

EBARA

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SPECIFICATION

60Hz

Rev. F

PUMP		
Liquid Handled	Type of liquid	Clean water and moderately aggressive fluids
	Temperature [°C]	min. -5 max. +90 max. +110 (H-HS-HW)
Maximum working pressure	[MPa]	1
Flange		UNI 2236
Counterflange (On request)		UNI 2247
Construction	Impeller	Closed centrifugal type
	Shaft seal type	Mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction	Flange to DIN 2532 (50 mm - 65 mm - 80 mm)
	Discharge	Flange to DIN 2532 (32 mm - 40 mm - 50 mm - 65 mm)
Material	Casing	Cast iron
	Impeller	Cast iron/Bronze (see application page 301)
	Shaft seal	Ceramic/Carbon/NBR (for MD) Ceramic/Carbon/FPM (for MDH) SiC/SiC/FPM (for MDHS) Tungsten Carbide/Tungsten Carbide/FPM (for MDHW) Carbon/Ceramic/EPDM VBEGF (for MDE) *
	Shaft	AISI 304 (wet extension)
	Bracket	Cast iron
Applicable standard of test		ISO 9906 - Annex A

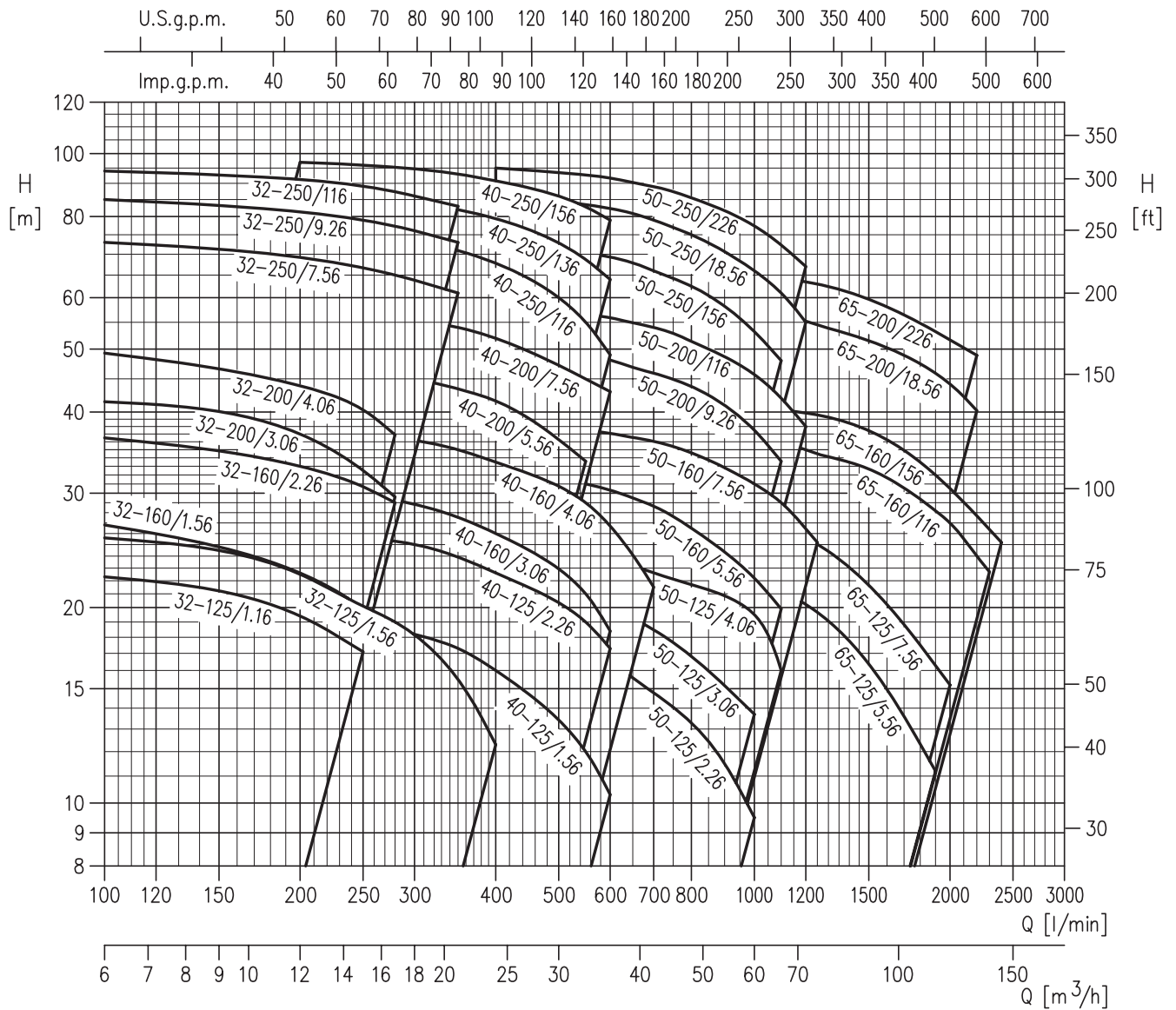
MOTOR		
Type	Electric - TEFC	
	Single Phase	Three Phase
No. of Poles	2	
Rotation speed [min-1]	~ 3450	
Insulation Class	F	
Protection degree	IP 55	
Power rating [kW]	1.1 ÷ 2.2	1.1 ÷ 22
	[HP]	1.5 ÷ 3
Frequency [Hz]	60	
Voltage [V]	220-230 ±6%	220/380-460 ±6% (up to 4 kW)
		380-460/660 ±6% (5.5 kW and above)
Capacitor	Built in	-
Over load protection	Built in	Provided by the user
Casing material	Aluminium	
Base material/motor support	Aluminium / Steel	
Dimensions of cable entry	PG 13.5 - PG 16 - PG 21 (see dimensions pages 400-401)	

* not for 32-160; 40-160; 50-160; 65-125.

SELECTION CHART

60Hz

Rev. F



SELECTION CHART

60Hz

Rev. F

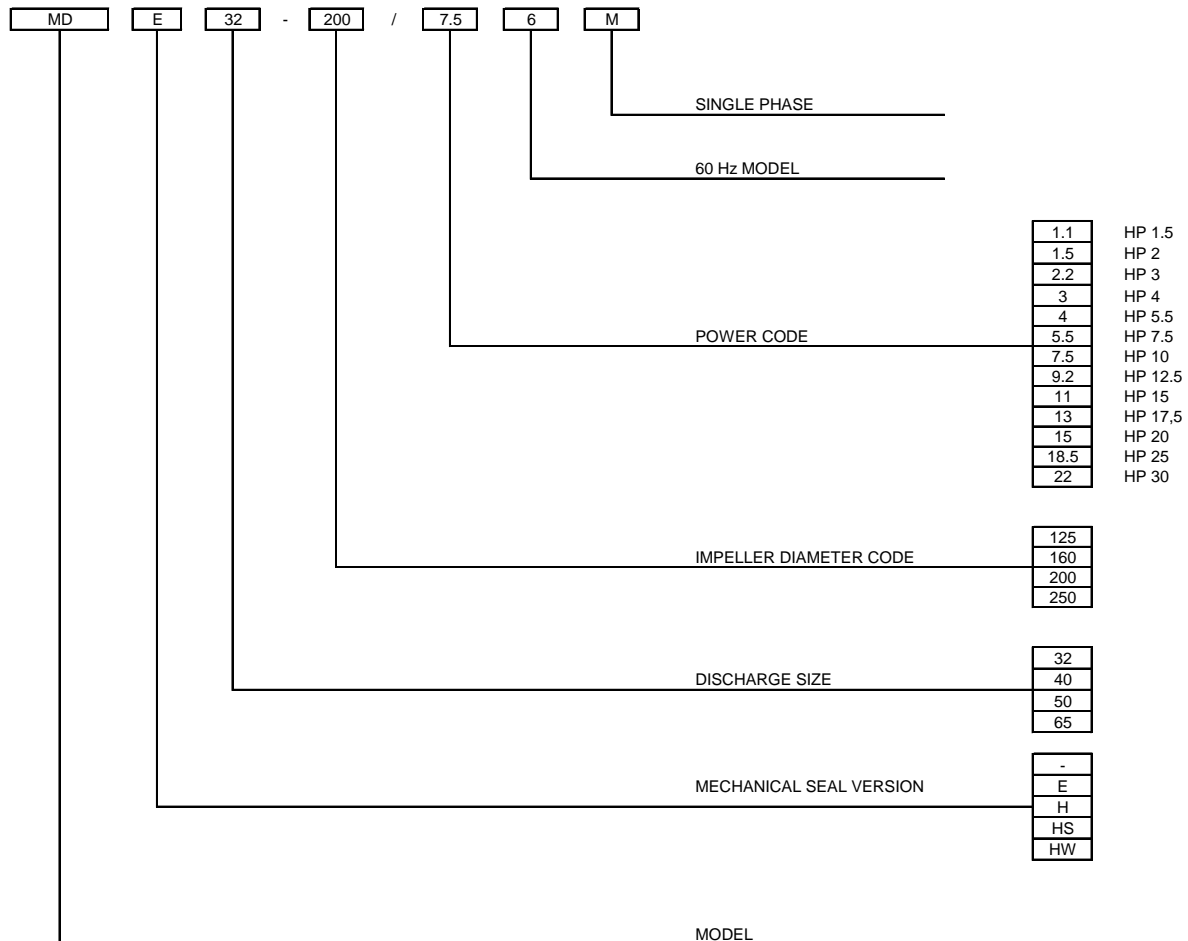
Pump type	Output kW HP		Q=Capacity																							
			m ³ /h																							
			0	100	200	250	280	350	400	550	600	667	700	800	1000	1100	1200	1250	1400	1900	2000	2200	2300	2400		
H=Total manometric head in meters																										
			0	6	12	15	17	21	24	33	36	40	42	48	60	66	72	75	84	114	120	132	138	144		
MD 32-125/1.16(M)	1.1	1.5	23	22.5	19.6	17.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 32-125/1.56(M)	1.5	2	26	25.5	23	21	19.4	15.5	12.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 32-160/1.56(M)	1.5	2	28	27	23	20	17.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 32-160/2.26(M)	2.2	3	37.5	36.5	33.5	31	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 32-200/3.06	3	4	43.5	41.5	37	33	29.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 32-200/4.06	4	5.5	51.5	49.5	44.5	40.5	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 32-250/7.56	7.5	10	74	73	69	66.5	65	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 32-250/9.26	9.2	12.5	86	85	81.5	79	77.5	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 32-250/11.16	11	15	95	94	91.5	89	87.5	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 40-125/1.56(M)	1.5	2	21	20.5	19.6	18.9	18.5	17.2	16	12	10.3	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 40-125/2.26(M)	2.2	3	28	27.5	26.5	25.5	25	23.5	22.5	18.6	17.3	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 40-160/3.06	3	4	31.5	31.5	31	30	29.5	27.5	26	20.5	18.4	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 40-160/4.06	4	5.5	39	38.5	38	37	36.5	35	33.5	28.5	26.5	23	21.5	-	-	-	-	-	-	-	-	-	-	-		
MD 40-200/5.56	5.5	7.5	49	48	47	46	45.5	43.5	41.5	33.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 40-200/7.56	7.5	10	58.5	58	57	56	55.5	53.5	52	45.5	43	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 40-250/11.16	11	15	79	78.5	77	75.5	74	71	68	55	49	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 40-250/13.6	13	17.5	89	-	87	85.5	84.5	82	79.5	68	64	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 40-250/15.6	15	20	99	-	97	96	95.5	93	91	82	79	-	-	-	-	-	-	-	-	-	-	-	-	-		
MD 50-125/2.26(M)	2.2	3	19.5	-	-	-	-	-	18.2	17.3	16.8	15.9	15.4	13.6	9.5	-	-	-	-	-	-	-	-	-		
MD 50-125/3.06	3	4	23.5	-	-	-	-	-	22	20.5	19.9	19	18.5	17.1	13.7	-	-	-	-	-	-	-	-	-		
MD 50-125/4.06	4	5.5	27	-	-	-	-	-	26	25	24.5	23.5	23	21.5	18.2	16	-	-	-	-	-	-	-	-		
MD 50-160/5.56	5.5	7.5	33.5	-	-	-	-	-	32	31	30.5	29.5	29	27	22.5	19.9	-	-	-	-	-	-	-	-		
MD 50-160/7.56	7.5	10	40.5	-	-	-	-	-	39	38	37.5	36.5	36	34.5	31	29	26.5	25	-	-	-	-	-	-		
MD 50-200/9.26	9.2	12.5	53.5	-	-	-	-	-	51.5	50	49	47.5	47	44.5	37.5	33.5	-	-	-	-	-	-	-	-		
MD 50-200/11.16	11	15	59.5	-	-	-	-	-	59	57	56	54.5	54	51.5	45.5	42	38	-	-	-	-	-	-	-		
MD 50-250/15.6	15	20	75	-	-	-	-	-	73	70.5	69.5	67.5	66	62.5	53	48	-	-	-	-	-	-	-	-		
MD 50-250/18.56	18.5	25	86.5	-	-	-	-	-	85	83	81.5	80	78.5	75	66.5	61	55	-	-	-	-	-	-	-		
MD 50-250/22.6	22	30	96.5	-	-	-	-	-	95	93	92	90	89	85.5	77.5	72.5	67	-	-	-	-	-	-	-		
MD 65-125/5.56	5.5	7.5	25.5	-	-	-	-	-	-	-	24.3	24.5	24	23.5	22	21	20	19.7	18	11.2	-	-	-	-		
MD 65-125/7.56	7.5	10	30	-	-	-	-	-	-	-	29.3	29.5	29.5	29	27.5	26.5	25.5	25	23.5	16.7	15.2	-	-	-		
MD 65-160/11.16	11	15	37.5	-	-	-	-	-	-	-	-	37.5	37.5	37.5	36.5	36.5	35.5	35.5	34.5	28.5	27	24	22.5	-		
MD 65-160/15.6	15	20	40.5	-	-	-	-	-	-	-	-	-	-	40.5	40.5	40	39.5	39.5	38.5	33.5	32	29	27	25		
MD 65-200/18.56	18.5	25	59.5	-	-	-	-	-	-	-	-	-	-	58.5	57.5	56.5	55.5	55	53	45.5	44	40	-	-		
MD 65-200/22.6	22	30	66.5	-	-	-	-	-	-	-	-	-	-	65.5	65	64.5	64	63.5	62.5	54.5	53	49	-	-		

TYPE KEY AND CURVE SPECIFICATIONS

60Hz

Rev. F

TYPE KEY:



PERFORMANCE CURVE SPECIFICATIONS

The specifications below qualify the curves shown on the following pages.

Tolerances according to ISO 9906 Annex A

The curves refer to effective speed of asynchronous motors at 60 Hz

Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of $\nu = 1 \text{ mm}^2/\text{s}$ (1 cSt)

The NPSH curve is an average curve obtained in the same conditions of performance curves.

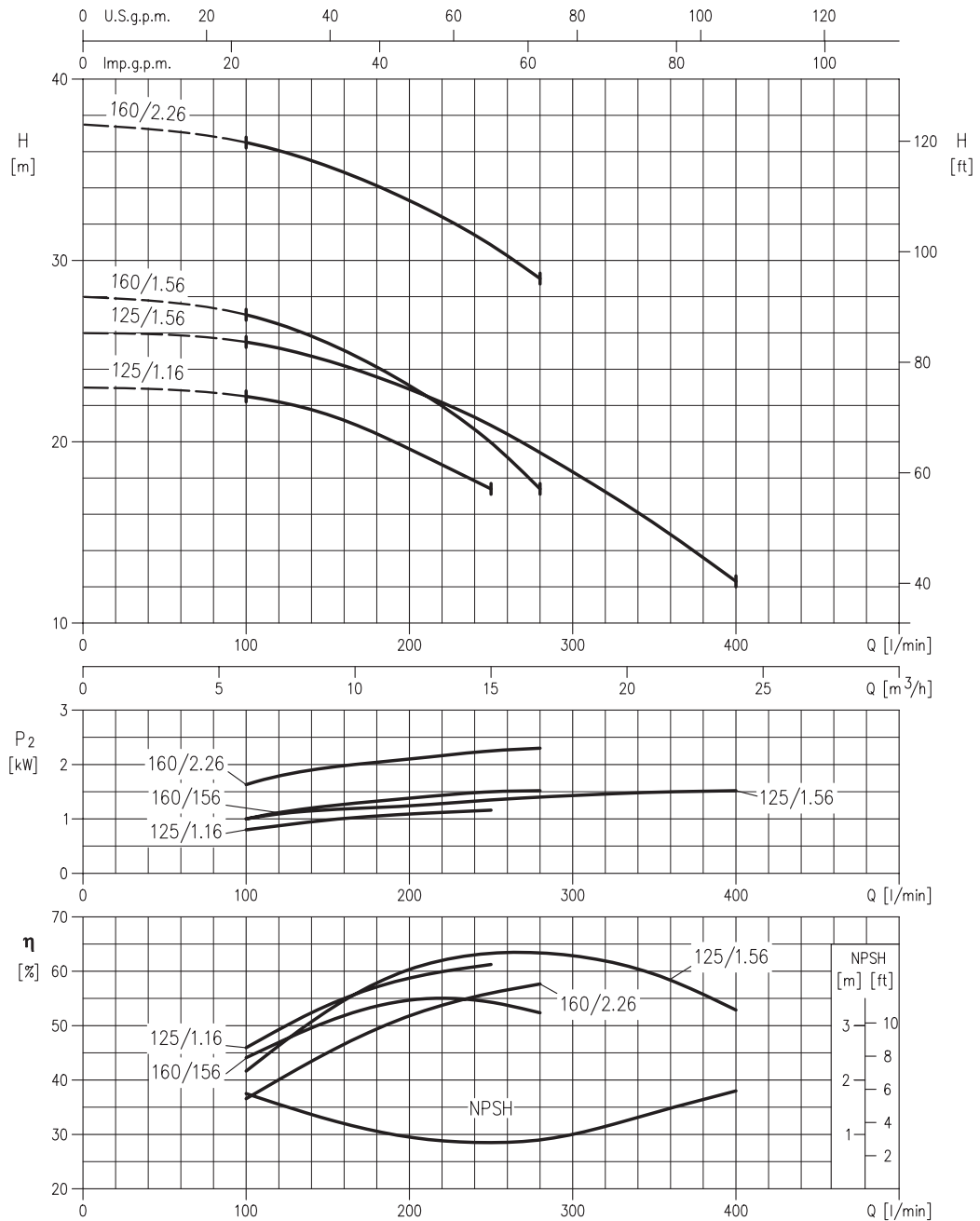
The continuous curves indicate the recommended working range. The dotted curve is only a guide.

In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

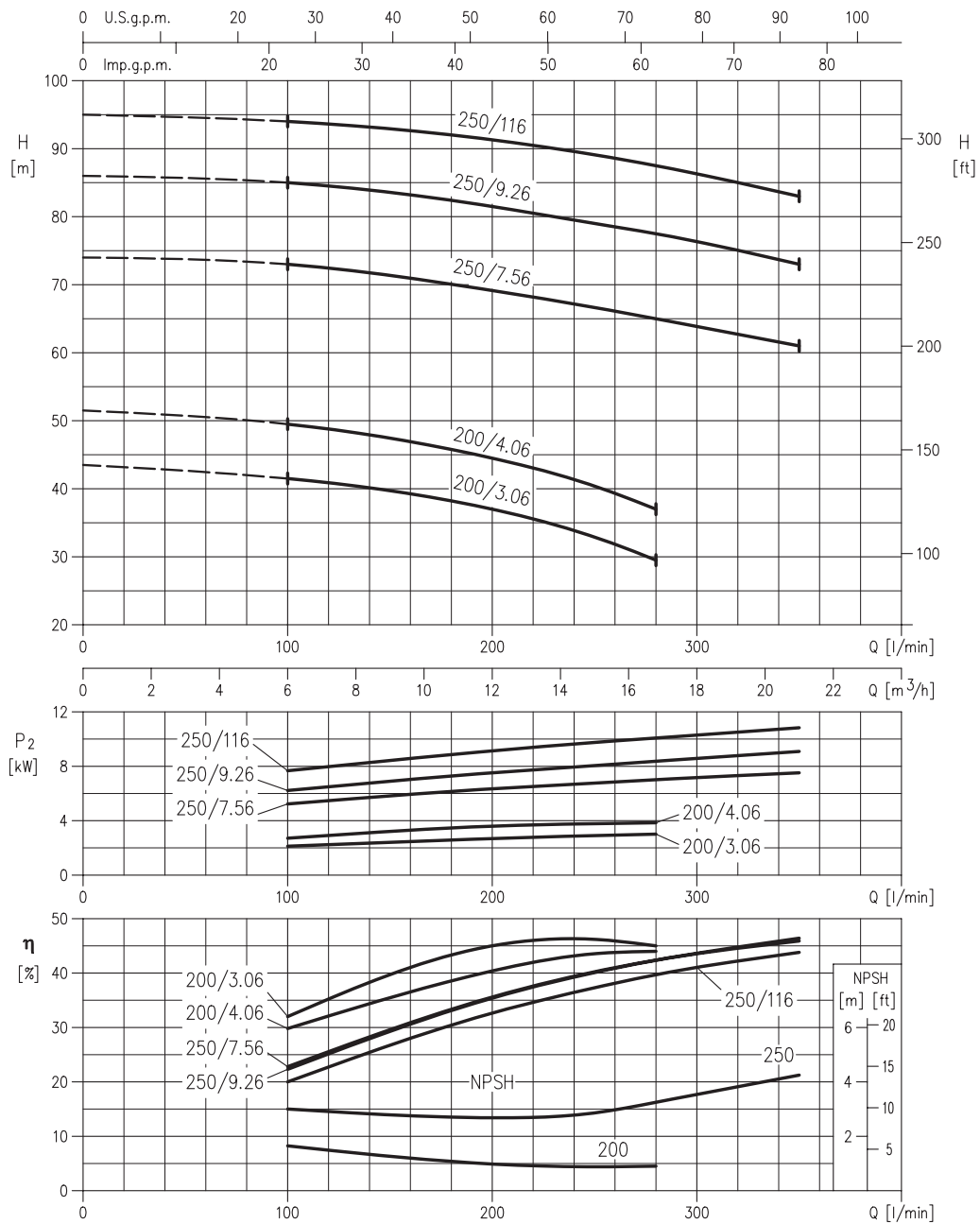
- Q = volume flow rate
- H = total head
- P_2 = pump power input (shaft power)
- η = pump efficiency
- NPSH = net positive suction head required by the pump

MD 32-125/1.16 (1.1 kW) - Impeller diameter = 112 mm
MD 32-125/1.56 (1.5 kW) - Impeller diameter = 118 mm
MD 32-160/1.56 (1.5 kW) - Impeller diameter = 124 mm
MD 32-160/2.26 (2.2 kW) - Impeller diameter = 141.5 mm



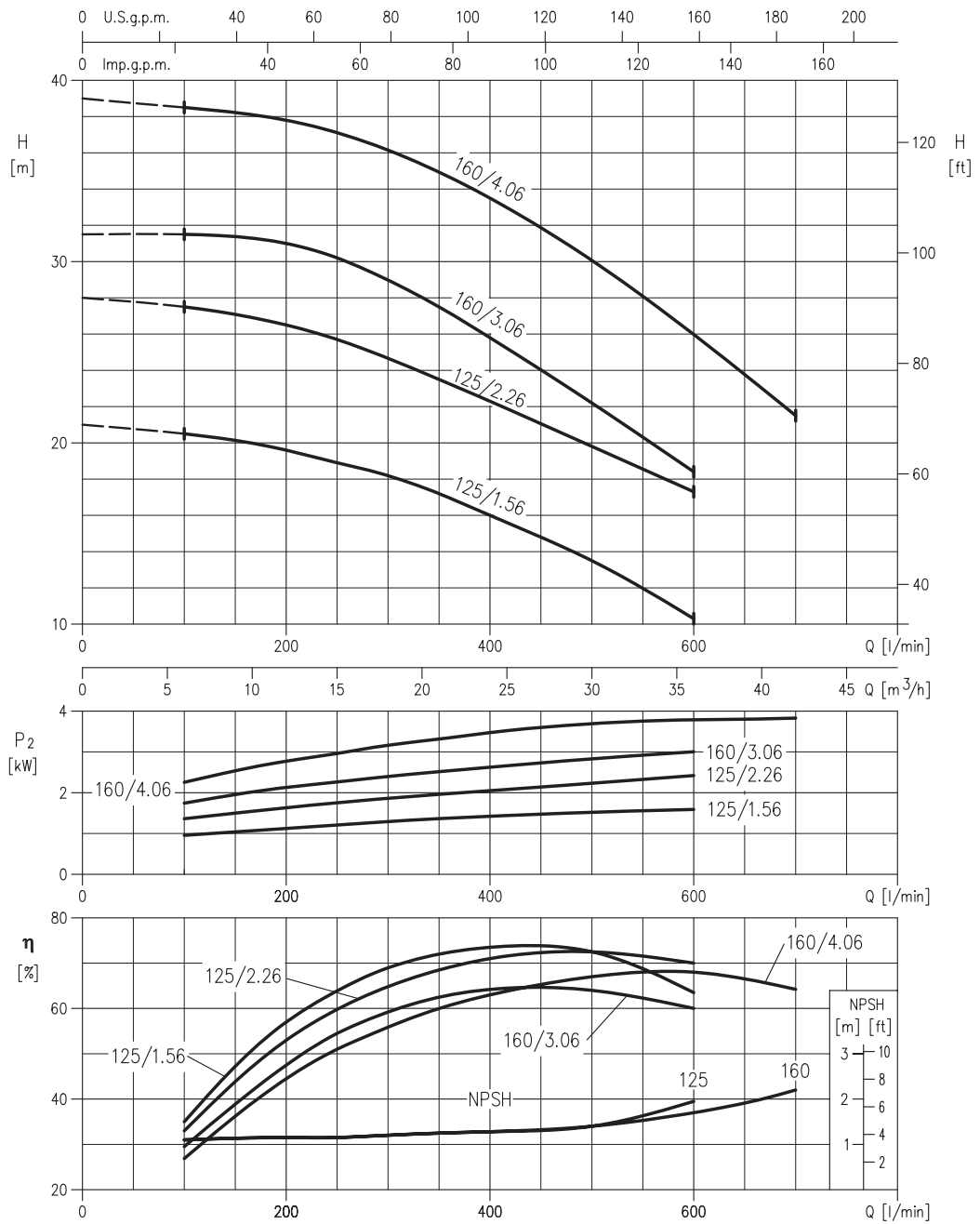
Rotation speed $\approx 3350 \text{ min}^{-1}$
 Test standard: ISO 9906 – Annex A

MD 32-200/3.06 (3 kW) - Impeller diameter = 151.5 mm
MD 32-200/4.06 (4 kW) - Impeller diameter = 163.5 mm
MD 32-250/7.56 (7.5 kW) - Impeller diameter = 200 mm
MD 32-250/9.26 (9.2 kW) - Impeller diameter = 215 mm
MD 32-250/116 (11 kW) - Impeller diameter = 225 mm



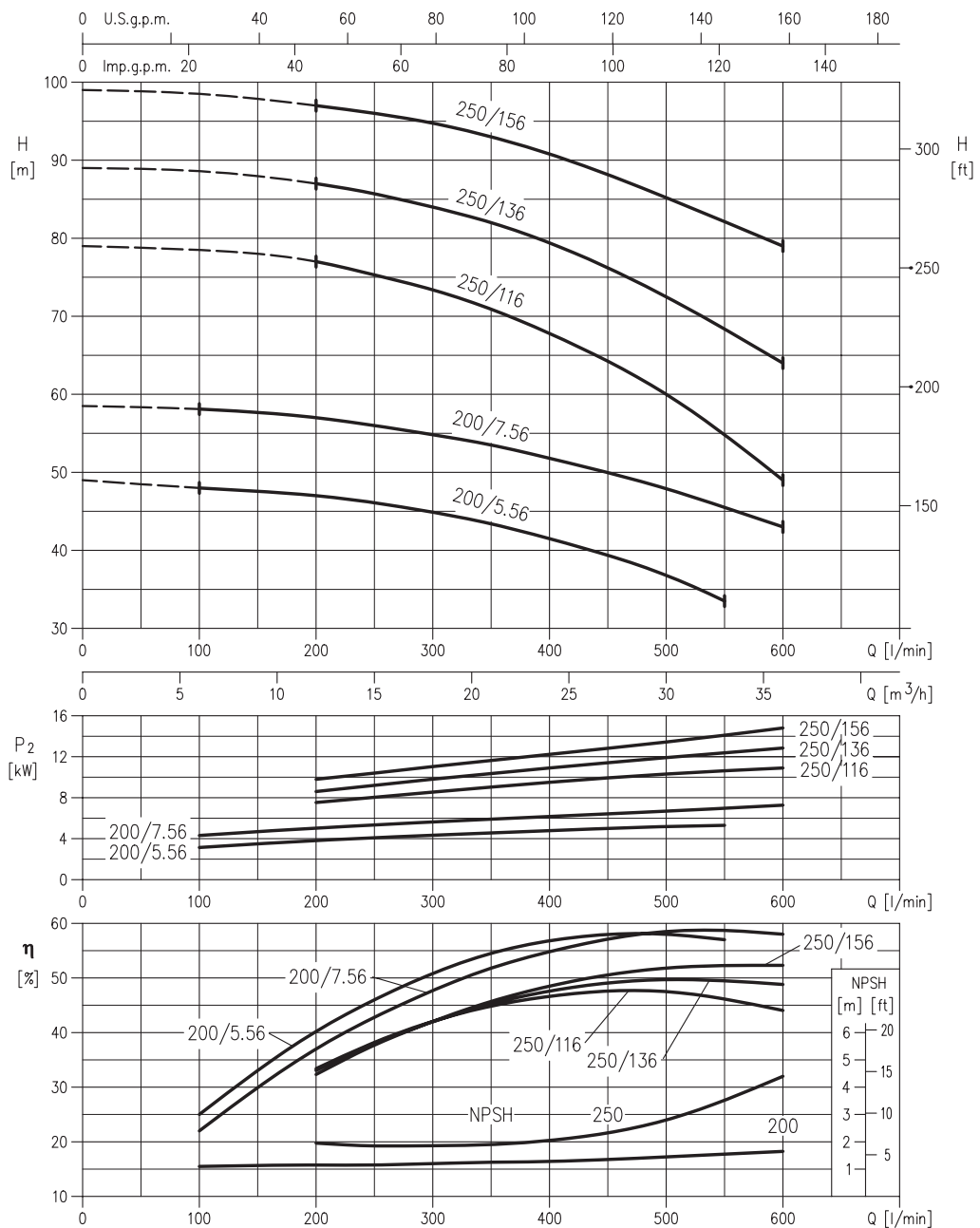
Rotation speed $\approx 3450 \text{ min}^{-1}$
 Test standard: ISO 9906 – Annex A

MD 40-125/1.56 (1.5 kW) - Impeller diameter = 109 mm
 MD 40-125/2.26 (2.2 kW) - Impeller diameter = 124 mm
 MD 40-160/3.06 (3 kW) - Impeller diameter = 131 mm
 MD 40-160/4.06 (4 kW) - Impeller diameter = 138 mm



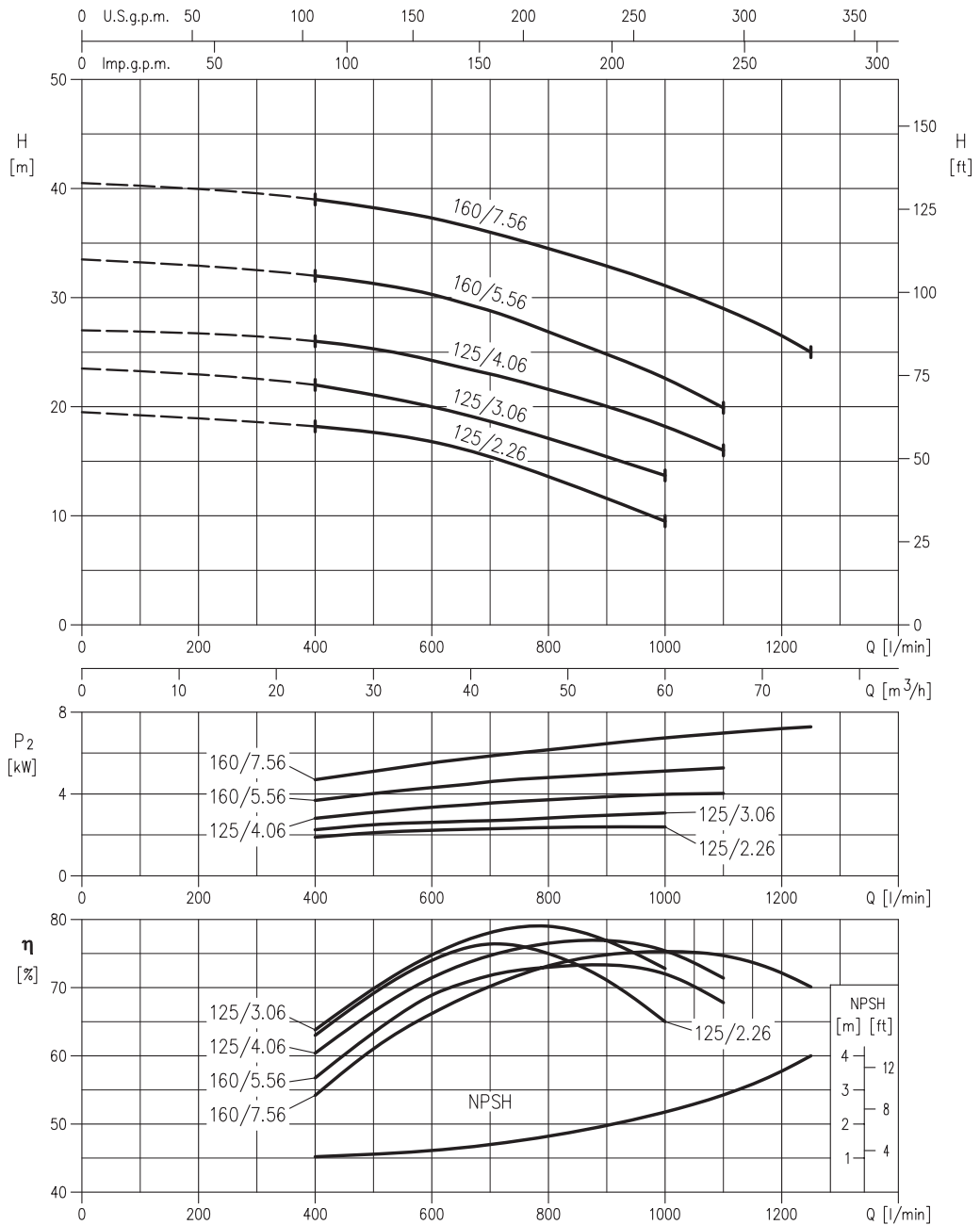
Rotation speed $\approx 3350 \text{ min}^{-1}$
 Test standard: ISO 9906 – Annex A

MD 40-200/5.56 (5.5 kW) - Impeller diameter = 161 mm
MD 40-200/7.56 (7.5 kW) - Impeller diameter = 174 mm
MD 40-250/116 (11 kW) - Impeller diameter = 202 mm
MD 40-250/136 (13 kW) - Impeller diameter = 212 mm
MD 40-250/156 (15 kW) - Impeller diameter = 222 mm



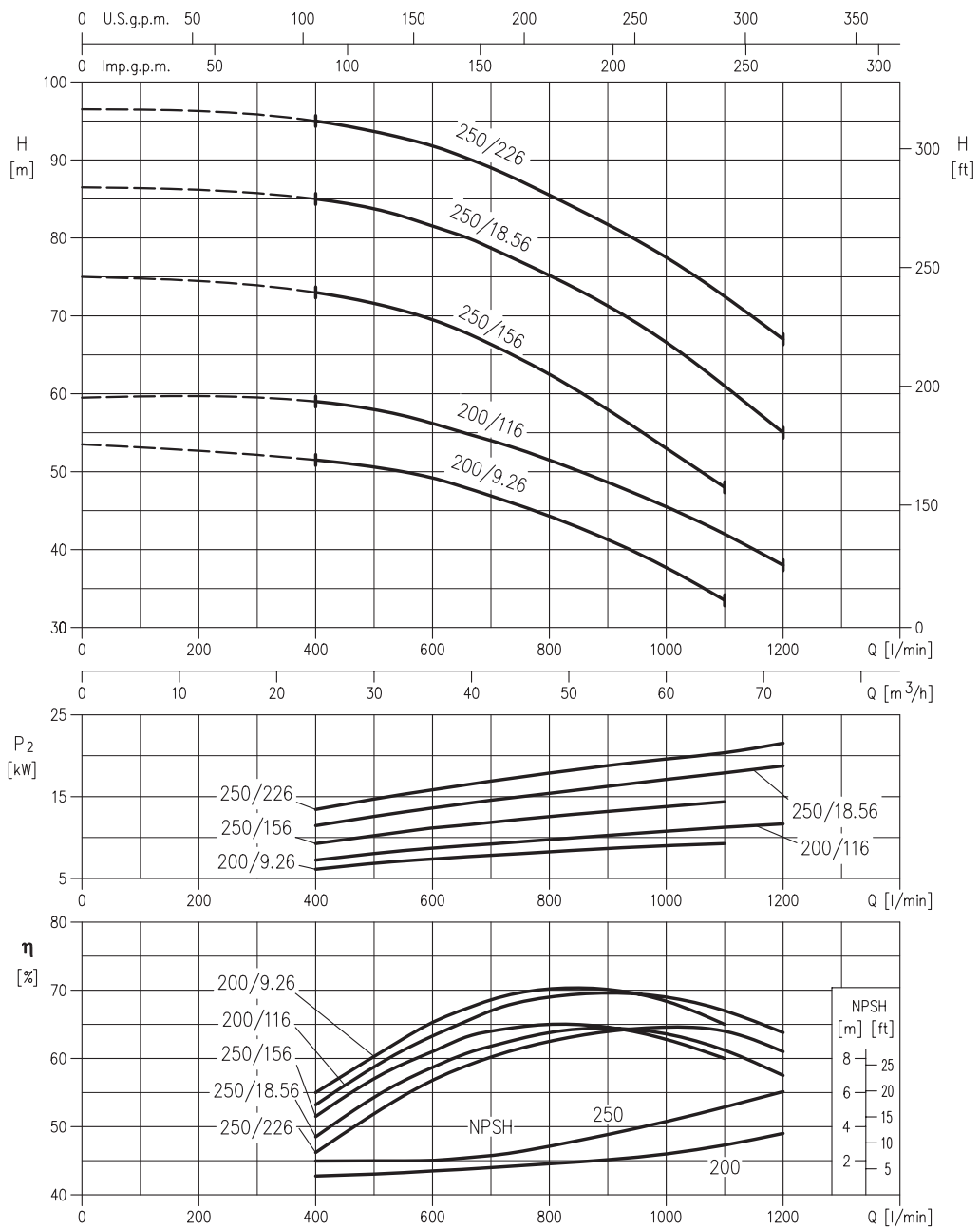
Rotation speed $\approx 3450 \text{ min}^{-1}$
 Test standard: ISO 9906 – Annex A

MD 50-125/2.26 (2.2 kW) - Impeller diameter = 104 mm
MD 50-125/3.06 (3 kW) - Impeller diameter = 111 mm
MD 50-125/4.06 (4 kW) - Impeller diameter = 119 mm
MD 50-160/5.56 (5.5 kW) - Impeller diameter = 132 mm
MD 50-160/7.56 (7.5 kW) - Impeller diameter = 144.5 mm



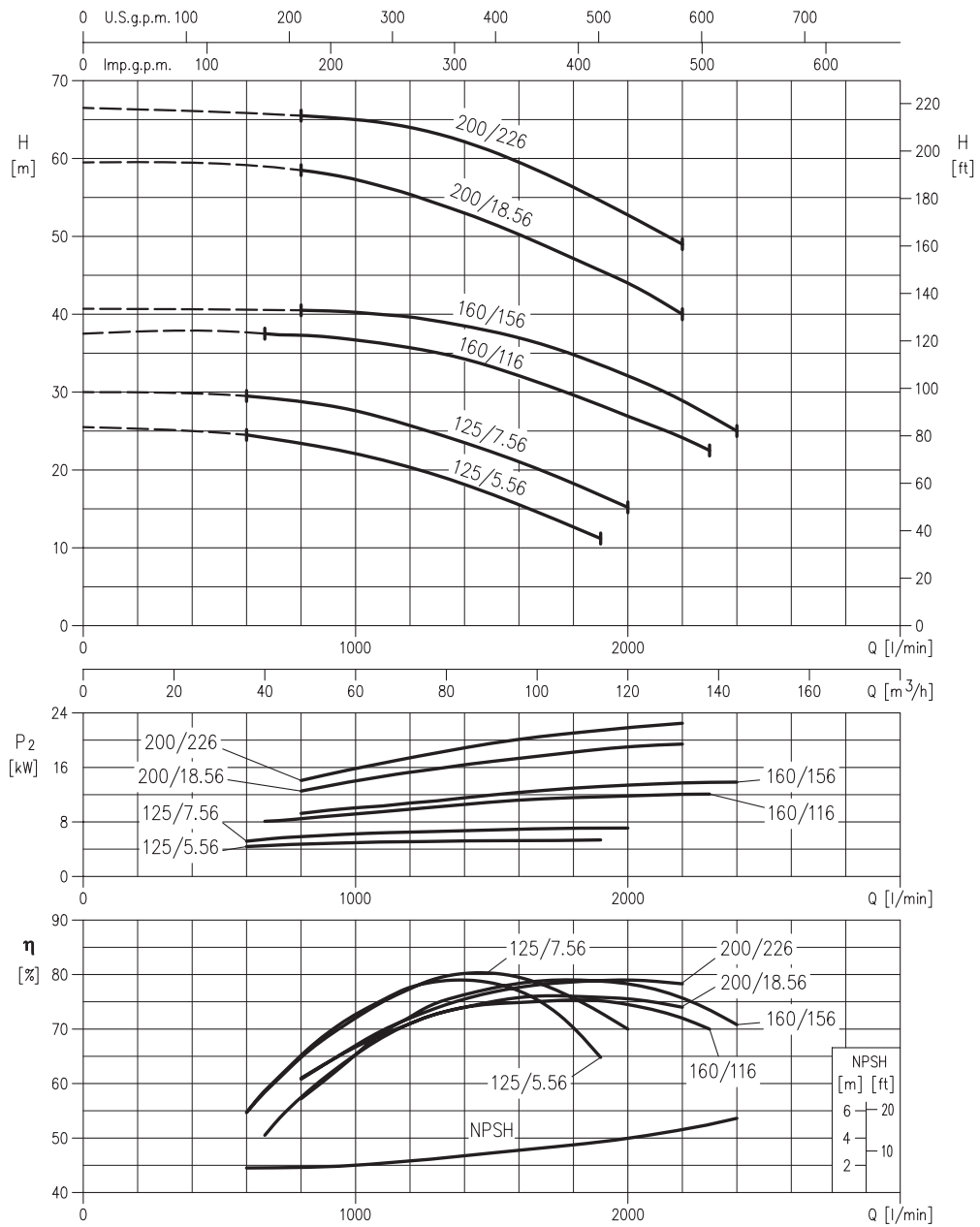
Rotation speed $\approx 3450 \text{ min}^{-1}$
 Test standard: ISO 9906 – Annex A

MD 50-200/9.26 (9.2 kW) - Impeller diameter = 165 mm
 MD 50-200/116 (11 kW) - Impeller diameter = 174 mm
 MD 50-250/156 (15 kW) - Impeller diameter = 198 mm
 MD 50-250/18.56 (18.5 kW) - Impeller diameter = 208 mm
 MD 50-250/226 (22 kW) - Impeller diameter = 218 mm



Rotation speed $\approx 3520 \text{ min}^{-1}$
 Test standard: ISO 9906 – Annex A

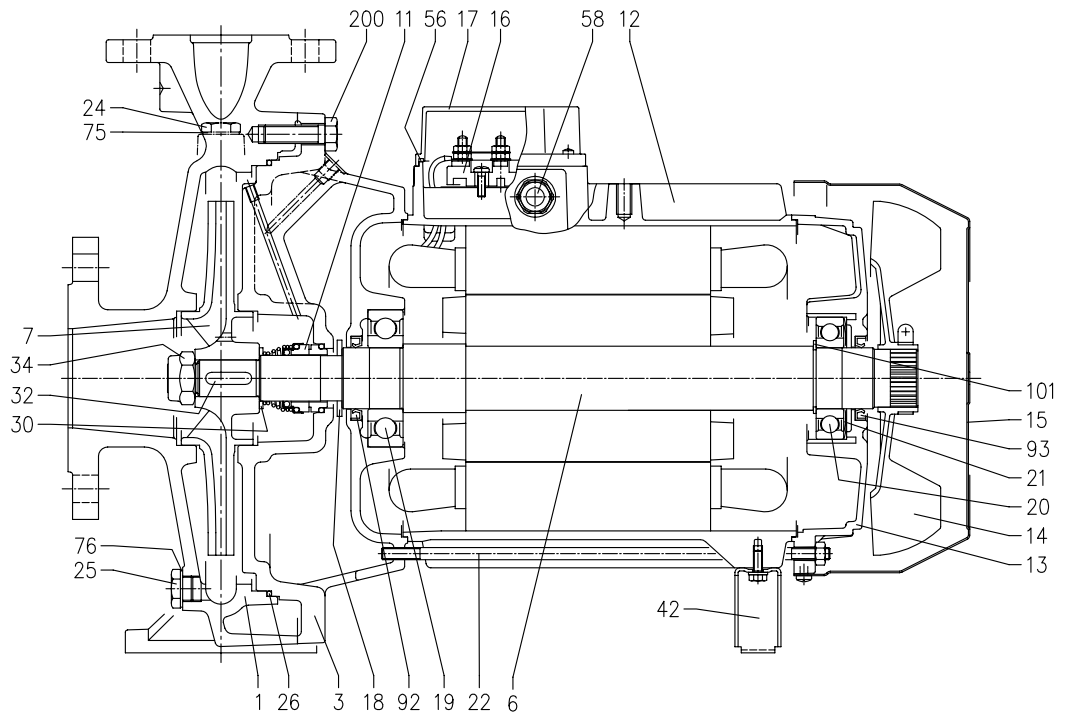
MD 65-125/5.56 (5.5 kW) - Impeller diameter = 120 mm
 MD 65-125/7.56 (7.5 kW) - Impeller diameter = 129 mm
 MD 65-160/116 (11 kW) - Impeller diameter = 142 mm
 MD 65-160/156 (15 kW) - Impeller diameter = 148 mm
 MD 65-200/18.56 (18.5 kW) - Impeller diameter = 173 mm
 MD 65-200/226 (22 kW) - Impeller diameter = 182.5 mm



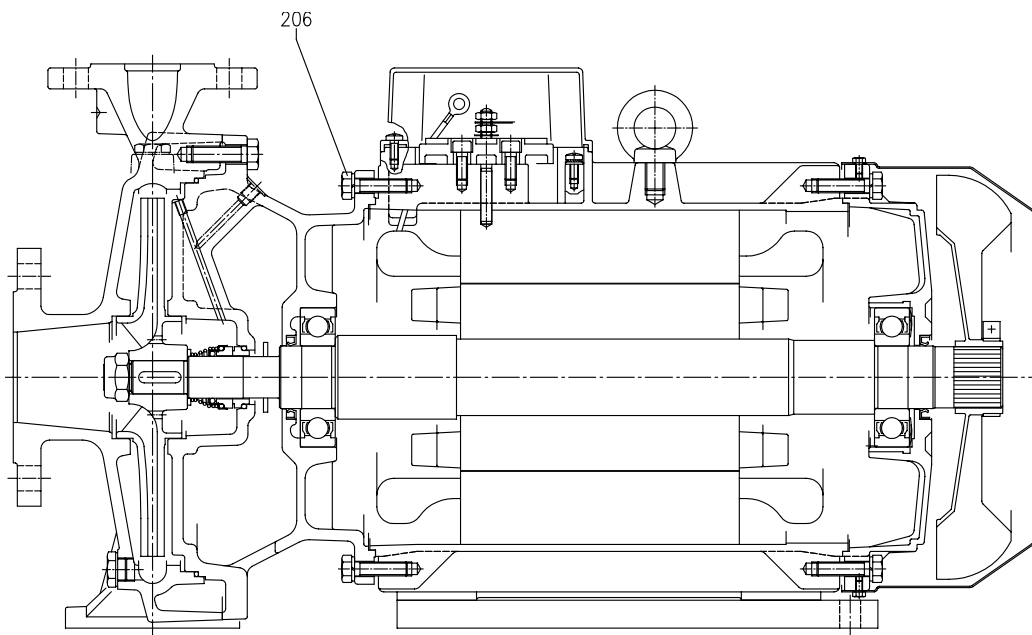
Rotation speed $\approx 3450 \text{ min}^{-1}$
 Test standard: ISO 9906 – Annex A

SECTIONAL VIEW DRAWING

UP TO 13 kW



15 kW AND ABOVE (NO 65-160/156)



SECTIONAL VIEW TABLE

N°	PART NAME	MATERIAL	DIMENSIONS	STANDARD	N. FOR 1 UNIT
1	Casing	Cast iron EN-GJL-200-EN 1561			1
3	Motor bracket	Cast iron EN-GJL-200-EN 1561			1
6	Shaft with rotor	AISI 304 (Part in contact with liquid)			1
7	Impeller	Md xx-125, Md xx-160, Mdx-200	Cast iron EN-GJL-200-EN 1561		1
		Md xx-250	Bronze		
11	Mechanical seal [3]	Carbon/Ceramic/NBR			1
12	Motor frame with stator	-			1
13	Motor cover	Aluminium			1
14	Fan	PP			1
15	Fan cover	Fe P04 Zincate			1
16	Terminal box	-			1
17	Terminal box cover	Plastic [1] - Aluminium [2]			1
18	Splash ring	NBR	Up to 7.5 kW	40x21.5x3	EPE DRAWING
			9.2 kW and above	50x29.5x3	
19	Pump side ball bearing	-	See table p.302		1
20	Fan side ball bearing	-	See table p.302		1
21	Adjusting ring	Steel C70			1
22	Tie rod	Fe 42 Zincate	Up to 13 kW and MD 65-160/15		EPE DRAWING
24	Priming plug	Brass			EPE DRAWING
25	Drain plug	Brass			EPE DRAWING
26	O-ring	NBR [4]	Md xx-125	147x3,53	EPE DRAWING
			Md xx-160	176x3,53	
			Md xx-200	220x3,53	
			Md xx-250	277x3,53	
30	Spacer	AISI 304	Up to 7,5kW	22,5x26,9x2,5 (up to 7,5kW)	EPE DRAWING
			9,2 kW and above	30,5x40x2,5 (9,2 kW and above)	
32	Key	AISI 316	Up to 7,5kW	6x6x25 (up to 7,5kW)	UNI 6604
			9,2 kW and above	8x7x30 (9,2 kW and above)	
34	Impeller nut	AISI 304	Up to 7,5kW	M16x1,5 (up to 7,5kW)	UNI 7474
			9,2 kW and above	M20x1,5 (9,2 kW and above)	
42	Foot	Fe P04			EPE DRAWING
56	Box gasket	NBR			1
58	Cable entry[2]	-			1
75	Washer	Aluminium	Ø 17 - G3/8		1
76	Washer	Aluminium	Ø 17 - G3/8		1
85*	Kit counterflange	Zincate steel	Flange	See table p.306	EPE DRAWING
			Screw for flange	AISI 304	UNI 5737
			Gasket	EPDM	See table p.306
92	Lip seal	-	Up to 3 kW	25x40x7	DIN 3760 without spring
			From 4 to 7,5 kW	30x47x7	
			From 9,2 to 13 kW and 65-160/15	40x55x7	
			From 15 to 22 kW	45x60x7	
93	Lip seal	-	Up to 4 kW	25x40x7	DIN 3760 without spring
			From 5,5 to 7,5 kW	30x47x7	
			From 9,2 to 13 kW and 65-160/15	40x55x7	
			From 15 to 22 kW	45x60x7	
101	Snap ring (only for 9,2-11-13 kW)	Carbon tool steels TC 80	Ø 40		UNI 7435
200	Screw	Zn. steel 8.8 strenght class ISO 898/1	Md xx-125	M8x30	UNI 5739
			Md xx-160	M10x35	
			Md xx-200	M12x40	
			Md xx-250	M10x40	
206	Screw	From 15kW and above (no 65-160/15)	Zn. steel 8.8 strenght class ISO 898/1	M10x40	UNI 5739

[1] Only for single-phase

[2] Only for three-phase

[3] See constructions mechanical seal p. 303

[4]] FPM for H-HS-HW version

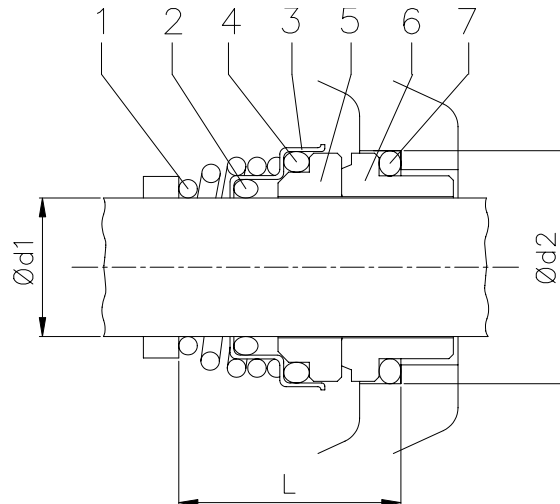
EPDM for E version

*On request

BEARINGS

Pump type	Ball Bearing	
	Pump side	Fan side
MD 32-125/1.16 (M)	6205 2RSH	6205 2RSH
MD 32-125/1.56 (M)		
MD 32-160/1.56 (M)		
MD 32-160/2.26 (M)		
MD 32-200/3.06		
MD 32-200/4.06	6206 2RSH	6205 2RSH
MD 32-250/7.56	6306 2RSH	6206 2RSH
MD 32-250/9.26	6308 2RSH	6208 2RSH
MD 32-250/116		
MD 40-125/1.56 (M)	6205 2RSH	6205 2RSH
MD 40-125/2.26 (M)		
MD 40-160/3.06		
MD 40-160/4.06	6206 2RSH	6205 2RSH
MD 40-200/5.56	6306 2RSH	6206 2RSH
MD 40-200/7.56		
MD 40-250/116	6308 2RSH	6208 2RSH
MD 40-250/136		
MD 40-250/156	6309 2RSH	6309 2RSH
MD 50-125/2.26 (M)	6205 2RSH	6205 2RSH
MD 50-125/3.06		
MD 50-125/4.06		
MD 50-160/5.56	6306 2RSH	6206 2RSH
MD 50-160/7.56		
MD 50-200/9.26	6308 2RSH	6208 2RSH
MD 50-200/116		
MD 50-250/156	6309 2RSH	6309 2RSH
MD 50-250/18,56		
MD 50-250/226		
MD 65-125/5.56	6306 2RSH	6206 2RSH
MD 65-125/7.56		
MD 65-160/116	6308 2RSH	6208 2RSH
MD 65-160/156		
MD 65-200/18.56	6309 2RSH	6209 2RSH
MD 65-200/226		

MECHANICAL SEAL



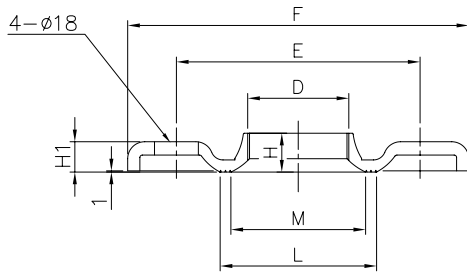
REF	PART NAME	MATERIAL				
		Standard version (MD)	(MDH)	(MDHS)	(MDHW)	(MDE) [1]
1	Self driving spring	AISI 316	AISI 316	AISI 316	AISI 316	AISI 316
2	O Ring	NBR	FPM	FPM	FPM	EPDM
3	Frame	AISI 304	AISI 304/AISI 316*	AISI 316	AISI 316	AISI 304
4	O Ring	NBR	FPM	FPM	FPM	EPDM
5	Rotary seal ring	ceramic	ceramic	SiC	Tung. carbide	ceramic
6	Stationary seal ring	carbon graphite	carbon graphite	SiC	Tung. carbide	carbon graphite
7	O Ring	NBR	FPM	FPM	FPM	EPDM

*Only for Ø 30
 [1] not for 32-160; 40-160; 50-160; 65-125.

Pump type	Dimensions mm			Pump type	Dimensions mm					
	Ø d1	Ø d2	L		Ø d1	Ø d2	L			
MD 32-125/1.16 (M)	22	37	37.5	MD 40-250/156	30	45	42.5			
MD 32-125/1.56 (M)				MD 50-125/2.26 (M)	22	37	37.5			
MD 32-160/1.56 (M)				MD 50-125/3.06	22	37	37.5			
MD 32-160/2.26 (M)				MD 50-125/4.06						
MD 32-200/3.06				MD 50-160/5.56						
MD 32-200/4.06				MD 50-160/7.56						
MD 32-250/7.56	30	45	42.5	MD 50-200/9.26	30	45	42.5			
MD 32-250/9.26				MD 50-200/116						
MD 32-250/116				MD 50-250/156						
MD 40-125/1.56 (M)	22	37	37.5	MD 50-250/18.56	22	37	37.5			
MD 40-125/2.26 (M)				MD 50-250/226						
MD 40-160/3.06				MD 65-125/5.56						
MD 40-160/4.06				MD 65-125/7.56						
MD 40-200/5.56				MD 65-160/116				30	45	42.5
MD 40-200/7.56				MD 65-160/156						
MD 40-250/116	MD 65-200/18.56									
MD 40-250/136	30	45	42.5	MD 65-200/226	30	45	42.5			

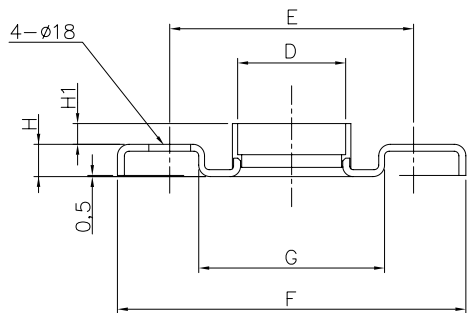
FITTINGS

ZINCATE STEEL COUNTER FLANGE (STANDARD)



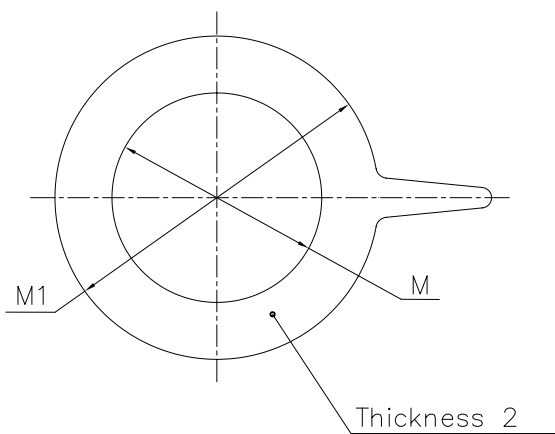
DN	D	E	F	H	H1	L	M
32	G 1 1/4	100	140	15	11.5	67	50
40	G 1 1/2	110	150	17.5	11.5	72	58
50	G 2	125	165	19	15	89	70
65	G 2 1/2	145	185	23	14	104	88
80	G 3	160	200	24	16	117.5	100

AISI 304 –AISI 316L COUNTER FLANGE (ON REQUEST)



DN	D	E	F	G	H	H1
32	G 1 1/4	100	140	76	14	15,5
40	G 1 1/2	110	150	81	14	15,5
50	G 2	125	165	96	16	18
65	G 2 1/2	145	185	116	16	24
80	G3	160	200	134	18	24

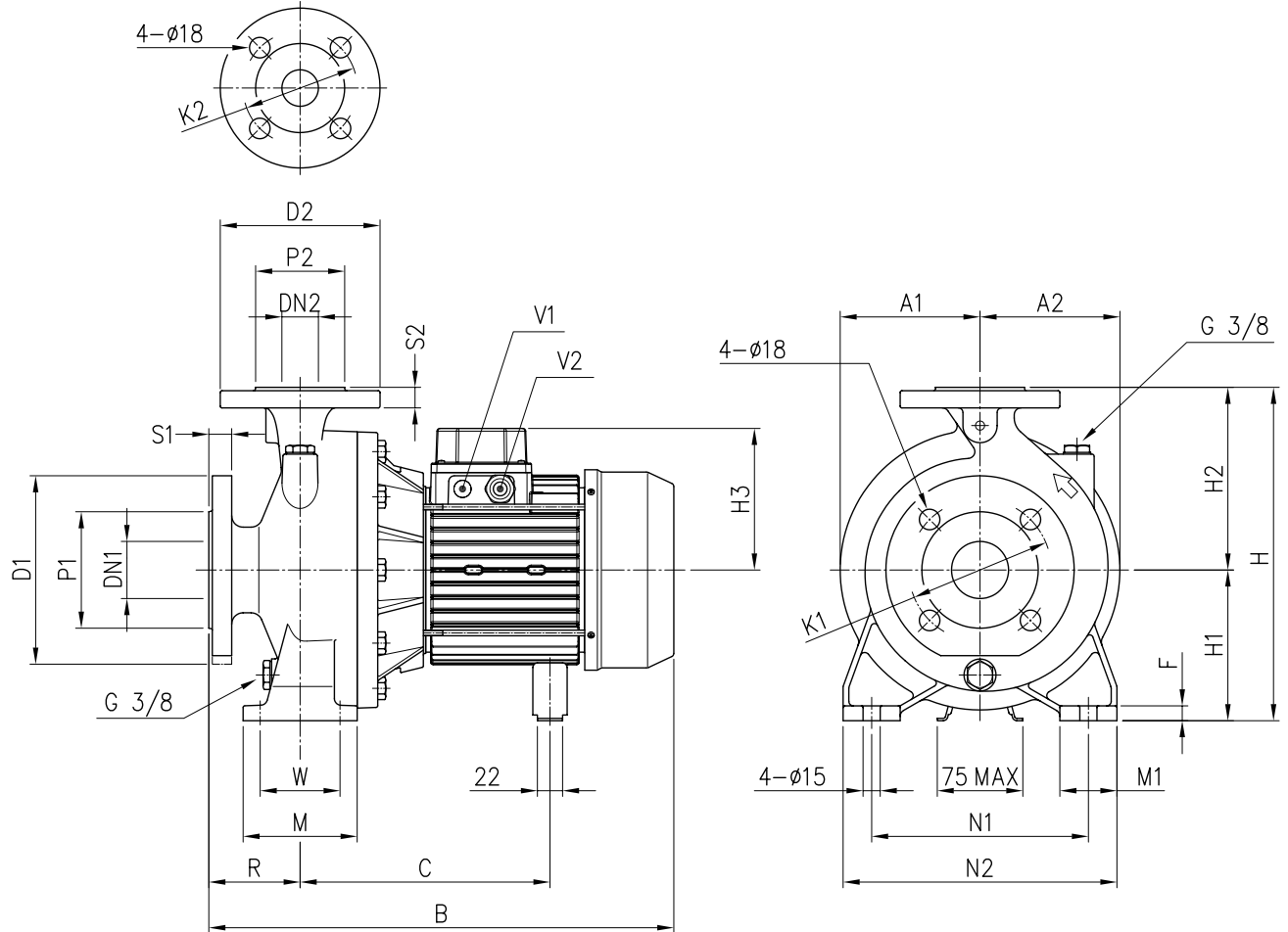
GASKET



DN	M	M1
32	38	82
40	50	93
50	60	107
65	80	125
80	90	140

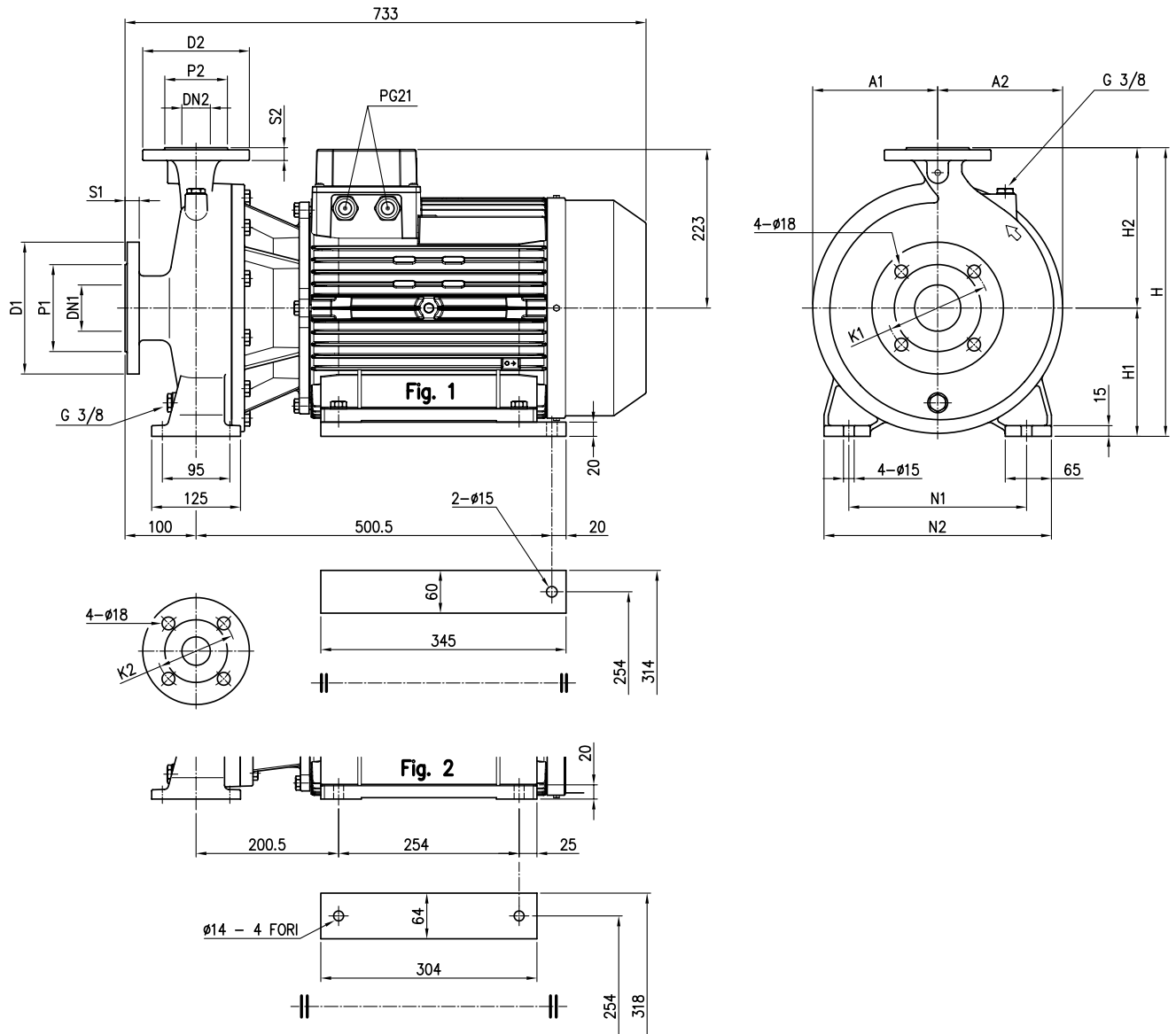
Material : EPDM version for standard
FPM version for hot water maximum 110°C

PUMP



Model	Dimensions (mm)																												Weight [kgf]			
	ø DN1	ø P1	ø K1	ø D1	S1	ø DN2	ø P2	ø K2	ø D2	S2	H	H1	H2	H3	[3-]	[1-]	R	W	M	M1	N1	N2	A1	A2	B	[1-]	[3-]	C	F	V1	V2	[1-]
MD 32-125/1.16 (M)	50	102	125	165	20	32	78	100	140	18	252	112	140	124	141	80	70	100	50	140	190	104	104	408	407	219-230	13	-	PG 13.5	M20x1.5	27.1	31.6
MD 32-125/1.56 (M)	50	102	125	165	20	32	78	100	140	18	252	112	140	124	141	80	70	100	50	140	190	104	104	408	407	219-230	13	-	PG 13.5	M20x1.5	27.8	32.3
MD 32-160/1.56 (M)	50	102	125	165	20	32	78	100	140	18	292	132	160	124	141	80	70	100	50	190	240	123	123	408	407	219-230	13	-	PG 13.5	M20x1.5	32.5	37
MD 32-160/2.26 (M)	50	102	125	165	20	32	78	100	140	18	292	132	160	124	141	80	70	100	50	190	240	123	123	408	432	244-255	13	-	PG 13.5	M20x1.5	34.9	38.3
MD 32-200/3.06	50	102	125	165	20	32	78	100	140	18	340	160	180	124	-	80	70	100	50	190	240	144	144	-	471	244-255	13	-	PG 13.5	-	-	46
MD 32-200/4.06	50	102	125	165	20	32	78	100	140	18	340	160	180	141	-	80	70	100	50	190	240	144	144	-	494	253	13	-	PG 16	-	-	55.7
MD 32-250/7.56	50	102	125	165	20	32	78	100	140	18	405	180	225	150	-	100	95	125	65	250	320	176	176	-	539	275	15	PG 13.5	PG 16	-	-	74
MD 32-250/9.26	50	102	125	165	20	32	78	100	140	18	405	180	225	178	-	100	95	125	65	250	320	176	176	-	590	354	15	PG 13.5	PG 21	-	-	94
MD 32-250/116	50	102	125	165	20	32	78	100	140	18	405	180	225	178	-	100	95	125	65	250	320	176	176	-	590	354	15	PG 13.5	PG 21	-	-	93.5
MD 40-125/1.56 (M)	65	122	145	185	20	40	88	110	150	18	252	112	140	124	141	80	70	100	50	160	210	104	111	408	407	219-230	13	-	PG 13.5	M20x1.5	28.4	33
MD 40-125/2.26 (M)	65	122	145	185	20	40	88	110	150	18	252	112	140	124	141	80	70	100	50	160	210	104	111	408	432	244-255	13	-	PG 13.5	M20x1.5	31.4	34.8
MD 40-160/3.06	65	122	145	185	20	40	88	110	150	18	292	132	160	124	-	80	70	100	50	190	240	123	123	-	471	244-255	13	-	PG 13.5	-	-	40.8
MD 40-160/4.06	65	122	145	185	20	40	88	110	150	18	292	132	160	141	-	80	70	100	50	190	240	123	123	-	494	253	13	-	PG 16	-	-	48.2
MD 40-200/5.56	65	122	145	185	20	40	88	110	150	18	340	160	180	150	-	100	70	100	50	212	265	144	144	-	539	275	13	PG 13.5	PG 16	-	-	64
MD 40-200/7.56	65	122	145	185	20	40	88	110	150	18	340	160	180	150	-	100	70	100	50	212	265	144	144	-	539	275	13	PG 13.5	PG 16	-	-	68
MD 40-250/116	65	122	145	185	20	40	88	110	150	18	405	180	225	178	-	100	95	125	65	250	320	176	176	-	590	354	15	PG 13.5	PG 21	-	-	97.5
MD 50-125/2.26 (M)	65	122	145	185	20	50	102	125	165	20	292	132	160	124	141	100	70	100	50	190	240	104	124	428	452	244-255	13	-	PG 13.5	M20x1.5	33.8	37.2
MD 50-125/3.06	65	122	145	185	20	50	102	125	165	20	292	132	160	124	-	100	70	100	50	190	240	104	124	-	491	244-255	13	-	PG 13.5	-	-	37.8
MD 50-125/4.06	65	122	145	185	20	50	102	125	165	20	292	132	160	141	-	100	70	100	50	190	240	104	124	-	514	253	13	-	PG 16	-	-	47.5
MD 50-160/5.56	65	122	145	185	20	50	102	125	165	20	340	160	180	150	-	100	70	100	50	212	265	123	136	-	539	275	13	PG 13.5	PG 16	-	-	61
MD 50-160/7.56	65	122	145	185	20	50	102	125	165	20	340	160	180	150	-	100	70	100	50	212	265	123	136	-	539	275	13	PG 13.5	PG 16	-	-	68
MD 50-200/9.26	65	122	145	185	20	50	102	125	165	20	360	160	200	178	-	100	70	100	50	212	265	144	154	-	590	354	13	PG 13.5	PG 21	-	-	84
MD 50-200/116	65	122	145	185	20	50	102	125	165	20	360	160	200	178	-	100	70	100	50	212	265	144	154	-	590	354	13	PG 13.5	PG 21	-	-	88
MD 65-125/5.56	80	138	160	200	22	65	122	145	185	20	340	160	180	150	-	100	95	125	65	212	280	123	139	-	539	275	13	PG 13.5	PG 16	-	-	62
MD 65-125/7.56	80	138	160	200	22	65	122	145	185	20	340	160	180	150	-	100	95	125	65	212	280	123	139	-	539	275	13	PG 13.5	PG 16	-	-	66.5
MD 65-160/116	80	138	160	200	22	65	122	145	185	20	360	160	200	178	-	100	95	125	65	212	280	144	154	-	590	354	13	PG 13.5	PG 21	-	-	94

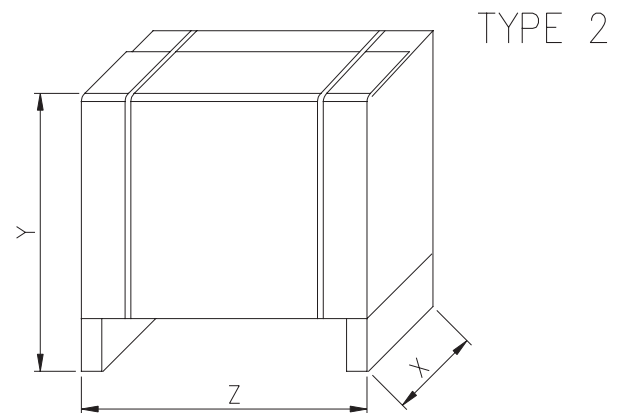
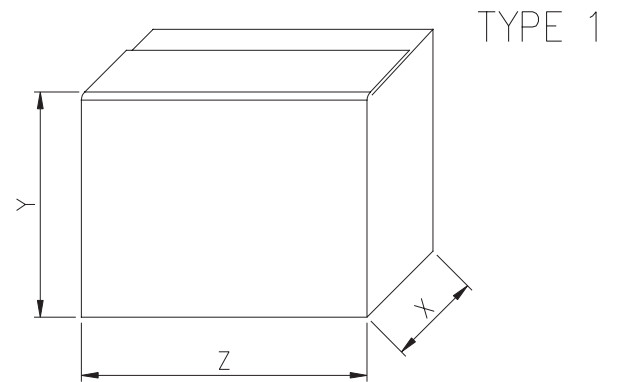
[1-] Only for single phase [3-] Only for three phase



Model	Dimensions [mm]																Weight [kgf]		
	ϕ DN1	ϕ P1	ϕ K1	ϕ D1	S1	ϕ DN2	ϕ P2	ϕ K2	ϕ D2	S2	Fig.	H	H1	H2	N1	N2		A1	A2
MD 40-250/136	65	122	145	185	20	40	88	110	150	18	1	405	180	225	250	320	176	176	100
MD 40-250/156	65	122	145	185	20	40	88	110	150	18	1	405	180	225	250	320	176	176	101
MD 50-250/156	65	122	145	185	20	50	102	125	165	20	1	405	180	225	250	320	176	176	102
MD 50-250/18.56	65	122	145	185	20	50	102	125	165	20	1	405	180	225	250	320	176	176	129
MD 50-250/226	65	122	145	185	20	50	102	125	165	20	1	405	180	225	250	320	176	176	154
MD 65-160/156	80	138	160	200	22	65	122	145	185	20	2	360	160	200	212	280	144	154	122
MD 65-200/18.56	80	138	160	200	22	65	122	145	185	20	1	405	180	225	250	320	144	168	137
MD 65-200/226	80	138	160	200	22	65	122	145	185	20	1	405	180	225	250	320	144	168	142

PACKING

Pump type	Packing [mm]			Weight [kgf]		Pack Type
	X	Y	Z	[1-]	[3-]	
MD 32-125/1.16 (M)	250	300	450	32	36.5	1
MD 32-125/1.56 (M)	250	300	450	32.5	37	
MD 32-160/1.56 (M)	280	330	430	37.5	42	
MD 32-160/2.26 (M)	280	330	430	39.9	43.3	
MD 32-200/3.06	330	390	500	-	50.3	2
MD 32-200/4.06	350	485	580	-	61.5	
MD 32-250/7.56	390	540	700	-	79.5	
MD 32-250/9.26	390	540	700	-	99.5	
MD 32-250/116	390	540	700	-	101	1
MD 40-125/1.56 (M)	250	300	450	33.8	38.4	
MD 40-125/2.26 (M)	280	340	490	36.6	40	
MD 40-160/3.06	280	340	490	-	46.4	
MD 40-160/4.06	350	485	580	-	56.4	2
MD 40-200/5.56	350	485	580	-	74	
MD 40-200/7.56	350	495	700	-	74	
MD 40-250/116	390	595	880	-	103	
MD 40-250/136	390	595	880	-	106	1
MD 40-250/156	390	595	880	-	107	
MD 50-125/2.26 (M)	280	340	490	39	42.4	
MD 50-125/3.06	350	485	580	-	43.6	
MD 50-125/4.06	350	485	580	-	53.3	2
MD 50-160/5.56	350	485	580	-	70	
MD 50-160/7.56	350	495	700	-	77	
MD 50-200/9.26	350	495	700	-	93.5	
MD 50-200/116	350	495	700	-	98	
MD 50-250/156	390	595	880	-	108	
MD 50-250/18.56	390	595	880	-	135	
MD 50-250/226	390	595	880	-	161	
MD 65-125/5.56	350	485	580	-	72	
MD 65-125/7.56	350	495	700	-	75	
MD 65-160/116	350	495	700	-	103	
MD 65-160/156	390	525	880	-	132	
MD 65-200/18.56	390	595	880	-	149	
MD 65-200/226	390	595	880	-	151	



MOTOR DATA

Pump type		Power		Capacitor		Efficiency (% load)			Efficiency (% load)			Input		Full load current					Locked rotor current				
Single Phase	Three Phase	[kW]	[HP]	Single Phase		Three phase (380 V)			Three phase (460 V)			Single Phase	Three Phase	[A]				[A]					
				[µF]	[V]	50%	75%	100%	50%	75%	100%			220-230 V	220 V	380 V	460 V	660 V	220-230 V	220 V	380 V	460 V	660 V
MD 32-125/1.16 M	MD 32-125/1.16	1.1	1.5	25	450	75.9	79.6	80.6	72.9	78.6	81.2	1.65	2.00	7.9	5.4	3.2	2.8	-	24	45.7	26.4	32.0	-
MD 32-125/1.56 M	MD 32-125/1.56	1.5	2	35	450	75.9	79.6	80.6	72.9	78.6	81.2	2.20	2.00	10.4	5.4	3.2	2.8	-	44	45.7	26.4	32.0	-
MD 32-160/1.56 M	MD 32-160/1.56	1.5	2	35	450	75.9	79.6	80.6	72.9	78.6	81.2	2.16	2.00	10.2	5.4	3.2	2.8	-	44	45.7	26.4	32.0	-
MD 32-160/2.26 M	MD 32-160/2.26	2.2	3	50	450	80.5	83.3	83.5	77.3	82.4	84.1	3.10	2.90	14.8	7.0	4.1	4.1	-	70	61.5	35.5	43.0	-
-	MD 32-200/3.06	3	4	-	-	84.0	85.9	85.2	80.2	83.5	84.6	-	3.90	-	10.5	6.1	5.6	-	-	92.1	53.2	57.0	-
-	MD 32-200/4.06	4	5.5	-	-	83.2	85.8	86.1	81.0	85.1	86.7	-	5.10	-	14.7	8.5	8.0	-	-	108.8	62.8	76.0	-
-	MD 32-250/7.56	7.5	10	-	-	83.1	85.4	85.8	82.6	86.1	87.5	-	9.40	-	-	14.9	12.7	8.6	-	-	121.4	147.0	84.9
-	MD 32-250/9.26	9.2	12.5	-	-	87.3	88.8	88.6	85.9	88.7	89.6	-	11.30	-	-	17.7	15.4	10.3	-	-	125.6	152.0	87.8
-	MD 32-250/116	11	15	-	-	91.9	91.8	91.2	90.9	92.0	91.9	-	13.20	-	-	18.3	18.3	10.5	-	-	132.2	160.0	92.4
MD 40-125/1.56 M	MD 40-125/1.56	1.5	2	35	450	75.9	79.6	80.6	72.9	78.6	81.2	2.26	2.00	10.7	5.4	3.2	2.8	-	44	45.7	26.4	32.0	-
MD 40-125/2.26 M	MD 40-125/2.26	2.2	3	50	450	80.5	83.3	83.5	77.3	82.4	84.1	3.20	2.90	15.2	7.0	4.1	4.1	-	70	61.5	35.5	43.0	-
-	MD 40-160/3.06	3	4	-	-	84.0	85.9	85.2	80.2	83.5	84.6	-	3.90	-	10.5	6.1	5.6	-	-	92.1	53.2	57.0	-
-	MD 40-160/4.06	4	5.5	-	-	83.2	85.8	86.1	81.0	85.1	86.7	-	5.10	-	14.7	8.5	8.0	-	-	108.8	62.8	76.0	-
-	MD 40-200/5.56	5.5	7.5	-	-	83.4	85.3	85.7	82.9	86.0	87.4	-	7.00	-	-	11.6	9.5	6.7	-	-	90.9	110.0	63.5
-	MD 40-200/7.56	7.5	10	-	-	83.1	85.4	85.8	82.6	86.1	87.5	-	9.40	-	-	14.9	12.7	8.6	-	-	121.4	147.0	84.9
-	MD 40-250/116	11	15	-	-	91.9	91.8	91.2	90.9	92.0	91.9	-	13.20	-	-	18.3	18.3	10.5	-	-	132.2	160.0	92.4
-	MD 40-250/136	13	17.5	-	-	90.9	91.5	91.0	89.4	91.3	91.8	-	17.90	-	-	28.7	25.0	16.6	-	-	198.3	240.0	138.6
-	MD 40-250/156	15	20	-	-	90.9	91.5	91.0	89.4	91.3	91.8	-	17.90	-	-	28.7	25.0	16.6	-	-	198.3	240.0	138.6
MD 50-125/2.26 M	MD 50-125/2.26	2.2	3	50	450	80.5	83.3	83.5	77.3	82.4	84.1	3.10	2.90	14.8	7.0	4.1	4.1	-	70	61.5	35.5	43.0	-
-	MD 50-125/3.06	3	4	-	-	84.0	85.9	85.2	80.2	83.5	84.6	-	3.90	-	10.5	6.1	5.6	-	-	92.1	53.2	57.0	-
-	MD 50-125/4.06	4	5.5	-	-	83.2	85.8	86.1	81.0	85.1	86.7	-	5.10	-	14.7	8.5	8.0	-	-	108.8	62.8	76.0	-
-	MD 50-160/5.56	5.5	7.5	-	-	83.4	85.3	85.7	82.9	86.0	87.4	-	7.00	-	-	11.6	9.5	6.7	-	-	90.9	110.0	63.5
-	MD 50-160/7.56	7.5	10	-	-	83.1	85.4	85.8	82.6	86.1	87.5	-	9.40	-	-	14.9	12.7	8.6	-	-	121.4	147.0	84.9
-	MD 50-200/9.26	9.2	12.5	-	-	87.3	88.8	88.6	85.9	88.7	89.6	-	11.30	-	-	17.7	15.4	10.3	-	-	125.6	152.0	87.8
-	MD 50-200/116	11	15	-	-	91.9	91.8	91.2	90.9	92.0	91.9	-	13.20	-	-	18.3	18.3	10.5	-	-	132.2	160.0	92.4
-	MD 50-250/156	15	20	-	-	90.9	91.5	91.0	89.4	91.3	91.8	-	17.90	-	-	28.7	25.0	16.6	-	-	198.3	240.0	138.6
-	MD 50-250/18.56	18.5	25	-	-	91.7	92.8	92.5	90.3	92.1	92.9	-	21.90	-	-	34.8	31.0	20.1	-	-	271.0	328.0	189.4
-	MD 50-250/226	22	30	-	-	89.7	91.2	91.3	88.4	91.0	91.7	-	26.40	-	-	41.7	36.4	24.0	-	-	316.4	383.0	221.1
-	MD 65-125/5.56	5.5	7.5	-	-	83.4	85.3	85.7	82.9	86.0	87.4	-	7.00	-	-	11.6	9.5	6.7	-	-	90.9	110.0	63.5
-	MD 65-125/7.56	7.5	10	-	-	83.1	85.4	85.8	82.6	86.1	87.5	-	9.40	-	-	14.9	12.7	8.6	-	-	121.4	147.0	84.9
-	MD 65-160/116	11	15	-	-	91.9	91.8	91.2	90.9	92.0	91.9	-	13.20	-	-	18.3	18.3	10.5	-	-	132.2	160.0	92.4
-	MD 65-160/156	15	20	-	-	90.9	91.5	91.0	89.4	91.3	91.8	-	17.90	-	-	28.7	25.0	16.6	-	-	198.3	240.0	138.6
-	MD 65-200/18.56	18.5	25	-	-	91.7	92.8	92.5	90.3	92.1	92.9	-	21.90	-	-	34.8	31.0	20.1	-	-	271.0	328.0	189.4
-	MD 65-200/226	22	30	-	-	89.7	91.2	91.3	88.4	91.0	91.7	-	26.40	-	-	41.7	36.4	24.0	-	-	316.4	383.0	221.1