



*Pumpen Intelligenz.*

# Contractor's pumps

*Product overview.*





Pumpen Intelligenz.



Sometimes slightly muddy water, other times aggressive fluids; sometimes in construction pits, or in off-shore applications: the demands placed on contractor's pumps could hardly be more extreme. In WILO's range you'll find pumps tailored exactly to suit each field of application. And which are available to you upon request in versions made from special raw materials which extend product

life considerably, even under heavy-duty conditions. The advantage to you: longer service life, lower costs for maintenance and servicing. In addition, WILO's three-level programme allows you to choose between different coatings and special materials: in the standard model the units are equipped with a high-quality two-component coating. For use in acidic or alkaline media or in seawater,

we recommend a coating using the ceramic substance developed especially by WILO, "Ceram C0". And with high concentrations of abrasive substances, the best option is impeller(s) and pump housing made from our extremely wear-resistant Abrasit material.



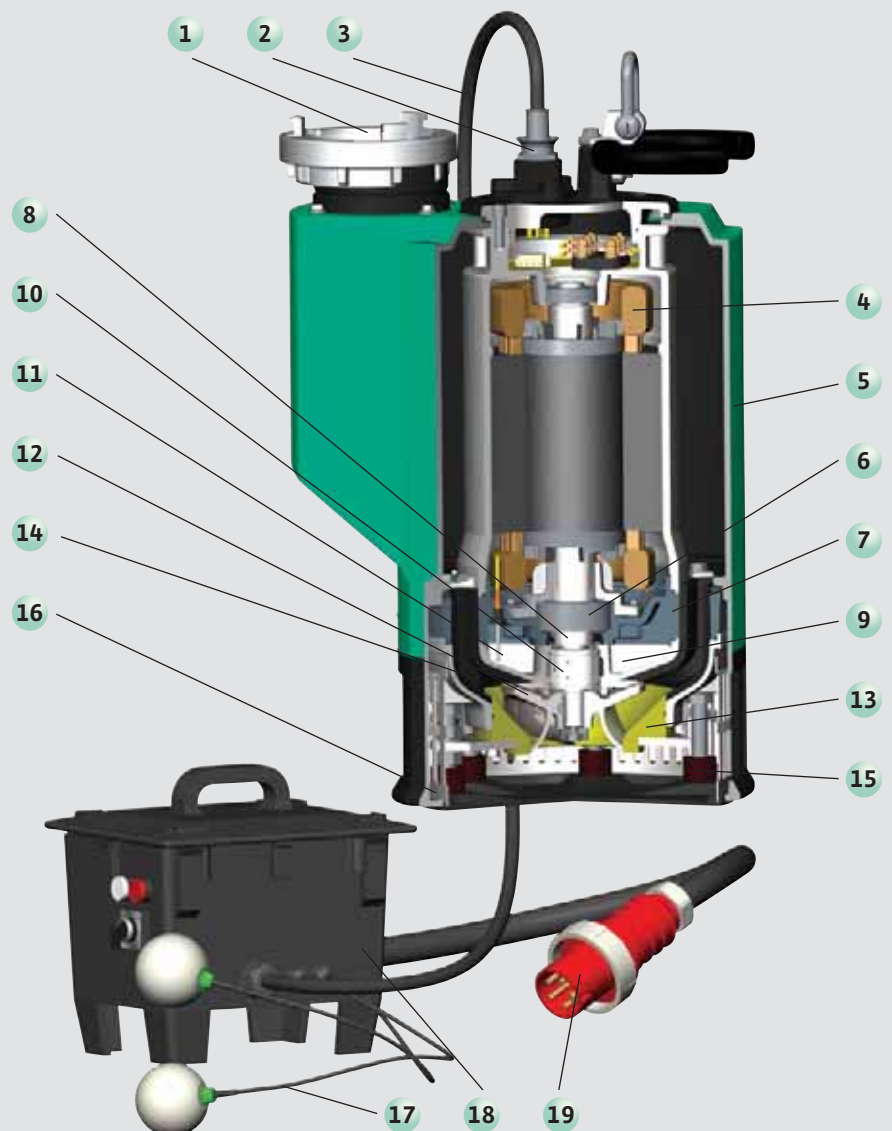
# Fully developed technology

## Every last detail carefully thought out.

- 1 6" Storz coupling F as standard
- 2 Longitudinally watertight cable lead-in
- 3 Connecting cable with integrated shielded control line
- 4 Winding temperature monitoring by PTC
- 5 Ceram C0 coating as standard (solvent-free ceramic coating with high resistance to chemical and mechanical influences)
- 6 Sturdy TM bearing, permanently lubricated with high-performance grease, heat-treated
- 7 Very sturdy bearing housing in cast iron with Ceram C0 coating
- 8 Special rotary shaft seal
- 9 Additional leakage chamber with electronic monitoring, accessible from the outside
- 10 Compact cartridge seal in high-quality stainless steel, with two mechanical shaft seals made from solid silicon carbide
- 11 Sealing chamber with environmentally safe special oil and electronic sealing chamber monitoring or water filling
- 12 Impeller made from wear-resistant Abrasit (chilled cast iron)
- 13 Adjustable and interchangeable suction port
- 14 Easily replaceable guide casing, made from wear-resistant polyurethane in the standard version
- 15 Machine is cushioned with rubber buffers
- 16 Rustproof strainer
- 17 Possible connection of 1 or 2 float switches (automatically detected by the control)
- 18 Control device (at 50 Hz): selection switch for manual or automatic operation, excess temperature control and sealing chamber and leakage chamber monitoring
- 19 Control device fully ready for connection with 2.5 m power cable and CEE plug, 63 A.

To meet the varying needs arising on construction sites, in above-ground and underground mining, in industrial and municipal drainage and also in the offshore industry, the reliable and successful KS series has been extended in its upper performance range, with the development of the new pump type KS 220. Thanks to an optimised modular system allowing flexible combination of all models and thanks to the use of the latest materials technology, this pump is suitable for a great variety of application. Interchangeable components made from polyurethane and Abrasit and complete ceramic coating as standard ensure the high

quality and long life of the KS 220. Sealing between the pump and the motor is provided by a cartridge seal with two internal mechanical shaft seals and additional rotary shaft seal. The bearing housing in cast iron together with a TM bearing produces extreme sturdiness. Comprehensive protection of the entire unit is ensured by an intelligent control device with many monitoring and control fittings. In a customer-friendly ready-to-plug design, the pump is ready for immediate use. With its extensive array of standard features, the KS 220 is the optimum solution for many applications.





# Installation examples

## Intelligent solutions for every need.

From light cellar drainage pumps through to contractor's pumps with large ball passages: in WILLO's range of contractor's pumps you'll find the right solution whatever the problem.

### Type series and fields of application

Submersible pumps in the TM(W) and TS series are designed to pump slightly muddy water.

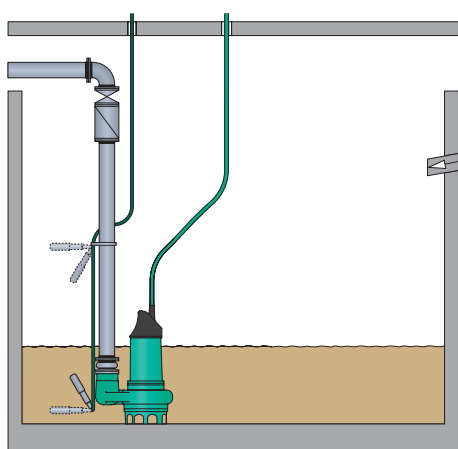
The KS series is primarily used for sandy or very muddy water.

Different material quality can be chosen according to the area of application. Ceram coating is also possible if desired. For use in water with coarse contaminants, we recommend the contractor's pumps KS 12 and KS 20. They are equipped as standard with impellers with large ball passages, which work reliably even with coarse dirt particles.

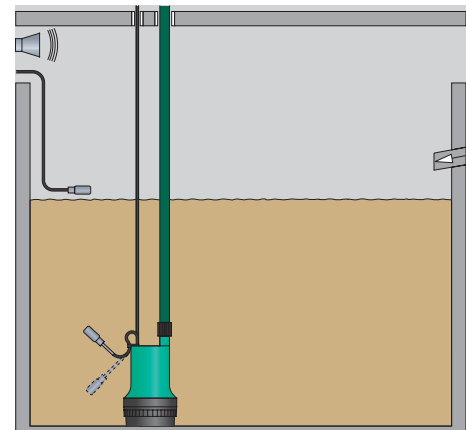
The motors of the types KS 5, KS 6 and KS 16 are fitted with ATEX explosion protection. That makes this pump series ideal for pumping out contaminated surface water, for disposal of waste oil, in industry and wherever motors with explosion protection are required.

### Simple and efficient

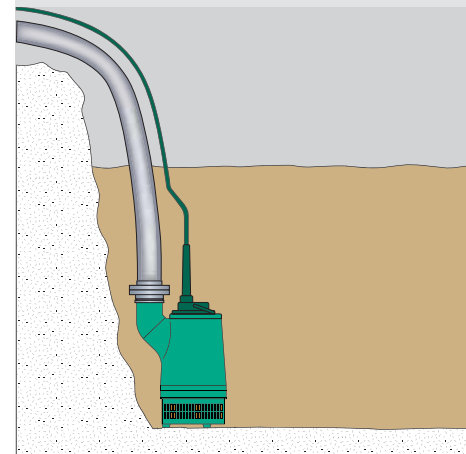
Contractor's pumps from WILLO are sturdy, easy to operate and simple to install. The submersible pumps are placed in the area to be drained (excavation pit, sump, basin etc.). If the ground is very soft, the pumps should be placed on a firm base or suspended, to prevent bogging down. The pumps then lower the water level at the installation site to a few millimetres above the ground. Upon flow separation, the WILLO pumps in the series KS8 to KS220 can continue to run in slurping mode. The only exceptions are the explosion-proof units.



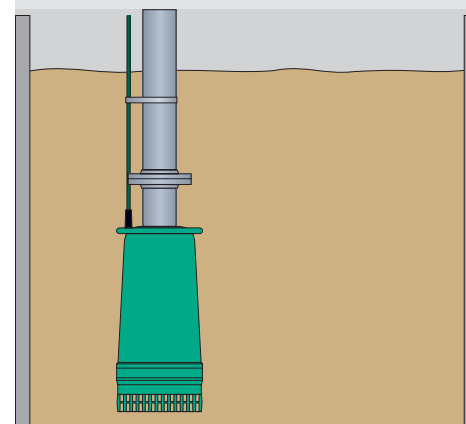
- Contractor's pump KS 12/KS 20
- Especially well-suited to sandy or very muddy water, ideal for coarse contaminants.



- Cellar drainage pump TM(W)/TS
- These pump series are designed for pumping slightly muddy water.



- Contractor's pump KS with lateral discharge port
- All-round pump for many fields of application.



- Contractor's pump KS with central discharge port
- Space-saving, therefore suited to use in wells or narrow shafts.



# Cellar drainage pumps for slightly muddy water.

## Type series TMW/TS

The pumps in this series pump clean or slightly muddy water. They are suitable for draining water from swimming pools, garden ponds, cellars and basements, cellar entrances or underground garage driveways, and sumps and shafts on and in buildings. Collected rainwater can be utilised for watering the garden and for cleaning immovable surfaces such as driveways or terraces. TMW/TS pumps are light, sturdy and can be transported easily to the installation site. The motor is protected from moisture by a sealing chamber. All pumps are optionally available with float switches.

## TMW: with an important extra feature

The TMW series has been designed especially for fluids containing sediment particles and suspended particles. It has a turbulator on its suction strainer which makes sure that contaminants can be pumped out with the pumped flow. This prevents deposits in the pump's suction area and mud accumulation in the pump sump – thus largely preventing clogging of the pump and unpleasant odours. The pump can be operated with or without the turbulator switched on.

## TS : more resistant to sand

Pumps in the TS series feature a rust-proof, impact-resistant stainless steel housing and a built-in dirt deflector. It consists of an additional rotary shaft seal which protects against leaks when the unit is used in fluids with a relatively high sand component.



- Light model TM (W)
- Housing parts and impeller made from impact- and corrosion-resistant plastic.



- Sturdy model TS
- For use in fluids with relatively high sand components – with stainless steel housing, composite impeller and built-in dirt deflector



Settling sediments in wastewater are usually deposited in the pump sump and lead to smells. But not with the Wilo Drain TMW 32 Twister. Thanks to its patented technology it ensures continuous turbulence in the suction area. This current pulls all settling sediments automatically into the pump, ensuring that the unit stays clean.



- Valuable potable water:  
The TM/TS can be used to pump rainwater out of a collector tank for re-use – e.g. for watering or cleaning.



# Contractor's pumps for sandy and very muddy water.

## Type series KS

The pumps in this series pump sandy and very muddy water. They are sturdy, dry running protected, simple to use, maintenance free and offer the options of three-phase current or partially single-phase current, and permanent or portable installation. All WILO contractor's pumps are equipped with two mechanical shaft seals which function independently of the direction of rotation. A sealing chamber is fitted between them. Most pumps in the KS type series can be supplied with a hand truck for simplified transport.

## Different versions for different fields of application

Different fields of application place different demands on the material and safety equipment of a pump. That's why the KS type series gives you the choice between a wide variety of versions: the standard version with a two component coating guarantees reliable and permanent operation, even under difficult conditions. For use in fluids with aggressive (alkaline or acidic) components, a coating with Ceram C0 is recommended. With abrasive fluids, a pump made from the special Abrasit material should be selected: with its martensitic basic structure and a high concentration of chromium carbide compounds, this material provides maximum wear resistance. A version with an explosion-protected submersible motor is advisable for use in potentially explosive areas.



Ceram C0 is WILO's high-efficiency two-component coating (polymer + ceramic). Units with Ceram C0 are characterised by less surface roughness, which increases their efficiency. Not only that, Ceram C0 coatings extend the service life of the units and reduce the amount of maintenance required.



- Easy transport especially in difficult terrain: KS pumps with optional hand truck



- Version with explosion-protected motor, making the KS suitable for use in potentially explosive areas.



- Version with central discharge port: ideal for use in narrow pits and dewatering wells.



# Contractor's pumps

## for fluids with coarse contaminants.

### KS12/KS20 models

This pump series pumps water with coarse contaminants. All models are equipped with an intake base and strainer as standard. The units are sturdy, dry running protected, simple to use and maintenance free. They are available in three-phase current models, 3~400 volts, 50 Hz. They can be installed as either permanent fixtures or portable devices. The shaft sealing is provided by two mechanical shaft seals made from highly wear-resistant silicon carbide.

### Equipped for the harshest conditions

The KS 12 and KS 20 pumps with their large free ball passages (40/45 mm) can be used for fluids containing relatively high concentrations of solids. The KS 12 is also equipped with a Vortex impeller, and the KS 20 with a single-channel impeller. Both pumps have an oil-filled motor, permitting permanent operation even in the non-immersed state.

The heat produced in the end turns of the motor is immediately absorbed by the oil and removed – a cooling system also utilised for many other motors in the KS series.

The medicinal white oil with which the motor is filled also preserves the motor and the winding, eliminating the risk of corrosion and the condensation of water inside the motor. That means that motors of this kind can be relied on to work even after long periods of down-time. This increases their service life and lowers the frequency of maintenance.



- Model for fluids with coarse contaminants: the motor is equipped with two mechanical shaft seals.



- The sturdy pumps in the KS series are used primarily to pump water out of excavation pits and shafts.

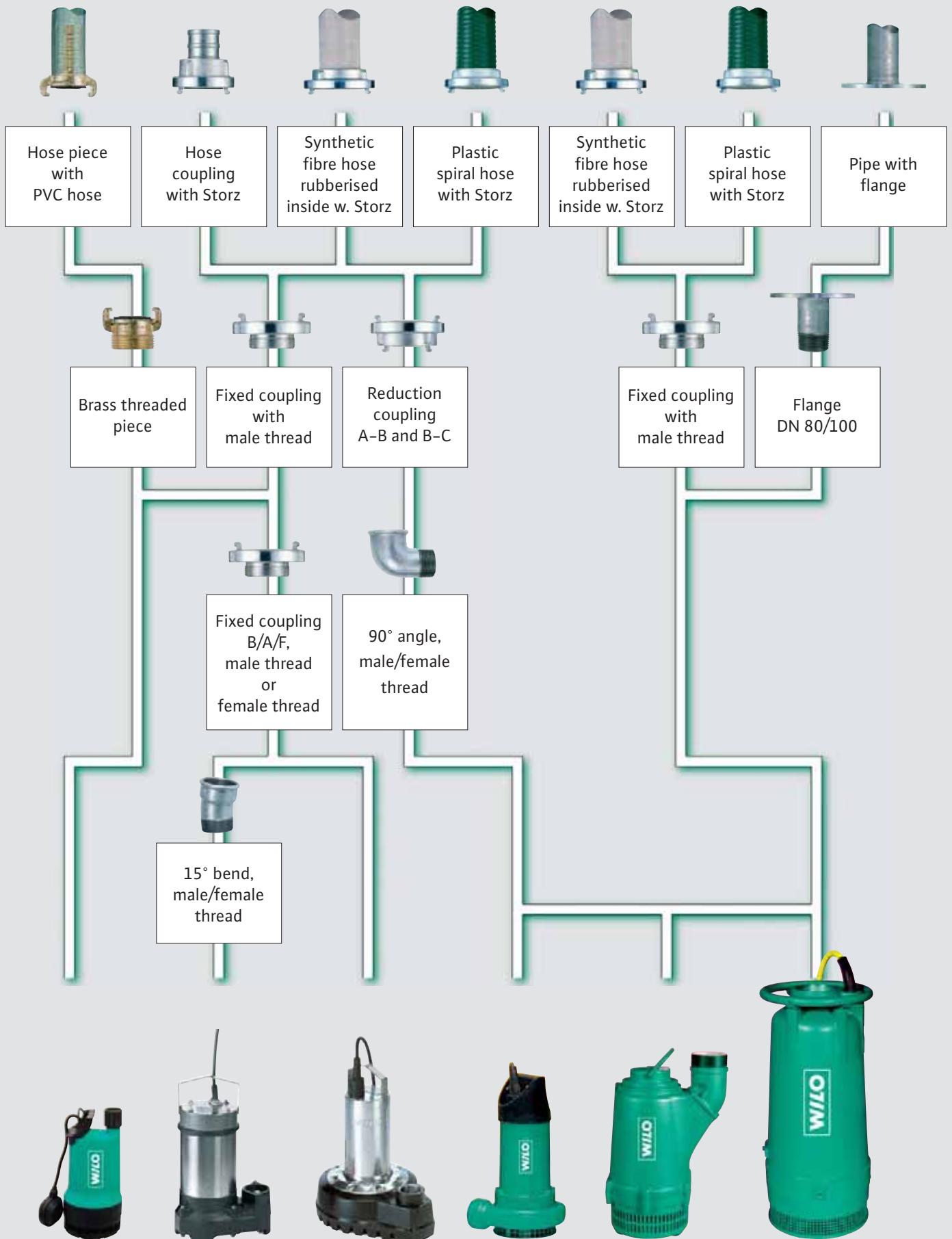


- The KS series pumps are also suitable for use in offshore applications and on ships – for both wet and non-immersed installation.



# Connection options on the discharge side

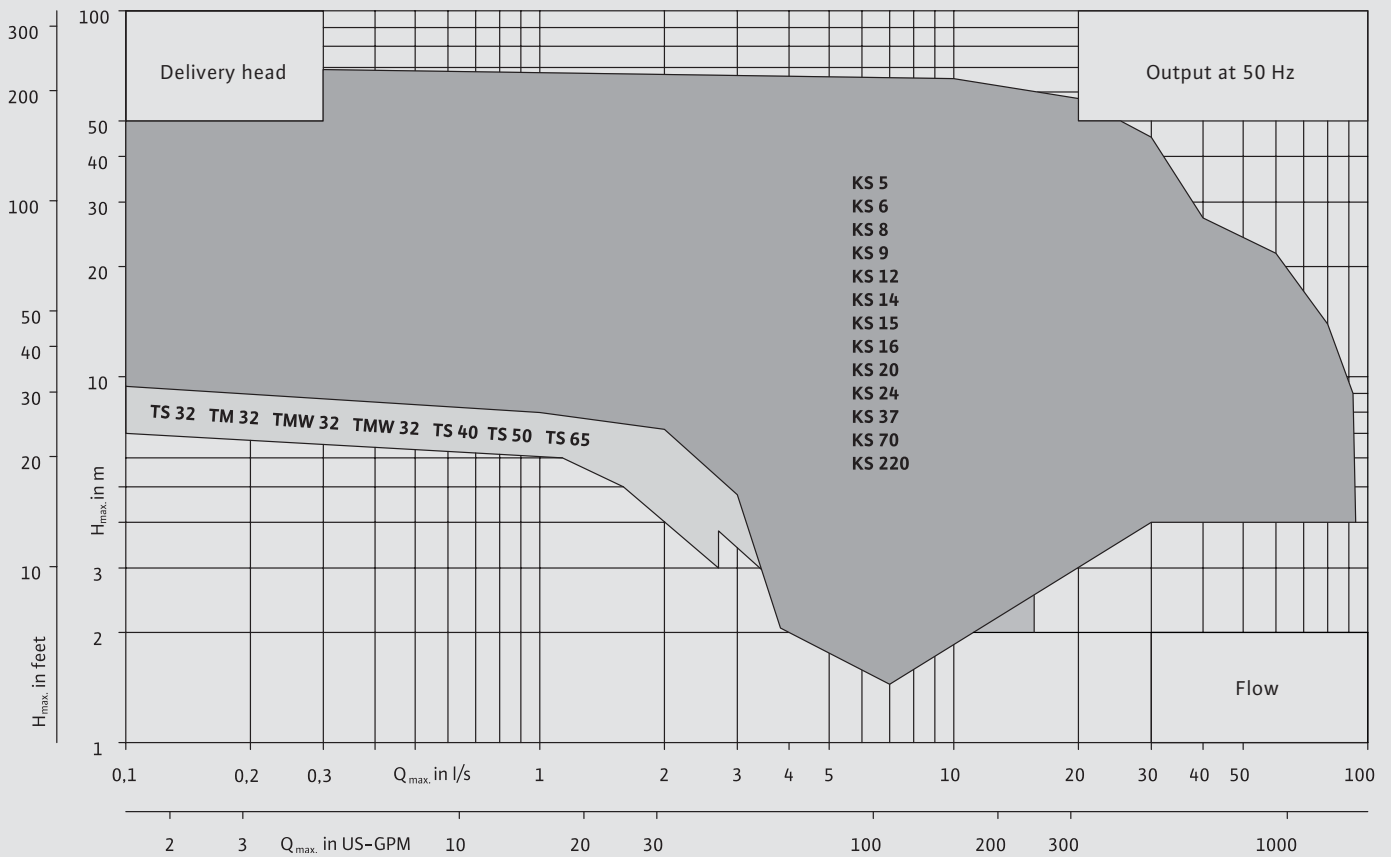
## Optimum connections for every application.





# Technical information

The right contractor's pump for every application.



## Recommended material combinations

Pumped fluid/ Parts	very muddy	abrasive	corrosive	with coarse admixtures	risk of explosion
Impeller	Cast iron 25	Cast iron 25/Ceram/ Abrasit	Cast iron 25/Ceram/ Special coatings	Cast iron 25	Cast iron 25
Pump housing	Cast iron 25	Cast iron 25/Ceram/ Abrasit	Cast iron 25/Ceram	Cast iron 25	Cast iron 25
Motor housing	AlSi 12 cast alloy	Cast iron 25/Ceram	Cast iron 25/Ceram	Cast iron 25	Cast iron 25
Shafts	1.4021	1.4021	1.4021	1.4021/special materials	1.4021
Screwed connections	A2/A4	A2/A4	A4	A2/A4	A2/A4
Shaft seal	2 mech. seal	2 mech. seal	2 mech. seal	WILO seal cartridge	2 mech. seal

# Product programme.

## The right solution for every task.

Type		TM 32/8 TMW 32/8	TMW 32/11	TS 32/8	TS 40/10 TS 40/14	TS 50H 111/11 TS 50H 122/15 TS 50H 133/20	TS 65 H 117/22	KS 5 Ex	KS 6 Ex	KS 8	KS 8 GG
Speed	min <sup>-1</sup>	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900
Voltage	V	230	230	230	230/400	230/400	400	400	400	230/400	230/400
Frequency	Hz	50	50	50	50	50	50	50	50	50	50
P <sub>N</sub> (P <sub>2</sub> )	kW	0.37	0.55	0.37	0.40/0.75	1.1/1.5/2.2	2.2	0.75	0.75	0.75	0.75
P <sub>in</sub> max (P <sub>1</sub> )	kW	0.5/0.45	0.75	0.55	0.48/1.0	1.5/2.0/2.9	2.9	1.1	1.1	1.1	1.1
I <sub>N</sub> 230 V / 1 ~	A	2.2/2.1	3.6	2.4	2.2/4.4	7.7/-/-	-	-	-	5.7	5.7
I <sub>N</sub> 230 V / 3 ~	A	-	-	-	-	-	-	-	-	-	-
I <sub>N</sub> 400 V	A	-	-	-	1.1/2.0	3.2/3.6/5.1	5.1	1.76	1.76	1.9	1.9
Volume flow Q <sub>max</sub>	m <sup>3</sup> /h	10	15	10	14/18	26/30/35	52	24	11.5	23	23
Delivery head H <sub>max</sub>	m	8/7	10	8	10/14	17/20/24	18	16	21	17	17
Suction mechanism to 10 mm		-	-	-	-	-	-	-	-	o	o
Strainer perforation	mm	10	10	Ø10	-	-	-	10x10	10x10	10x10	10x10
Free ball passage	mm	10	10	10	10	10	10	-	-	-	-
Cable length	m	10/3	3	10	10	10	10	10	10	10	10
Weight	kg	5.2/4.7	6.2	5.2	13/16	21/22/23	24	24	24	21	25
Discharge port		R/Rp 1 <sup>1</sup> / <sub>4</sub>	R/Rp 1 <sup>1</sup> / <sub>4</sub>	R/Rp 1 <sup>1</sup> / <sub>4</sub> Ø32	Rp 1 <sup>1</sup> / <sub>2</sub>	G2	G2 <sup>1</sup> / <sub>2</sub>	G1 <sup>1</sup> / <sub>4</sub>	G1 <sup>1</sup> / <sub>4</sub>	G1 <sup>1</sup> / <sub>4</sub>	G1 <sup>1</sup> / <sub>4</sub>
Explosion protection (II 2G EEx d IIB T4)		-	-	-	-	-/●/●	●	●	●	-	-
Pump housing											
Standard model		1	1	12	13	11	11	3	3	3	3
Special model		-	-	-	-	-	-	7	7	6, 7	6, 7
Impeller											
Standard model		1	1	13	13	11	11	3	3	3	3
Special model		-	-	-	-	-	-	7	7	6, 7	6, 7
Motor housing											
Standard model		12	12	12	12	12	12	3	3	2	3
Hand truck		-	-	-	-	-	-	-	-	-	-
Special model		-	-	-	-	-	-	7	7	7	7

1 = Plastic 2 = Light metal 3 = Cast iron 6 = Abrasit 7 = Ceram coated 8 = Ductile cast iron, hardened 11 = PU 12 = Stainless steel 13 = PP-GF  
o = Special model X = Standard model

KS 9	KS 9 GG	KS 12	KS 14	KS 14 GG	KS 15	KS 15 GG	KS 16 Ex	KS 20	KS 24	KS 37 Z	KS 70 Z	KS 220	
2900 230/400 50	2900 230/400 50	2900 230/400 50	2900 230/400 50	2900 230/400 50	2900 230/400 50	2900 230/400 50	2900 400 50	2900 400 50	2900 230/400 50	2900 230/400 50	2900 230/400 50	2900 400 50	
0.75 1.1	0.75 1.1	1.3 1.9	0.75 1.1	0.75 1.1	1.3 1.9	1.3 1.9	2 2.6	0.8/2.2 1.2/2.8	2.4 2.8	3.7 4.9	7.0 9.5	22 24.4	
5.7 - 1.9	5.7 - 1.9	9.4 - 3.15	5.7 - 1.9	5.7 - 1.9	9.4 - 3.2	9.4 - 3.2	- - 4.5	- - 2.0/4.65	- 8.1 4.7	- 13.9 8.0	- 27.5 15.6	- - 40.5	
14 21	14 21	27 13	35 11	35 11	42 15	42 15	57 19	38-48 12-21	59 21	60-120 18-30	45-160 24-41	190-340 31-68	
o 5x5 -	o 5x5 -	- - 40	- 10x10 -	- 10x10 -	- 10x10 -	- 10x10 -	- 12x12 -	- - 45	- - -	- 5x22 -	- 6x6 -	- 6x6 -	- 10x30 -
10 21	10 25	10 28	10 21	10 25	10 26	10 30	10 30	10 36/40	20 34	20 66	20 83	20 254	
G1¼	G1¼	G2	G2	G2	G2	G2	G2	G2½	G3	G4	G4	G6	
-	-	-	-	-	-	-	●	-	-	-	-	-	
3 7	3 7	3 6,7	3 6,7	3 6,7	3 6,7	3 6,7	3 7	3 7	3 6,7	3 6,7	3 6,7	2/11 -	
3 7	3 7	3 6,7	3 -	3 6,7	3 6,7	3 6,7	3 7	3 7	8 6,7	8 7 (6)	8 7 (6)	6 -	
2 - 7	3 - 7	3 - 7	2 - 7	3 - -	2 - 7	3 - 7	3 - 7	3 - 7	2 ● 7	2 ● 7	2 ● 7	2/7 - -	



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January 2007