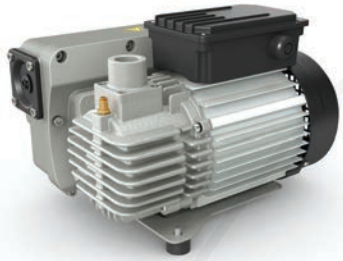
Gardner Denver

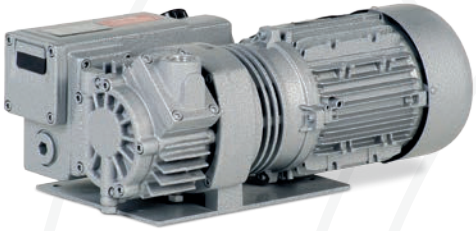
OIL-LUBRICATED ROTARY VANE VACUUM PUMPS

V-Series

V-VGD



V-VCB



V-VCA / V-VCE

V-VC

INTRODUCING
THE NEW **V-VCS**

Vacuum Pumps

OIL-LUBRICATED ROTARY VANE RANGE

V-VGD, V-VCB, V-VCA, V-VCE, V-VC & V-VCS

Our oil lubricated rotary vane vacuum pumps are used in a wide variety of industrial applications. These are some of the advantages:

- **LONG VANE LIFE**
- **LOW NOISE LEVEL**
- **EASY TO SERVICE**
- **HIGH WATER VAPOUR TOLERANCE**
- **LONG SERVICE INTERVALS**
- **FOR MANY INDUSTRIAL APPLICATIONS**
- **OXYGEN CONVEYING PUMPS AVAILABLE**
- **XD-VERSIONS WITH INCREASED VAPOUR TOLERANCE AND HIGH RESISTANCE TO SOLVENTS ALSO AVAILABLE**

Elmo Rietschle
by Gardner Denver

Applications

ADAPTABLE TO A WIDE VARIETY OF INDUSTRIES & APPLICATIONS

ENVIRONMENTAL ENGINEERING

- 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

V-VGD

Oil flooded rotary vane vacuum pump with capacities from 6 to 11 cfm (10 to 24 m^3/h); ultimate vacuum of to 29.86 inHg (gauge) [2 mbar (abs.)]. Pump needs little space thanks to overhung rotor design and integral motor. It is fitted as standard with fine mesh filter, vacuum non-return valve and oil separator. Pump is ideal for any environment as it is very quiet running.

V-VCB

Oil flooded rotary vane vacuum pump with capacities ranging from 12 to 16 cfm (20 to 26.5 m^3/h), and an ultimate vacuum of 29.86 inHg (gauge) [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 15 to 29 cfm (25 to 30 m^3/h); ultimate vacuum V-VCA at 29.91 inHg (gauge) [0.5 mbar (abs.)] and V-VCE at 29.62 inHg (gauge) [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 30 to 903 cfm (40 to 1,535 m^3/h), and an ultimate vacuum of 29.91 inHg (gauge) [0.5 mbar (abs.)]. Flange mounted motor, bearings on both sides of the rotor, oil/air heat exchanger. All models include Aluminium alloy vanes, back pressure gauge, gas ballast valve(s), non-return valve and easy-access replaceable oil separators. Sizes of 400 m^3/h and above include 5 micron paper inlet filter(s) and double-walled cylinder construction.

Introducing the New V-VCS

V-VCS | An Engineered Evolution

The latest evolution in rotary vane design has arrived with the new VCS range in the Elmo Rietschle V-Series. The new V-VCS200 & V-VCS300 has been developed to improve the overall performance of this tried and tested rotary vane vacuum pump technology. This evolutionary design provides our lowest cost of ownership for an oil lubricated rotary vane vacuum pump, while weight, noise and size reductions make it easily adaptable and retrofittable to a wide range of OEM machines.

Advantage at a Glance

Our evolutionary new design offers:

- Lower lifetime costs with a reduction in filter requirements with no drop in oil particulate removal while consequently reducing maintenance requirements
- Reduced oil consumption also combines to make this machine one our most eco-friendly oil lubricated machines available
- Design for the OEM market, the VCS model can be easily retrofitted into most machines

Technical Data

- Volume flow capacities ranging from 118 to 212 cfm (200 to 360 m^3/hr)
- Ultimate vacuum 29.91 inHg (gauge) [0.5 mbar (abs)]
- Noise emissions as low as 67 dB(A)
- Weight without motor 220 lbs (100 kg)
- NEMA Premium motor variant is standard on the VCS
- Fitted as standard with flange motor
- Bearings on both sides of the rotor

LESS HEAT

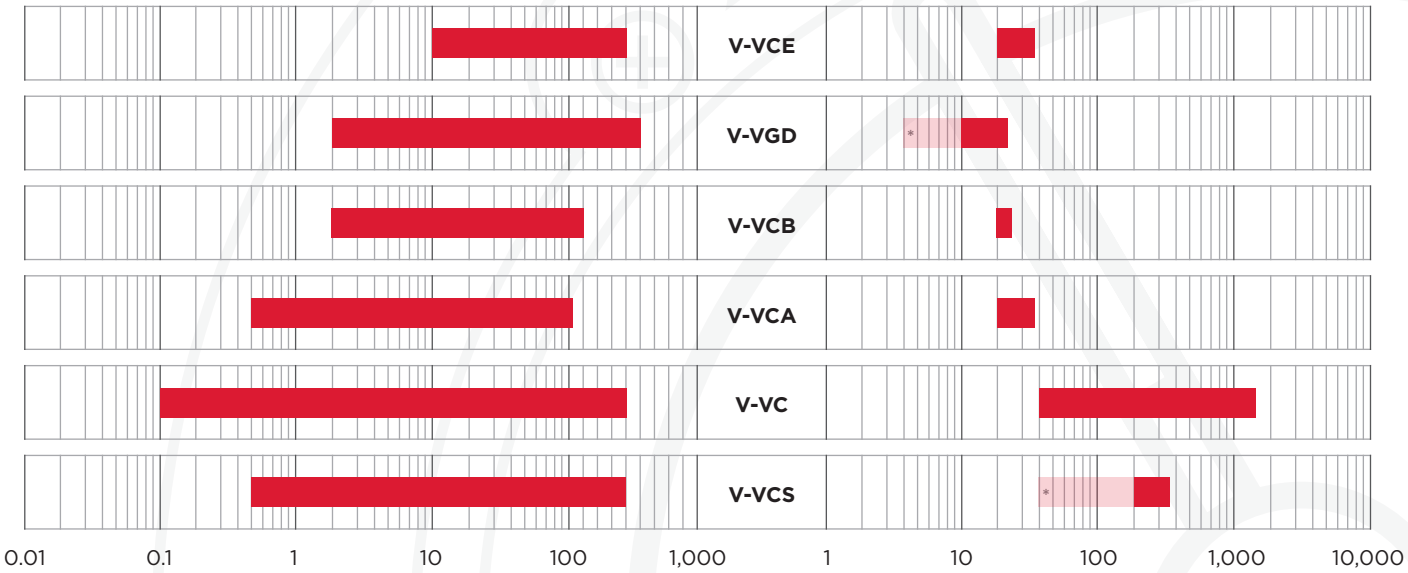
QUIETEST ON THE MARKET*

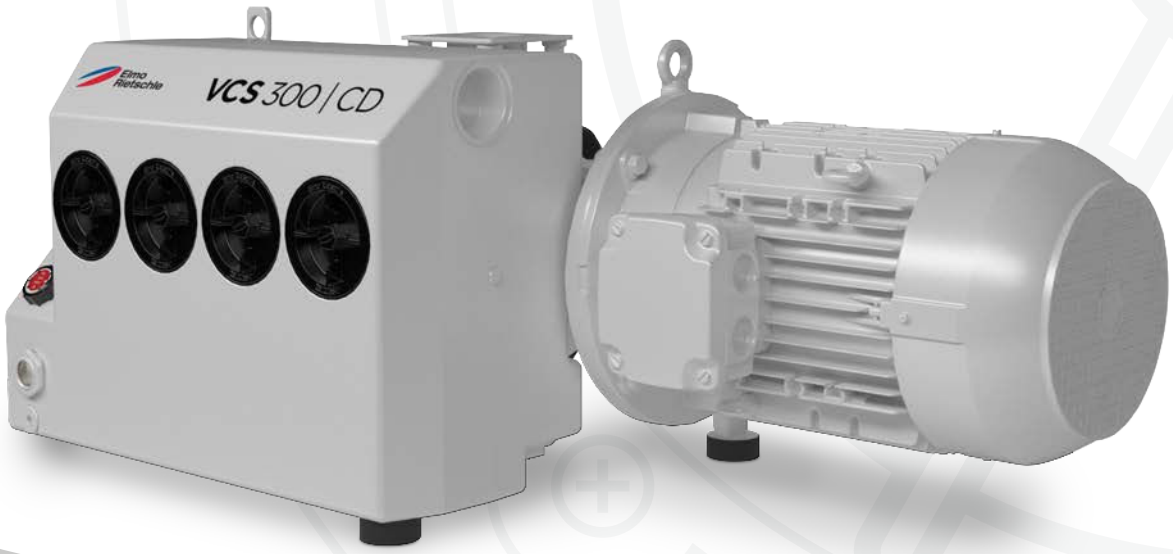
SMALLER SIZE & LIGHTER WEIGHT

IMPROVED ECO PERFORMANCE

CARE 3 EXTENDED WARRANTY

Technical Specifications





*Future capability

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 vanes **(5)** are positioned inside rotor slots **(4)**. When the rotor starts turning, due to centrifugal force the vanes are thrown out and slide against the internal surface of the cylinder.

In this way a cell **(6)** is formed between two vanes 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.

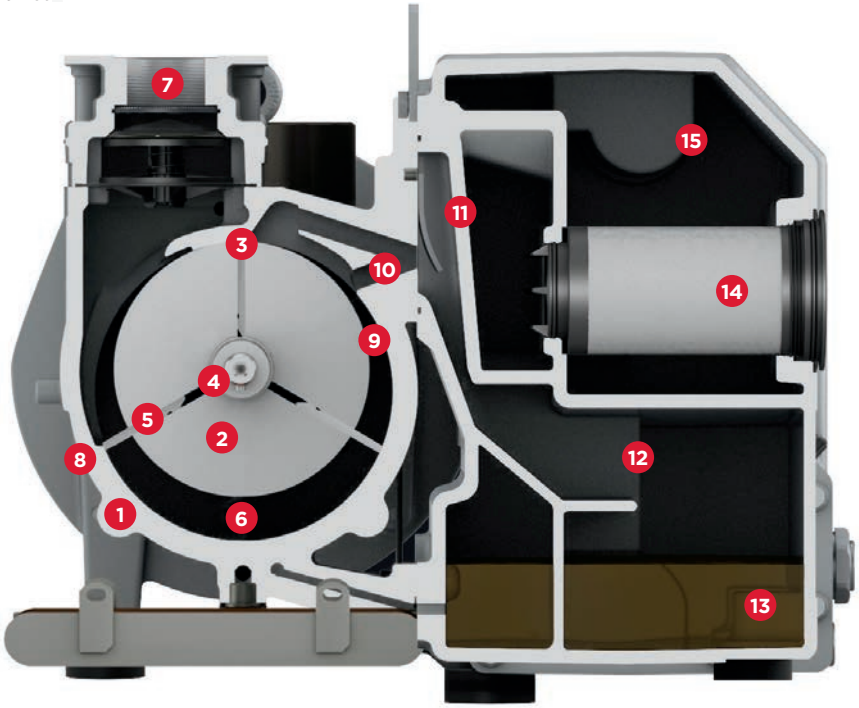
As the cell then moves away from the port its volume **(9)** becomes smaller and smaller, the air is thus compressed and the pressure rises.

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.



The leader in every market we serve

by continuously improving all business processes

with a focus on innovation and velocity

Gardner Denver®

Gardner Denver, Inc.

1800 Gardner Expressway
Quincy, IL 62305
866-249-2275
www.gardnerdenver.com/gdproducts

QUALITY SYSTEM CERTIFICATION DNV·GL ISO 9001

MEMBER OF 100 YEARS OF INDUSTRY LEADERSHIP CAGI Compressed Air & Gas Institute www.cagi.org

NEMA Premium®

ER-V-OIL-LUBE 2nd Ed. 12/20

Please recycle after use.