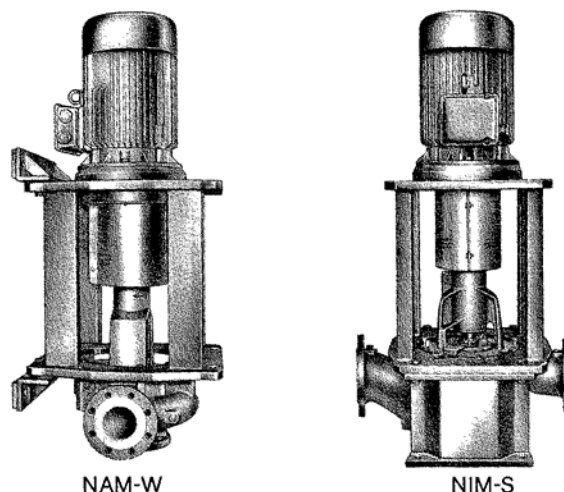


Volute Casing Centrifugal Pumps PN 10 for Pedestal or Wall Mounting

Series NIM of the Inline Design Series NAM with Axial Intake



Application

For handling fresh water, sea water, condensate, oils, brines, lyes etc. The fluids to be pumped must not contain any abrasive particles nor chemically attack the construction materials of the pumps.

Main fields of application

In shipbuilding: As general service and fire pump, bilge, ballast and cooling water pump as well as sea water pump.

In all industrial branches: For general water supply as well as in cooling and transfer circulation systems.

Type of construction

Single-stage, single-flow volute casing centrifugal pump. NIM type of construction: Volute casing of the inline design. NAM type of construction: Volute casing with axial intake and radial outlet. Nominal capacities according to DIN 24 255.

Pump casing and bearing unit are connected with the driving motor by means of a pump bracket. Feet at the lower flange of the pump bracket allow vertical pedestal installation. Laterally arranged brackets permit vertical wall mounting. General application of spacer couplings allow easy dismantling of the bearing unit including impeller without removing the volute casing, pipelines and driving motor. Readjusting of the coupling is not necessary as the pump and driving motor are exactly centered in the pump bracket, i.e. intermediate ring.

All screw connections are by means of hexagonal screws and hexagonal nuts so that even after repeated painting (shipbuilding), proper loosening of same will be ensured.

The requirements of DIN 31001 "Contact Protection" are complied with.

Attention: In the pump denomination, the standard nominal width as per DIN 24 255 on the delivery side is applied as this nominal width, in connection with the impeller diameter, is also a characteristic size for the hydraulic performance of the pump.

With the NIM type of construction, the respective actual nominal width on the suction and delivery sides are greater by one nominal width than as per DIN 24 255 (e.g. NIM 80–250 with $DN_s = 125$ mm and $DN_d = 100$ mm).

Branch position/Flanges

With NIM: Suction and delivery branches in one line, opposite.
With NAM: Suction branch axial, delivery branch radial.
Flanges: up to DN 150 as per DIN 2533
for DN 200 and above as per DIN 2532

Shaft sealing

By uncooled stuffing boxes with internal sealing. Packing rings of Teflon-impregnated white asbestos yarn.

By uncooled, unbalanced, maintenance-free mechanical seal.

Material design:

Rotary seal	hard carbon
Stationary seal	oxide ceramics
O-rings	fluoroelastomer (FPM) ①
Metal parts	stainless steel

① With water above 100°C EP-rubber.

Bearing/Lubrication

Two grease-lubricated grooved ball bearings as per DIN 625 in the bearing bracket.

Upper temperature ② and pressure limits

Applicable to all three material designs.

Admissible temperature of the fluid to be pumped with uncooled stuffing box	125°C
uncooled mechanical seal	140°C
Admissible internal pressure	10 bar
Admissible inlet pressure	Inlet pressure plus max. delivery head must not exceed the admissible internal pump pressure.

② The admissible temperatures apply to water. In case of other fluids to be pumped, the temperature limits may change.

Shaft coupling/Contact protection

Flexible shaft coupling with spacer (dismounting-type coupling).

A contact protection as per DIN 31001 is also supplied.

Exchangeability

Simple spare parts stockage owing to the unit assembly principle. For both types of construction, only three bearing units (shaft sizes) are required.

Drive

By means of three-phase motors, surface-cooled V1 type of construction, enclosures IP 44 and IP 54 according to IEC standards, class B insulation. Performances and main dimensions as per DIN 42 677.

Or by means of three-phase motors for naval operation, surface-cooled, V1 type of construction, enclosures IP 44 and IP 54 or IP 23, class B insulation.

Combination of components

The table on page 3 shows the combination possibilities of components of all NIM and NAM sizes.

It is of particular advantage that within one bearing bracket size for all pump sizes the shaft and the casing cover with stuffing box and/or mechanical seal are designed of identical construction.

Connections

The following connections are always provided:

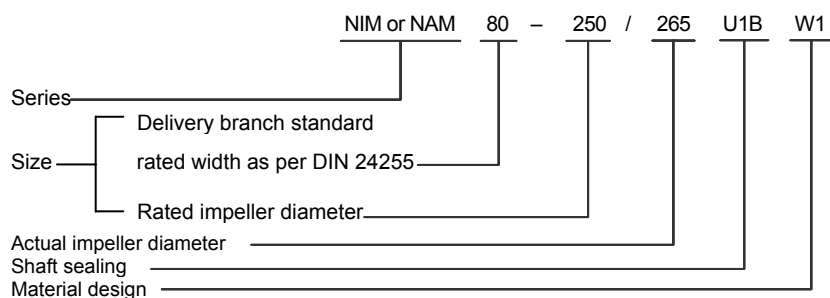
A1	Filling or control pressure extraction for automatic aspirator
B1	Drainage
D8	Leakage drain
E3	Venting
E4	Venting with automatic aspirator
M1, M2	Pressure gauge

Automatic aspirator A 25 A

For data, please refer to back cover of the brochure.

Abbreviation

Abbreviation system of a NIM or NAM pump



This abbreviation is entered on the rating plate.

Materials

Denomination	Part No.	Material designs				
		W1	W2	W3	W18	W19
Volute casing	102.11	GG-25	GG-25	G-CuAl 10 Ni	GG-25	GG-25
Casing cover	161.5 a.161.23	GG-25	GG-25	G-CuAl 10 Ni	GG-25	GG-25
Shaft	211.1	1.4021/1.7139②	1.4021/1.7139②	1.4401/1.7139②	1.4401/1.7139②	1.4401/1.7139②
Impeller	230.1	GG-20	G-CuAl10Ni	G-CuAl10 Ni	G-CuAl10Ni	GG-20
Bearing bracket	330.1	GG-25	GG-25	GG-25	GG-25	GG-25
Pump bracket	346.2	steel welded	steel welded	steel welded	steel welded	steel welded
Stuffing box gland	452.1	GG-25	GG-25	G-CuAl 10 Ni	GG-25	GG-25
Split ring ①	502.1/502.2	GC/GZ-CuSn12	GC/GZ-CuSn12	GC/GZ-CuSn 12	GC/GZ-CuSn12	GC/GZ-CuSn 12
Intermediate ring	509.2	GG-25	GG-25	G-CuAl 10 Ni	GG-25	GG-25
Distance sleeve	525.1	GG-25	GG-25	GC/G2-CuSn 12	GG-25	GG-25
Screws and nuts coming into contact with the fluid to be pumped		stainless steel	stainless steel	stainless steel	stainless steel	stainless steel

① Split rings against surcharge.

② On the pump side (in contact with fluid) 1.4021 or 1.4401/on the motor side 1.7139.
Shaft of material 1.4401/1.7139 against surcharge.

Table Combination of Components

The table below shows the combination possibility of structural and component parts of sizes NIM and NAM

Bearing bracket size	Pump sizes		Bearing bracket	Shaft	Casing cover		Volute casing	Impeller	Pump spacer	Pump foot	Bracket (for wall mounting)	Clutch guard	Distance ring (under clutch guard)		
	① NIM	NAM			Stuffing box	Mech. seal									
470	65-250		1	1	1	1	1	1	1	1	1	1			
		65-250					2								
	65-315						3	2	2	2	3				
		65-315					4						1		
	65-400						5	3	3	3	4				
	80-200						7	4	1	1	1				
	80-250						9	5							
		80-250					10						1		
	80-315						11	6	2	2	3				
		80-315					12						1		
	100-200						13	7			1-2②				
	100-250						15	8							
		100-250					16						1		
	100-315						19	9	2	2	3				
		100-315					18						1		
	125-250						19	10	1	1	1				
		125-250					20						1		
530	80-400		2	2	2	2	21	11	6	6	6	2			
	100-400						22	12							
	125-315						23	13	5	5	5				
	125-400						24	14	6	6	6				
	150-250						25	15	5	4	5				
	150-315						26	16		5					
	150-400						27	17	6	6	6				
	200-250						28	18	4	4	5				
585	200-315		3	3	3	3	29	19				3			
	250-315						30	20							
	250-400						31	21							

Within the vertical column, identical parts with identical number are exchangeable.

① With series NIM, each one of the actual nominal widths on the suction and delivery sides is greater by one nominal width.

② Component: Bracket No. 2 with installation of an electric motor with outside flange diameter 660 mm.

Bracket No. 8 with installation of an electric motor with outside flange diameter 800 mm.

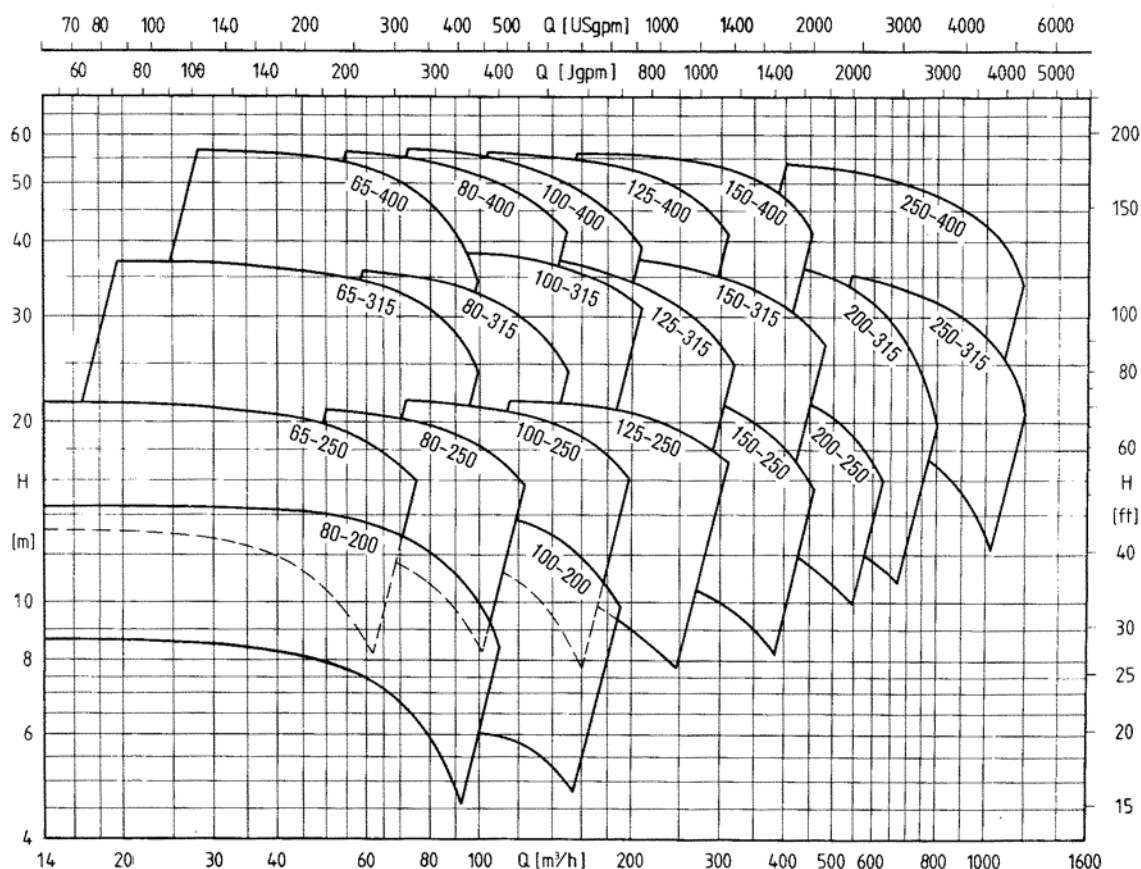
Performance graph
1450 1/min

Sizes: NIM

65-250
65-315
65-400
80-200
80-250
80-315
80-400
100-200
100-250
100-315
100-400
125-250
125-315
125-400
150-250
150-315
150-400
200-250
200-315
250-315
250-400

Sizes: NAM

65-250
65-315
80-250
80-315
100-250
100-315
125-250



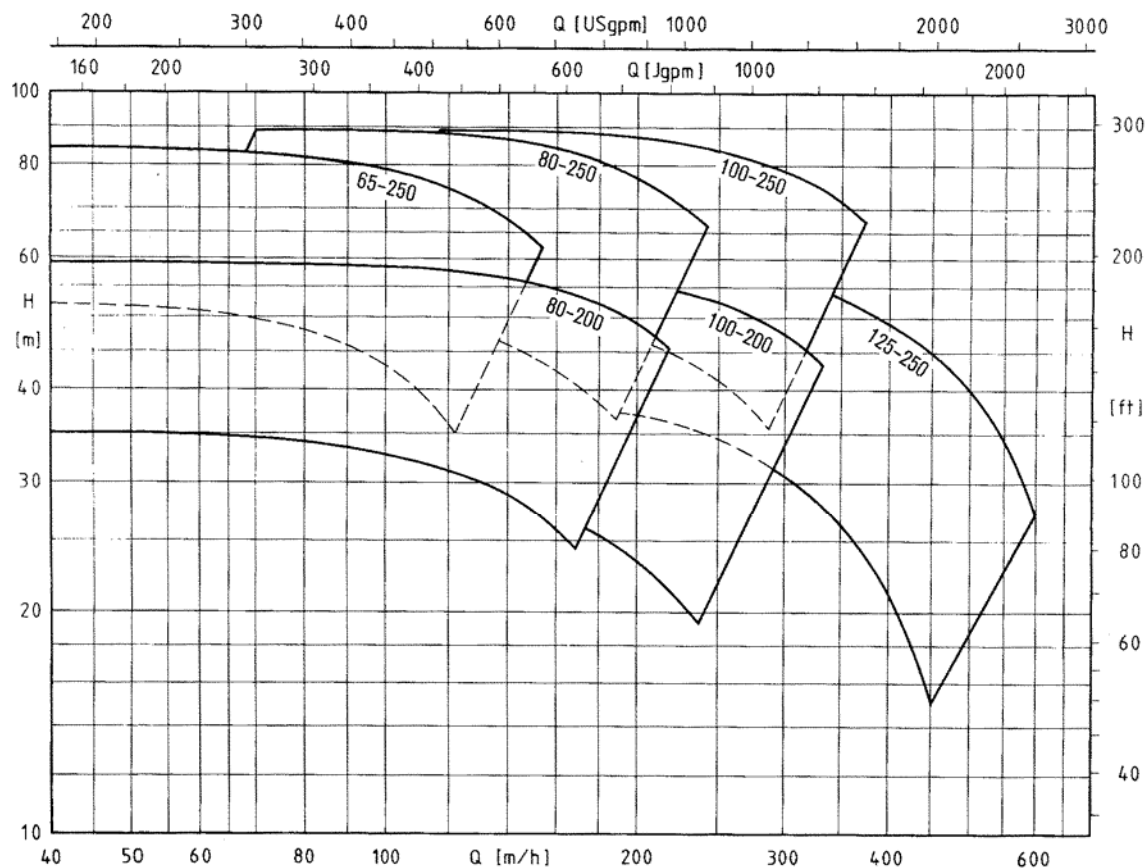
Performance graph
2900 1/min

Sizes: NIM

65-250
80-200
80-250
100-200
100-250
125-250

Sizes: NAM

65-250
80-250
100-250
125-250



Exact performance data to be taken from the individual characteristic curves.
For the smaller performance range, please refer to series NISM.

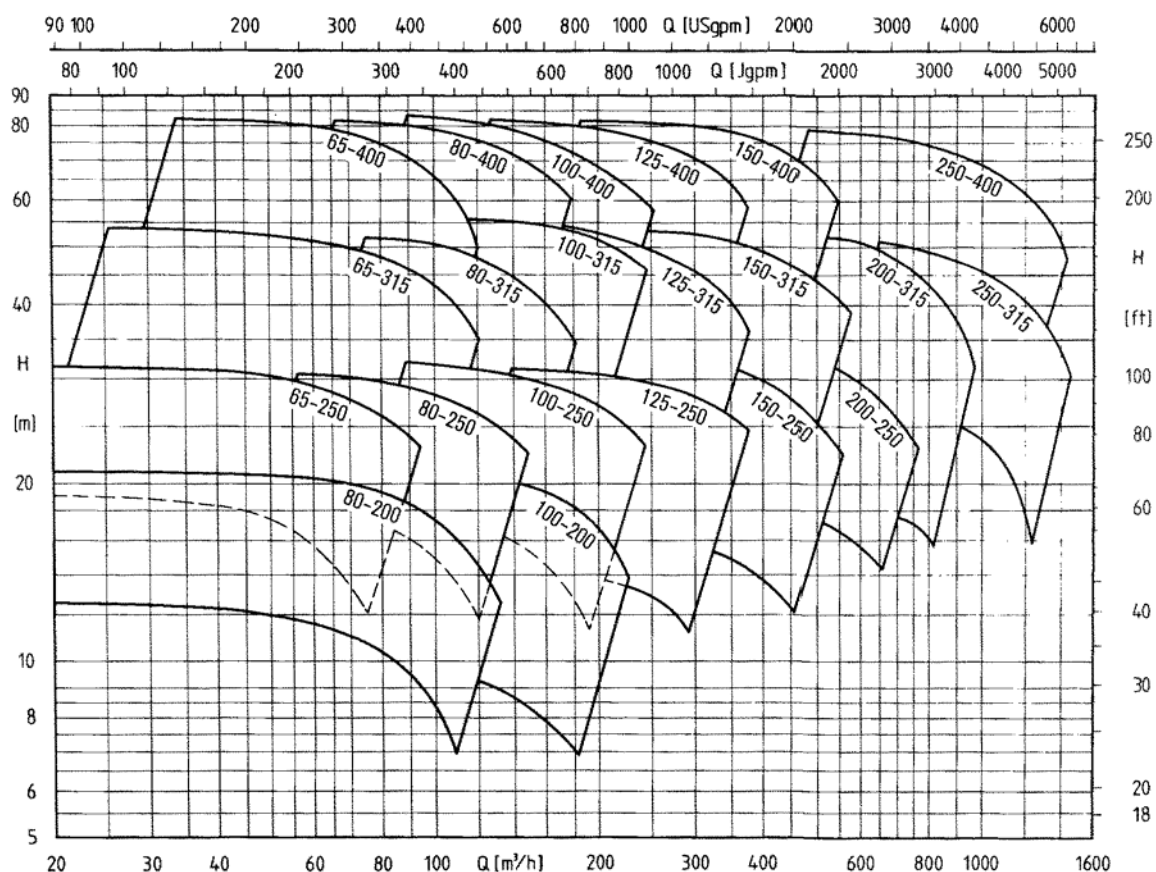
Performance graph
1750 1/min

Sizes: NIM

65-250
65-315
65-400
80-200
80-250
80-315
80-400
100-200
100-250
100-315
100-400
125-250
125-315
125-400
150-250
150-315
150-400
200-250
200-315
250-315
250-400

Sizes: NAM

65-250
65-315
80-250
80-315
100-250
100-315
125-250



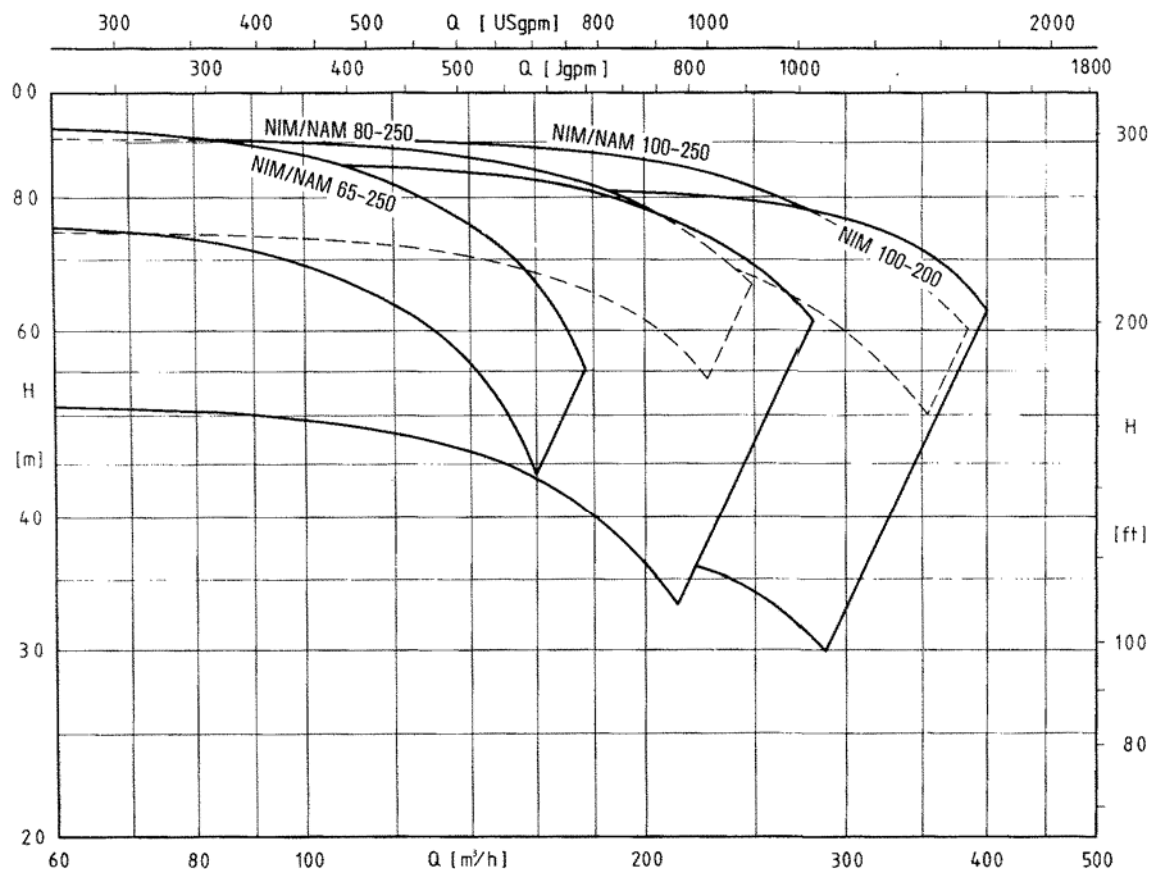
Performance graph
3500 1/min

Sizes: NIM

65-250
80-200
80-250
100-200
100-250
125-250

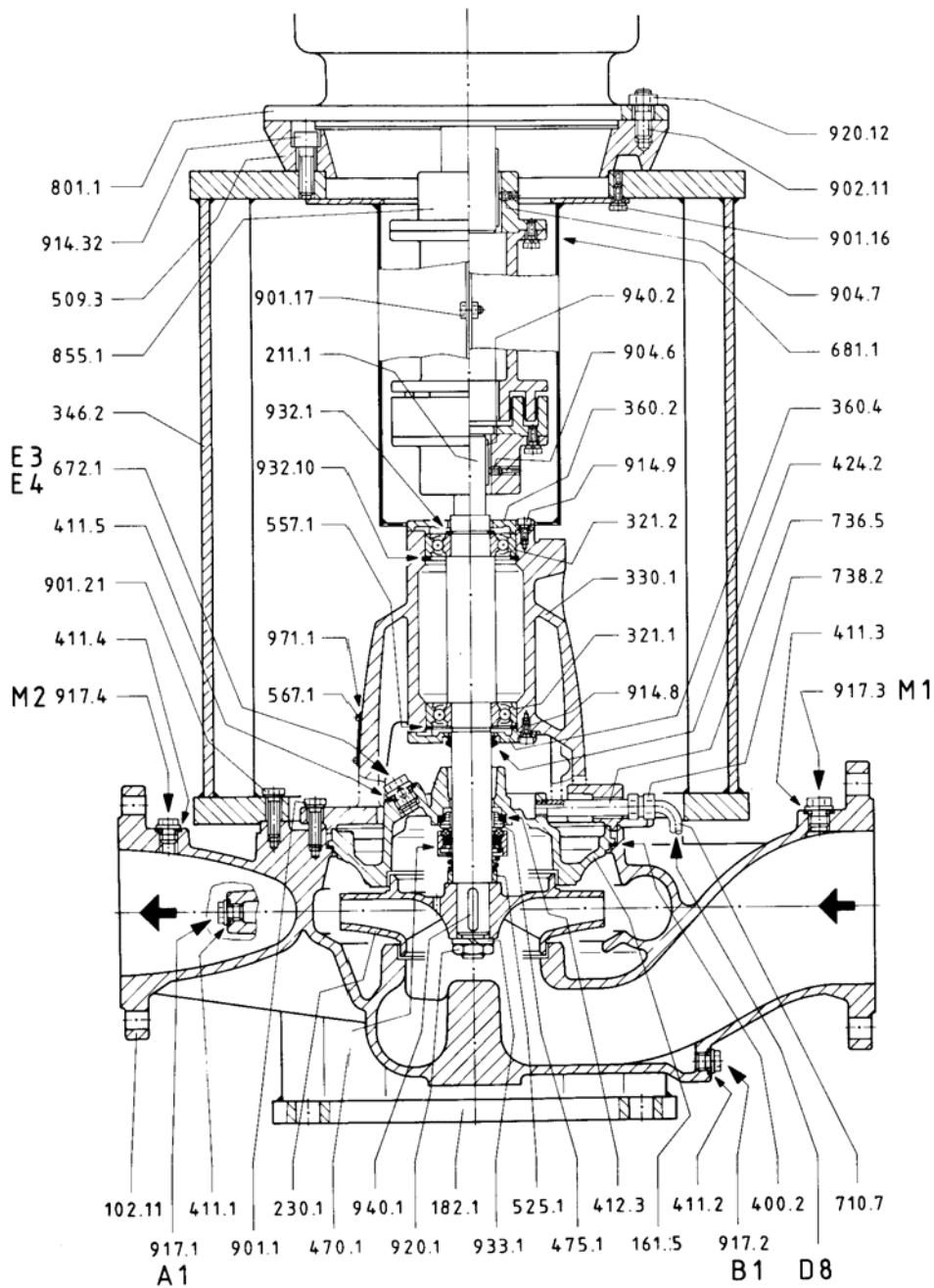
Sizes: NAM

65-250
80-250
100-250
125-250

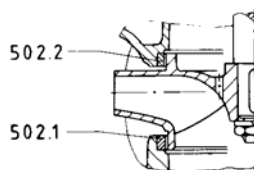


Exact performance data to be taken from the individual characteristic curves.
For the smaller performance range, please refer to series NISM.

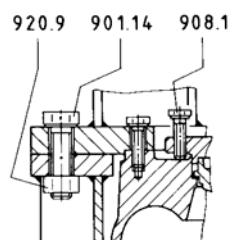
Sectional drawing Pedestal Mounting Type



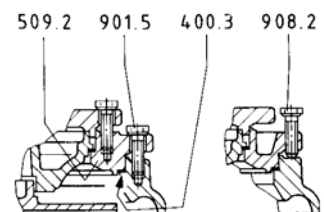
Shaft sealing: Uncooled, unbalanced mechanical seal, internal flushing
Abbreviation: **U3D**



Design with split rings V2
(surcharge)

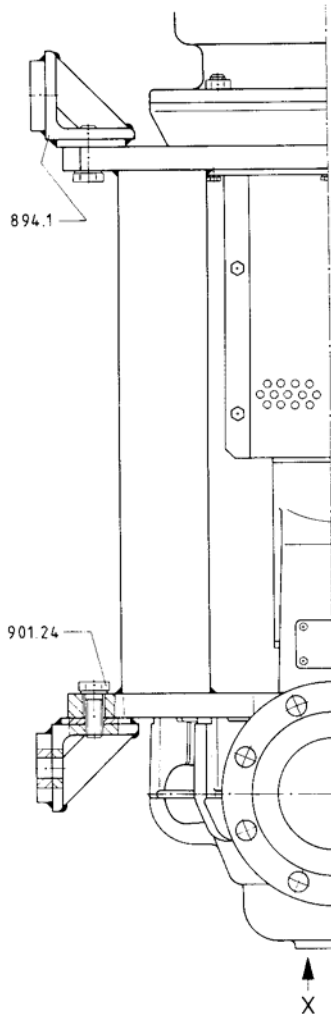


Fastening of pump feet to
pump bracket



Design with intermediate ring

View Mounting Type



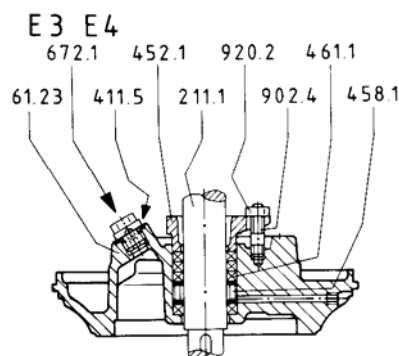
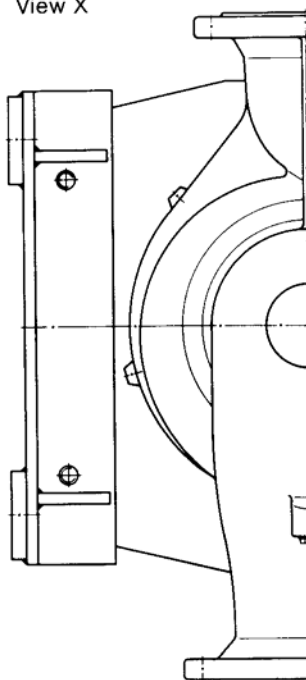
List of components for pedestal mounting and wall fastening

Denomination	Part No.	Denomination	Part No.
Volute casing	102.11	Venting screw	672.1
Casing cover	161.5	Coupling guard	681.1
Casing cover	161.23	Pipe	710.7
Pump foot	182.1	Nipple joint	736.5
Shaft	211.1	Screw-on type union	738.2
Impeller	230.1	Motor	801.1
Grooved ball bearing	321.1	Dismounting-type coupling	855.1
Grooved ball bearing	321.2	Bracket	894.1
Grooved ball bearing	321.3	Hexagonal screw	901.1
Grooved ball bearing	321.4	Hexagonal screw	901.5
Bearing bracket	330.1	Hexagonal screw	901.14
Pump spacer	346.2	Hexagonal screw	901.16
Bearing cover	360.2	Hexagonal screw	901.17
Bearing cover	360.4	Hexagonal screw	901.21
Bearing cover	360.5	Hexagonal screw	901.24
Gasket	400.2	Locking screw	902.4
Gasket	400.3	Locking screw	902.11
Washer	411.1	Stud	904.6
Washer	411.2	Stud	904.7
Washer	411.3	Forcing screw	908.1
Washer	411.4	Forcing screw	908.2
Washer	411.5	Socket head cap screw	914.8
O-ring	412.3	Socket head cap screw	914.9
V-ring	424.2	Socket head cap screw	914.32
Gland	452.1	Threaded plug	917.1
Seal ring	458.1	Threaded plug	917.2
Packing ring	461.1	Threaded plug	917.3
Mechanical seal	470.1	Threaded plug	917.4
Stationary seal ring	475.1	Hexagonal nut	920.1
Casing wear ring	502.1	Hexagonal nut	920.2
Casing wear ring	502.2	Hexagonal nut	920.9
Intermediate ring	509.1	Hexagonal nut	920.12
Nilos ring	516.1	Circlip	932.1
Nilos ring	516.2	Circlip	932.10
Distance sleeve	525.1	Spring washer	933.1
Support disc	551.3	Key	940.1
Support disc	551.7	Key	940.2
Ball bearing balancing disc	557.1	Cup spring	952.3
Blind rivet	567.1	Rating plate	971.1

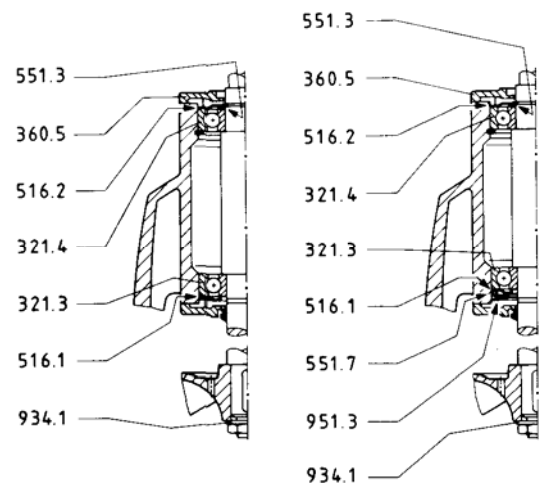
Connections

A1	Filling or control pressure extraction for automatic aspirator
B1	Drainage
D8	Leakage drain
E3	Venting
E4	Venting with automatic aspirator
M1	Pressure gauge
M2	Pressure gauge

View X

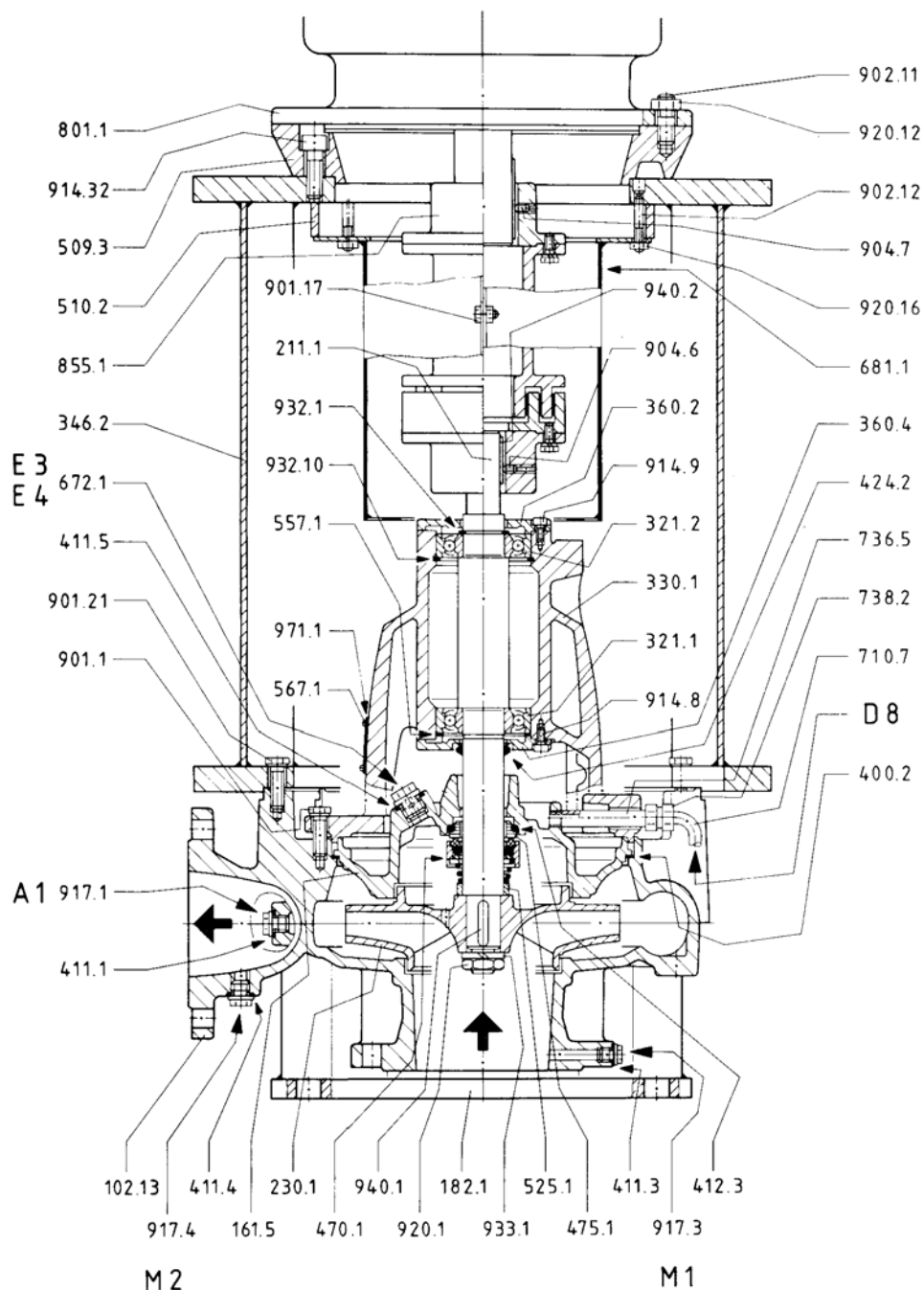


Stuffing box with internal sealing **U1B**

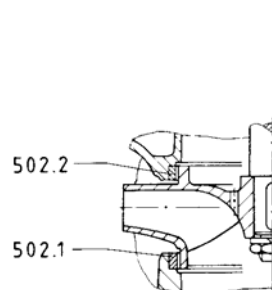


Design of bearing and impeller safety mechanism with bearing bracket size **530** **585**

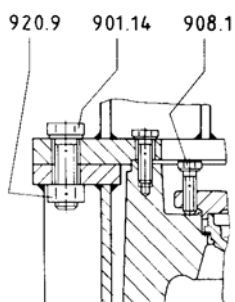
Sectional drawing Pedestal Mounting Type



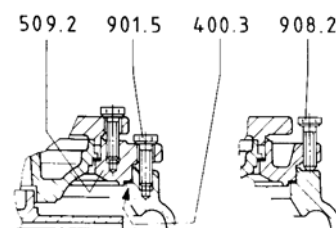
Shaft sealing: Uncooled, unbalanced mechanical seal, internal flushing
Abbreviation: **U3D**



Design with split rings V2
(surcharge)

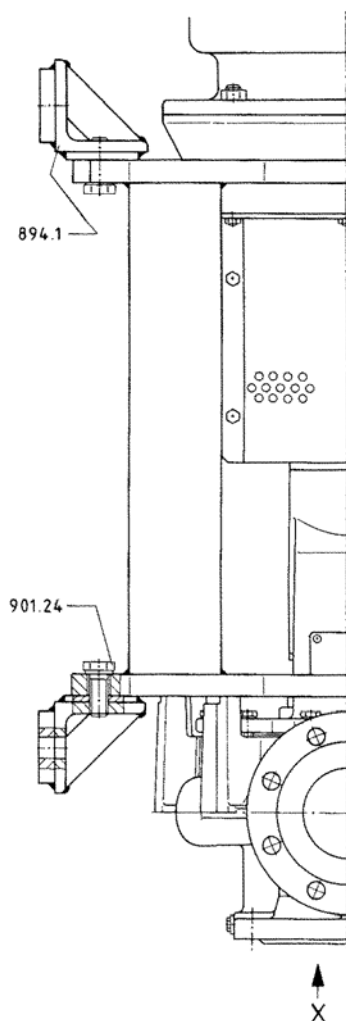


Fixture of pump feet to
pump bracket

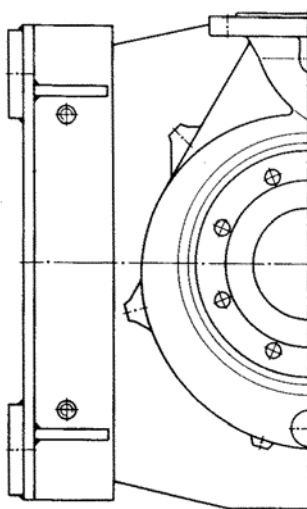


Model with intermediate ring

View Wall Mounting Type



View X

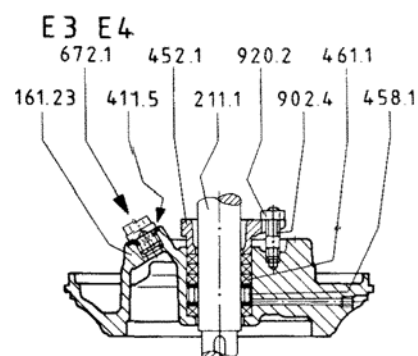


List of components for pedestal mounting and wall fastening

Denomination	Part No.	Denomination	Part No.
Volute casing	102.13	Pipe	710.7
Casing cover	161.5	Nipple joint	736.5
Casing cover	161.23	Screw-on type union	738.2
Pump foot	182.1	Motor	801.1
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Impeller	230.1	Bracket	894.1
Grooved ball bearing	321.1	Hexagonal screw	901.1
Grooved ball bearing	321.2	Hexagonal screw	901.5
Bearing bracket	330.1	Hexagonal screw	901.14
Pump spacer	346.2	Hexagonal screw	901.17
Bearing cover	360.2	Hexagonal screw	901.21
Bearing cover	360.4	Hexagonal screw	901.24
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Gland	452.1	Socket head cap screw	914.9
Seal ring	458.1	Socket head cap screw	914.32
Packing ring	461.1	Threaded plug	917.1
Mechanical seal	470.1	Threaded plug	917.3
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Casing wear ring	502.2	Hexagonal nut	920.2
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Intermediate ring	509.3	Hexagonal nut	920.12
Distance ring	510.2	Hexagonal nut	920.16
Distance sleeve	525.1	Circlip	932.1
Ball bearing balancing disc	557.1	Spring washer	933.1
Blind rivet	567.1	Key	940.1
Venting screw	672.1	Key	940.2
Coupling guard	681.1	Rating plate	971.1

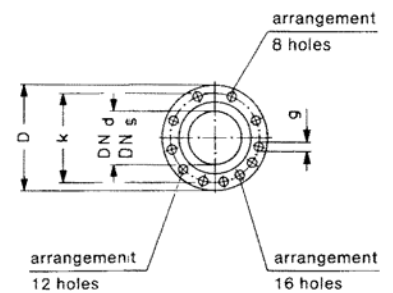
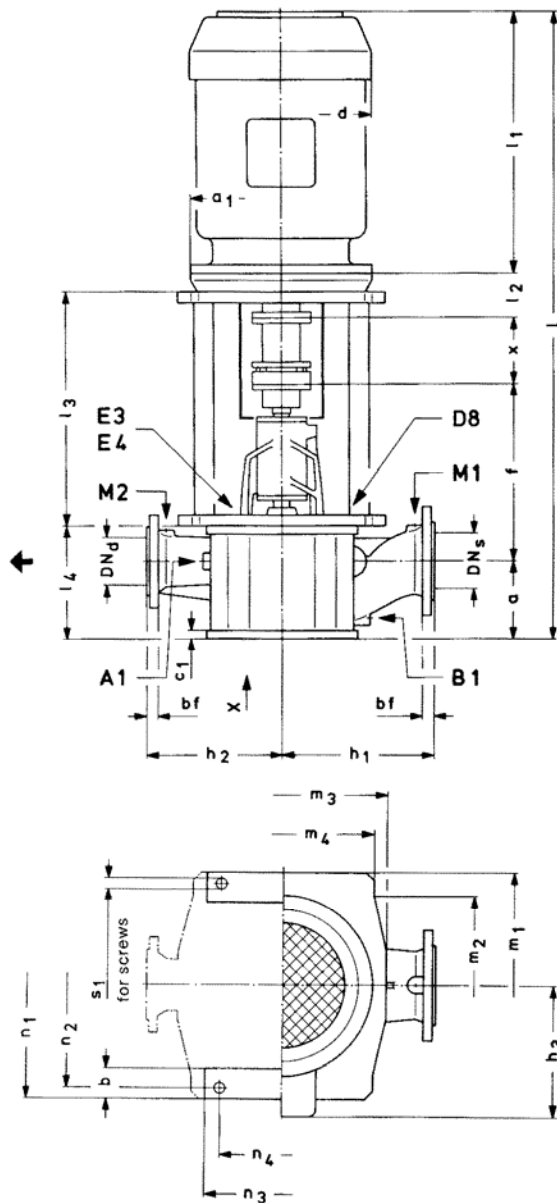
Connections

A1	Filling or control pressure extraction for automatic aspirator
B1	Drainage
D8	Leakage drain
E3	Venting
E4	Venting with automatic aspirator
M1	Pressure gauge
M2	Pressure gauge



Stuffing box with internal sealing **U1B**

Unit dimensions – Pump with Inline Casing for Pedestal Mounting

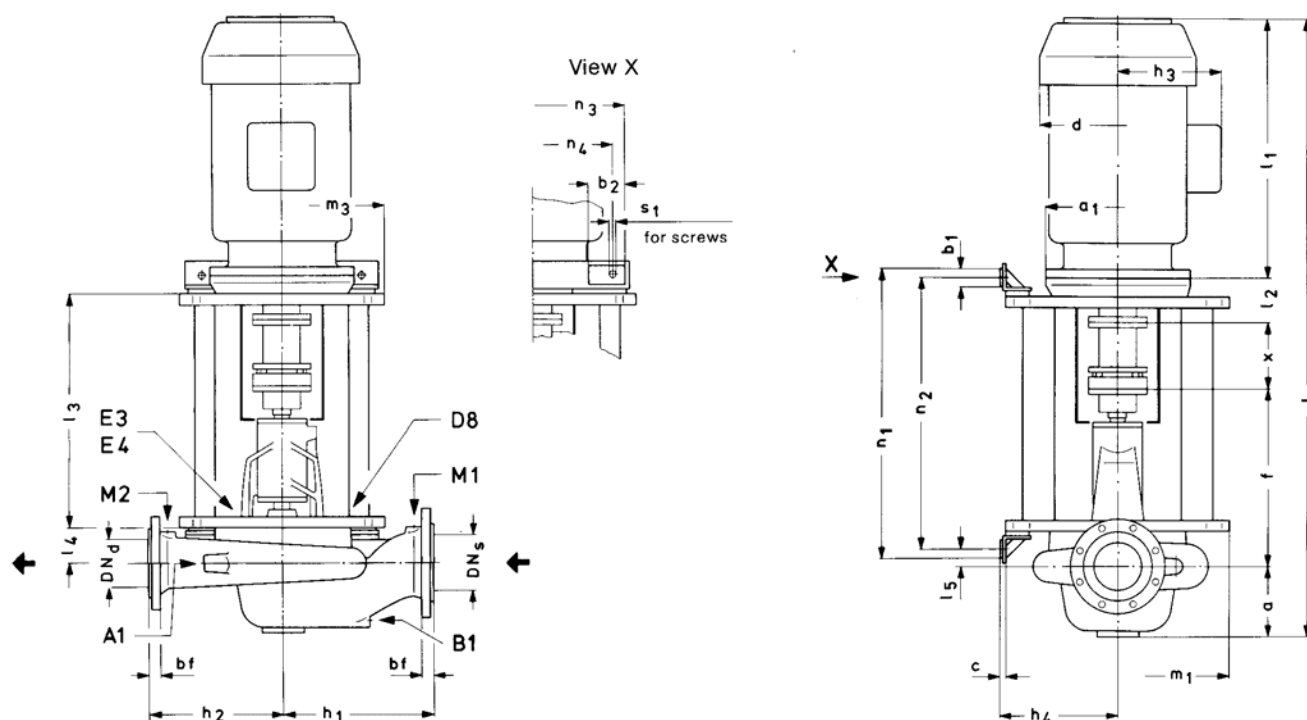


Dimensions in mm
Subject to alterations

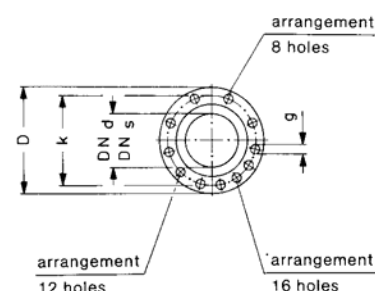
Sense of rotation: clockwise seen
from driving side

Size	Bearing bracket size	Pump spacer size	Unit dimensions																			
			Pump dimensions												Extension dimension x	Dimensions of fastening brackets						
			DN _s	DN _d	a	f	h ₁	h ₂	l ₃	m ₁	m ₂	m ₃	m ₄	b		c ₁	l ₄	n ₁	n ₂	n ₃	n ₄	s ₁
65–250	470	470–250	100	80	210	470	355	350	585	600	476	550	480	140	80	18	296	600	540	400	330	M20
65–315	470	470–315	100	80	185	470	385	375	601	650	525	590	535	140	80	18	255	650	590	450	380	M20
65–400	470	470–400	100	80	155	470	425	415	601	700	–	615	615	140	60	18	225	700	655	500	430	M20
80–200	470	470–250	125	100	210	470	360	350	585	600	476	550	480	140	80	18	296	600	540	400	330	M20
80–250	470	470–250	125	100	210	470	360	350	585	600	476	550	480	140	80	18	296	600	540	400	330	M20
80–315	470	470–315	125	100	185	470	390	375	601	650	525	590	535	140	80	18	255	650	590	450	380	M20
80–400	530	530–400	125	100	250	530	450	435	666	790	–	615	615	180	100	23	355	790	700	570	480	M24
100–200	470	470–250	150	125	210	470	380	350	585	600	476	550	480	140	80	18	296	600	540	400	330	M20
100–250	470	470–250	150	125	210	470	400	350	585	600	476	550	480	140	80	18	296	600	540	400	330	M20
100–315	470	470–315	150	125	185	470	425	420	601	650	525	590	535	140	80	18	255	650	590	450	380	M20
100–400	530	530–400	150	125	250	530	450	435	666	790	–	615	615	180	100	23	355	790	700	570	480	M24
125–250	470	470–250	200	150	210	470	440	355	585	600	476	550	480	140	80	18	296	600	540	400	330	M20
125–315	530	530–315	200	150	250	530	440	390	666	710	540	615	550	180	100	23	355	710	620	500	410	M24
125–400	530	530–400	200	150	250	530	470	450	666	790	–	615	615	180	100	23	355	790	700	570	480	M24
150–250	530	530–315	250	200	305	530	480	400	666	710	540	615	550	180	100	23	410	710	620	500	410	M24
150–315	530	530–315	250	200	250	530	465	450	666	710	540	615	550	180	100	23	355	710	620	500	410	M24
150–400	530	530–400	250	200	250	530	500	500	666	790	–	615	615	180	100	23	355	790	700	570	480	M24
200–250	530	530–250	250	250	280	530	520	480	641	810	640	615	550	180	100	23	410	810	720	500	410	M24
200–315	585	585–400	300	250	350	585	580	480	860	1000	795	800	690	300	120	23	496	1000	900	660	570	M30
250–315	585	585–400	350	300	350	585	665	600	860	1000	795	800	690	300	120	23	496	1000	900	660	570	M30
250–400	585	585–400	350	300	350	585	700	600	860	1000	795	800	690	300	120	23	496	1000	900	660	570	M30

Unit dimensions - Pump with Inline Casing for Wall Mounting



① The dimensions of fastening brackets of pump spacer size 470–250 do not apply to electric motors with flange size $a_s = 660$ mm. In case of use of these electric motors or in case of combination with the above-mentioned pump spacer size, please inquire.



Size	Bearing bracket size	Pump spacer size	Unit dimensions																				
			Pump dimensions										Extension dimen- sion X	Dimensions of fastening brackets									
			DN _s	DN _d	a	f	h ₁	h ₂	l ₃	l ₄	m ₁	m ₃		b ₁	b ₂	c	h ₄	l ₅	n ₁	n ₂	n ₃	n ₄	s
65–250 65–315 65–400	470 470 470	470–250 ① 470–315 470–400	100 100 100	80 80 80	135 135 136	470 470 470	355 385 425	350 375 415	585 601 601	86 70 70	600 650 700	550 590 615	140 140 140	80 80 80	100 100 100	29 29 29	335 355 405	29 13 13	780 795 795	700 715 715	520 570 620	460 510 560	M20 M20 M20
80–200 80–250 80–315 80–400	470 470 470 530	470–250 ① 470–250 ① 470–315 530–400	125 125 125 125	100 100 100 100	144 144 144 146	470 470 470 530	360 360 390 450	350 350 375 435	585 585 601 666	86 86 70 105	600 600 650 790	550 550 590 615	140 140 140 180	80 80 80 80	100 100 100 100	29 29 29 29	335 335 355 410	29 13 29 48	780 780 795 860	700 700 715 780	520 520 570 670	460 480 510 610	M20 M20 M20 M24
100–200 100–250 100–315 100–400	470 470 470 530	470–250 ① 470–250 ① 470–315 530–400	150 150 150 150	125 125 125 125	173 173 175 176	470 470 470 530	380 400 425 450	350 350 420 435	585 585 601 666	86 86 70 105	600 600 650 790	550 550 590 615	140 140 140 180	80 80 80 80	100 100 100 100	29 29 29 29	335 335 355 410	29 13 29 48	780 780 795 860	700 700 715 780	520 520 570 670	460 460 510 610	M20 M20 M20 M24
125–250 125–315 125–400	470 530 530	470–250 ① 530–315 530–400	200 200 200	150 150 150	199 201 202	470 530 530	440 440 470	355 390 450	585 666 666	86 105 105	600 710 790	550 615 615	140 180 180	80 80 80	100 100 100	29 29 29	335 370 410	29 48 48	780 860 860	700 780 780	520 595 670	460 535 610	M20 M24 M24
150–250 150–315 150–400	530 530 530	530–315 530–315 530–400	250 250 250	200 200 200	270 231 229	530 530 530	480 465 500	400 450 500	666 666 666	105 105 105	710 710 710	615 615 615	180 180 180	80 80 80	100 100 100	29 29 29	370 370 410	48 48 48	860 860 860	780 780 780	595 595 670	535 535 610	M24 M24 M24
200–250 200–315	530 585	530–250 585–400	250 300	250 250	270 276	530 585	520 580	480 480	641 860	130 146	810 1000	615 800	180 300	80 120	100 180	29 32	420 538	73 61	835 1150	755 1030	595 780	535 660	M24 M30
250–315 250–400	585 585	585–400 585–400	350 350	300 300	323 336	585 585	665 700	600 600	860 860	146 146	1000 1000	800 800	300 300	120 120	180 180	32 32	538 538	61 61	1150 1150	1030 1030	780 780	660 660	M30 M30

Flanges up to DIN 150 acc. to DIN 2533 DN 200 and above acc. to DIN 2532					
DN _g /DN _d	D	bf	k	g	No. of holes
80	200	22	160	18	8
100	220	24	180	18	8
125	250	26	210	18	8
150	285	26	240	22	8
200	340	26	295	22	8
250	395	28	350	22	12
300	445	28	400	22	12
350	505	30	460	22	16

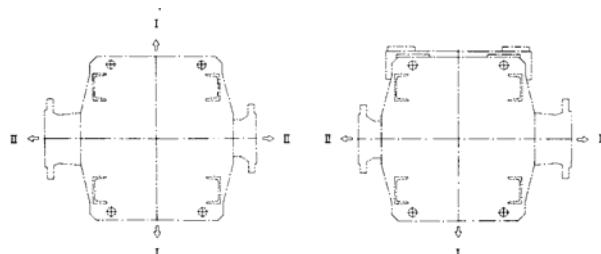
Connections					
Filling	Leakage-drain	Venting		Pressure gauge	
A1	D8	E3	autom. aspirat E4	M1	M2
G 3/8	G 3/8	G 3/8	G 1/2	G 1/4	G 3/8

Extension possibilities of the slide-in unit

Pump spacer size	Extension possibility	
	I	II
470-250	X	X
470-315		
470-400		
530-250	X	X
530-315	X	-
530-400		
585-400	X	X

Pedestal mounting

wall mounting



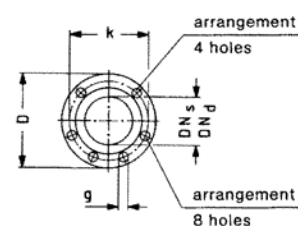
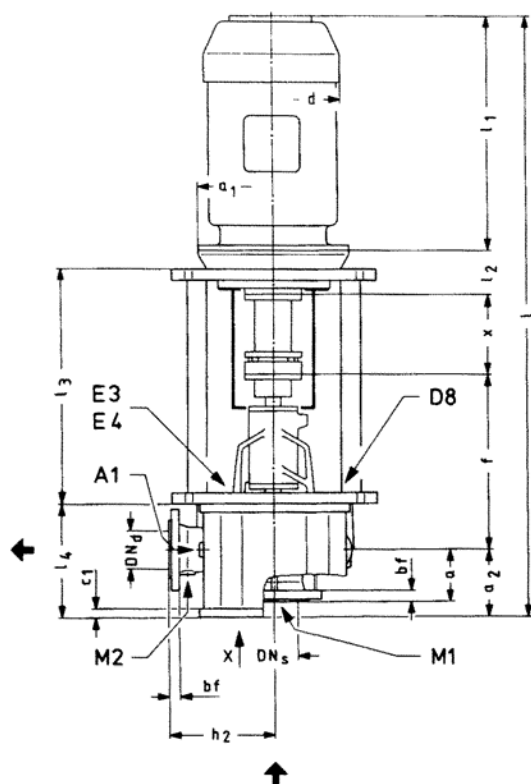
Possible driving motors and allocation to pump sizes.

The motor dimensions as indicated are approximate values. Exact data depend on the motor make. In case of drive powers of over 132 kW, please inquire in any event as the motor connection dimensions are not standardized.

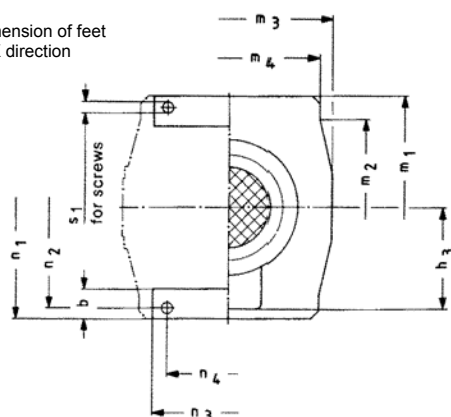
When using special marine motors, care must be taken that depending upon the enclosures different performances are allocated to the individual sizes. The main dimensions are changed accordingly. In case of order, binding motor dimension sheets are to be transmitted to us.

Speed	Motor size	Adapted for attachment to bearing bracket							I	Pump size																								
										65-250	65-315	65-400	80-200	80-250	80-315	80-400	100-200	100-250	100-315	100-400	125-250	125-315	125-400	150-250	150-315	150-400	200-250	200-315			250-315	250-400		
1450/ 1750 1/min	100L	470	2,2 3	250	200	140	302	60	I = a + f + x + l ₂ + l ₁																									
	112 M	470	4	250	224	152	323	60		•			•				•																	
	132 S	470, 530	5,5	300	220	165	354	80		•	•		•	•			•																	
	132 M		7,5		260	185	411			•	•	•	•	•	•																			
	160 M	470, 530	11	350	260	185	446	110		•	•	•	•	•	•	•	•	•																
	160 L		15		330	255	527				•	•		•	•	•	•	•	•															
	180 M	470, 530, 585	18,5	350	330	255	534	110			•	•		•	•	•																		
	180 L		22																															
	200 L	470, 530, 585	30	400	363	316	631	110				•				•	•	•	•	•	•	•	•	•	•	•								
	225 S	470, 530, 585	37	450	399	337	651	140				•				•	•	•	•	•	•	•	•	•	•	•	•							
	225 M		45																															
	250 M	470, 530, 585	55	550	443	377	752	140								•	•	•	•	•	•	•	•	•	•	•	•							
	280 S	530, 585	75	550	496	409	852	140																										
	280 M		90																															
	315 S	530, 585	110	660	684	470	957	170																										
	315 M		132																															
2900/ 3500 1/min	100 L	470	3	250	200	140	302	60	I = a + f + x + l ₂ + l ₁																									
	112 M	470	4	250	224	152	323	60																										
	132 S	470	5,5 7,5	300	220	165	354	80																										
	160M	470	11	350	260	185	446	110						•																				
	160 L		15		330	255	527																											
	180 M	470	22	350	330	255	534	110		•			•																					
	200 L	470	30 37	400	363	316	631	110		•			•	•						•														
	225 M	470	45	450	399	337	664	110		•			•	•						•														
	250 M	470	55	550	443	377	752	140		•			•	•						•														
	280 S	470	75	550	496	409	852	140					•	•							•													
	280 M		90																															
315S	470	110	660	684	470	957	140																											

Unit dimensions for Pedestal Mounting



Dimension of feet
in X direction

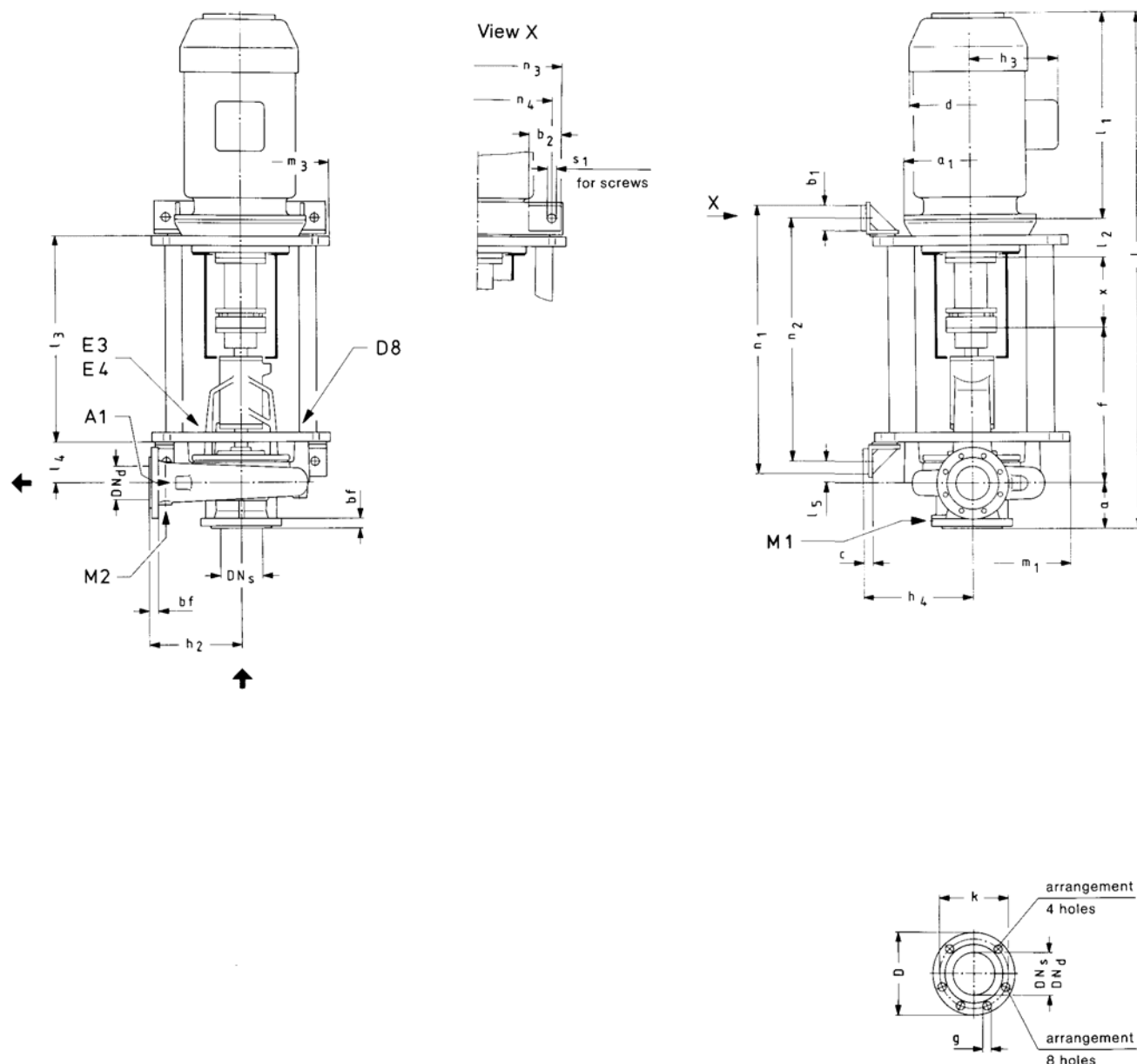


Dimension in mm
Subject to alterations

Sense of rotation: clockwise seen
from driving side

Size	Bearing bracket size	Pump spacer size	Unit dimensions																			
			Pump dimensions											Extension dimension X	Dimensions of fastening brackets							
			DN _s	DN _d	a	f	h ₁	h ₂	l ₃	m ₁	m ₂	m ₃	m ₄		b	c ₁	l ₄	n ₁	n ₂	n ₃	n ₄	s ₁
65–250 65–315	470 470	470–250 470–315	80 80	65 65	100 125	170 145	470 470	250 280	585 601	600 650	476 525	550 590	480 535	180 180	80 80	18 18	296 255	600 650	540 590	400 450	330 380	M20 M20
80–250 80–315	470 470	470–250 470–315	100 100	80 80	125 125	170 145	470 470	280 315	585 601	600 650	476 525	550 590	480 535	180 180	80 80	18 18	296 255	600 650	540 590	400 450	330 380	M20 M20
100–250 100–315	470 470	470–250 470–315	125 125	100 100	140 140	170 145	470 470	280 315	585 601	600 650	476 525	550 590	480 535	180 180	80 80	18 18	296 255	600 650	540 590	400 450	330 380	M20 M20
125–250	470	470–250	150	125	140	170	470	355	585	600	476	550	480	180	80	18	296	600	540	400	330	M20

Unit dimensions for Wall Mounting



Dimensions in mm
Subject to alterations

Sense of rotation: clockwise seen
from driving side

Size	Bearing bracket size	Pump spacer size	Unit dimensions																			
			Pump dimensions									Extension dimension	Dimensions of fastening brackets									
			DN _s	DN _d	a	f	h ₂	l ₃	l ₄	m ₁	m ₃		b ₁	b ₂	c	h ₄	l ₅	n ₁	n ₂	n ₃	n ₄	s ₁
65–250	470	470–250	80	65	100	470	250	585	126	600	550	180	80	100	29	335	69	780	700	520	460	M20
65–315	470	470–315	80	65	125	470	280	601	110	650	590	180	80	100	29	355	53	795	715	570	510	M20
80–250	470	470–250	100	80	125	470	280	585	126	600	550	180	80	100	29	335	69	780	700	520	460	M20
80–315	470	470–315	100	80	125	470	315	601	110	650	590	180	80	100	29	355	53	795	715	570	510	M20
100–250	470	470–250	125	100	140	470	280	585	126	600	550	180	80	100	29	335	69	780	700	520	460	M20
100–315	470	470–315	125	100	140	470	315	601	110	650	590	180	80	100	29	355	53	795	715	570	510	M20
125–250	470	470–250	150	125	140	470	355	585	126	600	550	180	80	100	29	335	69	780	700	520	460	M20

Extension possibilities of the slide-in unit

pedestal mounting

wall mounting

When using special marine motors, care must be taken that depending upon the enclosures different performances are allocated to the individual sizes. The main dimensions are changed accordingly. In case of order, binding motor dimension sheets are to be transmitted to us.

When using special marine motors, care must be taken that depending upon the enclosures different performances are allocated to the individual sizes. The main dimensions are changed accordingly. In case of order, binding motor dimension sheets are to be transmitted to us.

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Automatic aspirator A 25 A

The A 25 A is employed for the automatic venting of the pump and suction line. It operates with a pressure-dependent control system.

Owing to a pressure-controlled shut-off valve in the suction line, the device can also be used in plants in which excess pressure is temporarily incurred.

Functioning description:

By way of the vent line, suction branch Q2 of the automatic aspirator is coupled with connection E4 of the pump. The compressed air required for the venting process is supplied to the ejector at connection Q1.

To avoid any dry operation of the pump, the electric circuitry (not included in the normal scope of supplies) must be such that the pump is started only after the entire suction system has been vented.

As soon as a discharge pressure has been set up and the preset pressure limit reached, the automatic aspirator is switched off by the pressure switch. The impulse is transmitted by way of the control pressure line coupling connection A1 at the pump with connection Q4 at the pressure switch.

The discharge pressure falling below the preset pressure limit, the automatic aspirator will be switched on again.

According to the respective operating conditions, the pressure switch should be adjusted so as to switch the automatic aspirator off at approx. 80% of the lowest pump discharge pressure, switching it on again at approx. 30%.

Required control voltage 220 V, 50 Hz or 60 Hz (80% duty cycle), special voltage on request. Power consumption during starting 22 VA, during operation 15 VA, enclosure IP 54.

Materials:

Lower nozzle	Plastic
Upper nozzle:	Plastic
Inlet nozzle:	G-CuZn 16Si4
Pipes ①:	Cu

① Coming into contact with the fluid to be pumped.

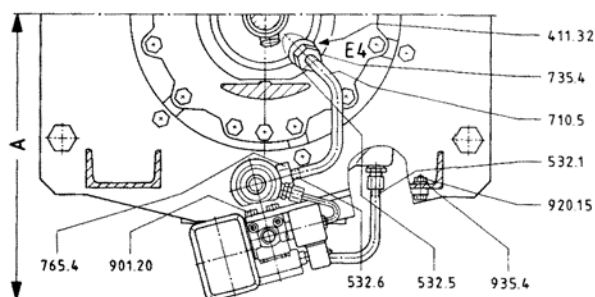
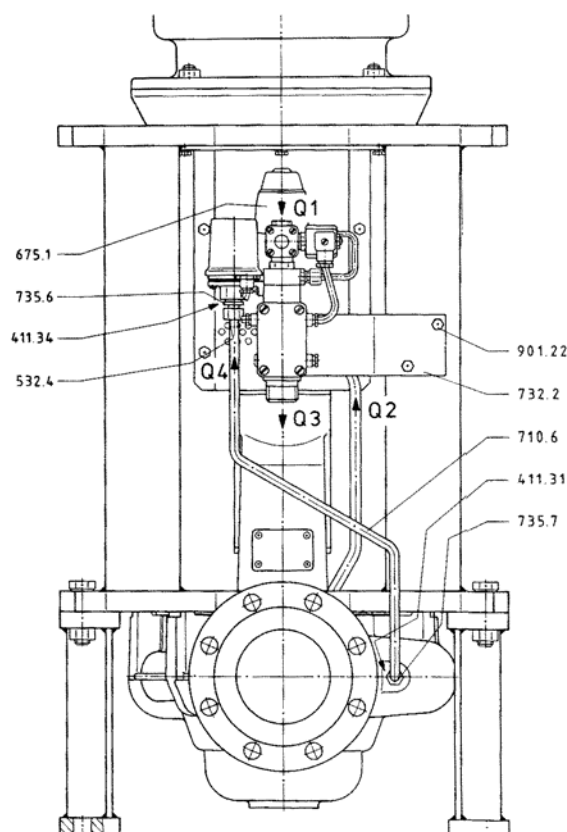
Driving air required at 6 bar operating pressure $Q = 0.28 \text{ m}^3/\text{min}$. The water-air mixture is drained by way of connection Q 3.

List of components for the attachment of the automatic aspirator A 25 A, Series NIM/NAM:

Denomination	Part No.
Washer	411.31
Washer	411.32
Washer	411.34
Reinforcing sleeve	532.1
Reinforcing sleeve	532.4
Reinforcing sleeve	532.5
Reinforcing sleeve	532.6
Automatic aspirator	675.1
Pipe	710.5
Pipe	710.6
Mount	732.2
Straight union	735.4
Straight union	735.6
Straight union	735.7
Threaded pipe angle	765.4
Hexagonal screw	901.20
Hexagonal screw	901.22
Hexagonal nut	920.15
Locking plate	935.4

Pump spacer size	Size A
470–250	400
470–315	430
470–400	470
530–250	435
530–315	435
530–400	475
585–400	505

Series NIM with automatic aspirator A25A



Subject to technical alterations



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VM 634E / 7.84

The stated performance data are to be understood only as an outline of performance of our products. For exact limits of application please refer to the quotation and acceptance of order.