

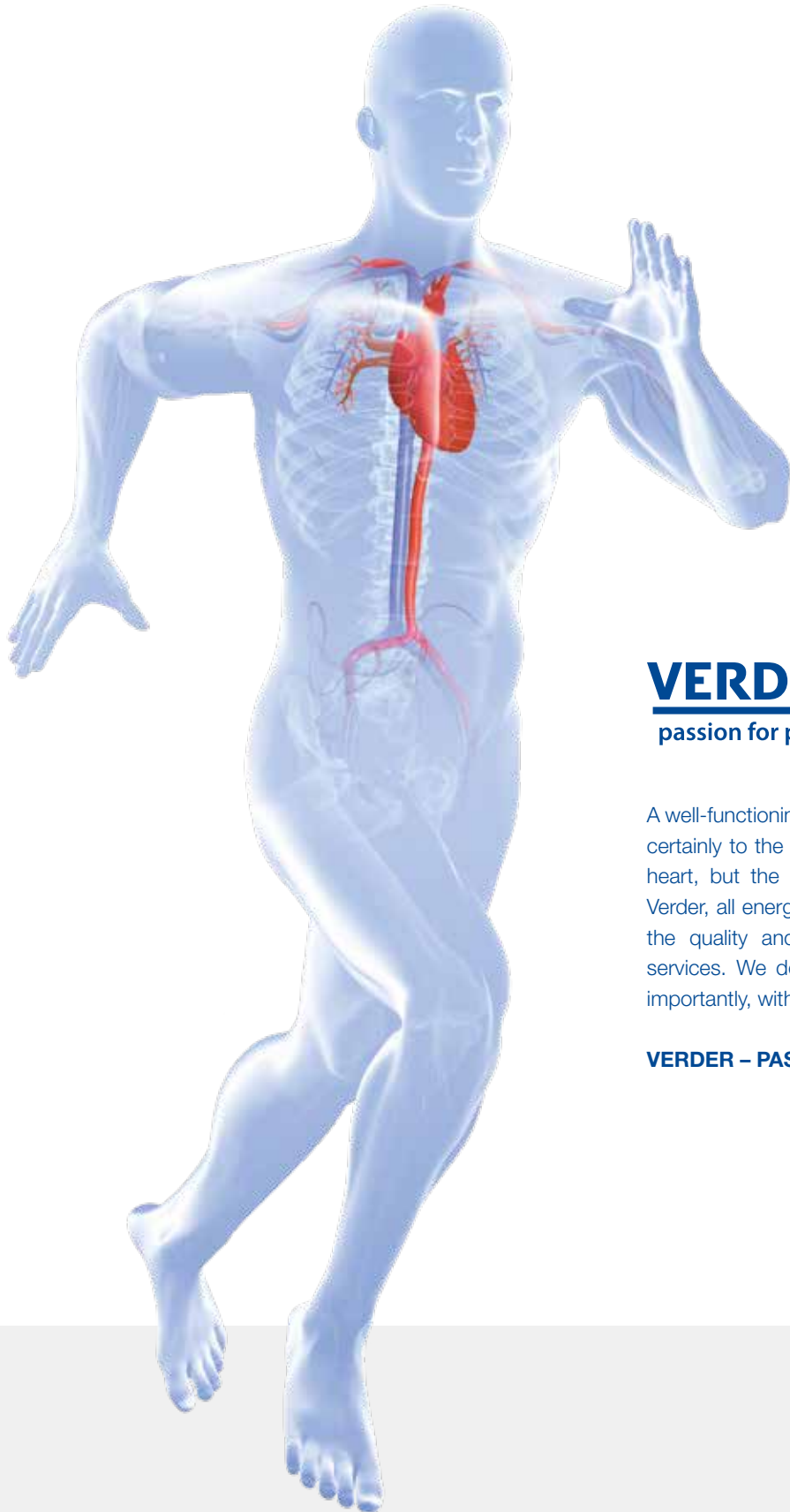
VERDERAIR EODD

Electric driven double diaphragm pumps



Benefits

- Cost efficient pump solution
- Smooth, gentle product pumping
- Carefree operation



VERDER
passion for pumps

A well-functioning pump helps you succeed. That applies certainly to the most important pump in life, the human heart, but the same goes for pumps in business. At Verder, all energy and attention is focused on improving the quality and performance all of our pumps and services. We do so with energy, dedication and most importantly, with our heart.

VERDER – PASSION FOR PUMPS



THE VERDER GROUP

- 1 Company
- 28 Countries
- >55 Years of expertise
- Global network
- Local distributors
- In-house service & maintenance
- A solution for every application

The Verder group is a family owned business formed over 55 years ago in the Netherlands; the group consists of a worldwide network of production and distribution companies. Group companies are involved in the development and distribution of industrial pumps, pumping systems, high-tech equipment for quality control, research and development into solid material (solids sample preparation and analytical technologies). The Verder Group employs over 1600 people and has an annual turnover in excess of 380 million Euros.

Among the most successful of Verder's technologies is its innovative Verderair double diaphragm pump range.

Verderair Electric driven diaphragm pumps

The Verderair EODD pumps (Electronic operated double diaphragm pumps) combines all advantages of an EODD with the energy efficiency of an electric driven pump. On top of that the pumps are ideal for applications that require low pulsation and a smooth flow. The pumps are available in metallic and non-metallic materials, to be tailored for applications demanding resistance to aggressive chemicals and abrasive fluids.

VERDERAIR EODD PUMPS



Unique:
can run against a closed discharge, without pressure relief valves

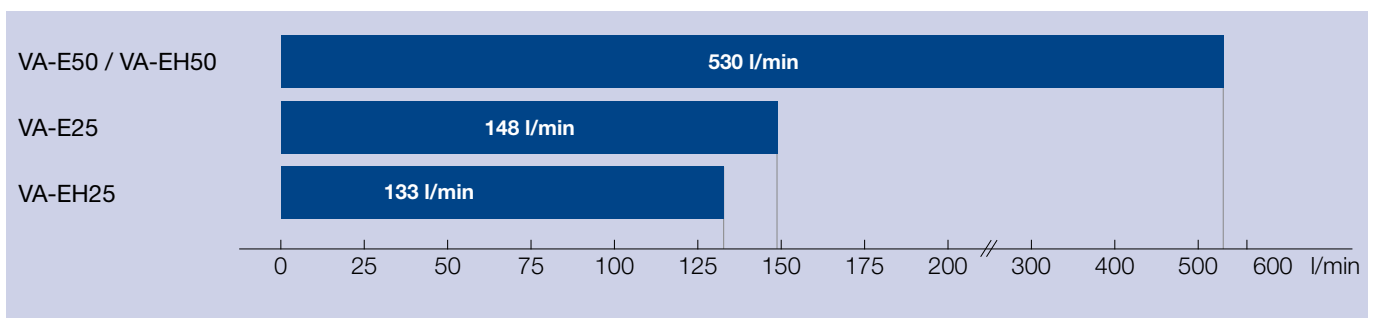
The Verderair EODD electric operated double diaphragm pump is employing the same solid principles of a reciprocating piston and diaphragm assembly. This pump series can handle most difficult abrasive, viscous and chemically aggressive fluids. The pump can also run at low pulsation operation without the need for a pulsation dampener.

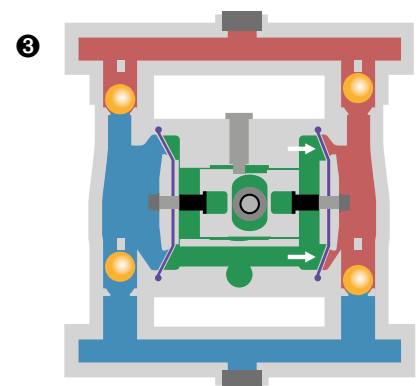
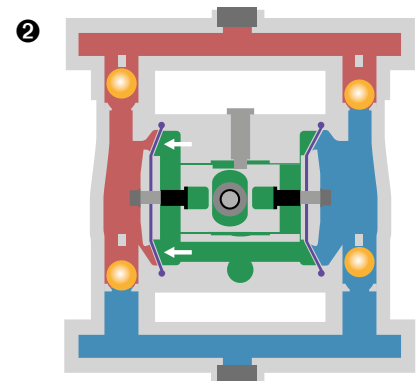
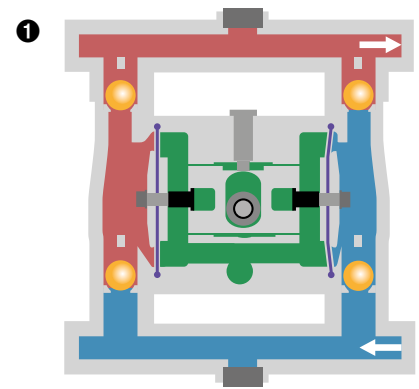
Verderair EODD characteristics

- Electric drive - efficient energy consumption
- Stalls automatically against overpressure - no need of safety accessories
- Self-priming - can run dry
- Lower sound level - Improved work environment
- Low pulsation operation mode - no dampeners necessary
- Increased pump control - metering capabilities
- Increased diaphragm life - lower maintenance cost
- Seal-less design - no rotational shaft seal necessary
- Industrial and Hygienic (EC1935/2004, FDA) versions available

	Seal-less design	Less maintenance	Self priming	Solids handling	Life cycle cost	Viscosity (mPas)
VA EODD	✓	✓	✓	✓	✓	up to 20,000
Peristaltic	✓	✓	✓	✓		ca. 45,000
Progressive Cavity / Screw				✓		ca. 3,000,000
Rotary Lobe				✓		ca. 450,000
Gear Pump			✓			ca. 100,000
Centrifugal					✓	ca. 2,000

Verderair EODD Performance overview





How does this **electric driven diaphragm pump** work?

- ❶ Between the diaphragms there is an air cushion (green). The diaphragms are floating connected to the center piston. The center piston is reciprocating left to right in the housing driven by the gear box.
- ❷ By moving to the left the piston will pull the right diaphragm also to the left (suction stroke). This is creating a vacuum in the right liquid chamber (blue), sucking in the liquid. With the same movement this diaphragm is creating pressure in the air cushion (green). The air cushion moves the left diaphragm to the left (discharge stroke), generating a pressure in the left liquid chamber (red) discharging the liquid from the pump.
- ❸ At the end of the stroke the center piston will change movement from right to left and the function of the diaphragms reciprocate from discharge to suction and vice versa.

Benefits of this operation principle

When discharge pressure is too high, the center piston will keep moving by the gearbox, but both diaphragms will be standing still in the middle position, no liquid is moved up-to the moment the discharge pressure will go down. By adjusting the pressure of the air-cushion, suction and discharge strokes are overlapping resulting in a low pulse flow. When making the discharge stroke, the diaphragm is pushed over the complete surface by the air cushion. The mechanical force is spread over the diaphragm resulting in a long life time.

What are **your benefits** using an electric driven diaphragm pump?

Cost efficient pump solution

- *Electric drive improves efficiency and saves energy*
- *Air charged diaphragms improve diaphragm life*
- *No need for additional safety accessories*
- *No need for flooded suction setup*
- *Low operational cost*

Smooth, gentle product pumping

- *Able to reduce pulsation at increased backpressure*
- *Integrated cushion regulator allows extremely fast adaptation to process conditions*
- *No extra equipment needed for a pulse free flow*
- *Gentle to shear sensitive materials*

Carefree operation

- *Pump stalls automatically against overpressure without any damage, preventing pump failures caused by clogged lines or closed valves*
- *Seal-less design eliminates leaking and failures due to run-dry pump conditions*
- *No hydraulic fluid contamination because of air charged diaphragms*

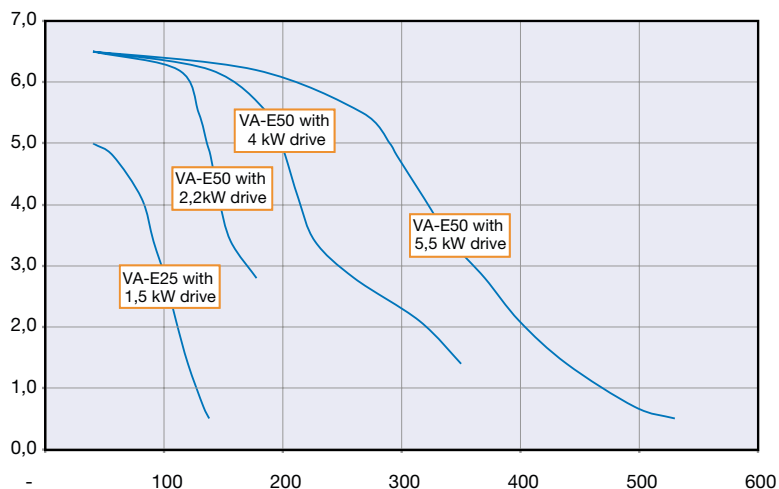
VERDERAIR EODD VA INDUSTRIAL

Available in a range of metallic and non-metallic materials allowing this pump to be tailored for applications demanding resistance to aggressive chemicals and abrasive fluids.

Application areas for industrial EODD pumps

- Recycling & wastewater
- Paint and Lacquer
- Marble and stone quarries
- Wastewater in harbors (no compressed air available)

Flow	max. 540 l/min	Pressure	max. 7 bar
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	VA-E25 (INDUSTRIAL)	VA-E50 (INDUSTRIAL)
Connections	1" BSP, NPT or flanged DIN/ANSI	2" BSP, NPT or flanged DIN/ANSI
Liquids parts	Aluminium, SS316, PP, PP-Conductive, PVDF	Aluminium, Cast Iron, SS316, PP, PP-conductive, PVDF
Center part	Aluminium, SS316	Aluminium, SS316
Diaphragms	Buna-N, Geolast, Hytrel, Neoprene, Santoprene, PTFE, PTFE overmold, Viton	Geolast, Hytrel, Santoprene, PTFE
Drive	1.5 kW - 230/400 V	2.2 – 3.0 – 4.0 - 5.5 kW, 230/400 V
Equipped with	- Integrated air cushion regulator - Leak sensor (optional)	- Integrated air cushion regulator - Leak sensor (standard)
Certifications	II 2G ck Ex d IIB T3 Gb	II 2G Ex h d IIB T3 Gb

VERDERAIR EODD VA HI-CLEAN

Compliant with FDA and EC1935/2004 certification standards, the sanitary version of the EODD is constructed from SS 316, finished to a surface of 3.2 µm. This makes the pump excellent for food and cosmetic applications.

Application areas for sanitary EODD pumps

- Cosmetic creams
- Shampoos
- Yoghurt with fruit chunks
- Tomato paste
- Spaghetti sauces

Flow	max. 540 l/min	Pressure	max. 7 bar
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VA-EH25 (HI-CLEAN)



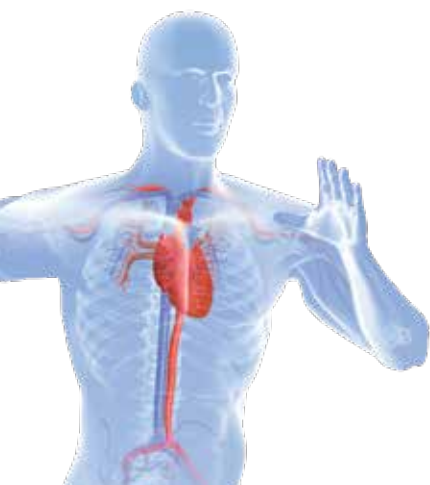
VA-EH50 (HI-CLEAN)

Connections	DN 40 - DIN11851 or 1 ½" Tri-clamp
Liquids parts	SS316, Ra 3.2µm
Center part	Aluminium, SS316
Diaphragms	Santoprene, PTFE, PTFE overmold
Drive	1.5 kW drive - 230/400 V - Integrated air cushion regulator
Equipped with	- Leak sensor (optional)
Certifications	FDA - EC 1935/2004

Connections	DN 65 - DIN11851 or 2 ½" Tri-clamp
Liquids parts	SS316, Ra < 3.2µm
Center part	Aluminum, SS316
Diaphragms	Santoprene, PTFE
Drive	2.2 – 3.0 – 4.0 - 5.5 kW, 230/400 V - Integrated air cushion regulator
Equipped with	- Leak sensor (standard)
Certifications	FDA - EC 1935/2004



*Any questions? Visit our website
www.verderliquids.com*



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