Submersible Motor Pump

AmaPorter

DN 50-DN 80
Single-phase AC Motor or Three-phase Asynchronous Motor
50 Hz

Type Series Booklet

KSB

Legal information/Copyright

Type Series Booklet AmaPorter

Contents

Drainage Pumps / Grey Water Pumps

Submersible Motor Pump

AmaPorter

Main applications

- Pumping station
- Domestic waste water
- Waste water transport
- Draining of pits, shafts, etc.

Fluids handled

- Grey water
- Waste water containing a small amount of solids
- Surface water or stormwater in intermittent periodic duty

Operating data

Table 1: Operating properties

Characteristic		Value	
		AmaPorter F	AmaPorter S
Flow rate	Q [m³/h]	≤ 127,1	≤ 17
	Q [l/s]	≤ 35,3	≤ 4,7
Head	H [m]	≤ 36,9	≤ 21
Fluid temperature	T [°C]	≤ +40 (continuous duty)	
		≤ +70 (short-time duty ≤ 5 minutes)	
Motor rating	P_2 [kW]	≤ 4,2	≤ 1,5

Design details

Design

- Fully floodable submersible motor pump
- Close-coupled design
- Single-stage
- Not self-priming
- Vertical installation

Installation

- Wet-installed stationary model
- Wet-installed transportable model

Drive

- Single-phase or three-phase AC asynchronous motor, direct starting, with integrated temperature switch (depending on pump type), 50 Hz, 230 V | 400 V
- Enclosure IP68 (permanently submerged) to EN 60529/ IEC 529
- Thermal class F

Shaft seal

Drive end:

- Shaft seal ring

Pump-end:

- One bi-directional mechanical seal with lip seal or two bi-directional mechanical seals in tandem arrangement (depending on the pump designation), with liquid reservoir

Impeller type

- Various application-oriented impeller types (⇨ Page 8)

Bearings

- Maintenance-free, grease-packed bearings sealed for life

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Designation

Example: AmaPorter SB 545 SE

Table 2: Designation key

Code	Description	
AmaPorter	Type series	
S	Impeller type	
	F	Vortex impeller
	S	Impeller with cutter
B	Start capacitor	
		Without start capacitor
	B	With start capacitor
5	Size	
	5..	DN 50
	6..	DN 65
	8..	DN 80
45	Code nominal impeller diameter [mm]	
	45	145 mm
SE	Motor version	
	SE	Single-phase AC motor with float switch
	NE	Single-phase AC motor without float switch
	ND	Three-phase asynchronous motor without float switch

Materials

Table 3: Overview of available materials

Component	AmaPorter F 50.. / 60..	AmaPorter F 51_ / 52_ / 61_ / 62_ / 82_	AmaPorter S 545
Casing	EN-GJL-200	EN-GJL-250	EN-GJL-200
Impeller			EN-GJL-250
Cutter	-		1.2080 (K100)
Shaft	1.4021	1.4021 + QT800	1.4021
Shaft seal, drive end			
Shaft seal ring	✗	-	✗
Mechanical seal	-	Carbon / Al_2O_3	-
Shaft seal, pump end			
Mechanical seal	SiC / AL_2O_3	SiC / SiC	SiC / SiC
Bolts and nuts	A2		
Joint rings	Nitrile butadiene rubber (NBR70)	Nitrile butadiene rubber (NBR70)	Nitrile butadiene rubber (NBR70)
Float switch	Polypropylene	-	Polypropylene

Coating and preservation

Primer and top coat

Surface treatment:

- Blasted to SA 2 $^1/_2$ to DIN EN ISO 12944

Top coat:

- Two-component epoxy paint (RAL 5002), minimum film thickness = 75 µm

Special coating

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

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Product benefits

- High operating reliability, even under tough operating conditions due to generously sized motor and thermal overload protection
- Long service life with shaft made of corrosion-resistant stainless steel and one or two bi-directional mechanical seals
- Trouble-free operation: clogging by coarse particles is prevented by large free passage (vortex impeller) or by cutter with high mechanical resistance for grey water
- Stationary pump sets easy to install and remove with automatic, bolt-free connection; leakage prevented by elastic sealing elements
- Ease of service with wetted bolts made of stainless steel which are easy to undo even after years of operation

Product information

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

For information as per European chemicals regulation (EC) No. 1907/2006 (REACH) see https://www.ksb.com/en-global/company/corporate-responsibility/reach.

Certificates

Table 4: Overview

Label	Effective in:	Note
CE	Europe	Suitable for products to EN 12050-1
TÜVRheinland CERTIFIED Type Tested and Monitored www.tuv.com ID 1111215748	Europe	-

Overview of product features / selection tables

Overview of range

Table 5: Standard design variants

Size	F impeller					S impeller		
	AmaPorter 5.. / 6.. (vortex impeller)			AmaPorter F 51_ / 52_ / 61_	AmaPorter F 62_ / 82_	AmaPorter S 545 (impeller with cutter)		
Motor version	**SE**	**NE**	**ND**	**ND**		**SE**	**NE**	**ND**
Material variant	**G**					**G**		
Number of motor poles								
2-pole	✗	✗	✗	✗	-	✗	✗	✗
4-pole	-	-	-	-	✗	-	-	-
Explosion protection								
Motor version UL	Non-explosion-proof							
Motor								
Starting method	DOL[1)]			DOL[2)]		DOL[1)]		
Voltage	1~230 V	1~230 V	3~400 V	400 V		1~230 V	1~230 V	3~400 V
Cooling	Cooled by surrounding fluid							
Duty type	Continuous duty S1 (permanently submerged, 10 m max.)			S1 – submerged (25 m max.) (see [2)] in outline drawing) S3 – outside the fluid (see [1)] in outline drawing)		Continuous duty S1 (permanently submerged, 10 m max.)		
Power cable								
Type	Rubber-sheathed cable (H07RN8-F 3G1)		Rubber-sheathed cable (H07RN8-F 4G1)	Rubber-sheathed cable (H07RN8-F 7G1.5)		Rubber-sheathed cable (H07RN8-F 4G1)		
Length	10 m[3)]			10 m		10m[3)]		
Cable entry	Absolutely watertight							
Sealing elements								
Shaft seal	Drive end: shaft seal ring Pump end: mechanical seal			Drive-end: mechanical seal Pump end: mechanical seal		Drive end: shaft seal ring Pump end: mechanical seal		
Elastomer seals	NBR			NBR		NBR		
Monitoring equipment								
Winding temperature version UL	Thermal motor protection		-	Temperature monitoring circuit (with automatic reset and start-up): bimetal switch directly connected with the control circuit of the motor contactor		Thermal motor protection		-
Coating	Environmentally friendly KSB top coat (two-component epoxy paint), colour RAL 5002, film thickness = 75 µm			Environmentally friendly KSB top coat (two-component epoxy paint), colour RAL 5002, film thickness = 80 µm		Environmentally friendly KSB top coat (two-component epoxy paint), colour RAL 5002, film thickness = 75 µm		
Installation								
Stationary, with guide hoop arrangement	Installation depths 1.5 m / 1.8 m / 2.1 m							
Stationary, with single guide rail arrangement	Installation depth 6 m							
Stationary, with twin guide rail arrangement	Installation depth 6 m							
Stationary, with guide wire arrangement	Installation depth 4.5 m							
Transportable	Installation depth 14.5 m							
Maximum temperature of fluid handled								
Motor version UL	≤ +40 °C (+70 °C for short periods)			40 °C		≤ +40 °C (+70 °C for short periods)		

1 Maximum frequency of starts: 15 starts per hour
2 Maximum frequency of starts: 30 starts per hour
3 Optional: 20 m

Impellers

	Vortex impeller (impeller type F)	**Suitable for the following fluids:** fluids containing solids and stringy material as well as fluids with entrapped air or entrapped gas
	Impeller with cutter (impeller type S)	**Suitable for the following fluids:** faeces, domestic sewage and waste water containing long fibres

Overview of fluids handled

The table below for your guidance is based on KSB's long-standing experience. The data are standard values and are not to be considered as generally binding recommendations. More detailed advice is available from our specialist department. The KSB materials laboratory's wealth of experience may be useful when selecting materials.

Table 6: Selection aid for materials and hydraulic systems per fluid

Fluid handled[4]	Recommended material	Recommended impeller type[5]	Recommended sealing elements	Comments, further recommendations
Water, surface water				
▪ Dam water	G	F	NBR	Free passage > any solids contained, possibly pre-screened
▪ Lake water	G	F	NBR	Free passage > any solids contained, possibly pre-screened
▪ River water	G	F	NBR	Free passage > any solids contained, possibly pre-screened
Water, contaminated water				
▪ Mixed water, with strainer	G	F	NBR	-
▪ Mixed water, without strainer	G	F	NBR	-
▪ Slightly contaminated water	G	F	NBR	Free passage > any solids contained, possibly pre-screened
▪ Waste water with faeces	G	F	NBR	EN 12050, min. free passage of 40 mm
▪ Waste water without faeces	G	F	NBR	-
Municipal waste water				
▪ Biologically treated	G	F	NBR	-
▪ Containing air and gas	G	F	NBR	Up to 8 %; contact KSB for higher concentrations.
▪ Domestic waste water with faeces	G	F	NBR	EN 12050, min. free passage of 40 mm
▪ Domestic waste water without faeces	G	F	NBR	-
▪ Pumped drainage	G	F	NBR	-
▪ Raw waste water containing solids, long fibres and abrasive particles	G	F	NBR	Free passage > any solids contained, possibly pre-screened
▪ Untreated	G	F	NBR	ATV[6] recommends a free passage of 100 mm; min. free passage: 76 mm
Water, raw water				
▪ No details specified	G	F	NBR	-
Non-abrasive, non-corrosive industrial waste water[7]				
▪ Industrial waste water with faeces	G	F	NBR	-
▪ Industrial waste water without faeces	G	F	NBR	-
▪ Containing aliphatic hydrocarbons	G	F	FKM	TEHSITE cable; for high concentrations contact the manufacturer.
▪ Ammonium hydroxide	G	F	NBR	-

4 For any fluids which are not listed in this table contact the manufacturer.
5 The first impeller type listed should be given preference.
6 ATV = German regulatory body for waste water management
7 The hydrocarbons mentioned may occur in very high concentrations due to the difference in specific weight and their low solubility. If this is the case, contact KSB.

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Fluid handled[4]	Recommended material	Recommended impeller type[5]	Recommended sealing elements	Comments, further recommendations
▪ Containing up to 5 % of ammonium hydroxide	G	F	NBR	-
▪ Containing aromatic hydrocarbons	G	F	FKM	TEHSITE cable; for high concentrations contact the manufacturer.
▪ Containing benzene	G	F	FKM	TEHSITE cable; for high concentrations contact the manufacturer.
▪ Containing 5 % of calcium hydroxide $Ca(OH)_2$	G	F	NBR	-
▪ Containing chlorinated hydrocarbons	G	F	FKM	TEHSITE cable; for high concentrations contact the manufacturer.
▪ Containing chloroform	G	F	FKM	TEHSITE cable; for high concentrations contact the manufacturer.
▪ Containing 10 % of dissolved carbonate Na_2CO_3	G	F	NBR	-
▪ Containing ethylene chloride	G	F	FEP-FKM	TEHSITE cable; for high concentrations contact the manufacturer.
▪ Containing fibres	G	F	NBR	-
▪ Containing methane	G	F	FKM	TEHSITE cable; for high concentrations contact the manufacturer.
▪ Containing methylene chloride	G	F	FEP-FKM	TEHSITE cable; for high concentrations contact the manufacturer.
▪ Containing oil	G	F	FKM	TEHSITE cable; for high concentrations contact the manufacturer.
▪ Containing paint suspension	G	F	NBR	Solvent-free, observe the operator's instructions.
▪ Containing petrol	G	F	FKM	TEHSITE cable; for high concentrations contact the manufacturer.
▪ Containing 10 % of potassium hydroxide KOH	G	F	FEP-FKM	-
▪ Containing 5 % of sodium hydroxide NaOH	G	F	FEP-FKM	-
▪ Containing styrene	G	F	FEP-FKM	TEHSITE cable; for high concentrations contact the manufacturer.
▪ Containing tetrachloroethylene	G	F	FKM	TEHSITE cable; for high concentrations contact the manufacturer.
▪ Containing 25 % of urea $(NH_2)_2$-CO	G	F	NBR	-
Suspensions containing solids				
▪ Pulp, concentration up to 1 % bone dry	G	F	NBR	-
▪ Pulp, concentration up to 6 % bone dry	G	F	NBR	-
▪ Water/sand mixture up to 0.5 g/l	G	F	NBR	-
Sludges				
▪ Raw sludge	G	F	NBR	Pumpable up to a dry substance content of: 13 % (D-max), 8 % (F)
▪ Digested sludge	G	F	NBR	Pumpable up to a dry substance content of: 13 % (D-max), 8 % (F)
▪ Activated sludge	G	F	NBR	Pumpable up to a dry substance content of: 13 % (D-max), 8 % (F)

Technical data

AmaPorter

Table 7: Overview of technical data

Size	Voltage		Power cable		Impeller diameter	Free passage	P_1	P_2	I_N	I_A	Power cable	Mat. No.	[kg]
	1~230 V	3~400 V	10 m	20 m	[mm]	[mm]	[kW]	[kW]	[A]	[A]	[mm²]		
500 SE	✗	-	✗	-	100	45	1,00	0,55	5,0	18,2	3G1	39017187	23
501 SE	✗	-	✗	-	110	45	1,25	0,75	6,0	18,2	3G1	39017100	23
502 SE	✗	-	✗	-	120	43	1,80	1,10	8,2	18,2	3G1	39017101	23
503 SE	✗	-	✗	-	130	41	1,80	1,10	8,2	18,2	3G1	39017102	23
500 NE	✗	-	✗	-	100	45	1,00	0,55	5,0	18,2	3G1	39017195	22
500 NE	✗	-	-	✗	100	45	1,00	0,55	5,0	18,2	3G1	39018542	23,2
501 NE	✗	-	✗	-	110	45	1,25	0,75	6,0	18,2	3G1	39017188	23
501 NE	✗	-	-	✗	110	45	1,25	0,75	6,0	18,2	3G1	39018543	23,2
502 NE	✗	-	✗	-	120	43	1,80	1,10	8,2	18,2	3G1	39017189	23
502 NE	✗	-	-	✗	120	43	1,80	1,10	8,2	18,2	3G1	39018544	23,2
503 NE	✗	-	✗	-	130	41	1,80	1,10	8,2	18,2	3G1	39017190	23
503 NE	✗	-	-	✗	130	41	1,80	1,10	8,2	18,2	3G1	39018545	23,2
500 ND	-	✗	✗	-	100	45	0,90	0,55	2,3	18,3	4G1	39017191	22
500 ND	-	✗	-	✗	100	45	0,90	0,55	2,3	18,3	4G1	39018538	23,4
501 ND	-	✗	✗	-	110	45	1,10	0,75	2,8	18,3	4G1	39017103	23
501 ND	-	✗	-	✗	110	45	1,10	0,75	2,8	18,3	4G1	39018539	23,4
502 ND	-	✗	✗	-	120	43	1,50	1,10	3,0	18,3	4G1	39017104	23
502 ND	-	✗	-	✗	120	43	1,50	1,10	3,0	18,3	4G1	39018540	23,4
503 ND	-	✗	✗	-	130	41	2,05	1,50	3,5	18,3	4G1	39017105	23
503 ND	-	✗	-	✗	130	41	2,05	1,50	3,5	18,3	4G1	39018541	23,4
510 ND	-	✗	✗	-	90	40	1,83	1,30	3,6	20,0	7G1,5	39100411	41
511 ND	-	✗	✗	-	107	40	1,83	1,30	3,6	20,0	7G1,5	39100412	41
512 ND	-	✗	✗	-	120	40	2,64	1,90	4,7	20,0	7G1,5	39100413	42
513 ND	-	✗	✗	-	130	40	3,30	2,30	5,6	20,0	7G1,5	39100414	42
514 ND	-	✗	✗	-	140	40	3,30	2,30	5,6	20,0	7G1,5	39100415	43
520 ND	-	✗	✗	-	130	40	3,90	3,10	6,9	50,0	7G1,5	39100416	52
521 ND	-	✗	✗	-	140	40	3,90	3,10	6,9	50,0	7G1,5	39100417	52
522 ND	-	✗	✗	-	150	40	5,40	4,20	9,0	50,0	7G1,5	39100418	53
523 ND	-	✗	✗	-	160	40	5,40	4,20	9,0	50,0	7G1,5	39100419	53
524 ND	-	✗	✗	-	170	40	5,40	4,20	9,0	50,0	7G1,5	39100420	54
525 ND	-	✗	✗	-	180	40	5,40	4,20	9,0	50,0	7G1,5	39100421	54
601 SE	✗	-	✗	-	110	60	1,25	0,75	6,0	18,2	3G1	39017106	26
602 SE	✗	-	✗	-	120	58	1,80	1,10	8,2	18,2	3G1	39017107	26
603 SE	✗	-	✗	-	130	56	1,80	1,10	8,2	18,2	3G1	39017108	26
601 NE	✗	-	✗	-	110	60	1,25	0,75	6,0	18,2	3G1	39017192	26
601 NE	✗	-	-	✗	110	60	1,25	0,75	6,2	18,2	3G1	39018549	26,2
602 NE	✗	-	✗	-	120	58	1,80	1,10	8,2	18,2	3G1	39017193	26
602 NE	✗	-	-	✗	120	58	1,80	1,10	8,2	18,2	3G1	39018628	26,2
603 NE	✗	-	✗	-	130	56	1,80	1,10	8,2	18,2	3G1	39017194	26
603 NE	✗	-	-	✗	130	56	1,80	1,10	8,2	18,2	3G1	39018629	26,2
601 ND	-	✗	✗	-	110	60	1,10	0,75	2,8	18,3	4G1	39017109	25
601 ND	-	✗	-	✗	110	60	1,10	0,75	2,8	18,3	4G1	39018546	26,4
602 ND	-	✗	✗	-	120	58	1,50	1,10	3,0	18,3	4G1	39017110	25
602 ND	-	✗	-	✗	120	58	1,50	1,10	3,0	18,3	4G1	39018547	26,4
603 ND	-	✗	✗	-	130	56	2,05	1,50	3,5	18,3	4G1	39017111	25
603 ND	-	✗	-	✗	130	56	2,05	1,50	3,5	18,3	4G1	39018548	26,4
610 ND	-	✗	✗	-	120	65	3,90	3,10	6,9	50,0	7G1,5	39100422	58
611 ND	-	✗	✗	-	128	65	3,90	3,10	6,9	50,0	7G1,5	39100423	58
612 ND	-	✗	✗	-	136	65	3,90	3,10	6,9	50,0	7G1,5	39100424	59
613 ND	-	✗	✗	-	146	65	5,40	4,20	9,0	50,0	7G1,5	39100425	59
614 ND	-	✗	✗	-	152	65	5,40	4,20	9,0	50,0	7G1,5	39100426	57

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Size	Voltage		Power cable		Impeller diameter	Free passage	P_1	P_2	I_N	I_A	Power cable	Mat. No.	[kg]
	1~230 V	3~400 V	10 m	20 m	[mm]	[mm]	[kW]	[kW]	[A]	[A]	[mm²]		
615 ND	-	✘	✘	-	158	65	5,40	4,20	9,0	50,0	7G1,5	39100427	58
620 ND	-	✘	✘	-	112	65	1,29	0,80	2,9	17,4	7G1,5	39100428	49
621 ND	-	✘	✘	-	125	65	1,29	0,80	2,9	17,4	7G1,5	39100429	49
622 ND	-	✘	✘	-	135	65	1,29	0,80	2,9	17,4	7G1,5	39100430	49
623 ND	-	✘	✘	-	145	65	1,29	0,80	2,9	17,4	7G1,5	39100431	49
624 ND	-	✘	✘	-	155	65	1,29	0,80	2,9	17,4	7G1,5	39100432	49
625 ND	-	✘	✘	-	165	65	1,96	1,30	3,6	17,4	7G1,5	39100433	50
626 ND	-	✘	✘	-	175	65	1,96	1,30	3,6	17,4	7G1,5	39100434	50
627 ND	-	✘	✘	-	185	65	2,85	1,80	4,8	17,4	7G1,5	39100435	49
628 ND	-	✘	✘	-	195	65	2,85	1,80	4,8	17,4	7G1,5	39100436	51
820 ND	-	✘	✘	-	120	76	2,70	1,90	6,1	37,5	7G1,5	39100437	64
821 ND	-	✘	✘	-	135	76	2,70	1,90	6,1	37,5	7G1,5	39100438	65
822 ND	-	✘	✘	-	150	76	2,70	1,90	6,1	37,5	7G1,5	39100439	65
823 ND	-	✘	✘	-	165	76	3,61	2,60	7,0	37,5	7G1,5	39100440	66
824 ND	-	✘	✘	-	180	76	5,39	3,70	9,3	37,5	7G1,5	39100441	65
825 ND	-	✘	✘	-	195	76	5,39	3,70	9,3	37,5	7G1,5	39100442	67
826 ND	-	✘	✘	-	210	76	5,39	3,70	9,3	37,5	7G1,5	39100443	65
SB 545 SE	✘	-	✘	-	145	7	1,80	1,10	8,2	18,2	4G1	39018468	26,5
SB 545 NE	✘	-	✘	-	145	7	1,80	1,10	8,2	18,2	4G1	39018469	26,5
S 545 ND	-	✘	✘	-	145	7	2,05	1,50	3,5	18,3	4G1	39017859	25

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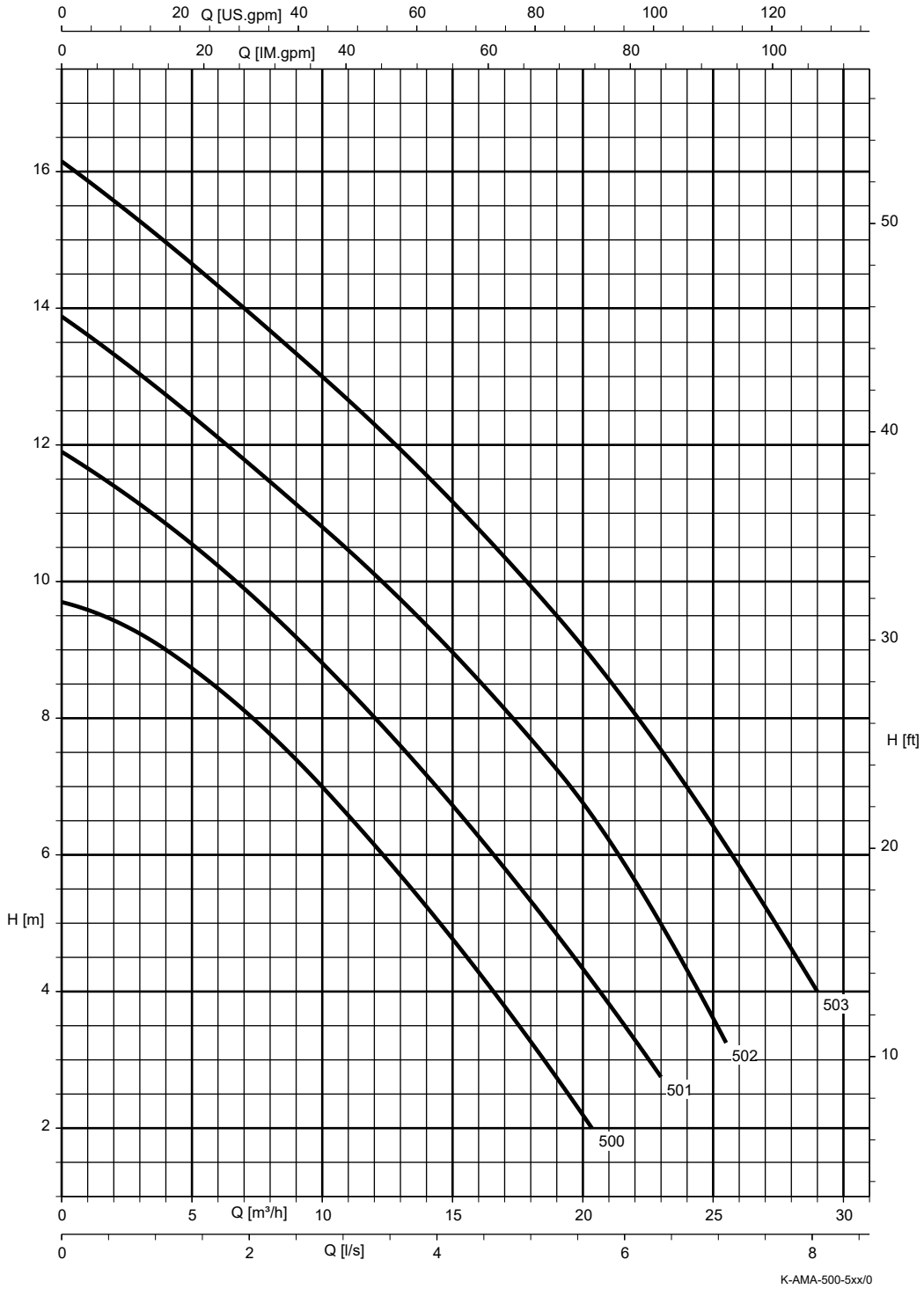
Characteristic curves

AmaPorter F 50_, n = 2900 rpm

Characteristic curves to ISO 9906 Class 2A / 3B, below 10 kW to § 4.4.2. The characteristic curves refer to the effective motor speed.



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AmaPorter F 51_, n = 2900 rpm

Characteristic curves to ISO 9906 Class 2A / 3B, below 10 kW to § 4.4.2. The characteristic curves refer to the effective motor speed.

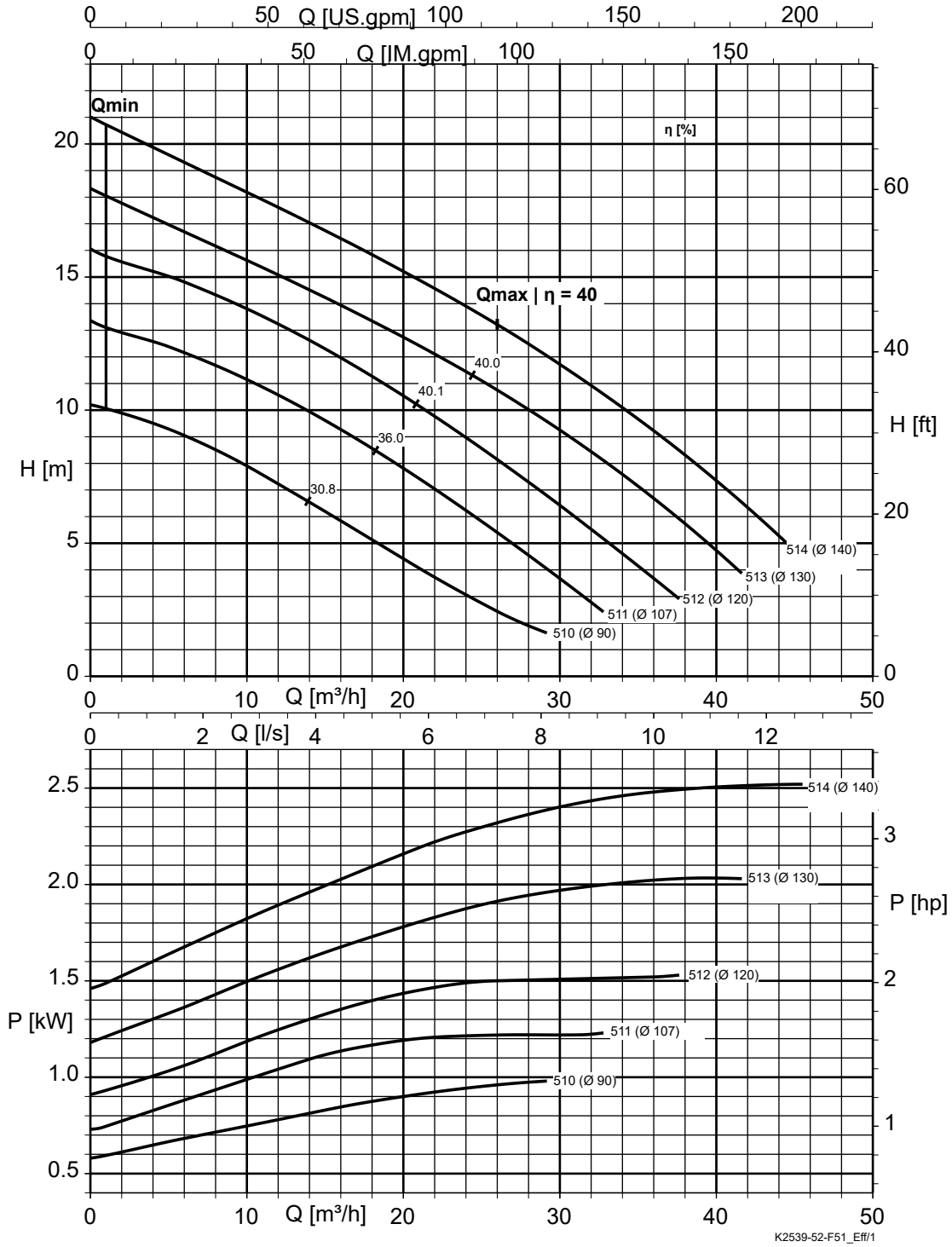

Fig. 1: Free passage : F 51_ = 40 mm

AmaPorter F 52_, n = 2900 rpm

Characteristic curves to ISO 9906 Class 2A / 3B, below 10 kW to § 4.4.2. The characteristic curves refer to the effective motor speed.

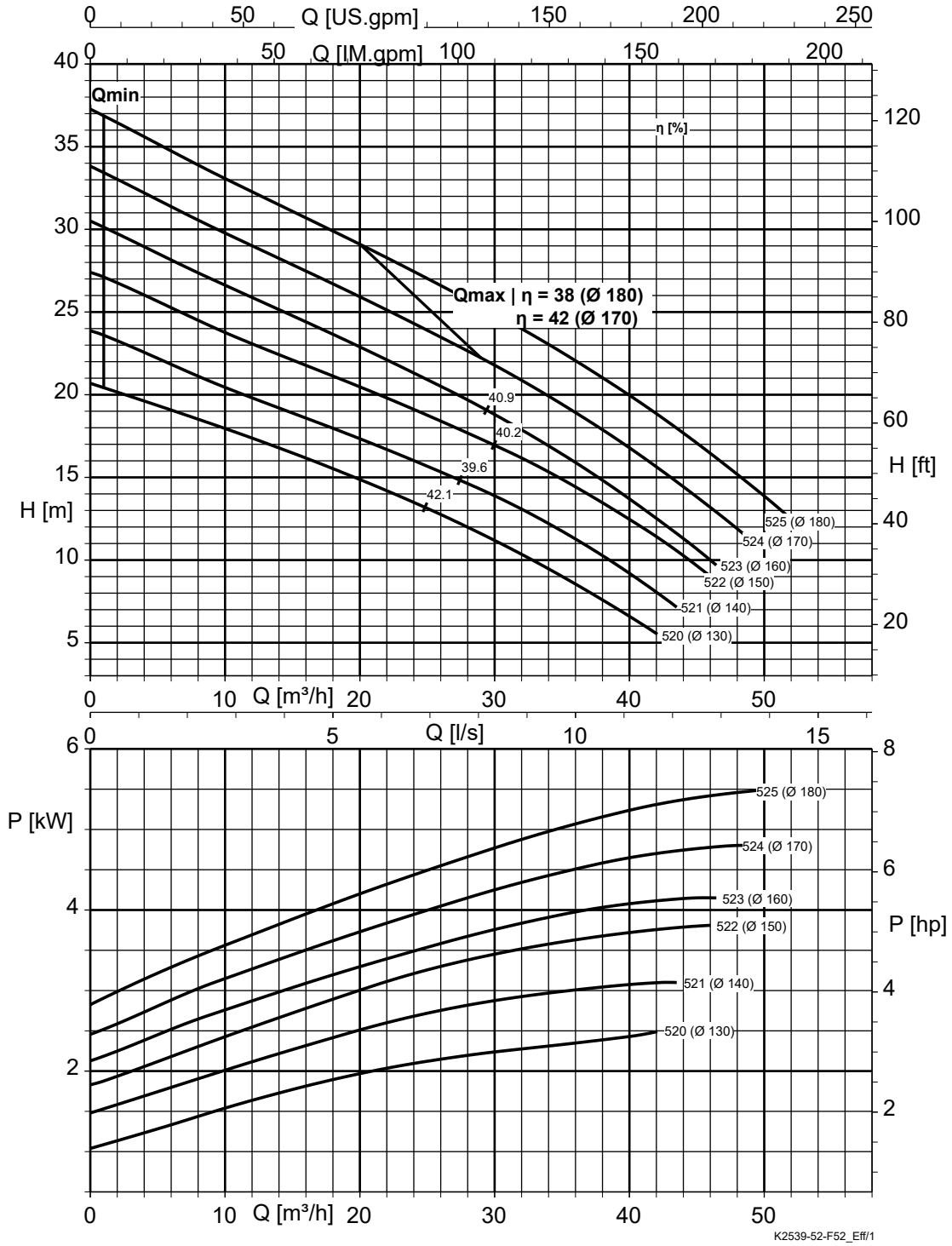

Fig. 2: Free passage : F 52_ = 40 mm

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AmaPorter F 60_, n = 2900 rpm

Characteristic curves to ISO 9906 Class 2A / 3B, below 10 kW to § 4.4.2. The characteristic curves refer to the effective motor speed.

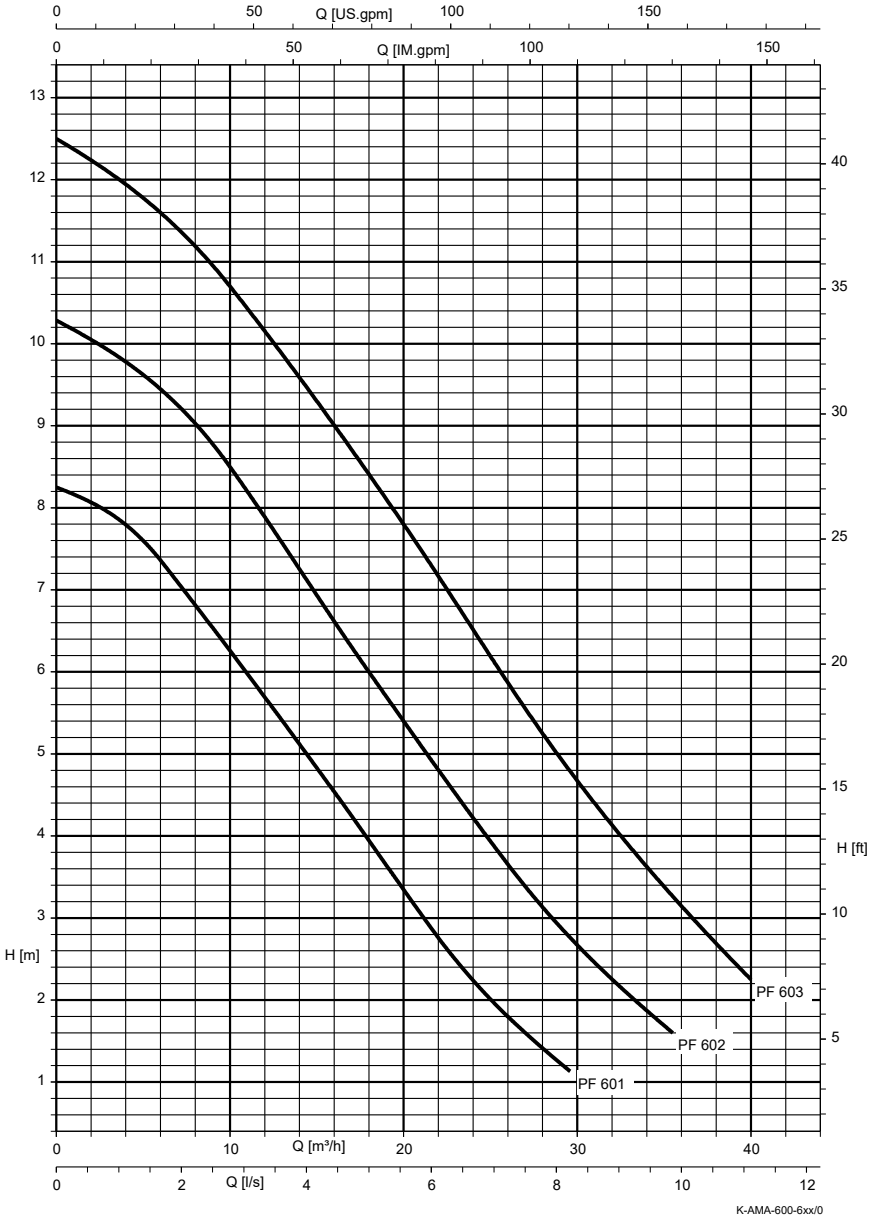

Fig. 3: Free passage: F 60_ = 40 mm

AmaPorter F 61_, n = 2900 rpm

Characteristic curves to ISO 9906 Class 2A / 3B, below 10 kW to § 4.4.2. The characteristic curves refer to the effective motor speed.

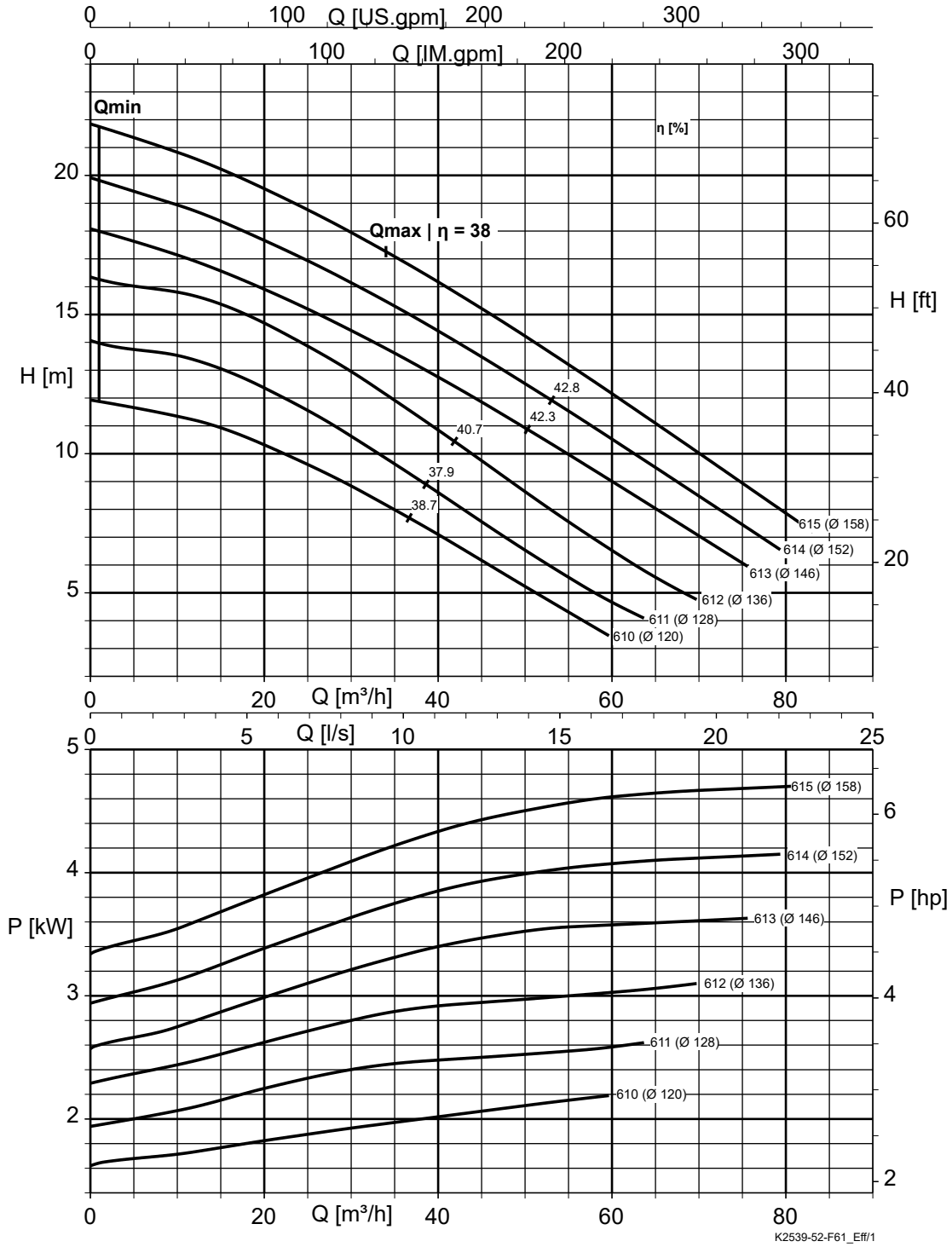

Fig. 4: Free passage: F 61_ = 65 mm

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AmaPorter F 62_, n = 1450 rpm

Characteristic curves to ISO 9906 Class 2A / 3B, below 10 kW to § 4.4.2. The characteristic curves refer to the effective motor speed.

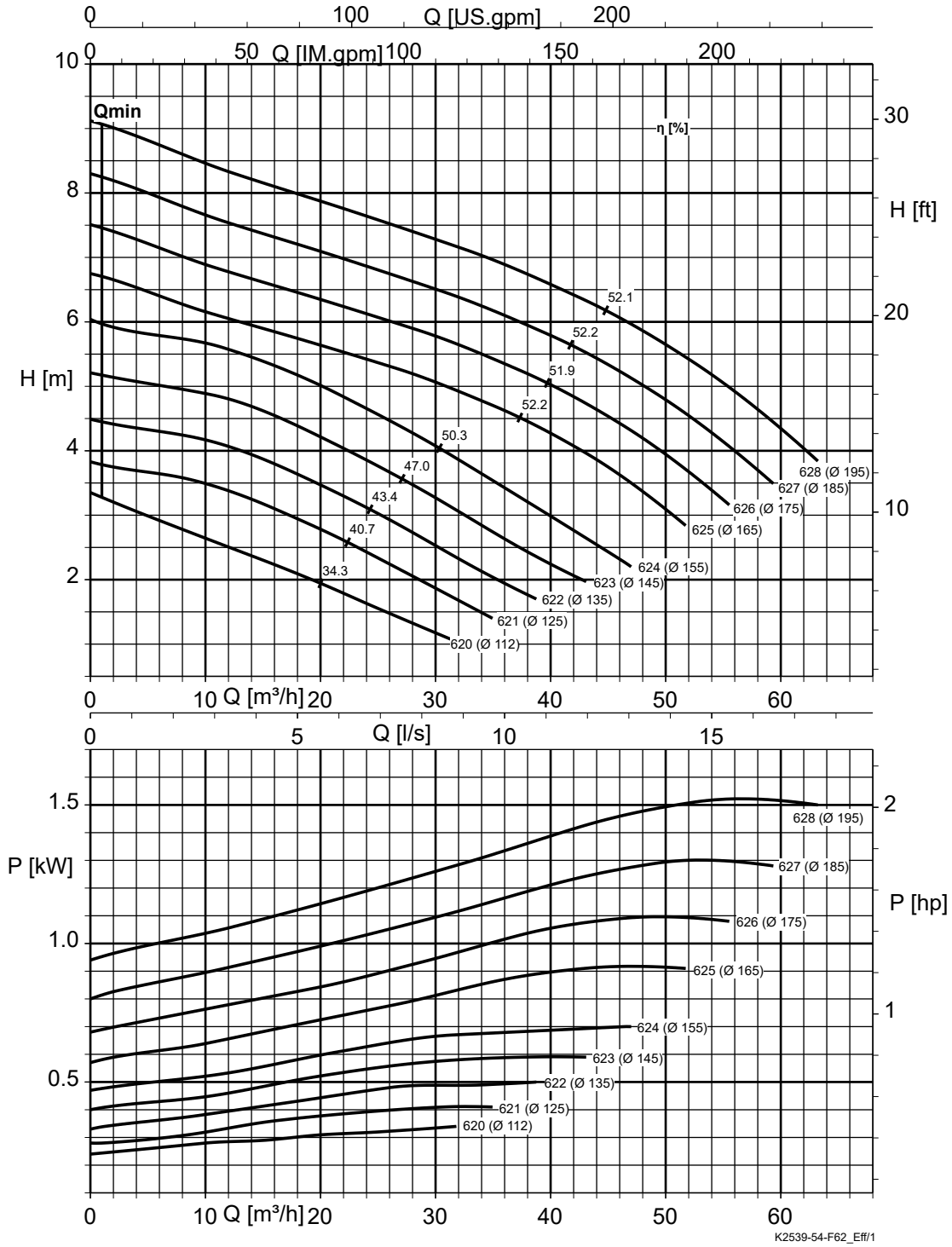

Fig. 5: Free passage: F 62_ = 65 mm

AmaPorter F 82_, n = 1450 rpm

Characteristic curves to ISO 9906 Class 2A / 3B, below 10 kW to § 4.4.2. The characteristic curves refer to the effective motor speed.

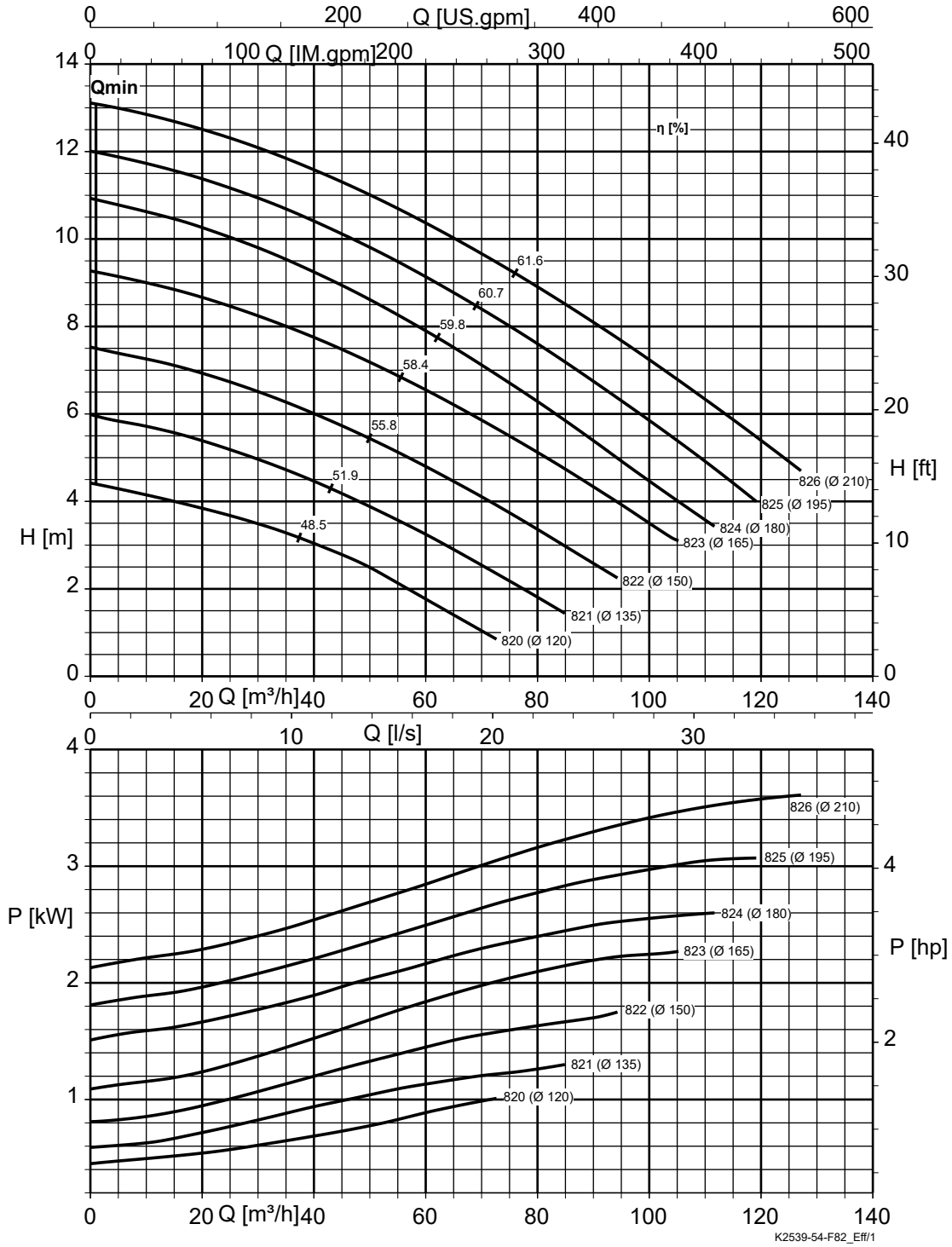

Fig. 6: Free passage: F 82_ = 76 mm

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AmaPorter S_545, n = 2900 rpm

Characteristic curves to ISO 9906 Class 2A / 3B, below 10 kW to § 4.4.2. The characteristic curves refer to the effective motor speed.

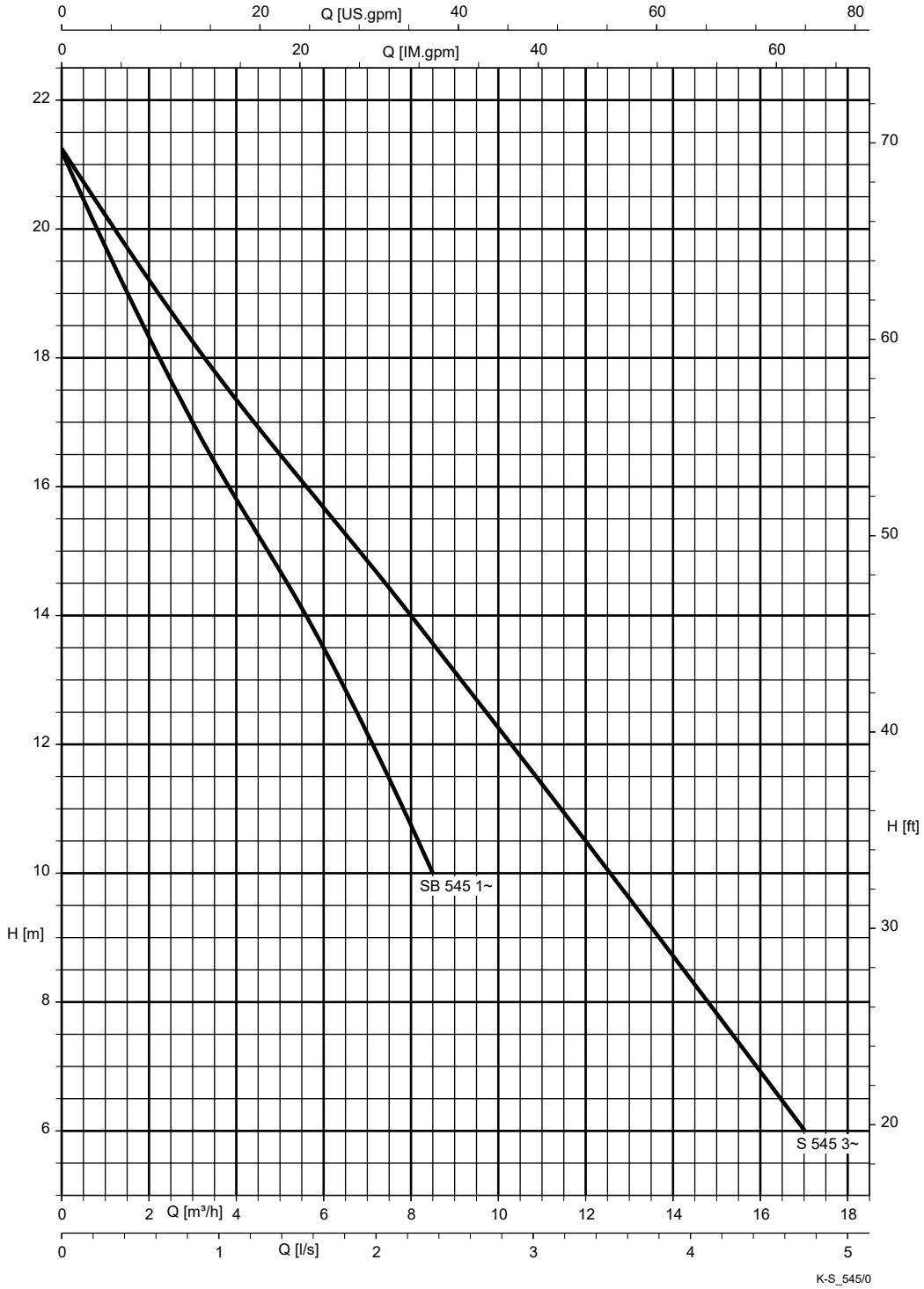

Fig. 7: Free passage: 7 mm

Dimensions and connections

AmaPorter DN 50/65/80, transportable version

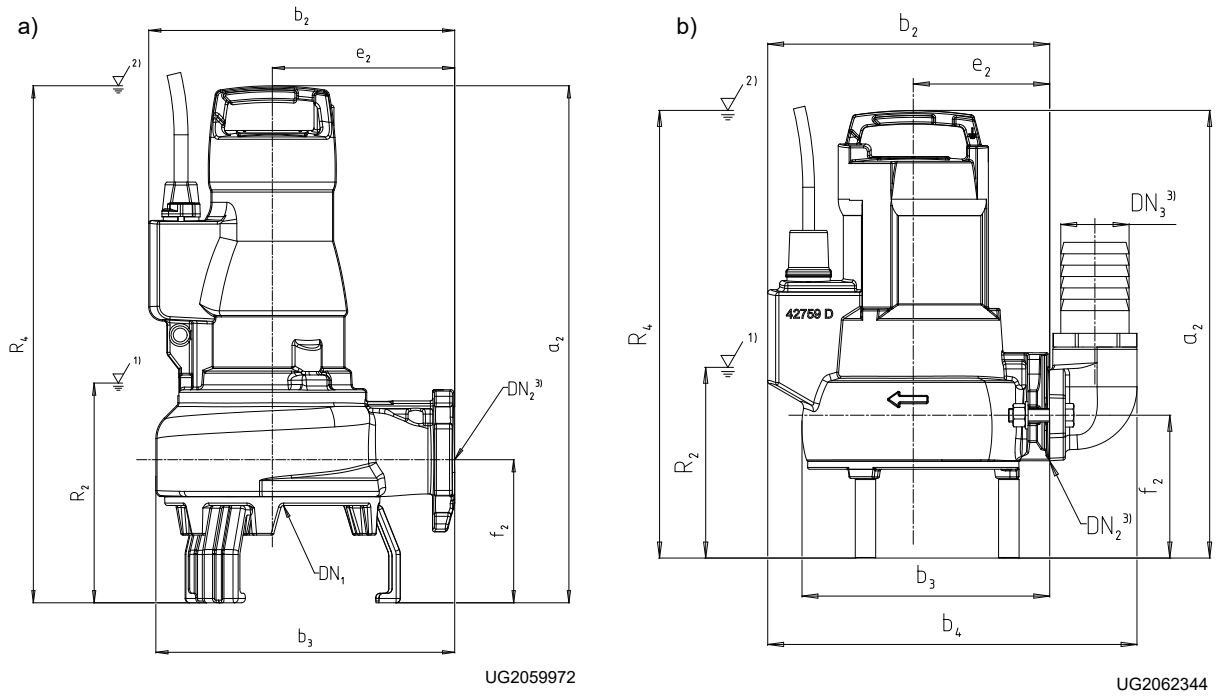

Fig. 8: Dimensions and connections

a)	AmaPorter F	b)	AmaPorter S

1)	Lowest stop level for automatic operation
2)	Minimum submergence for continuous operation
3)	Connection of elbow with fasteners and clamp, for sizes 50_/60_/545 consider adapter piece for hose in addition

Table 8: Pump set dimensions [mm]

Size	DN_1	DN_2	a_2	b_2	b_3	b_4	e_2	f_2	R_2	R_4
F 50_	44	50	393	248	218	-	120	125	160	393
F 51_	42	50	549	323	295	-	180	154	207	549
F 52_	42	50	610	337	308	-	180	157	203	610
F 60_	59	65	408	278	263	-	150	132	170	408
F 61_	65	65	655	367	335	-	210	166	248	655
F 62_	65	65	596	353	345	-	210	165	253	596
F 82_	80	80	674	387	392	-	230	190	249	674
S_545	-	50	394	248	218	325	120	126	160	394

AmaPorter F can be installed with an additional footplate. In this case, add 10 mm to a_2 and f_2.

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Pump flange

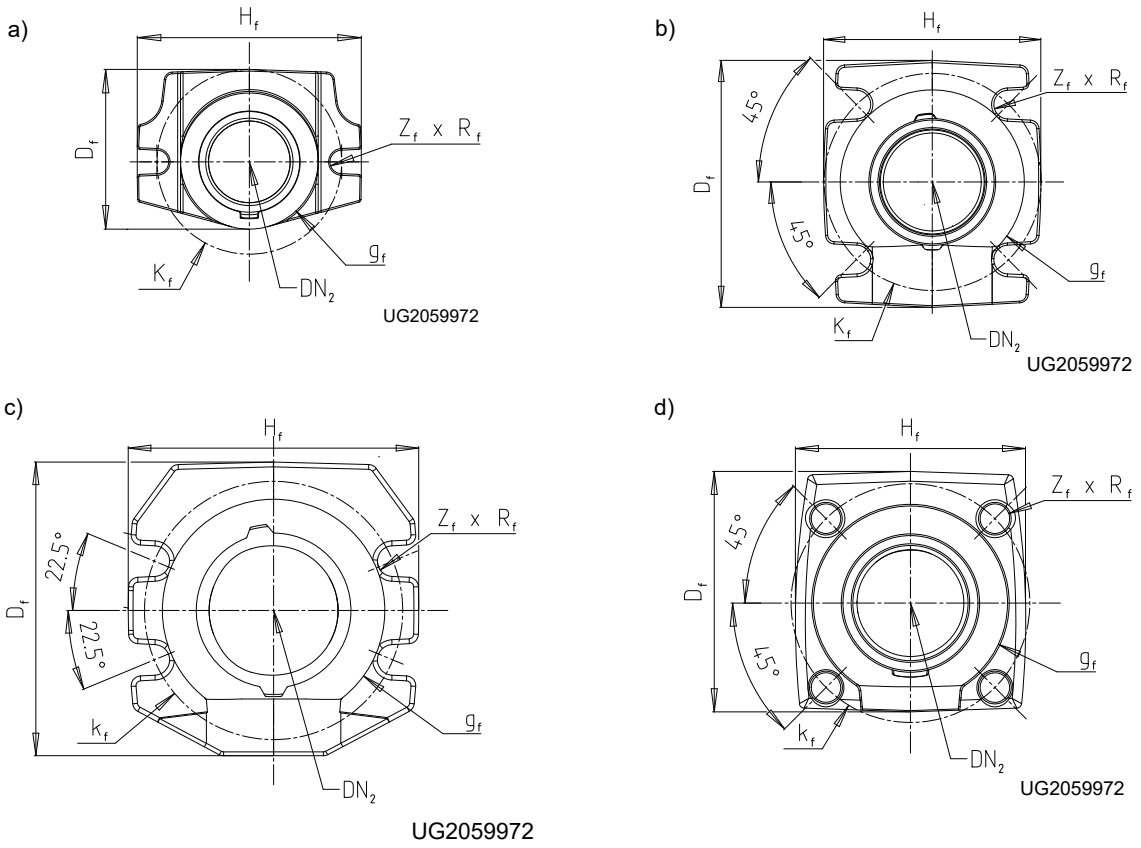

Fig. 9: Pump flange dimensions

a)	AmaPorter F 50_/S_ 545	b)	AmaPorter F 51_ /52_/61_/62_
c)	AmaPorter F 60_	d)	AmaPorter F 82_

Table 9: Pump flange dimensions [mm]

Size	DN_2	ISO 7005/DIN 2501	g_f	k_f	D_f	H_f	Z_f	R_f
F 50_	50	PN 6	82	110	95	134	2	7
F 51_/52_	50	PN 16	99	124	140	125	4	9,5
F 60_	65	PN 16	118	145	146	140	4	9
F 61_/62_	65	PN 16	122	145	164	144	4	9,5
F 82_	80	PN 16	138	160	182	180	4	9,5
S_545	50	PN 6	82	110	95	134	2	7

Connection elbow

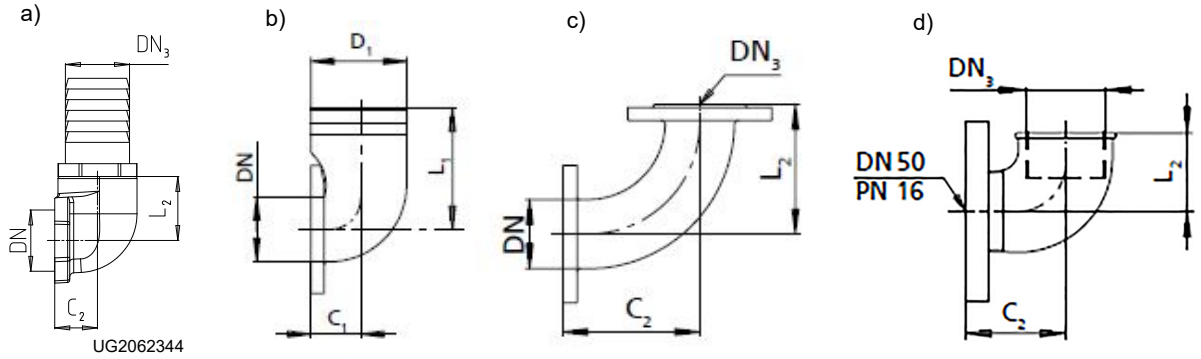

Fig. 10: Connection elbow dimensions

a)	Connection elbow with internal thread and external tread, together with threaded connection for hose piece (P6)	b)	Connection elbow with flange/hose connection (P13)
c)	Connection elbow with flanges (P14)	d)	Connection elbow with internal thread and external thread (P14) and threaded flange (P27)

Table 10: Dimensions of connection elbow [mm]

Size	DN	Connection elbow with internal thread and external tread, together with threaded connection for hose piece (P6)			Connection elbow with flange/hose connection (P13)			Connection elbow with flanges (P14)			Connection elbow with internal thread and external thread (P14) and threaded flange (P27)		
		DN_3	C_2	L_2	D_1	C_1	L_1	DN_3	C_2	L_2	DN_3	C_2	L_2
F 50_	50	G 2"[8]	43	60	-	-	-	-	-	-	-	-	-
F 51_/52_	50	-	-	-	-	-	-	-	-	-	G 2"	78	58
F 60_	65	G 2 1/2"[9]	51	100	-	-	-	-	-	-	-	-	-
F 61_/62_	65	-	-	-	75	40	135	65	135	135	-	-	-
F 82_	80	-	-	-	75	115	175	80	135	135	-	-	-
S_545	50	G 2"	43	60	-	-	-	-	-	-	-	-	-

8 Inside diameter of hose = 63 mm
9 Inside diameter of hose = 80 mm

AmaPorter F / S, stationary installation, straight claw (horizontal)

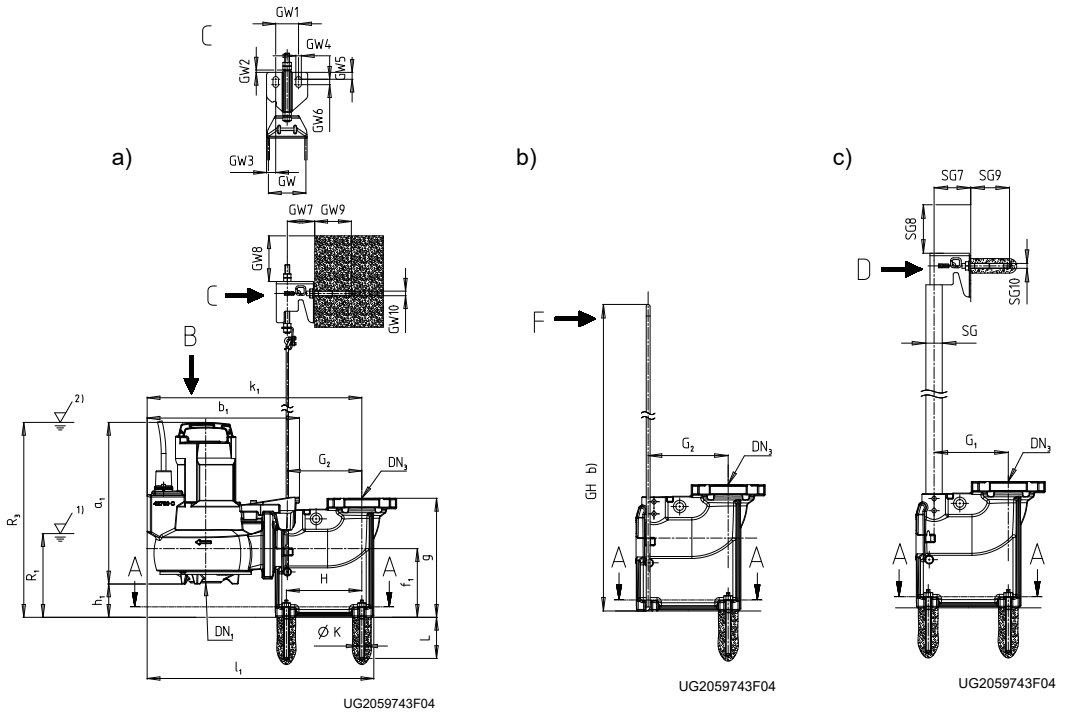

Fig. 11: Stationary installation, straight claw (horizontal)[10)]

a)	Guide wire arrangement	b)	Guide hoop arrangement
c)	Single guide rail arrangement		

R1	Lowest stop level for automatic operation
R3	Minimum submergence for continuous operation

Table 11: Pump set dimensions

Size	DN_1	a_1	b_1	f_1	h_1	k_1	l_1	R_1	R_3
F_50	44	341	301	106	33	400	429	138	374
F_51	42	470	376	106	31	472	502	161	501
F_52	42	532	389	106	27	488	514	153	559
F_60	59	354	334	150	73	470	496	183	427
F_61	65	578	422	150	61	558	583	234	639
F_62	65	518	407	150	63	544	569	241	581
F_82	80	582	478	200	103	604	694	262	685
S_545	-	341	301	106	47	400	429	138	374

10 Straight claw (vertical) for DN 80

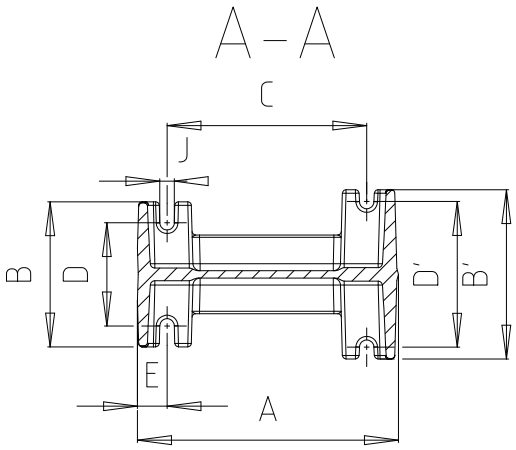

Fig. 12: Flanged bend dimensions

Table 12: Flanged bend dimensions [mm]

Size	DN_3	A	B	B'	C	D	D'	E	g	G_1	G_2 [11)12)]	GH [12)]	GH1 [12)]	H	J	ØK	L
F_50	50	179	110	120	125	80	100	25	201	113	125	3 sizes available: 1216/1516/1816	80	125	12	10	90
F_51	50	179	110	120	125	80	100	25	201	113	125		80	125	12		90
F_52	50	179	110	120	125	80	100	25	201	113	125		80	125	12		90
F_60	65	216	120	140	165	85	120	25	260	153	165		80	165	12		90
F_61	65	216	120	140	165	85	120	25	260	153	165		80	165	12		90
F_62	65	216	120	140	165	85	120	25	260	153	165		80	165	12		90
F_82	80	300	200	200	220	150	150	40	320	170	173 [10)]	-	-	170	20		125
S_545	50	179	110	120	125	80	100	25	201	113	125	3 sizes available: 1216/1516/1816	80	125	12		90

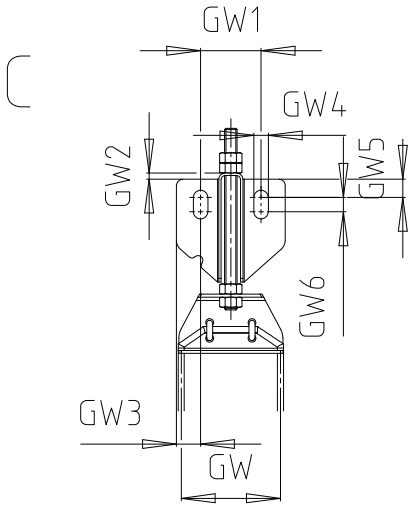

Fig. 13: Dimensions of guide wire arrangement

Table 13: Dimensions of guide wire arrangement [mm]

Size	GW	GW1	GW2	GW3	GW4	GW5	GW6	GW7	GW8	GW9	GW10
F 5__ / 6__	82	50	5	20	12	15	12	60	100	80	Ø10
F 8__	165										
S_ 545	82										

11 For guide wire arrangement only
12 For guide hoop arrangement only

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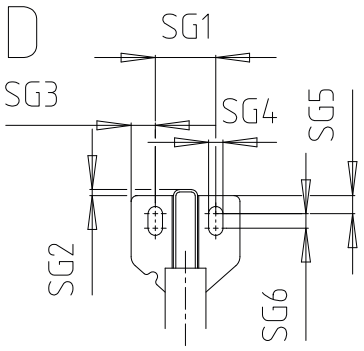


Fig. 14: Dimensions of single guide rail arrangement

Table 14: Dimensions of single guide rail arrangement [mm]

Size	SG	SG1	SG2	SG3	SG4	SG5	SG6	SG7	SG8	SG9	SG10
F 5__ / 6__	Ø33,7×3,2	50	5	20	12	15	12	76	100	80	Ø10
F 8__	Ø60,3×3,6							60			
S_ 545	Ø33,7×3,2							76			

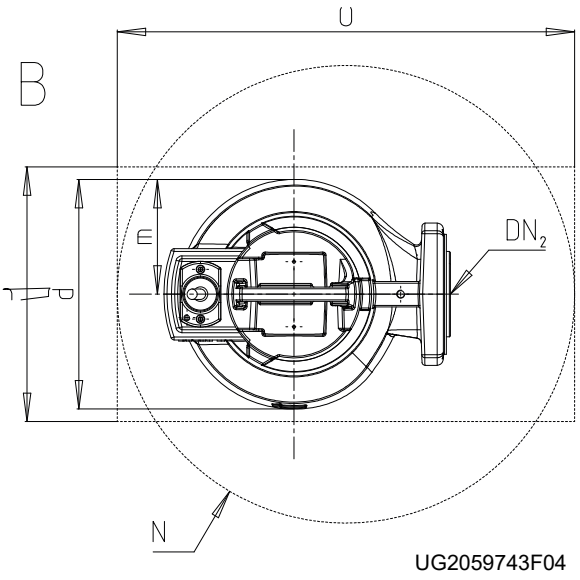


Fig. 15: Pump set dimensions

Table 15: Pump set dimensions [mm]

Size	DN_2	d	m	N min.	O min.	P min.
F_50	50	196	98	400		270
F_51	50	250	125	465		350
F_52	50	254	129	465		350
F_60	65	226	113	450		350
F_61	65	251	127	500		400
F_62	65	265	142	500		400
F_82	80	322	176	550		400
S_545	50	196	98	400		270

AmaPorter F 6__ / 8__, stationary installation, straight claw (vertical)

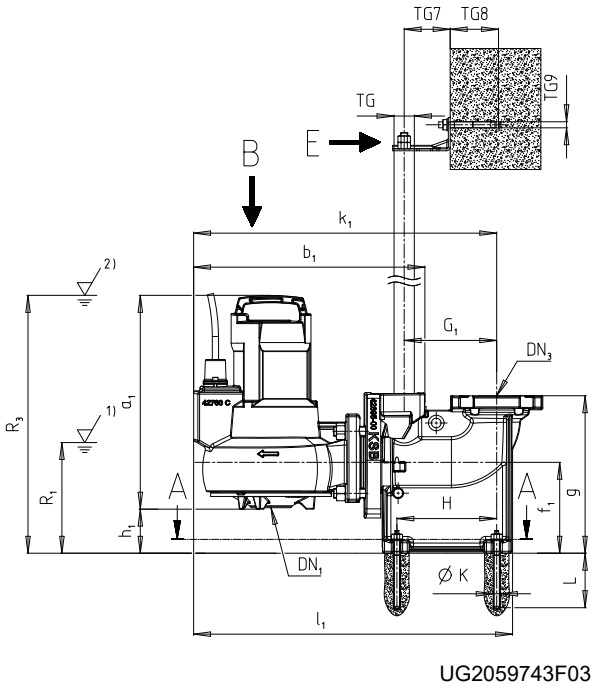


Fig. 16: Pump set dimensions, guide wire arrangement

R1	Lowest stop level for automatic operation
R3	Minimum submergence for continuous operation

Table 16: Pump set dimensions

Size	DN_1	a_1	b_1	f_1	h_1	k_1	l_1	R_1	R_3
F 60_	59	354	385	150	73	501	528	183	427
F 61_	65	578	468	150	61	588	613	234	639
F 62_	65	518	454	150	63	574	599	241	581
F 82_	80	582	506	200	103	630	720	262	685

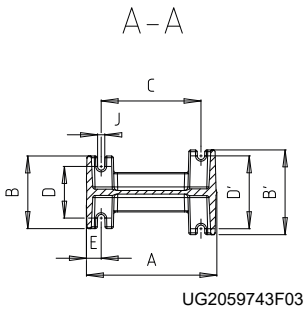


Fig. 17: Flanged bend dimensions, guide wire arrangement

Table 17: Flanged bend dimensions, guide wire arrangement [mm]

Size	DN_3	A	B	B'	C	D	D'	E	G	G_1	H	J	ØK	L
F 60_	65	216	120	140	165	85	120	25	260	153	165	12	10	90
F 61_														
F 62_														
F 82_	80	300	200	200	220	150	150	40	320	170	170	20		125

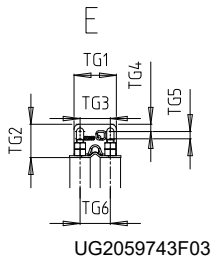


Fig. 18: Mounting bracket dimensions, guide wire arrangement

Table 18: Mounting bracket dimensions, guide wire arrangement [mm]

Size	TG	TG1	TG2	TG3	TG4	TG5	TG6	TG7	TG8	TG9
F 6__	Ø33,7 × 3,2	70	55	50	12	12	50	76	80	Ø10
F 8__	Ø60,3 × 3,6						82	86		

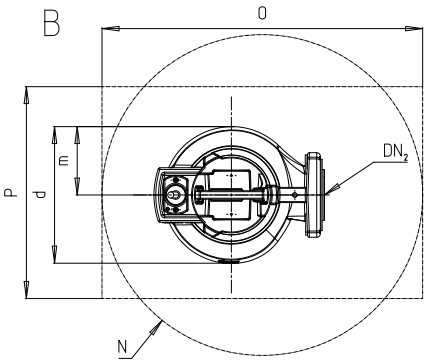
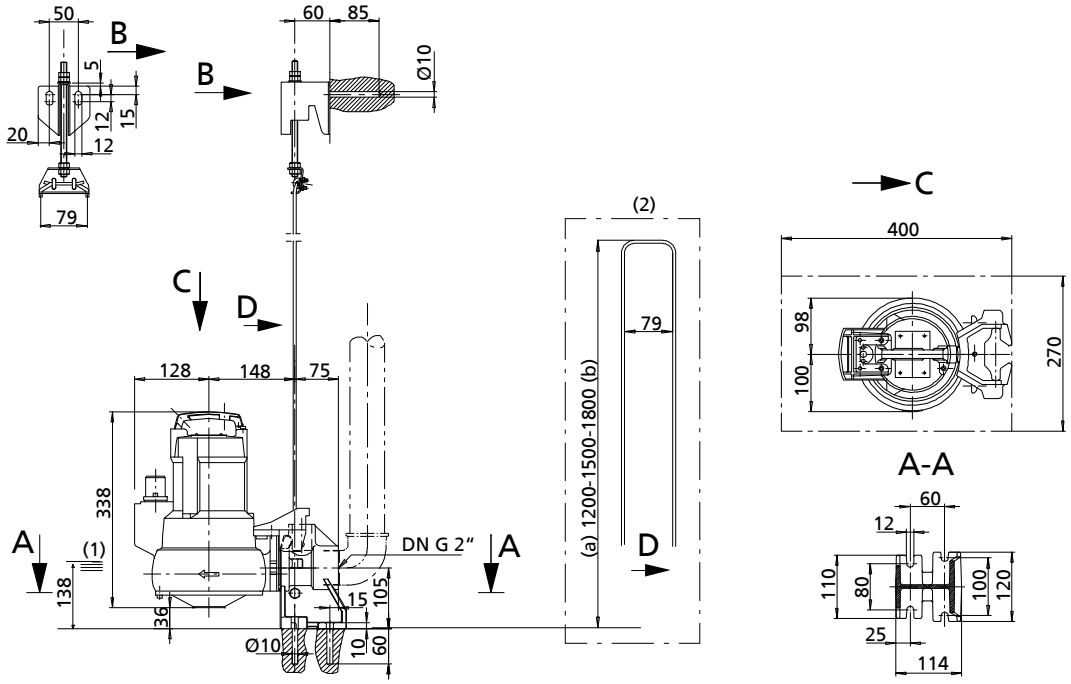


Fig. 19: Pump set dimensions, guide wire arrangement

Table 19: Pump set dimensions [mm]

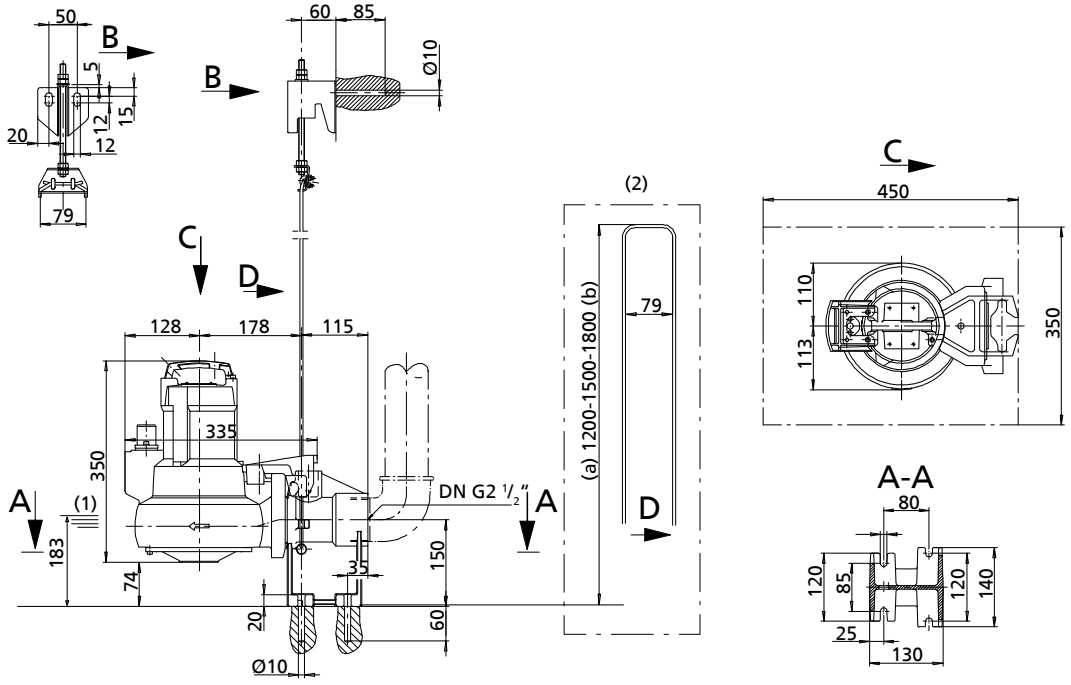
Size	DN_2	d	m	N min.	O min.	P min.
F 60_	65	226	113	530		350
F 61_		251	127	550		400
F 62_		265	142			
F 82_	80	322	176	580		

AmaPorter F 50_, stationary wet-installed model with guide wire/guide hoop, straight pump foot G 2"



(1)	Lowest switch-off point	(a)	Minimum
(2)	Guide hoop	(b)	Maximum

AmaPorter F 60_, stationary wet-installed model with guide wire/guide hoop, straight pump foot G 2 ½"



(1)	Lowest switch-off point	(a)	Minimum
(2)	Guide hoop	(b)	Maximum

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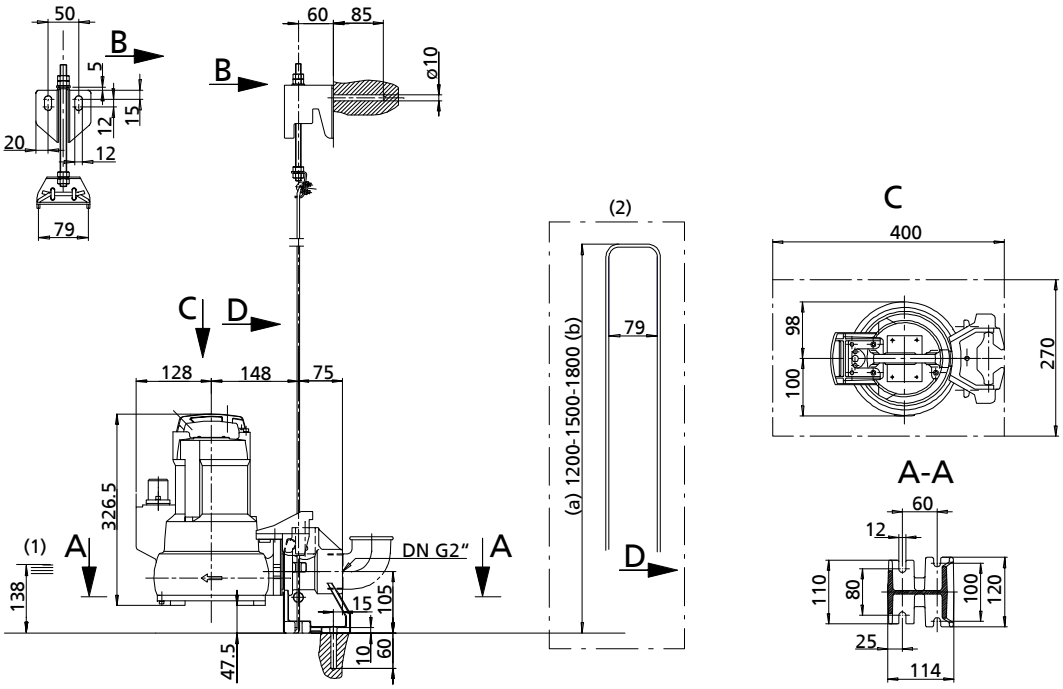
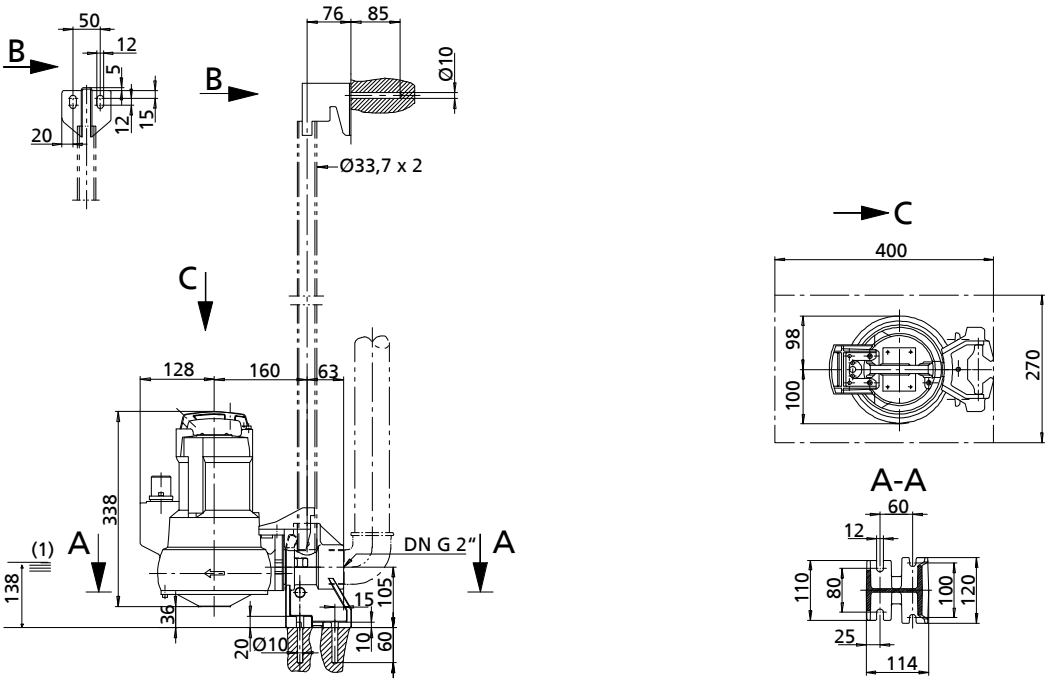
AmaPorter S_545, stationary wet-installed model with guide wire/guide hoop, straight pump foot G 2"



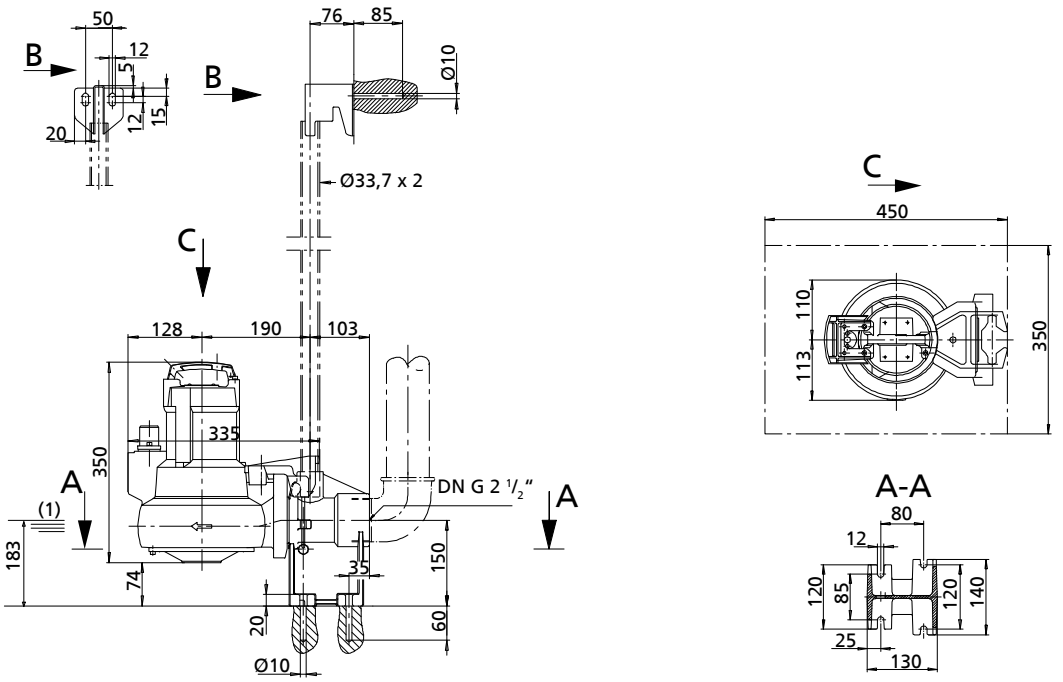
(1)	Lowest switch-off point	(a)	Minimum
(2)	Guide hoop	(b)	Maximum

AmaPorter F 50_, stationary wet-installed model with single guide rail, straight pump foot G 2"



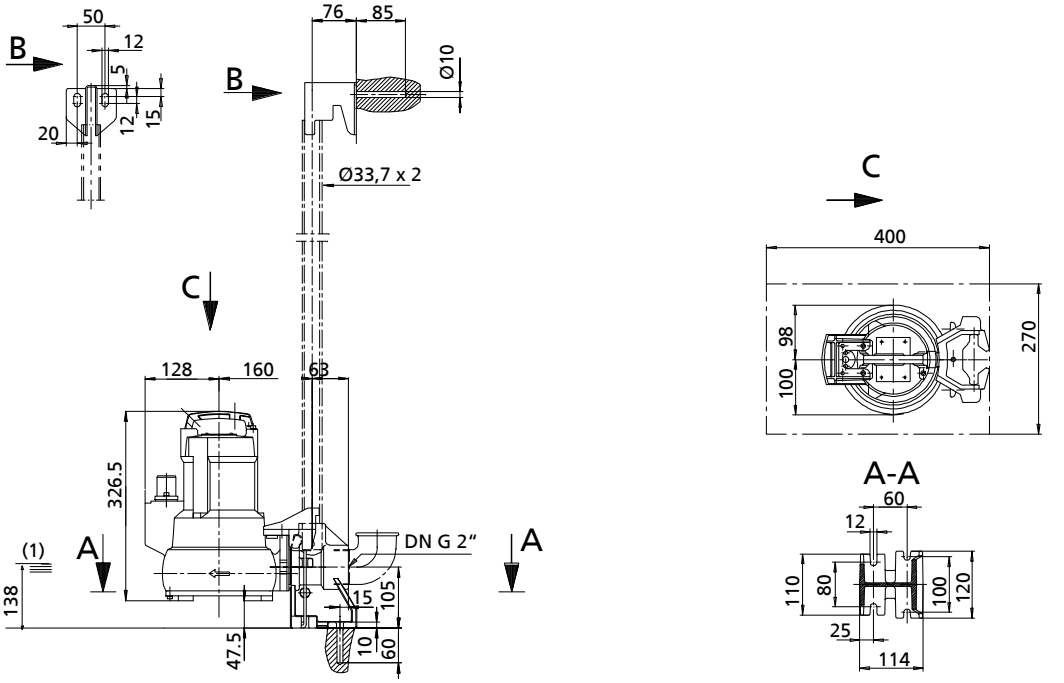
(1)	Lowest switch-off point

AmaPorter F 60_, stationary wet-installed model with single guide rail, straight pump foot G 2 ½"



(1)	Lowest switch-off point

AmaPorter S_545, S impeller, stationary wet-installed model with single guide rail, straight pump foot G 2"



(1)	Lowest switch-off point

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AmaPorter F / S, stationary installation, twin guide rail arrangement, inclined claw

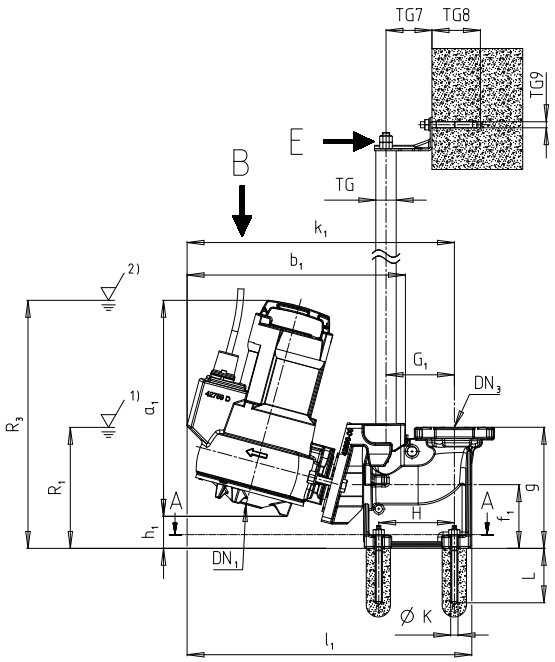

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Fig. 20: AmaPorter F / S, stationary installation, twin guide rail arrangement, inclined claw

R1	Lowest stop level for automatic operation
R3	Minimum submergence for continuous operation

Table 20: Pump set dimensions

Size	DN_1	a_1	b_1	f_1	h_1	k_1	l_1	R_1	R_3
F 50_	44	357	361	106	53	442	471	200	411
F 51_	42	494	422		54	499	528	220	550
F 52_	42	549	426		53	506	535	230	606
S_ 545	-	343	361		67	442	471	200	411

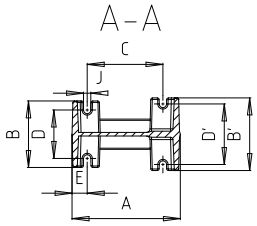

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Fig. 21: Flanged bend dimensions, twin guide rail arrangement, inclined claw

Table 21: Flanged bend dimensions, twin guide rail arrangement, inclined claw [mm]

Size	DN_3	A	B	B'	C, H	D	D'	E	g	G_1 [13)]	J	ØK	L
F 50_	50	179	110	120	125	80	100	25	201	113	12	10	90
F 51_													
F 52_													
S_ 545													

13 Only for twin guide rail arrangement

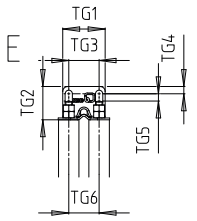

Fig. 22: Mounting bracket dimensions, twin guide rail arrangement, inclined claw

Table 22: Mounting bracket dimensions, twin guide rail arrangement, inclined claw [mm]

Size	TG	TG1	TG2	TG3	TG4	TG5	TG6	TG7	TG8	TG9
F 5__	Ø33,7 × 3,2	70	55	50	12		50	76	80	Ø10
S_ 545	Ø33,7 × 3,2									

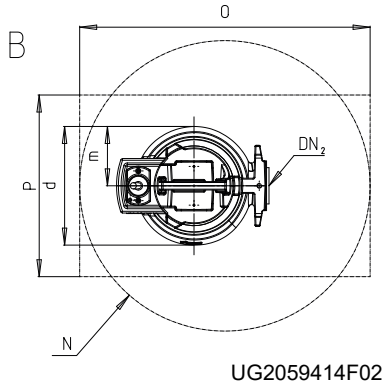

Fig. 23: Pump set dimensions, twin guide rail arrangement, inclined claw

Table 23: Pump set dimensions [mm]

Size	DN_2	d	m	N min.	O min.	P min.
F 50_	50	196	98	480		300
F 51_		250	125			350
F 52_		254	129			350
S_ 545		196	98			300

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Installation types

Table 24: Installation type S – stationary wet installation

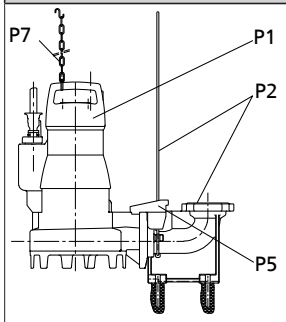
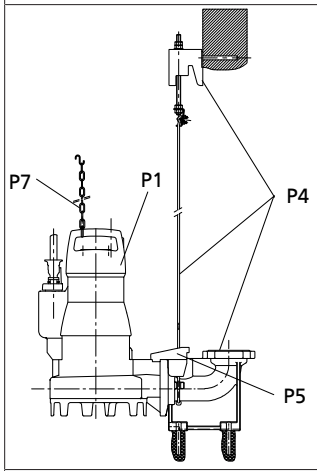
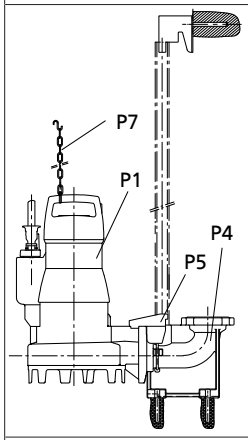
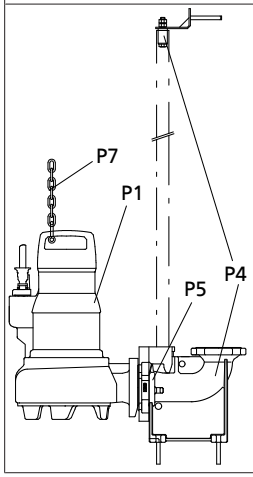
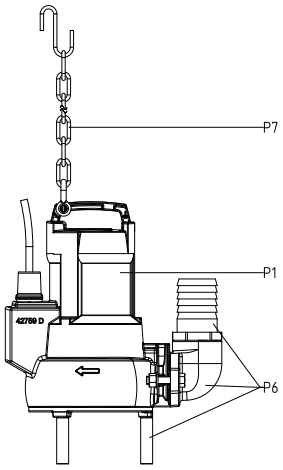
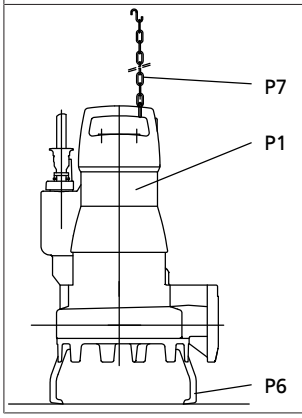
Installation type	Description
	**Guide hoop arrangement** (only for sizes 5__/6__) P1: pump P2: installation parts (duckfoot bend with foot and fasteners), guide hoop arrangement, installation depth = 1.5 m / 1.8 m / 2.1 m P5: claw with sealing element and fasteners P7: lifting chain / lifting rope with shackle, length = 2 m
	**Guide wire arrangement** P1: pump P4: installation parts (duckfoot bend with foot and fasteners, cable, mounting bracket), guide wire arrangement, standard installation depth = 4.5 m P5: claw with sealing element and fasteners P7: lifting chain / lifting rope with shackle, length = 5 m
	**Single guide rail arrangement** P1: pump P4: installation parts (duckfoot bend with foot and fasteners, mounting bracket), single guide rail arrangement, standard installation depth = 6 m P5: claw with sealing element and fasteners P7: lifting chain / lifting rope with shackle, length = 5 m
	**Twin guide rail arrangement** P1: pump P4: installation parts (duckfoot bend with foot and fasteners, mounting bracket), twin guide rail arrangement, standard installation depth = 6 m P5: claw and adapter with sealing element and fasteners P7: lifting chain / lifting rope with shackle, length = 5 m

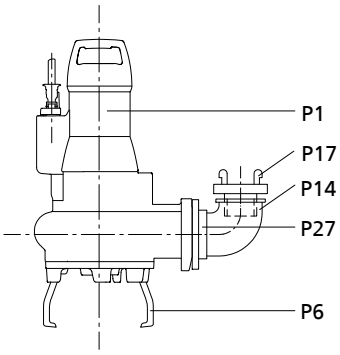
Table 25: Installation type transportable wet-installed model

Installation type	Description
	**Transportable wet-installed model** P1: pump P6: 3 feet, connection elbow with fasteners, claw, adapter P7: lifting chain / lifting rope with shackle, length = 5 m
	P1: pump P6: 3 feet (foot plate with optional fasteners) P7: lifting chain / lifting rope with shackle, length = 5 m

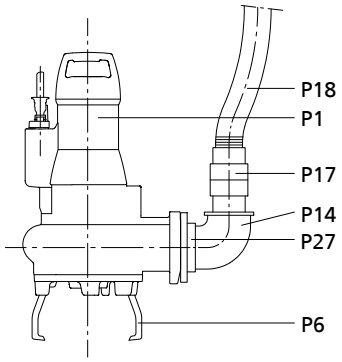
Installation information

Suggested installation layouts for transportable pump sets

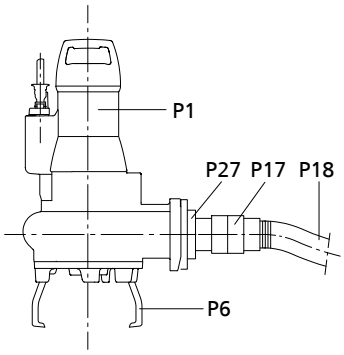
DN_2 50



Suggested installation layout 1
Vertical hose connection with elbow (P14) and Storz rigid coupling (P17) (quick-action coupling)

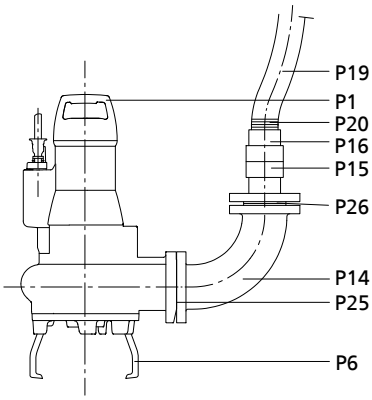


Suggested installation layout 2
Vertical hose connection with plastic hose (P18)

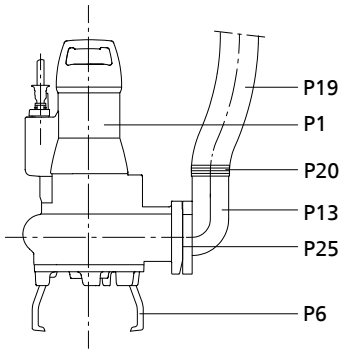


Suggested installation layout 3
Horizontal hose connection (quick-action coupling) with plastic hose (P18)

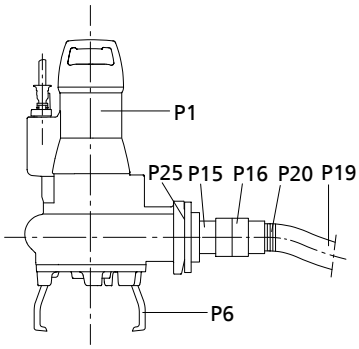
Sizes 65, 80, 100



Suggested installation layout 1
Vertical hose connection (quick-action coupling) with plastic hose (P19) and hose clip (P20)



Suggested installation layout 2
Vertical hose connection with plastic hose (P19), hose clip (P20) and connection elbow (P13)



Suggested installation layout 3
Horizontal hose connection (quick-action coupling connection) with plastic hose (P19), hose clip (P20), Storz hose coupling (P16), Storz rigid coupling (P15)

P1 to P27 (⇨ Page 40)

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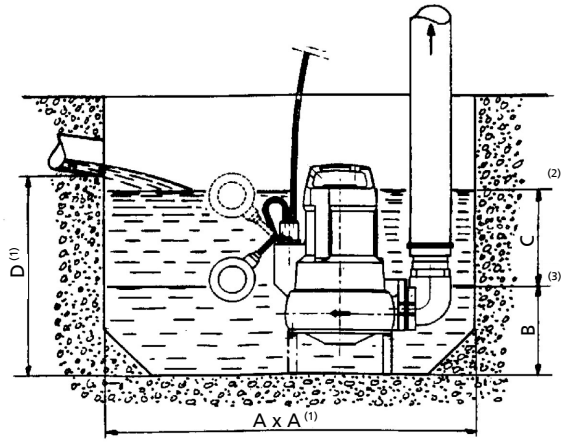
Sump - AmaPorter F 50_ / 60_ / S_ 545

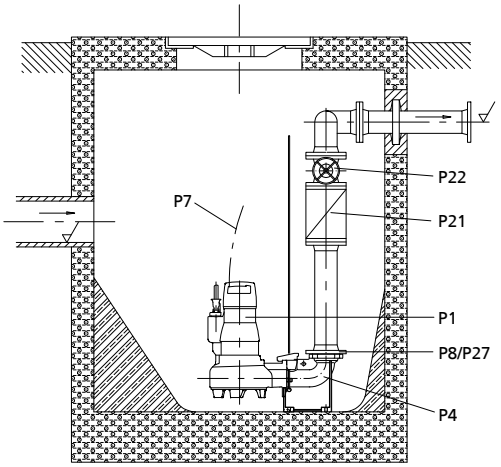


(1)	Minimum
(2)	Start
(3)	Stop

Size	A	B	C	D
	[mm²]	[mm]		
F 50_	600 x 600	160	190	450
F 60_	600 x 600	170	190	480
S_ 545	600 x 600	160	190	450

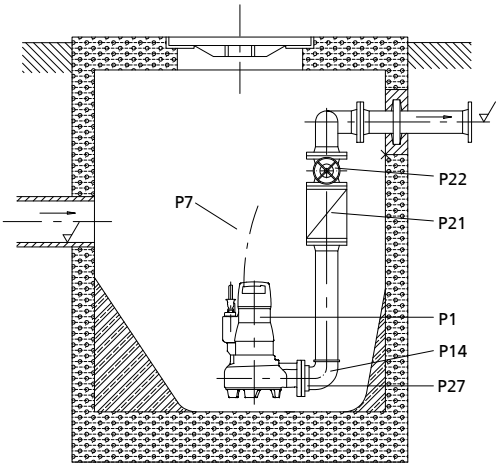
Suggested installation layouts for stationary pump sets

Guide hoop arrangement
DN_2 50/ DN_2 65



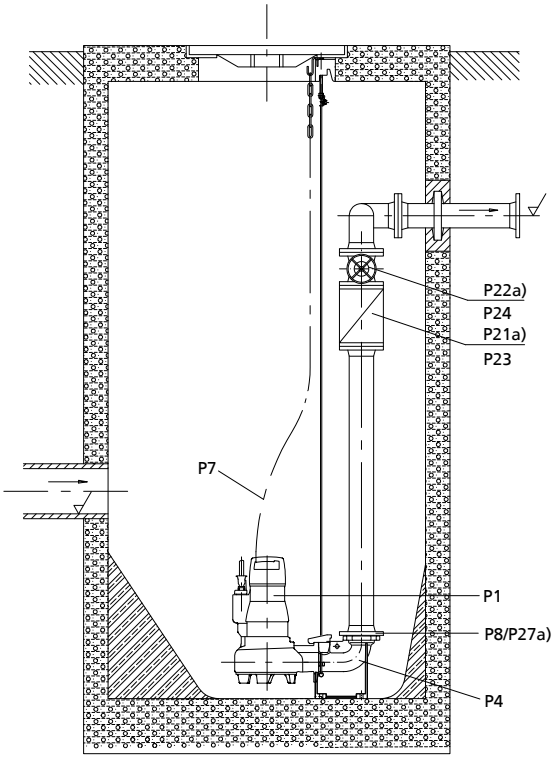
Suggested installation layout 1
Single-pump station
Duckfoot bend

Suspended installation
DN_2 50/ DN_2 65

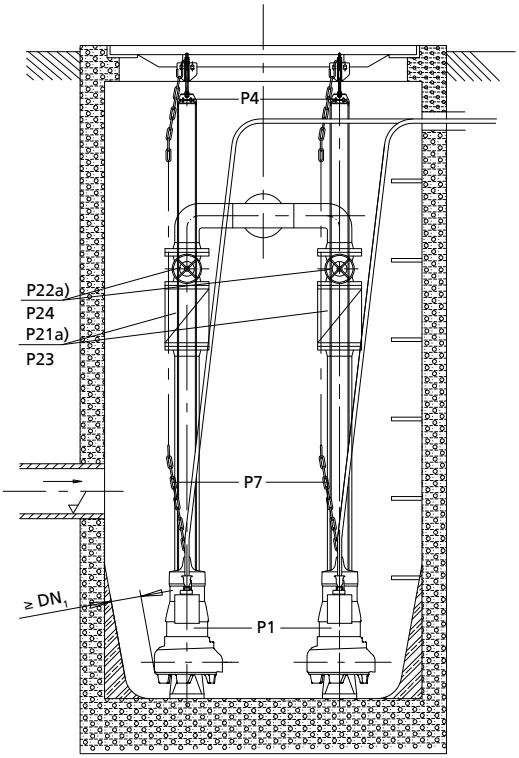


Suggested installation layout 2
Single-pump station for 1.5 m installation depth
Direct connection to discharge line (suspended installation)

Guide wire, single guide rail and twin guide rail arrangement
DN_2 50/ DN_2 65



Suggested installation layout 3
Available with either guide wire, single guide rail or twin guide rail arrangement
Single-pump station for 4.5 m installation depth
Duckfoot bend



Suggested installation layout 4
Available with either guide wire, single guide rail or twin guide rail arrangement
Dual-pump station for 4.5 m installation depth
Duckfoot bend

a)	Only DN_2 50

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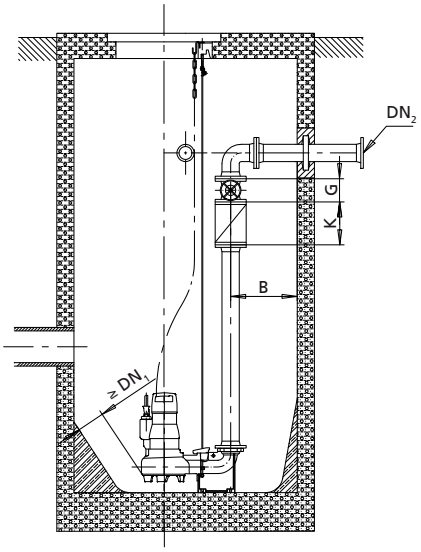
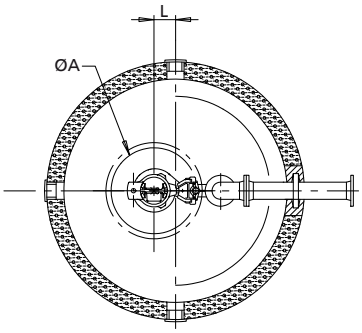
Dimensions

Guide wire, single guide rail and twin guide rail arrangement

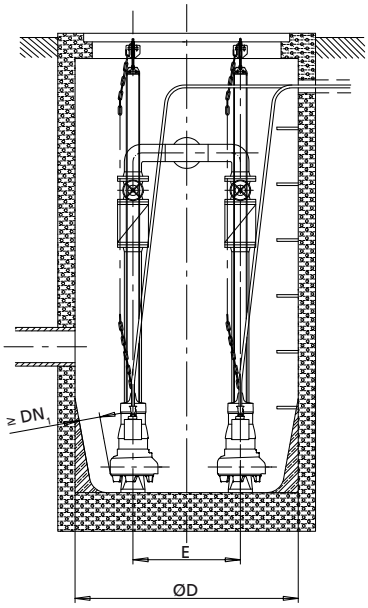
Suggested installation layout 3

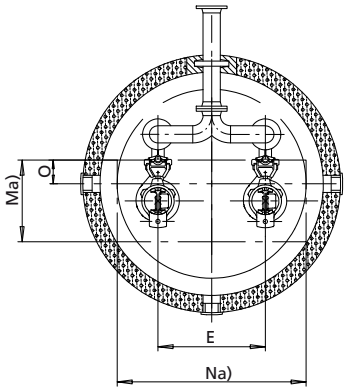




Single-pump station for 4.5 m installation depth
Duckfoot bend

Suggested installation layout 4





Dual-pump station for 4.5 m installation depth
Duckfoot bend

a)	Minimum

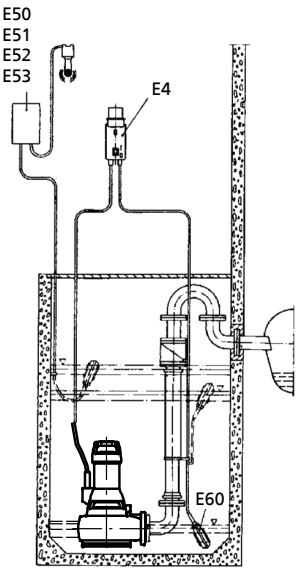
Table 26: Dimensions [mm]

Size		Ø A	B	Ø D	E	G	K	L	M	N	O	DN_1	DN_2
F 51_	1 pump	625	165	1000	-	75	150	42	-	-	-	42	50
	2 pumps	-	235	1000	300	75	150	-	550	700	200		50
F 52_	1 pump	625	165	1000	-	75	150	42	-	-	-	42	50
	2 pumps	-	235	1000	300	75	150	-	550	700	200		50
F 61_ / 62_	1 pump	625	175	1000	-	180	260	92	-	-	-	65	65
	2 pumps	-	360	1200	600	180	260	-	550	1000	135	65	65
F 82_	1 pump	625	200	1000	-	180	260	25	-	-	-	80	80
	2 pumps	-	320	1200	600	180	260	-	600	1000	168	80	80

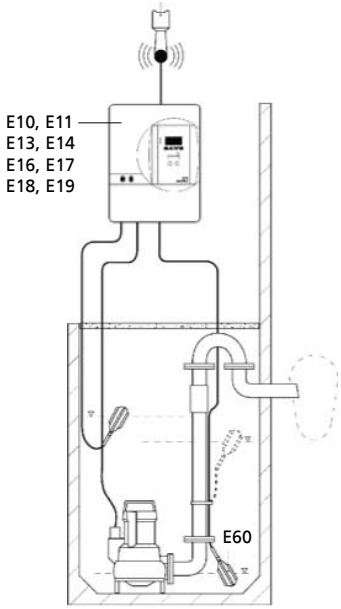
Suggested electrical installation layouts

Non-explosion-proof pump set

AmaPorter F

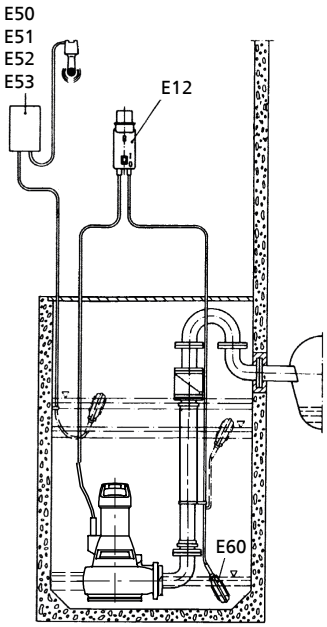


Suggested installation layout 1

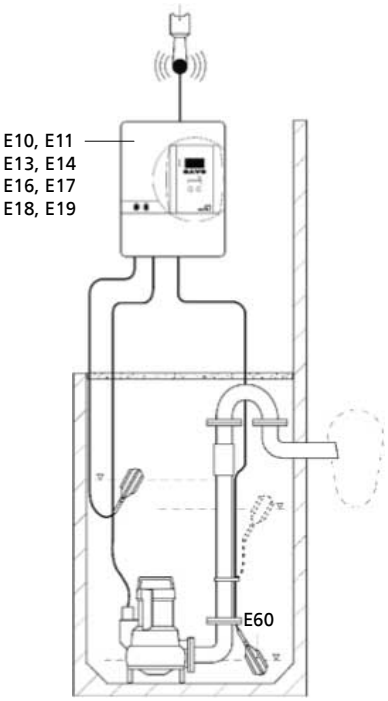


Suggested installation layout 2

AmaPorter S



Suggested installation layout 1



Suggested installation layout 2

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Scope of supply

Depending on the model, the following items are included in the scope of supply:

Stationary wet-installed model (installation type S)

- Pump set complete with electric cables
- Claw with sealing elements and fasteners
- Lifting rope / lifting chain
- Mounting bracket with fasteners
- Duckfoot bend with mounting elements
- Guiding equipment[14)]

Transportable wet-installed model (installation type P)

- Pump set complete with electric cables
- 3 feet
- Connection elbow incl. fasteners
- Connection piece
- Clamp
- Foot plate incl. fasteners
- Lifting rope / lifting chain

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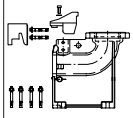
14 The guide rails are not included in the scope of supply.

Accessories

Installation parts for stationary pump sets

Table 27: Overview of installation parts for stationary pump sets

Item	Description	Connection	Installation depth	Size						Mat. No.	[kg]
			[m]	F 50_	F 51_/52_	F 60_	F 61_/62_	F 82_	S_ 545		
Guide hoop arrangement											
P2 + P5 	Installation parts for stationary wet installation (guide hoop arrangement) Comprising: duckfoot bend, stainless steel anchor bolts, guide hoop, straight claw with stainless steel screws/bolts	DN 50 (DN_3 = DIN ISO / ASME)	1,5	✗	-	-	-	-	✗	39020769	11
				-	✗	-	-	-	-	39022210	9
		DN 50 (DN_3 = DIN ISO / ASME)	1,8	✗	-	-	-	-	✗	39020770	12
				-	✗	-	-	-	-	39022211	10
		DN 50 (DN_3 = DIN ISO / ASME)	2,1	✗	-	-	-	-	✗	39020771	13
				-	✗	-	-	-	-	39022212	11
		DN 65 (DN_3 = DIN ISO / ASME)	1,5	-	-	✗	✗	-	-	39020827	14,5
		DN 65 (DN_3 = DIN ISO / ASME)	1,8	-	-	✗	✗	-	-	39020828	15,5
		DN 65 (DN_3 = DIN ISO / ASME)	2,1	-	-	✗	✗	-	-	39020829	17
P2 + P5 	Installation parts for stationary wet installation (guide hoop installation) Comprising: straight pump foot, guide hoop, stainless steel anchor bolts, straight claw with stainless steel screws/bolts	DN 50 / G 2"	1,5	✗	-	-	-	-	✗	39020795	7,8
		DN 50 / G 2"	1,8	✗	-	-	-	-	✗	39020796	8,8
		DN 50 / G 2"	2,1	✗	-	-	-	-	✗	39020797	10,8
		DN 65 / G 2 1/2"	1,5	-	-	✗	-	-	-	39020813	11,2
		DN 65 / G 2 1/2"	1,8	-	-	✗	-	-	-	39020814	0
		DN 65 / G 2 1/2"	2,1	-	-	✗	-	-	-	39020815	0
Guide wire arrangement											
P4 + P5 	Installation parts for stationary wet installation (guide wire installation) Comprising: flanged duckfoot bend, stainless steel anchor bolts, suspension bracket, mounting bracket, 10 m guide wire, straight claw with stainless steel screws/bolts	DN 50 (DN_3 = DIN ISO / ASME)	4,5	✗	-	-	-	-	✗	39021023	10,6
				-	✗	-	-	-	-	39022196	10,5
		DN 65 (DN_3 = DIN ISO / ASME)	4,5	-	-	✗	✗	-	-	39021025	14,4
		DN 65 / DN 80 (DN_3 = 80 | DIN ISO)	4,5	-	-	✗	✗	-	-	39020834	19,1
		DN 80 (DN_3 = DIN ISO)	4,5	-	-	-	-	✗	-	39020988	27,3
		DN 80 / DN 100 (DN_3 = 100 | DIN ISO / ASME)	4,5	-	-	-	-	✗	-	39021002	31,5
P4 + P5 	Installation parts for stationary wet installation (guide wire installation) Comprising: flanged duckfoot bend, stainless steel anchor bolts, suspension bracket, mounting bracket, 10 m guide wire, straight claw with stainless steel screws/bolts	DN 50 / G 2"	4,5	✗	-	-	-	-	✗	39020779	11,5
		DN 65 / G 2 1/2"	4,5	-	-	✗	-	-	-	39020806	14,7
Single guide rail arrangement											
P4 + P5 	Installation parts for stationary wet installation (single guide rail arrangement) Comprising: flanged duckfoot bend, stainless steel anchor bolts, mounting bracket, straight claw with stainless steel screws/bolts (guide rails not included in the scope of supply)	DN 50 (DN_3 = DIN ISO / ASME)	6,0	✗	-	-	-	-	✗	39021212	14
				-	✗	-	-	-	-	39022204	12,5
		DN 65 (DN_3 = DIN ISO / ASME)	6,0	-	-	✗	✗	-	-	39021213	17,2
		DN 65 / DN 80 (DN_3 = 80 | DIN ISO)	6,0	-	-	✗	✗	-	-	39021194	18,7
		DN 80 (DN_3 = DIN ISO)	6,0	-	-	-	-	✗	-	39021200	26
		DN 80 / DN 100 (DN_3 = 100 | DIN ISO / ASME)	6,0	-	-	-	-	✗	-	39021206	0

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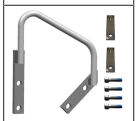
Item	Description	Connection	Installation depth [m]	Size						Mat. No.	[kg]
				F 50_	F 51_/52_	F 60_	F 61_/62_	F 82_	S_ 545		
P4 + P5 	Installation parts for stationary wet installation (single guide rail arrangement) Comprising: straight duckfoot bend, stainless steel anchor bolts, mounting bracket, 10 metre guide wire, adapter, straight claw with stainless steel screws/bolts (guide rails not included in the scope of supply)	DN 50 / G 2"	6,0	✗	-	-	-	-	✗	39021182	10,8
		DN 65 / G 2 1/2"	6,0	-	-	✗	-	-	-	39021188	14
Twin guide rail arrangement											
P4 + P5 	Installation parts for stationary wet installation (twin guide rail arrangement) Comprising: flanged duckfoot bend, stainless steel anchor bolts, mounting bracket, adapter, inclined claw (DN 50) / straight claw (DN 65, DN 80) with stainless steel screws/bolts (guide rails not included in KSB's scope of supply)	DN 50 (DN_3 = DIN ISO / ASME)	6,0	✗	✗	-	-	-	✗	39023002	15,2
		DN 65 (DN_3 = DIN ISO / ASME)	6,0	-	-	✗	✗	-	-	39023006	18,7
		DN 65 / DN 80 (DN_3 = 80 | DIN ISO)	6,0	-	-	✗	✗	-	-	39023009	22,8
		DN 80 (DN_3 = DIN ISO)	6,0	-	-	-	-	✗	-	39023018	32,4
		DN 80 / DN 100 (DN_3 = 100 | DIN ISO / ASME)	6,0	-	-	-	-	✗	-	39023024	34
Claw											
P5 	Guide wire, single guide rail, guide hoop arrangement Straight claw (horizontal) for DN 50/65, straight claw (vertical) for DN 80 EN-GJL-250 with stainless steel screws/bolts	DN 50	1,5/1,8/2,1	✗	-	-	-	-	✗	39021016	1,1
				-	✗	-	-	-	-	39022248	1,2
		DN 65	4,5	-	-	✗	✗	-	-	39021018	2
		DN 80	6,0	-	-	-	-	✗	-	39021020	3,5
P5 	Claw made of EN-GJL-250 with stainless steel screws/bolts Twin guide rail arrangement	DN 50	6,0	✗	✗	-	-	-	✗	39022990	6
P5 		DN 65		-	-	✗	✗	-	-	39022993	7,3
		DN 80		-	-	-	-	✗	-	39022996	9,7
Lifting bail											
	Lifting bail made of stainless steel 1.4306 with A4-70 bolts, for lowering the pump set at an angle	DN 50	14,5	-	✗	-	-	-	-	39022395	0,6
	Lifting bail made of stainless steel 1.4306 With A4-70 screws/bolts, for lowering the pump set in a vertical position	DN 50	14,5	-	✗	-	-	-	-	39023593	0,85
		DN 65 / DN 80		-	-	-	✗	✗	-	39023594	1,2

Item	Description	Connection	Installation depth	Size						Mat. No.	[kg]
			[m]	F 50_	F 51_/52_	F 60_	F 61_/62_	F 82_	S_ 545		
Conversion parts											
P14 	Parts for conversion to twin guide rail arrangement, consisting of: mounting bracket, stainless steel screws/bolts, adapter, anchor bolts	DN 50 / DN 65	6,0	✗	✗	✗	✗	-	✗	39022984	1
	Note: required for conversion of guide hoop, guide wire or single guide rail arrangement to twin guide rail arrangement For twin guide rail arrangements a claw is mandatory.	DN 80		-	-	-	-	✗	-	39022987	2,8

Table 28: Installation parts for transportable wet installation

Item	Description	Connection	Installation depth	Size						Mat. No.	[kg]
			[m]	F 50_	F 51_/52_	F 60_	F 61_/62_	F 82_	S_ 545		
P6 	Comprising: 3 feet, connection elbow with fasteners, adapter, claw	DN 50	14,5	✗	-	-	-	-	-	39023046	2
P6 		DN 65		-	-	✗	-	-	-	39023047	4,1
P6 		DN 50		-	-	-	-	-	✗	39018120	2
P6 	Comprising: 3 feet	DN 50 / DN 65 / DN 80		-	✗	-	✗	✗	-	39022260	0,4
P6 	Comprising: footplate incl. bolts (only for uneven mounting surfaces and in combination with feet)	DN 50 / DN 65 / DN 80		-	✗	-	✗	✗	-	39022262	0,9

Table 29: Lifting rope / lifting chain for stationary and transportable pump sets (all sizes)

Item	Description	Load Max. [kg]	Length [m]	Mat. No.	[kg]
P7 	Chain (1.4404) short-linked, tested and duly labelled to Directive 2006/42/EC (Machinery Directive), hook (1.4301), shackle (1.4404)	200	2	39024056	1,2
		200	3	39024057	1,6
		200	5	39024058	2,4
		200	10	39024059	4,4
P7  -	Lifting rope made of polypropylene, with shackle 1.4401 and hook 1.4571[15)]	-	5	39021975	2,5

15 Increase quantity for larger installation depths.

Pump accessories

Table 30: Overview of pump accessories[16)]

Item	Description	Connection	Length [m]	AmaPorter						Mat. No.	[kg]
				F 50_	F 51_ / 52_	F 60_	F 61_ / 62_	F 82_	S_ 545		
P8 	Flange for pipe coupling PN 10, at the flanged elbow, mating dimensions to PN 16	DN 50 / R 2	-	✗	✗	-	-	-	✗	19551111	1,2
		DN 65 / R 2 1/2	-	-	-	✗	✗	-	-	39020184	1,2
P9 	PVC adapter for hose connection, with 1 hose clip	(Plastic hose, inside diameter 63 mm/R2, see P19)	-	✗	✗	-	-	-	✗	11191498	0,3
P10 	Threaded flange PN 6, B50 DIN 2558 with screws/bolts for discharge nozzle	DN 50 / Rp 2	-	✗	-	-	-	-	✗	19200721	1
P13 	Connection elbow with flange/hose connection made of EN-GJL-250, grey cast iron PN 16, DIN 2501, including joint ring and hose clip; for DN 100 also with fixing bolts to be used for flange connections item 25 / item 26 (not for DN 100).	DN 65/B 75	-	-	-	✗	✗	-	-	19135655	6
		DN 80/B 75		-	-	-	-	✗	-	19131746	6,6
P14 	Angle with internal thread / external thread, galvanised grey cast iron, (flange connection see P27)	G 2	-	✗	✗	-	-	-	✗	00241966	0,3
		G 2 1/2	-	-	-	✗	-	-	-	00240316	1,4
	Connection elbow with flanges PN 16, DIN 2501 (to be used for flange connections item 25 or item 26), grey cast iron	DN 65/65	-	-	-	-	✗	-	-	00265480	11
		DN 65/80	-	-	-	-	✗	-	-	25198402	8
		DN 80/80	-	-	-	-	-	✗	-	11150856	10
P15 	Flange connection to DIN 2501, PN 16, aluminium / steel	DN 65 / B 75	-	-	-	✗	✗	-	-	18040148	3,5
	Storz rigid coupling	DN 80/B 75	-	-	-	-	-	✗	-	18072642	3,5
P16 	Storz hose coupling, aluminium alloy for plastic hose B 75 (P19) 2 hose clips (P20) are required for hose mounting.	C 52 (DIN 14321)	-	-	✗	-	-	-	-	00524551	0,3
		B 75 (DIN 14322)	-	-	-	✗	✗	✗	-	00520454	0,7
P17 	Storz rigid coupling	C 52 / G 2 A	-	✗	✗	-	-	-	✗	00524370	0,2
		B 75 / G 2 1/2	-	-	-	✗	✗	-	-	00524371	0,4

16 Special design on request

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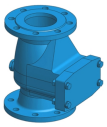
Item	Description	Connection	Length [m]	AmaPorter						Mat. No.	[kg]
				F 50_	F 51_ / 52_	F 60_	F 61_ / 62_	F 82_	S_ 545		
P18 	Plastic hose DN 50, DIN 14811, with integrated C couplings	C 52	5	✗	✗	-	-	-	✗	00522262	2,3
		C 52	10	✗	✗	-	-	-	✗	00522263	4,2
		C 52	20	✗	✗	-	-	-	✗	00522264	5,7
P19 	Plastic hose without coupling, DIN 14811	63[17]	5	✗	✗	-	-	-	✗	39018688	1,7
			10	✗	✗	-	-	-	✗	39018689	3,4
			20	✗	✗	-	-	-	✗	39018690	6,8
		B 75	5	-	-	✗	✗	✗	-	39019064	2
			10	-	-	✗	✗	✗	-	39019065	4
			20	-	-	✗	✗	✗	-	39019066	8
			30	-	-	✗	✗	✗	-	39019071	12
		80[17]	5	-	-	-	-	✗	-	39018691	2,2
			10	-	-	-	-	✗	-	39019062	4,3
P20 	Hose clip DIN 3017, chrome steel	B 50	-	✗	-	-	-	-	✗	00460476	0,03
		B 50[18]	-	-	✗	-	-	-	-	39000515	0,025
		B 75	-	-	-	✗	✗	✗	-	00109515	0,04
P21 	RK swing check valve plastic, EN 12050-4, with internal thread ISO 7/1, full bore and drain plug; cannot be used for pumped drainage	Rp 2	-	✗	✗	-	-	-	✗	01009773	0,5
P22 	Socket gate valve, CuZn, PN 10-12 DIN 3352	Rp 2	-	✗	✗	-	-	-	✗	00411503	1,287
		Rp 2 1/2	-	-	-	✗	✗	-	-	39000507	1,7
P23 	Check valve grey cast iron, full bore, lifting device, flanges drilled to DIN 2501, PN 16	DN 65	-	-	-	✗	✗	-	-	48829253	13,74
		DN 80	-	-	-	-	-	✗	-	48829254	16,5
P24 	ECOLINE GTR-16P gate valve, grey cast iron, PN 16, flanges drilled to ISO 7005/DIN 2501	DN 65	-	-	-	✗	✗	-	-	49709579	15
		DN 80	-	-	-	-	-	✗	-	49709580	22
P25 	Set of installation accessories for a flange connection, discharge nozzle (items 14 or 15) Consisting of: 4 hexagon head bolts with nuts and 1 sealing element	-	-	-	-	✗	✗	-	-	19551115	0,8
		-	-	-	-	-	-	✗	-	39021944	0,8
		-	-	-	-	-	-	✗	-	19551100	0,8

17 Inside diameter
18 For plastic hose Ø 63 item 19

Item	Description	Connection	Length [m]	AmaPorter						Mat. No.	[kg]
				F 50_	F 51_ / 52_	F 60_	F 61_ / 62_	F 82_	S_ 545		
P26 	Set of installation accessories for a flange connection Consisting of: 8 hexagon head bolts with nuts and 1 sealing element		-	-	-	-	-	✘	-	19551114	0,8
P27 	Threaded flange PN 16 / R 2, threaded connection C50 DIN 2566 with screws/bolts, sealing element and nuts for flanged bend Consisting of: flange, 4 hexagon head bolts with nuts and washers and 1 sealing element	DN 50 / Rp 2	-	✘	✘	-	-	-	✘	19551353	2
		DN 65 / Rp 2 1/2	-	-	-	✘	✘	-	-	39021943	2,9
P28 	Suction strainer	-	-	✘	-	✘	-	-	✘	39023050	2
P28 	Hand pump, wall mounting, grey cast iron, suction-side connection Rp 1 1/2	-	-	-	✘	-	✘	✘	-	00520485	12

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Electrical accessories

Control units and switchgear

Not valid for France.

Table 31: Overview of control units and switchgear

Item	Description	Type	Voltage	I_N min.	I_N max.	AmaPorter												Mat. No.	[kg]
						F 500	F 501	F 502	F 503	F 51_	F 52_	F 601	F 602	F 603	F 61_	F 62_	F 82_	S_545	
			[V]	[A]															
E1 	MSE switchgear Float switch	Hyper 60.1	230	-	-	✘	-	-	-	-	-	-	-	-	-	-	-	19070138	1
		Hyper 80.1	230	-	-	-	✘	-	-	-	-	✘	-	-	-	-	-	19070139	1
		Hyper 100.1	230	-	-	-	-	✘	✘	-	-	-	✘	✘	-	-	-	✘	19070140	1
E2 	MSD motor protection switch Float switch	Hyper 40.1	400	-	-	✘	✘	✘	-	-	-	✘	✘	-	-	-	-	✘	19070116	1
		Hyper 60.1	400	-	-	-	-	-	✘	-	-	-	-	✘	-	-	-	✘	19070117	1
E4 	Multi-functional plug, type Hyper, with motor protection relay CEE plug	Hyper 37.1	400	2,6	3,7	✘	✘	✘	-	✘	✘	✘	✘	-	✘	✘	✘	✘	19071492	1
		Hyper 55.1	400	3,7	5,5	-	-	-	✘	✘	✘	-	-	✘	✘	✘	✘	-	19071493	1
		Hyper 80.1	400	5,5	8,0	-	-	-	-	✘	✘	-	-	-	✘	✘	✘	-	19071494	1
		Hyper 115.1	400	8,0	11,5	-	-	-	-	✘	✘	-	-	-	✘	✘	✘	-	19071495	1
LevelControl Basic 2 control unit for single-pump station, IP54																			
E10, 	For float switch or 4 - 20 mA sensor, optionally with master switch, 400 x 281 x 135 mm	BC1 230 ^{DFNO} 100	230	-	-	✘	✘	✘	✘	-	-	✘	✘	✘	-	-	-	✘	19073760	4,5
E11 	For float switch or 4 - 20 mA sensor, optionally with master switch, 400 x 281 x 135 mm	BC1 400 ^{DFNO} 040	400	2,5	4,0	✘	✘	✘	-	✘	✘	✘	✘	-	-	-	-	✘	19073763	4,5
		BC1 400 ^{DFNO} 063	400	4,0	6,3	-	-	-	✘	✘	✘	-	-	✘	✘	✘	✘	-	19073764	4,5
		BC1 400 ^{DFNO} 100	400	6,3	10,0	-	-	-	-	✘	✘	-	-	-	✘	✘	✘	-	19073765	4,5
LevelControl Basic 2 control unit for dual-pump station, IP54																			
E30 	For float switch or 4 - 20 mA sensor, optionally with master switch, 400 x 281 x 135 mm	BC2 230 ^{DFNO} 100	230	-	-	✘	✘	✘	✘	-	-	✘	✘	✘	-	-	-	✘	19073774	4,7
E31 	For float switch or 4 - 20 mA sensor, optionally with master switch, 400 x 281 x 135 mm	BC2 400 ^{DFNO} 040	400	2,5	4,0	✘	✘	✘	-	✘	✘	✘	✘	-	✘	✘	✘	✘	19073777	4,7
		BC2 400 ^{DFNO} 063	400	4,0	6,3	-	-	-	✘	✘	✘	-	-	✘	✘	✘	✘	-	19073778	4,7
		BC2 400 ^{DFNO} 100	400	6,3	10,0	-	-	-	-	✘	✘	-	-	-	✘	✘	✘	-	19073779	4,7

Control units and switchgear

Only valid for France.

Table 32: Overview of control units and switchgear for France

Item	Description	Type	Voltage	I_N min.	I_N max.	AmaPorter												Mat. No.	[kg]
						500	501	502	503	51_	52_	601	602	603	61_	62_	82_	545	
			[V]	[A]															
E2 	MSD motor protection switch Float switch	Hyper 40.1	400	-	-	✘	✘	✘	-	-	-	✘	✘	-	-	-	-	✘	19070116	1
		Hyper 60.1	400	-	-	-	-	-	✘	-	-	-	-	✘	-	-	-	✘	19070117	1
E4 	Multi-functional plug, type Hyper, with motor protection relay CEE plug	Hyper 37.1	400	2,6	3,7	✘	✘	✘	-	✘	✘	✘	✘	-	✘	✘	✘	✘	19071492	1
		Hyper 55.1	400	3,7	5,5	-	-	-	✘	✘	✘	-	-	✘	✘	✘	✘	-	19071493	1
		Hyper 80.1	400	5,5	8,0	-	-	-	-	✘	✘	-	-	-	✘	✘	✘	-	19071494	1
		Hyper 115.1	400	8,0	11,5	-	-	-	-	✘	✘	-	-	-	✘	✘	✘	-	19071495	1
LevelControl Basic 2 control unit for single-pump station, IP 54																			
E10 	For float switch or 4-20 mA sensor, optional master switch, 400 x 278 x 135 mm	BC1 230 ^{DFNM} 063 02	230	-	-	✘	✘	-	-	-	-	✘	-	-	-	-	-	-	19073874	4,5
		BC1 230 ^{DFNM} 100 02	230	-	-	-	-	✘	✘	-	-	-	✘	✘	-	-	-	✘	19073875	4,5
E11 	For float switch or 4-20 mA sensor, optional master switch, 400 x 278 x 135 mm	BC1 400 ^{DFNO} 025 02	400	-	-	✘	-	-	-	-	-	-	-	-	-	-	-	-	19073877	4,5
		BC1 400 ^{DFNO} 040 02	400	2,5	4,0	-	✘	✘	✘	✘	✘	✘	✘	✘	✘	✘	✘	✘	19073878	4,5
		BC1 400 ^{DFNO} 063 02	400	4,0	6,3	-	-	-	-	✘	✘	-	-	-	✘	✘	✘	-	19073879	4,5
		BC1 400 ^{DFNO} 100 02	400	6,3	10,0	-	-	-	-	✘	✘	-	-	-	✘	✘	✘	-	19073880	4,5
LevelControl Basic 2 control unit for dual-pump station, IP 54																			
E30 	For float switch or 4-20 mA sensor, optional master switch, 400 x 278 x 135 mm	BC2 230 ^{DFNM} 063 02	230	-	-	✘	✘	-	-	-	-	✘	-	-	-	-	-	-	19073884	4,7
		BC2 230 ^{DFNM} 100 02	230	-	-	-	-	✘	✘	-	-	-	✘	✘	-	-	-	✘	19073885	4,7
E31 	For float switch or 4-20 mA sensor, optional master switch, 400 x 278 x 135 mm	BC2 400 ^{DFNO} 025 02	400	-	-	✘	-	-	-	-	-	-	-	-	-	-	-	-	19073887	4,7
		BC2 400 ^{DFNO} 040 02	400	2,5	4,0	-	✘	✘	✘	✘	✘	✘	✘	✘	✘	✘	✘	✘	19073888	4,7
		BC2 400 ^{DFNO} 063 02	400	4,0	6,3	-	-	-	-	✘	✘	-	-	-	✘	✘	✘	-	19073889	4,7
		BC2 400 ^{DFNO} 100 02	400	6,3	10,0	-	-	-	-	✘	✘	-	-	-	✘	✘	✘	-	19073890	4,7

Alarm switchgears for pumps, non-ATEX-compliant

Table 33: AS 0/AS 1/AS 2/AS 4/AS 5

Item	Description	Mat. No.	[kg]
E50 	Alarm switchgear AS 0 With circuit breaker, acoustic signalling device with 85 dB(A), green equipment-on lamp Plastic housing, IP20, H × W × D = 140 × 80 × 57 [mm]. Use float switch, F1 leakage sensor (item E64), M1 alarm contactor or signal relay of control unit as contactor.	29128401	0,5
E51 	Alarm switchgear AS 2 With circuit breaker, acoustic signalling device with 85 dB(A), green equipment-on lamp, volt-free contact for hook-up to a control station Plastic housing, IP20, H × W × D = 140 × 80 × 57 [mm]. Use float switch, F1 leakage sensor (item E64) or signal relay of control unit as contactor.	29128422	0,5
E52 	Alarm switchgear AS 4 With circuit breaker, acoustic signalling device with 85 dB(A), green equipment-on lamp, volt-free contact for hook-up to a control station, self-charging power supply unit for 5 hours of operation in the event of a power failure Plastic housing, IP20, H × W × D = 140 × 80 × 57 [mm]. Use float switch (E60), F1 leakage sensor (item E64) or signal relay of control unit as contactor.	29128442	0,5
E53 	Alarm switchgear AS 5 Mains-independent, with self-charging power supply unit for 10 hours of operation in the event of a power failure, mains pilot LED, fault indicator light, acknowledgement button, volt-free contact for hook-up to a control station, ready for connection with 1.8 m power cable and plug. ISO housing, IP41, H × W × D = 190 × 165 × 75 [mm]. Use float switch (E60) or signal relay of control unit as contactor.	00530561	1,7
E55 	Alarm switchgear AS 1 In IP30 ISO plug housing, mains-independent, with self-charging power supply unit for 5 hours of operation in the event of a power failure, acoustic signalling device 70 dB(A) with circuit breaker and integrated signal transmitter with 3-metre power cable, max. 60 °C, not suitable for steam and condensate. 1. High water alert by suspending the sensor in a (pump) sump above the pump start-up point. 2. Water alert signal at a water level of only 1 mm by placing the sensor on the floor in areas with a flooding or leakage risk, e.g. the cellar or next to the washing machine in the kitchen or bathroom.	00533740	0,9

Control unit/switchgear accessories

Table 34: Control unit / switchgear accessories

Item	Description	Length of electric cable / flexible tube	AmaPorter								Mat. No.	[kg]
		[m]	500	501	502	503	601	602	603	S 545		
E60 	Float switch with free cable end Function: circuit closed in upper float position (NO contact) Float switch housing: polypropylene Fluid temperature: ≤ 70 °C Power cable: H07RN-F3G1	3	✗	✗	✗	✗	✗	✗	✗	✗	11037742	0,5
		5	✗	✗	✗	✗	✗	✗	✗	✗	11037743	0,8
		10	✗	✗	✗	✗	✗	✗	✗	✗	11037744	1,3
		15	✗	✗	✗	✗	✗	✗	✗	✗	11037745	1,8
		20	✗	✗	✗	✗	✗	✗	✗	✗	11037746	2,4
		25	✗	✗	✗	✗	✗	✗	✗	✗	11037747	2,9
		30	✗	✗	✗	✗	✗	✗	✗	✗	11037748	3,4
E62 	Float switch with free cable end Function: circuit open in upper float position (NC contact) Float switch housing: polypropylene Fluid temperature: 70 °C max. Power cable: H07RN-F3G1	5	✗	✗	✗	✗	✗	✗	✗	✗	11037756	0,8
		10	✗	✗	✗	✗	✗	✗	✗	✗	11037757	1,4
		20	✗	✗	✗	✗	✗	✗	✗	✗	11037758	2,6
E64 	F1 leakage sensor contactor for alarm switchgears AS 0, AS 2, AS 4 or as alarm transmitter for LevelControl Basic 2 Alarm transmission options: High water alert by suspending the sensor in a (pump) sump above the pump start-up point. Warning at a water level of 1 mm in areas with a flooding or leakage risk (e.g. in the cellar or next to the washing machine in the kitchen or bath-room) Dimensions [mm]: 52 × 21 × 20 (H × W × D)	3 m	✗	✗	✗	✗	✗	✗	✗	✗	19072366	0,2
E70 	Horn, 12 V DC, 105 dB, 150 mA, IP54		✗	✗	✗	✗	✗	✗	✗	✗	01086547	0,1
E71 	Alarm combination (yellow lamp and piezo buzzer 92 dB), 12 V DC, 120 mA, IP65		✗	✗	✗	✗	✗	✗	✗	✗	01139930	0,1
E72 	Yellow alarm strobe light, 12 V DC, 195 mA, IP65		✗	✗	✗	✗	✗	✗	✗	✗	01056355	0,3
E73 	KSB ServiceTool		✗	✗	✗	✗	✗	✗	✗	✗	47121210	0,2
E90 	Rechargeable battery retrofit kit for LevelControl Basic 2, type BC Scope of supply: 2 rechargeable batteries (6 V, 1.3 Ah) and charge controller		✗	✗	✗	✗	✗	✗	✗	✗	19074194	0,8
E91 	Rechargeable battery retrofit kit for LevelControl Basic 2, type BC Scope of supply: 1 rechargeable battery (12 V, 1.2 Ah) and charge controller		✗	✗	✗	✗	✗	✗	✗	✗	19074199	1

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