

API 618 COMPRESSORS

Moderate Speed Process Compressors



WORLD STANDARD
COMPRESSORS



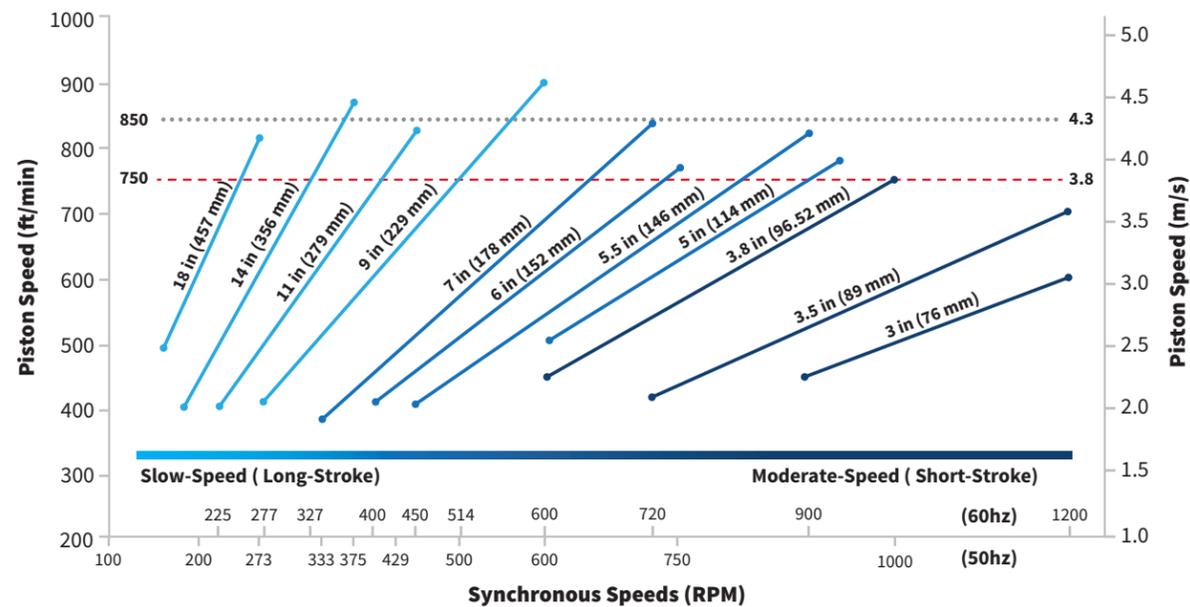
ARIEL API 618

Designed in accordance with API 618 for critical process applications, Ariel process reciprocating compressors are engineered for performance and reliability utilizing field proven, pre-designed components.

Moderate-Speed Compressors

Ariel's moderate-speed API 618 process compressors are utilized in a wide range of process applications around the globe, providing the safety and reliability demanded by today's refinery and petrochemical industries. With 67,000+ reciprocating compressors ranging from 100 to 10,000 horsepower shipped since

1966, Ariel is the largest manufacturer of separable reciprocating gas compressors in the world. Ariel's moderate-speed process compressors operate in comparable piston speed ranges to long-stroke, slow-speed compressors. Ariel's extensive product line supports a wide range of process applications.





ARIEL RELIABILITY

Ariel Process Case Study

Ariel reliability is proven in the field. A recent 24,000 hour overhaul on two units at a refinery in Louisiana showed no measurable wear to the crossheads, crosshead guides, cylinder bores, piston rods,

piston trim, or packing trim. The end user made the decision to revise their inspection schedule to every 32,000 hours.

Ariel reliability = peace of mind.



Ariel KBU/4 compressor used for underground hydrogen storage (UHS)

Number of compressors produced since 1966

67,000+

Countries where Ariel compressors operate

100+

Availability of factory tech service and parts personnel

24/7

Learn More

To learn more about how Ariel Compressors are used in the downstream oil and gas industry sector visit www.arielcorp.com/downstream



ARIEL DURABILITY



Ariel Process Case Study

The end user required a new hydrogen unit employing steam methane reforming technology. The facility supplies hydrogen and steam to a refinery for use in the production of fuels.

For this application, the customer selected four Ariel JGT/2 100% capacity non-lubricated, short-stroke, moderate-speed compressors driven by electric motors for the natural gas feed and hydrogen product services.

Ariel Compressors are used in a number of critical services including:

- Hydrogen Makeup and Recycle
- Feed Gas
- Hydrogen Production
- SynGas
- Hydrotreating
- Hydrocracking
- Chemical Processing
- Isomerization
- Offgas
- Hydrogen Storage
- Fuel Gas
- RFG

The decision to purchase Ariel compressors was based on delivery, compact packaging, and reduced total installed cost. Spare parts availability and references for similar applications also contributed to the decision to purchase Ariel moderate-speed reciprocating process compressors.

Ariel reliability makes your investment pay off in the long run. Initial inspections were performed on two of the compressors

**Feed-gas unit #1 after
12,086 operational hours**

**Hydrogen unit #2 after
9,334 operational hours**

Inspections of the running gear, cylinder bores, pistons, and rods revealed that all clearances were within specified tolerances. Even consumables such as piston rings, wearbands, and packing rings had not expended their specified service life. With Ariel quality, reliability, wide range of API 618 frame and cylinder options, and global support network, Ariel has the correct compressor for your next project.



23

Number of Ariel models suited for process service

1,200

Cylinders offered for process service

15+

Years producing durable process compressors

API 618 COMPRESSOR SPECIFICATIONS

Rated bhp

5,200

Stroke

5.75 in.

Max RPM

750

Tension Rod Load

75,000 lbs.

Gas Compression Rod Load

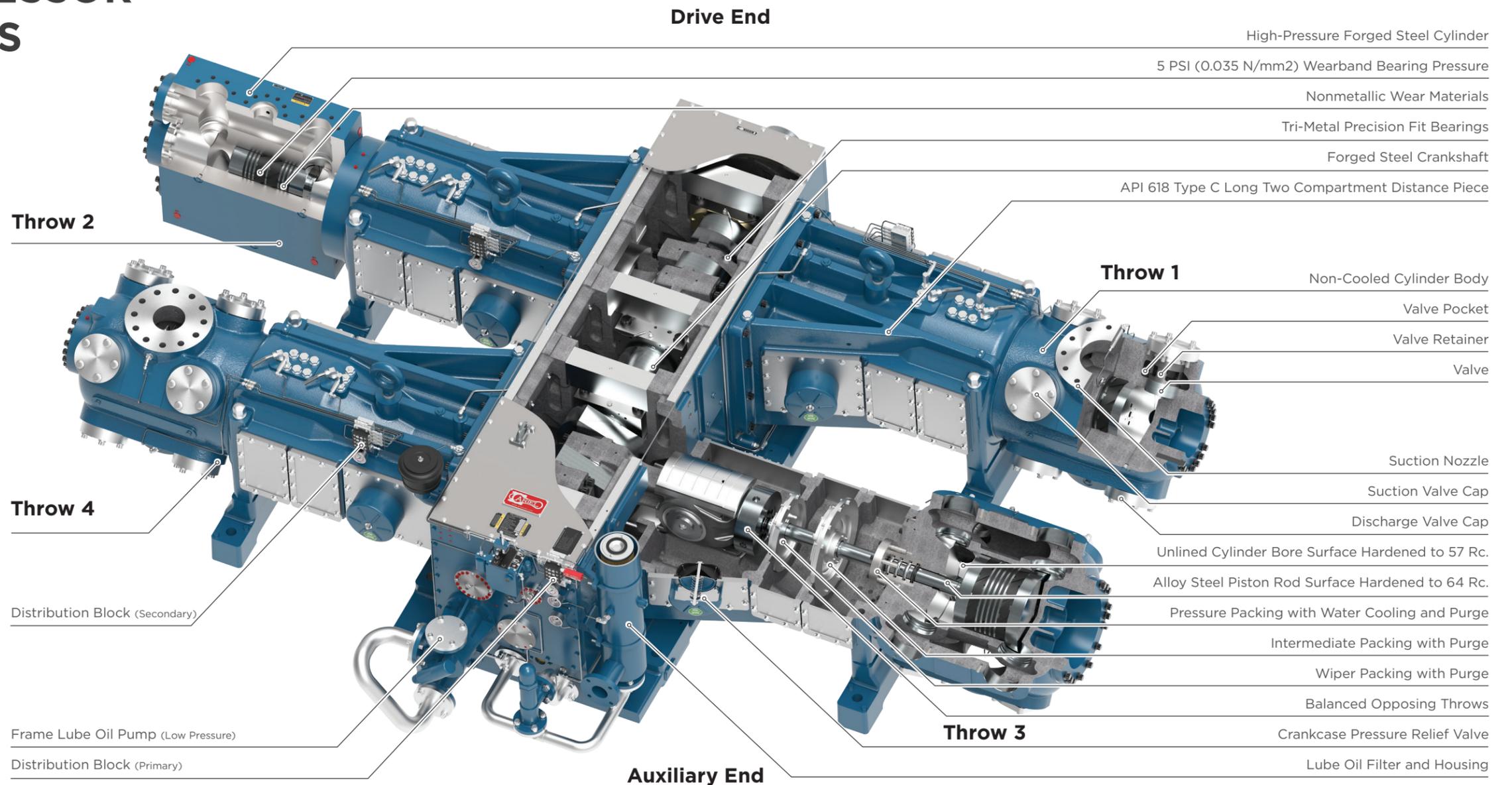
80,000 lbs.

Total Rod Load

150,000 lbs.

Piston Rod Diameter

2.875 in.



High-Pressure Forged Steel Cylinder

5 PSI (0.035 N/mm²) Wearband Bearing Pressure

Nonmetallic Wear Materials

Tri-Metal Precision Fit Bearings

Forged Steel Crankshaft

API 618 Type C Long Two Compartment Distance Piece

Non-Cooled Cylinder Body

Valve Pocket

Valve Retainer

Valve

Suction Nozzle

Suction Valve Cap

Discharge Valve Cap

Unlined Cylinder Bore Surface Hardened to 57 Rc.

Alloy Steel Piston Rod Surface Hardened to 64 Rc.

Pressure Packing with Water Cooling and Purge

Intermediate Packing with Purge

Wiper Packing with Purge

Balanced Opposing Throws

Crankcase Pressure Relief Valve

Lube Oil Filter and Housing

Distribution Block (Secondary)

Frame Lube Oil Pump (Low Pressure)

Distribution Block (Primary)



ARIEL CORP.
www.arielcorp.com

KBU/4

WORLD STANDARD COMPRESSORS

Commonly Used Applications ▶ Hydrogen Production

Ariel's large, medium-speed reciprocating separable compressors are capable of handling high rod loads of 150,000 lbs. The KBU and KBZ have proven to be the most cost effective method of compression for applications requiring large-horsepower drivers and high-compression capacity.



- **NACE Compliant Construction Available**
- **Valve Type and Material Application Specific**
- **Low Unbalanced Forces and Couples**
- **Lubricated or Non-lubricated Configuration Available**
- **Ductile Iron and Forged Steel Cylinders**

ARIEL PRODUCT LINE

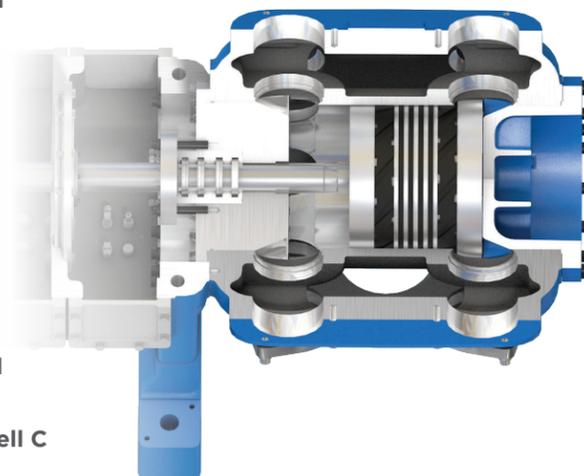
Ariel's comprehensive line of moderate speed, reciprocating process compressors combine more than 50 years of research and development with the use of advanced design tools, field-proven installations

and on-site experience. Ariel's wide range of process compressors are designed to achieve or exceed three years of uninterrupted service, while meeting the most demanding industry requirements.

Frame	Stroke (in)	Typical Piston Speed (Ft/Min)	Typical Rotating Speed (RPM)
JGA	3.0	450	900
JGJ	3.5	525	900
KBT	5.0	600	720
KBK	6.0	720	720
KBF	5.0	600	720
KBD	5.5	720	720
KBU	5.75	690	720
KBB	7.25	725	600

Cylinder Design Features

- Wearbands to meet 5 PSI bearing pressure for both lubricated and non-lubricated services
- Indicator connections
- Purged packing cases
- Water cooled packing cases
- Application specific valve design
- Application specific non-metallic wear materials
- Capacity and load control devices available
- Hardened 4100 series alloy steel piston rods
- 17-4 PH stainless steel and tungsten carbide coated piston rods available as options
- Cylinder bores hardened to greater than 50 Rockwell C



EXPERTISE, TEAMWORK, AND COMMITMENT TO THE CUSTOMER

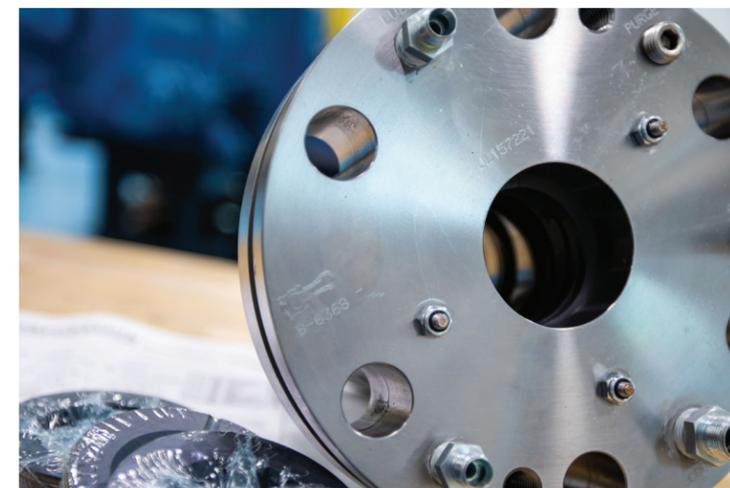
The Ariel distribution business model is based on the seamless integration between Ariel and the packaging distributor. Only the most experienced and qualified companies can become Ariel Distributors. These companies don't just package Ariel compressors – they become part of Ariel and its global distribution network, designed to serve its worldwide customer base by providing regional access to engineering, packaging facilities, technical services, and parts support.

Ariel Original Equipment Manufacturer Parts keep your Ariel compressor running like new. Ariel OEM Parts are the exact same high-precision, exceptional quality parts that go into Ariel's new units. Available through over 700 world-wide distributor locations, Ariel OEM Parts are offered at a fair price and supported by Ariel expertise.

Ariel OEM Parts Support

Ariel and its distributors work as a team throughout every project to ensure the successful operation of the installed equipment. We begin with project planning and participate throughout the design, fabrication, installation, start-up and commissioning of the compressor package. When you talk to an Ariel distributor, you are talking to Ariel.

Whether you're looking for recommended spares for new units or planning scheduled maintenance of your current compressors, Ariel is available to assist you around the world. The Ariel commitment does not end there. Ariel "Unit Down!" Protocol ensures that your compressor will be back on-line as soon as possible.



Ariel "Unit Down!" Protocol



If something happens to your Ariel compressor, whether a warranty issue or other event, Ariel and its distributors will work together to determine the best plan of action to get your unit back in operation.



Ariel and its distributors will find the part you need by searching inventories throughout our network. If necessary, Ariel will locate and allocate what you need from our manufacturing facility.



Ariel and our distributors will work to deliver you the parts and will assist, if needed, at the site to do whatever is necessary to get your compressor back on-line.

PRODUCT & CUSTOMER SUPPORT

Ariel Distribution Network

Ariel compressors are packaged to meet industry specifications by authorized Ariel downstream distributors located around the world. These partner companies follow the highest standards for design and construction of packaged equipment. Each of our distributors brings a unique reach and skill set to the market and are ready to support your Ariel compressor package, OEM parts, or service needs.

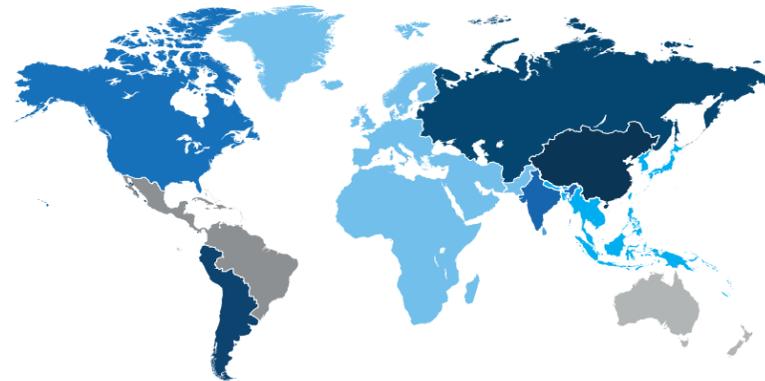


Trusted Ariel distributor locations around the world

700+

Ariel compressors packaged for Process service

4,300+



World Headquarters in Mount Vernon, Ohio

Ariel Regional Sales and Support Locations

- Houston, Texas
- Fort Worth, Texas
- Denver, Colorado
- Calgary, AB, Canada
- Beijing, China
- Sydney, Australia
- The Netherlands
- Singapore
- Bangkok, Thailand
- Mumbai, India
- Dubai, UAE
- Buenos Aires, Argentina

Find a Distributor

To view a full list of Ariel Distributors who provide compressor packages, parts & service visit www.arielcorp.com/distributors





Our commitment to supporting our products for the lifetime of installation is still as true today as it was over 50 years ago. This has led to the creation of one of the most robust portfolios of support offerings in the industry. Our comprehensive service and support team is available around the clock with the information you need – anytime and anywhere.

Our support includes experienced Application Engineers working with proprietary software to maximize your compressor package. After installation, our regional compressor technical experts around the world are ideally placed to assist you with keeping your Ariel compressors running strong.

Digital Solutions

Ariel offers a variety of software and applications designed with our customers in mind. These programs give our customers decision-support capabilities to maximize their compression efficiency, performance, and reliability.



Corporate Outreach

We have long worked closely with the oil and gas industry, from distributors to end-users worldwide, and we have engaged with the public about what we do. We recognize the importance of education and training for the continued growth of the industry, and we know that a professional workforce, knowledgeable about the natural gas industry and its associated technology and equipment, is essential for the future of our industry.

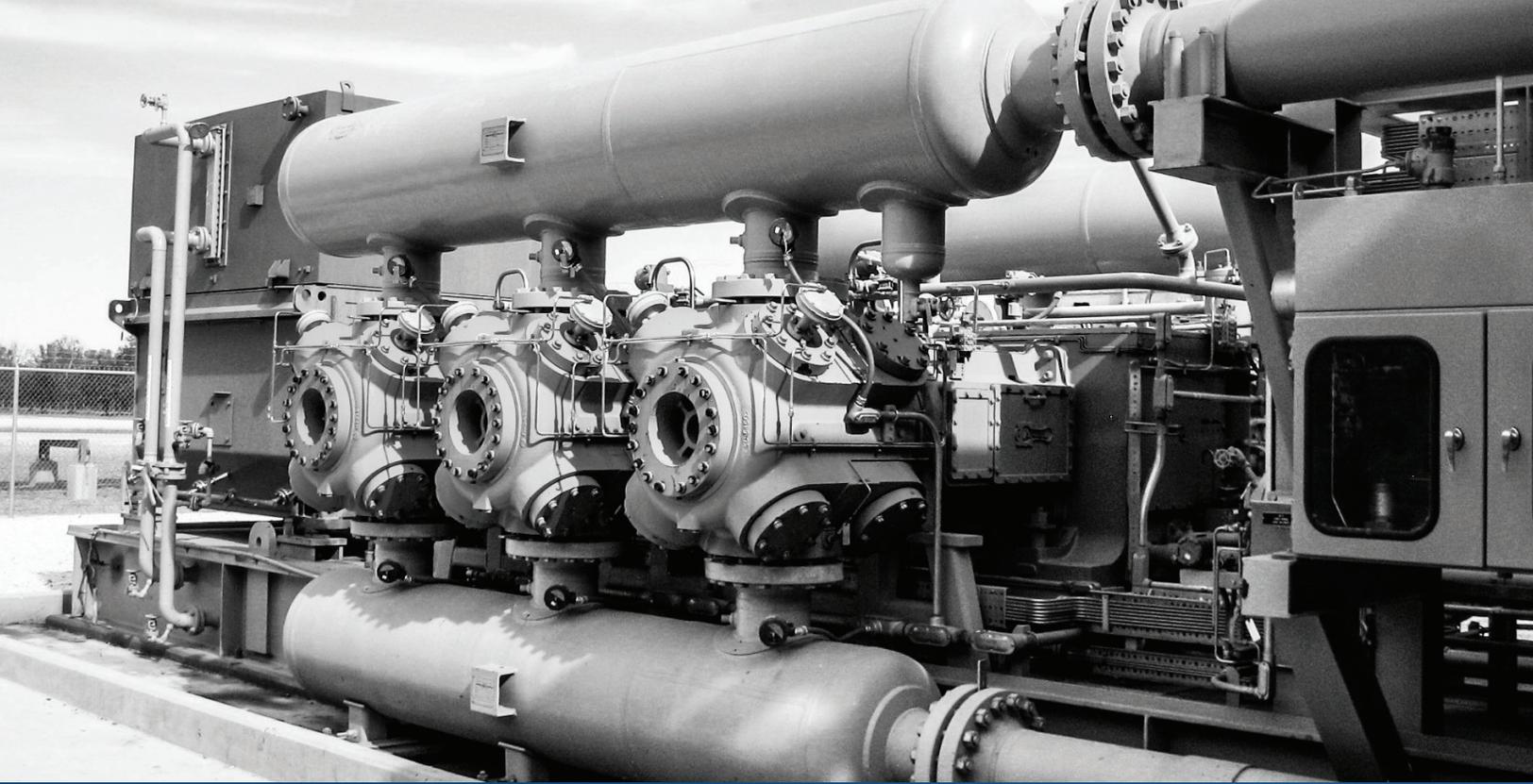


Contact Us

Our customers can get in touch with us 24/7 through the Ariel Response Center – the best place to start for world-class customer assistance. Office Hours: 8:00-19:00 US Eastern (UTC -5:00), or 24/7 for emergencies.

North America: **888.397.7766** | Worldwide: **+1 740.397.3602**





WORLD STANDARD
COMPRESSORS

ARIEL CORPORATION

www.arielcorp.com

35 Blackjack Rd. Mount Vernon, OH 43050



Follow us

API 618 COMPRESSORS

© Ariel Corporation 2023 ATP 20799