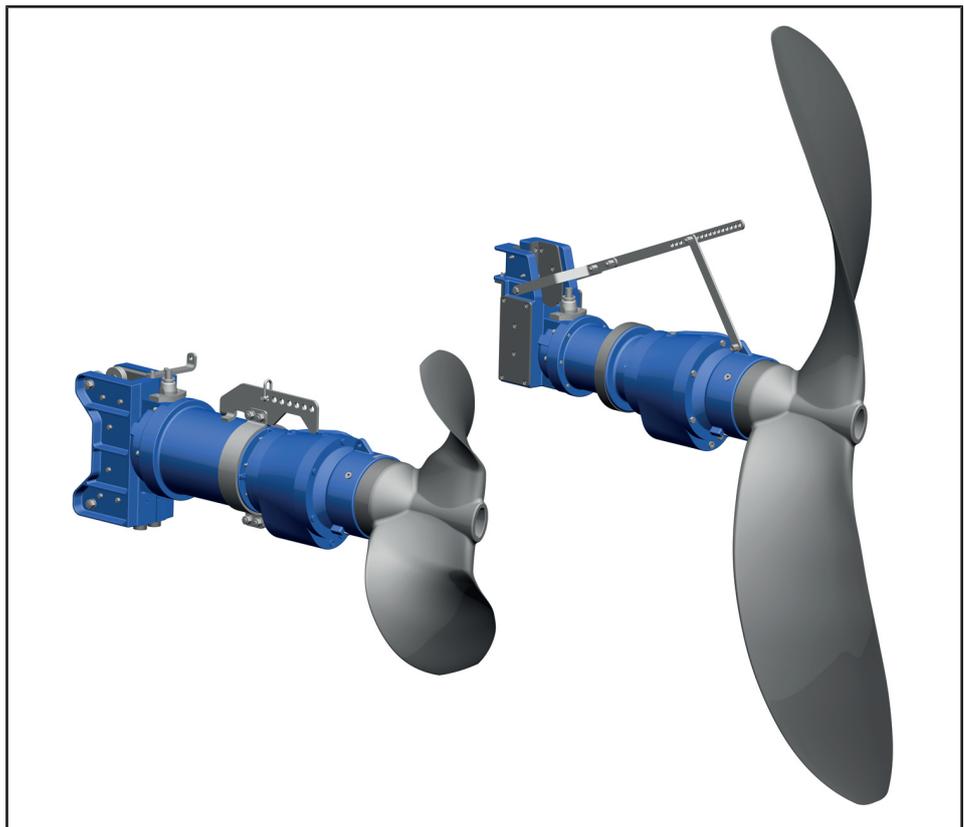


Submersible Mixer

Amaprop

60 Hz

Type Series Booklet



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Type Series Booklet Amaprop

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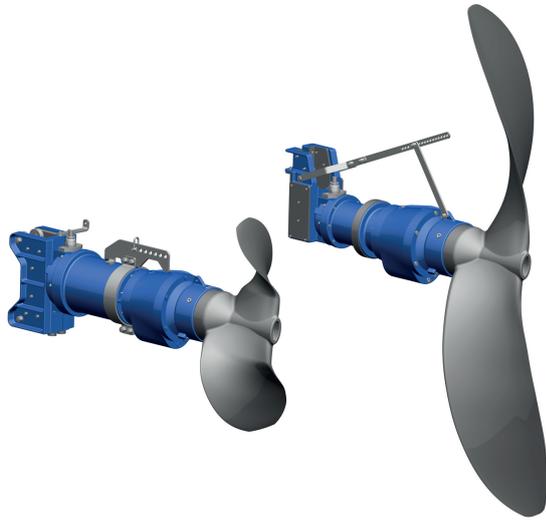
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Waste Water

Submersible Mixers

Amaprop



Axial propeller

- Self-cleaning (ECB) propeller

Shaft seal

- Two bi-directional mechanical seals in tandem arrangement, with liquid reservoir
- Additional leakage chamber between the mating ring carrier and the gear unit

Bearings

- Grease-packed rolling elements bearings (sealed for life) in the motor
- Oil-lubricated rolling element bearings in the gear unit

Drive

- Three-phase asynchronous squirrel-cage motor
- Motors integrated in explosion-proof pump sets are supplied in Explosionproof Class I Division 1, Groups C&D, T3.

Main applications

In environmental engineering, particularly for treating municipal and industrial waste water and sludges. For circulating, keeping in suspension and inducing flow:

- In nitrification and denitrification tanks
- In activated sludge tanks
- In biological phosphate elimination tanks
- In flocculation tanks
- In sludge tanks

Operating data

Operating properties

Characteristic		Value	
		Amaprop 1000	Amaprop 1200-2500
Nominal propeller diameter	D ["]	40	48 - 100
	D [mm]	1000	1200 - 2500
Power	P [hp]	13 - 26	1,1 - 10
	P [kW]	10 - 20	0,8 - 7.5
Installation depth	H [ft]	≤ 36 ¹⁾	
	H [m]	≤ 12 ¹⁾	
Fluid temperature	T [°F]	≤ 104	≤ 104
	T [°C]	≤ 40	≤ 40

Design details

Design

- Fully floodable submersible mixer
- Horizontal installation

1) Larger installation depths on request

Designation

Example: Amaprop V 42 2500 / 5 4 UPG IE3

Designation key

Code	Description
Amaprop	Type series
V	Axial propeller material
	V Composite material
42	Nominal speed of the axial propeller [rpm]
2500	Size / nominal diameter of the axial propeller [mm]: 1000, 1200, 1400, 1600, 1800, 1801, 2000, 2200, 2500
5	Motor size
	11, 16, 23 Amaprop 1000
	1, 2, 3, 4, 5, 7 Amaprop 1200 to 2500
4	Number of motor poles
UP	Motor version
	UR Standard design
	UP ²⁾ Standard design
	XR Explosion protection to NEC 500, CECJ
	XP ²⁾ Explosion protection to NEC 500, CECJ
G	Housing material
	G Gray cast iron
IE3	Motor efficiency classification
	³⁾ No efficiency classification
	IE3 Premium Efficiency

Materials

Overview of available materials

Part No.	Description	G	
		Amaprop 1000	Amaprop 1200 - 2500
811	Motor housing	A 48 Class 40 B	
812	Motor housing cover	A 48 Class 40 B	
870	Gear housing	A 48 Class 40 B	
476	Mating ring carrier	A 48 Class 40 B	
23-9	Axial propeller	Glass fiber reinforced epoxy resin	
433.01	Mechanical seal	SiC/SiC	
433.02		SiC/SiC	
-	Propeller shaft	A 276 Type 440	
-	Elastomer seals	FPM	
-	Screws/bolts	A 276 Type 316 Ti	
-	Guide bracket	A 48 Class 40 B, plastic-lined	A 536 Class 60-40-18, plastic-lined

Glass fibre reinforced epoxy resin

The high-performance composite material consists of glass fibre reinforced epoxy resin, a metal hub insert and a protective gel coating which is resistant to abrasion and chemicals.

Comparison of materials

EN	ASTM
EN-GJS-400-15	A 536 Class 60-40-18
EN-GJL-250	A 48 Class 40 B
1.4122	Similar to A 276 Type 440
FPM	FKM

2) Variant IE3
3) Blank

Coating and preservation

Primer and top coat

Surface treatment:	Blasted to SA 2 1/2 to DIN EN ISO 12944
Primer:	Two-component epoxy resin zinc dust or zinc phosphate (synthetic resin basis), min. film thickness = 2 mils [50 µm]
Intermediate coat: ⁴⁾	2-component high-solid epoxy resin top coat (RAL 5002), min. film thickness = 4 mils [100 µm]
Top coat:	2-component high-solid epoxy resin top coat (RAL 5002), min. film thickness = 4 mils [100 µm]

Special coating

Available on request (extra charge and a longer delivery period apply).

Product benefits

- Absolutely break-proof due to propeller blades made of glass fiber reinforced epoxy resin with metal hub insert and protective gel coating.
- Double safety by two bi-directional mechanical seals with oil chamber filled with environmentally friendly oil
- Perfectly protected by absolutely water-tight cable gland protecting the motor against moisture
- Motor monitored by temperature sensors to prevent it from overheating
- Stability and even longer service life of AmaRoc accessories made of the innovative NoriRoc material
- Leakage chamber between oil chamber and gear unit for high reliability
- Easy to install

Product information

Product information as per Regulation No 1907/2006 (REACH)

For information as per chemicals Regulation (EC) No 1907/2006 (REACH), see <http://www.ksb.com/reach>.

Acceptance tests and warranty

- Functional test
Every submersible mixer is subjected to a functional test to KSB standard ZN 56525.
- Quality is assured by means of an audited and certified quality assurance system to DIN EN ISO 9001.
- Special acceptance tests are available on request.

Warranty information

Our warranty is based on your specifications as documented in the data sheet of the submersible mixer. It exclusively applies to these specifications and covers the relevant physical properties. Any warranty claims beyond the aforementioned aspects, as well as any claims resulting from an excessive solids content in the plant, the formation of floating blankets as well as failure to produce a specific gas yield, shall be excluded. The correct positioning of the submersible mixers is crucial for the overall function of the equipment. KSB's warranty obligations shall not cover any damage that may occur as a result of incorrect mixer positioning, i. e. installing the mixer in a position not expressly approved by KSB. In addition, low-flow areas (flow separation) resulting from the tank geometry shall

not be covered by our warranty. Furthermore, we shall not assume any liability if our submersible mixers are used in patented processes and/or in case of protected rights of third parties.

Unauthorized 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).

Selection information

- The fluid properties specified in the data sheet of the submersible mixer provide the basis for selection and positioning of the equipment.
- Good mixing results and safe and reliable operation of the submersible mixers essentially depend on the position of the mixers in the tank and relative to each other. It is therefore imperative to position the submersible mixers as shown in KSB's general arrangement drawing. KSB shall not be held responsible for any damage resulting from mixer positions not expressly approved by KSB.
- The minimum and maximum submergence indicated in the data sheet of the submersible mixer must be complied with. The axial propeller must not be operated outside the fluid. Air-entraining vortices must be avoided. Always use level control equipment which trips the submersible mixer if the fill level drops below the minimum operating level.
- For servicing the submersible mixers, access openings and appropriate means of removal must be provided, so that the mixers can be lifted out of the filled tank at any time. For this purpose, the minimum dimensions for removing the submersible mixers as specified in the type series booklet must be observed.
- For higher fill levels, the guide rails of the Amaprop 1000 installation accessories must be secured against vibrations by means of a middle support fitted on site.
- In order to prevent any mechanical damage caused by the propeller, cable supports must be used for routing the power cable properly, i.e. without excessive slack.

Information on operation on a frequency inverter

- All submersible mixers from KSB are suitable for operation on a frequency inverter.
- The permissible control range is 25 Hz to 60 Hz.
- In addition to any capacity reserves required for hydraulic reasons, a motor power reserve of 5 % must be provided for operation on a frequency inverter.

4) Optional

Minimum level of fluid handled

The submersible mixer is operational when the fluid level is not lower than dimension W_T . This minimum level of the fluid handled must also be ensured during automatic operation.

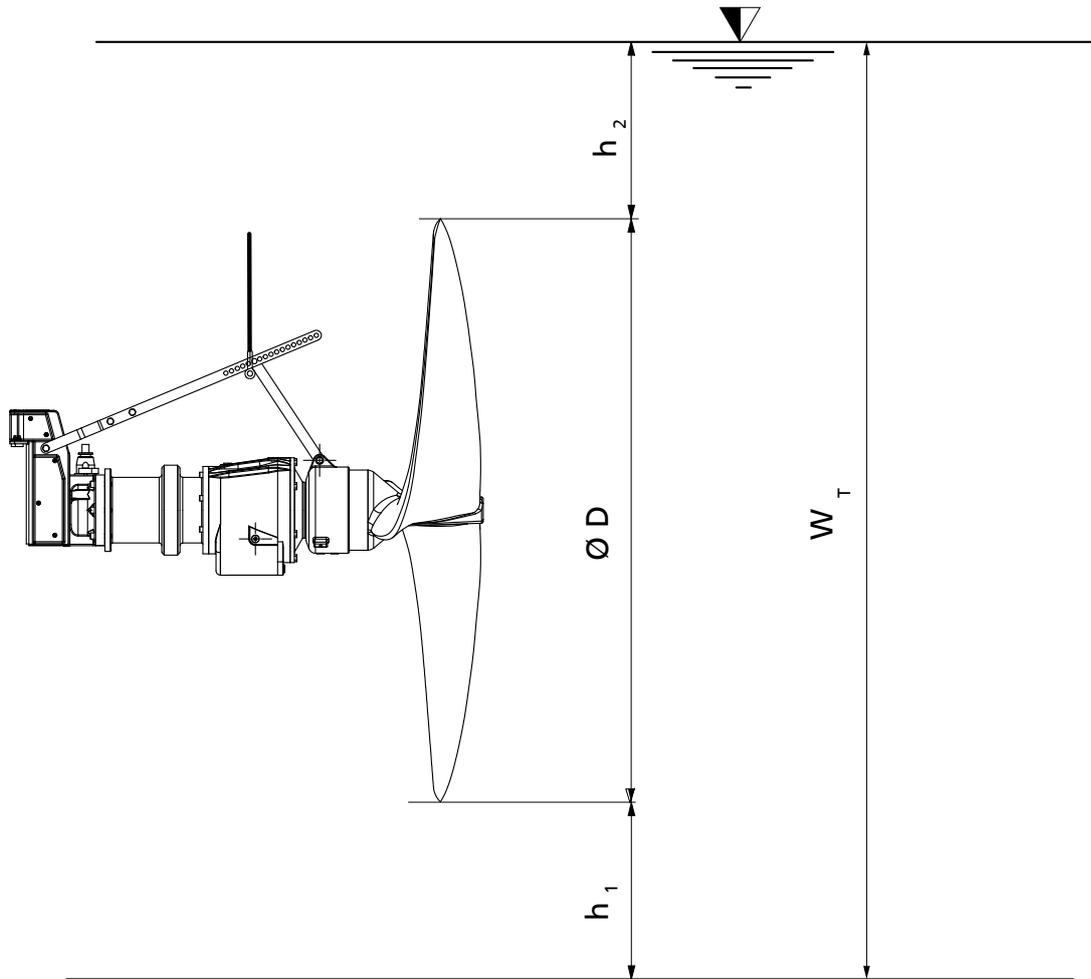


Fig. 1: Minimum level of fluid handled

During submersible mixer operation, the distance between the propeller tip and the fluid surface must not be less than h_2 . Any distance smaller than h_2 must be approved by KSB in writing.

Please note that, even with a submergence of h_2 , air-entraining vortices may still form, depending on the flow behavior of the fluid handled. Rough running of the submersible mixer resulting from the formation of air-entraining vortices is not covered by our warranty.

Minimum level of fluid handled

Size	h_1		h_2	
	[inch]	[m]	[inch]	[m]
1000	8	0.2	30	0.75
1200 to 2500	8	0.2	40	1

Overview of product features / selection tables

Standard and special designs

Standard variants and special variants

Special variants (optional)	Comments
Mechanical seal with covered springs	Available for all sizes
Power cable > 65 ft [20 m]	Available for all sizes
Leakage sensor in leakage chamber of mechanical seal	Available for all sizes of the UP version
Special voltage 575 V (design to CSA standard)	Available for all sizes
Two-component epoxy resin coating, 250 µm	Available for all sizes
Additional operating manuals	Standard: 1 operating manual per pump set
Customer-specific installation drawing	Available for all sizes
Flow measurements	Available for all sizes
Flow simulation	Available for all sizes
Installation consultancy	Available for all sizes

For any versions not documented in this type series booklet or special versions please always contact KSB for technical details, prices and delivery periods.

Examples:

- Other voltages
- Special coatings
- Combinations with special motor / special propeller / special gear unit (e.g. for higher-viscosity fluids)
- Special installation parts
- Special cables
- Tank

Technical data

Technical data of material variant G

Feature	Material variant	
	Amaprop 1000	Amaprop 1200 ... 2500
Explosion protection		
Version UR	X	-
Version XR	 or  Explosion-proof Class I, Division 1, Groups C & D, T3	-
Version UP	-	X
Version XP	-	 or  Explosion-proof Class I, Division 1, Groups C & D, T3
Thermal class	H	
Motor		
Starting method	DOL or star-delta (up to 4.2 hp [4 kW]: DOL only)	
Voltage and frequency	460 V ⁵⁾ 60 Hz ⁶⁾ , suitable for operation on a frequency inverter	
Cooling	Cooled by surrounding fluid	
Immersion depth	Up to 36 ft [12 m] ⁷⁾	
Power cable		
Length	30 ft [10 m] ⁸⁾	
Cable entry	Absolutely watertight	
Type	Rubber-sheathed cable S1BN8-F	
Bearings		
Motor	Grease-packed rolling element bearings sealed for life	
Gear unit	Oil-lubricated rolling element bearings	
Gear unit	Spur gear	
Sealing elements		
Elastomer seals	Viton (fluorocarbon rubber FPM)	
Shaft seal	Bellows-type mechanical seal ⁹⁾	
Monitoring equipment		
Winding temperature	PTC resistor	
Motor leakage	Leakage monitor inside the motor	
Mechanical seal leakage	Optional: only for the UR version – leakage monitor in the leakage chamber	
Coating	Two-component epoxy resin coating	
Permissible fluid temperature	104 °F [40 °C]	
Acceptance inspections/tests	To ISO 9001 ¹⁰⁾	
Installation		
Stationary	Installation depth up to 36 ft [12 m] ¹¹⁾	

- 5) Optional: 575 V
 6) Other voltages on request.
 7) Larger immersion depths on request
 8) Optional: 45 ft [15 m], 60 ft [20 m]; > 60 ft [20 m] on request
 9) Optional: mechanical seal with covered spring
 10) Optional: with test report 10204-2.2
 11) Larger installation depths on request

Performance data (460 V, 60 Hz), material variant G

Description	Propeller speed n_2 [rpm]	Motor rating P_2		Gear unit size	Weight ¹²⁾	
		[hp]	[kW]		[lbs]	[kg]
Amaprop V 1000						
158-1000/11 4 URG / XRG	158	13	9.7	SP 190 X	573	260
175-1000/16 4 URG / XRG	175	20	14.9	SP 190 X	602	273
181-1000/16 4 URG / XRG	181	20	14.9	SP 190 X	602	273
190-1000/16 4 URG / XRG	190	20	14.9	SP 190 X	602	273
190-1000/23 4 URG / XRG	190	26	19.4	SP 190 X	626	284
200-1000/23 4 URG / XRG	200	26	19.4	SP 190 X	626	284
Amaprop V 1200						
59-1200/ 1 4 UPG / XPG	59	1.7	1.3	SP 189	377	171
64-1200/ 1 4 UPG / XPG	64	1.7	1.3	SP 190	421	191
69- 1200/ 2 4 UPG / XPG	69	2	1.5	SP 189	381	173
72-1200/ 3 4 UPG / XPG	72	3	2.2	SP 190 X	443	201
75-1200/ 3 4 UPG / XPG	75	3	2.2	SP 190 X	443	201
78-1200/ 3 4 UPG / XPG	78	3	2.2	SP 190	439	199
84-1200/ 3 4 UPG / XPG	84	4	3	SP 190	443	201
88-1200/ 3 4 UPG / XPG	88	4	3	SP 190	439	199
96-1200/ 4 4 UPG / XPG	96	5	3.7	SP 190	452	205
102-1200/ 5 4 UPG / XPG	102	7.5	5.6	SP 190	547	248
110-1200/ 5 4 UPG / XPG	110	7.5	5.6	SP 190	547	248
Amaprop V 1400						
48-1400/ 1 4 UPG / XPG	48	1.1	0.8	SP 189	379	172
56-1400/ 1 4 UPG / XPG	56	1.7	1.3	SP 189	379	172
63-1400/ 3 4 UPG / XPG	63	3	2.2	SP 190 X	443	201
67-1400/ 3 4 UPG / XPG	67	3	2.2	SP 190 X	443	201
72-1400/ 3 4 UPG / XPG	72	4	3	SP 190 X	441	200
79-1400/ 4 4 UPG / XPG	79	5	3.7	SP 190	454	206
87-1400/ 4 4 UPG / XPG	87	5	3.7	SP 190	454	206
95-1400/ 5 4 UPG / XPG	95	7.5	5.6	SP 190	443	201
102-1400/ 7 4 UPG / XPG	102	10	7.5	SP 190	549	249
Amaprop V 1600						
39-1600/ 1 4 UPG / XPG	39	1.1	0.8	SP 189	381	173
43-1600/ 1 4 UPG / XPG	43	1.1	0.8	SP 189	381	173
47-1600/ 1 4 UPG / XPG	47	1.7	1.3	SP 189	381	173
53-1600/ 1 4 UPG / XPG	53	1.7	1.3	SP 189	381	173
57-1600/ 3 4 UPG / XPG	57	3	2.2	SP 190 X	443	201
65-1600/ 3 4 UPG / XPG	65	4	3	SP 190 X	443	201
72-1600/ 4 4 UPG / XPG	72	5	3.7	SP 190 X	456	207
80-1600/ 5 4 UPG / XPG	80	7.5	5.6	SP 190	551	250
84-1600/ 5 4 UPG / XPG	84	7.5	5.6	SP 190 X	551	250
87-1600/ 5 4 UPG / XPG	87	7.5	5.6	SP 190	551	250
Amaprop V 1800						
35-1800/ 1 4 UPG / XPG	35	1.1	0.8	SP 189	386	175
39-1800/ 1 4 UPG / XPG	39	1.1	0.8	SP 189	386	175
43-1800/ 1 4 UPG / XPG	43	1.7	1.3	SP 189	386	175
47-1800/ 1 4 UPG / XPG	47	1.7	1.3	SP 189	386	175
52-1800/ 3 4 UPG / XPG	52	3	2.2	SP 190 X	450	204
56-1800/ 3 4 UPG / XPG	56	3	2.2	SP 190 X	450	204
64-1800/ 4 4 UPG / XPG	64	5	3.7	SP 190 X	463	210
67-1800/ 4 4 UPG / XPG	67	5	3.7	SP 190 X	463	210
71-1800/ 4 4 UPG / XPG	71	5	3.7	SP 190 X	463	210
79-1800/ 5 4 UPG / XPG	79	7.5	5.5	SP 190 X	553	251
84-1800/ 5 4 UPG / XPG	84	10	7.5	SP 190 X	553	251
Amaprop V 1801						
30-1801/ 1 4 UPG / XPG	30	1.1	0.8	SP 189	386	175
35-1801/ 1 4 UPG / XPG	35	1.1	0.8	SP 189	386	175
39-1801/ 1 4 UPG / XPG	39	1.1	0.8	SP 189	386	175
42-1801/ 1 4 UPG / XPG	42	1.7	1.3	SP 189	386	175
48-1801/ 2 4 UPG / XPG	48	2	1.5	SP 189	392	178

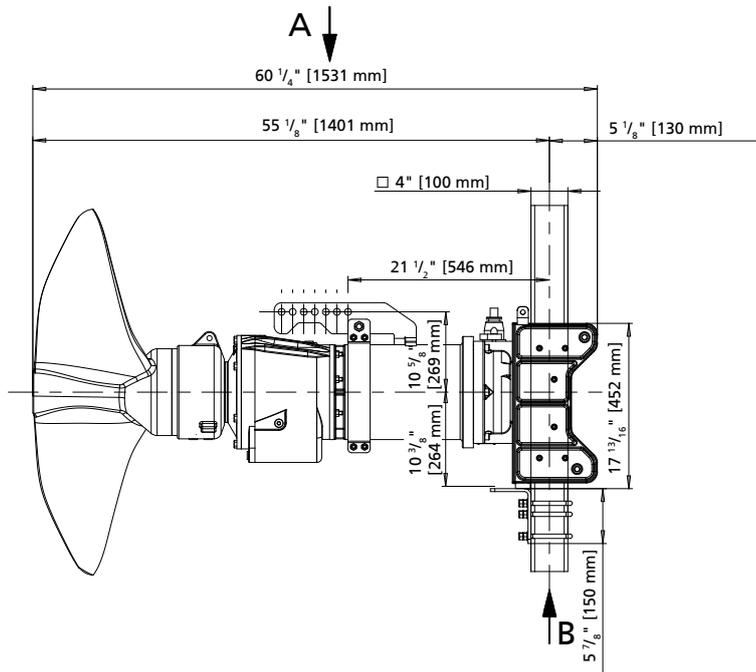
12) Including guide bracket

Description	Propeller speed n_2 [rpm]	Motor rating P_2		Gear unit size	Weight ⁽²⁾	
		[hp]	[kW]		[lbs]	[kg]
52-1801/ 3 4 UPG / XPG	52	3	2.2	SP 190 X	450	204
56-1801/ 3 4 UPG / XPG	56	4	3	SP 190 X	450	204
62-1801/ 4 4 UPG / XPG	62	5	3.7	SP 190 X	463	210
67-1801/ 4 4 UPG / XPG	67	5	3.7	SP 190 X	463	210
71-1801/ 5 4 UPG / XPG	71	7.5	5.5	SP 190 X	553	251
79-1801/ 7 4 UPG / XPG	79	10	7.5	SP 190 X	553	251
Amaprop V 2000						
27-2000/ 1 4 UPG / XPG	27	1.7	1.3	SP 189	392	188
29-2000/ 1 4 UPG / XPG	29	1.7	1.3	SP 189	392	188
30-2000/ 1 4 UPG / XPG	30	1.7	1.3	SP 189	392	188
42-2000/ 3 4 UPG / XPG	42	4	3	SP 190 X	476	216
45-2000/ 4 4 UPG / XPG	45	5	4.7	SP 190 X	489	222
47-2000/ 5 4 UPG / XPG	47	7.5	5.6	SP 190 X	580	263
50-2000/ 5 4 UPG / XPG	50	7.5	5.6	SP 190 X	580	263
53-2000/ 7 4 UPG / XPG	53	10	7.5	SP 190 X	580	263
Amaprop V 2001						
27-2001/ 1 4 UPG / XPG	27	1.7	1.3	SP 189	419	190
30-2001/ 1 4 UPG / XPG	30	1.7	1.3	SP 189	419	190
42-2001/ 3 4 UPG / XPG	42	4	3	SP 190 X	481	218
47-2001/ 5 4 UPG / XPG	47	7.5	5.6	SP 190 X	586	266
50-2001/ 5 4 UPG / XPG	50	7.5	5.6	SP 190 X	586	266
53-2001/ 7 4 UPG / XPG	53	10	7.5	SP 190 X	586	266
Amaprop V 2200						
27-2200/ 1 4 UPG / XPG	27	1.7	1.3	SP 189	419	190
28-2200/ 2 4 UPG / XPG	29	2	1.5	SP 189	419	190
30-2200/ 2 4 UPG / XPG	30	2	1.5	SP 189	423	192
42-2200/ 4 4 UPG / XPG	42	5	3.7	SP 190 X	494	224
45-2200/ 5 4 UPG / XPG	45	7.5	5.6	SP 190 X	586	266
47-2200/ 5 4 UPG / XPG	47	7.5	5.6	SP 190 X	586	266
50-2200/ 7 4 UPG / XPG	50	10	7.5	SP 190 X	586	266
Amaprop V 2500						
27-2500/ 2 4 UPG / XPG	27	2	1.5	SP 189	428	194
42-2500/ 5 4 UPG / XPG	42	7.5	5.6	SP 190 X	593	269
45-2500/ 7 4 UPG / XPG	45	10	7.5	SP 190 X	593	269

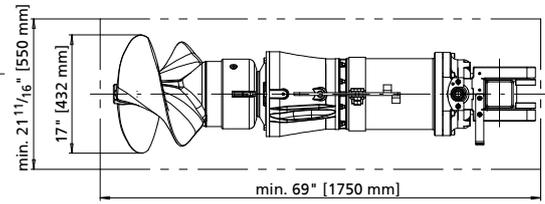
Dimensions

Amaprop 1000

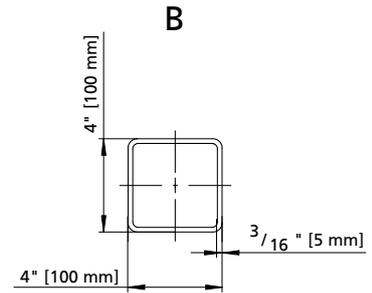
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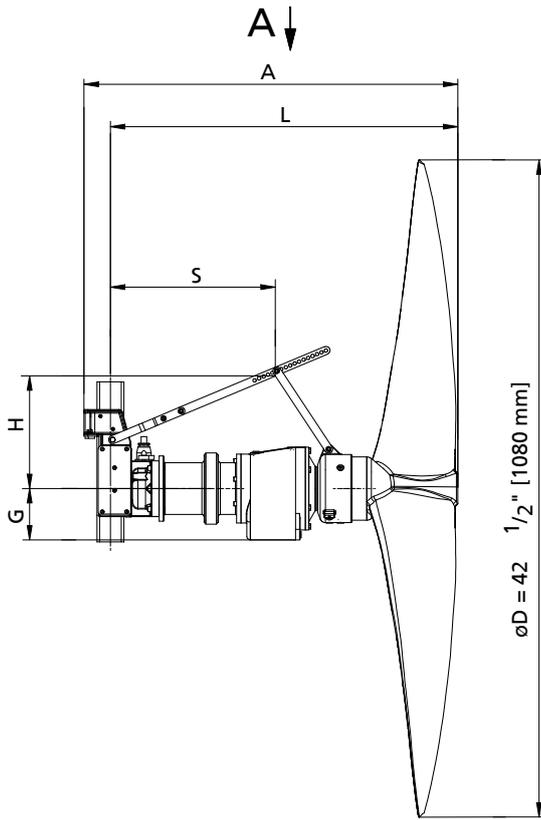
Minimum dimensions of access opening



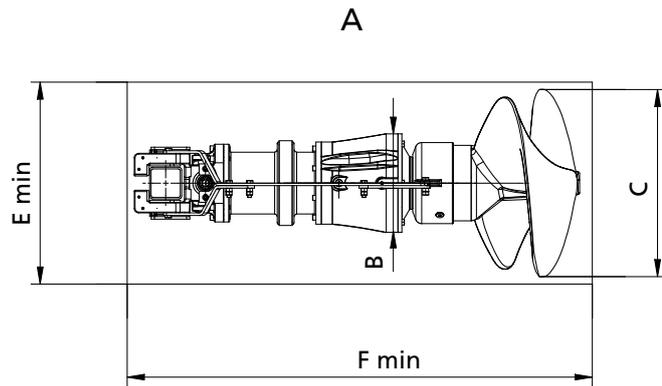
Square guide rail



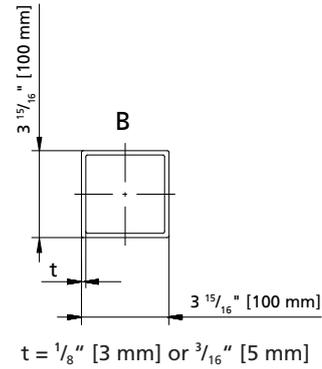
Amaprop 1200



Minimum dimensions of access opening



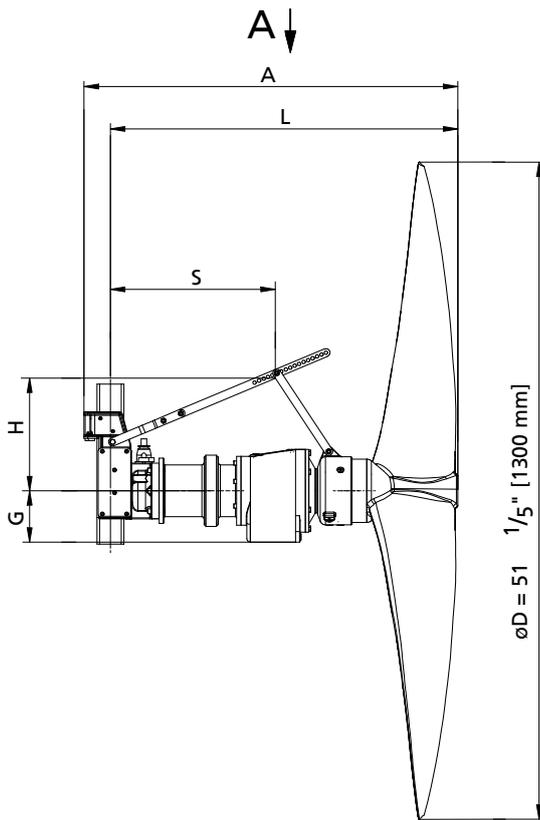
Square guide rail



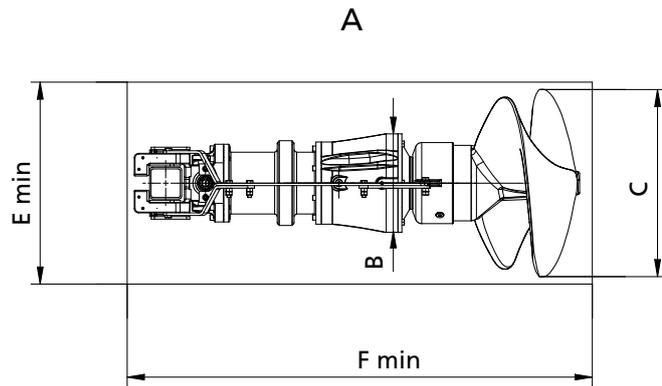
Dimensions

Size	A		B		C		E _{min}		F _{min}		G		H		L		S	
	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]
59-1200/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	12 13/16	325	16 3/4	425	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
64-1200/ 1 4 UPG / XPG	49 5/8	1260	12 3/16	310	12 13/16	325	16 3/4	425	53 9/16	1360	7 9/16	192	17 5/8	447	45 11/16	1160	24 3/16	615
69- 1200/ 2 4 UPG / XPG	48 1/16	1220	10 3/16	258	12 13/16	325	16 3/4	425	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
72-1200/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	12 13/16	325	16 3/4	425	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
75-1200/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	12 13/16	325	16 3/4	425	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
78-1200/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	12 13/16	325	16 3/4	425	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
84-1200/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	12 13/16	325	16 3/4	425	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
88-1200/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	12 13/16	325	16 3/4	425	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
96-1200/ 4 4 UPG / XPG	51 3/4	1315	12 3/16	310	12 13/16	325	16 3/4	425	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
102-1200/ 5 4 UPG / XPG	54 3/4	1390	12 3/16	310	12 13/16	325	16 3/4	425	58 11/16	1490	7 9/16	192	16	407	50 13/16	1290	25 3/16	640
110-1200/ 5 4 UPG / XPG	54 3/4	1390	12 3/16	310	12 13/16	325	16 3/4	425	58 11/16	1490	7 9/16	192	16	407	50 13/16	1290	25 3/16	640

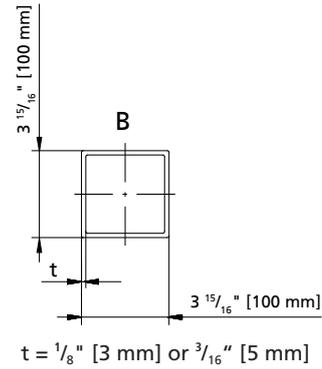
Amaprop 1400



Minimum dimensions of access opening



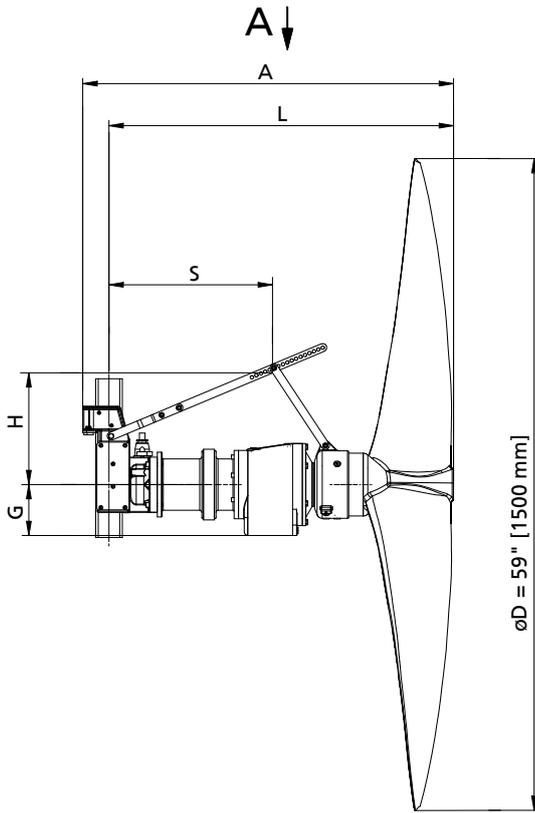
Square guide rail



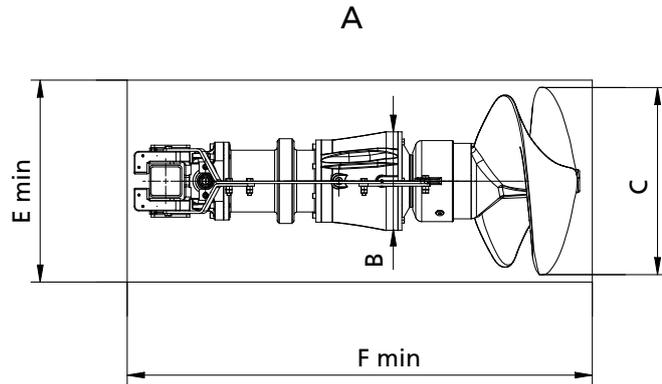
Dimensions

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48-1400/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	14	355	17 15/16	455	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
56-1400/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	14	355	17 15/16	455	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
63-1400/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	14	355	17 15/16	455	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
67-1400/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	14	355	17 15/16	455	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
72-1400/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	14	355	17 15/16	455	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
79-1400/ 4 4 UPG / XPG	51 3/4	1315	12 3/16	310	14	355	17 15/16	455	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
87-1400/ 4 4 UPG / XPG	51 3/4	1315	12 3/16	310	14	355	17 15/16	455	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
95-1400/ 5 4 UPG / XPG	54 3/4	1390	12 3/16	310	14	355	17 15/16	455	58 11/16	1490	7 9/16	192	16	407	50 13/16	1290	25 3/16	640
102-1400/ 7 4 UPG / XPG	54 3/4	1390	12 3/16	310	14	355	17 15/16	455	58 11/16	1490	7 9/16	192	16	407	50 13/16	1290	25 3/16	640

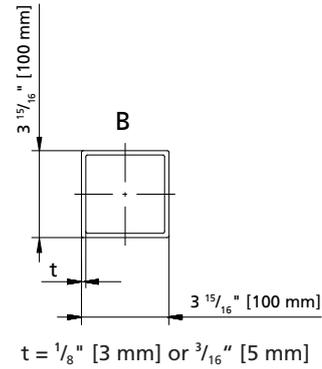
Amaprop 1600



Minimum dimensions of access opening



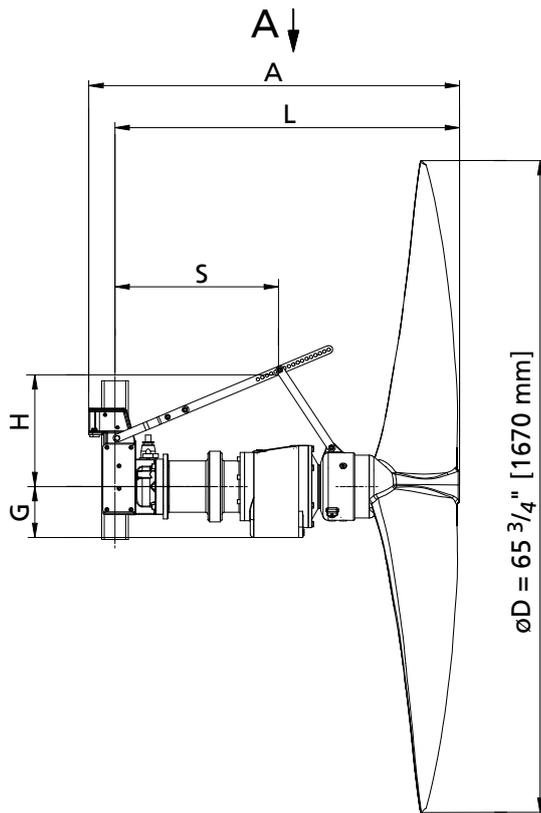
Square guide rail



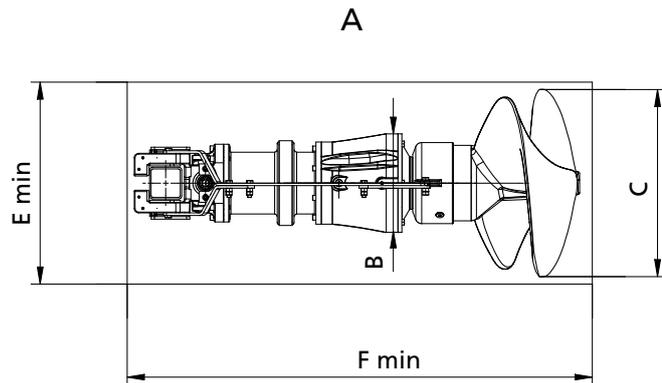
Dimensions

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39-1600/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 3/16	385	19 1/8	485	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
43-1600/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 3/16	385	19 1/8	485	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
47-1600/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 3/16	385	19 1/8	485	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
53-1600/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 3/16	385	19 1/8	485	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
57-1600/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	15 3/16	385	19 1/8	485	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
65-1600/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	15 3/16	385	19 1/8	485	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
72-1600/ 4 4 UPG / XPG	51 3/4	1315	12 3/16	310	15 3/16	385	19 1/8	485	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
80-1600/ 5 4 UPG / XPG	54 3/4	1390	12 3/16	310	15 3/16	385	19 1/8	485	58 11/16	1490	7 9/16	192	16	407	50 13/16	1290	25 3/16	640
84-1600/ 5 4 UPG / XPG	54 3/4	1390	12 3/16	310	15 3/16	385	19 1/8	485	58 11/16	1490	7 9/16	192	16	407	50 13/16	1290	25 3/16	640
87-1600/ 5 4 UPG / XPG	54 3/4	1390	12 3/16	310	15 3/16	385	19 1/8	485	58 11/16	1490	7 9/16	192	16	407	50 13/16	1290	25 3/16	640

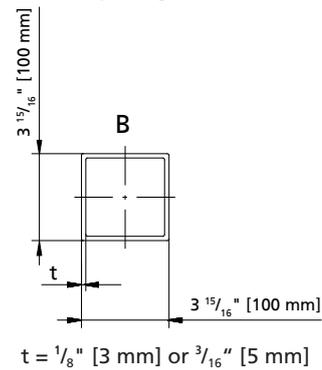
Amaprop 1800



Minimum dimensions of access opening



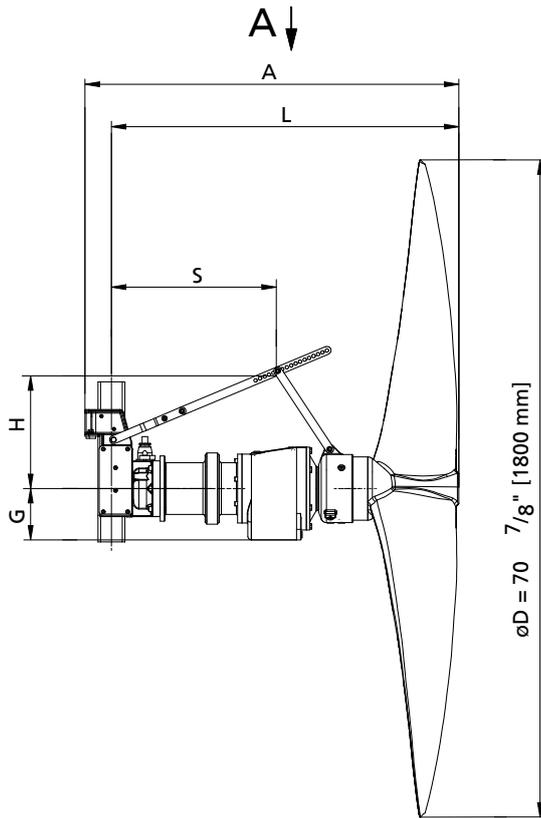
Square guide rail



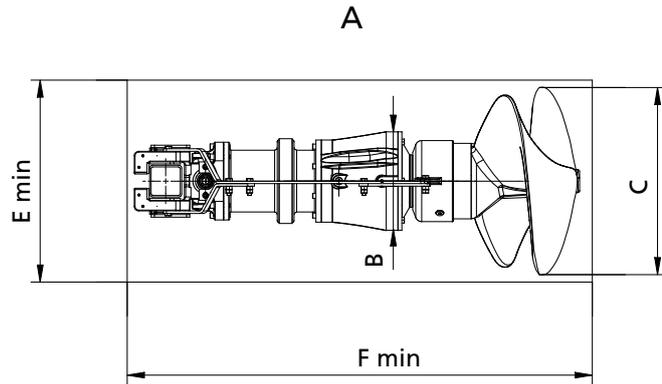
Dimensions

Size	A		B		C		E _{min}		F _{min}		G		H		L		S	
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35-1800/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 15/16	405	19 7/8	505	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
39-1800/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 15/16	405	19 7/8	505	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
43-1800/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 15/16	405	19 7/8	505	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
47-1800/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 15/16	405	19 7/8	505	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
52-1800/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	15 15/16	405	19 7/8	505	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 3/8	625
56-1800/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	15 15/16	405	19 7/8	505	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 3/8	625
64-1800/ 4 4 UPG / XPG	51 3/4	1315	12 3/16	310	15 15/16	405	19 7/8	505	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 3/8	625
67-1800/ 4 4 UPG / XPG	51 3/4	1315	12 3/16	310	15 15/16	405	19 7/8	505	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 3/8	625
71-1800/ 4 4 UPG / XPG	51 3/4	1315	12 3/16	310	15 15/16	405	19 7/8	505	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 3/8	625
79-1800/ 5 4 UPG / XPG	54 3/4	1390	12 3/16	310	15 15/16	405	19 7/8	505	58 11/16	1490	7 9/16	192	16	407	50 13/16	1290	25 3/16	640
84-1800/ 5 4 UPG / XPG	54 3/4	1390	12 3/16	310	15 15/16	405	19 7/8	505	58 11/16	1490	7 9/16	192	16	407	50 13/16	1290	25 3/16	640

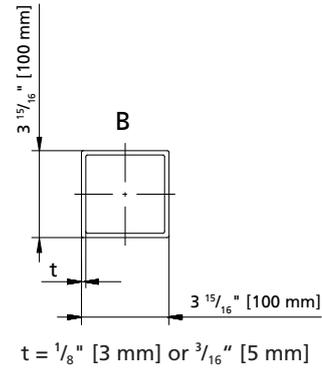
Amaprop 1801



Minimum dimensions of access opening



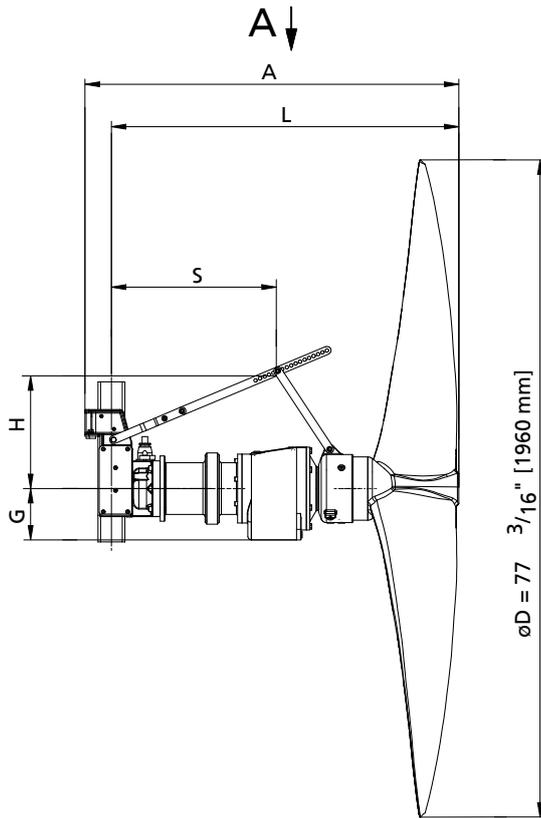
Square guide rail



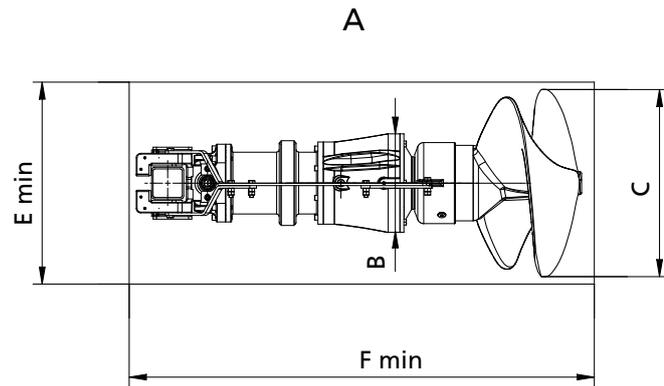
Dimensions

Size	A		B		C		E _{min}		F _{min}		G		H		L		S	
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30-1801/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 15/16	405	19 7/8	505	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
35-1801/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 15/16	405	19 7/8	505	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
39-1801/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 15/16	405	19 7/8	505	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
42-1801/ 1 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 15/16	405	19 7/8	505	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
48-1801/ 2 4 UPG / XPG	48 1/16	1220	10 3/16	258	15 15/16	405	19 7/8	505	51 15/16	1320	6 1/4	159	18 1/4	464	44 1/8	1120	23 13/16	605
52-1801/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	15 15/16	405	19 7/8	505	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
56-1801/ 3 4 UPG / XPG	51 3/4	1315	12 3/16	310	15 15/16	405	19 7/8	505	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
62-1801/ 4 4 UPG / XPG	51 3/4	1315	12 3/16	310	15 15/16	405	19 7/8	505	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
67-1801/ 4 4 UPG / XPG	51 3/4	1315	12 3/16	310	15 15/16	405	19 7/8	505	55 11/16	1415	7 9/16	192	16 7/16	417	47 13/16	1215	24 5/8	625
71-1801/ 5 4 UPG / XPG	54 3/4	1390	12 3/16	310	15 15/16	405	19 7/8	505	58 11/16	1490	7 9/16	192	16	407	50 13/16	1290	25 3/16	640
79-1801/ 7 4 UPG / XPG	54 3/4	1390	12 3/16	310	15 15/16	405	19 7/8	505	58 11/16	1490	7 9/16	192	16	407	50 13/16	1290	25 3/16	640

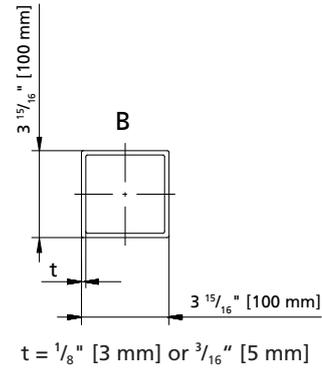
Amaprop 2000



Minimum dimensions of access opening



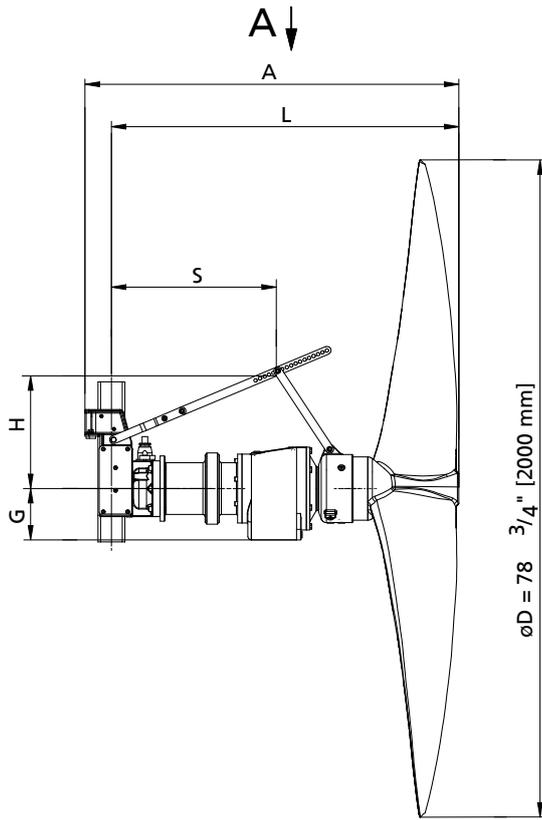
Square guide rail



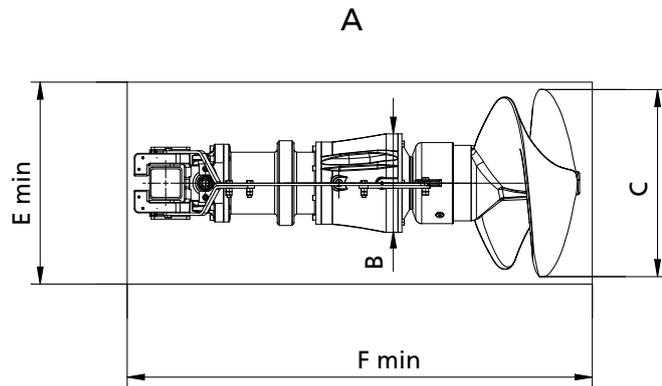
Dimensions

Size	A		B		C		E _{min}		F _{min}		G		H		L		S	
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27-2000/ 1 4 UPG / XPG	52 3/16	1335	10 3/16	258	20 1/6	510	24	610	56 1/2	1435	6 1/4	159	18 1/4	464	48 5/8	1235	23 13/16	605
29-2000/ 1 4 UPG / XPG	52 3/16	1335	10 3/16	258	20 1/6	510	24	610	56 1/2	1435	6 1/4	159	18 1/4	464	48 5/8	1235	23 13/16	605
30-2000/ 1 4 UPG / XPG	52 3/16	1335	10 3/16	258	20 1/6	510	24	610	56 1/2	1435	6 1/4	159	18 1/4	464	48 5/8	1235	23 13/16	605
42-2000/ 3 4 UPG / XPG	56 3/16	1430	12 3/16	310	20 1/6	510	24	610	60 1/4	1530	7 9/16	192	16 7/16	417	52 3/8	1330	24 5/8	625
45-2000/ 4 4 UPG / XPG	56 3/16	1430	12 3/16	310	20 1/6	510	24	610	60 1/4	1530	7 9/16	192	16 7/16	417	52 3/8	1330	24 5/8	625
47-2000/ 5 4 UPG / XPG	59 1/4	1505	12 3/16	310	20 1/6	510	24	610	63 3/16	1605	7 9/16	192	16	407	55 5/16	1405	25 3/16	640
50-2000/ 5 4 UPG / XPG	59 1/4	1505	12 3/16	310	20 1/6	510	24	610	63 3/16	1605	7 9/16	192	16	407	55 5/16	1405	25 3/16	640
53-2000/ 7 4 UPG / XPG	59 1/4	1505	12 3/16	310	20 1/6	510	24	610	63 3/16	1605	7 9/16	192	16	407	55 5/16	1405	25 3/16	640

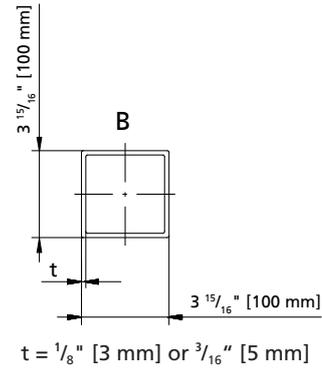
Amaprop 2001



Minimum dimensions of access opening



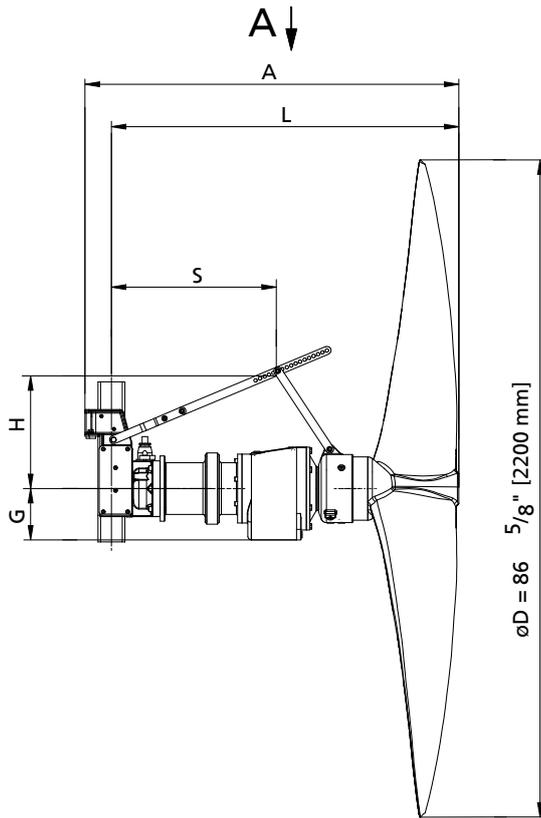
Square guide rail



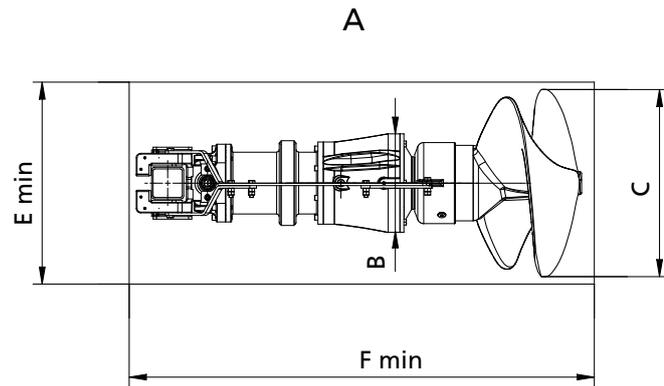
Dimensions

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27-2001/ 1 4 UPG / XPG	52 3/16	1335	10 3/16	258	20 1/6	510	24	610	56 1/2	1435	6 1/4	159	18 1/4	464	48 5/8	1235	23 13/16	605
30-2001/ 1 4 UPG / XPG	52 3/16	1335	10 3/16	258	20 1/6	510	24	610	56 1/2	1435	6 1/4	159	18 1/4	464	48 5/8	1235	23 13/16	605
42-2001/ 3 4 UPG / XPG	56 5/16	1430	12 3/16	310	20 1/6	510	24	610	60 1/4	1530	7 9/16	192	16 7/16	417	52 3/8	1330	24 5/8	625
47-2001/ 5 4 UPG / XPG	59 1/4	1505	12 3/16	310	20 1/6	510	24	610	63 3/16	1605	7 9/16	192	16	407	55 3/16	1405	25 3/16	640
50-2001/ 5 4 UPG / XPG	59 1/4	1505	12 3/16	310	20 1/6	510	24	610	63 3/16	1605	7 9/16	192	16	407	55 3/16	1405	25 3/16	640
53-2001/ 7 4 UPG / XPG	59 1/4	1505	12 3/16	310	20 1/6	510	24	610	63 3/16	1605	7 9/16	192	16	407	55 3/16	1405	25 3/16	640

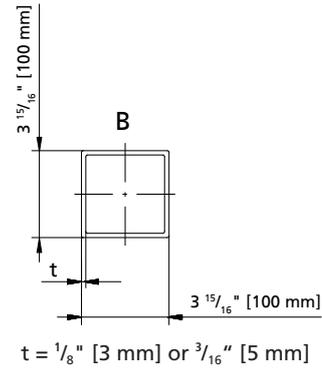
Amaprop 2200



Minimum dimensions of access opening



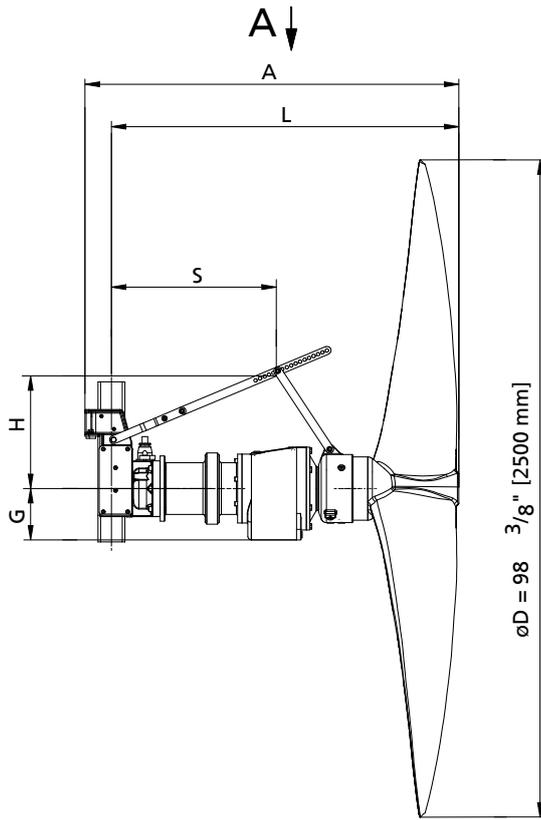
Square guide rail



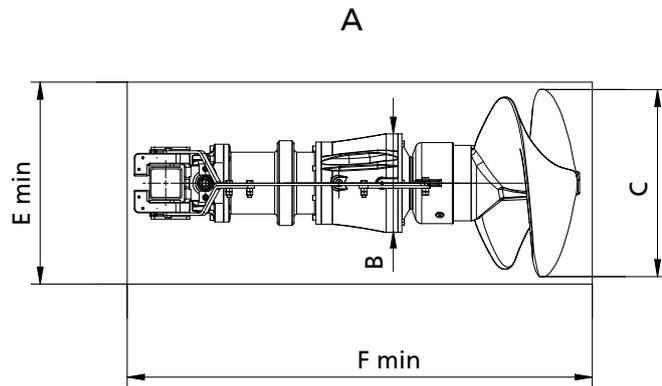
Dimensions

Size	A		B		C		E _{min}		F _{min}		G		H		L		S	
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27-2200/ 1 4 UPG / XPG	52 3/16	1335	10 3/16	258	21 1/16	535	25	635	56 1/2	1435	6 1/4	159	18 1/4	464	48 5/8	1235	23 13/16	605
28-2200/ 2 4 UPG / XPG	52 3/16	1335	10 3/16	258	21 1/16	535	25	635	56 1/2	1435	6 1/4	159	18 1/4	464	48 5/8	1235	23 13/16	605
30-2200/ 2 4 UPG / XPG	52 3/16	1335	10 3/16	258	21 1/16	535	25	635	56 1/2	1435	6 1/4	159	18 1/4	464	48 5/8	1235	23 13/16	605
42-2200/ 4 4 UPG / XPG	56 5/16	1430	12 3/16	310	21 1/16	535	25	635	60 1/4	1530	7 9/16	192	16 7/16	417	52 3/8	1330	24 3/8	625
45-2200/ 5 4 UPG / XPG	59 1/4	1505	12 3/16	310	21 1/16	535	25	635	63 3/16	1605	7 9/16	192	16	407	55 3/16	1405	25 3/16	640
47-2200/ 5 4 UPG / XPG	59 1/4	1505	12 3/16	310	21 1/16	535	25	635	63 3/16	1605	7 9/16	192	16	407	55 3/16	1405	25 3/16	640
50-2200/ 7 4 UPG / XPG	59 1/4	1505	12 3/16	310	21 1/16	535	25	635	63 3/16	1605	7 9/16	192	16	407	55 3/16	1405	25 3/16	640

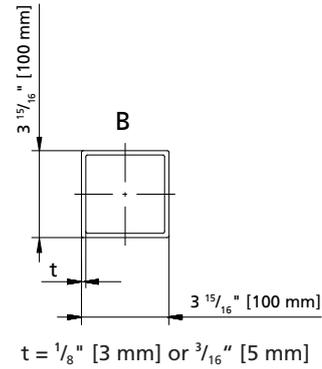
Amaprop 2500



Minimum dimensions of access opening



Square guide rail

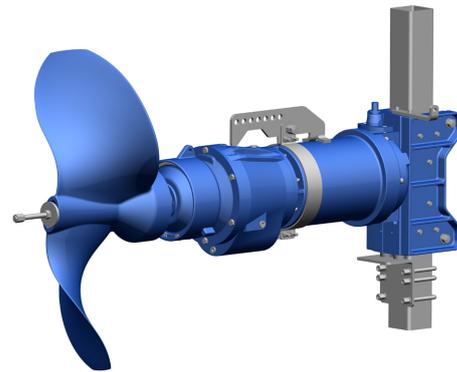
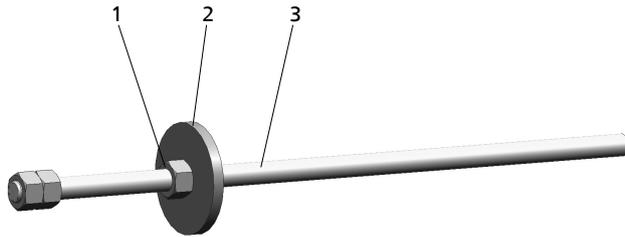


Dimensions

Size	A		B		C		E _{min}		F _{min}		G		H		L		S	
	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]	[inch]	[mm]
27-2500/ 2 4 UPG / XPG	52 3/16	1335	10 3/16	258	22 1/16	560	26	660	56 1/2	1435	6 1/4	159	18 1/4	464	48 5/8	1235	23 13/16	605
42-2500/ 5 4 UPG / XPG	59 1/4	1505	12 3/16	310	22 1/16	560	26	660	63 3/16	1605	7 9/16	192	16	407	55 5/16	1405	25 3/16	640
45-2500/ 7 4 UPG / XPG	59 1/4	1505	12 3/16	310	22 1/16	560	26	660	63 3/16	1605	7 9/16	192	16	407	55 5/16	1405	25 3/16	640

Accessories

Propeller fitting tool



Propeller fitting tool

Propeller with propeller fitting tool

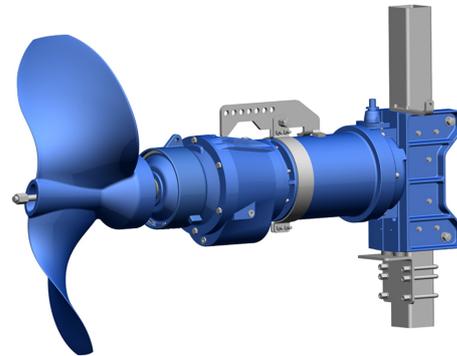
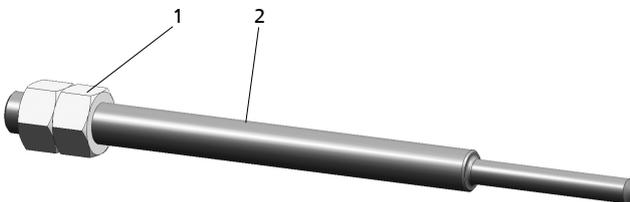
1	Nut
2	Disc
3	Fully threaded stud

The propeller fitting tool facilitates fitting the propeller on the submersible mixer shaft. The fully threaded stud (3) is screwed into the shaft, and the propeller and the disc (2) are placed on the shaft. The nut (1) is tightened up to the stop, pulling the propeller onto the shaft.

Accessory: propeller fitting tool

Description	Amaprop										Material	Mat. No.	[lbs]	[kg]
	1000	1200	1400	1600	1800	1801	2000	2200	2500					
Propeller fitting tool	X	X	X	X	X	X	X	X	X	X	A 276 Type 316 Ti	01428379	2,69	1,22

Forcing screw



Forcing screw

Propeller with forcing screw

1	Nut
2	Fully threaded stud

The forcing screw facilitates dismantling and pulling the propeller off the submersible mixer shaft. The hexagon socket head cap screw with washer is removed and the fully threaded stud (2) is screwed into the propeller's forcing thread up to the stop using the nut (1), pulling the propeller smoothly off the shaft.

Accessory: propeller forcing screw

Description	Amaprop										Material	Mat. No.	[lbs]	[kg]
	1000	1200	1400	1600	1800	1801	2000	2200	2500					
Forcing screw	-	X	X	X	X	X	-	-	-	-	A 276 Type 316 Ti	11306648	1,70	0,77
Forcing screw	X	-	-	-	-	-	X	X	X	-	A 276 Type 316 Ti	11306649	2,31	1,05

Cable support / carabine hook

Cable support

The cable support is used for supporting the power cable at the lifting rope or tank edge (one included in standard scope of supply; additional or spare cable supports available).

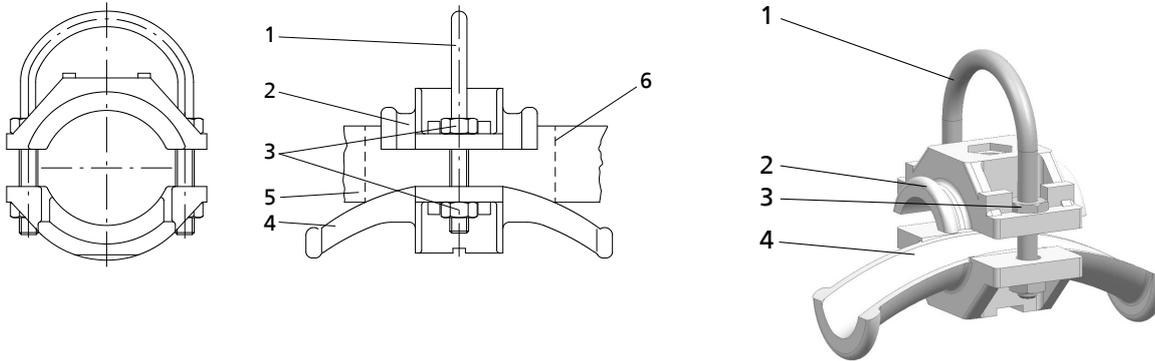


Illustration of cable support

1	Bail
2	Moulded part made of polypropylene
3	Hexagon nut made of A4 (equivalent to A 276 type 316 Ti/1.4571)

4	Moulded part made of polypropylene
5	Power cable with defined diameter ¹³⁾
6	Rubber pad

i For power cable diameters $\leq \frac{3}{8}$ " [10 mm] or $\frac{11}{16}$ " [17 mm] respectively a rubber pad is inserted to make sure the cable is clamped properly.

Carabine hook

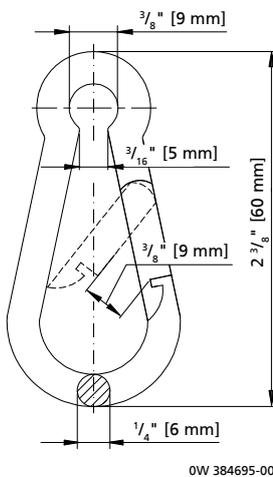


Fig. 2: Carabine hook dimensions

Overview of cable supports / carabine hooks

Description	Suitable for								Material	Mat. No.	[lbs]	[kg]
	1 4	2 4	3 4	6 4	11 4	16 4	23 4	30 4				
Cable support, incl. carabine hooks	x ¹⁴⁾	x ¹⁴⁾	x ¹⁴⁾	-	-	-	-	-	Plastic / A 276 Type 316 Ti, carabine hook: A 276 Type 316 Ti	19555522	0,33	0,06
Cable support, incl. carabine hooks	-	-	-	x ¹⁵⁾	Plastic A 276 Type 316 Ti, carabine hook: A 276 Type 316 Ti	19555523	0,44	0,09				

Lifting equipment

- See type series booklet "KSB lifting equipment" 1596.5

Protection module for water and waste water products

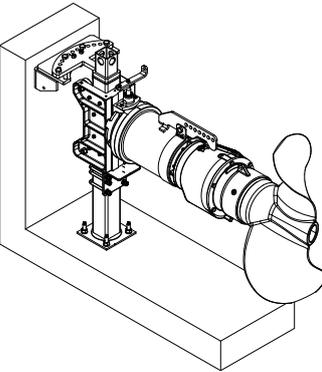
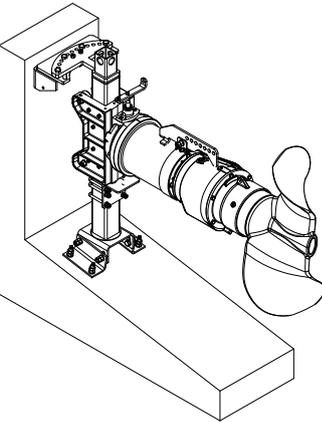
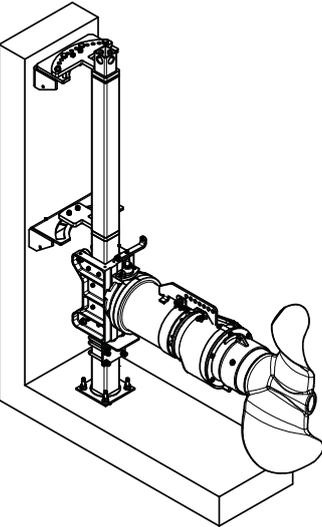
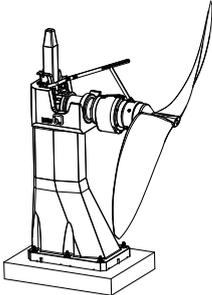
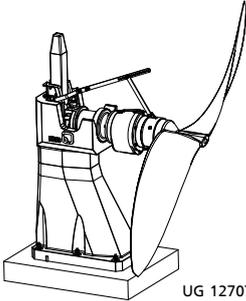
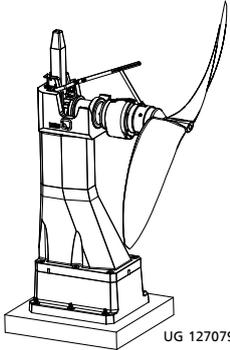
- See type series booklet "Amacontrol III" 2301.5

13) Refer to the power cable data given in the motor catalog.
 14) Diameter of power cable $\varnothing = 10 - 16$ mm
 15) Diameter of power cable $\varnothing = 17 - 25$ mm

Installation parts

Overview of installation parts

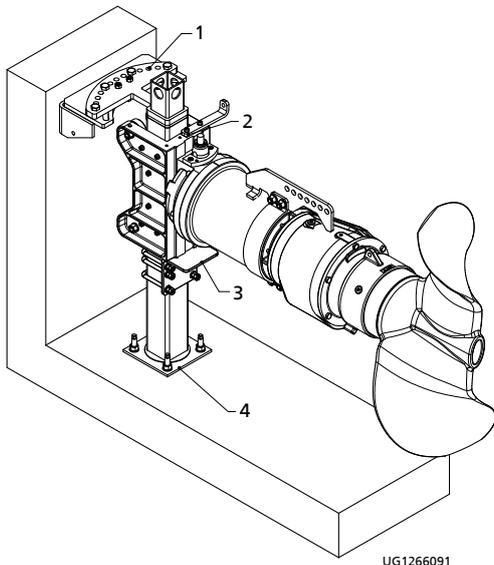
Overview of installation parts for Amaprop 1000 and Amaprop 1000 to 2500

Accessories	Installation example		
<p>Amaprop 1000</p> <p>Accessories 22</p>	<p>Mounting on tank wall and horizontal tank floor (0° - 0.5°) (⇒ Page 26)</p> 	<p>Mounting on tank wall and sloping tank floor (0.5° - 10°) (⇒ Page 25)</p> 	<p>Middle support for guide rail 4" x 4" x 3/16" [100 mm x 100 mm x 5 mm] for large installation depths (⇒ Page 27)</p> 
<p>Amaprop 1200 to 2500</p> <p>AmaRoc accessories</p>	<p>Shaft centerline height = 57 1/8" [1450 mm]</p> 		
<p>AmaRoc special accessories¹⁶⁾</p>	<p>Shaft centerline height = 43 5/16" [1100 mm] (Amaprop 1200 to 1801 only)</p>  <p>UG 1270769</p>		<p>Shaft centerline height = 70 7/8" [1800 mm]</p>  <p>UG 1270793</p>

16) On request

Accessories 22 - Amaprop 1000

Mounting at the top of the tank wall and on a horizontal tank floor (0° - 0.5°), level-adjustable and with horizontal swivelling option



UG1266091

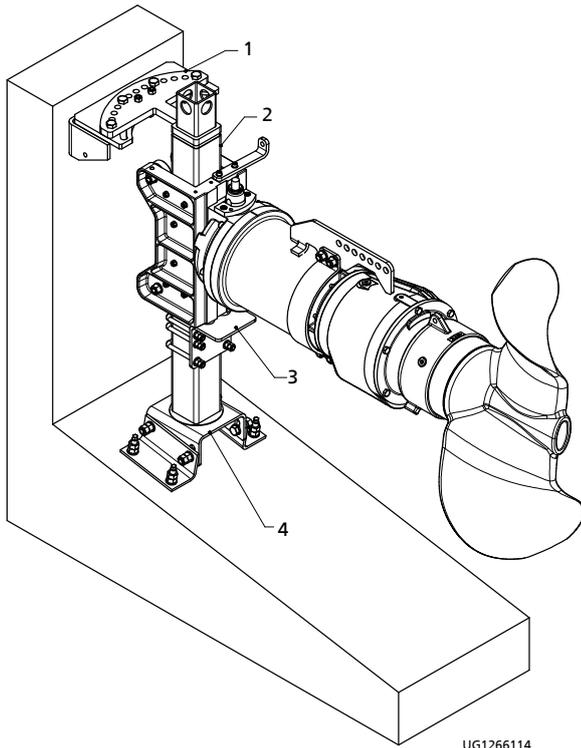
Fig. 3: Installation example: Amaprop 1000 mounted on tank wall and horizontal tank floor

1	Upper holder	3	Retaining bracket
2	Guide rail	4	Lower holder

Accessories 22 - Mounting on tank wall and horizontal tank floor

Description	Material	Material No.	[lbs]	[kg]
Upper holder for guide rail 100 x 100 x 5 mm, incl. 2 chemical anchors	A 276 Type 304	01313458	44.7	23,23
Upper holder for guide rail 100 x 100 x 5 mm, incl. 2 chemical anchors	A 276 Type 316 Ti	01313459	44.7	23,23
Guide rail	(⇒ Page 31)			
Retaining bracket for guide rail 100 x 100 x 5 mm	A 276 Type 304	01129810	7.7	3,5
Retaining bracket for guide rail 100 x 100 x 5 mm	A 276 Type 316 Ti	19202370	7.7	3,5
Lower holder for guide rail 100 x 100 x 5 mm, incl. 4 chemical anchors	A 276 Type 304	01118892	12.5	5,68
Lower holder for guide rail 100 x 100 x 5 mm, incl. 4 chemical anchors	A 276 Type 316 Ti	01118903	12.5	5,68

For mounting on tank wall and sloping tank floor (0.5° - 10°), level-adjustable and with horizontal swivelling option



UG1266114

Fig. 4: Installation example: Amaprop 1000 mounted on sloping tank floor

1	Upper holder	3	Retaining bracket
2	Guide rail	4	Lower holder

Accessories 22 for mounting on tank wall and sloping floor

Description	Material	Material No.	[lbs]	[kg]
Upper holder for guide rail 100 x 100 x 5 mm, incl. 2 chemical anchors	A 276 Type 304	01313458	44.7	23,23
Upper holder for guide rail 100 x 100 x 5 mm, incl. 2 chemical anchors	A 276 Type 316 Ti	01313459	44.7	23,23
Guide rail	(⇒ Page 31)			
Retaining bracket for guide rail 100 x 100 x 5 mm	A 276 Type 304	01129810	7.7	3,5
Retaining bracket for guide rail 100 x 100 x 5 mm	A 276 Type 316 Ti	19202370	7.7	3,5
Lower holder for guide rail 100 x 100 x 5 mm, incl. 4 chemical anchors	A 276 Type 304	01118906	26.2	11,92
Lower holder for guide rail 100 x 100 x 5 mm, incl. 4 chemical anchors	A 276 Type 316 Ti	01118907	26.2	11,92

Middle support

Middle support for guide rail 4" x 4" x 3/16" [100 mm x 100 mm x 5 mm] for large installation depths

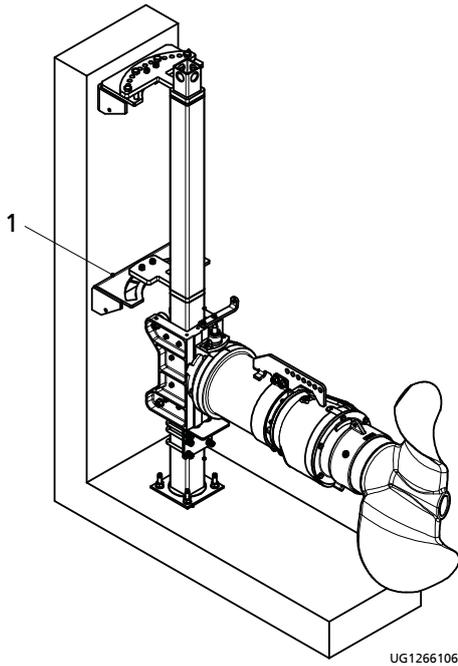


Fig. 5: Installation example: Amaprop 1000 mounted on tank edge and horizontal tank floor

1	Middle support
---	----------------

Middle supports per submersible mixer

Submersible mixer	Middle support required
Amaprop ≤ 175-1000/ ...	From 26 ft [8 m]
Amaprop ≥ 181-1000/ ...	From 20 ft [6 m]

Standard accessories 22 - Middle support for guide rail 4" x 4" x 3/16" [100 mm x 100 mm x 5 mm], for large installation depths

Description	Material	Material No.	[lbs]	[kg]
Middle support for guide rail 100 x 100 x 5 mm, incl. 2 chemical anchors	A 276 Type 304	01313462	42.5	19,26
Middle support for guide rail 100 x 100 x 5 mm, incl. 2 chemical anchors	A 276 Type 316 Ti	01313463	42.5	19,26

AmaRoc - accessories for Amaprop 1200 ... 2500

General assembly drawing showing individual components

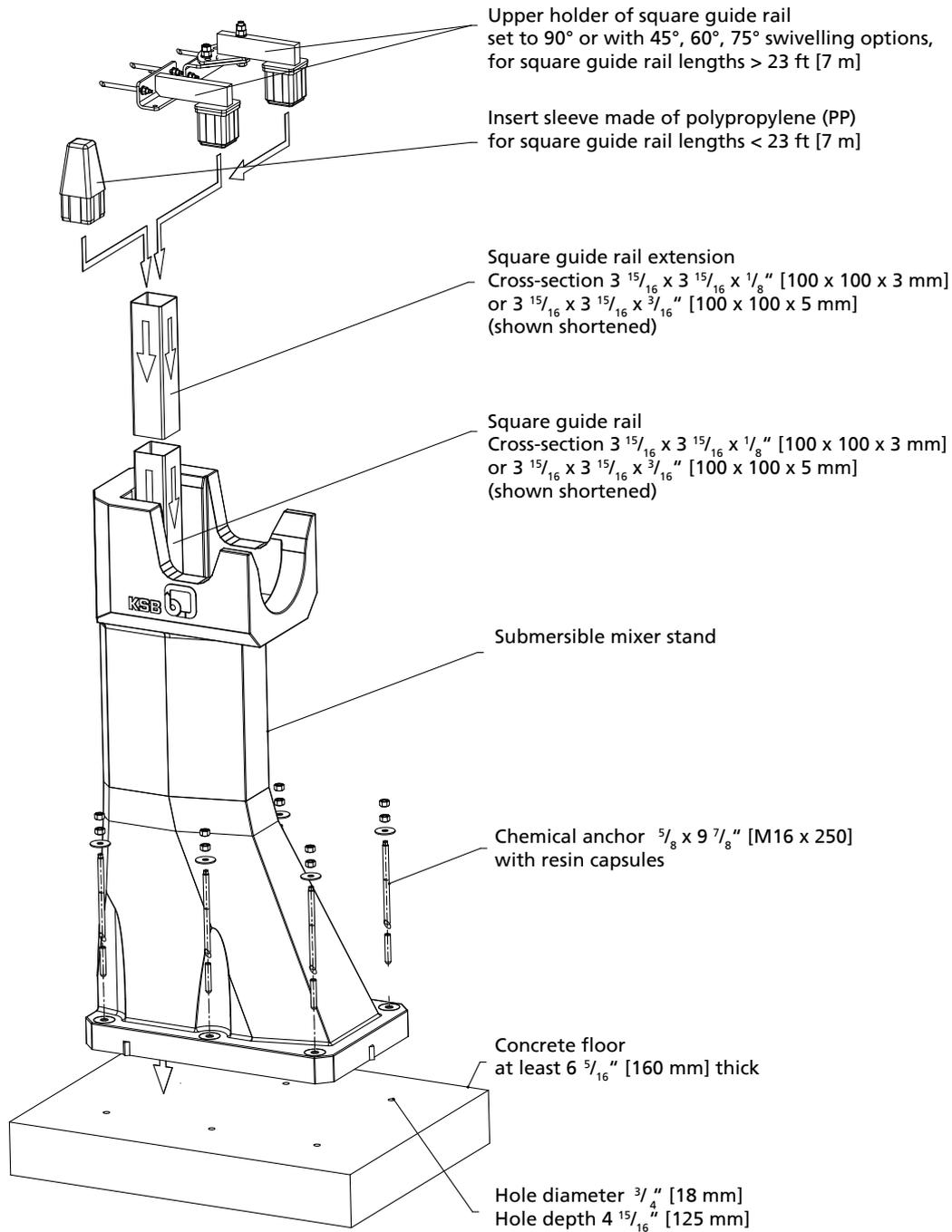


Fig. 6: General assembly drawing

Design details

Design

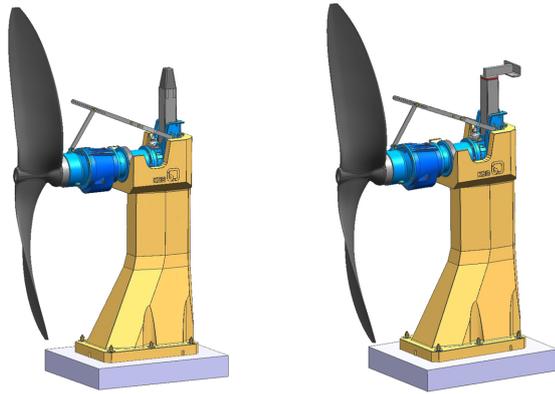
- Monolithic submersible mixer stand made of NoriRoc cast polymer concrete
- Integrally cast metal bushes (for fastening the stand to the tank floor) and flexible locating bushes (for holding the square guide rail)

Fastening

- The submersible mixer stand is fastened on the tank floor with chemical anchors

Guide rail

- Wall thickness:
 - $\frac{1}{8}$ " [3 mm] (for guide rail lengths < 30 ft [9 m])
 - $\frac{3}{16}$ " [5 mm] (for guide rail lengths \geq 30 ft [9 m])
- Cross-section $3\frac{15}{16} \times 3\frac{15}{16}$ " [100 × 100 mm]
- Material A 276 Type 304 or A 276 Type 316 Ti [material 1.4301 or 1.4571]

Installation types

Fig. 7: Installation types

1. Free-standing, without upper holder (for square guide rails < 23 ft [7 m])
2. With upper holder mounted on the tank wall or bridge (generally required for square guide rails ≥ 23 ft [7 m]; optional for square guide rail lengths < 23 ft [7 m])

AmaRoc

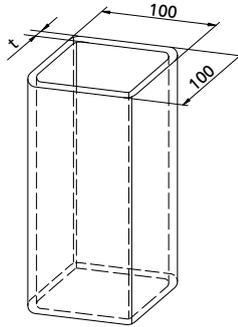
AmaRoc is designed for stationary installation on a horizontal tank floor, free-standing or with upper guide rail holder

AmaRoc standard accessories

Description	Description	Material	Material No.	[lbs]	[kg]
Submersible mixer stand	Shaft centerline height of submersible mixer 57 1/8" [1450 mm] above the tank floor, incl. 6 chemical anchors	NoriRoc	01185967	880	410
Upper holder 90°	Additional holder for upper support of guide rail 3 15/16" x 3 15/16" x 1/8" [100 mm x 100 mm x 3 mm], incl. 2 chemical anchors	A 276 Type 304	01189476	15.4	7,35
Upper holder 90°	Additional holder for supporting the top end of the guide rail 3 15/16" x 3 15/16" x 1/8" [100 mm x 100 mm x 3 mm], incl. 2 chemical anchors	A 276 Type 316 Ti	01189497	16.2	7,35
Upper holder 45°/60°/75°	Additional holder for upper support of guide rail 3 15/16" x 3 15/16" x 1/8" [100 mm x 100 mm x 3 mm], incl. 2 chemical anchors	A 276 Type 316 Ti	01189498	17.2	8,15
Upper holder 45°/60°/75°	Additional holder for supporting the top end of the guide rail 3 15/16" x 3 15/16" x 1/8" [100 mm x 100 mm x 3 mm], incl. 2 chemical anchors	A 276 Type 316 Ti	01189499	17.9	8,15
Upper holder 90°	Additional holder for upper support of guide rail 3 15/16" x 3 15/16" x 3/16" [100 mm x 100 mm x 5 mm], incl. 2 chemical anchors	A 276 Type 304	01108429	15.4	7,35
Upper holder 90°	Additional holder for supporting the top end of the guide rail 3 15/16" x 3 15/16" x 3/16" [100 mm x 100 mm x 5 mm], incl. 2 chemical anchors	A 276 Type 316 Ti	01108430	16.2	7,35
Upper holder 45°/60°/75°	Additional holder for upper support of guide rail 3 15/16" x 3 15/16" x 3/16" [100 mm x 100 mm x 5 mm], incl. 2 chemical anchors	A 276 Type 304	01108431	17.2	8,15
Upper holder 45°/60°/75°	Additional holder for supporting the top end of the guide rail 3 15/16" x 3 15/16" x 3/16" [100 mm x 100 mm x 5 mm], incl. 2 chemical anchors	A 276 Type 316 Ti	01108432	17.9	8,15
Insert sleeve	Insert sleeve for guide rail 3 15/16" x 3 15/16" x 1/8" [100 mm x 100 mm x 3 mm]; for guiding the guide bracket onto the guide rail (free-standing installation without upper holder only)	PP (polypropylene)	11306484	1.8	0,8
Guide rail	(⇒ Page 31)				

Guide rails

The guide rail length required depends on the water level. Guide rails are supplied in standard lengths of 10 ft or 20 ft [3 m or 6 m]. Free guide rail ends should not protrude more than 20" [0.5 m] from the water. If an optional guide rail holder is used to support the guide rail on the bridge, the guide rail length must be selected accordingly. The guide rails must be shortened at the site as required. For larger installation depths, the guide rails must be extended by adding guide rail extensions with a length of 10 ft or 20 ft [3 m or 6 m]. Welding and subsequent treatment must be performed at the site in accordance with the relevant regulations. To allow smooth lifting and lowering of the submersible mixers, the weld seam at the outside of the guide rail must be ground down to a max. projection of 20" [0.5 mm].



UG 1145303

 $t = \frac{3}{16}''$ or $\frac{1}{8}''$ [5 mm or 3 mm]

Square guide rail to DIN EN 10219-2

Overview of guide rails

Description	For size	Material	Material No.	[lbs]	[kg]
Guide rail $3 \frac{15}{16}'' \times 3 \frac{15}{16}'' \times \frac{1}{8}''$ [100 mm x 100 mm x 3 mm], length 10 ft [3 m]	Amaprop 1200 ... 1801	A 276 Type 304	11302882	59.4	27,9
Guide rail $3 \frac{15}{16}'' \times 3 \frac{15}{16}'' \times \frac{1}{8}''$ [100 mm x 100 mm x 3 mm], length 10 ft [3 m]	Amaprop 1200 ... 1801	A 276 Type 316 Ti	11302888	59,4	27,9
Guide rail $3 \frac{15}{16}'' \times 3 \frac{15}{16}'' \times \frac{1}{8}''$ [100 mm x 100 mm x 3 mm], length 20 ft [6 m]	Amaprop 1200 ... 2500	A 276 Type 304	11302885	118.8	56
Guide rail $3 \frac{15}{16}'' \times 3 \frac{15}{16}'' \times \frac{1}{8}''$ [100 mm x 100 mm x 3 mm], length 20 ft [6 m]	Amaprop 1200 ... 2500	A 276 Type 316 Ti	11302891	118.8	56
Guide rail $3 \frac{15}{16}'' \times 3 \frac{15}{16}'' \times \frac{3}{16}''$ [100 x 100 x 5 mm], length 10 ft [3 m]	Amaprop 1000 ... 2500	A 276 Type 304	11304598	95	43,2
Guide rail $3 \frac{15}{16}'' \times 3 \frac{15}{16}'' \times \frac{3}{16}''$ [100 x 100 x 5 mm], length 10 ft [3 m]	Amaprop 1000 ... 2500	A 276 Type 316 Ti	11304599	95	43,2
Guide rail $3 \frac{15}{16}'' \times 3 \frac{15}{16}'' \times \frac{3}{16}''$ [100 x 100 x 5 mm], length 20 ft [6 m]	Amaprop 1000 ... 2500	A 276 Type 304	11304600	190	86,4
Guide rail $3 \frac{15}{16}'' \times 3 \frac{15}{16}'' \times \frac{3}{16}''$ [100 x 100 x 5 mm], length 20 ft [6 m]	Amaprop 1000 ... 2500	A 276 Type 316 Ti	11304601	190	86,4

General assembly drawing with list of components

Amaprop V 1000

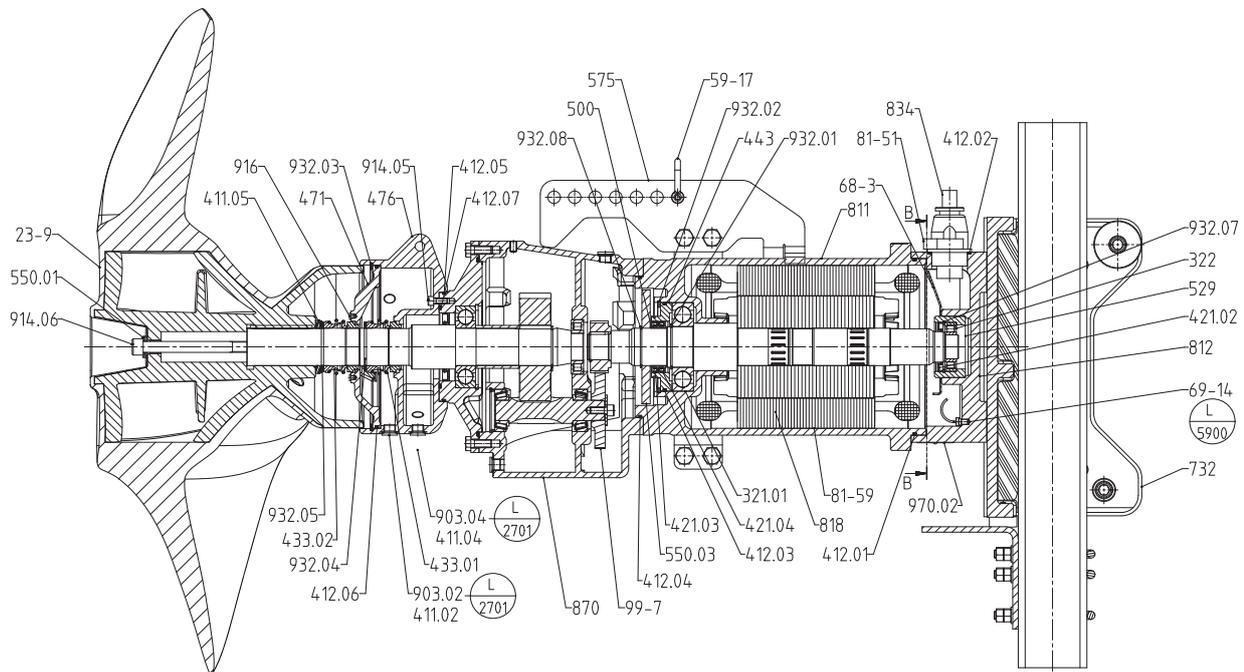
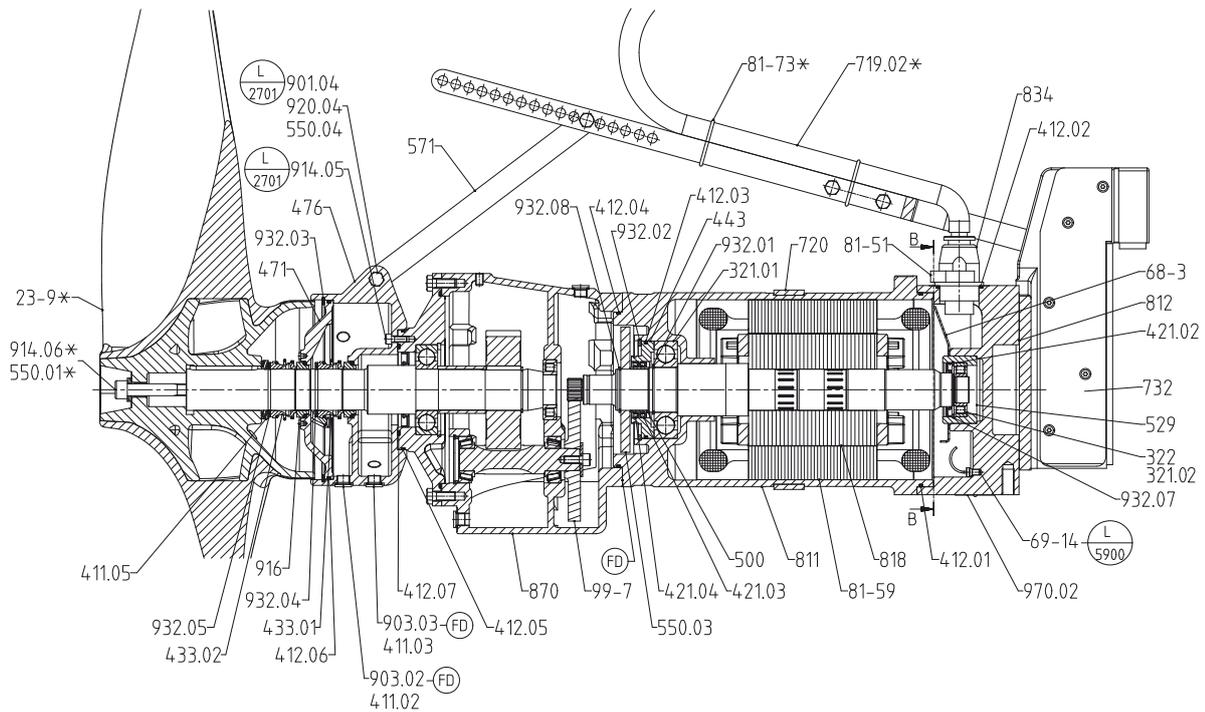


Fig. 8: General assembly drawing of Amaprop V 1000

List of components

Part No.	Description	Part No.	Description
23-9	Axial propeller	68-3	Cover plate
321.01	Radial ball bearing	69-14	Leakage sensor
322	Radial roller bearing	732	Guide bracket
411.02/04/05	Joint ring	81-51	Clamping element
412.01/02/03/04/05/06/07	O-ring	81-59	Stator
421.02/03/04	Lip seal	811	Motor housing
433.01	Mechanical seal (gear side)	812	Motor housing cover
433.02	Mechanical seal (propeller side)	818	Rotor
443	Seal insert	834	Cable gland
471	Seal cover	870	Gear unit
476	Mating ring carrier	903.02/04	Screw plug
500	Ring	914.05/06	Hexagon socket head cap screw
529	Bearing sleeve	916	Plug
550.01/03	Disc	932.01/02/03/04/05/07/08	Circlip
575	Supporting strap	970.02	Label/plate
59-17	Shackle	99-7	Installation kit

Amaprop V 1200 - 2500

Fig. 9: General assembly drawing of Amaprop V 1200 - 2500
List of components

Part No.	Description	Part No.	Description
23-9	Axial propeller	719.02	Flexible tube
321.01/02	Radial ball bearing	720	Spacer
322	Radial roller bearing	732	Guide bracket
411.02/03/05	Joint ring	81-51	Clamping element
412.01/02/03/ .04/.05/.06/.07	O-ring	81-59	Stator
421.02/03/04	Lip seal	81-73	Cable tie
433.01	Mechanical seal (gear side)	811	Motor housing
433.02	Mechanical seal (propeller side)	812	Motor housing cover
441	Shaft seal housing	818	Rotor
443	Seal insert	834	Cable gland
471	Seal cover	870	Gear unit
476	Mating ring carrier	901.03/04	Hexagon head bolt
500	Ring	903.02/03	Screw plug
540.04	Bush	914.05/06	Hexagon socket head cap screw
550.01/03/04	Disc	920.04	Nut
571	Lifting bail	932.01/02/03/ .04/.05/.07/08	Circlip
69-14	Leakage sensor	970.02	Label/plate

Enquiry sheet

To:
KSB Aktiengesellschaft
Turmstraße 92
06110 Halle/Saale (Germany)
Tel.: +49 345 4826-4879/4680
Fax: +49 345 4826-5107

From:

Company	
Contact person	
Street/number	
Post code/place	
Country	
Phone	
Fax	
Mobile phone	
E-mail	

Project name

--

Mains frequency:

- 50 Hz
 60 Hz

Mains voltage:

U [V]	
-------	--

Fluid

Solids content:

[%]	
-----	--

Temperature:

T [°F]	
T [°C]	

Density:

[lbs/inch]	
[kg/m³]	

Viscosity (at shear rate):

[cp.]	
[mPas]	

Loss on ignition:

[%]	
-----	--

Sludge index:

[ml/g]	
--------	--

Explosion-proof:

- Yes
 No

Type of fluid:

- Activated sludge
 Municipal sewage sludge (primary/secondary)
 Digested sludge
 Raw waste water
 Other:

Flow behavior:

- Newtonian (e.g. water)
 Pseudoplastic (e.g. thickened sewage sludge)
 Thixotropic (z. B. dispersion paint)
 Other:

Thickening method:

- Not thickened
 Static
 Mechanical by centrifuge / screening drum

Application of polymers:

- Yes
 No

Lowering device AmaRoc

Material of guide rail:

- A 276 Type 316 Ti (1.4571)
 A 276 Type 304 (1.4301)

Lifting equipment (crane)

Material:

- Galvanized steel
 A 276 Type 304 (1.4301)

Aeration

Aeration method:

- None
 Pipe diffusers
 Disc diffusers
 Jet aerator
 Surface rotor
 Brush aerator

Air supply:

[scfm]	
[m³ _N /h]	

Aerated area:

[ft²]	
[m²]	

Number of aerated zones:

n [quantity]	
-----------------	--

Tank/reservoir

Material:

- Concrete
- Steel
- Stainless steel
- Plastic
- Steel, enameled

Coating:

--

Design:

- Covered
- Open

Tank geometry:

- Round
- Ring channel
- Square
- Rectangular
- Tank with circulating flow:

With curved deflector plates:

- Yes No

Tank with meandering flow:

With curved deflector plates:

- Yes No

Other:

Dimensions

Length:

[ft]	
[m]	

Width:

[ft]	
[m]	

Diameter:

[ft]	
[m]	

Fill level:

[ft]	
[m]	

Tank depth:

[ft]	
[m]	

Other:



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