

# MATRIX

## HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS

in AISI 304



Horizontal multistage centrifugal electric pumps in AISI 304 stainless steel.

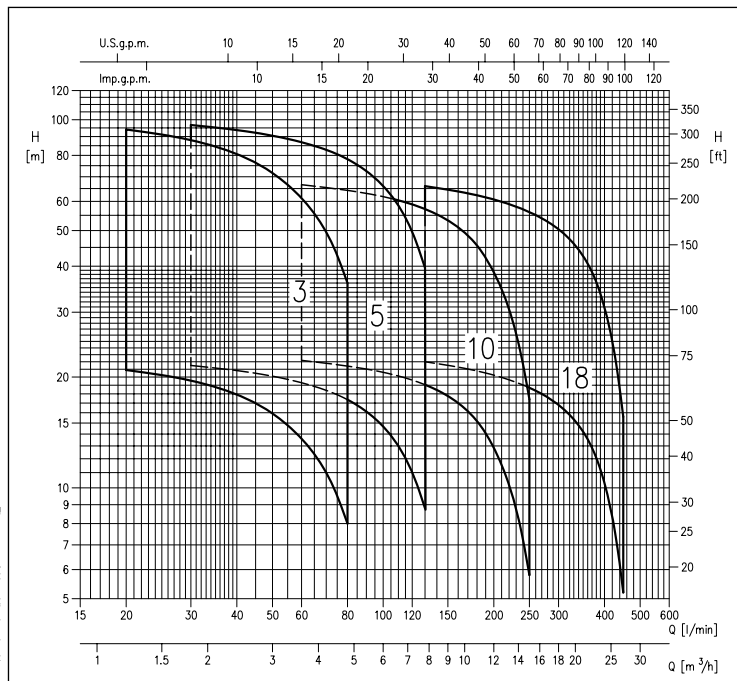
### APPLICATIONS

- 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

- Sturdy and compact construction
  - Available in various versions and models
- WRAS approval for the standard version (up to +85° C)

### PERFORMANCE CURVES (according to ISO 9906 Attachment A)



### PUMP TECHNICAL DATA

- Temperature of the liquid:
  - from -15° to +85° C (standard)
  - from -15° to +110° C (for TE version for high temperature)
- Maximum working pressure: 10 bar
- Maximum chlorine content: 500 ppm
- Suction connection G1 for MATRIX 3, G1¼ for MATRIX 5, G1½ for MATRIX 10, G2 for MATRIX 18
- Discharge connection G1 for MATRIX 3-5, G1¼ for MATRIX 10, G1½ for MATRIX 18

### MOTOR TECHNICAL DATA

- IE2 and IE3 high energy-efficiency motors starting from 0.75kW
- Self-ventilated 2 pole asynchronous motor
- Class of insulation F
- IP55 protection degree
- 230V ±10% 50Hz single phase voltage, 230/400V ±10% 50Hz three phase voltage
- Permanent capacitor inserted and thermo-ampereometric protection with automatic rearm incorporated for the single phase motor
- Protection under user's responsibility for the three phase version

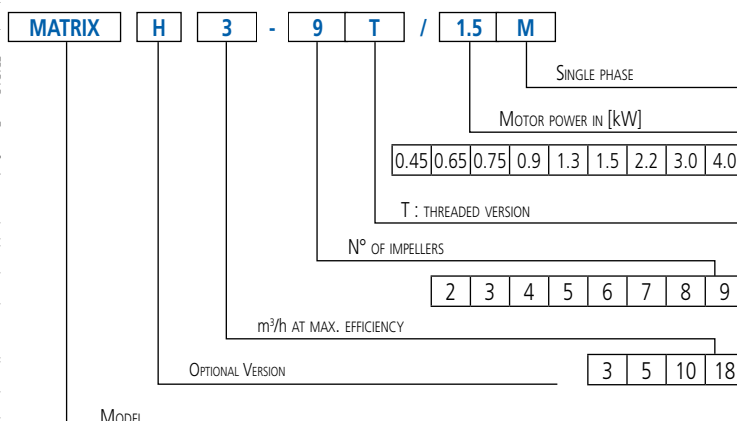
### MATERIALS

- Pump casing, impellers, intermediate stages, seal housing disc and shaft (part in contact with the liquid) in EN 1.4301 (AISI 304)
- Mechanical seal in:
  - Ceramic/Carbon/EPDM (standard)
  - Special versions: see p. 48
- Bracket in EN AB-AISI11Cu2(Fe) (microcasted aluminium)

### ACCESSORIES (On request)

- Electric panels
- Vessels
- Floats
- Pressure switches
- Presscomfort - Pressure regulator
- E-power - Variable speed control system
- E-drive - Frequency converter

### IDENTIFICATION CODE



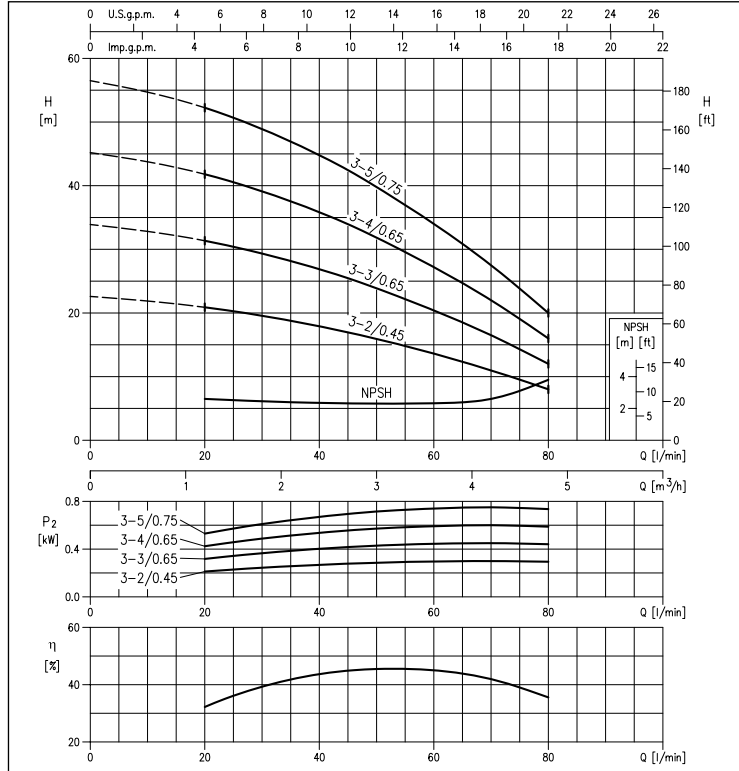
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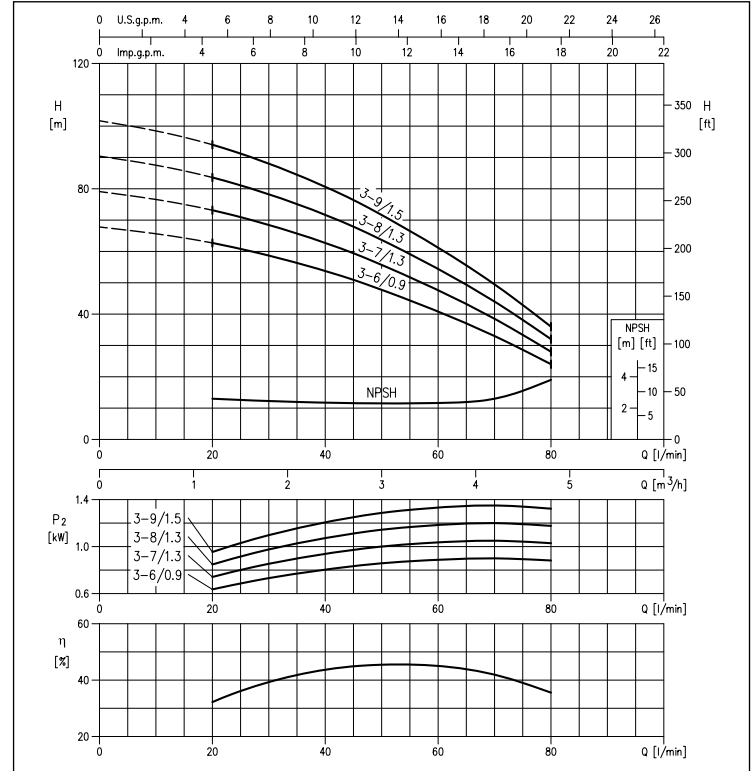
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## HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS in AISI 304

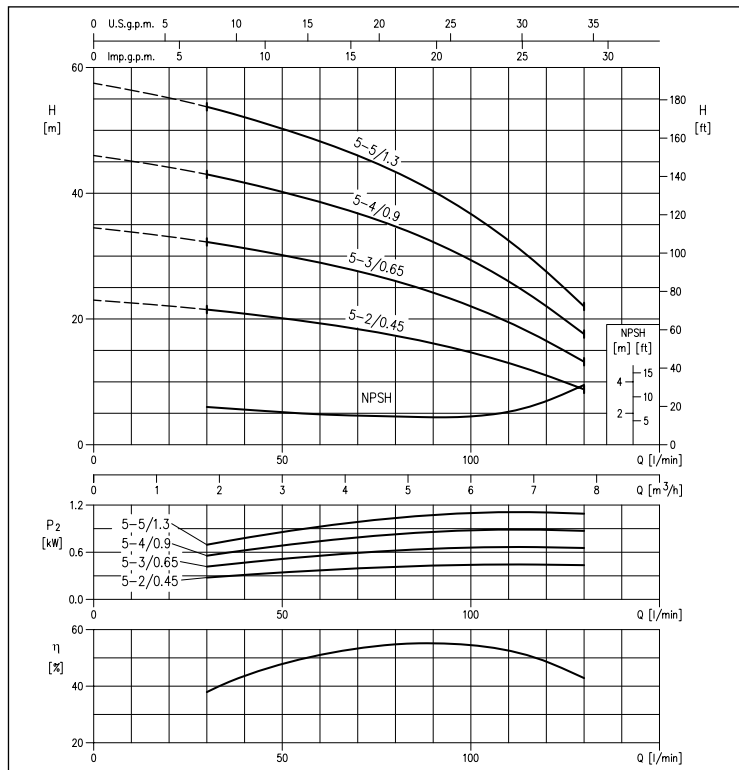
**PERFORMANCE CURVES series MATRIX 3** (from 2 to 5 impellers)  
(according to ISO 9906 Attachment A)



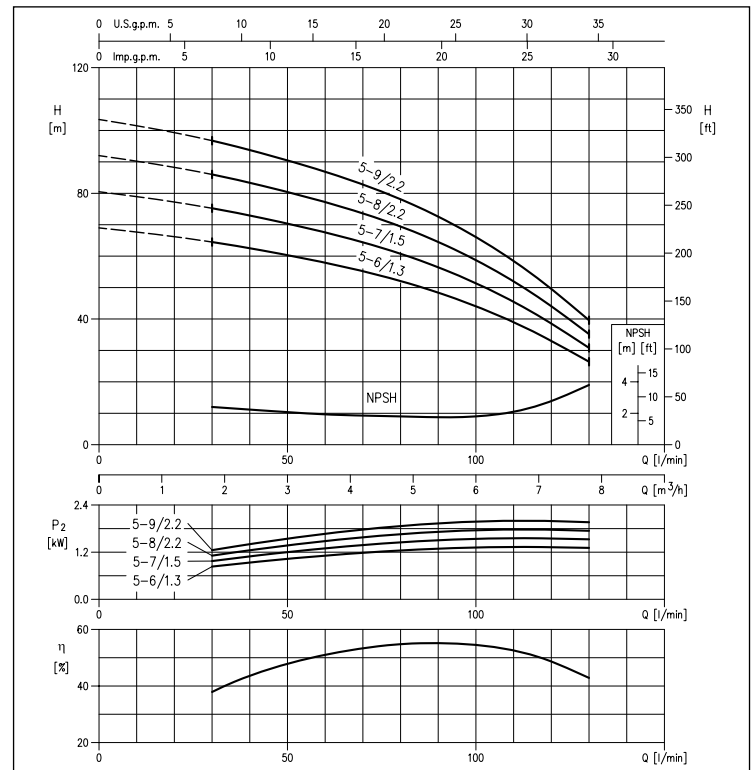
**PERFORMANCE CURVES series MATRIX 3** (from 6 to 9 impellers)  
(according to ISO 9906 Attachment A)



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



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



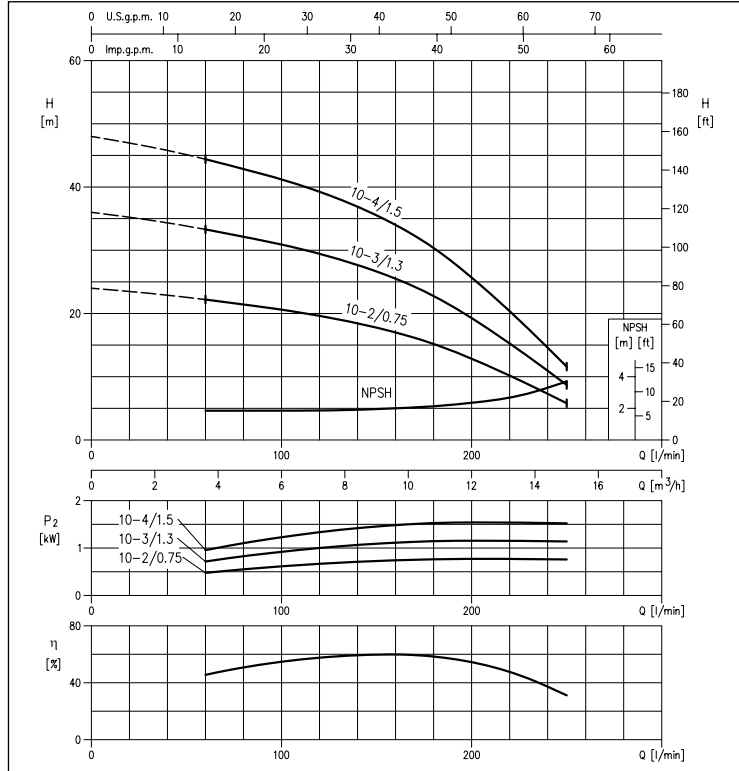
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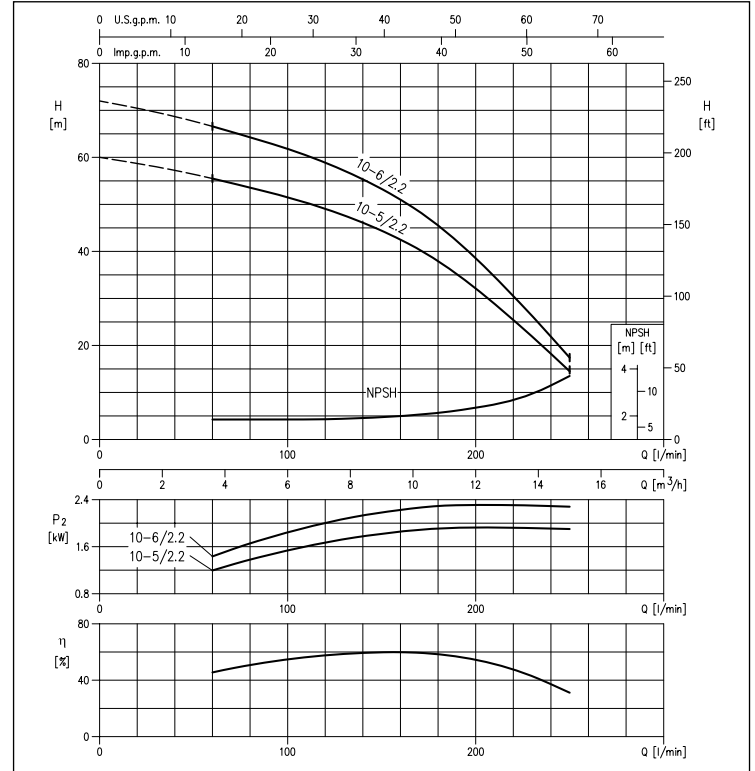
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## HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS in AISI 304

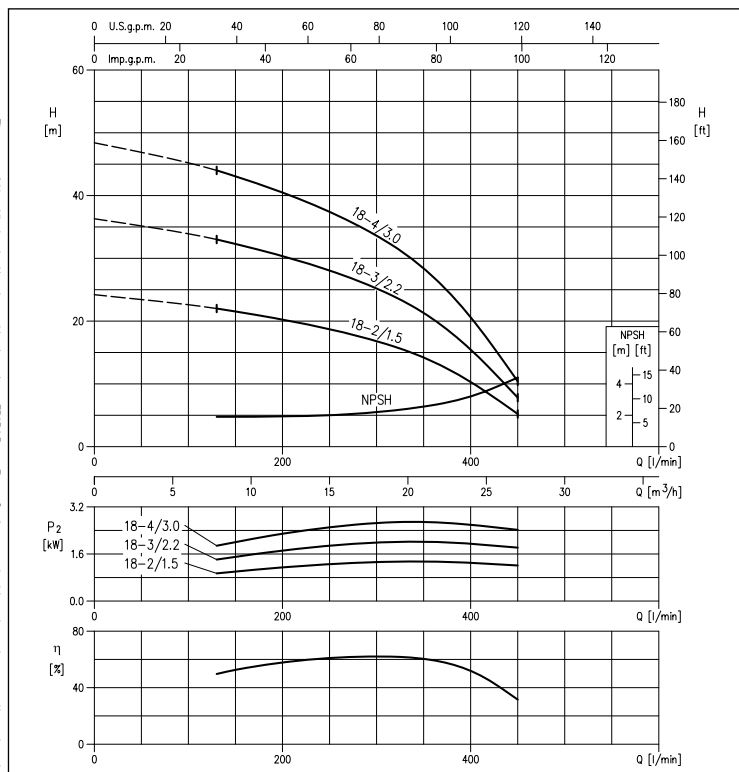
**PERFORMANCE CURVES series MATRIX 10** (from 2 to 4 impellers)  
(according to ISO 9906 Attachment A)



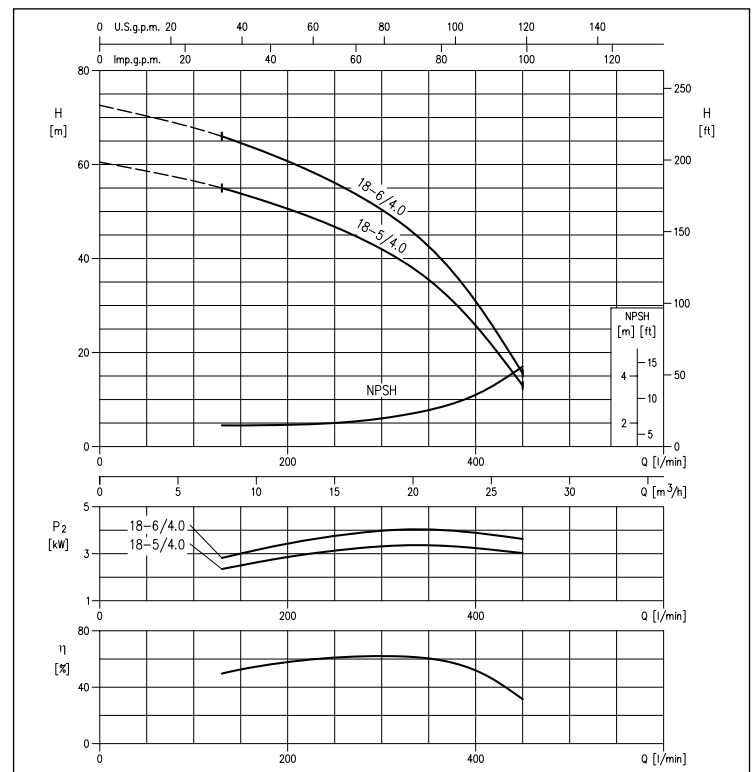
**PERFORMANCE CURVES series MATRIX 10** (from 5 to 6 impellers)  
(according to ISO 9906 Attachment A)



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



**PERFORMANCE CURVES series MATRIX 18** (5 and 6 impellers)  
(according to ISO 9906 Attachment A)



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# MATRIX

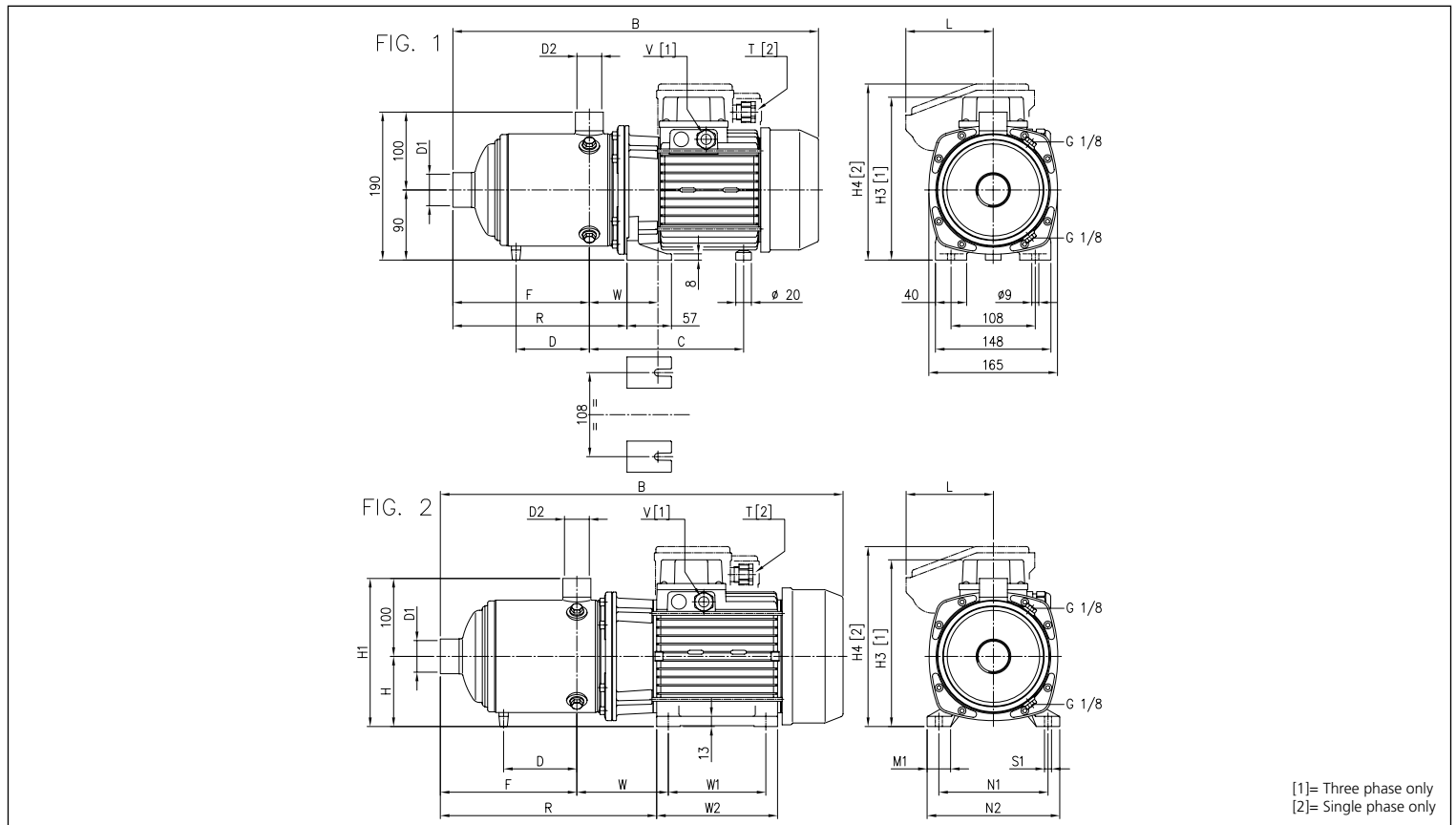
## HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

### PERFORMANCE CHART

Single phase 230V	Model Three phase 230/400V	P <sub>2</sub>		Q = Flow Rate															
		[HP]	[kW]	l/min	20	30	45	60	80	100	130	160	200	250	300	350	400	450	
				m <sup>3</sup> /h	1.2	1.8	2.7	3.6	4.8	6	7.8	9.6	12	15	18	21	24	27	
				H=Head [m]															
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/0.9 M	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/1.5 M	MATRIX 5-7T/1.5	2	1.5	-	75.5	72.0	67.5	61.0	51.5	30.8	-	-	-	-	-	-	-	-	
MATRIX 5-8T/2.2 M	MATRIX 5-8T/2.2	3	2.2	-	86.0	82.0	77.0	69.5	58.5	35.2	-	-	-	-	-	-	-	-	
MATRIX 5-9T/2.2 M	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	-	

### DIMENSIONS



# MATRIX

## HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

**MATRIX 3 DIMENSIONS TABLE**

Model	D1	D2	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"	1"	360	-	171	-	103	-	200	86.5	151.5	Pg11	-	-	88±97	1"	1"	8.5	-	
MATRIX 3-2T/0.45			360	-	171	-	103	192	-	-	151.5	-	Pg11	-	-	88±97	1"	1"	8.4	-
MATRIX 3-3T/0.65M			360	-	171	-	103	-	200	86.5	151.5	Pg11	-	-	88±97	1"	1"	9.9	-	
MATRIX 3-3T/0.65			360	-	171	-	103	192	-	-	151.5	-	Pg11	-	-	88±97	1"	1"	9.8	-
MATRIX 3-4T/0.65M			384	-	171	-	127	-	200	86.5	175.5	Pg11	-	-	88±97	1"	1"	10.6	-	
MATRIX 3-4T/0.65			384	-	171	-	127	192	-	-	175.5	-	Pg11	-	-	88±97	1"	1"	10.4	-
MATRIX 3-5T/0.75M			408	-	171	-	151	-	200	86.5	199.5	Pg11	-	-	88±97	1"	1"	12.5	-	
MATRIX 3-5T/0.75			408	408	171	-	151	192	-	-	199.5	-	Pg11	M16x1.5	88±97	1"	1"	12.4	12.4	
MATRIX 3-6T/0.9M			432	-	171	-	175	-	219	106	223.5	M20x1.5	-	-	88±97	1"	1"	13.7	-	
MATRIX 3-6T/0.9			444	444	171	-	175	192	-	-	223.5	-	Pg11	M16x1.5	88±97	1"	1"	13.6	13.6	
MATRIX 3-7T/1.3M			493	-	198	110.5	199	-	226	112	247.5	M20x1.5	-	-	88±97	1"	1"	16.3	-	
MATRIX 3-7T/1.3			493	518	198	110.5	199	209	-	-	247.5	-	Pg11	M20x1.5	88±97	1"	1"	17.0	17.9	
MATRIX 3-8T/1.3M			517	-	198	134.5	223	-	226	112	271.5	M20x1.5	-	-	88±97	1"	1"	16.3	-	
MATRIX 3-8T/1.3			517	542	198	134.5	223	209	-	-	271.5	-	Pg11	M20x1.5	88±97	1"	1"	17.8	18.7	
MATRIX 3-9T/1.5M			541	-	198	158.5	247	-	226	112	295.5	M20x1.5	-	-	88±97	1"	1"	18.3	-	
MATRIX 3-9T/1.5			554	567	198	158.5	247	209	-	-	295.5	-	Pg11	M20x1.5	88±97	1"	1"	20.0	20.9	

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

[\*] = IE3 motors only

**MATRIX 5-10-18 DIMENSIONS TABLE**

Model	Fig.	D1	D2	H	H1	Dimensions [mm]														Weight [kg]														
						B	C	D	F	H3 [1]	H4 [2]	L	R	T	V	W	W1	W2	M1	N1	N2	S1	*	*										
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	396	171	-	127	192	-	-	175.5	-	-	Pg11	M16x1.5	88±97	-	-	-	-	-	-	-	-	-	-	12.4	12.4			
MATRIX 5-5T/1.3 M				-	-	445	-	198	-	151	-	226	112	199.5	M20x1.5	-	-	-	-	88±97	-	-	-	-	-	-	-	-	-	15.8	-			
MATRIX 5-5T/1.3				-	-	445	470	198	-	151	209	-	-	199.5	-	-	Pg11	M20x1.5	88±97	-	-	-	-	-	-	-	-	-	-	15.8	16.7			
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	494	198	-	175	209	-	-	223.5	-	-	Pg11	M20x1.5	88±97	-	-	-	-	-	-	-	-	-	-	16.2	17.1			
MATRIX 5-7T/1.5 M				-	-	493	-	198	110.5	199	-	226	112	247.5	M20x1.5	-	-	-	-	88±97	-	-	-	-	-	-	-	-	-	18.3	-			
MATRIX 5-7T/1.5				-	-	506	518.5	198	110.5	199	209	-	-	247.5	-	-	Pg11	M20x1.5	88±97	-	-	-	-	-	-	-	-	-	-	18.7	19.6			
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	-	-	22.3	-			
MATRIX 5-8T/2.2				1	-	-	530	542.5	198	134.5	223	209	-	-	271.5	-	-	Pg11	M20x1.5	88±97	-	-	-	-	-	-	-	-	-	18.7	19.6			
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	23.3	-	-	23.3	-			
MATRIX 5-9T/2.2				1	-	-	554	566.5	198	158.5	247	209	-	-	295.5	-	-	Pg11	M20x1.5	88±97	-	-	-	-	-	-	-	-	-	18.8	19.7			
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	379	175	-	118	192	-	-	170.5	-	-	Pg11	M16x1.5	92±101	-	-	-	-	-	-	-	-	-	11.2	11.2	
MATRIX 10-3T/1.3 M							-	-	416	-	202	-	118	-	226	112	170.5	M20x1.5	-	-	-	-	92±101	-	-	-	-	-	-	-	-	-	14.3	-
MATRIX 10-3T/1.3							-	-	416	441	202	-	118	209	-	-	170.5	-	-	Pg11	M20x1.5	92±101	-	-	-	-	-	-	-	-	-	-	13.6	14.5
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				471.5	202	-	148	209	-	-	200.5	-	-	Pg11	M20x1.5	92±101	-	-	-	-	-	-	-	-	-	-	17.3	18.2			
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	21.8	-	-	21.8	-			
MATRIX 10-5T/2.2	1	-	-				489	501.5	202	-	178	209	-	-	230.5	-	-	Pg11	M20x1.5	92±101	-	-	-	-	-	-	-	-	-	17.9	18.8			
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	22.1	-	-	22.1	-			
MATRIX 10-6T/2.2	1	-	-				519	531.5	202	118.5	208	209	-	-	260.5	-	-	Pg11	M20x1.5	92±101	-	-	-	-	-	-	-	-	-	18.3	19.2			
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/1.5M	-						-	455	467.5	205	-	141	209	-	-	196.5	-	-	Pg11	M20x1.5	95 ± 104	-	-	-	-	-	-	-	-	-	-	16.2	17.1	
MATRIX 18-3T/2.2M	2						90	190	490	-	-	-	141	-	231	112	250.5	M20x1.5	-	-	-	124.5	125	155	30	140	170	9	20.7	-	-	20.7	-	
MATRIX 18-3T/2.2	1						-	-	455	467.5	205	-	141	209	-	-	196.5	-	-	Pg11	M20x1.5	95 ± 104	-	-	-	-	-	-	-	-	-	17.2	18.1	
MATRIX 18-4T/3	2						90	190	565	565	-	-	178.5	214	-	-	288	-	-	Pg13.5	M20x1.5	124.5	125	155	35	140	170	9	23.8	23.8	-	23.8	-	
MATRIX 18-5T/4							100	200	615	615	-	-	123	216	241	-	-	315	-	-	Pg16	M20x1.5	114	140	170	35	160	192	11	33.2	33.2	-	33.2	-
MATRIX 18-6T/4							100	200	652	652	-	-	160.5	253.5	241	-	-	352.5	-	-	Pg16	M20x1.5	114	140	170	170	160	192	11	34.2	34.2	-	34.2	-
MATRIX 18-6T/4							100	200	652	652	-	-	160.5	253.5	241	-	-	352.5	-	-	Pg16	M20x1.5	114	140	170	170	160	192	11	34.2	34.2	-	34.2	-

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

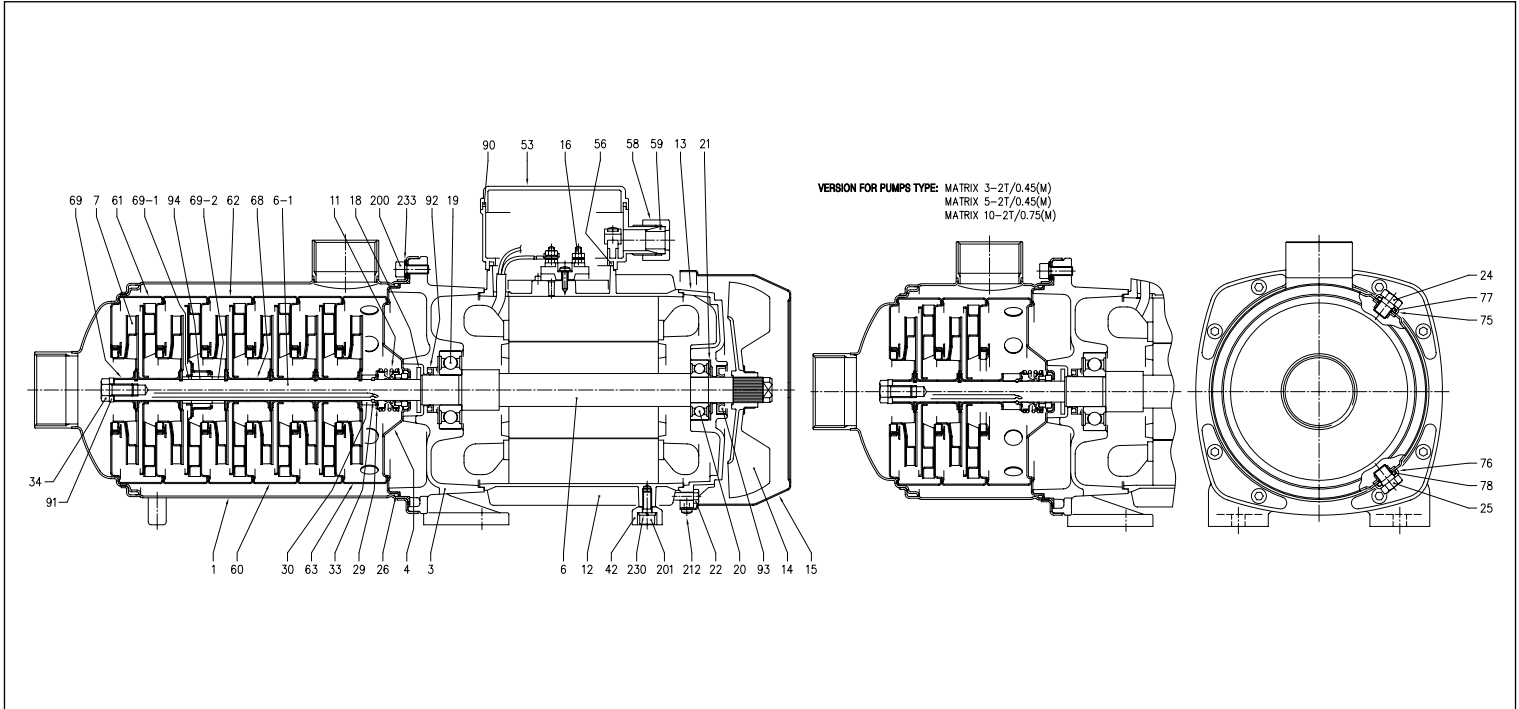
[\*] = IE3 motors only

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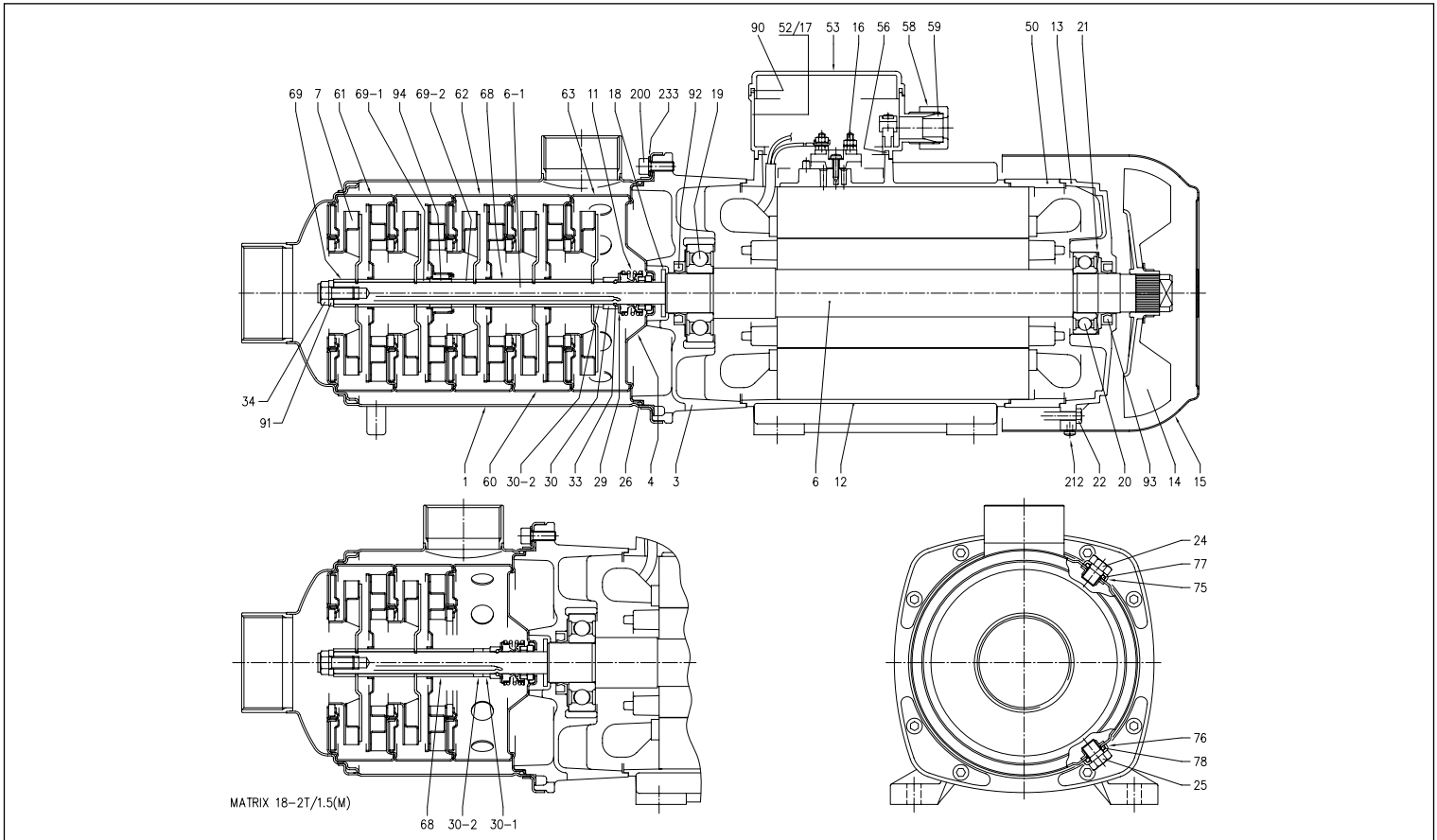
# MATRIX

## HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS in AISI 304

### MATRIX 3-5-10 SECTIONAL VIEW



### MATRIX 18 SECTIONAL VIEW



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## HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

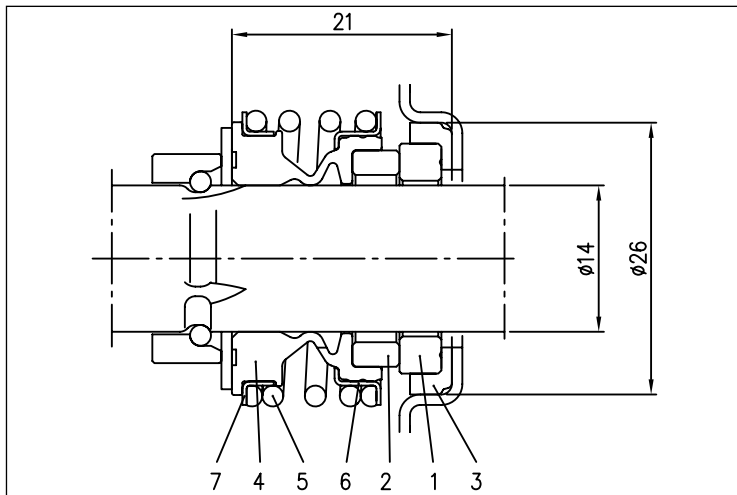
### MATERIALS TABLE

Ref.	Name	Materials	Ref.	Name	Materials
1	Pump casing	EN 1.4301 (AISI 304)	42	Motor support	Aluminium
3	Motor bracket	EN AB-AISI11Cu2(Fe)	50	Motor spacer [2]	Aluminium
4	Casing cover	EN 1.4301 (AISI 304)	52	Capacitor-holder box [1]	ABS
6	Shaft	-	53	Capacitor-holder box cover [1]	ABS
6-1	Pump shaft	EN 1.4301 (AISI 304)	56	Box gasket	NBR
7	Impeller	EN 1.4301 (AISI 304)	58	Nut ring	-
11	Mechanical seal	Ceramic/Carbon/EPDM	59	Conic gasket	NBR
12	Motor frame	-	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	PA	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	-	68	Shaft casing (intermediate)	EN 1.4301 (AISI 304)
17	Terminal Box cover	Aluminium	69	Impeller spacer	EN 1.4301 (AISI 304)
18	Splash ring	NBR	69-1	Shaft casing (adapter)	EN 1.4301 (AISI 304)
19	Bearing (pump side)	-	69-2	Shaft casing (adapter)	EN 1.4301 (AISI 304)
20	Bearing (motor side)	-	75	Washer	EN 1.4301 (AISI 304)
21	Adjustment ring	Steel C70	76	Washer	EN 1.4301 (AISI 304)
22	Tie-rod	Galvanised Fe 42	77	O-Ring	EPDM
24	Plug	EN 1.4301 (AISI 304)	78	O-Ring	EPDM
25	Plug	EN 1.4301 (AISI 304)	90	Terminal box cover [1]	NBR
26	O-Ring	EPDM	91	Shaft washer	EN 1.4301 (AISI 304)
29	Washer	EN 1.4301 (AISI 304)	92	Seal ring	-
30	Holding ring	EN 1.4301 (AISI 304)	93	Seal ring	-
30-1-2	Shaft casing	EN 1.4301 (AISI 304)	94	Guide bush	WC - Tungsten carbide
33	Ring	EN 1.4301 (AISI 304)	200	Screw (pump body)	EN 1.4301 (AISI 304)
34	Screw	EN 1.4301 (AISI 304)	233	Plate	EN 1.4301 (AISI 304)

[1]= Single phase only

[2]= MATRIX 18-5T/4 and MATRIX 18-6T/4 only

### MECHANICAL SEAL standard



### MATERIALS TABLE standard

Ref.	Name	Materials
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)

### SPECIAL MECHANICAL SEALS (on request)

Ref.	Name	Materials			
		H Version	HS Version	U3Q1EGG Version	Q1AEGG Version
1	Fixed part	Carbon	Silicon Carbide	Tungsten Carbide	Silicon Carbide
2	Rotating part	Ceramic	Silicon Carbide	Silicon Carbide	Metallised carbon
3	Gasket	FKM	FKM	EPDM	EPDM
4	Diaphragm	FKM	FKM	EPDM	EPDM
5	Spring	EN 1.4402 (AISI 316)	EN 1.4402 (AISI 316)	EN 1.4402 (AISI 316)	EN 1.4402 (AISI 316)
6	Structure/frame	EN 1.4402 (AISI 316)	EN 1.4402 (AISI 316)	EN 1.4402 (AISI 316)	EN 1.4402 (AISI 316)
7	Retainer ring	EN 1.4402 (AISI 316)	EN 1.4402 (AISI 316)	EN 1.4402 (AISI 316)	EN 1.4402 (AISI 316)

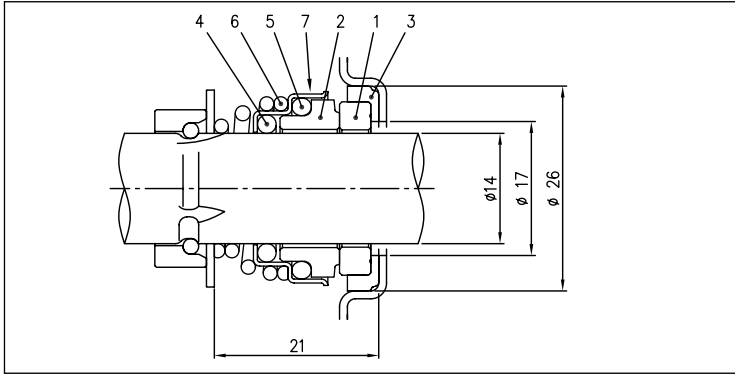


# MATRIX

## HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

### MECHANICAL SEAL HIGH TEMPERATURE



### MATERIALS TABLE HIGH TEMPERATURE

Ref.	Name	Material
1	Stationary seal ring	Ceramic
2	Rotary seal ring	Carbon
3	Gasket	EPDM
4	O-Ring	EPDM
5	O-Ring	EPDM
6	Spring	EN 1.4402 (AISI 316)
7	Retainer ring	EN 1.4301 (AISI 304)

### ELECTRIC DATA TABLE

Model	Single phase 230V	Three phase 230/400V	P <sub>2</sub>		Efficiency		Capacitor		Efficiency			P <sub>1</sub>		Absorbed Current		
			[HP]	[kW]	Single phase	Three phase	Single phase	V <sub>c</sub>	Three phase			Single phase	Three phase	[A]		
							μF		50%	75%	100%	[kW]	[kW]	230V	230V	400V
MATRIX 3-2T/0.45M	MATRIX 3-2T/0.45	MATRIX 3-2T/0.45	0.6	0.45	-	-	12.5	450	-	-	-	0.73	0.72	3.2	2.3	1.3
MATRIX 3-3T/0.65M	MATRIX 3-3T/0.65	MATRIX 3-3T/0.65	0.9	0.65	-	-	16	450	-	-	-	0.97	0.85	4.5	2.8	1.6
MATRIX 3-4T/0.65M	MATRIX 3-4T/0.65	MATRIX 3-4T/0.65	0.9	0.65	-	-	16	450	-	-	-	0.97	0.85	4.5	2.8	1.6
MATRIX 3-5T/0.75M	MATRIX 3-5T/0.75	MATRIX 3-5T/0.75	1.0	0.75	-	IE2	25	450	77.2	80.9	81.3	1.14	0.92	5.4	3.0	1.7
-	-	-	1.0	0.75	-	IE3	-	-	80.9	82.3	82.1	-	0.91	-	3.0	1.7
MATRIX 3-6T/0.9M	MATRIX 3-6T/0.9	MATRIX 3-6T/0.9	1.2	0.9	-	IE2	31.5	450	79.0	81.7	81.6	1.28	1.35	5.7	4.3	2.5
-	-	-	1.2	0.9	-	IE3	-	-	81.7	82.5	82.4	-	1.34	-	4.3	2.5
MATRIX 3-7T/1.3M	MATRIX 3-7T/1.3	MATRIX 3-7T/1.3	1.8	1.3	-	IE2	35	450	79.7	83.1	83.0	1.75	1.80	7.8	5.6	3.2
-	-	-	1.8	1.3	-	IE3	-	-	83.0	85.8	85.6	-	1.77	-	5.8	3.3
MATRIX 3-8T/1.3M	MATRIX 3-8T/1.3	MATRIX 3-8T/1.3	1.8	1.3	-	IE2	35	450	79.7	82.5	83.0	1.75	1.80	7.8	5.6	3.2
-	-	-	1.8	1.3	-	IE3	-	-	83.0	85.8	85.6	-	1.77	-	5.8	3.3
MATRIX 3-9T/1.5M	MATRIX 3-9T/1.5	MATRIX 3-9T/1.5	2.0	1.5	-	IE2	40	450	78.6	83.0	84.2	1.95	1.78	8.7	6.3	3.7
-	-	-	2.0	1.5	-	IE3	-	-	82.7	86.1	87.0	-	1.72	-	6.6	3.8
MATRIX 5-2T/0.45M	MATRIX 5-2T/0.45	MATRIX 5-2T/0.45	0.6	0.45	-	-	12.5	450	-	-	-	0.73	0.72	3.2	2.3	1.3
MATRIX 5-3T/0.65M	MATRIX 5-3T/0.65	MATRIX 5-3T/0.65	0.9	0.65	-	-	16	450	-	-	-	0.97	0.85	4.5	2.8	1.6
MATRIX 5-4T/0.9 M	MATRIX 5-4T/0.9	MATRIX 5-4T/0.9	1.2	0.9	-	IE2	31.5	450	79.0	81.7	81.6	1.28	1.35	5.7	4.3	2.5
-	-	-	1.2	0.9	-	IE3	-	-	81.7	83.1	82.4	-	1.34	-	4.3	2.5
MATRIX 5-5T/1.3M	MATRIX 5-5T/1.3	MATRIX 5-5T/1.3	1.8	1.3	-	IE2	35	450	79.7	82.5	83.0	1.75	1.80	7.8	5.6	3.2
-	-	-	1.8	1.3	-	IE3	-	-	83.0	85.8	85.6	-	1.77	-	5.8	3.3
MATRIX 5-6T/1.3M	MATRIX 5-6T/1.3	MATRIX 5-6T/1.3	1.8	1.3	-	IE2	35	450	79.7	82.5	83.0	1.75	1.80	7.8	5.6	3.2
-	-	-	1.8	1.3	-	IE3	-	-	83.0	85.8	85.6	-	1.77	-	5.8	3.3
MATRIX 5-7T/1.5 M	MATRIX 5-7T/1.5	MATRIX 5-7T/1.5	2.0	1.5	-	IE2	40	450	78.6	83.0	84.2	1.95	1.78	8.7	6.3	3.7
-	-	-	2.0	1.5	-	IE3	-	-	82.7	86.1	87.0	-	1.72	-	6.6	3.8
MATRIX 5-8T/2.2 M	MATRIX 5-8T/2.2	MATRIX 5-8T/2.2	3.0	2.2	-	IE2	50	450	83.0	84.4	83.8	2.92	2.63	13.0	8.2	4.7
-	-	-	3.0	2.2	-	IE3	-	-	86.2	87.0	86.0	-	2.55	-	8.2	4.7
MATRIX 5-9T/2.2 M	MATRIX 5-9T/2.2	MATRIX 5-9T/2.2	3.0	2.2	-	IE2	50	450	83.0	84.4	83.8	2.92	2.63	13.0	8.2	4.7
-	-	-	3.0	2.2	-	IE3	-	-	86.2	87.0	86.0	-	2.55	-	8.2	4.7
MATRIX 10-2T/0.75M	MATRIX 10-2T/0.75	MATRIX 10-2T/0.75	1.0	0.75	-	IE2	25	450	77.2	80.9	81.3	1.14	0.92	5.4	3.0	1.7
-	-	-	1.0	0.75	-	IE3	-	-	80.9	82.3	82.1	-	0.91	-	3.0	1.7
MATRIX 10-3T/1.3M	MATRIX 10-3T/1.3	MATRIX 10-3T/1.3	1.8	1.3	-	IE2	35	450	79.7	82.5	83.0	1.75	1.80	7.8	5.6	3.2
-	-	-	1.8	1.3	-	IE3	-	-	83.0	85.8	85.6	-	1.77	-	5.8	3.3
MATRIX 10-4T/1.5M	MATRIX 10-4T/1.5	MATRIX 10-4T/1.5	2.0	1.5	-	IE2	40	450	78.6	83.0	84.2	1.95	1.78	8.7	6.3	3.7
-	-	-	2.0	1.5	-	IE3	-	-	82.7	86.1	87.0	-	1.72	-	6.6	3.8
MATRIX 10-5T/2.2M	MATRIX 10-5T/2.2	MATRIX 10-5T/2.2	3.0	2.2	-	IE2	50	450	83.0	84.4	83.8	2.92	2.63	13.0	8.2	4.7
-	-	-	3.0	2.2	-	IE3	-	-	86.2	87.0	86.0	-	2.55	-	8.2	4.7
MATRIX 10-6T/2.2M	MATRIX 10-6T/2.2	MATRIX 10-6T/2.2	3.0	2.2	-	IE2	50	450	83.0	84.4	83.8	2.92	2.63	13.0	8.2	4.7
-	-	-	3.0	2.2	-	IE3	-	-	86.2	87.0	86.0	-	2.55	-	8.2	4.7
MATRIX 18-2T/1.5M	MATRIX 18-2T/1.5	MATRIX 18-2T/1.5	2.0	1.5	-	IE2	40	450	78.6	83.0	84.2	1.95	1.78	8.7	6.3	3.7
-	-	-	2.0	1.5	-	IE3	-	-	82.7	86.1	87.0	-	1.72	-	6.6	3.8
MATRIX 18-3T/2.2M	MATRIX 18-3T/2.2	MATRIX 18-3T/2.2	3.0	2.2	-	IE2	50	450	83.0	84.4	83.8	2.92	2.63	13.0	8.2	4.7
-	-	-	3.0	2.2	-	IE3	-	-	86.2	87.0	86.0	-	2.55	-	8.2	4.7
-	MATRIX 18-4T/3	MATRIX 18-4T/3	4.0	3	-	IE2	-	-	85.0	86.7	86.3	-	3.48	-	10.6	6.1
-	-	-	4.0	3	-	IE3	-	-	85.9	87.5	87.1	-	3.44	-	11.1	6.4
-	MATRIX 18-5T/4	MATRIX 18-5T/4	5.5	4	-	IE2	-	-	84.3	87.2	87.8	-	4.56	-	15.1	8.7
-	-	-	5.5	4	-	IE3	-	-	85.8	88.3	88.4	-	4.52	-	15.1	8.7
-	MATRIX 18-6T/4	MATRIX 18-6T/4	5.5	4	-	IE2	-	-	84.3	87.2	87.8	-	4.56	-	15.1	8.7
-	-	-	5.5	4	-	IE3	-	-	85.8	88.3	88.4	-	4.52	-	15.1	8.7





# MATRIX

## HORIZONTAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

### NOISE DATA TABLE

Single phase 230V	Model Three phase 230/400V	P <sub>2</sub>		L <sub>PA</sub> - dB(A)*
		[HP]	[kW]	
MATRIX 3-2T/0.45M	MATRIX 3-2T/0.45	0.6	0.45	61
MATRIX 3-3T/0.65M	MATRIX 3-3T/0.65	0.9	0.65	62
MATRIX 3-4T/0.65M	MATRIX 3-4T/0.65	0.9	0.65	
MATRIX 3-5T/0.75M	MATRIX 3-5T/0.75	1.0	0.75	
MATRIX 3-6T/0.9M	MATRIX 3-6T/0.9	1.2	0.9	64
MATRIX 3-7T/1.3M	MATRIX 3-7T/1.3	1.8	1.3	
MATRIX 3-8T/1.3M	MATRIX 3-8T/1.3	1.8	1.3	
MATRIX 3-9T/1.5M	MATRIX 3-9T/1.5	2.0	1.5	61
MATRIX 5-2T/0.45M	MATRIX 5-2T/0.45	0.6	0.45	
MATRIX 5-3T/0.65M	MATRIX 5-3T/0.65	0.9	0.65	
MATRIX 5-4T/0.9 M	MATRIX 5-4T/0.9	1.2	0.9	62
MATRIX 5-5T/1.3M	MATRIX 5-5T/1.3	1.8	1.3	
MATRIX 5-6T/1.3M	MATRIX 5-6T/1.3	1.8	1.3	
MATRIX 5-7T/1.5 M	MATRIX 5-7T/1.5	2.0	1.5	64
MATRIX 5-8T/2.2 M	MATRIX 5-8T/2.2	3.0	2.2	
MATRIX 5-9T/2.2 M	MATRIX 5-9T/2.2	3.0	2.2	
MATRIX 10-2T/0.75M	MATRIX 10-2T/0.75	1.0	0.75	61
MATRIX 10-3T/1.3M	MATRIX 10-3T/1.3	1.8	1.3	
MATRIX 10-4T/1.5M	MATRIX 10-4T/1.5	2.0	1.5	
MATRIX 10-5T/2.2M	MATRIX 10-5T/2.2	3.0	2.2	62
MATRIX 10-6T/2.2M	MATRIX 10-6T/2.2	3.0	2.2	
MATRIX 18-2T/1.5M	MATRIX 18-2T/1.5	2.0	1.5	
MATRIX 18-3T/2.2M	MATRIX 18-3T/2.2	3.0	2.2	64
-	MATRIX 18-4T/3	4.0	3	
-	MATRIX 18-5T/4	5.5	4	
-	MATRIX 18-6T/4	5.5	4	68
-	-	-	-	69

\* Average noise level measured at 1 m from the motor pump.  
Tolerance ± 2.5 dB.