

Gardner Denver

CLAW VACUUM PUMPS & COMPRESSORS

C-Series



Product Overview

Our dry running C-Series

generates contact free vacuum

or compressed air efficiently

and economically due to the

principle of internal compression.

This leads to considerable

energy savings compared to the

traditional rotary lobe design

without internal compression.

Wide Spectrum of Performance

With the C-VLR claw vacuum pumps and C-DLR claw compressors, the following ultimate pressures are attainable during continuous operation; vacuum up to 27 in. HgV for permanent operation. Pressure up to 32 psig.

Innovative Claw Technology

The claws of the C-Series feature an optimized, high precision shape-claws roll together without contact, synchronised by a precision gear set. The compression is contact-less and oil free. Special seals separate the compression chamber and gearbox. The claw rotors control the transportation of the compressed gas by opening and closing the inlet and outlet channels. Thus no sealing fluid within the compression chamber is needed.

The overhung rotor design in all sizes up to model 300 is another outstanding feature of this technology. Gas tight versions with reduced leakage rates are available. We hold the patent on the newly designed triple lobe rotors with intermediate air compression; for the first time, vacuum and pressure are being created in one stage, simultaneously.



Technical Specifications

Operating Principle

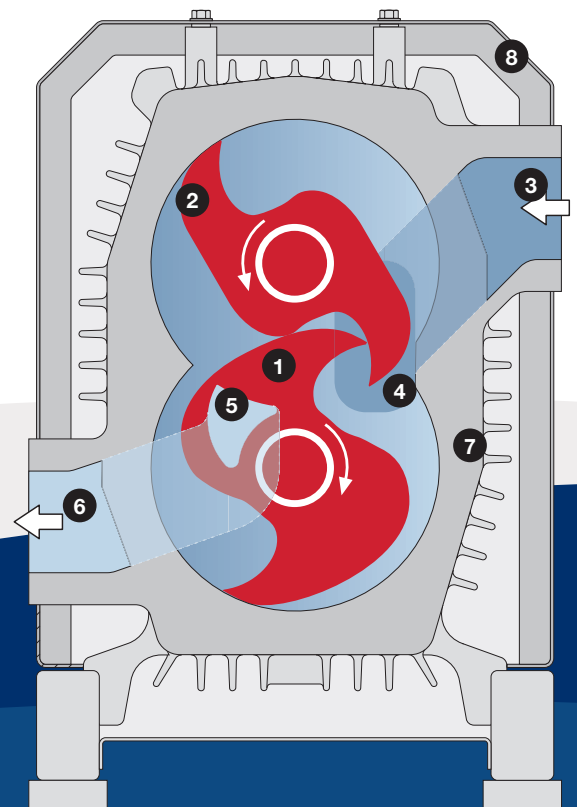
Much like rotary vane and rotary lobe pumps, the claw compressors and vacuum pumps of the C-Series are based on a static compression system. In contrast to rotary lobes, compression happens internally by volume reduction.

A claw pump consists of two rotors (**1 and 2**). They turn in opposite directions in a compressor housing (**7**) without contact with very tight clearances. They are synchronised via a precision gear. As the claw moves over the suction connection (**3**) and the axial suction channel inlet (**4**) the gas is sucked into the compression chamber.

As the rotors revolve, the gas moves from the suction side to the pressure side. It is then compressed by the reduction of the volume between the rotors until the lower rotor uncovers the discharge channel (**5**). This “internal compression” leads to high differential pressures at efficiencies of more than 60%. Afterwards the pre-compressed gas is discharged via the pressure connection (**6**). To remove the heat generated by the compression process, cooling air is sucked in between the compression housing (**7**) and a silencing cover (**8**) before it leaves the pump.

Advantages at a Glance

- High efficiency
- Contact-less oil-free operation
- No contamination to process gases
- Air Cooled
- Precision German designed and built
- Variable speed drives available
- Low sound level
- Patented triple lobe rotors (pressure/vacuum version)
- Pressure and vacuum combined in one compression stage



Claw Vacuum Pumps

COMPRESSORS & PRESSURE-VACUUM PUMPS



C-VLR ZEPHYR

CLAW VACUUM PUMPS

Capacities ranging from 42 to 353 cfm and maximum continuous vacuum up to 27 in. HgV. Highly efficient, oil-less and contact free operation. Excellent pumping capacities throughout the entire vacuum range. Integrated air cooling without the need for water cooling. Available with optional variable speed drive. Low maintenance; wide range of applications.



C-DLR ZEPHYR

CLAW COMPRESSORS

Capacities ranging from 42 to 353 cfm; maximum pressure in continuous operation up to 32 psig. Highly efficient, oil-less and contact free operation. Excellent pumping capacities throughout the entire vacuum range. Integrated air cooling without the need for water cooling. Available with optional variable speed drive. Low maintenance; wide range of applications. ATEX versions available for biogas or methane compression.



C-KLR ZEPHYR

CLAW COMBINATION PRESSURE-VACUUM PUMPS

Capacities ranging from 57 to 82 cfm. Vacuum up to 18 in. HgV and pressure up to 10 psig. Highly efficient, oil-less and contact free operation. Vacuum and pressure operating points are virtually independent of each other with excellent flow capabilities. Integrated air cooling without the need for water cooling. Integrated after cooler for low temperature compressed air delivery. Low maintenance; wide range of applications.



**Elmo
Rietschle**

by Gardner Denver



Applications



Quiet | Efficient | Compact

Elmo Rietschle Claw satisfies demands from modern manufacturing environments: low noise level, high energy efficiency and best use of available space.





Woodworking

- Nesting
- Pick & Place
- Wood Drying

Plastic

- EPS-Foaming
- Pneumatic Conveying
- Calibration
- Degassing Extrudes
- Thermoforming

Medical

- Dental Suction Systems
- Central Vacuum Systems
- General
- Sewage Systems
- Canning Systems

Packaging

- Pick & Place
- Forming

Food & Beverage

- Milking
- Pneumatic Conveying
- Pick & Place
- Ham Drying
- Visceral Evacuation

Central Vacuum Systems

Electronics

- Pick & Place

The leader in every market we serve
by continuously improving all business processes
with a focus on innovation and velocity

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