
EBARA

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50Hz

Rev. B

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SPECIFICATION 50Hz

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PUMP					
Verison				Standard	High temperature
Liquid Handled	Type of liquid			* Drinking water Water, moderate aggressive solutions , glycol solutions , moderate viscous fluids	
	Max temperature		[°C]	85	110
	Min temperature		[°C]	-15	-15
	Max. chlorine content			500 ppm	
Maximum pressure			[MPa]	1	
Construction	Impeller			Closed centrifugal type	
	Motor bearings			Screened ball bearing - greased for life	
	Pump bearing	**MATRIX 3-5**	n° 7-8-9 impellers	Type : Sleeve Shaft sleeve : Tungsten Carbide Bearing : Ceramic	
		MATRIX 10	n° 6 impellers		
		MATRIX 18	n° 5-6 impellers		
Pipe Connection	Suction/Disharge (threads according ISO 228)		**MATRIX 3** **MATRIX 5** **MATRIX 10** **MATRIX 18**	G 1" - G 1" G 1¼ - G 1" G 1½ - G 1¼ G 2 - G 1½	
Material	Casing			EN 1.4301 (AISI 304)	
	Impeller			EN 1.4301 (AISI 304)	
	Intermediate casing			EN 1.4301 (AISI 304)	
	O-Rings			EPDM	
	Casing cover			EN 1.4301 (AISI 304)	
	Shaft seal			Ceramic/Carbon/EPDM	
	Liner ring			EN 1.4301 (AISI 304) + PTFE	
	Shaft (wet extension)			EN 1.4301 (AISI 304)	
	Bracket			EN AB-AlSi11Cu2(Fe) (Die cast Aluminium)	
Applicable standard of test				ISO 9906 - Annex A	

* Approval for drinking water application
WRAS Approved product
DM174/2004

WRAS APPROVED PRODUCT

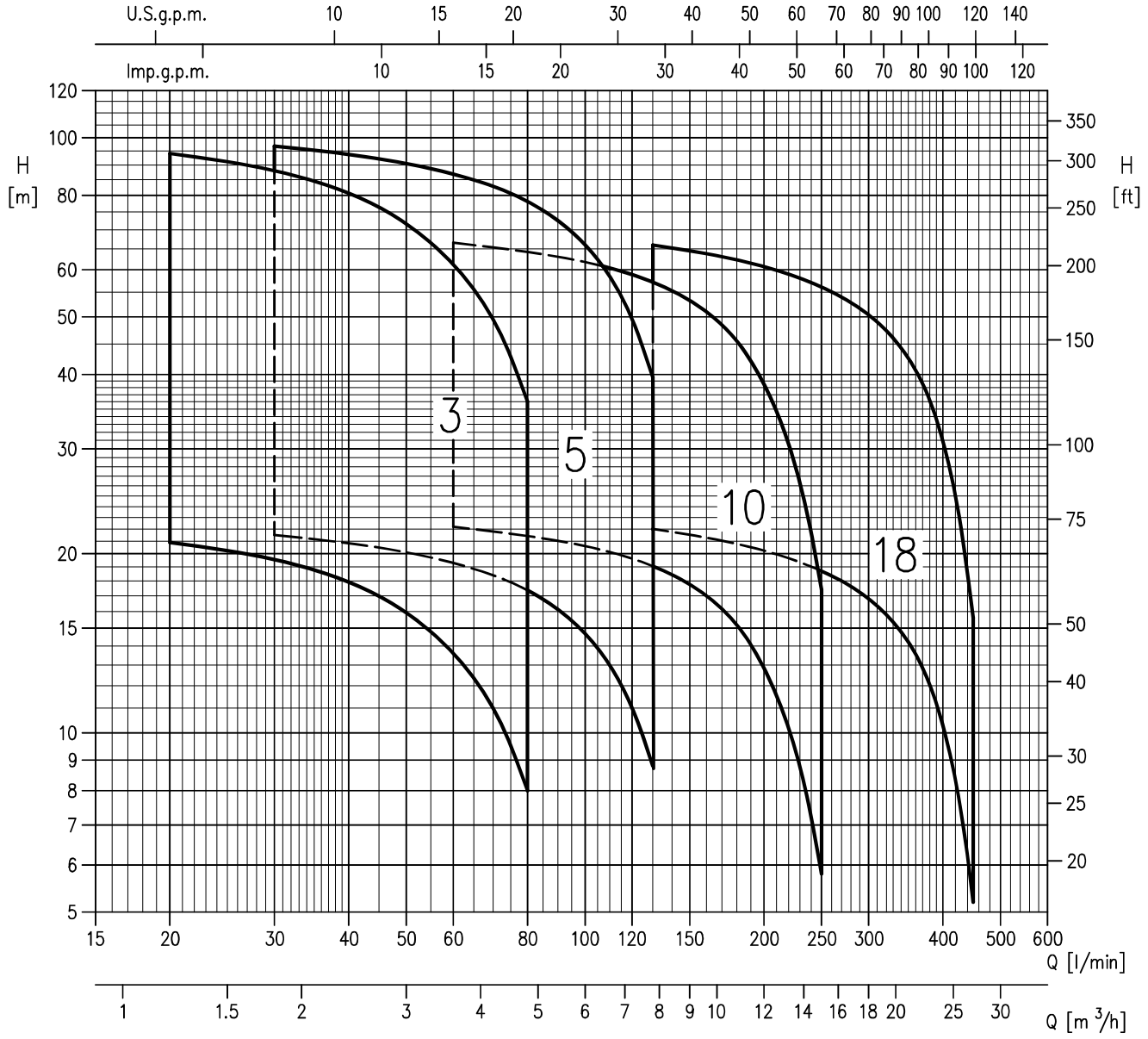
QUALITÀ IGIENICA DELLE TECNOLOGIE ALIMENTARI TIFQ prodotto conforme D.M.174/2004

MOTOR			
Type		Electric asynchronous TEFC	
		Single Phase	Three Phase
Efficiency level (Reg. 640/2009)		-	- from 0.45 kW up to 0.65 kW IE2 from 0.75 kW up to 4.0 kW
No. of Poles		2	
Rotation speed	[min-1]	≈ 2850	
Insulation Class		F	
Max temperature environment	[°C]	40	
Protection degree (CEI EN 60034-5)		IP 55	
Power rating	[kW]	0.45 ÷ 2.2	0.45 ÷ 4.0
	[HP]	0.6 ÷ 3.0	0.6 ÷ 5.5
Frequency	[Hz]	50	
Voltage	[V]	230 ±10%	230/400 ±10%
Capacitor		Built in	-
Overload protection		Built in	Provided by the user
Casing material		Aluminium	
Base material/motor support		Aluminium	
Dimensions of cable entry		PG11 - M20x1.5	PG11 - PG13.5

SELECTION CHART

50Hz

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SELECTION CHART

50Hz

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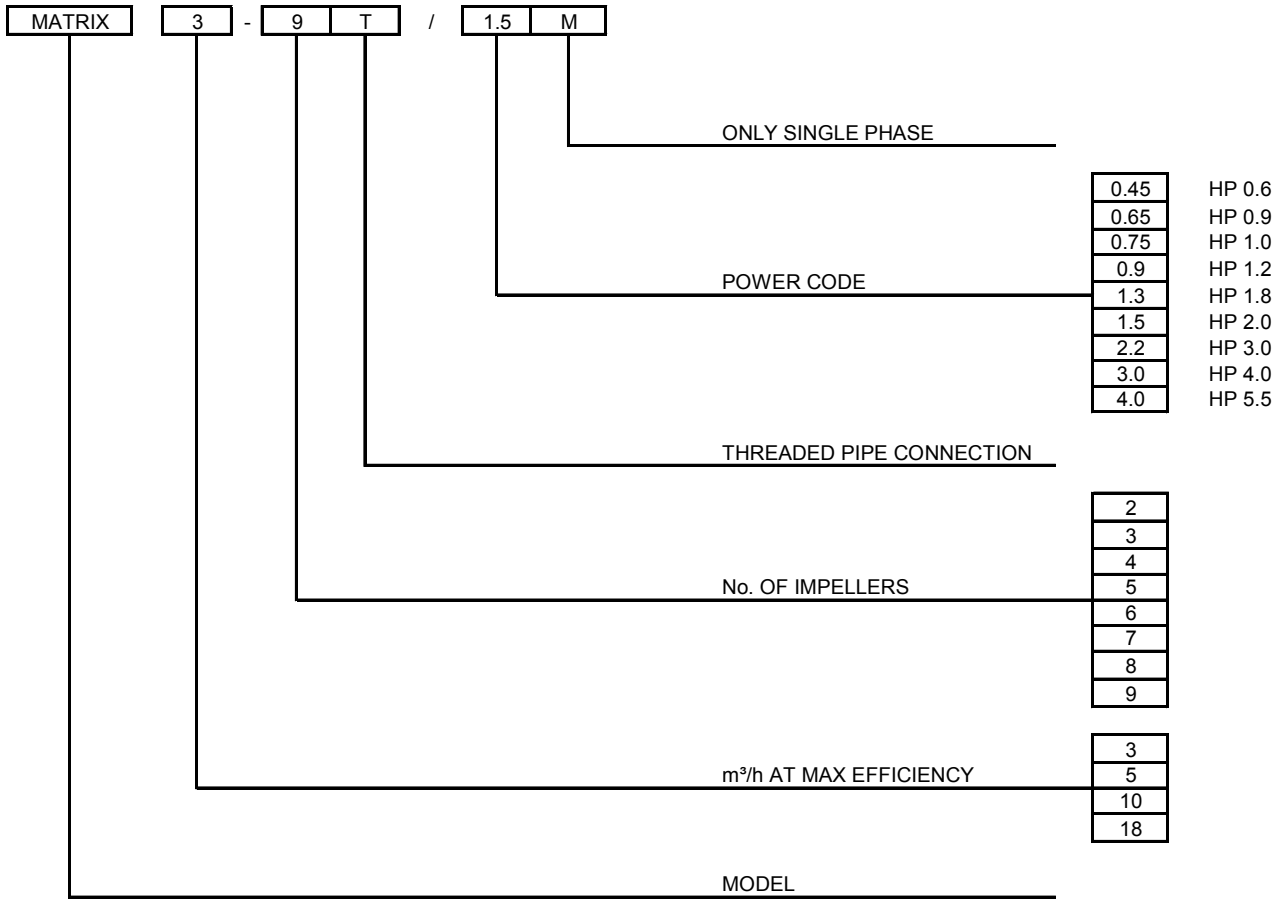
Pump type		Power		Q=Capacity														
				l/min	0	20	30	45	60	80	100	130	160	200	250	300	350	400	450
Single phase	Three phase	[kW]	[HP]	m^3/h	0	1.2	1.8	2.7	3.6	4.8	6	7.8	9.6	12	15	18	21	24	27
				H=Total manometric head in meters														
3-2(.)/0.45M	3-2(.)/0.45	0.45	0.6		22.6	20.9	19.6	17.0	13.6	8.0								
3-3(.)/0.65M	3-3(.)/0.65	0.65	0.9		33.9	31.4	29.3	25.5	20.4	12.0								
3-4(.)/0.65M	3-4(.)/0.65	0.65	0.9		45.0	42.0	39.1	34.0	27.2	16.0								
3-5(.)/0.75M	3-5(.)/0.75	0.75	1.0		56.5	52.5	49.0	42.5	34.0	20.0								
3-6(.)/0.9M	3-6(.)/0.9	0.9	1.2		68.0	62.5	58.5	51.0	41.0	24.0								
3-7(.)/1.3M	3-7(.)/1.3	1.3	1.8		79.0	73.0	68.5	59.5	47.5	28.0								
3-8(.)/1.3M	3-8(.)/1.3	1.3	1.8		90.5	83.5	78.0	68.0	54.5	32.0								
3-9(.)/1.5M	3-9(.)/1.5	1.5	2.0		102.0	94.0	88.0	76.5	61.0	36.0								
5-2(.)/0.45M	5-2(.)/0.45	0.45	0.6		23.0	-	21.5	20.5	19.3	17.4	14.7	8.8						
5-3(.)/0.65M	5-3(.)/0.65	0.65	0.9		34.5	-	32.3	30.7	29.0	26.0	22.0	13.2						
5-4(.)/0.9M	5-4(.)/0.9	0.9	1.2		46.0	-	43.0	41.0	38.6	34.7	29.4	17.6						
5-5(.)/1.3M	5-5(.)/1.3	1.3	1.8		57.5	-	54.0	51.0	48.5	43.5	36.7	22.0						
5-6(.)/1.3M	5-6(.)/1.3	1.3	1.8		69.0	-	64.5	61.5	58.0	52.0	44.0	26.4						
5-7(.)/1.5M	5-7(.)/1.5	1.5	2.0		80.5	-	75.5	72.0	67.5	61.0	51.5	30.8						
5-8(.)/2.2M	5-8(.)/2.2	2.2	3.0		92.0	-	86.0	82.0	77.0	69.5	58.5	35.2						
5-9(.)/2.2M	5-9(.)/2.2	2.2	3.0		104.0	-	97.0	92.0	87.0	78.0	66.0	39.6						
10-2(.)/0.75M	10-2(.)/0.75	0.75	1.0		24.0	-	-	-	22.2	21.4	20.6	19.1	17.0	12.8	5.8			
10-3(.)/1.3M	10-3(.)/1.3	1.3	1.8		36.0	-	-	-	33.3	32.1	30.9	28.6	25.5	19.3	8.7			
10-4(.)/1.5M	10-4(.)/1.5	1.5	2.0		48.0	-	-	-	44.5	43.0	41.0	38.1	34.0	25.7	11.6			
10-5(.)/2.2M	10-5(.)/2.2	2.2	3.0		60.0	-	-	-	55.5	53.5	51.5	47.5	42.5	32.1	14.5			
10-6(.)/2.2M	10-6(.)/2.2	2.2	3.0		72.0	-	-	-	66.5	64.5	62.0	57.0	51.0	38.5	17.4			
18-2(.)/1.5M	18-2(.)/1.5	1.5	2.0		24.2	-	-	-	-	-	-	22.0	21.3	20.2	18.7	16.8	14.2	10.3	5.2
18-3(.)/2.2M	18-3(.)/2.2	2.2	3.0		36.3	-	-	-	-	-	-	33.0	31.9	30.4	28.1	25.2	21.3	15.5	7.8
-	18-4(.)/3	3.0	4.0		48.5	-	-	-	-	-	-	44.0	42.5	40.5	37.4	33.6	28.4	20.6	10.4
-	18-5(.)/4	4	5.5		60.5	-	-	-	-	-	-	55.0	53.0	50.5	47.0	42.0	35.5	25.8	13.0
-	18-6(.)/4	4	5.5		72.5	-	-	-	-	-	-	66.0	64.0	60.5	56.0	50.5	42.5	30.9	15.6

PERFORMANCE CURVE

50Hz

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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 50 Hz
Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of ν = 1 mm^2/s (1 cSt)
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:

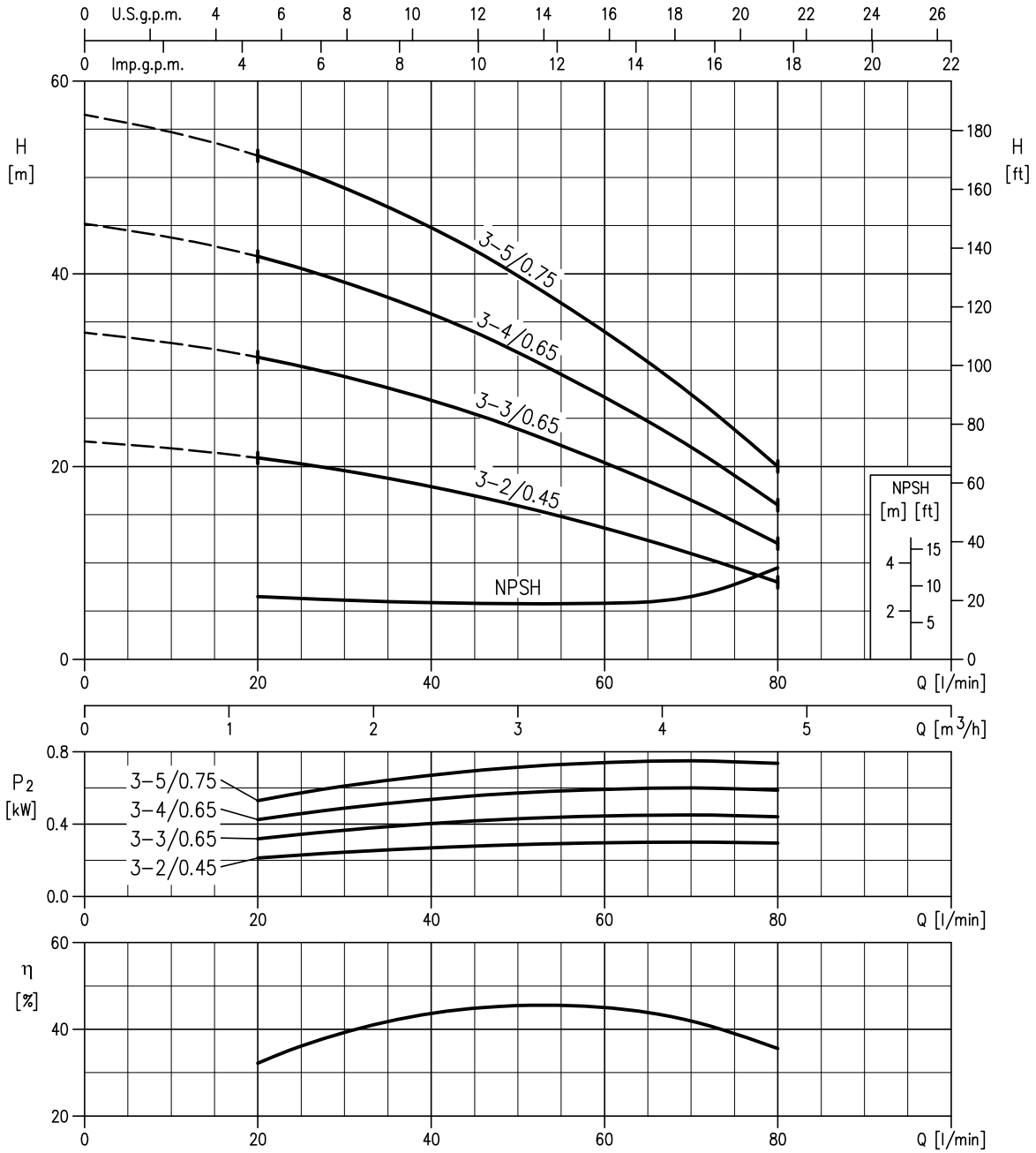
Q	=	volume flow rate
H	=	total head
P_2	=	pump power input (shaft power)
η	=	pump efficiency
NPSH	=	net positive suction head required by the pump

PERFORMANCE CURVE

50Hz

Rev. B

MATRIX 3-5/0.75 (0.75 kW) - Impeller diameter = 98.5 mm
MATRIX 3-4/0.65 (0.65 kW) - Impeller diameter = 98.5 mm
MATRIX 3-3/0.65 (0.65 kW) - Impeller diameter = 98.5 mm
MATRIX 3-2/0.45 (0.45 kW) - Impeller diameter = 98.5 mm



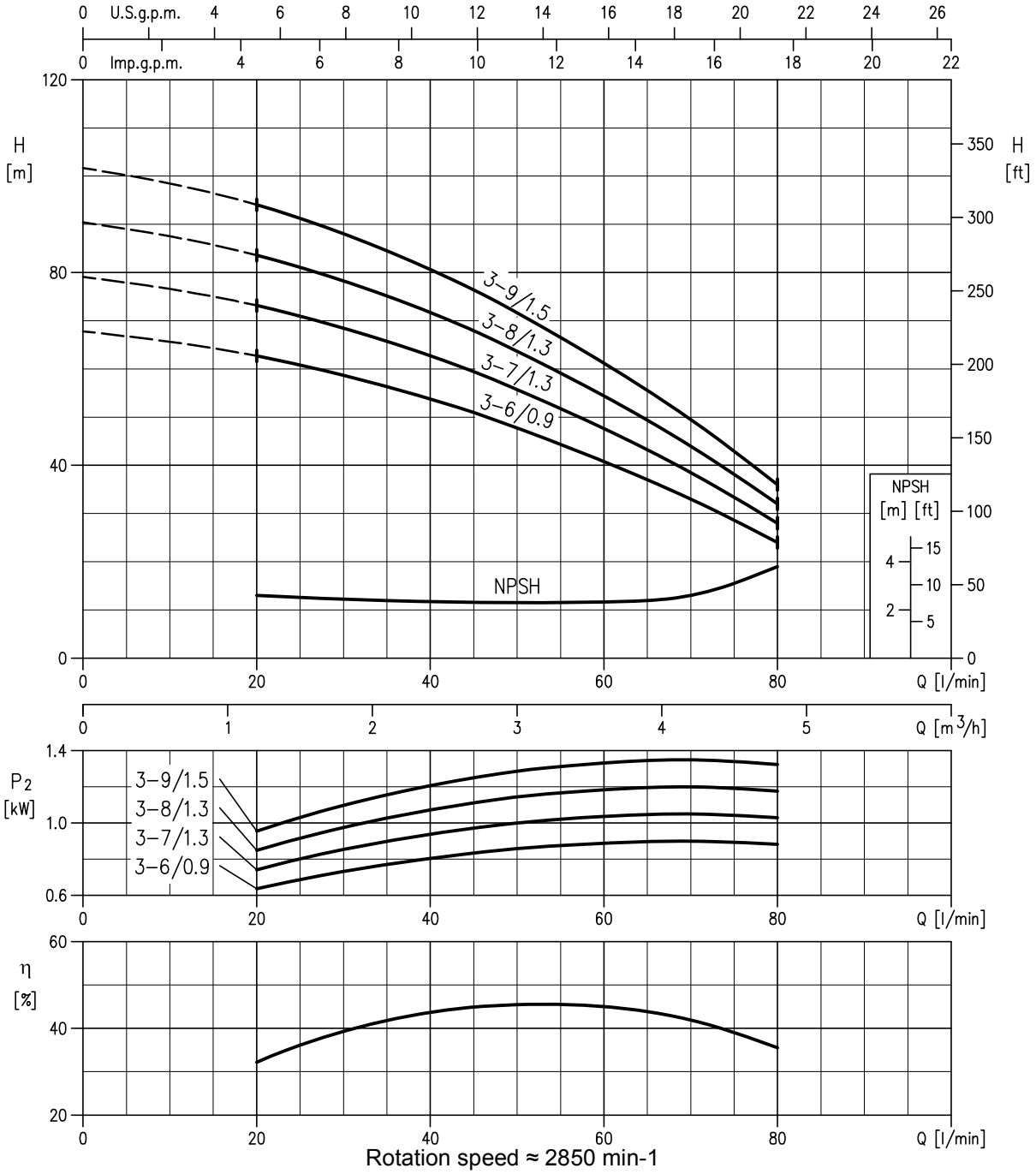
Rotation speed ≈ 2850 min-1
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. B

MATRIX 3-9/1.5 (1.5 kW) - Impeller diameter = 98.5 mm
MATRIX 3-8/1.3 (1.3 kW) - Impeller diameter = 98.5 mm
MATRIX 3-7/1.3 (1.3 kW) - Impeller diameter = 98.5 mm
MATRIX 3-6/0.9 (0.90 kW) - Impeller diameter = 98.5 mm



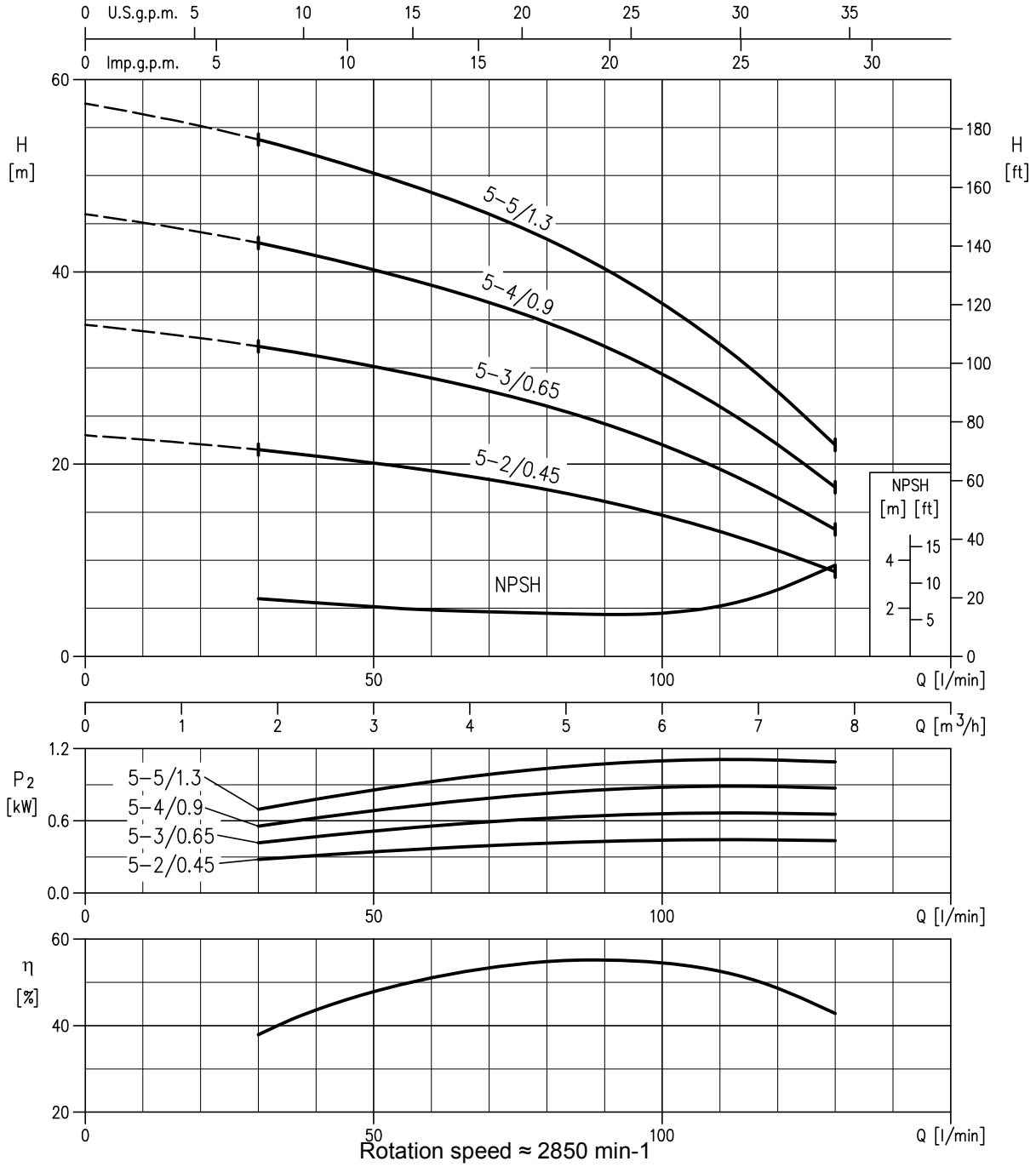
Rotation speed ≈ 2850 min-1
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. B

MATRIX 5-5/1.3 (1.3 kW) - Impeller diameter = 97 mm
MATRIX 5-4/0.9 (0.90 kW) - Impeller diameter = 97 mm
MATRIX 5-3/0.65 (0.65 kW) - Impeller diameter =97 mm
MATRIX 5-2/0.45 (0.45 kW) - Impeller diameter = 97 mm



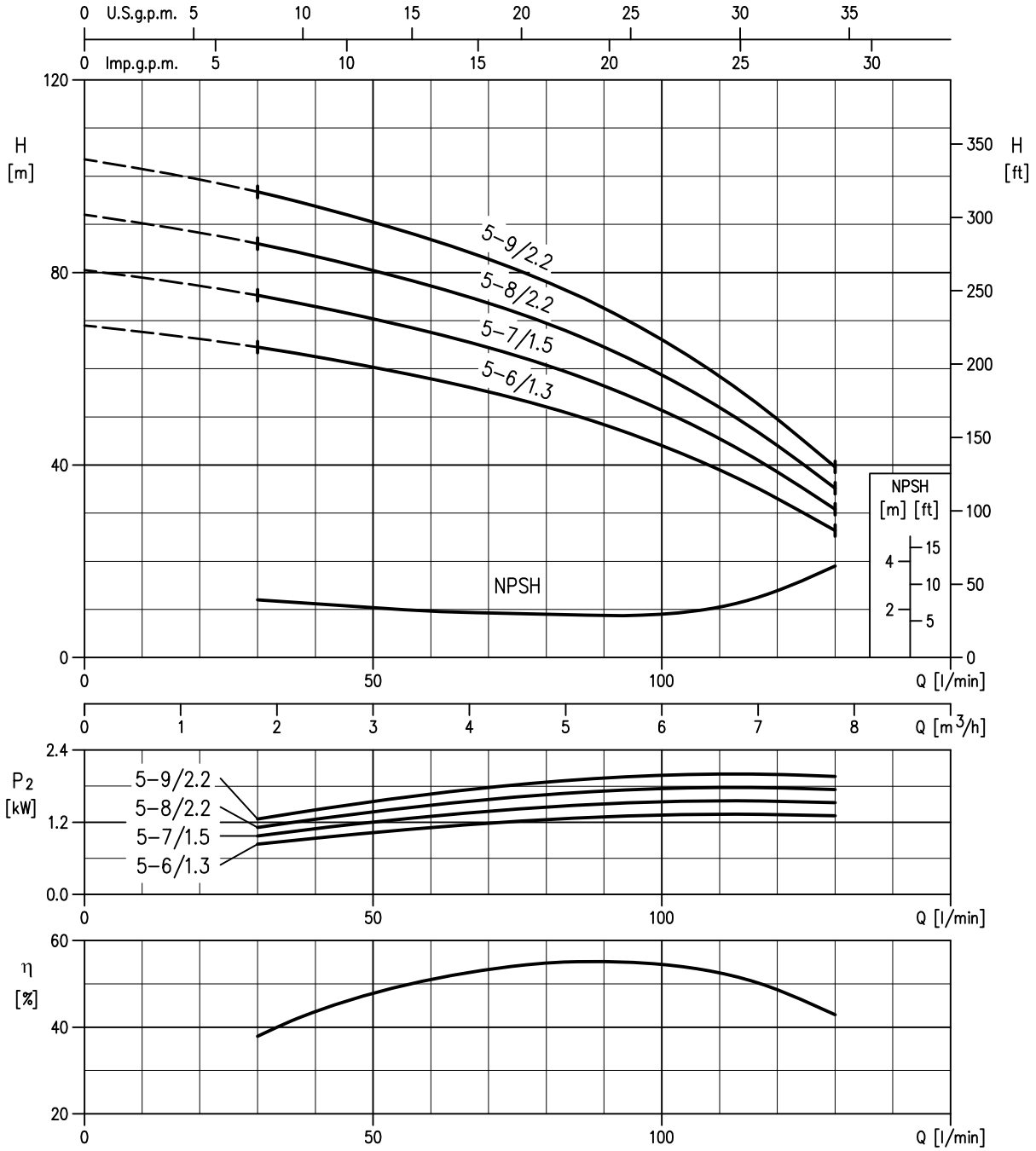
Rotation speed ≈ 2850 min-1
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. B

MATRIX 5-9/2.2 (2.2 kW) - Impeller diameter = 97 mm
MATRIX 5-8/2.2 (2.2 kW) - Impeller diameter = 97 mm
MATRIX 5-7/1.5 (1.5 kW) - Impeller diameter = 97 mm
MATRIX 5-6/1.3 (1.3 kW) - Impeller diameter = 97 mm



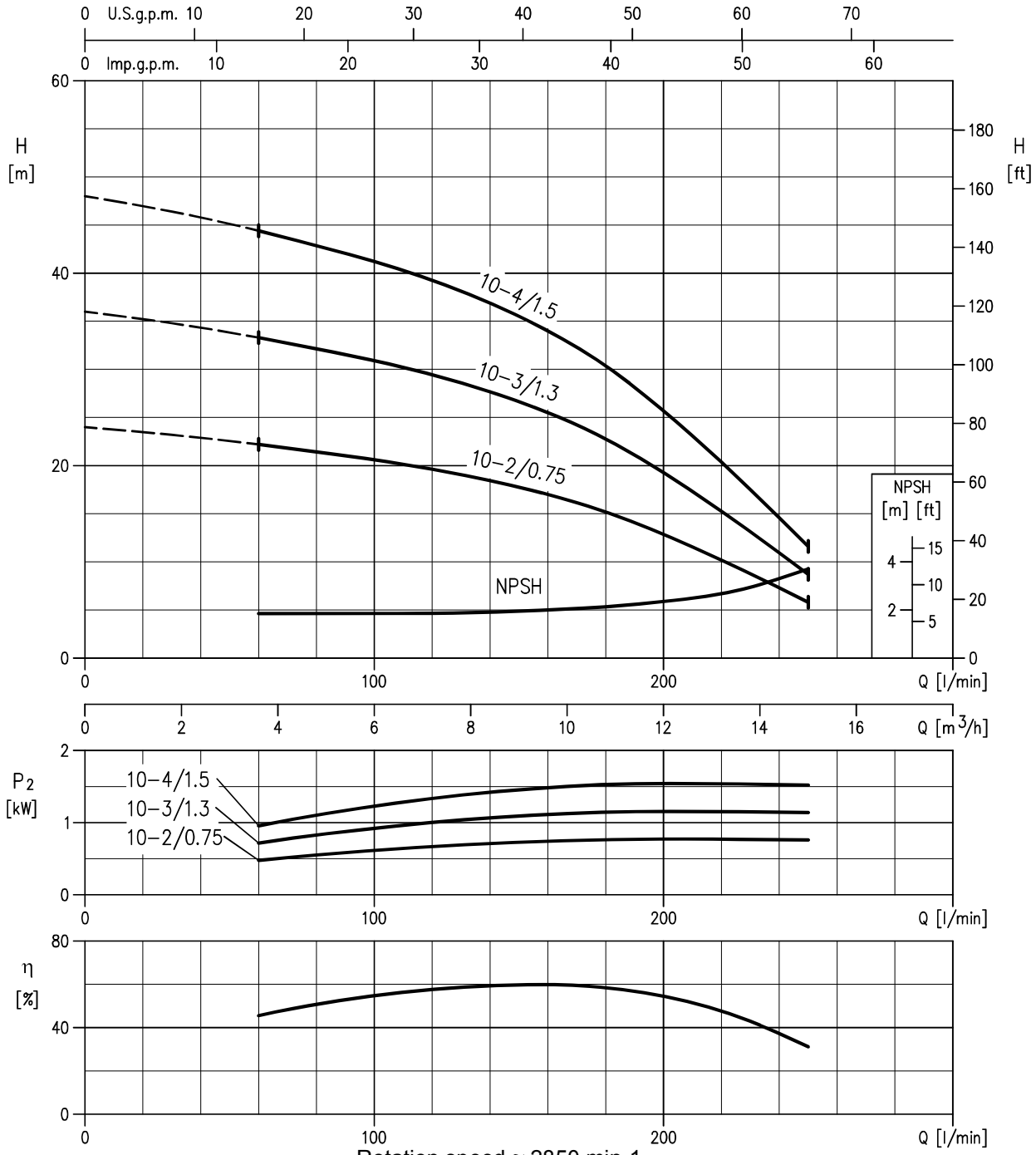
Rotation speed ≈ 2850 min-1
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. B

MATRIX 10-4/1.5 (1.5 kW) - Impeller diameter = 100.5 mm
MATRIX 10-3/1.3 (1.3 kW) - Impeller diameter = 100.5 mm
MATRIX 10-2/0.75 (0.75 kW) - Impeller diameter = 100.5 mm



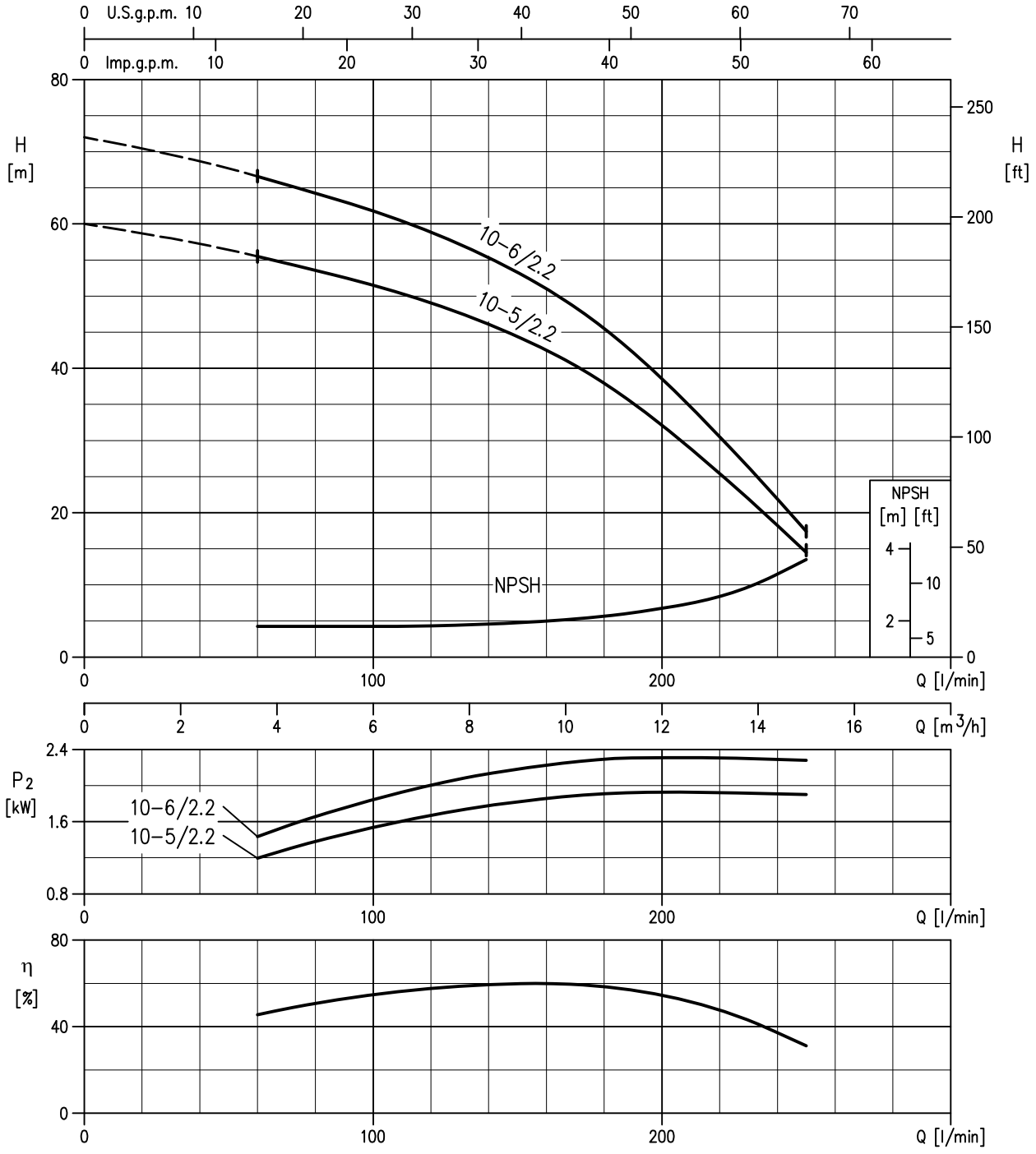
Rotation speed ≈ 2850 min-1
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. B

MATRIX 10-6/2.2 (2.2 kW) - Impeller diameter = 100.5 mm
MATRIX 10-5/2.2 (2.2 kW) - Impeller diameter = 100.5 mm



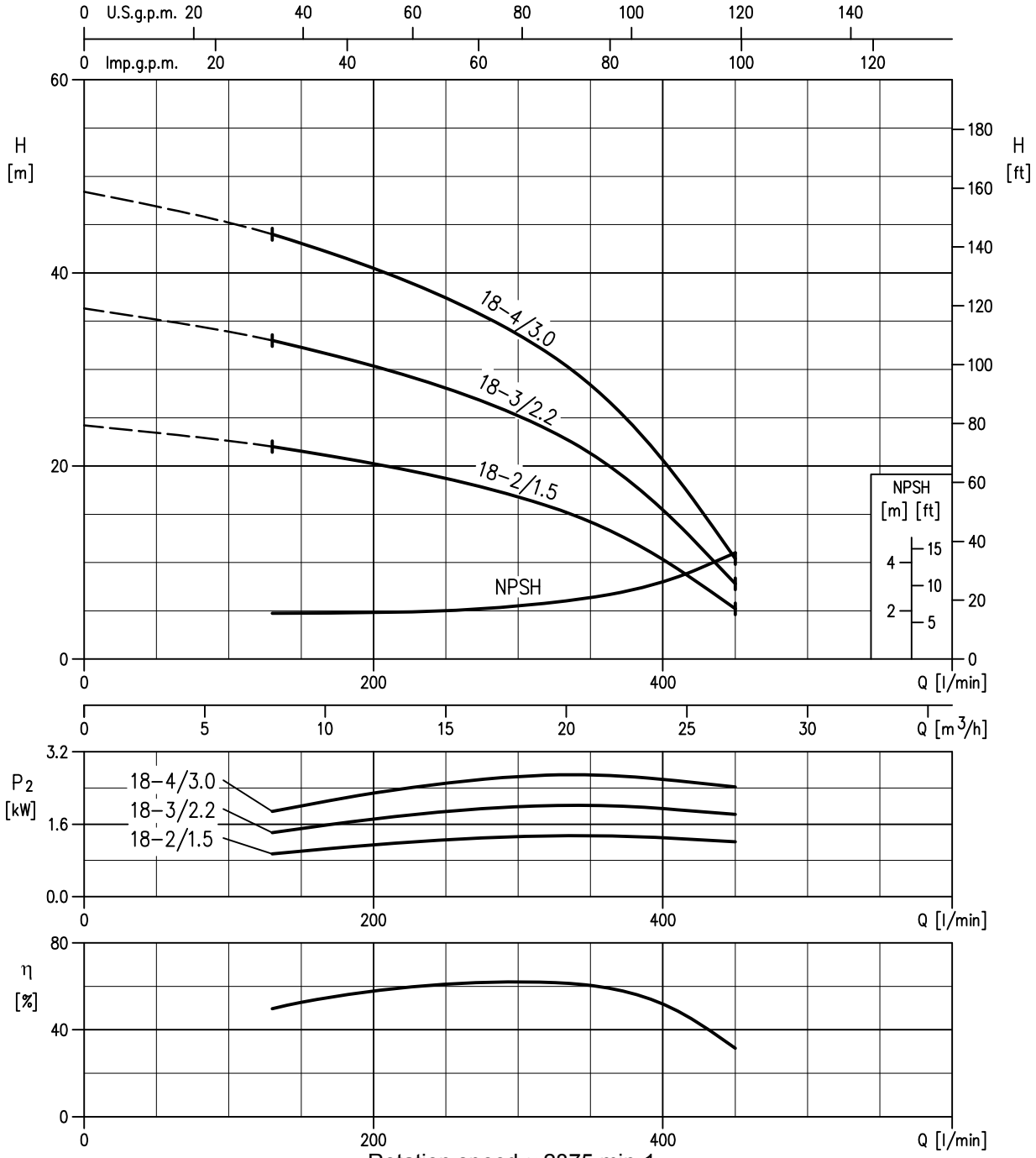
Rotation speed ≈ 2850 min-1
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. B

MATRIX 18-4/3.0 (3.0 kW) - Impeller diameter = 106.7 mm
MATRIX 18-3/2.2 (2.2 kW) - Impeller diameter = 106.7 mm
MATRIX 18-2/1.5 (1.5 kW) - Impeller diameter = 106.7 mm



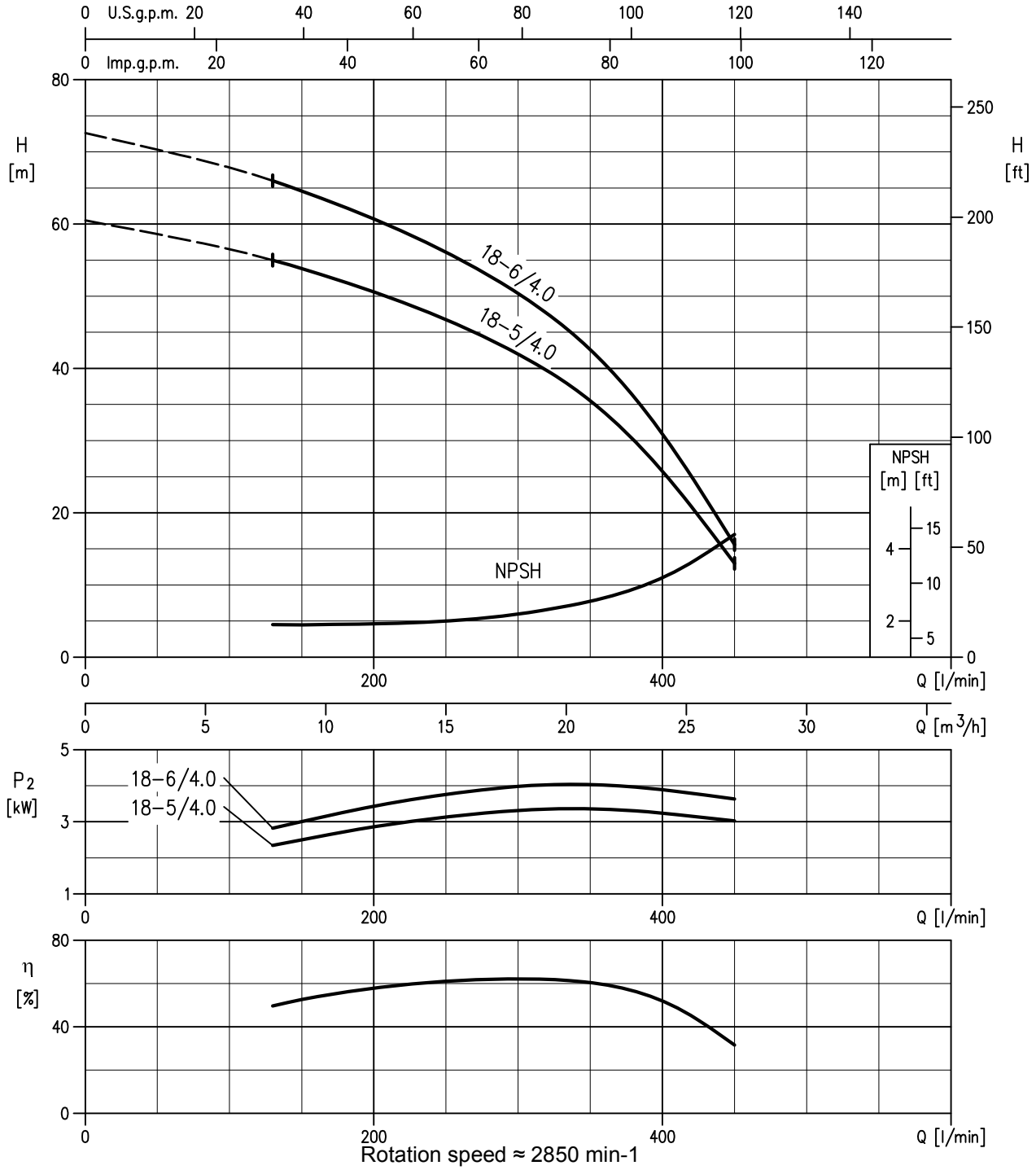
Rotation speed ≈ 2875 min-1
Test standard: ISO 9906 – Annex A

PERFORMANCE CURVE

50Hz

Rev. B

MATRIX 18-6/4.0 (4.0 kW) - Impeller diameter = 106.7 mm
MATRIX 18-5/4.0 (4.0 kW) - Impeller diameter = 106.7 mm



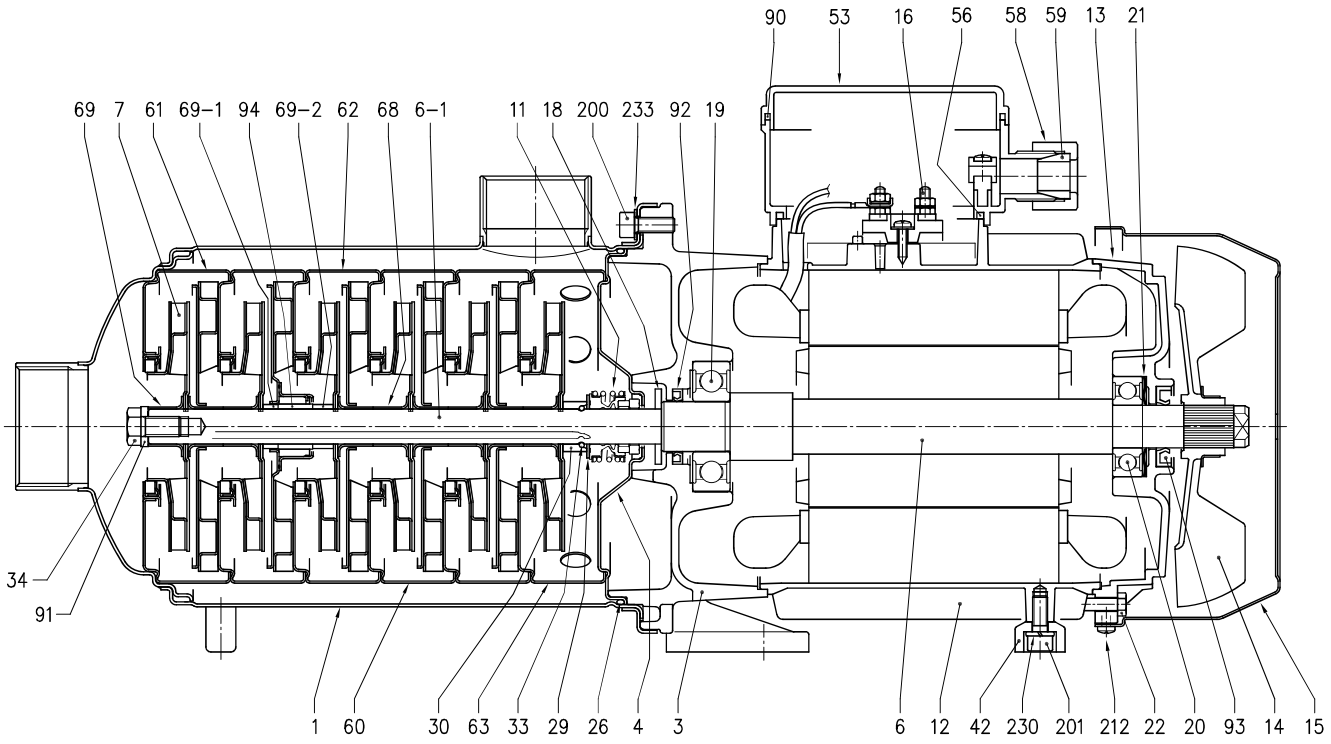
Rotation speed ≈ 2850 min-1
Test standard: ISO 9906 – Annex A

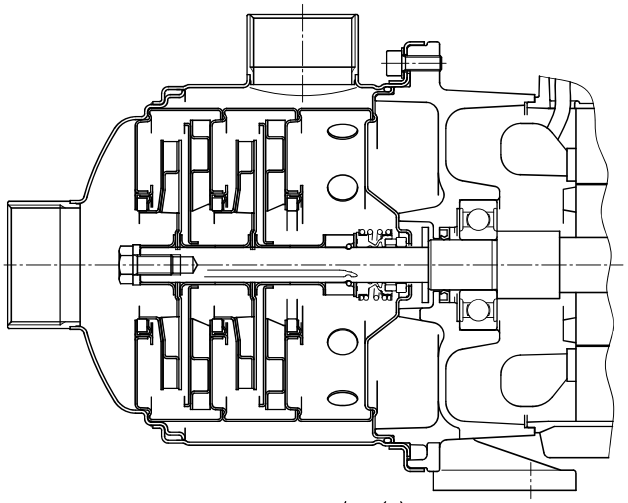
CONSTRUCTION

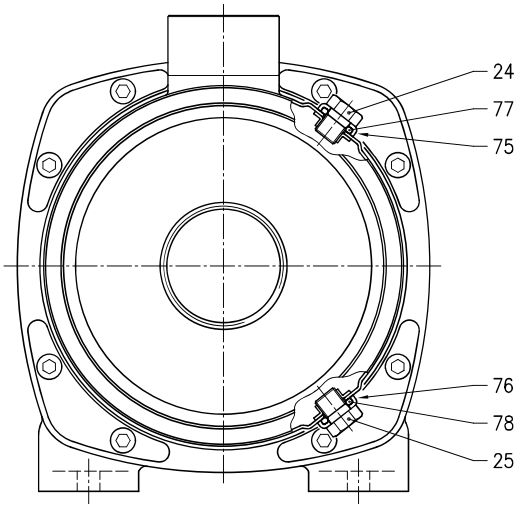
50Hz

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SECTIONAL VIEW DRAWING MATRIX 3/5/10







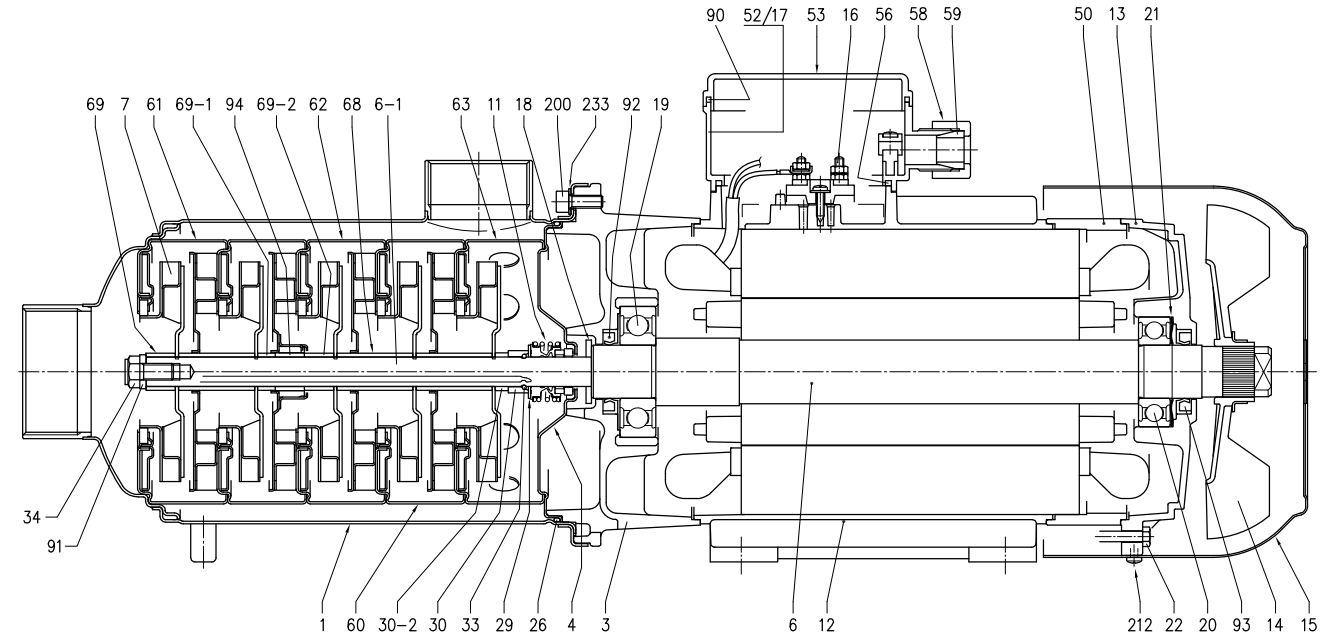
VERSION FOR PUMP TYPE: MATRIX 3-2T/0.45(M)
MATRIX 5-2T/0.45(M)
MATRIX 10-2T/0.75(M)

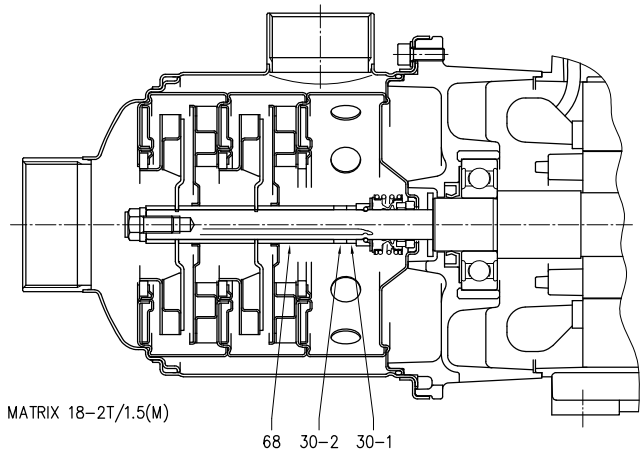
CONSTRUCTION

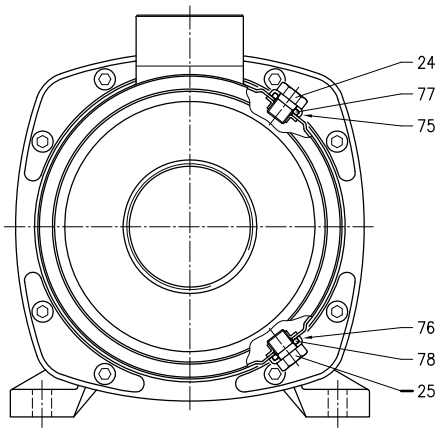
50Hz

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SECTIONAL VIEW DRAWING MATRIX 18







CONSTRUCTION

50Hz

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N°	PART NAME		MATERIAL	DIMENSION	STANDARD	N. FOR 1 UNIT
1	Casing		EN 1.4301 (AISI 304)			1
3	Bracket		EN AB-AlSi11Cu2(Fe)			1
4	Casing cover		EN 1.4301 (AISI 304)			1
6	Shaft with rotor		-			1
6-1	Pump Shaft		EN 1.4301 (AISI 304)			1
7	Impeller		EN 1.4301 (AISI 304)			[1]
11	Standard mechanical seal		Ceramic/Carbon/EPDM	see table pag 304		1
	High temperature mechanical seal		Ceramic/Carbon/EPDM	see table pag 305		
12	Motor frame with stator		-			1
13	Motor cover		Aluminium			1
14	Fan		PA			1
15	Fan cover		Fe P04 Zincate			1
16	Terminal board		-			1
17	Terminal box cover		Aluminium			[1]
18	Splash ring		NBR	30x13.5x2.5		1
19	Bearing		-			1
20	Bearing		-			1
21	Adjusting ring		Steel C70			1
22	Tie rod		Fe 42 Zinc-coated			4
24	Plug		EN 1.4301 (AISI 304)			1
25	Plug		EN 1.4301 (AISI 304)			1
26	O-ring		EPDM			1
29	Washer		EN 1.4301 (AISI 304)	25.1x14x1		1
30	Ring holder		EN 1.4301 (AISI 304)			1
30-1	Shaft sleeve (adjustment)		EN 1.4301 (AISI 304)			[1]
30-2	Shaft sleeve (adjustment)		EN 1.4301 (AISI 304)			[1]
33	Ring		EN 1.4301 (AISI 304)			2
34	Screw		EN 1.4301 (AISI 304)	M 8x16	UNI 5739	1
42	Foot		Aluminium			[1]
50	Motor spacer [3]		Aluminium			1
52	Capacitor box [2]		ABS			1
53	Capacitor box cover [2] [4]		ABS [4]			1
56	Box gasket		NBR			1
58	Ring nut		-			[1]
59	Conic gasket		NBR			[1]
60	Intermediate casing		EN 1.4301 (AISI 304)+PTFE			[1]
61	Intermediate casing (suction)		EN 1.4301 (AISI 304)+PTFE			1
62	Intermediate casing (bearing)		EN 1.4301 (AISI 304)+PTFE + Ceramic			[1]
63	Intermediate casing (discharge)		EN 1.4301 (AISI 304)+PTFE			1
68	Shaft sleeve (intermediate)		EN 1.4301 (AISI 304)			[1]
69	Impeller spacer		EN 1.4301 (AISI 304)			1
69-1	Shaft sleeve (adjustment) [1]		EN 1.4301 (AISI 304)			[1]
69-2	Shaft sleeve (adjustment) [1]		EN 1.4301 (AISI 304)			[1]
75	Washer (plug)		EN 1.4301 (AISI 304)			1
76	Washer (plug)		EN 1.4301 (AISI 304)			1
77	O-ring		EPDM	9.19x2.62		1
78	O-ring		EPDM	9.19x2.62		1
90	Terminal box cover gasket [2]		NBR	-		[1]
91	Shaft washer		EN 1.4301 (AISI 304)			1
92	Lip seal	0.45-0.65-0.75-0.9 kW	-	17x32x6		1
		1.3-1.5-2.2 kW		20x30x4		1
		2.2M-3-4 kW		25x40x7		1
93	Lip seal	0.45-0.65-0.75-0.9 kW	-	15x30x5		1
		1.3-1.5-2.2 kW		17x32x7		1
		2.2M-3-4 kW		25x40x7		1
94	Shaft sleeve (bearing)		WC - Tungsten carbide			[1]
200	Screw		EN 1.4301 (AISI 304)	M6x16	UNI 5931	8
233	Plate		EN 1.4301 (AISI 304)			4

[1] See table pag. 303
[2] Only for single phase
[3] Only for 18-5T/4 and 18-6T/4
[4] Whit gasket in NBR only for version single phase MATRIX 3-2T/0.45, 3-3T/0.65, 3-4T/0.65, 3-5T/0.75, 3-6T/0.9, 5-2T/0.45, 5-3T/0.65, 5-4T/0.9, 10-2T/0.75

CONSTRUCTION

50Hz

Rev. B

QUANTITY FOR MODEL

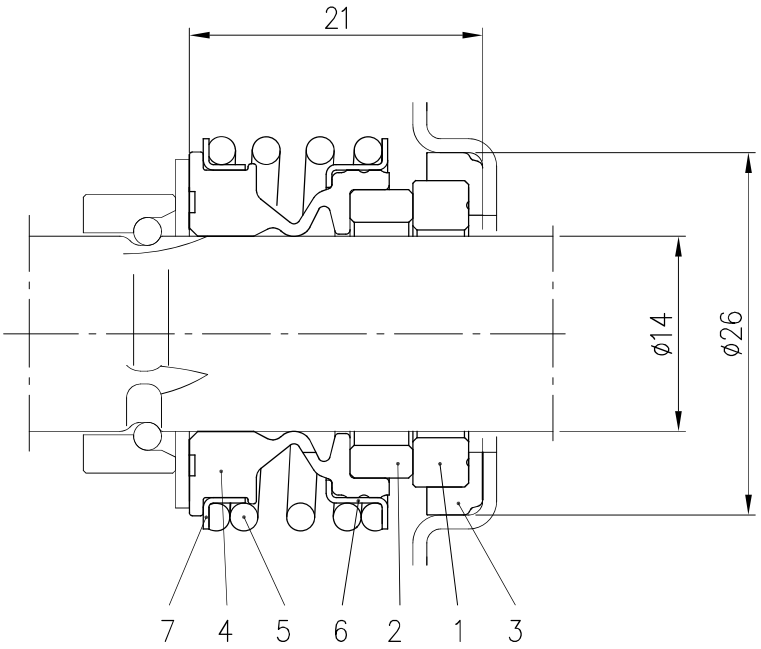
Pump type	7	17	30-1	30-2	42	58	59	60	62	68	69-1	69-2	90	94
MATRIX 3-2T/0,45M	2	-	-	-	1	1	1	1	-	4	-	-	1	-
MATRIX 3-2T/0,45		1	-	-	1	-	-	1	-	4	-	-	-	
MATRIX 3-3T/0,65M	3	-	-	-	1	1	1	1	-	4	-	-	1	-
MATRIX 3-3T/0,65		1	-	-	1	-	-	1	-	4	-	-	-	
MATRIX 3-4T/0,65M	4	-	-	-	1	1	1	2	-	6	-	-	1	-
MATRIX 3-4T/0,65		1	-	-	1	-	-	2	-	6	-	-	-	
MATRIX 3-5T/0,75M	5	-	-	-	1	1	1	3	-	8	-	-	1	-
MATRIX 3-5T/0,75		1	-	-	1	-	-	3	-	8	-	-	-	
MATRIX 3-6T/0,9M	6	-	-	-	1	1	1	4	-	10	-	-	1	-
MATRIX 3-6T/0,9		1	-	-	1	-	-	4	-	10	-	-	-	
MATRIX 3-7T/1,3M	7	-	-	-	1	1	1	4	1	10	1	1	1	1
MATRIX 3-7T/1,3		1	-	-	1	-	-	4	1	10	1	1	-	1
MATRIX 3-8T/1,3M	8	-	-	-	1	1	1	5	1	12	1	1	1	1
MATRIX 3-8T/1,3		1	-	-	1	-	-	5	1	12	1	1	-	1
MATRIX 3-9T/1,5M	9	-	-	-	1	1	1	6	1	14	1	1	1	1
MATRIX 3-9T/1,5		1	-	-	1	-	-	6	1	14	1	1	-	1
MATRIX 5-2T/0,45M	2	-	-	-	1	1	1	1	-	4	-	-	1	-
MATRIX 5-2T/0,45		1	-	-	1	-	-	1	-	4	-	-	-	
MATRIX 5-3T/0,65M	3	-	-	-	1	1	1	1	-	4	-	-	1	-
MATRIX 5-3T/0,65		1	-	-	1	-	-	1	-	4	-	-	-	
MATRIX 5-4T/0,9M	4	-	-	-	1	1	1	2	-	6	-	-	1	-
MATRIX 5-4T/0,9		1	-	-	1	-	-	2	-	6	-	-	-	
MATRIX 5-5T/1,3M	5	-	-	-	1	1	1	3	-	8	-	-	1	-
MATRIX 5-5T/1,3		1	-	-	1	-	-	3	-	8	-	-	-	
MATRIX 5-6T/1,3M	6	-	-	-	1	1	1	4	-	10	-	-	1	-
MATRIX 5-6T/1,3		1	-	-	1	-	-	4	-	10	-	-	-	
MATRIX 5-7T/1,5M	7	-	-	-	1	1	1	4	1	10	1	1	1	1
MATRIX 5-7T/1,5		1	-	-	1	-	-	4	1	10	1	1	-	1
MATRIX 5-8T/2,2M	8	-	-	-	-	1	1	5	1	12	1	1	1	1
MATRIX 5-8T/2,2		1	-	-	1	-	-	5	1	12	1	1	-	1
MATRIX 5-9T/2,2M	9	-	-	-	-	1	1	6	1	14	1	1	1	1
MATRIX 5-9T/2,2		1	-	-	1	-	-	6	1	14	1	1	-	1
MATRIX 10-2T/0,75M	2	-	-	-	1	1	1	1	-	4	-	-	1	-
MATRIX 10-2T/0,75		1	-	-	1	-	-	1	-	4	-	-	-	
MATRIX 10-3T/1,3M	3	-	-	-	1	1	1	1	-	4	-	-	1	-
MATRIX 10-3T/1,3		1	-	-	1	-	-	1	-	4	-	-	-	
MATRIX 10-4T/1,5M	4	-	-	-	1	1	1	2	-	6	-	-	1	-
MATRIX 10-4T/1,5		1	-	-	1	-	-	2	-	6	-	-	-	
MATRIX 10-5T/2,2M	5	-	-	-	-	1	1	3	-	8	-	-	1	-
MATRIX 10-5T/2,2		1	-	-	1	-	-	3	-	8	-	-	-	
MATRIX 10-6T/2,2M	6	-	-	-	-	1	1	3	1	8	1	1	1	1
MATRIX 10-6T/2,2		1	-	-	1	-	-	3	1	8	1	1	-	1
MATRIX 18-2T/1,5M	2	-	1	1	1	1	1	1	-	2	-	-	1	-
MATRIX 18-2T/1,5		1	1	1	1	-	-	1	-	2	-	-	-	
MATRIX 18-3T/2,2M	3	-	-	1	-	1	1	1	-	2	-	-	1	-
MATRIX 18-3T/2,2		1	-	1	1	-	-	1	-	2	-	-	-	
MATRIX 18-4T/3	4	1	-	1	-	-	-	2	-	3	-	-	-	-
MATRIX 18-5T/4	5	1	-	1	-	-	-	2	1	3	1	1	-	1
MATRIX 18-6T/4	6	1	-	1	-	-	-	3	1	4	1	1	-	1

CONSTRUCTION

50Hz

Rev. B

STANDARD MECHANICAL SEAL



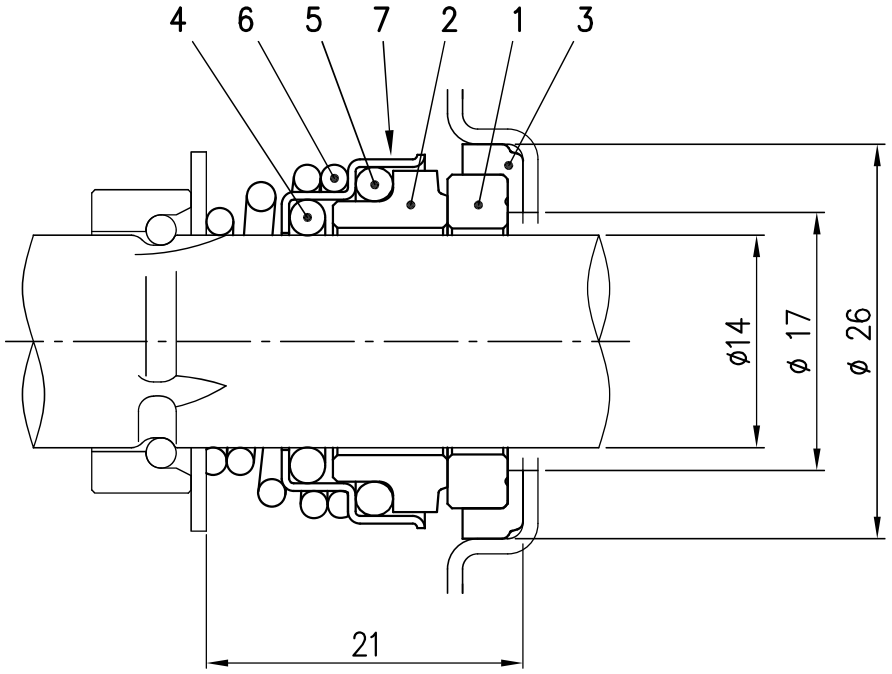
Manufacturer reference	Version	Material						
		1 Stationary seal ring	**2** Rotary seal ring	**3** Gasket	**4** Bellows	**5** Spring	**6** Frame	**7** Retainer ring
BT Burgmann	Standard	Ceramic	Carbon	EPDM	EPDM	EN 1.4402 (AISI 316)	EN 1.4402 (AISI 316)	EN 1.4402 (AISI 316)

*Approval for drinking water application

WRAS Approval product
DM174/2004

prodotto conforme
D.M.174/2004

HIGH TEMPERATURE MECHANICAL SEAL



Manufacturer reference	Version	Material						
		1 Stationary seal ring	**2** Rotary seal ring	**3** Gasket	**4** O-Ring	**5** O-Ring	**6** Spring	**7** Retainer ring
BT Burgmann	High temperature	Ceramic	Carbon	EPDM	EPDM	EPDM	EN 1.4402 (AISI 316)	EN 1.4301 (AISI 304)

*Approval for drinking water application

DM174/2004

QUALITÀ IGIENICA DELLE TECNOLOGIE ALIMENTARI
TIFQ
prodotto conforme
D.M.174/2004

CONSTRUCTION

50Hz

Rev. B

BEARINGS

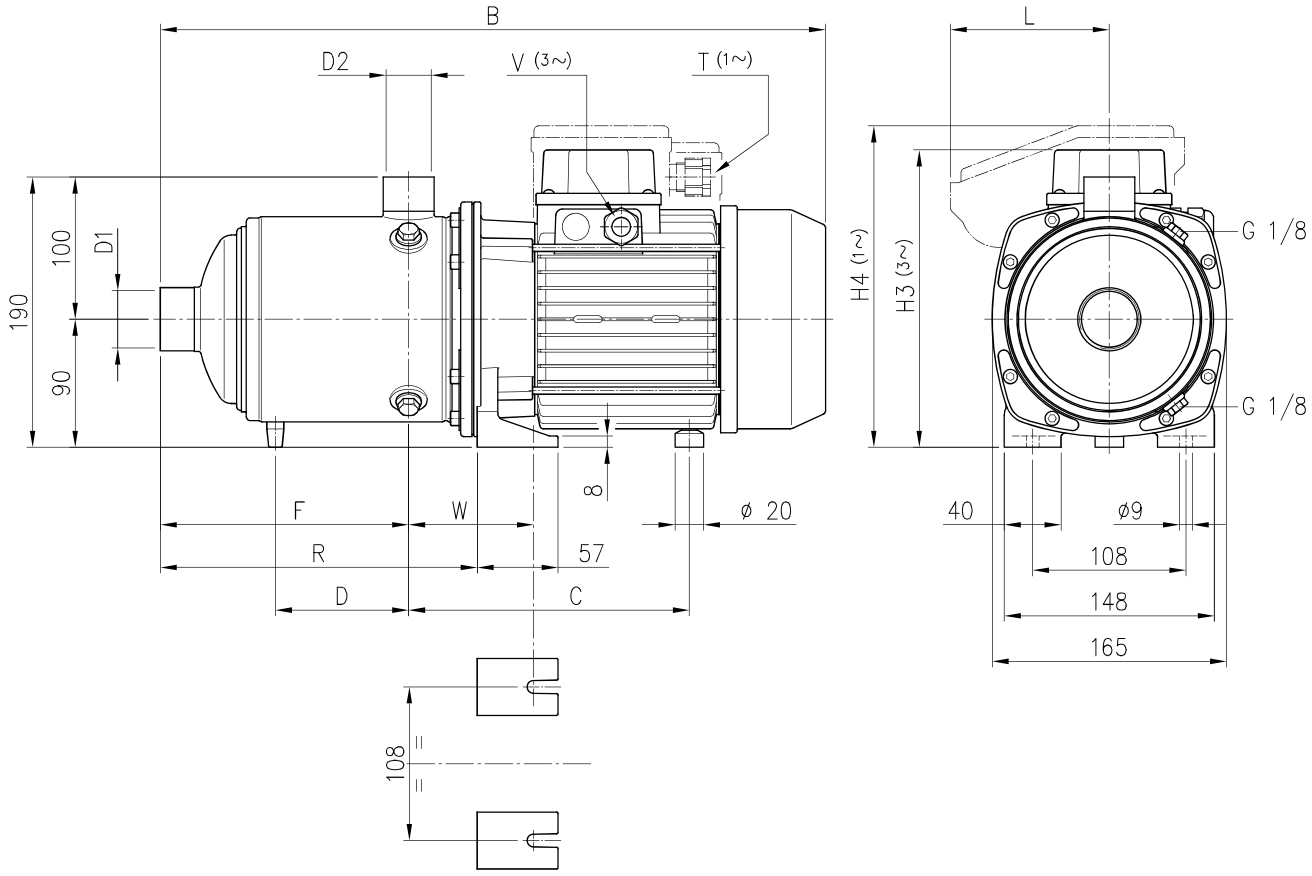
Pump Type	Bearings	
	Pump side	Fan side
MATRIX 3-2T/0.45M	6203-2RSH	6202-2RSH
MATRIX 3-2T/0.45		
MATRIX 3-3T/0.65M		
MATRIX 3-3T/0.65		
MATRIX 3-4T/0.65M		
MATRIX 3-4T/0.65		
MATRIX 3-5T/0.75M		
MATRIX 3-5T/0.75		
MATRIX 3-6T/0.9M		
MATRIX 3-6T/0.9		
MATRIX 3-7T/1.3M	6304-2RSH	6203-2RSH
MATRIX 3-7T/1.3		
MATRIX 3-8T/1.3M		
MATRIX 3-8T/1.3		
MATRIX 3-9T/1.5M		
MATRIX 3-9T/1.5		
MATRIX 5-2T/0.45M	6203-2RSH	6202-2RSH
MATRIX 5-2T/0.45		
MATRIX 5-3T/0.65M		
MATRIX 5-3T/0.65		
MATRIX 5-4T/0.9M		
MATRIX 5-4T/0.9		
MATRIX 5-5T/1.3M	6304-2RSH	6203-2RSH
MATRIX 5-5T/1.3		
MATRIX 5-6T/1.3M		
MATRIX 5-6T/1.3		
MATRIX 5-7T/1.5M		
MATRIX 5-7T/1.5		
MATRIX 5-8T/2.2M	6305-2RSH1	6205-2RSH
MATRIX 5-8T/2.2	6304-2RSH	6203-2RSH
MATRIX 5-9T/2.2M	6305-2RSH1	6205-2RSH
MATRIX 5-9T/2.2	6304-2RSH	6203-2RSH
MATRIX 10-2T/0.75M	6203-2RSH	6202-2RSH
MATRIX 10-2T/0.75		
MATRIX 10-3T/1.3M	6304-2RSH	6203-2RSH
MATRIX 10-3T/1.3		
MATRIX 10-4T/1.5M		
MATRIX 10-4T/1.5		
MATRIX 10-5T/2.2M	6305-2RSH1	6205-2RSH
MATRIX 10-5T/2.2	6304-2RSH	6203-2RSH
MATRIX 10-6T/2.2M	6305-2RSH1	6205-2RSH
MATRIX 10-6T/2.2	6304-2RSH	6203-2RSH
MATRIX 18-2T/1.5M	6304-2RSH	6203-2RSH
MATRIX 18-2T/1.5		
MATRIX 18-3T/2.2M	6305-2RSH1	6205-2RSH
MATRIX 18-3T/2.2	6304-2RSH	6203-2RSH
MATRIX 18-4T/3	6305-2RSH1	6205-2RSH
MATRIX 18-5T/4		
MATRIX 18-6T/4		

DIMENSIONS AND WEIGHT

50Hz

Rev. B

PUMP MATRIX 3



Pump Type	Dimensions [mm]													Weight
	D1	D2	B	C	D	F	H3 (3~)	H4 (1~)	L	R	T (1~)	V (3~)	W	[kgf]
MATRIX 3-2T/0,45M	1"	1"	360	171	-	103	-	200	86.5	151.5	Pg11	-	88 ÷ 97	8.5
MATRIX 3-2T/0,45			360	171	-	103	192	-	-	151.5	-	Pg11	88 ÷ 97	8.4
MATRIX 3-3T/0,65M			360	171	-	103	-	200	86.5	151.5	Pg11	-	88 ÷ 97	9.9
MATRIX 3-3T/0,65			360	171	-	103	192	-	-	151.5	-	Pg11	88 ÷ 97	9.8
MATRIX 3-4T/0,65M			384	171	-	127	-	200	86.5	175.5	Pg11	-	88 ÷ 97	10.6
MATRIX 3-4T/0,65			384	171	-	127	192	-	-	175.5	-	Pg11	88 ÷ 97	10.4
MATRIX 3-5T/0,75M			408	171	-	151	-	200	86.5	199.5	Pg11	-	88 ÷ 97	12.5
MATRIX 3-5T/0,75			408	171	-	151	192	-	-	199.5	-	Pg11	88 ÷ 97	12.4
MATRIX 3-6T/0,9M			432	171	-	175	-	219	106	223.5	M20x1,5	-	88 ÷ 97	13.7
MATRIX 3-6T/0,9			444	171	-	175	192	-	-	223.5	-	Pg11	88 ÷ 97	14.4
MATRIX 3-7T/1,3M			493	198	110.5	199	-	226	112	247.5	M20x1,5	-	88 ÷ 97	16.3
MATRIX 3-7T/1,3			493	198	110.5	199	209	-	-	247.5	-	Pg11	88 ÷ 97	17.1
MATRIX 3-8T/1,3M			517	198	134.5	223	-	226	112	271.5	M20x1,5	-	88 ÷ 97	16.3
MATRIX 3-8T/1,3			517	198	134.5	223	209	-	-	271.5	-	Pg11	88 ÷ 97	17.8
MATRIX 3-9T/1,5M			541	198	158.5	247	-	226	112	295.5	M20x1,5	-	88 ÷ 97	18.3
MATRIX 3-9T/1,5			554	198	158.5	247	209	-	-	295.5	-	Pg11	88 ÷ 97	19.6

DIMENSIONS AND WEIGHT

50Hz

Rev. B

PUMP MATRIX 5-10-18 DRAWING

FIG. 1

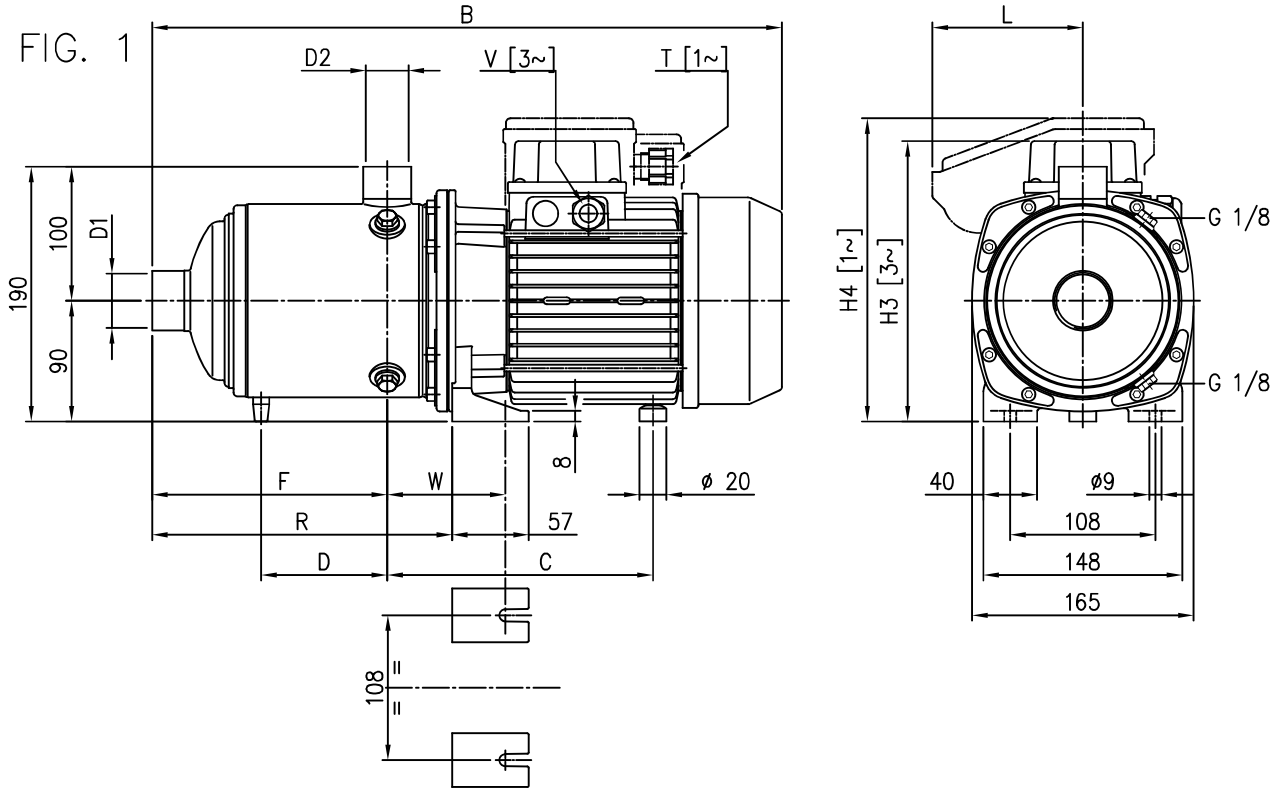
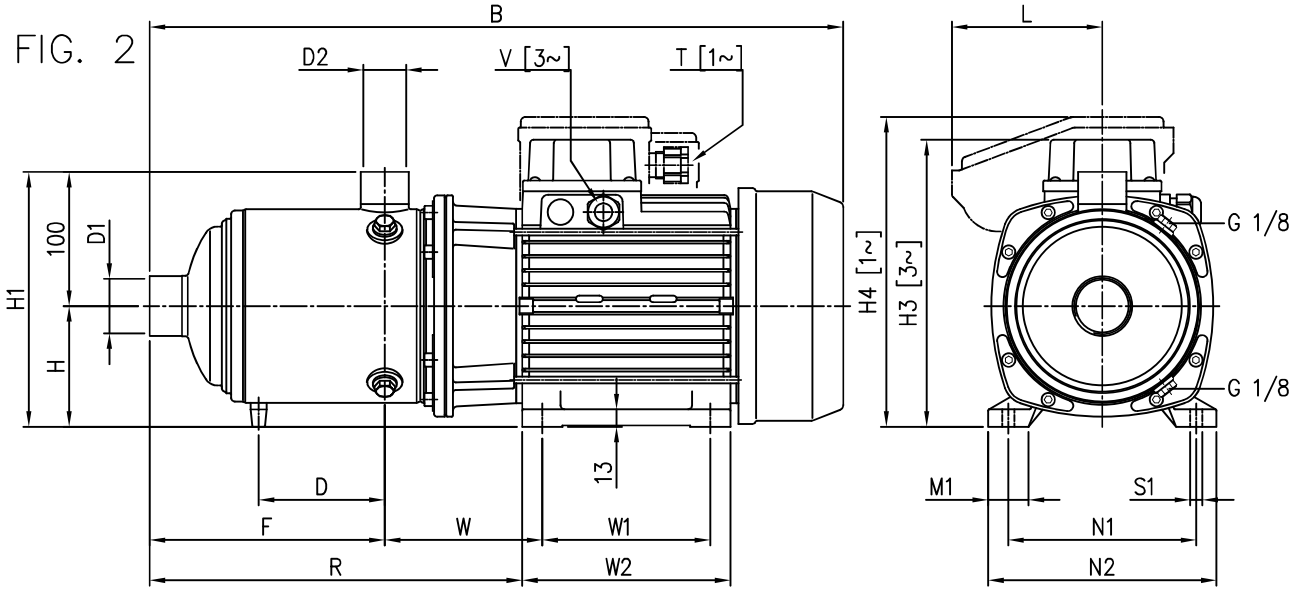


FIG. 2



DIMENSIONS AND WEIGHT

50Hz

Rev. B

PUMP MATRIX 5-10-18 TABLE

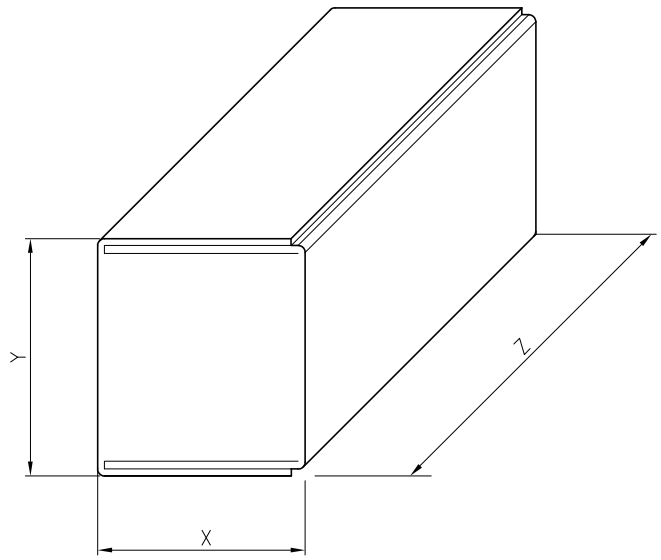
Pump Type	Dimensions [mm]																				Weight
	Fig.	D1	D2	H	H1	B	C	D	F	H3 (3~)	H4 (1~)	L	R	T (1~)	V (3~)	W	W1	W2	M1	N1	N2	S1	[kgf]
MATRIX 5-2T/0.45 M	1	1 1/4"	1"	-	-	360	171	-	103	-	200	86,5	151.5	Pg11	-	88÷97	-	-	-	-	-	-	8,5
MATRIX 5-2T/0.45				-	-	360	171	-	103	192	-	-	151.5	-	Pg11	88÷97	-	-	-	-	-	-	8,4
MATRIX 5-3T/0.65 M				-	-	360	171	-	103	-	200	86,5	151.5	Pg11	-	88÷97	-	-	-	-	-	-	9,9
MATRIX 5-3T/0.65				-	-	360	171	-	103	192	-	-	151.5	-	Pg11	88÷97	-	-	-	-	-	-	9,8
MATRIX 5-4T/0.9 M				-	-	384	171	-	127	-	219	106	175.5	M20x1.5	-	88÷97	-	-	-	-	-	-	12,2
MATRIX 5-4T/0.9				-	-	396	171	-	127	192	-	-	175.5	-	Pg11	88÷97	-	-	-	-	-	-	12,8
MATRIX 5-5T/1.3 M				-	-	445	198	-	151	-	226	112	199.5	M20x1.5	-	88÷97	-	-	-	-	-	-	15,0
MATRIX 5-5T/1.3				-	-	445	198	-	151	209	-	-	199.5	-	Pg11	88÷97	-	-	-	-	-	-	15,5
MATRIX 5-6T/1.3 M				-	-	469	198	-	175	-	226	112	223.5	M20x1.5	-	88÷97	-	-	-	-	-	-	15,2
MATRIX 5-6T/1.3				-	-	469	198	-	175	209	-	-	223.5	-	Pg11	88÷97	-	-	-	-	-	-	16,6
MATRIX 5-7T/1.5 M				-	-	493	198	110,5	199	-	226	112	247.5	M20x1.5	-	88÷97	-	-	-	-	-	-	17,2
MATRIX 5-7T/1.5				-	-	506	198	110,5	199	209	-	-	247.5	-	Pg11	88÷97	-	-	-	-	-	-	18,5
MATRIX 5-8T/2.2 M	2			90	190	565	-	134,5	223		231	112	325.5	M20x1.5	-	117.5	125	155	30	140	170	9	22,3
MATRIX 5-8T/2.2	1			-	-	530	198	134,5	223	209	-	-	271.5	-	Pg11	88÷97	-	-	-	-	-	-	18,7
MATRIX 5-9T/2.2 M	2			90	190	589	-	158,5	247	-	231	112	349.5	M20x1.5	-	117.5	125	155	30	140	170	9	22,8
MATRIX 5-9T/2.2	1			-	-	554	198	158,5	247	209	-	-	295.5	-	Pg11	88÷97	-	-	-	-	-	-	18,8
MATRIX 10-2T/0.75 M	1	1 1/2"	1 1/4"	-	-	379	175	-	118	-	200	86,5	170.5	Pg11	-	92÷101	-	-	-	-	-	-	11,3
MATRIX 10-2T/0.75				-	-	379	175	-	118	192	-	-	170.5	-	Pg11	92÷101	-	-	-	-	-	-	11,2
MATRIX 10-3T/1.3 M				-	-	416	202	-	118	-	226	112	170.5	M20x1.5	-	92÷101	-	-	-	-	-	-	14,7
MATRIX 10-3T/1.3				-	-	416	202	-	118	209	-	-	170.5	-	Pg11	92÷101	-	-	-	-	-	-	14,9
MATRIX 10-4T/1.5 M				-	-	446	202	-	148	-	226	112	200.5	M20x1.5	-	92÷101	-	-	-	-	-	-	15,6
MATRIX 10-4T/1.5				-	-	459	202	-	148	209	-	-	200.5	-	Pg11	92÷101	-	-	-	-	-	-	17,3
MATRIX 10-5T/2.2 M	2			90	190	524	-	-	178	-	231	112	284.5	M20x1.5	-	121.5	125	155	30	140	170	9	21,3
MATRIX 10-5T/2.2	1			-	-	489	202	-	178	209	-	-	230.5	-	Pg11	92÷101	-	-	-	-	-	-	17,9
MATRIX 10-6T/2.2 M	2			90	190	554	-	118,5	208	-	231	112	314.5	M20x1.5	-	121.5	125	155	30	140	170	9	22,4
MATRIX 10-6T/2.2	1			-	-	519	202	118,5	208	209	-	-	260.5	-	Pg11	92÷101	-	-	-	-	-	-	18,3
MATRIX 18-2T/1.5M	1	2"	1 1/2"	-	-	442	205	-	141	-	226	112	196.5	M20x1.5	-	95 ÷ 104	-	-	-	-	-	-	14,5
MATRIX 18-2T/1.5				-	-	455	205	-	141	209	-	-	196.5	-	Pg11	95 ÷ 104	-	-	-	-	-	-	16,2
MATRIX 18-3T/2.2M	2			90	190	490	-	-	141	-	231	112	250,5	M20x1.5	-	124.5	125	155	30	140	170	9	20,6
MATRIX 18-3T/2.2	1			-	-	455	205	-	141	209	-	-	196.5	-	Pg11	95 ÷ 104	-	-		-	-	-	17,1
MATRIX 18-4T/3	2			90	190	565	-	-	178.5	214	-	-	288	-	Pg13.5	124.5	125	155	30	140	170	9	23,9
MATRIX 18-5T/4				100	200	615	-	123	216	241	-	-	315	-	Pg16	114	140	170	35	160	192	11	35.5
MATRIX 18-6T/4				100	200	652	-	160.5	253.5	241	-	-	352.5	-	Pg16	114	140	170	35	160	192	11	36.5

DIMENSIONS AND WEIGHT

50Hz

Rev. B

PACKING



Pump Type	Packing [mm]			Weight [kgf]
	X	Y	Z	
MATRIX 3-2T/0.45M	180	210	420	9.1
MATRIX 3-2T/0.45				9
MATRIX 3-3T/0.65M				10.5
MATRIX 3-3T/0.65				10.4
MATRIX 3-4T/0.65M				11.2
MATRIX 3-4T/0.65				11
MATRIX 3-5T/0.75M				13.1
MATRIX 3-5T/0.75				13
MATRIX 3-6T/0.9M	210	240	550	14.5
MATRIX 3-6T/0.9				15
MATRIX 3-7T/1.3M				17.1
MATRIX 3-7T/1.3				17.7
MATRIX 3-8T/1.3M				17.1
MATRIX 3-8T/1.3				18.4
MATRIX 3-9T/1.5M				19.1
MATRIX 3-9T/1.5	210	240	660	20.4
MATRIX 5-2T/0.45M	180	210	420	9.1
MATRIX 5-2T/0.45				9
MATRIX 5-3T/0.65M				10.5
MATRIX 5-3T/0.65				10.4
MATRIX 5-4T/0.9M	210	240	550	13
MATRIX 5-4T/0.9	180	210	420	13.4
MATRIX 5-5T/1.3M	210	240	550	15.8
MATRIX 5-5T/1.3				16.3
MATRIX 5-6T/1.3M				16
MATRIX 5-6T/1.3				17.4
MATRIX 5-7T/1.5M				18
MATRIX 5-7T/1.5				19.3
MATRIX 5-8T/2.2M	210	240	660	23.3
MATRIX 5-8T/2.2	210	240	550	19.5
MATRIX 5-9T/2.2M	210	240	660	23.8
MATRIX 5-9T/2.2				19.8
MATRIX 10-2T/0.75M	180	210	420	11.9
MATRIX 10-2T/0.75				11.8
MATRIX 10-3T/1.3M	210	240	550	15.5
MATRIX 10-3T/1.3				15.7
MATRIX 10-4T/1.5M				16.4
MATRIX 10-4T/1.5				18.1
MATRIX 10-5T/2.2M				22.1
MATRIX 10-5T/2.2				18.7
MATRIX 10-6T/2.2M	210	240	660	23.4
MATRIX 10-6T/2.2	210	240	550	19.1
MATRIX 18-2T/1.5M				15.3
MATRIX 18-2T/1.5				17
MATRIX 18-3T/2.2M				21.4
MATRIX 18-3T/2.2				17.9
MATRIX 18-4T/3	210	240	660	24.7
MATRIX 18-5T/4	210	240	660	36.3
MATRIX 18-6T/4				37.3

TECHNICAL DATA

50Hz

Rev. B

MOTOR DATA

Pump type		Power		Efficiency		Capacitor		Efficiency (% load) Three phase η %			Input [kW]		Full load current [A]			Locked rotor current [A]		
Single Phase	Three Phase	[kW]	[HP]	Single Phase	Three Phase	Single Phase [μF]	[V]	50%	75%	100%	Single Phase	Three Phase	Single Phase 230 V	Three Phase 230 V	Three Phase 400 V	Single Phase 230 V	Three Phase 230 V	Three Phase 400 V
MATRIX 3-2T/0.45M	MATRIX 3-2T/0.45	0.45	0.6	-	-	12.5	450	-	-	-	0.73	0.72	3.2	2.3	1.3	8.0	11.0	6.5
MATRIX 3-3T/0.65M	MATRIX 3-3T/0.65	0.65	0.9	-	-	16	450	-	-	-	0.97	0.85	4.5	2.8	1.6	16.2	16.0	9.1
MATRIX 3-4T/0.65M	MATRIX 3-4T/0.65	0.65	0.9	-	-	16	450	-	-	-	0.97	0.85	4.5	2.8	1.6	16.2	16.0	9.1
MATRIX 3-5T/0.75M	MATRIX 3-5T/0.75	0.75	1.0	-	IE2	25	450	77.2	80.9	81.3	1.14	0.92	5.4	2.9	1.7	26.5	22.0	12.9
MATRIX 3-6T/0.9M	MATRIX 3-6T/0.9	0.9	1.2	-	IE2	31.5	450	79.0	81.7	81.6	1.28	1.35	5.7	4.3	2.5	21.7	31.0	17.8
MATRIX 3-7T/1.3M	MATRIX 3-7T/1.3	1.3	1.8	-	IE2	31.5	450	79.7	82.5	83.0	1.75	1.80	7.8	5.5	3.2	39.0	45.0	25.7
MATRIX 3-8T/1.3M	MATRIX 3-8T/1.3	1.3	1.8	-	IE2	31.5	450	79.7	82.5	83.0	1.75	1.80	7.8	5.5	3.2	39.0	45.0	25.7
MATRIX 3-9T/1.5M	MATRIX 3-9T/1.5	1.5	2.0	-	IE2	35	450	78.6	83.0	84.2	1.95	1.78	8.7	6.3	3.7	40.9	34.3	20.0
MATRIX 5-2T/0.45M	MATRIX 5-2T/0.45	0.45	0.6	-	IE2	12.5	450	-	-	-	0.73	0.72	3.2	2.3	1.3	8.0	11.0	6.5
MATRIX 5-3T/0.65M	MATRIX 5-3T/0.65	0.65	0.9	-	IE2	16	450	-	-	-	0.97	0.85	4.5	2.8	1.6	16.2	16.0	9.1
MATRIX 5-4T/0.9M	MATRIX 5-4T/0.9	0.9	1.2	-	IE2	31.5	450	79.0	81.7	81.6	1.28	1.35	5.7	4.3	2.5	21.7	31.0	17.8
MATRIX 5-5T/1.3M	MATRIX 5-5T/1.3	1.3	1.8	-	IE2	31.5	450	79.7	82.5	83.0	1.75	1.80	7.8	5.5	3.2	39.0	45.0	25.7
MATRIX 5-6T/1.3M	MATRIX 5-6T/1.3	1.3	1.8	-	IE2	31.5	450	79.7	82.5	83.0	1.75	1.80	7.8	5.5	3.2	39.0	45.0	25.7
MATRIX 5-7T/1.5M	MATRIX 5-7T/1.5	1.5	2.0	-	IE2	35	450	78.6	83.0	84.2	1.95	1.78	8.7	6.3	3.7	40.9	34.3	20.0
MATRIX 5-8T/2.2M	MATRIX 5-8T/2.2	2.2	3.0	-	IE2	50	450	83.0	84.4	83.8	2.92	2.63	13.0	8.1	4.7	62.4	59.0	34.3
MATRIX 5-9T/2.2M	MATRIX 5-9T/2.2	2.2	3.0	-	IE2	50	450	83.0	84.4	83.8	2.92	2.63	13.0	8.1	4.7	62.4	59.0	34.3
MATRIX 10-2T/0.75M	MATRIX 10-2T/0.75	0.75	1.0	-	IE2	25	450	77.2	80.9	81.3	1.14	0.92	5.4	2.9	1.7	26.5	22.0	12.9
MATRIX 10-3T/1.3M	MATRIX 10-3T/1.3	1.3	1.8	-	IE2	31.5	450	79.7	82.5	83.0	1.75	1.80	7.8	5.5	3.2	39.0	45.0	25.7
MATRIX 10-4T/1.5M	MATRIX 10-4T/1.5	1.5	2.0	-	IE2	35	450	78.6	83.0	84.2	1.95	1.78	8.7	6.3	3.7	40.9	34.3	20.0
MATRIX 10-5T/2.2M	MATRIX 10-5T/2.2	2.2	3.0	-	IE2	50	450	83.0	84.4	83.8	2.92	2.63	13.0	8.1	4.7	62.4	59.0	34.3
MATRIX 10-6T/2.2M	MATRIX 10-6T/2.2	2.2	3.0	-	IE2	50	450	83.0	84.4	83.8	2.92	2.63	13.0	8.1	4.7	62.4	59.0	34.3
MATRIX 18-2T/1.5M	MATRIX 18-2T/1.5	1.5	2.0	-	IE2	35	450	78.6	83.0	84.2	1.95	1.78	8.7	6.3	3.7	40.9	34.3	20.0
MATRIX 18-3T/2.2M	MATRIX 18-3T/2.2	2.2	3.0	-	IE2	50	450	83.0	84.4	83.8	2.92	2.63	13.0	8.1	4.7	62.4	59.0	34.3
-	MATRIX 18-4T/3	3	4.0	-	IE2	-	-	85.0	86.7	86.3	-	3.48	-	10.6	6.1	-	100.0	57.7
-	MATRIX 18-5T/4	4	5.5	-	IE2	-	-	84.3	87.2	87.8	-	4.56	-	15.1	8.7	-	151.0	87.0
-	MATRIX 18-6T/4	4	5.5	-	IE2	-	-	84.3	87.2	87.8	-	4.56	-	15.1	8.7	-	151.0	87.0

NOISE DATA

Pump Type		Motor			LpA-dB(A)*
Single phase	Three phase	[kW]	[HP]	size	
MATRIX 3-2T/0.45M	MATRIX 3-2T/0.45	0.45	0.6	71	61
MATRIX 5-2T/0.45M	MATRIX 5-2T/0.45				
MATRIX 3-3T/0.65M	MATRIX 3-3T/0.65	0.65	0.9	71	62
MATRIX 3-4T/0.65M	MATRIX 3-4T/0.65				
MATRIX 5-3T/0.65M	MATRIX 5-3T/0.65				
MATRIX 3-5T/0.75M	MATRIX 3-5T/0.75	0.75	1.0	71	62
MATRIX 10-2T/0.75M	MATRIX 10-2T/0.75				
MATRIX 3-6T/0.9M	MATRIX 3-6T/0.9	0.9	1.2	71	62
MATRIX 5-4T/0.9M	MATRIX 5-4T/0.9				
MATRIX 3-7T/1.3M	MATRIX 3-7T/1.3	1.3	1.8	80	64
MATRIX 3-8T/1.3M	MATRIX 3-8T/1.3				
MATRIX 5-5T/1.3M	MATRIX 5-5T/1.3				
MATRIX 5-6T/1.3M	MATRIX 5-6T/1.3				
MATRIX 10-3T/1.3M	MATRIX 10-3T/1.3				
MATRIX 3-9T/1.5M	MATRIX 3-9T/1.5	1.5	2.0	80	64
MATRIX 5-7T/1.5M	MATRIX 5-7T/1.5				
MATRIX 10-4T/1.5M	MATRIX 10-4T/1.5				
MATRIX 18-2T/1.5M	MATRIX 18-2T/1.5				
-	MATRIX 5-8T/2.2	2.2	3.0	80	65
-	MATRIX 5-9T/2.2				
-	MATRIX 10-5T/2.2				
-	MATRIX 10-6T/2.2				
-	MATRIX 18-3T/2.2				
MATRIX 5-8T/2.2M	-			90	68
MATRIX 5-9T/2.2M	-				
MATRIX 10-5T/2.2M	-				
MATRIX 10-6T/2.2M	-				
MATRIX 18-3T/2.2M	-				
-	MATRIX 18-4T/3	3.0	4.0		68
-	MATRIX 18-5T/4	4.0	5.5		69
-	MATRIX 18-6T/4				

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