

Verderpro progressing cavity pumps

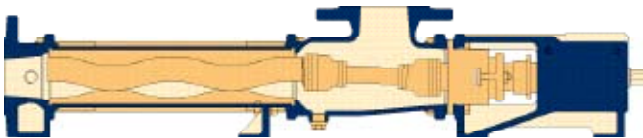


Verderpro progressing cavity pumps are the result of Verder's 30 years expertise with positive displacement pumps.

We offer the best pump possible to suit your application requirements. The robust Verderpro pumps from Verder offer a comprehensive range of progressing cavity pumps and cutters.

There are special series for the food processing industry and (waste) water treatment to name but a few. Dosing units, vertical pumps, feed hopper pumps. A wide range of seals and sophisticated accessories ensures that these pumps can be used almost in all application areas..

■ Working principle



The eccentric pump type is part of the positive displacement pump group. The most important parts of the system are the moving part, the rotor and the fixed part, the stator, in which the rotor rotates. The rotor can be viewed as being a screw with an extremely high speed, great eccentric movement and a small diameter. The stator has one worm thread more than the rotor and twice the thread of the pitch. Consequently, there are continuously shift spaces ("progressing cavities") between the rotor and the stator.

■ Elements

An eccentric progressing cavity pump includes a number of fundamental basic elements

■ The rotor

The rotor is a helical worm that makes a rotary eccentric movement (via a connecting rod, couplings, drive shaft and engine).

■ The stator

The stator is the second base pump element. The stator does not rotate and it has the same internal form and geometric measurements as the rotor with the exception that it has a double 180° shifted double thread and twice the pitch.

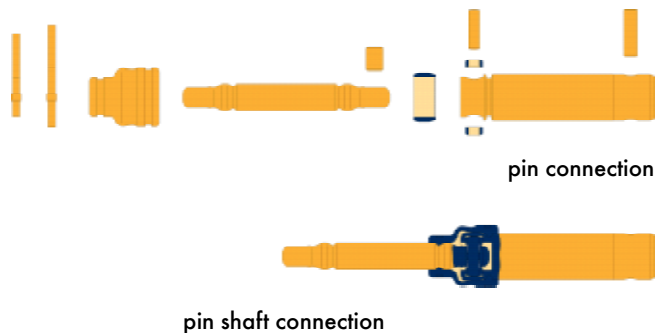
■ Couplings

The simplest coupling for the connecting rod is the easy to assemble pin coupling.

These wear-resistant and hardened couplings consist of the following parts: a coupling rod bush, a coupling rod pin and two guides. These elements are attached to the rotor and pin shaft head through a coupling sleeve. The coupling is then filled with a special lubricant and a cuff/packing seal is slid over the entire element. The cuff/packing seal is kept in place with claming strips.

■ Pin shaft connection

There is a pin shaft connection between the pump and the drive on the bearing housing enabling easy maintenance and easy exchange of the rotor and shaft seal. The drive or bearing housing need not be disassembled.



■ Shaft seals

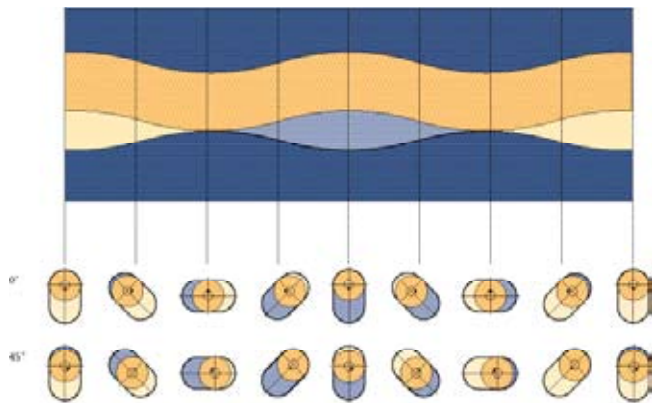
Verderpro progressing cavity pumps have a wide range of sealing possibilities. The most common ones are listed below:

- Great variety of gland packings
- Mechanical seals (single, double, back-to-back, with barrier fluid, etc)

■ Advantages and features

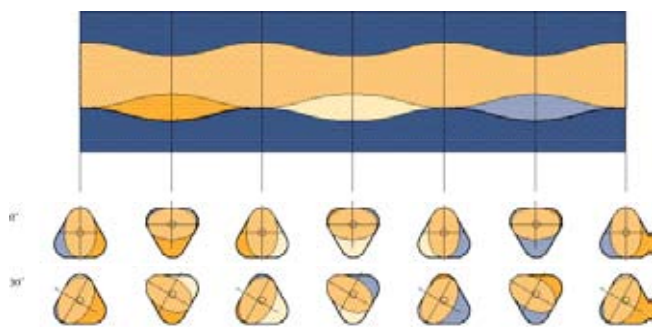
- * Low pulsation, continuous flow
- * Excellent self-priming up to 8.5 mwc
- * Installation in all positions
- * Reversible direction of rotation
- * Exceptionally suitable for viscous products

■ Geometries
 ■ L geometry



When compared to conventional geometry designs, the rotor of the L geometry has an enhanced pitch with a smaller diameter and lower eccentricity. The sealing line is, therefore, longer and the rubbing speed is reduced by approximately 20%. This considerably extends the service life. Even with fast-wearing media, the flow and working pressure are kept constant for a longer period.

■ T-geometry



The T geometry originates from the experiences gained with the L geometry. The flow is increased by 50% when the speed remains constant. The dual speed rotor has an elliptic section that rotates in a triangular stator with the same geometric ratio. Compared with the rotor, the number of screws of the stator is 1.5 times as many. The screws are rotated 120° and have 1.5 times the pitch length, creating the extra discharge channel, which provides for the abovementioned 50% delivery increase.

■ Models

The Verderpro progressing cavity pumps are available in the following models:

■ VPS model

The VPS model is the standard Verderpro design. An excellent, economically attractive pump for thin flowing to viscous products with or without solids. Flow ranges: 50 l/hour - 500 m³/hour, pressure: up to 48 bar.



■ VPH model

Specially developed for the food processing industry.

The obvious choice too if you want an excellent pump for use in the pharmaceutical, cosmetic and chemical industries. The CIP and SIP cleanable pumps meet the strict requirements of the food processing industry according to 3A and EHEDG with regards to pumping, hygiene, cleaning and sterilisation procedures. Flow ranges: 30 l/hour - 130 m³/hour, pressure: up to 24 bar



■ VPR model

These pumps are equipped with a feed hopper and feeding screw to facilitate a better flow of the product to be pumped. These pumps are used for pumping high viscous or non-fluidising products.

Flow ranges: 100 l/hour - 250 m³/hour, pressure: up to 48 bar



■ VPD model

The VPD model is specially developed for non-pulsating pumping and dosing of small flow ranges. For low to high viscous fluids containing solids and for pumping aggressive fluids. A high dosing accuracy (<1%) can be achieved. Flow ranges: 0.1 - 1,000 l/hour, pressure: up to 24 bar.



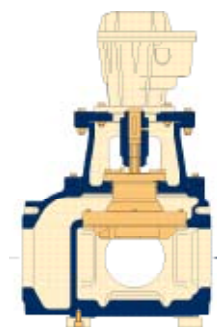
■ VPI model

These submersible pumps are designed for emptying tanks, drums, settling ponds and settlement tanks. Space saving. Suitable for pumping both low and high viscous products with or without solids. Applicable in all industries. Flow ranges: 50 l/hour - 250m³/hour, pressure: up to 12 bar



■ VPM model macerators

Macerators are mainly used for industrial wastewater processing and by utility companies. They reduce solid and fibrous elements in wastewater and sludge. This guarantees trouble-free operation of the Verderpro pumps and, therefore, extends their service life. The substances are cut, not torn, which makes the device exceptionally cost-effective. Flow quantities: 2-150 m³/h



Comprehensive programme control equipment

For controlling and monitoring Verderpro progressing cavity pumps. Protection against overpressure and dry running, dosing units, frequency converters, measuring equipment, complete operating systems.