

ROTATING RIGHT

SEEPEX GROUP E PROGRESSIVE CAVITY PUMPS

Product group E.



E – Semi-submersible pumps

Semi-submersible pumps are installed vertically. They pump liquids of different viscosities, which may be abrasive or even corrosive. Due to their high efficiencies, a minimal footprint and their maintenance-friendly design, seepex semi-submersible pumps have low life-cycle costs and are a viable alternative to other pump systems.

Plug-in shaft
connects the drive shaft
to the joint.

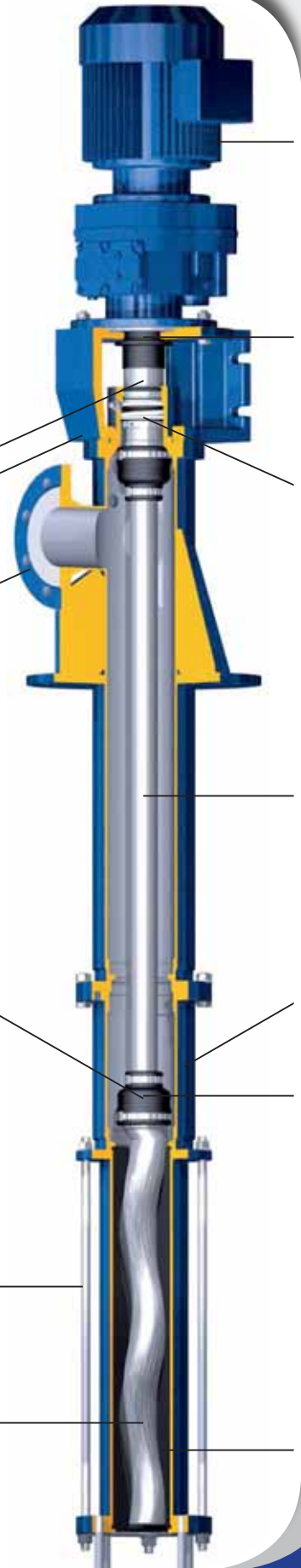
Lantern
for connection of pump and drive.

Pressure casing
with connections for pressure/vacuum gauge
and mounting plate for fixing the pump. Flange
connections in DIN or ANSI. Length according
to customers specification.

Universal joint sleeve with holding bands
protects the grease-filled joints from penetration of the
liquid pumped, even in case of maximum pressure loading.
Streamlined design to reduce turbulence and NPSHr.

Tie bolts/screws
corrosion proof, optionally available
in stainless steel design.

Rotor
wear resistant and corrosion-proof materials,
with additional surface treatment.



Drive

geared motors, variable speed drives or hydraulic motors of all major manufacturers, directly flanged to the pump without additional couplings or guards.

Plug-in shaft connection

for easy dismantling of the pump and drive enabling quick replacement of the rotating parts and shaft seals. The plug-in shaft pin secures the shaft connection to the drive and the splash ring protects the bearing from contamination/gland leakage.

Shaft sealing

single-acting mechanical seal, independent of direction of rotation, with quench and supply tank (78 cm³-4 l) to protect the sliding surface against dry running.

(see detail)

Coupling rod

for power transmission; improved design.

Intermediate housing

for quick assembly of rotor and stator used for submersible depths above 3 m (10ft).

Joint connection

consisting of just 5 components. Power transmission through wear resistant, hardened and replaceable joint parts: easily repaired.

Stator

the seal on both ends is moulded as an integral part of the elastomeric stator; corrosion of the stator tube is never a problem because the pumped liquid never comes into contact with the metal tube or the bonding adhesive.

Detail: Shaft sealing

Why semi-submersible pumps?

Because they are used in applications such as automotive industry, construction, chemical and biochemical industry, dyeing and varnishing industry, electroplating, fish industry, fruit and vegetable processing, metering of chemical additives, oil, gas and petrochemical industry, shipbuilding, supply industry, textile industry, wood processing and waste water and sludge treatment.

Features

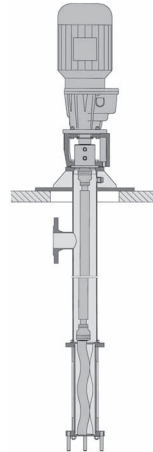
- Service-friendly with a standard atmospherically cooled drive
 - Customised lengths
 - Various installation configurations are available to suit the most unusual applications
 - Space-saving construction
 - Overcomes NPSHa limitations
- > Conveying capacity: up to 300 m³/h (1300 GPM),
Pressure: up to 12 bar (180 psi)

Overview of ranges

seepex semi-submersible pumps of the BE range, available in the semi-submersible variants crane suspension, wall-mounting, circular mounting plate with pressure branch on top or on the bottom are suited for draining clarifiers, sumps, tanks, pits and containers of all types. Using gas-tight circular mounting plates, the pumps can be installed in closed systems and thus facilitate complying with the strict environmental protection regulations.

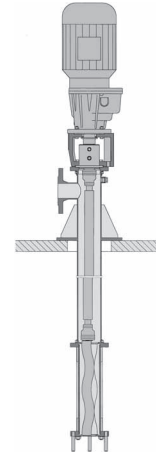
Range BE
Submersible variant U

Pressure branch below the circular mounting plate



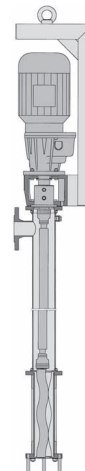
Range BE
Submersible variant O

Pressure branch above the circular mounting plate



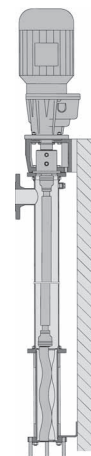
Range BE
Submersible variant K

Crane suspension device



Range BE
Submersible variant W

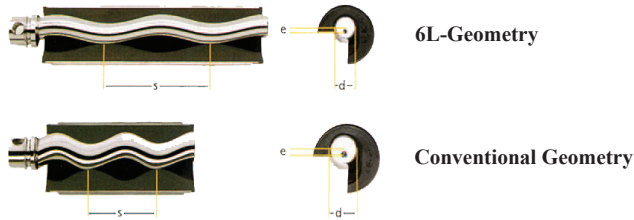
Wall mounting



User Advantages

Rotor - Stator-Geometries

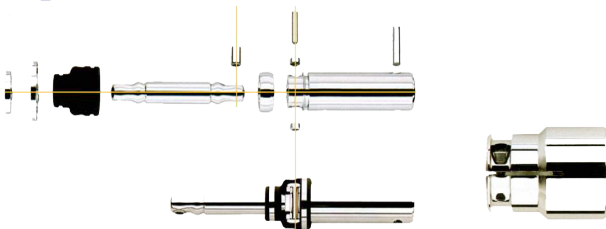
seepex 6L - conventional geometry comparison



smaller rotor diameter
 + reduced eccentricity
 + increased pitch length
 = 6L-Geometry with 20 % lower sliding velocity

- Improved service life (+35-50%) due to lower sliding velocity and longer sealing line
- Better pressure stability due to wider sealing line
- Reduced thrust loads on universal joints and bearings due to smaller rotor diameter and lower eccentricity
- Thrust loads of the conventional design exceed the thrust loads of the 6L-Geometry by approx. 50 %
- Smooth and almost pulsation-free operation
- The “stretched cavities” have a positive influence on vibrations, turbulences, pulsation and shear rates

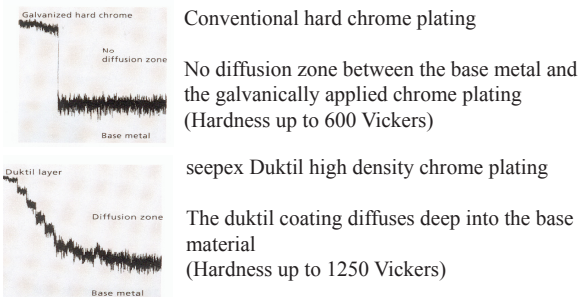
seepex Universal Joint Design



Benefits

- Only 4 hardened and wear resistant universal joint components (1 coupling rod bush, 2 guide bushes, 1 coupling rod pin)
- Positively sealed, gas and liquid tight elastomer universal joint sleeve
- Optional stainless steel universal joint sleeve protector with unconditioned - 10.000 h/24 months guarantee on the protected universal joint
- Simple and cost-effective to maintain
- Streamlined design, thus improved NPSH conditions
- Simple and cost-effective to maintain

seepex has The Optimum Rotor Surface



Conventional hard chrome plating

No diffusion zone between the base metal and the galvanically applied chrome plating (Hardness up to 600 Vickers)

seepex Duktal high density chrome plating

The duktil coating diffuses deep into the base material (Hardness up to 1250 Vickers)

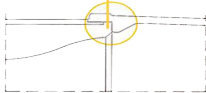
Benefits of the high quality seepex rotor surface

- Reduced starting and operating torque
- Improved efficiencies
- Smoother operations
- Increased service life
- The hardness of the coating is 1250 Vickers versus 180 of the base material
- The adhesion to the base material is excellent with no surface fissures

seepex Molded to size stators

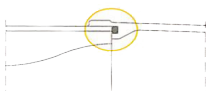


seepex molded to size stators are shrink compensated and have cast-on sealing surfaces.



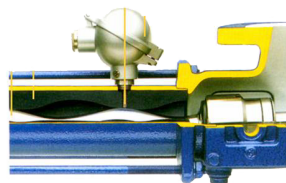
High manufacturing standards guarantee low torque requirements and high efficiencies.

A wide variety of elastomers is available.



Cut-to-size stators with separate gaskets or joints - unthinkable for seepex

seepex Optional TSE Dry Run Protection



Benefits

- Universal solution for all applications protects pump and stator against damages caused by frictional heat due to lack of liquid pumped
- Highly efficient low cost dry running protection system



TSE controller for panel mounting



Complete IP55 (NEMA 4) pump control panel with incorporated TSE controller



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