

SUBMERSIBLE MOTOR PUMP

SUBMERSIBLE MOTOR PUMP PTS

The submersible motor-driven pumps in the PTS product line are used to pump liquid manure, biogas slurry, sewage sludge, waste water, and similar substances, which partly contain solids. The pumps are equipped with a high-quality cutting device on the impeller, to ensure reliable and trouble-free running. Main areas of use are pre-pits and final storage tanks which are only partially accessible or difficult to enter. The connection to the pump line can be made using flexible pipes or with an underground coupling system in connection with a stationary lowering device.

This pump stands out due to its large flow rate and reliability when filling liquid manure and tank vehicles. The submersible motor pump from 0.75 to 1.1 kW capacity is often used in condensate pits, pump shafts and drainage shaft. This pump stands out due to its compact construction and stainless steel motor housing as well as the stable centrifugal chamber. This reliable pump is also ideally suited for use in situations where the distance to the relevant storage tanks is greater.



TECHNICAL SPECIFICATIONS

- 0.75 – 18.5 kW capacity
- Cutting device
- Sealing unit SIC/SIC
- Double suction cutting device
- Versatile use, agriculture, sewage treatment plants and industry
- Stationary and mobile versions



TECHNICAL SPECIFICATIONS

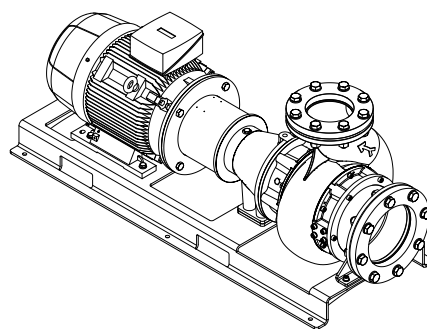
- 2.2 kW – 55.0 kW capacity
- Robust base frame
- Flexible motor coupler
- Double suction cutting device on the PHK pump
- Optional double or fourfold cutting device on the AFI pump
- Sealing unit SIC/SIC

CENTRIFUGAL PUMP

CENTRIFUGAL PUMP PHK

The centrifugal pump type PHK is built onto a stable base frame. The connection to the drive motor is effected by a flexible coupler. Characteristic of this robust pump is the double suction cutting device which ensures a reliable running of the pump. The pumps are equipped with a high-quality cutting device on the impeller, in order to guarantee reliable and trouble-free running.

Biogas slurry, sewage sludge, waste water and industrial waste are the main areas in which this pump is used. This pump stands out due to its large flow rate and reliability when filling liquid manure vehicles and tank lorries.



CENTRIFUGAL PUMP AFI

The centrifugal pump type AFI sets new standards in meeting the requirements of large flow rates. The pump is built on a stable, galvanised base frame. The connection to the drive motor is made with a flexible motor coupling. This robust pump is characterised by its large-volume suction area which is equipped with a cutting device on the impeller. As an option, the pump can be supplied with a double or fourfold suction and cutting device.

The standard version of the pump impeller is supplied in resistant special steel. All components are available optionally in stainless steel. The high-quality sealing of the centrifugal chamber is achieved by a SIC/SIC mechanical seal which is equipped with a durable oil supply. The power transmission is effected by means of a robust bearing housing and multi-bearing drive shaft.

SUBMERSIBLE CUTTING PUMP, MIXING PUMP

SUBMERSIBLE CUTTING PUMP

The counter-rotating PAULMICHL high performance cutter, made of resistant WIDIA special steel, is built into a large suction and pump housing, which prevents constipation of the pump in the suction area. The cutting unit of this high performance, liquid manure, thick matter pump reliably shreds long-fiber materials from floating layer and therefore has no problems with media from biogas plants. In addition, the PAULMICHL submersible cutting pump has a drive unit made of high-strength machine tube, a drive shaft made of stainless steel with multiple robust shaft bearings and high-quality industrial ball bearings which is running in an oil bath. It is mounted with a hot-dip galvanized wall rail for hanging / dowelling.

Individual special solutions and the combination unit pump agitator set new standards in the field of pump technology. This combination system is characterized by its unique homogenization capability, by simultaneous stirring and pumping of extreme liquid manure. Separate, lateral swiveling of the agitator nozzle and agitator blade during operation ensures an optimum homogenization process.

(ORIGINAL-BEHAM) MIXING PUMP PGD

The PGD is a mixing pump for particularly high demands. Due to the specially developed impeller with high intake screw and long tearing edges made of WIDIA steel, this pump is particularly suitable for media with a high dry substance content. The top-suction mixer pump PGD develops a pressure of approx. 4 bar and is therefore suitable for overcoming large delivery heights and long conveying distances. The mixing pumps are delivered in lengths from 1.40 to 4.90 m and in power sizes from 7.5 to 22.0 kW. PAULMICHL pumps are designed for extreme loads, even in continuous operation, and a long service life.



TECHNICAL SPECIFICATIONS

- 2.2 – 55.0 kW (submersible cutting pump)
- 7.5 – 22.0 kW (mixing pump PGD)
- Stirring nozzle horizontal and vertical adjustable
- Electric and tractor version (also in combination)
- Combination unit pumping and stirring



PROGRESSIVE CAVITY PUMP

SUCTION PUMP

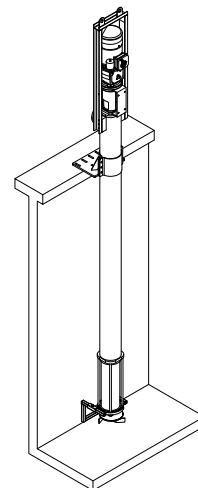
Progressive cavity pumps are self-priming positive displacement pumps. The basic principle is based on a rotor rotating in a fixed stator. Due to the geometry and the eccentric rotation of the rotor, cavities are formed in which the medium is transported. The pressure is created inside the pump. Because of their good suction power, the progressive cavity pumps have proven their worth as central pumping stations in biogas plants. It is also suitable for feeding separators. Progressive cavity pumps are used in particular when slurry/biogas substrate with high viscosity must be pumped, high pressure is required or long lines are installed. To monitor the pump, over pressure/under pressure fuses and a dryrunning sensor are installed.

SUBMERSIBLE PROGRESSIVE CAVITY PUMP

The progressive cavity pump is suitable for emptying open and closed containers. The length of the suction tube is adjusted to the customer's specific requirements. The pump is equipped with a suspension bracket for quick installation and removal during service work. The submersible pump is fixed with a clamp, which allows the pressure connection of the pump to be flexibly adjusted. A fugator is mounted on the suction side, which additionally supports the suction process of the pump.

TECHNICAL SPECIFICATIONS

- Capacity from 10 - 100 cbm
- About speed adjustable flow rate
- Reversal of suction and delivery side
- Installation in any positiona



CENTRAL PUMP STATION

The central pump stations are equipped with manual or fully automatic shut-off and gate valve technology. Individual special solutions with integrated barrel filling pumps, extraction pipes/stations are custom-made. The gravity overflow pipes are made of stainless steel.

- Individual special solutions, custom-made
- Complete pump plant for separators
- Gravity overflow pipes made of stainless steel
- Shut-off and gate and valve technology
- Barrel-filling and extraction stations
- Technical equipment of intake and preliminary pits - planning, delivery

PIPE/GAS PIPELINE CONSTRUCTION

PAULMICHL piping construction, a TÜV (German Technical Inspection Agency) certified, specialized company in accordance with § 62 (1) WHG (Water Resources Act) stands out due to its dependable and professional on-site installation, carried out by our highly qualified specialists. Installation is very cost-effective and is carried out under specialist supervision. We offer a range of products from filling and extraction pipes to flushing and pump pipes. In addition, necessary and individual, custom-made designs are no problem.

A further advantage of PAULMICHL pipeline construction is that planning, delivery and installation come from a single source.



TECHNICAL SPECIFICATIONS

- Dependable and professional on-site installation by highly qualified specialists.
- Cost-effective installation by means of the lead fitter principle and on site provision of assistants.
- Individual custom-made designs
- Filling and extraction pipes
- Flushing and pump pipes
- Planning, delivery and installation from a single source
- Specialized company in accordance with WHG



TECHNICAL SPECIFICATIONS

- Variable in width and height
- Consistent, reliable and safe operation at all times temperatures
- Heat transfer surface available as required
- Maintenance-free operation
- First-class price-performance ratio
- Connections substrate: DN150
- Heating water connections: DN80
- Mobile version possible
- All substrate pipes are made of stainless steel

THE EFFICIENT, OUTDOOR HEATING SYSTEM FOR BIOGAS PLANTS

BIOHEAT

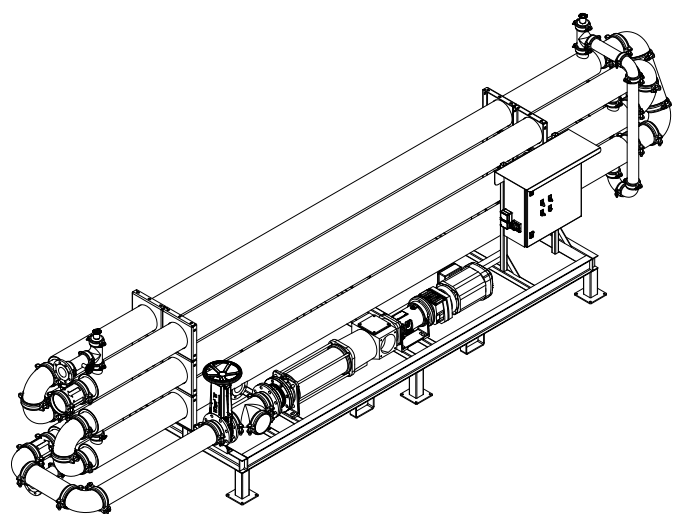
The BioHeat heat exchangers are designed in such a way that they can be easily installed on any biogas plant. They are used for fermenter heating and hygienization

FUNCTIONALITY OF THE HEAT EXCHANGERS:

BioHeat is operated in series in a countercurrent process. There is no accumulation of water in the upper pipe due to the higher flow velocity. The substrate can already be fed in at a temperature of 70°C, which eliminates the need for time-consuming heating.

The pipe sizes DN100, DN150 and DN200 allow for a needbased design. The high-quality insulation made of Firocover ensures reliable outdoor use, as the plastic mats do not absorb water.

The heat exchanger ensures constant and reliable temperatures at all operating times. The device is TÜV-certified (German Technical Inspection Agency). It can also be completely disassembled and is therefore very flexible.

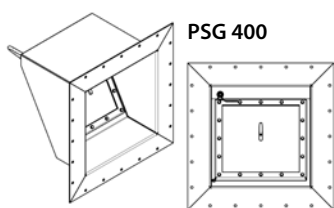


PANORAMA INSPECTION WINDOW PSG

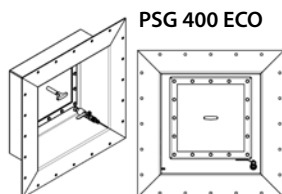
Panorama inspection windows for fermenters, secondary fermentation and final storage tanks allow for a significantly better optical control of the fermentation and homogenization process in closed tanks. The enlarged field of vision facilitates an optimal spatial assessment of the conditions within the tank. PAULMICHL inspection windows set new standards in monitoring and above all in optimizing the efficiency of agitators through adjustment measures under perfect optical control.

The use of high-quality materials which are resistant to chemical attack makes the individual components highly durable. By means of the easily accessible sealing unit from the PAULMICHL inspection window PSG 250K – 400, a simple control of leak tightness is possible at all times from outside the tank.

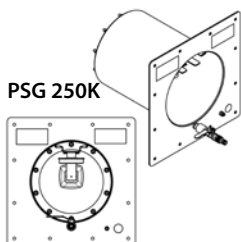
The glass pane is made of soda-lime glass in accordance with DIN 8902, with wipers. The factory installation of a washing nozzle made of V4A piping with gas non-return valves and a DVGW approved ball valve facilitate easy cleaning of components inside the tank. In order to achieve a high degree of serviceability the Paulmichl Inspection Windows feature a separate internal fixing system for the glass elements in the mounting frame. The special glass as well as the V4A stainless steel frame has a compressive strength of up to 1 bar.



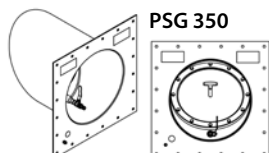
PSG 400



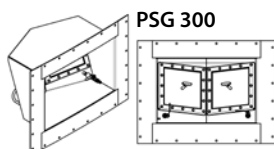
PSG 400 ECO



PSG 250K



PSG 350



PSG 300



TECHNICAL SPECIFICATIONS

- Modular design
- High-quality design in VA
- Special safety glass
- Washing nozzle
- Safety tested