



Headquarters—Export, Pennsylvania, USA  
 Basingstoke, United Kingdom  
 Houston, Texas, USA  
 Jubail, Kingdom of Saudi Arabia  
 Los Angeles, California, USA  
 Mangalore, India  
 Sao Paulo, Brazil  
 Shanghai, China  
 Taipei, Taiwan



Building on a 50-year tradition of excellence in compressor design and manufacturing, FS-Elliott brings our customers the resources of a global industry leader along with the convenience and responsiveness of local sales and service. Thousands of reliable, hard-working FS-Elliott compressors are installed worldwide.

## FS-Elliott Co., LLC

5710 Mellon Road  
 Export, PA 15632-8948  
 724.387.3200 *tel*  
 724.387.3270 *fax*  
 info@fs-elliott.com *email*

[www.fs-elliott.com](http://www.fs-elliott.com)

Represented by:



ISO 9001-certified for the 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.



# POLARIS<sup>®</sup>

## Air Compressors



# *Delivering What Matters Most*

The question isn't "Which compressor can do the job?" Many choices can deliver that basic function. More important is knowing which compressor works reliably longer, even in demanding environments. Which saves money by using energy more efficiently. Which is easy to install and use. Which minimizes downtime—and the hassle—of emergency repairs and ongoing maintenance.

The question is "Which compressor delivers what matters most?"

When you ask the right question, the answer is clear: Polaris® compressors not only "do the job," they deliver the high quality, efficiency, and ease of operation that make any job more successful.



# Why Centrifugal?

Efficient aerodynamics make centrifugal compressors ideal for a variety of industrial applications. Centrifugal compressors produce pressure by transferring energy from a rotating impeller to the air. Capacity can be controlled by adjusting the inlet guide vanes—closed to reduce and open to increase flow.

Polaris centrifugal compressors feature a simple, effective design that outperforms other compressors in delivering trouble-free operation and the lowest cost of ownership. Polaris owners enjoy:

- **100% oil-free air** for purity that meets exacting standards.
- **Low maintenance** with no wearing parts that require regular change-out. Eliminates the need for periodic and expensive air end replacement.
- **Low-to-no vibration** without any special foundation required.
- **Superior control** through a variety of Regulus® controller system options.
- **Excellent reliability** over extended periods with minimal maintenance.



# *Highest Quality*

Delivering the most reliable, oil-free air in the industry doesn't happen by chance. It's the result of rigorous focus on quality from the inside out.

FS-Elliott is committed to building products that will support our customers' high standards. At the heart of the Polaris compressor is a technologically advanced, yet beautifully simple, aerodynamic design that builds on the flawless reliability of our custom-engineered PAP Plus® product line. Every unit we manufacture is subject to strict quality control at our ISO 9001-certified manufacturing facility to ensure consistent reliability from commissioning through years of demanding use.



# Energy Savings

Any compressor can supply pressurized air. What sets Polaris compressors apart is the advanced aerodynamic designs and control systems that enable them to deliver reliable compressed air while minimizing energy and maintenance costs.

## Aerodynamic Design and Materials

To reduce power requirements, Polaris compressors combine optimized aerodynamic stage matching with intercooler efficiencies. Stainless steel impellers resist corrosion, leading to longer life and increased efficiency. Their backward-leaning design can be precisely controlled to optimize both airflow and air compression. We custom-design each impeller using state-of-the-art software to ensure the perfect aerodynamics for your specific application.

## Computerized Control System

The advanced Regulus<sup>®</sup> PLC-based control system, standard on every model, offers flexible control to efficiently manage plant load and maximize energy savings.

## Adjustable Inlet Guide Vane

By controlling the amount of air being compressed (and consequently the power consumed), inlet guide vanes efficiently adjust to plant conditions and load variations to conserve energy.

## Zero Loss Pulsar<sup>™</sup> Drain Valves

Removing condensate from the compressor only when needed, rather than constantly, eliminates wasting compressed air—and the energy needed to produce it.

# Ease of Ownership

No matter how well a compressor performs, if it's difficult to install, commission, and maintain, why own it? Polaris compressors are built to be easy to own and operate, year after year.

## Installation Ease

By packaging key components and accessories—including the aftercooler, water manifold, and lube system—Polaris compressors reduce site preparation time and costs and make installation easier.

## Operation Ease

A touch-screen interface is easy for operators to use. Four standard control modes, including auto dual and auto start-stop, heighten operating flexibility and efficiency.

## Maintenance Ease

Polaris compressors combine several features that allow them to operate reliably for extended periods with minimal maintenance.

- **Horizontally split gearcase** means the precision components inside can be easily inspected and field serviced.
- **Straight-through intercooler tube** accommodates periodic cleaning, rather than replacement.
- **Full-capacity auxiliary oil pump** continues normal, safe operation in the event of a main oil pump failure.
- **Corona™ brand lubricants** last longer and provide excellent wear protection. By minimizing harmful build-up, they also ensure longer equipment operating cycles.
- **Trained local distribution network** offers expert repair and maintenance services on demand 24/7/365.



POLARIS COMPRESSORS

ELLIOTT®

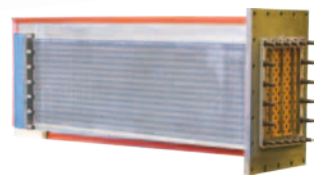
The quality of what goes into Polaris compressors is essential to the quality of what comes out. A range of advanced features ensures efficient, trouble-free performance over years of demanding use.



**Regulus® R150 Control System** lets you easily monitor and manage the performance of one or multiple compressors, at the unit or remotely, to meet air demands while maximizing energy savings.

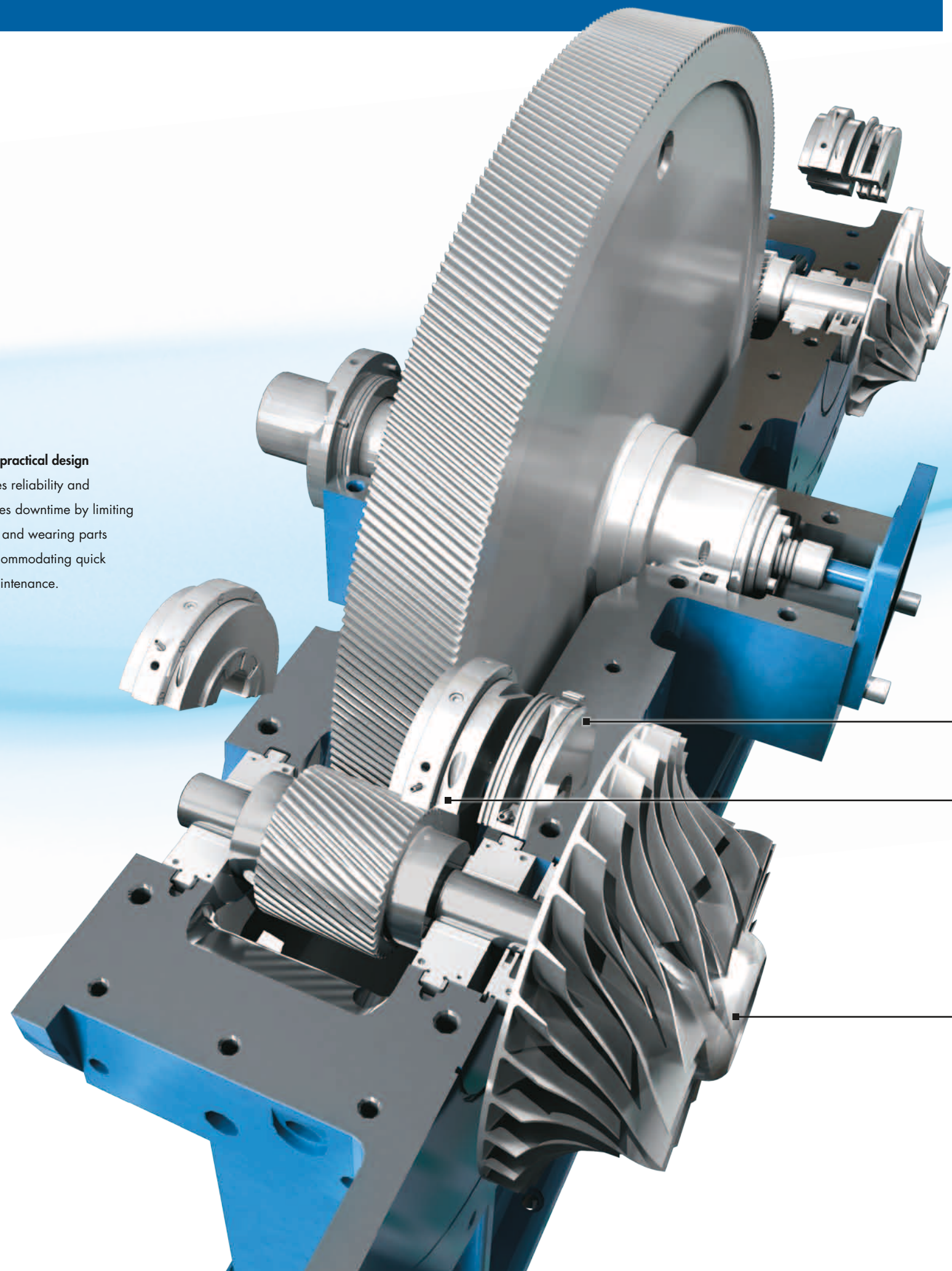


**Inlet guide vane** adjusts to plant conditions and load variations to conserve energy.

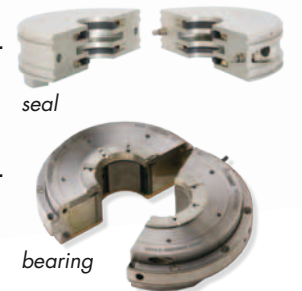


**Straight-through intercooler tube bundles** offer high heat-transfer efficiency with minimum pressure loss. The trouble-free design means the tube can be easily cleaned when required, rather than replaced, for lower maintenance costs.

**Simple, practical design** increases reliability and decreases downtime by limiting rotating and wearing parts and accommodating quick field maintenance.



**Horizontally split bearing and seal design** allows for easy inspection and maintenance of rotors, bearings, and seals.

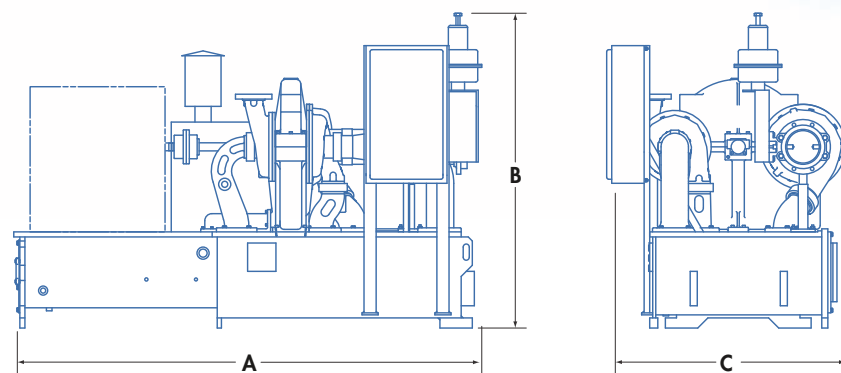


**Aerodynamic design** of the backward-leaning, stainless steel impellers optimizes airflow and provides highly efficient air compression.

Polaris compressors combine 50 years of operational and design experience in an extremely reliable, energy-efficient, cost-effective package. They suit a broad range of applications, with models ranging from 250 hp to 2,500 hp in two- and three-stage configurations up to 150 psig (10.5 bar g) discharge pressure.

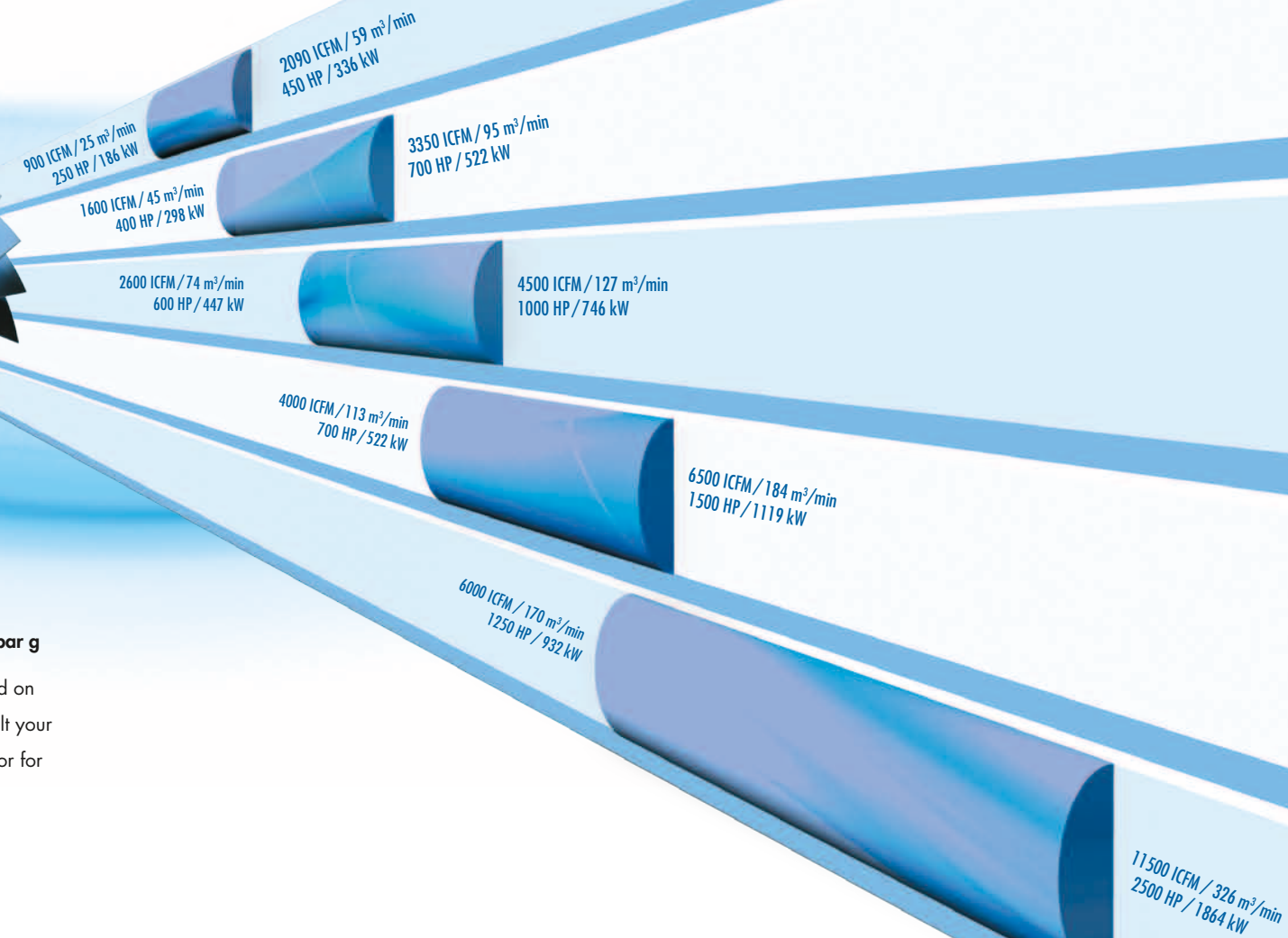
Polaris® Model	Overall Dimensions						Approximate Weight*	
	A*		B*		C*			
	in.	mm	in.	mm	in.	mm	lb.	kg
<b>P-300</b>	115	2910	101	2568	72	1832	10000	4550
<b>P-400</b>	143	3632	75	1905	81	2057	14500	6575
<b>P-500</b>	125	3175	85	2160	85	2160	16000	7260
<b>P-600</b>	181	4597	92	2337	87	2210	25500	11567
<b>P-700</b>	181	4597	92	2337	87	2210	28800	13063

\* Value may vary with motor rating and type



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

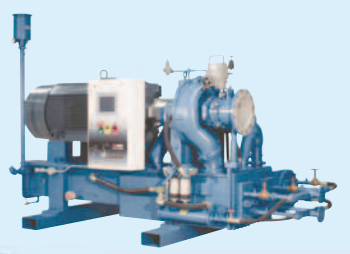
Performance may vary based on actual site conditions. Consult your authorized FS-Elliott distributor for more information.



**P-300**



**P-400**



**P-500**



**P-600**



**P-700**





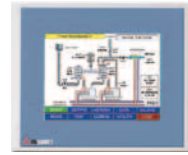
**SOUND ENCLOSURES**

Modular enclosures accommodate installation sites that have special acoustic requirements. A rigid base frame provides a stable foundation, while side and roof panels are removable for easy access during routine maintenance and handling.



**MOTOR STARTERS**

Choose from a full line of motor starters to suit your needs. Certain models include an option to mount the starter on the unit.



**REGULUS® CONTROL SYSTEMS**

A large color touch screen lets you easily monitor and manage the performance of one or multiple compressors, at the unit or remotely, to meet air demands while maximizing energy savings.



**DUAL OIL FILTERS WITH INTEGRAL TRANSFER VALVE**

When continuous operation is essential and shutdowns for routine maintenance are unacceptable, opt for the dual filter and transfer valve configuration. It allows the compressor to continue to operate while switching smoothly from one filter element to the other.



**ZERO LOSS PULSAR™ DRAIN VALVE**

By discharging condensate only when its reservoir is full, this energy-saving valve eliminates water without unnecessarily losing air. It is simple to install, intuitive, and features compact, rugged construction. Various configurations are available for installation.



**SIRIUS™ INTEGRATOR**

This advanced software allows you to monitor and control the entire compressed air system—even different types and brands of compressors—from a single location. By increasing overall system efficiency and energy savings, the Sirius Integrator has a very short payback period, typically within one year of installation.

**ARIES™ DRYERS**

To maintain optimum low dewpoints and high air cleanliness, Aries desiccant dryers are ideal. Their extremely low maintenance design (only one moving valve part) both minimizes pressure drop and extends the life of the desiccant.



**CORONA™ LUBRICANTS**

Our exclusive line of lubricants minimizes harmful build-up to maximize equipment operating cycles. Exclusive use of Corona lubricants makes your compressor eligible for the FS-Elliott Extended Warranty Program, adding peace of mind and reducing long-term cost of ownership.





### Parts

Our extensive inventory of quality OEM parts gives you immediate access to the service parts you need. We can provide parts to meet exacting dimensions, material specifications, and the latest technology. Most parts can be shipped directly to you within 24 hours.

### Installation and Start-up

Working with our distributors, we tailor installation and start-up services to you and your needs. From providing qualified assistance to your commissioning team to delivering a total turnkey installation, we will help you get up and running quickly and efficiently.

### Repairs

Our compressors are designed for complete field servicing. FS-Elliott's factory-authorized distributor service teams are available to perform a variety of repair services at your facility. Whether a simple oil change or a complete overhaul, no job is too big or too small. Emergency situations are handled with urgency 24/7/365.

### Maintenance

Polaris compressors combine several features that ensure reliable operation over extended periods with minimal maintenance:

- Inherently low vibration
- No rubbing or direct wearing parts
- Optimum clearances between rotating and stationary parts
- No oscillating load
- Integrated package to simplify installation and ongoing use

### Rerates

Rerating an existing compressor is the most efficient way to meet the changing demands of your compressed air system. By implementing design innovations and upgrades to match current needs, you can improve reliability and reduce lifecycle costs. Given today's rising energy costs, rerates can generate very fast returns.

### Training

We offer a wide range of operator and maintenance training programs, including standard, self-contained packages and customized sessions to fit your needs. Training can be delivered at your facility or one of ours.