooler and flows into the inlet duct for the second stage. In the second stage the compression process is repeated with an impeller, diffuser, and a scroll casing.

**6** The air discharges from the compressor volute and enters the second stage intercooler. The intercooling process is identical to that in the first stage.

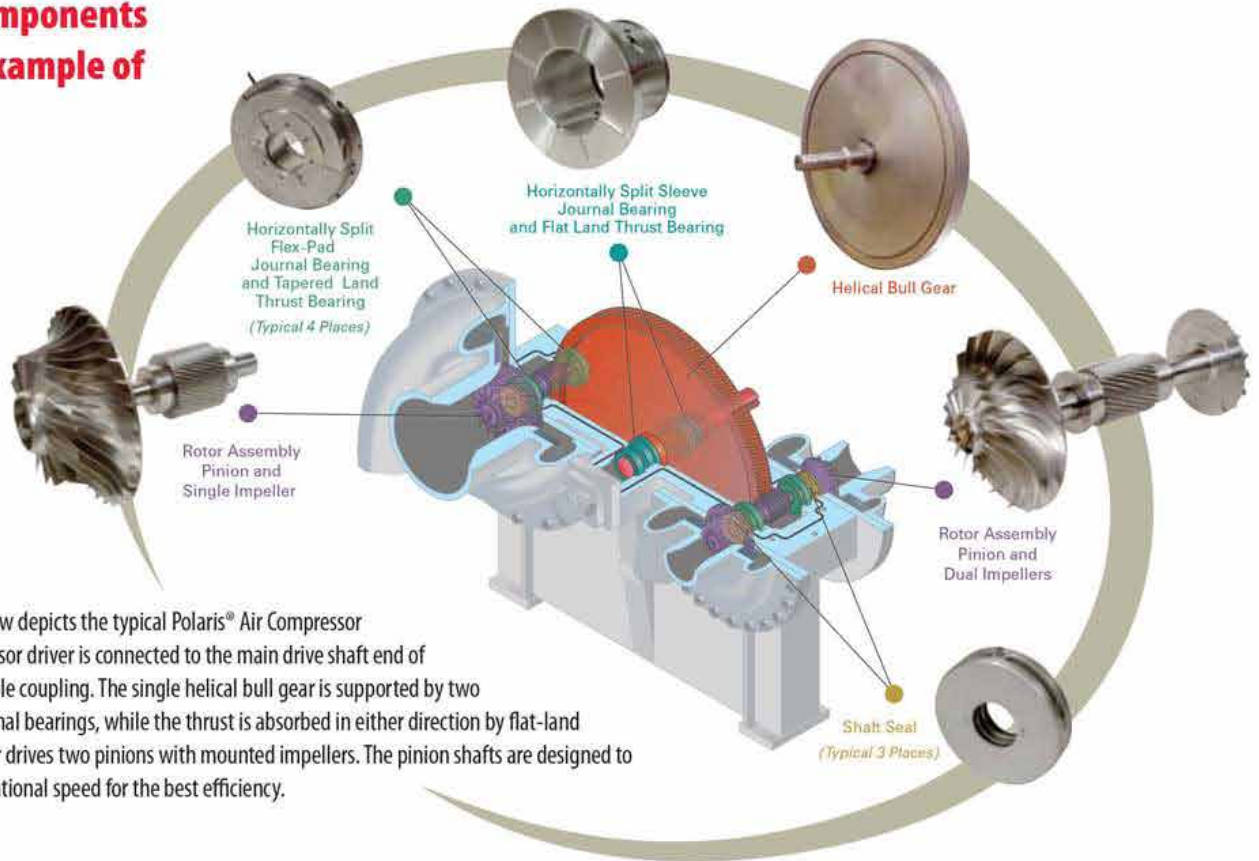
**7** Air from the second intercooler proceeds through the inlet flow section for the third stage impeller.

**8** The air is compressed through the third aerodynamic stage and is discharged into the aftercooler.

**9** The cooled air exits from the aftercooler into the air system.

# Polaris Compressors Are Leading The Way - Uncompromising Design and Innovative Features

**The Polaris® components are a shining example of reliability and efficiency.**



The compressor cut-away view depicts the typical Polaris® Air Compressor Series internals. The compressor driver is connected to the main drive shaft end of the bull gear through a flexible coupling. The single helical bull gear is supported by two horizontally-split sleeve journal bearings, while the thrust is absorbed in either direction by flat-land thrust bearings. The bull gear drives two pinions with mounted impellers. The pinion shafts are designed to operate at the optimized rotational speed for the best efficiency.

**Innovative features make the Polaris® Air Compressor Series a super-star performer.**



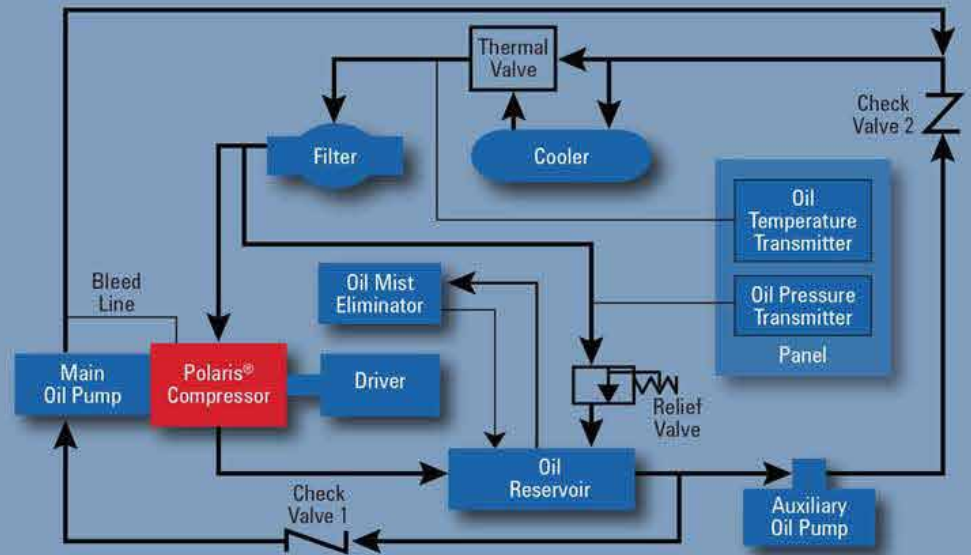
## **Impellers**

The impellers of the Polaris® Air Compressor Series are stainless steel. The precipitation hardened, stainless steel material resists the corrosive and erosive action of atmospheric contaminants and water vapor that may pass through the inlet air filter. The state-of-the-art backward-leaning impeller designs provide superior overall aerodynamic performance characteristics.



# Pressure Lubrication System

The lubrication system has proven its reliability through many years of successful operating experience. The system is self-contained within the compressor package and is designed for easy access and maintenance. This system provides for all of the package's needs, which include continuous oil flow to all bearings and gears, as well as the driver when required. The oil lubrication system is designed with ease of inspection and maintenance as one of its primary goals. Therefore, all of the oil connections are positioned in the lower half of the gear case for quick and simple access to the bearings, gears and pinions.



## Corona™ Brand Lubricants

For the optimum compressor system operation and extended service life, FS-Elliott recommends the use of Corona™ Brand lubricant. Our Corona™ Brand lubricant is supplied with all new FS-Elliott Polaris® centrifugal compressors. This premium lubricant is designed for use with centrifugal compressors. This lubricant can also be retrofitted into existing installations.

The benefits of Corona™ Brand lubricants include:

- Extended Lubricant Life
- Minimizes Harmful Build-up
- Excellent Wear Protection
- Superior Resistance to Foaming
- Longer Equipment Operating Cycles



The FS-Elliott Corona™ Brand lubricants are available in three container sizes: 330 gallon tote, 55 gallon drum and 5 gallon pail.

## Free Oil Analysis Program

FS-Elliott provides a no-charge analysis service to all current clients that utilize our exclusive Corona™ Brand lubricants. In addition, we offer this same service to those end users that desire to retrofit their existing compression systems with our premium Corona™ Brand lubricants. Lubricant sampling and testing can and should be a part of every turbomachinery user's preventative maintenance practices.

FS-Elliott recommends that in addition to normal daily and monthly inspections that a quarterly testing frequency be included in this regimen. The returned lubricant samples are analyzed and a report is generated highlighting the current physical and chemical characteristics of the lubricant. Other timely and pertinent lubricant observations related to machinery operations are also included in the report along with our recommendations.

FS-Elliott provides an easy-to-use lubricant sample kit to assist in implementing this procedure into your maintenance routine. The FS-Elliott lubricant testing kit contains the following items:

- Lubricant Sample Container and Stick-on Identification Label
- Self-addressed Mailing Container
- Lubricant Datasheet



*FS-Elliott has a variety of lubricants to meet most specific industry requirements.*

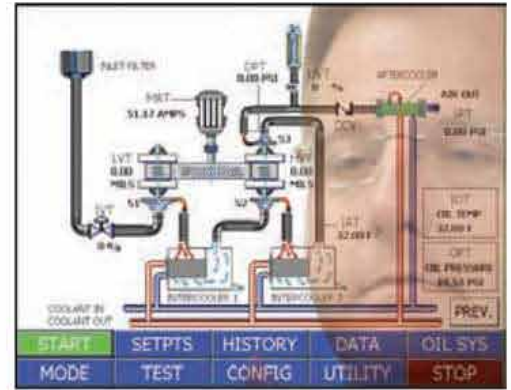
# REGULUS® – Putting You in Control



The REGULUS® Control System includes a powerful PLC packaged with a myriad of monitoring and control features. At the touch of the Human Machine Interface (HMI), the operator can command, observe and manage all of the essential air compressor system requirements.

## Outstanding Performance with Superior Reliability and Quality

The heart of FS-Elliott's centrifugal compressor is the REGULUS® Control System. This system is designed with the latest technology processor and memory capabilities to provide optimum performance, reliability and convenience. With the REGULUS® System and a touch of the screen you can monitor and manage all of your air compressor needs at the unit or from a remote location.



The REGULUS® R150 and R200 Control Systems include an optional feature 10" Graphical TFT Color Touch Screen HMI display.

## Energy Savings

Experience the REGULUS® Control System's energy savings features and realize the profitability benefits from Day #1.

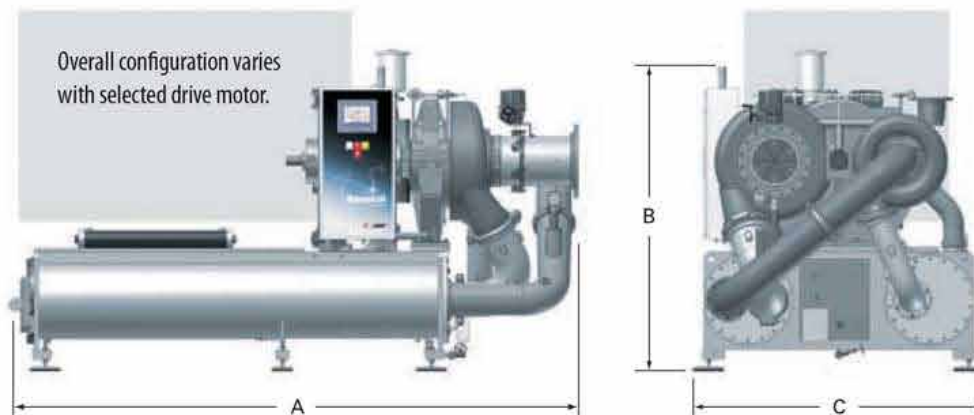
- Precise air system pressure control
- Maximizes turndown capability and energy savings
- Advanced adaptive controller permits protected operation closer to actual surge resulting in energy savings
- Innovative adjustable inlet guide vane design maximizes efficiency at off-design operations
- Suction Throttle and Auto-Dual control modes add operational flexibility and efficiency
- Multiple compressor unit energy management capability

## Simplicity

Discover the simplicity of the REGULUS® Control System together with the outstanding operational benefits it delivers to your facility.

- All control set points from one interface
- Numerous language display capabilities
- Multiple choices of communication protocols with interfacing systems
- Supervisory capabilities include monitoring the entire air system from one location
- Data storage and trend viewing are instantaneously available with the touch of the finger
- The compressor can virtually run unattended at optimum efficiency through various plant air demand conditions

## Polaris® P-700 Typical Configuration



Polaris® Air Compressor Series Frame	Overall Dimensions						Approximate Weight*	
	A*		B*		C			
	in.	mm	in.	mm	in.	mm	lb.	kg
P-700	181	4597	92	2337	87	2210	28800	13063

\*The value may vary with motor rating size and type.

## Polaris® P-700 Performance Range

**Power Rating:**  
1250 to 2500 HP / 932 to 1864 kW

**Discharge Pressure:**  
45 to 150 psig / 3.1 to 10.3 bar g

**Flow Capacity:**  
6800 to 12000 ICFM / 193 to 340 m<sup>3</sup>/min

**Note:**  
Performance may vary based on actual site conditions. Consult your authorized FS-Elliott distributor for more information.



# POLARIS



At our manufacturing facility and headquarters, located in Export, PA, we take nothing for granted. Every Polaris® air compressor is carefully crafted under stringent quality standards. By the time a compressor arrives at your site for installation, it has undergone a rigorous execution process covering the product design, manufacture and inspections governed by our ISO 9001:2000 Certified Quality Management System.

When you need answers to your questions, or solutions to your problems, you can rely on FS-Elliott's worldwide network of sales representatives and distributors. We can provide total turnkey installation services at your site, designed to assure your FS-Elliott equipment is up and running as quickly as possible.

Our worldwide network of local certified technicians provides professional service twenty-four hours per day, seven days per week, three-hundred-sixty-five days per year. This means you receive timely assistance for all of your needs. Maintenance and repairs can be performed at site:

- Local Service
- Genuine FS-Elliott Spare Parts
- Installation and Start-up
- Maintenance Programs
- Repairs
- Rerates and Upgrades
- Training



## FS-Elliott Co., LLC

5710 Mellon Road  
Export, PA 15632-8948  
U.S.A

Telephone ..... (724) 387-3200  
FAX ..... (724) 387-3270  
E-mail ..... info@fs-elliott.com  
Internet ..... www.fs-elliott.com

REPRESENTED BY:



ISO 9001 – Certified for design and manufacture of centrifugal compressors.



FS-Elliott Co., LLC reserves the right to modify the design or construction of the equipment described in this brochure and to furnish it, as altered, without further reference to the illustrations or information contained herein.