R-Series Rotary Lobe

Elmo Rietschle
A Gardner Denver Product

R-WVB
Vacuum pump

R-WPB
Vacuum pump

R-VWP
Vacuum pump

R-VPR
Vacuum pump stand

R-VPA
Vacuum pump stand

Rotary lobe vacuum pumps and compressors; pump stands

Triple lobe

These compact rotary lobe blowers belong to the group of dry running positive displacement vacuum pumps (R-WVB) and compressors (R-WPB). This means that there is no need for oil or grease in the compression chamber. Only gear box and bearings, which are separated from the pumping chamber, are oil lubricated. Two non contacting triple lobe rotors rotate against each other in the compression room. The triple lobe rotors avoid pulsation problems while conveying air or gas mixtures.

The blowers are factory customized to cater for the varying demands of our customers‘ applications. The blowers are available as:

- basic units (one blower stage, no motor)
- compact units
- compact units with acoustic enclosure

Twin lobe

Rotary lobe vacuum pumps R-VWP can be used in many applications that need coarse or fine vacuum. Two symmetrically shaped rotors rotate against each other, synchronized by a pair of gear wheels. The pumps are dry running, and consequently the compression chamber is free of grease or oil. Gear box and bearings are oil lubricated.

A bypass valve integrated in the housing enables the start of the pump together with the backing pump to avoid an overload of the motor at high differential pressures.

Vacuum pump stands

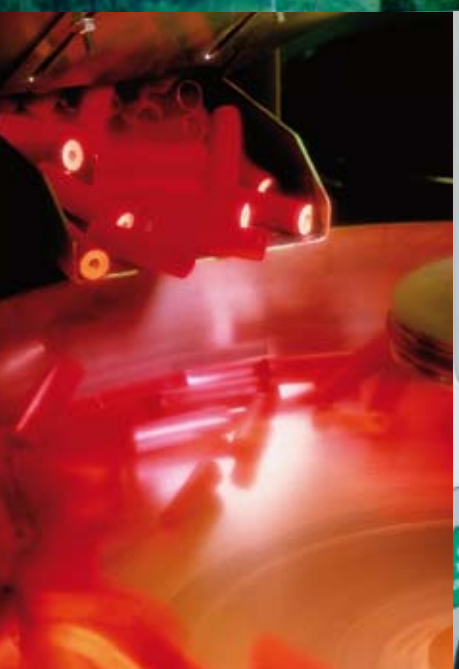
Pump sets consisting of oil lubricated rotary vanes or screws as backing pump in combination with rotary lobe vacuum pumps as booster pump are used when both high end vacuum and suction capacity are required.

The Elmo Rietschle R-VPR pump stand consists of oil lubricated rotary vanes and rotary lobe vacuum pumps; their main applications are to be found in industrial fine vacuum.

The R-VPA standard pump sets use fresh oil lubricated rotary vanes as backup for the booster. Evacuation applications in industrial and chemical processes are their main field of use.






Applications

Central vacuum systems

Chemical industry

Coating technologies

Electronics

Environmental Engineering
- Central vacuum systems
- Domestic wastewater systems
- Drying
- Filter rinsing
- Gas stirring
- Sludge oxygenation
- Tank aeration
- Vacuum tankers
- Wastewater treatment

Food & beverage industry

Industrial applications
- Aeration
- Drying
- Dust extraction
- Process engineering

Industrial furnaces

Metallurgy

Pharmaceutical industry

Pneumatic conveying

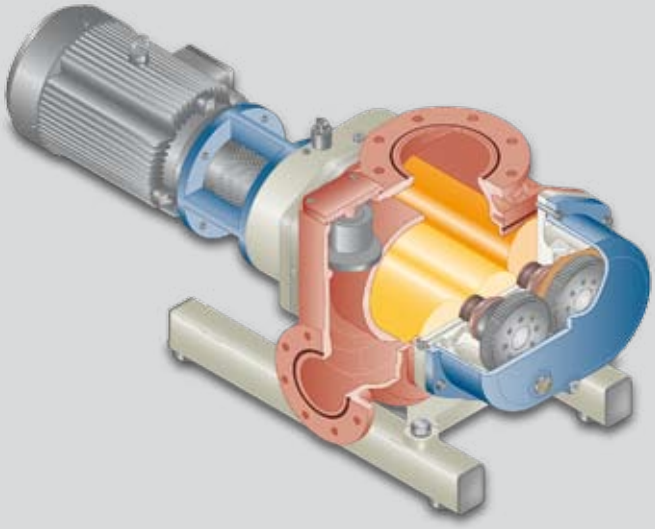
R&D / laboratories

Woodworking industry
- Central vacuum systems

Product overview

Advantages at a glance

- Robust and economical
- Modular design
- Available as single aggregate
- Available as individually engineered pump sets
- Variable speed drive available



R-WVB

Rotary lobe vacuum pumps
Contact free operating triple lobe rotary blowers designed for use with vacuum operations up to 0.5 bar (abs.). Low noise level and low pulsation, high efficiency due to optimal speed, robust design, easy to service.

R-WPB

Rotary lobe compressors
Contact free operating triple lobe rotary compressors designed for use with pressure operations up to 2 bar (abs.). Low noise level and low pulsation, high efficiency due to optimal speed, robust design, easy to service.

R-VWP

Rotary lobe vacuum pumps
Contact free operating rotary lobes with capacities ranging from 485 to 2,752 m^3/h. Primarily used for producing coarse and fine vacuum and for handling gases and vapors, as they can tolerate water vapor and most corrosive gases. Mainly used in combination with backing pumps.

R-VPR

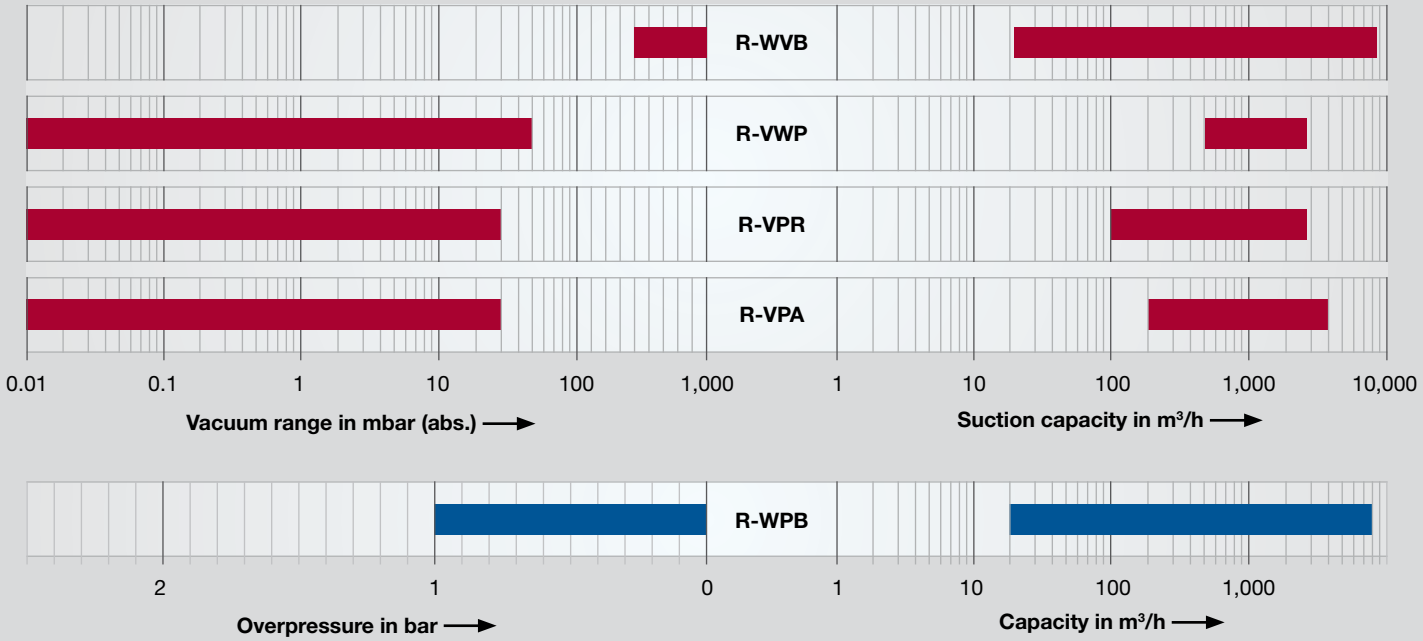
Vacuum pump stands
Pump stands consisting of V-VC oil lubricated rotary vane vacuum pumps in combination with rotary lobe vacuum pumps R-VWP. Primarily used for generating fine vacuum in industrial applications.*

R-VPA

Vacuum pump stands
Pump stands consisting of V-VWZ once through rotary vane vacuum pumps in combination with rotary lobe vacuum pumps. Primarily used for generating fine vacuum in general industrial applications and for chemical processes.*

* ATEX compliant pump stands available.

Technical specifications

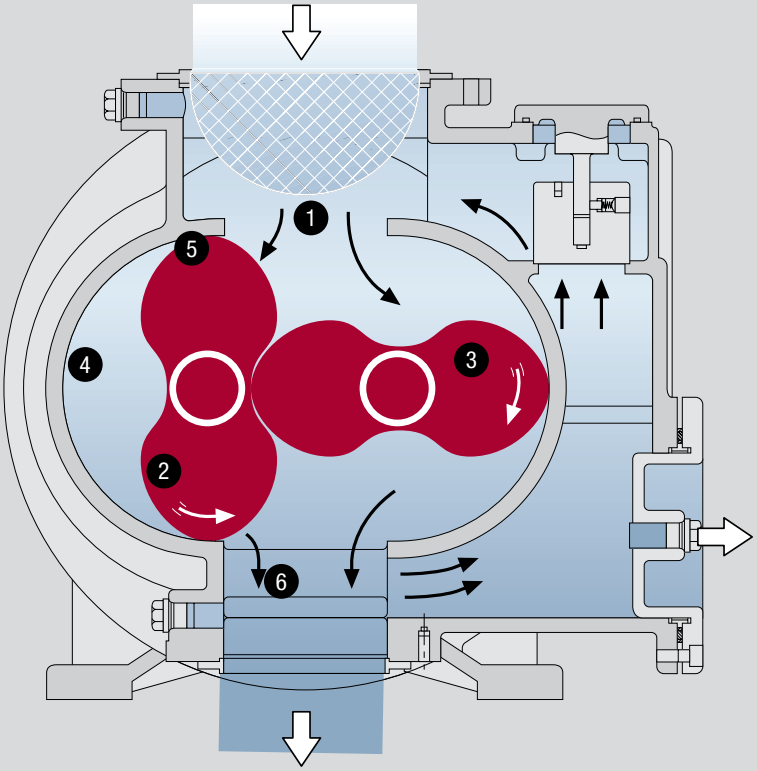


Operating principle

Similar to rotary vane pumps, rotary lobe vacuum pumps and compressors are also static compression systems, although the compression does not result from an »internal« volume reduction. Thanks to the non contact operation of the rotary lobe blower, there is no possibility of contamination of the pumped gas.

The single lobe rotary vacuum pumps R-VWP have been designed for use in pump sets in combination with a rotary vane backing vacuum pump. The conveyed air is not discharged to atmosphere but piped into the inlet port of the connected high pressure stage (rotary vane pump).

Similar to the rotary vane pump, air enters the inlet opening **(1)** into a conveying cell formed by the two rolling pistons **(2 and 3)** in the housing. The cell is then separated from the inlet by the following piston head **(5)**. The air in the cell **(4)** is conveyed without reduction until it reaches the outlet **(6)**, where air with a higher absolute pressure flows from the pressure chamber into the following cell, and must then be discharged. It is during this stage of the conveying that »external compression« takes place.



Elmo Rietschle
A Gardner Denver Product

Technologies for all vacuum and pressure applications

F-Series Radial

G-Series Side Channel

L-Series Liquid Ring

V-Series Rotary Vane

R-Series Rotary Lobe

C-Series Claw

S-Series Screw

X-Series Systems

Order No.: GDJ:B-SB106-76-00, Dispo 27803, Printed in Germany, ER 0005.0002, 05.0/04 -2008,

Gardner Denver

Elmo Rietschle is a brand of the Gardner Denver Blower Division

Representative office:
Kinetic Engineering Co., Ltd.
2 Soi Pracha-u-thit 56, Pracha-u-thit Rd.,
Tungkru, Tungkru, Bangkok 10140 THAILAND
Tel: +66 2 873 5550 (AUTO) Fax: +66 2 873 5552
E-mail: sales@kinetic.co.th www.kinetic.co.th