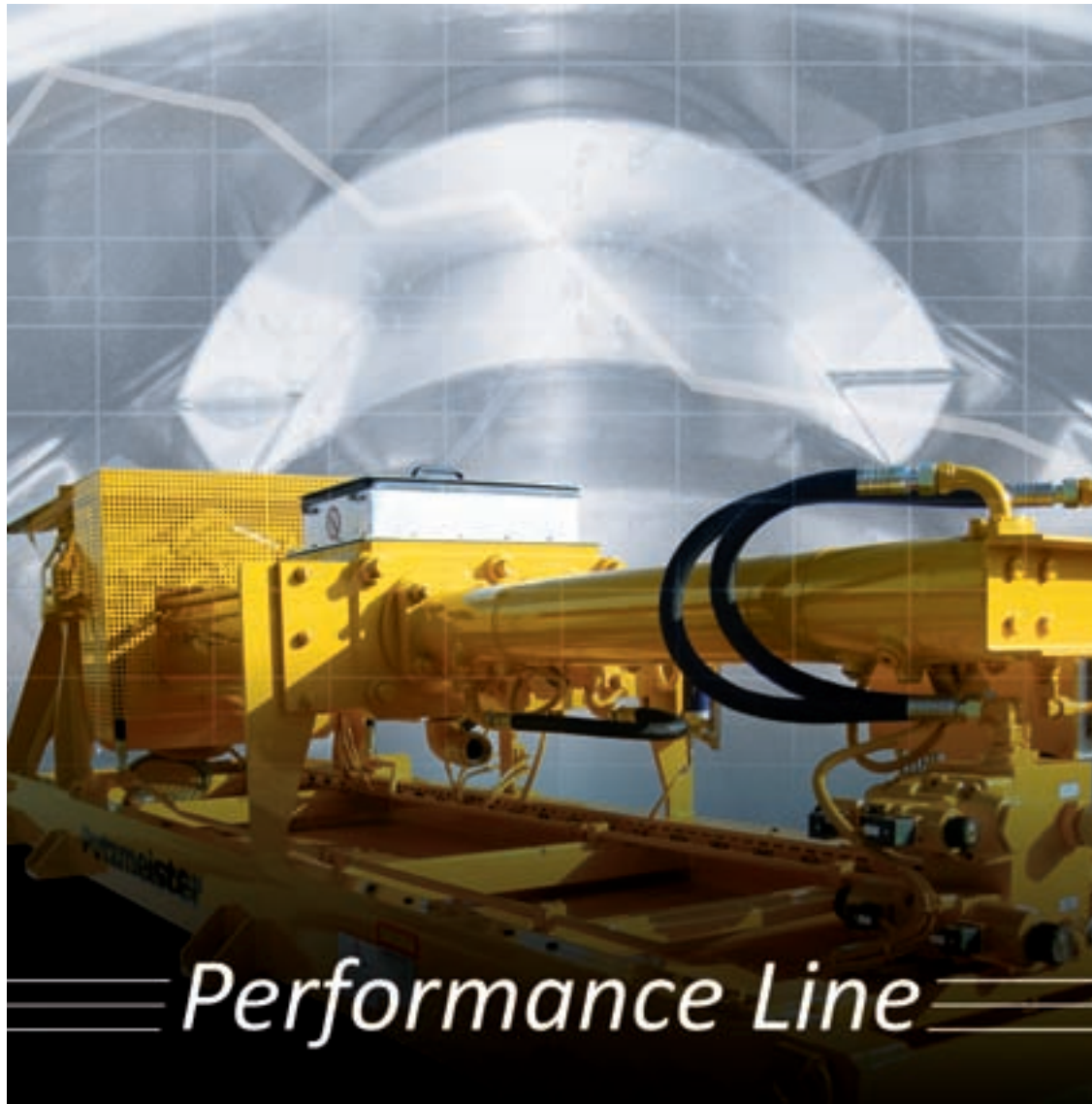
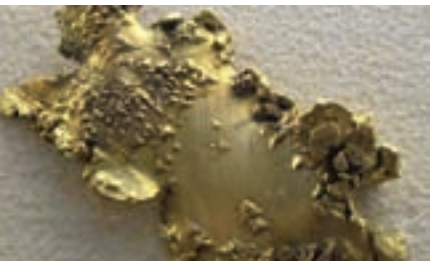


# Putzmeister Performance Line

Quality, experience and concept go into production



**Putzmeister**

**Industrial Technology**

Mining · Energy · Environment · Oil & Gas

# Core features

## The optimal price-performance ratio

The new Putzmeister Performance Line offers all the advantages of efficient series production.

The well proven technology with all its components offers a reliable high-performance solution.

Take advantage from the synergy effects of performance optimization and series concept design – focused on the essentials.

## Many years of experience show the best configuration

The Putzmeister Performance Line includes the engineering and planning work from countless projects – Made in Germany.

Whether it's in industry, mining, oil and gas production, power plant technology or dealing with sludge and biomass – Putzmeister always offers the reliable and efficient solution with the lowest lifecycle costs.



# The pre-arranged system optimized for all types of solids

## The components which leave nothing to be desired

- The pump:  
Oil hydraulic double piston pump with S-tube
- The feeder unit:  
Electric frequency-controlled screw/screw mixer
- The drive:  
Hydraulic power pack, CE and CI series; 10,000 times proven technology
- The control system:  
Modern automation and visualisation system
- The accessories:  
Technically tested and coordinated accessories at industry standard



## Your benefits at a glance:

- **Almost trouble-free, as a large cross-section delivery permits foreign particles of 100 mm (KOS 1040) up to 120 mm (KOS 1070)**
- **Designed for use 24/7**
- **High pump capacity (up to 60 m<sup>3</sup>/h) and low energy consumption**
- **30 years of experience in the delivery of sludge and various other materials which are critical to be pumped**
- **Machine technology whose components are optimally coordinated and which offers maximum functional reliability**
- **Optimized control ensures simple operation and optimal visualisation, as well as simple integration in the superior maintenance control system**
- **High-quality paintwork**
- **Short delivery time**
- **Low service costs as a result of long life cycle thanks to robust technology with few moveable parts and components with low maintenance required**
- **Service-friendly as a result of its optimized access and consistent screw concept**
- **Much of the maintenance work can be performed by the operators themselves**

# The pump

## KOS 1040 & KOS 1070 Performance Line

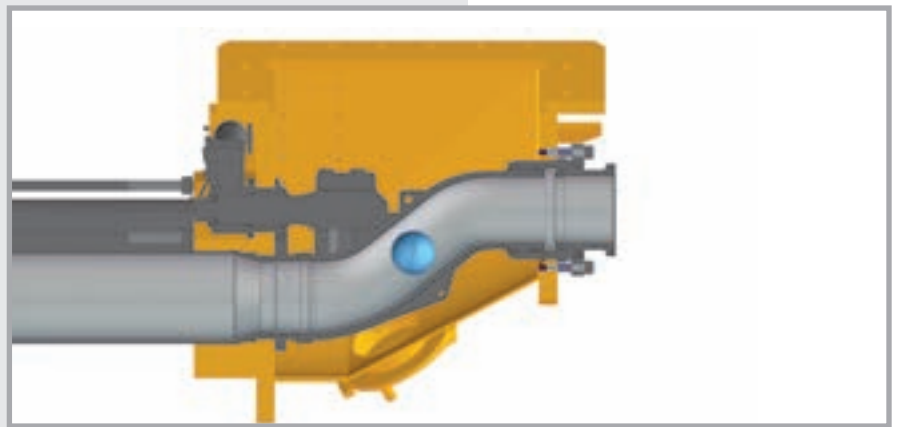
The oil hydraulic double piston pump with S-tube operates with delivery volumes up to 60<sup>1</sup> m<sup>3</sup>/h and at a delivery pressure up to 40<sup>1</sup> bar

At the KOS pump the pressure cylinder is connected to the delivery line via an in-take „S-tube“, while the cylinder works with the entire cross-section of the inlet flange.

This guarantees continuous operation with free passage of the material to be conveyed without any valves. Foreign particles in the material to be conveyed can be easily delivered with a size up to 100 mm (KOS 1040) or up to 120 mm (KOS 1070).

The KOS pump is well suited for the delivery of high viscous sludges and material with a high share of coarse grain. The main area of application of the KOS series is for materials with extreme requirements, such as biological waste from household waste, recirculates from biogas plants, de-watered sludge, oil sludge, drill cuttings, thick solids with high viscosity, etc.

The simple layout of this pump and the low number of wear parts result in an extremely robust, low-maintenance pump which can be operated at minimal operating costs.



120 mm foreign particles in S-tube with NW 180

<sup>1</sup> For higher delivery volumes and pressures and customer-specific solutions the customized Putzmeister Full-Engineered pump is the best solution.

## Your benefits at a glance:

- **Delivery of coarse-grained solids with high grain content and foreign particles of 100 mm (KOS 1040) and up to 120 mm (KOS 1070) possible without shredder**
- **Usage of S-tubes, thus no interference contours in the mass flow**
- **Less maintenance and wear, due to fewer moving parts**
- **Insensitive against short-termed dry running**
- **Less suction resistance due to high-volume and unrestricted infeed of material**
- **Hydraulic circuit will always remain separate from pump material**
- **Twin-circuit hydraulic control for a reliable pump function**
- **Designed for use 24/7**

# Pressure generates performance

## Equipment features Basic version

- Low-wear S-transfer tube
- Feed monitoring of S-tube
- Dual chrome-plated delivery cylinder, 250 µm coating thickness
- Cleaning access in the pump hopper for simple replacement of wear parts
- All electric sensors and actuators wired to one terminal box
- Fool-proof electric connection of the machine by Harting quick connection system
- Wear parts of DURO 22 series
- Manual central lubrication system
- ZX pump pressure connections with counterflange seal and coupling
- Electrical delivery rate adjustment
- Robust pump frame

## Machine configuration

Pump	Min. delivery rate <sup>1</sup> m <sup>3</sup> /h	Theor. delivery rate <sup>1</sup> m <sup>3</sup> /h	Delivery pressure <sup>2</sup> bar	Hydraulic power pack
<b>KOS 1040 P</b>	0,7	7	16 / 25 / 40	HA 7,5 / 11 / 15 CE P
	1	10	16 / 25 / 40	HA 11 / 15 / 22 CE P
	1,2	12	16 / 25 / 40	HA 11 / 15 / 22 CE P
	1,7	17	16 / 25 / 40	HA 15 / 22 / 45 CE P
<b>KOS 1070 P</b>	1,6	16	16 / 25 / 40	HA 15 / 22 / 30 CE P
	2,3 / 2,3 / 2,5	23	16 / 25 / 40	HA 22 / 30 / 45 CE P
	2,9 / 2,9 / 3,5	29	16 / 25 / 40	HA 22 / 45 CE P / 55 CI P
	4 / 4,5 / 4,3	40	16 / 25 / 40	HA 30 CE P / 55 / 75 CI P
	4,8 / 4,8 / 4,3	48 / 48 / 43	16 / 25 / 40	HA 55 / 75 / 90 CI P
	6 / 7,5	60	16 / 25	HA 55 / 90 CI P



## Technical data

Type	Delivery rate <sup>1</sup> m <sup>3</sup> /h	Delivery pressure <sup>2</sup> bar	Stroke mm	Delivery cylinder Ø mm	Inlet flange mm	Pressure connection mm	Weight kg	Length (L) mm	Width (W) mm	Height (H) mm
<b>KOS 1040 P</b>	17	40	1000	150	720 x 720	ZX 125	2800	4100	1200	1100
<b>KOS 1070 P</b>	60	40	1000	230	720 x 720	ZX 200	2800	4100	1200	1100

<sup>1</sup> Filling level 100% at maximum stroke frequency

<sup>2</sup> Maximum theoretical delivery pressure, partly at reduced delivery rate

# The feeding unit – electrically operated screws

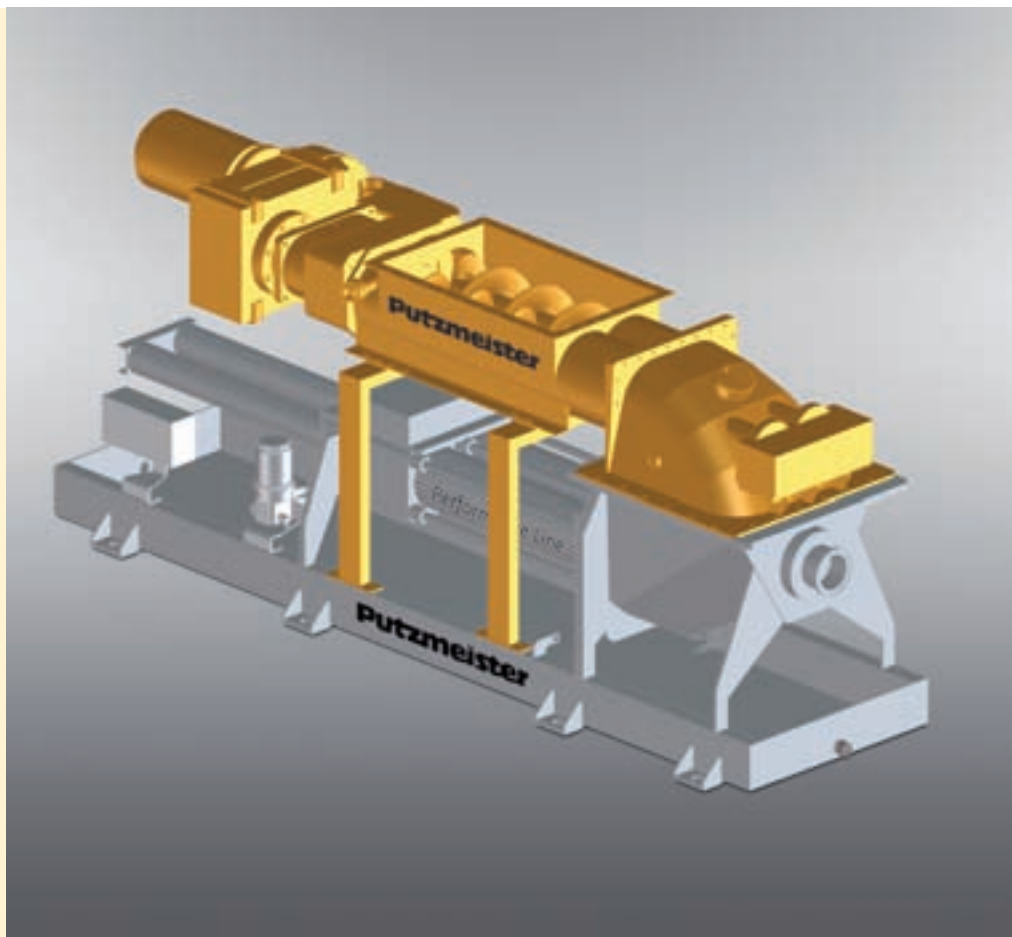
## Equipment features Basic version

- Housing in structural steel (6 mm), auger blades in structural steel (8 mm) wear plates (5 mm)
- Screws with wear sleeve
- Drive with electric motor
- Electric delivery rate adjustment by frequency converter
- Variable direction of rotation
- Synchronization of shafts by spur gear box or FU control
- Substructure in structural steel, assembled on pump or separately
- Shaft sealing with grooved ring
- Torque limit by means of FU as overload protection
- Outboard bearings



## Your benefits at a glance:

- **Robust design**
- **Outboard bearings for longer life cycle**
- **Usage of frequency-controlled electric motors**
- **Standard rotation monitoring**
- **Manual central lubrication system, standard**
- **Can be combined with every KOS pump in the Performance Line series**



# Conducted filling concept for optimal material flow

## Pre-compression screws

To convey high viscous, i.e. non-flowing solids, the material must be fed to the Putzmeister pump. This is best done by using double-shafted screws.

The double screws generate pre-pressure that feeds the piston pumps more effectively. As a secondary effect of the double screw, the auger spirals are self-cleaning as they are arranged like a screen.

### Special feature:

- Screening, self-cleaning screw arrangement
- Prepress effect in transfer housing
- Speed and energy requirement can be infinitely variable by using a frequency converter

## Screw mixers

The Putzmeister screw mixers are the efficient and reliable solution for continuous mixing processes of two or several components.

Over 25 years they have proven their efficiency in industrial biological fermentation and for applications with mineral materials.

### Special feature:

- Optimal mixing result due to high rotation and design
- Robust design of mixing tools
- Mixing paddels in inlet area
- Speed and energy requirement can be infinitely variable by using a frequency converter

## Shaftless screws

For simple, non-flowing media the reasonably priced shaftless screws are the right solution.

The shaftless screw delivers even those media which tends to wrap around the screw (clogging).

### Special feature:

- 25 mm spiral thickness
- Speed and energy requirement can be infinitely variable by using a frequency converter

## Technical data

	Type	Delivery rate theor. m <sup>3</sup> /h	Drive kW	Torque <sup>1</sup> Nm	Infeed opening mm	Screw Ø mm	Pitch mm	Weight ca. kg	Length (L) mm	Width (W) mm	Height (H) mm
<b>Delivery and prepress screws</b>	<b>THS 222 HCB P</b>	24	5,5 – 7,5	2 x 1000	1220 x 470	250	250	700	3200	930	480
	<b>THS 332 HCB P</b>	40	11 – 15	2 x 2000	1000 x 580	315	250	1000	3600	930	480
	<b>THS 532 HCB P</b>	40	11 – 15	2 x 2000	2000 x 580	315	250	1200	4500	930	700
	<b>THS 842 HCB P</b>	60	15 – 22	2 x 3200	2000 x 780	400	300	2400	5200	930	720
<b>Screw mixers</b>	<b>THS 222 MX P</b>	24	5,5 – 7,5	2 x 1000	1220 x 470	250	250	700	3200	930	480
	<b>THS 332 MX P</b>	40	11 – 15	2 x 2000	1000 x 580	315	250	1000	3600	930	480
	<b>THS 532 MX P</b>	40	11 – 15	2 x 2000	2000 x 580	315	250	1200	4500	930	700
	<b>THS 842 MX P</b>	60	15 – 22	2 x 3200	2000 x 780	400	300	2400	5200	930	720
<b>Shaftless screws<sup>2</sup></b>	<b>THS 131 HCB P</b>	10	3 – 5,5	1 x 1700	600 x 350	310	300	400	2400	530	400
	<b>THS 231 HCP P</b>	10	3 – 5,5	1 x 1700	1220 x 350	310	300	500	3200	530	500

<sup>1</sup> depending on the installed electric motor | <sup>2</sup> other versions available upon request

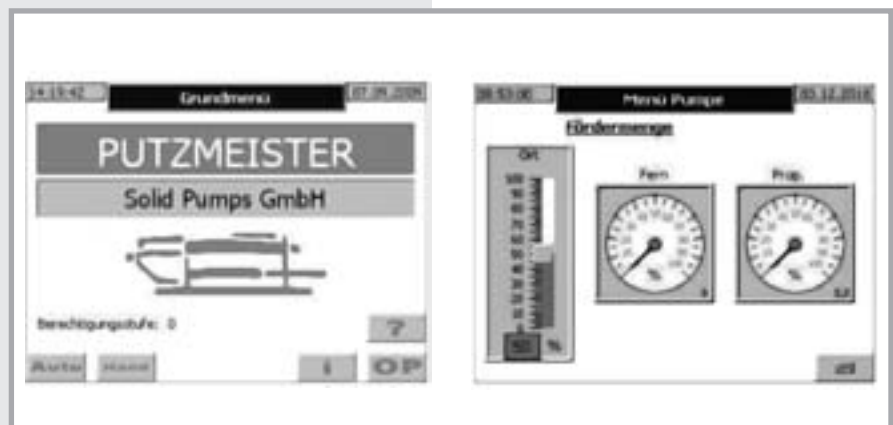
# The hydraulic power pack

## Select the power

For the drive of the high solids pump power rates from 7.5 kW up to 90 kW are available.

The oil supply to the hydraulic pumps is effected freely in order to avoid damage by cavitation.

10,000 times proven technology, help industry pumps bring the power into the pump material.

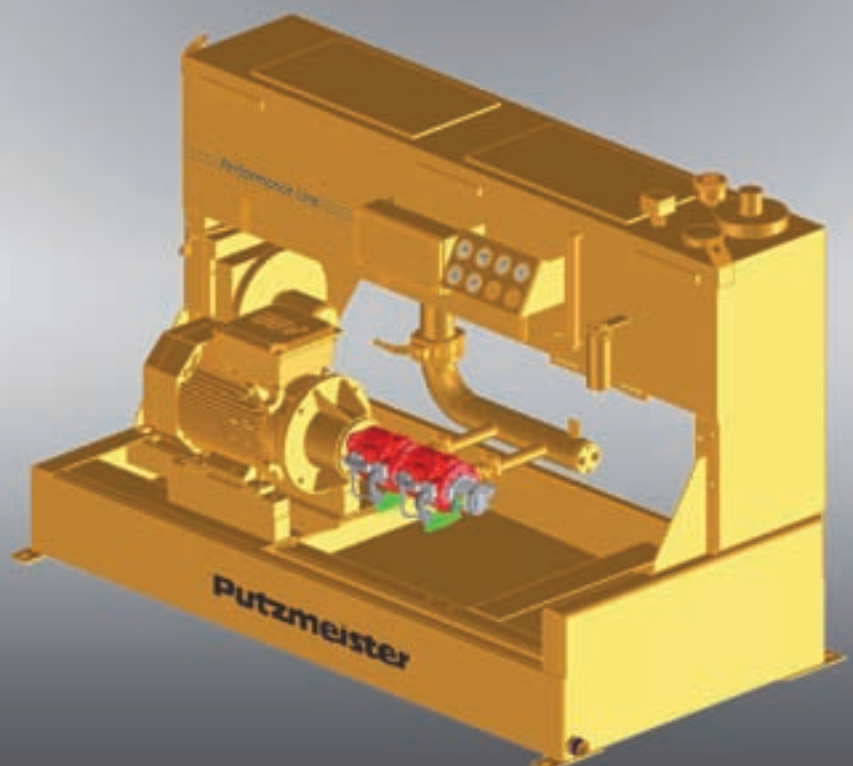


Simple, clearly arranged control system

## Long life cycle and high availability

All components are designed to reach high performance and to save costs caused by service and maintenance. This is achieved by

- Service-friendly control system and the associated constantly high quality of oil
- Low-maintenance components typical of Putzmeister and good access
- No special tools required due to standard components





# The heart of the system



## Equipment features Basic version

- Frame, oil tank, filter and cooling unit
- Main oil pump with motor
- Protection and control devices
- Oil/Air cooler with electric drive (incl. partial flow filter 10 µm)
- Oil tank with filler necks, ventilation filter and control glass, drain cock and opening for inspection and maintenance
- Pressure relief valve for the oil circuit means no motor overload even at maximum operating load
- All electric sensors and actuators wired to one terminal box
- Fool-proof electric connection of the machine by Harting quick connection system

## Technical data

Type	Power kW	Oil tank volume l	Weight kg	Length (L) mm	Width (W) mm	Height (H) mm
HA 7,5 CE	7,5	200	550	1550	860	1200
HA 11 CE	11	200	600	1550	860	1200
HA 15 CE	15	200	650	1550	860	1200
HA 22 CE	22	200	700	1550	860	1200
HA 30 CE	30	200	1000	2000	860	1200
HA 45 CE	45	200	1100	2000	860	1200
HA 55 CI	55	300	1600	2550	1360	1700
HA 75 CI	75	300	1800	2550	1360	1700
HA 90 CI	90	300	2000	2550	1360	1700

# The control system



## The solid basic equipment

The Putzmeister control cabinets include the power and control part for the hydraulic systems.

It meets ISO, DIN, VDE and UVV standards. They are products from leading manufacturers with components which are partly optimized (pump-specific) according to PSP standards.

The control cabinet (steel sheet enclosure) is mounted free-standing and has one or two doors.

The connection to the local terminal boxes of the machines is effected via a Harting connector.

The control system is designed as a standard PLC, with operating panel (OP) and options to exchange signals via data bus (Profibus, Ethernet, modem ...).

The electric delivery rate adjustment of the solids pump is included in the basic equipment.

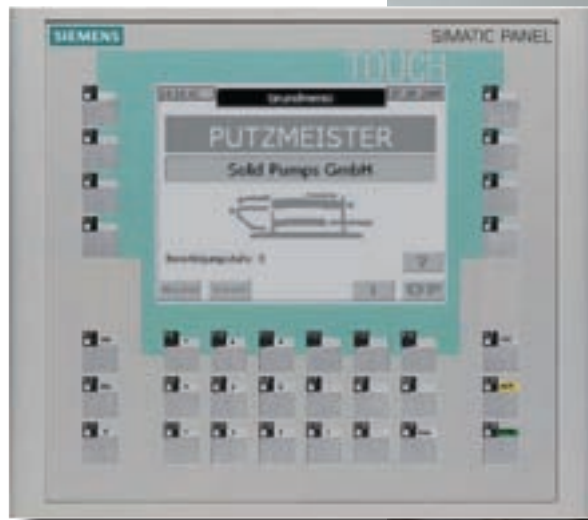
## Features and benefits of the Putzmeister control system:

- Use of Siemens S7-300 PLC
- Large operating panel OP 177 for simple operation and maintenance of the system
- Potential-free contacts as standard
- Key switch for pre-selecting the desired operating mode
- Electric main switch
- Star delta start-up for electric motors
- Monitoring of motor temperature
- Monitoring of all installed sensors and actuators

# Plug and Operate – It couldn't be easier!

## Equipment features Basic version

- Supply with main switch
- Motor protection switch
- Power contactors (for star delta start-up)
- Circuit breakers
- Signal exchange by means of potential-free contacts
- Programmable logic control (Siemens S7-300)
- Operating panel (Siemens OP 177B)
- Amplifier cards for activating the proportional valves
- Fault light (red)
- Key switch (site-0-control room)
- No connection of signal cable required – simple Harting connection system
- Delivery rate measurement, volumetric or by means of density input with automatic mass balance



## Technical data

Type	Power kW	Protection class IP	Voltage V	Frequency Hz	Signal exchange
<b>SEP 7,5</b>	7,5	55	400	50	Potential-free
<b>SEP 11</b>	11	55	400	50	Potential-free
<b>SEP 15</b>	15	55	400	50	Potential-free
<b>SEP 22</b>	22	55	400	50	Potential-free
<b>SEP 30</b>	30	55	400	50	Potential-free
<b>SEP 45</b>	45	55	400	50	Potential-free
<b>SEP 55</b>	55	55	400	50	Potential-free
<b>SEP 75</b>	75	55	400	50	Potential-free
<b>SEP 90</b>	90	55	400	50	Potential-free

# Putzmeister Performance Line – Modest appearance, great job

## Excellent and efficient service is an important factor in Putzmeister services

In addition to a telephone hotline, Putzmeister also offers a short-term parts supply, as well as repairs of systems, within maintenance contracts.

- Competent service – direct from the manufacturer and trained sales partners
- Assembly and commissioning
- Briefing the users – Service training sessions for operational and maintenance personnel on-site or at the manufacturer
- Process optimization for material changes
- Competent spare part advice
- Individually tailored maintenance contract
- Flexible retrofitting – modernisation, adaptation to modified operating conditions
- Valuable time savings with remote diagnosis
- Spare parts of Performance Line available ex warehouse



Jobsite training in the Bulyanhulu gold mine, Tanzania



New installation in the sewage treatment plant, Neu-Ulm, Germany

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# Putzmeister

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