



mamec

SPECIAL PUMPS AND MIXERS

PRODUCT CATALOGUE



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mamec

SPECIAL PUMPS AND MIXERS

Mamec Oy

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A PROFESSIONAL AND TRUSTWORTHY SUPPLIER

Mamec Oy designs, manufactures and markets special pumps and mixers. We are specialized in both vertical long shaft and dry-mounted pumps and industrial mixers. A long history within pumps and mixers has brought us the versatile experience that we utilize when giving our customers the best available solution to their operations. Mamec pumps and mixers are used on all continents of the world and our products are known as long-lasting and functional.

Professional staff, versatile expertise and modern machinery guarantee our customers a professional service and reliable delivery. Our company that was founded in 1951, is located in Lohja, in premises more than 5000 m².



PUMPS

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1

LJ AND HLJ – SHREDDING SLURRY PUMPS

LJ slurry pumps work well under all conditions

An effective shredder guarantees a smooth function

LJ slurry pumps belong to Mamec's traditional range of pumps. Long experience as a manufacturer means top quality. Mamec Oy's slurry pumps work even under difficult conditions. High technical expertise ensures the individual implementation of LJ pumps together with a steady safe function.

The function of LJ pumps is based on the state of art design of the shredder construction. The construction ensures an efficient pumping of thick and problematic sediment. Acid-resistant steel can be used as a raw material for Mamec Oy's LJ pumps, if desired.

Using the best materials

Pump volute:

Molded steel sheet

Impeller + tooth ring:

Surfaced hardened steel or acid-resistant steel

Impeller shaft:

Acid-resistant steel

Inner shaft of the frame tube:

Special Steel

Slide ring sealing:

Ceramic Silicon Carbide sealing surfaces
Body parts made of acid-resistant steel

Pump Bearing:

Roller bearing and oil lubrication

Components in contact with fluid:

Steel or stainless steel

Steel: S355 (LJ pumps)

Acid-resistant steel: EN1.4404 (AISI 316)
(HLJ pumps)

Surface treatment and painting:

Fe Sa ½ Fo, blue polyester powder
RAL 5003

Working structure

Mamec LJ pumps have a functional design that is designed to withstand demanding usage conditions.

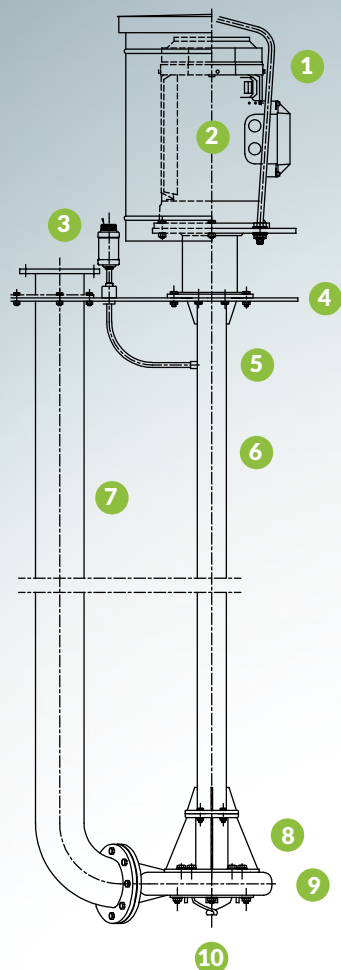
LJ pumps can be equipped with a mixing valve. In that case the pump is mixing as well as pumping. Valve control can be selected either by hand lever (pumping or mixing), with manual screw (stepless), linear servo actuator or with compressed air or hydraulic cylinder.



Image on the left includes also an additional knife which is available as an accessory.

Applications

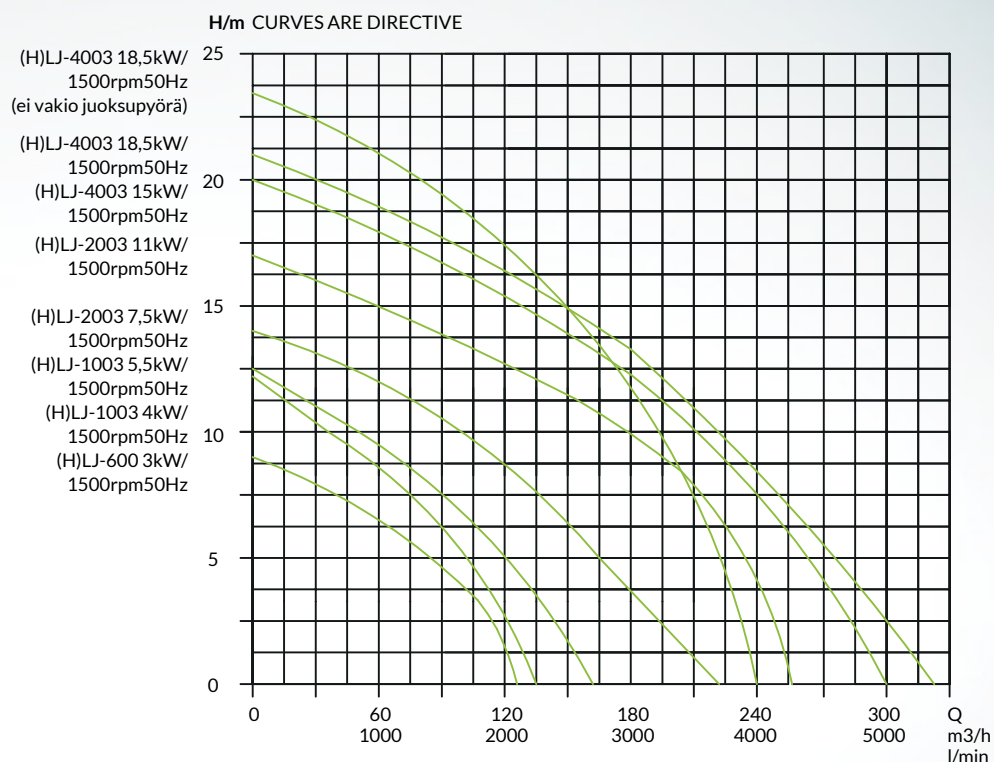
- In the wood processing, food and chemical industries as a mass or sewage pump as well as the municipal wastewater treatment plant
- Slaughterhouses for pumping slaughterhouse waste and sewage as well as pumping blood
- Dredging lakes and seashores
- For pumping and crushing plastic, rubber, textile, leather, etc. waste
- Machine tools' cutting fluid pumps
- Usually for pumping very thick and problematic sediments
- Process' side streams



Structure

1. ja 2. Electric Motor which is either weather protected or equipped with lifting rods
3. Flexible, high quality coupling
4. Oil lubrication
5. Roller bearings
6. Flexible long shaft made of special steel
7. Riser pipe (optional). It is removable from the mounting plate
8. Roller bearings in the bearing housing
9. Pump volute with molded steel plate
10. Suction hole with a really effective shredder

Capacity curves



Technical information

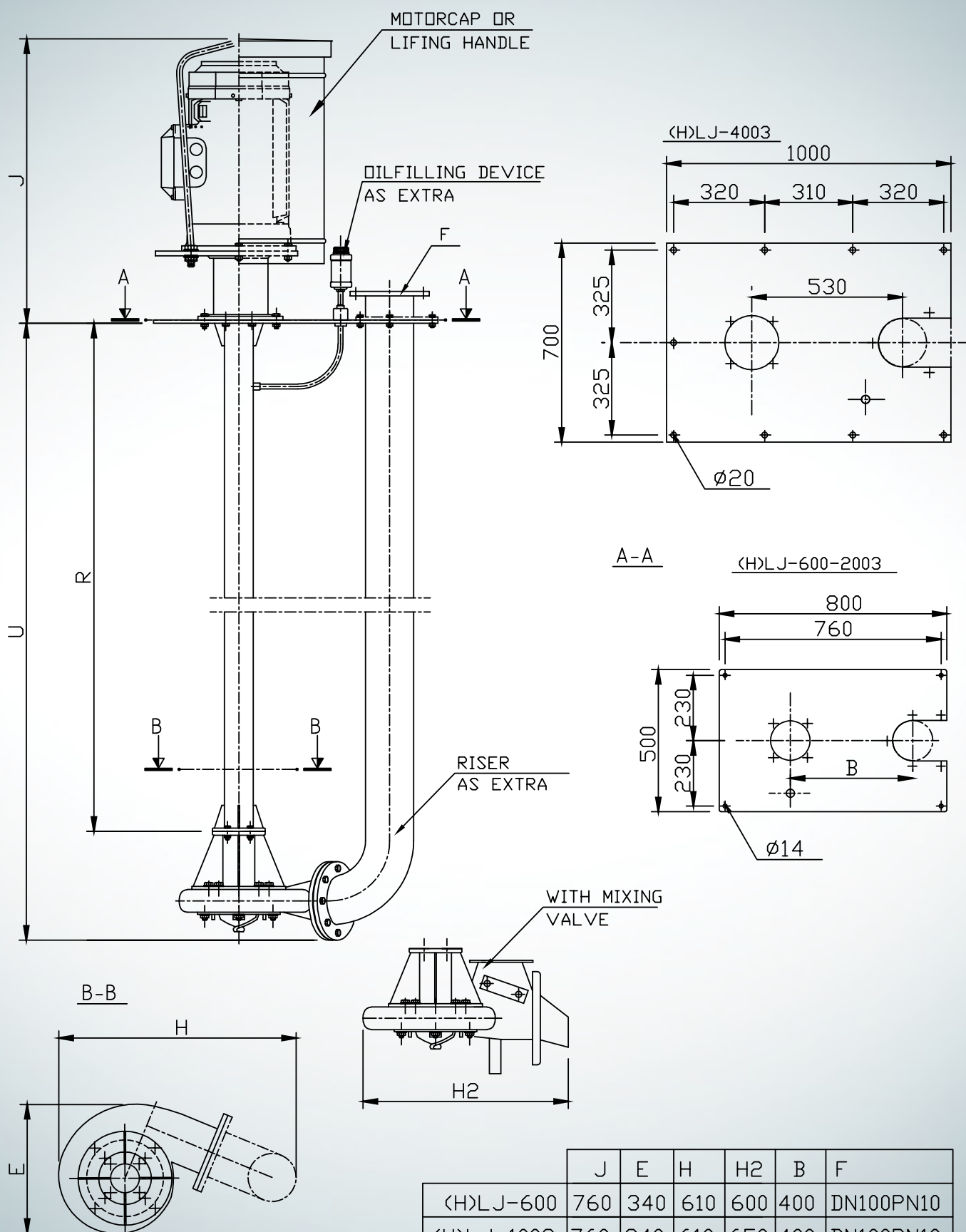
MODEL	MOTOR 400v 50 Hz (kW, r/min)	CAPACITY (l/min x mvp)	HEAD MAX. (M)	CONNEC- TION (DN/PN)	DIAMETER OF RISER PIPE** (mm)	STANDARD MOUNTING PLATE (mm x mm)	MIN. SUBMER- SIBLE DEPTH (=U)	MASS (kg)	STANDARD SUBMERSIBLE DEPTHS(=U)
LJ-80 HLJ-80*	2.2 / 3000	870x2 100x15	16	50/10	60.3	500x500	380	45	See measure- ment images on the next page
LJ-600 HLJ-600*	3.0 / 1500	1800x2 200x8	8	100/10	114.3	500x800	250	100	
LJ-1003 HLJ-1003*	4.0 / 1500 5,5 / 1500	2000x2 450x2	13	100/10	114.3	500x800	250	110	
LJ-2003 HLJ-2003*	7.5 / 1500 11.0 / 1500	3100x5 ***	14 ***	125/10 125/10	139.7 139.7	500x800 500x800	320 320	145 145	
LJ-4003 HLJ-4003*	15.0 / 1500 18.5 / 500 22.0 / 1500	4000x6 *** ***	19 *** ***	150/10 150/10 150/10	168.3 168.3 168.3	700x1000 700x1000 700x1000	400 400 400	265 *** ***	
LJ-4004	***	***	***	***	***	***	***	***	

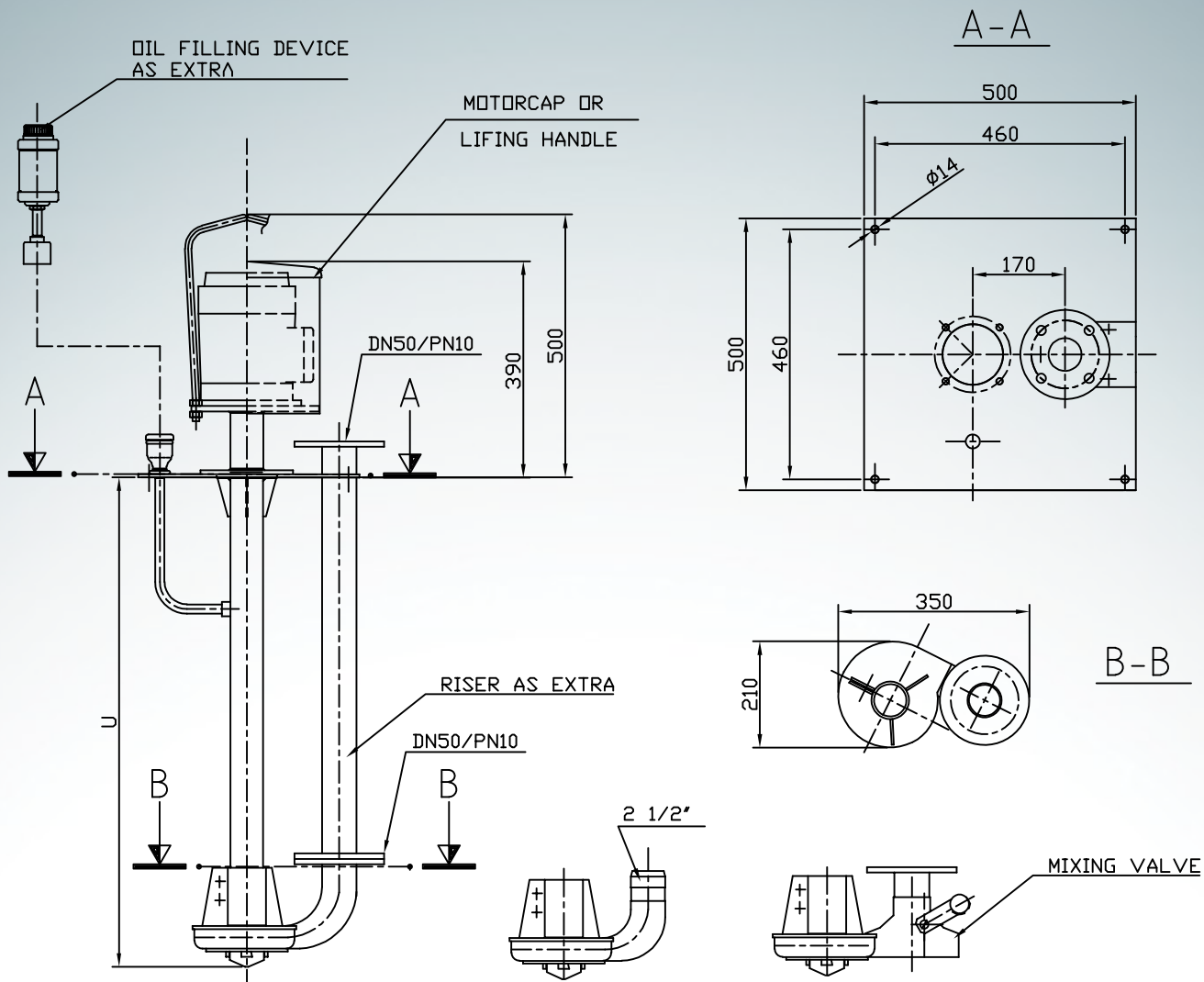
*All untouched parts of fluid SS 2343 (AISI 316).

**Riser pipe is an accessory for all the models

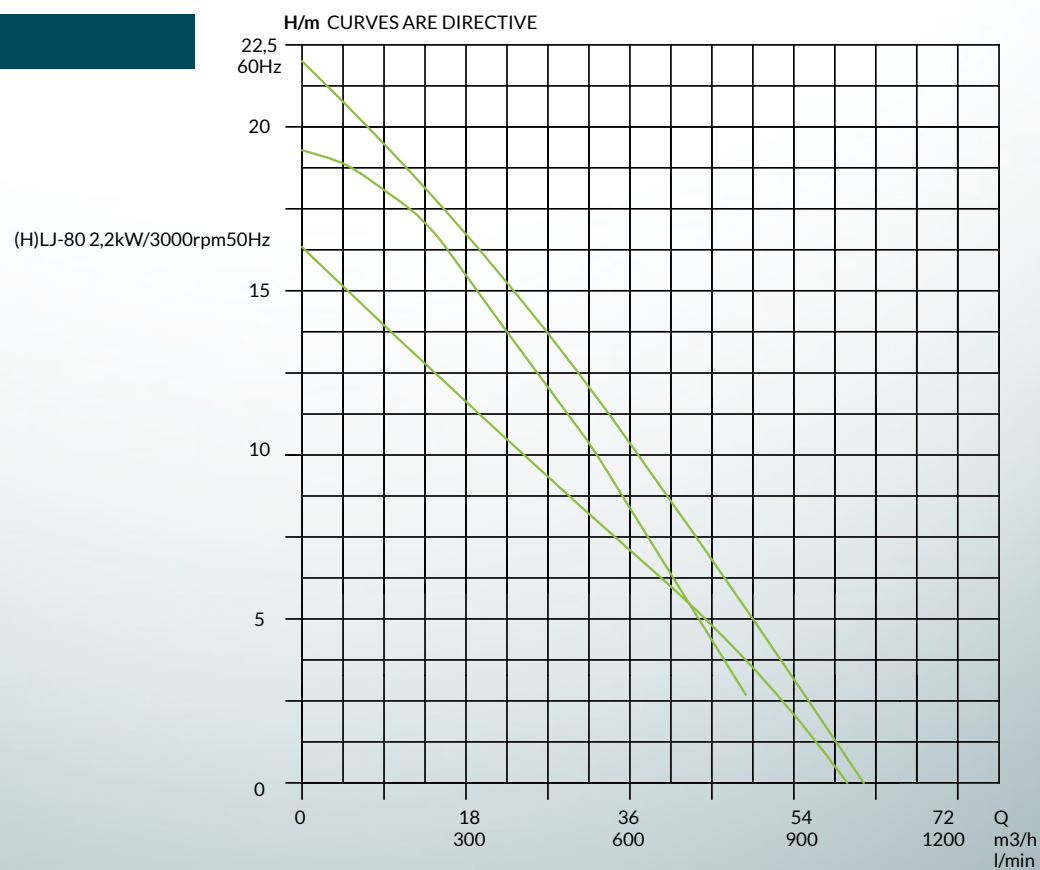
***Information from the factory

Dimension drawings





Capacity curves



2 JKS AND HJKS – VORTEX PUMPS

Very wide passing long shaft sewage, sediment and waste water pumps

Very wide passing JKS and HJKS vortex pumps are suitable for sewage, sediment and wastewater pumps. Rubber lined or with another surface treatment the pumps withstand very hard and abrasive use.

Our wide passing and long shaft vortex pumps are suitable for many purposes. These pumps are versatile can be used to pump and move for example sewage and different industrial sediments. Also many particles containing heavy masses can be pumped without shredding and crushing.

The JKS and HJKS vortex pumps have an impeller that enables a strong vortex. It sucks in everything that can fit in through the intake manifold. The pumps are by construction single stage, long shaft semi-submersible pumps.

Thanks to its surface treatment, the pump lasts hard and weary use. The JKS and HJKS vortex pumps have no components, to which fibrous matter could be intertwine, neither cramped, blockage sensitive areas.

Materials

HJKS: All the components that are in contact with the fluid are of acid-resistant steel (EN1.4404, AISI 316) and the surface is pickled

JKS: The parts that are in contact with the fluid are of surface treated steel (ball shield, iron phosphating and polyester powder coating) (SFS 5225 SP 40/1-Fe Sa2½Fo, RAL 5003)

JKS ja HJKS:

- Impeller is made of acid-proof steel
- Impeller shaft; stainless steel
- Slide ring Seal: silicon carbide sealing surfaces, body parts acid-resistant steel
- Pump volute, moulded steel plate (JKS) or acid-resistant steel plate (HJKS)



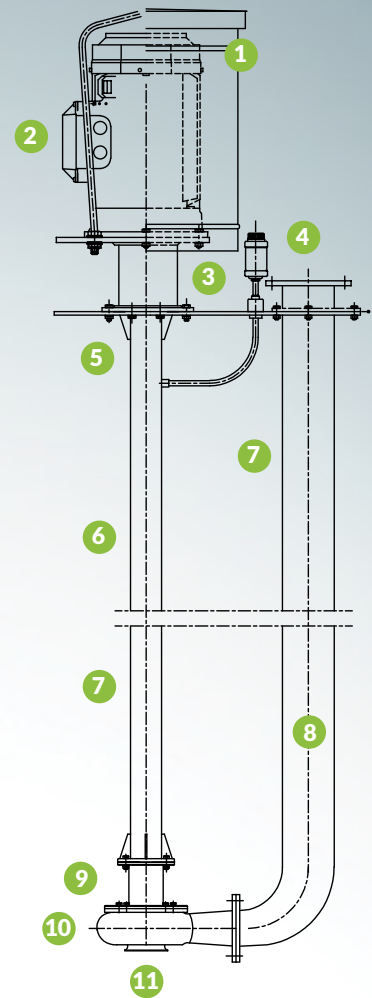
Applications

- Wastewater, sewage and industry pumping liquids and sediments
- Pumping of liquids containing solid particles
- Pumping heavy masses
- Pumping of solid particles containing large particles fines and masses
- In places and processes, where the lumps that the pumped liquid contains don't need to be shredded and ground
- Rubber lining or with another surface treatment the pump bears hard usage use quite well.

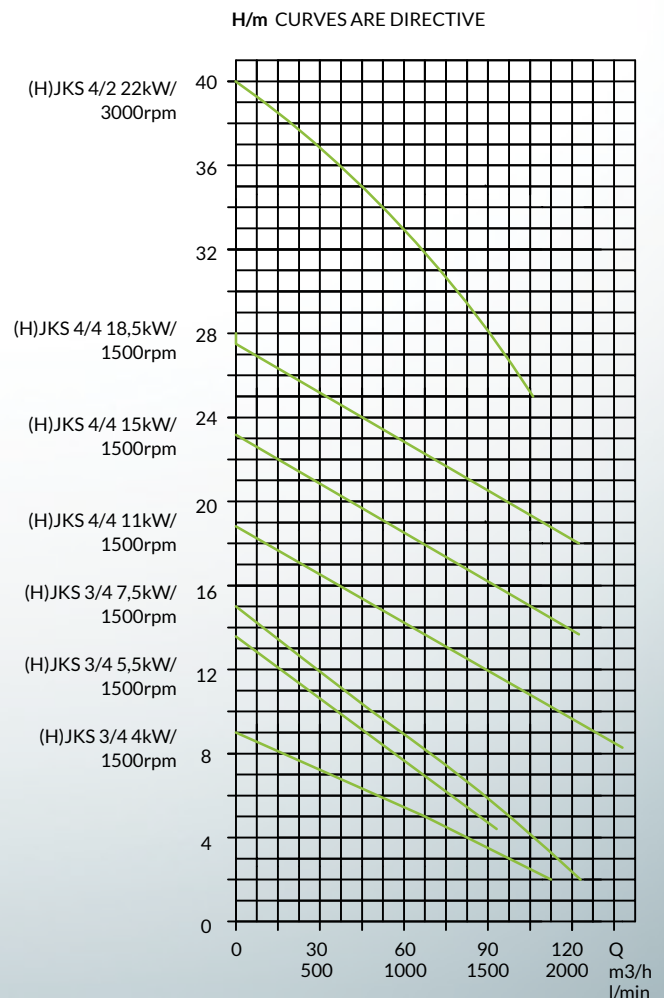
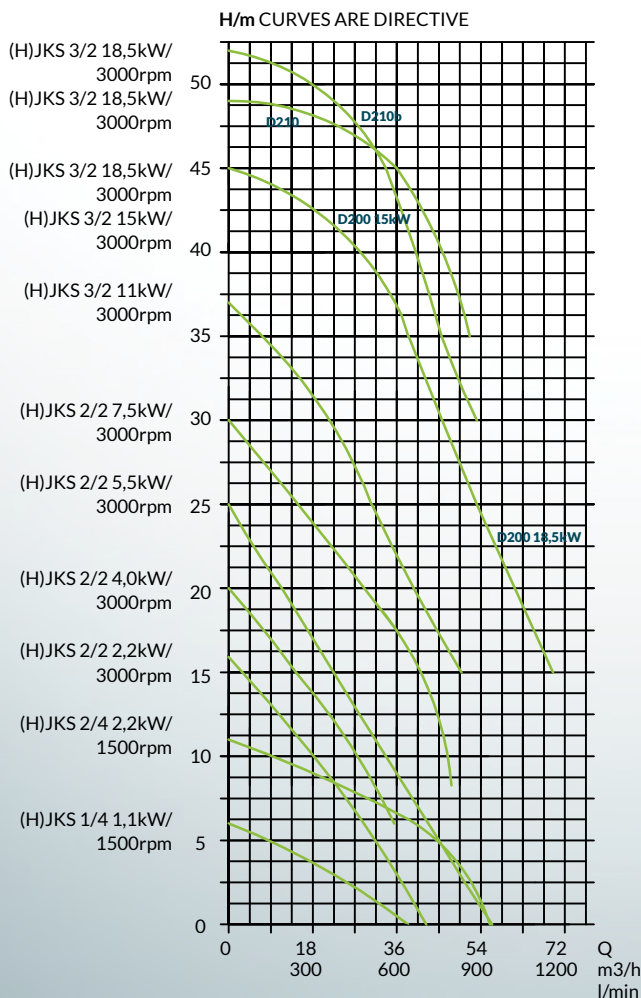
Structure

The powerful vortex caused by the impeller carries everything with it that can fit in of the intake. The JKS and HJKS pumps are single-ply, long-frame submersible pumps. No parts to which fiber like particles could be intertwined and not spots sensitive for cramping. The impeller only "floats" the solid particles moving in the vortex. The pumps withstand reasonably gulping and dry run. Roller bearings in the bearing housing and oil lubrication. Slid ring sealing with high-grade silicon carbide surfaces.

1. The motor is protected from fluid contact
2. As standard, either lifting hook or weather protection
3. Flexible coupling
4. Oil lubrication
5. Roller bearings
6. Flexible long drive shaft made of special steel
7. Certain standard dimensions
8. Riser pipe as accessory. Removable from the housing plate
9. Slide ring sealing with silicon carbide surfaces and roller bearings in the bearing housing
10. Pump volute is moulded steel plate (JKS) or acid-resistant steel plate (HJKS).
11. Pump can be delivered with a suction pipe.



Capacity curves

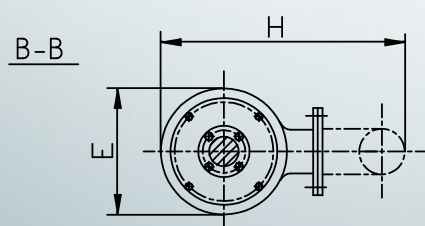
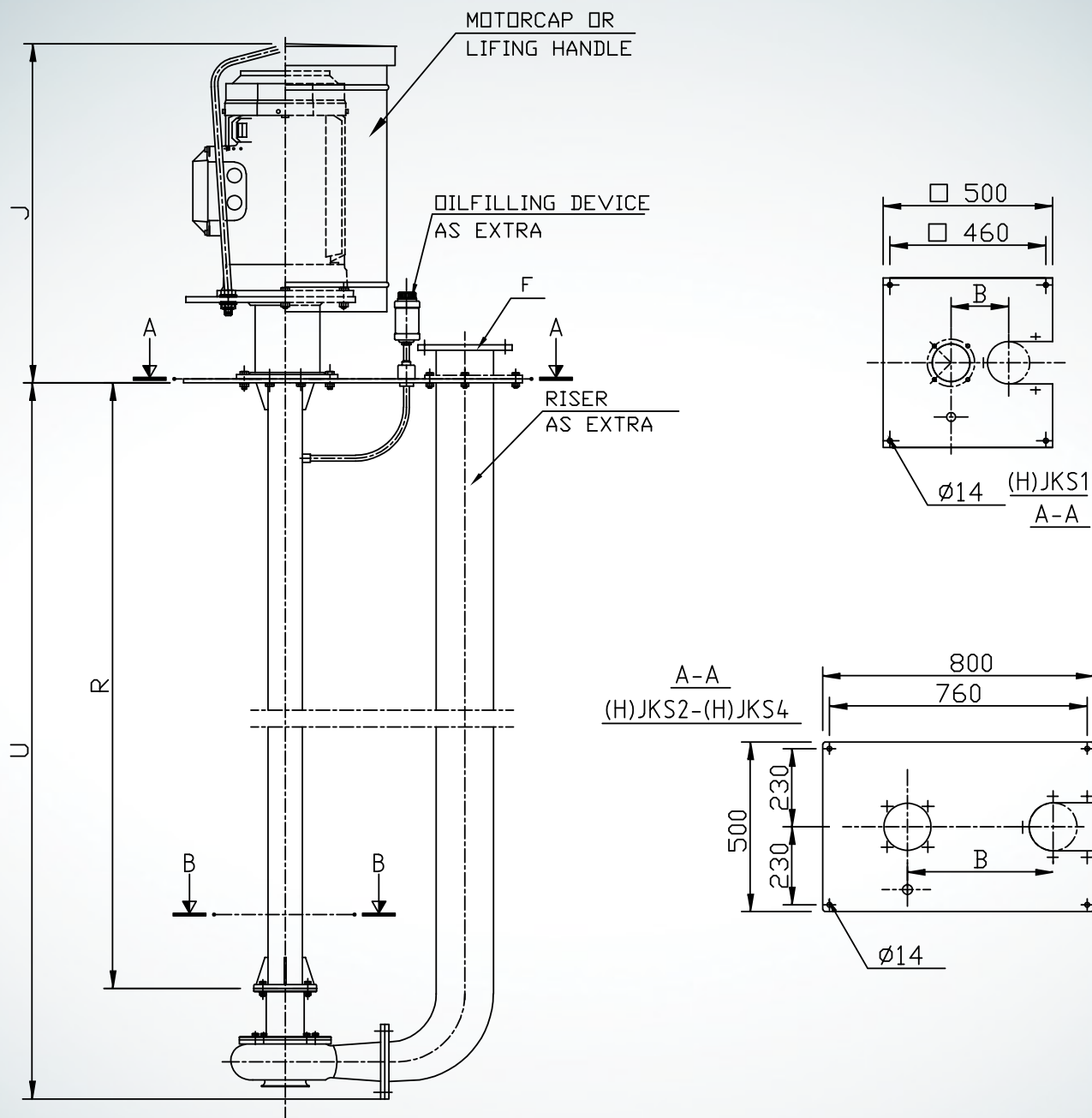


Technical information

MODEL	MOTOR 400v 50 Hz (kW, r/min)	CAPACITY (l/min x mvp)	HEAD MAX. (M)	CONNEC- TION (DN/PN))	DIAMETER OF RISER PIPE** (mm)	STANDAR MOUNTING PLATE (mm x mm)	MAX. TEORETI- CAL PARTICLE SIZE (mm)	MIN. DEPTH (=U)	MASS (kg)
JKS 1/4 HJKS 1/4	1.1/1500	400x2 200x4	5.5	50/10	60.3	500x500	35	320	40
JKS 1/2 HJKS 1/2	2.2 / 3000	600x2 200x10	15	50/10	60.3	500x500	35	320	42
JKS 2/4 HJKS 2/4	2.2 / 1500	700x2 150x8	9-5	65/10	76.1	500x800	55	250	75
JKS 2/2 HJKS 2/2	4.0 / 3000	600x8 250x16	21	65/10	76.1	500x800	55	250	82
JKS 2/2 HJKS 2/2	4.0/1500	500x12 250x20	26	65/10	76.1	500x800	55	250	94
JKS 3/4 HJKS 3/4	5.5/1500	1300x2 250x8	9.5	100/10	114.3	500x800	75	330	109
JKS 3/4 HJKS 3/4	5.5/1500	1400x5 600x10	14	100/10	114.3	500x800	75	330	120
JKS 3/4 HJKS 3/4	7.5/1500	2050x2 600x12	15	100/10	114.3	500x800	75	330	130
JKS 3/2 HJKS 3/2	11/3000	850x15 350x30	37	100/10	114.3	500x800	75	330	155
JKS 3/2 HJKS 3/2	15/3000	950x22 700x30	43	100/10	114.3	500x800	75	330	169
JKS 4/4 HJKS 4/4	11/1500	2200x6 800x16	20	100/10	114.3	500x800	85	370	215
JKS 4/4 HJKS 4/4	15/1500	2100x10 600x20	24	100/10	114.3	500x800	85	370	23
JKS 4/4 HJKS 4/4	18.5/1500	1900x18 600x26	29	100/10	114.3	500x800	85	370	256

**Riser pipe as accessory for all the models

Dimension drawings



	J	E	H	B	F
(H)JKS1	500	170	340	205	DN50PN10
(H)JKS2	760	226	475	320	DN65PN10
(H)JKS3	900	320	620	400	DN100PN10
(H)JKS4	970	380	650	400	DN100PN10

3 KKS AND HKKS – DRY-MOUNTED VORTEX PUMPS

Sludge pumps for all conditions

Very wide passing JKS and HJKS vortex pumps are suitable for sewage, sediment and wastewater pumps. Rubber lined or with another surface treatment the pumps withstand very hard and abrasive use.

Our dry-mounted and very wide passing vortex pumps are considerable alternative to sewage, sediment and wastewater pumps. They can be used, for example, in industries that handle pumping of difficult masses, stones and sand. KKS and HKKS pumps are well suitable for processes where solid matter is not no need to be shredded and ground.

The KKS and HKKS vortex pumps are installed between the piping or for example at the bottom of a tank. The impeller produces a vortex that will get along all the material that can fit in from the inlet.

Materials

HKKS: All the components that are in contact with fluid are of stainless steel (SS 2343, AISI 316), and the surface is pickled.

KKS: The parts that are in contact with fluid are surface treated steel (ball shield, iron phosphating and polyester powder coating) (SFS 5225 SP 40/1 -Fe Sa1 / 2Fo, Ink RAL 5003).

KKS ja HKKS:

- impeller; acid-resistant steel
- impeller shaft; acid-resistant steel
- Slide ring sealing; silicon carbide slider sealing surfaces, body parts acid-resistant steel
- pump volute; moulded steel plate (KKS) or acid-resistant steel plate (HKKS)



Applications

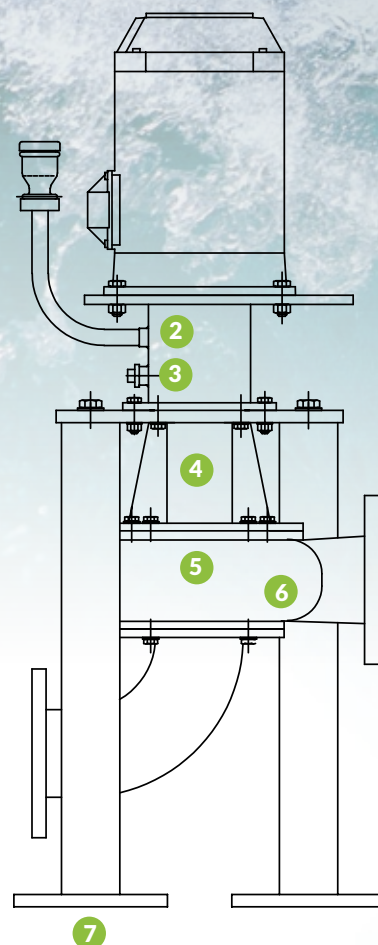
- Wastewater and sewage water pumping
- Moving industrial sediments and liquids
- Pumping of solid lumps, stones and sand
- Pumping heavy masses
- Pumping of solid particles containing large particles fines and masses
- In places and processes, where the lumps that the pumped liquid contains don't need to be ripped and ground
- Rubber lined or with another surface treatment the pump bears hard abrasive usage use quite well.

Structure

Installed between the piping or e.g. at the bottom line of the tank. The powerful vortex caused by the impeller will get along all the material that can fit in from inlet. The KKS and HKKS pumps are single stage, dry mounted pumps. No parts to which fiber like particles could be intertwined and not spots sensitive for cramping. Impeller only “touches” the solid particles moving in the vortex. It will withstand reasonable gulping and dry run. Roller bearings in bearing housing, oil lubrication. Slide ring sealing with silicon carbide surfaces. Handy, easily replaceable spare parts. No special tools. Optional access to either lifting hooks or weather protection for the engine.

Technical information

MODEL	MOTOR 400v 50 Hz (kW, r/min)	CAPACITY (l/min x mvp)	HEAD MAX. (M)	CONNEC- TION (DN/PN)	MASS OF THE PUMP (kg)	MAX. TEORETI- CAL PARTICLE SIZE (mm)
KKS 1/4 HKKS 1/4	1.1 / 1500	400x2 200x4	5.5	50/10	40	35
KKS 1/2 HKKS 1/2	2.2 / 3000	600x2 250x10	15	50/10	42	35
KKS 2/4 HKK 2/2	2.2/1500	500x4 250x6	8	65/10	70	55
KKS 2/2 HKK 2/2	4.0/3000	600x8 200x16	20	65/10	77	75
KKS 2/2 HKKS 2/2	5.5/1500	500x13 200x20	25	65/10	89	75
KKS 3/4 HKKS 3/4	7.5/	1300x2 500x6	8.5	100/10	100	55
KKS 3/4 HKKS 3/4	15.0 / 1500	1400x5 600x10	14	100/10	110	75
KKS 3/4 HKKS 3/4	7.5/1500	1800x5 600x12	15	100/10	120	75
KKS 3/2 HKKS 3/2	11/3000	850x15 350x30	37	100/10	145	75
KKS 3/2 HKKS 3/2	15/3000	920x22 700x30	43	100/10	159	85
KKS 4/4 HKKS 4/4	11/1500	2200x6 800x16	20	100/10	200	85
KKS 4/4 HKKS 4/4	15/1500	2100x10 600x200	24	100/10	215	85
KKS 4/4 HKKS 4/4	18.5/1500	2000x18 600x26	29	100/10	240	85

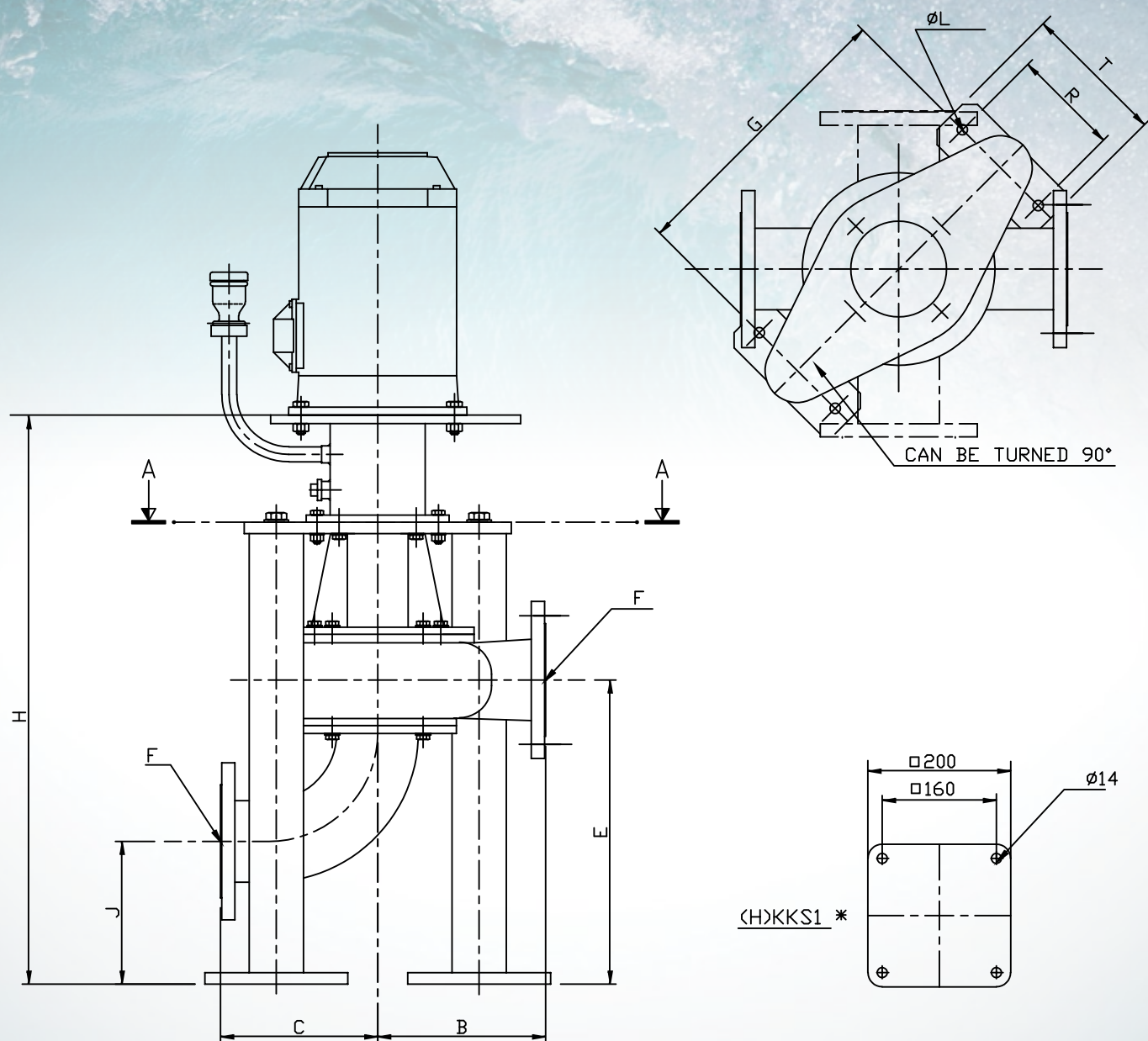


1. Oil lubrication
2. Flexible coupling
3. Checking the oil level
4. Slide ring sealing with silicon carbide surfaces and roller bearings in the bearing housing
5. The pump volute is of moulded steel plate (KKS) or of acid-resistant steel plate (HKKS)
6. Extremely loose passing
7. Screw fastening from feet to a support foundation

Capacity curves

See the capacity curves at JKS-pumps, page 9.

Dimension drawings



	J	E	H	C	B	F	G	R	T	L
(H)KKS1	105	220	452	120	120	DN50PN10	*	*	*	*
(H)KKS2	170	300	655	170	220	DN100PN10	282	120	160	14
(H)KKS3/4	200	426	841	220	235	DN100PN10	452	150	200	14
(H)KKS3/2	200	426	866	220	235	DN100PN10	452	150	200	14
(H)KKS4	150	300	886	220	235	DN100PN10	480	150	200	14

4 HJTL – CANTILEVER PUMPS

Special pumps for difficult conditions

HJTL pumps are suitable as special pumps for difficult conditions. There are no bearings nor sealings below the mounting plate.

Materials

All parts that are in contact with fluid are of acid-resistant steel (SS 2342), Aisi 316), and the surface is pickled. The motor stand / bearing housing (HJTL-71 ... 73) is made of surface-treated steel. Surface treatment, blasting, iron phosphatizing and polyester powder coating (SFS 5225 SP 40/1 -Fe Sa2½, turkey tone RAL 5003). The HJTL pump can also be made on order also of special acid-resistant steel (904L, 2RK65).

Structure

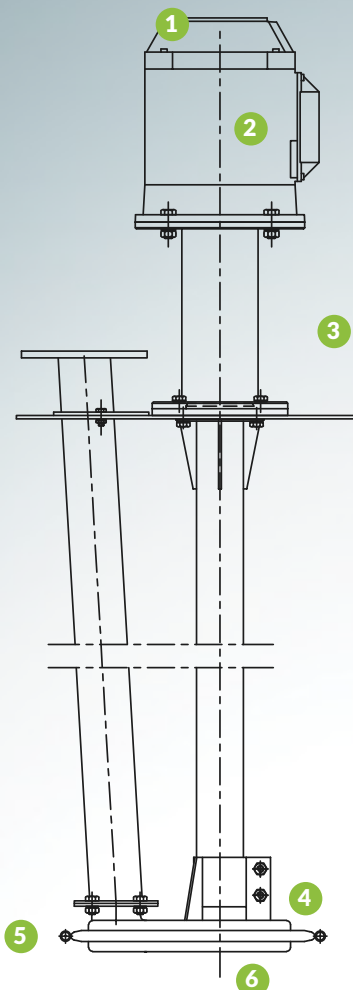
The HJTL pumps are single stage, long shaft semi-submersible pumps. There are no bearings or sealings in the pump volute. The impeller and the shaft are accurately balanced and rotating "free". The structure of the collar and impeller eliminates the lateral load. Roller bearings in the bearing housing above the mounting plate (HJTL 71 ... 73). As a sealing in the liquid, only the seal support ring. No risk of oil leaking into the pumped product.

All HJTL pumps can be equipped with suction pipes, which are installed at our factory under the housing. When using a suction pipe note that the liquid surface should be above the pump volute when pumping starts. Please note that the suction pipe also has decreasing effect on the capacity and head.



Applications

- As groundwater pump
- Pumping paints, adhesives and solvents
- Pumping cold and hot acids
- Pumping cold and hot bases
- Pumping cutting and cooling liquids (machining and grinding machines)
- Pumping liquids for surface treatment plants
- Pumping glassware
- Pumping in processes where not a single drop of oil should come in the pumped product



1. The engine is protected from fluid contact
2. The bearing housing is always above the liquid surface. When pumping very hot liquids the bearing housing is equipped with water cooling.
3. Free rotating and very precisely balanced shaft. Standard lengths of 0.5 m, 0.8 m, 1.0 m and 1.3 m
4. The pump volute is made of acid-proof or, by order, of special acid-resisting steel.
5. Free rotating special-purpose impeller. Only support bearing.
6. Suction pipe as accessory.

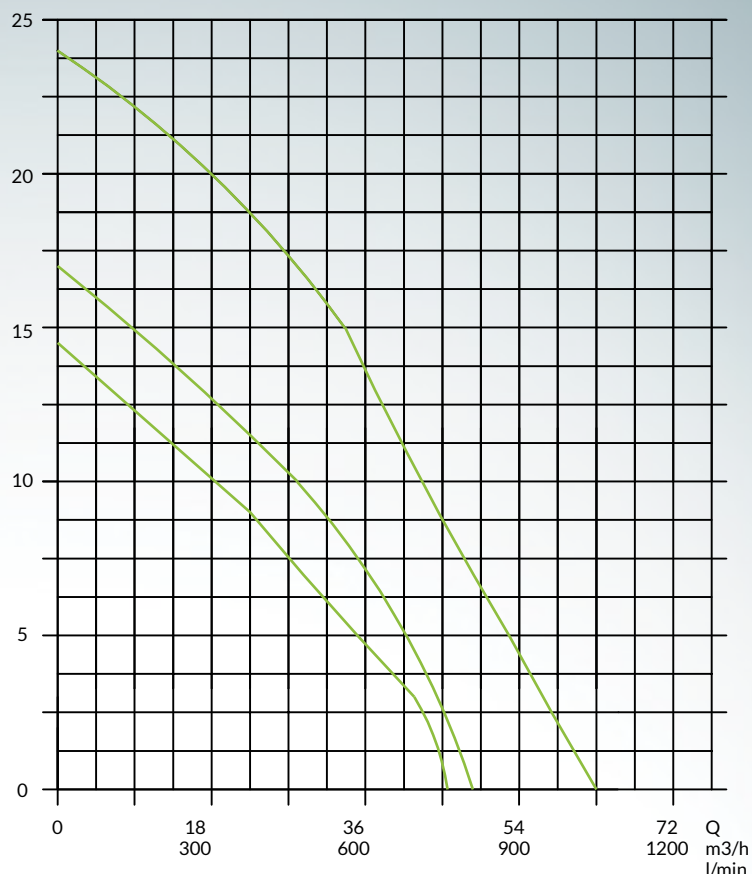
Profit curves

H/m CURVES ARE DIRECTIVE

PUMP HJTL
4kW/3000rpm

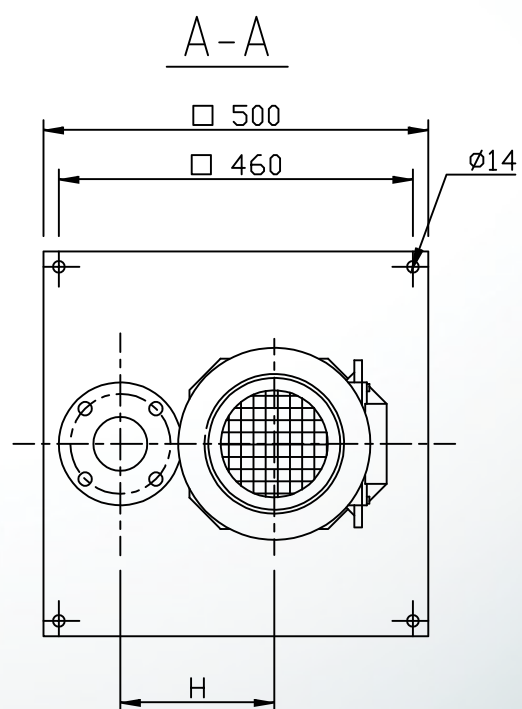
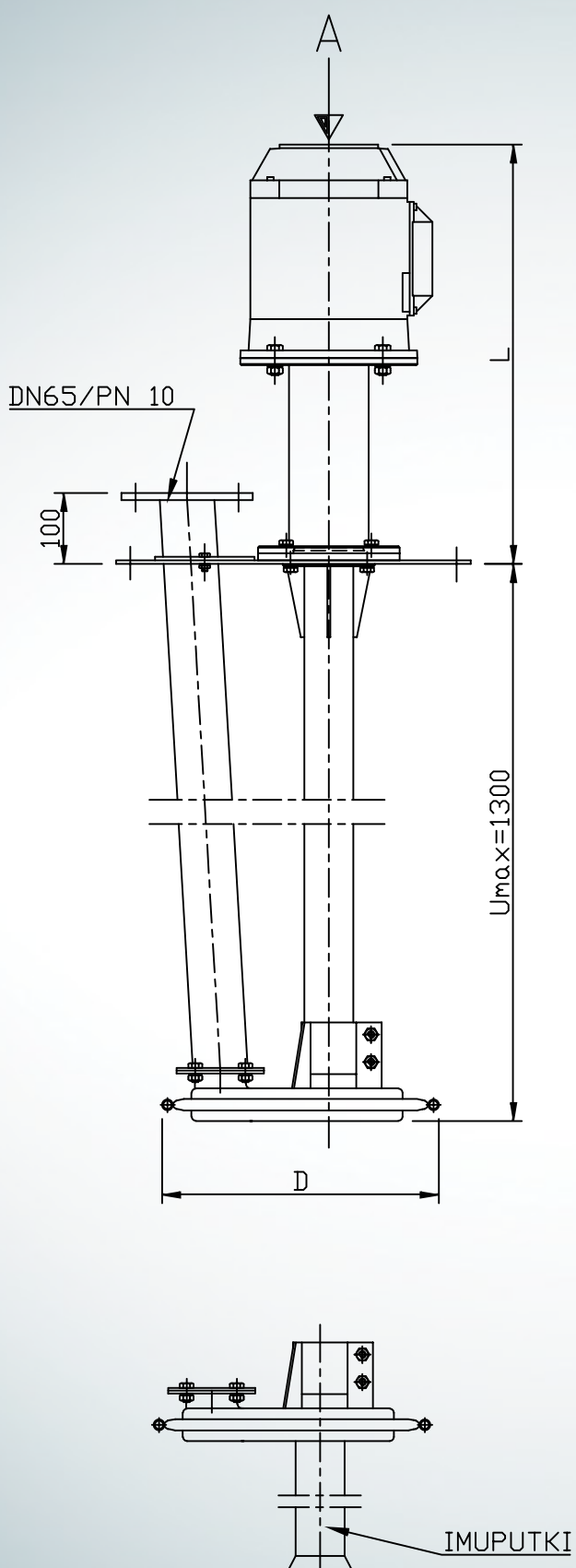
PUMP HJTL
2,2kW/3000rpm

PUMP HJTL
1,5kW/3000rpm



Technical information

MODEL	HJTL-55	HJTL-71	HJTL-72	HJTL-73
Motor (kW/round/min) Rated current	0.55 / 3000 1.33	1.5 / 3000 3.35	2.2 / 3000 4.45	4.0 / 3000 7.4
Capacity	320 x 2 100 x 8	450 x 2 100 x 9	770 x 2 100 x 16	1070 x 2 100 x 21
Head	9.5	10	18	23
Connection	hose connection 1 1/4"	65 / 10	65 / 10	65 / 10
Standard depth	300	300	500, 800, 1000 ja 1300	
Standard mounting plate	300	500	500	500
Mass	12	65	67	78
Riser pipe	Standard	Standard	Standard	Standard
Suction pipe	0 ... 300	0 ... 2000	0 ... 2000	0 ... 2000
Volute fits from the hole (diameter)	235	390	390	390



	L	D	H
HJTL 71	600	390	150
HJTL-72	630	390	150
HJTL-73	660	390	200

5 HVVU AND HVVS – SEWAGE PUMPS

Light ground water and sewage pumps

Mamec Oy's fixed-mounted HVVU-wastewater pumps are suitable for pumping both wastewater and groundwater. They can be also used for pumping many chemical liquids (for example, ferrous sulphate).

The pump volute of our wastewater pumps is moulded acid-proof steel plate. The bearing cartridge and impeller is easy to be changed. We also offer a portable HVVS wastewater pump that is for example suitable for emptying boats, columns pits and oil tanks. The pump can also be used for keeping an ice hole opened.

Material

All steel parts in contact with liquid are of acid-proof steel EN 1.4404. Seals are of Viton rubber and bearing is of carbon graphite teflon.

Structure

Our wastewater pumps are designed to be easy to maintain. The bearing cartridge and impeller is easy to change. The entire pump housing is made of moulded acid-resistant steel plate EN 1.4404. All components are attached to each other with wedge, bolt or cotter pin and are thus easily replaceable.



Applications

HVVU pumps, stationary

- As groundwater pump
- For pumping gray waste water
- Pumping many chemical liquids
- e.g. ferrous sulfate

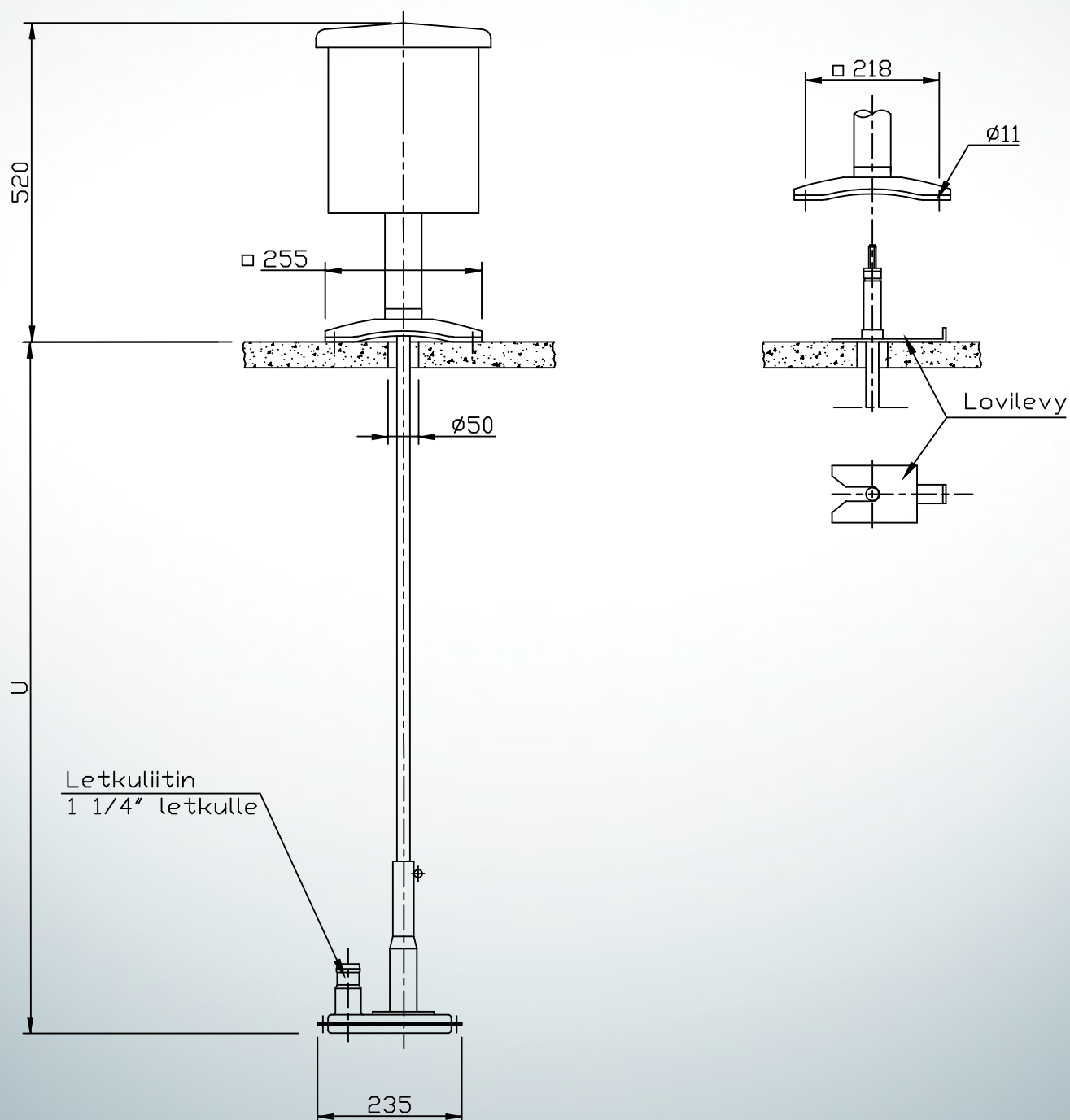
HVVS pumps, portable pump model

- For pumping gray waste water
- For swamps, boats, column pits and emptying oil tanks
- For pumping many chemical liquids (wastewaters)
- For keeping an ice hole opened

Pump models

MODEL	HVVU 4/2 HVVS 4/2	HVVU 4/3 I HVVS 4/3 I	HVVU 4/3 II HVVS 4/3 II
Motor (kW / V) (3000 rpm)	0.55 / 220	0.75 / 380	2.2 / 380
Capacity (l/min x mvp)	280 x 2,5	320 x 2,5	430 x 4
Max head (mvp)	8	10,5	16
Connection, hose connection	1 1/4"	1 1/4"	1 1/4"
Weight (kg)	n. 35	n. 35	n. 40
Pump volute fits through a hole (mm)	Ø 235	Ø 235	Ø 235
The diameter of the impeller (mm)	Ø 90	Ø 100	Ø 115

Dimension drawings



6 PP – EMBANKMENT PUMPS

High Power PP – flood pumps

Mamec PP flood pumps are an effective solution for transferring large water masses. The pumps are suitable, for example, for drainage of cultivation areas, flood water removal and for fish farms.

Structure

Our flood pumps are single stage, long shaft semi-submersible pumps. Water plants or trashes do not clog the pumps and the shaft structure is non-frozen. Pumps can be used during peak seasons of the floods, without problems, 24 hours a day.

All parts of the PP flood pumps are connected to each other with screw, wedge or cotter pins and are easily replaceable.

The motor weather protection or lifting lug is included to our pumps as standard.

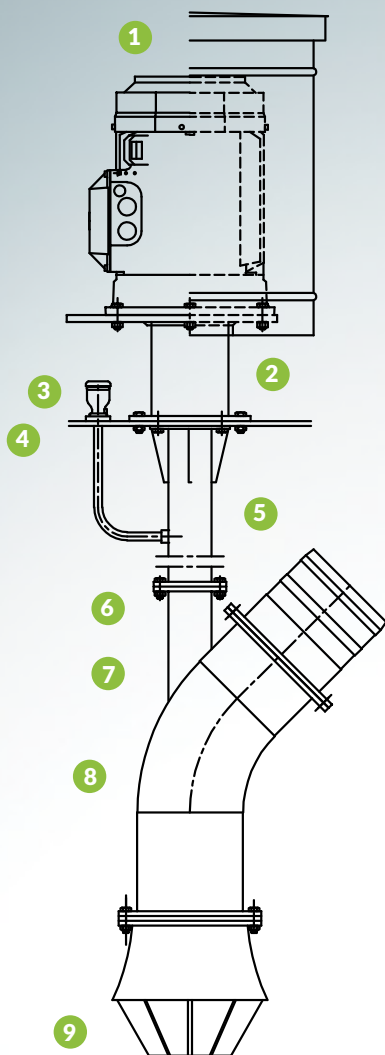
Materials used

The parts that are in contact with fluid are of surface treated steel. Impeller wings and shaft as well as slide ring seals body parts are made of acid-resistant steel. By special order it is possible to manufacture the whole pump of acid-proof steel (EN 1.4404).



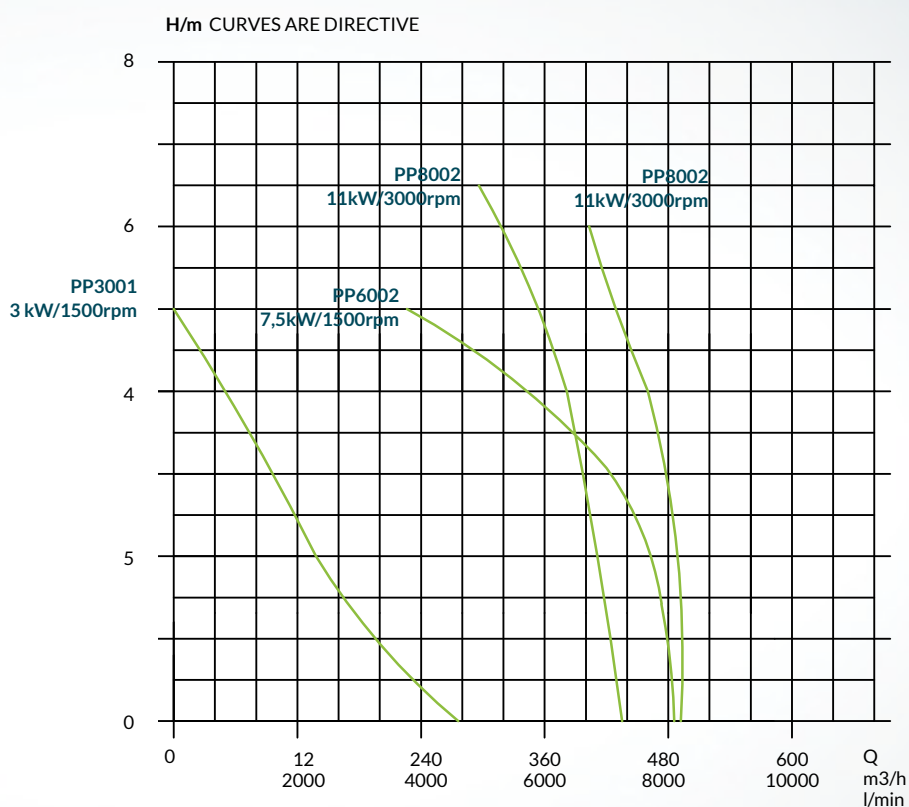
Applications

- For drying farming areas
- For removing flood water in spring and autumn
- For fish farms
- For peat bogs
- For groundwater removal sites



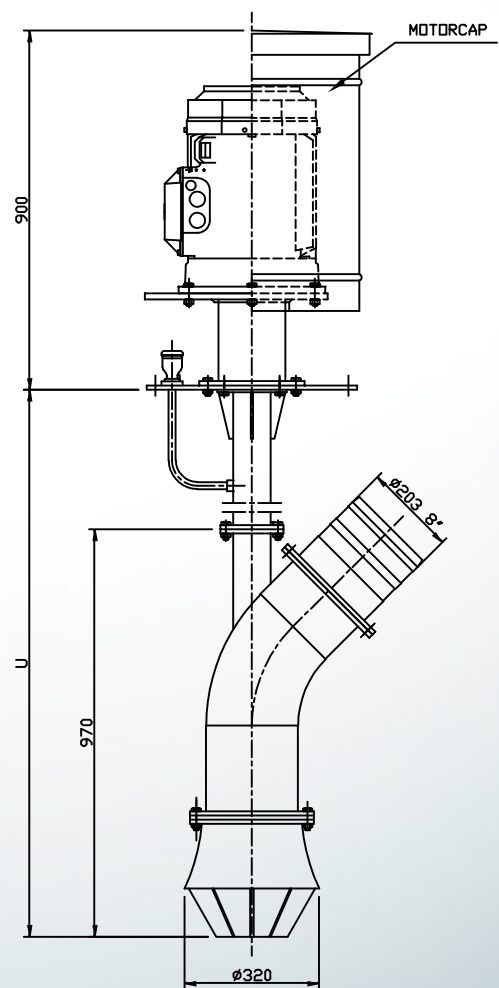
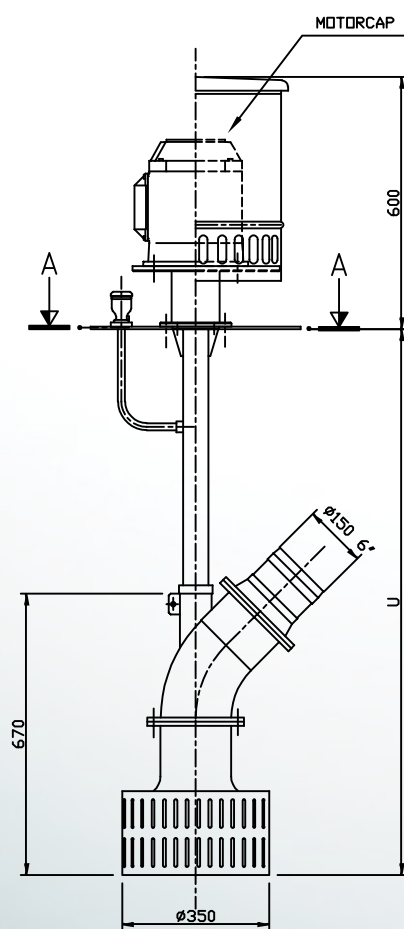
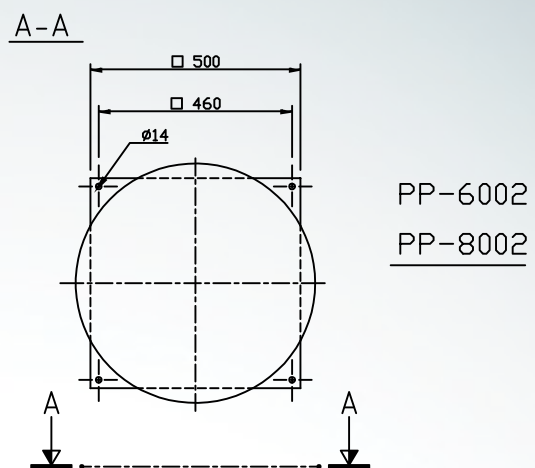
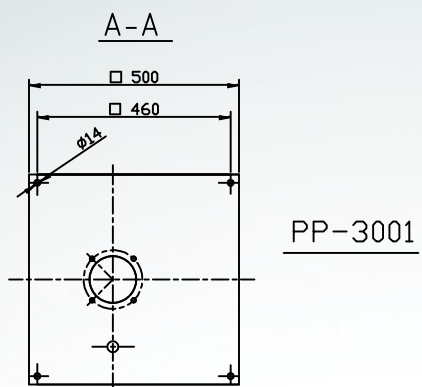
1. The motor is protected from fluid contact.
2. High quality, flexible coupling
3. Oil lubrication
4. Roller bearings
5. Flexible long shaft made of special steel
6. Certain standard lengths
7. Slide ring sealing and roller bearings in the bearing housing
8. Pump volute is of moulded and welded surface treated steel or by order of acid-resistant steel.
9. The sieve prevents thick shafts etc. from entering the pump

Profit curves



Technical information

MODEL MARKING	PP-3001	PP-6002	PP-8002	PP-8002 DM
Motor Rated current	3.0 / 1500 6.48	7.5 / 1500 14.8	11 / 3000 20.0	2-cylinder diesel engine
Capacity (l/min x mvp)	2200 x 2.5	6700 x 2.5	7700 x 2.5	2200 x 2.5
Head (mvp)	4.0	5.5	6.0	4.0
Hose connection	6"	8"	8"	6"
Standard depths ("U") (m)	1.7, 1.9, 2.1, 2.4, 2.6, 3.1	2.2 ja 3.2 m	1.7, 1.9, 2.1, 2.4, 2.6, 3.1	1.7, 1.9, 2.1, 2.4, 2.6, 3.1
Standard mounting plate (mm)	500	500	500	500
Mass (kg)	~80	~175	~200	~300
Discharge pipe	Option	Option	Option	Option



Shredding, hydraulic dredging, pit and slurry pumps

The LL pumps have an efficient shredder construction which ensures pumping efficiently even thick and problematic sediments.

They are suitable in different areas, such as wastewater pump for woodworking, food industry or chemical industry.

The best materials

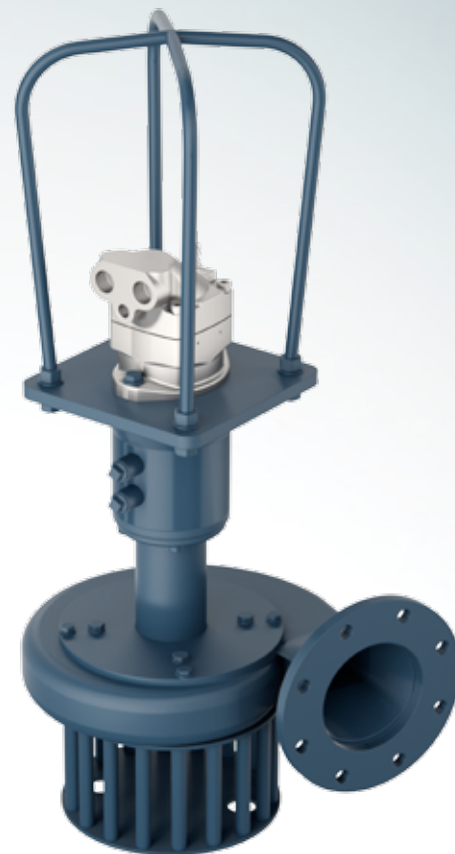
We use carefully selected durable materials for our slurry pumps. The pump volute is moulded steel or alternatively of acid-resistant steel.

Engines

Pumps are delivered with VOLVO's hydraulic motors that also have a leak oil connection. We deliver pumps also without hydraulic motors. The pressure and return hose recommendations of the table shall be followed. Too small hoses reduce capacity. On the return side too small hose can cause damage to the engine. Hydraulic hoses are not included in the standard delivery. There are similar pumps available also as electrically powered long shaft pumps. Ask about our LL pumps!

Structure

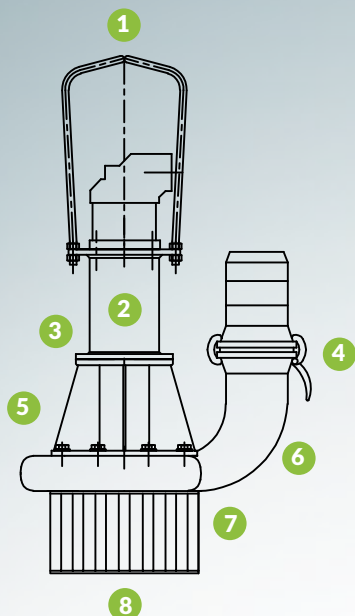
The pumps are designed to stand long lasting and hard-wearing constant use. Rubber lining and coatings increase wear resistance. Oil lubrication. At sensitive environmental locations rapeseed oil may be used. Bearing as roller bearings. The tooth ring can be quickly replaced by smooth ring, for example, when stones are being pumped. All the pump parts are connected to each other by screw, wedge or cotter pins and are thus easily changeable. As standard equipment, lifting lug, a convenient quick coupling and a removable cage are included.



Applications

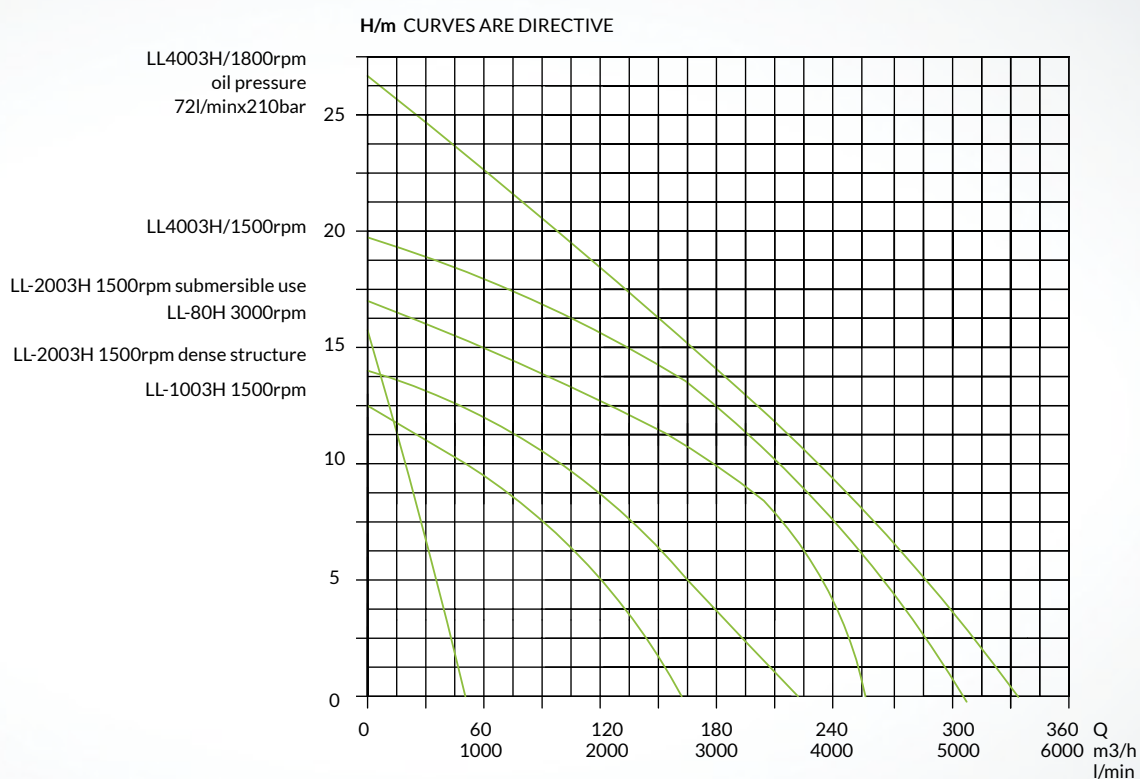
Mamec Oy's slurry pumps have shown their performance in demanding conditions at different sectors of industry. LL-H pumps are suitable for use:

- In the wood processing, food and chemical industries as a mass or wastewater pump as well as in municipal sewage treatment plants
- Slaughterhouses for slaughter and wastewater pumping as well as pumping blood
- Dredging lakes and seashores
- Pumping and crushing plastic-, rubber-, textile-, leather waste
- As cutting fluid pumps for machine tools
- Usually for pumping very thick and rough sediments
- As sludge pump on livestock farms
- As high-power catastrophe pump when preventing floods and oil spills



1. Lifting lug protect the engine and ease the handling
2. Oil lubrication and sight glass of oil level
3. High quality flexible coupling
4. Convenient quick coupling for hose
5. Slide ring sealing and roller bearings in the bearing housing
6. The pump casing moulded and welded surface-treated steel, or by order of acid-resistant steel.
7. Effective hardened shredder blades crush the solid substances from the intake manifold
8. The cage prevents thick shafts and the like from entering the pump

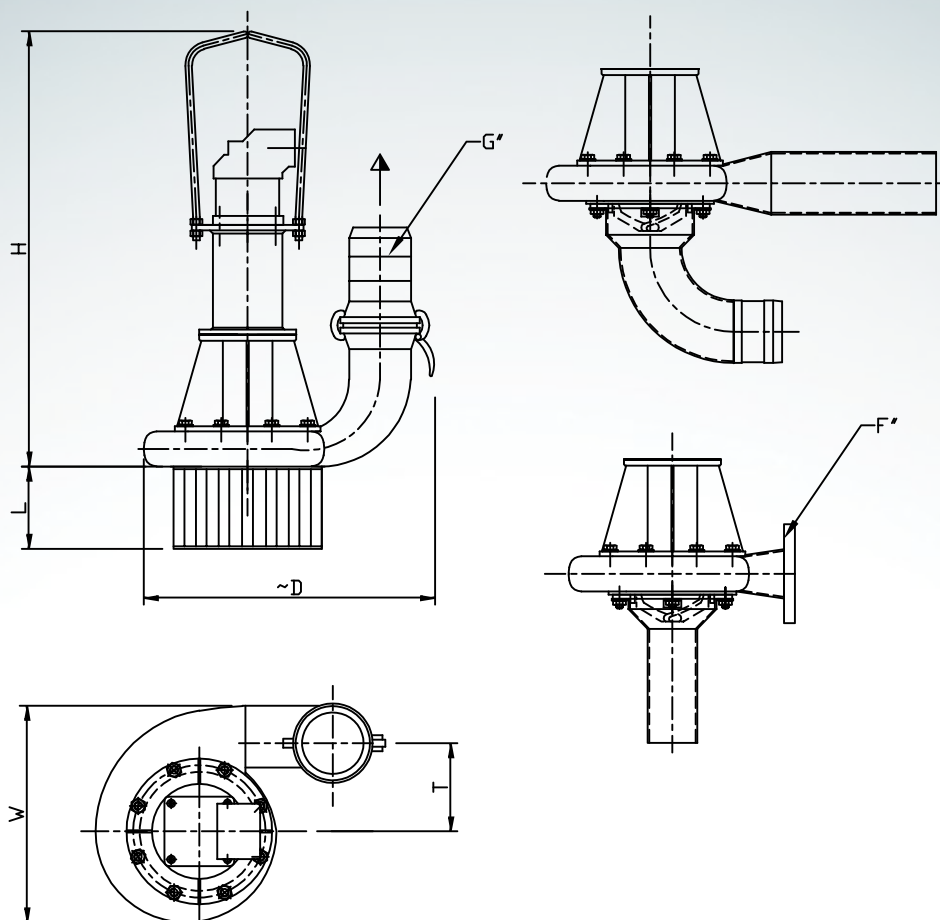
Profit curves



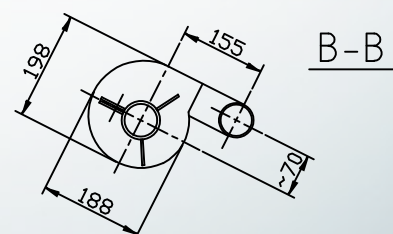
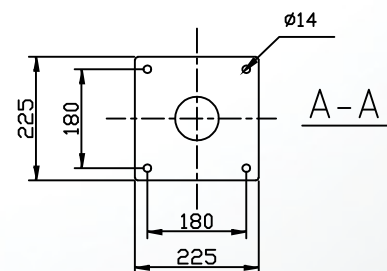
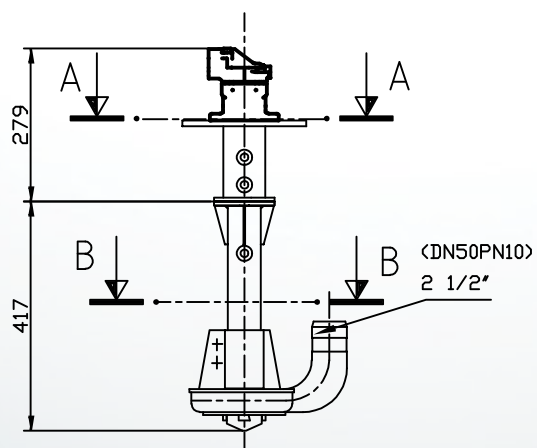
Technical information

MODEL MARKING	LL-80H	LL-1003H	LL-2003H	LL-4003H
Motor	Volvo F 11-5	Volvo F 11-10	Volvo F 11-19	Volvo F 12-40
Capacity (l/min x mvp)	600 x 5.0	2200 x 5.0	2700 x 5.0	5200 x 5.0
Nominal speed of motor (r/min)	3000	1500	1500	1500
Needed hydraulic oil power (l/min x bar)	data from the factory			
Pressure hose/ return hose recommendation	½" / 1"	7/8" / 1 1/4"	3/4" / 1 ½"	1" / 2"
Head (m)	16	13	14	19
Mass (kg)	~30	~50	~60	~80
Discharge hose	2 ½"	3"	4"	5"

Dimension drawings



LL80H



	H	L	D	G	W	T	F
LL1003H	820	130	450	3	380	145	DN100PN10
LL2003H	860	150	550	4	410	160	DN125PN10
LL4003H	940	150	660	5	490	205	DN150PN10
LL4004H	1040	150	660	5	490	205	DN150PN10

8 LL – AGRICULTURAL SLURRY PUMPS

Tearing slurry pumps

Our long experience in the field guarantees the quality of Mamec LL slurry pumps. Our pumps work even in difficult conditions and our technical solutions ensure an individual implementation and a smooth secure action.

Structure

The pumps are designed to bear long-lasting and constant usage. Rubber lining and coatings increase wear resistance. Oil lubrication. At sensitive environmental locations rapeseed oil may be used. Roller bearings in the pumps and the Toothring which can be changed to a smooth ring when for example pumping stones. All pump components are connected to each other by screw, wedge or cotter pins and are therefore easily changeable. As standard equipment lifting lug, mixing valve (manual), riser pipe in plastic, without mounting plate, quick coupling.

Materials

The parts in contact with fluid are of surface treated steel (blasted, iron phosphating and polyester powder coating) (SFS 5225 SP 40/1-Fe 2½ Fo, shade blue RAL 5003). Impeller and the shredder are of carbon-hardened and moulded steel. Impeller shaft is made of acid-resistant shaft steel. Slide ring sealing, body parts made of acid-resistant steel. Pump volute is of moulded steel plate.

Sizing

Dimensions and capacity curves are the same as with the LJ pump. When the mixing valve is in use, the pressure and capacity decrease. Dimensions and capacity curves can be found on page 5.



The LL pump is the same as the LJ pump, but it is delivered without the mounting plates and with plastic riser pipe.

Applications

- Agricultural slurry pump

In all Mamec pumps:

Electric motors

Mamec pumps are delivered with electric motors according to IEC standards. We also supply pumps with Ex(e) or Ex(d) protected engines.

The mounting plate is not pressure or steam tight in standard delivery. If hot or corrosive vapors can reach above the mounting plate, ventilation or air conditioning must be arranged.

Testing and Quality

Each pump is tested and checked at our facility prior to shipment

Mamec Oy quality system is based on ISO-9001 standard.

Documents

The delivery includes installation, operation and maintenance instructions in Finnish, Swedish or English.

9 RATKO-PUMPS

Reliable and non-freezing Ratko- pumps

The Northern circumstances require reliability of the pump even in fierce temperatures. Mamec Oy's Ratko- pumps have been developed to solve water related problems in all destinations.

Ratko-well pumps

The function of Ratko's pumps is based on a weathered protected electric motor, located on the well's deck. The solution does not require the installation site to have a separate pump room, and the noises are not heard indoors.

The pump section is installed with an shaft under water (about 30 cm from the bottom of the well). This prevents from freezing and removes the suction problems and the need for seed water. The supply pipe is excavated below the ground frost level or it is isolated so that it cannot freeze.

Materials used

The impeller shaft is of stainless steel. The shaft between the motor and the housing is of a special steel which has a galvanized protective tube. Impellers,

depending on the model, are made of polypropylene plastic or bronze alloy. The pump housing is of cast iron.

Ratko submersible pumps

Ratko submersible pumps are suitable for open and borehole wells. They are frost-free, reliable and easy to install. The pump is silent both inside and outside and beside it a non-frozen, automatically emptying supply pipe can be installed.

The Ratko submersible pump is immersed in the well with a support wire. A separate pump room, seed water or bottom valve is not needed. Because the pump section is constantly in water, freezing is not possible.

Our submersible pumps are suitable for all open wells and 4 and 6 inches borehole wells. Thanks to our developing work the non-freezing water supply system can be also installed to locations where a plastic pipe can not be excavated deep enough.

Content of a standard delivery

- Submersible pump
- 10 m electrical cable
- 10 m stainless steel wire rope
- We offer also many accessories to Ratko submersible pumps.



Quality and Documentation

All Ratko submersible pumps are inspected carefully before delivery. Mamec Oy quality system is based on ISO-9001 standard. The delivery includes installation, operation and maintenance instructions in Finnish, Swedish or English.

Technical information

MODEL MARKING	A 2/1	A 2/3	A 3/3	B 2/3
Motor	0.75 kW/2, 800 r/min 230 V	0.75 kW/2, 800 r/min 400 V	1.5 kW/2, 800 r/min 400 V	2.2 kW/2, 800 r/min 400 V
Capacity	43 l/min x 10 mvp 20 l/min x 40 mvp	43 l/min x 10 mvp 20 l/min x 40 mvp	50 l/min x 10 mvp 20 l/min x 65 mvp	70 l/min x 10 mvp 30 l/min x 80 mvp
Head	63 mvp	63 mvp	110 mvp	130 mvp
Max depth	8-10 m	12 m	25 m	25 m
Connection	1" (PEL 32-6)	1" (PEL 32-6)	1" (PEL 32-6)	1 1/4" (PEL 40-6)
Motor protection switch	Katko PSK 16 6-10 A	Katko PSK 16 6-2.5 A	Katko PSK 16 2.5-4 A	Katko PSK 16 3.6-6 A

If water runs out during use, Ratko pump lasts a reasonable dry running. Shafts are delivered with 0.1 m intervals starting from 0.3 m.

10 LIGHT DREDGERS

Mamec light dredger

Cleaning of liquefied beaches is conveniently done with the Mamec light dredger. Mud and plant waste that can be easily moved with a rake, can be pumped off quickly.

Our lightweight dredgers, like all our products, are manufactured in Finland, at our own factory. Their technology is based on a slurry pump we originally developed already in the 1960s. We've been delivering lightweight dredgers since the 1980s, delivered over 2000 units since.

The length of the dredger's shaft is 2.5 meters, when the dredging depth is about 2 meters. By order we also manufacture light dredgers of special lengths.

Quality and Documentation

Each Mamec lightweight dredger is tested and checked before delivery. We comply with ISO-9001 quality system. The delivery includes installation, operation and maintenance instructions in Finnish, Swedish or English.



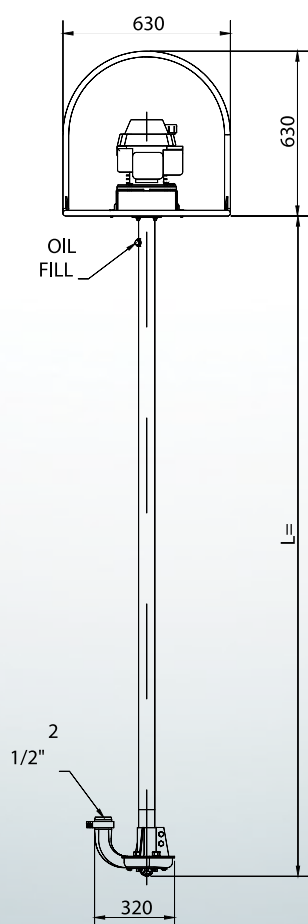
Technical information

Engine	Briggs & Stratton – 5 Hp, 4-tahti
Capacity	max. 1000 l/min
Head	max. 24 m
Weight	n. 70 kg
Discharge hose with a quick coupling. The motor part is easily dismantlable for transportation	

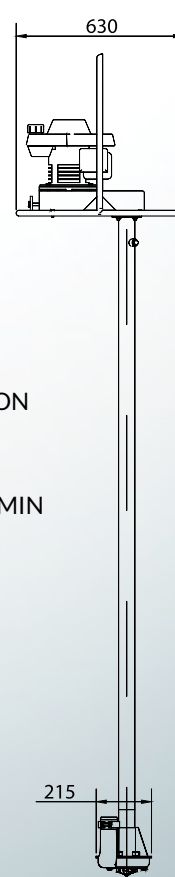




Dimension drawings



BRIGGS & STRATTON
850 SERIES
I/C 190CC 5HP
CAPACITY 1000 L/MIN
MAX HEAD 24 M



11 PUMPING STATIONS

Mamec – Marine products

Mamec has for long worked as a partner of the ship building industry. The wastewaters of the largest passenger cruise ships of the world are pumped with Mamec's pumps. We also manufacture our customers black and gray water pumping stations. Pumping stations are always designed co-operating with the customer in order to make it match the needs of each project. Our expertise in the manufacture of pumps ombined with high quality welding ensures a solution of high quality and a long-lasting for our customers. In addition to pumping stations, we have delivered our customers grease separators to the ships.

We always test the grease separators with pressure, so that we can be sure that the container does not have any leaks. This will keep the grease vapor away from the working area.



References

TUI CRUISES

Mein Schiff 2	2017
Mein Schiff 1	2017
Mein Schiff 6	2016
Mein Schiff 5	2016
Mein Schiff 4	2015
Mein Schiff 3	2014

CARNIVAL

Carnival Miracle	2004
Carnival Legend	2002
Carnival Pride	2001
Carnival Spirit	2001

ROYAL CARIBBEAN

Allure of the Seas	2010
Oasis of the Seas	2009
Independence of the Seas	2008
Liberty of the Seas	2007
Freedom of the Seas	2006
Mariner of the Seas	2003
Navigator of the Seas	2002
Adventure of the Seas	2001
Explorer of the Seas	2000
Voyager of the Seas	1999

COSTA

Costa Mediterranea	2003
Costa Atlantica	2000

VIKING LINE

Viking Grace	2013
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TALLINK

Tallink	2017
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COLOR LINE

Color Magic	2007
Color Fantasy	2004



1 VERTICAL MIXERS



Mamec Vertical Mixers are ideal for demanding usage and mixing needs even in challenging conditions. All of their parts are a result of accurate product development, manufacturing and testing.

Each Mamec Vertical mixer is always be equipped with a mixing element according to the requirements of the process and your desire. You can choose between all known mixing elements: blades, propellers, dispersion discs, turbines, coils, spirals and special designs. In addition to the mixer itself, we offer our device-specific know-how for controlling the mixing process.

Mamec Vertical Mixers are available with mixing guarantee. Our services include also optimizing the entire mixer system to be ready for use. This covers mixer installations and adjustments.

Custom design

The drive unit is always chosen based on accurate calculations. Our design department determines the required power, the load factor, secondary shaft diameters and critical rotation speeds. In addition we choose together with you the supplier of the appropriate drive unit. The smallest mixers we manufacture are in size of to be installed in small IBC container and the largest are nearly 30 meters long with a mixing body having a diameter of more than 10 meters. Rated power categories are from 0.18kW to over 200kW.



Applications

Mixers are manufactured according to the customer's specification.

- Maintaining mixed product in suspension
- Waste water treatment plant
- Biogas plants
- Paint industry
- Resin mix
- Blend of adhesives
- Different sludge and masses



Versatile solutions

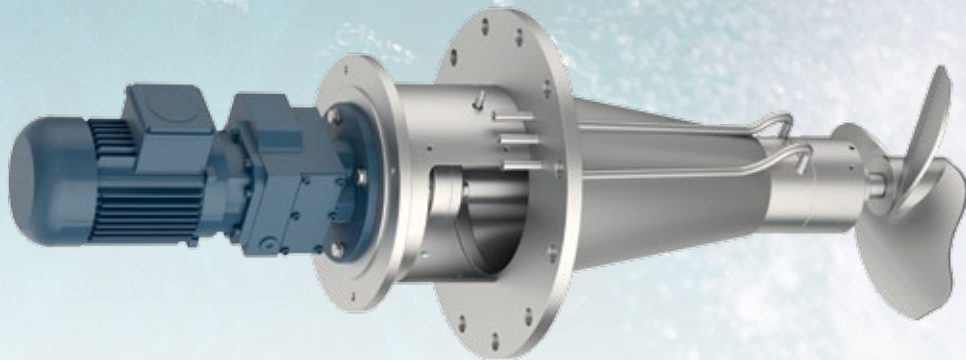
The height of the mixer blade is freely adjustable. If necessary, we will supply according to the customer's requirements for example, with an oil trap, a mechanical seal, with packing seal depending how each application requires. In long shaft solutions it is often economical to use a separate support bearing.

Drive unit and seal options increase the freedom to choose

Mamecoy equips the manufactured vertical mixers with drive unit according to the customer's specification. Our customer can choose as a solution a direct electric motor-, gear- or V-belt drive, and also air or hydraulic drive. We automatically calculate and case critical rotational speeds and the thickness of secondary axes. Seal alternatives include lip-, labyrinth-, packing-, single and double acting mechanical seals and water seals.

Numerous drive and sealing options increase the freedom to choose. At the same time, we can make every mixer we have manufactured to serve the customer's needs including details.

Mamec side entry mixers guarantee a good deal



Mamec Side entry Mixers are a result of years of development work. In the side mixer's structure the special requirements for the use has been taken into account together with serviceability and compatibility with the factory standards. Mixers represent the newest thinking in the industry and are really reliable and long lasting in use.

The structure of Mamec side entry mixer offers a number of benefits compared to conventional solutions. It consists of concentric parts and every components are by bolt and screw joints. Thus mixer's economic activity and exceptionally good operational reliability will be achieved.

Every part of the Mamec side entry mixer is thoroughly thought and their activities have been tested in practice. Using them guarantees a safe operation - efficiently and saving energy at the same time.

Advanced technology

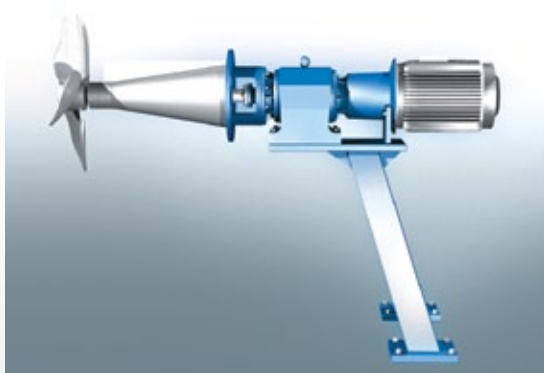
The structure of side entry mixer allows a large distance between the propeller and the tank wall. Mixing is done with the best efficiency. Thanks to the spiral propeller and frame controller, the mixer is very energy efficient.

Efficiently designed

The efficiency of the Mamec side entry mixer has been of great importance when designing. Therefore, it is usually possible to select an drive unit with one of the lower connection power than to the corresponding competing mixer models.

Applications

- Paper and pulp industry
- Biodiesel plants
- Different kinds of sludge and masses
- Green liquor
- Black liquor



Economic activity and operational reliability

When developing Mamec side entry mixers, particular importance has been paid to the mixers' overall economic activity and operational reliability. Fulfilling these requirements has brought Mamec mixers their current structure that offers a number of superior features compared to conventional solutions.

1. The effect of the distance between the propeller and the tank wall on the mixing result has been researched. The structure of the Mamec mixer allows the great distance required by the survey results.
2. The structure of the mixer body is conical and therefore very strong. The structure is such that it reduces the turbulence phenomenon. The mixing is carried out with the best possible efficiency.
3. Propeller blades are in the form of spirals. With spiral propellers it is possible to achieve efficient energy use.
4. The flow controller on the mixer body is energy saving. The design of the driver ensures that the mixing substance's spiral like rotation is minimized.
5. The mixer propeller has a large diameter. It ensures a good mixing result in relation to the power used.

1. The electric motors are delivered either integrated with gear or IEC connection.
2. As an option condition monitoring.
3. Support legs if necessary
4. The gear unit or integrated geared motor is selectable by the operator's factory standards.
5. Energy-saving flow controller that reduces the Vortex phenomenon.
6. Spiral propeller ensures high efficiency.
7. Optional sealing water monitoring device
8. A coupling that allows dismounting of the gear without emptying the tank.
9. A very strong conical frame structure. It allows a large distance between the tank wall and the propeller and minimizes the turbulence phenomenon.

3 CONTAINER MIXERS

Convenient, modulated Contmixer container- and small container mixers

Modified Contmixer -mixers are designed especially for mixing liquids in small tank and containers. Thanks to the excellent ability for variation they can also be used as mixers for open tanks. The mixer can be equipped with an rim clamp and a mounting plate or mounting bridges for light duty IBC containers.

The structure of Contmixer is simple, it is easy to modify according to the needs. Contmixer is fastened from the bearing housing to the container 2" outer thread without additional reinforcements or in a or manhole cover using with two nuts.

Contmixer is delivered both fixed and as a dismountable type. The mixer part may be attached in each container / tank dismountable model the drive unit is mounted with a quick coupling thus can be easily moved to another container as needed.

Durable construction

The Contmixer is designed to last for a long time. The bearing housing includes 2 pcs grooved ball bearings, a separate inner shaft and a flexible coupling. The bearing is protected from the fluid side by a radial shaft seal. Not suitable for use as standard in pressure tanks. The mixing can be installed at any height on the shaft is convenient and as it is attached with conical nut / screw. Thus, it is also possible to install several different mixer elements in freely selected locations on the shaft.

Materials

All parts that are in contact with liquid are of acid-resistant steel (EN 1.4404). It is also possible to use other materials on request (e.g., SAF 2205, 904L, or 254SMO).

Motors and gear motors

The mixers are delivered with flanged motors according to IEC standards, gear motors, air motors or hydraulic motors. We also deliver mixers Ex (e) or Ex (d) with protected motors and with non-standard voltages.



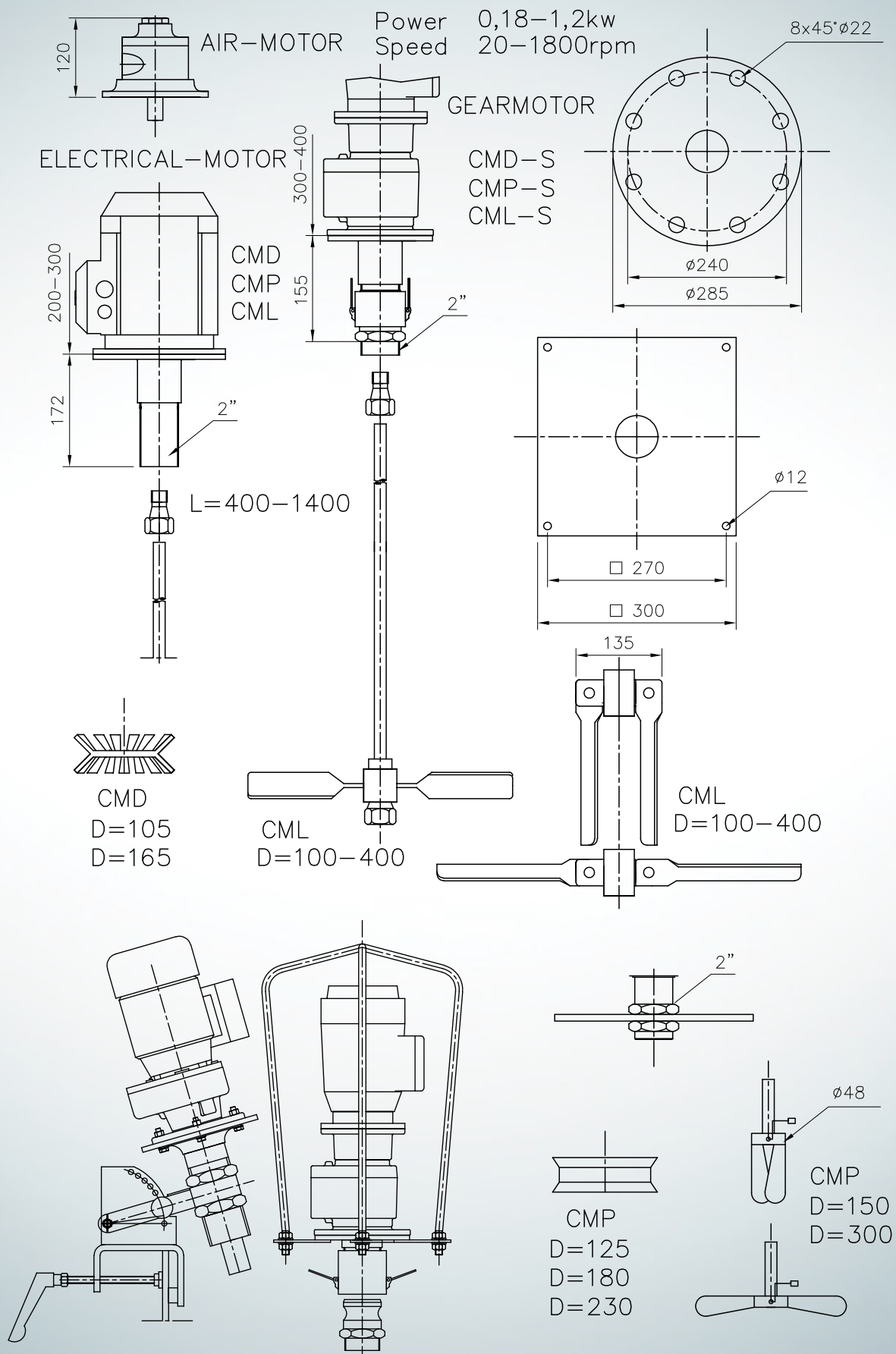
Testing, Quality and Documentation

Each mixer is balanced, and tested at the factory before shipping to the customer. Our quality system complies with ISO 9001 quality management system. The delivery includes Finnish, Swedish or English installation, operation and maintenance instructions.

Applications

- Food industry
- Chocolate
- Paint
- Agricultural chemicals
- Mineral Additives
- Solvents
- Printing inks
- Adhesives
- etc.

Dimension drawings



4

SPECIAL MIXERS AND SPECIAL PUMPS

Working solutions for even the most challenging mixing and pumping problems


Over the years, Mamec has got to be involved in solving the most diversified challenges of their customers within the mixing as well as with pumping. Mostly, we have found solutions to problems together.

Over the years we have been manufacturing in addition to our product range, bottom mixers, scrapers, large dredging pumps and spiral mixers of various sizes as well as combinations of these.

A long experience in manufacturing mixers and pumps combined with innovative thinking produces high quality and working solutions to our customers' most challenging mixing and pumping problems.







Mamec pumps are used to pump among others:

- Shipwrecks
- Black sewage from ships
- Bilge water
- Process waters of leather factories
- Agricultural sludge
- Flood water
- Slaughter waste
- Feather
- Cutting fluids
- Grinding liquids
- Cooling water
- Overload
- Side streams of process industry
- Pigment
- Hospital's disinfection facilities
- Salt solution
- Glue
- Raw materials of feed

Mamec mixers are used to mix among others:

- | | |
|------------------------|---------------------------|
| • Pulp | • Lead |
| • Cardboard pulp | • Sugar solutions |
| • Municipal wastewater | • Quark |
| • Kaolin | • Yoghurt |
| • Lime sludge | • Liquorice mass |
| • Bentonite sludge | • Anti-foaming substances |
| • Starch | • Bitumen |
| • Paste of paints | • Polymers |
| • Paint pigments | • Wax |
| • Acids | • Slaughter waste |
| • Bases | • Lacquer |
| • Biomasses | • Alcohol |
| • Food waste | • Fuels |
| • Manure slurry | • Paraffin |
| • Municipal waste | • Mustard |
| • Waste from bakeries | • Silicone |
| • Resins | • Pet food |
| • Chocolate | • Flavor extracts |
| • Glue | • Rapeseed oil |
| • Ice | • Ketchup |
| • Fish waste | • Ceramic mass |
| • Oily water | • etc. |

mamec
SPECIAL PUMPS AND MIXERS



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SPECIAL PUMPS AND MIXERS

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mamec@mamec.fi

www.mamec.fi

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USA

Beach cleaner

Lake Weeders Digest

www.weedersdigest.com