

**EBARA**

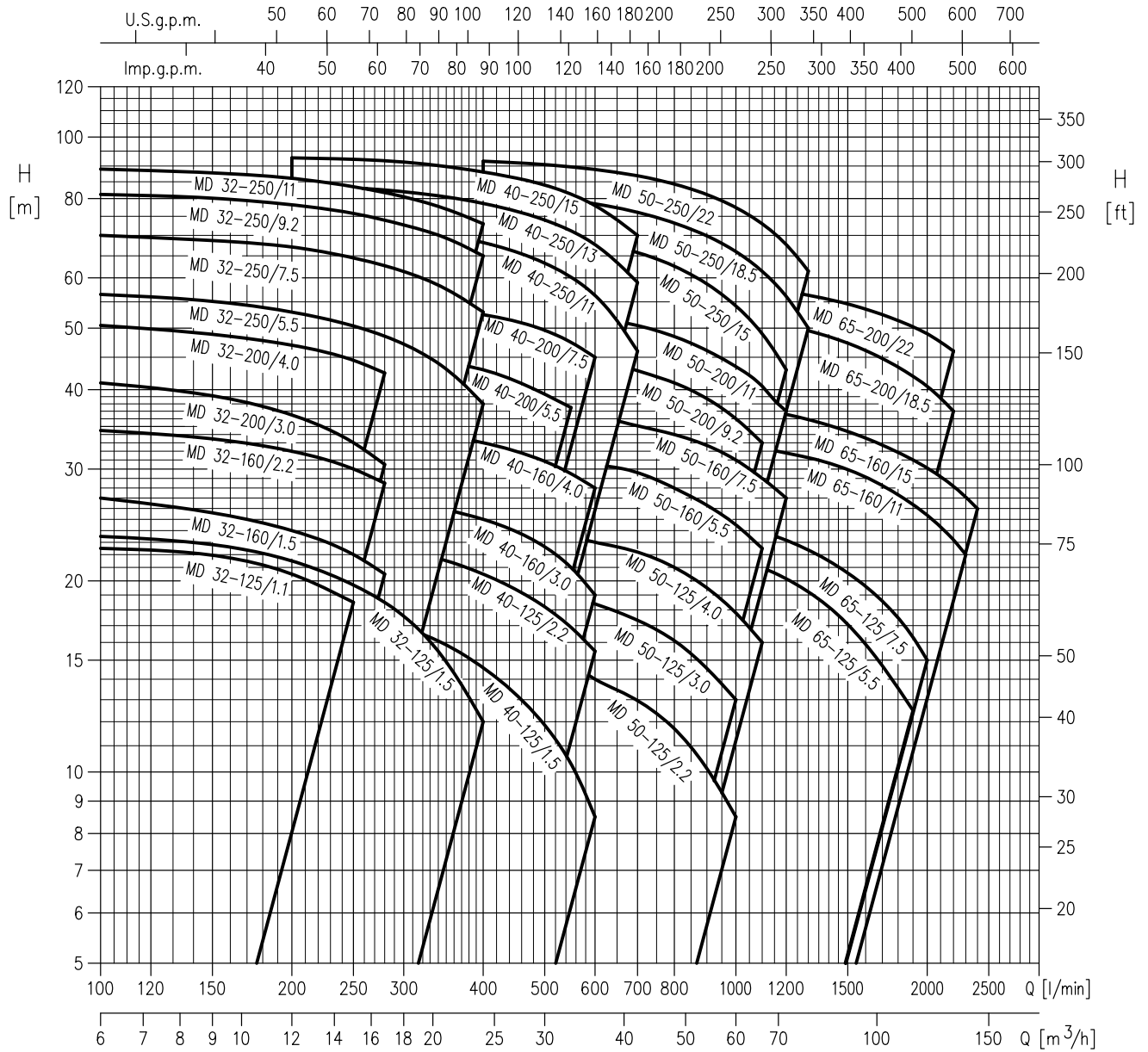
	Page
<b>- CONTENTS</b>	
CONTENTS	100
<b>- SPECIFICATIONS</b>	
SPECIFICATIONS	200
SELECTION CHART	201
SELECTION CHART	202
SELECTION CHART	203
PERFORMANCE CHART MD 32-125	204
PERFORMANCE CHART MD 32-160	205
PERFORMANCE CHART MD 32-200	206
PERFORMANCE CHART MD 32-250	207
PERFORMANCE CHART MD 40-125	208
PERFORMANCE CHART MD 40-160	209
PERFORMANCE CHART MD 40-200	210
PERFORMANCE CHART MD 40-250	211
PERFORMANCE CHART MD 50-125	212
PERFORMANCE CHART MD 50-160	213
PERFORMANCE CHART MD 50-200	214
PERFORMANCE CHART MD 50-250	215
PERFORMANCE CHART MD 65-125	216
PERFORMANCE CHART MD 65-160	217
PERFORMANCE CHART MD 65-200	218
<b>- CONSTRUCTIONS</b>	
SECTIONAL VIEW	300
CONSTRUCTIONS	301
CONSTRUCTIONS	302
MECHANICAL SEAL	303
DIAGRAM AND ELECTRIC CONNECTIONS THREE PHASE MOTOR	304
DIAGRAM AND ELECTRIC CONNECTIONS SINGLE PHASE MOTOR	305
FITTINGS	306
<b>- DIMENSIONS</b>	
DIMENSIONS	400
DIMENSIONS	401
PACKING AND WEIGHT	402
<b>- MOTOR DATA</b>	
MOTOR DATA	500

## SPECIFICATIONS

50Hz  
Rev. J

PUMP		
Liquid Handled	Type of liquid	Clean water
	Max temperature [°C]	90
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/AISI 304 (see application page 301)
	Shaft seal	Ceramic/Carbon/NBR
	Shaft	AISI 304 (part in contact with liquid)
	Bracket	Cast iron
Applicable standard of test		ISO 9906 - Annex A

MOTOR		
Type	Electric - TEFC	
	Single Phase	Three Phase
No. of Poles	2	
Synchronous speed [min-1]	3000	
Insulation Class	F	
Protection degree	IP 55	
Power rating [kW]	1.1 ÷ 2.2	1.1 ÷ 22
	[HP]	1.5 ÷ 3
Frequency [Hz]	50	
Voltage [V]	230 ±10%	230/400 ±10% (up to 4 kW)
		400/690 ±10% (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)	



## SELECTION CHART

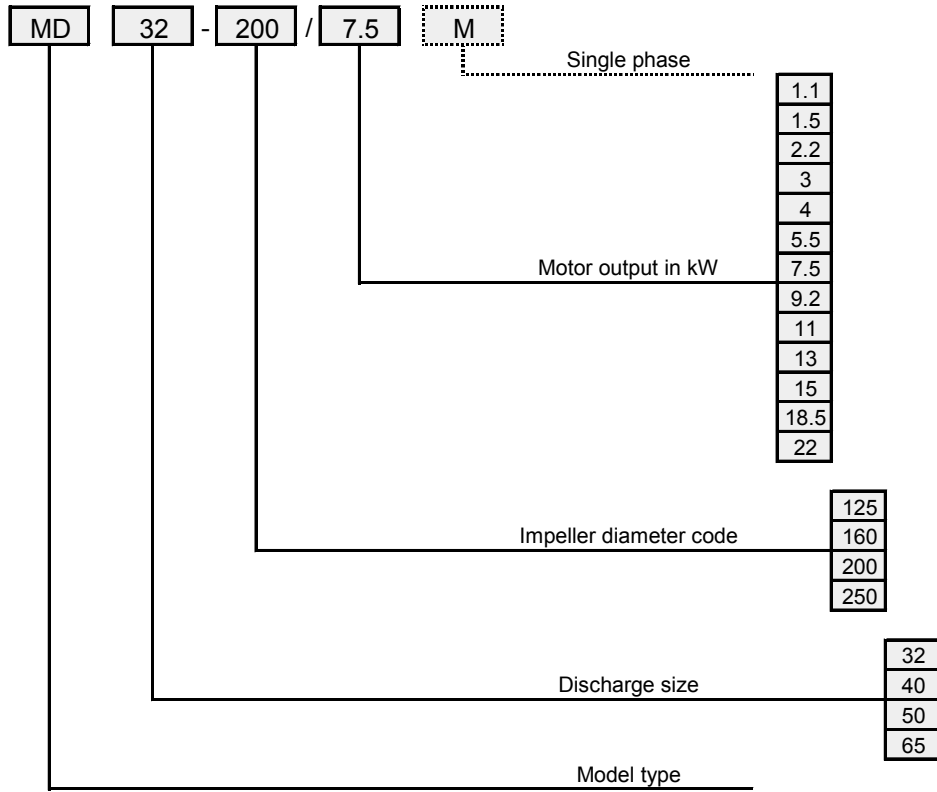
50Hz

Rev. J

Pump Type	Power		Q=Capacity																								
	kW	HP	l/min	0	100	200	250	280	320	400	550	600	667	700	800	1000	1100	1150	1200	1300	1400	1900	2000	2200	2300	2400	
			m <sup>3</sup> /h	0	6	12	15	17	19	24	33	36	40	42	48	60	66	69	72	78	84	114	120	132	138	144	
H=Total manometric head in meters																											
MD 32-125/1.1 (M)	1,1	1,5	23	22,5	20,5	18,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 32-125/1.5 (M)	1,5	2	24	23,5	21,5	19,7	18,5	16,6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 32-160/1.5 (M)	1,5	2	28	27	24	22	20,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 32-160/2.2 (M)	2,2	3	35,5	34,5	32	30	28,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 32-200/3.0	3	4	43	41	36,5	33	30,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 32-200/4.0	4	5,5	52	50,5	47	44,5	42,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 32-250/5.5	5,5	7,5	58	56,5	53	50,4	48,6	45,7	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 32-250/7.5	7,5	10	71,5	70	67,1	64,5	62,7	60	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 32-250/9.2	9,2	12,5	82,5	81,2	78,2	75,8	74	71,4	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 32-250/11	11	15	91	89	86	84	82	79	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 40-125/1.5 (M)	1,5	2	20	19,5	18,4	17,7	17,2	16,5	14,6	10,3	8,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 40-125/2.2 (M)	2,2	3	25,5	25	23,5	23	22,5	22	20,5	16,9	15,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 40-160/3.0	3	4	31,5	30,5	29	28	27,5	26,5	25	21	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 40-160/4.0	4	5,5	39	38	36,5	36	35,5	35	33	29,5	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 40-200/5.5	5,5	7,5	48,5	48	47	46	45,5	44,5	42,5	37,5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 40-200/7.5	7,5	10	58	57,5	56,5	55,5	55	54,5	52,5	47,5	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 40-250/11	11	15	75	-	74	73	72,2	71	68,2	60,1	56,3	49,8	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 40-250/13	13	17,5	85,1	-	84	83,2	82,5	81,4	78,6	71,1	67,7	62,1	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 40-250/15	15	20	93,8	-	92,7	92,1	91,7	90,8	88,1	81,2	78	72,9	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MD 50-125/2.2 (M)	2,2	3	17,5	-	-	-	-	-	16	14,8	14,3	13,5	13,1	11,7	8,5	-	-	-	-	-	-	-	-	-	-	-	-
MD 50-125/3.0	3	4	21	-	-	-	-	-	19,5	18,6	18,2	17,6	17,3	16,1	13	-	-	-	-	-	-	-	-	-	-	-	-
MD 50-125/4.0	4	5,5	25,5	-	-	-	-	-	24	23	23	22	21,7	21	17,8	16	-	-	-	-	-	-	-	-	-	-	-
MD 50-160/5.5	5,5	7,5	33,5	-	-	-	-	-	32,5	31	30,5	30	29,6	28	24,5	22,5	-	-	-	-	-	-	-	-	-	-	-
MD 50-160/7.5	7,5	10	39	-	-	-	-	-	38	37	36,5	35,5	35,1	34	31	29	28	27	-	-	-	-	-	-	-	-	-
MD 50-200/9.2	9,2	12,5	50	-	-	-	-	-	48	46	45	44	43,4	41	36	33	-	-	-	-	-	-	-	-	-	-	-
MD 50-200/11	11	15	56	-	-	-	-	-	54,5	53	52	51	50,4	48,5	43,5	40,5	39	37	-	-	-	-	-	-	-	-	-
MD 50-250/15	15	20	72,8	-	-	-	-	-	71,2	69,2	68,2	66,6	65,7	62,6	54,2	49	46,1	43	-	-	-	-	-	-	-	-	-
MD 50-250/18.5	18,5	25	82,8	-	-	-	-	-	81,5	79,5	78,5	77	76,1	73,2	66	61,4	58,9	56,1	50	-	-	-	-	-	-	-	-
MD 50-250/22	22	30	93	-	-	-	-	-	91,6	89,7	88,9	87,6	86,9	84,3	77,4	73	70,4	67,7	61,5	-	-	-	-	-	-	-	-
MD 65-125/5.5	5,5	7,5	24	-	-	-	-	-	-	-	23,2	23	22,9	22,5	21,5	20,50	20,50	20	19,1	18,2	12,5	-	-	-	-	-	-
MD 65-125/7.5	7,5	10	27,5	-	-	-	-	-	-	-	26,5	26	25,8	25,5	24,5	24	23,5	23	22,2	21,5	16,3	15	-	-	-	-	-
MD 65-160/11	11	15	34,5	-	-	-	-	-	-	-	-	-	34	33,9	33,5	33	32,5	32	32	31,4	30,5	26,5	25,5	23	22	-	-
MD 65-160/15	15	20	39	-	-	-	-	-	-	-	-	-	-	-	38	37,5	37	36,5	36,5	35,9	35	31	30,5	28,5	27	26	-
MD 65-200/18.5	18,5	25	55	-	-	-	-	-	-	-	-	-	-	-	53,5	52,5	51,5	51,5	50,5	49,5	48,5	42	40,5	37	-	-	-
MD 65-200/22	22	30	61	-	-	-	-	-	-	-	-	-	-	-	59,5	58,5	58	57,5	57	56,2	55,5	50	49	46	-	-	-

The performances of single-phase and three-phase are the same

**TYPE KEY:**

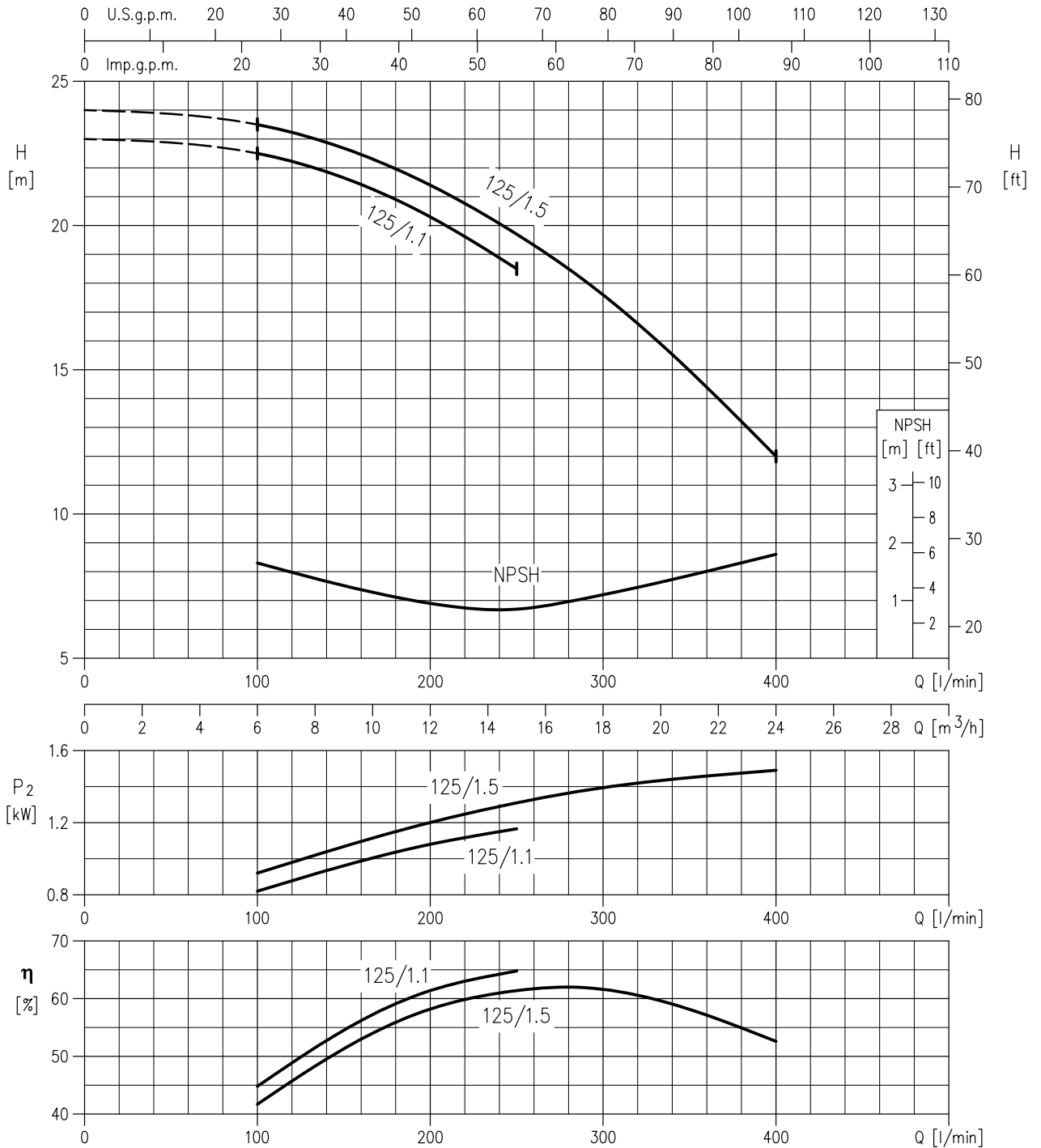


PERFORMANCE CURVE

50Hz

Rev. J

MD 32-125/1.1 (1.1 kW) – Impeller diameter = 131 mm  
 MD 32-125/1.5 (1.5 kW) – Impeller diameter = 134 mm



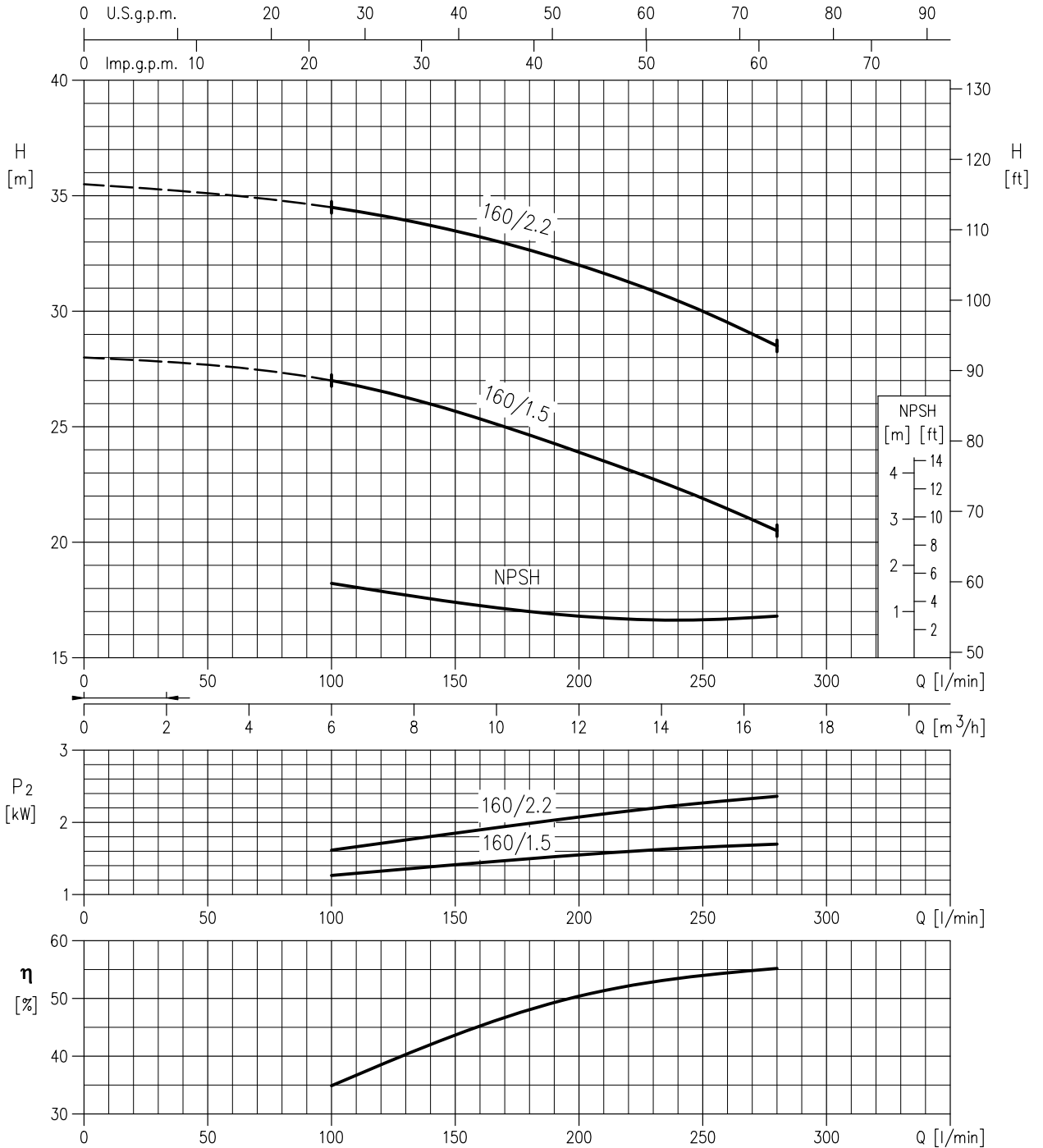
Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev. J

MD 32-160/1.5 (1.5 kW) – Impeller diameter = 148 mm  
 MD 32-160/2.2 (2.2 kW) – Impeller diameter = 163 mm



Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

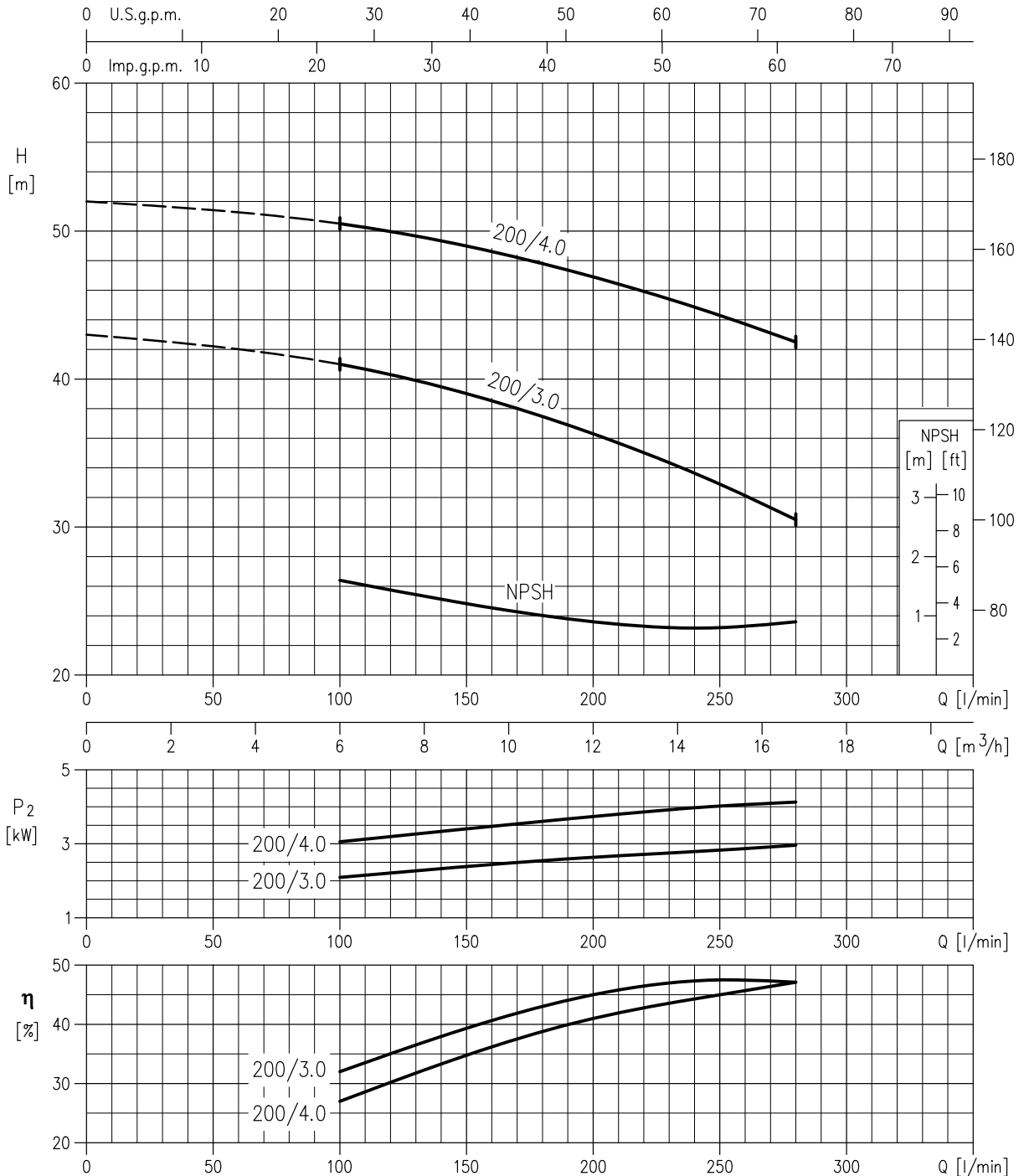


PERFORMANCE CURVE

50Hz

Rev. J

MD 32-200/3.0 (3.0 kW) – Impeller diameter = 180 mm  
 MD 32-200/4.0 (4.0 kW) – Impeller diameter = 195 mm



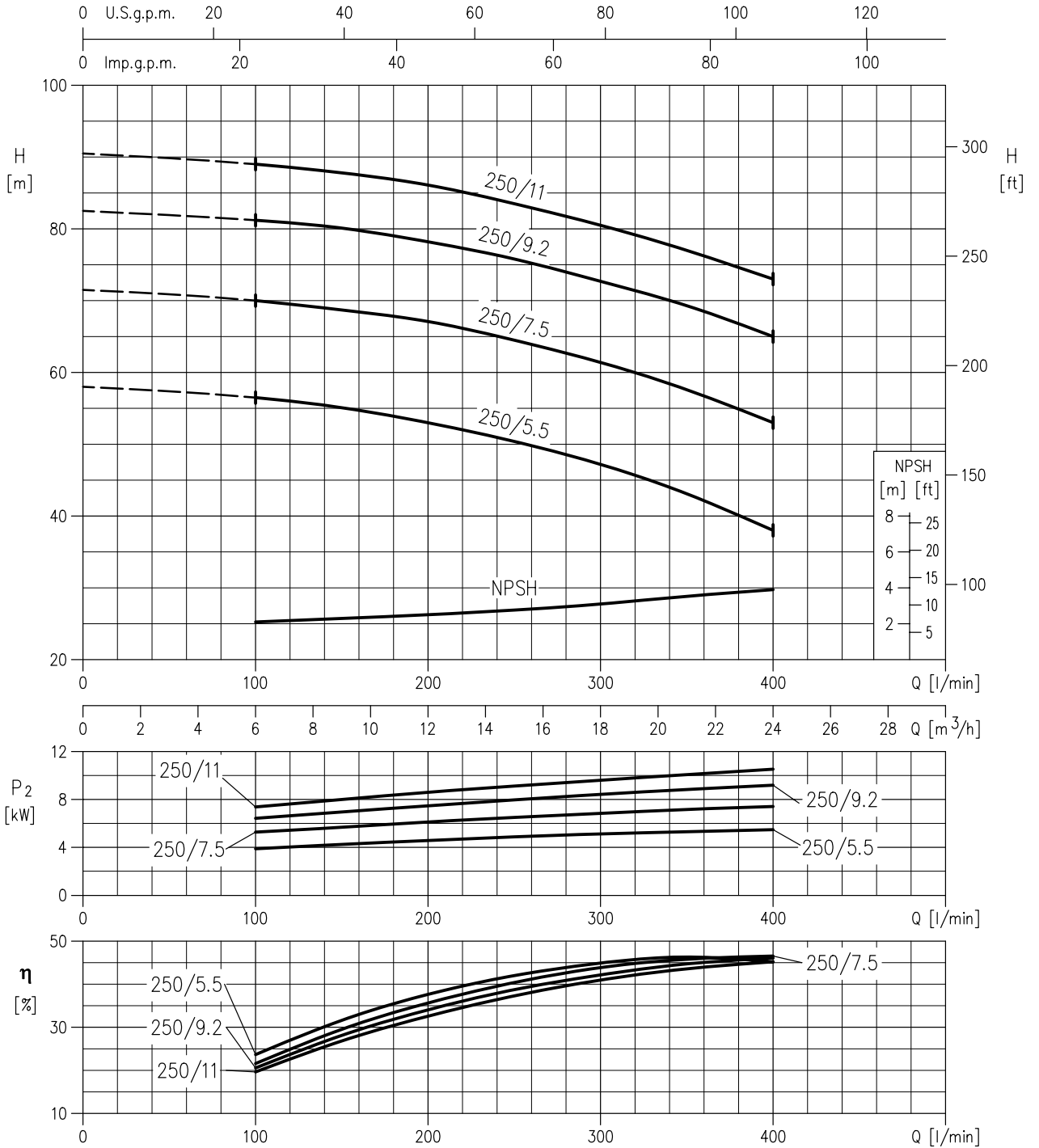
Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev. J

**MD 32-250/5.5 (5.5 kW)** – Impeller diameter = 218 mm  
**MD 32-250/7.5 (7.5 kW)** – Impeller diameter = 240 mm  
**MD 32-250/9.2 (9.2 kW)** – Impeller diameter = 254 mm  
**MD 32-250/11 (11 kW)** – Impeller diameter = 265 mm



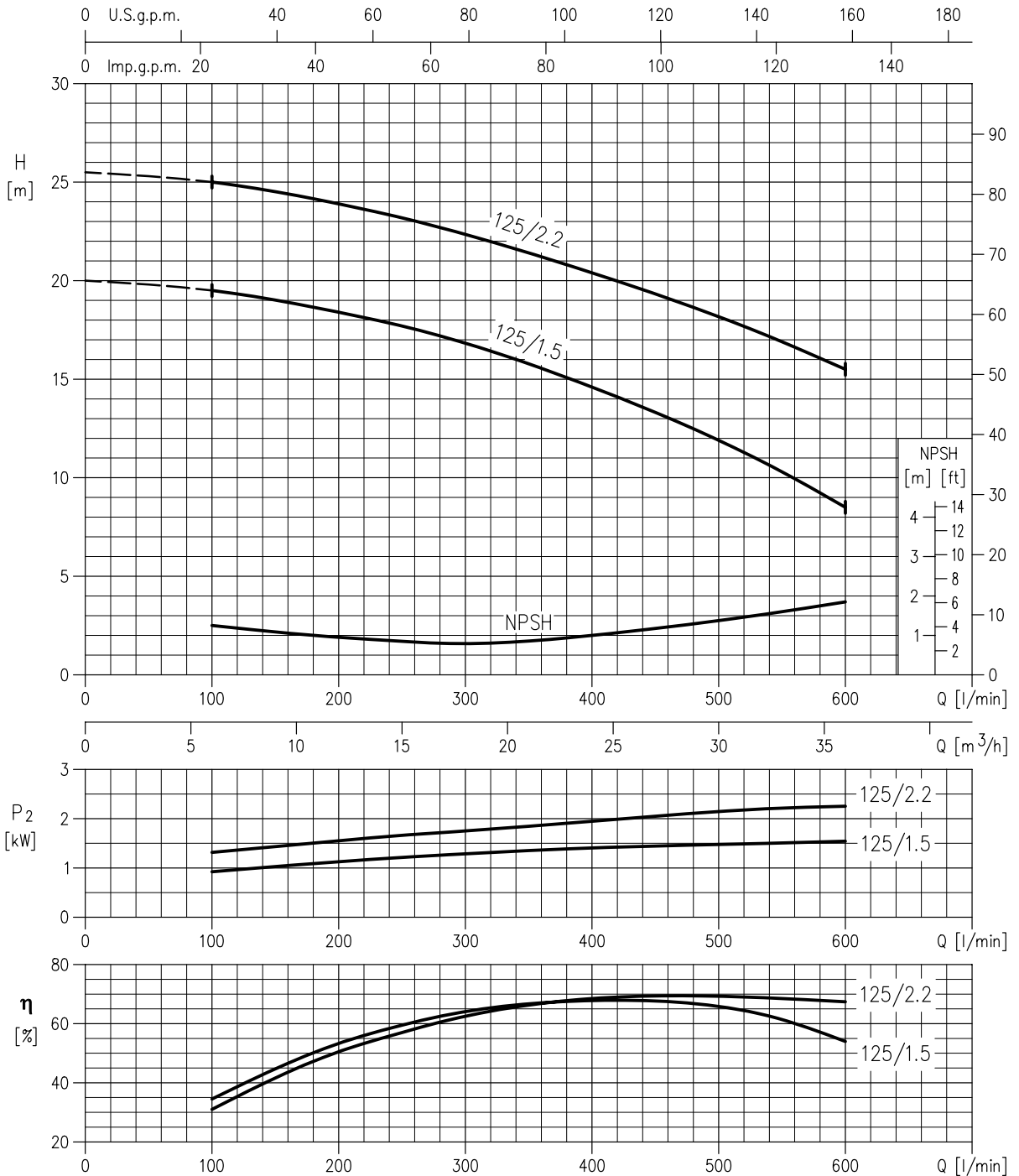
Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev. J

MD 40-125/1.5 (1.5 kW) – Impeller diameter = 126 mm  
 MD 40-125/2.2 (2.2 kW) – Impeller diameter = 138 mm



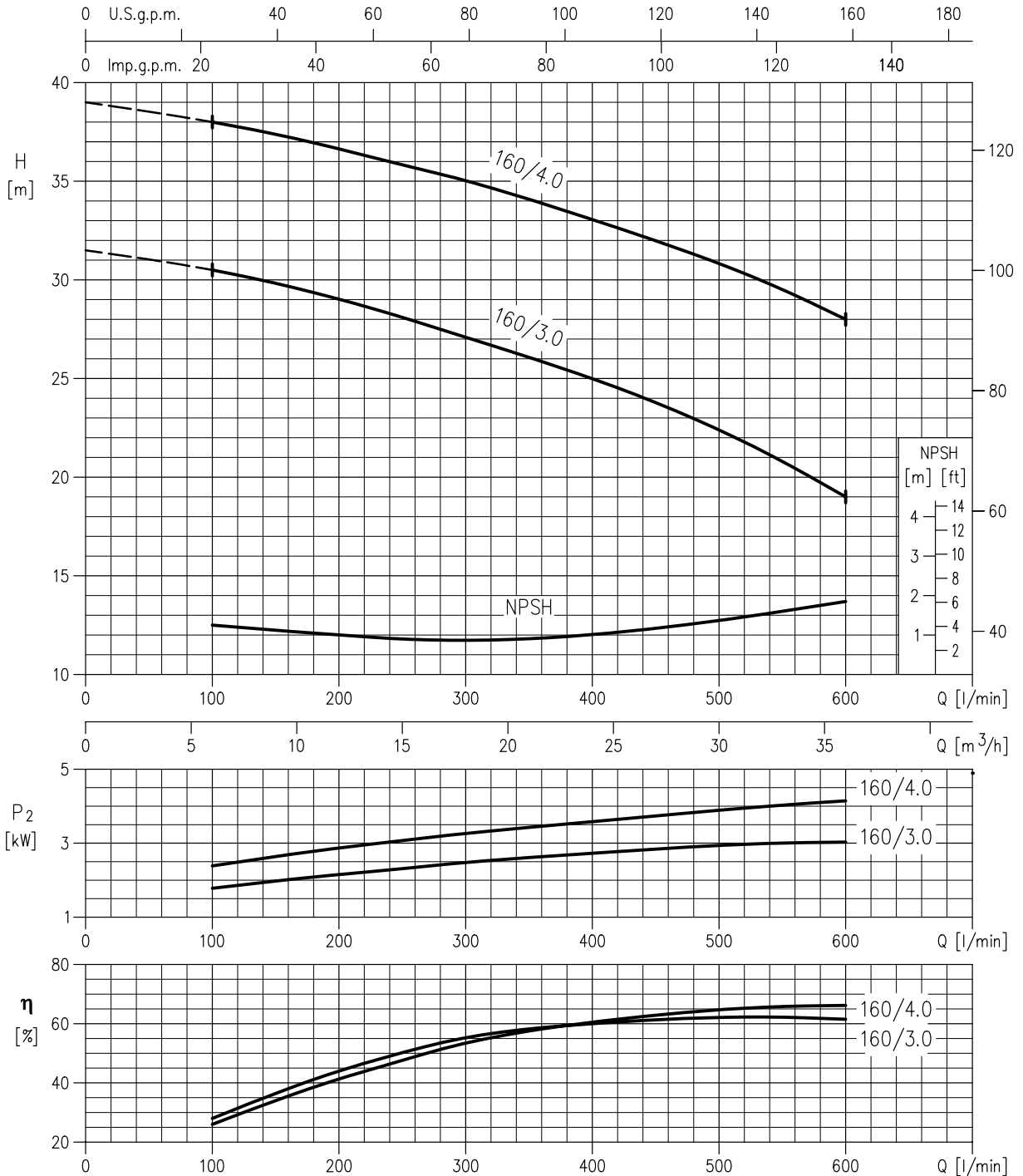
Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev. J

MD 40-160/3.0 (3.0 kW) – Impeller diameter = 154.5 mm  
 MD 40-160/4.0 (4.0 kW) – Impeller diameter = 168 mm



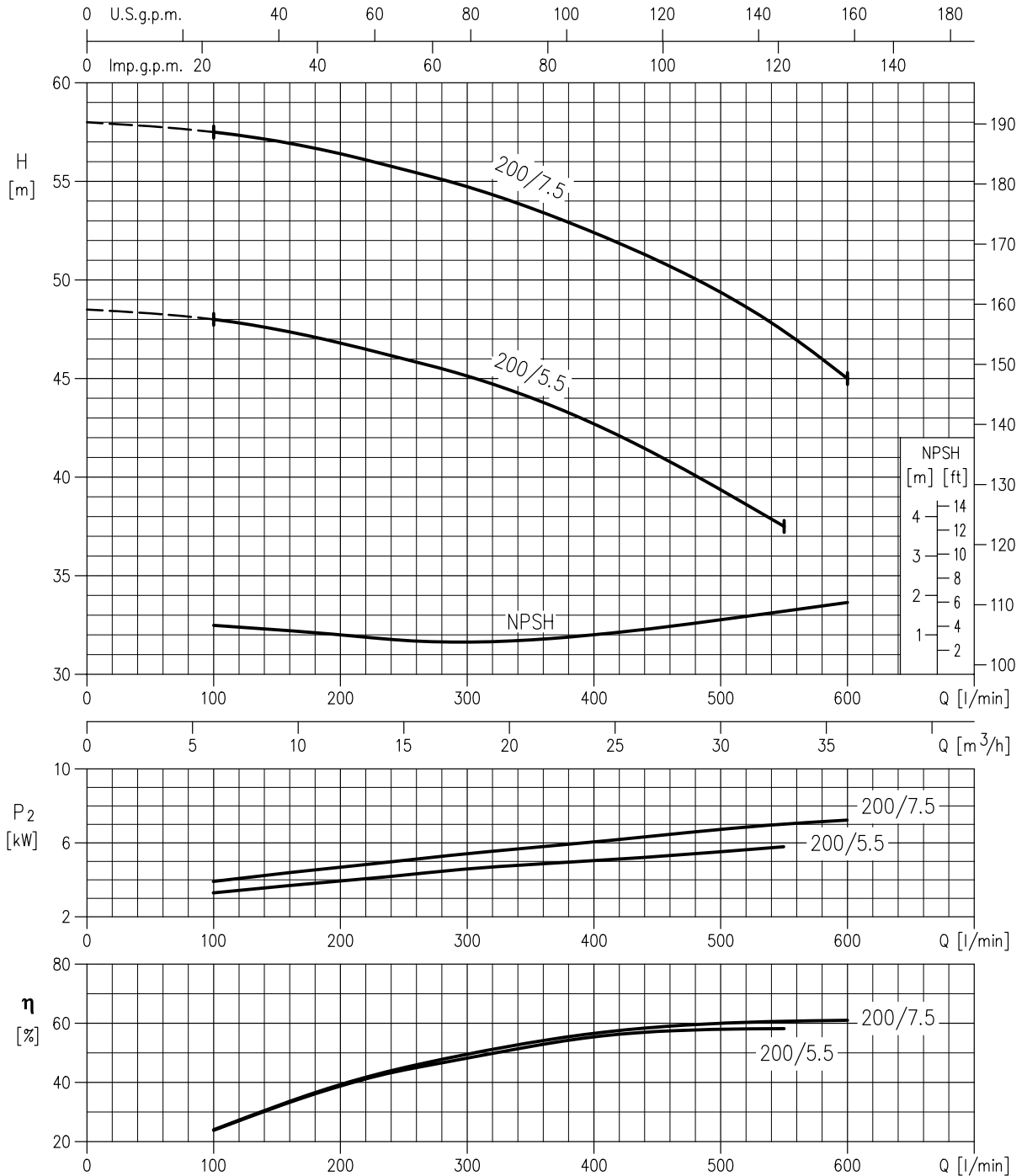
Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev. J

MD 40-200/5.5 (5.5 kW) – Impeller diameter = 187 mm  
 MD 40-200/7.5 (7.5 kW) – Impeller diameter = 203 mm

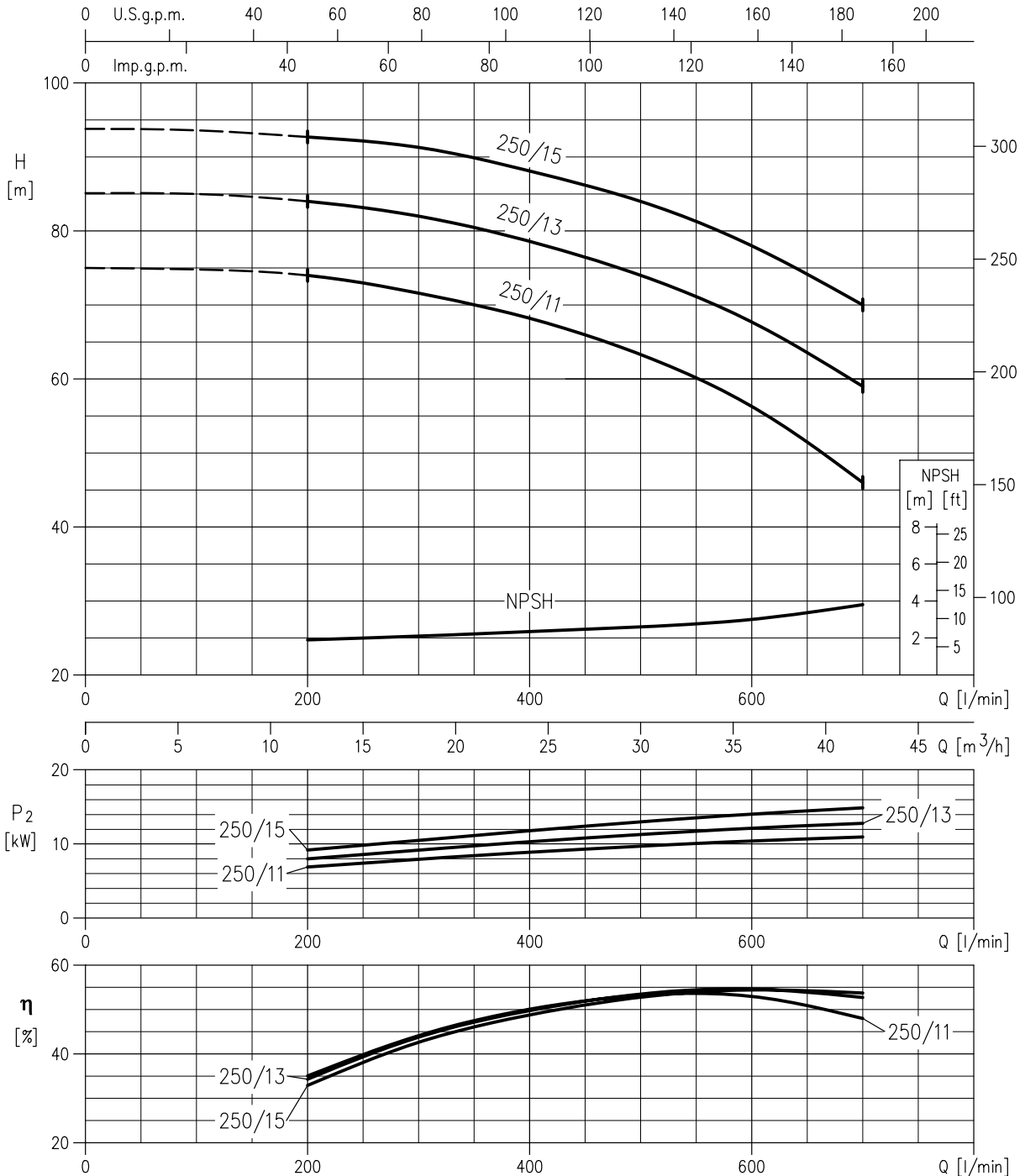


Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz  
Rev. J

**MD 40-250/11 (11 kW)** – Impeller diameter = 236 mm  
**MD 40-250/13 (13 kW)** – Impeller diameter = 248 mm  
**MD 40-250/15 (15 kW)** – Impeller diameter = 259 mm



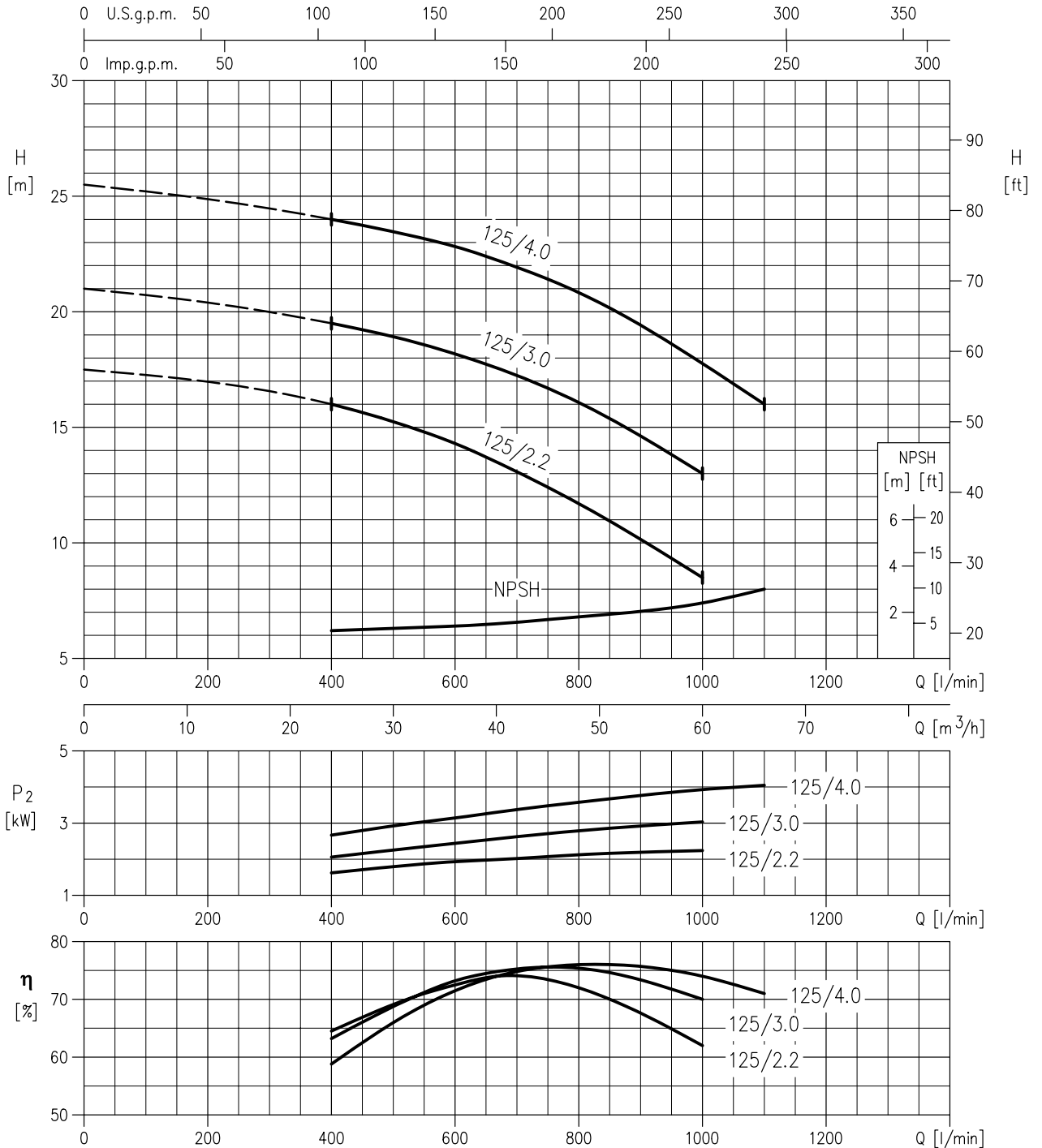
Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev. J

MD 50-125/2.2 (2.2 kW) – Impeller diameter = 117 mm  
 MD 50-125/3.0 (3.0 kW) – Impeller diameter = 125 mm  
 MD 50-125/4.0 (4.0 kW) – Impeller diameter = 135 mm



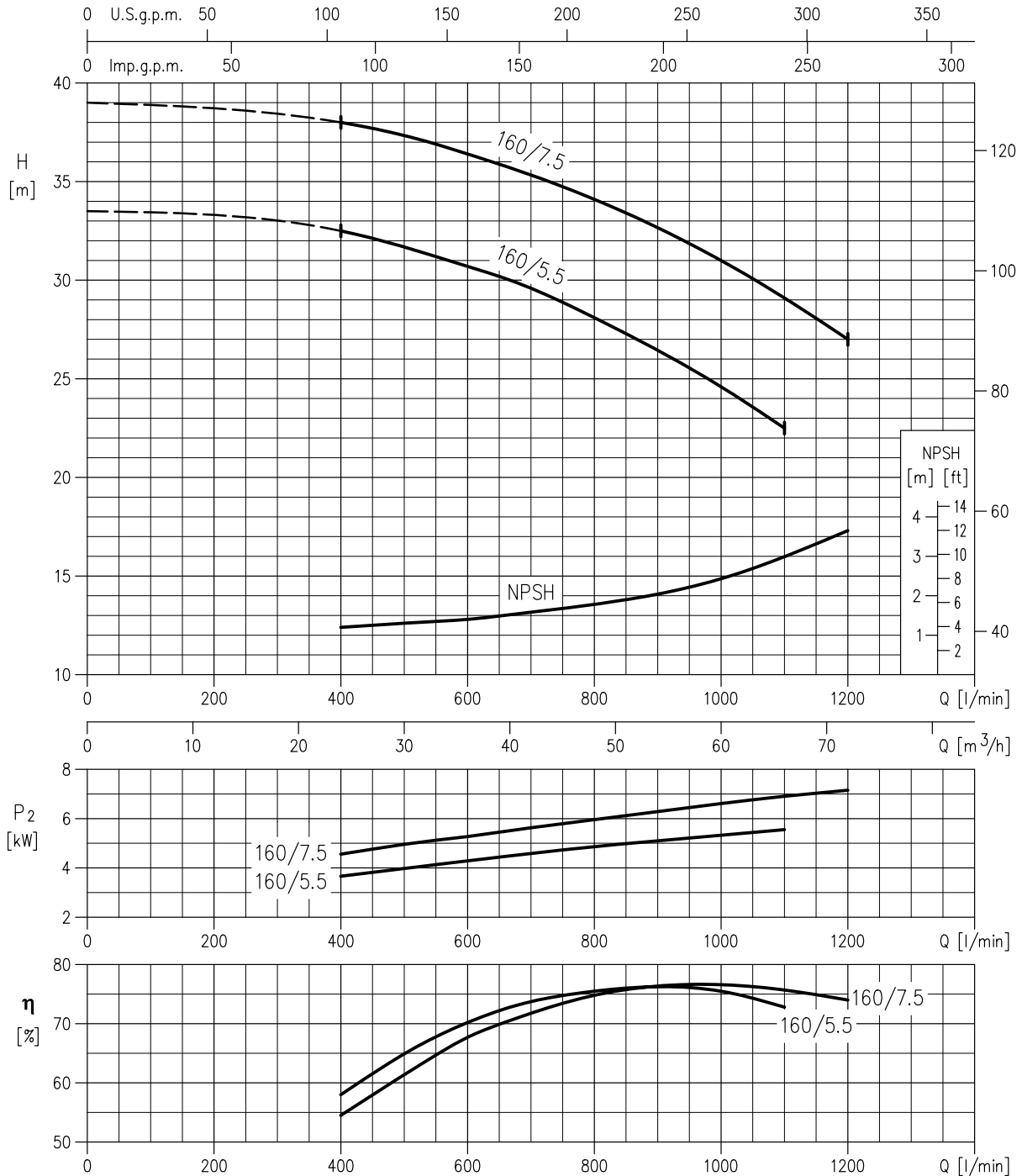
Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev. J

MD 50-160/5.5 (5.5 kW) – Impeller diameter = 155 mm  
 MD 50-160/7.5 (7.5 kW) – Impeller diameter = 166 mm



Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

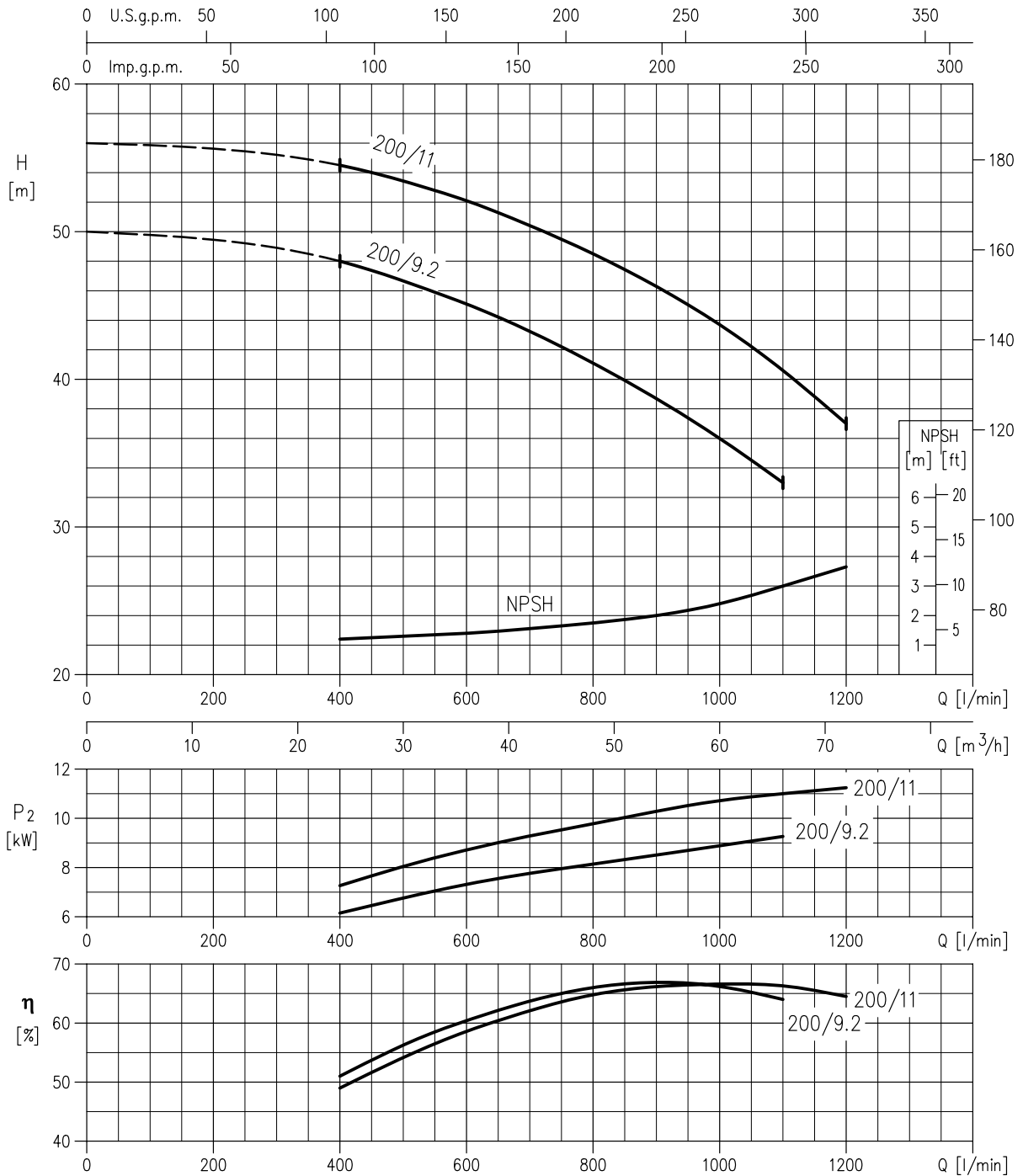


PERFORMANCE CURVE

50Hz

Rev. J

MD 50-200/9.2 (9.2 kW) – Impeller diameter = 191 mm  
 MD 50-200/11 (11 kW) – Impeller diameter = 200 mm



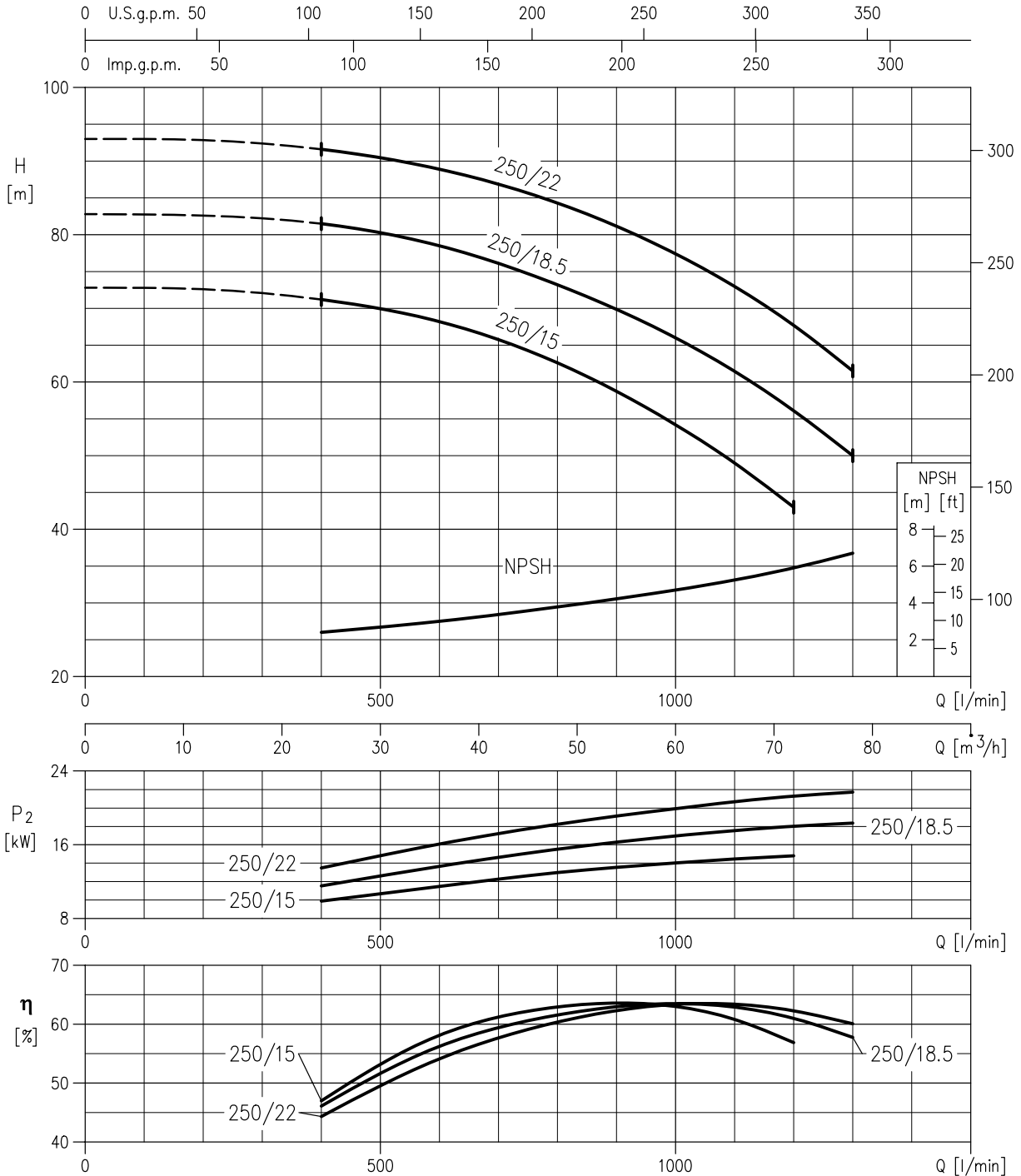
Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev. J

MD 50-250/15 (15 kW) – Impeller diameter = 234 mm  
 MD 50-250/18.5 (18.5 kW) – Impeller diameter = 248 mm  
 MD 50-250/22 (22 kW) – Impeller diameter = 261 mm



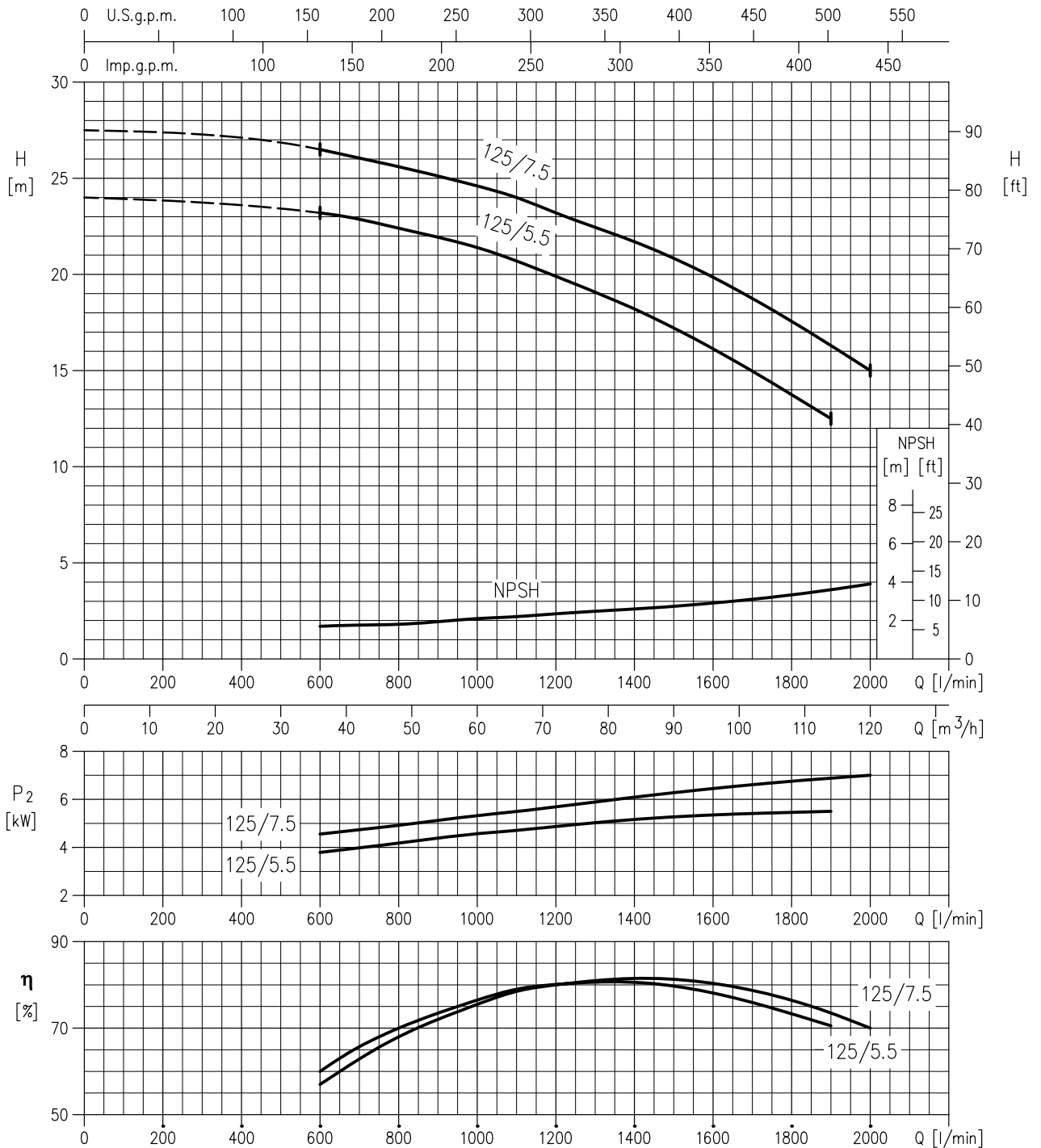
Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev. J

MD 65-125/5.5 (5.5 kW) – Impeller diameter = 135 mm  
 MD 65-125/7.5 (7.5 kW) – Impeller diameter = 142 mm



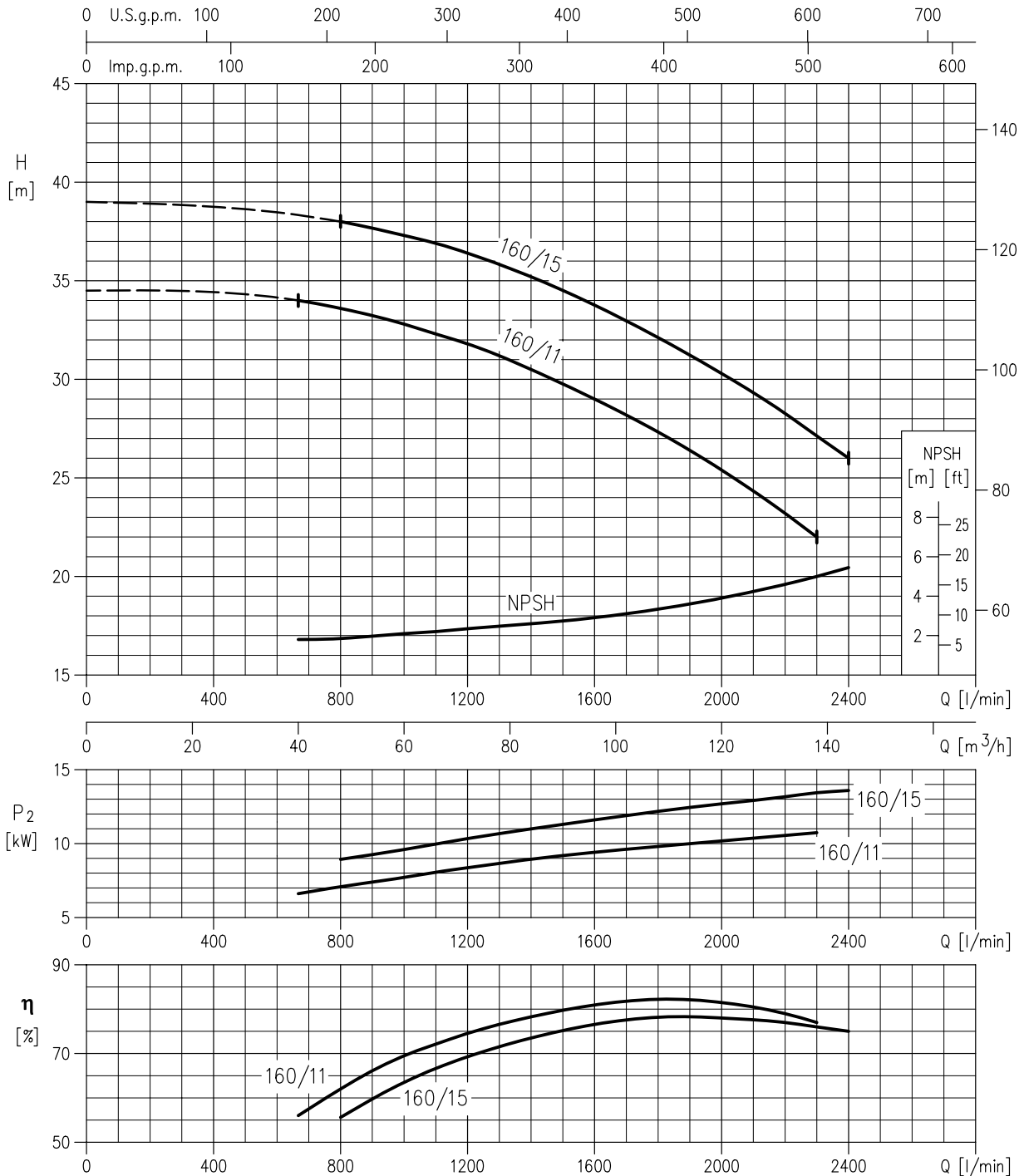
Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

Rev. J

MD 65-160/11 (11 kW) – Impeller diameter = 161.5 mm  
 MD 65-160/15 (15 kW) – Impeller diameter = 169 mm



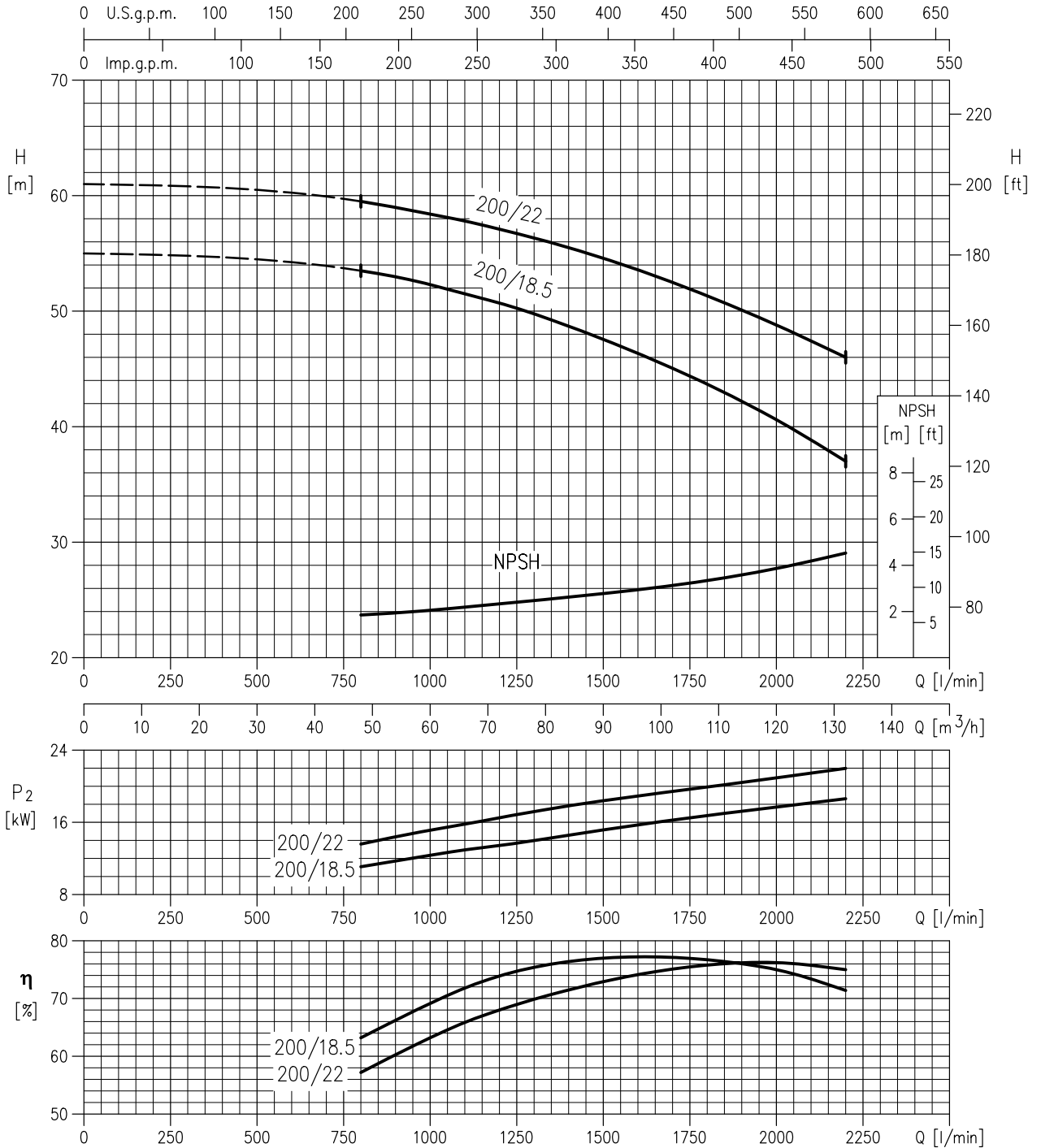
Rotation speed: ≈2900 min<sup>-1</sup>  
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

PERFORMANCE CURVE

50Hz

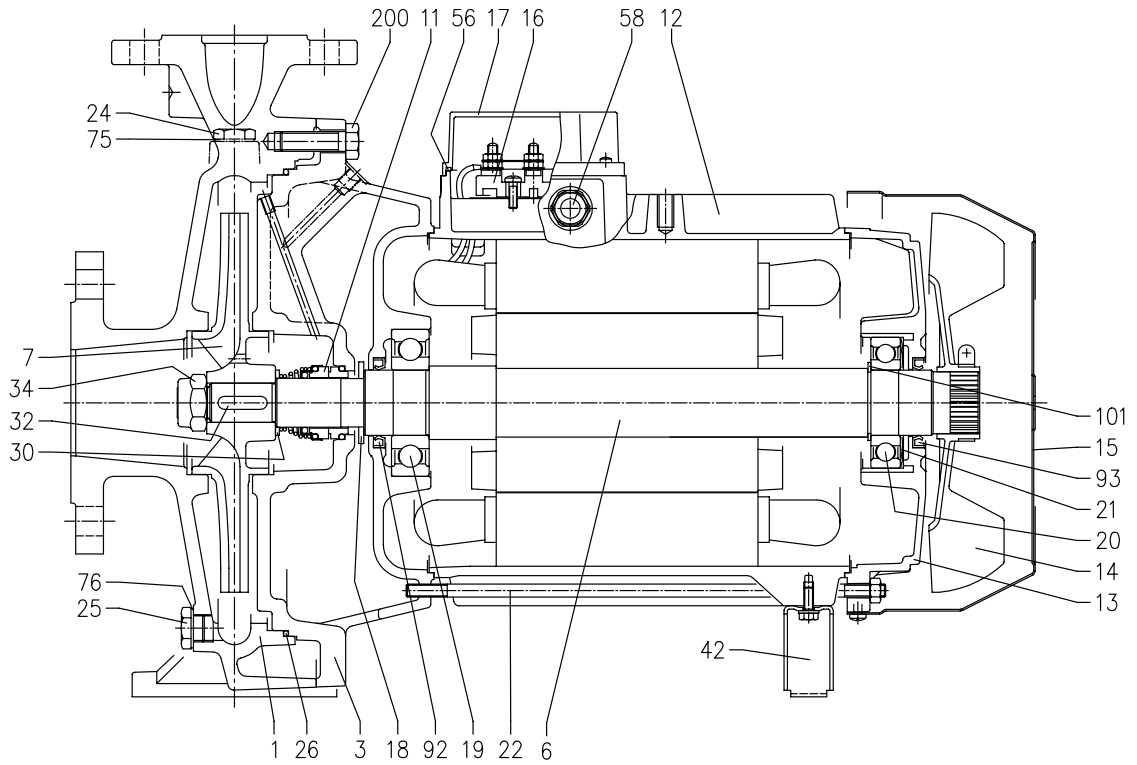
Rev. J

MD 65-200/18.5 (18.5 kW) – Impeller diameter = 196 mm  
 MD 65-200/22 (22 kW) – Impeller diameter = 206 mm

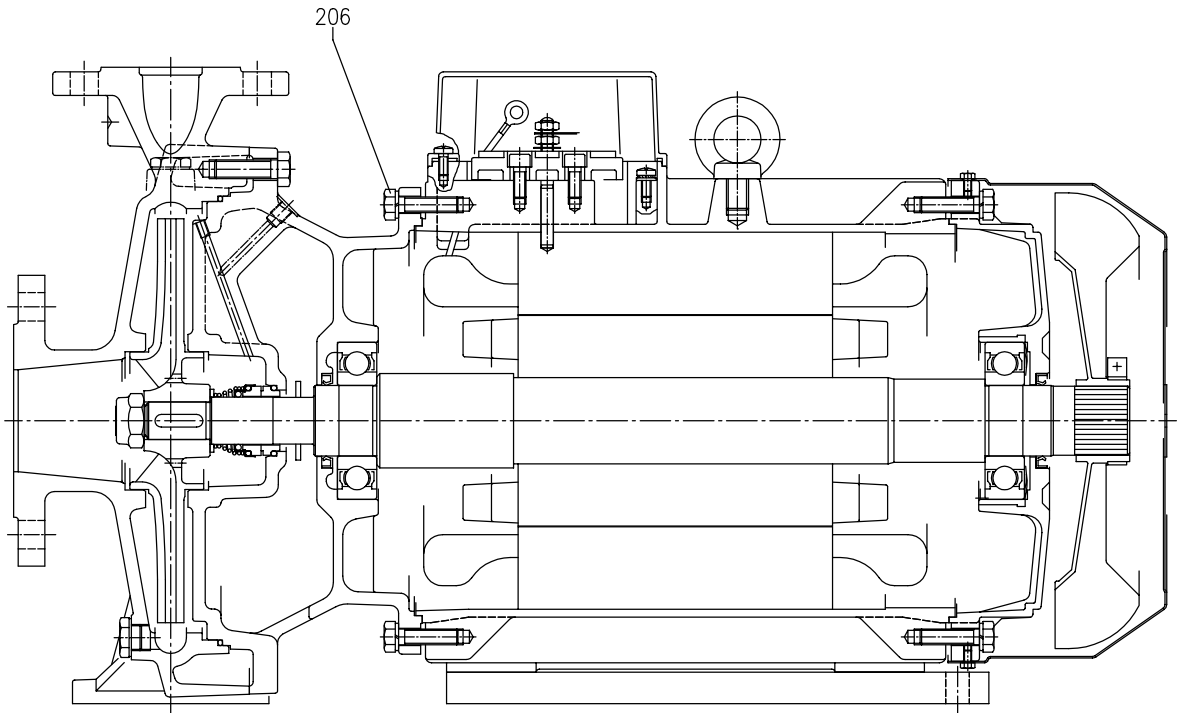


Rotation speed:  $\approx 2900 \text{ min}^{-1}$   
 Test fluid: clean water at 20°C  
 Applicable standard of test: ISO 9906 - Annex A

SECTIONAL VIEW



UP TO 13 kW



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

## CONSTRUCTIONS

50 Hz

Rev. J

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, Md xx-200	Cast iron EN-GJL-200-EN 1561		1	
		Md xx-250	AISI 304			
11	Mechanical seal [3]	Carbon/Ceramic/NBR			1	
12	Motor frame with stator	-			1	
13	Motor cover	Aluminium			1	
14	Fan	Polypropilene			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	4	
						Screw
24	Priming plug	Brass		EPE DRAWING	1	
25	Drain plug	Brass		EPE DRAWING	1	
26	O-ring	NBR	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	22,5x26,9x2,5 (up to 7,5kW) 30,5x40x2,5 (9,2 kW and above)	EPE DRAWING	1	
32	Key	AISI 316	6x6x25 (up to 7,5kW)	UNI 6604	1	
			8x7x30 (9,2 kW and above)			
34	Impeller nut	AISI 304	M16x1,5 (up to 7,5kW)	UNI 7474	1	
			M20x1,5 (9,2 kW and above)			
42	Foot	Fe P04		EPE DRAWING	1	
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	Flange	Zincate steel	See table p.306	EPE DRAWING	
		Screw for flange	AISI 304	M16x55	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	1	
200	Screw	Zn. steel 8.8 strenght class ISO 898/1	Md xx-125	M8x30	UNI 5739	
			Md xx-160	M10x35		
			Md xx-200			
			Md xx-250			
206	Screw	From 15kW and above (no 65-160/15)	Zn. steel 8.8 strenght class ISO 898/1	M10x40	UNI 5739	4

[1] Only for single-phase

[2] Only for three-phase

[3] See constructions mechanical seal p. 303

\*On request

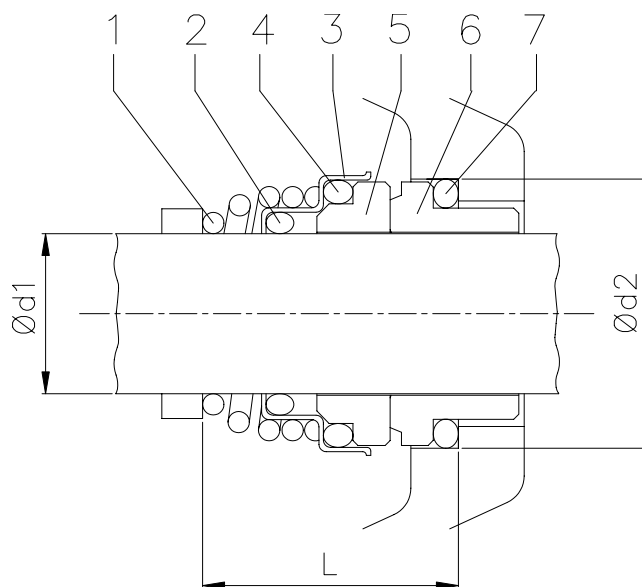
## CONSTRUCTIONS

50 Hz  
Rev. J

Pump type	Ball Bearing	
	Pump side	Fan side
MD 32-125/1.1 (M)	6205 2RSH	6205 2RSH
MD 32-125/1.5 (M)		
MD 32-160/1.5 (M)		
MD 32-160/2.2 (M)		
MD 32-200/3.0		
MD 32-200/4.0	6206 2RS1	6205 2RSH
MD 32-250/5.5	6306 2RS1	6206 2RS1
MD 32-250/7.5		
MD 32-250/9.2	6308 2RS1	6208 2RS1
MD 32-250/11		
MD 40-125/1.5 (M)	6205 2RSH	6205 2RSH
MD 40-125/2.2 (M)		
MD 40-160/3.0		
MD 40-160/4.0	6206 2RS1	6205 2RSH
MD 40-200/5.5	6306 2RS1	6206 2RS1
MD 40-200/7.5		
MD 40-250/11	6308 2RS1	6208 2RS1
MD 40-250/13		
MD 40-250/15	6309 2RS1	6309 2RS1
MD 50-125/2.2 (M)	6205 2RSH	6205 2RSH
MD 50-125/3.0		
MD 50-125/4.0	6206 2RS1	6205 2RSH
MD 50-160/5.5	6306 2RS1	6206 2RS1
MD 50-160/7.5		
MD 50-200/9.2	6308 2RS1	6208 2RS1
MD 50-200/11		
MD 50-250/15	6309 2RS1	6309 2RS1
MD 50-250/18,5		
MD 50-250/22		
MD 65-125/5.5	6306 2RS1	6206 2RS1
MD 65-125/7.5		
MD 65-160/11	6308 2RS1	6208 2RS1
MD 65-160/15		
MD 65-200/18.5	6309 2RS1	6209 2RS1
MD 65-200/22		



MECHANICAL SEAL

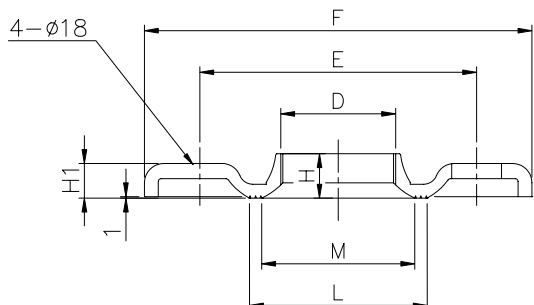


Pump type	Dimensions mm			Pump type	Dimensions mm					
	Ø d1	Ø d2	L		Ø d1	Ø d2	L			
MD 32-125/1.1 (M)	22	37	37.5	MD 40-250/15	30	45	42.5			
MD 32-125/1.5 (M)				MD 50-125/2.2 (M)	22	37	37.5			
MD 32-160/1.5 (M)				22	37	37.5	MD 50-125/3.0	30	45	42.5
MD 32-160/2.2 (M)							MD 50-125/4.0			
MD 32-200/3.0							MD 50-160/5.5			
MD 32-200/4.0							MD 50-160/7.5			
MD 32-250/5.5							MD 50-200/9.2			
MD 32-250/7.5							MD 50-200/11			
MD 32-250/9.2							MD 50-250/15			
MD 32-250/11							MD 50-250/18,5			
MD 40-125/1.5 (M)	22	37	37.5	MD 50-250/22	30	45	42.5			
MD 40-125/2.2 (M)				MD 65-125/5.5				22	37	37.5
MD 40-160/3.0				MD 65-125/7.5						
MD 40-160/4.0				MD 65-160/11						
MD 40-200/5.5				MD 65-160/15						
MD 40-200/7.5				MD 65-200/18.5						
MD 40-250/11				MD 65-200/22						
MD 40-250/13										

REF	PART NAME	MATERIAL STANDARD (ROTEN UNITEN 3 X6H62V6)	MATERIAL hot water maximum 110°C (ROTEN UNITEN 3 XYHY2VY)	MATERIAL OPTION (ROTEN UNITEN 3 XYXY33Y)	MATERIAL OPTION (ROTEN UNITEN 5 XYXYKKY)
1	Self driving spring	AISI 316	AISI 316	AISI 316	AISI 316
2	O Ring	NBR	FPM	FPM	FPM
3	Frame	AISI 304	AISI 304/AISI 316*	AISI 316	AISI 316
4	O Ring	NBR	FPM	FPM	FPM
5	Rotary seal ring	ceramic	ceramic	Tung. carbide	SiC
6	Stationary seal ring	carbon graphite	carbon graphite	Tung. carbide	SiC
7	O Ring	NBR	FPM	FPM	FPM

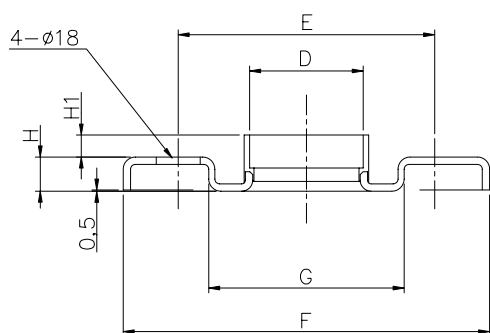
\*Only for Ø 30

**ZINKED STEEL COUNTER FLANGE (STANDARD)**



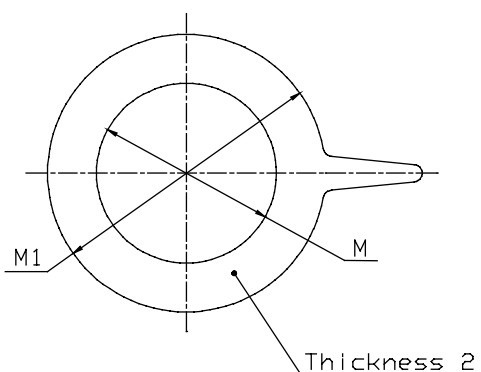
DIN	D	E	F	H	H1	L	M
32	G 1 1/4	100	140	15	11.5	67	50
40	G 1 1/2	110	150	17.5	11.5	72	58
50	G 2	125	165	19	15	89	70
65	G 2 1/2	145	185	23	14	104	88
80	G 3	160	200	24	16	117.5	100

**AISI 304-AISI 316L COUNTER FLANGE (ON REQUEST)**



DIN	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**

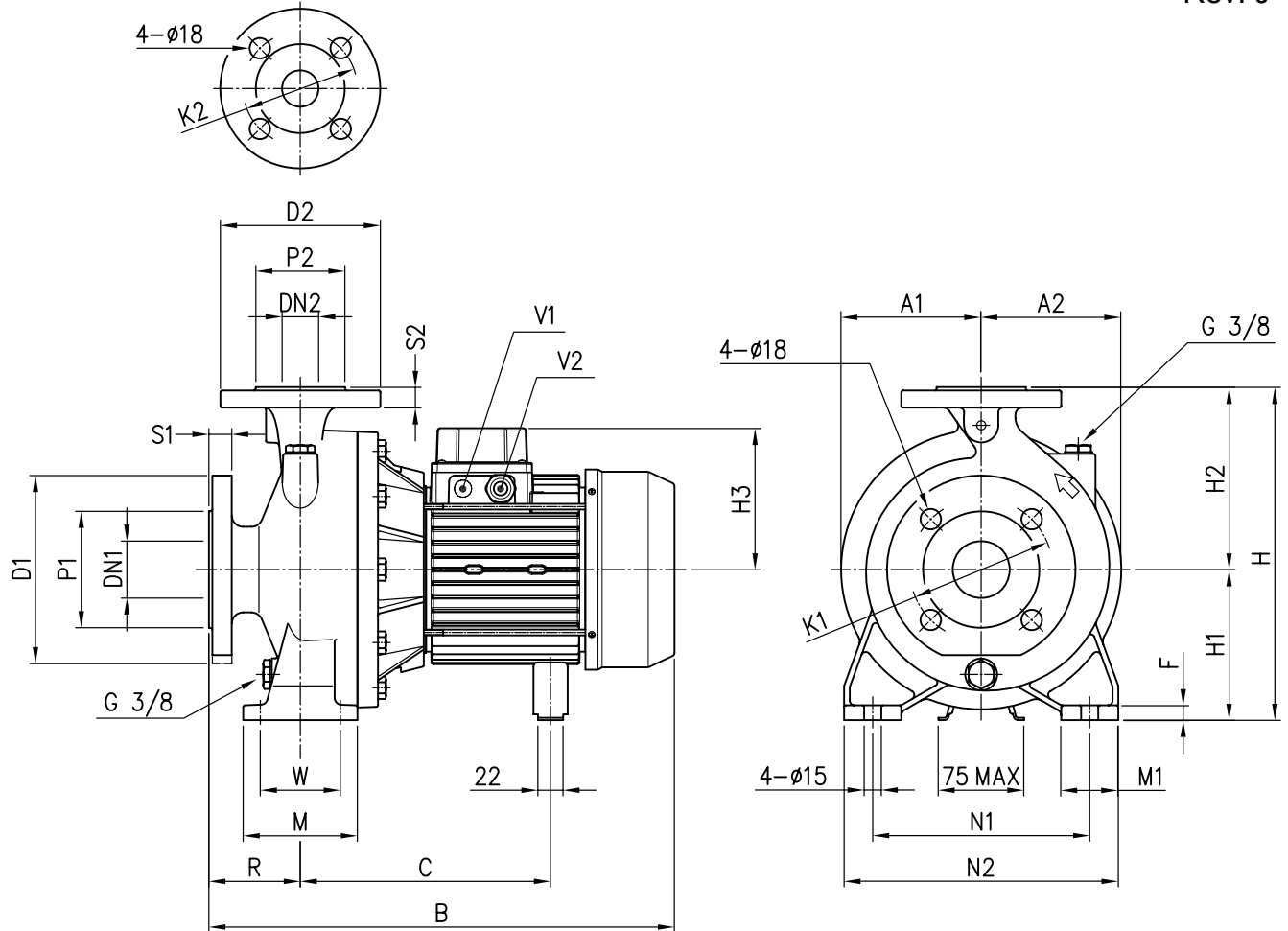


DIN	M	M1
32	38	82
40	50	93
50	60	107
65	80	125
80	90	140

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

## DIMENSIONS

50 Hz  
Rev. J

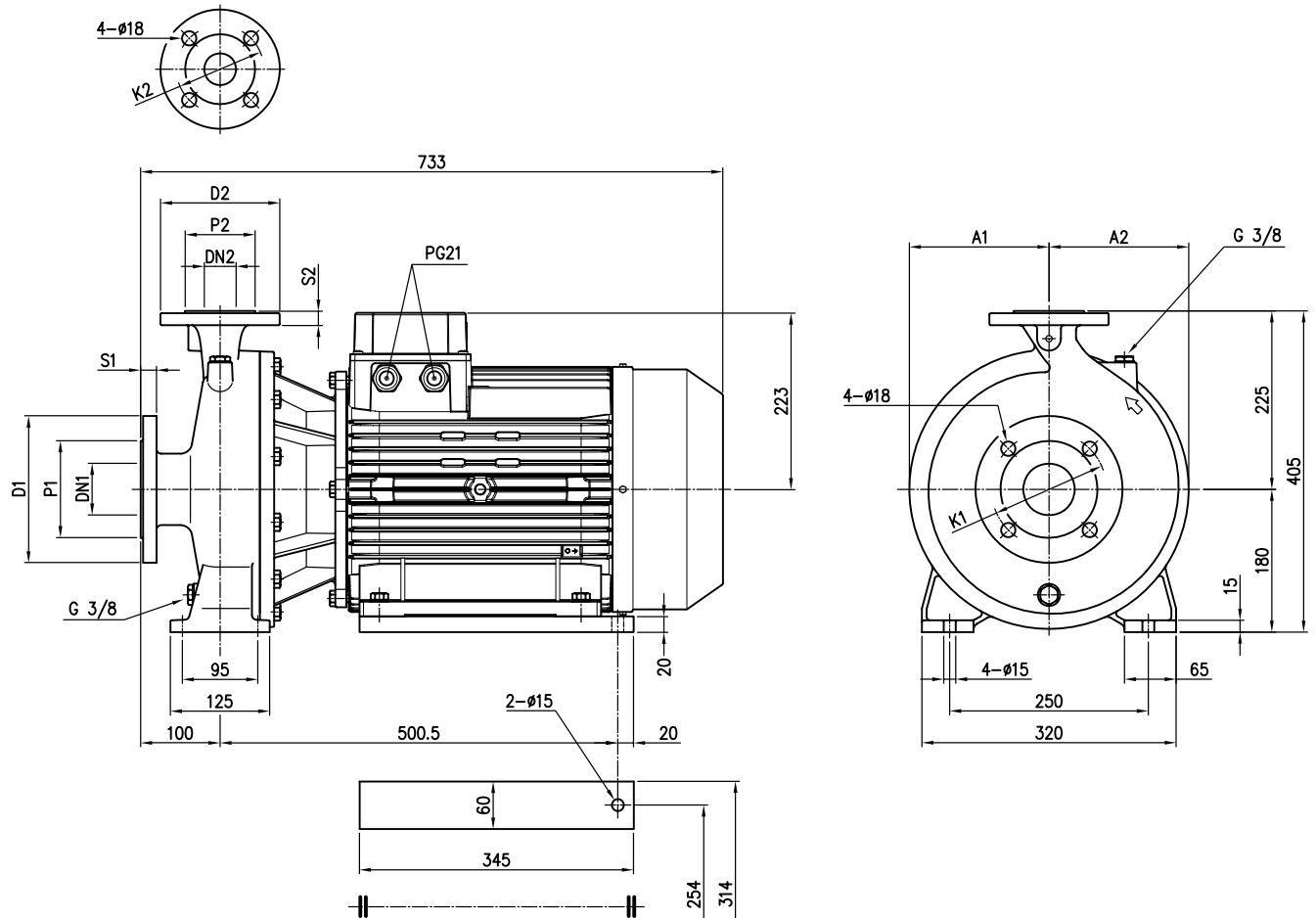


Model	Dimensions (mm)																												Weight [kgf]	
	∅ DN1	∅ P1	∅ K1	∅ D1	S1	∅ DN2	∅ P2	∅ K2	∅ D2	S2	H	H1	H2	H3		R	W	M	M1	N1	N2	A1	A2	B	C	F	V1 [1]	V2 [1] [2]		
MD 32-125/1.1 (M)	50	102	125	165	20	32	78	100	140	18	252	112	140	124	141	80	70	100	50	140	190	104	104	408	219-230	13	-	PG 13.5	M20x1.5	27.6
MD 32-125/1.5 (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	219-230	13	-	PG 13.5	M20x1.5	28.3
MD 32-160/1.5 (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	219-230	13	-	PG 13.5	M20x1.5	31.5
MD 32-160/2.2 (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	219-230	13	-	PG 13.5	M20x1.5	35.4
MD 32-200/3.0	50	102	125	165	20	32	78	100	140	18	340	160	180	124	-	80	70	100	50	190	240	144	144	433	244-255	13	-	PG 13.5	-	44.1
MD 32-200/4.0	50	102	125	165	20	32	78	100	140	18	340	160	180	141	-	80	70	100	50	190	240	144	144	454	253	13	-	PG 16	-	50.5
MD 32-250/5.5	50	102	125	165	20	32	78	100	140	18	405	180	225	150	-	100	95	125	65	250	320	176	176	495	275	15	PG 13.5	PG 16	-	70.5
MD 32-250/7.5	50	102	125	165	20	32	78	100	140	18	405	180	225	150	-	100	95	125	65	250	320	176	176	537	275	15	PG 13.5	PG 16	-	74.6
MD 32-250/9.2	50	102	125	165	20	32	78	100	140	18	405	180	225	178	-	100	95	125	65	250	320	176	176	589	354	15	PG 13.5	PG 21	-	84.3
MD 32-250/11	50	102	125	165	20	32	78	100	140	18	405	180	225	178	-	100	95	125	65	250	320	176	176	589	354	15	PG 13.5	PG 21	-	87.3
MD 40-125/1.5 (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	219-230	13	-	PG 13.5	M20x1.5	28.9
MD 40-125/2.2 (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	219-230	13	-	PG 13.5	M20x1.5	31.9
MD 40-160/3.0	65	122	145	185	20	40	88	110	150	18	292	132	160	124	-	80	70	100	50	190	240	123	123	433	244-255	13	-	PG 13.5	-	39
MD 40-160/4.0	65	122	145	185	20	40	88	110	150	18	292	132	160	141	-	80	70	100	50	190	240	123	123	454	253	13	-	PG 16	-	45.7
MD 40-200/5.5	65	122	145	185	20	40	88	110	150	18	340	160	180	150	-	100	70	100	50	212	265	144	144	495	275	13	PG 13.5	PG 16	-	60.1
MD 40-200/7.5	65	122	145	185	20	40	88	110	150	18	340	160	180	150	-	100	70	100	50	212	265	144	144	537	275	13	PG 13.5	PG 16	-	68.5
MD 40-250/11	65	122	145	185	20	40	88	110	150	18	405	180	225	178	-	100	95	125	65	250	320	176	176	589	354	15	PG 13.5	PG 21	-	90.7
MD 40-250/13	65	122	145	185	20	40	88	110	150	18	405	180	225	178	-	100	95	125	65	250	320	176	176	589	354	15	PG 13.5	PG 21	-	93
MD 50-125/2.2 (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	219-230	13	-	PG 13.5	M20x1.5	34
MD 50-125/3.0	65	122	145	185	20	50	102	125	165	20	292	132	160	124	-	100	70	100	50	190	240	104	124	453	244-255	13	-	PG 13.5	-	36
MD 50-125/4.0	65	122	145	185	20	50	102	125	165	20	292	132	160	141	-	100	70	100	50	190	240	104	124	474	253	13	-	PG 16	-	42.3
MD 50-160/5.5	65	122	145	185	20	50	102	125	165	20	340	160	180	150	-	100	70	100	50	212	265	123	136	495	275	13	PG 13.5	PG 16	-	57.2
MD 50-160/7.5	65	122	145	185	20	50	102	125	165	20	340	160	180	150	-	100	70	100	50	212	265	123	136	537	275	13	PG 13.5	PG 16	-	68.7
MD 50-200/9.2	65	122	145	185	20	50	102	125	165	20	360	160	200	178	-	100	70	100	50	212	265	144	154	589	354	13	PG 13.5	PG 21	-	74
MD 50-200/11	65	122	145	185	20	50	102	125	165	20	360	160	200	178	-	100	70	100	50	212	265	144	154	589	354	13	PG 13.5	PG 21	-	80.9
MD 65-125/5.5	80	138	160	200	22	65	122	145	185	20	340	160	180	150	-	100	95	125	65	212	280	123	139	495	275	13	PG 13.5	PG 16	-	58.3
MD 65-125/7.5	80	138	160	200	22	65	122	145	185	20	340	160	180	150	-	100	95	125	65	212	280	123	139	537	275	13	PG 13.5	PG 16	-	67
MD 65-160/11	80	138	160	200	22	65	122	145	185	20	360	160	200	178	-	100	95	125	65	212	280	144	154	589	354	13	PG 13.5	PG 21	-	86.4
MD 65-160/15	80	138	160	200	22	65	122	145	185	20	360	160	200	178	-	100	95	125	65	212	280	144	154	589	354	13	PG 13.5	PG 21	-	91.9

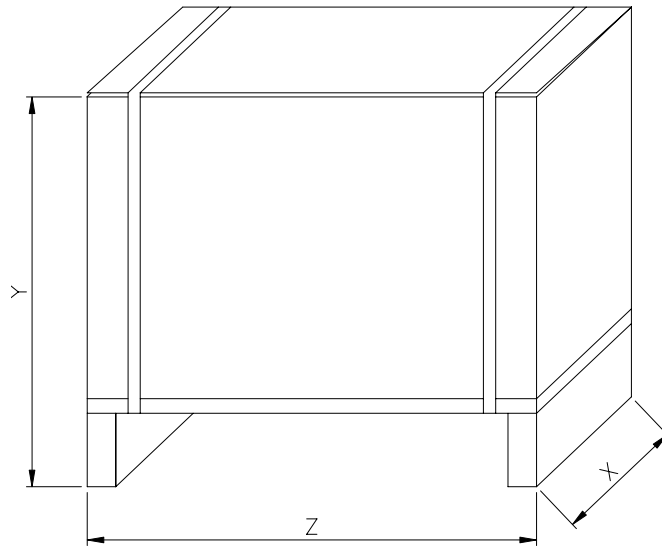
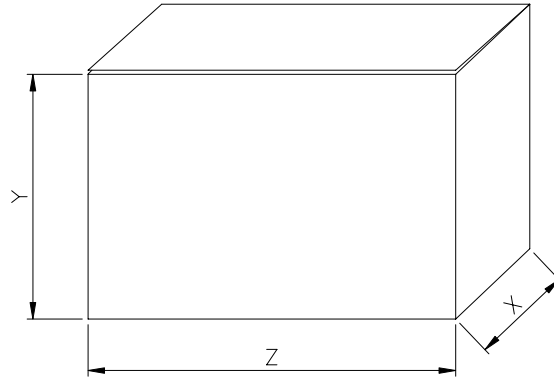
[1] Only for three phase [2] Only for single phase

## DIMENSIONS

50 Hz  
Rev. J



Model	Dimensions [mm]												Weight [ kgf ]
	∅ DN1	∅ P1	∅ K1	∅ D1	S1	∅ DN2	∅ P2	∅ K2	∅ D2	S2	A1	A2	
MD 40-250/15	65	122	145	185	20	40	88	110	150	18	176	176	96.8
MD 50-250/15	65	122	145	185	20	50	102	125	165	20	176	176	97.6
MD 50-250/18.5	65	122	145	185	20	50	102	125	165	20	176	176	126
MD 50-250/22	65	122	145	185	20	50	102	125	165	20	176	176	148
MD 65-200/18.5	80	138	160	200	22	65	122	145	185	20	144	168	126
MD 65-200/22	80	138	160	200	22	65	122	145	185	20	144	168	135



Pump type	PACKING [mm]			WEIGHT [kgf]	Pump type	PACKING [mm]			WEIGHT [kgf]
	X	Y	Z			X	Y	Z	
MD 32-125/1.1 (M)	255	305	455	29.3	MD 40-250/15	375	615	865	107
MD 32-125/1.5 (M)				30	MD 50-125/2.2 (M)				37
MD 32-160/1.5 (M)	285	335	435	33	MD 50-125/3.0	285	345	495	39.3
MD 32-160/2.2 (M)				37.4	MD 50-125/4.0				44.6
MD 32-200/3.0	335	395	505	47.5	MD 50-160/5.5	335	605	565	62.7
MD 32-200/4.0				53.2	MD 50-160/7.5				74.3
MD 32-250/5.5	375	560	585	76.2	MD 50-200/9.2	385	655	645	80.1
MD 32-250/7.5				80	MD 50-200/11				87.5
MD 32-250/9.2				91.7	MD 50-250/15	105			
MD 32-250/11				94.8	MD 50-250/18.5	135			
MD 40-125/1.5 (M)	255	305	455	31.2	MD 50-250/22	375	615	865	155
MD 40-125/2.2 (M)				36.6	MD 65-125/5.5				63.9
MD 40-160/3.0	285	345	495	41.5	MD 65-125/7.5	335	605	565	67.3
MD 40-160/4.0				48.1	MD 65-160/11				91.8
MD 40-200/5.5	355	605	565	66.7	MD 65-160/15	385	655	645	99.8
MD 40-200/7.5				70	MD 65-200/18.5				136
MD 40-250/11	375	560	685	102	MD 65-200/22	405	655	875	140
MD 40-250/13				104					

## MOTOR DATA

50 Hz  
Rev. J

Pump type	Power		Capacitor		Input [kW]		Full load current [A]				Locked rotor current			
	kW	HP	Single phase		Single phase	Three phase	Single phase		Three phase		Single phase		Three phase	
			μF	Vc			230 V	230 V	400 V	690 V	230 V	230 V	400 V	690 V
MD 32-125/1.1 (M)	1.1	1.5	31.5	450	1.60	1.55	7.1	5.2	3	-	24	35	20	-
MD 32-125/1.5 (M)	1.5	2	40	450	2.05	2.2	9.3	5.9	3.4	-	44	35	20	-
MD 32-160/1.5 (M)	1.5	2	40	450	2.28	2.2	10.3	5.9	3.4	-	44	35	20	-
MD 32-160/2.2 (M)	2.2	3	50	450	2.91	2.9	13.3	8.7	5	-	70	66	38	-
MD 32-200/3.0	3	4	-	-	-	4	-	12	6.9	-	-	97	56	-
MD 32-200/4.0	4	5.5	-	-	-	5.2	-	16	9.2	-	-	123	71	-
MD 32-250/5.5	5.5	7.5	-	-	-	6.5	-	-	10.4	6	-	-	90	155
MD 32-250/7.5	7.5	10	-	-	-	8.5	-	-	15	8.7	-	-	140	240
MD 32-250/9.2	9.2	12.5	-	-	-	11	-	-	18.3	10.6	-	-	128	74
MD 32-250/11	11	15	-	-	-	12	-	-	20.7	12	-	-	169	95.6
MD 40-125/1.5 (M)	1.5	2	40	450	2.08	2.3	9.5	6	3.5	-	44	35	20	-
MD 40-125/2.2 (M)	2.2	3	50	450	2.77	2.9	12.9	8.7	5	-	70	66	38	-
MD 40-160/3.0	3	4	-	-	-	3.8	-	11.4	6.6	-	-	97	56	-
MD 40-160/4.0	4	5.5	-	-	-	5.3	-	17	9.8	-	-	123	71	-
MD 40-200/5.5	5.5	7.5	-	-	-	6.5	-	-	10.4	6	-	-	90	155
MD 40-200/7.5	7.5	10	-	-	-	8.5	-	-	15	8.7	-	-	140	240
MD 40-250/11	11	15	-	-	-	12.3	-	-	20.6	11.9	-	-	169	95.6
MD 40-250/13	13	17.5	-	-	-	15.2	-	-	25.3	14.6	-	-	175	101
MD 40-250/15	15	20	-	-	-	17.2	-	-	29.1	16.8	-	-	180	104
MD 50-125/2.2 (M)	2.2	3	50	450	2.80	2.9	12.9	8.7	5	-	70	66	38	-
MD 50-125/3.0	3	4	-	-	-	3.6	-	10.7	6.2	-	-	97	56	-
MD 50-125/4.0	4	5.5	-	-	-	4.9	-	15.4	8.9	-	-	123	71	-
MD 50-160/5.5	5.5	7.5	-	-	-	6.5	-	-	10.4	6	-	-	90	155
MD 50-160/7.5	7.5	10	-	-	-	8.5	-	-	15	8.7	-	-	140	240
MD 50-200/9.2	9.2	12.5	-	-	-	11.2	-	-	19	11	-	-	128	74
MD 50-200/11	11	15	-	-	-	13.5	-	-	22	12.7	-	-	169	95.6
MD 50-250/15	15	20	-	-	-	17.5	-	-	29.7	17.2	-	-	180	104
MD 50-250/18,5	18.5	25	-	-	-	21	-	-	37.7	21.8	-	-	272	157
MD 50-250/22	22	30	-	-	-	24	-	-	41	23.7	-	-	320	185
MD 65-125/5.5	5.5	7.5	-	-	-	6.5	-	-	10.4	6	-	-	90	155
MD 65-125/7.5	7.5	10	-	-	-	8.5	-	-	15	8.7	-	-	140	240
MD 65-160/11	11	15	-	-	-	13	-	-	20.8	12	-	-	169	95.6
MD 65-160/15	15	20	-	-	-	16	-	-	27	15.6	-	-	180	104
MD 65-200/18.5	18.5	25	-	-	-	21	-	-	39	22.5	-	-	272	157
MD 65-200/22	22	30	-	-	-	24	-	-	43	24.8	-	-	320	185