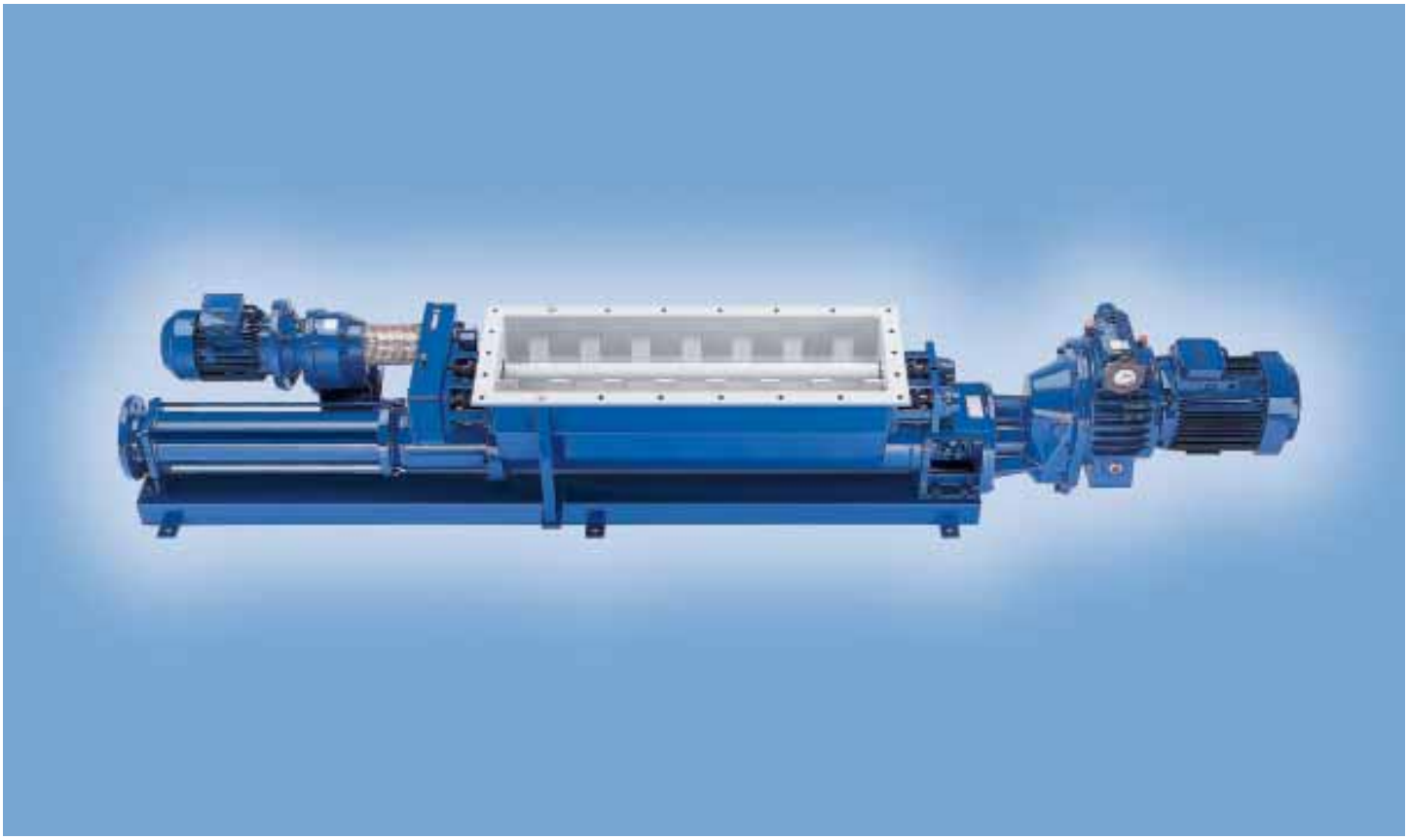
ROTATING RIGHT

SEEPEX
GROUP T
PROGRESSIVE CAVITY PUMPS

Product group T.



T – Open hopper pumps

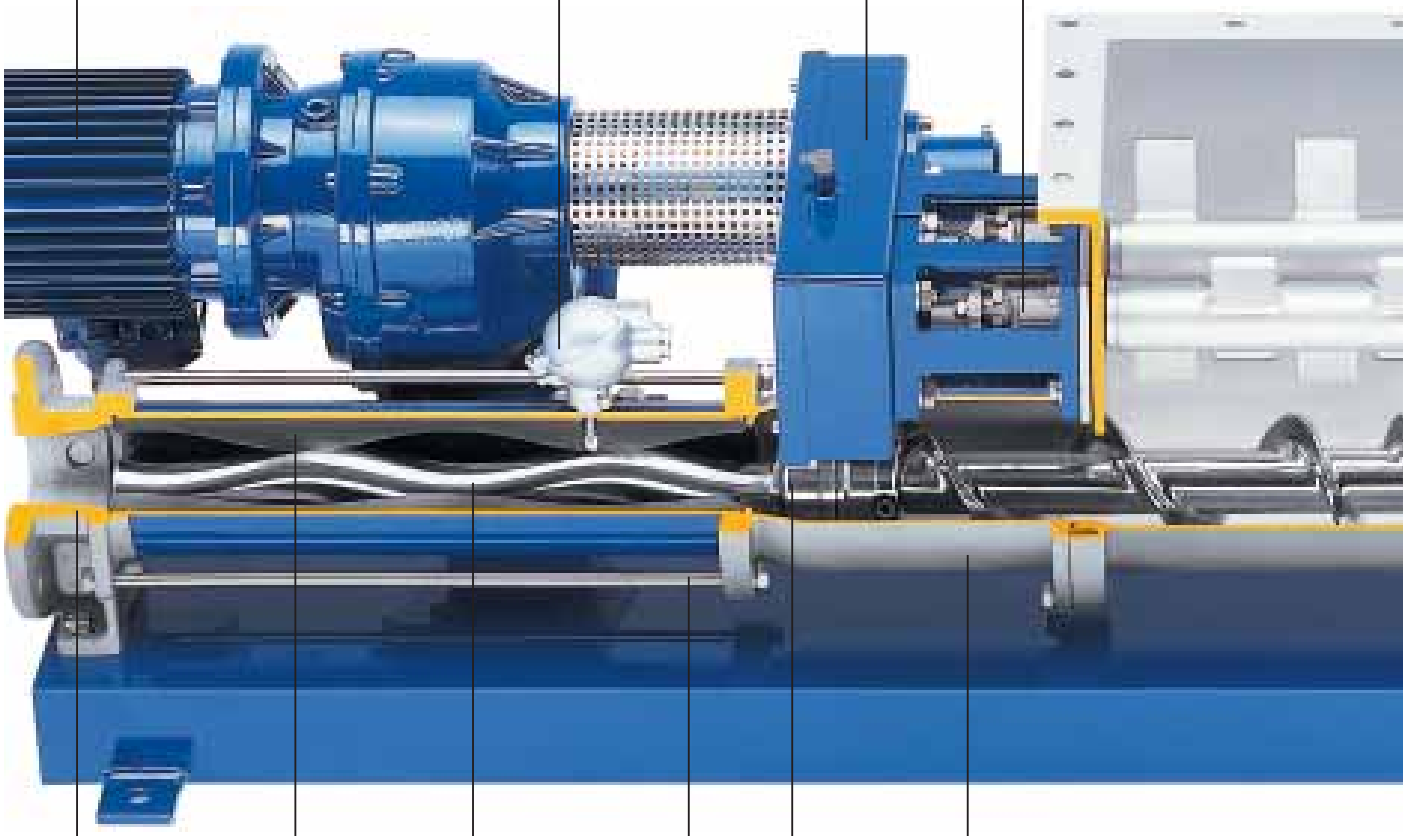
There are 9 ranges of open hopper pumps. They are used for viscous media that have only little or no flowability. T pumps have a feed hopper and an auger feed screw to positively feed the product into the pumping elements.

Power divider
for timing the paddle shafts, completely enclosed, with lubricating device.

Shaft sealing
gland packing, alternatively with seal cage ring or grease chamber ring.

Bridge breaker drive
designed with a geared motor or variable speed drive in foot mounted design, with elastic coupling and guard.

Dry running protection TSE, thermoelectronic
prevents the stator from being damaged by dry running, optional available.



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

Pressure branch
with gauge connection. Flange connections alternatively to DIN or ANSI.

Compression zone
with flanges at both ends for quick dismantling when replacing the rotor, hand hole upon request.

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

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. Available with optional adjustable stator retensioning device.

Universal joint sleeve protection
made of steel, protects the universal joint sleeve against mechanical damage from large solids, optional available.

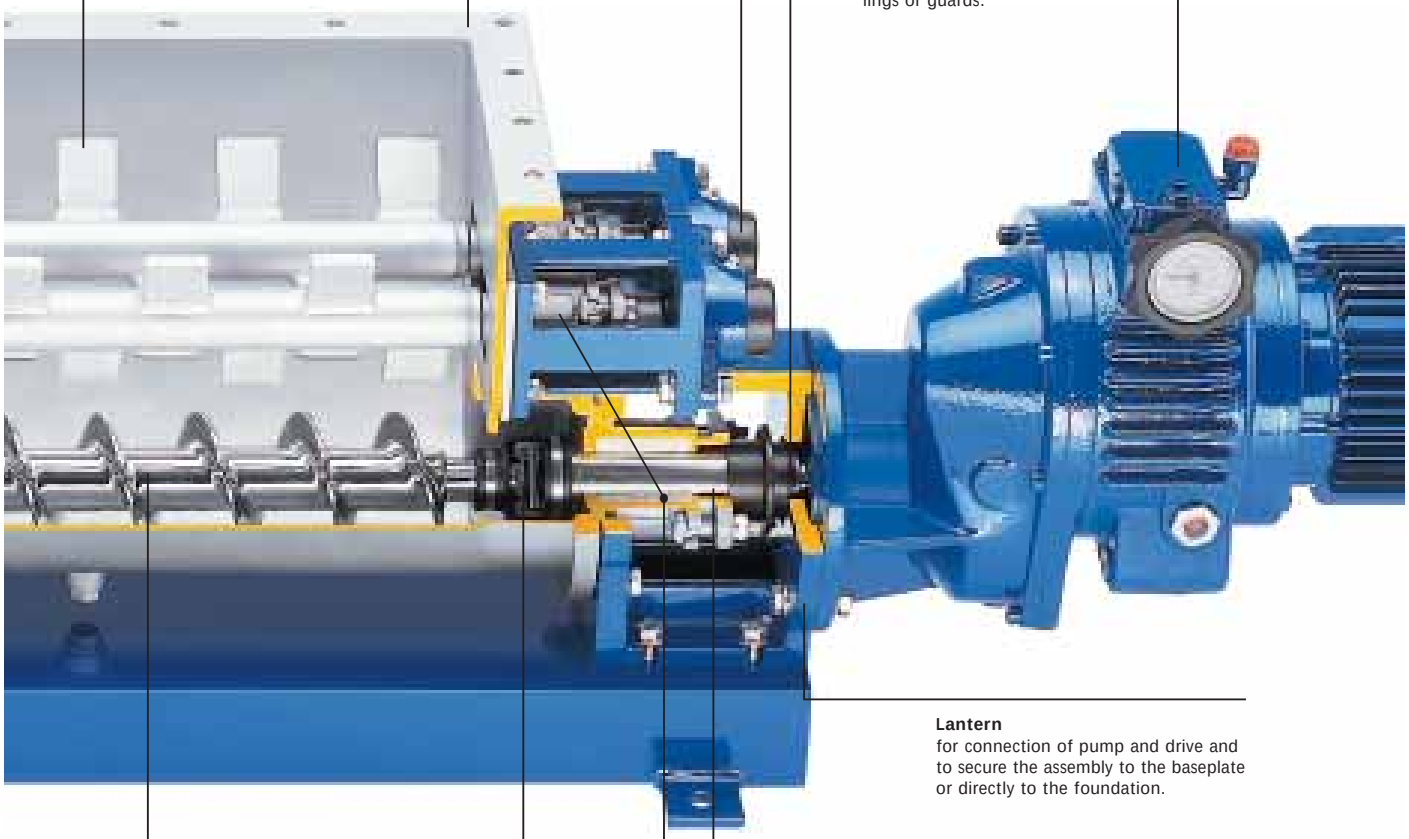
Feed hopper
rectangular design, hopper length customised to meet special applications.

Paddle shafts
counter rotating to prevent bridging over the auger feed screw and for the metered addition and mixing of additives.

Paddle shaft bearing
in sealed design with lubricating device.

Plug-in shaft connection
for quick disassembly or repair of pump and drive, for quick replacement of the rotating parts and shaft seals; with plug-in shaft pin and splash ring seal to secure the plug-in shaft connection and additionally protect the bearing from contamination/gland leakage.

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



Lantern
for connection of pump and drive and to secure the assembly to the baseplate or directly to the foundation.

Coupling rod
with progressive pitch auger feed screw for power transmission and feeding of viscous products.

Plug-in shaft
connects the drive shaft to the joint; with gland packing the plug-in shaft is used as a shaft protection sleeve; upon request, it is available with wear resistant coating.

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

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

Shaft sealing
gland packing, alternatively with seal cage ring or grease chamber ring.

Why open hopper pumps?

Because they are used in applications such as agriculture, brewing industry and distilleries, ceramics industry, confectionery industry, construction, dewatered sludge treatment, dough processing and bakeries, dyeing and varnishing industry, electroplating, fish industry, fruit and vegetable processing, pharmaceutical and cosmetics industry, poultry and meat processing, oil, gas and petrochemical industry, shipbuilding, sludge dewatering, stock preparation, textile industry, waste water and sludge treatment, wood processing and wine industry.

Features

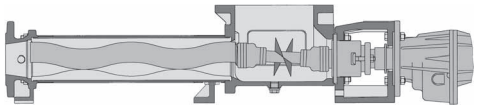
- These pumps incorporate an open hopper and auger feed screw which enables highly viscous products to be fed into the pumping elements
- The pitch and diameter of the auger can be adjusted according to operating conditions for optimal product feed
- The feed hopper can be designed to suit diverse application conditions
- Pump hoppers can be fitted with integral bridge breakers
- Range BTM pumps incorporate patented cutting knives for chopping and crushing the pumped product

> Conveying capacity: 50 l/h–500 m³/h (0.22 GPM–2200 GPM), Pressure: up to 48 bar (720 psi)

Overview of ranges

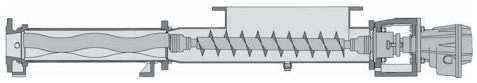
Pumps of the BTQ range are identical in length to the pumps of range BN and additionally feature a square feed cross-section and an auger feed screw for enhanced product feed. They are used for pumping medium to highly viscous products with a low degree of flowability.

Range BTQ



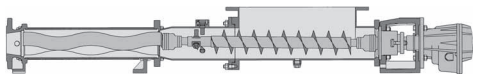
Pumps of the BT range feature a rectangular feed hopper with compression zone and auger feed screw. The length of the hopper opening is variable to suit the application conditions. They are used for pumping highly viscous media with a low degree of intrinsic flowability.

Range BT



A special characteristic of the BTM range is the patented macerator integrated into the compression zone. The knives on the rotating conveying screw macerate the fed products in combination with the cutting tools fastened in the compression housing. For the first time, the pump integrated into a closed system permits oxidation-free macerating of whole fruit/vegetables or pieces of fruit/vegetables with direct conveying in the following.

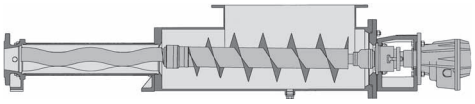
Range BTM



Overview of ranges

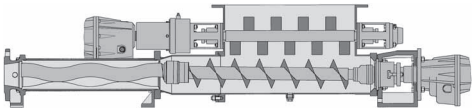
Pumps of the BTE range feature a rectangular feed hopper and a compression zone with an enlarged cross-section as well as an auger feed screw with a longer pitch and enlarged diameter. The length of the hopper opening is variable to suit the application conditions. Pumps of this range are used for pumping highly viscous to airtight products that do not tend to bridging.

Range BTE



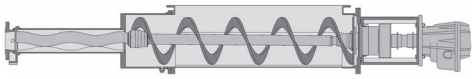
Pumps of the BTI range feature a rectangular feed hopper with integrated bridge breaker. The compression housing is dismountable for service work. The length of the hopper opening is variable to suit the application conditions. Pumps of this range are used for pumping highly viscous to airtight products that tend to form bridges above the auger feed screw.

Range BTI



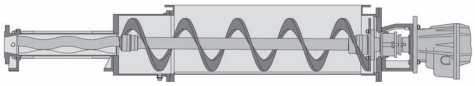
The BTH range combines the various advantages of product group T. It is characterized by a separately driven, concentrically rotating ribbon screw with a maximized diameter and a long pitch. Through separate control of the conveying screw speed, the BTH pump can be used for almost any conveying media. The variable speed auger screw permits optimum filling of the conveying elements rotor and stator without causing excess capacity in the stuffing box. Even media that tend to form bridges can be handled with ease due to the large screw diameter of the BTH pump. The BTH range is the technical optimum solution for shear sensitive conveying media.

Range BTH



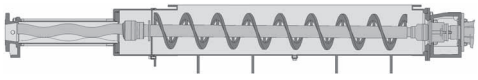
Pumps of the BTHE range feature a feed hopper with vertical hopper walls and a ribbon screw rotating centrically and on the edges. This guarantees optimum emptying of the feed hopper and optimised feed of the medium into the conveying elements of the pump. The length of the hopper opening is variable to suit the respective application conditions.

Range BTHE



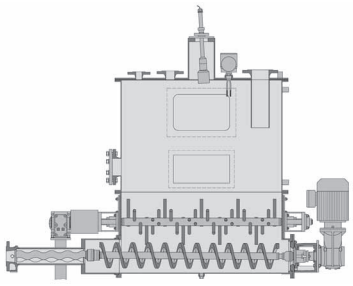
The BTES range is equipped with a shut-off system and ensures replacement of the conveying elements with the silo filled.

Range BTES



The BTEI range is a further development of the proven BTI and BTE ranges. In addition to a bridge breaker/mixing device, it features a supply tank that can be adapted to the application conditions on site. This supply tank replaces a separate storage tank and thus saves space within the system.

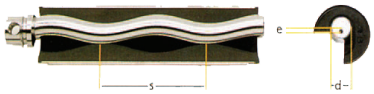
Range BTEI



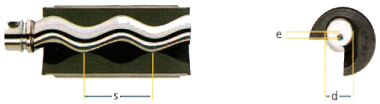
User Advantages

Rotor - Stator-Geometries

seepex 6L - conventional geometry comparison



6L-Geometry

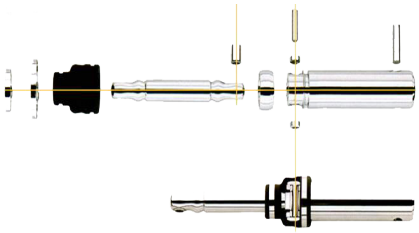


Conventional Geometry

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

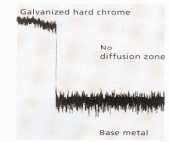
seepex Universal Joint Design



Benefits

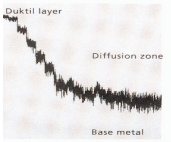
- Only 4 hardened and wear resistant universal joint components (1 coupling rod bush, 2 guide bushes, 1coupling rod pin)
- Positively sealed, gas and liquid tight elastomer universal joint sleeve
- Optional stainless steel universal joint sleeve protector with unconditioned - 10.000 h/24 months guarantee 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)



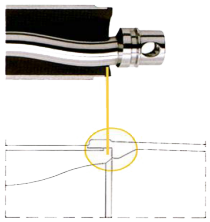
seepex Duktil high density chrome plating

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

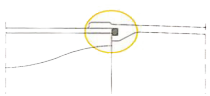
seepex Molded to size stators



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

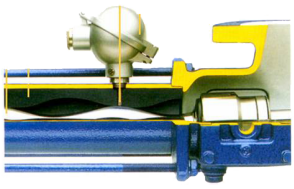
High manufacturing standards guarantee low torque requirements and high efficiencies.

A wide variety of elastomers is available.



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

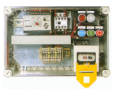
seepex Optional TSE Dry Run Protection



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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