

ALLMARINE

SERIES MI WITH RADIAL INLET
SERIES MA WITH AXIAL INLET

PN 10 Vertical Marine Centrifugal Pumps (individual sizes up to PN 25) for pedestal or wall mounting



MI-S



MA-W

Application

For handling fresh water, sea water, condensate, oils.

Main areas of application

In marine engineering: as a general service and fire extinguisher pump; as a bilge, ballast and cooling water pump; and as a sea water pump.

Structural design

Single-stage, single-flow volute-casing centrifugal pump in short, compact design. Volute casing can be supplied optionally with axial or radial intake branch. In the shipbuilding and industry the delivery rate and hydraulics are closely attuned to the needs.

Volute casing and bearing unit are joined to the drive motor via a lantern. Elastically applied feet make the vibration isolated vertical pedestal mounting possible. Side drill holes permit wall mounting. Through the use of an coupling with distance piece the bearing unit an sealing unit, including impeller, can be dismantled without removing the volute casing, the pipes or the drive motor.

As the pump and drive motor are precisely centered in the lantern, no alignment is required.

Performance data

Q	up to	1800	m³/h
H	up to	65	m (individual sizes up to 140 m)
t	up to	40	°C (sea water)
	up to	100	°C (fresh water)
p _d	up to	10	bar (individual sizes up to 25 bar)

The limits quoted are maximums. Figures may be lower depending on specified technical execution. Inlet pressure plus maximum delivery head must not exceed the permissible outlet pressure.

The mentioned performance data are to be considered as a product and performance abstract only. The particular operating limits can be taken from the quotation or order acknowledgement.

Branch positions/Flanges

MI: Suction branch: as seen from the drive side at 180° to the delivery branch (standard).
The intake branch can be arranged 90° to the right and 90° to the left.

MA: Suction branch: axial

Nominal width:	Suction branch	125 up to 400 mm
	Delivery branch	65 up to 350 mm

to DIN EN 1092-2

Contact protection

The requirements of DIN EN 809 "Contact protection", are met.

Shaft sealing

By uncooled, unbalanced, maintenance-free mechanical seal.

Material design

Sliding ring	carbon, antimony-impregnated
Counter-ring	aluminium oxide
Bellows	HNBR
O-ring	HNBR

Variation of materials

Sliding ring	Silicon carbide
Counter-ring	Silicon carbide
Bellows	HNBR
O-ring	HNBR

Bearing/Lubrication

Pump side: Lifetime greased groove ball bearing to DIN 625 in casing cover.

Drive side: By bearing of drive motor.

Drive

Surface-cooled three-phase squirrel-cage induction motors, IM V1 type of construction, enclosure IP55 according to IEC Standard, class F insulation, performances and main dimensions according to DIN 42 677.

Abbreviation system

	MI or MA	80 - 315 / 01 / 310	U3.19D - W133 - S
Series			
Size			
Delivery branch nominal width			
Nominal impeller diameter			
Hydraulic No.			
Actual impeller diameter			
Shaft seal			
Material design			
Method of installation			
S = Plinth mounting			
W = Wall mounting			

This abbreviation is placed on the name plate.

Materials

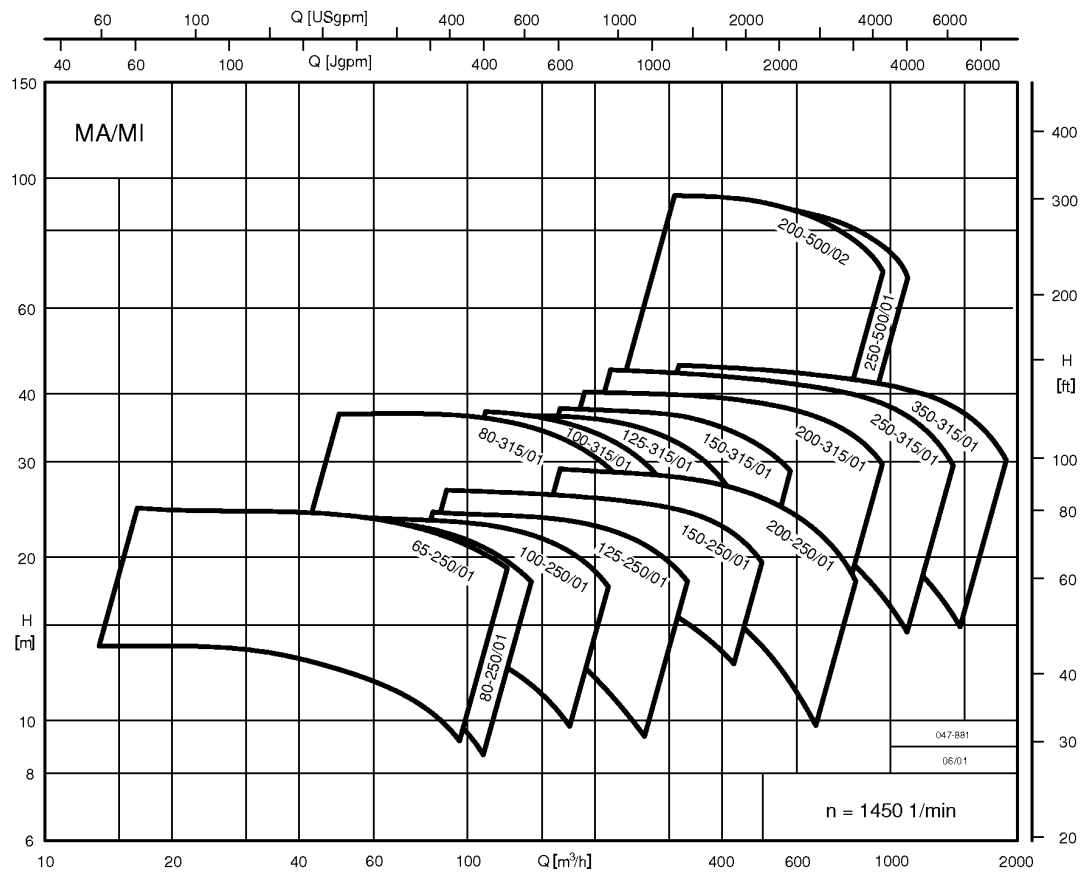
Denomination	Part No.	Material designs		
		W133	W134	W135
Volute casing	102.01	G-CuAl10Ni	EN-GJS-400-15 (GGG-40)	
Casing cover	161.01	G-CuAl10Ni	EN-GJS-400-15 (GGG-40)	
Shaft	210.01		1.4462/1.7139 ②	
Impeller	230.01		G-CuAl10Ni	EN-GJL-200 (GG-20)
Lantern	341.01		steel welded	
Wear ring ①	502.01		GC/GZ-CuSn12	
Screws and nuts in contact with fluid			stainless steel	

① Wear rings against surcharge.

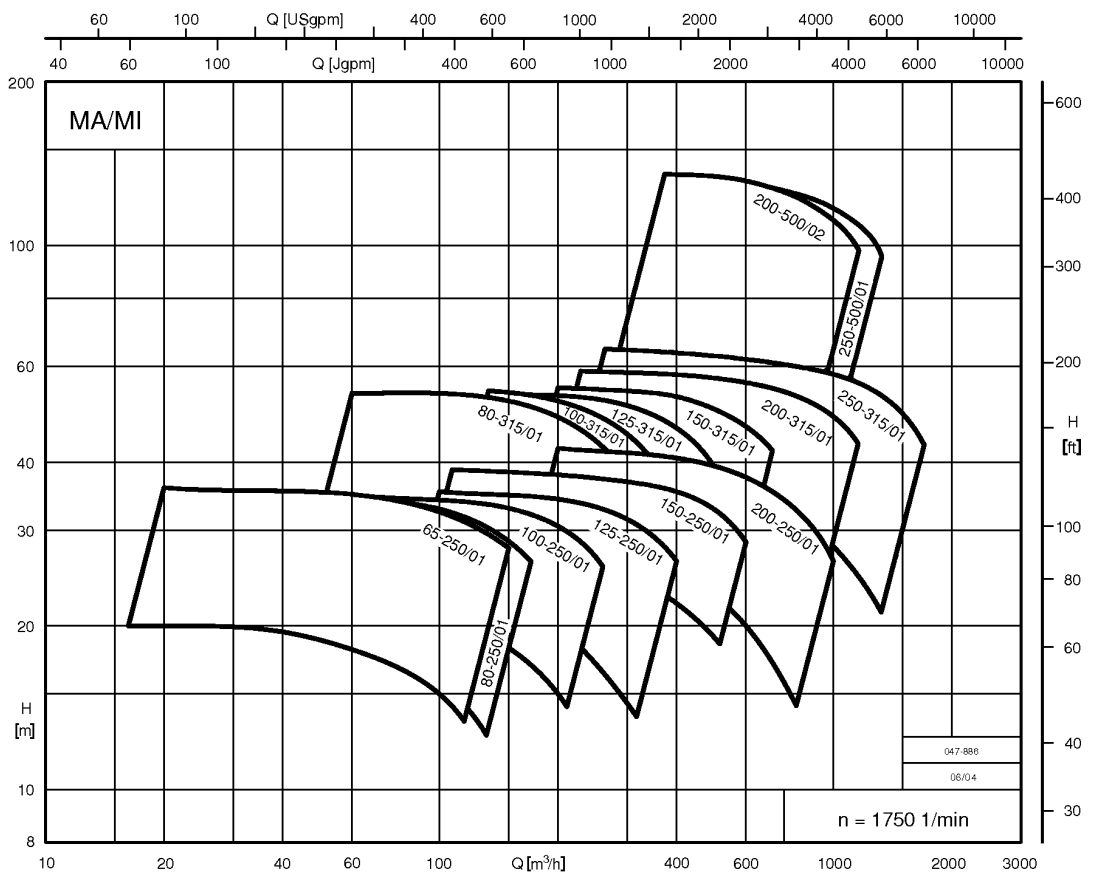
② On pump side (in contact with fluid) in 1.4462/on motor side in 1.7139.

Performance graphs

n = 1450 1/min



n = 1750 1/min



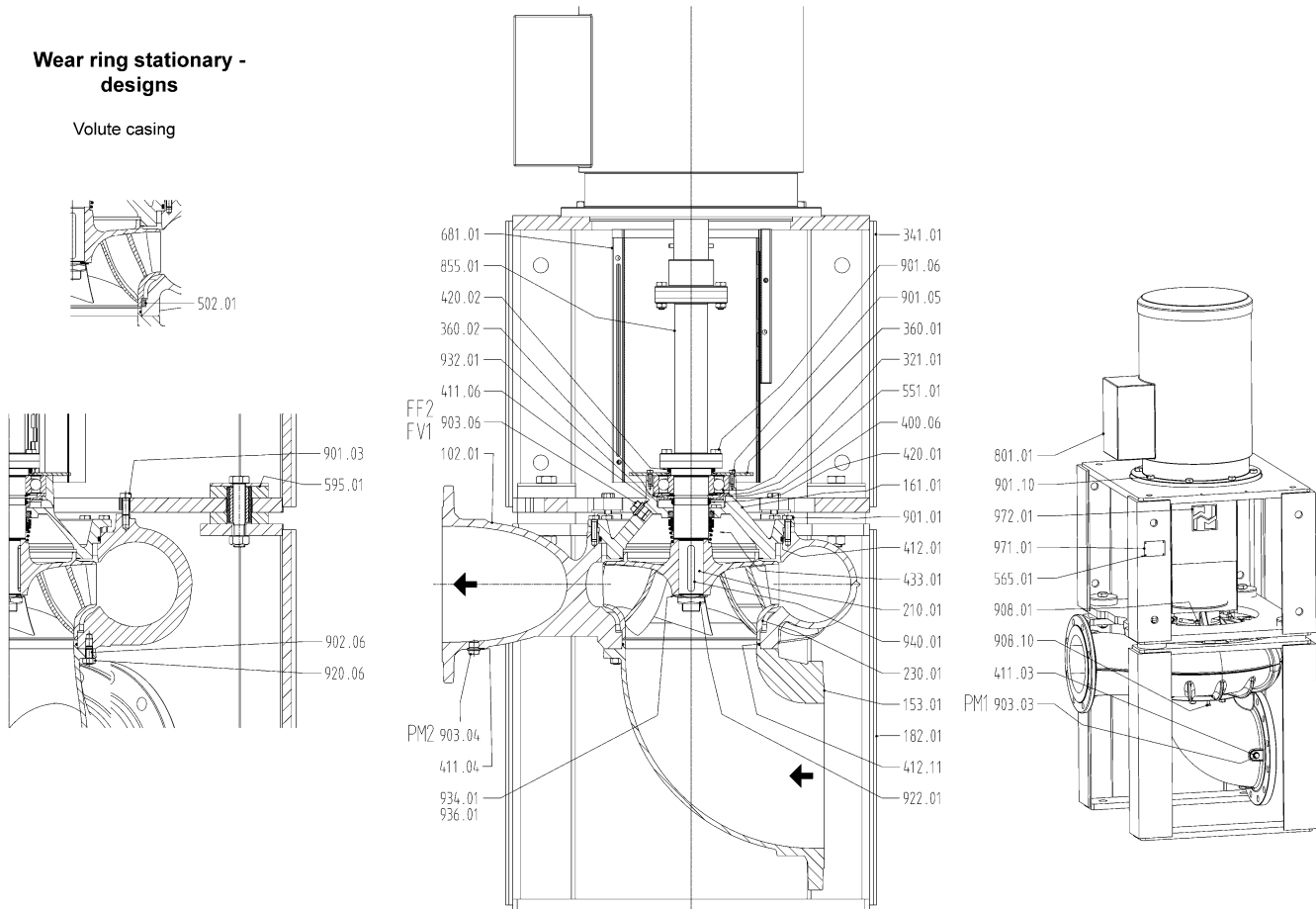
For exact performance data please refer to the individual characteristics.

Sectional drawing

Series MI for pedestal mounting

Wear ring stationary - designs

Volute casing



Denomination	Part No.	Denomination	Part No.	Denomination	Part No.
Volute casing	102.01	Wear ring stationary	502.01	Impeller nut	922.01
Suction branch	153.01	Spacer disc	551.01	Circlip	932.01
Casing cover	161.01	Rivet	565.01	Spring disc	934.01
Foot	182.01	Buffer	595.01	Spring ring	936.01
Shaft	210.01	Coupling guard	681.01	Key	940.01
Impeller	230.01	Flange motor	801.01	Name plate	971.01
Radial ball bearing	321.01	Coupling with distance piece	855.01	Information plate	972.01
Motor stool	341.01	Hexagon head screw	901.01		
Bearing cover	360.01	Hexagon head screw	901.03		
Bearing cover	360.02	Hexagon head screw	901.05		
Gasket	400.06	Hexagon head screw	901.06		
Seal ring	411.03	Hexagon head screw	901.10		
Seal ring	411.04	Stud	902.06		
Seal ring	411.06	Screw plug	903.03		
O-ring	412.01	Screw plug	903.04		
O-ring	412.11	Screw plug	903.06		
Shaft seal ring	420.01	Jack screw	908.01		
Shaft seal ring	420.02	Jack screw	908.10		
Mechanical seal	433.01	Nut	920.06		

Connections

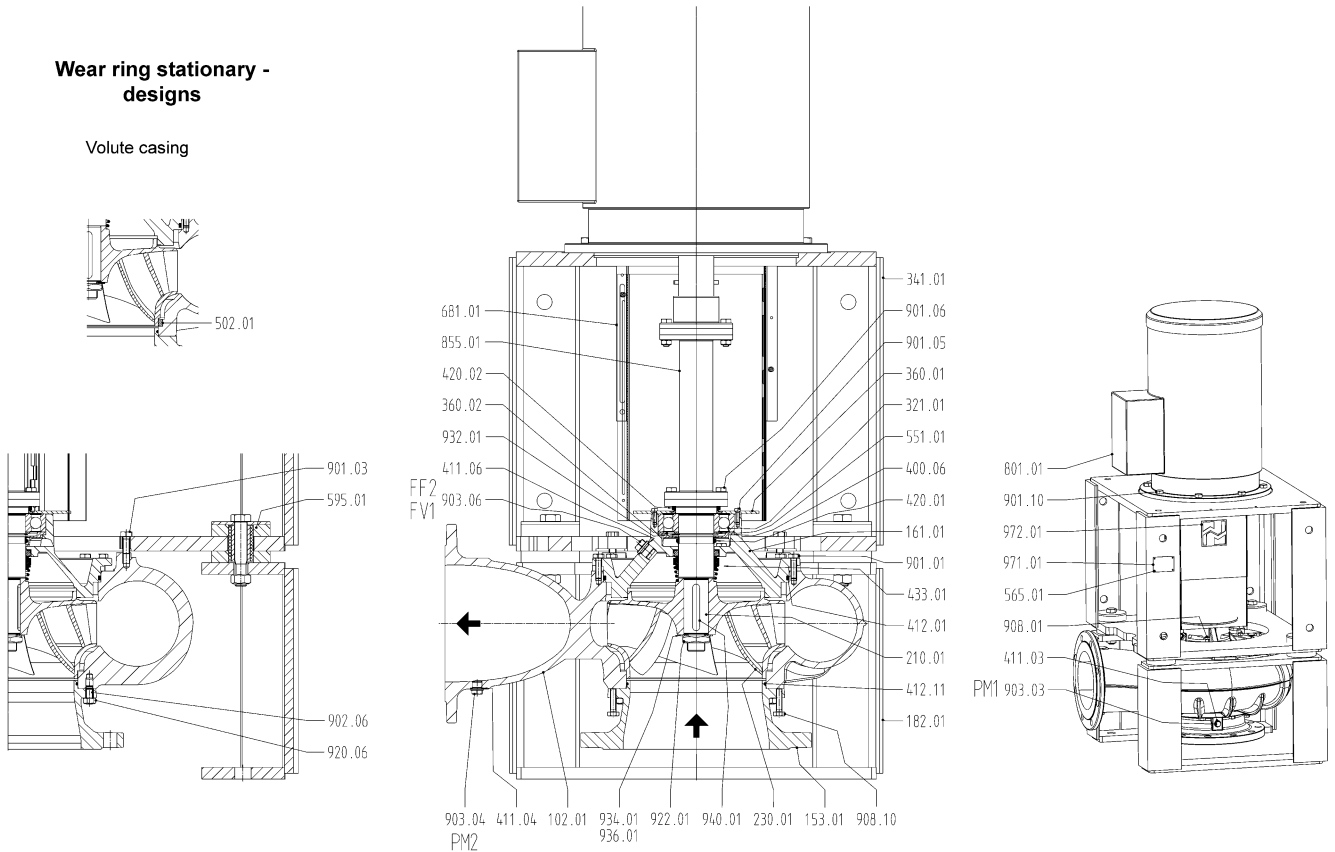
FF2	Filling
FV1	Venting
PM1	Pressure measurement
PM2	Pressure measurement

Sectional drawing

Series MA for pedestal mounting

Wear ring stationary - designs

Volute casing

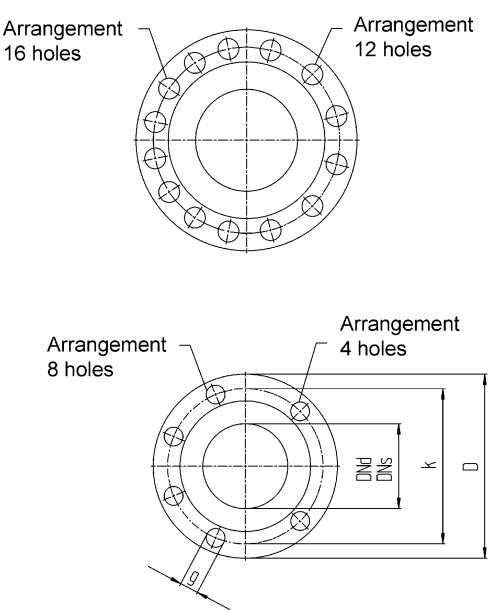
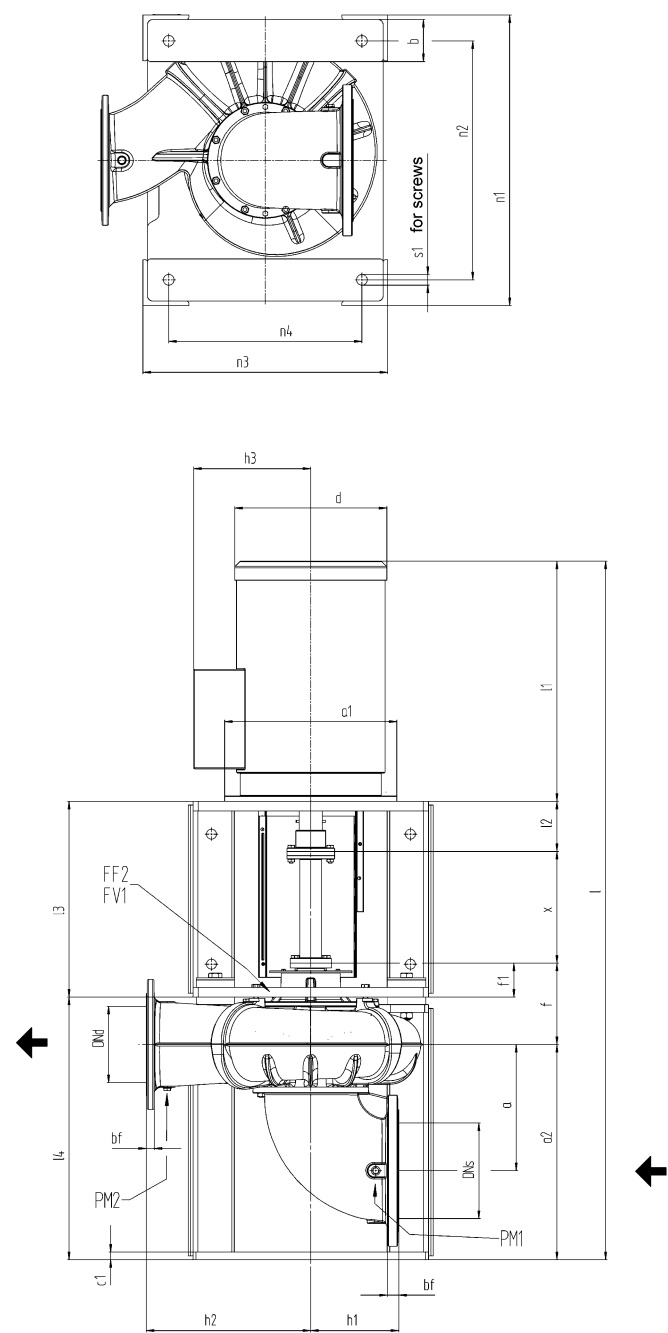


Denomination	Part No.	Denomination	Part No.	Denomination	Part No.
Volute casing	102.01	Wear ring stationary	502.01	Impeller nut	922.01
Suction branch	153.01	Spacer disc	551.01	Circlip	932.01
Casing cover	161.01	Rivet	565.01	Spring disc	934.01
Foot	182.01	Buffer	595.01	Spring ring	936.01
Shaft	210.01	Coupling guard	681.01	Key	940.01
Impeller	230.01	Flange motor	801.01	Name plate	971.01
Radial ball bearing	321.01	Coupling with distance piece	855.01	Information plate	972.01
Motor stool	341.01	Hexagon head screw	901.01		
Bearing cover	360.01	Hexagon head screw	901.03		
Bearing cover	360.02	Hexagon head screw	901.05		
Gasket	400.06	Hexagon head screw	901.06		
Seal ring	411.03	Hexagon head screw	901.10		
Seal ring	411.04	Stud	902.06		
Seal ring	411.06	Screw plug	903.03		
O-ring	412.01	Screw plug	903.04		
O-ring	412.11	Screw plug	903.06		
Shaft seal ring	420.01	Jack screw	908.01		
Shaft seal ring	420.02	Jack screw	908.10		
Mechanical seal	433.01	Nut	920.06		

Connections

FF2	Filling
FV1	Venting
PM1	Pressure measurement
PM2	Pressure measurement

Unit dimensions – series MI for pedestal mounting



Sense of rotation: Clockwise seen from drive side.
Dimensions in mm. Subject to alterations.

Flanges acc. to EN 1092-2 PN 10					
DN _s / DN _d	D	bf	k	g	No. of holes
65	185	19	145	19	4
80	200	19	160	19	8
100	220	19	180	19	8
125	250	19	210	19	8
150	285	19	240	23	8
200	340	20	295	23	8
250	395	22	350	23	12
300	445	24,5	400	23	12
350	505	24,5	460	23	16
400	565	24,5	515	28	16

Flanges acc. to EN 1092-2 PN 16					
DN _s / DN _d	D	bf	k	g	No. of holes
200	340	20	295	23	12
250	405	22	355	28	12

Flanges acc. to EN 1092-2 PN 16					
DN _s / DN _d	D	bf	k	g	No. of holes
250	425	24,5	370	31	12
300	485	27,5	430	31	16

Connections		
Filling	Venting	Pressure measurement
FF2	FV1	PM1 / PM2
G 1/2	G 1/2	G 3/8

Sense of rotation: Clockwise seen from drive side.
Dimensions in mm. Subject to alterations.

Size			Unit dimensions																										
Pump	Housing cover	Motor	Pump dimensions									Dismantling dimension	Foot dimensions									Total length approx.							
			DN _s	DN _d	a	a2	f	f1	h1	h2	l3		x	b	c1	l4	n1	n2	n3	n4	s1		l						
65-250/01	250/40	132S/M	125	65	210	410	165,5	98,5	150	250	416	230	90	20	477	500	395	480	375	M20	1267								
		160M/L ③																			446	1401							
80-250/01		132S/M																			416	1267							
		160M/L ③	150	80	235	407	168,1		175	250	446										1401								
		180M/L ③																		1525									
100-250/01	250/50	160M/L	150	100	250	486	197,1	108,2	175	275	456	230	90	20	574	600	490	560	450	M24	1509								
		180M/L																				1633							
125-250/01		160M/L																				1508							
		180M/L	200	125	290	483	199,9		200	275												1632							
		200L ③																		1690									
		225S/M ③									486									1727									
80-315/01	315/50	160M/L	150	80	235	500	182,7	108,2	175	315	456	230	90	20	574	600	490	560	450	M24	1508								
		180M/L																											1632
		200L																											1690
100-315/01		180M/L																											
	200L	200	100	275	497	185,9	200	315		1690																			
		225S/M ③									486									1722									
150-250/01	250/60	180M/L	200	150	305	570	220,5	99,5	210	350	487	270	110	20	691	760	625				M24	1780							
		200L																								1838			
		225S/M																								1875			
		250M ③																								1998			
200-250/01		200L	250	200	330	563	227,6	99,5	230	430	487	270	110	20	691	760	625		640	505		1838							
	225S/M																								1875				
	250M																								1998				
	280S/M ③																								2073				
		315S/M ③									547										2208								
125-315/01	315/60	200L	200	125	275	575	215,7	99,5	200	350	487	270	110	20	691	760	625				M24	1838							
		225S/M																								1875			
		250M ③																								1998			
		280S/M ③																								2073			
150-315/01		200L	250	150	340	571	219,1	99,5	220	355	487	270	110	20	691	760	625		640	505		1838							
	225S/M																								1875				
	250M ③																								1998				
	280S/M ③																								2073				
		315S/M ③									547										2208								
200-315/01	315/70	225S/M	250	200	365	690	263,3	113,3	250	440	581	320	150	25	840	900	720	820	640	M30	2088								
		250M																							2211				
		280S/M ③																							2286				
		315S/M ③																							2421				
250-315/01		315S/M	300	250	390	682	271,8		280	530	611										2421								
350-315/01	315/80	315S/M	400	350	595	920	272,3	70,3	400	580	648	400	150	25	1122	1080	900	960	780	M30	2740								
200-500/02 ①	500/80	280S/M	250	200	350	700	250,4	110,4	250	625	578	320	150	25	840	900	720	820	640	M30	2283								
		315S/M																			2418								
250-500/01 ②		315S/M	300	250	410	690	260,4		275	700	608										2418								

② Flange acc. to EN 1092-2 PN 25

③ Attention! With these motor sizes the terminal box dimension h3 is bigger than pump dimension h2.

Exact data dependant on motor brand.

At drive performances over 132 kW consultation is necessary due to non standardized motor connections.

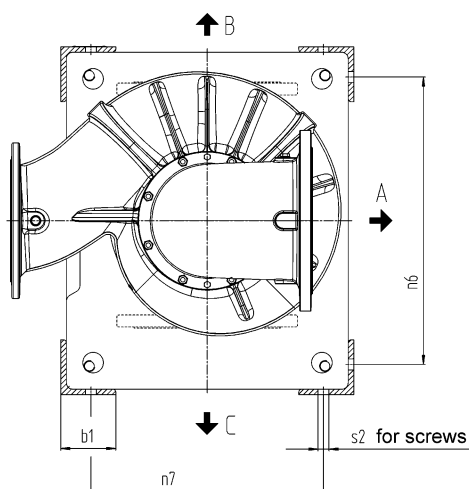
On use of special ship motors, precautions must be taken towards different pump sizes depending on protection type with according performances.

The main dimensions change accordingly.

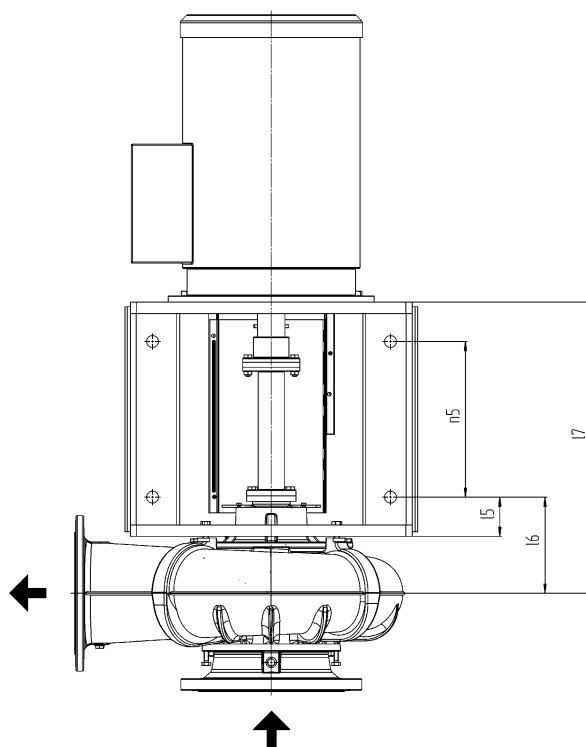
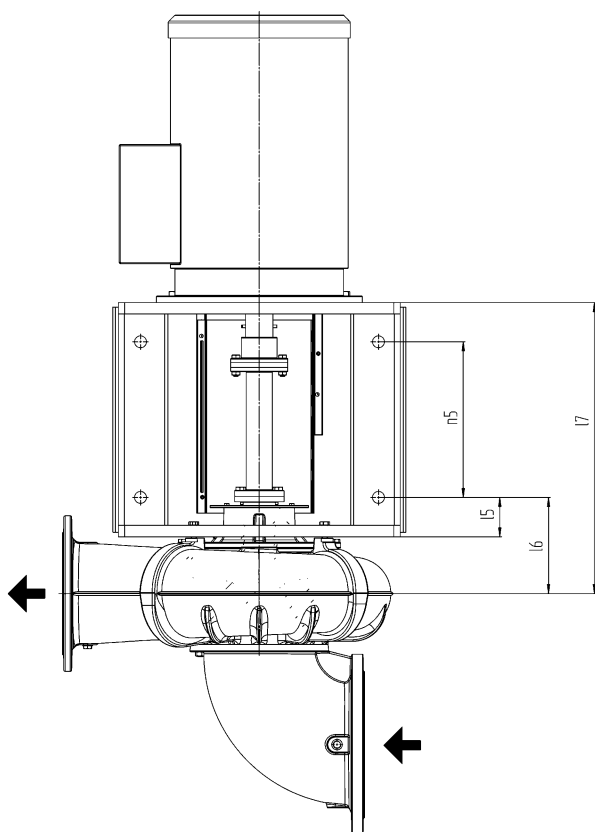
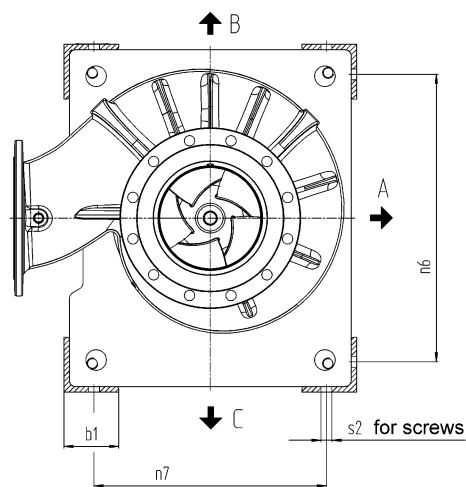
Speed	Size	Performance		Motor dimensions			
1/min	Motor	kW	Flange diameter	Outside diameter	Terminal box	Shaft end	Length
			a1	d	h3	d2 x l2	l1
1750 1450 1180	132S/M	5,5/7,5	300	270	233	38 x 80	374
	160M/L	11/15	350	310	257	42 x 110	478
	180M/L	22	350	375	275	48 x 110	602
	200L	30	400	415	310	55 x 110	660
	225S/M	37/45	450	470	339	60 x 140	667
	250M	55	550	520	430	65 x 140	790
	280S/M	75/90	550	575	455	75 x 140	865
	315S/M	110/132	660	645	515	80 x 170	970

Unit dimensions – supplementary dimensions for wall mounting

Series MI



Series MA



Sense of rotation: Clockwise seen from drive side.
Dimensions in mm. Subject to alterations.

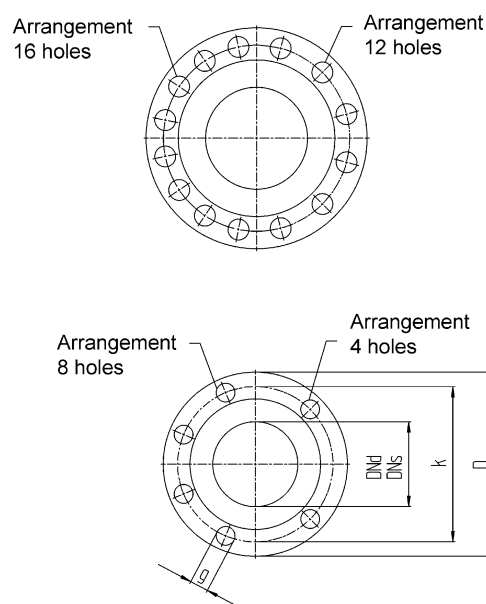
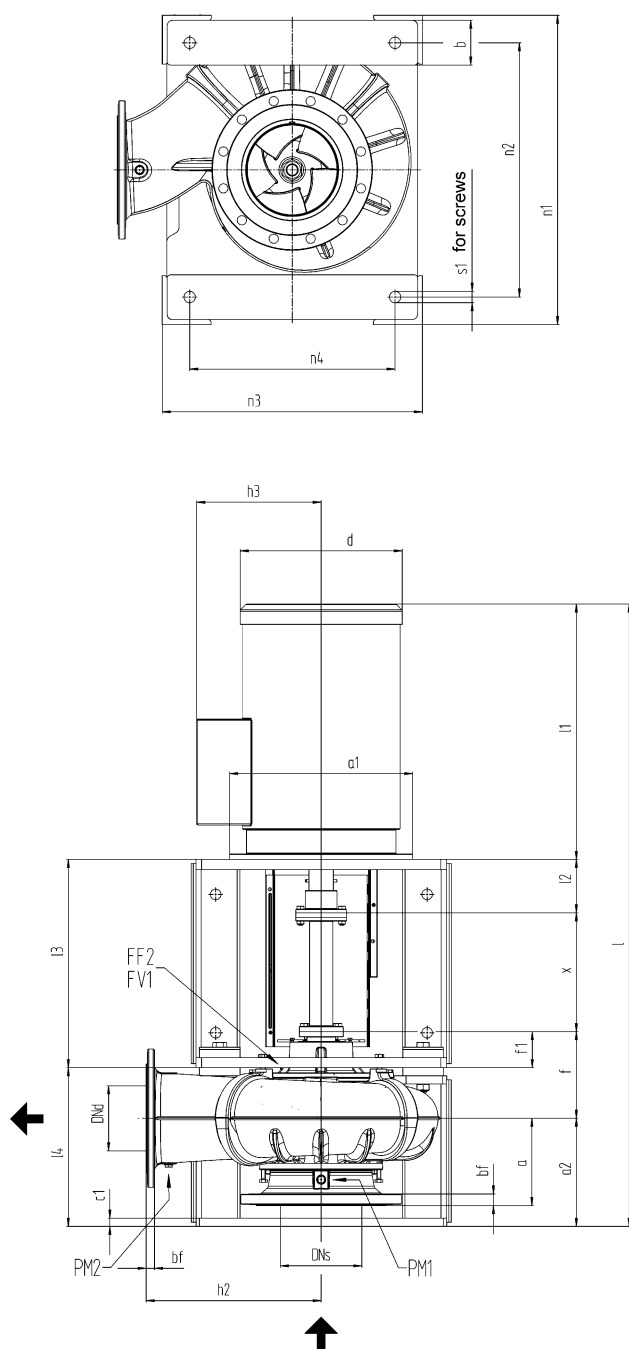
Series	Possible variations for wall mounting			Possible suction branch positions		
	seen from drive side					
	A	B	C	A	B	C
MI	x	x	x	x	x	x
MA	x	x	x	-	-	-

Unit dimensions – supplementary dimensions for wall mounting, series MI and MA

Sense of rotation: Clockwise seen from drive side.
Dimensions in mm. Subject to alterations.

Size			Dimensions for wall mounting											
Pump	Housing cover	Motor	b1	l5	l6	l7	n5	n6	n7	s2				
65-250/01	250/40	132S/M	90	80	143	483	260	400	380	M20				
80-250/01		160M/L				513	290							
		132S/M			485,6	260								
		160M/L			515,6	290								
		180M/L												
100-250/01	250/50	160M/L	100	80	164,4	544,4	290	490	450	M24				
125-250/01		180M/L			167,2	547,2					320			
		160M/L				577,2					320			
		180M/L				150	530				290			
		200L					153,2					533,2	320	
225S/M		563,2			320									
80-315/01	160M/L	315/50			180M/L	200L					180M/L	200L		225S/M
100-315/01	160M/L				180M/L	200L					225S/M			
	180M/L				200L	225S/M								
	180M/L				200L	225S/M								
	200L				225S/M									
150-250/01	250/60				180M/L	120	80				197	518	320	630
200-250/01		200L	204,1	548	350									
		225S/M		615,1				645,1						
		250M		675,1					380					
		200L		192,2				603,2	320	350				
		225S/M	633,2		666,6			380						
		250M	195,6						606,6		636,6			
280S/M		315S/M							666,6			380		
315S/M				666,6						380				
315S/M					666,6			380						
315S/M	666,6		380											
200-315/01		315/70							225S/M		246	729	380	730
250-315/01				250M					759	410				
				280S/M	769,5									
	315S/M													
350-315/01	315/80	315S/M	160	120	318			850	410	910	790	M30		
200-500/02	500/80	280S/M		100	236			718	380	730	650	M30		
250-500/01		315S/M						748	410					
								315S/M					246	758

Unit dimensions – series MA for pedestal mounting



Sense of rotation: Clockwise seen from drive side.
Dimensions in mm. Subject to alterations.

Flanges acc. to EN 1092-2 PN 10

DNs / DNd	D	bf	k	g	No. of holes
65	185	19	145	19	4
80	200	19	160	19	8
100	220	19	180	19	8
125	250	19	210	19	8
150	285	19	240	23	8
200	340	20	295	23	8
250	395	22	350	23	12
300	445	24,5	400	23	12
350	505	24,5	460	23	16
400	565	24,5	515	28	16

Flanges acc. EN 1092-2 PN 16

DNs / DNd	D	bf	k	g	No. of holes
200	340	20	295	23	12
250	405	22	355	28	12

Flanges acc. EN 1092-2 PN 25

DNs / DNd	D	bf	k	g	No. of holes
250	425	24,5	370	31	12
300	485	27,5	430	31	16

Connections

Filling	Venting	Pressure measurement
FF2	FV1	PM1 / PM2
G 1/2	G 1/2	G 3/8

Unit dimensions – series MA for pedestal design

Sense of rotation: Clockwise seen from drive side.
Dimensions in mm. Subject to alterations.

Size			Unit dimensions																										
Pump	Housing cover	Motor	Pump dimensions								Dismantling dimension x	Foot dimensions									Total length approx. l								
			DNs	DNd	a	a2	f	f1	h2	l3		b	c1	l4	n1	n2	n3	n4	s1										
65-250/01	250/40	132S/M	125	65	150	230	165,5	98,5	250	416	230	90	20	297	500	395	480	375	M20	1087									
80-250/01		160M/L ③								446										1221									
		132S/M	150	80	175	227	168,1		250	416										1087									
		160M/L ③								446										1221									
100-250/01	250/50	180M/L ③	150	100	190	266	197,1	108,2	275	456		90	20	354	600	490	560	450	M24	1345									
		160M/L																		1289									
125-250/01		180M/L	200	125	210	263	199,9		275	486		90	20	354	600	490	560	450	M24	1413									
		160M/L																		1288									
		180M/L																		1522									
		200L ③																		1470									
80-315/01	315/50	225S/M ③	150	80	175	280	182,7	108,2	315	456		90	20	354	600	490	560	450	M24	1507									
		160M/L																		1288									
		100-315/01	180M/L	200	100	200	277		185,9	315										486	90	20	354	600	490	560	450	M24	1412
			200L																										1470
180M/L			1412																										
225S/M ③			1488																										
150-250/01	250/60	200L	200	150	220	270	220,5	99,5	350	487	270	110	20	391	760	625	640	505	M24	1507									
		180M/L																		1480									
		200L																		1538									
		225S/M																		1575									
200-250/01		250M ③	250	200	215	263	227,6		430	517							640	505		700	565	M24	1698						
		225S/M																					1538						
		250M																					1715						
		280S/M ③																					1698						
125-315/01	315/60	315S/M ③	200	125	220	275	215,7	99,5	350	517		110	20	391	760	625	700	565		M24	1773								
		200L																			1908								
		225S/M																			1538								
		250M ③																			1575								
150-315/01		280S/M ③	250	150	230	271	219,1		355	517		640	505	700	565	M24	1698												
		200L															1773												
		225S/M															1538												
		250M ③															1575												
200-315/01	315/70	280S/M ③	250	200	240	340	263,3	113,3	440	581	320	150	25	490	900	720	820	640	M30	1773									
		225S/M																		1738									
		250M																		1861									
		280S/M ③																		1936									
250-315/01	315/80	315S/M ③	300	250	240	332	271,8	110,4	530	611	320	150	25	490	900	720	820	640	M30	2071									
315S/M		2071																											
350-315/01		315S/M																		2071									
200-500/02 ①	500/80	280S/M	250	200	225	350	250,4	110,4	625	578	320	150	25	490	900	720	820	640	M30	2200									
		315S/M																		2068									
250-500/01 ②		315S/M	300	250	275	340	260,4		700	608										320	150	25	490	900	720	820	640	M30	2068

① Flange acc. to EN 1092-2 PN 16

② Flange acc. to EN 1092-2 PN 25

③ Attention! With these motor sizes the terminal box dimension h3 is bigger than pump dimension h2.

The stated dimensions are approximate.

Exact data dependant on motor brand.

At drive performances over 132 kW consultation is necessary due to non standardized motor connections.

On use of special ship motors, precautions must be taken towards different pump sizes depending on protection type with according performances.

The main dimensions change accordingly.

Motor dimensions

Speed	Size	Capacity	Motor dimensions				
			Flange diameter	Outside diameter	Terminal box	Shaft end	Length
1/min	Motor	kW	a1	d	h3	d2 x l2	l1
1750 1450 1180	132S/M	5,5/7,5	300	270	233	38 x 80	374
	160M/L	11/15	350	310	257	42 x 110	478
	180M/L	22	350	375	275	48 x 110	602
	200L	30	400	415	310	55 x 110	660
	225S/M	37/45	450	470	339	60 x 140	667
	250M	55	550	520	430	65 x 140	790
	280S/M	75/90	550	575	455	75 x 140	865
	315S/M	110/132	660	645	515	80 x 170	970

Subject to technical alterations.



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