

Solids handling pumps KOV

For high-pressure slurry pumping



Putzmeister

Industrial Technology

Mining · Energy · Environment · Oil & Gas

Solids handling pumps KOV

Oil-hydraulic piston pump with ball valves

The KOV series is characterized by its straightforward design and high reliability. The suction and delivery cylinders are connected by passively operated balls.

The valves are passively operated, which makes it an inexpensive pump with maximum availability. There are no issues or complications when pumping fine-grained mortar and low-consistency slurries, even when they contain foreign bodies up to 10 mm in size.

Depending on the specific individual case, the balls and valve seats can be supplied in different materials and coatings. A maintenance aperture allows an easy and rapid replacement of the ball valves.

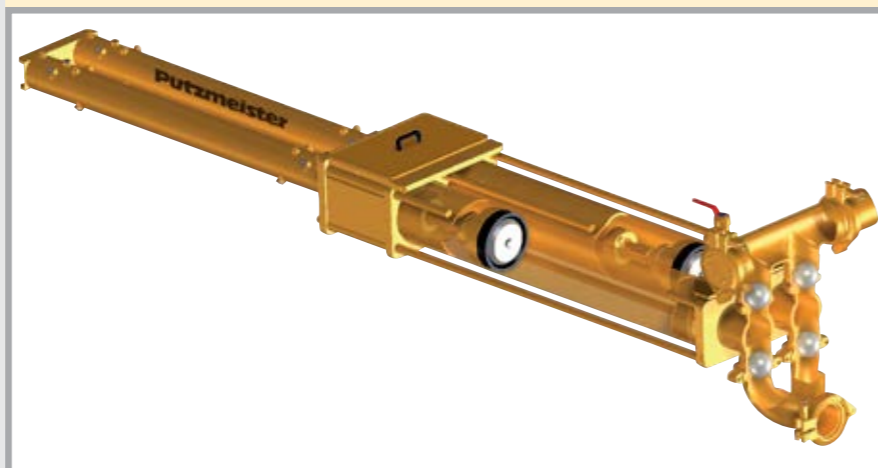


Features and advantages

- For conveying fine-grained pastes
- Simple design
- Minimum of moving parts
- Very easy to maintain
- Output up to 70 m³/h
- Delivery pressure up to 80 bar

KOV double-piston pumps are the ideal solution for a wide range of applications

- Mortar injection
- Removing slurry from tunnels
- Desludging bodies of water
- Pumping fly ash
- Pressure grouting
- Digested biomass



KOV on the internet
www.pmsolid.com



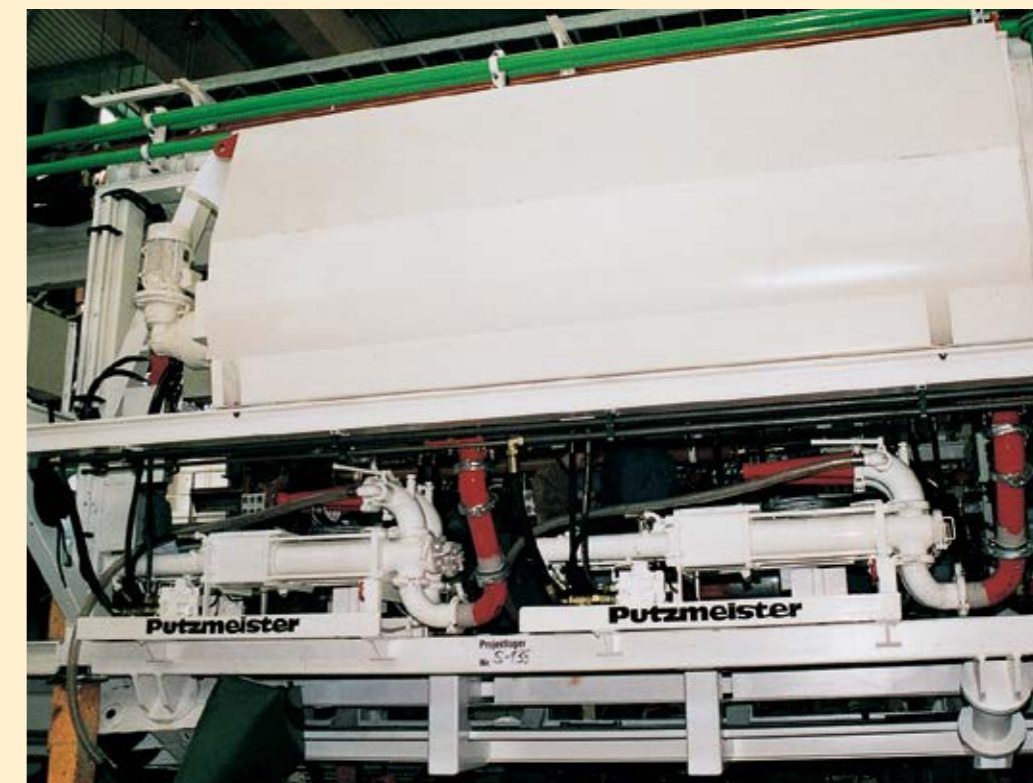
A KOV 1050 pumps the injection mortar behind the ring segment



Removing slurry from a tunnel



Lime slurry



Space-saving installation of two KOV 550 DUO underneath a 6 m³ agitating trough

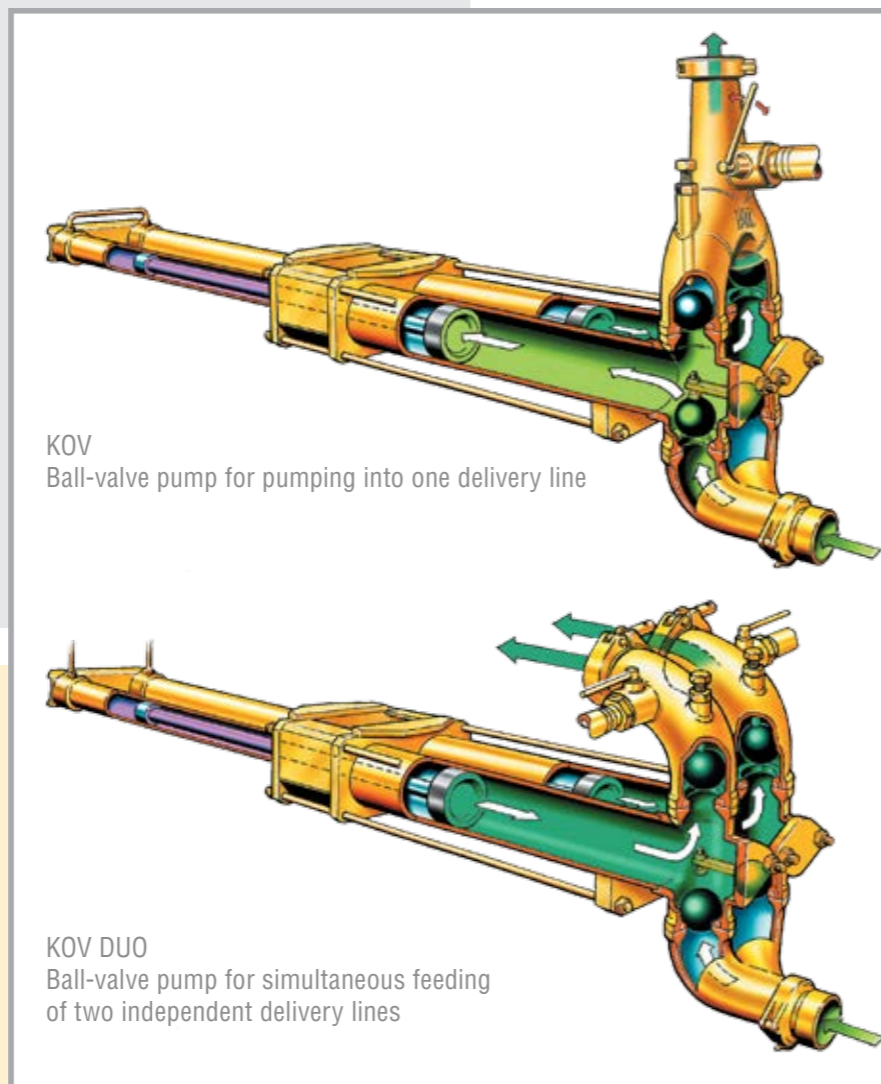
Reliable technology for inexpensive system solutions

KOV and KOV DUO

High performance ranging up to 70 m³/h and 80 bar (1160 psi) means large safety reserves for the pumping process and allows economic, clean and safe conveying by pipeline over several kilometres.

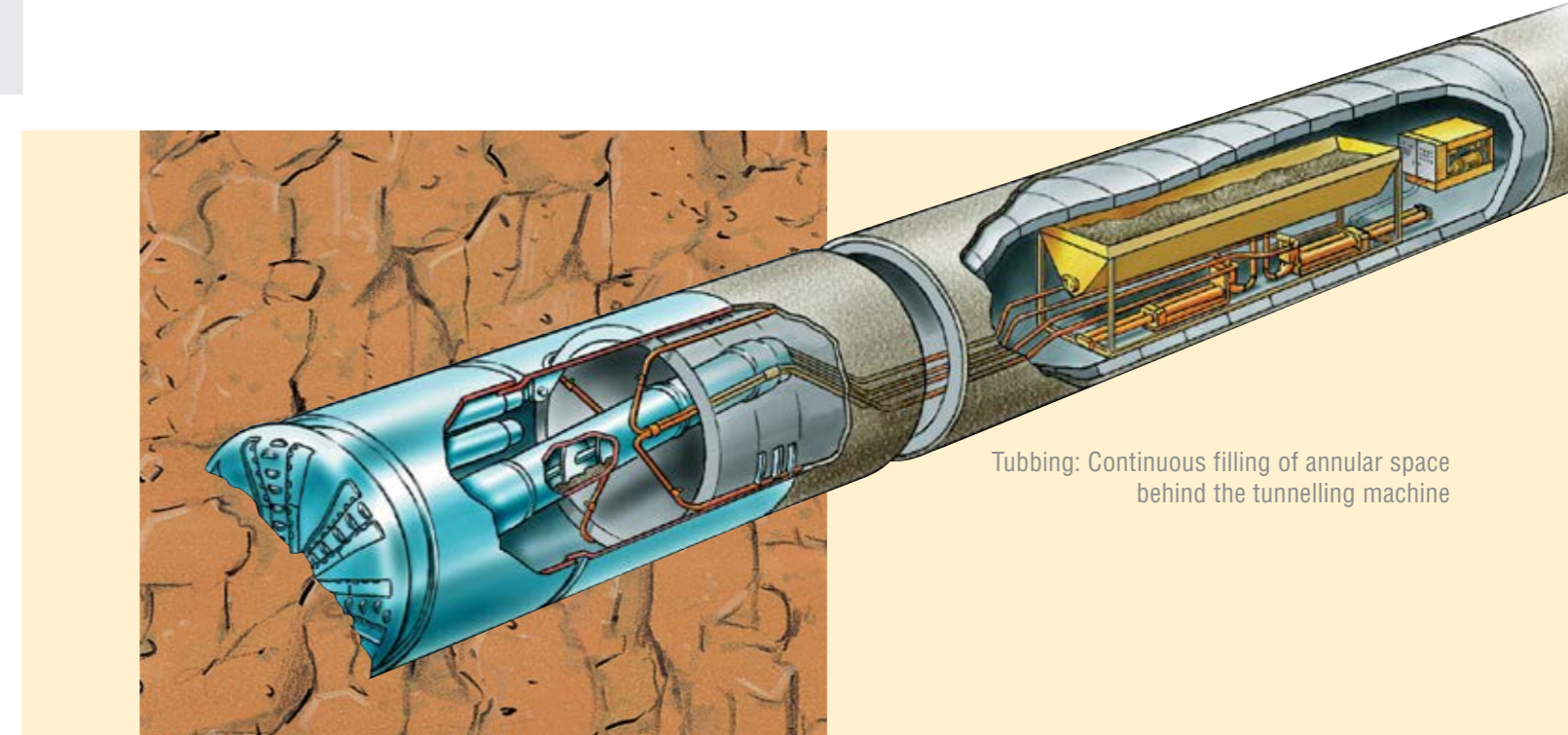
In the case of the KOV unit the two delivery pistons alternately pump the material into the delivery line. The flow remains virtually constant.

With the KOV DUO the delivery pistons each independently feed one delivery line. In this way one KOV DUO unit can supply two injection stations simultaneously.



KOV
Ball-valve pump for pumping into one delivery line

KOV DUO
Ball-valve pump for simultaneous feeding of two independent delivery lines



Tubbing: Continuous filling of annular space behind the tunnelling machine

Robust technology brings performance and reliability

Chromium-plated delivery cylinders mean a long service life. In the case of stiffer material heavy-duty solid steel valve balls are used; with free-flowing material rubber-coated balls are used in order to ensure dependable sealing and prevent abrasive wear. The hydraulic and material circuits are kept separate from each other by means of a water box. The water cools and cleans the delivery pistons. In the vicinity of the material being pumped there are no hydraulically operated parts thus ensuring that the hydraulic oil cannot be contaminated by the pumped material. A version with a sound-absorption cover is available as an option.

Sure control of the pumped output even over large distances

When hydraulic units are used in conjunction with programmable controllers it is possible to control the pumping system over large distances. The pump output can be adjusted as desired via a 4 – 20 mA signal and the pressure limited either hydraulically or electrically. A manual output adjustment is a standard feature.

Save your time and money in maintenance and service

Maintenance work on the inexpensive but robust main wearing parts is quick and straightforward to carry out. This reduces costs and downtimes.

Delivery lines

The KOV can be supplemented with a wide range of different pipe systems – especially tailored to your special application.

Accessories for custom design and equipment of your system

KOV Technical data

Delivery lines

Delivery lines in industry must especially be safe over a long period of operation (24/7). The pressure resistance with pulsating load is one particular criteria when designing the delivery line. These can be designed in DIN, SK and ZX with different flange and coupling systems. The Putzmeister SK and ZX systems have proved themselves worthy for abrasive and non-abrasive materials. They have a clamp coupling for easy installation and removal.

ZX delivery lines are used in sewage treatment works, in waste recycling, in coal-fired power plants, waters desludging, in mining and other numerous special applications. Depending on the application, the design, material and the surface treatment can be modified in order to be ideally adapted to the pump and material to be conveyed.



Ball, gate or diversion valves

Delivery line components must be designed regarding the dynamic loads and characteristics of the media. Ball valves for example are therefore equipped with stronger shaft shanks and flush connections.

Gate and diversion valves are essential when multiple delivery lines have to be installed. Thus, the material located in the pipeline after the pump can be diverted through a gate valve to other routes such as a thermal dryer or intermediate storage.

Gate valves are hydraulically operated. For a faster switch, it is suggested to use a power pack of at least 7.5 kW. The valve housing is sealed with hardened sealing rings, that are pressed against the moving blade of the valve.

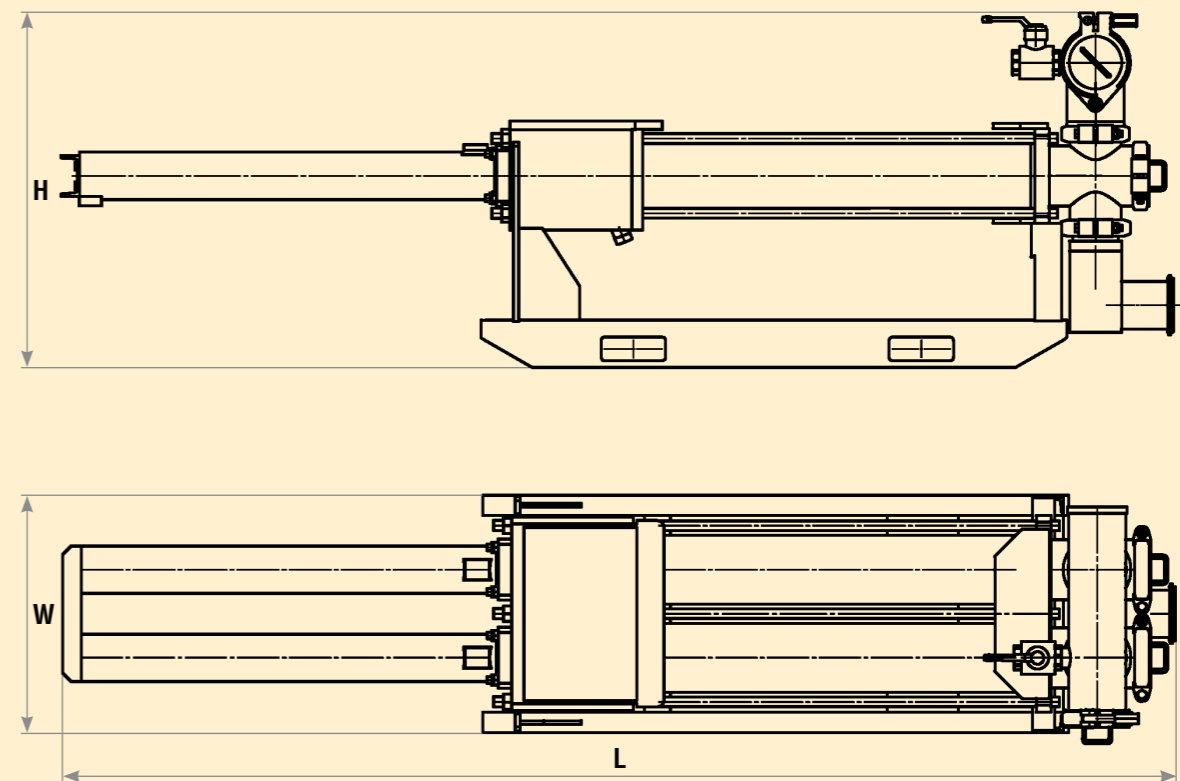
A wide range of application specific components and functions are available for extreme operation, e.g.

- Feed auger
- Receiver container with or without agitator
- Intake piping with gate valve
- Vibration damper for the delivery system
- Gate and distribution valves
- Scraper pig gates for delivery line cleaning

Type	Output*		Delivery pressure**		Delivery cylinder length		Delivery cylinder Ø		Length (L)		Width (W)		Height (H)	
	m³/h	gpm	bar	psi	mm	in	mm	in	mm	in	mm	in	mm	in
KOV 550	25	110	80	1160	500	19.69	180	7.09	2250	88.58	730	28.74	920	36.22
KOV 1050	42	184.8	80	1160	1000	39.37	180	7.09	3300	129.92	730	28.74	1050	41.34
KOV 1470	70	308	50	725	1400	55.12	230	9.06	4100	161.42	730	28.74	1050	41.34
KOV 550 DUO	2 x 11	2 x 48.4	80	1160	500	19.69	180	7.09	2250	88.58	1100	43.31	920	36.22
KOV 1020 DUO	2 x 6	2 x 26.4	55	798	1000	39.37	100	3.94	3000	118.11	600	23.62	980	38.58
KOV 1050 DUO	2 x 20	2 x 88	80	1160	1000	39.37	180	7.09	3300	129.92	1100	43.31	920	36.22

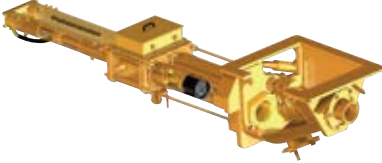



The values provided above are to be viewed as guideline values only and may alter depending on machine applications. Please request detailed quotation drawings.
 * geometric, rounded
 ** maximum theoretical

Conversions:
 1 bar = 14.5 psi
 1 inch = 25.4 mm
 1 US Gallon = 3.785 l
 1 kg = 2.2046 lb



KOV solids handling pump, exemplary illustration

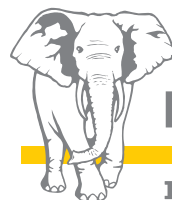
The right pump for every application

	Application	Output	Pressure
 <p>KOS series S-tube pump</p>	Coarse sludges or slurries with a high proportion of solids, up to 80 mm grain size	10 – 400 m ³ /h (440 – 1760 gpm)	up to 150 bar (2176 psi)
 <p>HSP series seat valve pump</p>	Fine grained sludges or slurries	10 – 400 m ³ /h (440 – 1760 gpm)	up to 150 bar (2176 psi)
 <p>KOV series ball valve pump</p>	Fine grained pastes	0 – 70 m ³ /h (0 – 308 gpm)	up to 80 bar (1160 psi)
 <p>EKO series single piston pump</p>	Large-sized and coarse particles, extremely stiff material	up to 14 m ³ /h (61.6 gpm)	up to 100 bar (1450 psi)
 <p>Hydraulic power pack and control cabinet</p>	All Putzmeister pumps are driven by a hydraulic power pack	Performance:	5.5 – 1800 kW

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Putzmeister Solid Pumps GmbH
 Max-Eyth-Straße 10 · 72631 Aichtal/Germany
 P.O. Box 2152 · 72629 Aichtal/Germany
 Phone +49 (7127) 599-500 · Fax +49 (7127) 599-988
 psp@pmw.de · www.pmsolid.com



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