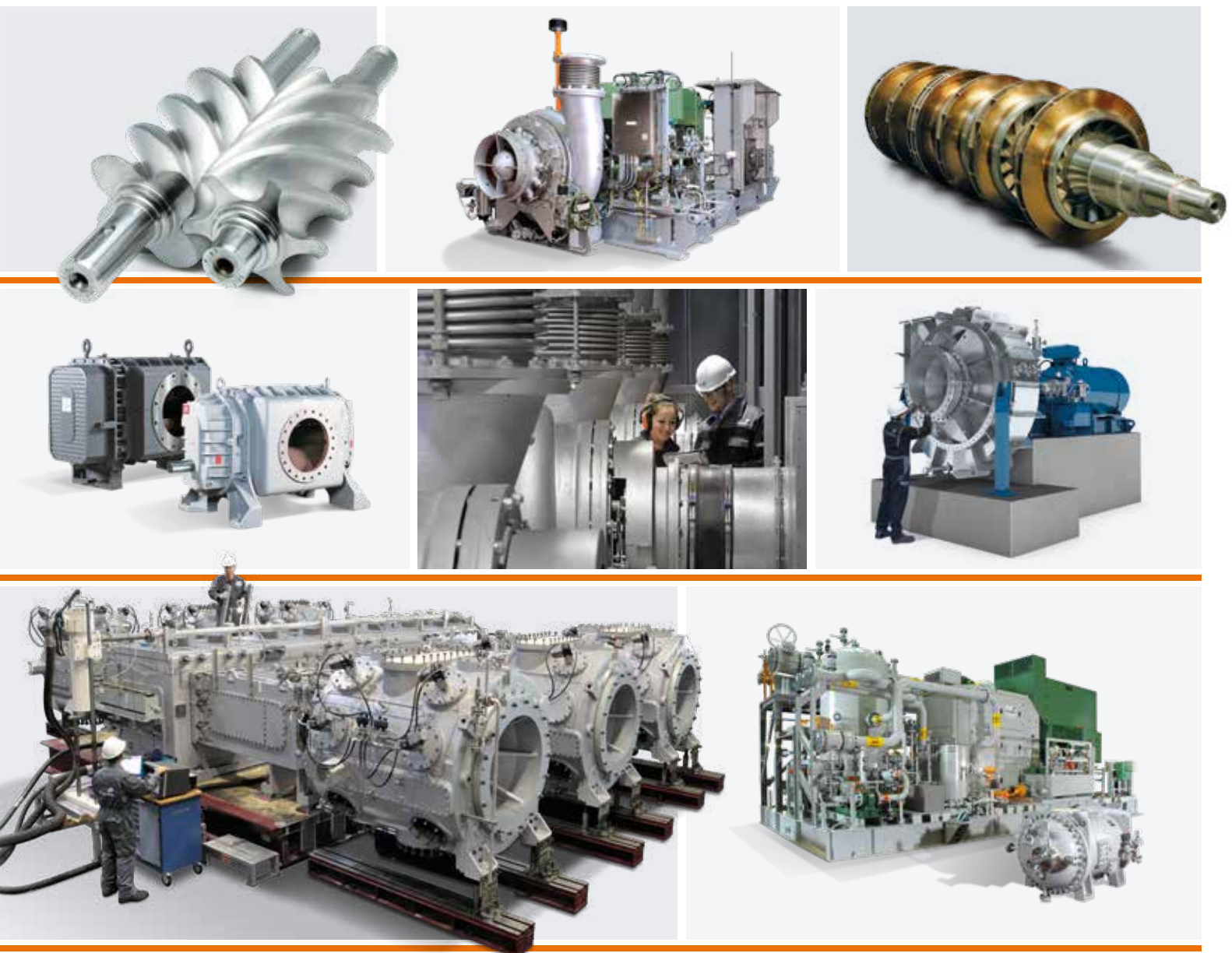


# Howden compressor technologies

Setting standards in compressor engineering for more than 160 years



**Revolving Around You™**

**The most skilled and experienced collection of compressor expertise ever created. Howden incorporates the originators of diaphragm, twin screw and Roots® technologies, and has introduced major improvements in centrifugal and reciprocating compressors. We hold many of the most important patents in the field.**



Reciprocating compressors



Screw compressors



Screw compressor packages



Centrifugal compressors



Roots® blowers

Howden is a global organization that brings the innovators and developers of the world's most advanced compressor technologies together under one organizational structure. Building on a philosophy of continual research and development, and a thorough understanding of the applications and industries we serve, we have become an acknowledged leader in the science and engineering of compressors and related equipment, from small stand-alone units to the largest skid-mounted systems. Across the whole spectrum of compressor requirements, Howden is the natural first choice for advice, equipment and service.

**Revolving Around You™**





## Expertise is the key to economy

Other manufacturers, consultants and agencies may be able to offer different aspects of compressors and their uses. However, there are none that can draw on the scope, depth and breadth of our experience, or provide the support we offer in selecting and customizing a product to exactly fit project needs. Our unique combination of knowledge and outstanding engineering skills means that every customer has access to an individual, precisely tailored response.

---

**We design and manufacture all major compressor technologies, so we can give impartial advice on their suitability for specific situations.**

---

**We take a systems approach and have amassed considerable expertise in virtually every compressor application, enabling us to alert customers to issues and avoid pitfalls.**

---

**Our global supply chain and manufacturing capabilities creates stability and economy that is passed on to the customer through low costs and reliable scheduling.**

---

**We offer an unequivocal commitment to support, spares and service for the lifetime of every compressor we sell.**

---

**Our ethos of providing the best possible lifetime value, introducing new technology through retrofits and enhancements where appropriate, offers security and peace of mind.**

---

We believe that partnership and transparency is the best and shortest path to customer satisfaction. Our sophisticated design and selection software allow customers to become fully involved at all stages of a contract, and to build a thorough understanding of how our equipment will integrate into their production processes. We make sure that factors like control and reporting systems, environmental issues, training and maintenance are part of the discussion. Once installed, our compressors are ready for many decades of continual operation with the minimum of maintenance, giving you reliable production with no unplanned downtime or outages.

# The right technology for every challenge

With more than a century of applications experience and a range that covers every major technology, we can advise on, design and supply the right compressor for virtually any situation.



 <b>Oil &amp; gas upstream</b>	Flare gas, Hydrocarbon vapor recovery, Flash gas
	CBM & shale gas gathering
	Oil & gas onshore & offshore, FPSO
	GTL, LNG, Compact GTL, Sulphur recovery and gas treatment plant, Gas lift, Wellhead gas reinjection, CO <sub>2</sub> capture
 <b>Oil &amp; gas midstream</b>	Natural gas boosting
	Gas turbine fuel gas boosters, Shale, CBM, Natural gas gathering and boosting
	LNG BOG
	Natural gas and CO <sub>2</sub> gas drying, Separation, Decanting
 <b>Refinery</b>	Gas offloading
	H <sub>2</sub> process feed, HDT, HGU, H <sub>2</sub> rich gas
	Hydro-cracking, Hydro treating, Isomerization, Catalytic reforming, Alkylation
	Sulphur recovery & Sulphur acid plant, HDS (oil free)
 <b>Petrochemical</b>	Flare gas recovery, Propane, Butane recovery
	Soda ash, Sour hydrocarbon, VCM strip gas
	Utilities, Flare and vent gas, Air instrumentation, Inerting
	Butadiene, Ethylene, LDPE
 <b>Chemical</b>	BOG (Ethylene), Process gas make up & recycle
	Ethylene, PTA, HDPE, LLDPE, VCM, Phenols
	Utilities, Flare and vent gas, Air instrumentation, Inerting
	Kaprolaktam plants
 <b>Power generation</b>	Mechanical vapor recompression
	Fluor process, Chemistry, Paints, Chlorine gas
	Pharmaceutical process, Research & laboratories
	Agrochemical process cooling & critical gas
 <b>Wastewater</b>	Waste water treatment
	Waste water treatment
	Sewage sludge drying and combustion
	Zero liquid discharge
 <b>Industrial</b>	Vapor recovery
	Nuclear fuels, Radioactive gas compression and leak recovery, Pressure testing
	H <sub>2</sub> and natural gas fuels transport and distribution, Fuel cell
	Gas turbine feed
	Flue Gas Desulphurization (FGD), Circulating Fluidizing Bed (CFB)
	CO <sub>2</sub> capture, Gas desulphurization (oxidation)
	Industrial gases/cylinder filling, Specialty gases, Aerospace
	Automotive, Air bag filling, Petrol tank manufacture
	Food & drink, Bottling & CO <sub>2</sub> recovery
	Fluor gases for TFE, Lubricant, Reactant, Refrigerant and electronic processes
	Iron & steel coke applications, Oven gas, Contaminant gases
	Fermentation industry
	High temperature gases, Varying molecular weight gases
	Effluent treatment, Carbon black, Fuel gas
	Mining: Smelting, Metal refining, Sulphuric acid plants
	Industrial refrigeration, Process cooling, Mine cooling
	Blot furnaces, Air separation plants, Coke oven gases, Agglomeration gases
	Pneumatic conveying
	Vacuum truck
	Vacuum swing adsorption (air separation)
	Mechanical vapor recompression
	High vacuum
	Aeration, Paper machine vacuum, Vacuum (wet/dry)





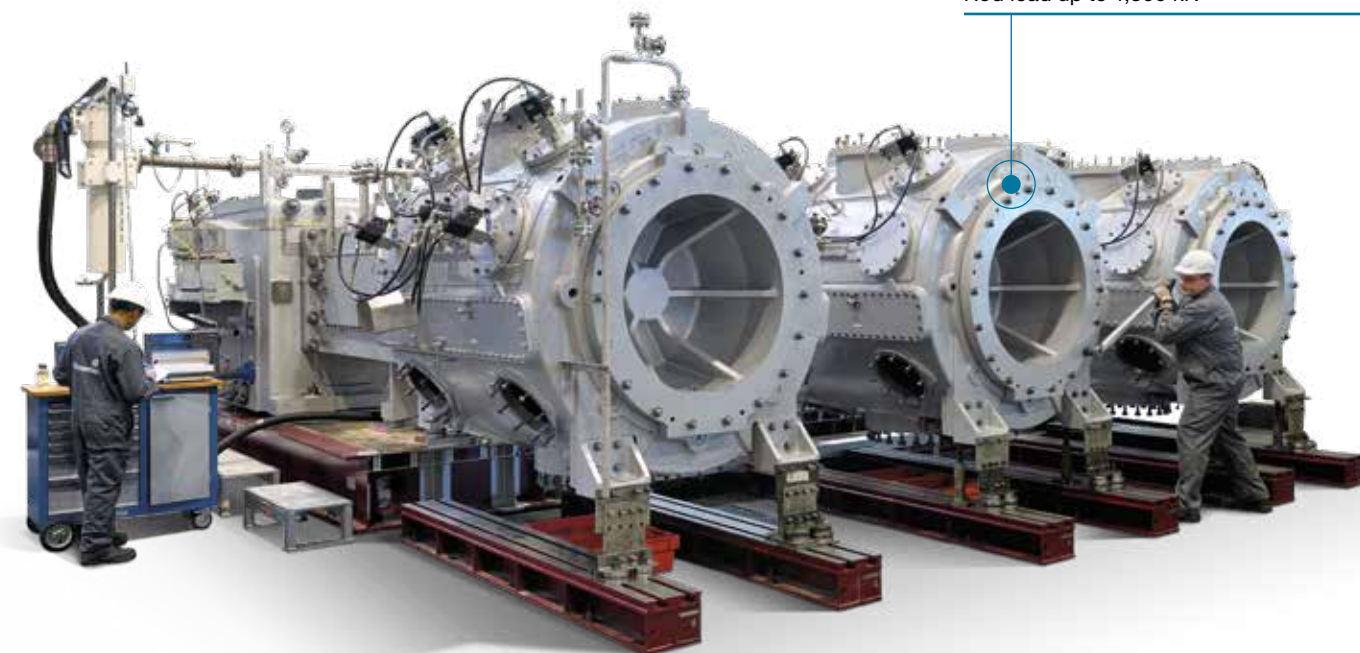
# Reciprocating compressors: API 618 and diaphragm

The fundamental system of compressing gases with a piston in a cylinder has, over decades of refinement and evolution, culminated in some of the most powerful, economical and reliable units available today. In addition to straightforward piston compressors, we manufacture diaphragm compressors that offer absolute process gas isolation.

## API 618 performance

Power up to 33 MW – Pressure 600 bar

Rod load up to 1,800 kN



## API 618 compressors

### The C series

These heavy duty, high power units have established themselves as the ultra-reliable heart of critical applications in industries such as oil and gas production, petrochemicals and refining. Their capacity control systems and flexible cylinder configuration make them first choice where dependability and a low total cost of ownership are key.



### The P series

Where processes involve lower capacities, P series compressors are designed to run at moderate speeds with low mechanical stress, extending operational life. They can be supplied with single or dual compartment distance pieces for internal pressurization or gas recovery. Design options include multiple head construction and a selection of materials suitable for any gases.



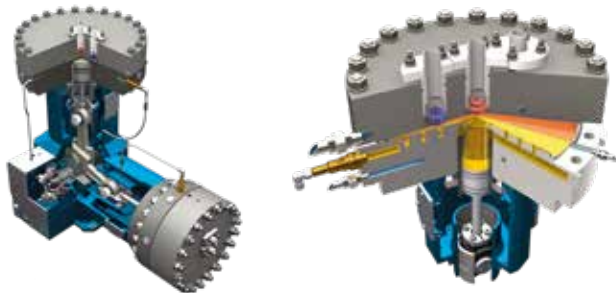
### Why choose Howden?

The API 618 C and P series present a comprehensive range of volumes and pressures, and an excellent ability to cope with particulate matter and condensates.

The unique Free Floating Piston™ system uses a cushion of process gas to support the piston, eliminating rider ring wear and greatly extending intervals between maintenance.

The unique Rsens™ sensor monitors rider ring condition in real time, allowing replacement to be carried out at the most economic and convenient stage.

Skid-mounted units can be supplied with all ancillary and control equipment in place, pre-tested and ready for fast, simple integration on-site.



Diaphragm technology provides total gas containment with zero leakage and zero contamination.

#### Diaphragm performance

Flow up to 1,200 m<sup>3</sup>/hr

Pressure up to 3,000 bar



## Diaphragm and hybrid compressors

### The D series

The diaphragm compressor, in which the gas under compression is securely isolated, was invented in 1916 by Henri Corblin. The company he co-founded is now part of the Howden organization. Diaphragm compression is the technology of choice in any situation where complete hermetic separation is required, for example in the handling of rare, toxic, flammable, explosive or radioactive gases.

### The H series

A multi-stage development of the diaphragm compressor, the H series is available in horizontal or vertical configurations of up to five compression stages, offering pressure increases of up to 450 bar while providing inter-stage cooling and purging of condensates. These units are suitable for virtually all dry gases including helium, hydrogen and nitrogen.



### Why choose Howden?

As the inventors of the technology, we have been at the leading edge of diaphragm compressor innovation for almost a century, constantly improving safety and performance.

Our unique HIDS system provides constant real-time monitoring of head integrity and provides a fail-safe stop procedure and containment of process gas in the event of a breach, thus providing absolute safety in operation.

Low rotation speeds minimizes fatigue.

Diaphragm compressors can be provided as fully tested skid-mounted packages ready for easy installation and problem-free commissioning.

# Screw compressors and screw compressor packages

Howden was the world's first commercial developer and manufacturer of rotary twin screw compressors, and remains at the forefront of the technology. We can provide oil-injected units as stand-alone ('bare shaft') compressors or as packaged systems, while our oil free units are supplied as pre-assembled and tested skid-mounted packages only. Screw technology offers low vibration, low pulse compression in a compact, versatile form.

## Oil-injected screw compressor range performance

Flow rate: Up to 24,000 sm<sup>3</sup>/hr (20.5 mm Scfd)

Pressures: Up to 75 bar a (1,087 psia)

Power: Up to 5,000 kW (6,700 hp)

Speed: Up to 5,000 rpm



## Bare shaft screw compressors

Howden is one of the world's leading manufacturers and suppliers of twin screw compressors. Our wide range of oil-injected screw compressor are supplied globally and exclusively to our global network of nominated compressor packaging customers and suppliers. We offer 4 ranges of oil-injected screw compressors including the GTV range, which consists of high pressure units delivering up to 75 bar.

**The WRV series** is available in a wide choice of capacities, extending to the largest capacity oil-injected screw compressors in the world. WRV compressors use a double-walled casing for outstanding reliability and robustness, providing low noise, high pressure performance throughout their long operational life.

**The XRV series**, developed specifically for refrigeration, uses a single-walled construction. Suitable for all known refrigerant gases, it incorporates stepless capacity control and variable volume ratio combination to minimize energy demands. It has been designed to offer easy installation and fast, simple maintenance.

**The M series** uses an innovative small footprint, modular construction that makes it enormously flexible. It was developed principally to meet the needs of compressor packaging specialists for versatile equipment that would provide end users with the lowest lifetime operating costs, providing low noise and easy maintenance performance that meets or exceeds all relevant industry standards. The M range incorporates a full suite of specifications and optional extras.

## Why choose Howden?

Howden has been the driving force behind screw compressor development since the 1930s, and has consistently led the way in innovation, reliability and cost effectiveness.

A wide choice of configurations and application-focused design services allows us to precisely match the needs of individual customers.

Our bare shaft screw compressors can, where required, be supplied as fully assembled and tested skid-mounted packages.

More than 50,000 Howden oil-injected compressors, many installed decades ago, are currently delivering round the clock service throughout the world.



### Why choose Howden?

Our specialist skid packaging engineers have outstanding knowledge and experience of the most efficient, compact and economic design techniques.

With access to Howden's full range of oil-injected and oil free compressors and a virtually unlimited choice of drives, control systems and ancillary equipment we can precisely match the individual needs of every customer.

Oil-injected screw compressor



### Oil free screw compressor range performance

Flow rate: Up to 26,000 m<sup>3</sup>/hr  
(22.04 mm Scfd)

Pressures: Up to 15 bar a (218 psia)

Power: Up to 4,000 kW (5,364 hp)

Speed: Up to 15,000 rpm



## Screw compressor packaged systems

### Process gas

Howden's high specification process gas screw compressor systems are custom designed for process-critical applications. We produce a range of oil-injected units as skid-mounted packages which offer a number of advantages across a range of applications that demand high efficiency and high discharge pressures.

Howden also offers oil free screw compressors as bespoke designed, complete packaged systems. Oil free screw compressors are capable of handling gases with high levels of liquid or particulate matter, and are eminently suitable for hazardous gases or in applications where contamination is an issue.

Featuring a compact arrangement that fits into a remarkably small footprint, the packages can be designed to incorporate all the necessary drives, control and management systems, cooling and ancillary processing equipment and ductwork, ready for straightforward installation and commissioning.

### Process refrigeration

Howden's versatile and economical skid mounted refrigeration packages are used in a wide range of process refrigeration applications, from power generation and chemical processing to mining, oil and gas and petrochemicals. They can be configured for any known type of refrigerant, and give robust service in temperatures as low as 100°C. We can supply skids with single or multiple compressors, usually oil-injected, with a choice of any suitable type of drive, condensers and evaporators.



# Centrifugal compressors

Through a continuous product development program based firmly on applications engineering and problem solving, we have developed an exceptionally comprehensive choice of centrifugal and peripheral compressors units. Versatile and highly efficient, they are capable of meeting or exceeding all appropriate API and other international standards.

## **Turbo blower and single stage compressor performance**

Flow: 5,000 to 353,000 Nm<sup>3</sup>/hr

Pressure: 2.0 /bar(g) in single stage

Power: Up to 5 MW

Tip Speed: 450 m/s



## **ExVel® turbo fans performance**

Flow: Up to 160 m<sup>3</sup>/second

Pressure rise: Up to and beyond one bar in standard atmospheric conditions

## **Roots® single stage compressor performance**

Flow: From 5,000 to 225,000 scfm (7,850 to 353,440 Nm<sup>3</sup>/hr)

Specification compliance: API 617

Compressor stages: Single



## Turbo blowers and single stage compressors

Howden turbo blowers and single stage centrifugal compressors can be designed and supplied with integral or separate gearing, and as stand-alone units or complete packages. They provide high efficiency over a wide operating range. Our combination of high efficiency impellers, precision gears and high stability bearings results in smooth transmission with minimum power loss.

Originally developed to meet the extreme challenges of mechanical vapor compression, Howden's ExVel® turbo blowers take fan capabilities into new areas of pressure and flow volume, meeting the need for ultra reliable operation and extending the upper limits of fan and blower performance.

### **Why choose Howden?**

Our engineering design focuses on product integrity, long operational life and maximum efficiency.

Howden's modulating inlet and outlet guide vane system offers very precise process control and a huge turndown range with a simple constant speed motor.

Robust design ensures more than 25 years operating time.

We can offer API 672 and 617 compliant packages, custom designed to project specifications.

Horizontally split gearboxes allow easy access to shaft, gears and bearings, making installation and maintenance simple procedures.

# Integrally geared multi-stage compressors

In our RKB series of integrally-geared compressors, a central low-speed bull gear drives one or more pinions with overhung impellers, resulting in a very compact machine footprint. We have developed a brand new family of dedicated impeller stages that further improve the already exceptional efficiency of integrally-geared compressors, and individual stages or sections can be equipped with adjustable inlet vanes and intercoolers. Our range extends from

single stage air units up to API 617 state-of-the-art eight-stage CO<sub>2</sub> compressors.

## RKB integrally-geared compressor series

Mass flow: Up to 130,000 Nm<sup>3</sup>/h

Discharge pressure: 200 bar(a)

Specification compliance: API 617

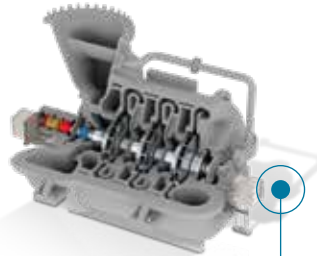
Compressor stages: 1 – 8



# Single shaft multi-stage compressors

Single shaft multi-stage compressors offer robust, proven service over an outstanding lifetime and a wide-operating range, accommodating a broad range of gases, flows and pressures. Now, our new range of compressor stages has raised efficiency to the highest levels. We produce an extensive range of multi-stage engineered units that includes compressors for oxygen, low

temperature coolants, corrosive atmospheres and many other special purpose applications. Howden compressors have a proven record of reliable service in many industrial situations, including oil and gas, steel, chemical plants and power generation.



## Roots® multi-stage performance

Flow: 10,000 to 110,000 Nm<sup>3</sup>/hr

Pressure rise up to : 5 Bar A

Polytropic Head, ft\*lb/ft<sup>3</sup> (kJ/kg: 14,000 to 65,000 (41.8 to 194.3)

Specification compliance: Manufacturers standard, API 617

Compressor stages: 2, 3, 4 (speciality staging available)



## API 617 performance

Mass flow: Up to 300,000 m<sup>3</sup>/h

Discharge pressure: Up to 150 bar(a)

Power input: Up to 40 MW

## Why choose Howden?

Every unit is individually tailored for optimized lifetime performance, based on more than a century of continual improvement and expertise in compressor application engineering.

We draw from a wide selection of materials, impeller designs and bearings to ensure total suitability for every individual process and application.

Our newly developed compressor stages raise reliability and performance, and offer outstanding efficiency, reduced operational costs and minimized downtime.

Multi-stage centrifugal compressors of up to eight stages can be supplied either as individual units or as fully assembled packages, comprehensively tested and ready for fast installation and commissioning.

Compressor layout options include integral gearing, isothermal operation, and horizontally or vertically split configurations.

# Periflow®

Periflow® compressors use a profiled impeller wheel revolving in an annular channel to move the process gas in a swirling, helical pattern, with the gas moving through the blades several times on its path through the compressor. The system delivers a smooth, steady flow, and because the process gas is

subject to both tangential and circulatory flow, which tend to govern volume and pressure respectively, each machine can be configured to perform within very precise parameters.



## Periflow® performance

Up to 350 bar – 10 to 20,000 m<sup>3</sup>/hr capacity flow

Variable speed from 1000 to 6000 rpm

## Why choose Howden?

Periflow® technology offers low flow compression in an impressively compact and versatile unit.

Low vibration, pulsation-free operation makes Periflow® the optimum choice for elevated structures, FPSO and offshore installations.

High tolerance of gases containing liquid or solid particulates.

Variable speed operation and minimal maintenance requirements make Periflow® compressors simple to use and to service.



# Roots® blowers

Howden Roots has been manufacturing and developing the rotary positive displacement blowers that bear their name continuously since 1854. Today, we produce robust, heavy-duty bi-lobe or tri-lobe designs that deliver reliable performance with innovative Whispair™ technology for low noise, low pulsation compression.

## Factory standard features

Easy to install, with small footprint.

Acoustic enclosure is designed to provide up to 22 dBA free field attenuation.

Broad operating performance range provides a multitude of efficient and compact solutions.

Air flow from front to rear is designed for personnel safety and equipment reliability.

Access to air filter is convenient and designed to reduce pressure losses, improving reliability and blower efficiency and protecting your investment.

## Small rotary performance

Flow rate: Up to 10,710 m³/hr (6,300 cfm)

Pressure: Up to 15 psig

Vacuum: Up to 28" Hg



## Small rotary

Compact and robust, using tried and proven designs that deliver continuous service over many years, our small rotary Roots® blowers are widely acknowledged to achieve the most volumetrically efficient performance currently available. We have evolved the Roots® principle into a number of designs developed to meet particular application demands including the ability for a single unit to provide, simultaneously, both pressure and vacuum. Features such as oversized anti-friction bearings, ductile iron impellers with involute profiles and integrated shafts, and carburized and ground steel alloy spur timing gears mounted on tapered shafts all contribute to the outstandingly long, trouble free operating life of these units.



### Why choose Howden?

We incorporate the most advanced technologies for eliminating noise, vibration and downstream pulse.

Roots® blowers operate under vacuum or pressure conditions with no modifications.

An optional integrated discharge jet plenum allows operators to use Roots® blowers in high vacuum conditions.

Our exclusive Figure 8 gearbox design improves oil distribution and lengthens bearing life.

## Factory standard

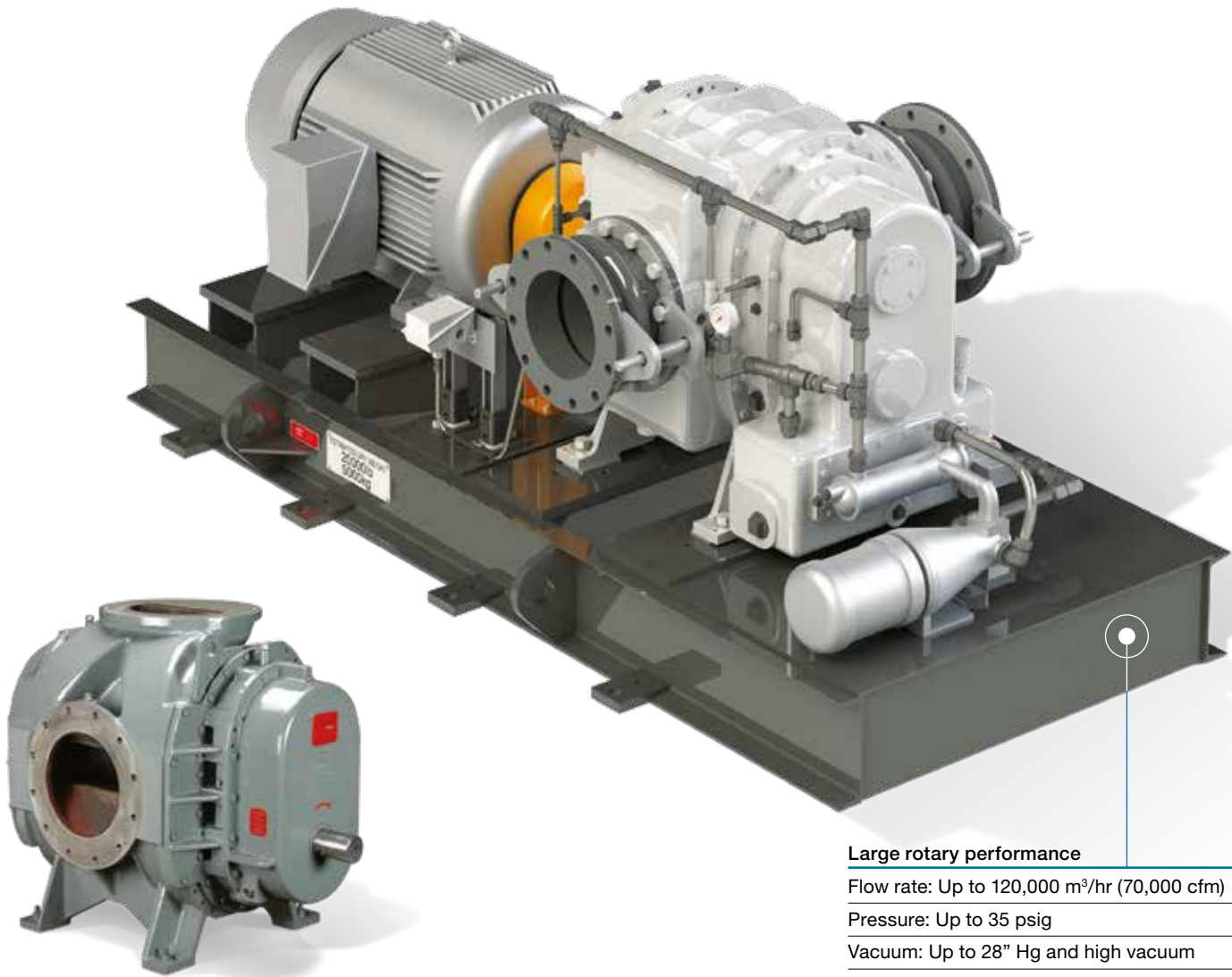
We can supply small rotary blowers in a factory standard package suitable for vacuum or pressure applications. On-site installation is very straightforward, and the front of the enclosure carries panel-mounted gauges for inlet filter differential, blower exhaust temperature and pressure as well as an oil level viewing panel for ease of monitoring. The fan is mounted on the blower shaft and driven mechanically, giving superior cooling performance while eliminating the need for separate electrical connections.

### Why choose Howden?

The small footprint and rectangular geometry of the casing allows for compact installation of multiple units.

The enclosure provides up to 22 dBA free-field noise attenuation, providing low environmental noise even where multiple units are installed.

Our patented automatic belt tension system optimizes performance and extends belt life.



#### Large rotary performance

Flow rate: Up to 120,000 m<sup>3</sup>/hr (70,000 cfm)

Pressure: Up to 35 psig

Vacuum: Up to 28" Hg and high vacuum

Custom design available for high static pressures

## Large rotary

Designed for industrial high pressure and high vacuum air and gas, our RAS-J and RGS-J models of large rotary blowers have a proven track record across a very wide range of applications, from aeration in waste water treatment, steam recompression and pneumatic conveying in both pressure and vacuum systems to steel degassing, vacuum truck equipment and a host of other uses.

These blowers can be used in single and multiple stage configurations and are available in sizes that can be directly driven by an electric motor, giving exceptionally economic operation.

We also supply two models of heavy-duty water sealed vacuum pumps. Used in applications such as vacuum filtration and drying and materials handling, they are also

the optimum choice for creating the vacuums required in environmental testing and chemical processing. They incorporate a Whispair™ system that raises energy efficiency by feeding backflow in the direction of the impeller rotation, and the integrated ductile iron impeller and drive shaft is fitted with a hydrodynamic seal to prevent oil leakage.



#### Why choose Howden?

Howden Roots water sealed vacuum pumps use much less water than liquid ring-type pumps.

The Whispair™ vacuum exhaust system uses an exclusive wraparound plenum and proprietary jet to control equalization, reducing power loss as well as noise.

We test every unit mechanically to ensure that it meets its specification, and we validate flow capacity, oil circulation, operating clearances and vibration levels at the critical performance levels before it leaves the factory.

# Lifetime support

We believe in our products, and in their capacity to provide long term, high value service. We are committed to maintaining and where possible enhancing their performance and extending their working life. Our first commitment, however, is to the customers who have placed their trust in Howden compressors. All of our aftermarket services are designed to offer them confidence, security, and peace of mind.



Our **Service Level Agreement** is the most flexible support package available. From the list below, select the modules that will be of benefit to you, decide how long you want the contract to run for and we will prepare a proposal. Alternatively, our expert engineers are happy to advise on the optimum selection for specific requirements such as critical stage operations, preventive or predictive maintenance, or performance maintenance.



## Service level agreement modules

### 1. Call-out service

We can provide a round-the-clock call out service that guarantees you will have a fully trained service engineer on-site within an agreed timeframe. Our response can be initiated by either phone, fax, email or other agreed trigger. For each visit, we will provide you with a detailed report of what we found, what we did and further actions we recommend.

### 2. Priority access to spare parts

We can offer priority lane access to spare parts, offering customers privileged access to our spares inventory and ensuring express delivery of parts to where they are needed.

### 3. Customer stock management

We can offer customer stock management, under which we take responsibility for maintaining the optimum stock levels on-site. We will agree, in advance, the most suitable

level of stockholding, and whether the spares will be installed by the customer or by trained Howden engineers or associates.

### 4. Remote monitoring

We can provide remote monitoring, receiving performance data from your compressor equipment every day and returning instant email alerts if urgent issues arise. This is a highly effective path to preventing failures, and data collection over a long period is a valuable indicator of subtle but significant trends. We normally report the findings monthly, with an annual review.

### 5. Health checks

We can carry out health checks that include a full on-site assessment of the condition of your compressor, including an analysis of process gas composition where appropriate, and an overview of the spare parts stock.

We will discuss any issues with your engineers and provide a report of our findings and recommendations.

### 6. Performance upgrade studies

We can offer a performance upgrade study that examines how effectively your compressor is meeting its specified duties, investigate whether changes in circumstances or technical developments make an upgrade cost effective, and provide a report that details our methods, conclusions, and fully costed recommendations.

### 7. 24/7 help desk

We have a 24/7 help desk that operates every day of the year, with a support engineer monitoring all calls. The service is available via telephone, email, video link or Skype, and customers can agree in advance the number of hours they choose to have available to them.





## Upgrading your compressor

We have developed a highly methodical, structured approach for upgrading technology or adapting compressors to changes in processes or duties. For every type of compressor, and every generation of its development, we use a standardized, analytical checklist that allows us to assess critical components individually and provide fast feedback on all relevant developments that have taken place since it was installed. Based on this rapid and efficient process, we can quickly prepare fully costed proposals, with a clear indication of future savings, which will enable operators to make reliable, informed decisions.

Decades of experience has shown us that our upgrades, revamps or retrofits provide an enormously cost effective route to reduced costs, extended life and lower total cost of ownership. We welcome enquiries through our dedicated local teams.

### 8. Maintenance management

We can provide maintenance management that, as well as scheduling maintenance activities and keeping a database for each compressor, includes inventory and financial monitoring. This allows us to recommend and implement improvements within the maintenance program. Importantly, we can also offer this as an interactive service for improved planning management.

### 9. Online customer portal

We can provide an online customer portal giving privileged access to our digital library of manuals, price lists, order status, field reports and health check reports, and other documents as appropriate.

### 10. Howden Interactive Virtual Engineer (HIVE)

We can provide a Howden Interactive Virtual Engineer (HIVE) who will work, remotely,

'alongside' your own engineers to investigate and solve problems using an interactive link. With all the resources of Howden at their fingertips, a HIVE can guide your on-site staff through complex diagnostic and remedial procedures.

### 11. Customer training

We can provide customer training, based on decades of teaching experience and individually designed to suit your equipment and your needs, and deliver it either at your location or in our facilities. Training programs give you access to our immense knowledge base, and enhance your ability to protect your investment.

### 12. Spare parts price agreement

We can set out a spare parts price agreement that will enable you to budget accurately for future maintenance by setting a fixed price for an agreed selection of spare and replacement parts.



Howden offers comprehensive and localized support services, providing customers with assurance that expert support is close at hand.

Visit [www.howden.com](http://www.howden.com) for more information.



## At the heart of your operations

Howden people live to improve our products and services and for over 160 years our world has revolved around our customers. This dedication means our air and gas handling equipment adds maximum value to your operations. We have innovation in our hearts and every day we focus on providing you with the best solutions for your vital operations.



### Howden

#### Compressors

1850 Gravers Road, Suite 200  
Plymouth Meeting, PA 19462  
USA

**Tel:** 610-313-9800

#### Houston Service Center

7204 Harms Road  
Houston, TX 7704  
USA

**Tel:** 713-896-4810

#### Compressors

900 West Mount Street  
Connersville, IN 47331  
USA

**Tel:** 1-800-55-ROOTS

### Revolving Around You™