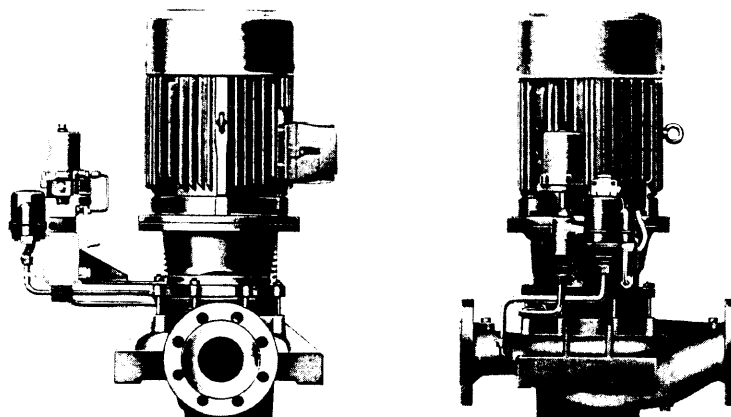


Volute Casing Centrifugal Pumps PN 16 of Inline Design with lateral Feet

Series NISM

With serial standard motors



Application

For handling fresh water, sea water, condensate, oils, brines, lyes etc. The fluids 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 drinking and sea-water sanitary pump as well as circulating pump for heating systems.

In all industrial branches: for general water supply as well as in heating, cooling and circulation systems.

Design Description

The characteristic feature of this pump is the design of the connection pump shaft – motor shaft allowing the employment of serial standard motors with a locating-type bearing and normal shaft end.

Any and all screw connections are by means of hexagonal screws and hexagonal nuts so as to ensure their proper unscrewing even with several coats of paint (shipbuilding).

The requirements of DIN 31 001 „Protection against accidental contact“ are met.

Type and Series Construction

Single-stage, single-flow volute casing centrifugal pump. Series assembly according to the unit assembly system.

Volute casing of inline design. Nominal capacities according to DIN 24 255.

Series NISM 2/32-200, 2/40-250 and 2/50-250 are two-stage, but their outer dimensions correspond to the respective single-stage sizes. Owing to the two-stage design, relatively small delivery flows are achieved with great delivery heads, good efficiencies and low NPSH values.

These pumps can be mounted in any position. For safety purposes, the arrangement with „motor downwards“ is not admissible.

Attention: The pump denomination gives the standard nominal diameter on the delivery side according to DIN 24 255, as this diameter, in connection with the impeller diameter, is also a characteristic of the hydraulic capacity of the pump.

The actual nominal widths on the suction and delivery sides of sizes having a shaft diameter of 30 mm, are identical. The nominal width on the delivery side is greater by one nominal width each than as per DIN 24 255 (e.g. NISM 32-160 with $DN_s/DN_d = 40$ mm). The actual nominal widths on the suction and delivery sides of sizes having a shaft diameter of 40 mm, are greater by one nominal width each than as per DIN 24 255 (e.g. NISM 80-250 with $DN_s = 125$ mm and $DN_d = 100$ mm).

For sizes with shaft diameter 30 mm or 40 mm, please refer to table „Combination of Components,“ page 3.

Branch Position, Flanges

Suction and delivery branches arranged opposed in one line.

Flanges: up to DN 150 as per DIN 2533
DN 200 and above as per DIN 2532

Shaft Sealing

Single-stage pump sizes by uncooled stuffing box with internal sealing. Packing rings of Teflon-impregnated white asbestos yarn of the diaplex-type of braiding.

Single- and two-stage pump sizes by uncooled, maintenance-free mechanical seal of the unbalanced type of construction.

Material design:

Rotary seal ring	Hard carbon
Stationary seal ring	Oxide ceramics
O-rings	Viton ①
Metal parts	Stainless steel

① With water over 100°, EP caoutchouc

Bearing/Lubrication

By means of the grease-lubricated grooved ball bearings incorporated in the motor as per DIN 625.

Upper Temperature ② and Pressure Limits

Apply to all material designs.

Admissible temperature of fluid pumped with

stuffing box uncooled	125°C
mechanical seal uncooled	140°C

Admissible internal pump pressure

for sizes with shaft diameter 30 mm with stuffing box	16 bar
unbalanced mechanical seal	10 bar

Admissible internal pump pressure for sizes with shaft diameter 40 mm	10 bar
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Admissible admission pressure	Admission pressure plus max. delivery head must not exceed the admissible internal pump pressure
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② The admissible temperatures apply to water. In case of other fluids to be pumped, the temperature limits may change.

Dismantling of Driving Unit

When dismantling the driving unit, the volute casing may remain in the piping.

The driving unit comprises all pump components except for the volute casing.

Combination of Components

The table on page 3 shows the combination possibilities of components of all NISM sizes.

A material advantage is the fact that independently of the size, the motor capacity and motor design, with the single-stage sizes, only one casing cover per shaft diameter is required for the shaft sealing with stuffing box and only one casing cover for the shaft sealing with mechanical seal.

Connections

The following connections are always provided:

- A1 Filling or control pressure tap for automatic breather
- B1 Drainage
- D8 Seepage drain
- E3 Venting
- E4 Venting with automatic breather
- M1, M2 Pressure gauge

Drive

Surface-cooled three-phase squirrel-cage induction motors, IMV1 type of construction, enclosure IP 44/IP 54 according to IEC Standard, class B insulation, capacities and main dimensions according to DIN 42677.

The following table shows the possible voltages and starting varieties as a function of the motor performance.

Motor performance kW	Voltage and starting variety			
	220 V	380 V		
	Δ	Y	Δ	YΔ
up to 2.2	X	X	—	—
above 2.2	—	—	X	X

NISM pumps with single-phase a.c. motors are not available.

Motor Design

All three-phase motors on all NISM centrifugal pumps are equipped with a locating-type bearing. Also, only such motors may be attached.

Some sizes (different depending upon the manufacturer) have the locating-type bearing as a serial equipment.

Automatic Breather A 25 A

For details, please refer to the back page of this brochure.

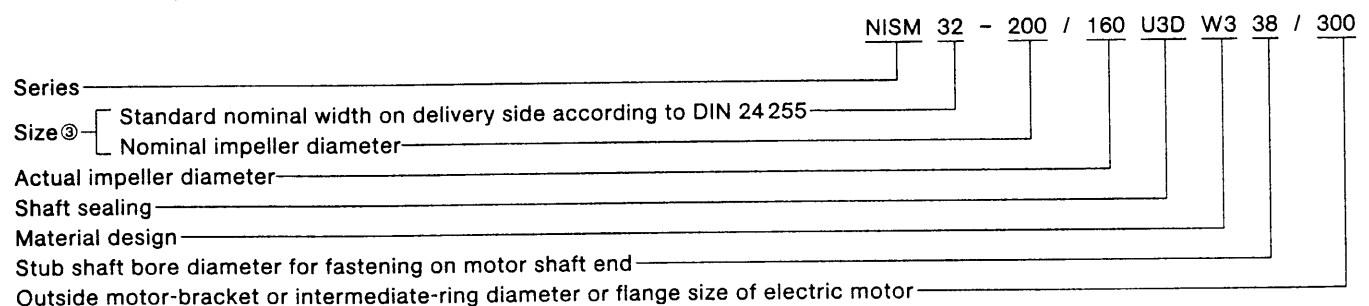
Materials

Material design

Denomination	Part-No.	W 3	W 18	W 19
Volute casing	102.12	G-CuAl 10 Ni	GG-25	GG-25
Casing cover	161.26/161.28	G-CuAl 10 Ni	GG-25	GG-25
Casing cover	161.31	G-CuAl 10 Ni	GG-25	GG-25
Casing cover	161.5/161.23	G-CuAl 10 Ni	GG-25	GG-25
Stub shaft	① 220.4	1.4401/1.7139	1.4401/1.7139	1.4401/1.7139
Impeller	230.1	G-CuAl 10 Ni	G-CuAl 10 Ni	GG-20
Impeller 1st stage	230.2	G-CuAl 10 Ni	G-CuAl 10 Ni	GG-20
Impeller 2nd stage	230.3	G-CuAl 10 Ni	G-CuAl 10 Ni	GG-20
Diffuser	171.1	G-CuAl 10 Ni	G-CuAl 10 Ni	GG-20
Stage casing	108.1	G-CuAl 10 Ni	GG-25	GG-25
Motor bracket	347.1	GG-25	GG-25	GG-25
Gland	452.1	G-CuAl 10 Ni	GG-25	GG-25
Split ring	② 502.1/502.2	GC/GZ-CuSn12	GC/GZ-CuSn12	GC/GZ-CuSn12
Intermediate ring	509.1	G-CuAl 10 Ni	GG-25	GG-25
Spacer tube	525.1	GC-CuSn12	GG-25	GG-25
Screws and nuts coming into contact with the fluid to be pumped		stainless steel	stainless steel	stainless steel

① On pump side (in contact with fluid) 1.441, on motor side 1.7139. ② Split rings at extra charge.

Abbreviation System of a NISM Pump



③ With the two-stage sizes, the stage number, together with an oblique stroke, is placed before the nominal width of the delivery branch, e.g. NISM 2/32-200/...

Motor performance given in the abbreviation

Motor performance	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110
Motor performance given in the abbreviation	0.5	0.7	1.1	1.5	2.2	3	4	5.5	7.5	11	15	18	22	30	37	45	55	75	90	110

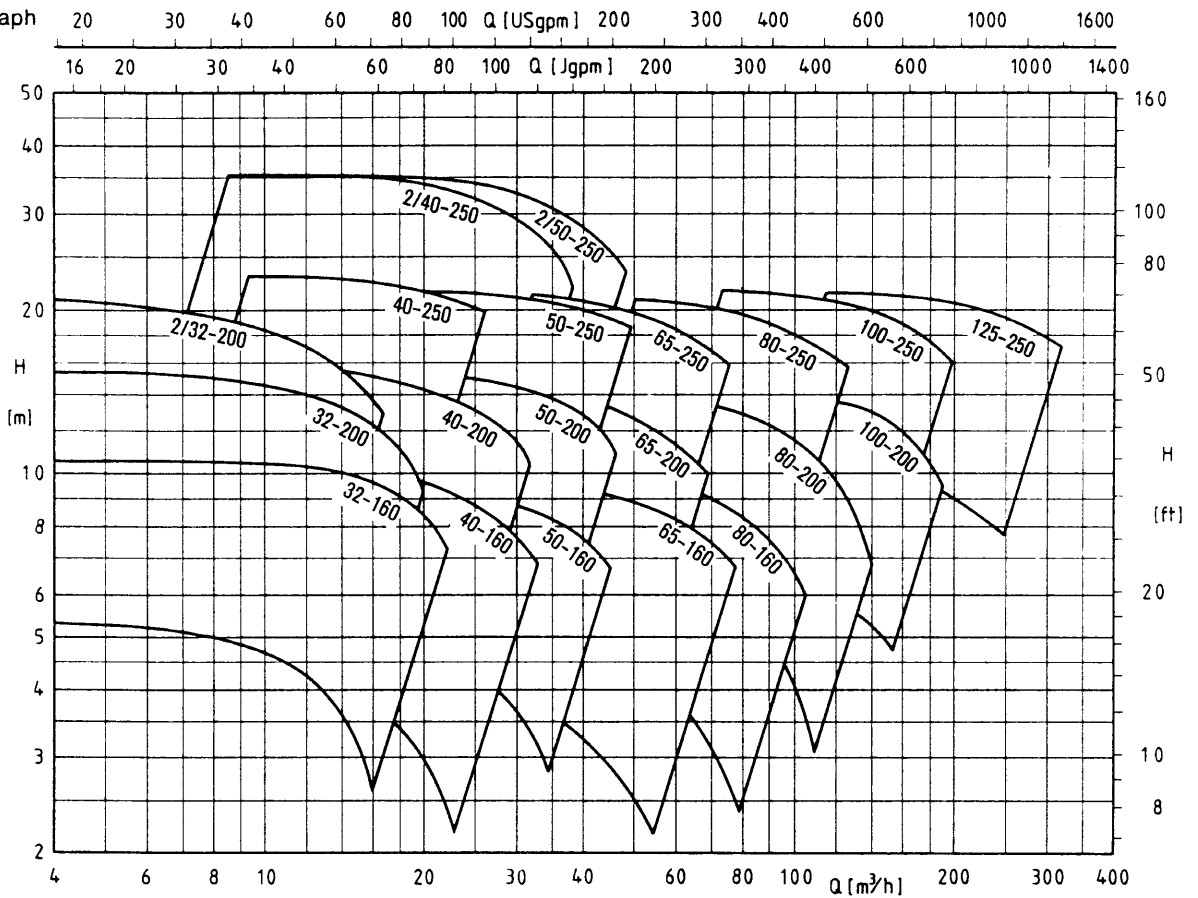
Table Combination of Components

The table below shows the combination possibilities of structural parts and components of the NISM sizes

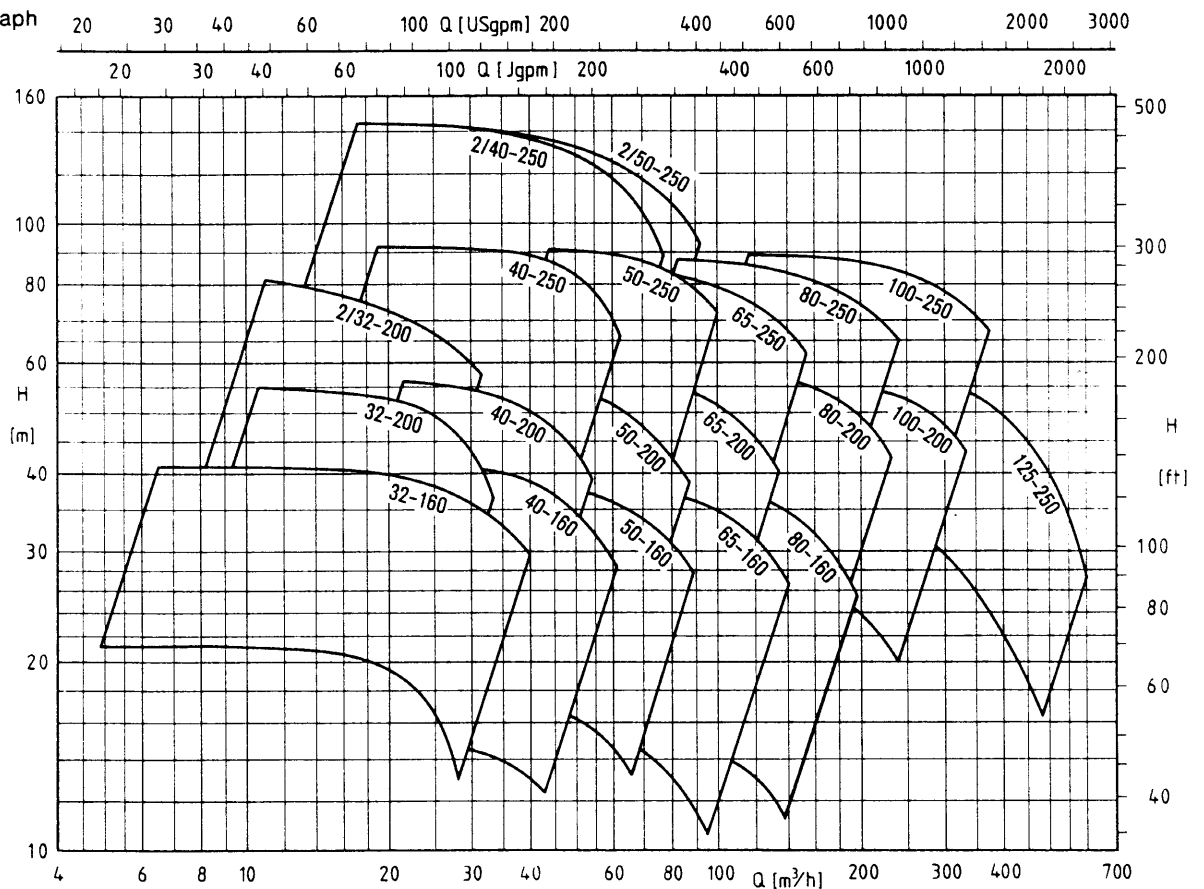
Pump size NISM	Dia- meter of shaft at shaft sealing [mm]	Denomination														
		Volute casing	Impeller	Impeller		Diffuser	Stage casing	Inter- mediate ring	Casing cover for		Base plate	Pump base	Stub shaft	Motor bracket	Intermediate motor ring	
				1st stage	2nd stage				Stuffing box	Me- chan- ical						
Allocation to the sizes depends upon speed, motor performance and motor design																
32-160	30	1	1	-	-	-	-	-	1	1	-	-	30-19/2	30-200	-	
32-200		2	2	-	-	-	-		-	-						
2/32-200			-	1	1	1	1		-	2						
40-160		3	3	-	-	-	-		1	1						
40-200		4	4													
40-250		5	5					2	2	2			2	1		3
2/40-250			-													
50-160		6	6	-	-	-	-	-	1	1						
50-200		7	7													
50-250		8	8					3	2	2			2	1		3
2/50-250			-													
65-160		9	9	-	-	-	-	-	1	1						
65-200		10	10													
80-160		11	11													
65-250	40	12	12	-	-	-	-	-	2	4	1	1	40-28	40-360	280.180.0	
80-200		13	13										40-38		280.230.20	
80-250		14	14										40-42		280.250.50	
100-200		15	15										40-48		280.300.50	
100-250		16	16										40-55		280.350.50	
125-250		17	17										40-60		280.450.80	
													40-65		280.550.80	

Within a vertical column, identical parts with identical numbers are interchangeable.

Performance graph
1450 1/min



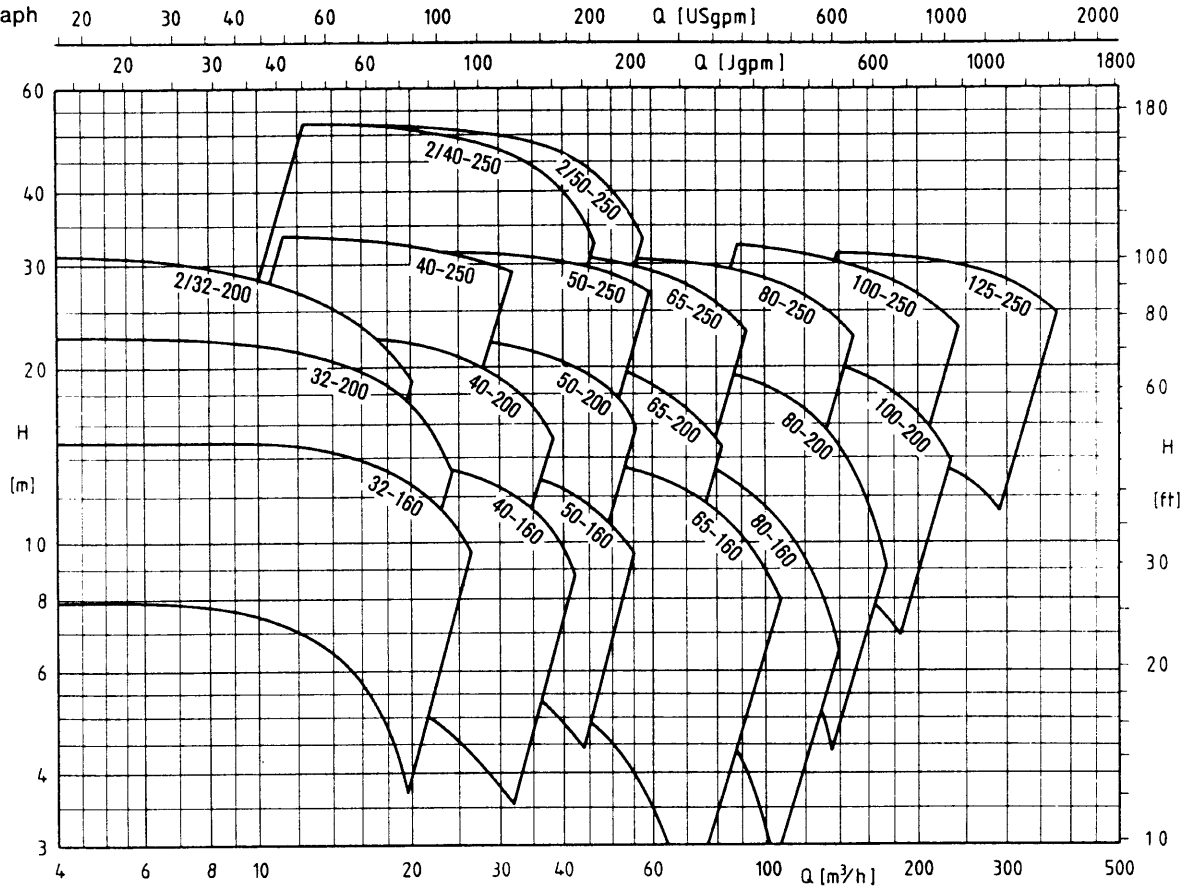
Performance graph
2900 1/min



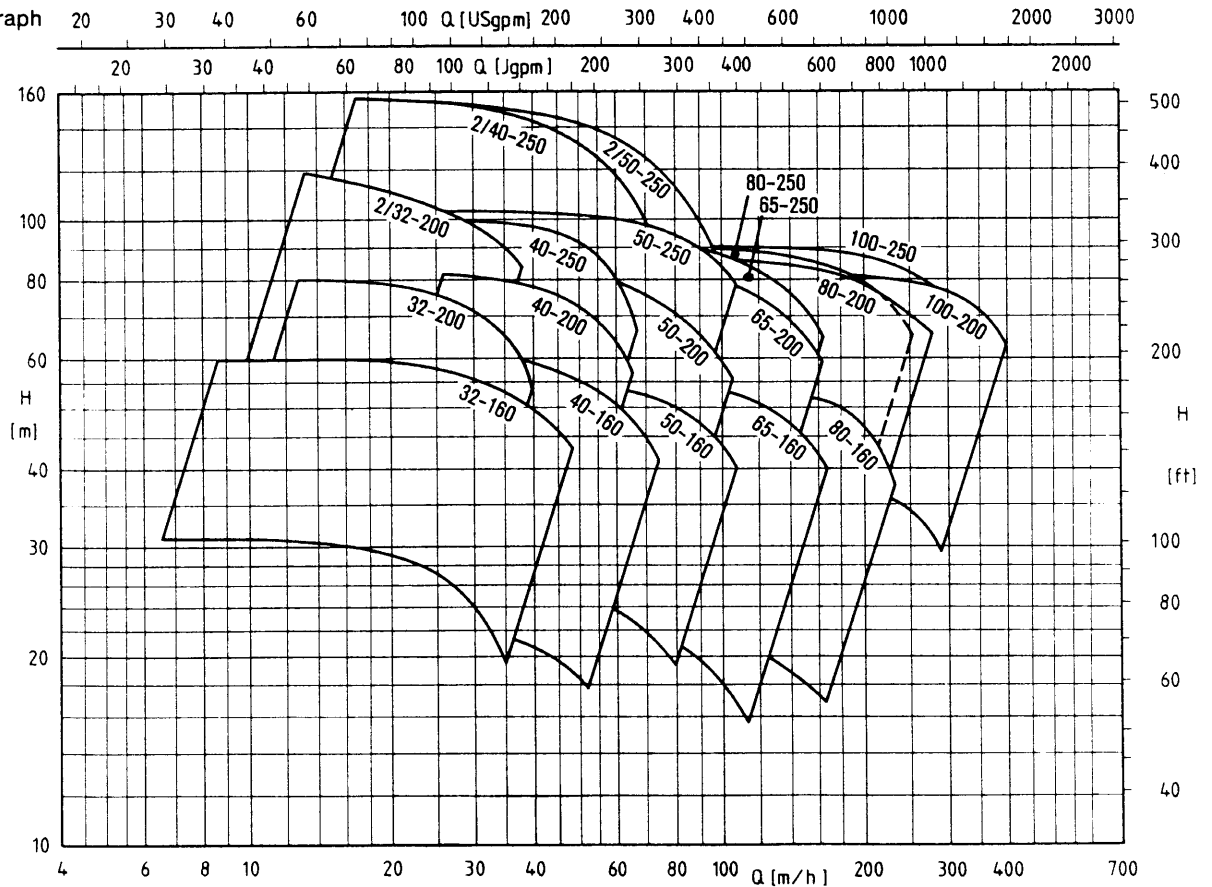
For exact performance data, please refer to the individual characteristics.

For a greater range of performances, please refer to Series NIM/NAM.

Performance graph
1750 1/min



Performance graph
3500 1/min



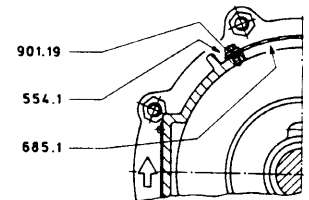
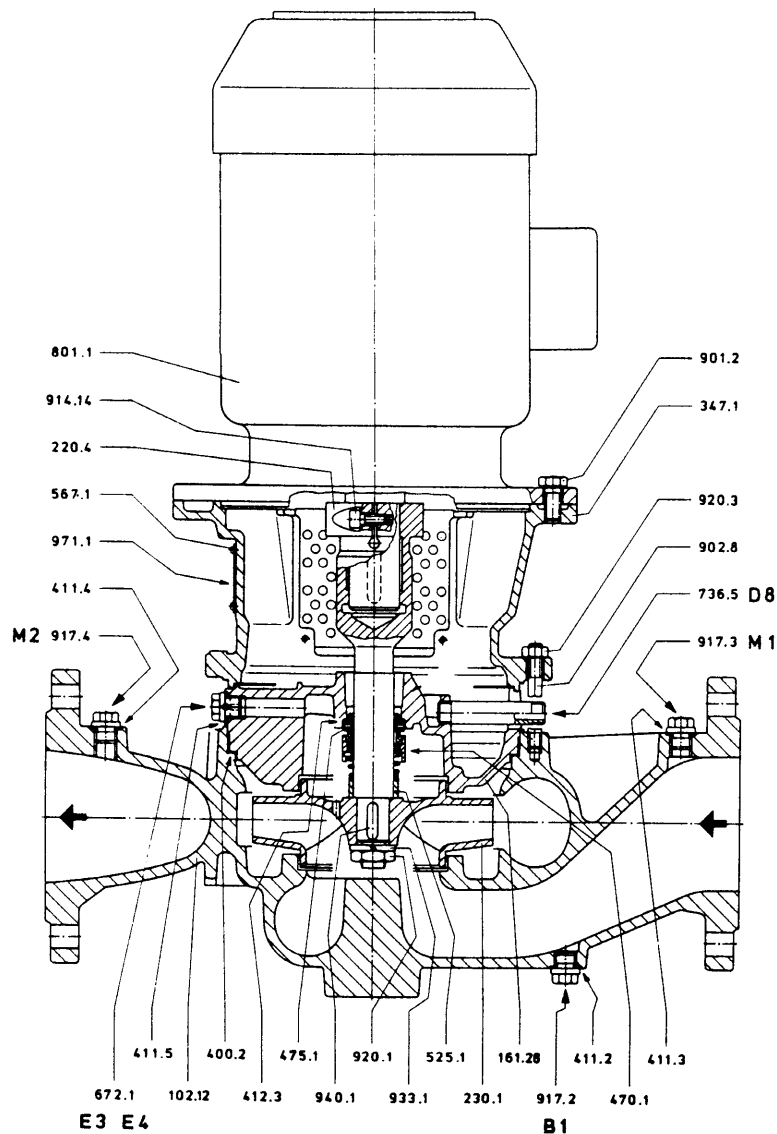
For exact performance data, please refer to the individual characteristics.

For a greater range of performances, please refer to Series NIM/NAM.

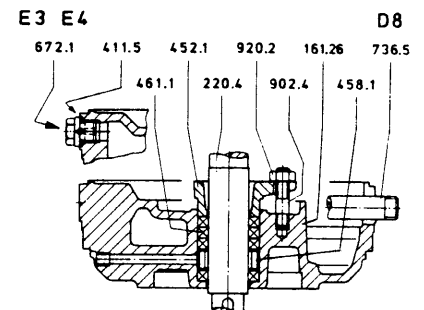
Sectional drawing for single-stage sizes

with shaft diameter 30 mm

(32-160, 32-200, 40-160, 40-200, 40-250, 50-160, 50-200, 50-250, 65-160, 65-200, 80-160)

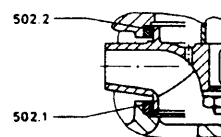
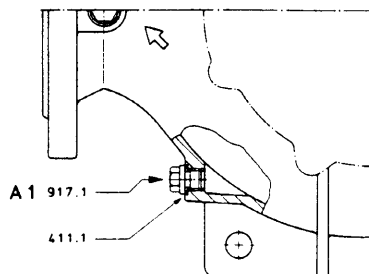


Fixing of guard plate to motor bracket
Protection against accidental contact acc. to DIN 31 001

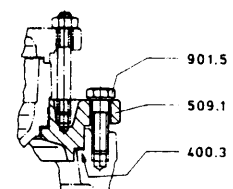


Stuffing box with internal sealing U1B with single-stage sizes only

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

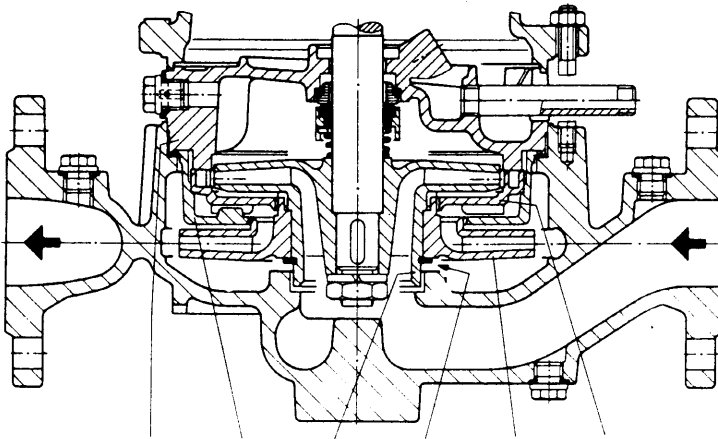


Design with split ring V2 (extra charge)



Design with intermediate ring for sizes 40-250 and 50-250

Sectional drawing for two-stage sizes
with shaft diameter 30 mm
(2/32-200, 2/40-250, 2/50-250)

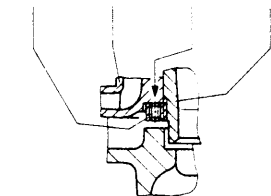


161.31 108.1 230.2 932.2 230.3 171.1

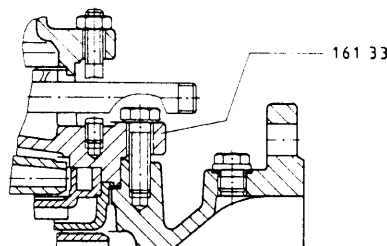
Shaft sealing: uncooled unbalanced mechanical seal,
internal flushing

Abbreviation: **U3D**

514.1 230.9 904.5 230.8



Impeller 2nd stage.
Fastening with threaded
ring in case of material
designs
W3 and W18.



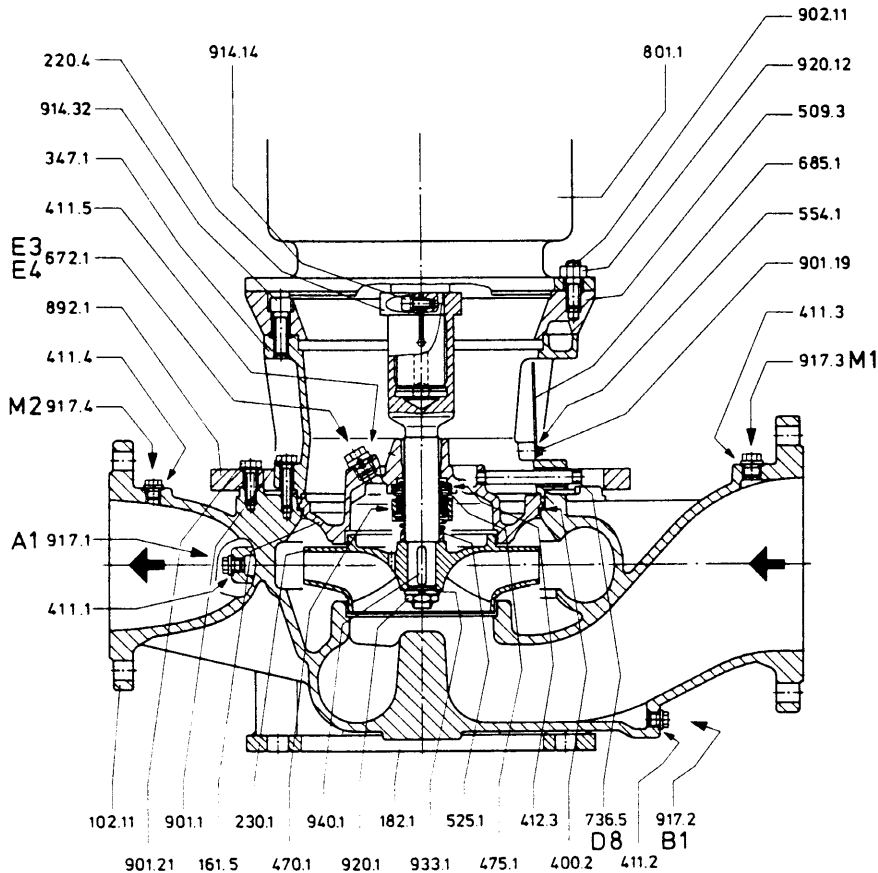
Casing cover design with
sizes 2/40-250 and 2/50-250

Denomination	Part No.
Volute casing	102.12
Stage casing	108.1
Casing cover	161.26
Casing cover	161.28
Casing cover	161.31
Casing cover	161.33
Diffuser	171.1
Stub shaft	220.4
Impeller	230.1
Impeller 1st stage	230.2
Impeller 2nd stage	230.3
Impeller 1st stage	230.8
Impeller 2nd stage	230.9
Motor bracket	347.1
Gasket	400.2
Gasket	400.3
Joint washer	411.1
Joint washer	411.2
Joint washer	411.3
Joint washer	411.4
Joint washer	411.5
O-ring	412.3
Gland	452.1
Retainer ring	458.1
Packing ring	461.1
Mechanical seal	470.1
Stationary seal ring	475.1
Split ring	502.1
Split ring	502.2
Intermediate ring	509.1
Threaded ring	514.1
Spacer tube	525.1
Washer	554.1
Blind rivet	567.1
Venting screw	672.1
Guard plate	685.1
Nipple joint	736.5
Flange motor	801.1
Hexagonal screw	901.2
Hexagonal screw	901.5
Hexagonal screw (Ribe Triform)	901.19
Stud bolt	902.4
Stud bolt	902.8
Threaded pin	904.5
Socket head cap screw	914.14
Threaded plug	917.1
Threaded plug	917.2
Threaded plug	917.3
Threaded plug	917.4
Hexagonal nut	920.1
Hexagonal nut	920.2
Hexagonal nut	920.3
Circlip	932.2
Spring washer	933.1
Key	940.1
Rating plate	971.1

Connections

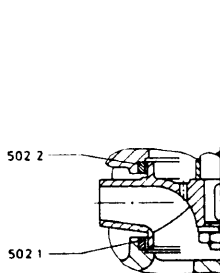
A1	Filling or control pressure tap for automatic breather
B1	Drainage
D8	Seepage drain
E3	Venting
E4	Venting with automatic breather
M1	Pressure gauge
M2	Pressure gauge

Sectional drawing for sizes with shaft diameter 40 mm
(65-250, 80-200, 80-250, 100-200, 100-250, 125-250)

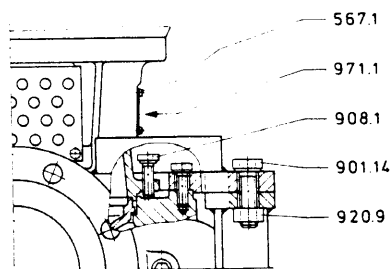


Denomination	Part No.
Volute casing	102.11
Casing cover	161.5
Casing cover	161.23
Pump foot	182.1
Stub shaft	220.4
Impeller	230.1
Motor bracket	347.1
Gasket	400.2
Joint washer	411.1
Joint washer	411.2
Joint washer	411.3
Joint washer	411.4
Joint washer	411.5
O-ring	412.3
Gland	452.1
Retainer ring	458.1
Packing ring	461.1
Mechanical seal	470.1
Stationary seal ring	475.1
Split ring	502.1
Split ring	502.2
Intermediate ring	509.3
Space tube	525.1
Washer	554.1
Blind rivet	567.1
Venting screw	672.1
Guard plate	685.1
Nipple joint	736.5
Flange motor	801.1
Base plate	892.1
Hexagonal screw	901.1
Hexagonal screw	901.14
Hexagonal screw	901.19
Hexagonal screw	901.21
Stud bolt	902.4
Stud bolt	902.11
Forcing screw	908.1
Socket head cap screw	914.14
Socket head cap screw	914.32
Threaded plug	917.1
Threaded plug	917.2
Threaded plug	917.3
Threaded plug	917.4
Hexagonal nut	920.1
Hexagonal nut	920.2
Hexagonal nut	920.9
Hexagonal nut	920.12
Spring washer	933.1
Key	940.1
Rating plate	971.1

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



Design with split ring V2
(extra charge)

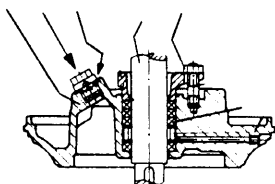


Fastening of the pump
feet to the base plate

Connections

A1	Filling or control pressure tap for automatic breather
B1	Drainage
D8	Seepage drain
E3	Venting
E4	Venting with automatic breather
M1	Pressure gauge
M2	Pressure gauge

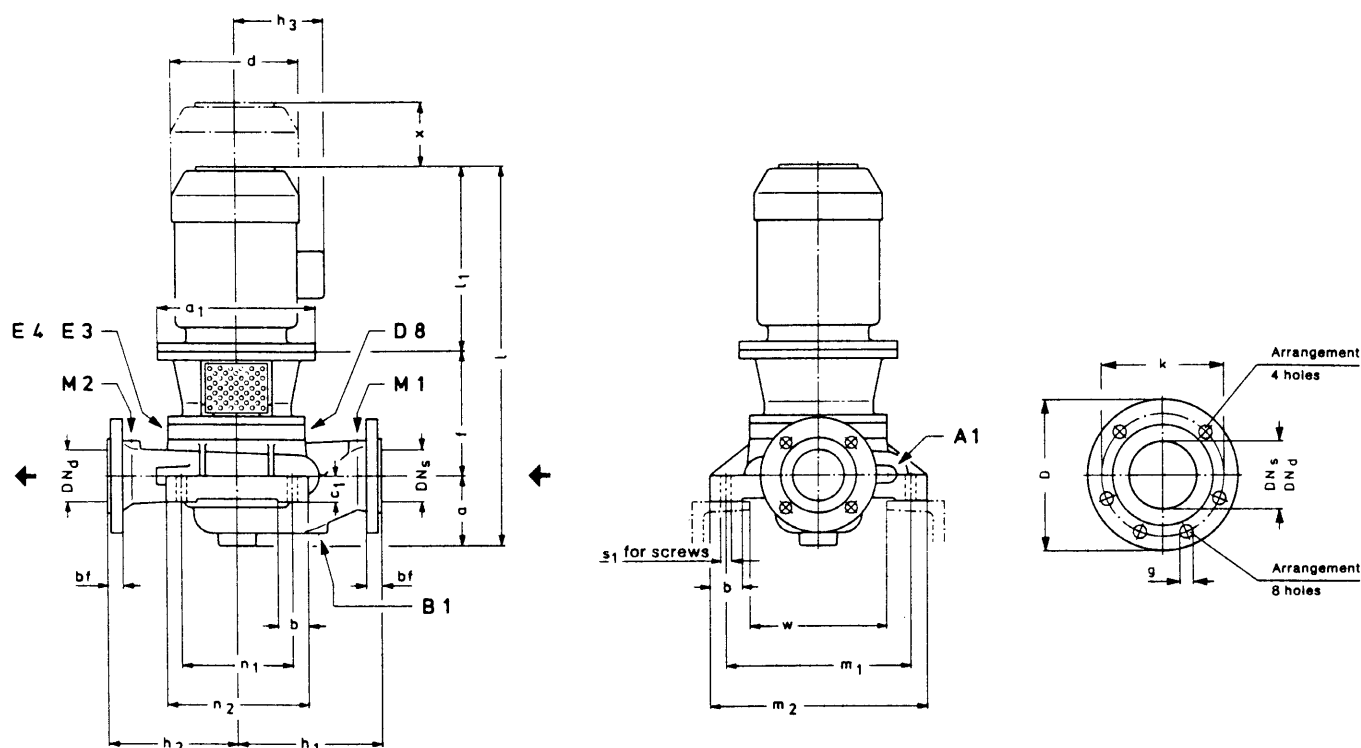
E3 E4
672.1 452.1 920.2 461.1
161.23 411.5 220.4 902.4 458.1



Stuffing box with internal sealing **U1B**

Unit dimensions Sizes with shaft diameter 30 mm

Motors without ex-protection



Flanges acc. to DIN 2533					
DN _d DN _s	D	bf	k	g	No. of holes
40	150	18	110	18	4
50	165	20	125	18	4
65	185	20	145	18	4
80	200	22	160	18	8
100	220	24	180	18	8

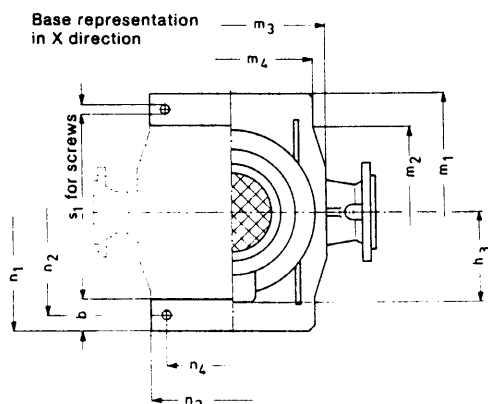
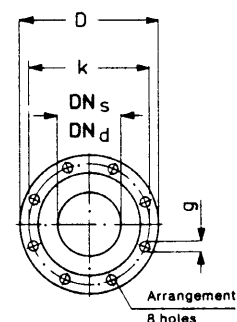
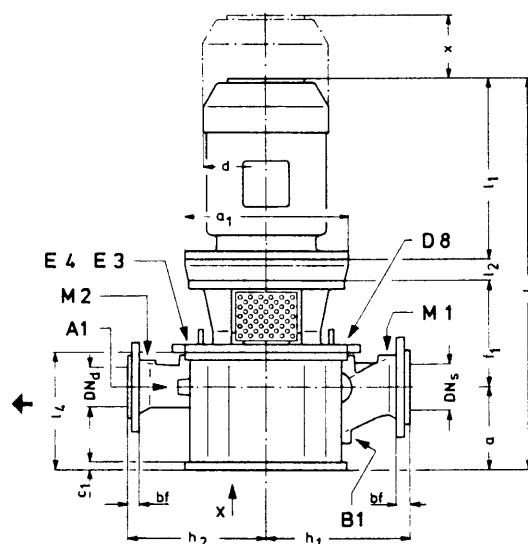
Sense of rotation: clockwise, as seen from the driving side

Dimensions in mm without commitment

Connections						
Filling	Drain- age	Seep- age drain	Venting		Pressure gauge	
A 1	B 1	D 8	E 3	E 4	M 1	M 2
G 3/8						

Pump size	Flanges		Pump				Feet						for screws	Extension dimension	Smallest dimension between supports
	DN _s	DN _d	a	f	h ₁	h ₂	b	c ₁	m ₁	m ₂	n ₁	n ₂	s ₁	x	w
32-160	40	40	97	Dimensions depending upon motor bracket size	200	190	50	40	270	320	160	210	M 16	102	210
32-200	40	40	97		200	190	50	40	270	320	160	210	M 16	102	210
2/32-200	40	40	97		210	200	50	40	270	320	160	210	M 16	102	210
40-160	50	50	105		220	205	50	40	270	320	200	250	M 16	102	210
40-200	50	50	105		240	225	50	50	310	360	200	250	M 16	85	250
40-250	50	50	105		230	220	50	40	270	320	160	210	M 16	102	210
2/40-250	50	50	105		240	225	50	40	290	340	200	250	M 16	102	230
50-160	65	65	114		265	245	50	50	350	400	200	250	M 16	85	290
50-200	65	65	114		270	230	50	50	330	380	200	250	M 16	102	270
50-250	65	65	114		275	235	50	50	350	400	200	250	M 16	102	290
2/50-250	65	65	114		275	245	50	50	350	400	200	250	M 16	102	290
65-160	80	80	122												
65-200	80	80	122												
80-160	100	100	132												

Unit dimensions Sizes with shaft diameter 40 mm



Flanges up to DN 150 acc. to DIN 2533 up to DN 200 and above acc. to DIN 2532					
DN _d DN _s	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

Connections						
Filling	Drain- age	Seep- age drain	Venting		Pressure gauge	
A 1	B 1	D 8	E 3	Automatic breather E 4	M 1	M 2
G 3/8	G 3/8	G 3/8	G 1/2	G 1/2	G 1/2	G 3/8

Sense of rotation: clockwise, as seen from
the driving side

Dimensions in mm without commitment

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

Pump size	Flanges		Pump										Feet								
	DN _s	DN _d	a	f ₁	h ₁	h ₂	l ₂	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	100	80	210	261	355	350	Dimensions depend upon the size of the intermediate motor ring	600	440	480	410	80	22	296	600	540	400	330	M20		
80-200	125	100	210	261	360	350		600	440	480	410	80	22	296	600	540	400	330	M20		
80-250		100	210	261	360	350		600	440	480	410	80	22	296	600	540	400	330	M20		
100-200	150	125	210	261	380	350		600	440	480	410	80	22	296	600	540	400	330	M20		
100-250		125	210	261	400	350		600	440	480	410	80	22	296	600	540	400	330	M20		
125-250	200	150	210	261	440	350		600	440	480	410	80	22	296	600	540	400	330	M20		

Possible driving motors and allocation to pump sizes

The motor dimensions as indicated are approximate values. Exact data depend on the motor make.

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

Speed	Motor size		For pump size with shaft diameter						Motor dimensions approximate dimensions different depending upon the manufacturer				Pump dimensions depending upon the motor size			Pump sizes with shaft diameter																								
			30 mm			40 mm										30 mm								40 mm																
			Allocation ①: Stub shaft/motor bracket	Stub shaft	Motor bracket	Allocation ①: Stub shaft/ intermediate motor ring	Stub shaft	Intermediate motor ring																																
				Size	Size		Size	Size	a ₁	d	h ₃	l ₁	l ₂	f	l	32-160	32-200	2/32-200	40-160	40-200	40-250	2/40-250	50-160	50-200	50-250	2/50-250	65-160	65-200	80-160	65-250	80-200	80-250	100-200	100-250	125-250					
1/min		kW																																						
1450/1750	80	0.55	19/200	30-19/2	30-200	-	-	-	200	158	120	214	-	183	a + f + l ₁ bzw. a + f + l ₂ + l ₁	●																								
		0.75														●	●	●	●	●		●				●				●										
	90 S	1.1	24/200	30-24/2	30-200	-	-	-	200	178	130	265	-	183		●	●	●	●	●	●		●	●		●	●	●												
	90 L	1.5														●	●	●	●	●	●		●	●	●		●	●	●		●	●	●							
	100 L	2.2	28/250	30-28/2	30-250	28/250	40-28	280.180.0	250	200	140	302	-	183			●	●		●	●	●	●	●	●	●	●	●	●		●		●							
		3																●	●	●		●	●	●	●	●	●	●	●	●		●								
	112 M	4	38/300	30-38/2	30-300	38/300	40-38	280.230.20	250	224	152	323	-	183						●	●		●	●	●	●	●	●	●	●	●	●	●	●						
	132 S	5.5														300	220	165	354	20	238						●	●		●	●		●	●	●	●	●	●	●	●
	132 M	7.5							260	185	411							●	●					●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●
	160 M	11	42/350	30-42/2	30-350	42/350	40-42	280.250.50	350	260	185	446	50	253						●										●	●	●	●	●	●	●				
	160 L	15								330	255	527																										●	●	●
	180 M	18.5	-	-	-	48/350	40-48	280.250.50	350	330	255	534	50	253																	●	●	●	●	●	●				
	180 L	22										523																												
	200 L	30	-	-	-	55/400	40-55	280.300.50	400	363	316	631	50	-																								●		
	225 S	37														60/450	40-60	280.350.80	450	399	337	651	80	-																
2900/3500	90 L	2.2	24/200	30-24/2	30-200	-	-	-	200	178	130	265	-	183	a + f + l ₁ bzw. a + f + l ₂ + l ₁	●			●																					
	100 L	3	28/250	30-28/2	30-250	28/250	40-28	280.180.0	250	200	140	302	-	183		●	●		●			●																		
		112 M								4	224	152				323	●	●	●	●	●		●																	
	132 S	5.5	38/300	30-38/2	30-300	38/300	40-38	280.230.20	300	220	165	354	20	238		●	●	●	●	●	●		●				●		●											
		7.5														●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	160 M	11	42/350	30-42/2	30-350	42/350	40-42	280.250.50	350	260	185	446	50	253		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
		15														●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	160 L	18.5	48/350	30-42/2	30-350	48/350	40-48	280.250.50	350	330	255	534	50	253			●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
	180 M	22															●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	200 L	30	55/400	30-55/2	30-400	55/400	40-55	280.300.50	400	363	316	631	50	253						●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		37																		●	●		●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	225 M	45	-	-	-	55/450	40-55	280.350.50	450	399	337	664	50	-																	●	●	●	●	●	●	●	●		
	250 M	55	-	-	-	60/550	40-60	280.450.80	550	443	377	752	80																			●	●	●	●	●	●	●	●	
	280 S	75				65/550	40-65	280.450.80	550	486	409	852	80																			●	●	●	●	●	●	●	●	
	280 M	90										903																												●
315 S	110	65/660				40-65	280.450.80	660	684	470	957	80																											●	

Automatic Breather A25A

The A 25 A is employed for the automatic venting of 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.

Function description:

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

In order to avoid any dry operation of the pump, the electric circuit arrangement (not included in the normal scope of supply) must be such that the pump is switched on only after the entire suction system has been vented.

As soon as a delivery pressure has been built up and the preset pressure limit reached, the automatic breather 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 delivery pressure dropping below the preset pressure limit, the automatic breather is switched on again.

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

Required control voltage 220 V, 50 Hz or 60 Hz; power consumption during starting 21 VA, in operation 12 VA; enclosure IP 54.

Materials:

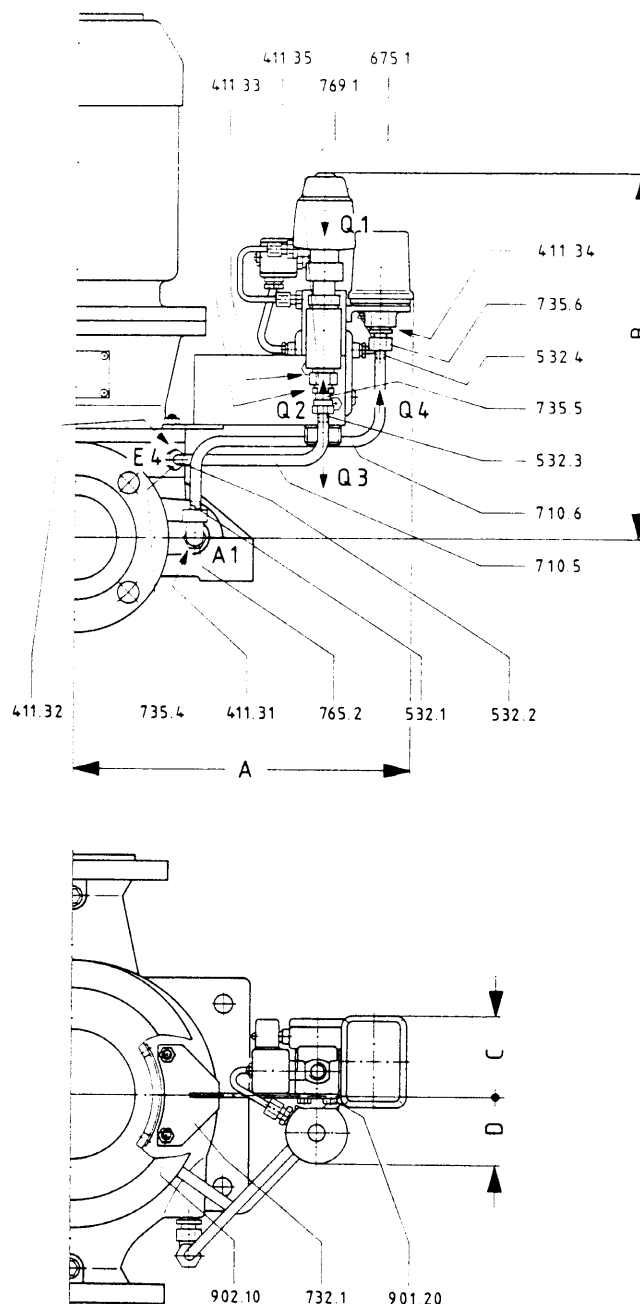
Lower nozzle: Plastic
Upper nozzle: Plastic
Inlet nozzle: G-CuZn 16Si4
Pipes ①: Cu

① Coming into contact with the fluid pumped.
Driving air consumption at 6 bar operating pressure $Q = 0.28 \text{ m}^3/\text{min}$.
The water-air mixture is exhausted through connection Q3.

List of components for the mounting-type automatic breather A25A, Series NISM:

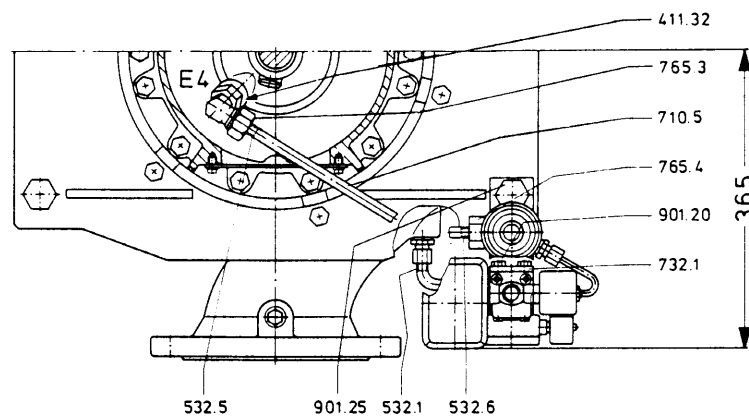
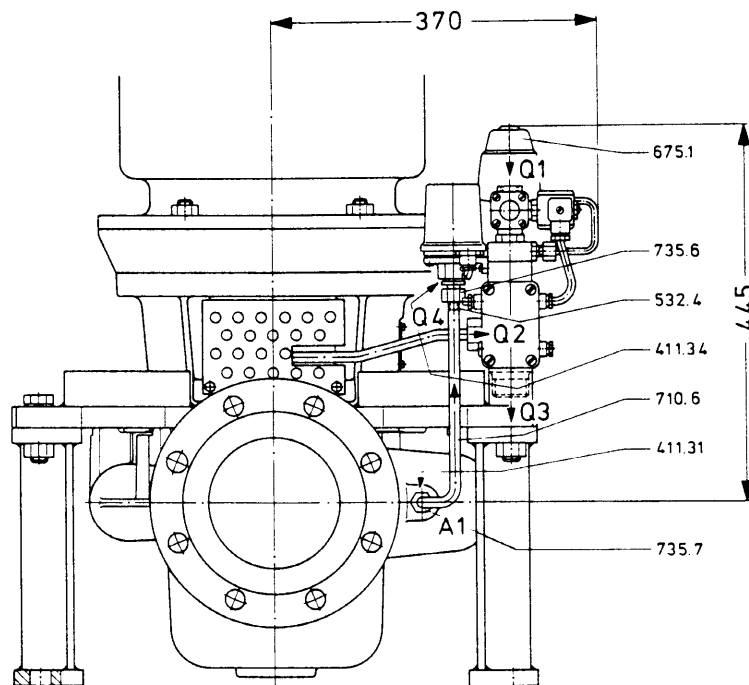
Denomination	Part No.
Joint washer	411.31
Joint washer	411.32
Joint washer	411.33
Joint washer	411.34
Joint washer	411.35
Reinforcing sleeve	532.1
Reinforcing sleeve	532.2
Reinforcing sleeve	532.3
Reinforcing sleeve	532.4
Automatic breather	675.1
Pipe	710.5
Pipe	710.6
Mount	732.1
Straight union	735.4
Straight union	735.5
Straight union	735.6
Threaded pipe angle	765.2
Reducing socket	769.1
Hexagonal screw	901.20
Stud bolt	902.10

Size with shaft diameter 30



Motor bracket size	Dimension			
	A	B	C	D
30-200	365	430	155	85
30-250				
30-300				
30-350	415			
30-400				

Automatic Breather A 25 A Sizes with shaft diameter 40



Denomination	Part No.
Joint washer	411.31
Joint washer	411.32
Joint washer	411.34
Reinforcing sleeve	532.1
Reinforcing sleeve	532.4
Reinforcing sleeve	532.5
Reinforcing sleeve	532.6
Automatic breather	675.1
Pipe	710.5
Pipe	710.6
Mount	732.1
Straight union	735.6
Straight union	735.7
Threaded pipe angle	765.3
Threaded pipe angle	765.4
Hexagonal screw	901.20
Hexagonal screw	901.25

Subject to technical alterations.

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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.