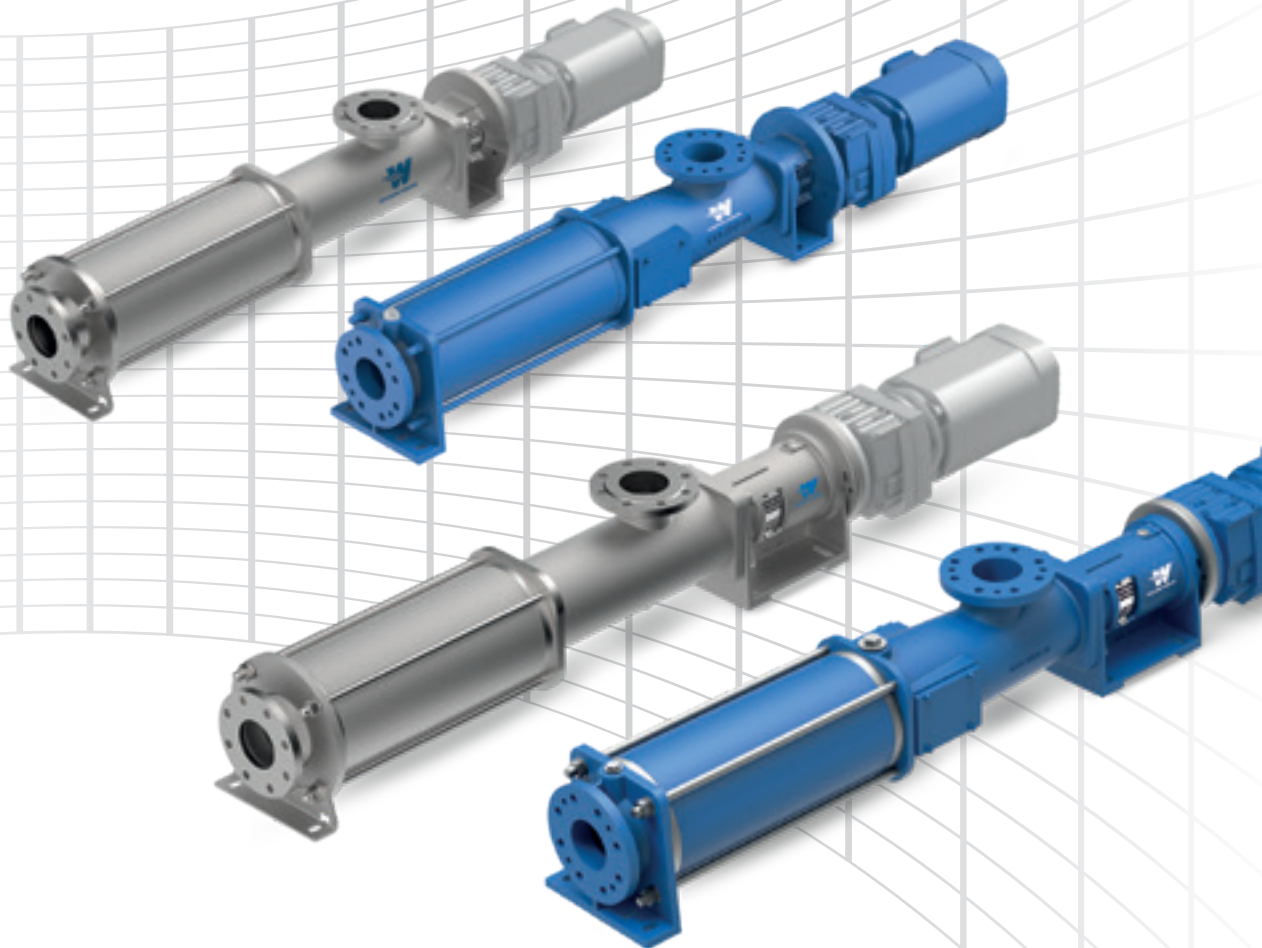


Progressing Cavity Pumps  
**KB-S / KL-S**



Suitable for fluids  
with low to extremely high viscosity

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## Progressing Cavity Pumps

# Self-priming Pumps KB-S / KL-S

The progressing cavity pumps KB-S / KL-S are our basic products. They are used to convey all self-flowing fluids. Self-priming pumps can convey low to highly viscous media just as well as media containing solid matter.

Wangen self-priming pumps run at peak performance wherever you need to convey demanding products at large lift and over long distances, or where high dosage accuracy is called for. Self-priming pumps are employed in a number of different industries, for example biogas production, waste water systems, ship building and mechanical engineering and in the paper and chemicals industry.

Two pump series are available — KB-S and KL-S series pumps. A wide range of models and sizes and a modular pump design guarantee individual conveyance solutions which are perfectly matched to your specific application requirement.

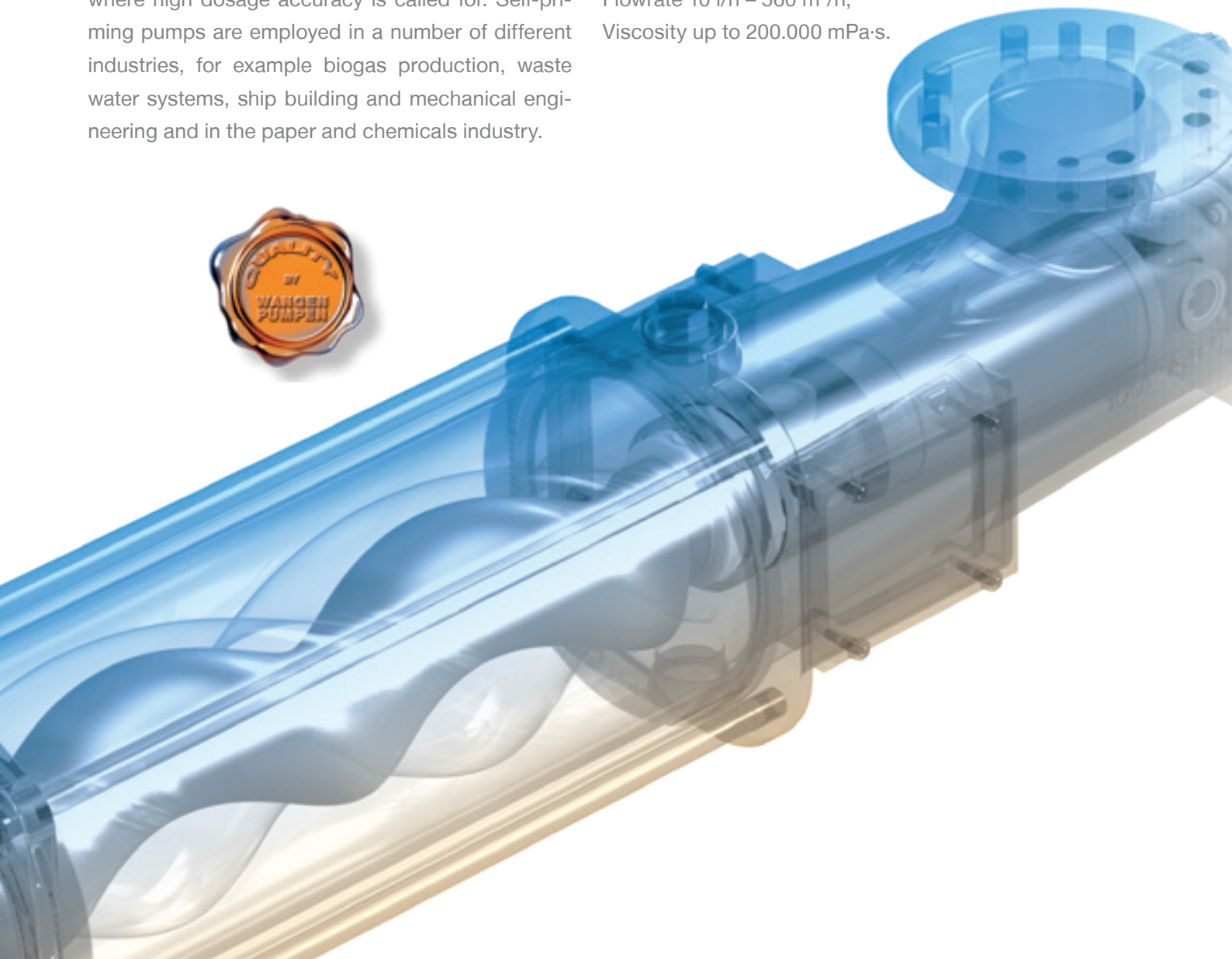
The technical ranges are for example:

Maximum differential pressure 48 bar / 696.18 lbs,

Temperature -30°C – 140 °C,

Flowrate 10 l/h – 560 m<sup>3</sup>/h,

Viscosity up to 200.000 mPa·s.

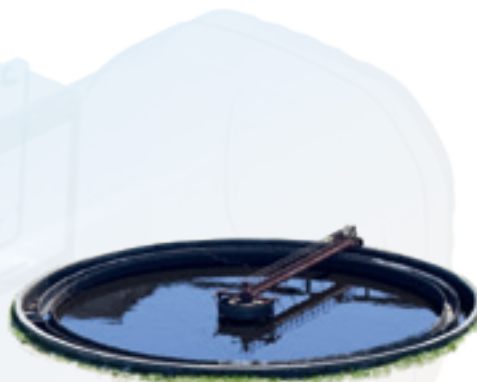


## Applications

# Conveying Materials

The following media can generally be conveyed using the KB-S and KL-S progressing cavity pumps:

- Domestic and industrial waste water, excess sludge, digested sludge, thickened sewage sludge
- Flocculants, polymers, lime milk
- Liquid manure, recirculate, fermentation residue
- Bilge water
- Polyol, isocyanate, PVC compounds, tensides, polyurethane adhesives, dispersion agents for glues or galvanic sludge
- Dispersion paints, latex colors, glues, plaster paints, pigments
- Kaolin suspensions, titanium dioxide, deinking chemicals, retention agents, coating colors, starch suspensions, latex, adhesives, resins or pigment slurry
- Crude oil, biodiesel, rapeseed oil
- Bentonite suspensions, drilling fluids, plaster slurry, carbon flotation slime





Features

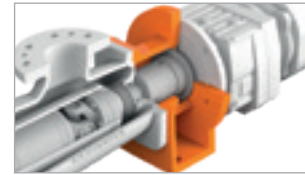
# Construction Characteristics

Cutaway model: KL50-S



Our pumps are consistently designed and built to deliver performance and reliability. KB-S series pumps have a block construction, which is completely adequate for media which exert a lower force on the pump, for example, whereas pumps in series KL-S offer much larger reserves for highly abrasive, adhesive and lumpy media.

KB-S:  
Pump in block design (without fig. in cutaway model).



KL-S:  
Bearing bracket with self-centering and direct coupling of the drive. Prevents gear damage.



Seal package in cartridge format. Quick and easy to replace.



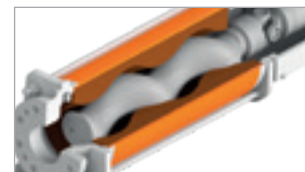
Cardan shaft and joint as standard. Needle roller bearings with lifetime lubrication. Wear and maintenance free.



A top quality, robust rotor from our own production facility and available in a range of different geometries.



Stators in a range of different geometries, all manufactured in our own production facility.



Benefits

# Maximum Reliability



Pure power:  
WANGEN KB-S/KL-S  
pumps includes the  
cardan joint in standard

In many industry sectors, abrasive fluids or slurry are conveyed, often at high pressure or in continuous operation. With conventional pumps, this high strain frequently leads to breakdowns, for example due to joint breakage. For this reason, we only use top-quality, robust components in our standard pumps. The design has been adapted

to these requirements down to the very last detail as a result of years of optimization. This means Wangen pumps guarantee low-maintenance operation which is practically fault-free.

- The bearing bracket for KL-S pumps relieves the strain on the gears and prevents gear damage during continuous operation
- Fully encapsulated cardan joint with needle bearings and protective sleeve for improved resistance to satisfy the toughest demands due to abrasive or fibrous media, or media containing solid matter für blockage-free continuous operation
- A joint with an equivalent diameter ensures a constant flow speed in the suction housing, thereby preventing sedimentation and blockages in pump

Bearing bracket in KL-S



cardan joint  
with protective sleeve



joint with  
equivalent diameter



## Benefits

# Maximum Variability

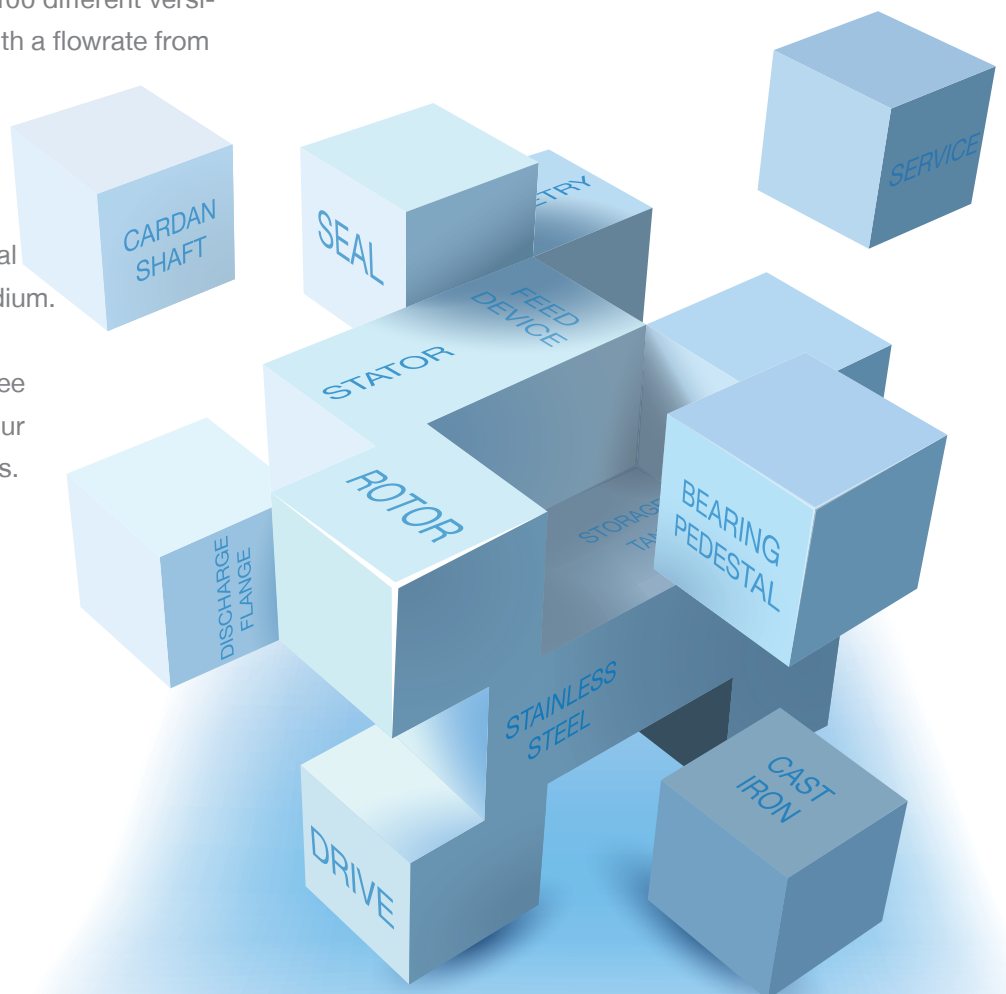
The KB-S and KL-S progressing cavity pumps have a modular construction. A wide range of standardized components is available for all series, facilitating the adaptation of every pump to your specific conveyance requirement. Whichever industry you are in,

whatever your conveyed medium and operational needs, we can supply the ideal solution for your application and guarantee the most efficient conveyance solutions for your business.

Maximum variability means:

- A wide range of sizes and rotor/stator geometries make it possible to create over 100 different versions, from the compact pump with a flowrate from 10 l/h, to the large pump with a flowrate up to 560 m<sup>3</sup>/h.
- A large variety of housing, rotor, stator, gasket and joint versions and materials guarantee the ideal adaptation to the conveyed medium.
- Our broad spectrum of flanged connections and drives guarantee the best possible solution for your installation and space conditions.

For your special requests or requirements we will be happy to help you develop your unique solutions.

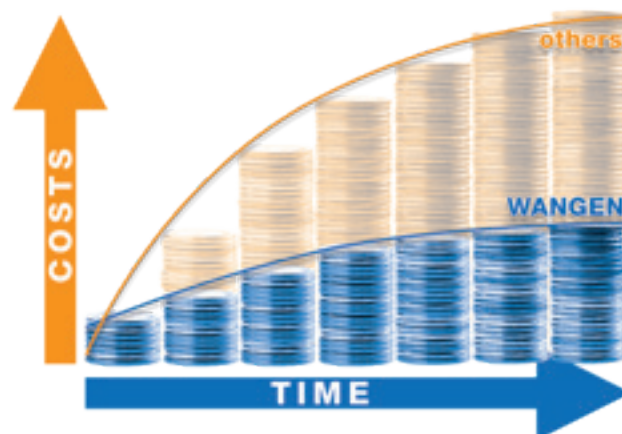


## Benefits

# Low Life-Cycle Costs

When buying a pump, we recommend that you also consider the operating costs in addition to the initial procurement costs, as maintenance costs, production downtime costs and energy bills will all make a significant contribution to the overall costs.

A key advantage of our philosophy is clear here: whereas other suppliers try to keep total costs down by offering pumps and wearing parts as cheaply as possible, our approach is to keep service and maintenance to a minimum. This is possible thanks to the robust construction of our pumps, the high quality of the wearing parts and the low-wear design of every pump.



With each production disruption that you avoid, you will save not just the cost of spare parts, but also the costs of maintenance work and production downtimes. This not only saves you money, it also spares your nerves!

## Benefits

# Easy Maintenance

To guarantee high plant/system availability, many of our customers like to maintain their KB-S/KL-S pumps themselves. Consequently our standard self-priming pumps in gray cast iron are fitted as standard with inspection ports to facilitate the easy cleaning of fibers or foreign bodies. Even replacing the rotor or shaft seal is straightforward thanks to the excellent accessibility of the connecting bolts and the cart-ridge design of the bearing bracket.



This makes it easy for the operator to perform essential maintenance work independently.

## Technical Data

# Versions and Materials

A wide selection of standardized components is available to design and build your standard self-priming pumps. We offer an economical and optimized conveyance solution for your industry sector and operating conditions.

- Housing, pressure flange and suction flange: Grey cast iron, construction grade steel 1.0038 (A501), stainless steel 1.4301 (A304), stainless steel 1.4571 (A316Ti)
- Joint: Steel or stainless steel cardan joint, optional with sleeve
- Seals: Drive gaskets, packing glands, shaft seals, single and double mechanical seals
- Rotor: Hardened tool steel, stainless steel 1.4301 (A304), stainless steel 1.4571 (A314Ti), both available with chromium or chromium carbide coating
- Stator: Various NBR materials, FPM, silicone, EPDM, pressure-stable even wall version, solid stators in POM
- Rotors and stator available in up to 8 pressure ratings in S, L and H geometries
- Drive: Gear motors, hydraulic motors



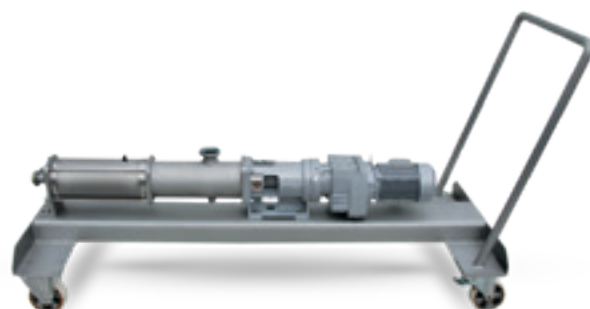


## Technical Data

# Options and Accessories

We offer a large selection of accessories which are perfectly matched to our product range, providing the ideal complement or adaptation to your individual requirements and allowing you to create your own customized solutions. We would also be happy to advise you here, as special solutions are of course also possible.

- On a base, or mobile for use in the production plant.
- Temperature and pressure sensors protect the pump from running dry and from excessive pressure.
- Frequency converter for regulation of the conveyed volume.
- Anti-block device for conveyance of highly fibrous media.
- Cardan joint with worm conveyor for conveyance of highly viscous media.
- Pumps manufactured according to the ATEX Guidelines are available for use in explosive atmospheres.



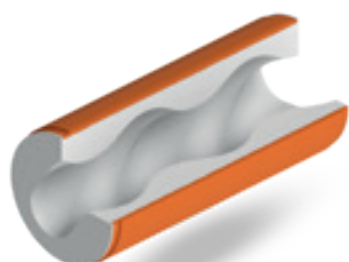
On a mobile base



Worm conveyor on a cardan joint

## Spare Parts

Using original spare parts from WANGEN PUMPEN, we guarantee the full restoration of the service and performance of our pumps. With decades of skill and experience as a manufacturer, you can rely on our first class manufacturer quality, guaranteeing and protecting the long service life of your pumps.



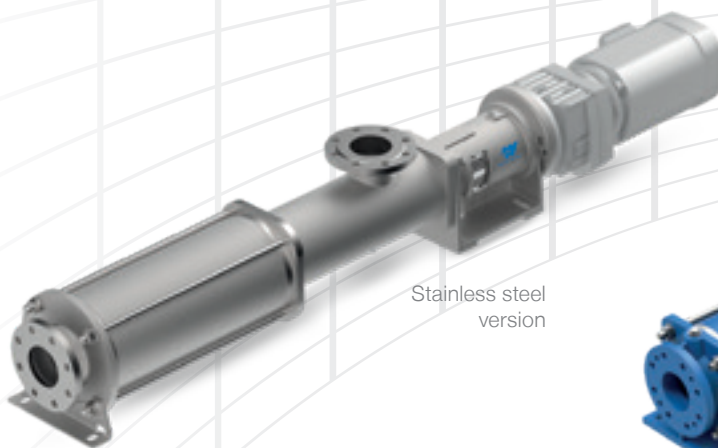
## Technical Data

# Performance Data KL-S

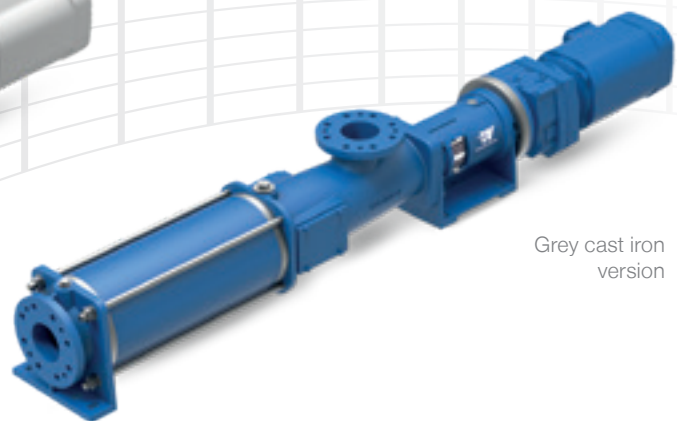
Pumps in the KL-S series are fitted with a bearing bracket, to which the drive is coupled directly via a plug connection, which is easy to service. This makes the pump a compact and economically viable solution. The pump construction, which is designed to handle maximum stress, relieves the strain on the shaft and the gears, thereby greatly extending pump

service life. Thanks to the bearing bracket itself, the drive is also centered, which simplifies pump installation. In addition, the pumps in the KL-S series do not have flexible coupling, as the drive is coupled directly. As a result, these pumps are compact. Thus the KL-S series combines the advantages of a robust and reliable pump with easy maintenance.

Pump size	Maximum completely free passage (mm)	Flowrate (m <sup>3</sup> /h) at 350 min <sup>-1</sup>	Maximum differential pressure (bar / lbs)
20	24	0,01 – 4,6	48 / 696.18
30	51	0,04 – 32	48 / 696.18
50	95	0,34 – 147	48 / 696.18
65	112	1,22 – 260	48 / 696.18
80	121	5,65 – 530	36 / 522.14
100	150	10 – 560	48 / 696.18



Stainless steel version



Grey cast iron version



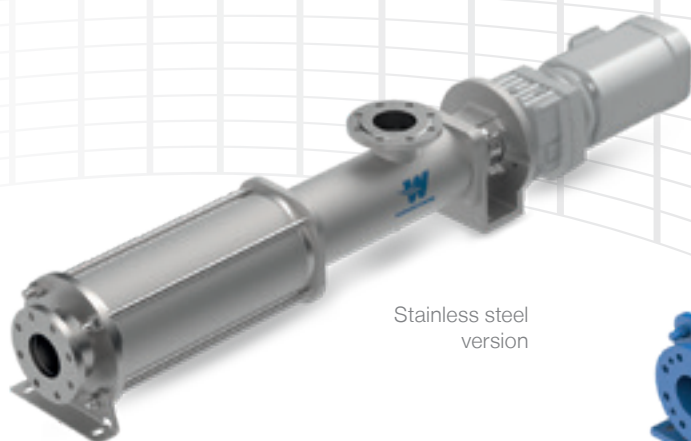
Technical Data

# Performance Data KB-S

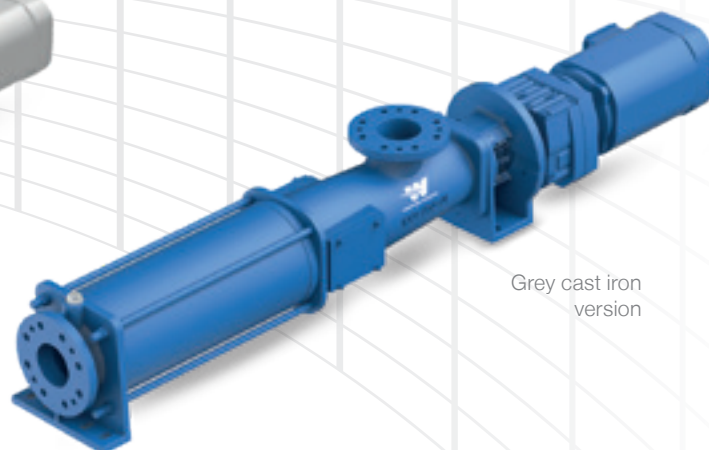
Pumps in the KB-S series do not have a bearing bracket, as the drive is coupled directly to the pump housing. This makes the pump a compact and economically viable solution.

The block design is ideal for normal pump operation or for small conveyed volumes.

Pump size	Maximum completely free passage (mm)	Flowrate (m <sup>3</sup> /h) at 350 min <sup>-1</sup>	Maximum differential pressure (bar / lbs)
20	24	0,01 – 4,6	48 / 696.18
30	51	0,04 – 32	48 / 696.18
50	95	0,34 – 147	48 / 696.18



Stainless steel version



Grey cast iron version





**WANGEN PUMPEN is certified to:**

ISO 9001 (Quality management)

ISO 14001 (Environmental management)

ISO 45001 (Occupational safety and health protection)



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