

Submersible Borehole Pump

UPA S

Size: UPA S 200

Nominal Pump Diameter: 8 Inches

Type Series Booklet



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Type Series Booklet UPA S

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Water Supply

Submersible Borehole Pumps

UPA S 200



Main applications

- Spray irrigation systems
- General irrigation systems
- Pressure boosting
- Groundwater management
- Water supply systems
- Offshore processes

Fluids handled

- Drinking water
- River water, lake water and groundwater
- Maximum sand content in fluid handled depending on particle size and duration, sand content up to 250 g/m³¹⁾

Operating data

Table 1: Operating properties

Characteristic		Value		
		50 Hz	60 Hz	100 Hz
Flow rate	Q [m ³ /h]	≤ 200	≤ 240	≤ 210
	Q [l/s]	≤ 56	≤ 67	≤ 58
Head	H [m]	≤ 360	≤ 360	≤ 395
Fluid temperature	T [°C]	≤ 50	≤ 50	≤ 50
Speed	n [rpm]	≤ 2900	≤ 3500	= 3000
Well diameter	D [mm]	> 200	> 200	> 200
	D ["]	≥ 8	≥ 8	≥ 8

Design details

Design

- Centrifugal pump
- Single-stage or multistage
- Single-suction
- Ring-section design
- Rigid connection between pump and motor

Type of installation

- Vertical installation
- Horizontal installation
- Angled installation

Drive

Asynchronous motor:

- With squirrel cage motor for submerged use
- Standard connection to NEMA
- Frequency 50 Hz/60 Hz
- IP68 enclosure
- DOL starting or star-delta starting
- Frequency of starts ≤ 15 starts per hour
- Winding J1 (UWM PPC) or, for higher temperatures, J2 (VPE / XLPE)

Synchronous motor:

- Interior (buried) permanent magnet synchronous motor (IPMSM)
- IP68 enclosure
- Standard connection to NEMA
- Frequency 100 Hz
- Winding J2 (VPE / XLPE)
- Frequency of starts ≤ 15 starts per hour

Electrical connection

- Delivered ex-factory with 1 or 2 motor leads (including earth conductor and internal earthing)
- Extension cable connected with water-tight cable connector
- Motor lead and extension cable suitable for drinking water use

Impeller type

- Mixed flow design

Bearings

- Radial plain bearings
- Pump bearings lubricated by fluid handled; motor bearings lubricated by water fill
- Axial thrust is balanced by a tilting-pad thrust bearing in the motor (lower end)
- Intermediate bearing in every stage

¹ For 50 g/m³ and above, the more wear-resistant version with silicon carbide bearings and metal casing wear rings is recommended.

Connections

- Pump screw-ended or flanged
- With lift check valve or connection nozzle

Designation
Table 2: Designation example

Position																																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
U	P	A		S		2	0	0	-	1	3	5	/	0	4	C	C	+	U	M	A		2	0	0	-		7	5	/	2	1	E	E	
Pump																		Motor																	

Table 3: Designation key

Position	Code	Description
1-5	Type series	
	UPA S	Precision (investment) cast variant
7-9	Nominal pump diameter [mm]	
	200	
11-13	Flow rate at best efficiency point [m³/h]	
	-52	52
	-75	75
	-100	100
	-135	135
14	/	
15-16	Number of stages	
	01, 02, 03, 04, 05, 06, 07, 08, 09, 10	
17	Pump material	
	D	Duplex
	C	Stainless steel AISI 316
18	Impeller material	
	D	Duplex
	C	Stainless steel AISI 316
19	+	With motor
	-	Without motor
20-23	Motor version	
	UMA	Asynchronous motor
	UMA S	Permanent magnet synchronous motor
24-26	Minimum motor diameter [mm]	
	150, 200, 250, 300	
27	-	
28-30	Motor rating PN [kW]	
	0,3	0,37
	...	...
	400	400
31	/	
32	Number of motor poles	
	2	2 poles
	4	4 poles
33	Winding insulation	
	1	J1 (UWM PPC)
	2	J2 (VPE/XLPE), for higher temperatures
34-35	Motor material	
	E	Stainless steel AISI 304 SS
	D	Duplex
	C	Stainless steel AISI 316 SS
	G	Cast iron

Materials

Table 4: Pump material selection, UPA S 200

Component	Material variant	
	C	D
Impeller	CrNiMo steel (1.4408)	CrNiMo steel (1.4517)
Suction casing	CrNiMo steel (1.4408)	CrNiMo steel (1.4517)
Lift check valve body	CrNiMo steel (1.4408)	CrNiMo steel (1.4517)
Screws, bolts and nuts	CrNiMo steel (A4)	CrNiMo steel (1.4462)
Stage casing	CrNiMo steel (1.4408)	CrNiMo steel (1.4517)
Shaft	CrNiMo steel (1.4462)	CrNiMo steel (1.4462)

Table 5: Motor material selection, UMA 150, UMA-S 150, UMA 200, UMA-S 200, UMA 250, UMA-S 250

Component		Material variant			
		G	E	C	D
Housing	UMA 150, UMA-S 150	-	CrNi steel (1.4301)	CrNiMo steel (1.4571)	CrNiMo steel (1.4539)
	UMA 200, UMA-S 200	Grey cast iron (EN-GJL-200)	-	CrNiMo steel (1.4408)	CrNiMo steel (1.4539)
	UMA 250, UMA-S 250	Grey cast iron (EN-GJL-200)	-	CrNiMo steel (1.4408)	CrNiMo steel (1.4539)
Screws, bolts and nuts	UMA 150, UMA-S 150	-	CrNiMo steel (A4-70)	CrNiMo steel (A4-70)	CrNiMo steel (1.4539)
	UMA 200, UMA-S 200	CrNiMo steel (A4-70)	-	CrNiMo steel (A4-70)	CrNiMo steel (1.4539)
	UMA 250, UMA-S 250	CrNiMo steel (A4-70)	-	CrNiMo steel (A4-70)	CrNiMo steel (1.4539)
Shaft	UMA 150, UMA-S 150	-	CrNi steel (1.4021)	CrNiMo steel (1.4462)	CrNiMo steel (1.4462)
	UMA 200, UMA-S 200	CrNiMo steel (1.4460)	-	CrNiMo steel (1.4460)	CrNiMo steel (1.4462)
	UMA 250, UMA-S 250	CrNiMo steel (1.4460)	-	CrNiMo steel (1.4460)	CrNiMo steel (1.4462)

Product benefits

- High efficiencies through optimised hydraulic design
- High operating reliability as all components are made of high-quality stainless steel.
- Overall efficiency can be increased further by combining the pump with an UMA S synchronous motor with ratings of up to 250 kW
- Reliable operation by anti-jam lift check valve
- Easy to install with service-friendly hydraulic system design
- Solids-induced wear can be minimised by metal wear rings and bearings with enhanced wear resistance (optional).
- Patented intake chamber provides optimum flow conditions at low heads.

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>.

Certifications

Table 6: Overview

Label	Effective in:	Comment
	All countries	Certified quality management to ISO 9001
	France	Approved in accordance with the French drinking water regulation

Overview of submersible motors

The following submersible motors are available:

Table 7: Selection table

Well diameter	Motor size	Voltage range	Rated power
6 inches	UMA 150	Up to 1 kV	5.5 to 37 kW
6 inches	UMA-S 150	Up to 1 kV	5.5 to 37 kW
8 inches	UMA 200	Up to 1 kV	37 to 90 kW
8 inches	UMA-S 200	Up to 1 kV	37 to 130 kW
10 inches	UMA 250	Up to 1 kV	85 to 190 kW
10 inches	UMA-S 250	Up to 1 kV	150 to 250 kW

- Further motor data for the UMA asynchronous motor see type series booklet No. 3455.51
- Further motor data for the UMA-S synchronous motor see type series booklet No. 3455.52

Technical data, 50 Hz

Information on characteristic curves

The characteristic curves shown are intended to allow pre-selection. Refer to the quotation for the precise selection data.

- Tolerance to ISO 9906 Cl. 2B
- Threaded end to DIN ISO 228, Part 1
- Flanged end to DIN EN 1092

Selection chart UPA S 200, 50 Hz, n = 2900 rpm

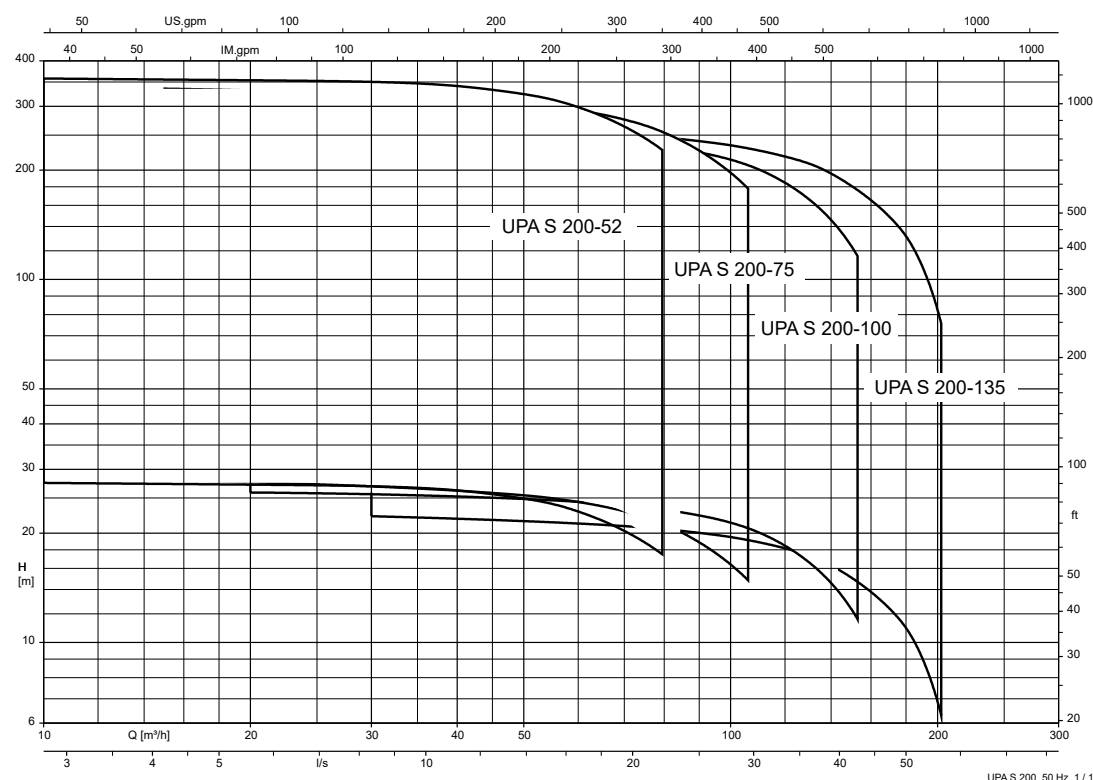
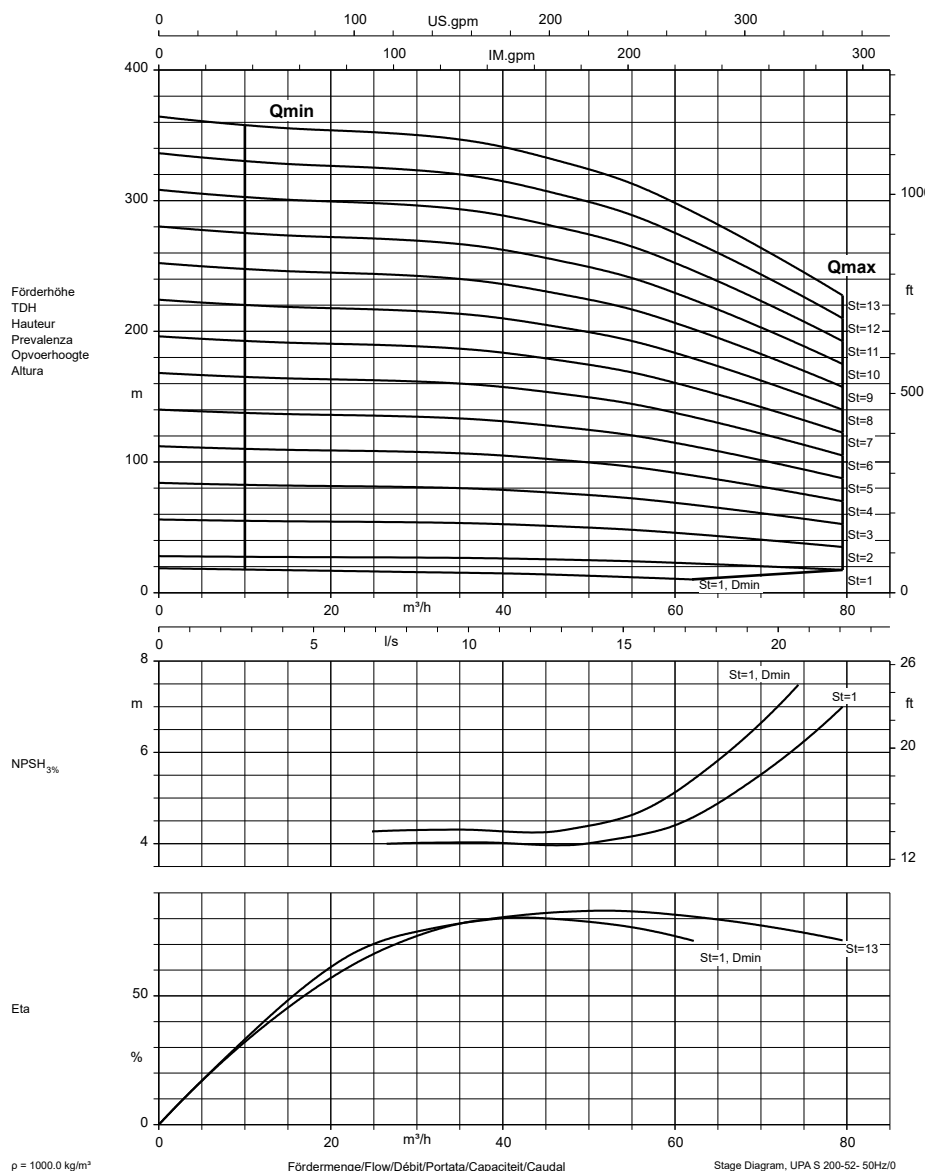


Fig. 1: Selection chart UPA S 200, 50 Hz

UPA S 200 - 52 / ..., number of stages 1 - 13, 50 Hz, n = 2900 rpm

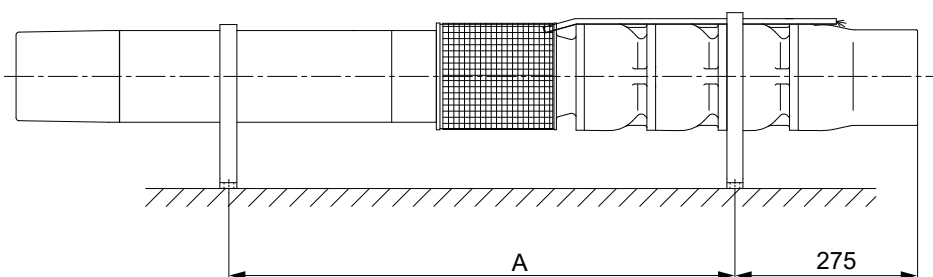


Operating range

$Q_{\min} = 10 \text{ m}^3/\text{h}$
 $Q_{\max}$ = end of stage curve

The characteristic curves do not take into account the head loss caused by the lift check valve.

1. Refer to the corresponding loss curve to determine and take into account the head loss caused by the lift check valve. (⇒ Fig. 4)



Dimensions of UPA S 200 - 52 / ... [mm]

Connection types

Standard pump end = G5

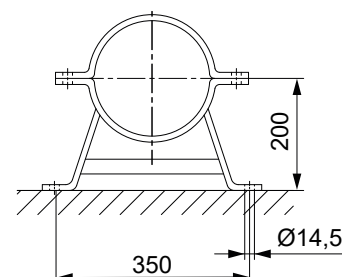
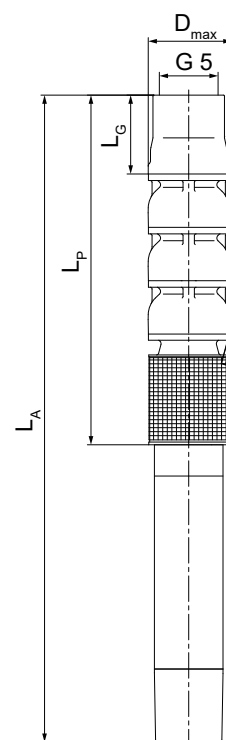
Alternative pump ends:

- G3, G4
- DN 80, DN 100, DN 125
- NPT5-8²⁾

i On versions with an alternative pump end, dimensions $D_{\max}$, L_A and L_P differ from those with the standard pump end.

$D_{\max}$ for version with alternative pump end:

- G3 / G4: 238 mm
- DN 80 / PN10, PN16: 238 mm
- DN 80 / PN25, PN40: 238 mm
- DN 100 / PN10, PN16: 238 mm
- DN 100 / PN25, PN40: 250 mm
- DN 125 / PN10, PN16: 262 mm
- DN 125 / PN25, PN40: 277 mm
- DN 125 / PN63: 300 mm



3400.55/02-EN

²⁾ All dimensions are identical to those of the standard pump end G5.

Table 8: Dimensions, weights and installation type depending on the motor [mm], 50 Hz

UPA S 200 - 52 / ...	A	L _P ³⁾	L _A ³⁾	L _G ³⁾	D _{max} ³⁾		Total weight	Type of installation	
								Vertical	Horizontal ²⁾
					DOL	Y - Δ	Material variant 1.4408 / 1.4517		
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
1 + UMA 150 5/21	566	501	1180	170	203	207	77	✗	✗
2 + UMA 150 13/21	755	625	1434	170	203	207	100	✗	✗
3 + UMA 150 18/21	924	749	1648	170	203	207	119	✗	✗
4 + UMA 150 22/21	1093	873	1862	170	203	207	137	✗	✗
5 + UMA 150 30/21	1319	997	2191	170	203	207	168	✗	✗
6 + UMA 150 37/22	-	1121	2395	170	207	207	185	✗	-
6 + UMA 200 37/21	1459	1164	2304	170	208	208	228	✗	✗
7 + UMA 200 45/21	1628	1288	2518	170	208	208	253	✗	✗
8 + UMA 200 45/21	1752	1412	2642	170	208	208	263	✗	✗
9 + UMA 200 55/21	-	1536	2876	170	208	208	293	✗	-
10 + UMA 200 55/21	-	1660	3000	170	208	208	303	✗	-
11 + UMA 200 65/21	-	1784	3254	170	207	207	335	✗	-
12 + UMA 200 75/21	-	1908	3468	170	207	207	361	✗	-
13 + UMA 200 75/21	-	2032	3592	170	207	207	371	✗	-
11 + UMA 250 85/21	-	1824	3243	170	238	238	424	✗	-
12 + UMA 250 85/21	-	1948	3367	170	238	238	434	✗	-
13 + UMA 250 85/21	-	2072	3491	170	238	238	444	✗	-

i On versions with alternative pump end DN 125 the dimensions for L_P and L_A are identical to those of the version with standard pump end G5.

i On versions with alternative pump ends G3 / G4 / DN 80 / DN 100 the dimensions for L_P and L_A differ as follows:

- L_P* = L_P + 87 mm
- L_A* = L_A + 87 mm

Table 9: Technical data, 50 Hz

UPA S 200 - 52 / ...	Pump	Motor					Motor lead	
	Head Q = 0 m ³ /h	Rated power	Max. fluid temperature v ≥ 0.5 m/s (0.2 m/s) T _{max}	Rated current	Efficiency	Power factor	Number x cross-section of cores ⁵⁾	
							Key:	
							▪ 3/4 x = 1 x 3-core + 1 x 4-core, flat, offset by 90° ▪ 4 x = 1 x 4-core, flat	
	H ₀	P _N	T _{max}	I _N	η _{IM}	cos φ	DOL	Y - Δ
	[m]	[kW]	[°C]	[A]	[%]		[mm ²]	[mm ²]
1 + UMA 150 5/21	28,0	4,5	44 (41)	11,6	76,0	0,73	4 x 2,5	3/4 x 2,5
2 + UMA 150 13/21	56,1	8,9	43 (39)	23,7	81,0	0,67	4 x 2,5	3/4 x 2,5
3 + UMA 150 18/21	84,1	13,4	42 (34)	33,7	82,0	0,70	4 x 4	3/4 x 2,5
4 + UMA 150 22/21	112,1	17,9	40 (35)	42,5	83,0	0,73	4 x 4	3/4 x 2,5
5 + UMA 150 30/21	140,2	22,3	43 (38)	55,3	84,5	0,69	4 x 6	3/4 x 4
6 + UMA 150 37/22	168,2	26,8	53 (49)	65,5	84,3	0,70	3/4 x 4 ⁶⁾	3/4 x 4
6 + UMA 200 37/21	168,2	26,8	41 (37)	57,8	85,8	0,78	3/4 x 6 ⁷⁾	3/4 x 6
7 + UMA 200 45/21	196,2	31,2	42 (37)	67,6	86,6	0,77	3/4 x 6 ⁷⁾	3/4 x 6
8 + UMA 200 45/21	224,2	35,7	39 (34)	75,4	85,5	0,80	3/4 x 6 ⁷⁾	3/4 x 6
9 + UMA 200 55/21	252,3	40,2	41 (36)	85,3	87,2	0,78	3/4 x 6 ⁷⁾	3/4 x 6
10 + UMA 200 55/21	280,3	44,6	38 (33)	92,2	86,3	0,81	3/4 x 6 ⁷⁾	3/4 x 6
11 + UMA 200 65/21	308,3	49,1	40 (35)	103,9	87,4	0,78	3/4 x 10 ⁷⁾	3/4 x 10
12 + UMA 200 75/21	336,4	53,6	39 (34)	117,3	87,9	0,75	3/4 x 10 ⁷⁾	3/4 x 10
13 + UMA 200 75/21	364,4	58,0	37 (32)	124,7	87,2	0,77	3/4 x 10 ⁷⁾	3/4 x 10

³⁾ Dimension indicated refers to version with standard pump end G5.

⁴⁾ Available in wear-resistant version or material variant D only

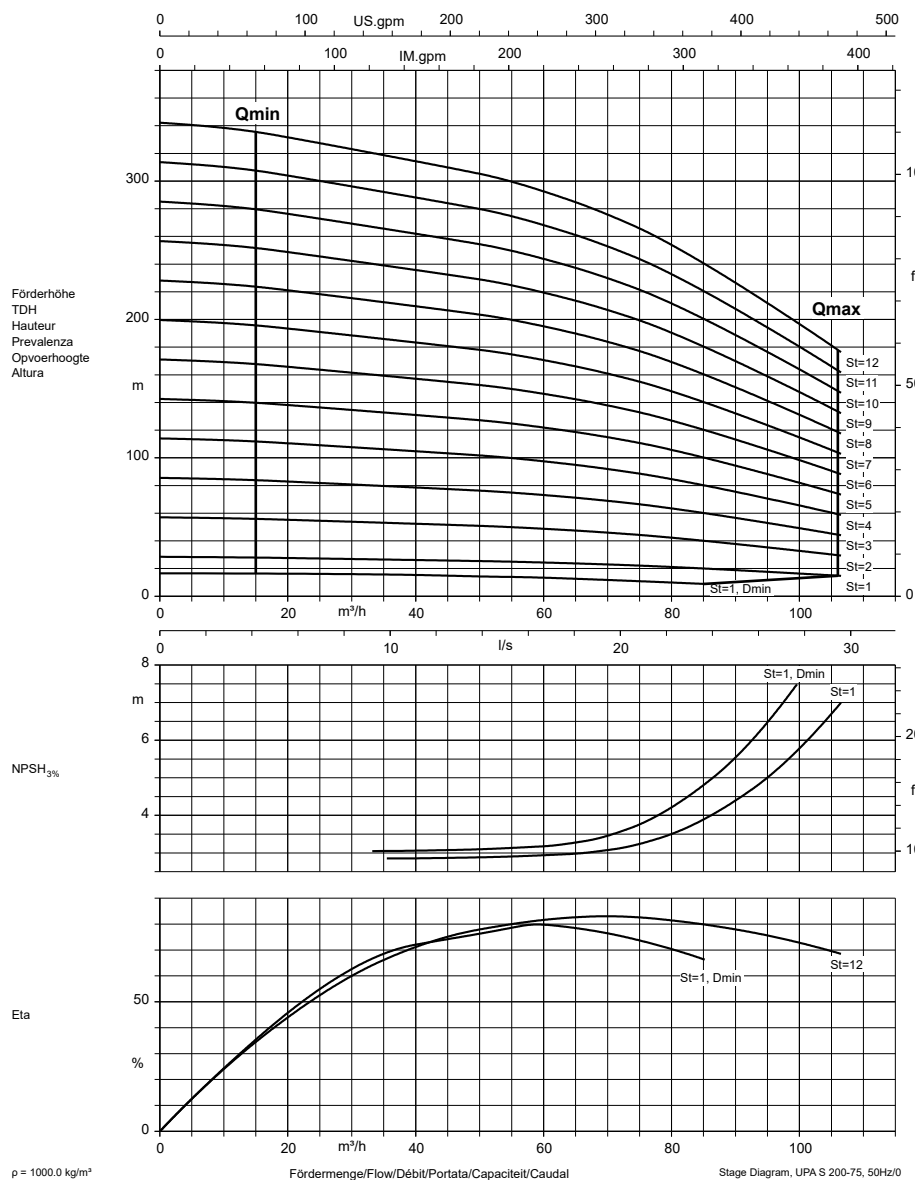
⁵⁾ Designed for submerged use, 400 V, ≤ +30 °C

⁶⁾ Parallel cables

⁷⁾ Delta configuration in cable connector with extension cable or in control cabinet

UPA S 200 - 52 / ...	Pump	Motor					Motor lead	
	Head $Q = 0 \text{ m}^3/\text{h}$	Rated power	Max. fluid temperature $v \geq 0.5 \text{ m/s (0.2 m/s)}$	Rated current	Efficiency	Power factor	Number x cross-section of cores ⁵⁾	
	H_0	P_N	$T_{\max}$	I_N	η_{IM}	$\cos \varphi$	Key:	
	[m]	[kW]	[°C]	[A]	[%]		DOL [mm ²]	Y - Δ [mm ²]
11 + UMA 250 85/21	308,3	49,1	42 (38)	104,4	88,2	0,77	$3/4 \times 10^{(7)}$	$3/4 \times 16$
12 + UMA 250 85/21	336,4	53,6	41 (36)	110,7	88,4	0,79	$3/4 \times 10^{(7)}$	$3/4 \times 16$
13 + UMA 250 85/21	364,4	58,0	40 (34)	118,7	88,2	0,80	$3/4 \times 10^{(7)}$	$3/4 \times 16$

UPA S 200 - 75 / ..., number of stages 1 - 12, 50 Hz, n = 2900 rpm



Connection types

Standard pump end = G5

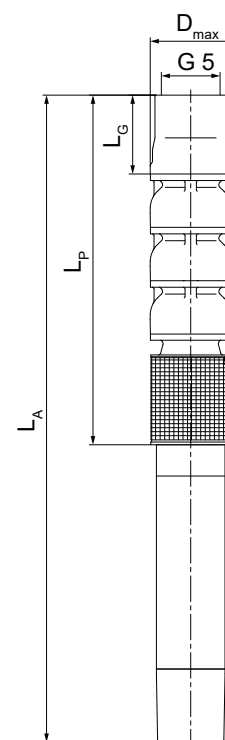
Alternative pump ends:

- G3, G4
- DN 80, DN 100, DN 125
- NPT5-8⁸⁾

i On versions with an alternative pump end, dimensions $D_{\max}$, L_A and L_P differ from those with the standard pump end.

$D_{\max}$ for version with alternative pump end:

- G3 / G4: 238 mm
- DN 80 / PN10, PN16: 238 mm
- DN 80 / PN25, PN40: 238 mm
- DN 100 / PN10, PN16: 238 mm
- DN 100 / PN25, PN40: 250 mm
- DN 125 / PN10, PN16: 262 mm
- DN 125 / PN25, PN40: 277 mm
- DN 125 / PN63: 300 mm



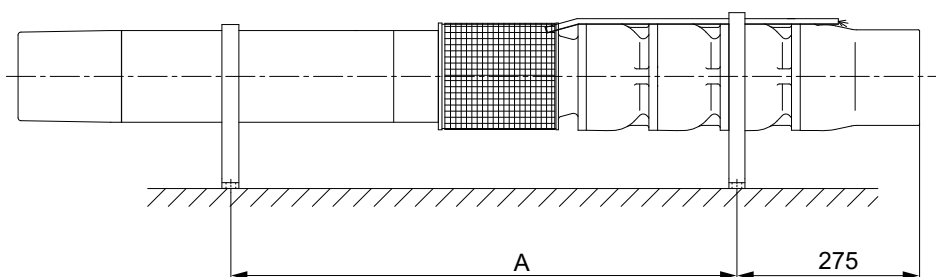
Operating range

$Q_{\min} = 15 \text{ m}^3/\text{h}$

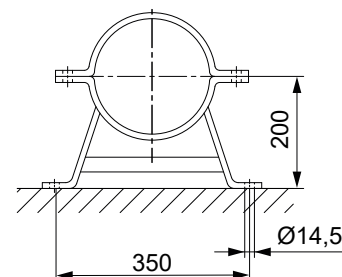
$Q_{\max}$ = end of stage curve

The characteristic curves do not take into account the head loss caused by the lift check valve.

1. Refer to the corresponding loss curve to determine and take into account the head loss caused by the lift check valve. (⇒ Fig. 5)



Dimensions of UPA S 200 - 75 / ... [mm]



⁸ All dimensions are identical to those of the standard pump end G5.

Table 10: Dimensions, weights and installation type depending on the motor [mm], 50 Hz

UPA S 200 - 75 / ...	A	L _p ⁹⁾	L _A ⁹⁾	L _G ⁹⁾	D _{max} ⁹⁾		Total weight	Type of installation	
								Vertical ¹⁰⁾	Horizontal ¹⁰⁾
					DOL	Y - Δ	Material variant 1.4408 / 1.4517		
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
1 + UMA 150 7/21	579	504	1203	170	203	207	79	✗	✗
2 + UMA 150 13/21	761	631	1440	170	203	207	99	✗	✗
3 + UMA 150 22/21	978	758	1747	170	203	207	127	✗	✗
4 + UMA 150 26/21	1157	885	1979	170	203	207	147	✗	✗
5 + UMA 150 37/22	-	1012	2286	170	207	207	174	✗	-
5 + UMA 200 37/21	1350	1055	2195	170	208	208	216	✗	✗
6 + UMA 200 45/21	1522	1182	2412	170	208	208	242	✗	✗
7 + UMA 200 45/21	1649	1309	2539	170	208	208	251	✗	✗
8 + UMA 200 55/21	1831	1436	2776	170	208	208	281	✗	✗
9 + UMA 200 55/21	-	1563	2903	170	208	208	290	✗	-
10 + UMA 200 65/21	-	1690	3160	170	207	207	323	✗	-
11 + UMA 200 75/21	-	1817	3377	170	207	207	348	✗	-
12 + UMA 200 90/21	-	1944	3684	170	206	206	390	✗	-
10 + UMA 250 85/21	-	1730	3149	170	238	238	412	✗	-
11 + UMA 250 85/21	-	1857	3276	170	238	238	421	✗	-
12 + UMA 250 85/21	-	1984	3403	170	238	238	431	✗	-

i On versions with alternative pump end DN 125 the dimensions for L_p and L_A are identical to those of the version with standard pump end G5.

i On versions with alternative pump ends G3 / G4 / DN 80 / DN 100 the dimensions for L_p and L_A differ as follows:

- L_p* = L_p + 87 mm
- L_A* = L_A + 87 mm

Table 11: Technical data, 50 Hz

UPA S 200 - 75 / ...	Pump	Motor					Motor lead	
	Head Q = 0 m ³ /h	Rated power	Max. fluid temperature v ≥ 0.5 m/s (0.2 m/s)	Rated current	Efficiency	Power factor	Number x cross-section of cores ¹¹⁾	
							Key:	
							▪ 3/4 x = 1 x 3-core + 1 x 4-core, offset by 90° ▪ 4 x = 1 x 4-core, flat	
	H ₀	P _N	T _{max}	I _N	η _{IM}	cos φ	DOL	Y - Δ
	[m]	[kW]	[°C]	[A]	[%]		[mm ²]	[mm ²]
1 + UMA 150 7/21	28,5	5,3	41 (37)	14,1	77,7	0,70	4 x 2.5	3/4 x 2.5
2 + UMA 150 13/21	57,0	10,6	40 (36)	26,3	79,9	0,73	4 x 2.5	3/4 x 2.5
3 + UMA 150 22/21	85,6	16,0	42 (38)	39,9	83,7	0,69	4 x 4	3/4 x 2.5
4 + UMA 150 26/21	114,1	21,3	42 (37)	49,5	83,9	0,74	4 x 6	3/4 x 4
5 + UMA 150 37/22	142,6	26,6	53 (49)	65,0	84,3	0,70	3/4 x 4 ¹²⁾	3/4 x 4
5 + UMA 200 37/21	142,6	26,6	41 (38)	57,4	85,8	0,78	3/4 x 6 ¹³⁾	3/4 x 6
6 + UMA 200 45/21	171,1	31,9	41 (37)	68,4	86,4	0,78	3/4 x 6 ¹³⁾	3/4 x 6
7 + UMA 200 45/21	199,6	37,2	38 (33)	77,9	85,2	0,81	3/4 x 6 ¹³⁾	3/4 x 6
8 + UMA 200 55/21	228,1	42,6	39 (34)	88,6	86,7	0,80	3/4 x 6 ¹³⁾	3/4 x 6
9 + UMA 200 55/21	256,7	47,9	37 (31)	98,1	85,9	0,82	3/4 x 6 ¹³⁾	3/4 x 6
10 + UMA 200 65/21	285,2	53,2	38 (33)	110,6	86,7	0,80	3/4 x 10 ¹³⁾	3/4 x 10
11 + UMA 200 75/21	313,7	58,5	37 (31)	125,9	87,2	0,77	3/4 x 10 ¹³⁾	3/4 x 10
12 + UMA 200 90/21	342,2	63,8	39 (34)	140,8	88,4	0,74	3/4 x 16 ¹³⁾	3/4 x 16

⁹⁾ Dimension indicated refers to version with standard pump end G5.

¹⁰⁾ Available in wear-resistant version or material variant D only

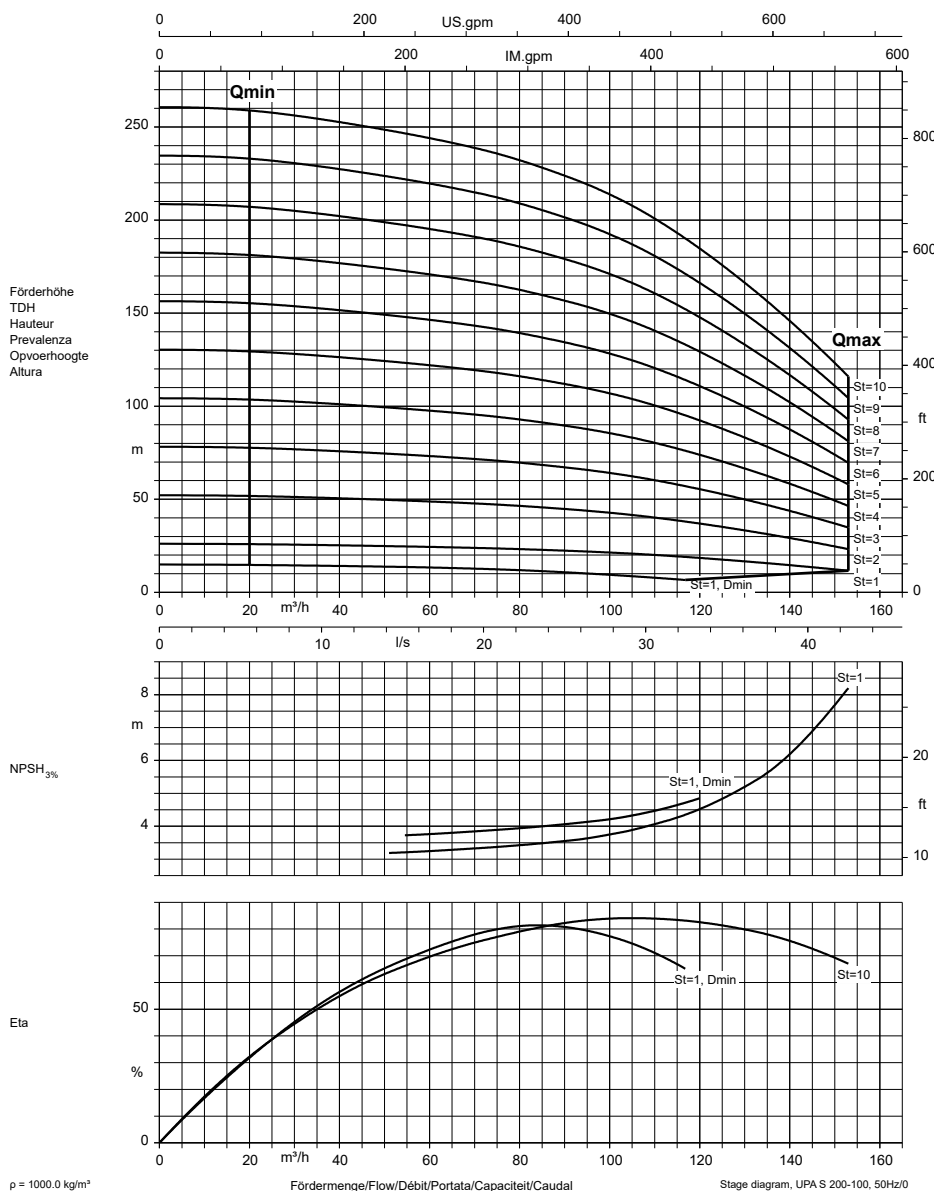
¹¹⁾ Designed for submerged use, 400 V, ≤ +30 °C

¹²⁾ Parallel cables

¹³⁾ Delta configuration in cable connector with extension cable or in control cabinet

UPA S 200 - 75 / ...	Pump	Motor					Motor lead	
	Head $Q = 0 \text{ m}^3/\text{h}$	Rated power	Max. fluid temperature $v \geq 0.5 \text{ m/s (0.2 m/s)}$	Rated current	Efficiency	Power factor	Number x cross-section of cores ¹⁾	
	H_0	P_N	T_{max}	I_N	η_M	$\cos \varphi$	Key:	
	[m]	[kW]	[°C]	[A]	[%]		3/4 x = 1 x 3-core + 1 x 4-core, offset by 90° 4 x = 1 x 4-core, flat	
							DOL [mm ²]	Y - Δ [mm ²]
10 + UMA 250 85/21	285,2	53,2	41 (36)	111,4	88,4	0,78	3/4 x 10 ¹³⁾	3/4 x 16
11 + UMA 250 85/21	313,7	58,5	39 (34)	119,7	88,2	0,80	3/4 x 10 ¹³⁾	3/4 x 16
12 + UMA 250 85/21	342,2	63,8	38 (32)	128,4	87,5	0,82	3/4 x 10 ¹³⁾	3/4 x 16

UPA S 200 - 100 / ..., number of stages 1 - 10, 50 Hz, $n = 2900$ rpm



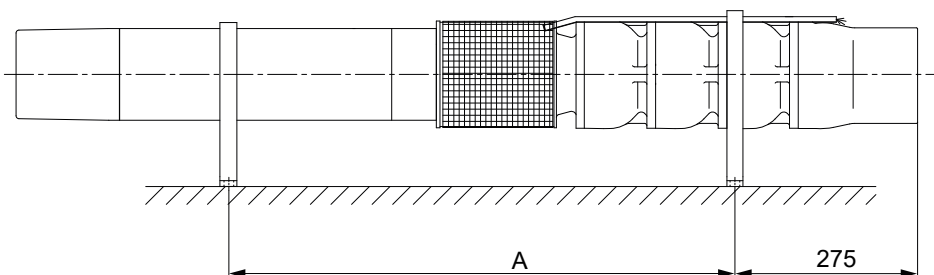
Operating range

$Q_{min} = 20 \text{ m}^3/\text{h}$

Q_{max} = end of stage curve

The characteristic curves do not take into account the head loss caused by the lift check valve.

1. Refer to the corresponding loss curve to determine and take into account the head loss caused by the lift check valve. (⇒ Fig. 6)



Dimensions of UPA S 200 - 100 / ... [mm]

Connection types

Standard pump end = G5

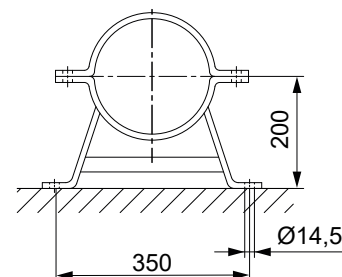
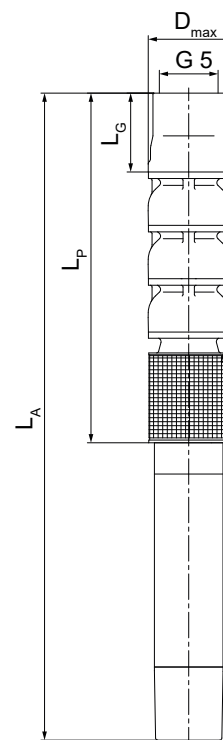
Alternative pump ends:

- G3, G4
- DN 80, DN 100, DN 125
- NPT5-8¹⁴⁾

i On versions with an alternative pump end, dimensions D_{max} , L_A and L_P differ from those with the standard pump end.

D_{max} for version with alternative pump end:

- G3 / G4: 238 mm
- DN 80 / PN10, PN16: 238 mm
- DN 80 / PN25, PN40: 238 mm
- DN 100 / PN10, PN16: 238 mm
- DN 100 / PN25, PN40: 250 mm
- DN 125 / PN10, PN16: 262 mm
- DN 125 / PN25, PN40: 277 mm
- DN 125 / PN63: 300 mm



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¹⁴ All dimensions are identical to those of the standard pump end G5.

Table 12: Dimensions, weights and installation type depending on the motor [mm], 50 Hz

UPA S 200 - 100 / ...	A	L _p ¹⁵⁾	L _A ¹⁵⁾	L _G ¹⁵⁾	D _{max} ¹⁵⁾		Total weight	Type of installation	
					DOL	Y - Δ		Material variant 1.4408 / 1.4517	Vertical ¹⁵⁾
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
1 + UMA 150 9/21	602	512	1241	170	203	207	81	✗	✗
2 + UMA 150 18/21	822	647	1546	170	203	207	108	✗	✗
3 + UMA 150 26/21	1054	782	1876	170	203	207	138	✗	✗
4 + UMA 150 37/22	-	917	2191	170	207	207	165	✗	-
4 + UMA 200 37/21	1255	960	2100	170	208	208	207	✗	✗
5 + UMA 200 45/21	1435	1095	2325	170	208	208	233	✗	✗
6 + UMA 200 55/21	1625	1230	2570	170	208	208	263	✗	✗
7 + UMA 200 55/21	1760	1365	2705	170	208	208	273	✗	✗
8 + UMA 200 65/21	1960	1500	2970	170	207	207	306	✗	✗
9 + UMA 200 75/21	-	1635	3195	170	207	207	332	✗	-
10 + UMA 200 90/21	-	1770	3510	170	206	206	373	✗	-
10 + UMA 250 85/21	-	1810	3229	170	238	238	415	✗	-

i On versions with alternative pump end DN 125 the dimensions for L_p and L_A are identical to those of the version with standard pump end G5.

i On versions with alternative pump ends G3 / G4 / DN 80 / DN 100 the dimensions for L_p and L_A differ as follows:

- L_p* = L_p + 87 mm
- L_A* = L_A + 87 mm

Table 13: Technical data, 50 Hz

UPA S 200 - 100 / ...	Pump	Motor					Motor lead	
	Head Q = 0 m³/h	Rated power	Max. fluid temperature v ≥ 0.5 m/s (0.2 m/s)	Rated current	Efficiency	Power factor	Number x cross-section of cores ¹⁷⁾	
							Key:	
	H ₀	P _N	T _{max}	I _N	η _M	cos φ	▪ 3/4 x = 1 x 3-core + 1 x 4-core, offset by 90° ▪ 4 x = 1 x 4-core, flat	
	[m]	[kW]	[°C]	[A]	[%]		DOL	Y - Δ
							[mm²]	[mm²]
1 + UMA 150 9/21	26,1	7,0	42 (38)	17,7	79,0	0,72	4 x 2.5	3/4 x 2.5
2 + UMA 150 18/21	52,1	14,0	42 (35)	34,9	82,4	0,70	4 x 4	3/4 x 2.5
3 + UMA 150 26/21	78,2	21,0	42 (37)	49,0	84,5	0,73	4 x 6	3/4 x 4
4 + UMA 150 37/22	104,3	28,0	52 (48)	67,5	83,9	0,71	3/4 x 4 ¹⁸⁾	3/4 x 4
4 + UMA 200 37/21	104,3	28,0	41 (36)	59,7	85,4	0,79	3/4 x 6 ¹⁹⁾	3/4 x 6
5 + UMA 200 45/21	130,3	35,0	39 (34)	73,8	85,7	0,80	3/4 x 6 ¹⁹⁾	3/4 x 6
6 + UMA 200 55/21	156,4	42,0	40 (35)	87,9	86,8	0,79	3/4 x 6 ¹⁹⁾	3/4 x 6
7 + UMA 200 55/21	182,5	49,0	36 (30)	99,9	85,8	0,82	3/4 x 6 ¹⁹⁾	3/4 x 6
8 + UMA 200 65/21	208,6	56,0	37 (31)	115,2	86,4	0,81	3/4 x 10 ¹⁹⁾	3/4 x 10
9 + UMA 200 75/21	234,6	63,0	35 (29)	133,1	86,7	0,79	3/4 x 10 ¹⁹⁾	3/4 x 10
10 + UMA 200 90/21	260,7	70,0	37 (32)	149,6	87,7	0,77	3/4 x 16 ¹⁹⁾	3/4 x 16
10 + UMA 250 85/21	260,7	70,0	35 (29)	139,5	86,7	0,83	3/4 x 10 ¹⁹⁾	3/4 x 16

¹⁵⁾ Dimension indicated refers to version with standard pump end G5.

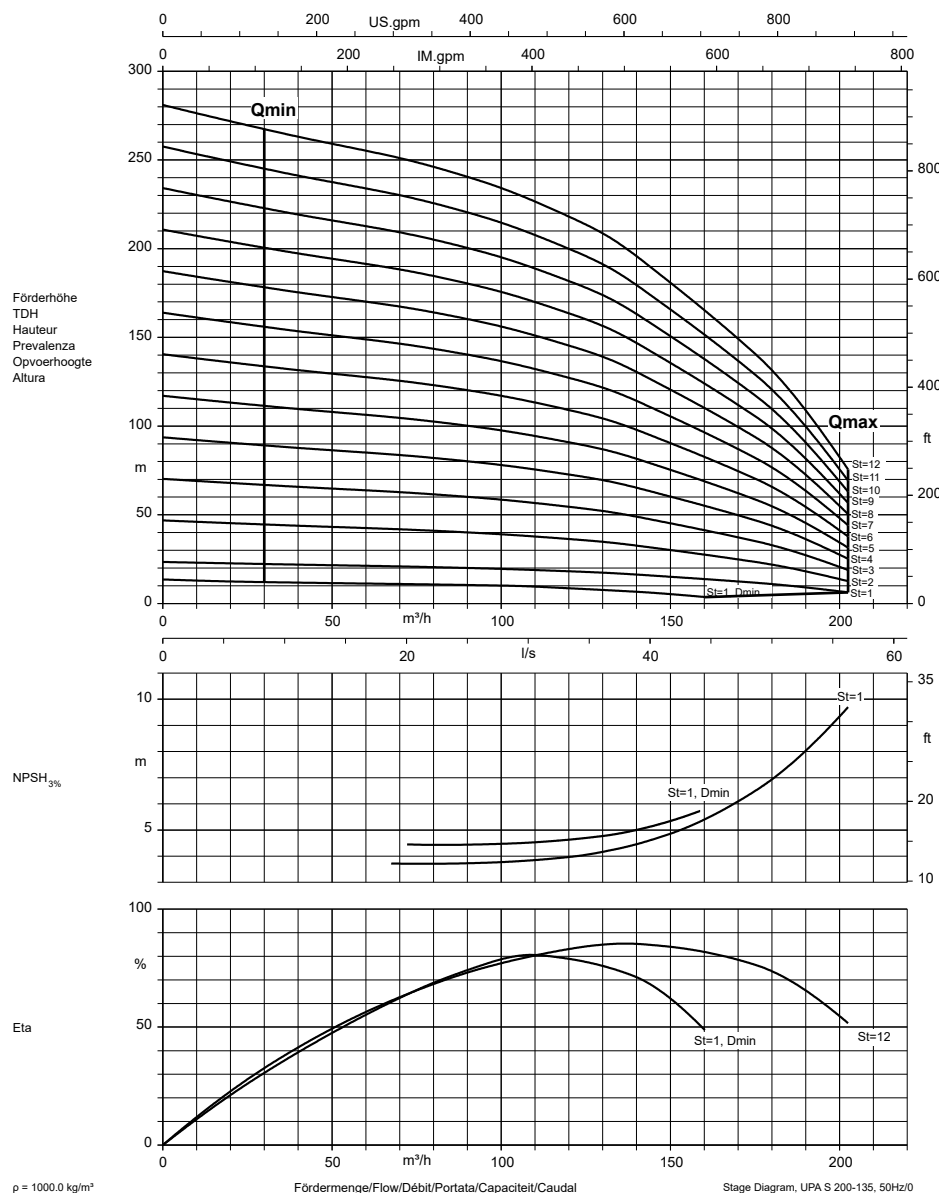
¹⁶⁾ Available in wear-resistant version or material variant D only

¹⁷⁾ Designed for submerged use, 400 V, ≤ +30 °C

¹⁸⁾ Parallel cables

¹⁹⁾ Delta configuration in cable connector with extension cable or in control cabinet

UPA S 200 - 135 / ..., number of stages 1 - 12, 50 Hz, n = 2900 rpm

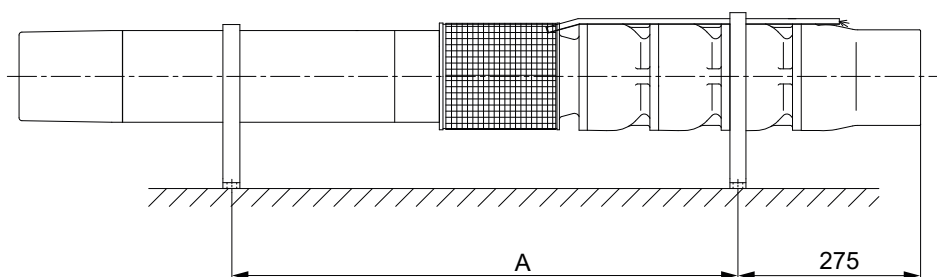


Operating range

$Q_{min} = 30 \text{ m}^3/\text{h}$
 $Q_{max} = \text{end of stage curve}$

The characteristic curves do not take into account the head loss caused by the lift check valve.

1. Refer to the corresponding loss curve to determine and take into account the head loss caused by the lift check valve. (⇒ Fig. 7)



Dimensions of UPA S 200 - 135 / ... [mm]

Connection types

Standard pump end = G5

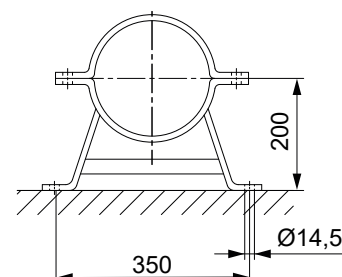
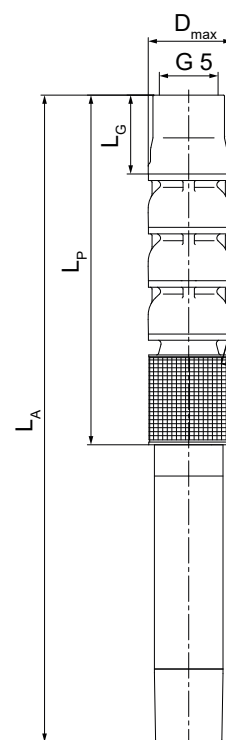
Alternative pump ends:

- G3, G4
- DN 80, DN 100, DN 125
- NPT5-8²⁰⁾

i On versions with an alternative pump end, dimensions D_{max} , L_A and L_P differ from those with the standard pump end.

D_{max} for version with alternative pump end:

- G3 / G4: 238 mm
- DN 80 / PN10, PN16: 238 mm
- DN 80 / PN25, PN40: 238 mm
- DN 100 / PN10, PN16: 238 mm
- DN 100 / PN25, PN40: 250 mm
- DN 125 / PN10, PN16: 262 mm
- DN 125 / PN25, PN40: 277 mm
- DN 125 / PN63: 300 mm



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²⁰⁾ All dimensions are identical to those of the standard pump end G5.

Table 14: Dimensions, weights and installation type depending on the motor [mm], 50 Hz

UPA S 200 - 135 / ...	A	L _p ²¹⁾	L _A ²¹⁾	L _G ²¹⁾	D _{max} ²¹⁾		Total weight	Type of installation	
					DOL	Y - Δ	Material variant 1.4408 / 1.4517	Vertical ²²⁾	Horizontal ²²⁾
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
1 + UMA 150 9/21	607	517	1246	170	203	207	80	✗	✗
2 + UMA 150 18/21	832	657	1556	170	203	207	107	✗	✗
3 + UMA 150 26/21	1069	797	1891	170	203	207	136	✗	✗
4 + UMA 150 37/22	-	937	2211	170	207	207	162	✗	-
4 + UMA 200 37/21	1275	980	2120	170	208	208	205	✗	✗
5 + UMA 200 45/21	1460	1120	2350	170	208	208	230	✗	✗
6 + UMA 200 55/21	1655	1260	2600	170	208	208	260	✗	✗
7 + UMA 200 55/21	1795	1400	2740	170	208	208	269	✗	✗
8 + UMA 200 65/21	2000	1540	3010	170	207	207	301	✗	✗
9 + UMA 200 75/21	-	1680	3240	170	207	207	327	✗	-
10 + UMA 200 90/21	-	1820	3560	170	206	206	368	✗	-
11 + UMA 200 90/21	-	1960	3700	170	206	206	377	✗	-
10 + UMA 250 85/21	-	1860	3279	170	238	238	409	✗	-
11 + UMA 250 85/21	-	2000	3419	170	238	238	418	✗	-
12 + UMA 250 110/21	-	2140	3669	170	238	238	465	✗	-

i On versions with alternative pump end DN 125 the dimensions for L_p and L_A are identical to those of the version with standard pump end G5.

i On versions with alternative pump ends G3 / G4 / DN 80 / DN 100 the dimensions for L_p and L_A differ as follows:

- L_p* = L_p + 87 mm
- L_A* = L_A + 87 mm

Table 15: Technical data, 50 Hz

UPA S 200 - 135 / ...	Pump		Motor				Motor lead	
	Head Q = 0 m ³ /h	Rated power	Max. fluid temperature v ≥ 0.5 m/s (0.2 m/s)	Rated current	Efficiency	Power factor	Number x cross-section of cores ²³⁾	
							Key:	
							• 3/4 x = 1 x 3-core + 1 x 4-core, offset by 90° • 4 x = 1 x 4-core, flat	
	H ₀	P _N	T _{max}	I _N	η _{IM}	cos φ	DOL	Y - Δ
	[m]	[kW]	[°C]	[A]	[%]		[mm ²]	[mm ²]
1 + UMA 150 9/21	26,1	7,3	42 (38)	18,2	78,7	0,73	4 x 2.5	3/4 x 2.5
2 + UMA 150 18/21	52,1	14,6	40 (34)	35,8	82,1	0,72	4 x 4	3/4 x 2.5
3 + UMA 150 26/21	78,2	21,8	41 (36)	50,4	84,2	0,74	4 x 6	3/4 x 4
4 + UMA 150 37/22	104,3	29,1	52 (47)	69,4	83,6	0,73	3/4 x 4 ²⁴⁾	3/4 x 4
4 + UMA 200 37/21	104,3	29,1	40 (35)	61,7	85,1	0,80	3/4 x 6 ²⁵⁾	3/4 x 6
5 + UMA 200 45/21	130,3	36,4	39 (34)	76,3	85,4	0,81	3/4 x 6 ²⁵⁾	3/4 x 6
6 + UMA 200 55/21	156,4	43,7	39 (34)	90,8	86,5	0,80	3/4 x 6 ²⁵⁾	3/4 x 6
7 + UMA 200 55/21	182,5	51,0	35 (29)	103,1	85,9	0,83	3/4 x 6 ²⁵⁾	3/4 x 6
8 + UMA 200 65/21	208,6	58,2	36 (30)	118,8	86,3	0,82	3/4 x 10 ²⁵⁾	3/4 x 10
9 + UMA 200 75/21	234,6	65,5	34 (27)	137,2	86,5	0,80	3/4 x 10 ²⁵⁾	3/4 x 10
10 + UMA 200 90/21	260,7	72,8	36 (31)	154,3	87,4	0,78	3/4 x 16 ²⁵⁾	3/4 x 16
11 + UMA 200 90/21	286,8	80,1	34 (27)	166,1	86,9	0,80	3/4 x 16 ²⁵⁾	3/4 x 16
10 + UMA 250 85/21	260,7	72,8	34 (27)	144,7	86,4	0,84	3/4 x 10 ²⁵⁾	3/4 x 16
11 + UMA 250 85/21	286,8	80,1	31 (23)	156,7	86,5	0,85	3/4 x 10 ²⁵⁾	3/4 x 16
12 + UMA 250 110/21	312,8	87,4	35 (28)	180,8	88,0	0,79	3/4 x 16 ²⁵⁾	3/4 x 25

²¹⁾ Dimension indicated refers to version with standard pump end G5.

²²⁾ Available in wear-resistant version or material variant D only

²³⁾ Designed for submerged use, 400 V, ≤ +30 °C

²⁴⁾ Parallel cables

²⁵⁾ Delta configuration in cable connector with extension cable or in control cabinet

Technical data, 60 Hz

- Tolerance to ISO 9906 Cl. 2B
- Threaded end to DIN ISO 228, Part 1
- Flanged end to DIN EN 1092

Information on characteristic curves

The characteristic curves shown are intended to allow pre-selection. Refer to the quotation for the precise selection data.

Selection chart UPA S 200, 60 Hz, $n = 3500$ rpm

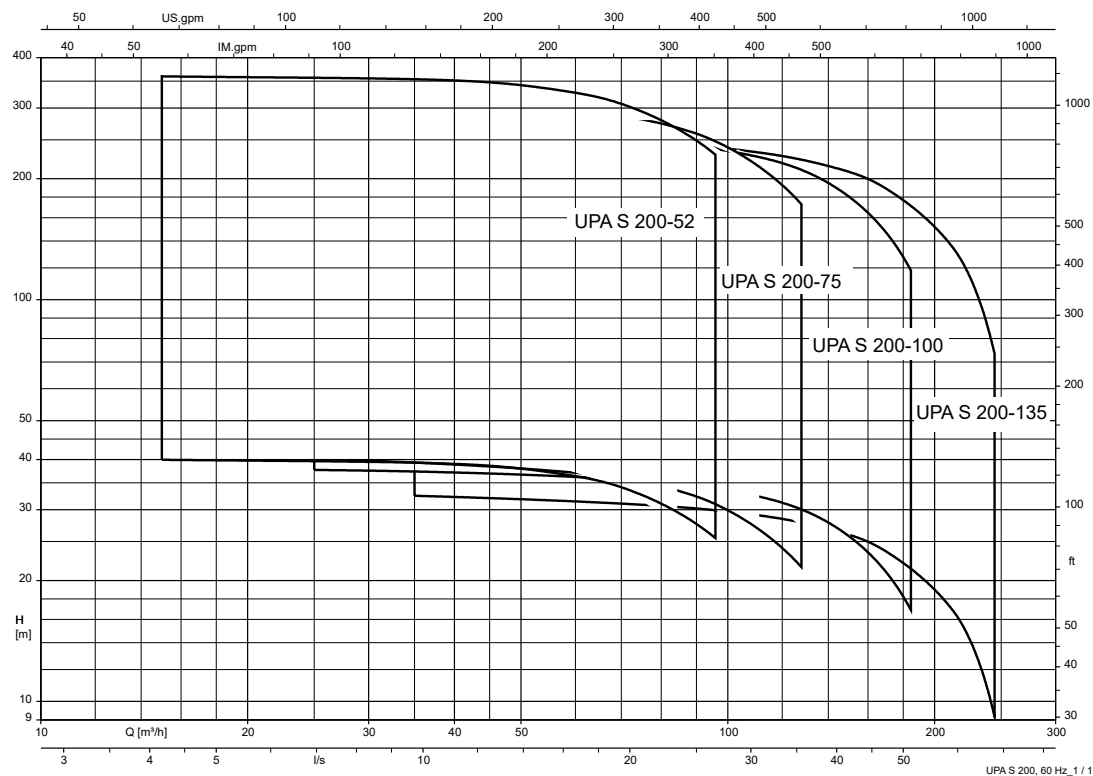
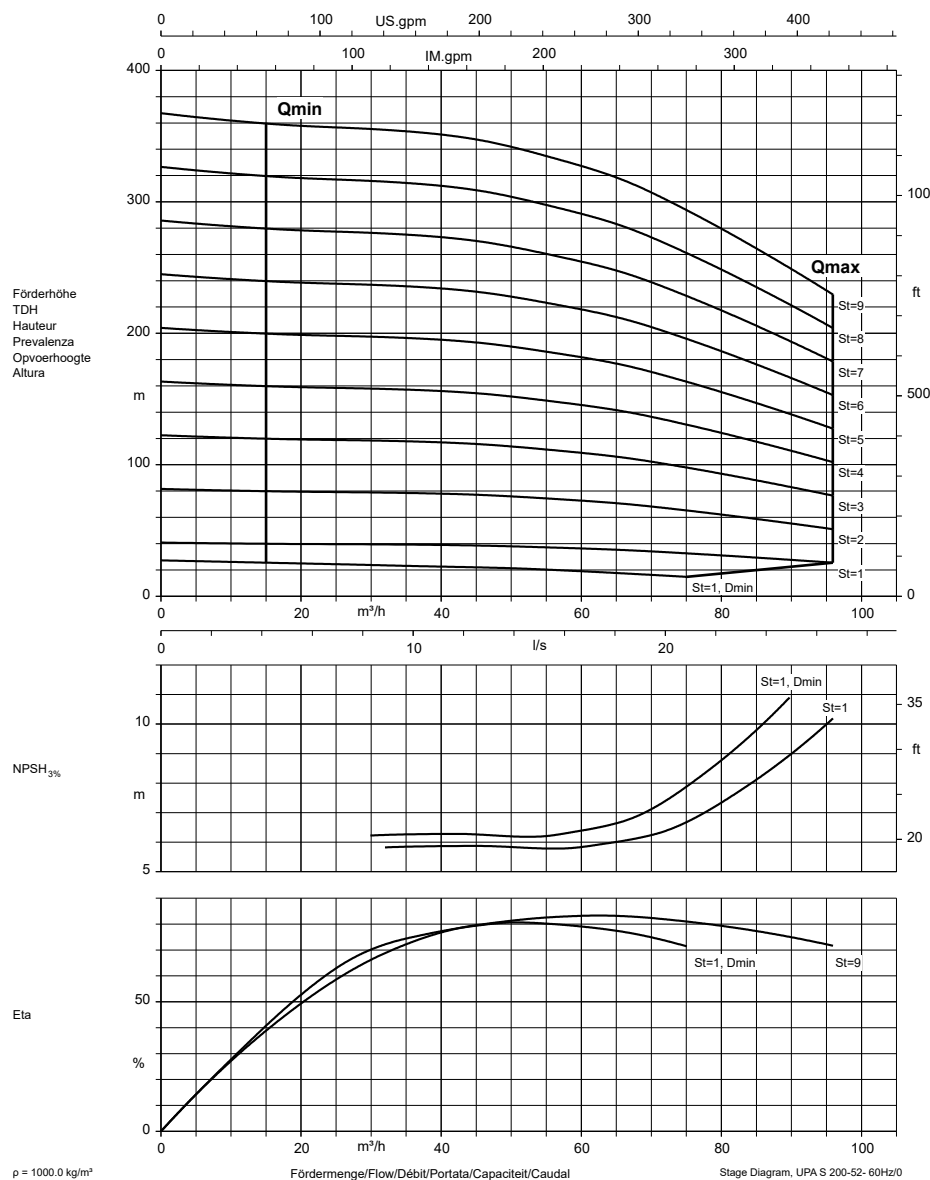


Fig. 2: Selection chart UPA S 200, 60 Hz

UPA S 200 - 52 / ..., number of stages 1 - 9, 60 Hz, n = 3500 rpm

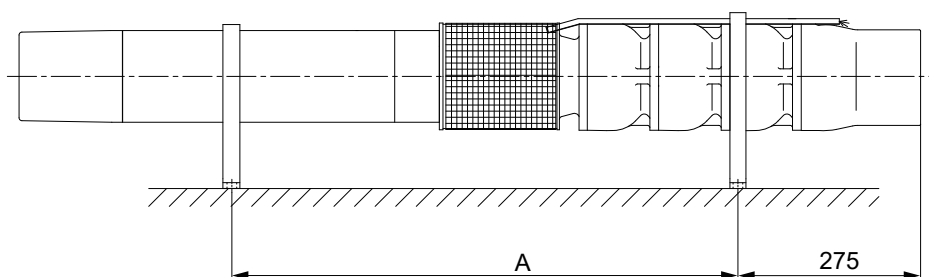


Operating range

$Q_{\min} = 15 \text{ m}^3/\text{h}$
 $Q_{\max} = \text{end of stage curve}$

The characteristic curves do not take into account the head loss caused by the lift check valve.

1. Refer to the corresponding loss curve to determine and take into account the head loss caused by the lift check valve. (⇒ Fig. 4)



Dimensions of UPA S 200 - 52 / ... [mm]

Connection types

Standard pump end = G5

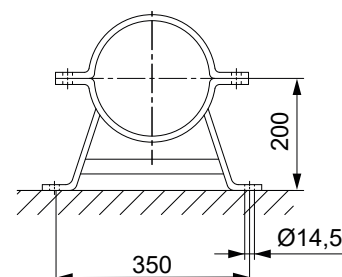
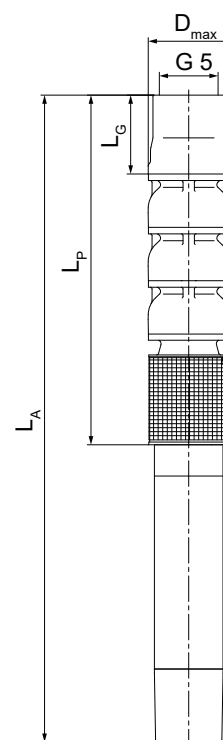
Alternative pump ends:

- G3, G4
- DN 80, DN 100, DN 125
- NPT5-8²⁶⁾

i On versions with an alternative pump end, dimensions $D_{\max}$, L_A and L_P differ from those with the standard pump end.

$D_{\max}$ for version with alternative pump end:

- G3 / G4: 238 mm
- DN 80 / PN10, PN16: 238 mm
- DN 80 / PN25, PN40: 238 mm
- DN 100 / PN10, PN16: 238 mm
- DN 100 / PN25, PN40: 250 mm
- DN 125 / PN10, PN16: 262 mm
- DN 125 / PN25, PN40: 277 mm
- DN 125 / PN63: 300 mm



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²⁶⁾ All dimensions are identical to those of the standard pump end G5.

Table 16: Dimensions, weights and installation type depending on the motor [mm], 60 Hz

UPA S 200 - 52 / ...	A	L _p ²⁷⁾	L _A ²⁷⁾	L _G ²⁷⁾	D _{max} ²⁷⁾		Total weight	Type of installation	
					DOL	Y - Δ	Material variant 1.4408 / 1.4517		
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	Vertical ²⁸⁾	Horizontal ²⁸⁾
1 + UMA 150 9/21	591	501	1230	170	203	207	82	✗	✗
2 + UMA 150 18/21	800	625	1524	170	203	207	109	✗	✗
3 + UMA 150 26/21	1021	749	1843	170	203	207	139	✗	✗
4 + UMA 150 37/22	-	873	2147	170	207	207	165	✗	-
4 + UMA 200 37/21	1211	916	2056	170	208	208	208	✗	✗
5 + UMA 200 45/21	1380	1040	2270	170	208	208	234	✗	✗
6 + UMA 200 55/21	-	1164	2504	170	208	208	264	✗	-
7 + UMA 200 65/21	-	1288	2758	170	208	207	296	✗	-
8 + UMA 200 75/21	-	1412	2972	170	207	207	322	✗	-
9 + UMA 200 75/21	-	1536	3096	170	207	207	332	✗	-

i On versions with alternative pump end DN 125 the dimensions for L_p and L_A are identical to those of the version with standard pump end G5.

i On versions with alternative pump ends G3 / G4 / DN 80 / DN 100 the dimensions for L_p and L_A differ as follows:

- L_p* = L_p + 87 mm
- L_A* = L_A + 87 mm

Table 17: Technical data, 60 Hz

UPA S 200 - 52 / ...	Pump	Motor					Motor lead	
	Head Q = 0 m³/h	Rated power	Max. fluid temperature v ≥ 0.5 m/s (0.2 m/s)	Rated current	Efficiency	Power factor	Number x cross-section of cores ²⁹⁾	
							Key:	
	H ₀	P _N	T _{max}	I _N	η _{IM}	cos φ	▪ 3/4 x = 1 x 3-core + 1 x 4-core, flat, offset by 90° ▪ 4 x = 1 x 4-core, flat	
	[m]	[kW]	[°C]	[A]	[%]		DOL	Y - Δ
							[mm²]	[mm²]
1 + UMA 150 9/21	40,8	7,5	41 (37)	16,6	79,0	0,72	4 x 2,5	3/4 x 2,5
2 + UMA 150 18/21	81,7	14,9	41 (36)	31,8	83,6	0,71	4 x 4	3/4 x 2,5
3 + UMA 150 26/21	122,5	22,4	42 (38)	45,1	85,8	0,73	4 x 6	3/4 x 4
4 + UMA 150 37/22	163,3	29,9	53 (48)	61,3	86,1	0,71	3/4 x 4 ³⁰⁾	3/4 x 4
4 + UMA 200 37/21	163,3	29,9	38 (30)	53,8	85,0	0,82	3/4 x 6 ³¹⁾	3/4 x 6
5 + UMA 200 45/21	204,1	37,4	37 (32)	66,1	85,9	0,83	3/4 x 6 ³¹⁾	3/4 x 6
6 + UMA 200 55/21	245,0	44,8	38 (32)	77,7	87,8	0,83	3/4 x 6 ³¹⁾	3/4 x 6
7 + UMA 200 65/21	285,8	52,3	38 (32)	91,7	88,0	0,81	3/4 x 6 ³¹⁾	3/4 x 10
8 + UMA 200 75/21	326,6	59,8	38 (30)	106,8	88,5	0,79	3/4 x 10 ³¹⁾	3/4 x 10
9 + UMA 200 75/21	367,5	67,3	34 (27)	117,1	88,0	0,82	3/4 x 10 ³¹⁾	3/4 x 10

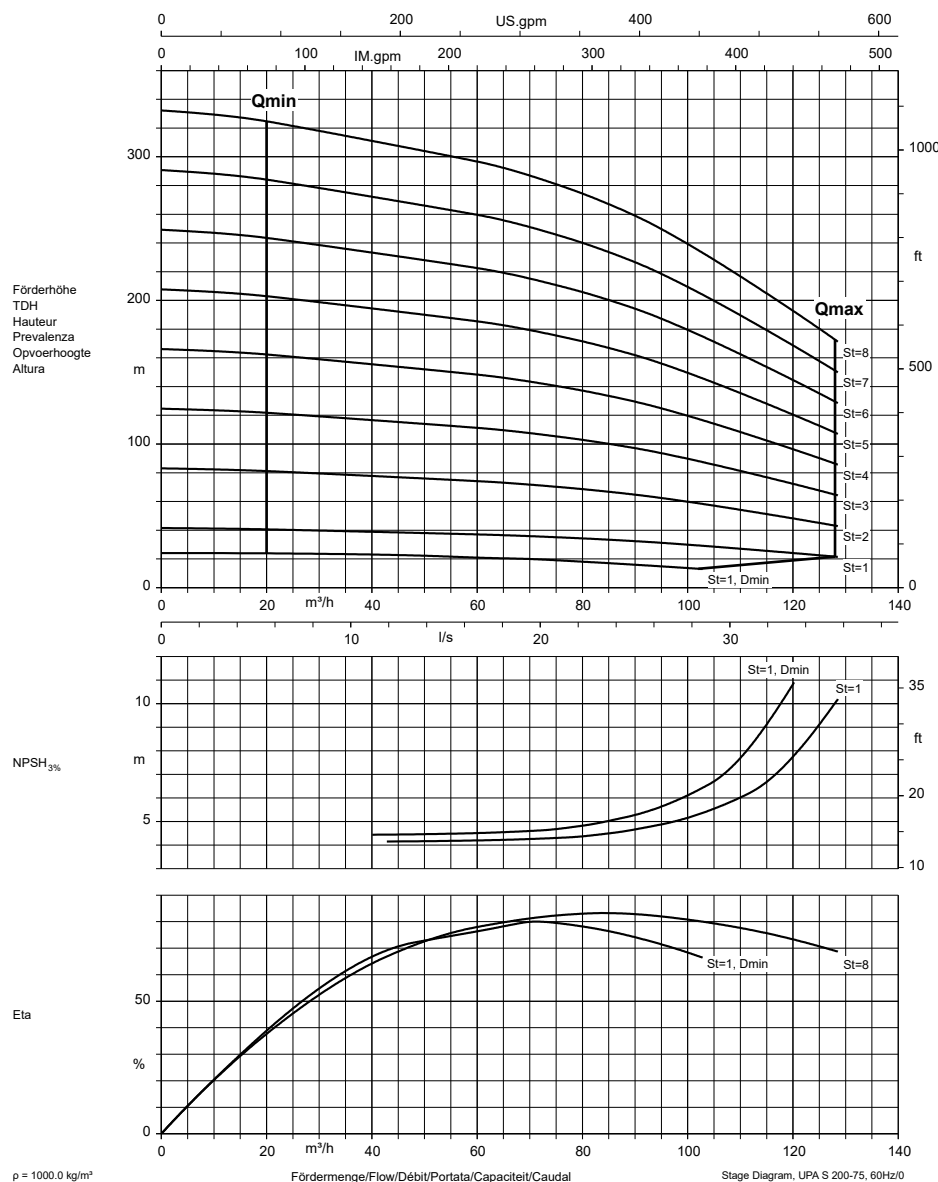
²⁷⁾ Dimension indicated refers to version with standard pump end G5.

²⁸⁾ Available in wear-resistant version or material variant D only

²⁹⁾ Designed for submerged use, 400 V, ≤ +30 °C

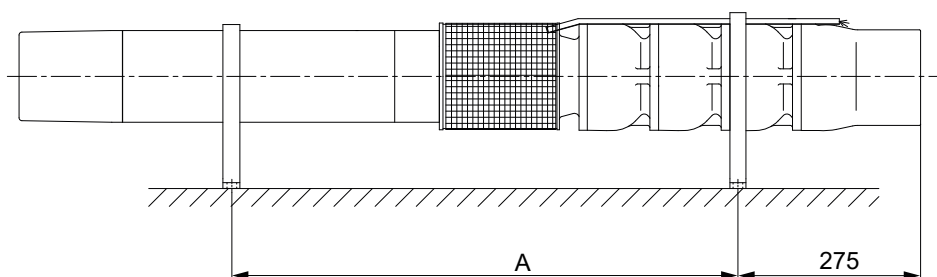
³⁰⁾ Parallel cables

³¹⁾ Delta configuration in cable connector with extension cable or in control cabinet

UPA S 200 - 75 / ..., number of stages 1 - 8, 60 Hz, n = 3500 rpm

Operating range
 $Q_{min} = 20 \text{ m}^3/\text{h}$
 $Q_{max} = \text{end of stage curve}$

The characteristic curves do not take into account the head loss caused by the lift check valve.

1. Refer to the corresponding loss curve to determine and take into account the head loss caused by the lift check valve. (⇒ Fig. 5)



Dimensions of UPA S 200 - 75 / ... [mm]

Connection types

Standard pump end = G5

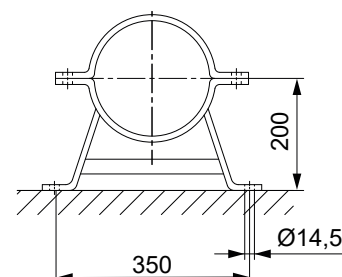
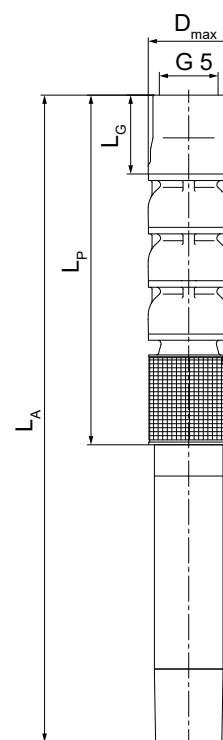
Alternative pump ends:

- G3, G4
- DN 80, DN 100, DN 125
- NPT5-8³²⁾

i On versions with an alternative pump end, dimensions D_{max} , L_A and L_P differ from those with the standard pump end.

D_{max} for version with alternative pump end:

- G3 / G4: 238 mm
- DN 80 / PN10, PN16: 238 mm
- DN 80 / PN25, PN40: 238 mm
- DN 100 / PN10, PN16: 238 mm
- DN 100 / PN25, PN40: 250 mm
- DN 125 / PN10, PN16: 262 mm
- DN 125 / PN25, PN40: 277 mm
- DN 125 / PN63: 300 mm



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³²⁾ All dimensions are identical to those of the standard pump end G5.

Table 18: Dimensions, weights and installation type depending on the motor [mm], 60 Hz

UPA S 200 - 75 / ...	A	L _p ³³⁾	L _A ³³⁾	L _G ³³⁾	D _{max} ³³⁾		Total weight	Type of installation	
					DOL	Y - Δ	Material variant 1.4408 / 1.4517		
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	Vertical ³⁴⁾	Horizontal ³⁴⁾
1 + UMA 150 9/21	594	504	1233	170	203	207	82	✗	✗
2 + UMA 150 18/21	806	631	1530	170	203	207	108	✗	✗
3 + UMA 150 30/21	1080	758	1952	170	203	207	148	✗	✗
3 + UMA 200 37/21	1096	801	1941	170	208	208	197	✗	✗
4 + UMA 200 45/21	1268	928	2158	170	208	208	222	✗	✗
5 + UMA 200 55/21	1450	1055	2395	170	208	208	252	✗	✗
6 + UMA 200 65/21	-	1182	2652	170	208	207	285	✗	-
7 + UMA 200 75/21	-	1309	2869	170	207	207	310	✗	-
8 + UMA 200 90/21	-	1436	3176	170	206	206	352	✗	-
7 + UMA 250 85/21	-	1349	2768	170	238	238	383	✗	-
8 + UMA 250 85/21	-	1476	2895	170	238	238	393	✗	-

i On versions with alternative pump end DN 125 the dimensions for L_p and L_A are identical to those of the version with standard pump end G5.

i On versions with alternative pump ends G3 / G4 / DN 80 / DN 100 the dimensions for L_p and L_A differ as follows:

- L_p* = L_p + 87 mm
- L_A* = L_A + 87 mm

Table 19: Technical data, 60 Hz

UPA S 200 - 75 / ...	Pump	Motor					Motor lead	
	Head Q = 0 m ³ /h	Rated power	Max. fluid temperature v ≥ 0.5 m/s (0.2 m/s)	Rated current	Efficiency	Power factor	Number x cross-section of cores ³⁵⁾	
	H ₀	P _N	T _{max}	I _N	η _M	cos φ	DOL	Y - Δ
	[m]	[kW]	[°C]	[A]	[%]		[mm ²]	[mm ²]
1 + UMA 150 9/21	41,5	9,4	36 (31)	19,4	77,8	0,78	4 × 2,5	3/4 × 2,5
2 + UMA 150 18/21	83,1	18,7	35 (28)	37,1	82,1	0,77	4 × 4	3/4 × 2,5
3 + UMA 150 30/21	124,6	28,1	41 (35)	55,8	85,2	0,74	4 × 6	3/4 × 4
3 + UMA 200 37/21	124,6	28,1	39 (34)	51,2	84,9	0,81	3/4 × 6 ³⁶⁾	3/4 × 6
4 + UMA 200 45/21	166,2	37,4	37 (32)	66,2	85,9	0,83	3/4 × 6 ³⁶⁾	3/4 × 6
5 + UMA 200 55/21	207,7	46,8	37 (31)	80,4	87,7	0,83	3/4 × 6 ³⁶⁾	3/4 × 6
6 + UMA 200 65/21	249,2	56,1	37 (31)	97,3	87,7	0,83	3/4 × 6 ³⁶⁾	3/4 × 10
7 + UMA 200 75/21	290,8	65,5	35 (28)	114,5	88,2	0,81	3/4 × 10 ³⁶⁾	3/4 × 10
8 + UMA 200 90/21	332,3	74,8	36 (30)	133,9	88,4	0,79	3/4 × 16 ³⁶⁾	3/4 × 16
7 + UMA 250 85/21	290,8	65,5	38 (32)	113,7	88,2	0,82	3/4 × 10 ³⁶⁾	3/4 × 16
8 + UMA 250 85/21	332,3	74,8	39 (29)	127,9	87,7	0,84	3/4 × 10 ³⁶⁾	3/4 × 16

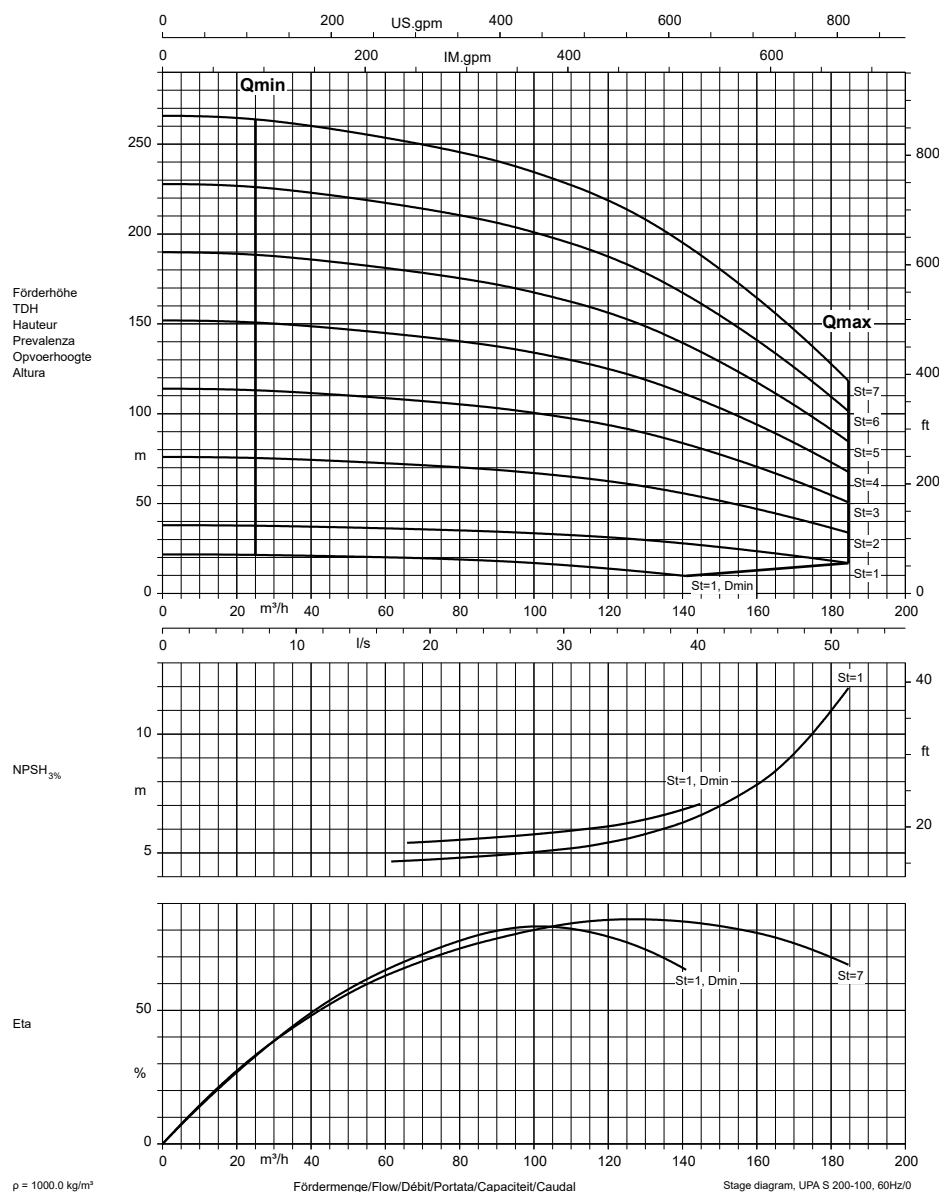
³³⁾ Dimension indicated refers to version with standard pump end G5.

³⁴⁾ Available in wear-resistant version or material variant D only

³⁵⁾ Designed for submerged use, 400 V, ≤ +30 °C

³⁶⁾ Delta configuration in cable connector with extension cable or in control cabinet

UPA S 200 - 100 / ..., number of stages 1 - 7, 60 Hz, $n = 3500$ rpm

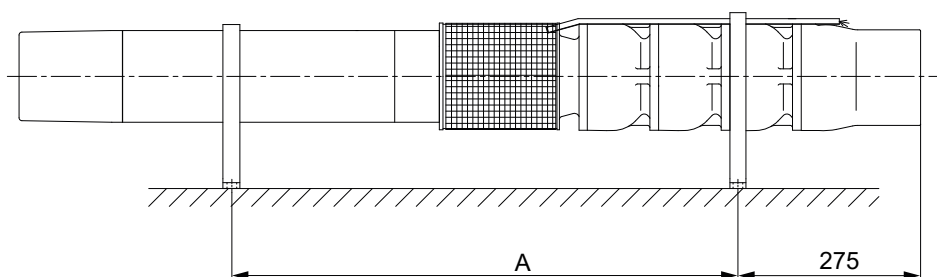


Operating range

$Q_{\min} = 25 \text{ m}^3/\text{h}$
 $Q_{\max} = \text{end of stage curve}$

The characteristic curves do not take into account the head loss caused by the lift check valve.

1. Refer to the corresponding loss curve to determine and take into account the head loss caused by the lift check valve. ($\Rightarrow$ Fig. 6)



Dimensions of UPA S 200 - 100 / ... [mm]

Connection types

Standard pump end = G5

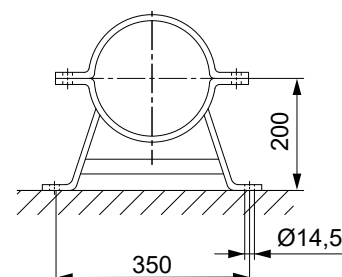
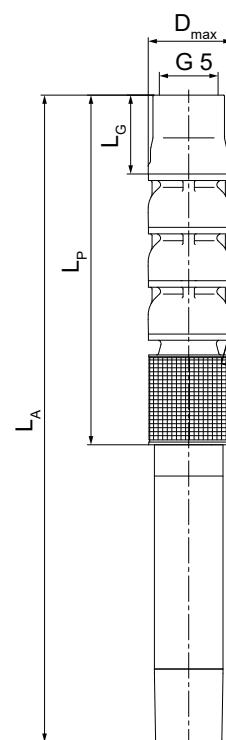
Alternative pump ends:

- G3, G4
- DN 80, DN 100, DN 125
- NPT5-8³⁷⁾

i On versions with an alternative pump end, dimensions $D_{\max}$, L_A and L_P differ from those with the standard pump end.

$D_{\max}$ for version with alternative pump end:

- G3 / G4: 238 mm
- DN 80 / PN10, PN16: 238 mm
- DN 80 / PN25, PN40: 238 mm
- DN 100 / PN10, PN16: 238 mm
- DN 100 / PN25, PN40: 250 mm
- DN 125 / PN10, PN16: 262 mm
- DN 125 / PN25, PN40: 277 mm
- DN 125 / PN63: 300 mm



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³⁷⁾ All dimensions are identical to those of the standard pump end G5.

Table 20: Dimensions, weights and installation type depending on the motor [mm], 60 Hz

UPA S 200 - 100 / ...	A	L _P ³⁸⁾	L _A ³⁸⁾	L _G ³⁸⁾	D _{max} ³⁸⁾		Total weight	Type of installation	
							Material variant 1.4408 / 1.4517	Vertical ³⁹⁾	Horizontal ³⁹⁾
					DOL	Y - Δ			
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]		
1 + UMA 150 13/21	642	512	1321	170	203	207	89	✗	✗
2 + UMA 150 26/21	919	647	1741	170	203	207	128	✗	✗
3 + UMA 150 37/22	-	782	2056	170	207	207	155	✗	-
3 + UMA 200 37/21	1120	825	1965	170	208	208	197	✗	✗
4 + UMA 200 45/21	1300	960	2190	170	208	208	223	✗	✗
5 + UMA 200 65/21	1555	1095	2565	170	208	207	276	✗	✗
6 + UMA 200 75/21	-	1230	2790	170	207	207	302	✗	-
7 + UMA 200 90/21	-	1365	3105	170	206	206	344	✗	-
7 + UMA 250 85/21	-	1405	2824	170	238	238	385	✗	-

i On versions with alternative pump end DN 125 the dimensions for L_P and L_A are identical to those of the version with standard pump end G5.

i On versions with alternative pump ends G3 / G4 / DN 80 / DN 100 the dimensions for L_P and L_A differ as follows:

- L_P* = L_P + 87 mm
- L_A* = L_A + 87 mm

Table 21: Technical data, 60 Hz

UPA S 200 - 100 / ...	Pump	Motor					Motor lead	
	Head Q = 0 m ³ /h	Rated power	Max. fluid temperature v ≥ 0.5 m/s (0.2 m/s) v ≥ 0.5 m/s (0.2 m/s)	Rated current	Efficiency	Power factor	Number x cross-section of cores ⁴⁰⁾	
							Key:	
	H ₀	P _N	T _{max}	I _N	η _M	cos φ	▪ 3/4 x = 1 x 3-core + 1 x 4-core, flat, offset by 90° ▪ 4 x = 1 x 4-core, flat	
	[m]	[kW]	[°C]	[A]	[%]		DOL	Y - Δ
							[mm ²]	[mm ²]
1 + UMA 150 13/21	38,0	12,3	39 (36)	25,4	81,7	0,74	4 x 2,5	3/4 x 2,5
2 + UMA 150 26/21	75,9	24,6	40 (36)	48,1	85,1	0,75	4 x 6	3/4 x 4
3 + UMA 150 37/22	113,9	36,9	49 (43)	71,5	84,0	0,77	3/4 x 4 ⁴¹⁾	3/4 x 4
3 + UMA 200 37/21	113,9	36,9	34 (27)	64,8	83,9	0,85	3/4 x 6 ⁴²⁾	3/4 x 6
4 + UMA 200 45/21	151,9	49,2	30 (22)	84,8	84,6	0,86	3/4 x 6 ⁴²⁾	3/4 x 6
5 + UMA 200 65/21	189,9	61,5	35 (28)	105,5	87,1	0,84	3/4 x 6 ⁴²⁾	3/4 x 10
6 + UMA 200 75/21	227,8	73,8	31 (24)	127,4	86,9	0,84	3/4 x 10 ⁴²⁾	3/4 x 10
7 + UMA 200 90/21	265,8	86,1	33 (25)	149,9	87,6	0,82	3/4 x 16 ⁴²⁾	3/4 x 16
7 + UMA 250 85/21	265,8	86,1	32 (23)	142,5	89,0	0,85	3/4 x 10 ⁴²⁾	3/4 x 16

³⁸⁾ Dimension indicated refers to version with standard pump end G5.

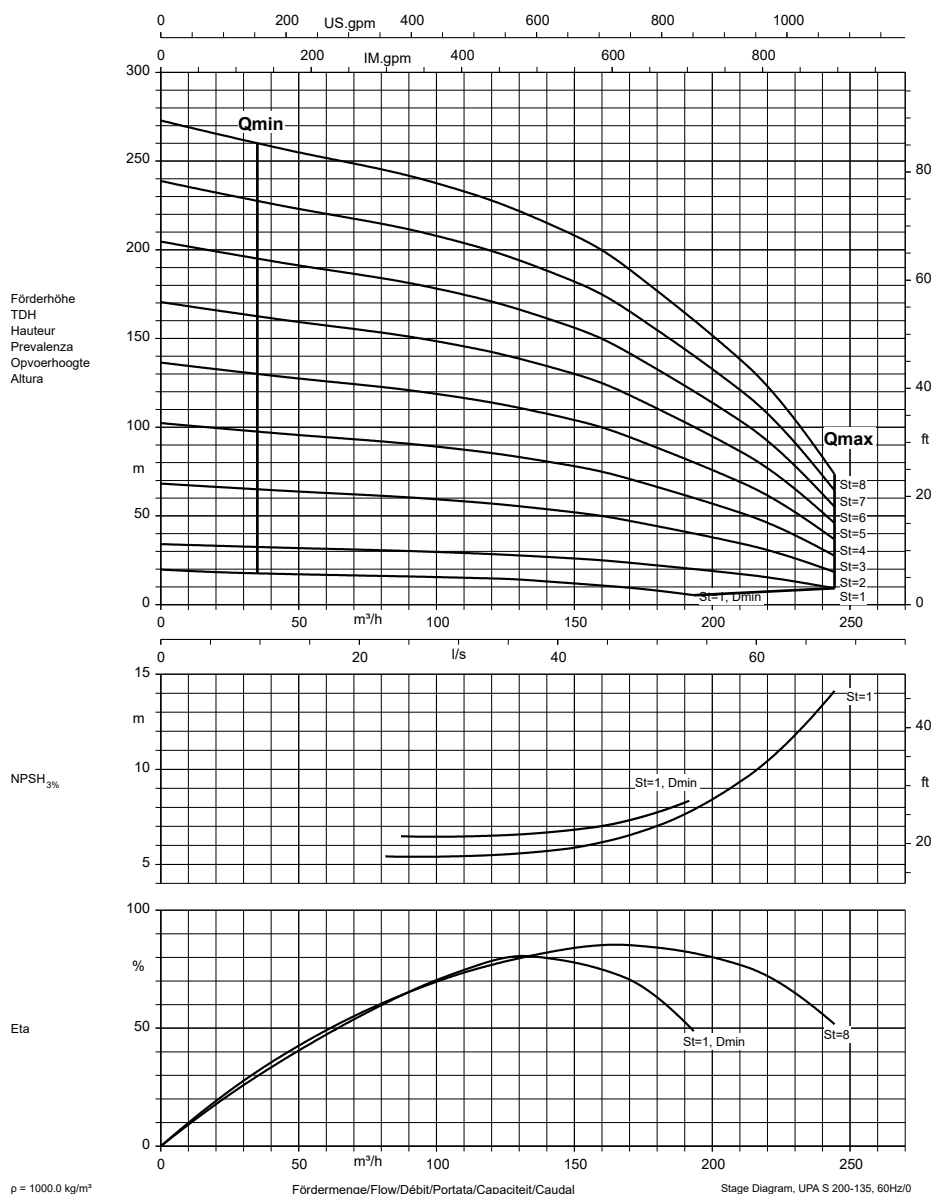
³⁹⁾ Available in wear-resistant version or material variant D only

⁴⁰⁾ Designed for submerged use, 400 V, ≤ +30 °C

⁴¹⁾ Parallel cables

⁴²⁾ Delta configuration in cable connector with extension cable or in control cabinet

UPA S 200 - 135 / ..., number of stages 1 - 8, 60 Hz, n = 3500 rpm

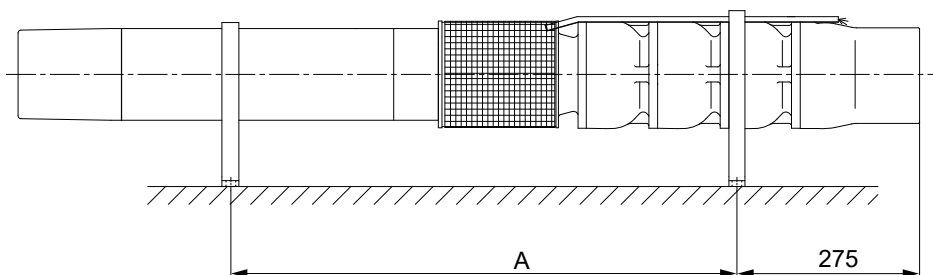


Operating range

$Q_{\min} = 35 \text{ m}^3/\text{h}$
 $Q_{\max} = \text{end of stage curve}$

The characteristic curves do not take into account the head loss caused by the lift check valve.

1. Refer to the corresponding loss curve to determine and take into account the head loss caused by the lift check valve. (⇒ Fig. 7)



Dimensions of UPA S 200 - 135 / ... [mm]

Connection types

Standard pump end = G5

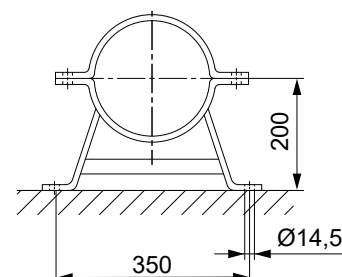
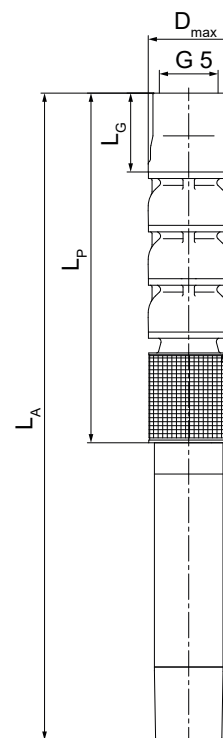
Alternative pump ends:

- G3, G4
- DN 80, DN 100, DN 125
- NPT5-8⁴³⁾

i On versions with an alternative pump end, dimensions $D_{\max}$, L_A and L_P differ from those with the standard pump end.

$D_{\max}$ for version with alternative pump end:

- G3 / G4: 238 mm
- DN 80 / PN10, PN16: 238 mm
- DN 80 / PN25, PN40: 238 mm
- DN 100 / PN10, PN16: 238 mm
- DN 100 / PN25, PN40: 250 mm
- DN 125 / PN10, PN16: 262 mm
- DN 125 / PN25, PN40: 277 mm
- DN 125 / PN63: 300 mm



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⁴³ All dimensions are identical to those of the standard pump end G5.

Table 22: Dimensions, weights and installation type depending on the motor [mm], 60 Hz

UPA S 200 - 135 / ...	A	L _P ⁴⁴⁾	L _A ⁴⁴⁾	L _G ⁴⁴⁾	D _{max} ⁴⁴⁾		Total weight	Type of installation	
					DOL	Y - Δ	Material variant 1.4408 / 1.4517		
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	Vertical ⁴⁵⁾	Horizontal ⁴⁵⁾
1 + UMA 150 13/21	647	517	1326	170	203	207	88	✗	✗
2 + UMA 150 26/21	929	657	1751	170	203	207	127	✗	✗
3 + UMA 150 37/22	-	797	2071	170	207	207	153	✗	-
3 + UMA 200 37/21	1135	840	1980	170	208	208	196	✗	✗
4 + UMA 200 45/21	1320	980	2210	170	208	208	221	✗	✗
5 + UMA 200 65/21	1580	1120	2590	170	208	207	273	✗	✗
6 + UMA 200 75/21	-	1260	2820	170	207	207	299	✗	-
7 + UMA 200 90/21	-	1400	3140	170	206	206	340	✗	-
8 + UMA 200 90/21	-	1540	3280	170	206	206	349	✗	-
6 + UMA 250 85/21	-	1300	2719	170	238	238	372	✗	-
7 + UMA 250 85/21	-	1440	2859	170	238	238	381	✗	-
8 + UMA 250 110/21	-	1580	3109	170	238	238	427	✗	-

i On versions with alternative pump end DN 125 the dimensions for L_P and L_A are identical to those of the version with standard pump end G5.

i On versions with alternative pump ends G3 / G4 / DN 80 / DN 100 the dimensions for L_P and L_A differ as follows:

- L_P* = L_P + 87 mm
- L_A* = L_A + 87 mm

Table 23: Technical data, 60 Hz

UPA S 200 - 135 / ...	Pump	Motor					Motor lead	
	Head Q = 0 m³/h	Rated power	Max. fluid temperature v ≥ 0.5 m/s (0.2 m/s)	Rated current	Efficiency	Power factor	Number x cross-section of cores ⁴⁶⁾	
							Key:	
	H ₀	P _N	T _{max}	I _N	η _M	cos φ	▪ 3/4 x = 1 x 3-core + 1 x 4-core, flat, offset by 90° ▪ 4 x = 1 x 4-core, flat	
	[m]	[kW]	[°C]	[A]	[%]		DOL	Y - Δ
							[mm²]	[mm²]
1 + UMA 150 13/21	34,1	12,8	38 (33)	26,1	81,5	0,76	4 x 2.5	3/4 x 2.5
2 + UMA 150 26/21	68,2	25,6	39 (34)	49,6	84,8	0,76	4 x 6	3/4 x 4
3 + UMA 150 37/22	102,3	38,4	47 (41)	73,6	83,7	0,78	3/4 x 4 ⁴⁷⁾	3/4 x 4
3 + UMA 200 37/21	102,3	38,4	33 (26)	67,2	83,7	0,86	3/4 x 6 ⁴⁸⁾	3/4 x 6
4 + UMA 200 45/21	136,5	51,2	29 (20)	87,8	84,6	0,86	3/4 x 6 ⁴⁸⁾	3/4 x 6
5 + UMA 200 65/21	170,6	64,0	34 (27)	109,3	86,9	0,85	3/4 x 6 ⁴⁸⁾	3/4 x 10
6 + UMA 200 75/21	204,7	76,8	30 (22)	131,9	86,7	0,84	3/4 x 10 ⁴⁸⁾	3/4 x 10
7 + UMA 200 90/21	238,8	89,6	31 (24)	155,0	87,3	0,83	3/4 x 16 ⁴⁸⁾	3/4 x 16
8 + UMA 200 90/21	272,9	102,4	27 (21)	172,7	87,2	0,85	3/4 x 16 ⁴⁸⁾	3/4 x 16
6 + UMA 250 85/21	204,7	76,8	35 (28)	127,5	90,0	0,84	3/4 x 10 ⁴⁸⁾	3/4 x 16
7 + UMA 250 85/21	238,8	89,6	30 (21)	148,0	88,8	0,86	3/4 x 10 ⁴⁸⁾	3/4 x 16
8 + UMA 250 110/21	272,9	102,4	33 (25)	178,6	88,2	0,82	3/4 x 16 ⁴⁸⁾	3/4 x 25

⁴⁴⁾ Dimension indicated refers to version with standard pump end G5.

⁴⁵⁾ Available in wear-resistant version or material variant D only

⁴⁶⁾ Designed for submerged use, 400 V, ≤ +30 °C

⁴⁷⁾ Parallel cables

⁴⁸⁾ Delta configuration in cable connector with extension cable or in control cabinet

Technical data, 100 Hz

Information on characteristic curves

The characteristic curves shown refer to pump sets driven by a UMA-S synchronous motor, $n = 3000$ rpm.

The characteristic curves shown are intended to allow pre-selection. Refer to the quotation for the precise selection data.

- Tolerance to ISO 9906 Cl. 2B
- Threaded end to DIN ISO 228, Part 1
- Flanged end to DIN EN 1092

Selection chart UPA S 200, 100 Hz, $n = 3000$ rpm

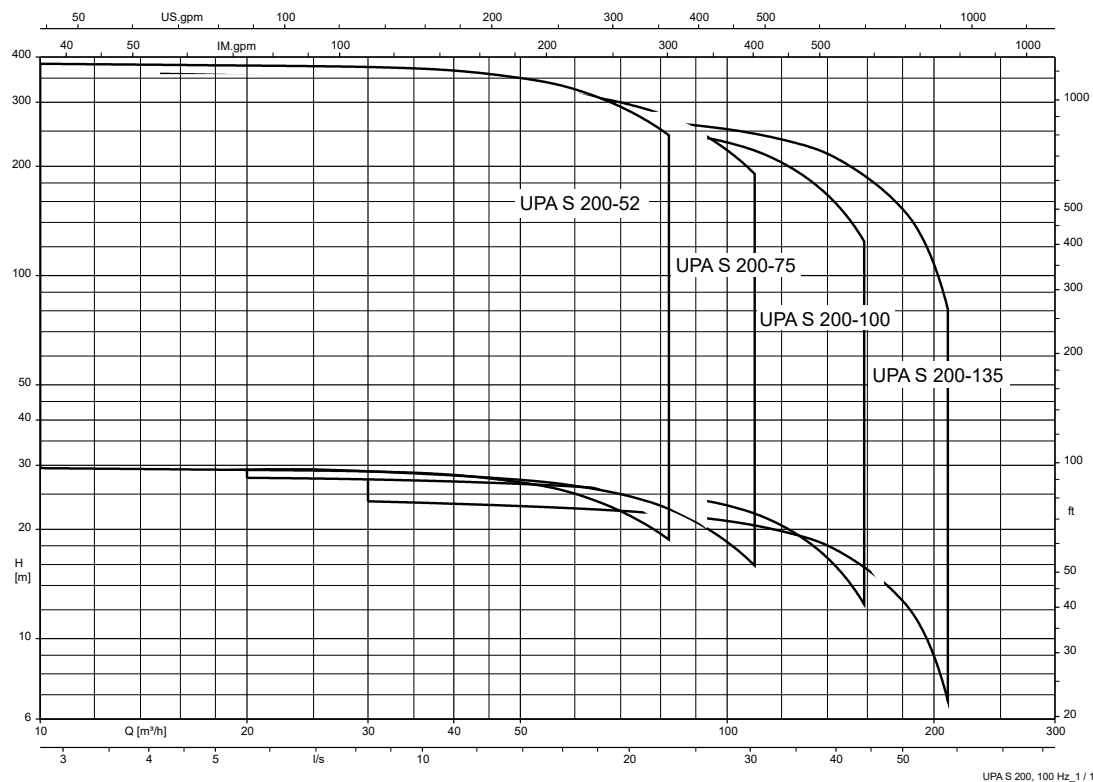
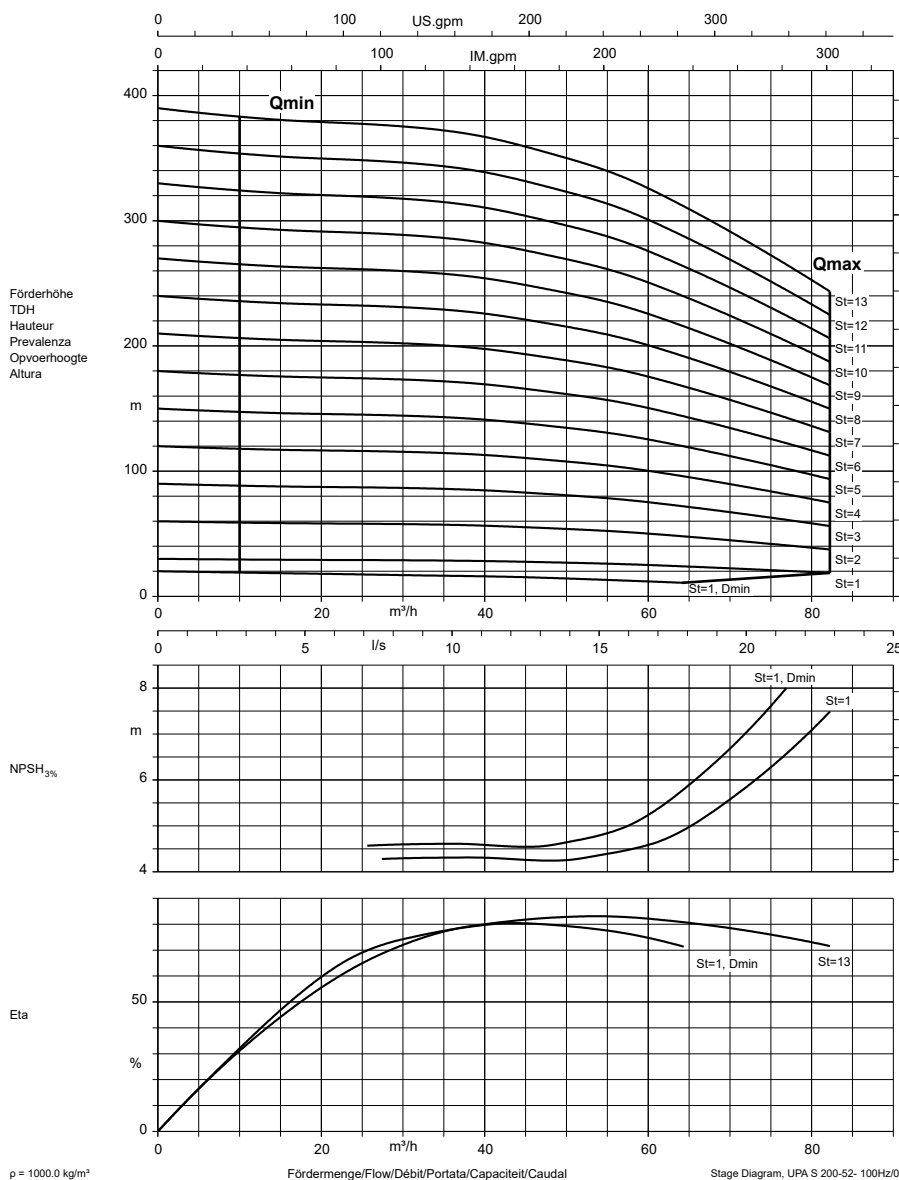


Fig. 3: Selection chart UPA S 200, 100 Hz

UPA S 200 - 52 / ..., number of stages 1 - 13, 100 Hz, $n = 3000$ rpm

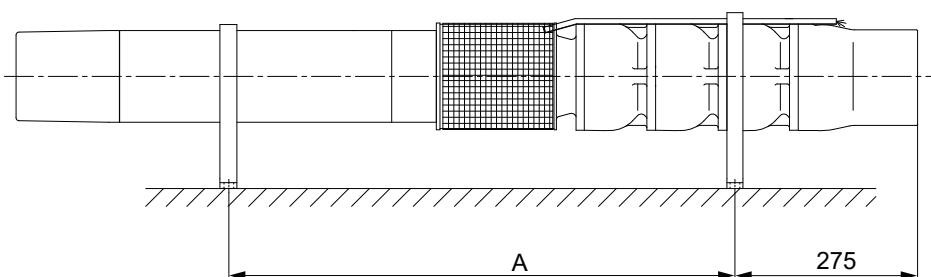


Operating range

$Q_{\min} = 10 \text{ m}^3/\text{h}$
 $Q_{\max}$ = end of stage curve

The characteristic curves do not take into account the head loss caused by the lift check valve.

1. Refer to the corresponding loss curve to determine and take into account the head loss caused by the lift check valve. (⇒ Fig. 4)



Dimensions of UPA S 200 - 52 / ... [mm]

Connection types

Standard pump end = G5

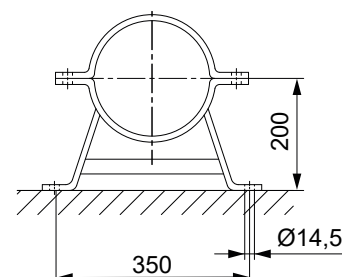
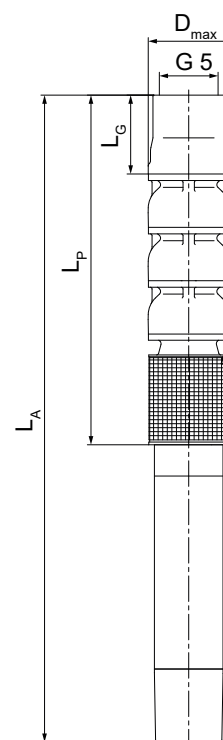
Alternative pump ends:

- G3, G4
- DN 80, DN 100, DN 125
- NPT5-8⁴⁹⁾

i On versions with an alternative pump end, dimensions $D_{\max}$, L_A and L_P differ from those with the standard pump end.

$D_{\max}$ for version with alternative pump end:

- G3 / G4: 238 mm
- DN 80 / PN10, PN16: 238 mm
- DN 80 / PN25, PN40: 238 mm
- DN 100 / PN10, PN16: 238 mm
- DN 100 / PN25, PN40: 250 mm
- DN 125 / PN10, PN16: 262 mm
- DN 125 / PN25, PN40: 277 mm
- DN 125 / PN63: 300 mm



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⁴⁹⁾ All dimensions are identical to those of the standard pump end G5.

Table 24: Dimensions, weights and installation type depending on the motor [mm], 100 Hz

UPA S 200 - 52 / ...	A	L _p ⁵⁰⁾	L _A ⁵⁰⁾	L _G ⁵⁰⁾	D _{max} ⁵⁰⁾		Total weight	Type of installation	
					VFD	VFD parallel		Vertical	Horizontal ⁵¹⁾
					[mm]	[mm]	Material variant 1.4408 / 1.4517 [kg]		
1 + UMA-S 150 7/42	554	501	1156	170	203	207	75	✗	✗
2 + UMA-S 150 18/42	755	625	1434	170	203	207	100	✗	✗
3 + UMA-S 150 18/42	879	749	1558	170	203	207	110	✗	✗
4 + UMA-S 150 37/42	1084	873	1844	170	203	207	135	✗	✗
5 + UMA-S 150 37/42	1208	997	1968	170	203	207	145	✗	✗
6 + UMA-S 150 37/42	1332	1121	2092	170	203	207	155	✗	✗
7 + UMA-S 200 75/42	1616	1288	2493	170	203	206	247	✗	✗
8 + UMA-S 200 75/42	1740	1412	2617	170	203	206	257	✗	✗
9 + UMA-S 200 75/42	-	1536	2741	170	203	206	267	✗	-
10 + UMA-S 200 75/42	-	1660	2865	170	203	206	277	✗	-
11 + UMA-S 200 75/42	-	1784	2989	170	203	206	286	✗	-
12 + UMA-S 200 75/42	-	1908	3113	170	-	206	296	✗	-
13 + UMA-S 200 100/42	-	2032	3348	170	222	206	325	✗	-

i On versions with alternative pump end DN 125 the dimensions for L_p and L_A are identical to those of the version with standard pump end G5.

i On versions with alternative pump ends G3 / G4 / DN 80 / DN 100 the dimensions for L_p and L_A differ as follows:

- L_p* = L_p + 87 mm
- L_A* = L_A + 87 mm

Table 25: Technical data, 100 Hz

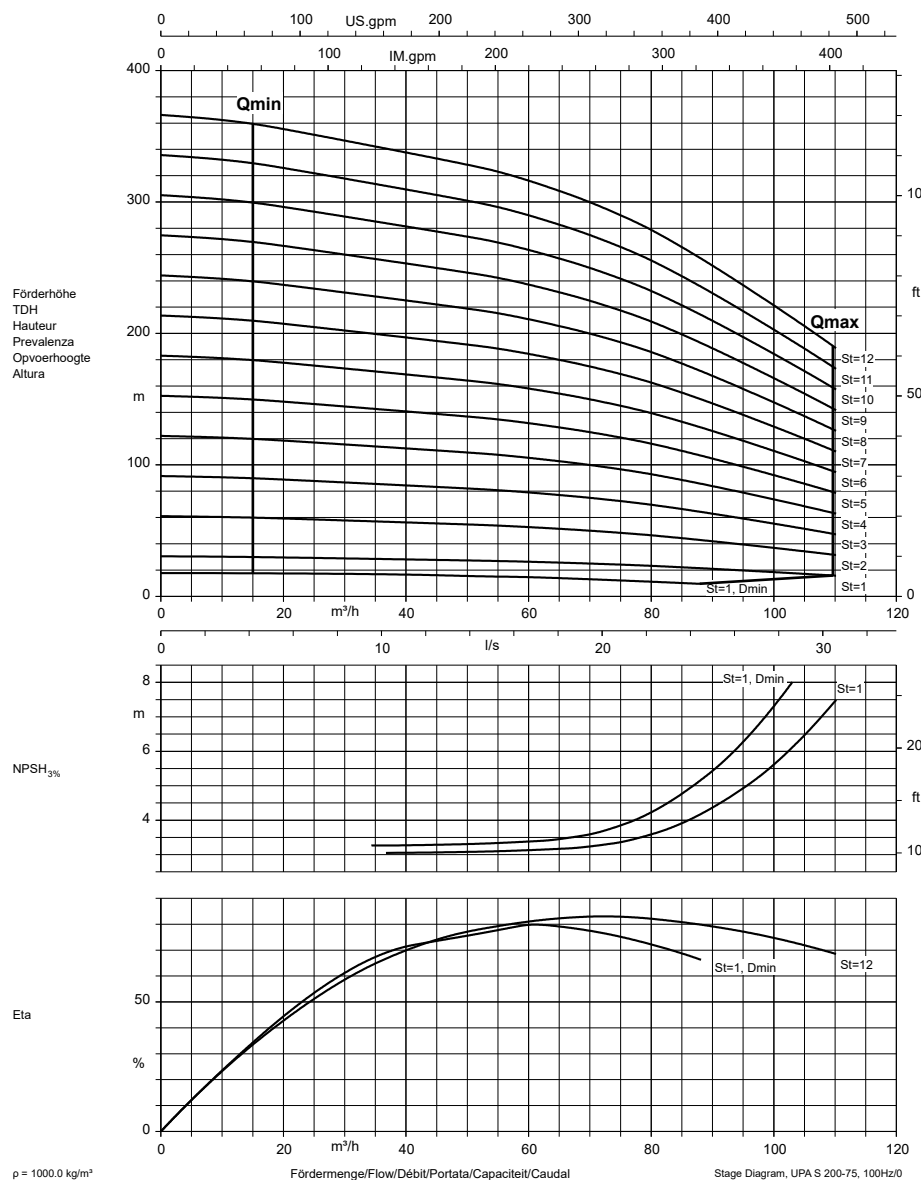
UPA S 200 - 52 / ...	Pump	Motor					Motor lead	
	Head Q = 0 m ³ /h	Rated power	Max. fluid temperature v ≥ 0.5 m/s (0.2 m/s)	Rated current	Efficiency	Power factor	Number x cross-section of cores ⁵²⁾	
							Key:	
							▪ 3/4 x = 1 x 3-core + 1 x 4-core, flat, offset by 90° ▪ 4 x = 1 x 4-core, flat ▪ R4 x = 1 x 4-core, round	
	H ₀	P _N	T _{max}	I _N	η _M	cos φ	VFD	VFD parallel
	[m]	[kW]	[°C]	[A]	[%]		[mm ²]	[mm ²]
1 + UMA-S 150 7/42	31,0	4,7	45 (40)	8,4	89,9	0,96	4 x 4	3/4 x 2,5
2 + UMA-S 150 18/42	62,1	9,4	45 (40)	16,4	91,4	0,97	4 x 4	3/4 x 2,5
3 + UMA-S 150 18/42	93,1	14,1	45 (40)	24,2	92,0	0,98	4 x 4	3/4 x 2,5
4 + UMA-S 150 37/42	124,1	18,8	45 (40)	31,9	93,0	0,98	4 x 6	3/4 x 4
5 + UMA-S 150 37/42	155,2	23,5	45 (40)	39,5	93,9	0,98	4 x 6	3/4 x 4
6 + UMA-S 150 37/42	186,2	28,2	45 (40)	48,4	92,0	0,98	4 x 6	3/4 x 4
7 + UMA-S 200 75/42	217,2	32,9	40 (35)	58,1	90,3	0,97	4 x 16	3/4 x 16
8 + UMA-S 200 75/42	248,2	37,7	40 (35)	64,4	93,1	0,97	4 x 16	3/4 x 16
9 + UMA-S 200 75/42	279,3	42,4	40 (35)	70,7	94,4	0,98	4 x 16	3/4 x 16
10 + UMA-S 200 75/42	310,3	47,1	40 (35)	78,4	94,6	0,98	4 x 16	3/4 x 16
11 + UMA-S 200 75/42	341,3	51,8	40 (35)	85,8	94,1	0,99	4 x 16	3/4 x 16
12 + UMA-S 200 75/42	372,4	56,5	40 (35)	94,5	93,3	0,99	-	3/4 x 16
13 + UMA-S 200 100/42	403,4	61,2	35 (30)	105,1	94,6	0,95	R4 x 25	3/4 x 16

⁵⁰⁾ Dimension indicated refers to version with standard pump end G5.

⁵¹⁾ Available in wear-resistant version or material variant D only

⁵²⁾ Designed for submerged use, 400 V, ≤ +30 °C

UPA S 200 - 75 / ..., number of stages 1 - 12, 100 Hz, n = 3000 rpm

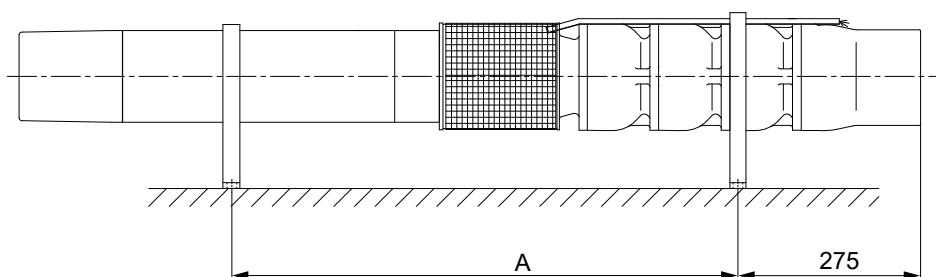


Operating range

$Q_{\min} = 15 \text{ m}^3/\text{h}$
 $Q_{\max} = \text{end of stage curve}$

The characteristic curves do not take into account the head loss caused by the lift check valve.

1. Refer to the corresponding loss curve to determine and take into account the head loss caused by the lift check valve. (⇒ Fig. 5)



Dimensions of UPA S 200 - 75 / ... [mm]

Connection types

Standard pump end = G5

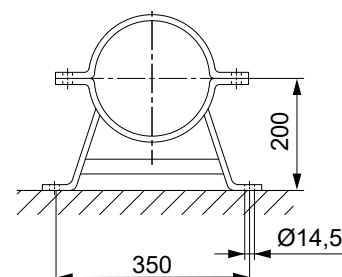
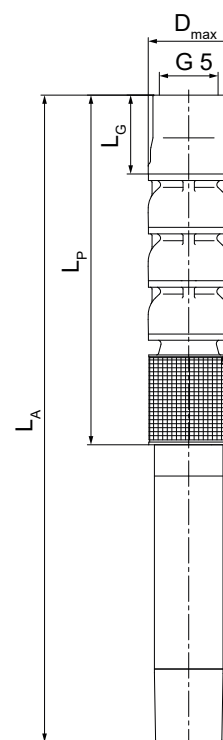
Alternative pump ends:

- G3, G4
- DN 80, DN 100, DN 125
- NPT5-8⁵³⁾

i On versions with an alternative pump end, dimensions $D_{\max}$, L_A and L_P differ from those with the standard pump end.

$D_{\max}$ for version with alternative pump end:

- G3 / G4: 238 mm
- DN 80 / PN10, PN16: 238 mm
- DN 80 / PN25, PN40: 238 mm
- DN 100 / PN10, PN16: 238 mm
- DN 100 / PN25, PN40: 250 mm
- DN 125 / PN10, PN16: 262 mm
- DN 125 / PN25, PN40: 277 mm
- DN 125 / PN63: 300 mm



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⁵³ All dimensions are identical to those of the standard pump end G5.

Table 26: Dimensions, weights and installation type depending on the motor [mm], 100 Hz

UPA S 200 - 75 / ...	A	L _p ⁵⁴⁾	L _A ⁵⁴⁾	L _G ⁵⁴⁾	D _{max} ⁵⁴⁾		Total weight	Type of installation	
					VFD	VFD parallel		Vertical ⁵⁵⁾	Horizontal ⁵⁵⁾
					[mm]	[mm]	Material variant 1.4408 / 1.4517 [kg]		
1 + UMA-S 150 7/42	557	504	1159	170	203	207	75	✗	✗
2 + UMA-S 150 18/42	761	631	1440	170	203	207	99	✗	✗
3 + UMA-S 150 37/42	969	758	1729	170	203	207	125	✗	✗
4 + UMA-S 150 37/42	1096	885	1856	170	203	207	134	✗	✗
5 + UMA-S 150 37/42	1223	1012	1983	170	-	207	144	✗	✗
6 + UMA-S 200 75/42	1510	1182	2387	170	203	206	236	✗	✗
7 + UMA-S 200 75/42	1637	1309	2514	170	203	206	245	✗	✗
8 + UMA-S 200 75/42	1764	1436	2641	170	203	206	255	✗	✗
9 + UMA-S 200 75/42	-	1563	2768	170	203	206	264	✗	-
10 + UMA-S 200 75/42	-	1690	2895	170	-	206	274	✗	-
11 + UMA-S 200 100/42	-	1817	3133	170	222	206	302	✗	-
12 + UMA-S 200 100/42	-	1944	3260	170	222	206	312	✗	-

i On versions with alternative pump end DN 125 the dimensions for L_p and L_A are identical to those of the version with standard pump end G5.

i On versions with alternative pump ends G3 / G4 / DN 80 / DN 100 the dimensions for L_p and L_A differ as follows:

- L_p* = L_p + 87 mm
- L_A* = L_A + 87 mm

Table 27: Technical data, 100 Hz

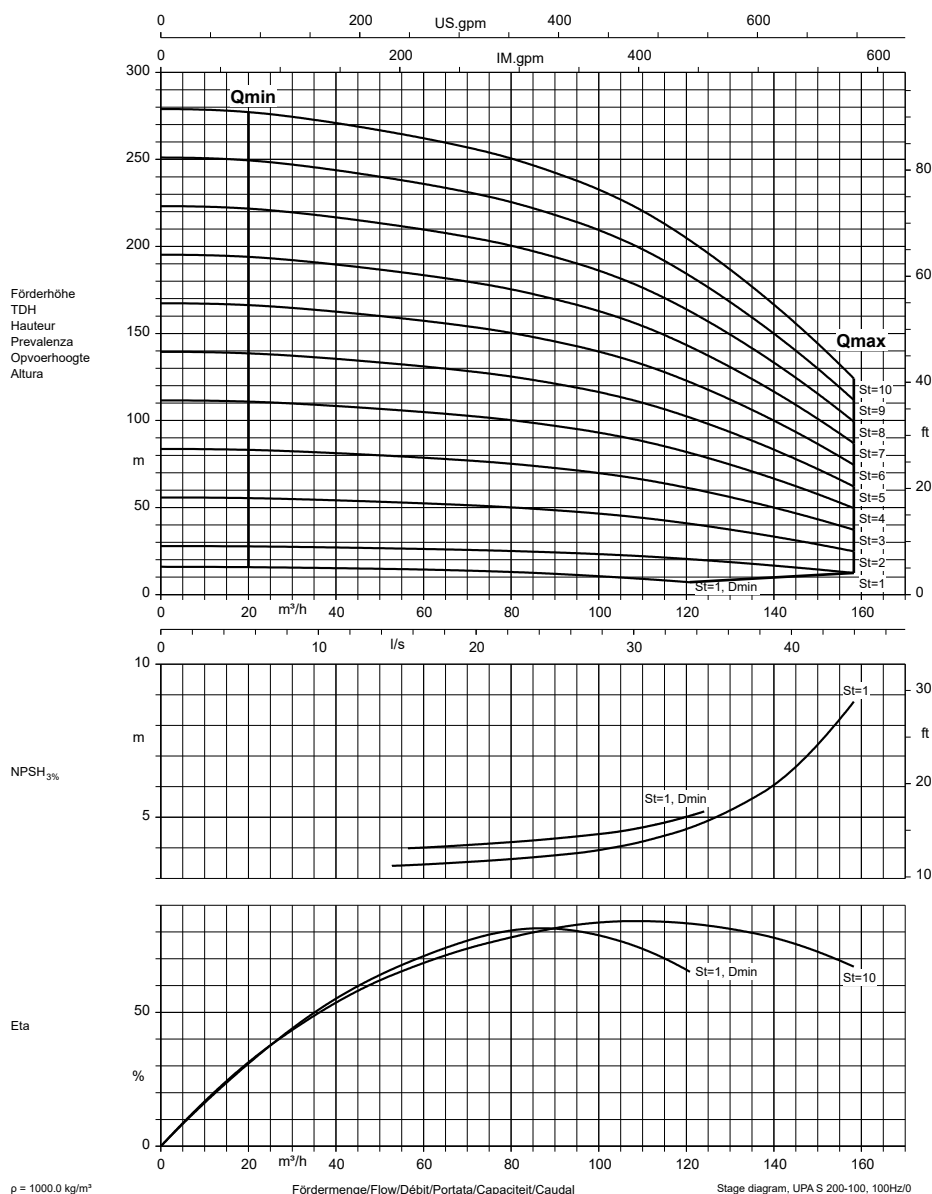
UPA S 200 - 75 / ...	Pump	Motor					Motor lead	
	Head Q = 0 m³/h	Rated power	Max. fluid temperature v ≥ 0.5 m/s (0.2 m/s)	Rated current	Efficiency	Power factor	Number x cross-section of cores ⁵⁶⁾	
							Key:	
							• 3/4 x = 1 x 3-core + 1 x 4-core, flat, offset by 90° • 4 x = 1 x 4-core, flat • R4 x = 1 x 4-core, round	
	H ₀	P _N	T _{max}	I _N	η _M	cos φ	VFD	VFD parallel
	[m]	[kW]	[°C]	[A]	[%]		[mm²]	[mm²]
1 + UMA-S 150 7/42	31,6	5,9	45 (40)	10,6	88,8	0,97	4 x 4	3/4 x 2,5
2 + UMA-S 150 18/42	63,1	11,8	45 (40)	19,9	93,1	0,98	4 x 4	3/4 x 2,5
3 + UMA-S 150 37/42	94,7	17,7	45 (40)	30,3	91,9	0,98	4 x 6	3/4 x 4
4 + UMA-S 150 37/42	126,3	23,6	45 (40)	39,5	93,9	0,98	4 x 6	3/4 x 4
5 + UMA-S 150 37/42	157,9	29,4	45 (40)	50,8	91,4	0,98	-	3/4 x 4
6 + UMA-S 200 75/42	189,4	35,3	40 (35)	62,5	91,9	0,95	4 x 16	3/4 x 16
7 + UMA-S 200 75/42	221,0	41,2	40 (35)	71,1	94,2	0,95	4 x 16	3/4 x 16
8 + UMA-S 200 75/42	252,6	47,1	40 (35)	80,9	94,6	0,95	4 x 16	3/4 x 16
9 + UMA-S 200 75/42	284,1	53,0	40 (35)	91,7	93,9	0,95	4 x 16	3/4 x 16
10 + UMA-S 200 75/42	315,7	58,9	38 (33)	102,1	92,8	0,96	-	3/4 x 16
11 + UMA-S 200 100/42	347,3	64,8	35 (30)	111,4	94,5	0,95	R4 x 25	3/4 x 16
12 + UMA-S 200 100/42	378,8	70,7	35 (30)	122,3	93,9	0,95	R4 x 25	3/4 x 16

⁵⁴ Dimension indicated refers to version with standard pump end G5.

⁵⁵ Available in wear-resistant version or material variant D only

⁵⁶ Designed for submerged use, 400 V, ≤ +30 °C

UPA S 200 - 100 / ..., number of stages 1 - 10, 100 Hz, n = 3000 rpm

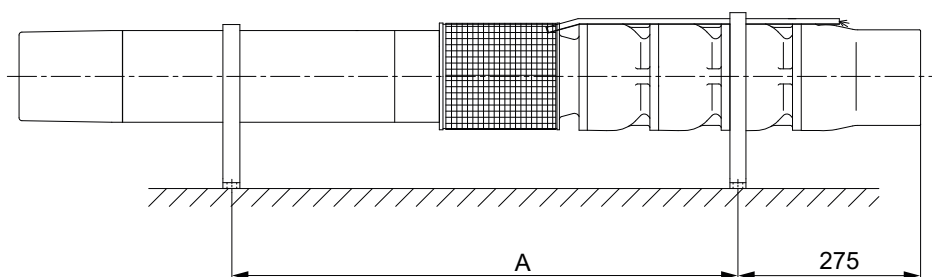


Operating range

$Q_{min} = 20 \text{ m}^3/\text{h}$
 $Q_{max} = \text{end of stage curve}$

The characteristic curves do not take into account the head loss caused by the lift check valve.

1. Refer to the corresponding loss curve to determine and take into account the head loss caused by the lift check valve. (⇒ Fig. 6)



Dimensions of UPA S 200 - 100 / ... [mm]

Connection types

Standard pump end = G5

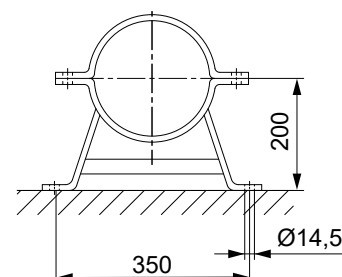
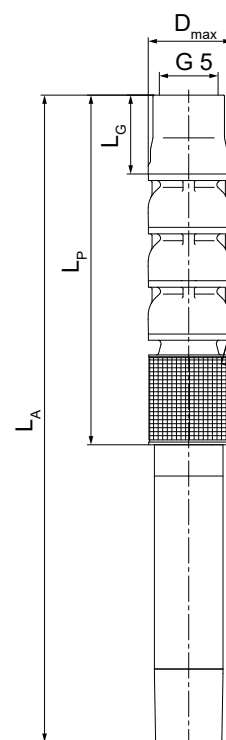
Alternative pump ends:

- G3, G4
- DN 80, DN 100, DN 125
- NPT5-8⁵⁷⁾

i On versions with an alternative pump end, dimensions D_{max} , L_A and L_P differ from those with the standard pump end.

D_{max} for version with alternative pump end:

- G3 / G4: 238 mm
- DN 80 / PN10, PN16: 238 mm
- DN 80 / PN25, PN40: 238 mm
- DN 100 / PN10, PN16: 238 mm
- DN 100 / PN25, PN40: 250 mm
- DN 125 / PN10, PN16: 262 mm
- DN 125 / PN25, PN40: 277 mm
- DN 125 / PN63: 300 mm



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⁵⁷ All dimensions are identical to those of the standard pump end G5.

Table 28: Dimensions, weights and installation type depending on the motor [mm], 100 Hz

UPA S 200 - 100 / ...	A	L _p ⁵⁸⁾	L _A ⁵⁸⁾	L _G ⁵⁸⁾	D _{max} ⁵⁸⁾		Total weight	Type of installation	
					VFD	VFD parallel			
					[mm]	[mm]	Material variant 1.4408 / 1.4517 [kg]	Vertical ⁵⁹⁾	Horizontal ⁵⁹⁾
1 + UMA-S 150 18/42	642	512	1321	170	203	207	89	✗	✗
2 + UMA-S 150 18/42	777	647	1456	170	203	207	99	✗	✗
3 + UMA-S 150 37/42	993	782	1753	170	203	207	125	✗	✗
4 + UMA-S 150 37/42	1128	917	1888	170	-	207	135	✗	✗
5 + UMA-S 200 75/42	1423	1095	2300	170	203	206	227	✗	✗
6 + UMA-S 200 75/42	1558	1230	2435	170	203	206	237	✗	✗
7 + UMA-S 200 75/42	1693	1365	2570	170	203	206	247	✗	✗
8 + UMA-S 200 75/42	1828	1500	2705	170	-	206	257	✗	✗
9 + UMA-S 200 100/42	-	1635	2951	170	222	206	286	✗	-
10 + UMA-S 200 100/42	-	1770	3086	170	222	206	295	✗	-

i On versions with alternative pump end DN 125 the dimensions for L_p and L_A are identical to those of the version with standard pump end G5.

i On versions with alternative pump ends G3 / G4 / DN 80 / DN 100 the dimensions for L_p and L_A differ as follows:

- L_p* = L_p + 87 mm
- L_A* = L_A + 87 mm

Table 29: Technical data, 100 Hz

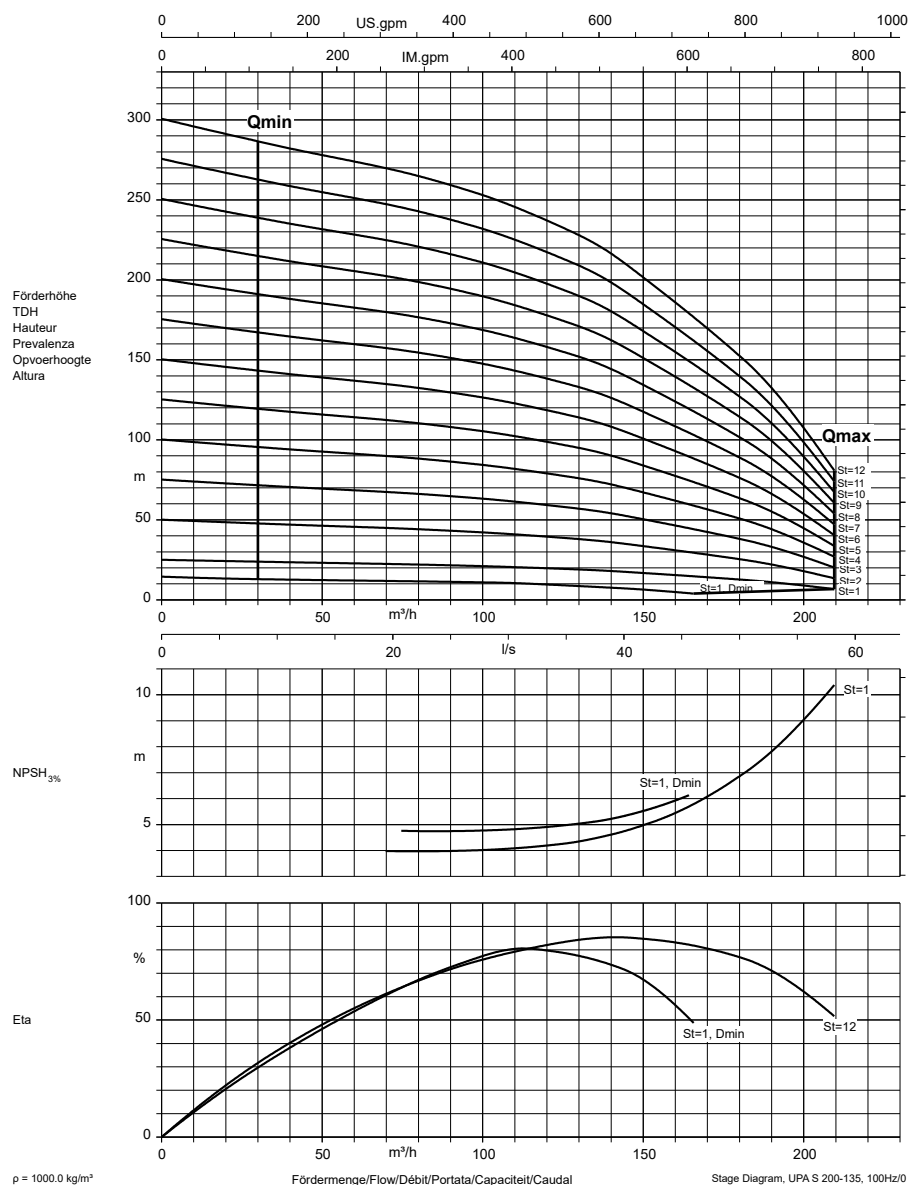
UPA S 200 - 100 / ...	Pump	Motor					Motor lead	
	Head Q = 0 m³/h	Rated power	Max. fluid temperature v ≥ 0.5 m/s (0.2 m/s)	Rated current	Efficiency	Power factor	Number x cross-section of cores ⁶⁰⁾	
							Key:	
	H ₀	P _N	T _{max}	I _N	η _M	cos φ	▪ 3/4 x = 1 x 3-core + 1 x 4-core, flat, offset by 90° ▪ 4 x = 1 x 4-core, flat ▪ R4 x = 1 x 4-core, round	
	[m]	[kW]	[°C]	[A]	[%]		VFD	VFD parallel
							[mm²]	[mm²]
1 + UMA-S 150 18/42	27,0	7,7	45 (40)	14,8	82,1	0,92	4 x 4	3/4 x 2,5
2 + UMA-S 150 18/42	53,9	15,5	45 (40)	25,8	89,4	0,97	4 x 4	3/4 x 2,5
3 + UMA-S 150 37/42	80,9	23,2	45 (40)	38,0	94,0	0,94	4 x 6	3/4 x 4
4 + UMA-S 150 37/42	107,9	31,0	45 (40)	51,5	90,7	0,96	-	3/4 x 4
5 + UMA-S 200 75/42	134,8	38,7	40 (35)	66,1	93,5	0,90	4 x 16	3/4 x 16
6 + UMA-S 200 75/42	161,8	46,5	40 (35)	76,8	94,7	0,92	4 x 16	3/4 x 16
7 + UMA-S 200 75/42	188,8	54,2	40 (35)	89,9	93,7	0,93	4 x 16	3/4 x 16
8 + UMA-S 200 75/42	215,7	62,0	37 (33)	104,0	92,2	0,93	-	3/4 x 16
9 + UMA-S 200 100/42	242,7	69,7	35 (30)	118,6	94,0	0,90	R4 x 25	3/4 x 16
10 + UMA-S 200 100/42	269,7	77,4	35 (30)	129,8	92,9	0,93	R4 x 25	3/4 x 16

⁵⁸ Dimension indicated refers to version with standard pump end G5.

⁵⁹ Available in wear-resistant version or material variant D only

⁶⁰ Designed for submerged use, 400 V, ≤ +30 °C

UPA S 200 - 135 / ..., number of stages 1 - 12, 100 Hz, n = 3000 rpm



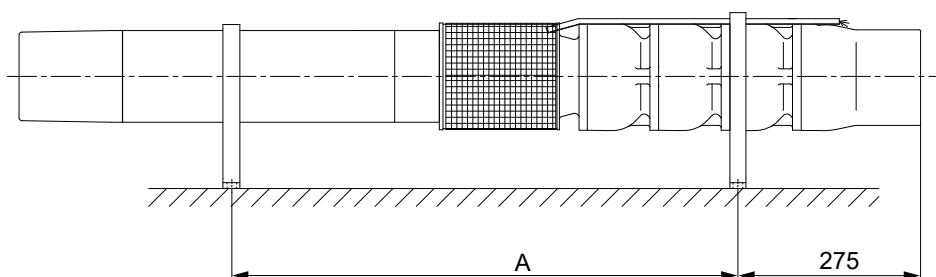
Operating range

$Q_{\min} = 30 \text{ m}^3/\text{h}$

$Q_{\max}$ = end of stage curve

The characteristic curves do not take into account the head loss caused by the lift check valve.

1. Refer to the corresponding loss curve to determine and take into account the head loss caused by the lift check valve. (⇒ Fig. 7)



Dimensions of UPA S 200 - 135 / ... [mm]

Connection types

Standard pump end = G5

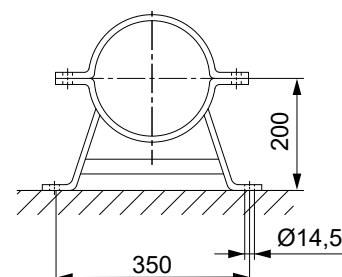
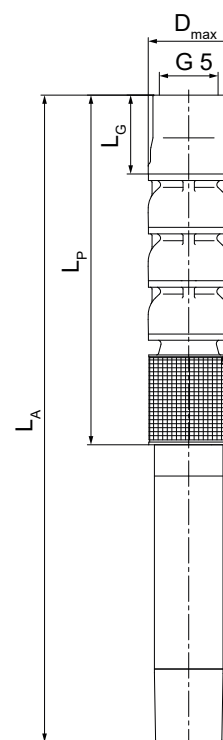
Alternative pump ends:

- G3, G4
- DN 80, DN 100, DN 125
- NPT5-8⁶¹⁾

i On versions with an alternative pump end, dimensions $D_{\max}$, L_A and L_P differ from those with the standard pump end.

$D_{\max}$ for version with alternative pump end:

- G3 / G4: 238 mm
- DN 80 / PN10, PN16: 238 mm
- DN 80 / PN25, PN40: 238 mm
- DN 100 / PN10, PN16: 238 mm
- DN 100 / PN25, PN40: 250 mm
- DN 125 / PN10, PN16: 262 mm
- DN 125 / PN25, PN40: 277 mm
- DN 125 / PN63: 300 mm



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⁶¹⁾ All dimensions are identical to those of the standard pump end G5.

Table 30: Dimensions, weights and installation type depending on the motor [mm], 100 Hz

UPA S 200 - 135 / ...	A	L _p ⁶²⁾	L _A ⁶²⁾	L _G ⁶²⁾	D _{max} ⁶²⁾		Total weight	Type of installation	
					VFD	VFD parallel		Vertical	Horizontal ⁶³⁾
					[mm]	[mm]	Material variant 1.4408 / 1.4517 [kg]		
1 + UMA-S 150 18/42	647	517	1326	170	203	207	88	✗	✗
2 + UMA-S 150 18/42	787	657	1466	170	203	207	98	✗	✗
3 + UMA-S 150 37/42	1008	797	1768	170	203	207	123	✗	✗
4 + UMA-S 150 37/42	1148	937	1908	170	-	207	132	✗	✗
5 + UMA-S 200 75/42	1448	1120	2325	170	203	206	224	✗	✗
6 + UMA-S 200 75/42	1588	1260	2465	170	203	206	234	✗	✗
7 + UMA-S 200 75/42	1728	1400	2605	170	203	206	243	✗	✗
8 + UMA-S 200 75/42	1868	1540	2745	170	-	206	252	✗	✗
9 + UMA-S 200 100/42	-	1680	2996	170	222	206	281	✗	-
10 + UMA-S 200 100/42	-	1820	3136	170	222	206	290	✗	-
11 + UMA-S 200 100/42	-	1960	3276	170	-	206	299	✗	-
12 + UMA-S 200 130/42	-	2100	3584	170	-	206	337	✗	-

i On versions with alternative pump end DN 125 the dimensions for L_p and L_A are identical to those of the version with standard pump end G5.

i On versions with alternative pump ends G3 / G4 / DN 80 / DN 100 the dimensions for L_p and L_A differ as follows:

- L_p* = L_p + 87 mm
- L_A* = L_A + 87 mm

Table 31: Technical data, 100 Hz

UPA S 200 - 135 / ...	Pump	Motor					Motor lead	
	Head Q = 0 m³/h	Rated power	Max. fluid temperature v ≥ 0.5 m/s (0.2 m/s)	Rated current	Efficiency	Power factor	Number x cross-section of cores ⁶⁴⁾	
							Key:	
							▪ 3/4 x = 1 x 3-core + 1 x 4-core, flat, offset by 90° ▪ 4 x = 1 x 4-core, flat ▪ R4 x = 1 x 4-core, round	
	H ₀	P _N	T _{max}	I _N	η _M	cos φ	VFD	VFD parallel
	[m]	[kW]	[°C]	[A]	[%]		[mm²]	[mm²]
1 + UMA-S 150 18/42	24,2	7,5	45 (40)	13,8	86,1	0,91	4 x 4	3/4 x 2,5
2 + UMA-S 150 18/42	48,5	15,1	45 (40)	25,1	89,5	0,97	4 x 4	3/4 x 2,5
3 + UMA-S 150 37/42	72,7	22,6	45 (40)	37,0	94,0	0,94	4 x 6	3/4 x 4
4 + UMA-S 150 37/42	96,9	30,1	45 (40)	50,0	91,0	0,95	-	3/4 x 4
5 + UMA-S 200 75/42	121,1	37,7	40 (35)	64,8	93,1	0,90	4 x 16	3/4 x 16
6 + UMA-S 200 75/42	145,4	45,2	40 (35)	74,8	94,7	0,92	4 x 16	3/4 x 16
7 + UMA-S 200 75/42	169,6	52,7	40 (35)	87,2	94,0	0,93	4 x 16	3/4 x 16
8 + UMA-S 200 75/42	193,8	60,2	37 (32)	100,9	92,5	0,93	-	3/4 x 16
9 + UMA-S 200 100/42	218,0	67,8	35 (30)	116,0	94,3	0,89	R4 x 25	3/4 x 16
10 + UMA-S 200 100/42	242,3	75,3	35 (30)	126,6	93,3	0,92	R4 x 25	3/4 x 16
11 + UMA-S 200 100/42	266,5	82,8	35 (30)	138,1	92,2	0,94	-	3/4 x 16
12 + UMA-S 200 130/42	290,7	90,4	35 (30)	152,8	94,9	0,90	-	3/4 x 16

⁶²⁾ Dimension indicated refers to version with standard pump end G5.

⁶³⁾ Available in wear-resistant version or material variant D only

⁶⁴⁾ Designed for submerged use, 400 V, ≤ +30 °C

Loss curves for lift check valves

Head losses caused by lift check valve for UPA S 200-52, pump end G5, DN125

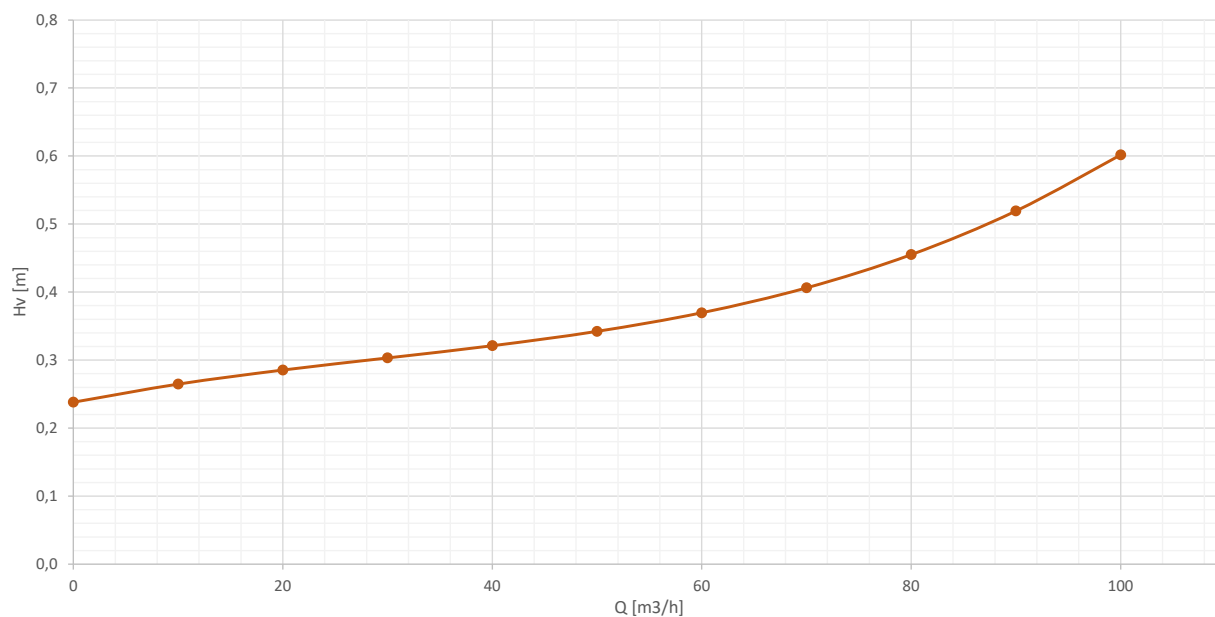


Fig. 4: Loss curve for UPA S 200-52

Head losses caused by lift check valve for UPA S 200-75, pump end G5, DN125

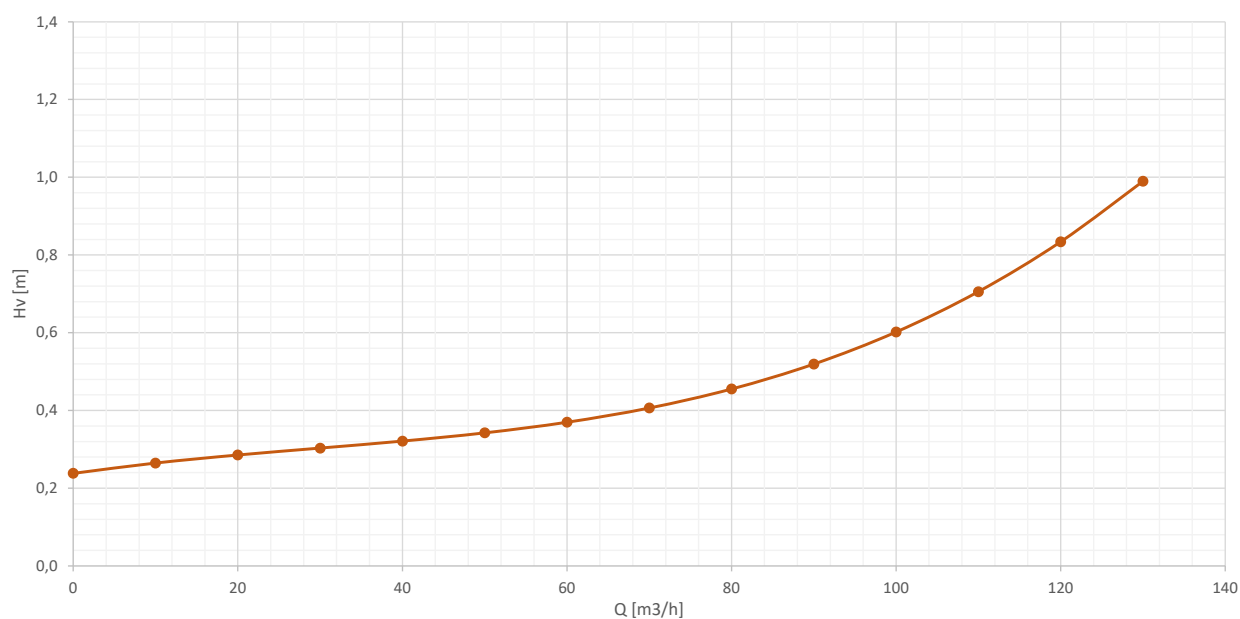


Fig. 5: Loss curve for UPA S 200-75

Head losses caused by lift check valve for UPA S 200-100, pump end G5, DN125

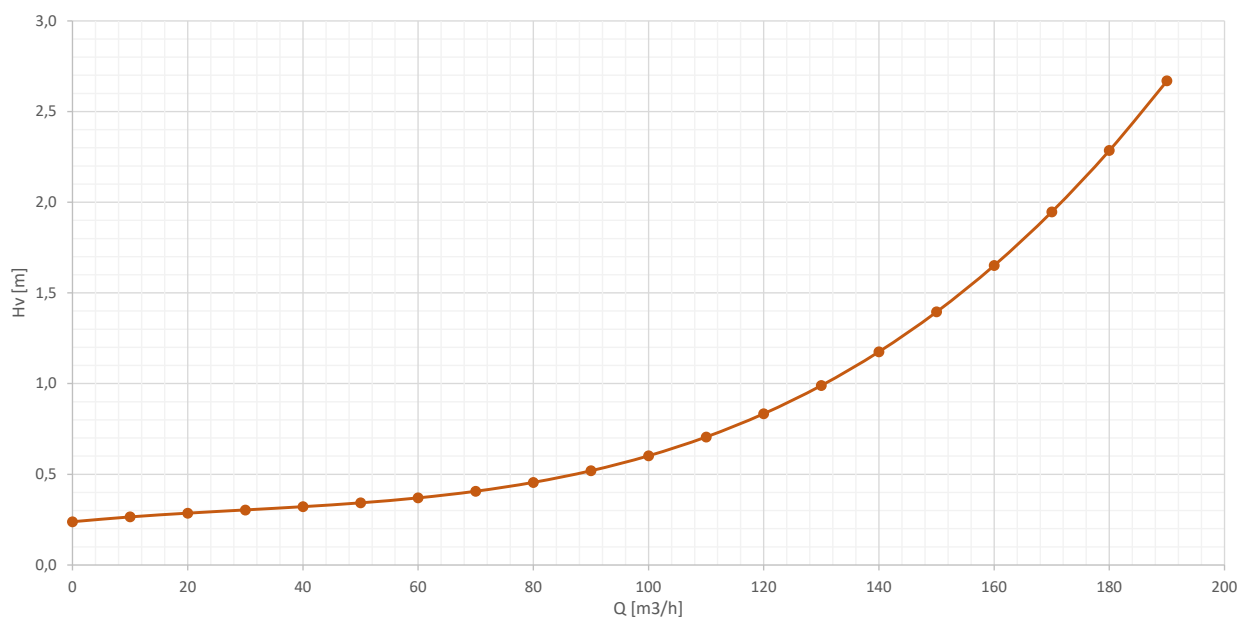


Fig. 6: Loss curve for UPA S 200-100

Head losses caused by lift check valve for UPA S 200-135, pump end G5, DN125

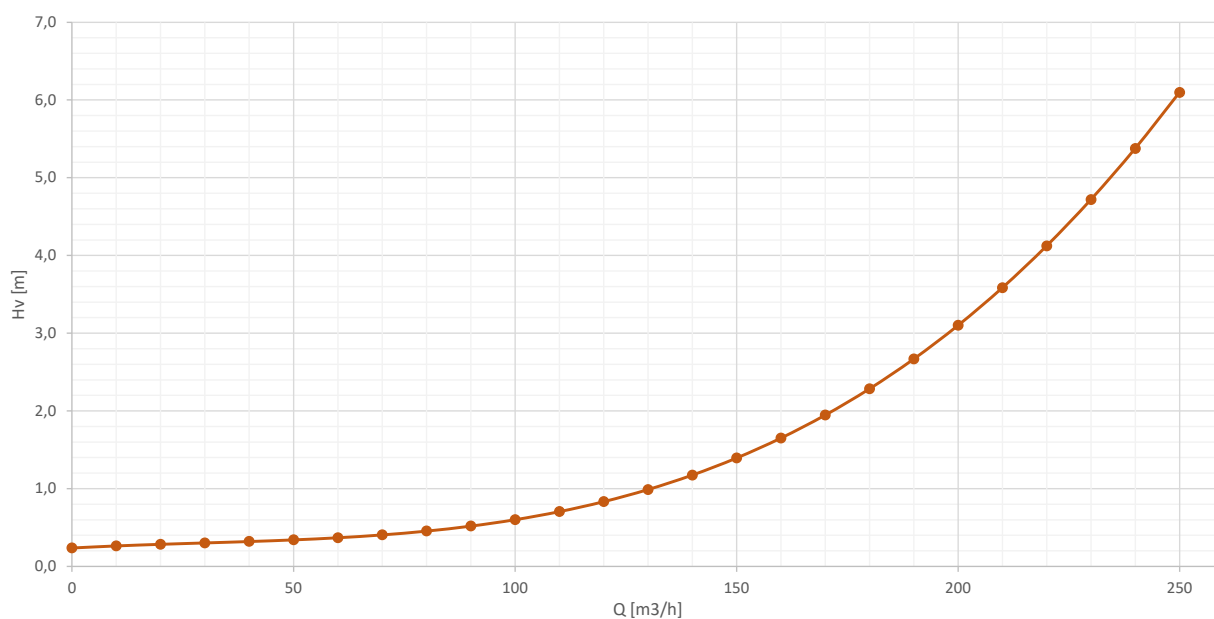


Fig. 7: Loss curve for UPA S 200-135

Scope of supply

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

- Pump set with motor lead
- Back-up name plate

Optional:

- Output filter
- Extension cable optional: connected or supplied but not fitted
- Electrical protection equipment
- Frequency inverter for speed control of one pump
- Pedestals
- Cable clips

- Cable connector
- Cooling shroud, suction shroud or pressure shroud
- Automatic control units
- Temperature monitoring
- Supporting clamps and mounting clamps

Accessories

Installation parts

Table 32: Selection table

Description			Mat. No.	Weight [kg]
Set of pedestals for horizontal installation, comprising: 2 pedestals and fastening elements				
1.4301	UPA S 200 with UMA 150 or UMA-S 150 motor		01061866	10
	UPA S 200 with UMA 200 or UMA-S 200 motor		01061867	11,2
1.4401	UPA S 200 with UMA 150 or UMA-S 150 motor		05100035	10
	UPA S 200 with UMA 200 or UMA-S 200 motor		05100036	11,2
1.4539	UPA S 200 with UMA 150 or UMA-S 150 motor		05073106	10
	UPA S 200 with UMA 200 or UMA-S 200 motor		05073107	11,2
 Bolts for fastening the pedestals to the foundation are not included in the scope of supply; they must be provided at the site.				
Cooling shroud, suction shroud and pressure shroud			On request	
Adapter G5 to G3, G4, DN 80, DN 100				
1.4404	G5 to G4		05070111	5,16
	G5 to G3		05070124	4,53
	G5 to DN 80 / PN10, PN16		05070112	8,17
	G5 to DN 80 / PN25, PN 40		05070024	8,73
	G5 to DN 100 / PN10, PN16		05070026	8,48
	G5 to DN 100 / PN25, PN 40		05070127	9,97
1.4462	G5 to G4		05070131	5,16
	G5 to G3		05070130	4,53
	G5 to DN 80 / PN10, PN16		05070125	8,17
	G5 to DN 80 / PN25, PN 40		05070025	8,73
	G5 to DN 100 / PN10, PN16		05070027	8,48
	G5 to DN 100 / PN25, PN 40		05070128	9,97
Pair of supporting and installation clamps for the following riser sizes, incl. fastening elements, material: painted steel				
G3 / DN 80	L = 600 mm, F = 17,5 kN		95000298	12
G4 / DN 100	L = 700 mm, F = 24,5 kN		95000300	21
G5 / DN 125	L = 800 mm, F = 31,0 kN		95000302	29
 2 pairs are required for installation and dismantling.				

Motors

Table 33: Overview of motor accessories

	Description	Mat. No.	[kg]
	Fill check kit, for checking and topping up the motor fill after prolonged storage for UMA 150, UMA-S 150, UMA 200, UMA-S 200, UMA 250, UMA-S 250	90066762	0,25
	Centring device for UMA 150, UMA-S 150, UMA 200, UMA-S 200 Material: plastic (PE)		
	Up to DN 250	90047662	-
	Up to DN 300	90047663	-
	Up to DN 350	90047664	-

Electrical accessories

Table 34: Selection table

Description		Mat. No.	Weight [kg]
Extension cable, blue, rubber-sheathed cable for drinking water applications, maximum ambient temperatures +50 °C			
G RD GWT - J, 4-core, round, with earth conductor Per metre	4 x 1,5 mm ²	90068174	0,18
	4 x 2,5 mm ²	90068175	0,259
	4 x 4 mm ²	90068176	0,356
	4 x 6 mm ²	90068177	0,475

Description			Mat. No.	Weight [kg]
	G RD GWT - J, 4-core, round, with earth conductor Per metre	4 x 10 mm ²	90068178	0,837
		4 x 16 mm ²	90068179	1,22
		4 x 25 mm ²	90068180	1,77
		4 x 35 mm ²	90068181	2,304
		4 x 50 mm ²	90068182	3,185
		4 x 70 mm ²	90068183	4,364
	G FL GWT - O, 3-core, flat, without earth conductor Per metre	3 x 1.5 mm ²	90068148	0,11
		3 x 2.5 mm ²	90068149	0,171
		3 x 4 mm ²	90068150	0,252
		3 x 6 mm ²	90068151	0,319
		3 x 10 mm ²	90068152	0,486
		3 x 16 mm ²	90068153	0,75
		3 x 25 mm ²	90068154	1,107
		3 x 35 mm ²	90068155	1,438
		3 x 50 mm ²	90068156	2,054
	3 x 70 mm ²	90068157	2,76	
Shielded Hydrofirm (T) cable		1 x 35 mm ²	90068184	0,499
	S07BC4B - F	3 x 6 / 6 KON	01083423	-
	S07BC4B - F	3 x 16 / 16 KON	01083424	-
	S07BC4B - F	3 x 35 + 3G16 / 3	01083425	-
Cable connector, non-separable, including sealing compound, for connecting 1 extension cable to 1 or 2 motor leads				
Size 28 for connection to:				
1 motor lead	Supplied but not fitted		95005106	0,5
	Connected and sealed at the factory		90049385	0,5
Size 35 for connection to:				
1 motor lead	Supplied but not fitted		90049397	0,6
	Connected and sealed at the factory		90049387	0,6
Size 43 for connection to:				
1 motor lead	Supplied but not fitted		90049399	0,8
	Connected and sealed at the factory		90049389	0,8
2 motor leads	Supplied but not fitted		90049400	0,8
	Connected and sealed at the factory		90049390	0,8
Sizes 53 and 78 for connection			On request	
Cable clip for fastening the cable to the riser				
	Size 1 (rubber strap / plastic studs), for electric cables: 1 electric cable, flat, 3 x 6 mm ² or 4 x 6 mm ² and 1 electric cable, round, 4 x 6 mm ²		01088095	0,04
	Sizes 2 - 11 (metal strap / screw band with tension screw / rubber cable protector), for larger cross-sections up to 70 mm ²		On request	-
	 Cable clips for pump sets in material variants B, D on request.			
	 Use 1 cable clip each per cable and per 3 m of riser.			
Dry running protection device (supply voltage 220 V / 240 V) for				
	Semi-automatic operation (1 relay, 1 pushbutton + 2 electrodes)		90009553	2
	Fully automatic operation (1 relay + 3 electrodes)		90009554	2
	Plus 1 control cable for each electrode, blue, 1 x 1.5 mm2, per metre		01096713	0,1
Pressure controller, insulating enclosure (membrane type), 1 to 8 bar, with pressure connection G 3/8			01151586	1
Pt100 temperature monitoring equipment for use in submersible motors to protect the windings from overheating. Comprises:				
	Pt100 temperature sensor with 10 m cable 4 x 0.5 mm ² for motor:	UMA 150 material variants E, C	01532593	1,1
		UMA 150 material variant D	01532594	1,1
		UMA 200, UMA 250, material variants G, C	90063006	1,1
		UMA 200, UMA 250, material variants D	On request	-
	Display / switchgear (supply voltage V = 110/220 V)		90064446	0,32
	Control cable, blue, round 4 x 0.5 mm ²	Per metre	01049403	0,08
Immersion electrodes				
		Set of electrodes: 3 electrodes made of stainless steel	40980055	0,3
		Set of electrodes: 1 electrode made of stainless steel	40980056	0,1

Related Documents

List of components

UPA S 200, standard design

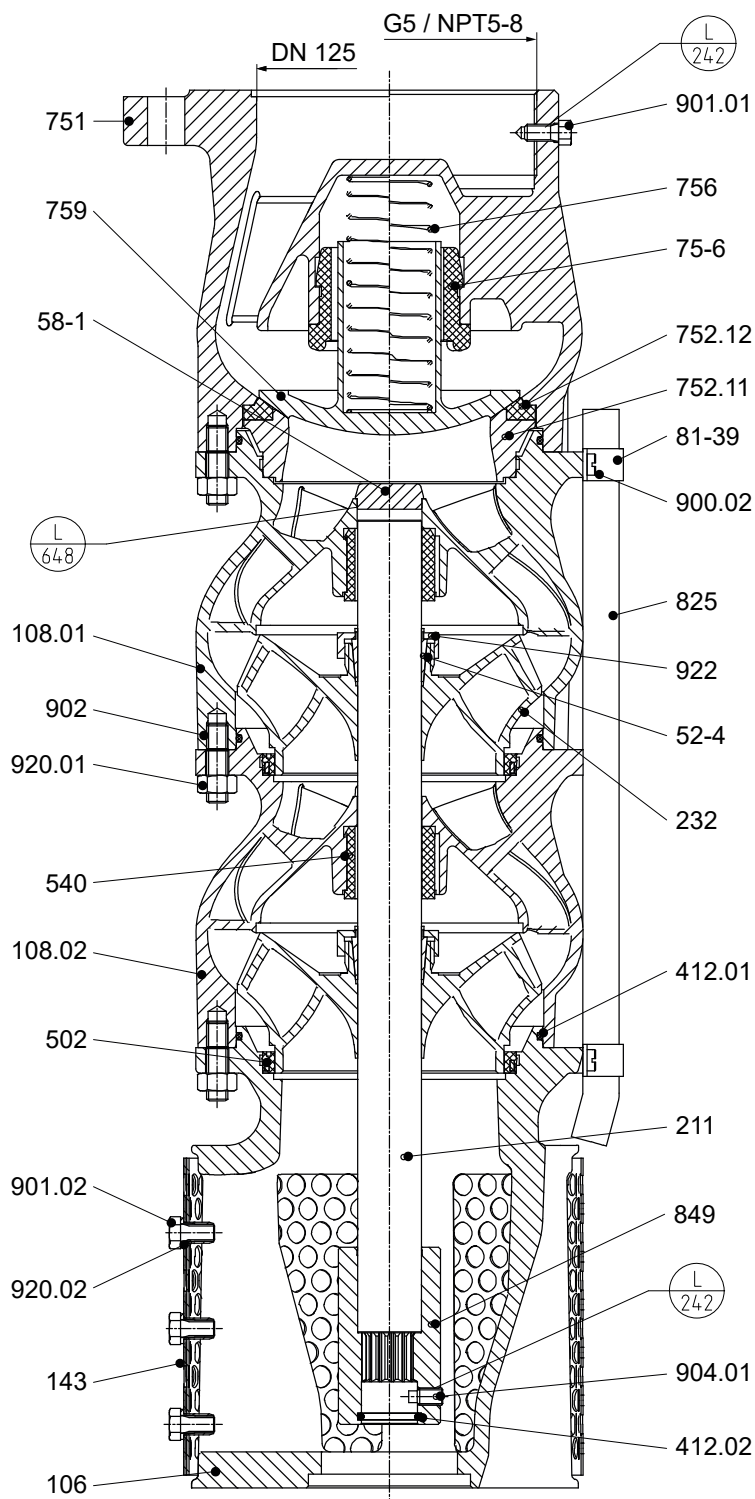


Fig. 8: UPA S 200 incl. lift check valve, with connection for UMA 150 or UMA-S 150 motor, standard design

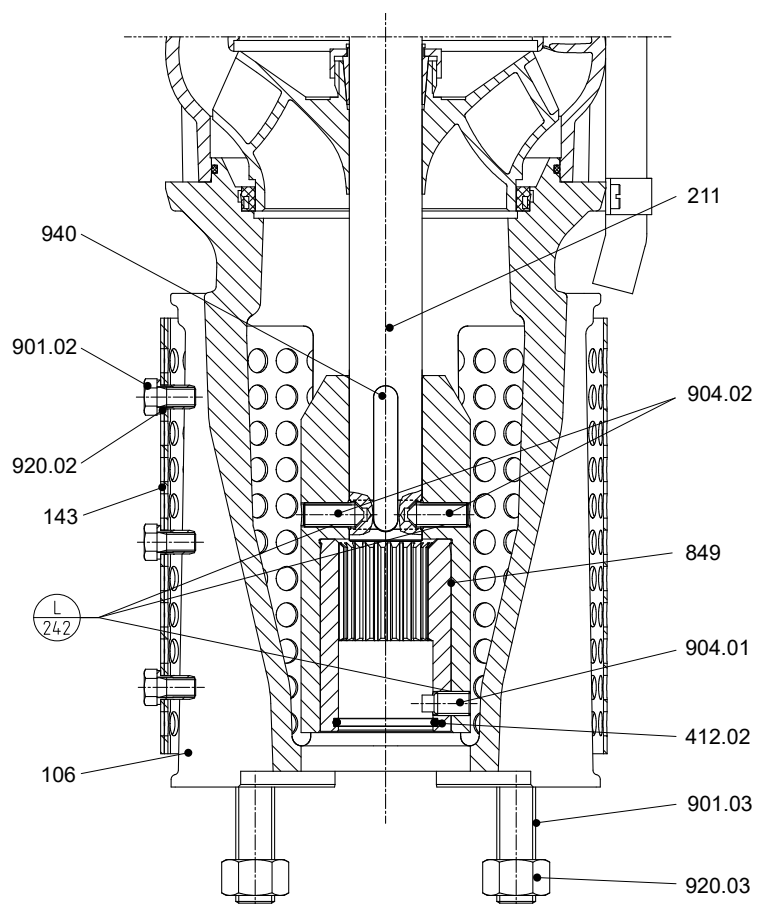


Fig. 9: UPA S 200 with connection for UMA 200 or UMA-S 200 motor, standard design

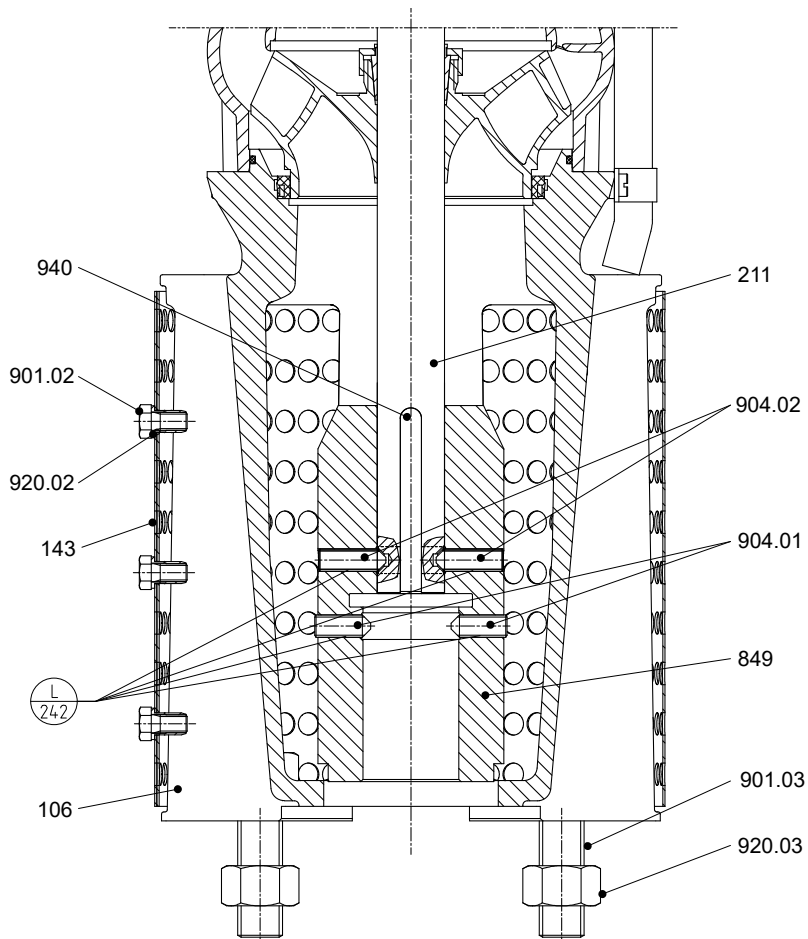


Fig. 10: UPA S 200 with connection for UMA 250 or UMA-S 250 motor, standard design

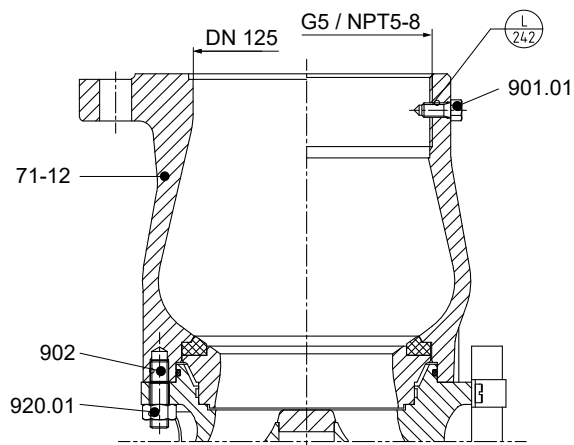


Fig. 11: UPA S 200, connection nozzle, standard design

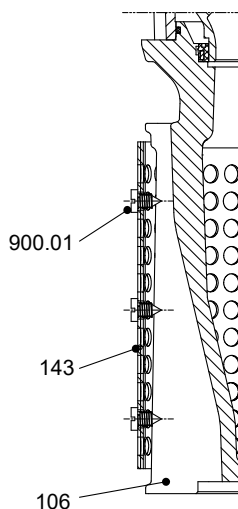


Fig. 12: UPA S 200, screen, standard design

Table 35: Symbols key

Symbol	Description
	Always secure screw/bolt/stud connections marked with this symbol with Loctite 242 .
	Always secure connections marked with this symbol with Loctite 648 .

Table 36: List of components for UPA S 200, standard design

Quantity	Part No.	Description	Motor size			Scope of supply of spare parts kit
			6-inch UMA 150, UMA-S 150	8-inch UMA 200, UMA-S 200	10-inch UMA 250, UMA-S 250	
1	106	Suction casing	✓	-	-	106 + 143, 412.01, 502, 900.01, 901.02, 920.02
			-	✓	✓	106 + 143, 412.01, 502, 900.01, 901.02, 901.03, 920.02, 920.03
1	108.01	Stage casing (last stage)	✓	✓	✓	108.01 + 58-1, 412.01, 540, 902, 920.01
1 per stage -1	108.02	Stage casing	✓	✓	✓	108.02 + 412.01, 502, 540, 902, 920.01
1	143 ⁶⁵⁾	Suction strainer	✓	✓	✓	143 + 900.01, 901.02, 920.02
1	211	Pump shaft	✓	-	-	211 + 412.02, 540, 849, 904.01
			-	✓	-	211 + 412.02, 540, 849, 904.01, 904.02, 940
			-	-	✓	211 + 540, 849, 904.01, 904.02, 940
1 per stage	232	Clockwise impeller	✓	✓	✓	232 + 52-4, 922
1 per stage +1	412.01 ⁶⁵⁾	O-ring	✓	✓	✓	-
1	412.02 ⁶⁵⁾	O-ring	✓	✓	-	-
1 per stage	52-4	Locking sleeve	✓	✓	✓	52-4 + 922
1	58-1	Protecting plug	✓	✓	✓	-
1 per stage	502 ⁶⁵⁾	Casing wear ring	✓	✓	✓	-
1 per stage	540 ⁶⁵⁾	Bush	✓	✓	✓	-
1	71-12	Connection nozzle, flanged	✓	✓	✓	71-12 + 902, 920.01
		Connection nozzle, threaded	✓	✓	✓	71-12 + 901.01, 902, 920.01
1	75-6 ⁶⁵⁾	Valve disc guide	✓	✓	✓	-

⁶⁵⁾ Recommended spare part

Quantity	Part No.	Description	Motor size			Scope of supply of spare parts kit
			6-inch UMA 150, UMA-S 150	8-inch UMA 200, UMA-S 200	10-inch UMA 250, UMA-S 250	
1	751	Valve body, flanged	✓	✓	✓	751 + 75-6, 752.11, 752.12, 756, 759, 902, 920.01
		Valve body, threaded	✓	✓	✓	751 + 75-6, 752.11, 752.12, 756, 759, 901.01, 902, 920.01
1	752.11	Valve seat, metal	✓	✓	✓	752,11 + 752.12
1	752.12 ⁶⁵⁾	Valve seat, EPDM	✓	✓	✓	-
1	756 ⁶⁵⁾	Valve spring	✓	✓	✓	-
1	759	Valve disc	✓	✓	✓	759 + 752.12, 756
2 per electric cable	81-39	Clamp	✓	✓	✓	-
1 per electric cable	825	Cable guard	✓	✓	✓	-
1	849	Sleeve coupling	✓	-	-	849 + 412.02, 904.01
			-	✓	-	849 + 412.02, 904.01, 904.02, 940
			-	-	✓	849 + 904.01, 904.02, 940
3	900.01	Bolt/screw	✓	✓	✓	-
4 per electric cable	900.02	Bolt/screw	✓	✓	✓	-
2	901.01	Hexagon head bolt	✓	✓	✓	-
4	901.03	Hexagon head bolt	-	✓	✓	-
(1 per stage +1) × 8	902	Stud	✓	✓	✓	-
1	904.01	Grub screw	✓	✓	-	-
2		Grub screw	-	-	✓	-
2	904.02	Grub screw	-	✓	✓	-
(1 per stage +1) × 8	920.01	Nut	✓	✓	✓	-
3	920.02	Nut	✓	✓	✓	-
4	920.03	Nut	-	✓	✓	-
1 per stage	922 ⁶⁵⁾ ⁶⁶⁾	Impeller nut	✓	✓	✓	922 + 52-4
1	940 ⁶⁵⁾	Key	-	✓	✓	-

⁶⁶ A special tool is required for assembly.

UPA S 200, wear-resistant version

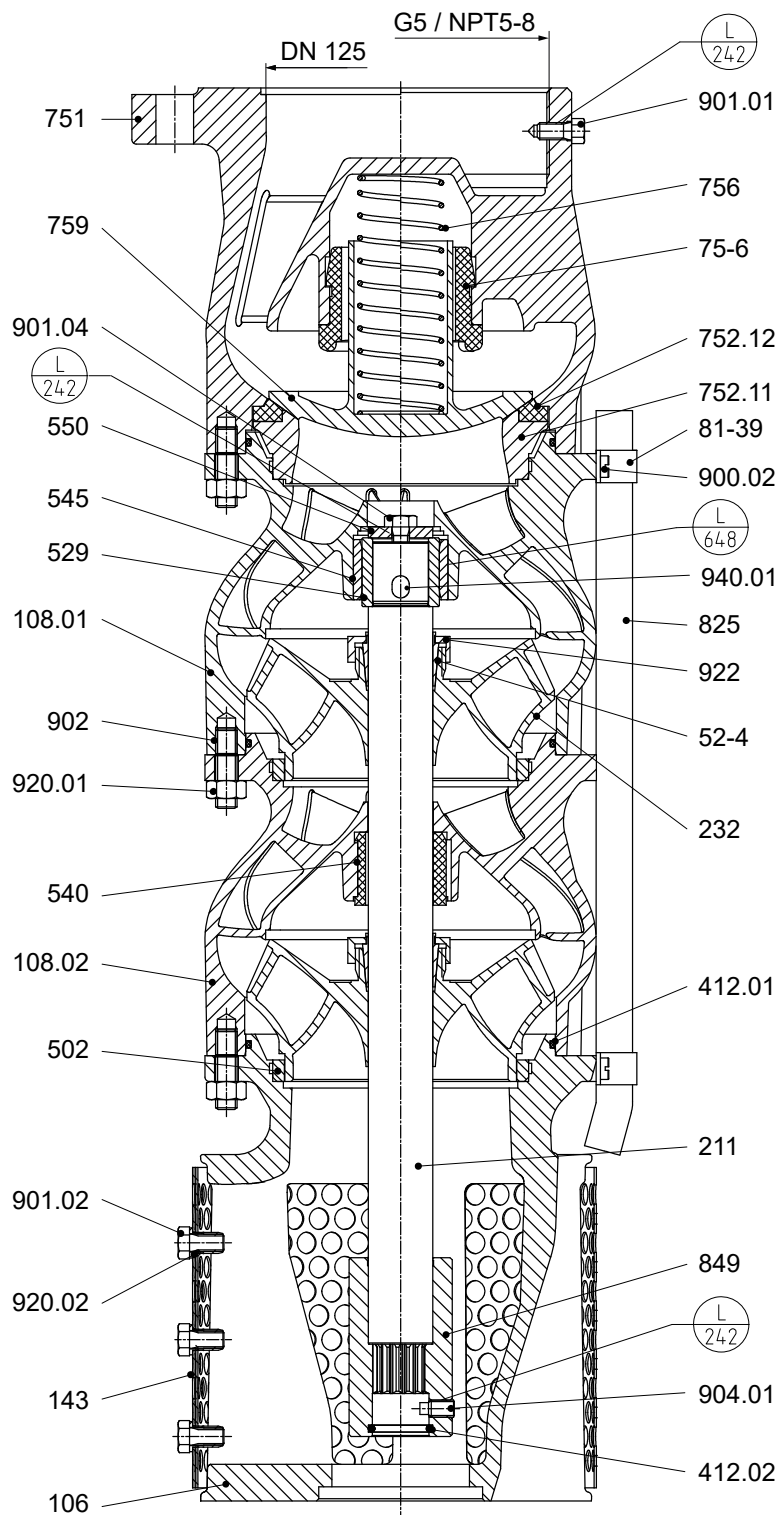


Fig. 13: UPA S 200 incl. lift check valve, with connection for UMA 150 or UMA-S 150 motor, wear-resistant version

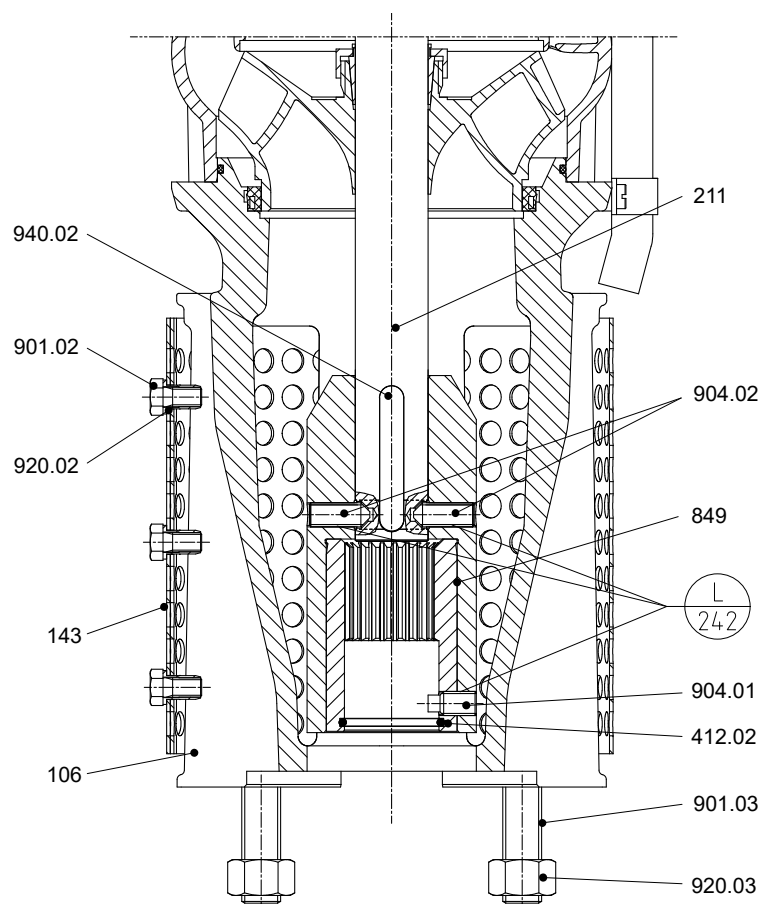


Fig. 14: UPA S 200 with connection for UMA 200 or UMA-S 200 motor, wear-resistant version

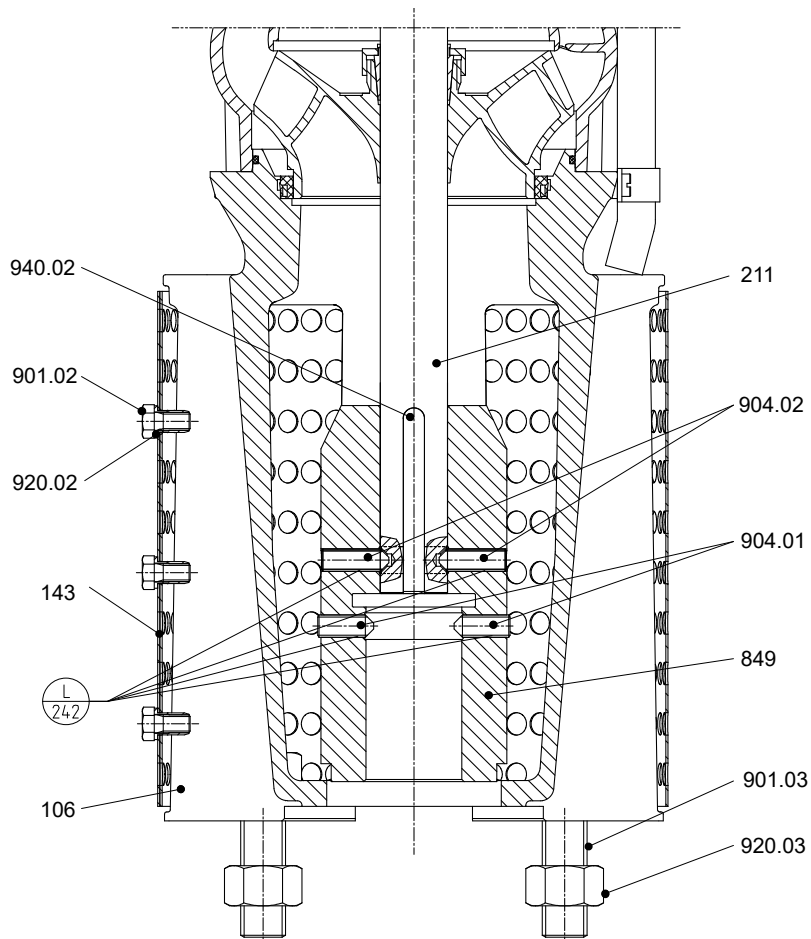


Fig. 15: UPA S 200 with connection for UMA 250 or UMA-S 250 motor, wear-resistant version

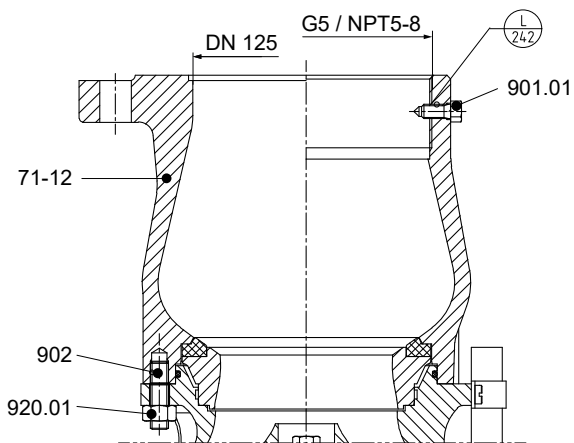


Fig. 16: UPA S 200, connection nozzle, wear-resistant version

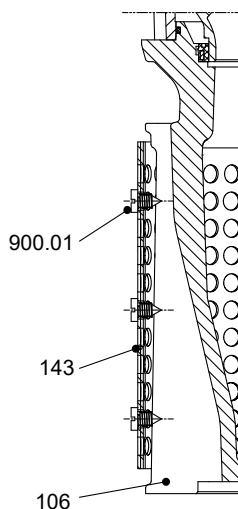


Fig. 17: UPA S 200, screen, wear-resistant version

Table 37: Symbols key

Symbol	Description
	Always secure screw/bolt/stud connections marked with this symbol with Loctite 242 .
	Always secure connections marked with this symbol with Loctite 648 .

Table 38: List of components for UPA S 200, wear-resistant version

Quantity	Part No.	Description	Motor size			Scope of supply of spare parts kit
			6-inch UMA 150, UMA-S 150	8-inch UMA 200, UMA-S 200	10-inch UMA 250, UMA-S 250	
1	106	Suction casing	✓	-	-	106 + 143, 412.01, 502, 900.01, 901.02, 920.02
			-	✓	✓	106 + 143, 412.01, 502, 900.01, 901.02, 901.03, 920.02, 920.03
1	108.01	Stage casing (last stage)	✓	✓	✓	108.01 + 412.01, 529, 545, 902, 920.01
1 per stage -1	108.02	Stage casing	✓	✓	✓	108.02 + 412.01, 502, 540, 902, 920.01
1	143 ⁶⁷⁾	Suction strainer	✓	✓	✓	143 + 900.01, 901.02, 920.02
1	211	Pump shaft	✓	-	-	211 + 412.02, 529, 540, 545, 550, 849, 901.04, 904.01, 940.01
			-	✓	-	211 + 412.02, 529, 540, 545, 550, 849, 901.04, 904.01, 904.02, 940.01, 940.02
			-	-	✓	211 + 529, 540, 545, 550, 849, 901.04, 904.01, 904.02, 940.01, 940.02
1 per stage	232	Clockwise impeller	✓	✓	✓	232 + 52-4, 922
1 per stage +1	412.01 ⁶⁷⁾	O-ring	✓	✓	✓	-
1	412.02 ⁶⁷⁾	O-ring	✓	✓	-	-
1 per stage	52-4	Locking sleeve	✓	✓	✓	52-4 + 922
1 per stage	502 ⁶⁷⁾	Casing wear ring	✓	✓	✓	-
1	529	Bearing sleeve	✓	✓	✓	529 + 545
1 per stage	540 ⁶⁷⁾	Bush	✓	✓	✓	-
1	550	Disc	✓	✓	✓	-
1	71-12	Connection nozzle, flanged	✓	✓	✓	71-12 + 902, 920.01

⁶⁷⁾ Recommended spare part

Quantity	Part No.	Description	Motor size			Scope of supply of spare parts kit
			6-inch UMA 150, UMA-S 150	8-inch UMA 200, UMA-S 200	10-inch UMA 250, UMA-S 250	
1	71-12	Connection nozzle, threaded	✓	✓	✓	71-12 + 901.01, 902, 920.01
1	75-6 ⁶⁷⁾	Valve disc guide	✓	✓	✓	-
1	751	Valve body, flanged	✓	✓	✓	751 + 75-6, 752.11, 752.12, 756, 759, 902, 920.01
		Valve body, threaded	✓	✓	✓	751 + 75-6, 752.11, 752.12, 756, 759, 901.01, 902, 920.01
1	752.11	Valve seat, metal	✓	✓	✓	752,11 + 752.12
1	752.12 ⁶⁷⁾	Valve seat, EPDM	✓	✓	✓	-
1	756 ⁶⁷⁾	Valve spring	✓	✓	✓	-
1	759	Valve disc	✓	✓	✓	759 + 752.12, 756
2 per electric cable	81-39	Clamp	✓	✓	✓	-
1 per electric cable	825	Cable guard	✓	✓	✓	-
1	849	Sleeve coupling	✓	-	-	849 + 412.02, 904.01
			-	✓	-	849 + 412.02, 904.01, 904.02, 940.02
			-	-	✓	849 + 904.01, 904.02, 940.02
3	900.01	Bolt/screw	✓	✓	✓	-
4 per electric cable	900.02	Bolt/screw	✓	✓	✓	-
2	901.01	Hexagon head bolt	✓	✓	✓	-
3	901.02	Hexagon head bolt	✓	✓	✓	-
4	901.03	Hexagon head bolt	-	✓	✓	-
1	901.04	Hexagon head bolt	✓	✓	✓	-
(1 per stage +1) × 8	902	Stud	✓	✓	✓	-
1	904.01	Grub screw	✓	✓	-	-
2		Grub screw	-	-	✓	-
2	904.02	Grub screw	-	✓	✓	-
(1 per stage +1) × 8	920.01	Nut	✓	✓	✓	-
3	920.02	Nut	✓	✓	✓	-
4	920.03	Nut	-	✓	✓	-
1 per stage	922 ⁶⁷⁾ ⁶⁸⁾	Impeller nut	✓	✓	✓	922 + 52-4
1	940.01 ⁶⁷⁾	Key	✓	✓	✓	-
1	940.02 ⁶⁷⁾	Key	-	✓	✓	-

⁶⁸ A special tool is required for assembly.

Power cables

Main applications

- For use with drinking water applications
- Motor lead for submersible motors, cable laid under water
- Extension cable for the motor lead, cable laid freely exposed to air

Operating data

Table 39: Operating properties

Characteristic		Value
Rated voltage	V_N [V]	≤ 1000
Ambient temperature	T [°C]	≤ 50
Immersion depth	IM [m]	≤ 500

Designation

Example:

ZN 1391 - G FL GWT -J 4G25 - Cu-Rubber

Table 40: Designation key

Code	Description	
ZN	Works standard	
G	Insulation, rubber	
FL	Type of power cable	
	FL	Flat
	RD	Round
GWT	Suitable for drinking water	
J	Information about earth conductor	
	J	With earth conductor
	O	Without earth conductor
4G25	Number of cores	
	4G25	With earth conductor, 4-core, cross-section 25 mm ²
	3x25	Without earth conductor, 3-core, cross-section 25 mm ²
Cu-rubber	Material	

Design details

- 3-core or 4-core rubber-sheathed cable
- Comprising:
- Stranded copper conductor
 - Bare
 - Core insulation and outer sheath made of a special EPR-based rubber compound (ethylene propylene rubber)
 - Blue

Table 41: Cable designs

Cable type	Characteristic
Flat cable	
	3 cores, flat
	4 cores, flat
Round cable	
	1 core, round
	4 cores, round

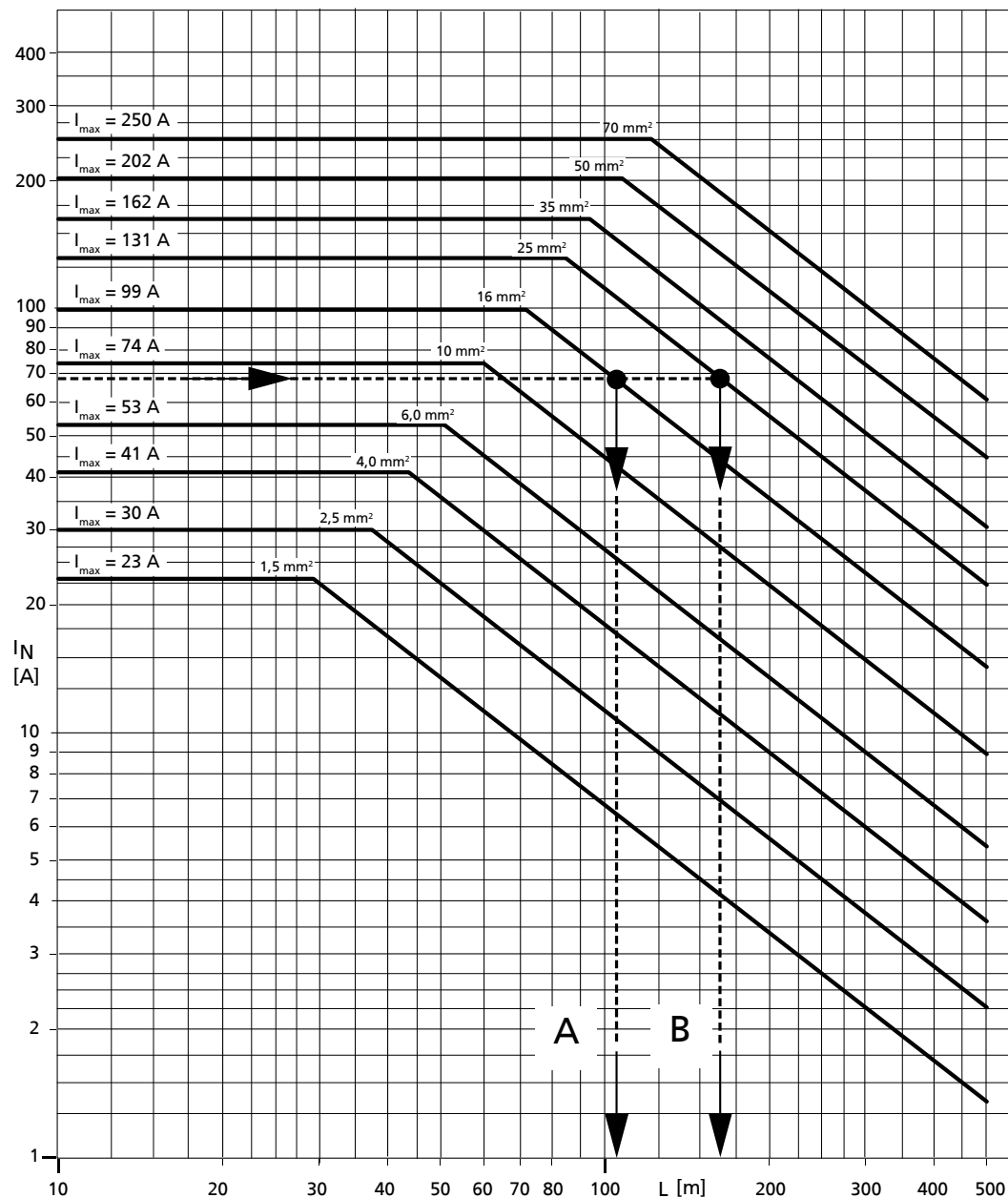
Selection information

Permissible cable lengths for starting method: DOL

Applies to 1 cable or 2 cables in parallel⁶⁹⁾

Conditions:

- $V = 400 \text{ V}$; $\Delta V = 3 \%$; $T \leq 30 \text{ }^{\circ}\text{C}$; laid freely exposed to air and in contact with surfaces



Example A
 $I_N = 68 \text{ A}$
Cable design: 1 x 16 mm²
Cable length: $L \leq 105 \text{ m}$

Example B
 $I_N = 68 \text{ A}$
Cable design: 1 x 25 mm²
Cable length: $L \leq 165 \text{ m}$

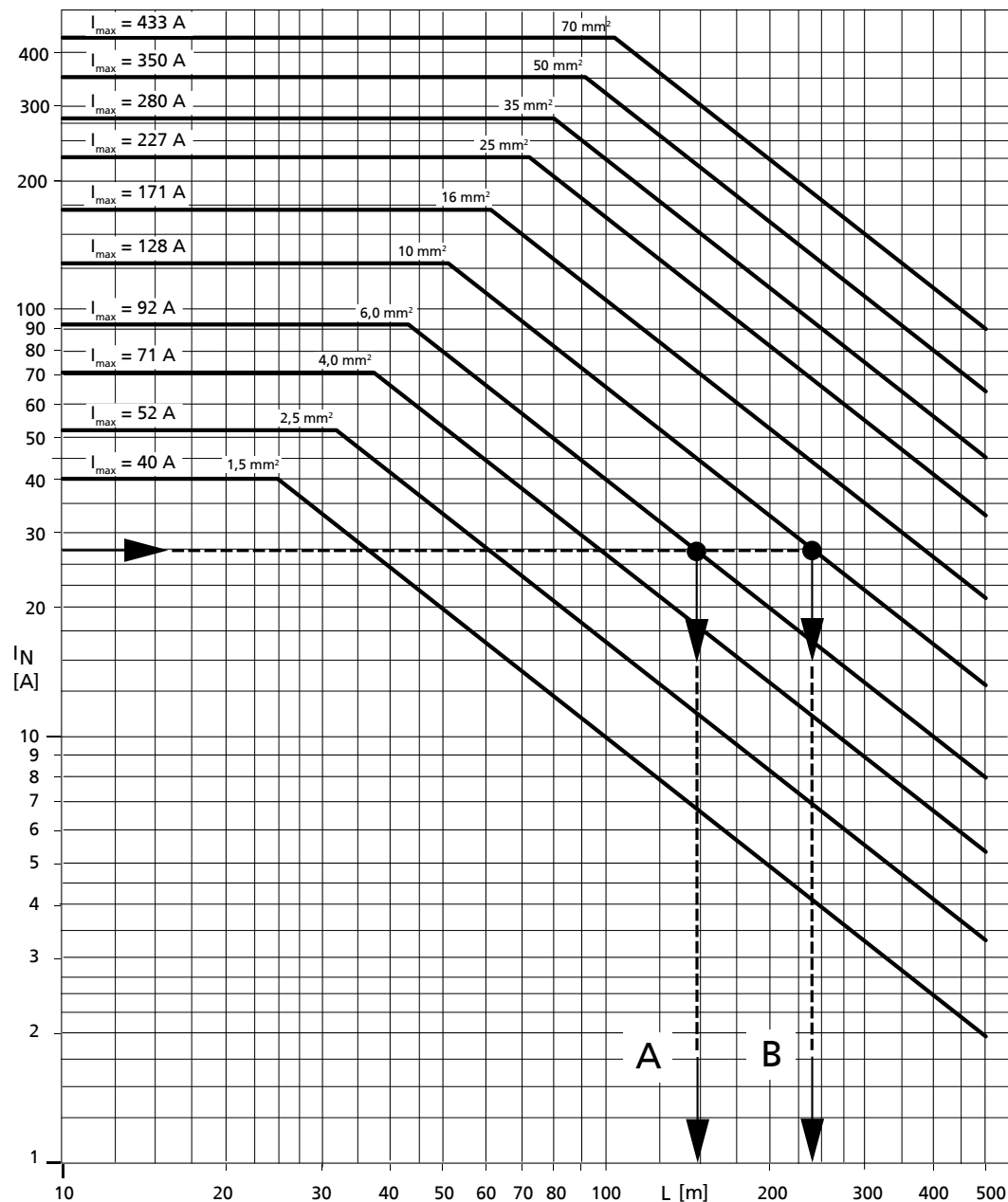
⁶⁹⁾ For parallel cables the value is doubled to obtain the permissible length.

Permissible cable lengths for starting method: YΔ

Applies to 2 cables

Conditions:

- $V = 400 \text{ V}$; $\Delta V = 3 \%$; $T \leq 30 \text{ }^{\circ}\text{C}$; laid freely exposed to air and in contact with surfaces



Example A

$I_N = 27 \text{ A}$
Cable design: $2 \times 6.0 \text{ mm}^2$
Cable length: $L \leq 145 \text{ m}$

Example B

$I_N = 27 \text{ A}$
Cable design: $2 \times 10 \text{ mm}^2$
Cable length: $L \leq 235 \text{ m}$

Voltage drop in the extension cable

When calculating the required conductor cross-section q not only I_N , but also the voltage drop ΔV along the cable length L (distance from motor to control unit) must be taken into account. Proper functioning of our submersible motors requires $\Delta V \leq 3\%$ of the supply voltage U . If $\Delta V > 3\%$, a larger conductor cross-section must be used. The voltage drop is calculated using the following equations:

Starting method DOL/autotransformer

- 1 cable:

$$\Delta U = \frac{3,1 \times L \times I_N \times \cos \varphi}{q \times U} [\%]$$

- 2 cables in parallel (II):

$$\Delta U = \frac{1,55 \times L \times I_N \times \cos \varphi}{q \times U} [\%]$$

Starting method YΔ (2 cables):

$$\Delta U = \frac{2,1 \times L \times I_N \times \cos \varphi}{q \times U} [\%]$$

Power loss ΔP :

$$\Delta P = \frac{\Delta U}{(\cos \varphi)^2} [\%]$$

Table 42: Key

Code	Description
L	Single cable length [m]
I_N	Rated current [A]:
$\cos \varphi$	Power factor at 4/4 load
q	Conductor cross-section [mm ²]
U	Supply voltage [V]

Maximum permissible rated motor current

Table 43: For ambient temperature $t \leq 30^\circ \text{C}$

Starting method	Used as ...	$I_{\max}$ [A] for the following conductor cross-sections [mm ²]										
		1,5	2,5	4	6	10	16	25	35	50	70	95
DOL (1 cable or 2 cables in parallel)	Motor lead	29	38	52	67	94	125	166	205	256	316	517
	Extension cable	23	30	41	53	74	99	131	162	202	250	409
YΔ (2 cables)	Motor lead	50	66	90	116	163	217	288	355	443	547	895
	Extension cable	40	52	71	92	128	171	227	280	350	433	708

Dimensions and weights

Table 44: Selection table: dimensions [mm]

Core type		Conductor cross-section [mm ²]										
		1,5	2,5	4	6	10	16	25	35	50	70	95
	Height	5,2 ^{+1,0}	6,1 ^{+1,5}	7,0 ^{+2,0}	7,6 ^{+2,2}	9,3 ^{+2,2}	11,2 ^{+2,3}	13,0 ^{+2,5}	14,6 ^{+2,9}	17,0 ^{+3,0}	19,3 ^{+2,7}	-
	Width	11,0 ^{+2,0}	13,2 ^{+2,3}	15,5 ^{+3,5}	17,4 ^{+3,6}	21,5 ^{+3,5}	26,7 ^{+4,3}	31,6 ^{+3,9}	35,5 ^{+5,0}	42,1 ^{+4,9}	48,4 ^{+3,6}	-
	Height	5,2 ^{+1,0}	6,1 ^{+1,5}	-	7,6 ^{+2,2}	9,3 ^{+2,2}	11,2 ^{+2,3}	13,0 ^{+2,5}	-	-	-	-
	Width	14,5 ^{+2,7}	17,5 ^{+2,5}	-	23,5 ^{+3,0}	29,0 ^{+3,5}	35,0 ^{+2,4}	41,5 ^{+4,5}	-	-	-	-
	Diameter	5,3 ^{+1,1}	-	-	-	-	-	-	13,8 ^{+3,6}	16,0 ^{+3,8}	18,5 ^{+3,6}	21,9 ^{+1,5}
	Diameter	10,0 ^{+2,0}	12,0 ^{+1,9}	13,9 ^{+2,0}	15,7 ^{+2,1}	21,1 ^{+2,1}	24,5 ^{+4,3}	29,7 ^{+4,3}	33,3 ^{+5,5}	39,0 ^{+5,6}	44,2 ^{+5,8}	-

Table 45: Selection table: weight [kg/m]

Core type	Conductor cross-section [mm ²]										
	1,5	2,5	4	6	10	16	25	35	50	70	95
	0,110	0,171	0,252	0,319	0,486	0,750	1,107	1,438	2,054	2,760	-
	0,165	0,237	-	0,440	0,704	1,026	1,457	-	-	-	-
	0,051	-	-	-	-	-	-	0,499	0,699	0,940	1,140
	0,180	0,259	0,356	0,475	0,837	1,220	1,770	2,304	3,185	4,364	-

Cable connector

Application

For providing a sealed, water-tight connection between extension cables and motor leads of submersible motors.

- Ambient temperature: $T \leq + 50\text{ °C}$
- Immersion depth: $\leq 500\text{ m}$

Selection table

The table below only shows the **cables on stock**. Connectors for other cables on request.

Table 46: Key

Cable symbols	Key	Cable designation
	1-core, round	G RD GWT - O 1 G
	4-core, round	G RD GWT - J 4 G
	3-core, flat	G FL GWT - O 3x ...
	4-core, flat	G FL GWT - J 4G ...

Table 47: Selection table

Motor lead	Extension cable [mm ²]									
[mm ²]	1,5	2,5	4	6	10	16	25	35	50	70
Cable connector size										
										
1,5 / 2,5	28	28	28	35	35	43	53	53	-	-
4	-	35	35	35	35	43	53	53	-	-
6	-	-	35	35	35	43/29f	53/29f	53/29f	-	-
10	-	-	-	43	43/29f	43/29f	53/29f	53/29f	-	-
16	-	-	-	-	-	53	53	53	66	66
25	-	-	-	-	-	-	66	66	66	66
35	-	-	-	-	-	-	-	66	66	66
50	-	-	-	-	-	-	-	66	66	66
70	-	-	-	-	-	-	-	-	-	66
										
1,5 / 2,5	28	28	28	35	35	43	53	53	-	-
4	-	35	35	35	35	43	53	53	-	-
6	-	-	35	35	35	43	53	53	-	-
10	-	-	-	43	43	43	53	53	-	-
16	-	-	-	-	-	53	53	53	66	66
25	-	-	-	-	-	-	66	66	66	66
 +  or  + 										
1,5	28	28	28	35	35	-	-	-	-	-
2,5	35	35	35	35	35	-	-	-	-	-
4	-	-	35	35	35	43	-	-	-	-
6	-	-	-	43	43	43	53	53	66	66
10	-	-	-	66	66	66	66	66	66	66
16	-	-	-	-	-	66	66	66	66	66
25	-	-	-	-	-	-	78	78	78	-
										
1,5 / 2,5 / 4	28	28	28	28	35	43	-	-	-	-
6	28	28	28	28	35	43	53	53	-	-
10	-	-	35	35	35	43	53	53	-	-
16	-	-	-	-	43	43	53	53	66	66
25	-	-	-	-	-	53	53	53	66	78
35	-	-	-	-	-	-	-	53	66	78
50	-	-	-	-	-	-	-	-	66	78
70	-	-	-	-	-	-	-	-	-	78

Motor lead [mm²]	Extension cable [mm²]									
	1,5	2,5	4	6	10	16	25	35	50	70
Cable connector size										
⊙	⊙									
35	-	-	-	-	-	-	-	35	-	-
50	-	-	-	-	-	-	-	-	35	-
70	-	-	-	-	-	-	-	-	-	35

Cable clips

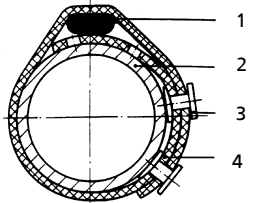
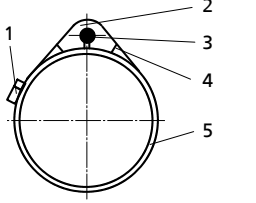
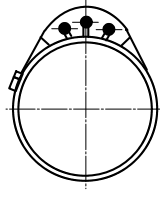
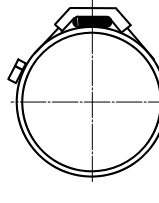
Applications

- Securing cables at the riser / discharge pipe.
- Suitable for use in normal or slightly aggressive water.
- Versions for use in more aggressive water (e.g. seawater) on request.

Table 48: Selection table

Cable		Cable clip size	Weight [kg]	Required strap length L [mm] per cable clip for the following risers													
Type	Number x Ø of cores [mm]			G 1 1/4 / DN 32	G 1 1/2 / DN 40	G 2 / DN 50	DN 65	G 3 / DN 80	G 4 / DN 100	G 5 / DN 125	G 6 / DN 150	DN 175	G 8 / DN 200	DN 250	DN 300	DN 350	DN 400
Flat	3 x 1.5 to 3 x 6,0	1	0,01	270	280	320	360	400	450	500	600	-	-	-	-	-	-
	3 x 10 to 3 x 70	11	0,01	-	-	350	400	450	550	650	800	950	1100	1300	1500	1700	1900
Round	3 x 1.5 to 3 x 6,0	1	0,01	270	280	320	360	400	450	500	600	-	-	-	-	-	-
	3 x 10	2	0,08	-	-	350	400	450	550	650	800	950	1100	1300	1500	1700	1900
	3 x 16 to 3 x 25	3a	0,19	-	-	350	400	450	550	650	800	950	1100	1300	1500	1700	1900
	3 x 35 to 3 x 50	3	0,19	-	-	-	450	500	600	700	850	1000	1150	1350	1550	1750	1950
	3 x 70	3b	0,19	-	-	-	450	500	600	700	850	1000	1150	1350	1550	1750	1950
	3 x 95	4	0,55	-	-	-	-	-	650	750	900	1050	1200	1400	1600	1800	2000
	3 cables 1 x 50	7	0,6	-	-	-	-	-	700	800	950	1100	1250	1450	1650	1850	2050
	3 cables 1 x 70	8	0,6	-	-	-	-	-	700	800	950	1100	1250	1450	1650	1850	2050
	3 cables 1 x 95	6	0,6	-	-	-	-	-	700	800	950	1100	1250	1450	1650	1850	2050
	3 cables 1 x 120	9	0,6	-	-	-	-	-	700	800	950	1100	1250	1450	1650	1850	2050
	3 cables 1 x 150																

Table 49: Cable clip sizes

Size 1	Sizes 2, 3, 3a, 3b, 4	Sizes 6 to 9	Size 11
			
1 = cable 2 = riser 3 = plastic stud 4 = rubber strap	1 = screw band with tension screw (re-usable) 2 = cable guard 3 = cable 4 = metal strap 5 = riser		

Flow velocity past the motor

Application

- Required motor cooling

Flow velocity past the motor

$v = 0 \text{ m/s}$

- The flow velocity past the motor is undefined.
- A free flow of heat is established. This heat flow must not be influenced or hindered by any structures, and a supply of fresh water must be provided at all times.
 - Example: pump set freely suspended in a vertical position inside a large tank

Flow velocity past the motor

$v > 0.2 \text{ m/s}$

$v > 0.5 \text{ m/s}$

- The flow velocity past the motor is defined for the installation conditions, see table below. Decisive factors are the inside well diameter or the inside shroud diameter, the operating data and the outside dimensions of the pump set.
 - Example: pump set installed in a vertical position above the screen/filter in a well; values in accordance with the table below.
 - Example: pump set installed in a horizontal position in a tank, fitted with a cooling shroud, or pump set installed in a vertical position in a pump sump, fitted with a cooling shroud; values in accordance with the table below.

Table 50: Maximum permissible well diameter or inside shroud diameter

Flow rate Q [m³/h]	Flow velocity v [m/s]	Well diameter or inside shroud diameter [mm]				
		UMA 150 UMA-S 150	UMA 200 UMA-S 200	UMA 250 UMA-S 250	UMA 300	14D
15	≥ 0,2	≤ 215	-	-	-	-
	≥ 0,5	≤ 175	-	-	-	-
25	≥ 0,2	≤ 255	-	-	-	-
	≥ 0,5	≤ 195	-	-	-	-
50	≥ 0,2	≤ 330	≤ 350	-	-	-
	≥ 0,5	≤ 235	≤ 265	-	-	-
75	≥ 0,2	≤ 390	≤ 410	≤ 430	-	-
	≥ 0,5	≤ 270	≤ 300	≤ 330	-	-
100	≥ 0,2	≤ 445	≤ 460	≤ 480	-	-
	≥ 0,5	≤ 300	≤ 325	≤ 355	-	-
125	≥ 0,2	≤ 490	≤ 510	≤ 525	-	-
	≥ 0,5	≤ 330	≤ 350	≤ 380	-	-
150	≥ 0,2	≤ 535	≤ 550	≤ 565	≤ 590	-
	≥ 0,5	≤ 355	≤ 380	≤ 400	≤ 430	-
175	≥ 0,2	≤ 575	≤ 590	≤ 605	≤ 625	-
	≥ 0,5	≤ 380	≤ 400	≤ 420	≤ 450	-
200	≥ 0,2	≤ 615	≤ 625	≤ 640	≤ 660	≤ 690
	≥ 0,5	≤ 405	≤ 420	≤ 445	≤ 470	≤ 510
250	≥ 0,2	≤ 680	≤ 690	≤ 705	≤ 725	≤ 750
	≥ 0,5	≤ 445	≤ 460	≤ 480	≤ 505	≤ 540
300	≥ 0,2	≤ 745	≤ 755	≤ 765	≤ 780	≤ 800
	≥ 0,5	≤ 485	≤ 500	≤ 515	≤ 540	≤ 570
350	≥ 0,2	-	≤ 810	≤ 820	≤ 835	≤ 860
	≥ 0,5	-	≤ 530	≤ 550	≤ 570	≤ 600
400	≥ 0,2	-	≤ 865	≤ 875	≤ 890	≤ 910
	≥ 0,5	-	≤ 565	≤ 580	≤ 605	≤ 630
500	≥ 0,2	-	≤ 960	≤ 970	≤ 985	≤ 1000
	≥ 0,5	-	≤ 625	≤ 640	≤ 660	≤ 690
600	≥ 0,2	-	≤ 1050	≤ 1055	≤ 1070	≤ 1090
	≥ 0,5	-	≤ 680	≤ 695	≤ 710	≤ 740
800	≥ 0,2	-	≤ 1205	≤ 1215	≤ 1225	≤ 1240
	≥ 0,5	-	≤ 775	≤ 790	≤ 805	≤ 830
1000	≥ 0,2	-	≤ 1345	≤ 1350	≤ 1360	≤ 1370
	≥ 0,5	-	≤ 865	≤ 875	≤ 890	≤ 910
1200	≥ 0,2	-	-	-	≤ 1485	≤ 1500

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Flow rate	Flow velocity	Well diameter or inside shroud diameter [mm]				
Q [m³/h]	v [m/s]	UMA 150 UMA-S 150	UMA 200 UMA-S 200	UMA 250 UMA-S 250	UMA 300	14D
1200	≥ 0,5	-	-	-	≤ 965	≤ 980
1400	≥ 0,2	-	-	-	≤ 1600	≤ 1610
	≥ 0,5	-	-	-	≤ 1030	≤ 1050
1600	≥ 0,2	-	-	-	≤ 1705	≤ 1720
	≥ 0,5	-	-	-	≤ 1100	≤ 1120
1800	≥ 0,2	-	-	-	≤ 1805	≤ 1820
	≥ 0,5	-	-	-	≤ 1165	≤ 1180
2000	≥ 0,2	-	-	-	≤ 1900	≤ 1910
	≥ 0,5	-	-	-	≤ 1225	≤ 1240



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