

Diaphragm compressors series 420.1 MLG



Air-cooled diaphragm compressors for small and very small gas flow rates

Continuous diaphragm monitoring

Infinitely variable flow rates

ATEX compliant

Integrated control electronics

Corrosion-resistant materials

PTFE multi-layer diaphragm technology

Diaphragm compressors 420.1 MLG

The 420.1 MLG series of air-cooled **sera** diaphragm compressors are the perfect solution for small and very small gas flow rates. Their compact design and technical specifications have been proven in numerous applications in laboratories and a variety of industrial applications.

The benefits include:

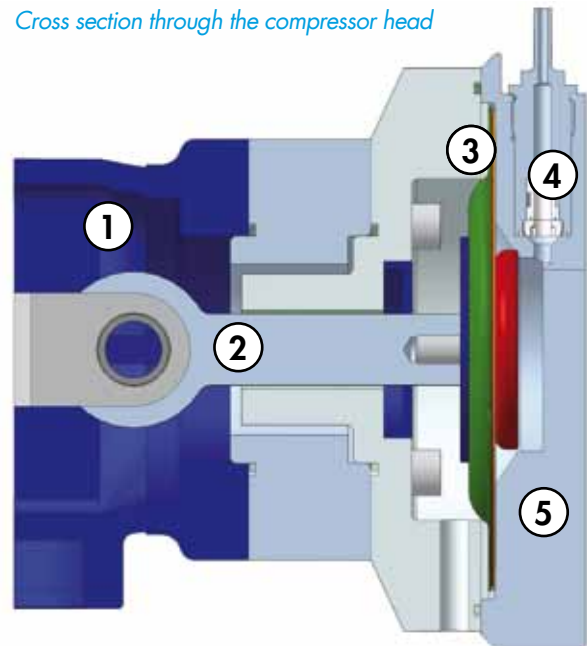
- Oil-free, dirt-free and leak-free compression of gases of all kinds
- Secure multi-layer PTFE diaphragm technology
- Continuous diaphragm monitoring with diaphragm rupture signaling
- Continuously variable flow rates
- ATEX compliant
- Integrated control electronics (not appropriate for Ex areas)
- Corrosion-resistant materials (stainless steels, plastics)
- Suitable for continuous industrial operation

Multi-layer diaphragm technology for optimal reliability

The multi-layer PTFE diaphragm is mechanically hinged on the push rod of the crank drive. The compressor valves open and close with the stroke frequency of the diaphragm.

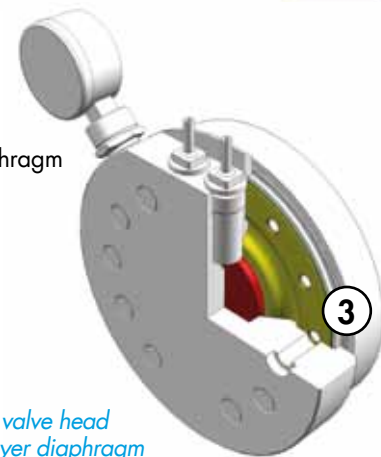
The three-layer diaphragm is constructed so that the gas-side layer is exposed to the highest load. In case of a diaphragm rupture the rear diaphragm keeps the atmosphere sealed, preventing the system from any gas leakage.

Cross section through the compressor head



- 1) Crank engine
- 2) Push rod
- 3) Multi-layer diaphragm
- 4) Valves
- 5) Valve head

Section through the valve head showing the multi-layer diaphragm



The center diaphragm, the signal diaphragm, will register a possible diaphragm rupture and forward a corresponding signal to the controller. In the standard version and for non-critical gases this is indicated by a pressure gauge. This will cause the machine to shut down immediately.

Depending on the model of the compressor the capacity can be varied by the speed and / or the stroke length (stroke volume). The standard models work with a constant flow rate. Depending of inlet pressure, gas properties and the operating conditions the series 420.1 MLG compressors are designed for flow rates up to 10 Nm³ / h with counter pressures and primary pressures up to 16 bar and gas inlet temperatures up to 150° C.



Control options MC420.1



- Stroke frequency
- PROFIBUS DP interface (optional)
- External ON
- External OFF
- Pulse operation
- Analog operation 0/4 - 20 mA
- Diaphragm rupture monitoring
- Gas pressure monitoring
- Digital / analog inputs and outputs
- LEDs for status display
- 4-key operation
- Elapsed-hour meter

Diaphragm compressors for pressures up to 1,000 bar

For larger gas flows and significantly higher pressures **sera** offers an extensive range of one, two and three-stage metal diaphragm compressors in vertical or horizontal configurations. In two-stage systems there are also V-design versions available. The use of a given design or series depends on the system parameters, the resulting rod forces as well as the local space. The vertical compressor designs require the least space.

All systems are designed to precisely fit the customers specific requirements and operating parameters. They are convincing in economics, performance, safety and longevity.

Typical applications of sera diaphragm compressors:

- Chemical, petrochemical and pharmaceutical plants
- Hydrogen and natural gas filling stations
- Gas-filling
- Recovery and reprocessing plants
- Research and pilot plant
- Pressure producing systems
- Oxygen-generating plants
- Medical Systems
- Metal Processing Industry
- Lamps and lighting production



On-site service for our customers worldwide

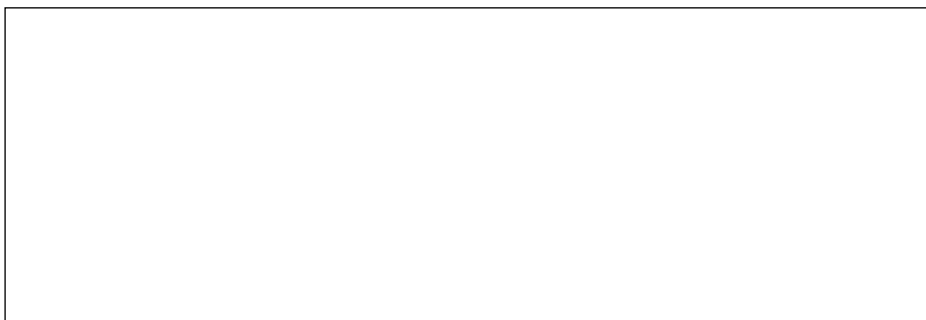
With an office in England and South Africa and a worldwide sales and service network with over 30 representative offices abroad in more than 80 countries on all continents, sera ensures an optimum on-site customer support.



Our representative offices

Argentina	Columbia	Guatemala	Latvia	Qatar	Thailand
Armenia	Croatia	Guiana	Lithuania	Rumania	Tobago
Australia	Cuba	Honduras	Luxemburg	Russia	Trinidad
Austria	Czech Republic	Hungary	Malaysia	Saint Kitts	Turkey
Azerbaijan	Denmark	Indonesia	Mexico	Saint Lucia	Turkmenistan
Bahamas	Dominica	Iran	Myanmar	Saint Vincent	Ukraine
Bahrain	Dominican Republic	Ireland	Netherlands	Saudi Arabia	United Arab Emirates
Barbados	Ecuador	Israel	Netherlands Antilles	Serbia	Uruguay
Belgium	Egypt	Italy	Nicaragua	Singapore	USA
Bolivia	El Salvador	Jamaica	Norway	Slovakia	Uzbekistan
Bosnia and Herzegovina	Estonia	Japan	Oman	Slovenia	Venezuela
Brasil	Finland	Jemen	Pakistan	South Korea	Vietnam
Brunei	France	Jordania	Palestine	Spain	West Indian Islands
Bulgaria	French Guiana	Kazakhstan	Panama	Suriname	
Canada	Georgia	Kenya	Paraguay	Sweden	
Chile	Germany	Kuwait	Peru	Switzerland	
China	Greece	Kyrgyzstan	Philippines	Tadschikistan	
	Grenada	Laos	Poland	Taiwan	

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