

HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS

in AISI 304



Horizontal multistage centrifugal electric pumps in AISI 304. stainless steel.

APPLICATIONS

- Industrial washing
- Pressure boosting units
- Industrial plants
- Distribution and treatment of water
- Heating and air conditioning
- Cooling and chiller
- Irrigation
- Recovery of rain water

TECHNICAL DETAILS

- Strong and compact construction
- Available in various versions and models

TECHNICAL DATA

- Temperature of the liquid: from -15°C to +110°C
- Maximum working pressure: 10 bar
- Maximum chlorine content: 500 ppm
- Self-ventilated 2 pole asynchronous motor
- Class of insulation F
- IP55 Protection rating
- 230V ±10%, 50Hz single phase voltage, 230/400V ±10%, 50Hz three phase voltage
- Permanent capacitor inserted and thermo-amperometric protection with automatic rearm incorporated for the single phase motor
- Protection under user's responsibility for the three phase version
- G1 suction connection for MATRIX 3, G1¼ for MATRIX 5, G1½ for MATRIX 10, G2 for MATRIX 18
- G1 discharge connection for MATRIX 3-5, G1¼ for MATRIX 10, G1½ for MATRIX 18

MATERIALS

- Pump body, impellers, intermediate stages, seal housing disc and shaft (part in contact with the liquid) in AISI 304
- Mechanical sealing in Carbon/Ceramic/EPDM
- Support and motor casing in aluminium

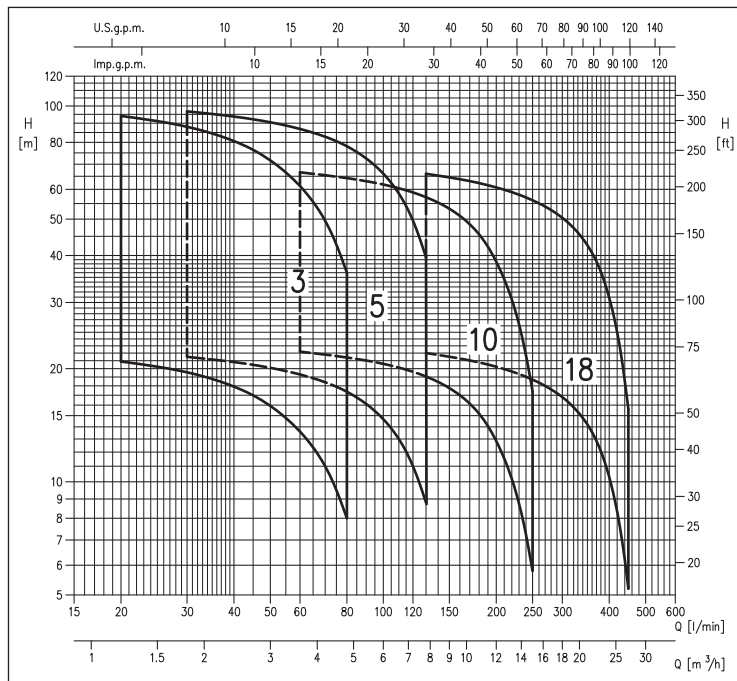
CONTROL PANELS

- 1EPBH (see page 68)

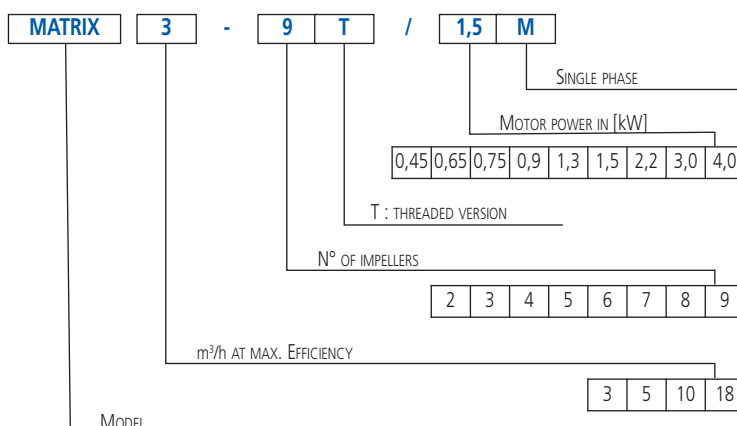
ACCESSORIES (on request)

- 5 litre 10 bar ¾ EPDM vessel
- 24 litre 8 bar 1" EPDM vessel
- 24 litre 10 bar 1" EPDM vessel
- 24 litre 16 bar 1" EPDM vessel
- PVC 5m key float with counter-weight
- PVC 10m key float with counter-weight
- SQUARE-D FSG-2 1.4÷4.6 bar G¼ F pressure switch
- FYG-22 2.8÷7 bar G¼ F pressure switch
- FYG-32 5.6÷10.5 bar G¼ F pressure switch
- Presscomfort - Pressure regulator (see page 70)
- Press•o•Matic - Variable speed control system (230V±10% power supply single phase - 220V three phase output - maximum motor power 2.2 kW - 3 HP - see page 71)

PERFORMANCE CURVES (according to ISO 9906 Attachment A)



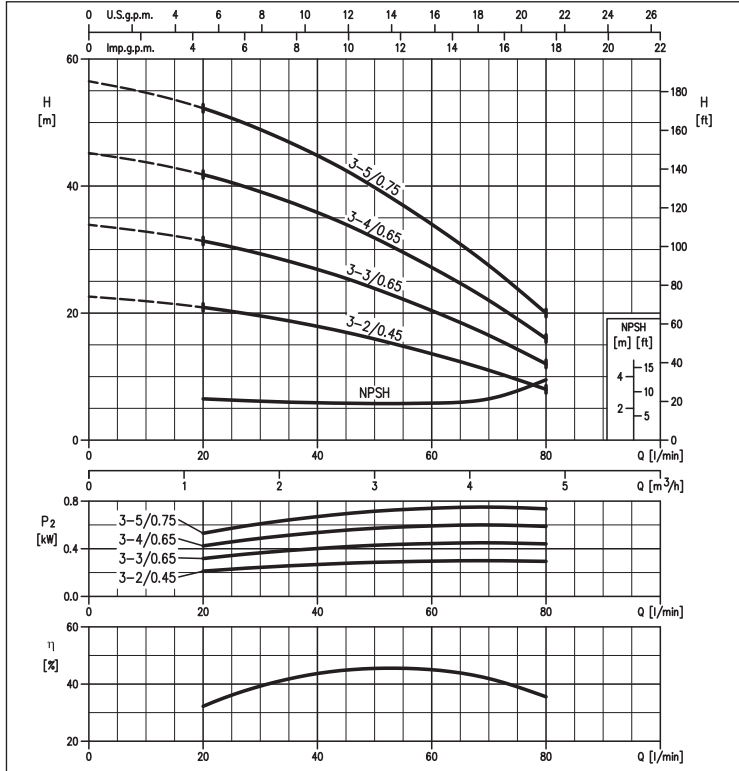
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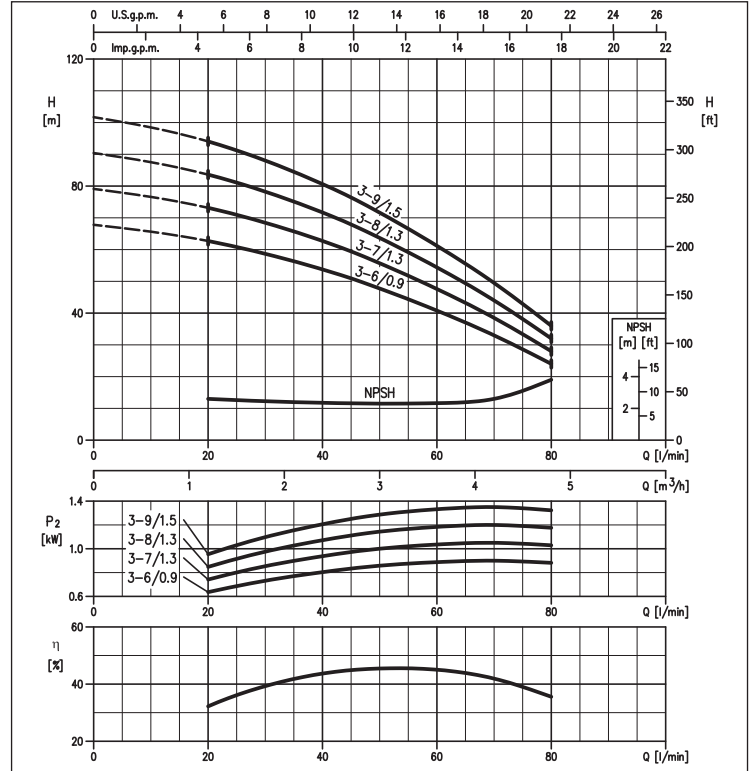
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in AISI 304

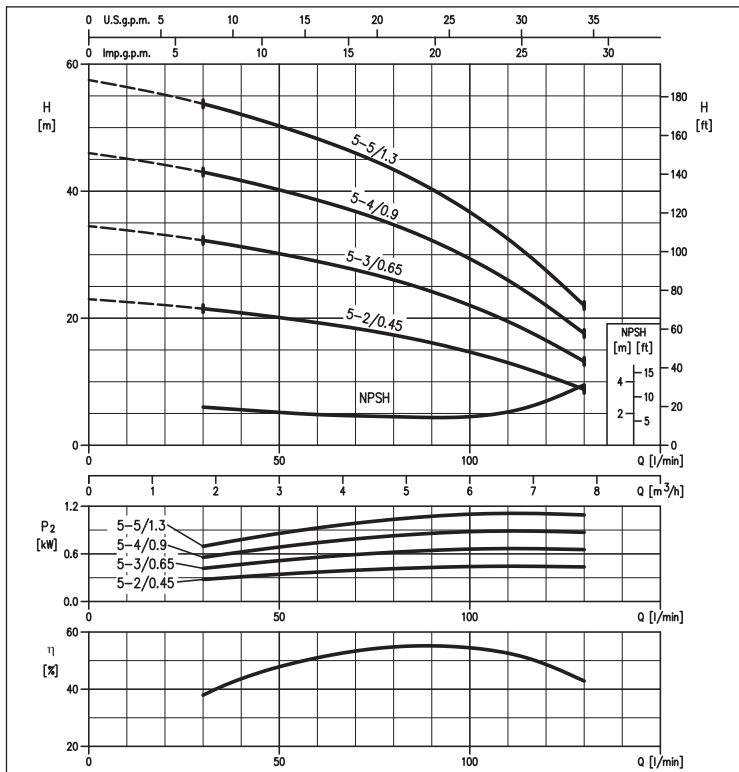
MATRIX 3 range PERFORMANCE CURVES (from 2 to 5 impellers)
(according to ISO 9906 Attachment A)



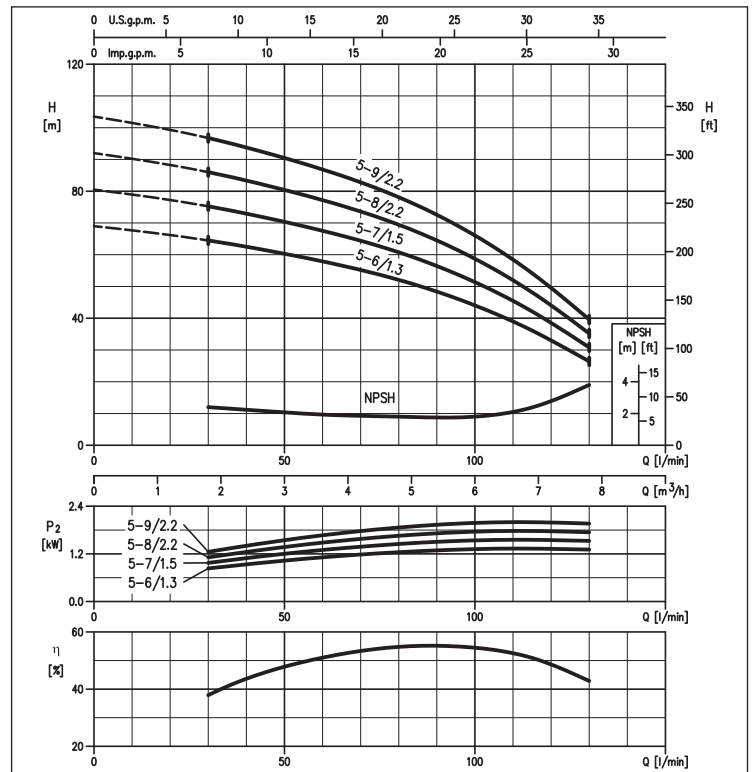
MATRIX 3 range PERFORMANCE CURVES (from 6 to 9 impellers)
(according to ISO 9906 Attachment A)



MATRIX 5 range PERFORMANCE CURVES (from 2 to 5 impellers)
(according to ISO 9906 Attachment A)



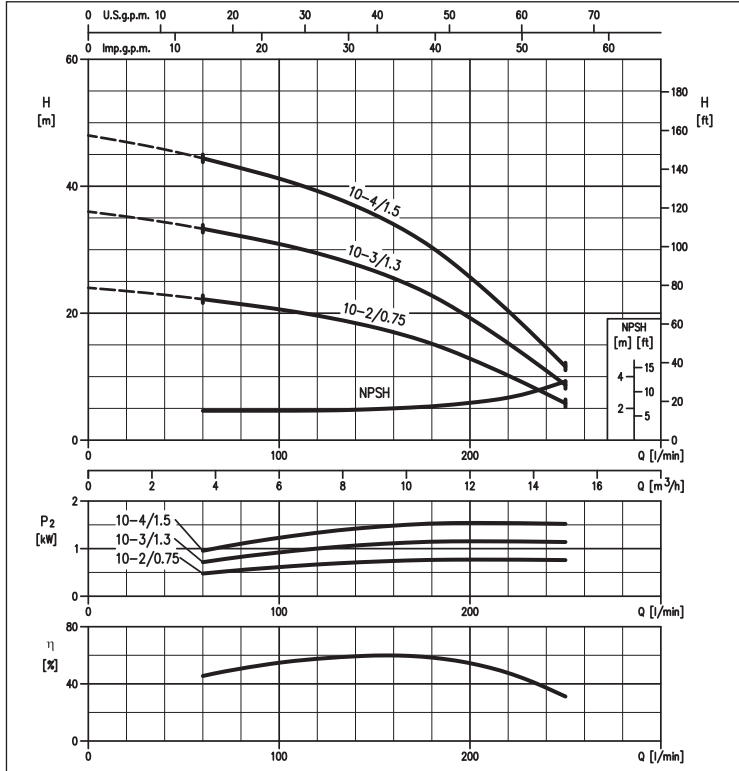
MATRIX 5 range PERFORMANCE CURVES (from 6 to 9 impellers)
(according to ISO 9906 Attachment A)



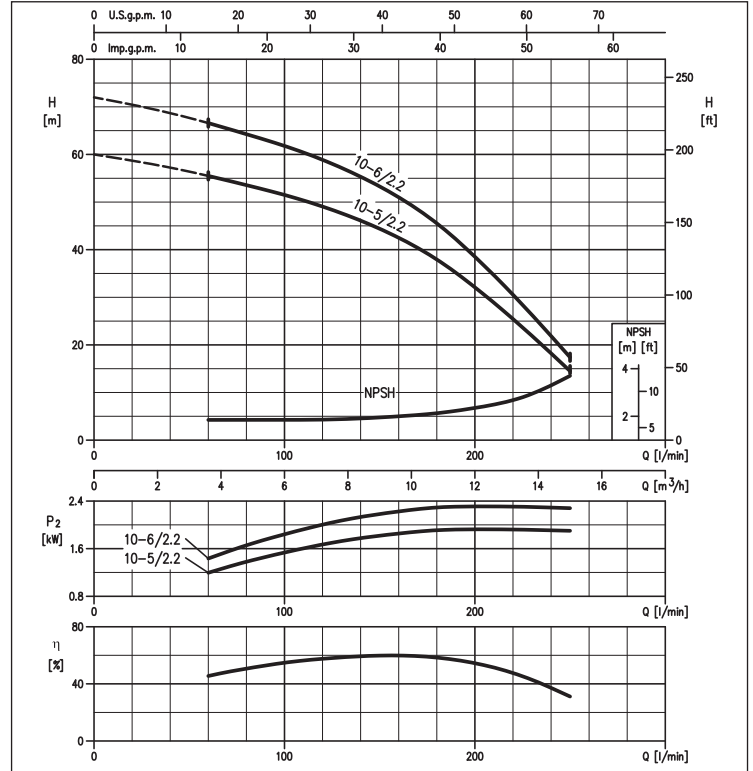
HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

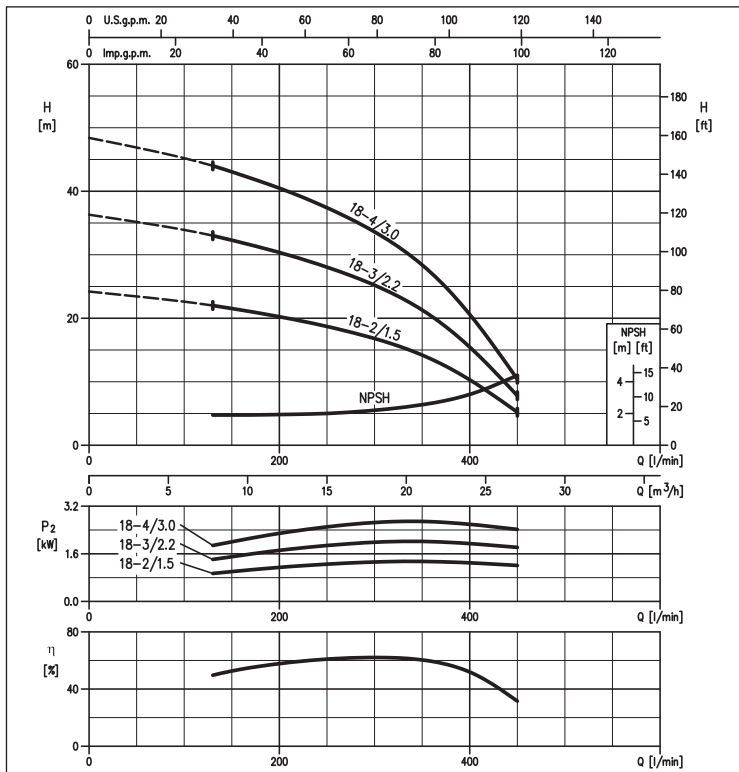
MATRIX 10 range PERFORMANCE CURVES (from 2 to 4 impellers)
(according to ISO 9906 Attachment A)



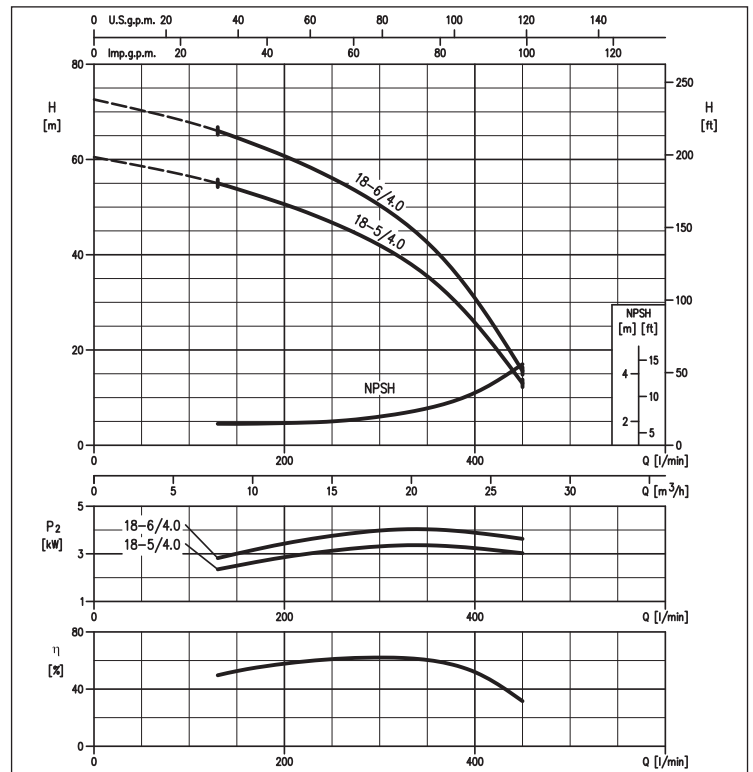
MATRIX 10 range PERFORMANCE CURVES (from 5 to 6 impellers)
(according to ISO 9906 Attachment A)



MATRIX 18 range PERFORMANCE CURVES (from 2 to 4 impellers)
(according to ISO 9906 Attachment A)



MATRIX 18 range PERFORMANCE CURVES (from 5 to 6 impellers)
(according to ISO 9906 Attachment A)



HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

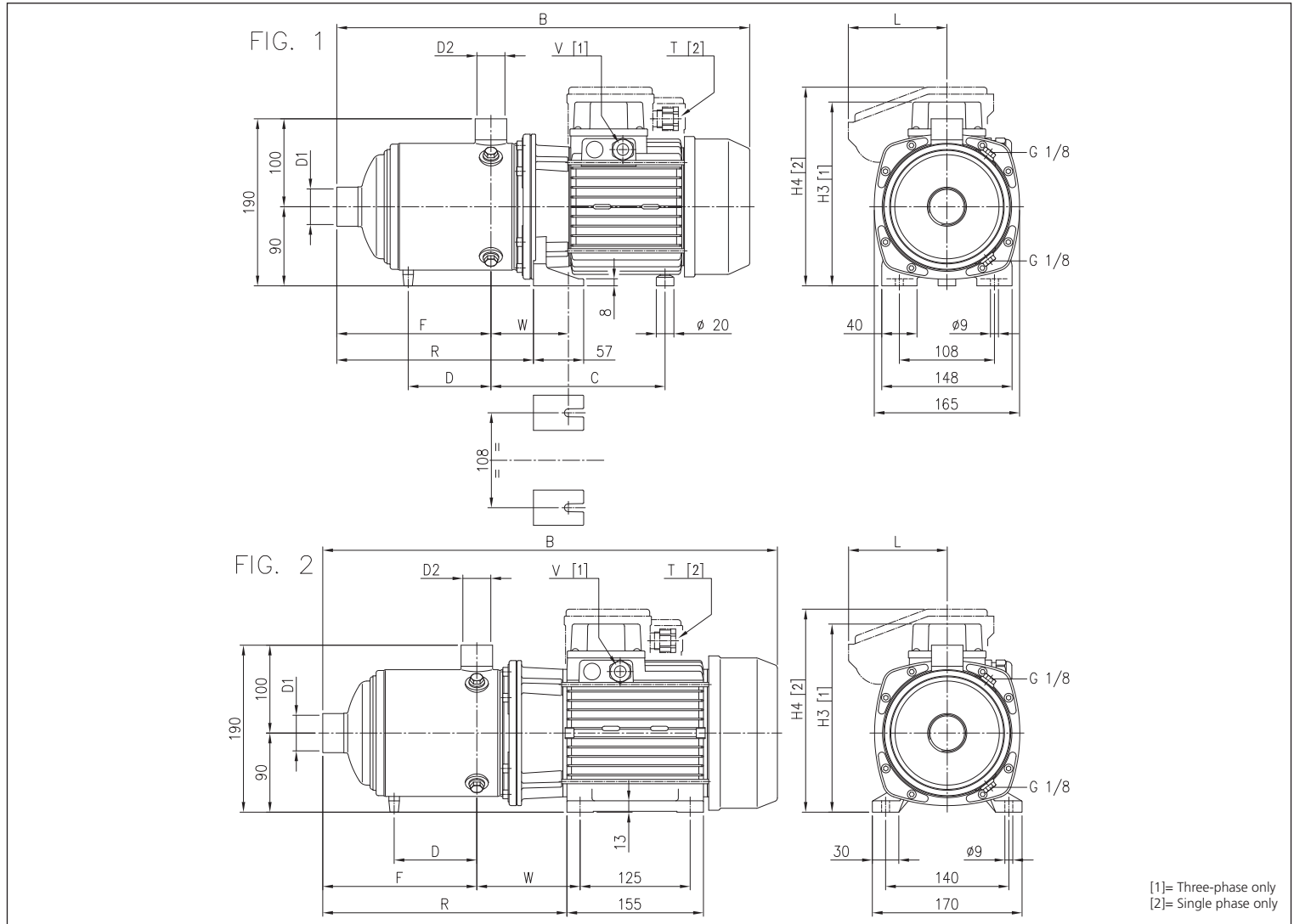
PERFORMANCE TABLE

230V single phase	Model 230/400V three-phase	P ₂ [HP] [kW]		Q=Flow rate													
				H=Head [m]													
				l/min	20	30	45	60	80	100	130	160	200	250	300	350	400
m ³ /h	1,2	1,8	2,7	3,6	4,8	6	7,8	9,6	12	15	18	21	24	27			
MATRIX 3-2T/0.45M	MATRIX 3-2T/0.45	0,6	0,45	20,9	19,6	17,0	13,6	8,0	-	-	-	-	-	-	-	-	
MATRIX 3-3T/0.65M	MATRIX 3-3T/0.65	0,9	0,65	31,4	29,3	25,5	20,4	12,0	-	-	-	-	-	-	-	-	
MATRIX 3-4T/0.65M	MATRIX 3-4T/0.65	0,9	0,65	42,0	39,1	34,0	27,2	16,0	-	-	-	-	-	-	-	-	
MATRIX 3-5T/0.75M	MATRIX 3-5T/0.75	1	0,75	52,5	49,0	42,5	34,0	20,0	-	-	-	-	-	-	-	-	
MATRIX 3-6T/0.9M	MATRIX 3-6T/0.9	1,2	0,9	62,5	58,5	51,0	41,0	24,0	-	-	-	-	-	-	-	-	
MATRIX 3-7T/1.3M	MATRIX 3-7T/1.3	1,8	1,3	73,0	68,5	59,5	47,5	28,0	-	-	-	-	-	-	-	-	
MATRIX 3-8T/1.3M	MATRIX 3-8T/1.3	1,8	1,3	83,5	78,0	68,0	54,5	32,0	-	-	-	-	-	-	-	-	
MATRIX 3-9T/1.5M	MATRIX 3-9T/1.5	2	1,5	94,0	88,0	76,5	61,0	36,0	-	-	-	-	-	-	-	-	
MATRIX 5-2T/0.45M	MATRIX 5-2T/0.45	0,6	0,45	-	21,5	20,5	19,3	17,4	14,7	8,8	-	-	-	-	-	-	
MATRIX 5-3T/0.65M	MATRIX 5-3T/0.65	0,9	0,65	-	32,3	30,7	29,0	26,0	22,0	13,2	-	-	-	-	-	-	
MATRIX 5-4T/0.9M	MATRIX 5-4T/0.9	1,2	0,9	-	43,0	41,0	38,6	34,7	29,4	17,6	-	-	-	-	-	-	
MATRIX 5-5T/1.3M	MATRIX 5-5T/1.3	1,8	1,3	-	54,0	51,0	48,5	43,5	36,7	22,0	-	-	-	-	-	-	
MATRIX 5-6T/1.3M	MATRIX 5-6T/1.3	1,8	1,3	-	64,5	61,5	58,0	52,0	44,0	26,4	-	-	-	-	-	-	
MATRIX 5-7T/1.5M	MATRIX 5-7T/1.5	2	1,5	-	75,5	72,0	67,5	61,0	51,5	30,8	-	-	-	-	-	-	
MATRIX 5-8T/2.2M	MATRIX 5-8T/2.2	3	2,2	-	86,0	82,0	77,0	69,5	58,5	35,2	-	-	-	-	-	-	
MATRIX 5-9T/2.2M	MATRIX 5-9T/2.2	3	2,2	-	97,0	92,0	87,0	78,0	66,0	39,6	-	-	-	-	-	-	
MATRIX 10-2T/0.75M	MATRIX 10-2T/0.75	1	0,75	-	-	-	22,2	21,4	20,6	19,1	17,0	12,8	5,8	-	-	-	
MATRIX 10-3T/1.3M	MATRIX 10-3T/1.3	1,8	1,3	-	-	-	33,3	32,1	30,9	28,6	25,5	19,3	8,7	-	-	-	
MATRIX 10-4T/1.5M	MATRIX 10-4T/1.5	2	1,5	-	-	-	44,5	43,0	41,0	38,1	34,0	25,7	11,6	-	-	-	
MATRIX 10-5T/2.2M	MATRIX 10-5T/2.2	3	2,2	-	-	-	55,5	53,5	51,5	47,5	42,5	32,1	14,5	-	-	-	
MATRIX 10-6T/2.2M	MATRIX 10-6T/2.2	3	2,2	-	-	-	66,5	64,5	62,0	57,0	51,0	38,5	17,4	-	-	-	
MATRIX 18-2T/1.5M	MATRIX 18-2T/1.5	2	1,5	-	-	-	-	-	-	22,0	21,3	20,2	18,7	16,8	14,2	10,3	5,2
MATRIX 18-3T/2.2M	MATRIX 18-3T/2.2	3	2,2	-	-	-	-	-	-	33,0	31,9	30,4	28,1	25,2	21,3	15,5	7,8
	MATRIX 18-4T/3	4	3	-	-	-	-	-	-	44,0	42,5	40,5	37,4	33,6	28,4	20,6	10,4
	MATRIX 18-5T/4	5,5	4	-	-	-	-	-	-	55,0	53,0	50,5	47,0	42,0	35,5	25,8	13,0
	MATRIX 18-6T/4	5,5	4	-	-	-	-	-	-	66,0	64,0	60,5	56,0	50,5	42,5	30,9	15,6

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MATRIX 3-5-10-18 DIMENSIONS



DIMENSIONS TABLE

Model	Fig.	Dimensions [mm]											Weight [kg]		
		B	C	D	F	H3 [1]	H4 [2]	L	R	T [2]	V [1]	W		D1	D2
MATRIX 3-2T/0,45M	1	360	171	-	103	-	200	84	151,5	PG11	-	88÷97	1"	1"	8,5
MATRIX 3-2T/0,45	1	360	171	-	103	192	-	-	151,5	-	PG11	88÷97	1"	1"	8,4
MATRIX 3-3T/0,65M	1	360	171	-	103	-	200	84	151,5	PG11	-	88÷97	1"	1"	9,9
MATRIX 3-3T/0,65	1	360	171	-	103	192	-	-	151,5	-	PG11	88÷97	1"	1"	9,8
MATRIX 3-4T/0,65M	1	384	171	-	127	-	200	84	175,5	PG11	-	88÷97	1"	1"	10,6
MATRIX 3-4T/0,65	1	384	171	-	127	192	-	-	175,5	-	PG11	88÷97	1"	1"	10,4
MATRIX 3-5T/0,75M	1	408	171	-	151	-	200	84	199,5	PG11	-	88÷97	1"	1"	12,5
MATRIX 3-5T/0,75	1	408	171	-	151	192	-	-	199,5	-	PG11	88÷97	1"	1"	12,4
MATRIX 3-6T/0,9M	1	432	171	-	175	-	219	106	223,5	M20x1,5	-	88÷97	1"	1"	13,7
MATRIX 3-6T/0,9	1	432	171	-	175	192	-	-	223,5	-	PG11	88÷97	1"	1"	13,7
MATRIX 3-7T/1,3M	1	493	198	118	199	-	226	112	247,5	M20x1,5	-	88÷97	1"	1"	16,3
MATRIX 3-7T/1,3	1	493	198	118	199	209	-	-	247,5	-	PG11	88÷97	1"	1"	16,1
MATRIX 3-8T/1,3M	1	517	198	142	223	-	226	112	271,5	M20x1,5	-	88÷97	1"	1"	16,3
MATRIX 3-8T/1,3	1	517	198	142	223	209	-	-	271,5	-	PG11	88÷97	1"	1"	16,8
MATRIX 3-9T/1,5M	1	541	198	166	247	-	226	112	295,5	M20x1,5	-	88÷97	1"	1"	18,3
MATRIX 3-9T/1,5	1	541	198	166	247	209	-	-	295,5	-	PG11	88÷97	1"	1"	17,7

[1]= Three-phase only
[2]= Single phase only

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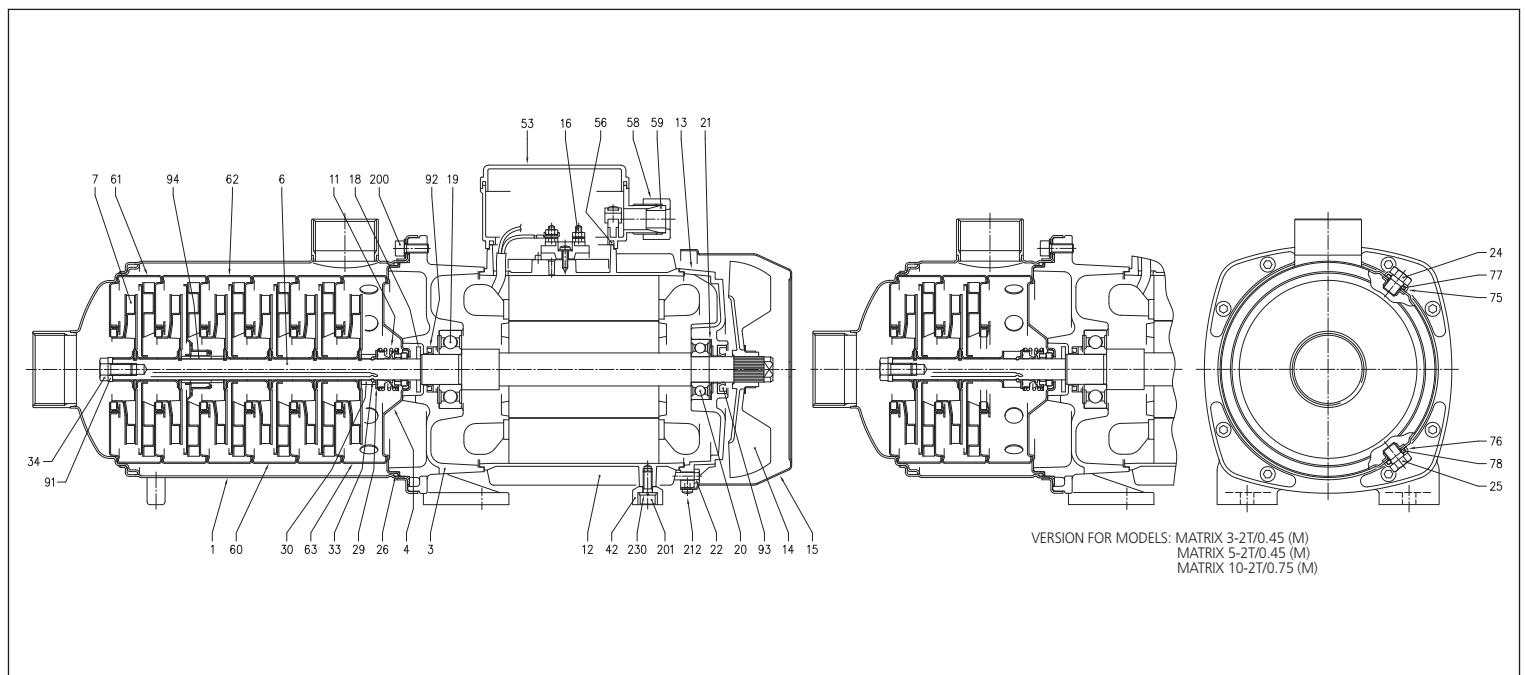
DIMENSIONS TABLE

Model	Fig.	B	C	D	F	H3 [1]	H4 [2]	L	R	T [2]	V [1]	W	D1	D2	Weight [kg]
MATRIX 5-2T/0.45 M	1	360	171	-	103	-	200	84	151,5	PG11	-	88÷97	1"¼	1"	8,5
MATRIX 5-2T/0.45	1	360	171	-	103	192	-	-	151,5	-	PG11	88÷97	1"¼	1"	8,4
MATRIX 5-3T/0.65 M	1	360	171	-	103	-	200	84	151,5	PG11	-	88÷97	1"¼	1"	9,9
MATRIX 5-3T/0.65	1	360	171	-	103	192	-	-	151,5	-	PG11	88÷97	1"¼	1"	9,8
MATRIX 5-4T/0.9 M	1	384	171	-	127	-	219	106	175,5	M20x1,5	-	88÷97	1"¼	1"	12,2
MATRIX 5-4T/0.9	1	384	171	-	127	192	-	-	175,5	-	PG11	88÷97	1"¼	1"	12,1
MATRIX 5-5T/1.3 M	1	445	198	-	151	-	226	112	199,5	M20x1,5	-	88÷97	1"¼	1"	15,0
MATRIX 5-5T/1.3	1	445	198	-	151	209	-	-	199,5	-	PG11	88÷97	1"¼	1"	14,5
MATRIX 5-6T/1.3 M	1	469	198	-	175	-	226	112	223,5	M20x1,5	-	88÷97	1"¼	1"	15,2
MATRIX 5-6T/1.3	1	469	198	-	175	209	-	-	223,5	-	PG11	88÷97	1"¼	1"	15,6
MATRIX 5-7T/1.5 M	1	493	198	118	199	-	226	112	247,5	M20x1,5	-	88÷97	1"¼	1"	17,2
MATRIX 5-7T/1.5	1	493	198	118	199	209	-	-	247,5	-	PG11	88÷97	1"¼	1"	16,6
MATRIX 5-8T/2.2 M	2	565	-	142	223	-	231	112	325,5	M20x1,5	-	117,5	1"¼	1"	22,3
MATRIX 5-8T/2.2	1	530	198	142	223	209	-	-	271,5	-	PG11	88÷97	1"¼	1"	18,7
MATRIX 5-9T/2.2 M	2	589	-	166	247	-	231	112	349,5	M20x1,5	-	117,5	1"¼	1"	22,8
MATRIX 5-9T/2.2	1	554	198	166	247	209	-	-	295,5	-	PG11	88÷97	1"¼	1"	18,8
MATRIX 10-2T/0.75 M	1	379	175	-	118	-	200	84	170,5	PG11	-	92÷101	1"½	1"¼	11,3
MATRIX 10-2T/0.75	1	379	175	-	118	192	-	-	170,5	-	PG11	92÷101	1"½	1"¼	11,2
MATRIX 10-3T/1.3 M	1	416	202	-	118	-	226	112	170,5	M20x1,5	-	92÷101	1"½	1"¼	14,7
MATRIX 10-3T/1.3	1	416	202	-	118	209	-	-	170,5	-	PG11	92÷101	1"½	1"¼	13,9
MATRIX 10-4T/1.5 M	1	446	202	-	148	-	226	112	200,5	M20x1,5	-	92÷101	1"½	1"¼	15,6
MATRIX 10-4T/1.5	1	446	202	-	148	209	-	-	200,5	-	PG11	92÷101	1"½	1"¼	15,4
MATRIX 10-5T/2.2 M	2	524	-	-	178	-	231	112	284,5	M20x1,5	-	121,5	1"½	1"¼	21,3
MATRIX 10-5T/2.2	1	489	202	-	178	209	-	-	230,5	-	PG11	92÷101	1"½	1"¼	17,9
MATRIX 10-6T/2.2 M	2	554	-	126	208	-	231	112	314,5	M20x1,5	-	121,5	1"½	1"¼	22,4
MATRIX 10-6T/2.2	1	519	202	126	208	209	-	-	260,5	-	PG11	92÷101	1"½	1"¼	18,3
MATRIX 18-2T/1.5M	1	442	205	-	141	-	226	112	196,5	M20x1,5	-	95 ÷ 104	2"	1"½	14,5
MATRIX 18-2T/1.5M	1	442	205	-	141	209	-	-	196,5	-	PG11	95 ÷ 104	2"	1"½	14,3
MATRIX 18-3T/2.2M	2	490	-	-	141	-	231	112	205,5	M20x1,5	-	124,5	2"	1"½	20,6
MATRIX 18-3T/2.2	1	455	205	-	141	209	-	-	196,5	-	PG11	95 ÷ 104	2"	1"½	17,1
MATRIX 18-4T/3	2	527	-	-	178,5	214	-	-	288	-	PG13,5	124,5	2"	1"½	21,7
MATRIX 18-5T/4	2	609	-	130,5	216	214	-	-	325,5	-	PG13,5	124,5	2"	1"½	26,9
MATRIX 18-6T/4	2	646	-	168	253,5	214	-	-	363	-	PG13,5	124,5	2"	1"½	28,1

[1]= Three-phase only

[2]= Single phase only

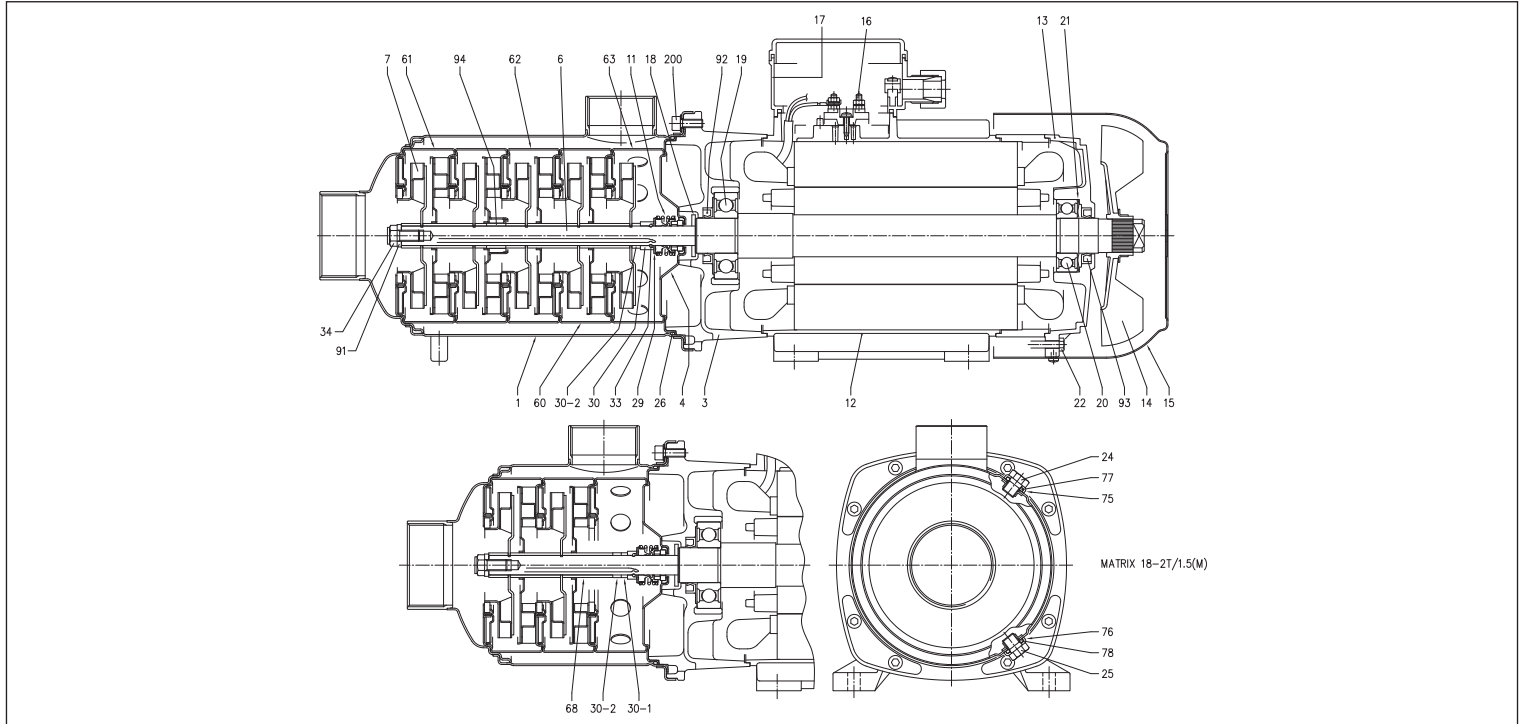
MATRIX 3-5-10 SECTIONAL VIEW



HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

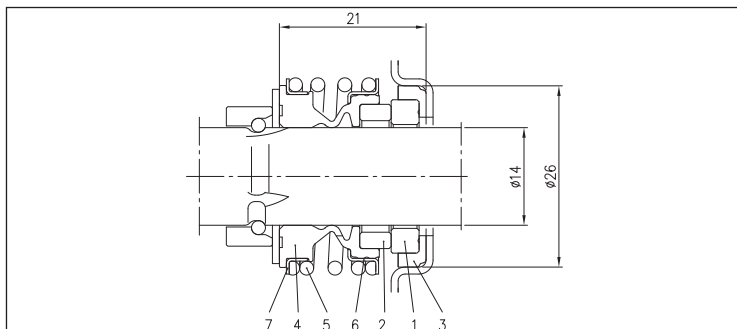
MATRIX 18 SECTIONAL VIEW



MATERIALS TABLE

Ref.	Name	Material	Ref.	Name	Material
1	Pump body	EN 1.4301 (AISI 304)	26	O-Ring	EPDM
3	Motor support	Die-cast aluminium	29	Washer	EN 1.4301 (AISI 304)
4	Seal housing disc	EN 1.4301 (AISI 304)	30	Holding ring	EN 1.4301 (AISI 304)
6	Shaft	EN 1.4301 (AISI 304)	30-1/2	Shaft casing	EN 1.4301 (AISI 304)
7	Impeller	EN 1.4301 (AISI 304)	33	Ring	EN 1.4301 (AISI 304)
11	Mechanical seal	Ceramic/Carbon/EPDM	34	Screw	EN 1.4301 (AISI 304)
12	Motor case	-	60	Intermediate stage	EN 1.4301 (AISI 304)+PTFE
13	Motor cover	Aluminium	61	Intermediate stage (suction)	EN 1.4301 (AISI 304)+PTFE
14	Fan	Polyamide	62	Intermediate stage (bearing)	EN 1.4301 (AISI 304) + PTFE + Ceramic
15	Fan cover	Galvanised Fe P04	63	Intermediate stage (discharge)	EN 1.4301 (AISI 304) + PTFE
16	Terminal box	-	75	Washer	EN 1.4301 (AISI 304)
17	Terminal box cover	Aluminium	76	Washer	EN 1.4301 (AISI 304)
18	Spray protector ring	NBR	77	O-Ring	EPDM
19	Bearing (pump side)	-	78	O-Ring	EPDM
20	Bearing (motor side)	-	91	Shaft washer	EN 1.4301 (AISI 304)
21	Adjusting ring	Steel C70	92	Sealing ring	-
22	Tie-rod	Galvanised Fe 42	93	Sealing ring	-
24	Filler cap	EN 1.4301 (AISI 304)	94	Guide bush	WC - Tungsten carbide
25	Drain plug	EN 1.4301 (AISI 304)	200	Screw (pump body)	EN 1.4301 (AISI 304)

MECHANICAL SEAL



MATERIALS TABLE

Ref.	Name	Material
1	Fixed part	Ceramic
2	Rotating part	Carbon
3	Gasket	EPDM
4	Diaphragm	EPDM
5	Spring	EN 1.4402 (AISI 316)
6	Structure/frame	EN 1.4402 (AISI 316)
7	Retainer ring	EN 1.4402 (AISI 316)

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ELECTRIC DATA TABLE

Model	P ₂		Motor Mec	Single phase Capacitor		P ₁ [kW]	Absorbed Current [A]	
	[HP]	[kW]		μF	V _c		230V	400V
MATRIX 3-2T/0.45M	0,6	0,45	71	12,5	450	0,73	3,2	-
MATRIX 3-2T/0.45	0,6	0,45	71	-	-	0,72	2,3	1,3
MATRIX 3-3T/0.65M	0,9	0,65	71	16	450	0,97	4,5	-
MATRIX 3-3T/0.65	0,9	0,65	71	-	-	0,85	2,8	1,6
MATRIX 3-4T/0.65M	0,9	0,65	71	16	450	0,97	4,5	-
MATRIX 3-4T/0.65	0,9	0,65	71	-	-	0,85	2,8	1,6
MATRIX 3-5T/0.75M	1	0,75	71	25	450	1,14	5,4	-
MATRIX 3-5T/0.75	1	0,75	71	-	-	1,12	4,4	2,5
MATRIX 3-6T/0.9M	1,2	0,9	71	31,5	450	1,28	5,7	-
MATRIX 3-6T/0.9	1,2	0,9	71	-	-	1,24	4,5	2,6
MATRIX 3-7T/1.3M	1,8	1,3	80	31,5	450	1,75	7,8	-
MATRIX 3-7T/1.3	1,8	1,3	80	-	-	1,7	6,1	3,5
MATRIX 3-8T/1.3M	1,8	1,3	80	31,5	450	1,75	7,8	-
MATRIX 3-8T/1.3	1,8	1,3	80	-	-	1,7	6,1	3,5
MATRIX 3-9T/1.5M	2	1,5	80	35	450	1,95	8,7	-
MATRIX 3-9T/1.5	2	1,5	80	-	-	1,85	5,9	3,4
MATRIX 5-2T/0.45M	0,6	0,45	71	12,5	450	0,73	3,2	-
MATRIX 5-2T/0.45	0,6	0,45	71	-	-	0,72	2,3	1,3
MATRIX 5-3T/0.65M	0,9	0,65	71	16	450	0,97	4,5	-
MATRIX 5-3T/0.65	0,9	0,65	71	-	-	0,85	2,8	1,6
MATRIX 5-4T/0.9M	1,2	0,9	71	31,5	450	1,28	5,7	-
MATRIX 5-4T/0.9	1,2	0,9	71	-	-	1,24	4,5	2,6
MATRIX 5-5T/1.3M	1,8	1,3	80	31,5	450	1,75	7,8	-
MATRIX 5-5T/1.3	1,8	1,3	80	-	-	1,7	6,1	3,5
MATRIX 5-6T/1.3M	1,8	1,3	80	31,5	450	1,75	7,8	-
MATRIX 5-6T/1.3	1,8	1,3	80	-	-	1,7	6,1	3,5
MATRIX 5-7T/1.5M	2	1,5	80	35	450	1,95	8,7	-
MATRIX 5-7T/1.5	2	1,5	80	-	-	1,85	5,9	3,4
MATRIX 5-8T/2.2M	3	2,2	90	50	450	2,92	13	-
MATRIX 5-8T/2.2	3	2,2	80	-	-	2,65	8	4,6
MATRIX 5-9T/2.2M	3	2,2	90	50	450	2,92	13	-
MATRIX 5-9T/2.2	3	2,2	80	-	-	2,65	8	4,6
MATRIX 10-2T/0.75M	1	0,75	71	25	450	1,14	5,4	-
MATRIX 10-2T/0.75	1	0,75	71	-	-	1,12	4,4	2,5
MATRIX 10-3T/1.3M	1,8	1,3	80	31,5	450	1,75	7,8	-
MATRIX 10-3T/1.3	1,8	1,3	80	-	-	1,7	6,1	3,5
MATRIX 10-4T/1.5M	2	1,5	80	35	450	1,95	8,7	-
MATRIX 10-4T/1.5	2	1,5	80	-	-	1,85	5,9	3,4
MATRIX 10-5T/2.2M	3	2,2	90	50	450	2,92	13	-
MATRIX 10-5T/2.2	3	2,2	80	-	-	2,65	8	4,6
MATRIX 10-6T/2.2M	3	2,2	90	50	450	2,92	13	-
MATRIX 10-6T/2.2	3	2,2	80	-	-	2,65	8	4,6
MATRIX 18-2T/1.5M	2	1,5	80	31,5	450	1,95	8,7	-
MATRIX 18-2T/1.5	2	1,5	80	-	-	1,85	5,9	3,4
MATRIX 18-3T/2.2M	3	2,2	90	50	450	2,92	13	-
MATRIX 18-3T/2.2	3	2,2	80	-	-	2,65	8	4,6
MATRIX 18-4T/3	4	3	90	-	-	3,7	10,9	6,3
MATRIX 18-5T/4	5,5	4	90	-	-	4,7	14	8,1
MATRIX 18-6T/4	5,5	4	90	-	-	4,7	14	8,1