



SIHI® Liquid Ring Compressors

LPH, LEH and KPH



Experience In Motion



Versatile, safe and easy to maintain

Liquid ring compressors are designed to compress many different kinds of gases and vapors.

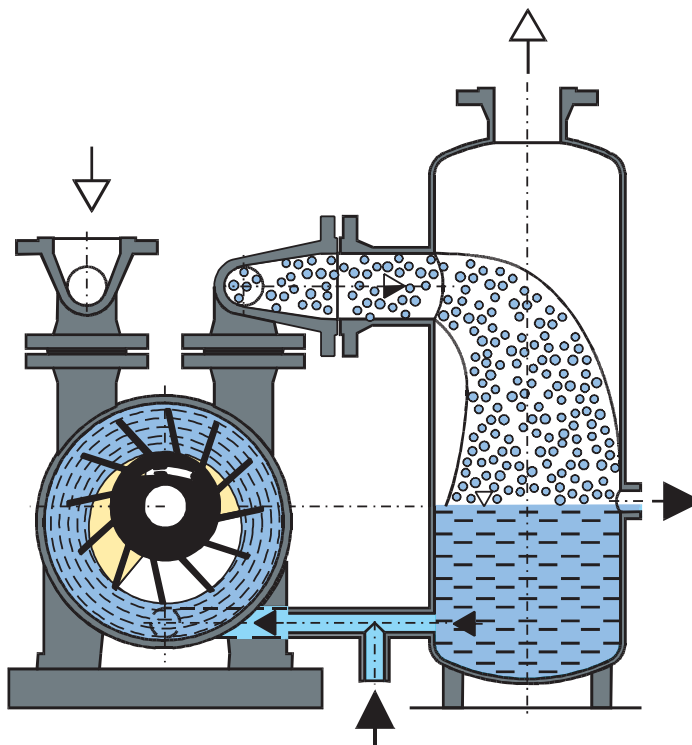
They are most commonly used in applications where safety, reliability and special process conditions are required. This well-proven technology of our liquid ring compressors allows you to operate under the most severe process conditions with gases of Zone “0”.

The innovative SIHI liquid ring compressors are available in single-stage, double-stage or multi-stage versions with a suction to 11 000 m³/h (6475 cfm) and compression pressures from 1.5 to 12 bar (21.7 to 174 psi).

The metal components in SIHI liquid ring compressors do not touch one another, which ensures a high level of operational safety, as well as low maintenance. As compression is undertaken via components that never touch, there are no temperature increases. This ensures that liquid ring compressors offer the highest possible safety levels when compressing flammable substances.

Advantages

- Extremely robust
- Cold operation
- Excellent gas- and vapor-handling capabilities
- High volumetric flow rate
- Easy maintenance
- Effective heat exchange



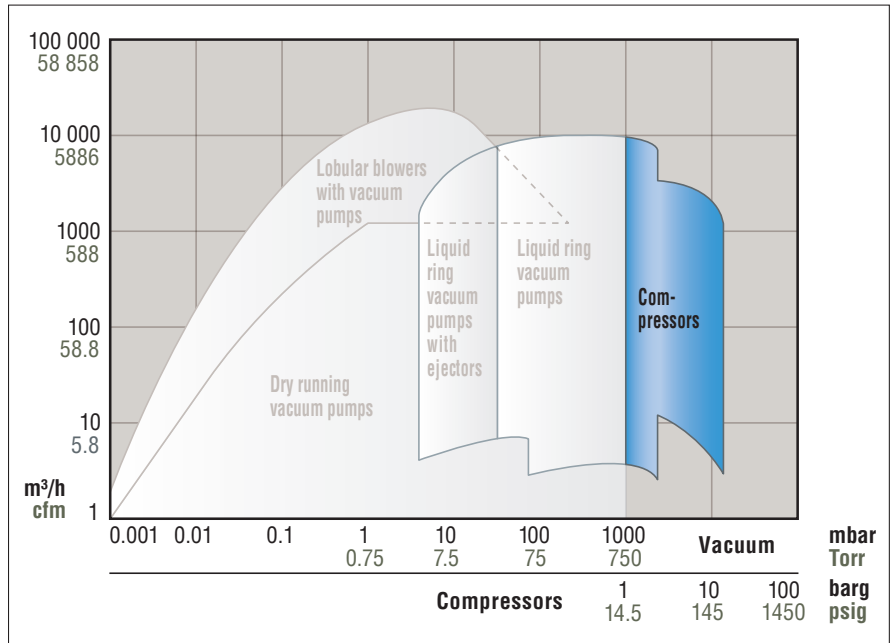
Typical applications

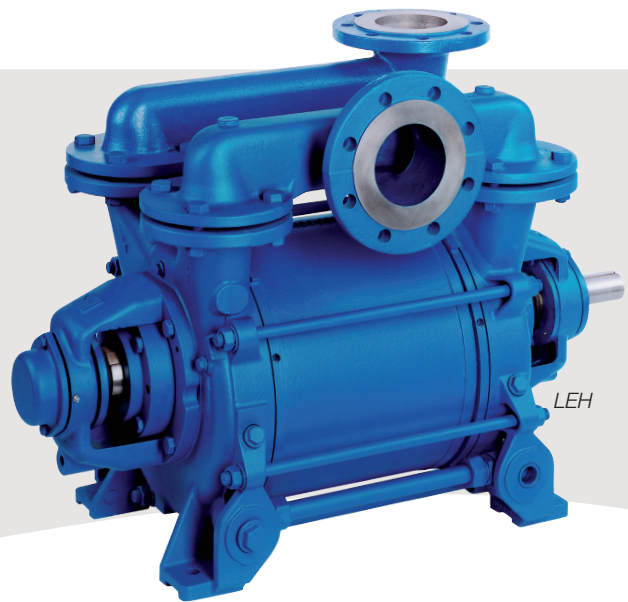
- Compression
- Filter drying
- Saturation
- Recovery
- Flue gas cleaning with membranes

Typical industries

- Chemistry
- Pharmacy
- Petrochemicals
- Plastics
- Foodstuffs
- Paper
- Biogas

Performance chart





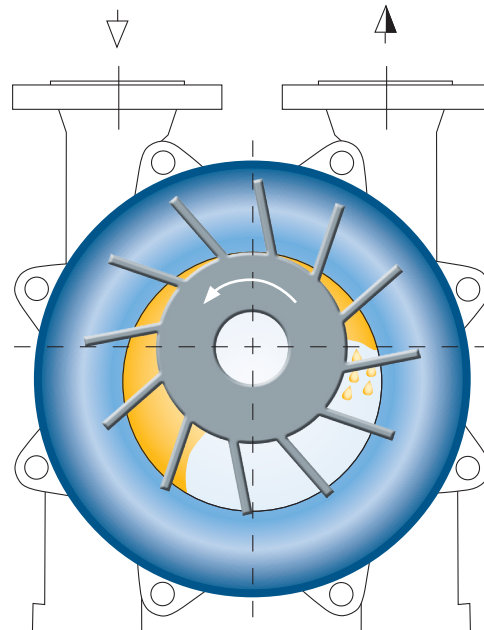
Single-acting designs to 6.5 bar (94 psi)

Medium and large liquid ring compressors with a compression pressure to 6.5 bar (94 psi) generally have a simple construction.

A multi-bladed impeller is mounted eccentrically in a circular casing. When the casing is partially filled with liquid and the impeller is set into rotary motion, this causes the liquid ring to be formed concentrically to the casing axis due to centrifugal force.

This results in a volumetric expansion in the section of the outflowing liquid ring, thus causing the medium to be drawn in via the inlet port in the guide plate. In the area of the inflowing liquid ring, the volume is reduced, which causes the medium to be compressed. Upon completion of compression, the medium is discharged via the outlet port in the guide plate.

Technical data	
Intake volume flow	11 000 m ³ /h (6475 cfm)
Compression pressure	max. 6.5 bar (94 psi)
Shaft seal	mechanical seal, magnetic coupling

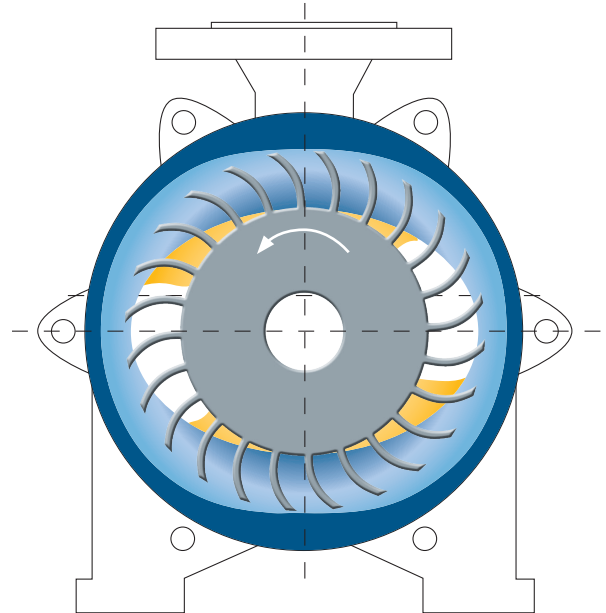


Combined-acting designs to 12 bar (174 psi)

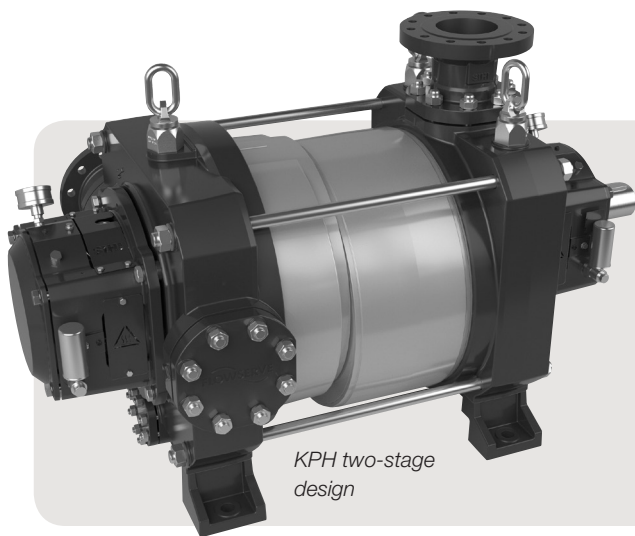
For special applications, with compression pressures up to 12 bar (174 psi), liquid ring compressors utilize a combination of a single and a double-acting design.

The machines are working almost with an isothermal two- or three-stage compression.

In the double-acting design, the impeller is arranged concentrically in the casing. The particular shape of the casing allows the liquid ring to flow into and out of the impeller cells twice during each rotation of the impeller. This means that gases will flow twice through the compressor stage.



Technical data	
Intake volume flow	3400 m ³ /h (2001 cfm)
Compression pressure	max. 12 bar (174 psi)
Shaft seal	cartridge mechanical seals



Liquid ring compressors: simple, robust and innovative

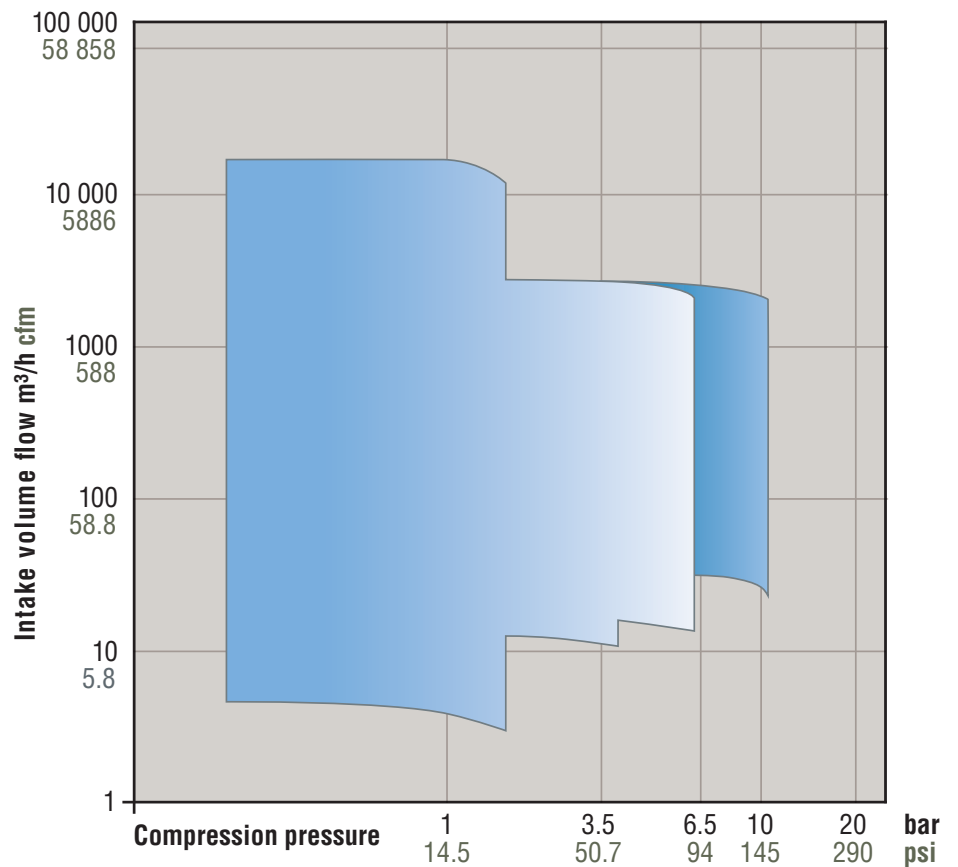
Liquid ring compressors are commonly used in processes because of their ability to use any kind of service liquids. This feature makes them unique for special applications where process contamination is prohibited.

Liquid ring compressors require a fluid (preferably water) as an auxiliary or service liquid. Almost all gases and vapors can be compressed, even those containing dust and liquids.

The service liquid has the task of compressing the gas to be conveyed, sealing off the various discharge chambers from each other, lubricating the shaft seals and absorbing the compression energy as heat. Due to the intensive contact between the gas being conveyed and the service fluid, there is only a very slight rise in the temperature of the gas being conveyed, so that it can almost be described as an isothermal compression.

Features

- Can handle almost all gases and vapors
- Environmentally friendly because of nearly isothermal compression
- Oil-free: no lubrication in the working chamber
- Additional liquid can be handled with the gas flow
- Easy maintenance and reliable operation
- Low noise and nearly free from vibration
- Incorporated central drain
- No metallic contact between the rotating parts
- Can be customized in accordance with customer specifications
- Several materials available



Light blue box: Liquid ring compressors for compression pressures of up to 6.5 bar (94 psi)

Dark blue box: Liquid ring compressors for compression pressures of up to 12 bar (174 psi)

Available IPS condition and performance monitoring

Condition monitors

Economical, easy to install and maintain, with local data logging and short-range Bluetooth® wireless and local visual alert capabilities to optimize maintenance practices.



IPS Beacon™ 2



IPS Beacon Pulse™

Wireless

Cost-effective, long-range wireless data acquisition and transmission, providing information for equipment maintenance optimization and condition monitoring.



IPS Node



IPS Multi-Port 103

Predictive analysis

High-speed data acquisition and predictive analytic capabilities for flow control equipment.



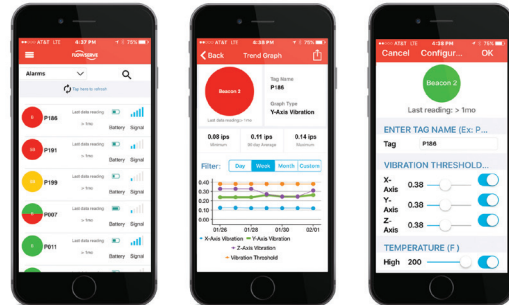
IPS APEX™



IPS Detect

IPS Mobile Insight™

Access real-time equipment performance data on a handheld device, configure devices while in the field, and upload field data to the cloud with the touch of a button.



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IPS Insight platform

Cloud-based or locally hosted platform leveraging deep predictive analytics based on both OEM engineering algorithms and machine learning to help optimize system performance, better understand potential failure modes, and help avoid unplanned downtime. Not only can you now know when an asset might fail, but also how it might fail.





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