EBARA

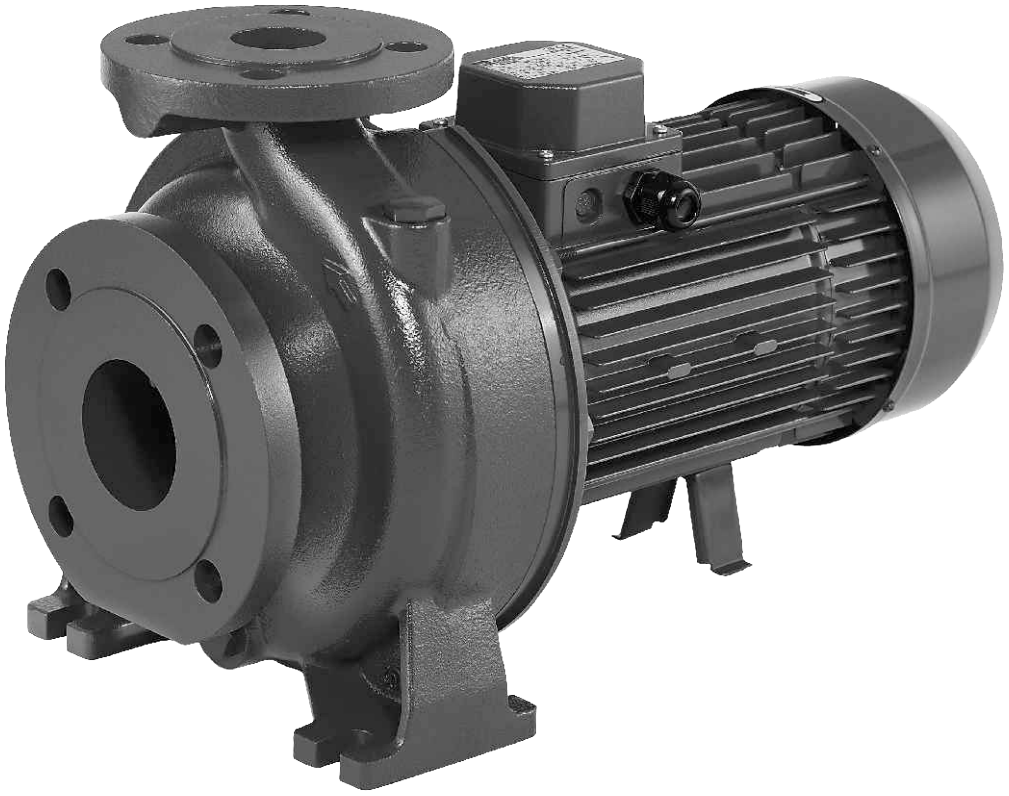
Technical Data

3D

2 Pole Models
2900 RPM

Cast Iron End Suction Pumps

EN733 (ex DIN 24255)



Monobloc design.
Cast iron casing with 304 stainless steel impeller & back cover

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50Hz

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SPECIFICATION 50Hz

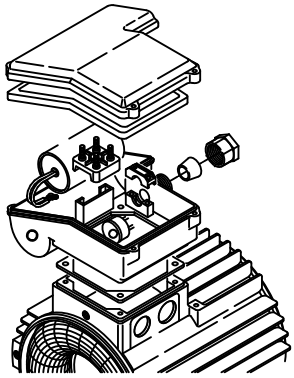
PUMP			
Liquid Handled	Type of liquid		Clean water
	Working temperature	[°C]	min. -5 max. +90 max. +110 H, HS
Maximum working pressure		[MPa]	1
Construction	Impeller		Closed centrifugal type for 32, 40, 50 series Reinforced laser welding for 40-200/11
	Shaft seal type		Mechanical seal
	Bearing		Sealed ball bearing
Pipe Connection	Suction		Flange DN 50, 65 according to EN 1092-2
	Discharge		Flange DN 32, 40, 50 according to EN 1092-2
Material	Casing		Cast iron EN-GJL-250-EN 1561
	Impeller		AISI 304
	Shaft seal		Ceramic/Carbon/NBR (see Optionals on page. 302-303)
	Shaft		AISI 304 (wet extension)
	Bracket		Aluminium/Cast iron
Accessory	Counterflange		DN 32, 40, 50, 65, (see pag. 305)
Applicable standard of test			ISO 9906:2012 - Grade 3B

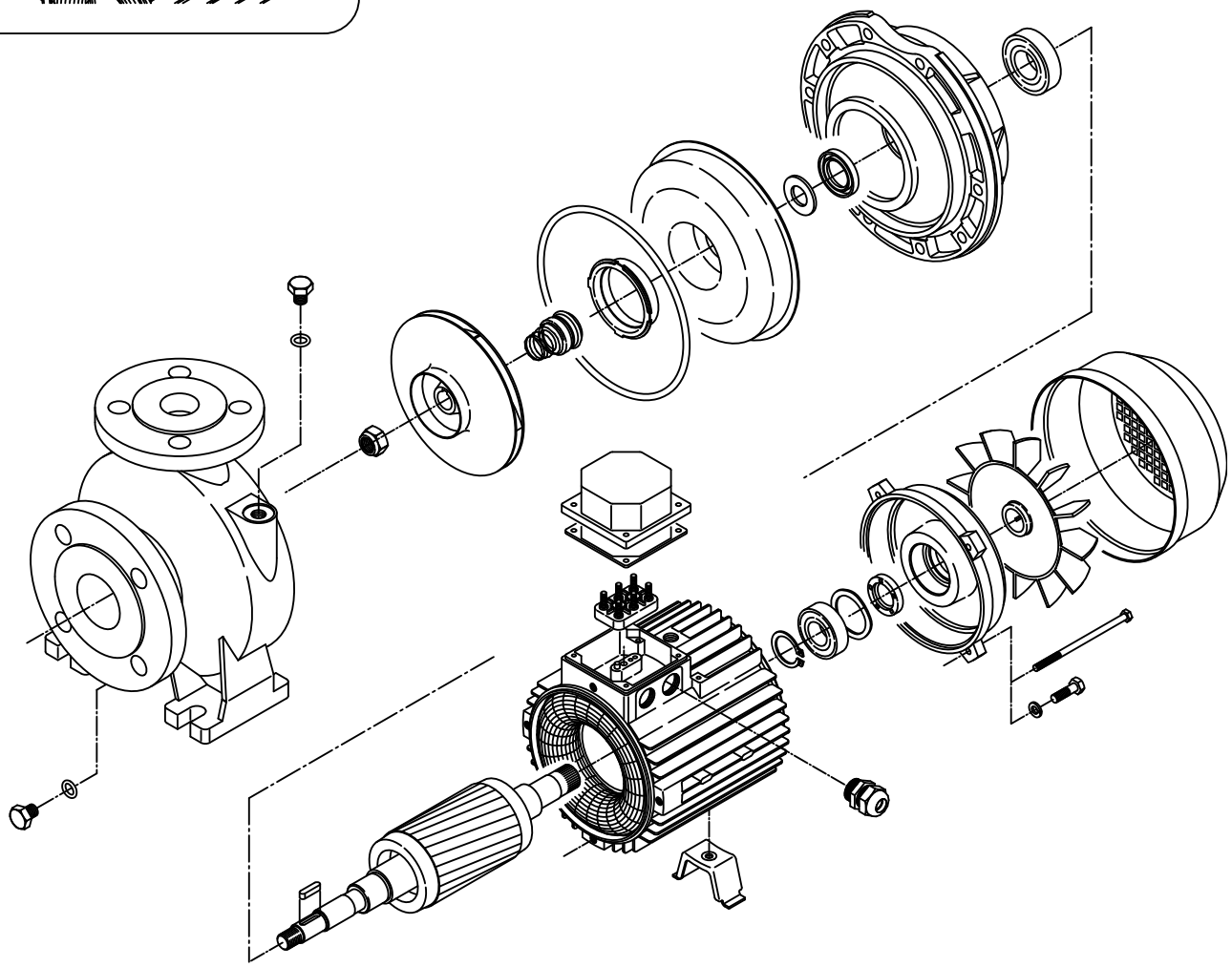
MOTOR			
Type		3D	
		Electric - TEFC	
		Single Phase	Three Phase
Efficiency (EU Reg. 640/2009)		-	IE3 from 1.1 kW to 11 kW
No. of Poles		2	
Rotation speed	[min^{-1}]	≈ 2900	
Insulation Class		F	F (temperature rise class B)
Protection degree		IP 55	
Power rating	[kW]	1.1 ÷ 2.2	1.1 ÷ 11
	[HP]	1.5 ÷ 3	1.5 ÷ 15
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		Provided by the user	
Casing material		Aluminium	
Motor support		Cast iron / Aluminium	
Dimensions of cable entry		M20x1.5	PG 13.5, PG 16, PG 21,
			M20x1.5, M25x1.5

EXPLODED VIEW

50Hz

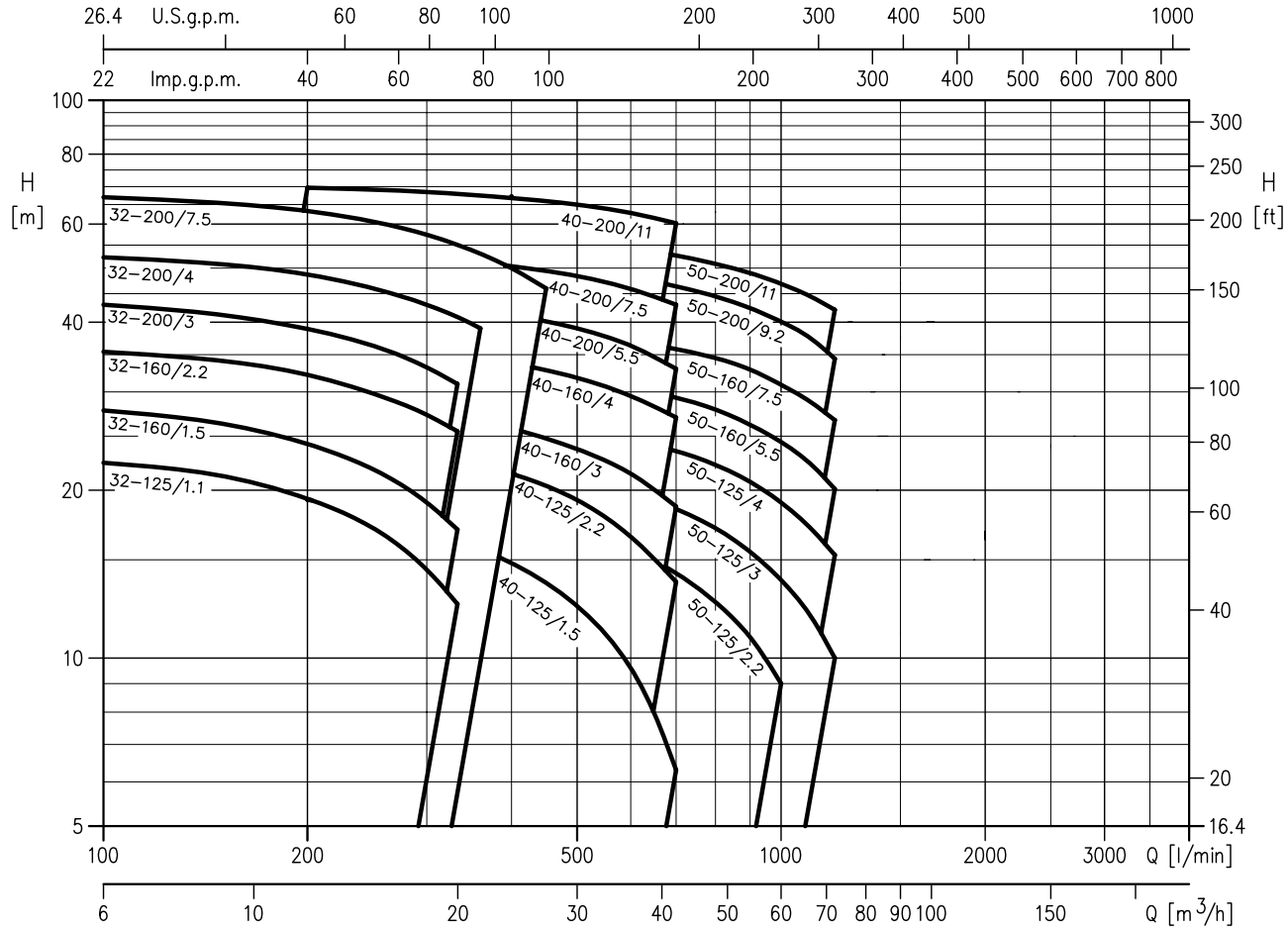
Single Phase Version





SELECTION CHART

50Hz



SELECTION CHART 50Hz

3D SERIES 32 SIZE

Pump type	kW	HP	l/min 0	100	150	200	250	300	333	360	400	450
			m³/h 0	6	9	12	15	18	20	21.6	24	27
32-125/1.1	1.1	1.5	23	22.4	21.2	19.3	17.1	14.4	12.5	-	-	-
32-160/1.5	1.5	2	28.5	27.5	25.9	23.7	21.3	18.5	16.4	-	-	-
32-160/2.2	2.2	3	36.7	35.4	34.1	32.2	29.8	27.3	25.5	-	-	-
32-200/3.0	3	4	44	43	41	39	36.5	33	31	-	-	-
32-200/4.0	4	5.5	53	52.5	51	49	46	43	41	39	-	-
32-200/7.5	7.5	10	68	67	65	63	61	57	55	53	50	46

3D SERIES 40 SIZE

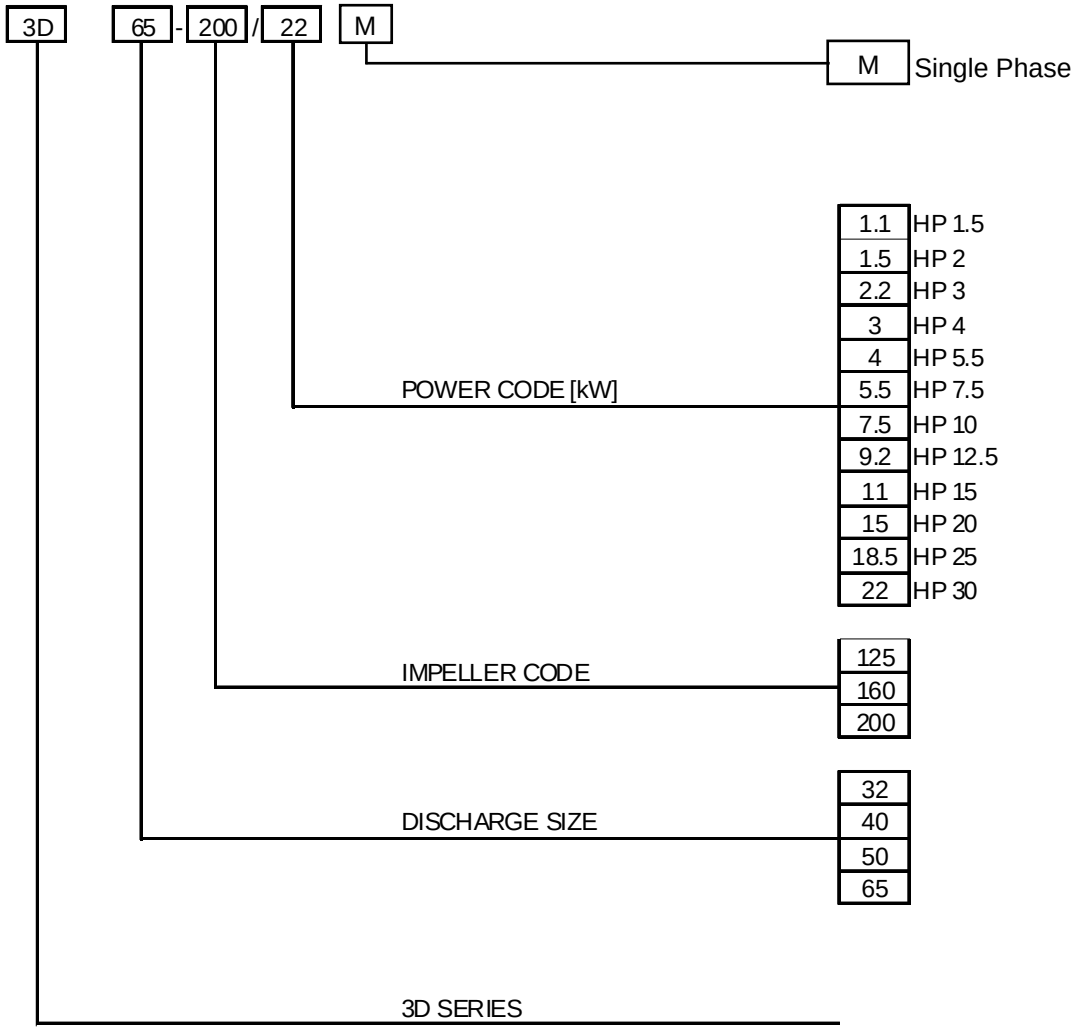
Pump type	kW	HP	l/min 0	200	250	300	350	400	450	500	600	700
			m³/h 0	12	15	18	21	24	27	30	36	42
40-125/1.5	1.5	2	19	18.2	17.6	16.8	15.9	14.8	13.7	12.4	9.6	6.3
40-125/2.2	2.2	3	25	24.4	23.9	23.2	22.4	21.4	20.4	19.2	16.5	13.7
40-160/3.0	3	4	31	29.4	28.7	27.8	26.8	25.8	24.8	23.7	21.4	18.7
40-160/4.0	4	5.5	38.8	37.2	36.5	35.7	34.8	33.8	32.8	31.8	29.5	27
40-200/5.5	5.5	7.5	45.5	44.5	44	43	42	41	40	39	36.3	33
40-200/7.5	7.5	10	55	53.5	53	52	51.5	50.5	49.5	48.5	46	43
40-200/11	11	15	71	70	69	68.5	67.5	67	66	65	63	60

3D SERIES 50 SIZE

Pump type	kW	HP	l/min 0	400	500	600	700	800	900	1000	1100	1200
			m³/h 0	24	30	36	42	48	54	60	66	72
50-125/2.2	2.2	3	19.5	18	17	15.7	14.2	12.6	10.9	9	-	-
50-125/3.0	3	4	22.5	21.5	20.8	19.8	18.5	17.1	15.5	13.8	12	10
50-125/4.0	4	5.5	26.5	25.8	25.3	24.5	23.5	22.2	20.7	19	17.2	15.3
50-160/5.5	5.5	7.5	33	32	31.5	30.5	29.3	27.9	26.2	24.4	22.4	20
50-160/7.5	7.5	10	39.5	38.2	37.6	36.9	35.8	34.5	32.9	30.9	28.9	26.7
50-200/9.2	9.2	12.5	51.5	-	49.5	48	46.5	44.5	42.5	40	37.6	34.4
50-200/11	11	15	57.5	-	55.5	54.5	52.5	51	49	47	44.5	42

TYPE KEY AND CURVE SPECIFICATIONS 50Hz

TYPE KEY



CURVE SPECIFICATIONS 50Hz

PERFORMANCE CURVE SPECIFICATIONS

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

Tolerances according to ISO 9906:2012 - Grade 3B
The curves refer to effective speed of asynchronous motors at 50 Hz, 2 poles.
Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of $\nu = 1\ mm^2/s$ (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
MEI	=	minimum efficiency index

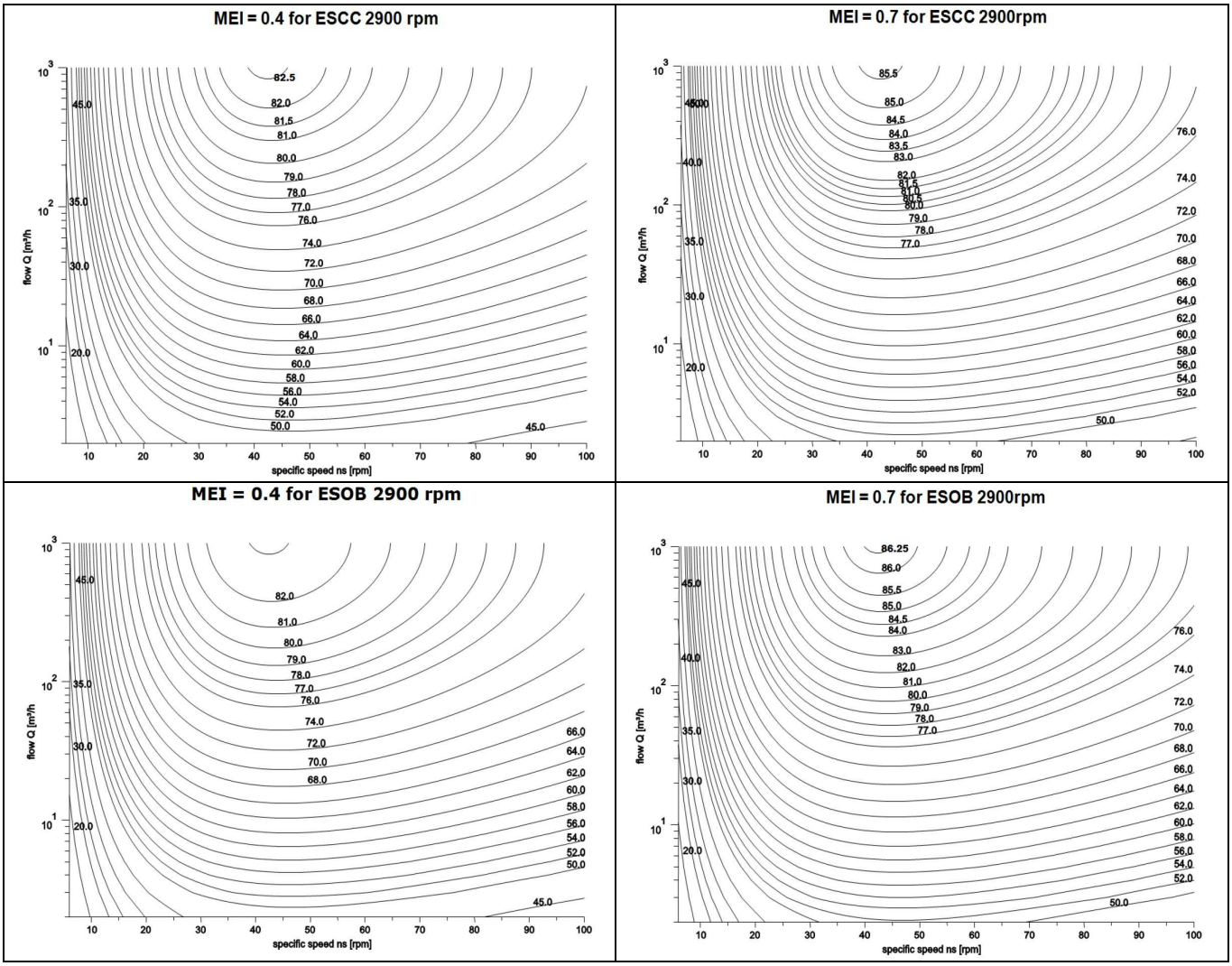
CURVE SPECIFICATIONS 50Hz

MEI INDEX SPECIFICATION

The minimun efficiency index (MEI) is a measure of the quality of a pump size in respect to its mean efficiency. The minimum efficiency index is based on the hydraulic efficiency and on the head at the best efficiency point.

The efficiency of a pump with trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to a reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.

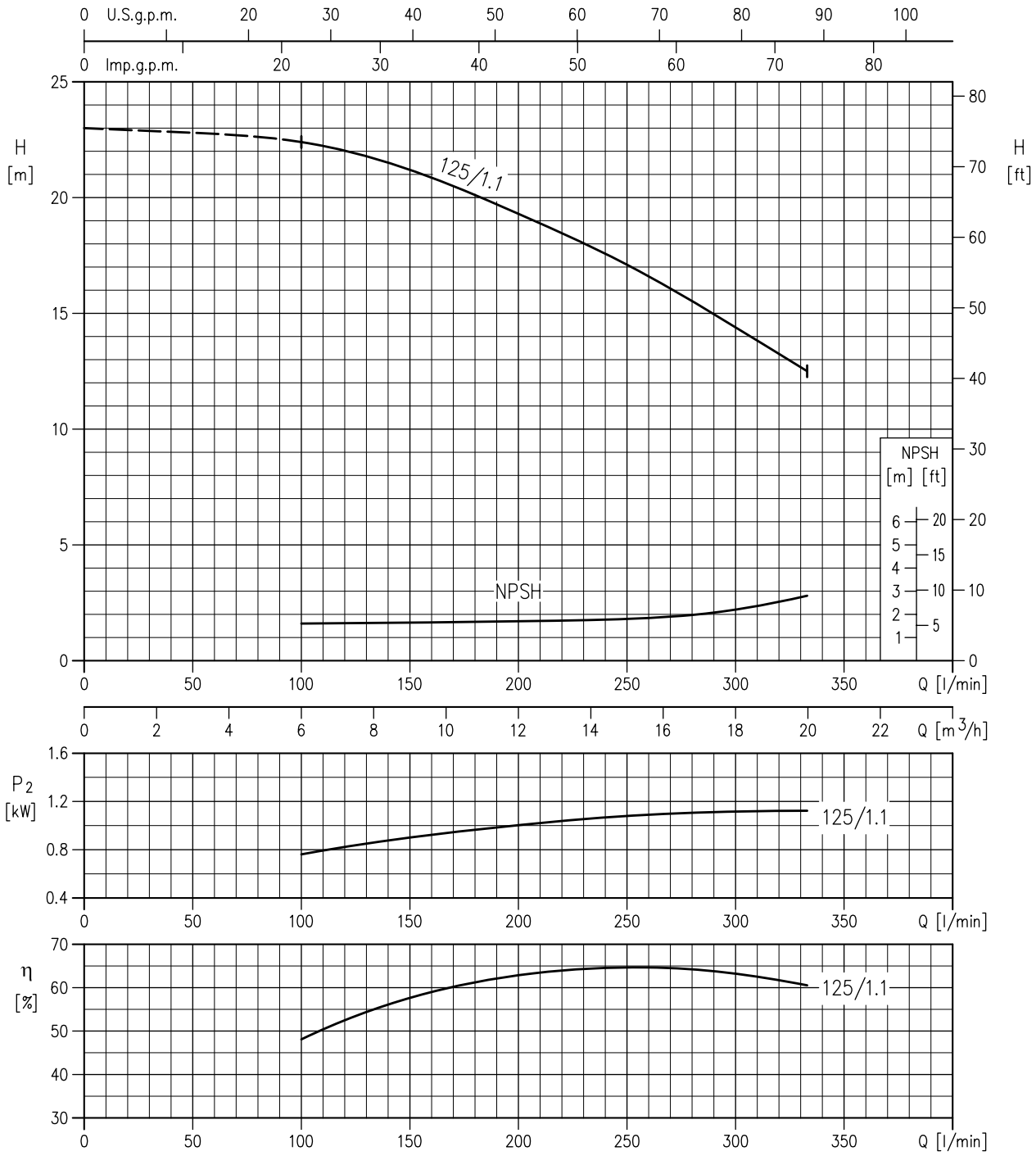
The operation of these water pumps with variabile duty points may be more efficient end economical when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.



PERFORMANCE CURVE

50Hz

32-125/1.1 (1.1kW) MEI > 0.70 – impeller diameter = 133 mm

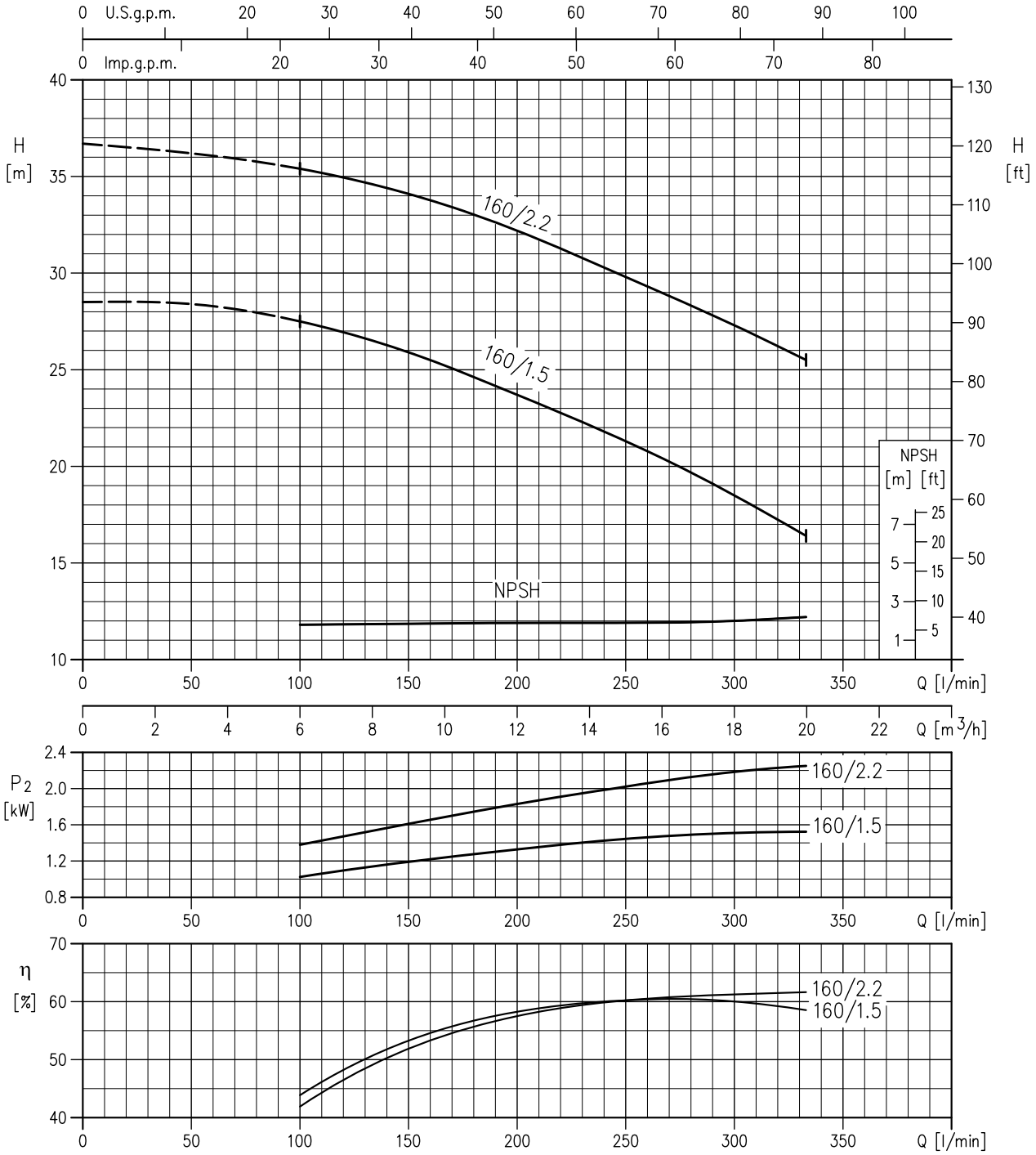


Rotation speed ≈ 2900 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

32-160/1.5 (1.5kW) MEI > 0.70 – impeller diameter = 151 mm
32-160/2.2 (2.2kW) MEI > 0.70 – impeller diameter = 166 mm

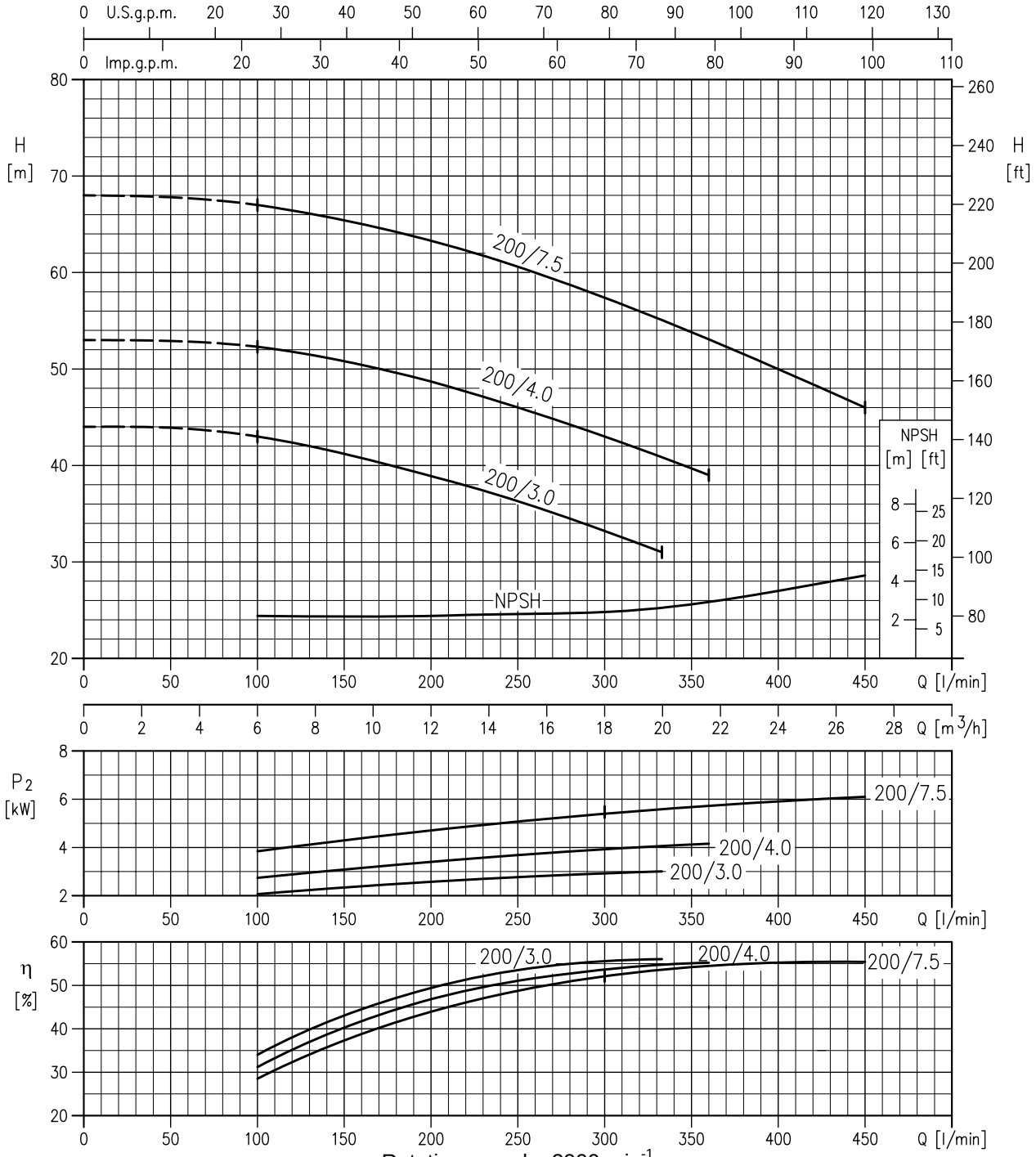


Rotation speed ≈ 2900 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

32-200/3.0 (3.0kW) MEI > 0.40 – impeller diameter = 186 mm
32-200/4.0 (4.0kW) MEI > 0.40 – impeller diameter = 200 mm
32-200/7.5 (7.5kW) MEI > 0.50 – impeller diameter = 224 mm



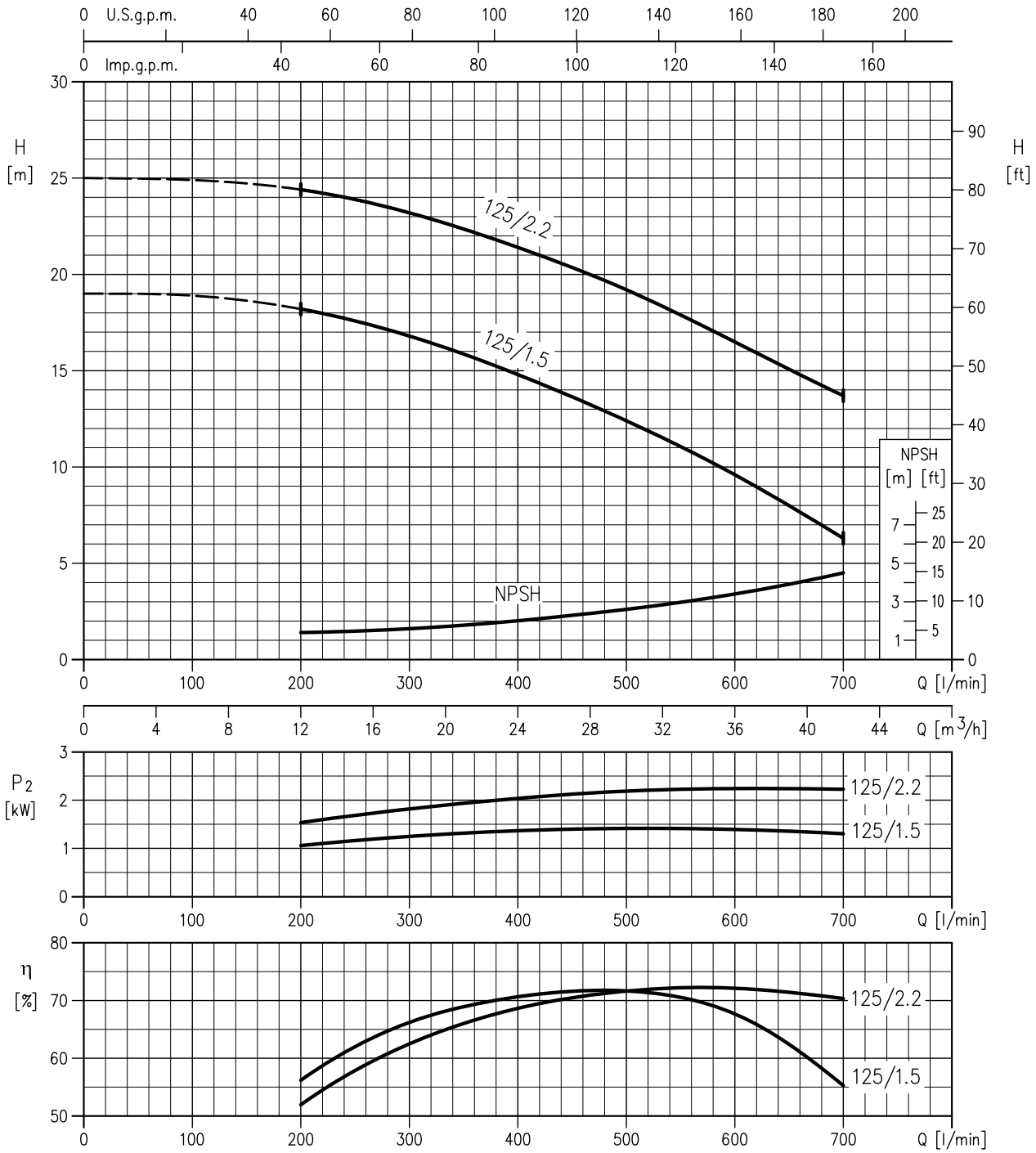
Rotation speed ≈ 2900 min^{-1}

Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

40-125/1.5 (1.5kW) MEI > 0.50 – impeller diameter = 125 mm
40-125/2.2 (2.2kW) MEI > 0.50 – impeller diameter = 140 mm

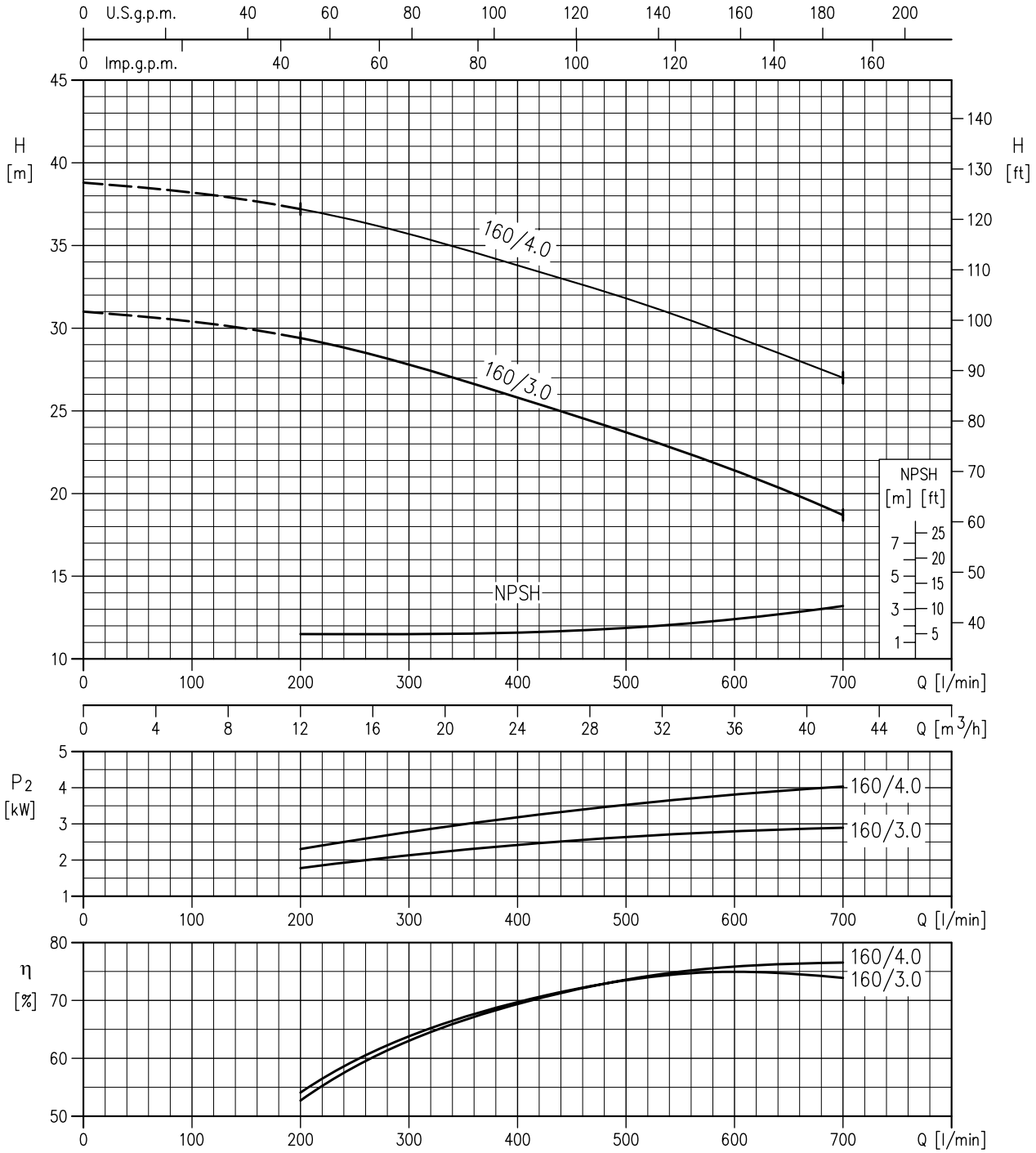


Rotation speed ≈ 2900 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

40-160/3.0 (3.0kW) MEI > 0.70 – impeller diameter = 151 mm
40-160/4.0 (4.0kW) MEI > 0.70 – impeller diameter = 166 mm

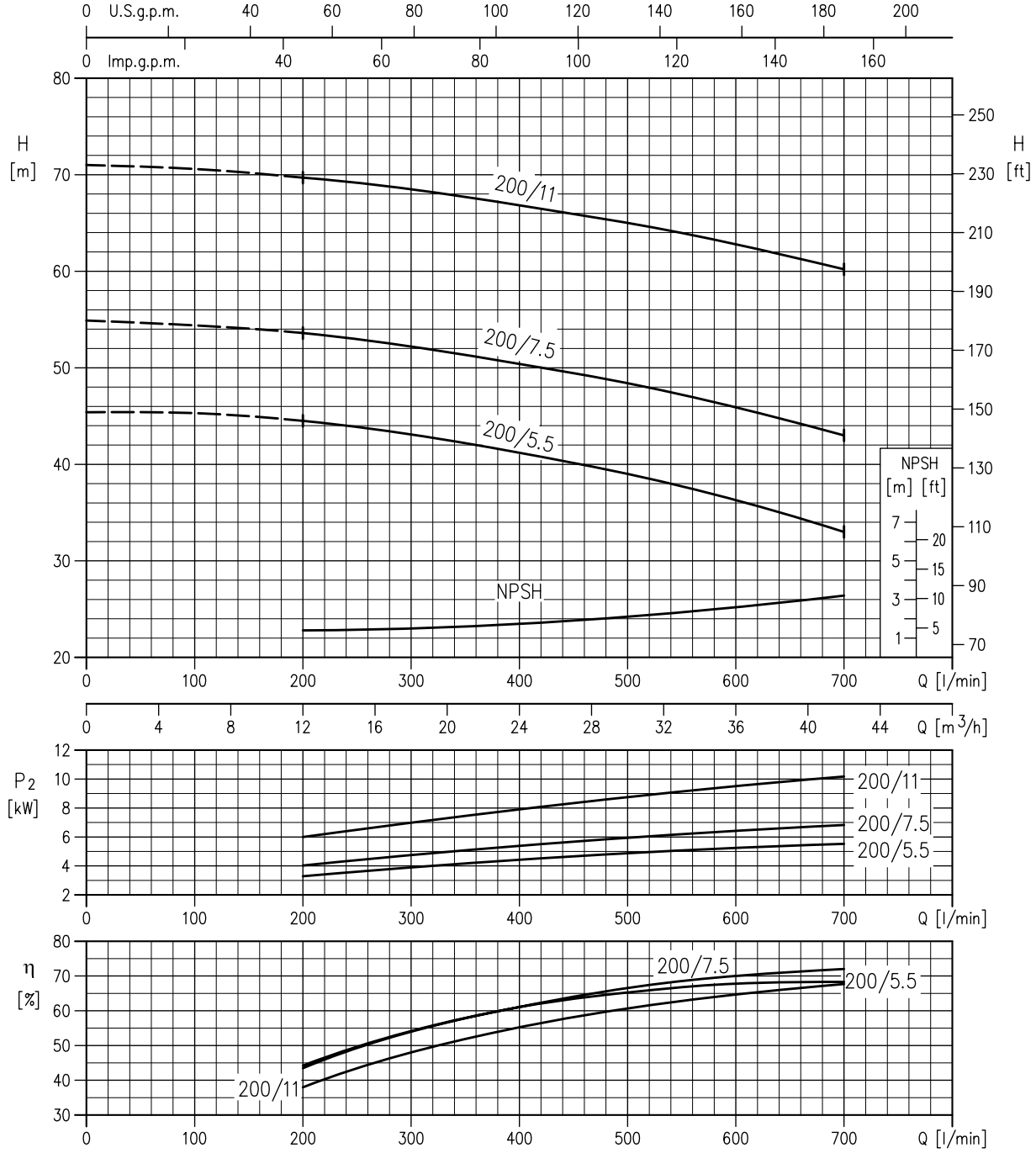


Rotation speed ≈ 2900 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

40-200/5.5 (5.5kW) MEI > 0.70 – impeller diameter = 183 mm
40-200/7.5 (7.5kW) MEI > 0.70 – impeller diameter = 200 mm
40-200/11 (11kW) MEI > 0.70 – impeller diameter = 224 mm

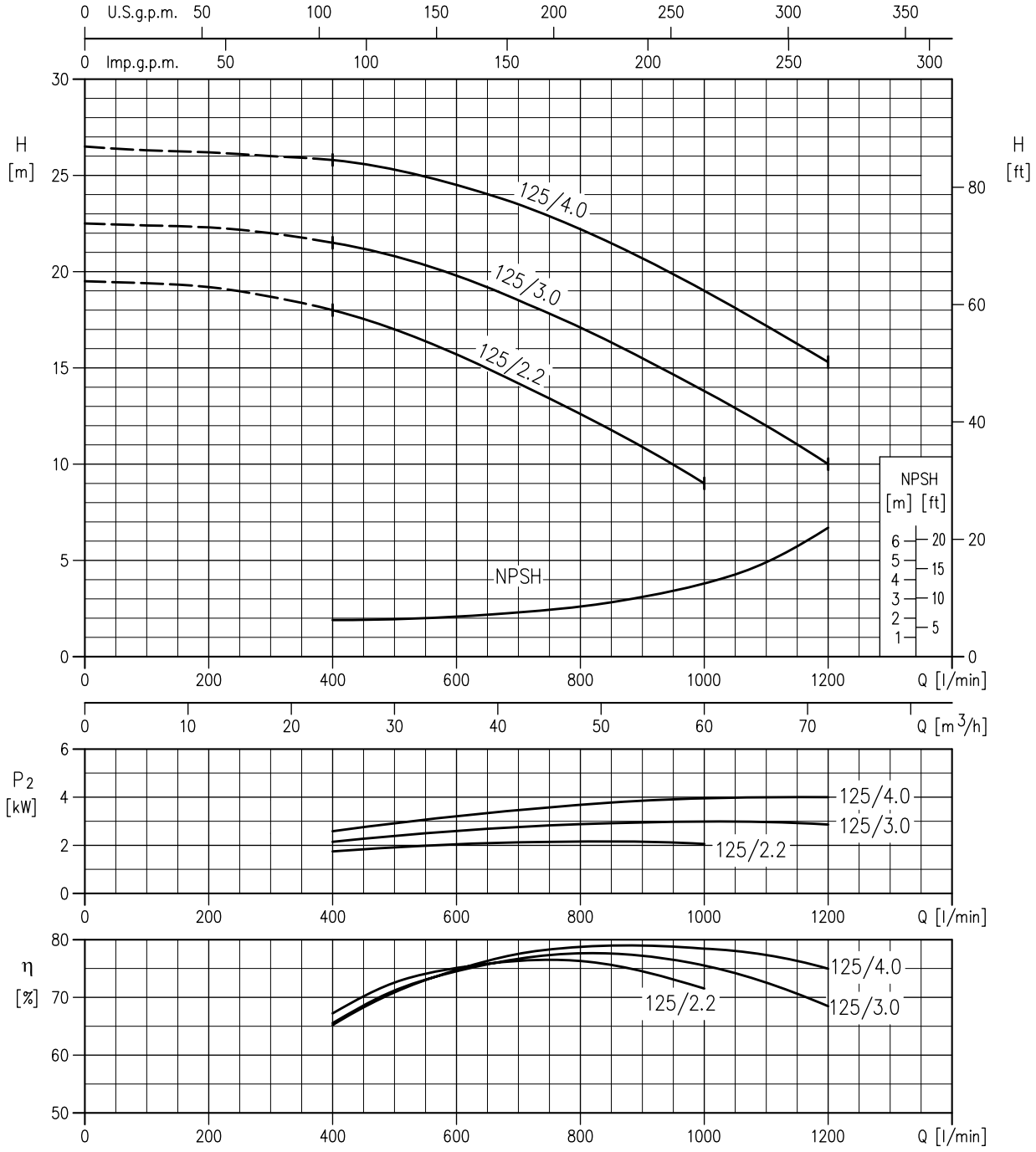


Rotation speed ≈ 2900 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

50-125/2.2 (2.2kW) MEI > 0.60 – impeller diameter = 126 mm
50-125/3.0 (3.0kW) MEI > 0.60 – impeller diameter = 131 mm
50-125/4.0 (4.0kW) MEI > 0.60 – impeller diameter = 140 mm

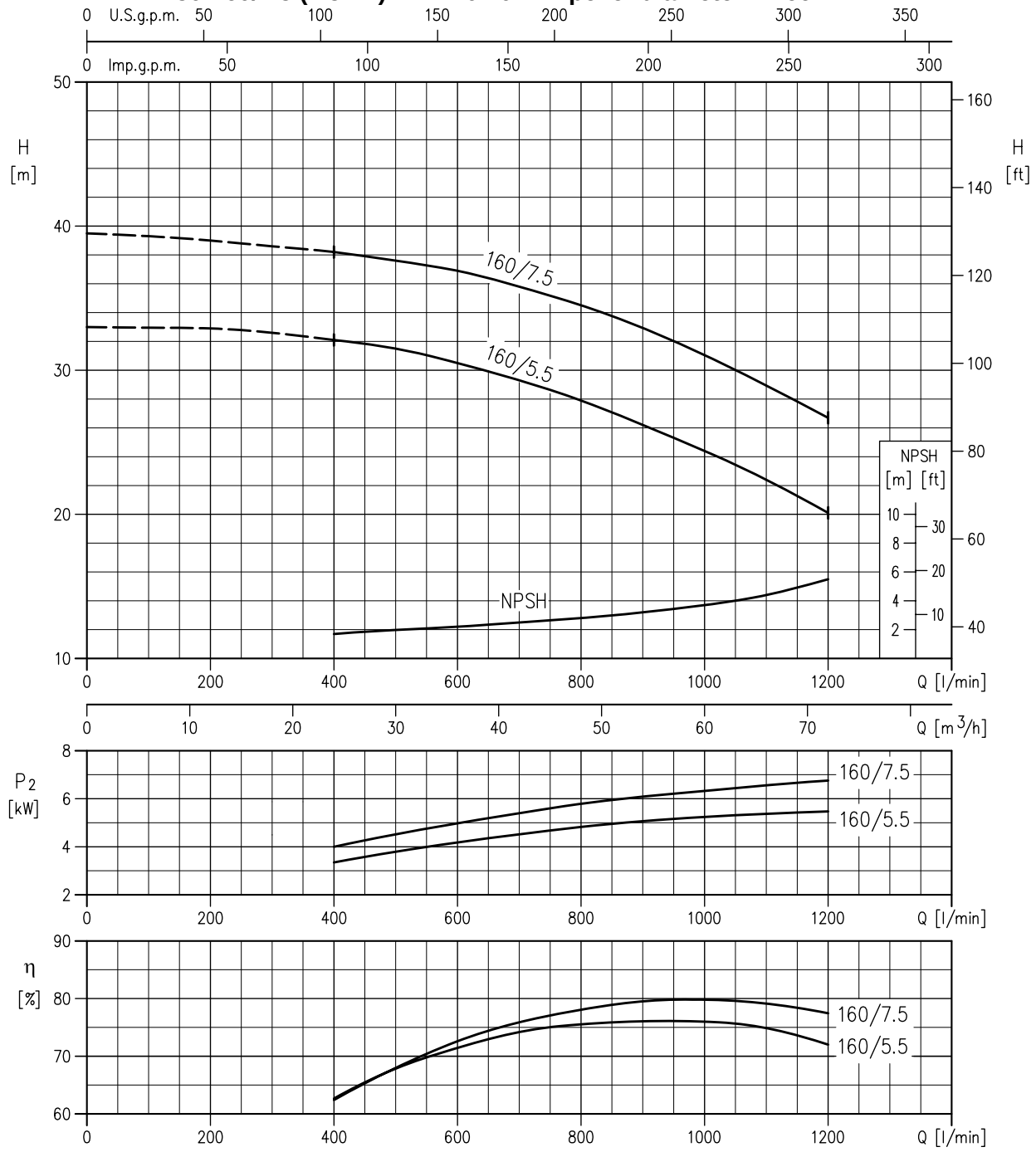


Rotation speed ≈ 2900 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

50-160/5.5 (5.5kW) MEI > 0.70 – impeller diameter = 154 mm
50-160/7.5 (7.5kW) MEI > 0.70 – impeller diameter = 166 mm

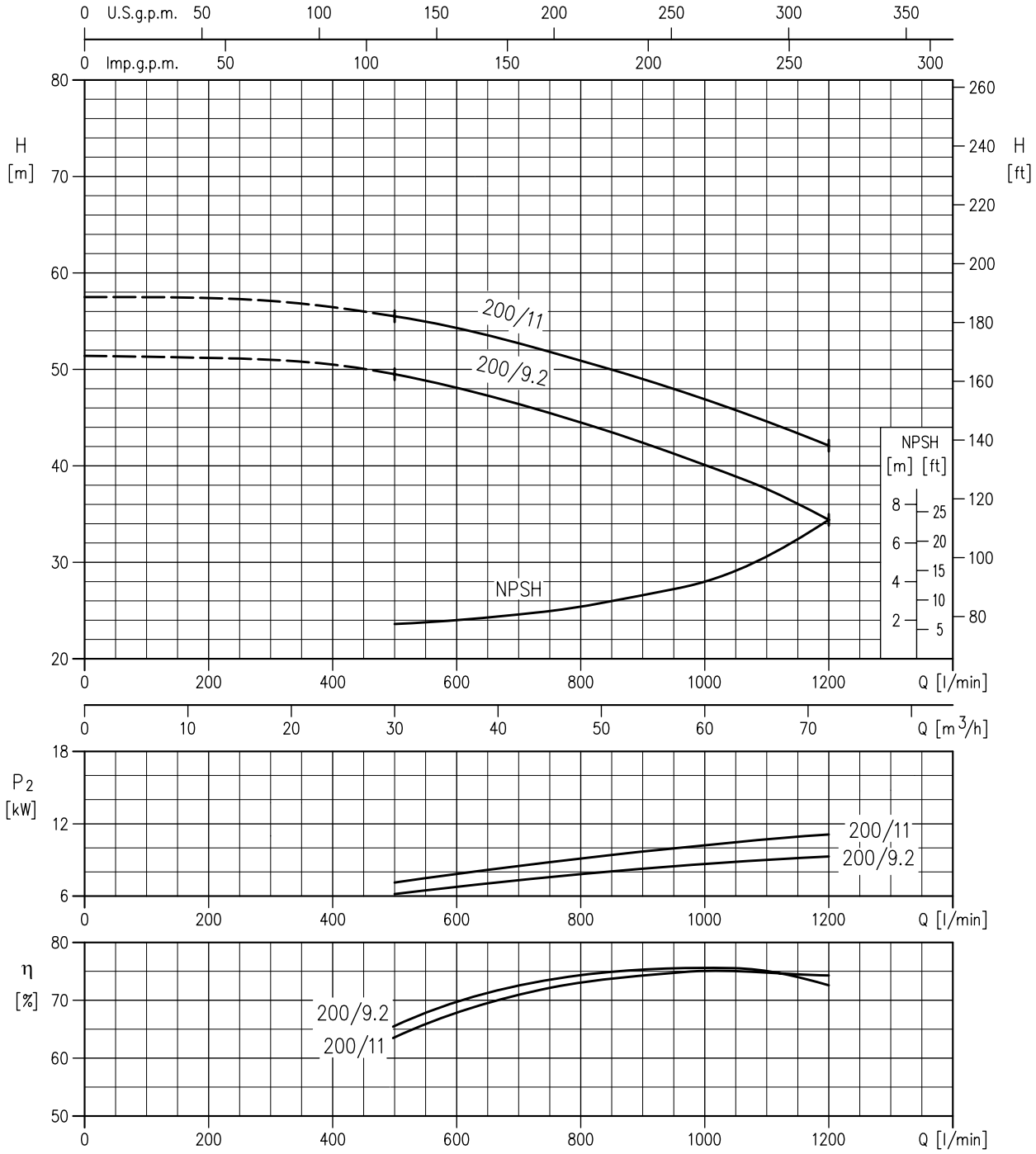


Rotation speed ≈ 2900 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

PERFORMANCE CURVE

50Hz

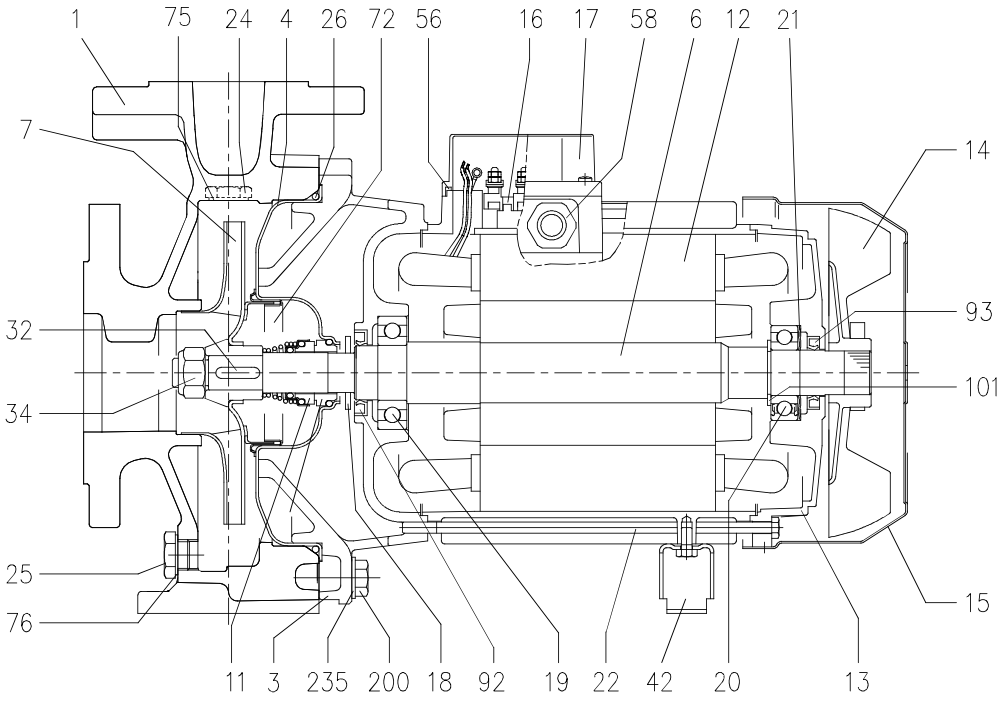
50-200/9.2 (9.2kW) MEI > 0.70 – impeller diameter = 191 mm
50-200/11 (11kW) MEI > 0.70 – impeller diameter = 200 mm



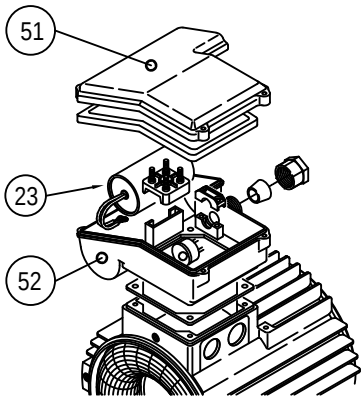
Rotation speed ≈ 2900 min^{-1}
Test standard: ISO 9906:2012 - Grade 3B

CONSTRUCTION 50Hz

SECTIONAL VIEW DRAWING 3D 32, 40, 50



Single Phase



3D SECTIONAL VIEW TABLE

N°	PART NAME		MATERIAL	DIMENSIONS	STANDARD	Q.TY
001	Casing		Cast iron EN-GJL-250-EN 1561			1
003	Motor bracket		[1]			1
004	Casing cover		EN 1.4301 (AISI 304)			1
006	Shaft with rotor - Wet extension		EN 1.4301 (AISI 304)			1
007	Impeller		[2]			1
011	Mechanical seal		[3]	[3]		1
012	Motor frame with stator		-			1
013	Motor cover		Aluminium			1
014	Fan		PA			1
015	Fan cover		Fe P04 Galvanized			1
016	Terminal		-			1
017	Terminal box cover		Aluminium (three phase version)			1
018	Splash ring		NBR	40x21.5x2	EBARA DRAWING	1
019	Bearing		-	See table p. 311		1
020	Bearing		-	See table p. 311		1
021	Adjusting ring		Steel C70			1
022	Tie rod	Up to 3 kW	Fe 42 Galvanized	M5	EBARA DRAWING	4
		For 4 - 5.5 - 7.5 kW		M6		
		9.2 e 11kW		M8		
24	Priming plug		Brass	G 3/8" L=8		1
25	Draing plug		Brass	G 3/8" L=8		1
026	"O" ring	32-125, 40-125	NBR [4]	158.11x5.34	OR 6625	1
		32-160, 40-160, 50-125, 65-125		183.52x5.34	OR 6720	
		32-200, 40-200,50-160, 50-200		227.96x5.34	OR 6895	
032	Key		EN 1.4401 (AISI 316)	A 6x6x25	UNI 6604	1
034	Impeller nut		EN 1.4301 (AISI 304)	M16x1.5	UNI 7474	1
042	Foot		Aluminium / Galvanized steel		EBARA DRAWING	
056	Box gasket		NBR			1
058	Cable gland		-			
072	Casing ring [5]		EN 1.4301 (AISI 304)			1
075	Washer		Aluminum	22x17x1.5	EBARA DRAWING	1
076	Washer		Aluminum			1
092	Lip seal	Up to 3kW	-	25x40x7	DIN 3760 without spring	1
		From 4 to 7.5 kW		30x47X7		
		From 9.2 kW to 11 kW		40x55x7		
093	Lip seal	Up to 4 kW	-	25x40x7	DIN 3760 without spring	1
		From 5.5 kW to 7.5 kW		30x47X7		
		From 9.2 kW to 11 kW		40x55x7		
101	Snap ring [6]		Carbon tool steels TC 80	Ø 40	UNI 7435	1
200	Screw	32-125 40-125	Gv. Steel 8.8 strenght class ISO 898-1	M 8x30	UNI 5739	8
		32-160 40-160 50-125		M 10x35		10
		32-200, 40-200 50-160, 50-200				12
235	Washer	32-125 40-125	Galvanized Steel	8.4x17	UNI 6592	8
		32-160 40-160 50-125		10.5x21		10
		32-200, 40-200 50-160, 50-200				12
51	Terminal Box Lid (Single Phase)		Plastic			
52	Terminal Box (Single Phase)		Plastic			
23	Capacitor (Single Phase)		-			

Counterflange kit on request see p. 305

[1] Cast iron EN-GJL-200-EN 1561 for 3D 32-200/3
Aluminum AL-EN-1706-AC-46000-D for all the others;

[2] EN 1.4301 (AISI 304) for 32, 40, 50 series;

[3] For special version and dimensions see page 302 and 303

[4] FPM for H, HS version;

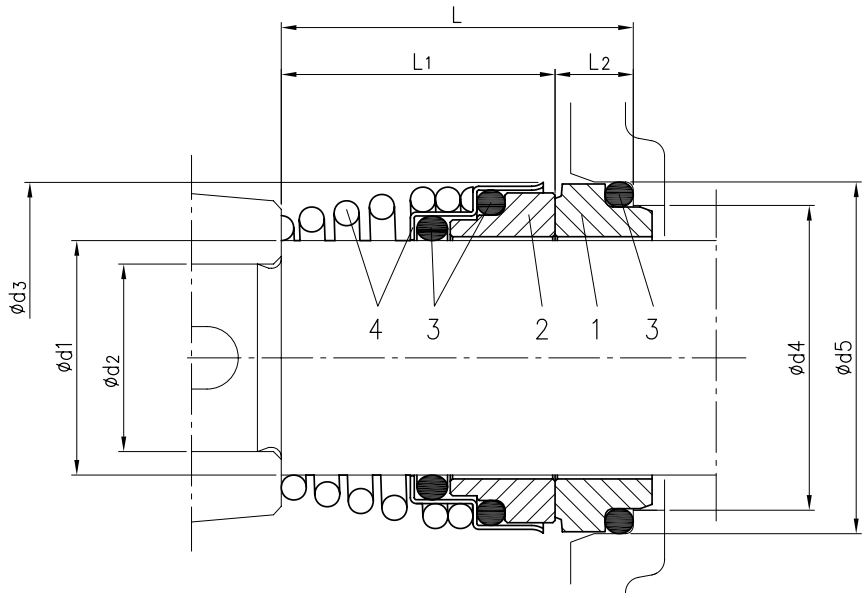
[5] Only for: 32-200, 40-200, 50-160, 50-200/9.2, 50-200/11

[6] Only for pumps with 9.2 and 11 kW motor

CONSTRUCTION

50Hz

MECHANICAL SEAL (standard and H version)

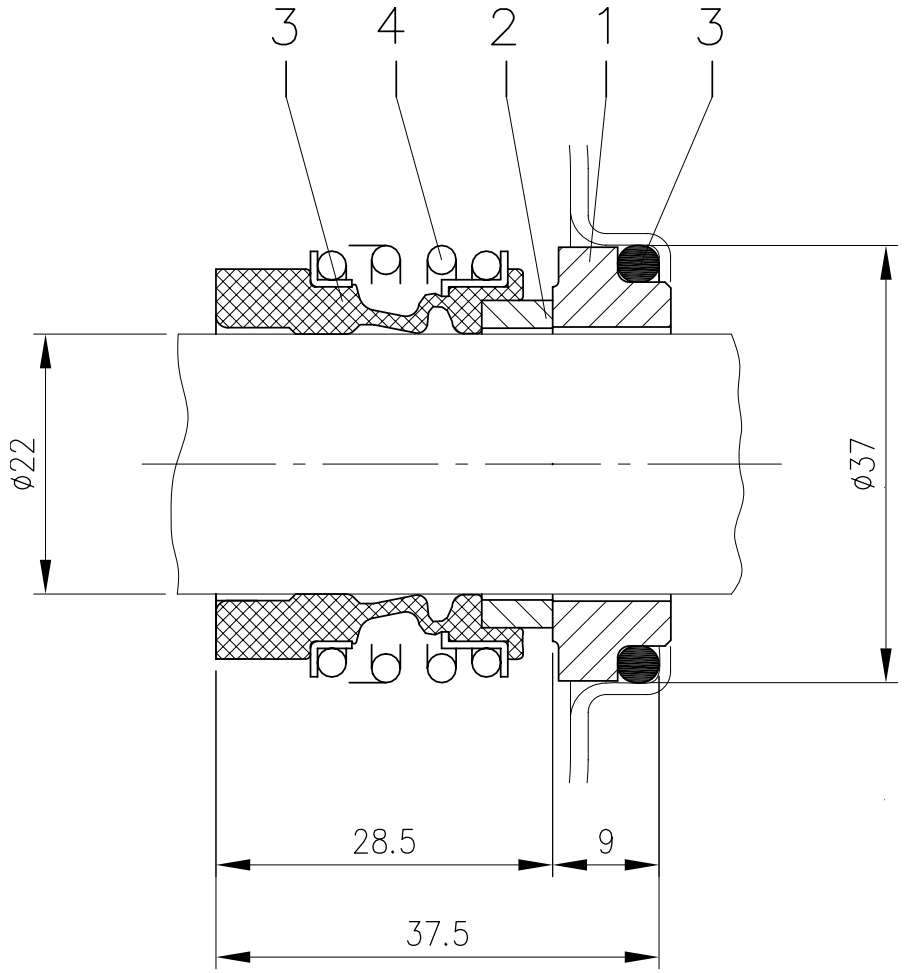


Version	Dimensions								Material			
	d1	d2	d3	d4	d5	L	L1	L2	1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + Spring
Standard	22	19	38	31	37	37,5	27,5	10	Carbon	Ceramic	NBR	EN 1.4401 (AISI 316)
H	22	19	38	31	37	37,5	27,5	10	Carbon	Ceramic	FPM	EN 1.4401 (AISI 316)

CONSTRUCTION

50Hz

MECHANICAL SEAL (HS version ø22)



Version	Material			
	1	2	3	4
	Stationary seal ring	Rotary seal ring	Rubber	Frame + spring
HS ø22	SiC	SiC	FPM	EN 1.4571 (AISI 316Ti)

CONSTRUCTION 50Hz

3D BEARINGS

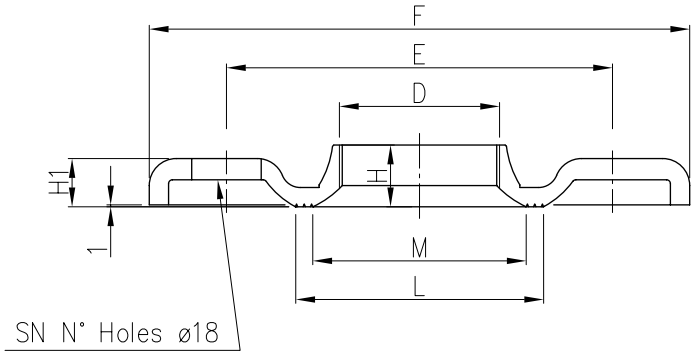
Pump type	Ball bearing	
	Pump side	Fan side
3D 32-125/1.1 (M) *	6205-ZZ C3	6205-ZZ C3
3D 32-160/1.5 (M) *		
3D 32-160/2.2 (M) *		
3D 32-200/3.0		
3D 32-200/4.0	6206-ZZ C3	
3D 32-200/7.5	6306-ZZ C3	6206-ZZ C3
3D 40-125/1.5 (M) *	6205-ZZ C3	6205-ZZ C3
3D 40-125/2.2 (M) *		
3D 40-160/3.0		
3D 40-160/4.0	6206-ZZ C3	
3D 40-200/5.5	6306-ZZ C3	6206-ZZ C3
3D 40-200/7.5		
3D 40-200/11	6308-ZZ C3	6208-ZZ C3
3D 50-125/2.2 (M) *	6205-ZZ C3	6205-ZZ C3
3D 50-125/3.0		
3D 50-125/4.0	6206-ZZ C3	
3D 50-160/5.5	6306-ZZ C3	6206-ZZ C3
3D 50-160/7.5		
3D 50-200/9.2	6308-ZZ C3	6208-ZZ C3
3D 50-200/11		

* Single or 3 Phase

CONSTRUCTION 50Hz

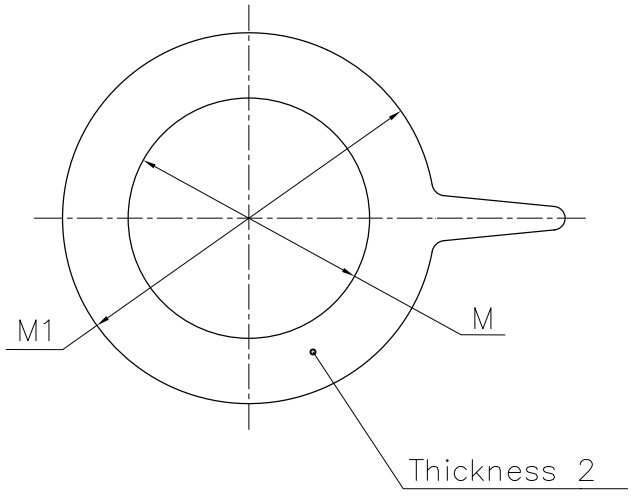
FITTINGS

COUNTERFLANGES GALVANIZED STEEL



Dimensions									Screws	
DN	D	E	F	H	H1	L	M	SN	DIMENSION	MATERIAL
32	G 1 ¼	100	140	15	11.5	67	50	4	M16x55	Gv. Steel 8.8 Strenght class ISO 898-1
40	G 1 ½	110	150	17.5	11.5	72	58	4		
50	G 2	125	165	19	15	89	70	4		
65	G 2 ½	145	185	23	14	104	88	4		

GASKETS



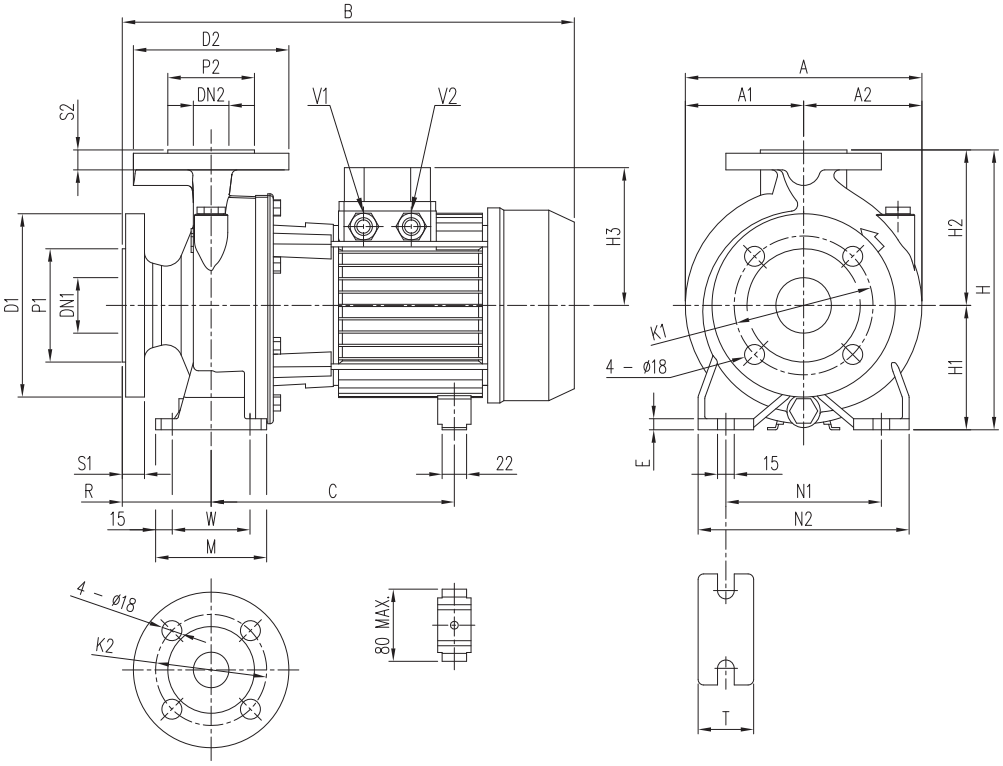
DN	M	M1
32	38	82
40	50	93
50	60	107
65	80	125

Material: EPDM for standard version

DIMENSIONS AND WEIGHT

50Hz

PUMP 3D



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~]	R	W	M	N1	N2	T	E	A	A1	A2	B [3~]	C [3~]	V1 [3~]	V2 [3~]	[3~]
32-125/1.1	50	102	125	165	20	32	78	100	140	18	252	112	140	119	80	70	100	140	190	50	10	213	106.5	106.5	431	232	-	M16x1.5	29.5
32-160/1.5	50	102	125	165	20	32	78	100	140	18	292	132	160	119	80	70	100	190	240	50	10	254	127	127	431	232	-	M20x1.5	33.5
32-160/2.2	50	102	125	165	20	32	78	100	140	18	292	132	160	119	80	70	100	190	240	50	10	254	127	127	431	232	-	M20x1.5	36
32-200/3.0	50	102	125	165	20	32	78	100	140	18	340	160	180	124	80	70	100	190	240	50	10	296	148	148	471	244÷255	-	M20x1.5	47.5
32-200/4.0	50	102	125	165	20	32	78	100	140	18	340	160	180	141	80	70	100	190	240	50	10	296	148	148	494	253	-	M20x1.5	50
32-200/7.5	50	102	125	165	20	32	78	100	140	18	340	160	180	150	80	70	100	190	240	50	10	296	148	148	539	275	PG 13.5	PG 16	65.1
40-125/1.5	65	122	145	185	20	40	88	110	150	18	252	112	140	119	80	70	100	160	210	50	10	220	108	112	431	232	-	M20x1.5	30
40-125/2.2	65	122	145	185	20	40	88	110	150	18	252	112	140	119	80	70	100	160	210	50	10	220	108	112	431	232	-	M20x1.5	32
40-160/3.0	65	122	145	185	20	40	88	110	150	18	292	132	160	124	80	70	100	190	240	50	12	254	127	127	471	244÷255	-	M20x1.5	39
40-160/4.0	65	122	145	185	20	40	88	110	150	18	292	132	160	141	80	70	100	190	240	50	12	254	127	127	494	253	-	M20x1.5	48
40-200/5.5	65	122	145	185	20	40	88	110	150	18	340	160	180	150	100	70	100	212	265	50	12	296	148	148	539	275	M20x1.5	M25x1.5	60
40-200/7.5	65	122	145	185	20	40	88	110	150	18	340	160	180	150	100	70	100	212	265	50	12	296	148	148	559	275	PG 13.5	PG 16	66.1
40-200/11	65	122	145	185	20	40	88	110	150	18	340	160	180	178	100	70	100	212	265	50	12	296	148	148	595	359	PG 13.5	PG 21	82.4
50-125/2.2	65	122	145	185	20	50	102	125	165	20	292	132	160	119	100	70	100	190	240	50	10	254	127	127	451	232	-	M20x1.5	37
50-125/3.0	65	122	145	185	20	50	102	125	165	20	292	132	160	124	100	70	100	190	240	50	10	254	127	127	491	244÷255	-	M20x1.5	39.5
50-125/4.0	65	122	145	185	20	50	102	125	165	20	292	132	160	141	100	70	100	190	240	50	10	254	127	127	514	253	-	M20x1.5	48
50-160/5.5	65	122	145	185	20	50	102	125	165	20	340	160	180	150	100	70	100	212	265	50	10	296	148	148	539	275	M20x1.5	M25x1.5	60
50-160/7.5	65	122	145	185	20	50	102	125	165	20	340	160	180	150	100	70	100	212	265	50	10	296	148	148	559	275	PG 13.5	PG 16	67.1
50-200/9.2	65	122	145	185	20	50	102	125	165	20	360	160	200	178	100	70	100	212	265	50	10	296	148	148	595	359	PG 13.5	PG 21	77
50-200/11	65	122	145	185	20	50	102	125	165	20	360	160	200	178	100	70	100	212	265	50	10	296	148	148	595	359	PG 13.5	PG 21	82.4

Single Phase	ø DN1	ø P1	ø K1	ø D1	S1	ø DN2	ø P2	ø K2	ø D2	S2	H	H1	H2	H3	R	W	M	N1	N2	T	E	A	A1	A2	B	C	V2	Weight [kg]
32-125/1.1 M	50	102	125	165	20	32	78	100	140	18	252	112	140	141	80	70	100	140	190	50	10	213	106.5	106.5	408	219÷230	M20x1.5	25
32-160/1.5 M	50	102	125	165	20	32	78	100	140	18	292	132	160	141	80	70	100	190	240	50	10	254	127	127	408	219÷230	M20x1.5	29
32-160/2.2 M	50	102	125	165	20	32	78	100	140	18	292	132	160	141	80	70	100	190	240	50	10	254	127	127	408	219÷230	M20x1.5	35.7
40-125/1.5 M	65	122	145	185	20	40	88	110	150	18	252	112	140	141	80	70	100	160	210	50	10	220	108	112	408	219÷230	M20x1.5	25.5
40-125/2.2 M	65	122	145	185	20	40	88	110	150	18	252	112	140	141	80	70	100	160	210	50	10	220	108	112	408	219÷230	M20x1.5	31.7
50-125/2.2 M	65	122	145	185	20	50	102	125	165	20	292	132	160	141	100	70	100	190	240	50	10	254	127	127	428	219÷230	M20x1.5	34.4

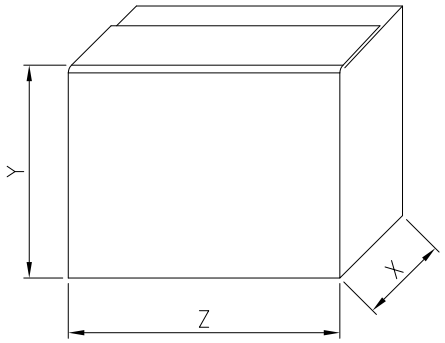
DIMENSIONS AND WEIGHT

50Hz

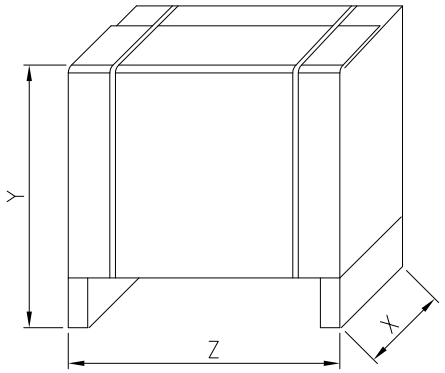
PACKING 3D

Pump type	Packing [mm] X	Y	Z	Weight [kgf] [1~]	[3~]	Pack type
32-125/1.1 (M)	250	300	450	30.4	31.5	1
32-160/1.5 (M)	280	330	460	30.7	35.5	
32-160/2.2 (M)	280	340	490	38.9	44.87	
32-200/3.0	350	488	550	-	52.4	2
32-200/4.0	350	488	550	-	53.8	
32-200/7.5	350	488	700	-	69.4	
40-125/1.5 (M)	250	300	450	29.9	39.12	1
40-125/2.2 (M)	280	340	490	33.8	34	
40-160/3.0	350	488	550	-	39.8	2
40-160/4.0	350	488	550	-	52.6	
40-200/5.5	350	488	550	-	64.4	
40-200/7.5	350	488	700	-	71.5	
40-200/11	350	488	700	-	93.4	
50-125/2.2 (M)	280	340	490	36.1	39	1
50-125/3.0	350	488	550	-	40.1	2
50-125/4.0	350	488	550	-	52.6	
50-160/5.5	350	488	550	-	64.2	
50-160/7.5	350	488	700	-	71.7	
50-200/9.2	350	488	700	-	81.1	
50-200/11	350	488	700	-	87.4	

TYPE 1



TYPE 2



TECHNICAL DATA 50Hz

MOTOR DATA 3D

Pump type		Power		Efficiency		Capacitor		Efficiency (% load)			Input		Full load current				Locked rotor current			
								Three phase			[kW]		[A]				[A]			
Single Phase	Three Phase	[kW]	[HP]	Single Phase	Three Phase	Single Phase [µF]	[V]	η % 50%	75%	100%	Single Phase	Three Phase	Single Phase 230 V	Three Phase 230 V	400 V	690 V	Single Phase 230 V	Three Phase 230 V	400 V	690 V
3D 32-125/1.1 M	3D 32-125/1.1	1.1	1.5	-	IE2	31.5	450	79.5	82.0	82.5	1.51	1.82	6.7	5.6	3.2	-	23.5	57.0	33.0	-
-	3D 32-125/1.1	1.1	1.5	-	IE3	-	-	83.0	85.8	85.6	-	1.77	-	5.8	3.3	-	-	47.4	27.4	-
3D 32-160/1.5 M	3D 32-160/1.5	1.5	2.0	-	IE2	40	450	79.5	82.0	82.5	2.10	1.82	9.6	5.6	3.2	-	47	57.0	33.0	-
-	3D 32-160/1.5	1.5	2.0	-	IE3	-	-	83.0	85.8	85.6	-	1.77	-	5.8	3.3	-	-	47.4	27.4	-
3D 32-160/2.2 M	3D 32-160/2.2	2.2	3.0	-	IE2	50	450	83.1	85.7	86.2	2.95	2.55	13.3	7.8	4.5	-	63.8	75.0	43.5	-
-	3D 32-160/2.2	2.2	3.0	-	IE3	-	-	86.2	87.0	86.0	-	2.55	-	8.2	4.7	-	-	66.6	38.4	-
-	3D 32-200/3.0	3.0	4.0	-	IE2	-	-	85.0	86.7	86.3	-	3.48	-	10.6	6.1	-	-	100.0	57.7	-
-	3D 32-200/3.0	3.0	4.0	-	IE3	-	-	85.9	87.5	87.1	-	3.44	-	11.1	6.4	-	-	90.0	52.0	-
-	3D 32-200/4.0	4.0	5.5	-	IE2	-	-	84.3	87.2	87.8	-	4.56	-	15.1	8.7	-	-	151.0	87.0	-
-	3D 32-200/4.0	4.0	5.5	-	IE3	-	-	85.8	88.3	88.4	-	4.52	-	15.1	8.7	-	-	131.8	76.1	-
-	3D 32-200/7.5	7.5	10.0	-	IE3	-	-	89.0	90.7	90.8	-	8.26	-	-	13.6	7.9	-	-	144.0	83.0
3D 40-125/1,5 M	3D 40-125/1.5	1.5	2.0	-	IE2	40	450	79.5	82.0	82.5	2.10	1.82	9.6	5.6	3.2	-	47	57.0	33.0	-
-	3D 40-125/1.5	1.5	2.0	-	IE3	-	-	83.0	85.8	85.6	-	1.77	-	5.8	3.3	-	-	47.4	27.4	-
3D 40-125/2.2 M	3D 40-125/2.2	2.2	3.0	-	IE2	50	450	83.1	85.7	86.2	2.95	2.55	13.3	7.8	4.5	-	63.8	75.0	43.5	-
-	3D 40-125/2.2	2.2	3.0	-	IE3	-	-	86.2	87.0	86.0	-	2.55	-	8.2	4.7	-	-	66.6	38.4	-
-	3D 40-160/3.0	3.0	4.0	-	IE2	-	-	85.0	86.7	86.3	-	3.48	-	10.6	6.1	-	-	100.0	57.7	-
-	3D 40-160/3.0	3.0	4.0	-	IE3	-	-	85.9	87.5	87.1	-	3.44	-	11.1	6.4	-	-	90.0	52.0	-
-	3D 40-160/4.0	4.0	5.5	-	IE2	-	-	84.3	87.2	87.8	-	4.56	-	15.1	8.7	-	-	151.0	87.0	-
-	3D 40-160/4.0	4.0	5.5	-	IE3	-	-	85.8	88.3	88.4	-	4.52	-	15.1	8.7	-	-	131.8	76.1	-
-	3D 40-200/5.5	5.5	7.5	-	IE2	-	-	82.9	86.0	87.4	-	6.29	-	-	10.4	6.0	-	-	116.0	67.0
-	3D 40-200/5.5	5.5	7.5	-	IE3	-	-	89.2	90.6	90.4	-	6.09	-	-	10.6	6.1	-	-	115.3	67.0
-	3D 40-200/7.5	7.5	10.0	-	IE3	-	-	89.0	90.7	90.8	-	8.26	-	-	13.6	7.9	-	-	144.0	83.0
-	3D 40-200/11	11.0	15.0	-	IE3	-	-	90.4	91.2	91.8	-	11.98	-	-	21.3	12.3	-	-	184.0	107.0
3D 50-125/2.2 M	3D 50-125/2.2	2.2	3.0	-	IE2	50	450	83.1	85.7	86.2	2.95	2.55	13.3	7.8	4.5	-	63.8	75.0	43.5	-
-	3D 50-125/2.2	2.2	3.0	-	IE3	-	-	86.2	87.0	86.0	-	2.55	-	8.2	4.7	-	-	66.6	38.4	-
-	3D 50-125/3.0	3.0	4.0	-	IE2	-	-	85.0	86.7	86.3	-	3.48	-	10.6	6.1	-	-	100.0	57.7	-
-	3D 50-125/3.0	3.0	4.0	-	IE3	-	-	85.9	87.5	87.1	-	3.44	-	11.1	6.4	-	-	90.0	52.0	-
-	3D 50-125/4.0	4.0	5.5	-	IE2	-	-	84.3	87.2	87.8	-	4.56	-	15.1	8.7	-	-	151.0	87.0	-
-	3D 50-125/4.0	4.0	5.5	-	IE3	-	-	85.8	88.3	88.4	-	4.52	-	15.1	8.7	-	-	131.8	76.1	-
-	3D 50-160/5.5	5.5	7.5	-	IE2	-	-	82.9	86.0	87.4	-	6.29	-	-	10.4	6.0	-	-	116.0	67.0
-	3D 50-160/5.5	5.5	7.5	-	IE3	-	-	89.2	90.6	90.4	-	6.09	-	-	10.6	6.1	-	-	115.3	67.0
-	3D 50-160/7.5	7.5	10.0	-	IE3	-	-	89.0	90.7	90.8	-	8.26	-	-	13.6	7.9	-	-	144.0	83.0
-	3D 50-200/9.2	9.2	12.5	-	IE3	-	-	90.1	90.8	90.9	-	10.12	-	-	17.2	10.0	-	-	166.0	96.0
-	3D 50-200/11	11.0	15.0	-	IE3	-	-	90.4	91.2	91.8	-	11.98	-	-	21.3	12.3	-	-	184.0	107.0

3D NOISE DATA

Pump type	Power [kW]	Power [HP]	L_{pA} - dB(A) *
3D 32-125/1.1 (M)	1.1	1.5	69
3D 32-160/1.5 (M)	1.5	2.0	
3D 32-160/2.2 (M)	2.2	3.0	
3D 32-200/3.0	3.0	4.0	76
3D 32-200/4.0	4.0	5.5	
3D 32-200/7.5	7.5	10.0	79
3D 40-125/1.5 (M)	1.5	2.0	69
3D 40-125/2.2 (M)	2.2	3.0	
3D 40-160/3.0	3.0	4.0	76
3D 40-160/4.0	4.0	5.5	
3D 40-200/5.5	5.5	7.5	79
3D 40-200/7.5	7.5	10.0	
3D 40-200/11	11.0	15.0	82
3D 50-125/2.2 (M)	2.2	3.0	69
3D 50-125/3.0	3.0	4.0	76
3D 50-125/4.0	4.0	5.5	
3D 50-160/5.5	5.5	7.5	79
3D 50-160/7.5	7.5	10.0	
3D 50-200/9.2	9.2	12.5	82
3D 50-200/11	11.0	15.0	

* Mean value of several measures at 1m distance around the pump.
Tolerance ± 2.5 dB.