

Submersible Waste Water Pumps



Ama-Drainer A 4.. /10



Ama-Drainer A, C, R 522/11



Ama-Drainer A, C, R 5.. /10K



Ama-Drainer A, C 4.. /35

Fields of Application

- Automatic drainage of pits, shafts, yards and cellars at risk of flooding
- Lowering the surface water level
- Drainage of underground passages
- Extraction of water from rivers and reservoirs
- Drainage
- Disposal of highly contaminated, fibre-containing water, e.g. from laundries, common washing facilities, washing-machines and dish washers (incl. hot water cycle), industrial businesses

Fluid Handled

Ama-Drainer /10, /11 – Standard variant for waste water

Slightly contaminated water, also containing solid particles with a particle size of up to 10 or 11 mm.

Ama-Drainer /35 – Variant for waste water

Waste water containing long fibres and substances liable to twist and bunch, also solid particles with a particle size of up to 35 mm.

Ama-Drainer C – Variant for aggressive water

- Transport of seawater or water containing salt
- Transport of swimming pool water and brackish water
- Transport of aggressive waste water containing solids with a particle size of up to 35 mm

Ama-Drainer R – Variant for water containing oil / oil emulsions

- Transport of oil emulsions and cutting oils
- Disposal of waste water containing oil

Operating Data

Q up to 50 m³/h, 14 l/s

H up to 21 m

t up to 40 °C; up to max. 3 minutes: 90 °C

For pumps with smaller capacities and/or heads, please refer to Type Series Booklets 2331.51-10 and 2331.52-10; for pumps with higher capacities and/or heads, please refer to Type Series Booklet 2331.54-10.

Design / Variant

Vertical, fully floodable submersible motor pumps in close-coupled design, IP 68, single-stage, with or without level control. Cable length: 10 m.

Max. immersion depth 10 m.

Bearings

Maintenance-free, grease-lubricated deep-groove ball bearings sealed for life.

Materials

Please refer to page 9.

Shaft Seal

Ama-Drainer	Impeller end	Motor end
All pump sizes	1 mechanical seal	1 shaft seal ring

An oil reservoir is fitted in-between the two seal elements.

Designation

Ama-Drainer		A	4	22	S	D	/	10	K
Type series									
Material variant									
A	= standard variant								
C	= variant for aggressive water								
R	= oil-resistant materials								
Discharge nozzle DN									
4	= ~4 cm (G 1 1/2), 5 = ~5 cm (G 2)								
Motor rating in kW x 10									
05	= 0.55 kW, 07 = 0.75 kW, 11 = 1.1 kW,								
15	= 1.5 kW, 22 = 2.2 kW								
N	= without float switch								
S	= with float switch								
E	= single-phase a.c. motor								
D	= three-phase motor								
Free passage in mm									
10	= 10 mm, 11 = 11 mm, 35 = 35 mm								
with cooling jacket									

Drive

Ama-Drainer /10 and /35 NE/SE: Single-phase a.c. motor with integrated temperature switch, power supply cable and shockproof plug.

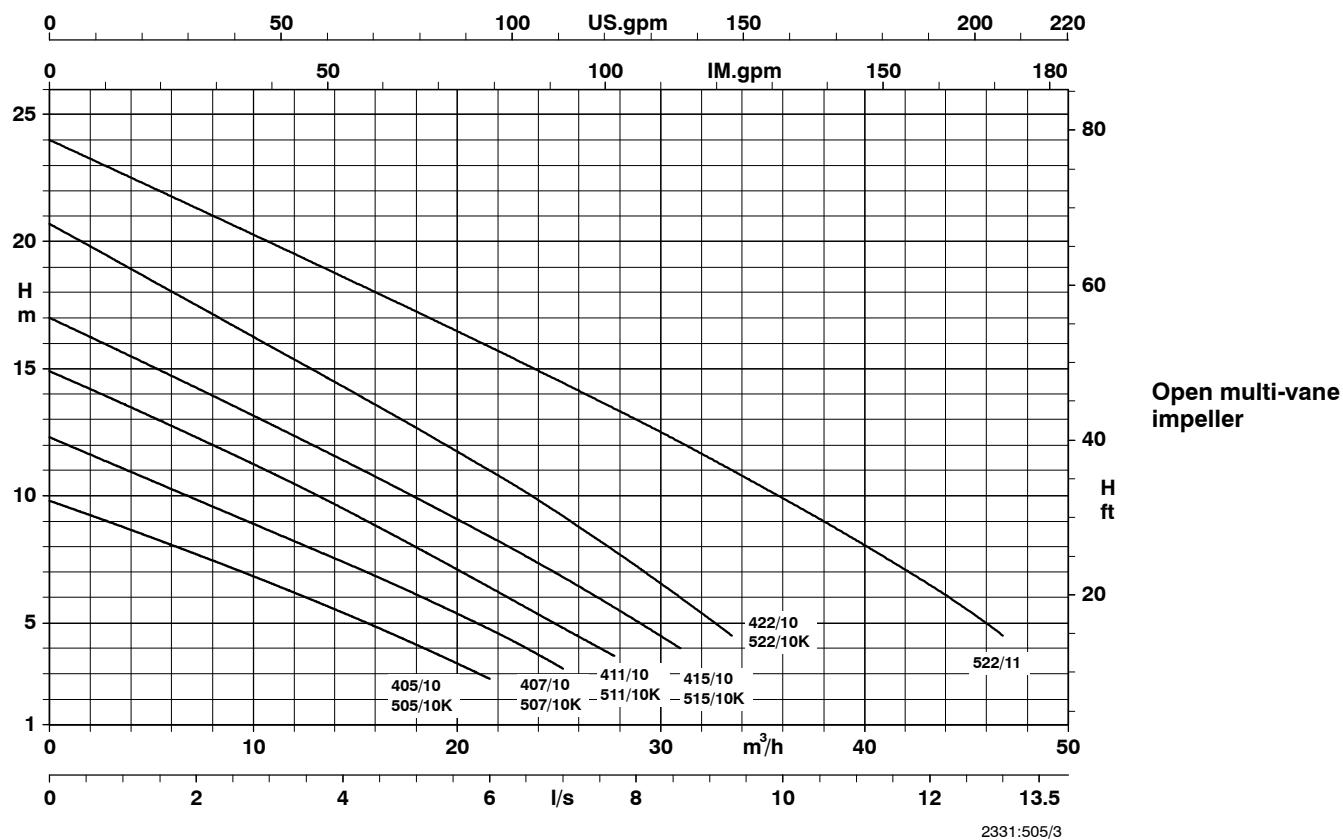
Ama-Drainer /10, /11 and /35 SD: Three-phase motor with integrated temperature switch, power supply cable and CEE plug (3L+PE+N) including motor contactor and phase inverter.

Ama-Drainer /10, /11 and /35 ND: Three-phase motor with integrated temperature switch, power supply cable without plug and with protective cap.

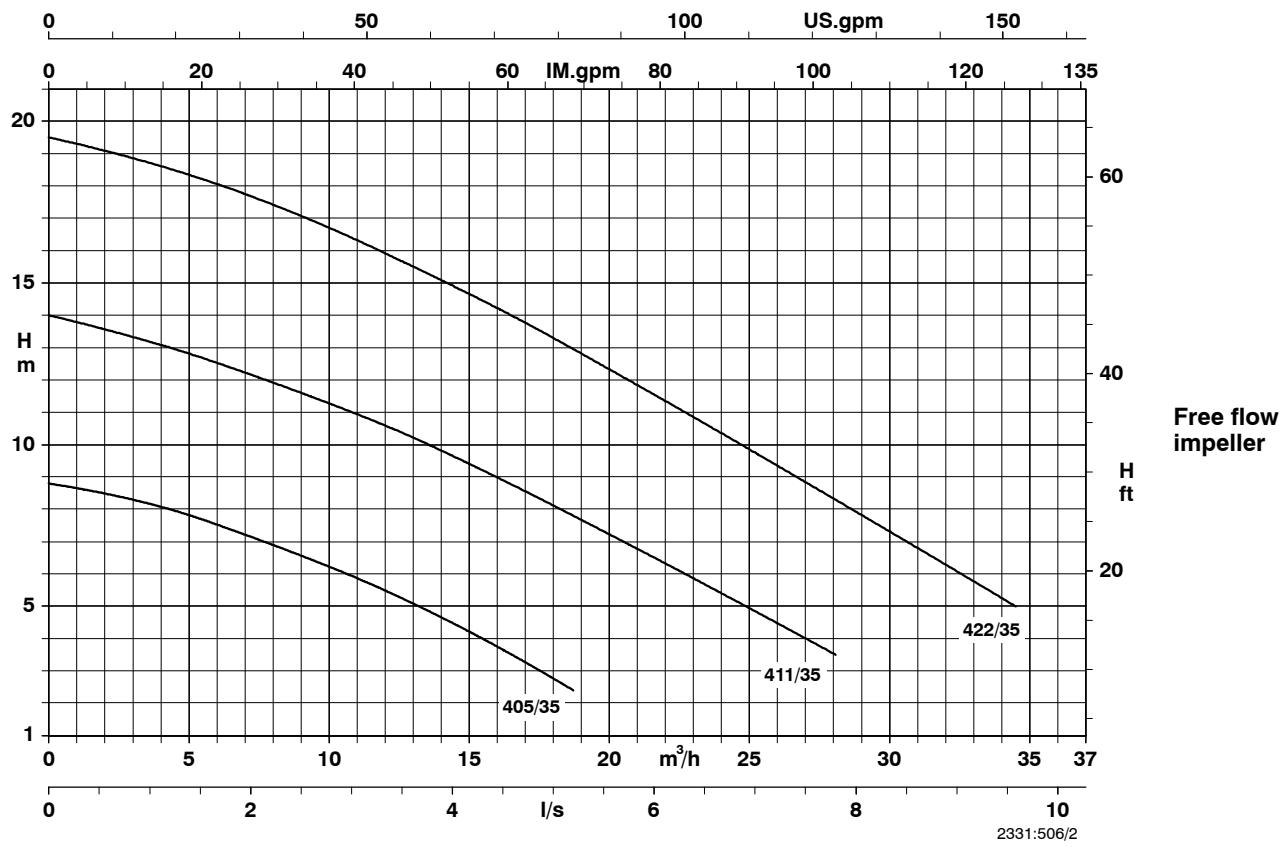
CE - EN 12 050-2

Other cable lengths, halogen-free cables, special voltages, other frequencies on request.

Ama-Drainer 405, 407, 411, 415, 422, 505, 507, 511, 515 with a free passage of 10 mm and 522 with a free passage of 11 mm
Standard, C and R variants - n = 2800 1/min



Ama-Drainer 405, 411, 422 with a free passage of 35 mm
Standard and C variant - n = 2800 1/min



Performance tolerance to ISO 2548 Class C (water under standard conditions)

Ama-Drainer – standard variant, particle size 10 mm (522/11 11 mm)

Ama-Drainer	Nominal diameter	Par-ticle size mm	P ₁ kW	P ₂ kW	50 Hz 1~ 220 - 240 V I _N ≈ A	3~ 380 - 415 V I _N ≈ A	Power supply cable 10 m S07RN-F6G1	H07RN-F3G1	Level control H07RN-F3G1 m		net ≈ kg
A 405 NE/10			0.9		4.1	-	-	X	-	29 128 651	12.2
A 405 SE/10			0.9		4.1	-	-	X	0.5	29 128 650	12.7
A 405 ND/10			0.76		-	1.7	X	-	-	29 128 652	13.3
A 405 SD/10			0.76		-	1.7	X	-	10	29 128 742	15.1
A 407 NE/10			1.26		5.5	-	-	X	-	29 128 654	12.2
A 407 SE/10			1.26		5.5	-	-	X	0.5	29 128 653	12.7
A 407 ND/10			1.01		-	1.9	X	-	-	29 128 655	13.3
A 407 SD/10			1.01		-	1.9	X	-	10	29 128 743	15.1
A 411 NE/10			1.45		6.55	-	-	X	-	29 128 657	14.5
A 411 SE/10			1.45		6.55	-	-	X	0.5	29 128 656	15.0
A 411 ND/10			1.54		-	2.5	X	-	-	29 128 658	13.3
A 411 SD/10			1.54		-	2.5	X	-	10	29 128 744	15.1
A 415 NE/10			2.07		8.95	-	-	X	-	29 128 660	14.5
A 415 SE/10			2.07		8.95	-	-	X	0.5	29 128 659	15.0
A 415 ND/10			1.88		-	3.6	X	-	-	29 128 661	15.6
A 415 SD/10			1.88		-	3.6	X	-	10	29 128 745	17.5
A 422 ND/10			2.9		2.2	-	4.8	X	-	29 128 662	15.7
A 422 SD/10			2.9		2.2	-	4.8	X	-	29 128 746	17.6
A 522 ND/11	G 2	11	2.9		2.2	-	4.8	X	-	29 128 865	22.5
A 522 SD/11			2.9		2.2	-	4.8	X	-	29 128 866	24.5

Ama-Drainer – standard variant, particle size 10 mm, with cooling jacket

Ama-Drainer	Nominal diameter	Par-ticle size mm	P ₁ kW	P ₂ kW	50 Hz 1~ 220 - 240 V I _N ≈ A	3~ 380 - 415 V I _N ≈ A	Power supply cable 10 m S07RN-F6G1	H07RN-F3G1	Level control H07RN-F3G1 m		net ≈ kg
A 505 NE/10 K			0.9		4.1	-	-	X	-	29 128 664	14.2
A 505 SE/10 K			0.9		4.1	-	-	X	0.5	29 128 663	14.7
A 505 ND/10 K			0.76		-	1.7	X	-	-	29 128 665	15.3
A 505 SD/10 K			0.76		-	1.7	X	-	10	29 128 747	17.1
A 507 NE/10 K			1.26		5.5	-	-	X	-	29 128 667	14.2
A 507 SE/10 K			1.26		5.5	-	-	X	0.5	29 128 666	14.7
A 507 ND/10 K			1.01		-	1.9	X	-	-	29 128 668	15.3
A 507 SD/10 K			1.01		-	1.9	X	-	10	29 128 748	17.1
A 511 NE/10 K			1.45		6.55	-	-	X	-	29 128 670	16.5
A 511 SE/10 K			1.45		6.55	-	-	X	0.5	29 128 669	17.0
A 511 ND/10 K			1.54		-	2.5	X	-	-	29 128 671	15.3
A 511 SD/10 K			1.54		-	2.5	X	-	10	29 128 749	17.1
A 515 NE/10 K			2.07		8.95	-	-	X	-	29 128 673	16.5
A 515 SE/10 K			2.07		8.95	-	-	X	0.5	29 128 672	17.0
A 515 ND/10 K			1.88		-	3.6	X	-	-	29 128 674	17.6
A 515 SD/10 K			1.88		-	3.6	X	-	10	29 128 750	19.5
A 522 ND/10 K	G 2	10	2.9		2.2	-	4.8	X	-	29 128 675	17.7
A 522 SD/10 K			2.9		2.2	-	4.8	X	-	29 128 751	19.6

Ama-Drainer – standard variant, particle size 35 mm

Ama-Drainer	Nominal diameter	Par-ticle size mm	P ₁ kW	P ₂ kW	50 Hz 1~ 220 - 240 V I _N ≈ A	3~ 380 - 415 V I _N ≈ A	Power supply cable 10 m S07RN-F6G1	H07RN-F3G1	Level control H07RN-F3G1 m		net ≈ kg
A 405 NE/35			0.9		4.1	-	-	X	-	29 128 677	13.2
A 405 SE/35			0.9		4.1	-	-	X	0.5	29 128 676	13.7
A 405 ND/35			0.76		-	1.7	X	-	-	29 128 678	14.4
A 405 SD/35			0.76		-	1.7	X	-	10	29 128 752	16.1
A 411 NE/35			1.45		6.55	-	-	X	-	29 128 680	15.5
A 411 SE/35			1.45		6.55	-	-	X	0.5	29 128 679	16.0
A 411 ND/35			1.54		-	2.5	X	-	-	29 128 681	14.4
A 411 SD/35			1.54		-	2.5	X	-	10	29 128 753	16.1
A 422 ND/35	G 1 1/2	35	2.9		2.2	-	4.8	X	-	29 128 682	16.9
A 422 SD/35			2.9		2.2	-	4.8	X	-	29 128 754	18.7

**Ama-Drainer – variant C for aggressive water, particle size 10 mm, with cooling jacket
522/11 particle size 11 mm, without cooling jacket**

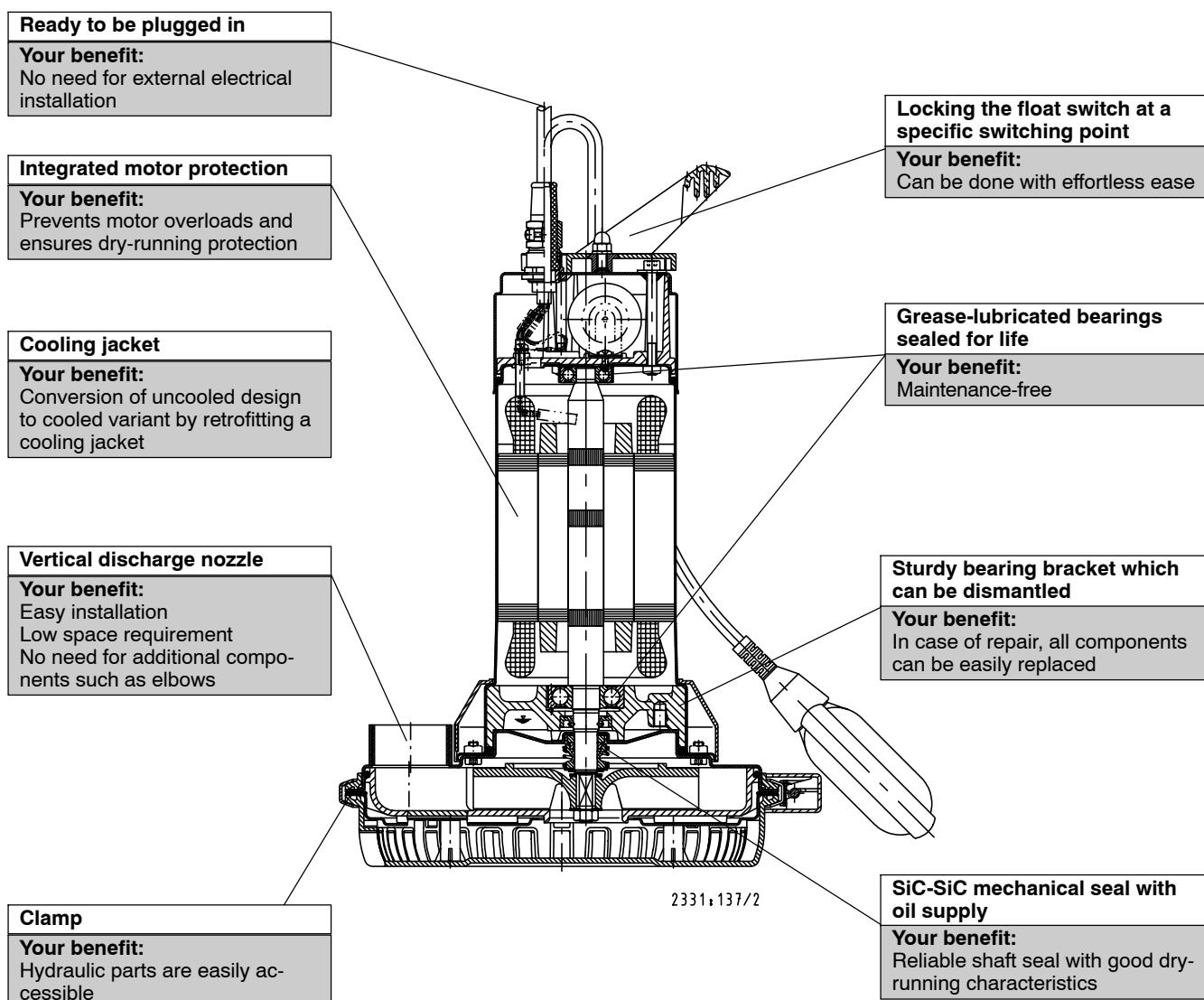
Ama-Drainer	Nominal diameter	Par-ticle size	P ₁	P ₂	50 Hz 1~ 220 – 240 V	3~ 380 – 415 V	Power supply cable 10 m	Level control		net
		mm	kW	kW	I _N ≈ A	I _N ≈ A	S07RN-F6G1	H07RN-F3G1	m	≈ kg
C 505 NE/10 K	G 2	10	0.9	0.55	4.1	–	–	X	–	29 128 697
C 505 SE/10 K			0.9		4.1	–	–	X	0.5	29 128 696
C 505 ND/10 K			0.76		–	1.7	X	–	–	29 128 698
C 505 SD/10 K			0.76		–	1.7	X	–	10	29 128 755
C 507 NE/10 K	G 2	10	1.26	0.75	5.5	–	–	X	–	29 128 700
C 507 SE/10 K			1.26		5.5	–	–	X	0.5	29 128 699
C 507 ND/10 K			1.01		–	1.9	X	–	–	29 128 701
C 507 SD/10 K			1.01		–	1.9	X	–	10	29 128 756
C 511 NE/10 K	G 2	10	1.45	1.1	6.55	–	–	X	–	29 128 703
C 511 SE/10 K			1.45		6.55	–	–	X	0.5	29 128 702
C 511 ND/10 K			1.54		–	2.5	X	–	–	29 128 704
C 511 SD/10 K			1.54		–	2.5	X	–	10	29 128 757
C 515 NE/10 K	G 2	10	2.07	1.5	8.95	–	–	X	–	29 128 706
C 515 SE/10 K			2.07		8.95	–	–	X	0.5	29 128 705
C 515 ND/10 K			1.88		–	3.6	X	–	–	29 128 707
C 515 SD/10 K			1.88		–	3.6	X	–	10	29 128 758
C 522 ND/10 K	G 2	10	2.9	2.2	–	4.8	X	–	–	29 128 708
C 522 SD/10 K			2.9		–	4.8	X	–	10	29 128 759
C 522 ND/11	G 2	11	2.9	2.2	–	4.8	X	–	–	29 128 693
C 522 SD/11			2.9		–	4.8	X	–	10	29 128 694

**Ama-Drainer – variant R for water containing oil / oil emulsions, particle size 10 mm, with cooling jacket
522/11 particle size 11 mm, without cooling jacket**

Ama-Drainer	Nominal diameter	Par-ticle size	P ₁	P ₂	50 Hz 1~ 220 – 240 V	3~ 380 – 415 V	Power supply cable 10 m	Level control		net
		mm	kW	kW	I _N ≈ A	I _N ≈ A	PUR 6x1	PUR 3x1	m	≈ kg
R 505 NE/10 K	G 2	10	0.9	0.55	4.1	–	–	X	–	29 128 723
R 505 SE/10 K			0.9		4.1	–	–	X	0.5	29 128 722
R 505 ND/10 K			0.76		–	1.7	X	–	–	29 128 724
R 505 SD/10 K			0.76		–	1.7	X	–	10	29 128 760
R 507 NE/10 K	G 2	10	1.26	0.75	5.5	–	–	X	–	29 128 726
R 507 SE/10 K			1.26		5.5	–	–	X	0.5	29 128 725
R 507 ND/10 K			1.01		–	1.9	X	–	–	29 128 727
R 507 SD/10 K			1.01		–	1.9	X	–	10	29 128 761
R 511 NE/10 K	G 2	10	1.45	1.1	6.55	–	–	X	–	29 128 729
R 511 SE/10 K			1.45		6.55	–	–	X	0.5	29 128 728
R 511 ND/10 K			1.54		–	2.5	X	–	–	29 128 730
R 511 SD/10 K			1.54		–	2.5	X	–	10	29 128 762
R 515 NE/10 K	G 2	10	2.07	1.5	8.95	–	–	X	–	29 128 732
R 515 SE/10 K			2.07		8.95	–	–	X	0.5	29 128 731
R 515 ND/10 K			1.88		–	3.6	X	–	–	29 128 733
R 515 SD/10 K			1.88		–	3.6	X	–	10	29 128 763
R 522 ND/10 K	G 2	10	2.9	2.2	–	4.8	X	–	–	29 128 734
R 522 SD/10 K			2.9		–	4.8	X	–	10	29 128 764
R 522 ND/11	G 2	11	2.9	2.2	–	4.8	X	–	–	29 128 867
R 522 SD/11			2.9		–	4.8	X	–	10	29 128 868

Ama-Drainer – variant C for aggressive water, particle size 35 mm

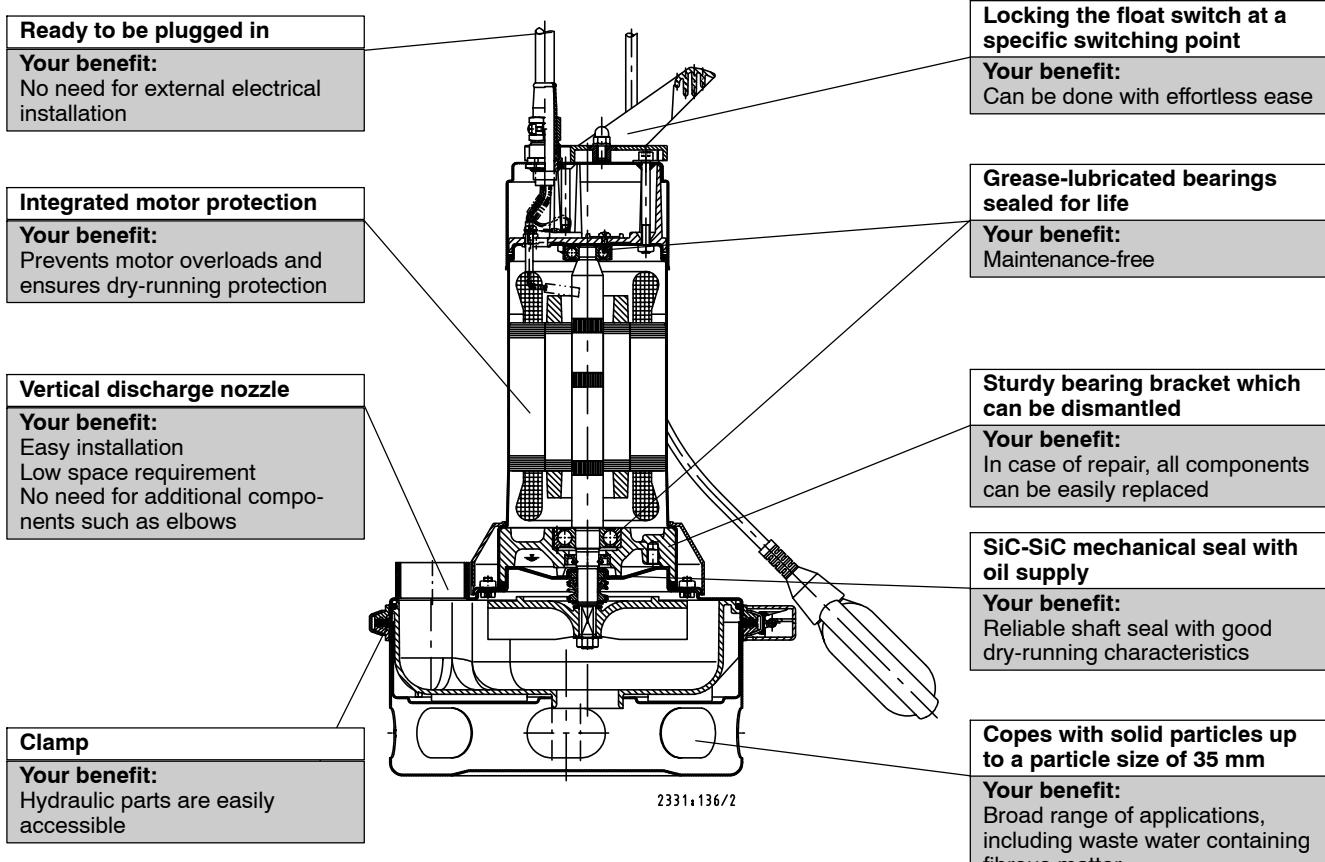
Ama-Drainer	Nominal diameter	Particle size mm	P ₁ kW	P ₂ kW	50 Hz 1~ 220 - 240 V	I _N ~ A	3~ 380 - 415 V	I _N ~ A	Power supply cable 10 m S07RN-F6G1	H07RN-F3G1	Level control H07RN-F3G1		net ≈ kg
C 405 NE/35			0.9		4.1	-	-	-	X	-	0.5	29 128 683	13.2
C 405 SE/35	G 1 1/2	35	0.9	0.55	4.1	-	-	-	X	-	-	29 128 684	13.7
C 405 ND/35			0.76		-	1.7	X	-	-	-	-	29 128 685	14.4
C 405 SD/35			0.76		-	1.7	X	-	-	10	-	29 128 686	16.1
C 411 NE/35			1.45		6.55	-	-	-	X	-	0.5	29 128 687	15.5
C 411 SE/35	G 1 1/2	35	1.45	1.1	6.55	-	-	-	X	-	-	29 128 688	16.0
C 411 ND/35			1.54		-	2.5	X	-	-	-	-	29 128 689	14.4
C 411 SD/35			1.54		-	2.5	X	-	-	10	-	29 128 690	16.1
C 422 ND/35	G 1 1/2	35	2.9	2.2	-	4.8	X	-	-	-	-	29 128 691	16.9
C 422 SD/35			2.9		-	4.8	X	-	-	10	-	29 128 692	18.7

Product Features
to Our Customers' Benefit
Ama-Drainer A 405 SE/10


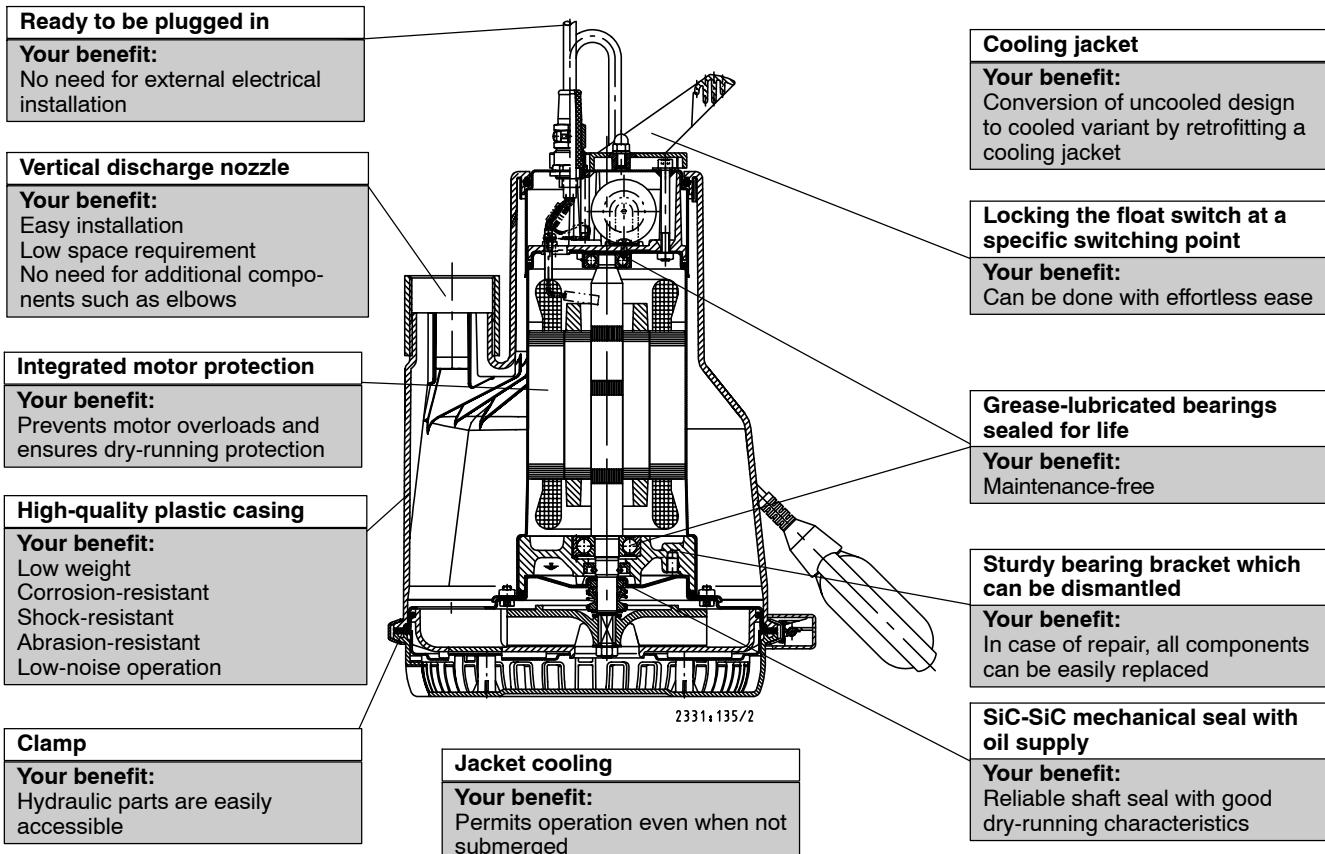
Product Features

to Our Customers' Benefit

Ama-Drainer 422 SD/35



Ama-Drainer 515 SE/10 K



Materials
Ama-Drainer – Standard Variant

	Ama-Drainer A 4..../10	Ama-Drainer A 4..../35	Ama-Drainer A 5..../10 K	Ama-Drainer A 522 ../11
Pump casing	Chrome nickel steel (1.4301)	Chrome nickel steel (1.4301)	Chrome nickel steel (1.4301)	Cast iron EN-GJL-250 (GG-25)
Suction cover	Chrome nickel steel (1.4301)	Chrome nickel steel (1.4301)	Chrome nickel steel (1.4301)	Cast iron EN-GJL-250 (GG-25)
Volute	Acrylonitrile-butadiene-styrene copolymer (ABS)	Acrylonitrile-butadiene-styrene copolymer (ABS)	Acrylonitrile-butadiene-styrene copolymer (ABS)	-
Impeller	Polyamide (PA)	Polyamide (PA)	Polyamide (PA)	Polyamide (PA)
Foot	Polypropylene (PP)	Chrome nickel steel (1.4301)	Polypropylene (PP)	Polyethylene (PE)
O-rings	Acrylonitrile-butadiene (NBR)	Acrylonitrile-butadiene (NBR)	Acrylonitrile-butadiene (NBR)	Acrylonitrile-butadiene (NBR)
Mechanical seal	Silicon carbide (SiC/SiC)	Silicon carbide (SiC/SiC)	Silicon carbide (SiC/SiC)	Silicon carbide (SiC/SiC)
Stator case	Chrome nickel steel (1.4301)	Chrome nickel steel (1.4301)	Chrome nickel steel (1.4301)	Chrome nickel steel (1.4301)
Rotor shaft	Chrome steel (1.4021)	Chrome steel (1.4021)	Chrome steel (1.4021)	Chrome steel (1.4021)
Motor connection cable	Polychloroprene rubber (CR)	Polychloroprene rubber (CR)	Polychloroprene rubber (CR)	Polychloroprene rubber (CR)
Float	Polypropylene (PP)	Polypropylene (PP)	Polypropylene (PP)	Polypropylene (PP)
Cooling jacket	-	-	Polyoxymethylene (POM)	-
Oil supply	Liquid paraffin (environmentally friendly)	Liquid paraffin (environmentally friendly)	Liquid paraffin (environmentally friendly)	Liquid paraffin (environmentally friendly)

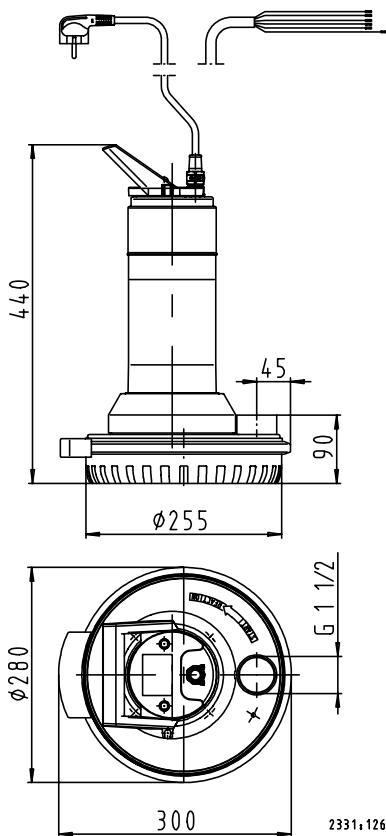
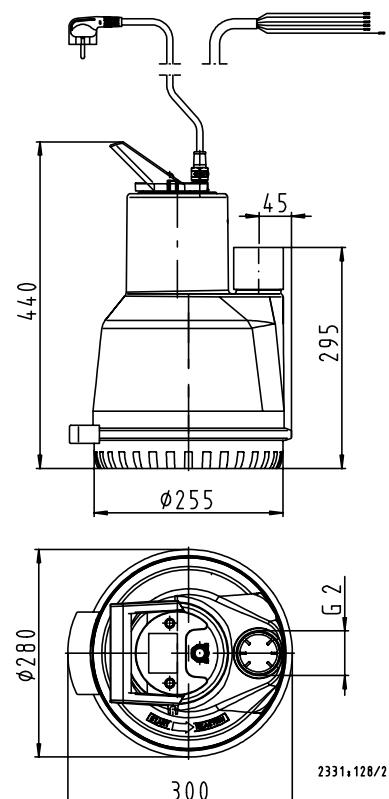
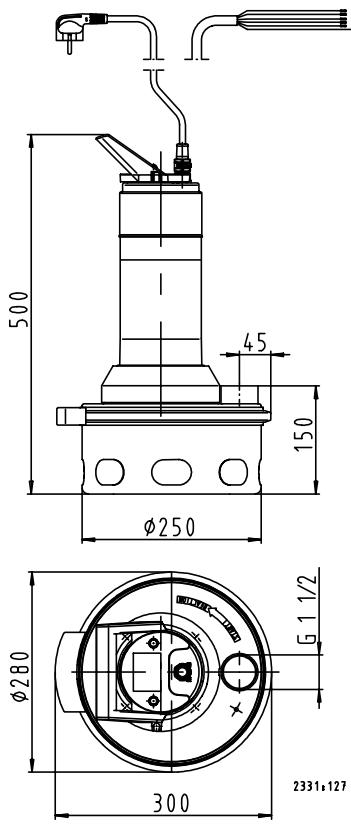
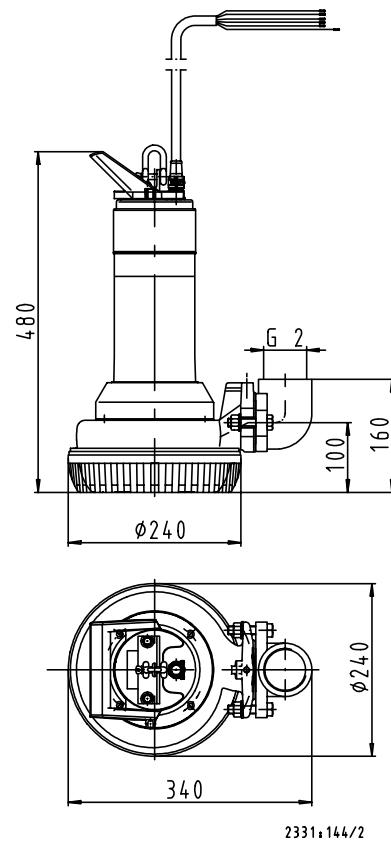
Ama-Drainer - Variant C

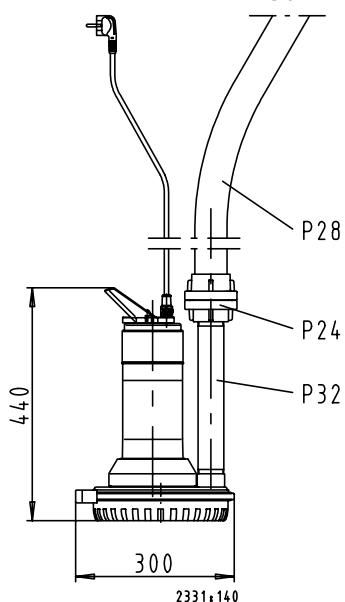
		Ama-Drainer C 4..../35 *	Ama-Drainer C 5..../10 K *	Ama-Drainer C 522 ../11 *
Pump casing		CrNiMo steel (1.4401)	CrNiMo steel (1.4401)	Cast CrNiMo steel (1.4408)
Suction cover		CrNiMo steel (1.4401)	CrNiMo steel (1.4401)	Cast CrNiMo steel (1.4408)
Volute		Acrylonitrile-butadiene-styrene copolymer (ABS)	Acrylonitrile-butadiene-styrene copolymer (ABS)	-
Impeller		Polyamide (PA)	Polyamide (PA)	Polyamide (PA)
Foot		Polypropylene (PP)	Polypropylene (PP)	Polyethylene (PE)
O-rings		Acrylonitrile-butadiene (NBR)	Acrylonitrile-butadiene (NBR)	Acrylonitrile butadiene (NBR)
Mechanical seal		Silicon carbide (SiC/SiC)	Silicon carbide (SiC/SiC)	Silicon carbide (SiC/SiC)
Stator case		CrNiMo steel (1.4401)	CrNiMo steel (1.4401)	CrNiMo steel (1.4401)
Rotor shaft		CrNiMo steel (1.4571)	CrNiMo steel (1.4571)	CrNiMo steel (1.4571)
Motor connection cable		Polychloroprene rubber (CR)	Polychloroprene rubber (CR)	Polychloroprene rubber (CR)
Float		Polypropylene (PP)	Polypropylene (PP)	Polypropylene (PP)
Cooling jacket		-	Polyoxymethylene (POM)	-
Oil supply		Liquid paraffin (environmentally friendly)	Liquid paraffin (environmentally friendly)	Liquid paraffin (environmentally friendly)

Ama-Drainer -Variant R

			Ama-Drainer R 5..../10 K	Ama-Drainer R 522 ../11
Pump casing			Chrome nickel steel (1.4301)	Cast iron EN-GJL-250
Suction cover			Chrome nickel steel (1.4301)	Cast iron EN-GJL-250
Volute			Acrylonitrile-butadiene-styrene copolymer (ABS)	-
Impeller			Polyamide (PA)	Polyamide (PA)
Foot			Polypropylene (PP)	Polypropylene (PP)
O-rings			Fluorocarbon rubber (FPM)	Fluorocarbon rubber (FPM)
Mechanical seal			Silicon carbide (SiC/SiC)	Silicon carbide (SiC/SiC)
Stator case			Chrome nickel steel (1.4301)	Chrome nickel steel (1.4301)
Rotor shaft			Chrome steel (1.4021)	Chrome steel (1.4021)
Motor connection cable			Polyurethane (PUR)	Polyurethane (PUR)
Float			Polypropylene (PP)	Polypropylene (PP)
Cooling jacket			Polyoxymethylene (POM)	-
Oil supply			Liquid paraffin (environmentally friendly)	Liquid paraffin (environmentally friendly)

*) **Caution:** Check accessories for corrosion resistance

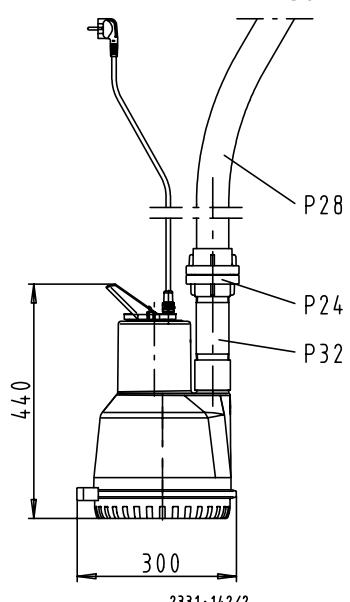
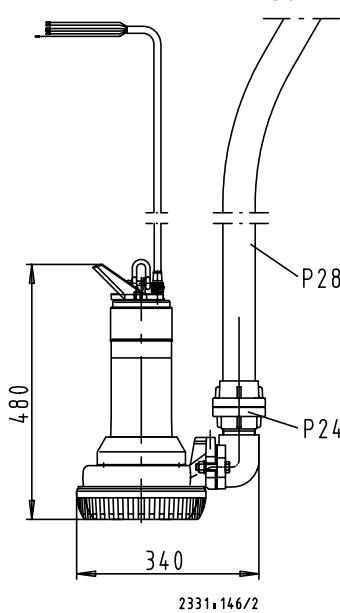
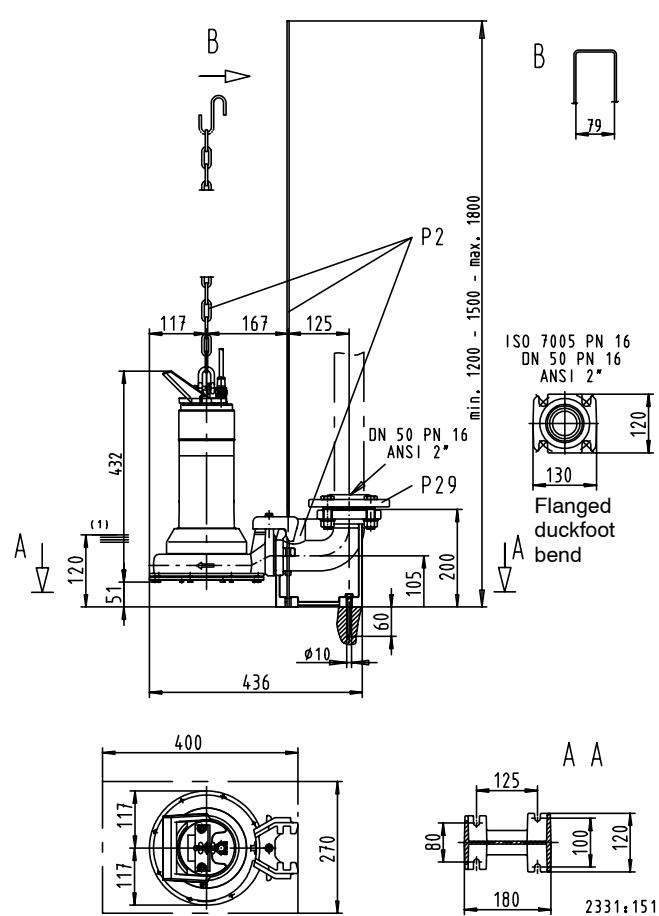
Ama-Drainer 4.. /10 without cooling jacket

Ama-Drainer 5.. /10 K with cooling jacket

Ama-Drainer 4../35 without cooling jacket

Ama-Drainer 522/11 without cooling jacket


Examples of portable version
4.. NE/10 without cooling jacket


P 24 Storz rigid coupling

P 28 Plastic hose

P 32 Pipe extension

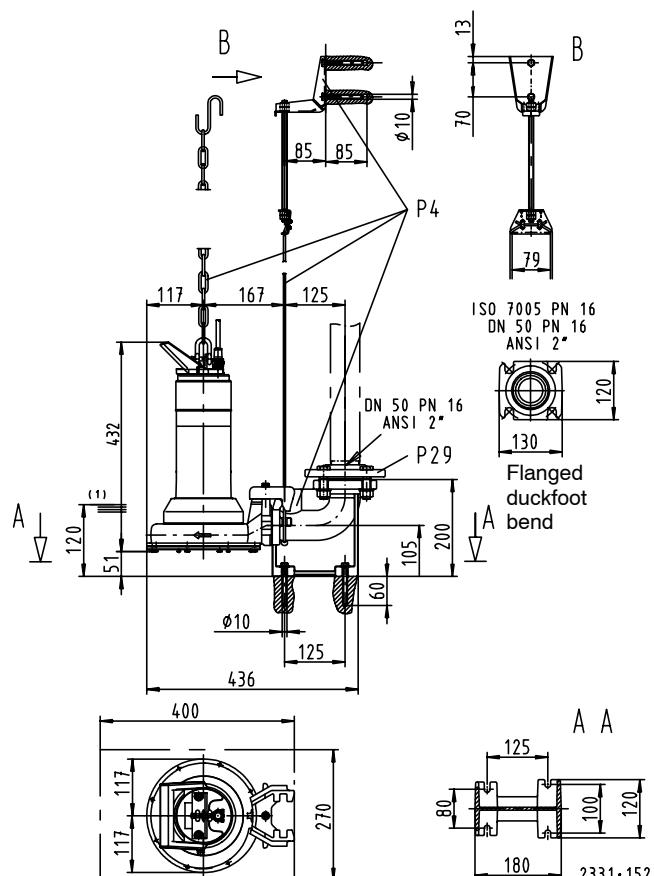
5.. NE/10 K with cooling jacket

522 ND/11 without cooling jacket

Stationary installation
Ama-Drainer 522 ND/11 with hoop


(1) lowest switch-off point for automatic operation

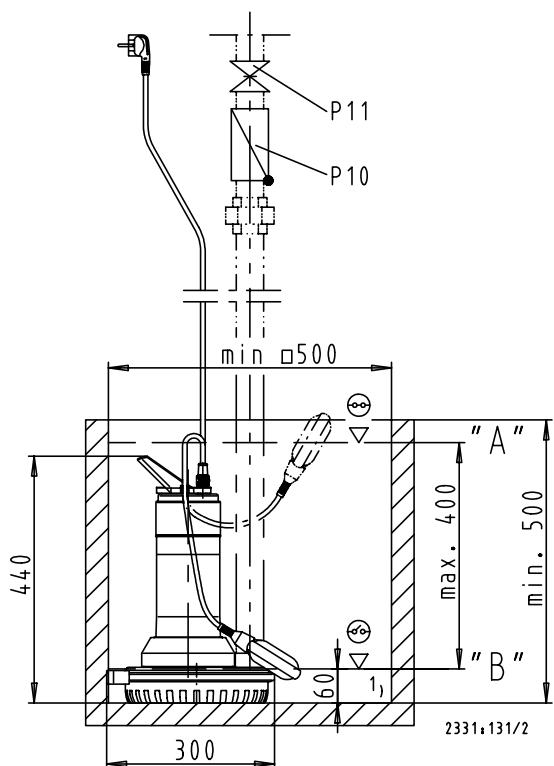
P 2 Hoop arrangement

P 4 Wire arrangement

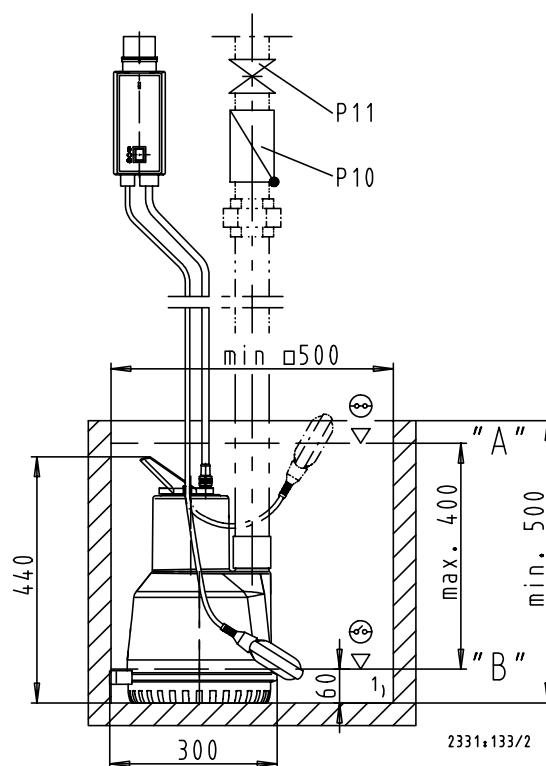
P 29 Screwed flange

Ama-Drainer 522 ND/11 with guide wire


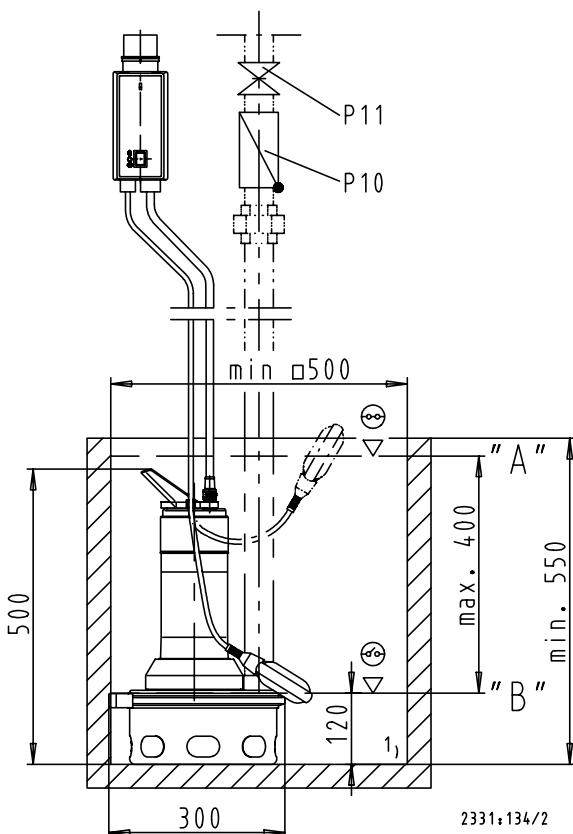
(1) lowest switch-off point for automatic operation

Outline Drawings of Single Pumps
Ama-Drainer 4..SE /10 without cooling jacket


1) Residual water level

Ama-Drainer 5.. SD/10 K with cooling jacket


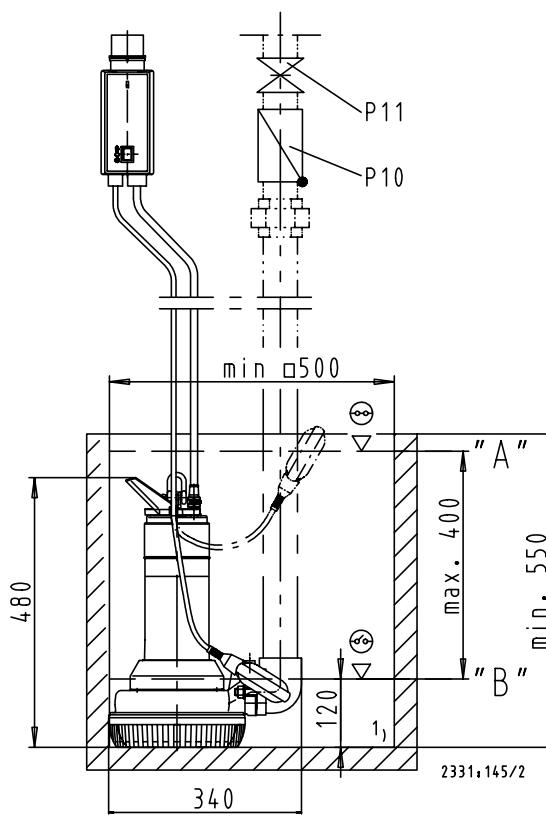
1) Residual water level

Ama-Drainer 4.. SD/35 without cooling jacket


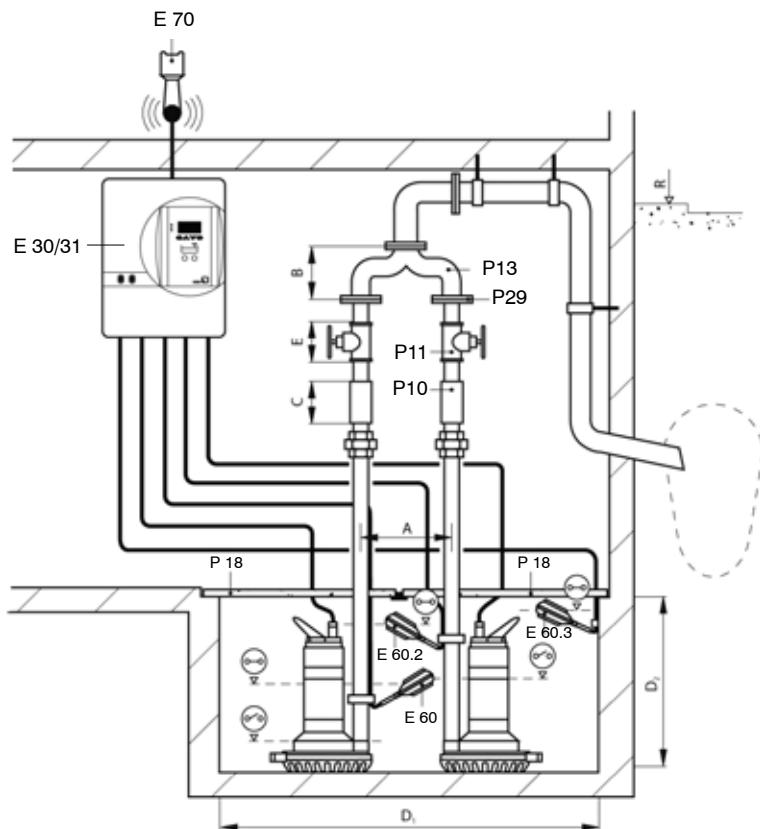
1) Residual water level

P 10 Swing check valve

P 11 Gate valve

Ama-Drainer 522 SD/11 without cooling jacket


1) Residual water level

Installation example of duplex-pump station
Ama-Drainer 405 ... 422 NE/ND / 505 ... 522 NE/ND


P 10	Swing check valve
P 11	Gate valve
P 13	Y-pipe
P 18	Cover plate
P 29	Screwed flange
E 30/31	Switchgear
E 60	"Base load" float switch
E 60/2	"Peak load" float switch
E 60/3	"High water alert" float switch
E 70	Horn
R	Flood level

Dimensions and Weights

Ama-Drainer	A	B	C	D ₁	D ₂	E	~kg
4../10	275	190	130	1060 x 500	500	55	16
4../35	275	190	130	1060 x 500	550	60	17
5../10 K	300	210	130	1060 x 500	500	55	17
522/11	300	210	130	1060 x 500	550	55	24