

Periflow[®] Compressors

Compression solutions for emerging applications



The Periflow[®] concept.

A radically simple, cost effective principle that can deliver 20,000 am³ per hour and 350 bar of pressure.



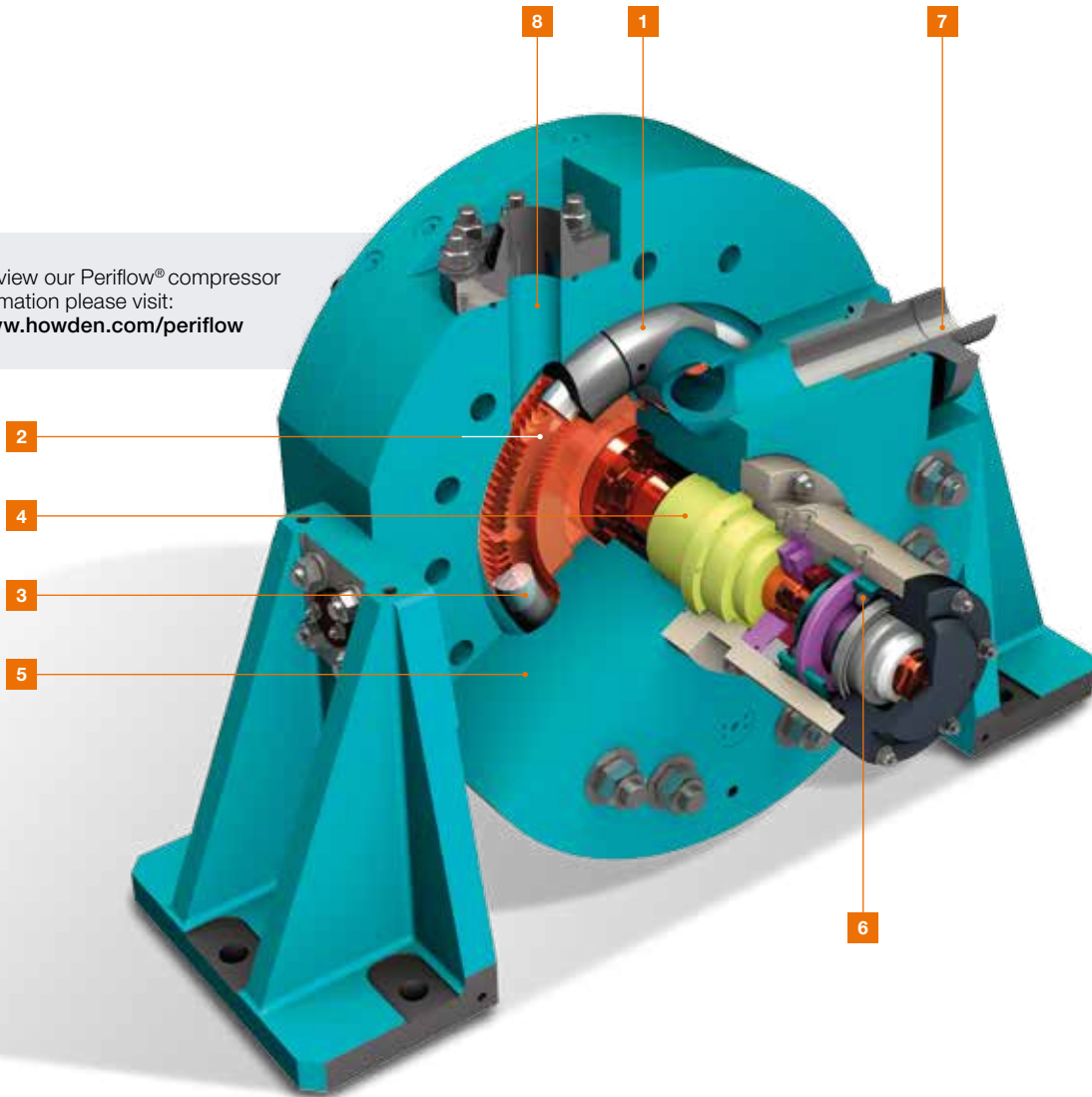
Pressure	up to 350 bar	5,000 psi
Flow	From 10 to 20.000 am ³ /hr	6 to 11.770 acfm
Power	up to 1,000 Kw	1,340 hp
Speed	1,000 – 6,000rpm	
Ratio	3 (pressure increase up to 40 bar)	

For more than 160 years, Howden has built a worldwide reputation for innovative air and gas handling technology, and for engineering of the highest quality. From breakthrough inventions like the diaphragm compressor, the screw compressor and the rotary heat exchanger to our philosophy of continual product development, everything we do is based on considerable application knowledge and a real understanding of the needs of our customers.

Revolving Around You[™]



To view our Periflow® compressor animation please visit:
www.howden.com/periflow



1. Stripper	3. Profiled core	5. Envelope containing gas channel	7. Gas inlet
2. Impeller with curved or straight blades	4. Mechanical seal	6. Roller bearing with oil mist lubrication	8. Gas outlet

The Periflow® low-speed dynamic compressor

A major development in compression technology.

A profiled impeller wheel revolves within an annular channel, and the action imparts a swirling helical flow to the process gas. The helical route means the gas passes through the blades several times.

The corkscrew movement has both tangential and circulatory flow components. Tangential flow tends to govern the volume of flow, and the circulatory movement largely determines the pressure, so each Periflow® compressor can be custom designed to deliver the precise performance required. In a single revolution, the Periflow® process produces a degree of compression equivalent to several centrifugal compressor stages.

The advantages of Periflow® technology

Capital outlay, installation and maintenance costs are well below other systems offering comparable performance.

The continual rotary operation is **virtually vibration-free**, so skids and ancillary systems are not subjected to resonances that might cause fatigue or loosen joints and connections.

The low compression ratio does not generate high temperatures, so there is **no need for coolers** or drainage systems to remove condensates.

No complex anti-surge system is needed thanks to a design of rotating parts assembly that prevents any damage to the compressor in case of surge conditions. Safety of operating conditions is driven by monitoring of outlet gas temperature.

No oil monitoring console. Roller bearing lubricated by a compact oil mist system.

Because there are **no flow pulsations**, there is no need for dampers.

Simplicity of design allows **short lead times** and fast delivery, even for projects with complex specifications.

More information available on request

The right choice for your process applications

Surprisingly easy to integrate in onshore and offshore sites.

Periflow® compressors are perfectly suited to industrial applications such as process gas recycling, pressure boosting, gas extraction and gas drying. Their exceptional flow control and suitability for wet and particulate-laden gases makes them immensely versatile. Fully compliant with API, area protection requirements and site specifications, Periflow® has consistently demonstrated its worth in critical applications throughout the world.

The system is as simple in operation as it is in concept, and because it requires no anti-surge systems, damping bottles, heat exchangers, vibration or stress monitoring, lubrication oil consoles or complex instrumentation, it is significantly smaller and lighter than comparable units.

User benefits

The light weight and small footprint are ideal in constrained situations like offshore applications.

As simple to install as a rotating pump.

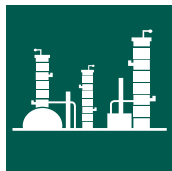
Wet and dry seals options run from basic to high-containment designs.

Suitable for a very wide range of process gases, including those containing liquids or particles.

Can be started under process pressure.

No complex instrumentation or monitoring needed. Flow is adjusted by the variable speed direct drive.

Low-speed technology required only annual inspection, and maintenance breaks at five-year intervals.



Petrochemical

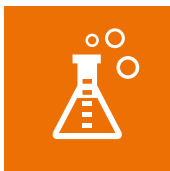
In the petrochemical industries, API 617 Periflow® is used in the handling of hydrocarbon gases and mixtures containing liquid or solid particles. Offering dry compression, precise flow control and ease of handling high pressures and temperatures, it is perfectly matched to duties like boosting and recycling a variety of process gases in reactors.



Midstream oil and gas

In midstream oil and gas applications, Periflow® compressors are ideal for natural gas drying operations, and for integrating into molecular sieve regeneration processes. Easy installation and light weight makes them eminently suitable for both offshore and onshore uses requiring a wide performance range, long-term reliability and excellent flow control.





Chemicals

In chemicals processing, the limited contact between gas and the compressor chamber and the use of high grade materials provides optimum conditions for handling toxic and corrosive gases, and gases containing liquids or particulate matter.



Refining

The Periflow® covers the specialised demands of the refining industries such as hydrocarbon gas reactor feed and recycle, and nitrogen blanketing which requires highly responsive equipment and totally reliability. The Periflow® range covers most reactor pressure levels.

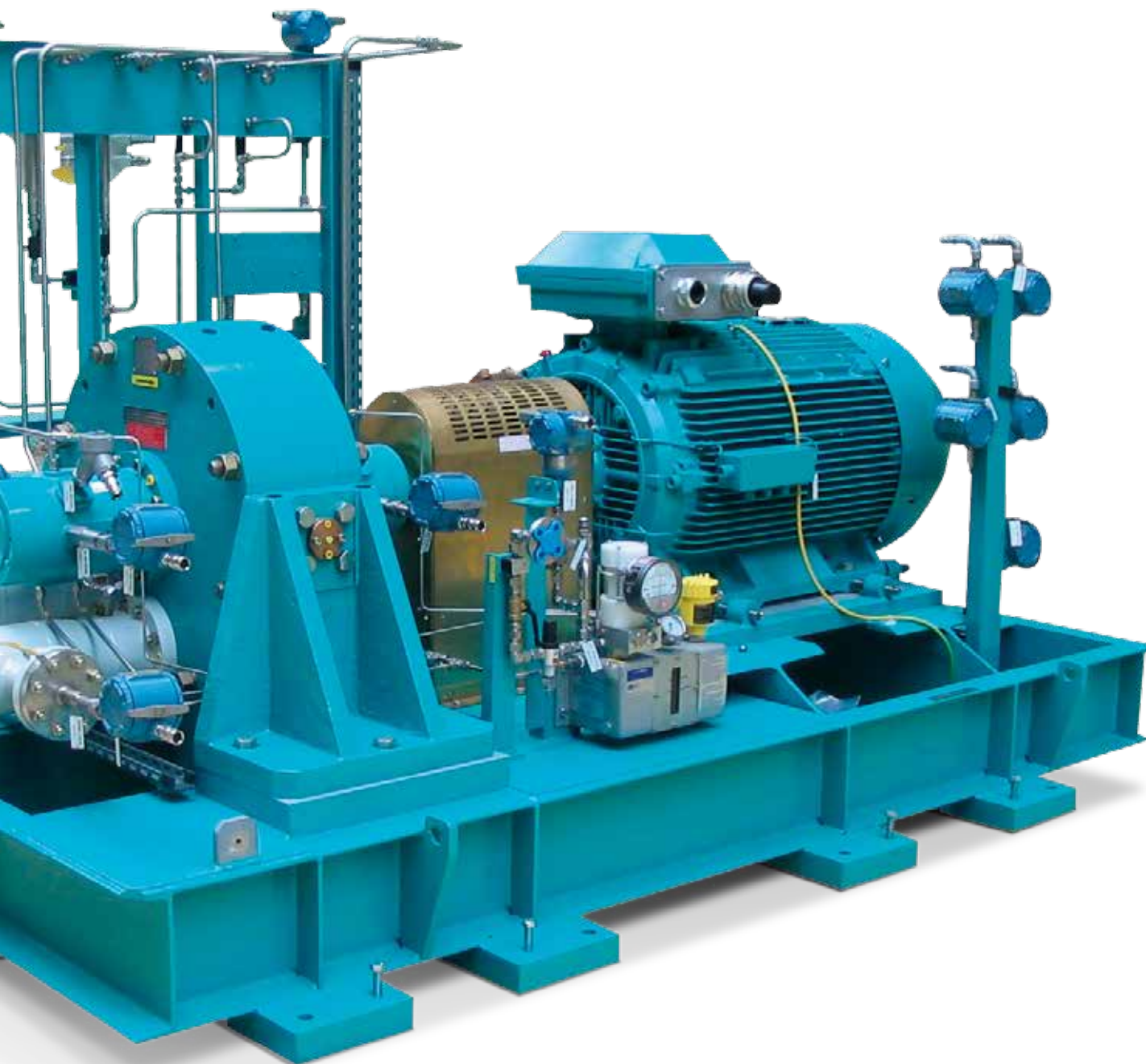


General industries

Periflow® technology is also easily integrated into a wide spectrum of general industrial applications, from CO₂ gas drying to modern cogeneration power plants, where its high availability and flexibility of installation and use give it clear advantages.

References

Many clients such as Shell, Petrobras, BP, Reliance are using Periflow® compressors. Reference list available upon request at hbc.sales@howden.com

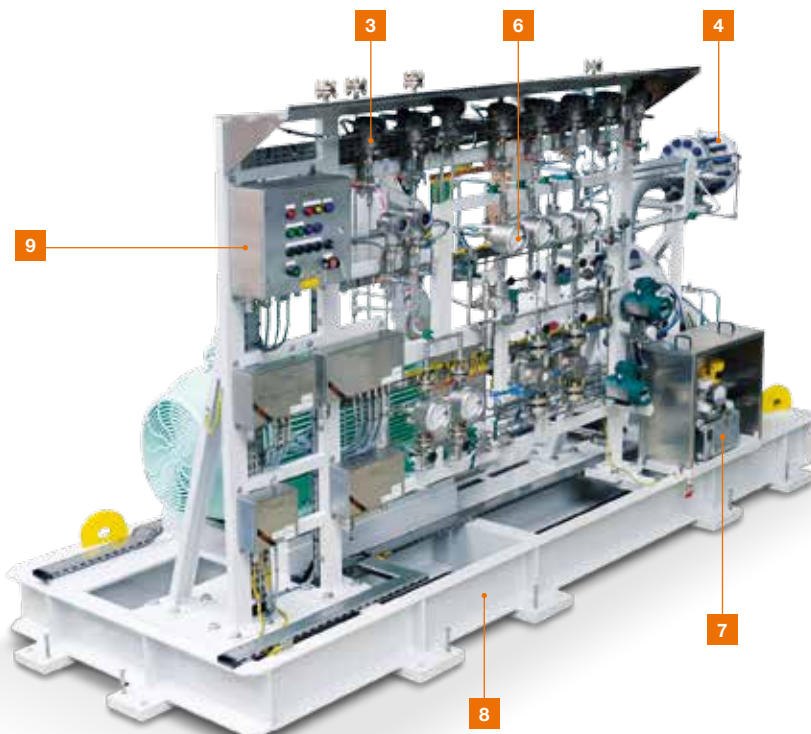


Periflow® – the essence of compact reliability in a compressor package

Small size, light weight and overall simplicity combine to make Periflow® the right compressor technology for custom-built packages.



1. Compressor envelope
2. Variable speed motor
3. Transmitters
4. Gas inlet
5. Gas outlet
6. Mechanical seal control
7. Oil mist lubrication for bearing
8. Skid
9. Local control cabinet
10. VSD and remote control cabinets



Each Periflow® skid-mounted package compressor is a purpose-designed unit, optimised for the gas it will be handling and the situation in which it will be installed. It is guaranteed to meet international standards and site specifications.

We select the impeller blade and packing designs to achieve the required volume and compression, from a range that extends up to 20,000 am³ per hour at pressures of up to 350 bar. Where required, we use materials with outstanding resistance to corrosion or erosion. Wet or dry seals are selected to provide the degree of gas isolation needed. This flexibility brings significant user benefits.

A Periflow® package has multiple advantages

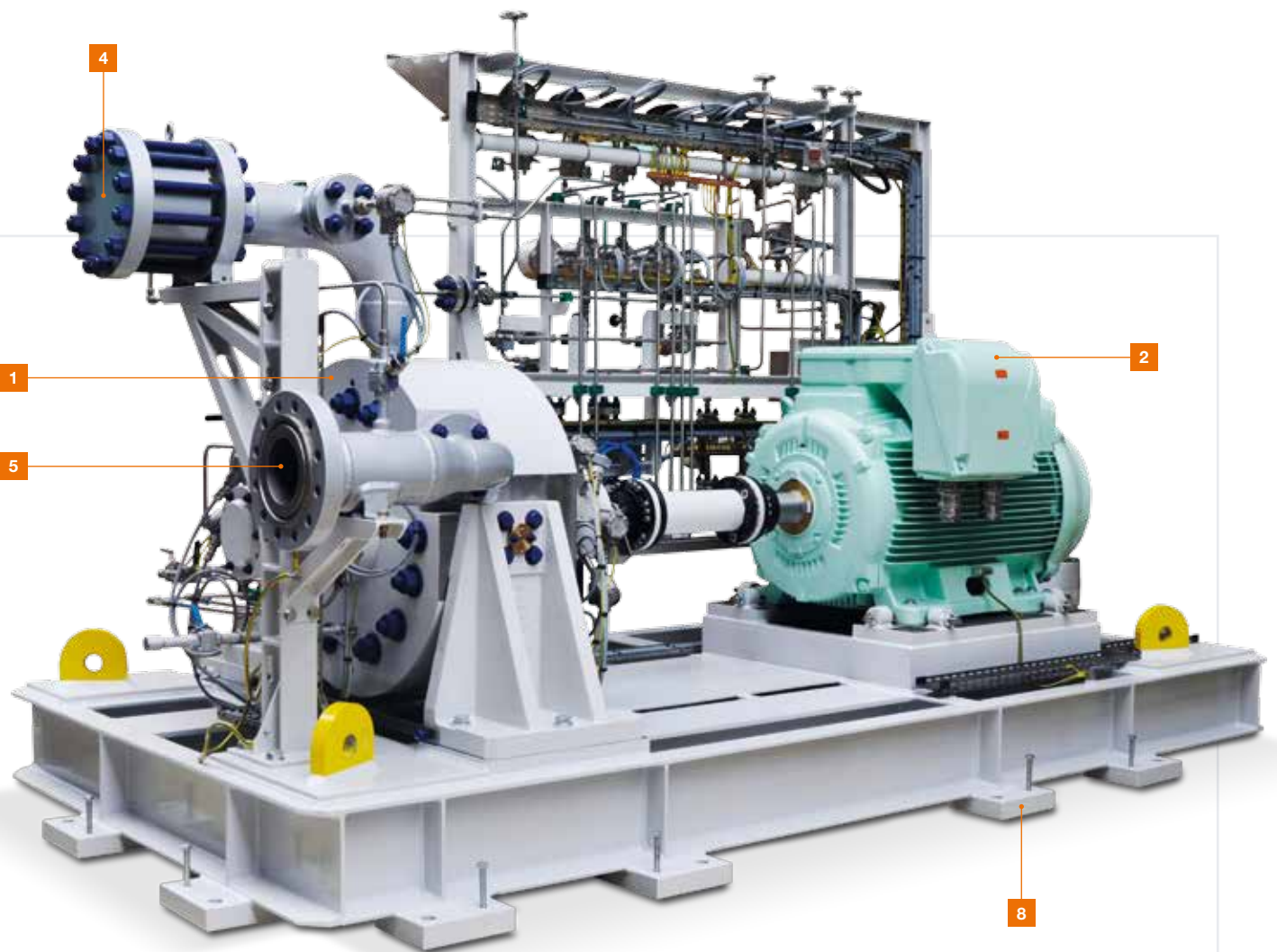
The unit is delivered as a complete packaged system complete with pipework, motor and instrumentation.

The package is designed as an integrated system that matches every detail of the customer specification and all local regulations.

Low vibration, small footprint and light weight make the units easy to install. They need only simple anchoring and an electricity supply.

The use of a variable speed drive for flow control simplifies the package.

A Periflow® package has a footprint just one fifth the size of a reciprocating or screw compressor of similar specification, and is only one eighth of the weight. It is perfect for steel structures and other awkward, hard to access installations. Where space, utilities or maintenance access are limited, or if vibration, pulsating flow or cost are critical factors, the Periflow® option should always be explored.



Howden is a truly global company, with an established presence in more than 26 countries across every continent. Our network of local support services enables us to respond urgently to customer queries and maintenance requirements, and we understand the importance of local circumstances, from environmental legislation to energy costs.

Every product we deliver is backed by an unequivocal lifetime commitment to spare parts and product support. Replacement parts are made using the original production drawings, so that compatibility and quality are guaranteed. We also offer a full upgrade and enhancement programme that allows customers to take advantage of new developments, or adapt existing equipment to changed conditions.



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.



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