



**Submersible motor driven mixer**

- Unit
- Standard accessories

**50 Hz  
Standard Programme**

**Areas of application**

In environmental engineering for the treatment of municipal and industrial sewage/waste water/effluents and sludge.

For mixing, homogenizing and thickening

- in sludge storage tanks
- during the thickening process
- in the sludge dewatering process
- to optimise heat transfer
- for the cleaning of pump sumps
- to prevent formation of deposits on tank walls and floor
- to remove floating sludge

**Operating data**

Amamix® with gear unit	
Nominal propeller diameter	D 500 mm, 800 mm
Power rating	P 1.3 up to 16 kW
Fluid temperature	T up to 40 °C
Installation depth	H up to 30 m

**Design**

Horizontal submersible motor mixers with ECB propellers in close-coupled design. Drive via coaxial spur gear.

**Drive**

- Three-phase asynchronous motor
- Also in explosionproof design: depending on motor size EEx d IIB T3 or EEx d IIB T4, 400 V/50 Hz, 3~
- (Var. 230 V, 500 V, 690 V, depending on motor size)

**Bearing assembly**

Maintenance-free rolling element bearings, sealed for life.

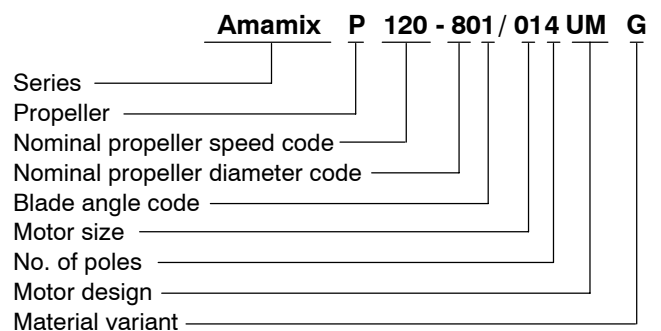
**Shaft seal**

Two bi-directional mechanical seals, with environmentally friendly oil chamber.

**Materials**

Standard design in cast iron.  
Material variants in corrosion and wear-resistant stainless steel.

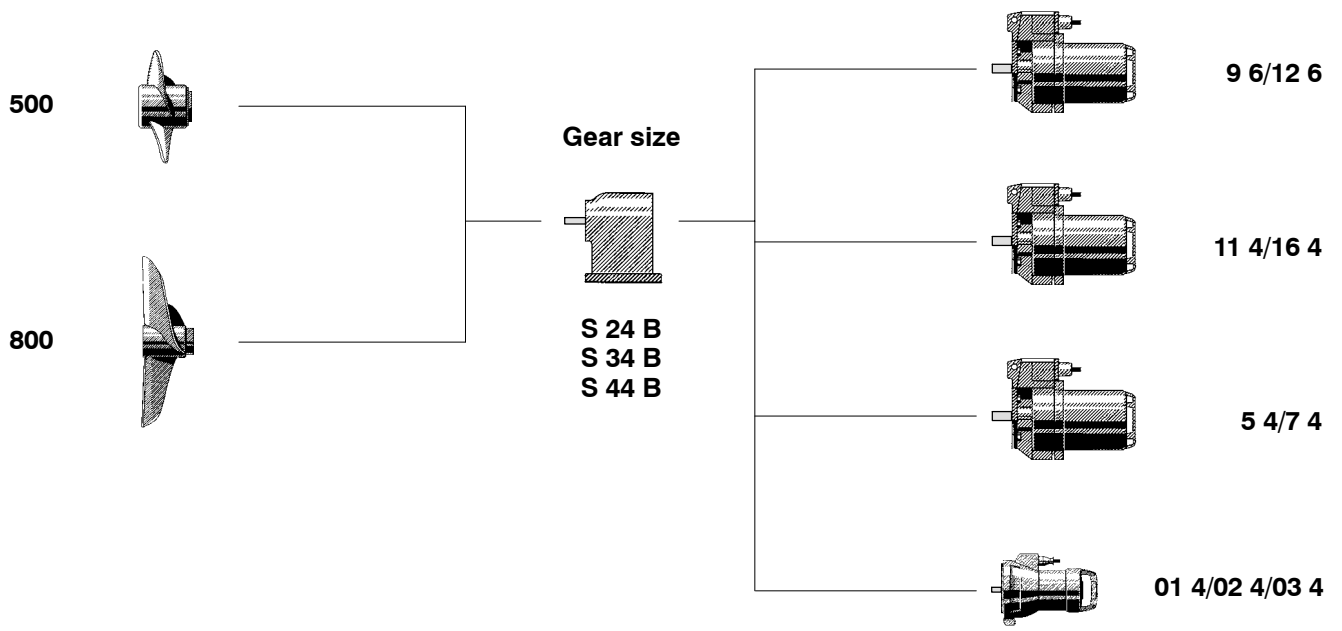
**Designation**



**Modular design Amamix with gear unit**

Nominal propeller diameter

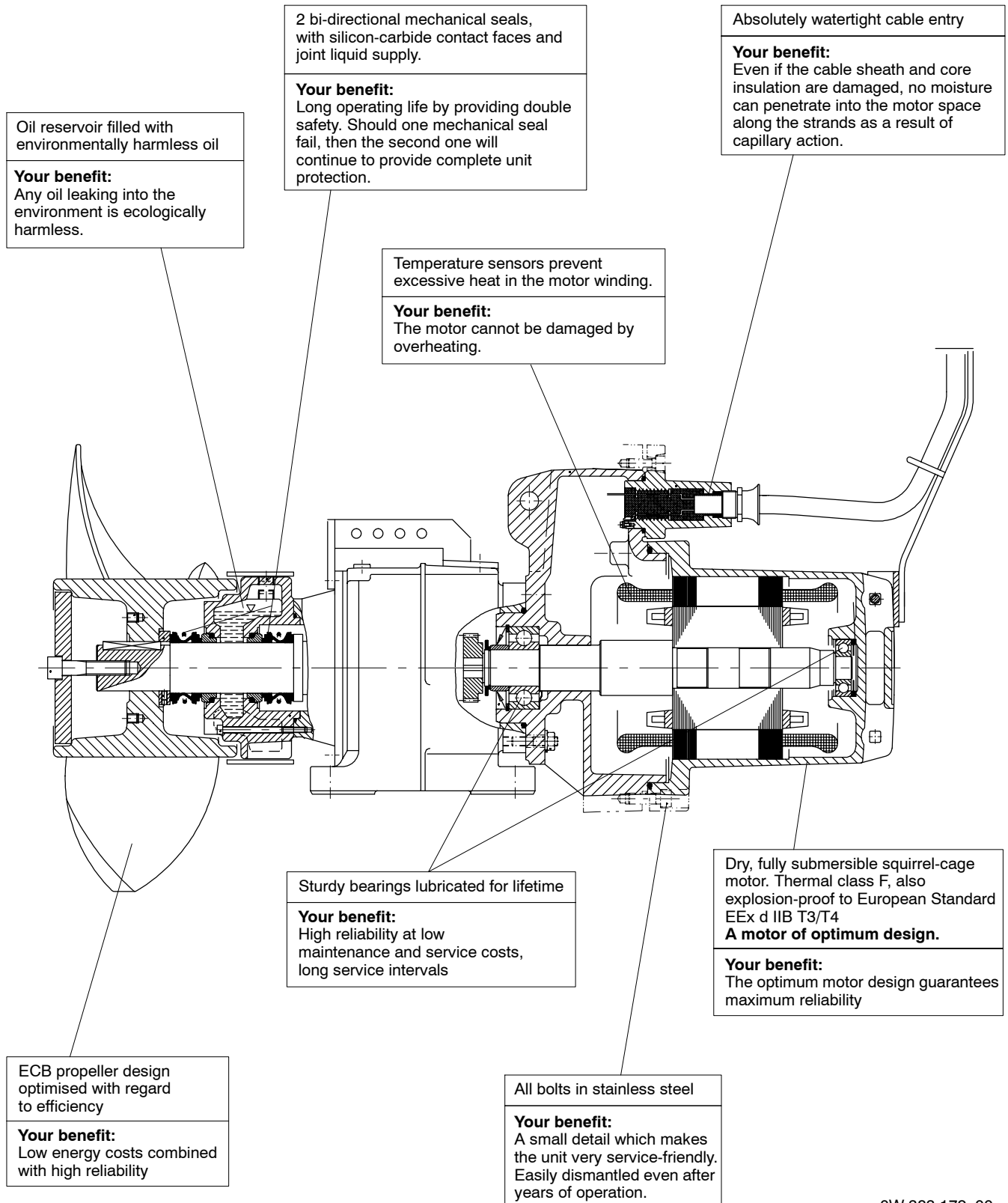
Motor size



(for motor/hydraulics combination see dimensional sheets / rating)

**Product advantages**

**Example: Amamix P 400-503/74 UMG**



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## Guarantee, testing and quality control

Every mixer undergoes an operational test in accordance with KSB Standard ZN 56525 (dry running test). Quality assurance is guaranteed by a quality assurance system which has been assessed and certified to DIN EN ISO 9001. Special inspections on request.

## Scope of supply

**Amamix with gear unit:** Mixer with gear unit and support frame (if ordered);  
cable support and lifting lug (on gear unit);  
cable support for power cable;  
2 shackles (for lifting gear and cable support);  
lifting clamp

## Instructions relating to frequency inverter operation

All KSB mixers are suitable for frequency inverter operation.  
With flameproof motors the control range is 25 to 50 Hz.  
In addition to the reserve capacity provided for hydraulic reasons, a 5 % motor power reserve must be taken into account when operating the mixer with a frequency inverter.

## Spare parts recommendation for two years' operation to VDMA 24 296

Part No.	Part Description	Number of mixers (including stand-by mixer)							Type
		2	3	4	5	6	8	10 and more	
80-1/ (811 + 81-59)	Special motor part Motor housing with stator	--	--	--	1	1	2	3	E
834	Cable entry	1	1	2	2	2	3	40 %	R
818	Rotor	--	--	--	1	1	2	3	E
230	Propeller	1	1	1	2	2	3	30 %	R
433.01 433.02	Mechanical seal complete (set)	2	3	4	5	6	7	90 %	V
321.01/321.02 321/322	Rolling element bearings (set)	1	1	2	2	3	4	50 %	V
	Set of sealing elements	4	6	8	8	9	10	100 %	V

E = spare part

R = replacement part

V = wear part

We recommend to stock both wear parts and replacement parts, also during the warranty period.

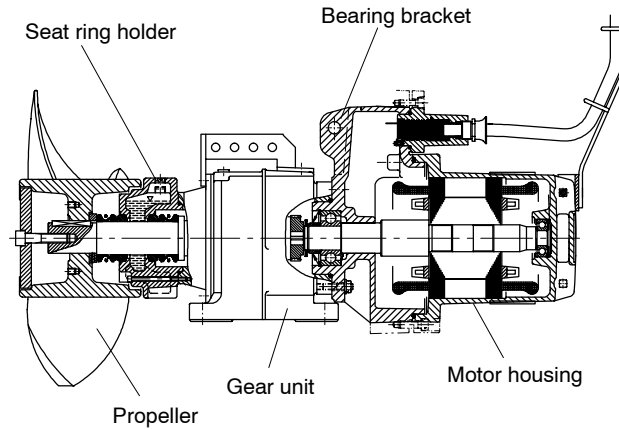
## Warranty

Our warranty is based on and exclusively applicable to the fluid and tank/basin data provided by yourselves and applies to the relevant physical conditions. Claims which go beyond the aforementioned aspects as well as the hydraulic solids transportation of the entire system are excluded from our warranty obligations.

The overall function substantially depends on the correct positioning of the mixing equipment. We cannot accept any warranty claims resulting from a mixer positioning which has not explicitly been approved of by us.

Low-flow areas (flow separation) resulting from the tank geometry are not subject to the warranty either. Furthermore, we do not assume any responsibility for the utilisation of our mixers in protected/patented procedures and/or in case of protected rights of third parties.

Unauthorised modifications, the mixer's use for fluids and operating conditions not specified in the purchase order, as well as the use of non-KSB installation parts without KSB's prior consent will result in the forfeiture of any and all claims for damages! The same applies to consequential damage (e.g. resultant process downtime).



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### Material variant

Part		Material variant	
		G	G1
<b>Pump Unit</b>			
Motor housing		JL 1040	
Bearing bracket		JL 1040	
Gear unit housing		JL 1040	
Seat ring holder		JL 1040	
Propeller	500/800	JL 1040	1.4517
Mechanical seal	propeller side	SiC / SiC	
	motor side	Carbon / CrMo steel	
Propeller shaft		1.4306	
O-rings		NBR (Var.: Viton (FPM))	
Bolts		A4 (as 1.4571)	
Support frame (not shown)		1.4301 (Var.: 1.4571)	
Lifting clamp (not shown)		1.4301	

JL 1040 → GG-25

### Material comparison

EN	Similar to ASTM material
JL 10 40	A 48 Class 35 B
1.4517	A 743 CD 4 MCU
1.4571	A 276 Type 316 Ti
1.4301	A 276 Type 304
1.4306	similar to A 276 Type 304
FPM	FKM

## Materials

### Grey Cast Iron JL 1040 (GG-25)

Graphite cast iron

This graphite cast iron to DIN 1691 is used most commonly for pumping municipal sewage, foul water, sludges and storm and surface water. It is suitable for neutral and slightly aggressive media.

The pH-value should be  $\geq 6.5$ ; and the sand content  $\leq 0.5$  g/l.

### 1.4571 (X10 CrNiMoTi 18 10)

Austenitic steel

This austenitic steel acc. to DIN 17 440 is highly corrosion-resistant in municipal and chemical effluent and is more resistant against intercrystalline corrosion due to its titanium stabilisation even when welded.

### Duplex Steel

Cast Stainless steel

(1.4517 or technically equivalent material)

The resistance to pitting of this ferritic-austenitic stainless cast steel makes it particularly suitable to pump sewage containing substantial amounts of chlorides and acids or sea and brackish water. Its good chemical resistance, even to phosphorus and sulphur, makes it suitable for wide application in the chemical and process industries.

Units manufactured in duplex steel have also been used very successfully to pump brine and chemical effluents (pH 1-12), foul water and seepage from waste tips.

## Type series allocation to the material variants

Size		Drive	G	G1
Amamix	500	gear	x	x
	800	gear	x	x

## Recommended oil quantity for gear unit

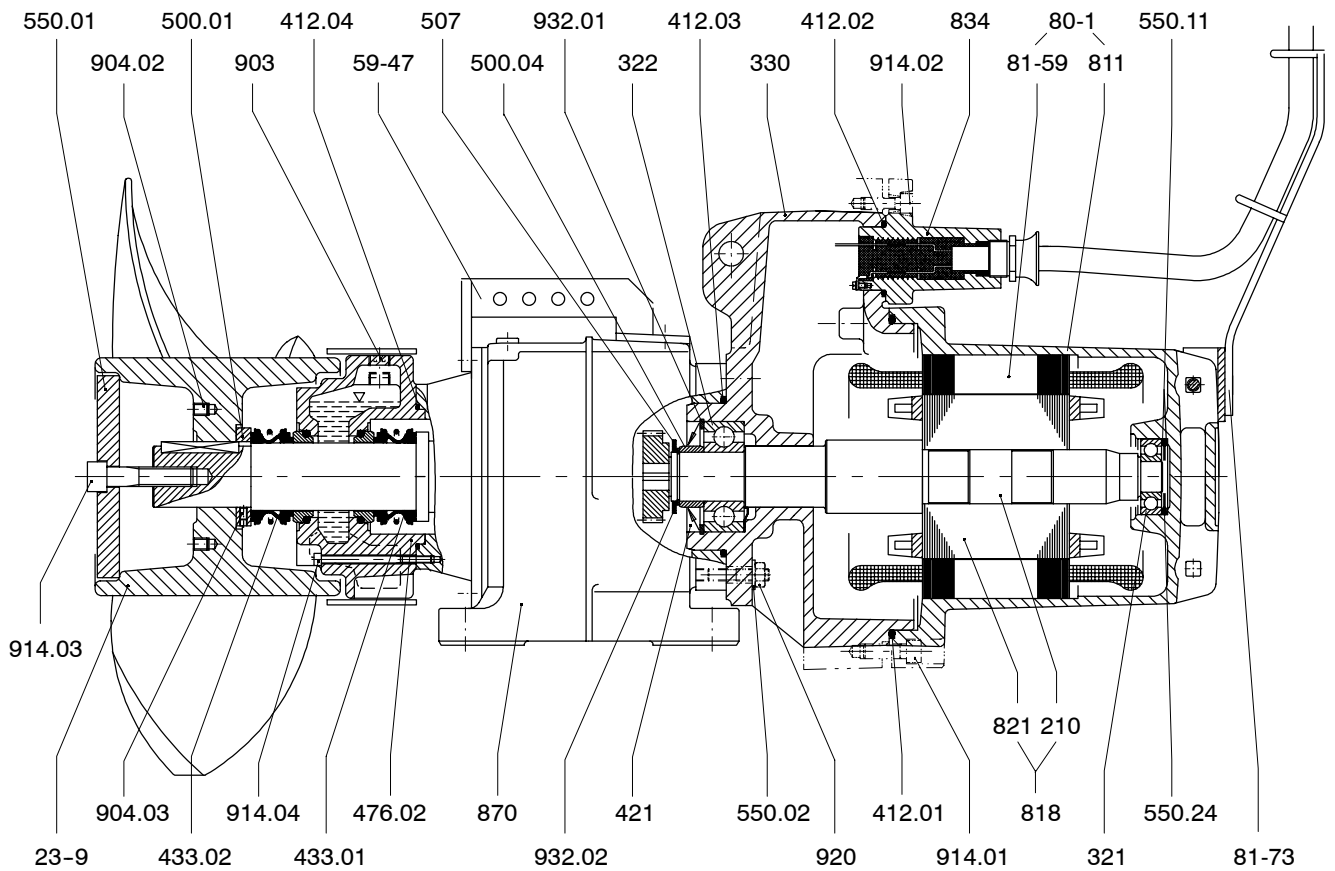
Gear type	Oil quantity [l]	Oil quality
S 24 B	approx. 1.3 (lifetime fill)	Oil in acc. with ISO VG 320
S 34 B	approx. 1.4	
S 44 B	approx. 2.8	

**TECHNICAL DETAILS - STANDARD PROGRAMME / (Standard Variants)**
**Material variant: G, G1**

<b>Motor size</b>		
4-pole	01 4 ... 03 4	5 4 ... 16 4
6-pole	--	9 6 ... 12 6
<b>Power rating</b>	up to 3.15 kW	3.6 kW up to 16 kW
<b>Bearings</b>	Rolling element bearings – sealed for life	
<b>Motor</b>	generally appropriate for frequency inverter operation	
Version <b>U</b>	Non-explosionproof	
Version <b>X</b>	--	Explosion-proof to EEx d IIB T3
Version <b>Y</b>	Explosion-proof to EEx d IIB T4	--
Version <b>W</b>	version for pumped liquids with temperatures up to 60 °C (on request), Non-explosionproof	
Switching method	direct	direct (Star delta possible for 400 V)
Voltage	400 V (Var.: 230 V, 500 V, 690 V)	400 V (Var.: 500 V, 690 V)
Cooling	By surrounding fluid	
Immersion depth	up to 30 m	
<b>Power cable</b>		
Length	10 m (Var.: up to 50 m)	
Entry	cast in resin, completely watertight over its entire length	
Type	Rubber-sheathed cable (see motor catalogue); ETFE (Tefzel) cable on request	
Cable protection	--	(Var.: protective polyamide tube)
<b>Seals</b>		
O-rings	nitrile rubber NBR, (Var.: Viton = fluororubber FPM)	
Shaft seal	bellows-type mechanical seal (Var.: mechanical seal with covered spring)	
<b>Control/Monitoring</b>		
Winding temperature <b>U, W</b>	bimetal switch	PTC resistor or bimetal switch
Winding temperature <b>Y, X</b>	bimetal switch	PTC resistor
Motor leakage, mechanical seal leakage	(Var.: Leakage detection electrode in the motor space)	
<b>Coating</b>	2-comp. epoxy resin coating	
<b>Admissible temperature of pumped fluid</b>	40 °C	
<b>Acceptance</b>		
	to ISO 9001 (Var.: with Test Report EN 10 204-2.2)	
<b>Installation</b>		
Stationary	Installation depth up to 30 m	

## General drawing with list of components

Example: Amamix P 400-503/7 4 UM G



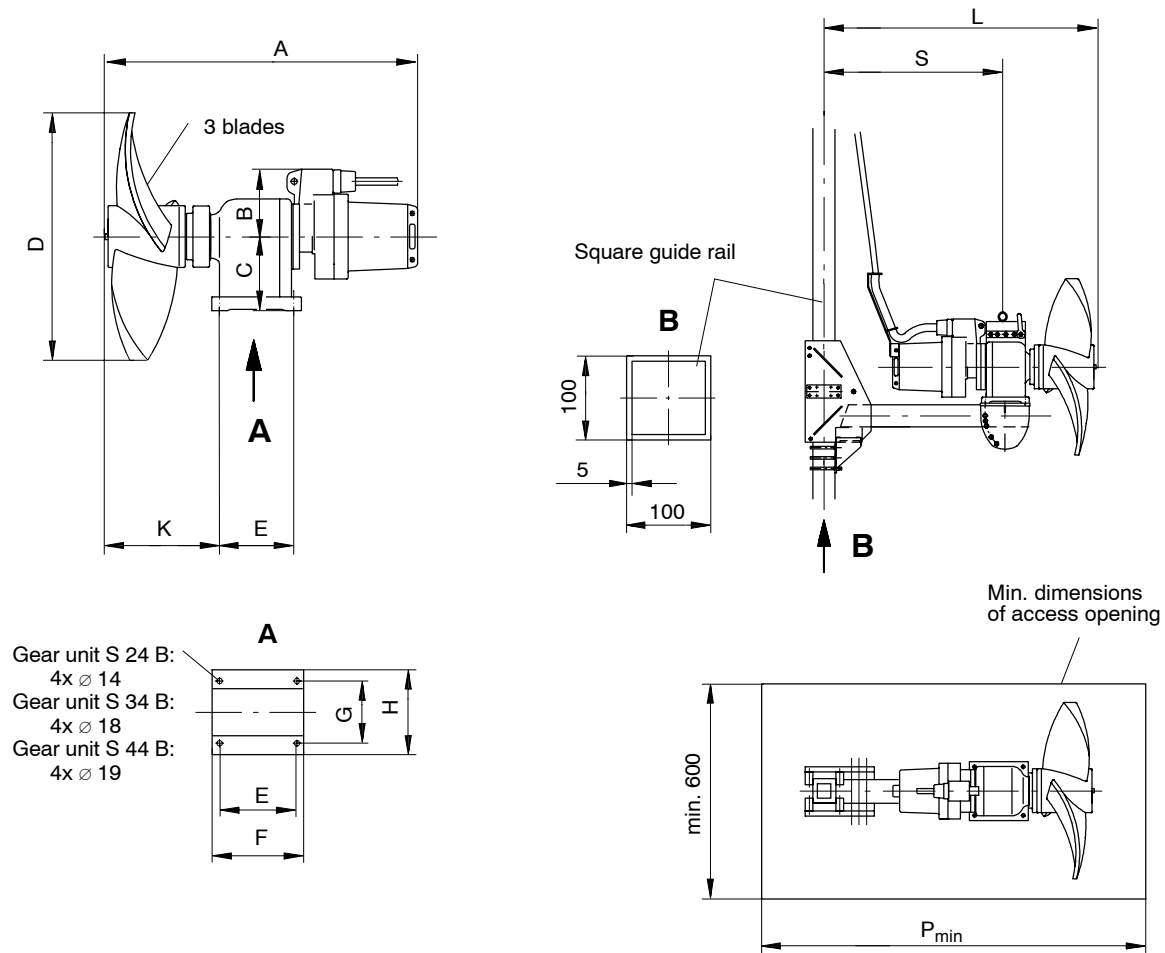
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Part No.	Part description	Part No.	Part description	Part No.	Part description
210	Shaft	476	Seat ring holder	821	Rotor lamination
23-9	Propeller	500	Ring	834	Cable entry
321	Radial ball bearing	507	Thrower	870	Gear unit
322	Radial roller bearing	550	Disc	903	Screwed plug
330	Bearing bracket	59-47	Lifting lug	904	Grub screw
412	O-ring	81-59	Stator	914	Socket hd. cap screw
421	Lip seal	81-73	Cable support	920	Nut
433	Mechanical seal	811	Motor housing	932	Circlip
		818	Rotor		



**Technical data**
**Amamix 500**
**Gear unit**
**GG**
**400 V, 50 Hz**
**Performance data**

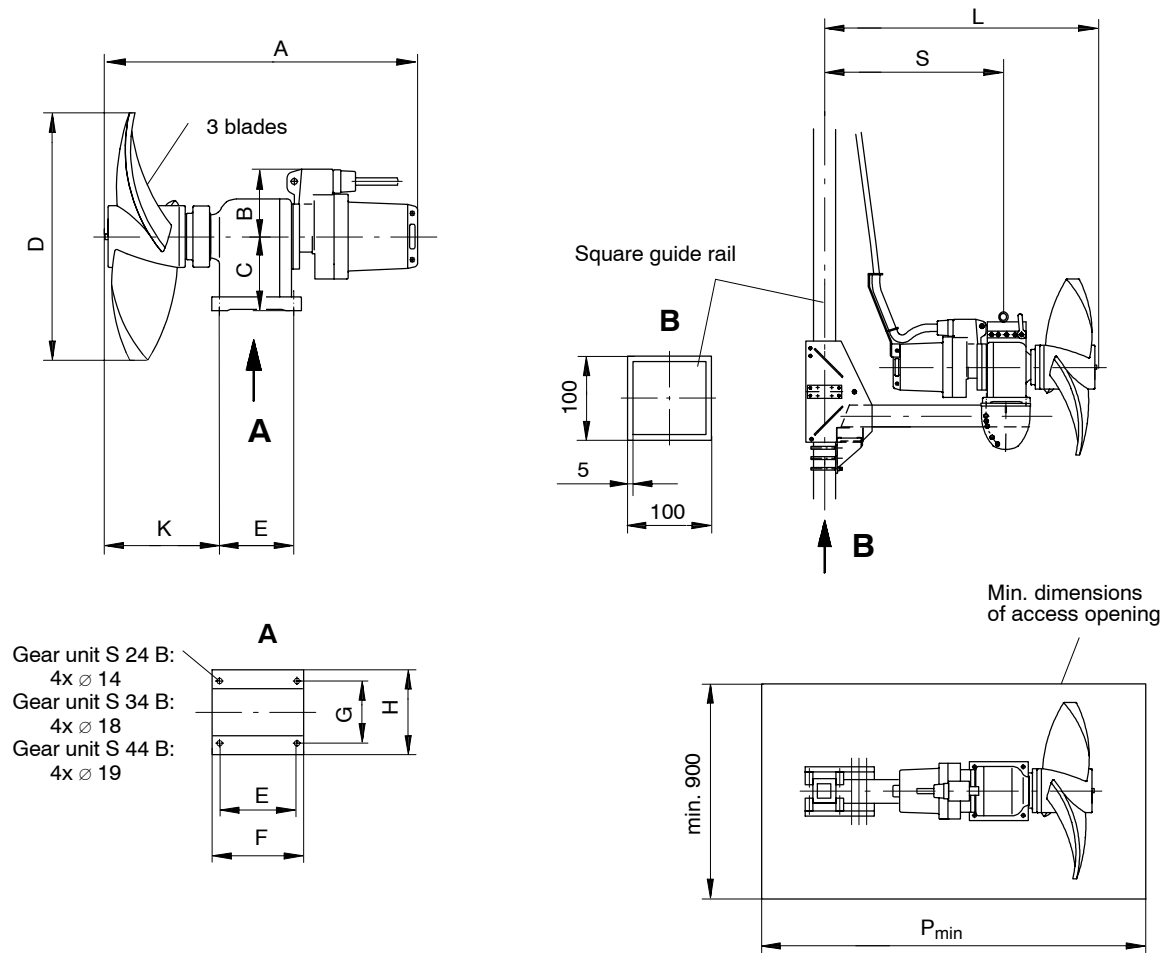
No.	Size Amamix P ...	Nominal speed n [min <sup>-1</sup> ]	Motor power P <sub>2</sub> [kW]	Size of gear unit	Weight incl. support frame + 10 m power cable [kg]	
01	260-501/01 4 UMG/YMG	260	1.3	S 24 B	176	
02	260-502/01 4 UMG/YMG					
03	260-502/02 4 UMG/YMG		2.4			
04	260-503/02 4 UMG/YMG					
05	260-503/03 4 UMG/YMG		3.15			
06	400-501/02 4 UMG/YMG	400	2.4	S 34 B	189	
07	400-501/03 4 UMG/YMG		3.15			
08	400-502/5 4 UMG/XMG		5.5			
09	400-502/7 4 UMG/XMG		7.5			
10	460-502/11 4 UMG/XMG		460			11.8
11	400-503/7 4 UMG/XMG	400	7.5	S 34 B	223	
12	400-503/11 4 UMG/XMG		11.8	S 44 B	277	
13	460-503/11 4 UMG/XMG		460			
14	460-503/16 4 UMG/XMG			16.0		300


**Dimensions table**

No.	Size Amamix P ...	Dimensions [mm]											
		A	B	C	D	E	F	G	H	K	L	P <sub>min</sub>	S
01	260-501/01 4 UMG/YMG	965	135	115	500	165	200	135	190	309	1159	1460	660
02	260-502/01 4 UMG/YMG												
03	260-502/02 4 UMG/YMG												
04	260-503/02 4 UMG/YMG												
05	260-503/03 4 UMG/YMG												
06	400-501/02 4 UMG/YMG	993		140		205	245	170	230	302	1220	1520	
07	400-501/03 4 UMG/YMG												
08	400-502/5 4 UMG/XMG	926	217			260	310	215	290		1278	1580	700
09	400-502/7 4 UMG/XMG												
10	460-502/11 4 UMG/XMG												
11	400-503/7 4 UMG/XMG												
12	400-503/11 4 UMG/XMG	1009		180		260	310	215	290		1278	1580	700
13	460-503/11 4 UMG/XMG												
14	460-503/16 4 UMG/XMG												

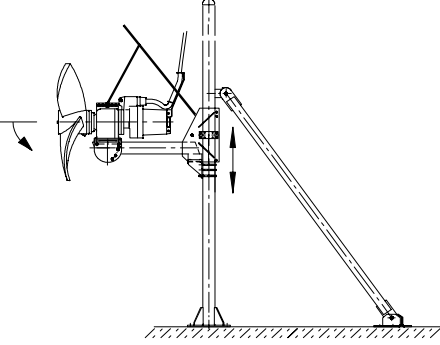
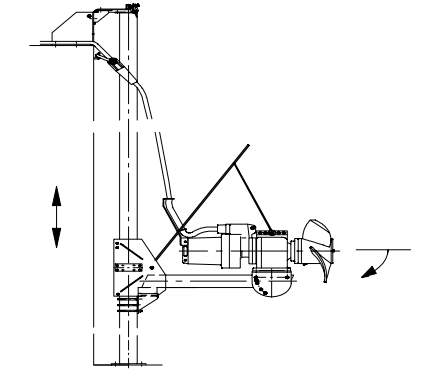
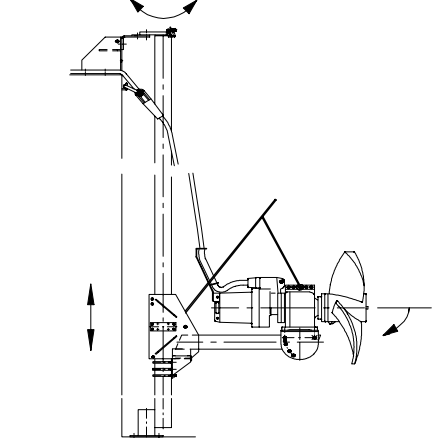
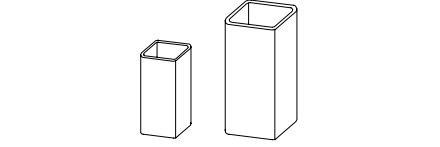
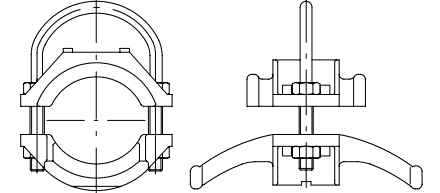
**Amamix 800                      Gear unit                      GG                      400 V, 50 Hz**
**Performance data**

No.	Size Amamix P ...	Nominal speed n [min <sup>-1</sup> ]	Motor power P <sub>2</sub> [kW]	Size of gear unit	Weight incl. support frame + 10 m power cable [kg]	
01	120-801/01 4 UMG/YMG	120	1.3	S 24 B	219	
02	120-802/01 4 UMG/YMG		2.4			
03	120-802/02 4 UMG/YMG					
04	180-801/02 4 UMG/YMG	180	3.15		224	
05	180-801/03 4 UMG/YMG					
06	120-803/02 4 UMG/YMG	120	2.4		222	
07	120-803/03 4 UMG/YMG		3.15			
08	180-802/5 4 UMG/XMG	180	5.5	S 34 B	259	
09	180-802/7 4 UMG/XMG		7.5			
10	210-802/7 4 UMG/XMG	210	11.8	S 44 B	318	
11	210-802/11 4 UMG/XMG					
12	260-801/9 6 UMG/XMG	260	9.0		315	
13	260-801/12 6 UMG/XMG		12.5			
14	180-803/9 6 UMG/XMG	180	9.0		315	
15	180-803/12 6 UMG/XMG		12.5			
16	260-801/7 4 UMG/XMG	260	7.5		S 34 B	264
17	180-803/7 4 UMG/XMG	180				
18	260-801/11 4 UMG/XMG	260	11.8		S 44 B	318
19	180-803/11 4 UMG/XMG	180				
20	210-803/11 4 UMG/XMG	210				
21	210-803/16 4 UMG/XMG			16.0		
22	260-802/16 4 UMG/XMG	260				


**Dimensions table**

No.	Size Amamix P ...	Dimensions [mm]											
		A	B	C	D	E	F	G	H	K	L	P <sub>min</sub>	S
01	120-801/01 4 UMG/YMG	1020	135	115	800	165	200	135	190	364	1214	1515	750
02	120-802/01 4 UMG/YMG												
03	120-802/02 4 UMG/YMG												
04	180-801/02 4 UMG/YMG												
05	180-801/03 4 UMG/YMG												
06	120-803/02 4 UMG/YMG												
07	120-803/03 4 UMG/YMG												
08	180-802/5 4 UMG/XMG	981	217	140		205	245	170	230	357	1275	1575	
09	180-802/7 4 UMG/XMG												
10	210-802/7 4 UMG/XMG												
11	210-802/11 4 UMG/XMG	1064		180		260	310	215	290		1333	1635	
12	260-801/9 6 UMG/XMG												
13	260-801/12 6 UMG/XMG												
14	180-803/9 6 UMG/XMG												
15	180-803/12 6 UMG/XMG	981		140		205	245	170	230		1275	1575	
16	260-801/7 4 UMG/XMG												
17	180-803/7 4 UMG/XMG												
18	260-801/11 4 UMG/XMG	1064		180		260	310	215	290		1333	1635	
19	180-803/11 4 UMG/XMG												
20	210-803/11 4 UMG/XMG												
21	210-803/16 4 UMG/XMG												
22	260-802/16 4 UMG/XMG												

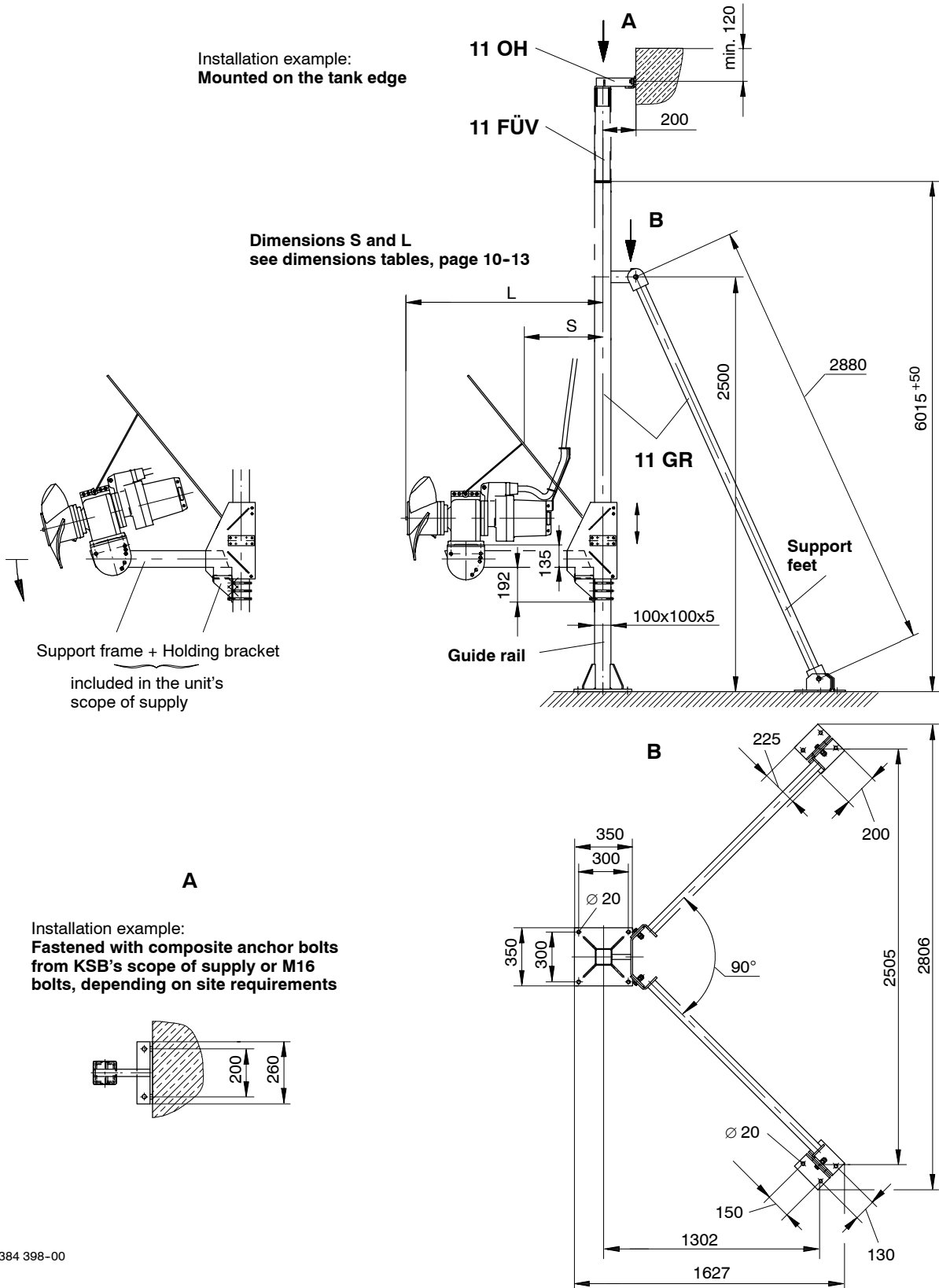
**Overview of standard accessories**

Accessories	Installation example	
<b>Standard accessories 11</b>  Page 16-17		
<b>Standard accessories 31</b>  Page 18-21		
<b>Standard accessories 32</b>  Page 22-25		
<b>Guide rails for accessories 11, 31, 32</b>  Page 26		
<b>Other accessories</b>  Page 27-29		
<b>Cranes</b>	See Type series booklet "KSB Lifting Equipment" 1596.5-10 !	

### Standard accessories 11

#### For stationary free-standing installation on level tank floor

Free-standing installation of the guide rail on the tank floor for mounting the mixer at a greater distance from the tank walls, with optional upper mounting fixture.



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## Standard accessories 11

### For stationary free-standing installation on level tank floor

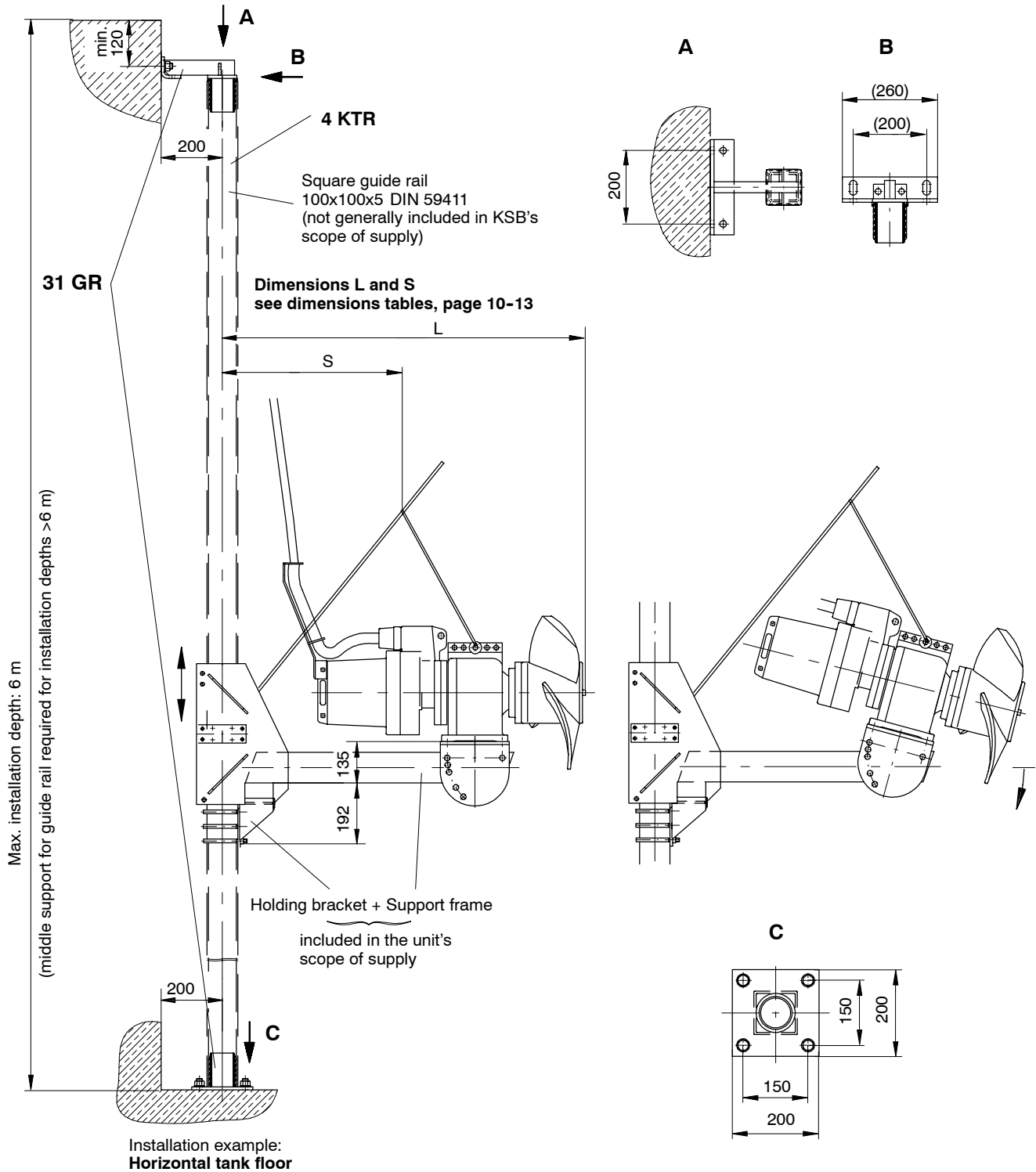
Item No.	Accessories	Description
11 GR	Guide rail	Cross-section 100x100x5 for installation depths up to 6 m; to be shortened at the site, if necessary (e.g. for lesser installation depths or if crossbeams are installed above the installation position).
	Support feet	For stabilizing the mixer on the tank floor; concrete grade at least B25
	Incl. 12 nos. composite anchor bolts	Composite anchor bolts for fastening the guide rail and the support feet on the tank floor
11 FÜV	Extension for guide rail	Optional guide rail extension for larger installation depths; square guide rail 100x100x5 available 3 and 6 metres long; to be welded to the guide rail (standard length 6 m) at the site and shortened as required.
11 OH	Upper holder	Optional upper holder for supporting the guide rail in case of larger installation depths; holder with flexible fitting for vibration dampening
	incl. 2 nos. composite anchor bolts	Composite anchor bolts for fastening the upper holder (for concrete walls/ concrete beams) included in scope of supply; concrete grade at least B25. For steel girders, M16 bolts have to be provided at the site (length according to site requirements).
--	Support frame (included in unit's scope of supply)	Support frame for fastening the mixer with vertical downward pitch option; pitch angles 7.5°, 15°, 22.5° and 45°
--	Holding bracket (included in unit's scope of supply)	Continuous vertical adjustment to operating position of the mixer; support frame rests on the holding bracket via a large replaceable plastic base acting as vibration damper.

Item No.	Description	Material	Material No.	Weight [kg]
11 GR	Stand L = 6m with support feet Guide rail 100x100x5; L=6 m Incl. 12 nos. composite anchor bolts	1.4301	19 554 068	161
		1.4571	19 554 069	161
11 FÜV	Extension for square guide rail 100x100x5 <b>Not generally included in KSB's scope of supply, see accessories 4 KTR, page 26!</b>	1.4301	--	14.4 kg/m
		1.4571	--	14.4 kg/m
11 OH	Additional holder for upper support of guide rail; incl. 2 nos. of composite anchor bolts (for concrete wall)	1.4571	19 554 053	7.8

**Standard accessories 31**

**For stationary installation of mixer, without horizontal swivelling option, vertically adjustable**

Installation example:  
Mounted on the tank edge



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## Standard accessories 31

For stationary installation of mixer, without horizontal swivelling option, vertically adjustable

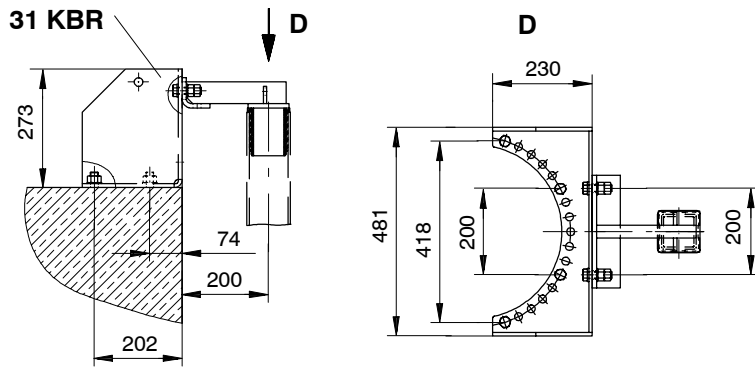
Item No.	Accessories	Description
31 GR	Upper and lower guide rail holders	Upper holder for mounting on tank wall; lower holder for horizontal tank floor
	incl. 6 nos. composite anchor bolts	Composite anchor bolts for mounting the upper holder on the tank wall and the lower holder on the tank floor; concrete grade at least B25
4 KTR	Square guide rail	Square guide rail (cross-section 100x100x5), <b>not generally included in KSB's scope of supply</b> , available 3 metres or 6 metres long, to be adapted as required; if guide rail > 6 m is required, extension (3 or 6 metres only) to be welded to the guide rail and shortened at the site.
--	Support frame (included in scope of supply)	Support frame for fastening the mixer with vertical downward pitch option; pitch angles 7.5°, 15°, 22.5° and 45°
--	Holding bracket (included in scope of supply)	Continuous vertical adjustment to operating position of the mixer; support frame rests on the holding bracket via a large replaceable plastic base acting as vibration damper.

Item No.	Description	Material	Material No.	Weight [kg]
31 GR	Top wall and floor holders, vertical wall, incl. 6 nos. of composite anchor bolts	1.4571	19 553 926	13.7
4 KTR	Square guide rail 100x100x5 <b>Not generally included in KSB's scope of supply, see accessories 4 KTR, page 26!</b>	1.4301	--	14.4 kg/m
		1.4571	--	14.4 kg/m

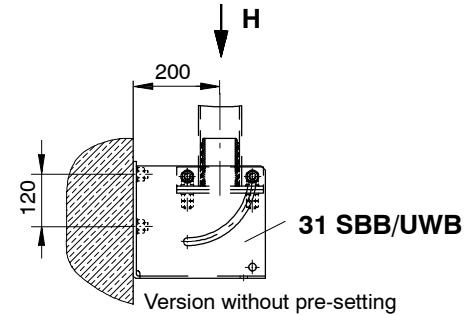
## Standard accessories 31

For stationary installation of mixer, without horizontal swivelling option, vertically adjustable

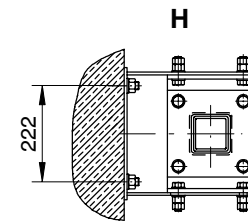
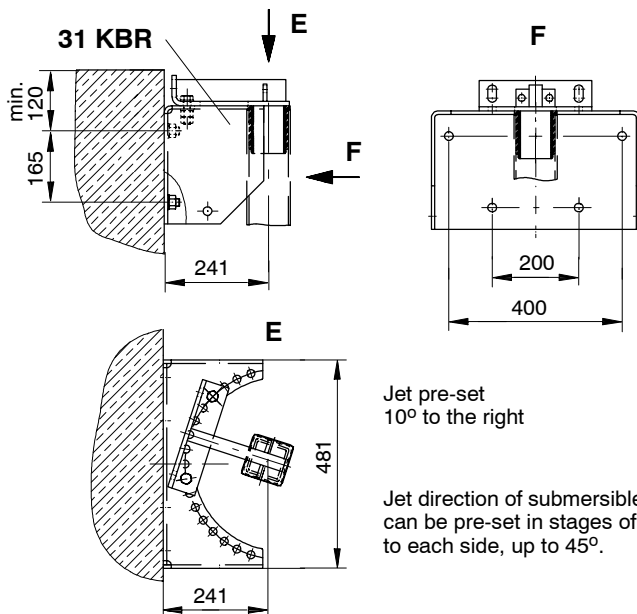
Installation example:  
**Upper holder mounted on a bracket on the top of the tank**  
 (no pre-set jet direction)



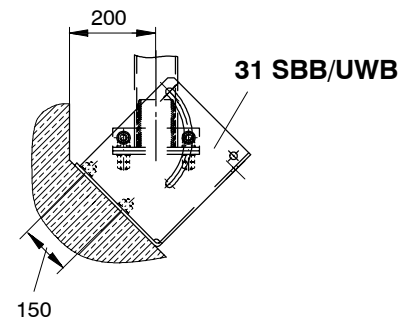
Installation example:  
**Lower holder mounted on the wall by means of bracket**  
 cannot be used with 31 KBR as pre-setting device



Installation example  
**Upper holder mounted on a bracket on the top of the tank**  
 (pre-set jet direction)



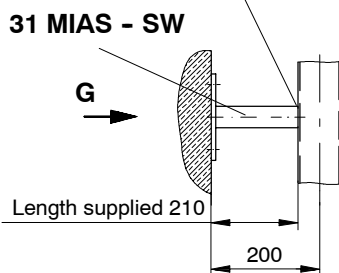
Installation example:  
**Bracket for mounting the lower holder on floor**  
 inclines from 0° ... 90°



Installation example  
**Middle support for guide rail 100x100x5**

### Weld connection to guide rail

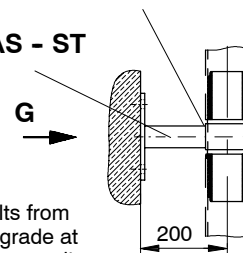
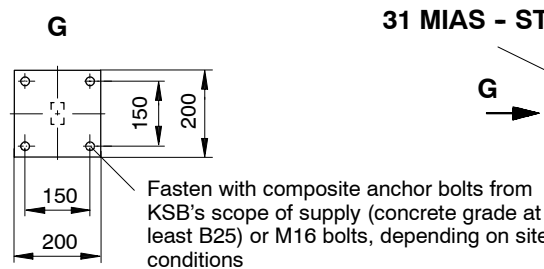
Support to be shortened to required length in acc. with site conditions  
 and welded to the guide rail



0W 384 400-00

### Version with flexible fitting

Guide rail 100x100x5  
 (not generally included in KSB's scope of supply)



## Standard accessories 31

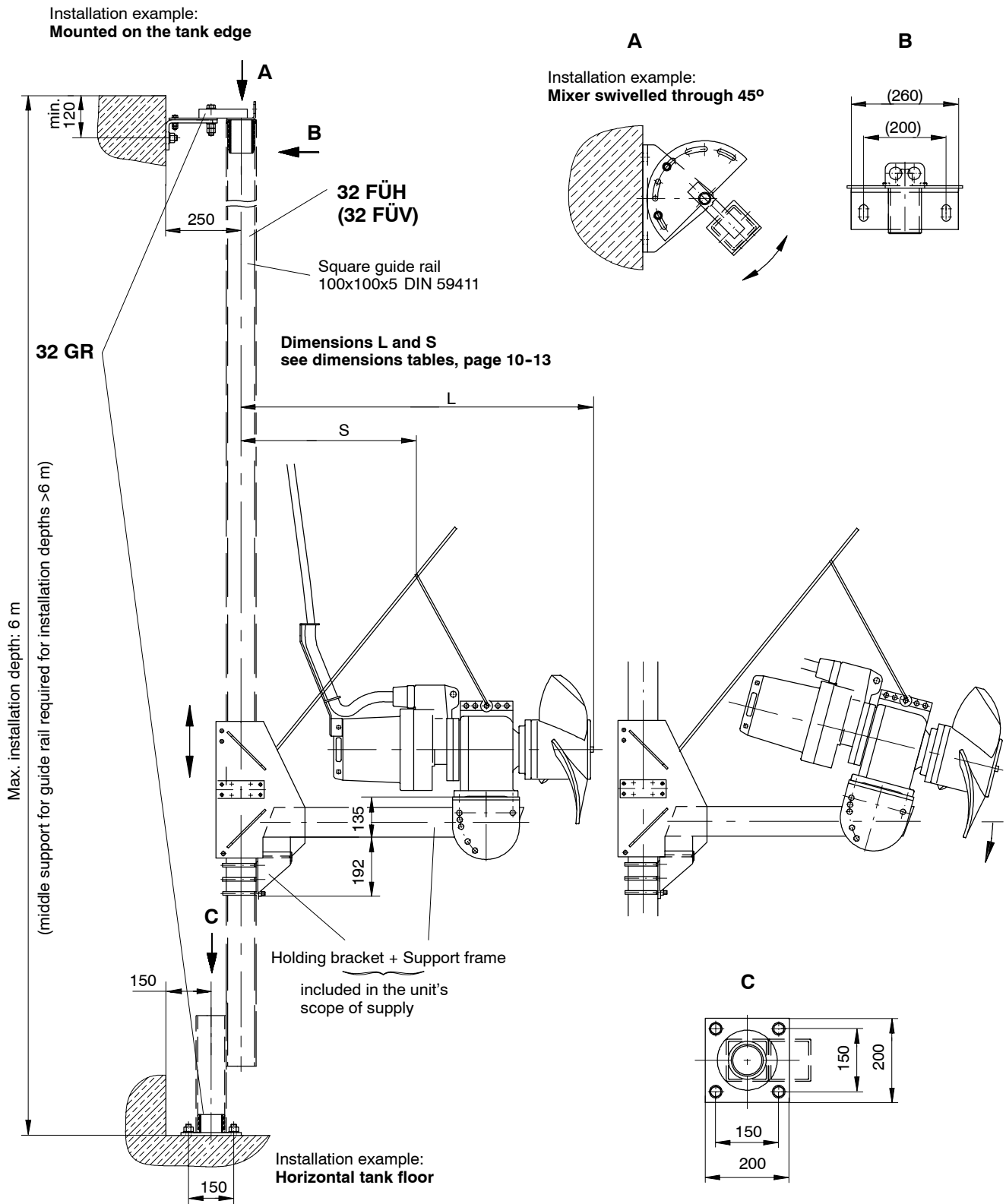
For stationary installation of mixer, without horizontal swivelling option, vertically adjustable

Item No.	Accessories	Description
<b>31 KBR</b>	Additional bracket for mounting on the top of the tank (no pre-setting option for jet direction) or: additional bracket for mounting on the tank wall (with pre-setting option for jet direction)	For mounting on the top of the tank, supporting the upper holder of the guide rail; fixed jet direction (at a right angle from the tank wall)
	All incl. 2 additional composite anchor bolts	Composite anchor bolts for mounting the bracket on the top of the tank or tank wall; concrete grade at least B25
<b>31 SBB/UWB</b>	Additional bracket for lower wall mounting or inclined floors	Used on tank floors or for lower wall mounting (e.g. above existing benching or aerators), adjustable from 0° to approx. 90° (version without pre-setting option)
<b>31 MIAS - ST</b>	Middle support for square guide rail	For supporting the guide rail on the tank wall in case of installation depths $\geq 6\text{m}$ ; with flexible fittings
	Incl. 4 nos. composite anchor bolts	For fastening the middle support to the tank wall; concrete grade at least B25.
<b>31 MIAS - SW</b>	Middle support for square guide rail	For supporting the guide rail on the tank wall in case of installation depths $\geq 6\text{m}$ ; for welding
	Incl. 4 nos. composite anchor bolts	For fastening the middle support to the concrete tank wall; concrete grade at least B25.

Item No.	Description	Material	Material No.	Weight [kg]
<b>31 KBR</b>	Additional bracket for mounting on the top of the tank (no pre-setting option); alternatively: Additional bracket for mounting on the upper tank wall (with pre-setting option) Incl. 2 additional composite anchor bolts each	1.4571	19 553 927	20.2
<b>31 SBB/UWB</b>	Additional bracket for inclined floors or lower wall mounting	1.4571	19 553 842	22.7
<b>31 MIAS - ST</b>	Middle support for square guide rail - socket fitting incl. 4 additional composite anchor bolts (for concrete walls)	1.4571	19 553 928	11.1
<b>31 MIAS - SW</b>	Middle support for square guide rail weldable incl. 4 additional composite anchor bolts (for concrete walls)	1.4571	19 553 929	6.9

**Standard accessories 32**

For stationary installation of mixer, with horizontal swivelling option, vertically adjustable



0W 384 399-00

## Standard accessories 32

For stationary installation of mixer, with horizontal swivelling option, vertically adjustable.

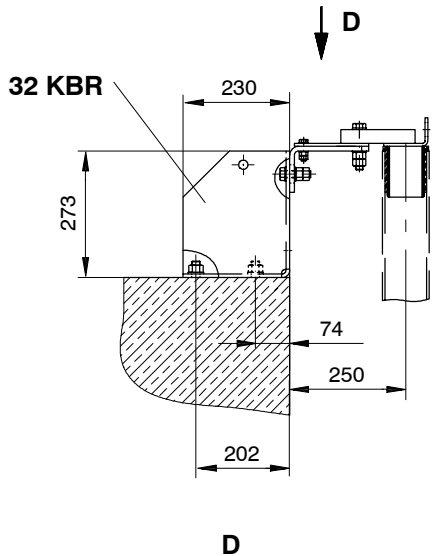
Item No.	Accessories	Description
32 GR	Upper and lower guide rail holders	Upper holder for mounting on tank wall; lower holder for horizontal tank floor without wall benching; guide rail can be swivelled horizontally and locked in any swivelling position ( $\pm 90^\circ$ )
	Incl. 6 nos. composite anchor bolts	Composite anchor bolts for mounting the upper holder on the tank wall and the lower holder on the tank floor; concrete grade at least B25
32 FÜH	Guide rail	Square guide rail (cross-section 100x100x5, L=4.25 m); guide rail can be swivelled horizontally and locked in any swivelling position ( $\pm 90^\circ$ )
32 FÜV	Extension for guide rail	Optional extension for guide rails if installation depth > 6m; square guide rail available 3 metres or 6 metres long; <b>not generally included in KSB's scope of supply;</b> to be welded to the guide rail (standard length 4.25 m) and shortened as required.
--	Support frame (included in scope of supply)	Support frame for fastening the mixer with vertical downward pitch option; pitch angles: 7.5°, 15°, 22.5° and 45°
--	Holding bracket (included in scope of supply)	Continuous vertical adjustment to operating position of the mixer; support frame rests on the holding bracket via a large replaceable plastic base acting as vibration damper.

Item No.	Description	Material	Material No.	Weight [kg]
32 GR	Top wall and floor holders, vertical wall, incl. 6 nos. of composite anchor bolts	1.4571	19 554 062	14.5
32 FÜH	Guide rail 100x100x5 L=4.25 m	1.4301	19 219 821	63.2
		1.4571	19 219 822	63.2
32 FÜV	Extension for guide rail 100x100x5 <b>Not generally included in KSB's scope of supply, see accessories 4 KTR, page 26!</b>	1.4301	--	14.4 kg/m
		1.4571	--	14.4 kg/m

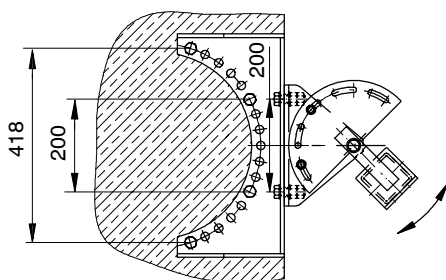
**Standard accessories 32**

For stationary installation of mixer, with horizontal swivelling option, vertically adjustable

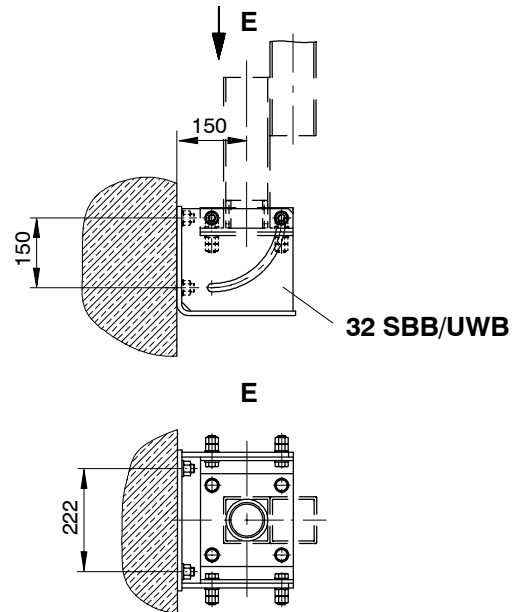
Installation example:  
Upper holder mounted on the top of the tank by means of bracket



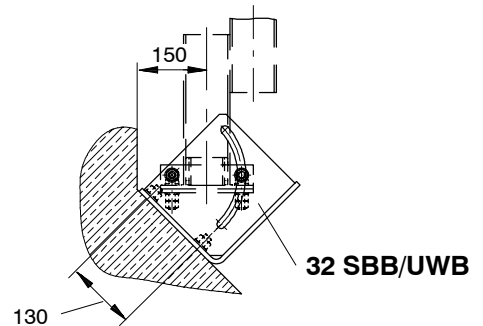
Installation example:  
Mixer swivelled through 45°



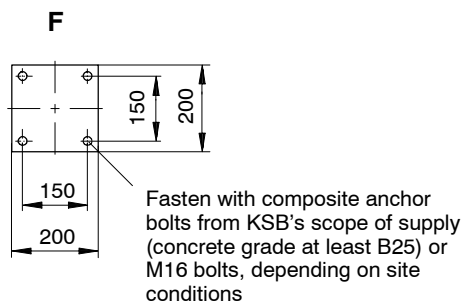
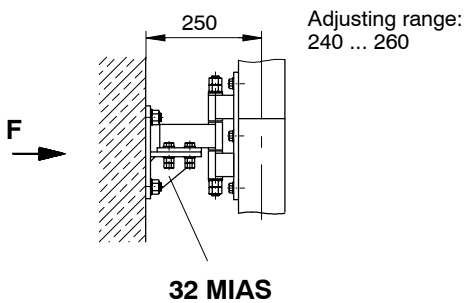
Installation example  
Lower holder mounted on the wall by means of bracket



Installation example:  
Bracket for mounting the lower holder on floor inclines 0° ... 90°



Installation example  
Middle support for guide rail 100x100x5



0W 384 399-00

## Standard accessories 32

For stationary installation of mixer, with horizontal swivelling option, vertically adjustable

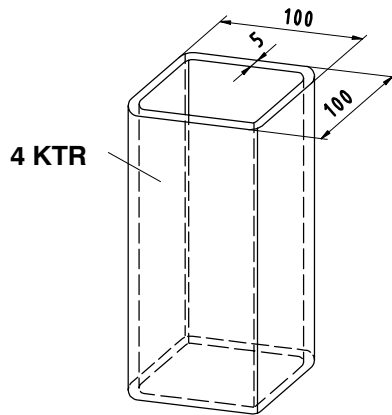
Item No.	Accessories	Description
<b>32 KBR</b>	Additional bracket (top of tank)	For mounting on the top of the tank, supporting the upper holder of the guide rail
	incl. 2 additional composite anchor bolts	Composite anchor bolts for mounting the upper holder on the top of the tank; concrete grade at least B25
<b>32 SBB/UWB</b>	Additional bracket (lower wall mounting/ inclined tank floors)	Used on inclined tank floors or for lower wall mounting, e.g. above existing benching or aerators, adjustable from 0° to approx. 90°
<b>32 MIAS</b>	Middle support for square guide rail	For supporting the guide rail on the tank wall in case of installation depths >6m; to be welded or screwed to the guide rail
	Incl. 4 nos. composite anchor bolts	For fastening the middle support to the concrete tank wall; concrete grade at least B25.

Item No.	Description	Material	Material No.	Weight [kg]
<b>31 KBR</b>	Additional bracket for mounting on the top of the tank Incl. 2 additional composite anchor bolts	1.4571	19 553 927	20.2
<b>32 SBB/UWB</b>	Additional bracket for inclined floors or lower wall mounting	1.4571	19 554 063	25.8
<b>32 MIAS</b>	Middle support for square guide rail – welded or screwed connection incl. 4 additional composite anchor bolts (for concrete walls)	1.4571	19 554 064	10.4

## Guide rails

KSB supply or supplied by customer

For accessories 11, 31 and 32 (Guide rail extension)



Square guide rail  
100x100x5  
0W 384 379-00

- Guide rails as per DIN 59411, packed in tubular foil
- Lengths >6m can be attained by adding guide rail extensions (3 metres and 6 metres long) at the site (welding and subsequent treatment to be performed at the site in accordance with applicable regulations)

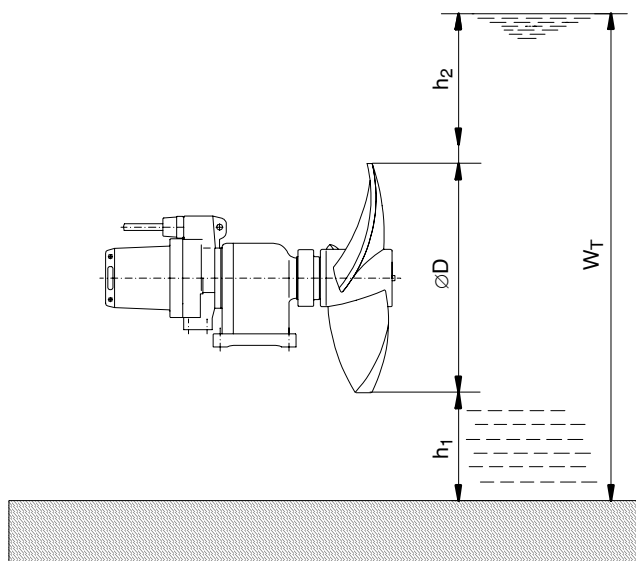
Item No.	Description	Material	Material No.	Weight [kg]
4 KTR	Guide rail 100x100x5; length 3 m	1.4301	11 304 598	43.2
		1.4571	11 304 599	43.2
	Guide rail 100x100x5; length 6 m	1.4301	11 304 600	86.4
		1.4571	11 304 601	86.4

## Minimum submergence and wall / floor clearance

Recommended distance from the floor,  $h_1$ , and liquid level above the pump,  $h_2$ , for continuous operation.

The distance from vertical walls should also correspond to distance  $h_1$ . If there is more than one mixer, these must be installed at a minimum distance of  $\varnothing D$  from each other in consideration of the reflections of the water jet and the flow turbulence.

### Minimum submergence / filling level

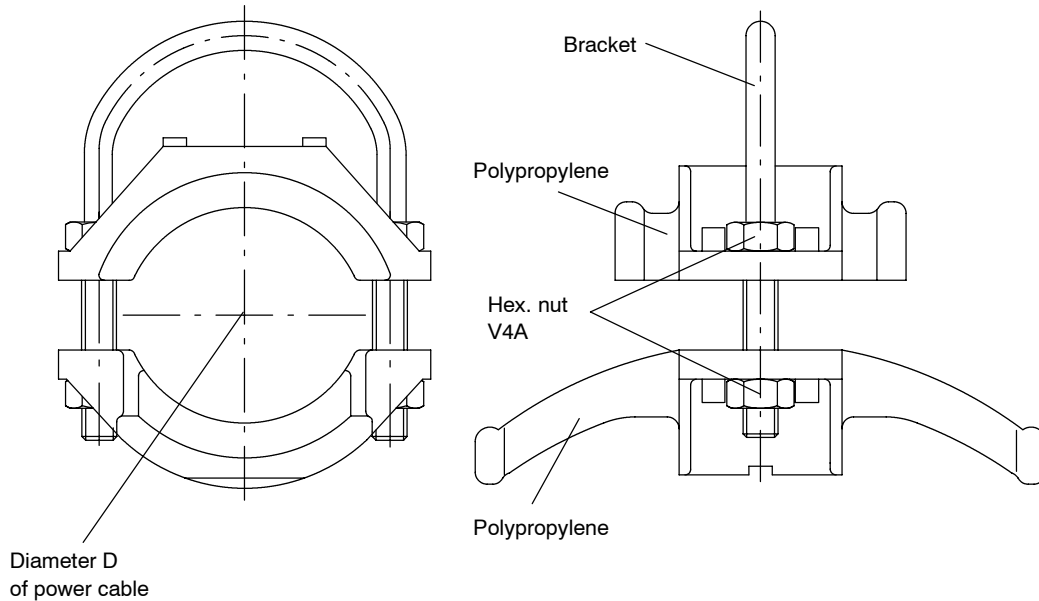


$\varnothing D$ [mm]	$h_{1 \text{ min}}$ [m]	$h_{2 \text{ min}}$ [m]	$W_{T \text{ min}}$ [m]
500	0.25	0.5	1.25
800	0.4	0.8	2.0



### Other Accessories: cable support (KH)

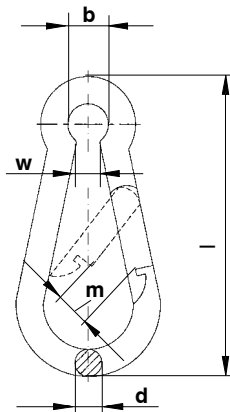
For supporting the power cable at the lifting rope or the tank edge



Variant	Diameter D	Art. No.	Material No.
01	17-25 mm	25 NO 20 433	11 306 562
00	10-16 mm	16 NO 20 433	11 306 561

Please refer to the power cable data given in the motor catalogue !

### Carbine hook



Variant	Size	Load capacity	b	d	l	m	w	Weight per 100 pcs. approx. [kg]
00	60x6	150	9	6	60	9	5	2.7

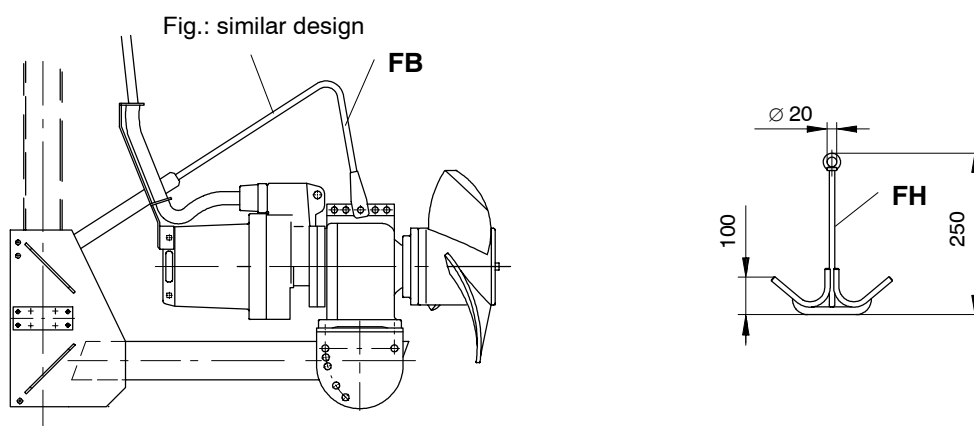
Item No.	Description	for size	Material	Material No.	Weight [kg]
<b>KH</b>	Cable support / Cable clamp incl. carbine hook	for power cables 7x1.5 and 8x1.5	Synthetic material / A4; carbine hook A4	19 555 522	0.15
		for power cables 12x1.5 and 12x2.5 ; 7x4+5x1.5 and 7x6+5x1.5		19 555 523	0.20

**Other accessories: Standard accessories 4**
**Cranes and Lifting equipment**

Lifting equipment	Lifting ropes	Rope tensioning device / bollard

OW 384 457-00

Item No.	Accessories	Description
<b>SEIL 1.4401</b>	Lifting rope	Stainless steel, diam. 5 mm, 12 m long, made of 1.4401, for cranes 4.2, 4.4, 4.6 and 4.8, make Haacon; rope is attached to the sling point on the mixer and can be fastened on the winch of the above cranes; when transportable cranes are used, the rope remains attached to the mixer after having been removed from the winch and is fastened to a rope tensioning device on the tank edge
<b>SP</b>	Rope tensioning device / bollard	For locking the lifting ropes, item No. SEIL 1.4401, of cranes (make Haacon) on the tank edge or railing
<b>SEIL PP</b>	Lifting rope	Lifting rope made of polypropylene synthetic fibres of excellent chemical resistance, with connecting loops at intervals of 1 m; available in fixed lengths of 5 m
<b>FH</b>	Lifting hook	For mounting on the lifting gear of the crane (lifting chain/rope) when using transportable cranes (e.g. if the crane used is different from the cranes supplied by KSB); to facilitate handling we recommend the combination of crane 4.2, 4.4, 4.6 or 4.8 with the stainless steel lifting rope
<b>FB</b>	Lifting clamp (adjustable)	For mounting on the lifting lug on the gear unit and on the support frame

**Alternative:**
**Combination: Lifting clamp (FB) (on the mixer) / Lifting hook (FH) (on the lifting rope of the crane)**


OW 384 457-00

**Other accessories: Standard accessories 4**
**Cranes and Lifting equipment**

Item No.	Description	Material	Material No.	Weight [kg]
<b>SEIL 1.4401</b>	Lifting rope for cranes 4.2 / 4.4 / 4.6 and 4.8, remains attached to the mixer; can be used for transportable cranes:	1.4401		
	Ø=5 mm, L=12 m		11 304 621	1.9
	Ø=5 mm, L=18 m		11 306 713	2.7
	Ø=5 mm, L=22 m		11 306 712	3.5
<b>SP</b>	Rope tensioning device / bollard for Haacon cranes 4.6 and 4.8	1.4571	19 554 260	1.5
<b>SEIL PP</b>	Lifting rope Load capacity 450 kg, 5 m	Polypropylene	11 190 024	5.0
	For larger installation depths, several 5-metre ropes shall be used. Connection by rope loops.			
<b>FH</b>	Lifting hook Load capacity max. 500 kg	1.4301	19 219 613	2.0
<b>FB</b>	Lifting clamp	1.4301	19 556 807	4.0
		--	--	4.0
<b>See Type series booklet "KSB Lifting Equipment" 1596.5-10 !</b>				