

# V-Series

Oil Lubricated Rotary Vane



# Oil lubricated rotary vane vacuum pumps



V-VGD



V-VCB



V-VCA / V-VCE



V-VC

Oil lubricated rotary vane vacuum pumps

## Oil lubricated / oil flooded

### V-VGD, V-VCB, V-VCA, V-VCE and V-VC

Our oil lubricated rotary vane vacuum pumps are used in a wide variety of industrial applications. We offer the largest range of oil flooded vacuum pumps for industrial vacuum operation.

### Advantages at a glance

- Long vane life
- Low noise level
- Easy to service
- High water vapor tolerance
- Long service intervals
- For many industrial applications
- Oxygen conveying pumps available



## Applications

### Oil lubricated

#### Environmental engineering

Aeration  
Drying  
Dust extraction systems

#### Food processing

Bottling and filling machines  
Cutting machines  
Vacuum packing machines

#### Industrial applications

Drying systems  
Dust extraction systems  
Industrial furnaces  
Vacuum hold down

#### Packaging industry

Centralized vacuum systems  
Packaging machines

#### Pneumatic conveying

#### Woodworking industry

Dust extraction systems  
Vacuum hold down

# Product overview

## Oil lubricated / oil flooded rotary vane vacuum pumps

### V-VGD

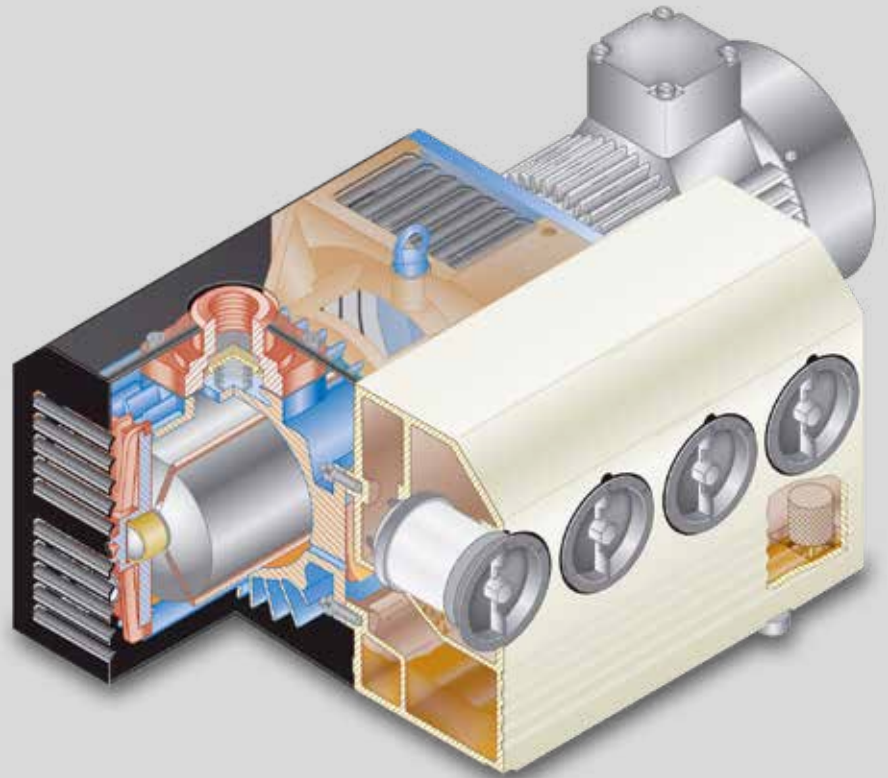
**Oil flooded rotary vane vacuum pump with capacities from 10 to 24 m<sup>3</sup>/h.** The ultimate vacuum 2 mbar (abs.). Needs little space thanks to overhung rotor design and integral motor. Fitted as standard with fine mesh filter, vacuum non-return valve and oil separator. Very quiet running.

### V-VCB

**Oil flooded rotary vane vacuum pump with capacities ranging from 20 to 26.5 m<sup>3</sup>/h,** and an ultimate vacuum of 2 mbar (abs.). Designed especially for installation into small vacuum packaging machines. Flange mounted motor, bearings on both sides of the rotor, air cooling. Fitted with fine mesh filter, vacuum non-return valve and oil separator.

### V-VCA / V-VCE

**Oil flooded rotary vane vacuum pumps with capacities ranging from 25 to 30 m<sup>3</sup>/h.** Ultimate vacuum V-VCA at 0.5 mbar (abs.) and V-VCE at 10 mbar (abs.). Flange mounted motor, bearings on both sides of the rotor, air cooling. Fitted as standard with fine mesh filter, vacuum non-return valve, gas ballast valve and oil separator.

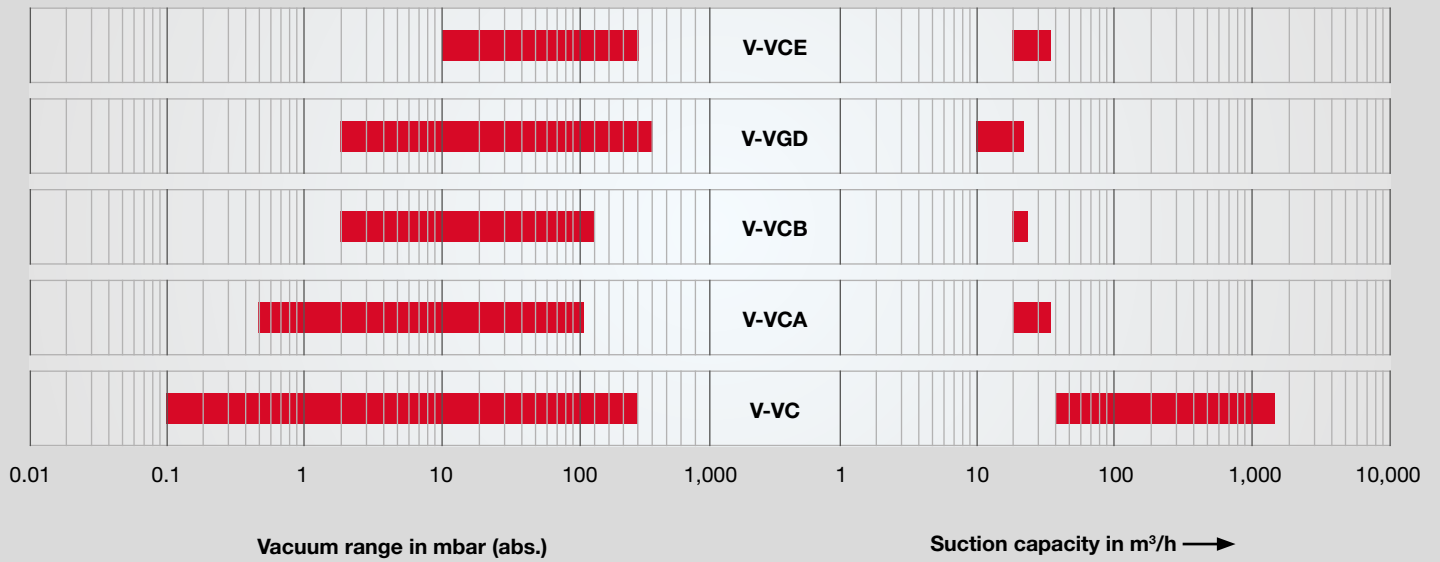


## V-VC

**Oil flooded rotary vane vacuum pump with capacities ranging from 40 to 1,535 m<sup>3</sup>/h** and an ultimate vacuum of 0.1 mbar (abs.). Flange mounted motor, bearings on both sides of the rotor, oil/air heat exchanger. All models include aluminum alloy vanes, back pressure gauge, gas ballast valve(s), non-return valve and easy-access replaceable oil separators. Sizes of 400 m<sup>3</sup>/h and above include 5 micron paper inlet filter(s) and double-walled cylinder construction.



# Technical specifications



## Operating principle

Pressure increase by volume reduction is the principle behind rotary vane operation. This design offers excellent service for pressure, vacuum or a combination of both.

In a cylindrical housing (1) a rotor (2) is positioned eccentrically so that it is on the top almost touching the cylinder (3). Rotor blades or vanes (5) as they are called, are positioned inside rotor slots (4). When the rotor starts turning, due to centrifugal force the blades are thrown out and slide against the internal surface of the cylinder.

In this way a cell (6) is formed between two blades with a volume that changes constantly during rotation. Air enters from the inlet port (7) into a cell until the rear blade reaches the far end of the inlet port (8). At this point the cell (6) has achieved its maximum air volume.

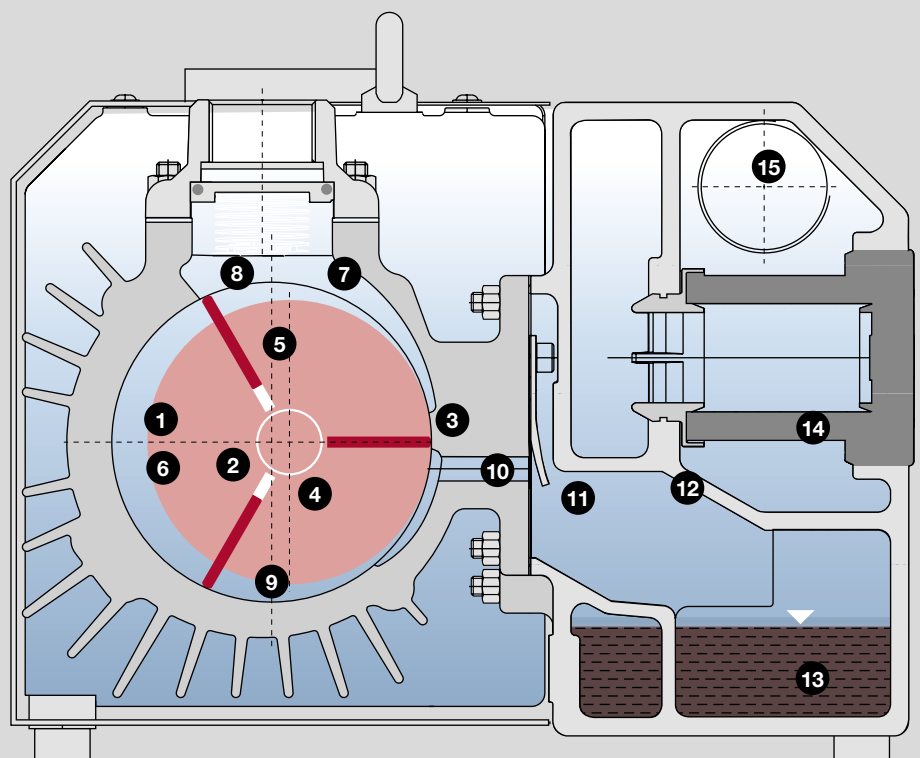
As the cell then moves away from the port its volume (9) becomes smaller and smaller, the air is thus compressed and the pressure rises.

Some models are fitted with outlet valves (11) next to the outlet port (10) which stop the backflow of discharged air when the maximum pressure has been reached.

### De-oiling once through vacuum pumps

After its passage through outlet port (10) and outlet valves (11), the oil-gas mixture reaches the de-oiling chamber (12) where the oil is separated from the gas in two steps. Larger oil drops are mechanically separated from the gas and are eventually deposited in the oil sludge recipient (13).

The remaining oil gas mixture is then taken through fine filter elements (14) which separate even the smallest oil particles. These are then reintroduced through an oil suction pipe into the pump's oil circuit. The virtually oil free gas can be let outside either through the air outlet (15) or through other hose or piping arrangements.



# Gardner Denver



- Corporate Headquarters
- Sales / Service Location
- Manufacturing Location
- Our Partners

 [www.gardnerdenver.com/industrials](http://www.gardnerdenver.com/industrials)

[www.gardnerdenver.com/elmorietschle](http://www.gardnerdenver.com/elmorietschle)

**Gardner Denver  
Schopfheim GmbH**  
 Johann-Sutter-Straße 6+8  
 79650 Schopfheim · Germany  
 Phone +49 7622 392-0  
 Fax +49 7622 392-300

**Gardner Denver  
Deutschland GmbH**  
 Industriestrasse 26  
 97616 Bad Neustadt · Germany  
 Phone +49 9771 6888-0  
 Fax +49 9771 6888-4000



**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