

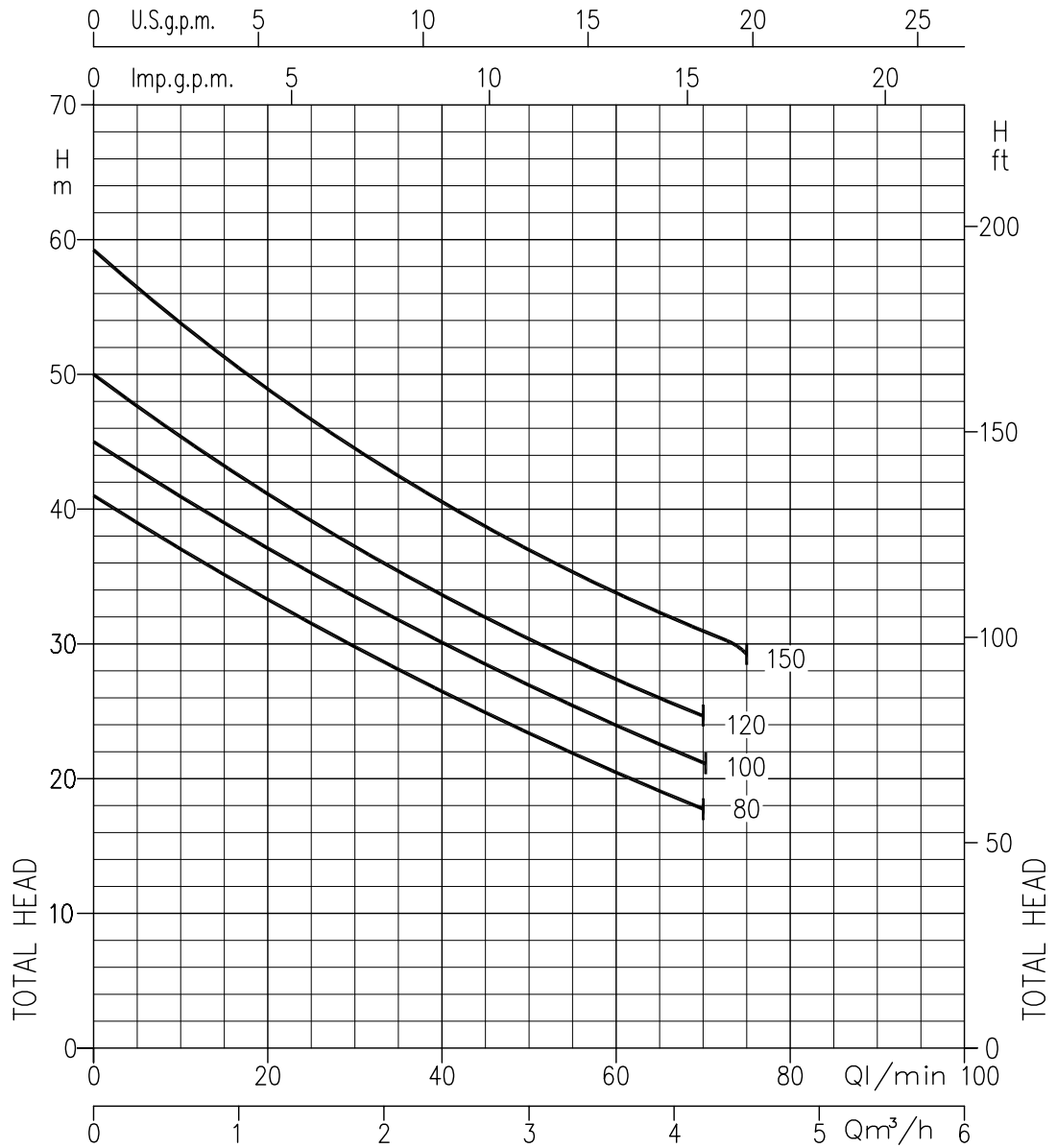


**EBARA**

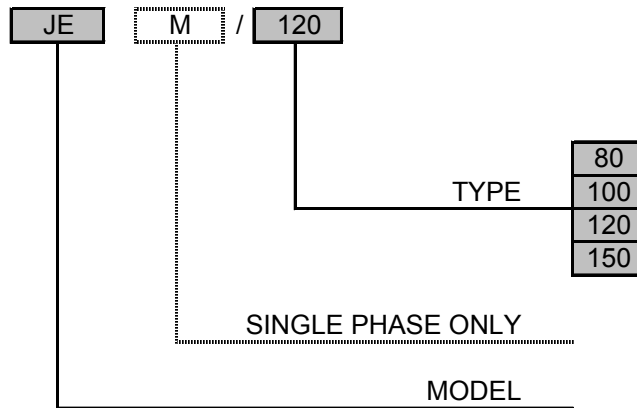
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PUMP		
Liquid Handled	Type of liquid	Clean water
	Max temperature [°C]	45°
Maximum working pressure	[MPa]	0.6
Maximum suction depth	[m]	8
Construction	Impeller	Closed centrifugal type
	Shaft seal type	Mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction [inch]	G 1¼ UNI ISO 228
	Discharge [inch]	G 1 UNI ISO 228
Material	Casing	AISI 304
	Impeller	AISI 304
	Shaft seal	Ceramic/Carbon/NBR
	Casing cover	AISI 304
	Shaft	AISI 303 (Wet extension)
	Bracket	AISI 304
	Ejector	PPO mod. glass fibre reinforced
Diffuser	PPO mod. glass fibre reinforced	
Applicable standard of test		ISO 9906 – Annex A

MOTOR		
Type	Electric - TEFC	
	Single Phase	Three Phase
No. of Poles	2	
Synchronous speed [min <sup>-1</sup> ]	3000	
Insulation Class	F	
Protection degree	IP 44 IP 55 (on request)	
Power rating	[kW]	0.6 ÷ 1.1
	[HP]	0.8 ÷ 1.5
Frequency [Hz]	50	
Voltage [V]	230 ±10%	230/400 ±10%
Capacitor	Built in	-
Over load protection	Built in	Provided by the user
Casing material	AISI 304	
Base material/motor support	AISI 304	
Dimensions of cable entry	PG11	



Type pumps		Power		Q=Capacity							
Single Phase	Three Phase	kW	HP	l/min 20	30	40	50	60	70	75	
V 230	V 230/400			m³/h 1.2	1.8	2.4	3	3.6	4.2	4.5	
JEM 80	JE 80	0,6	0,8	33	29	26,5	23,5	20,5	18	-	
JEM 100	JE 100	0,75	1	37	33,5	30	27	24	21	-	
JEM 120	JE 120	0,88	1,2	41	37	34	30,5	27,5	24,5	-	
JEM 150	JE 150	1,1	1,5	49	44,5	40,5	37	34	31	29,5	



### 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  $\nu = 1 \text{ mm}^2/\text{s}$  (1 cSt)

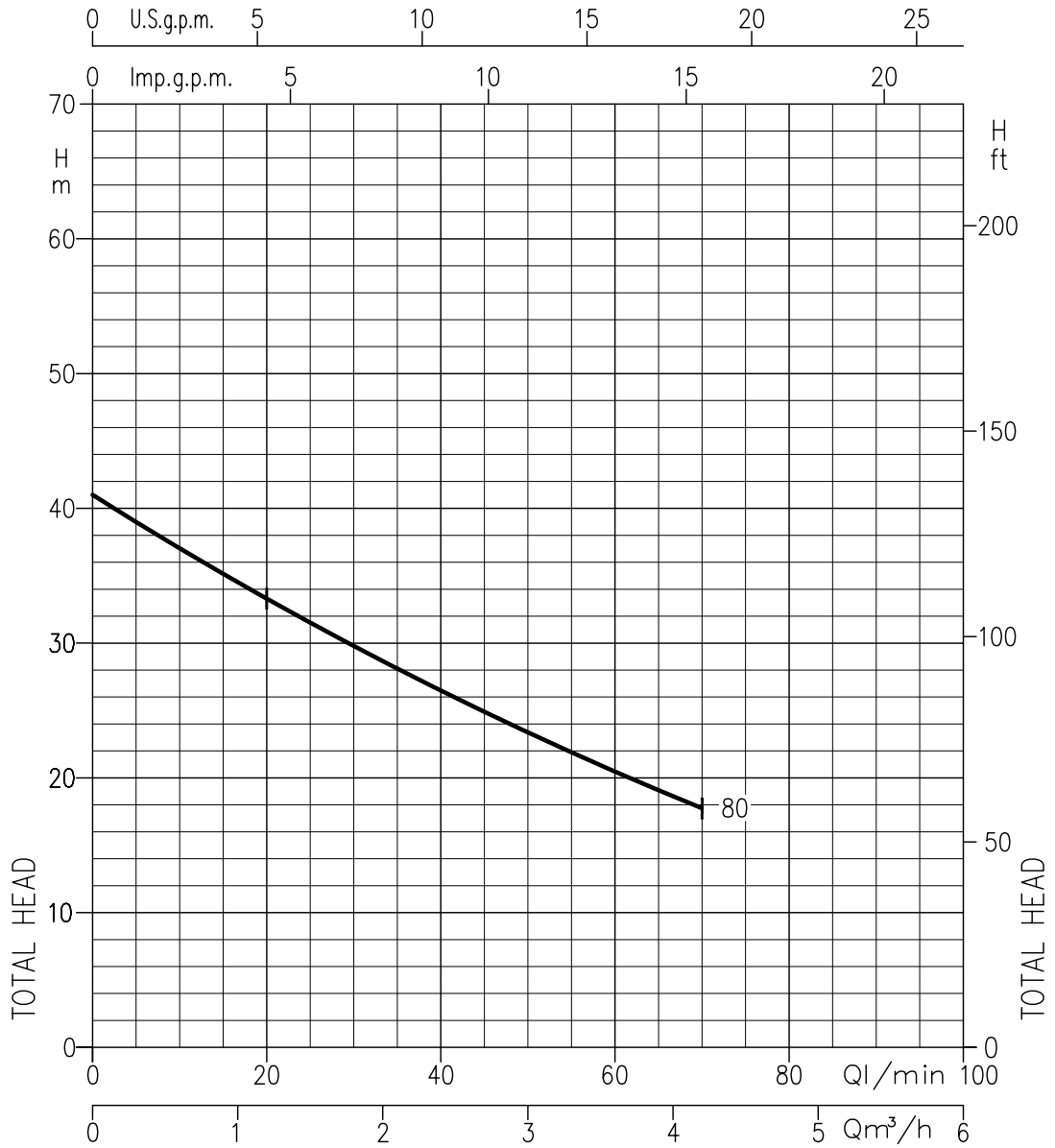
In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

Q = volume flow rate

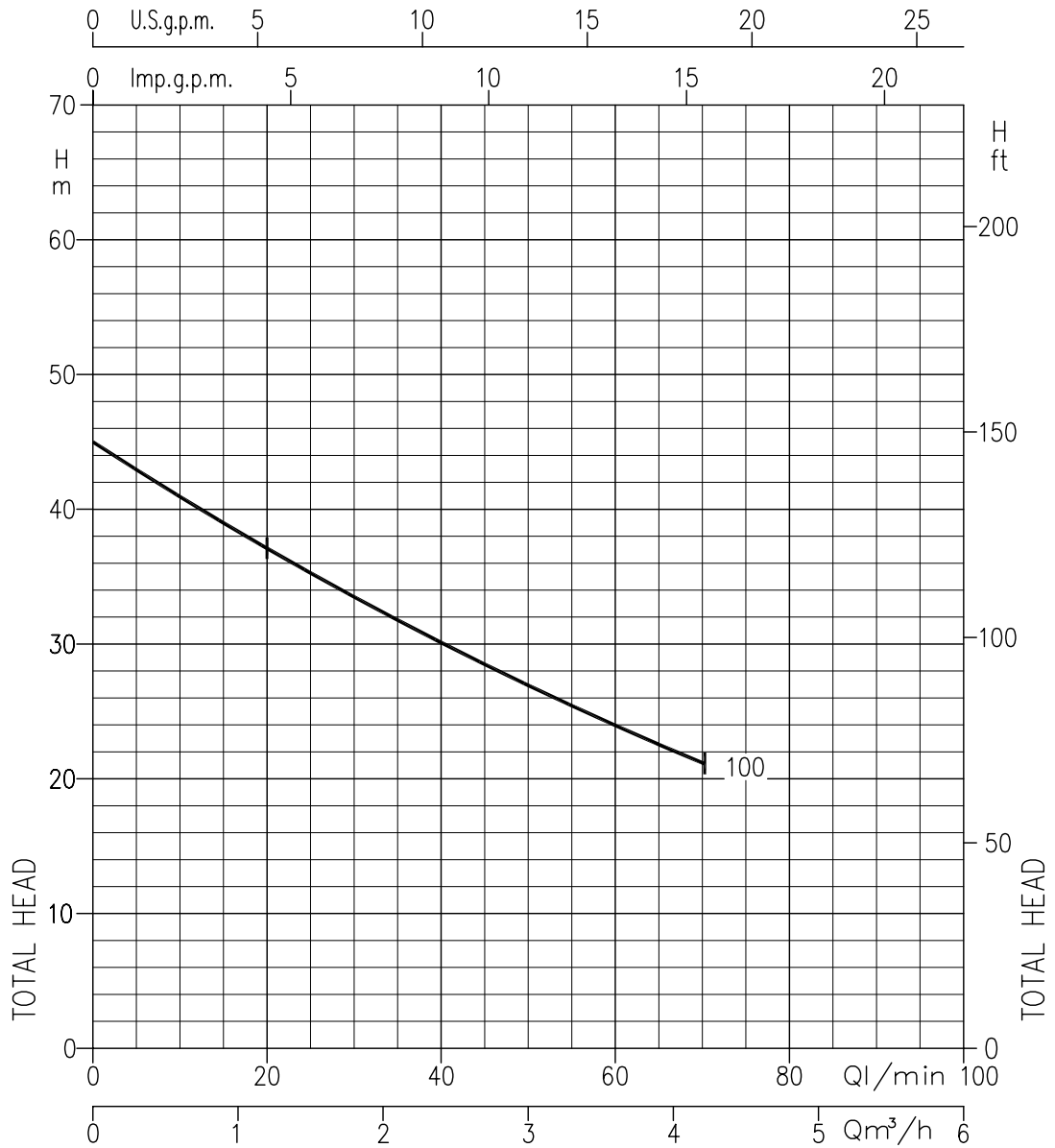
H = total head

JE 80 (0.6 kW)



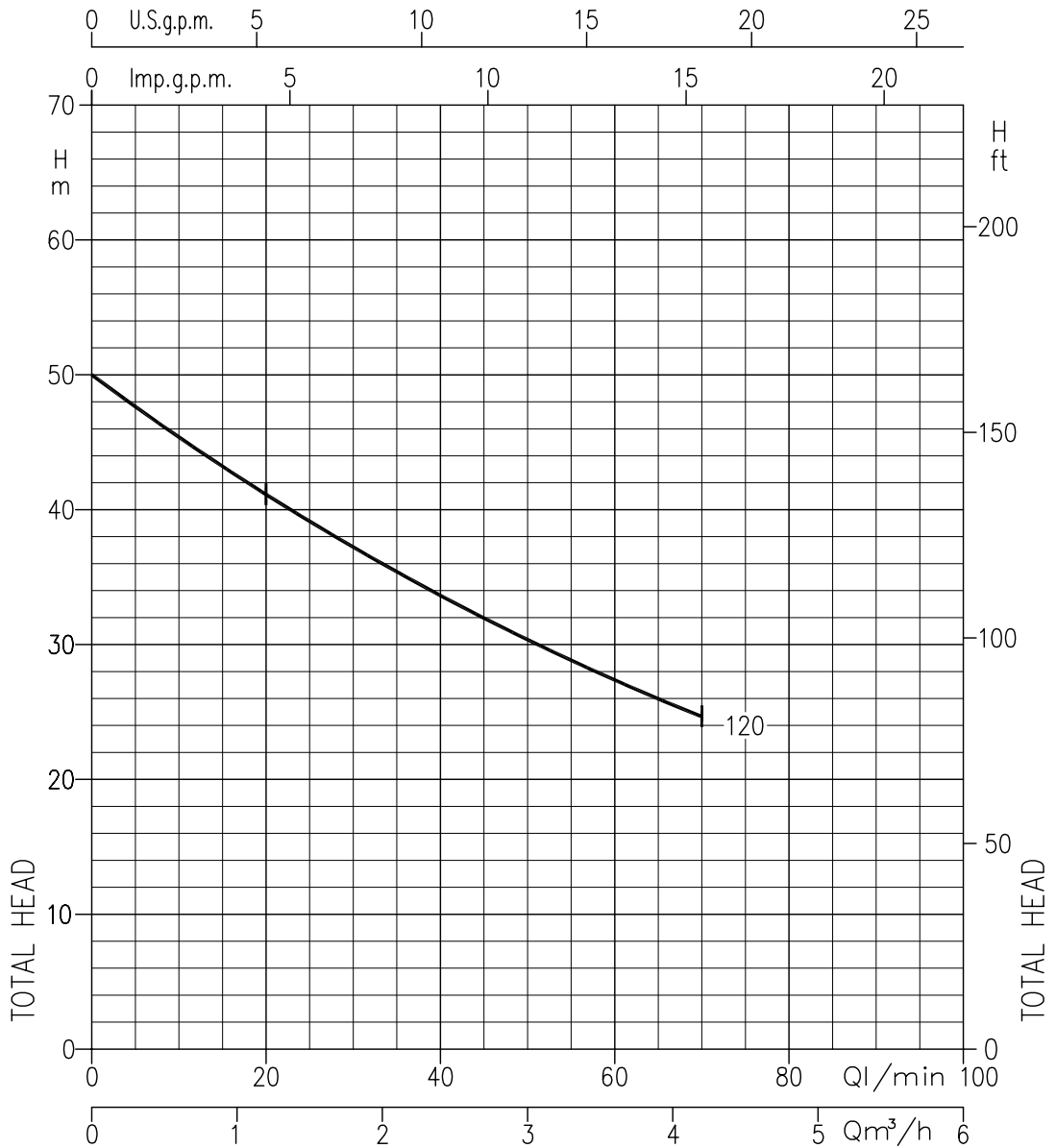
Impeller diameter = 132 mm  
Applicable standard of test: ISO 9906 – Annex A

JE 100 (0.75 kW)



Impeller diameter = 141 mm  
Applicable standard of test: ISO 9906 - Annex A

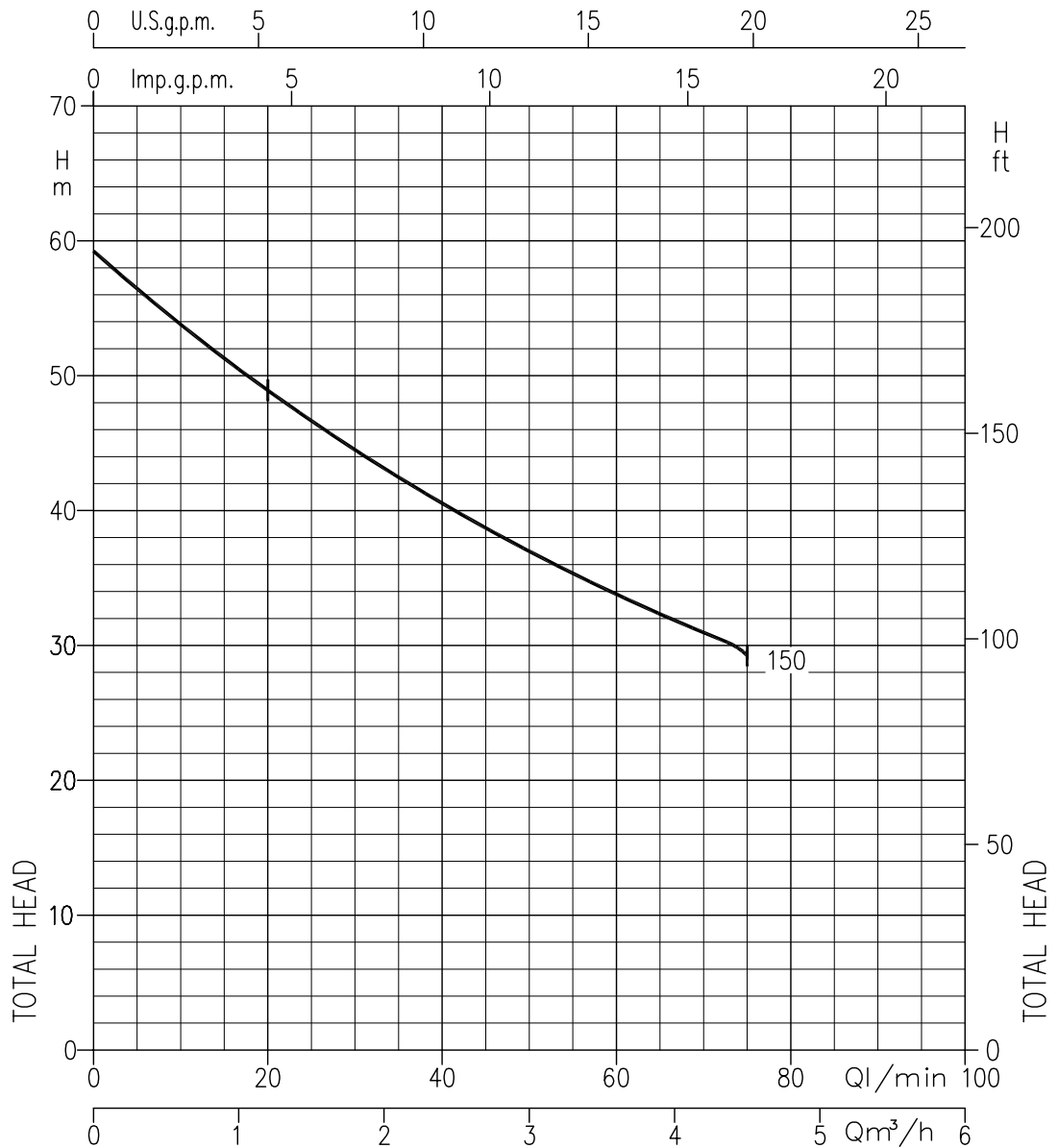
JE 120 (0.88 kW)



Impeller diameter = 141 mm  
Applicable standard of test: ISO 9906 – Annex A

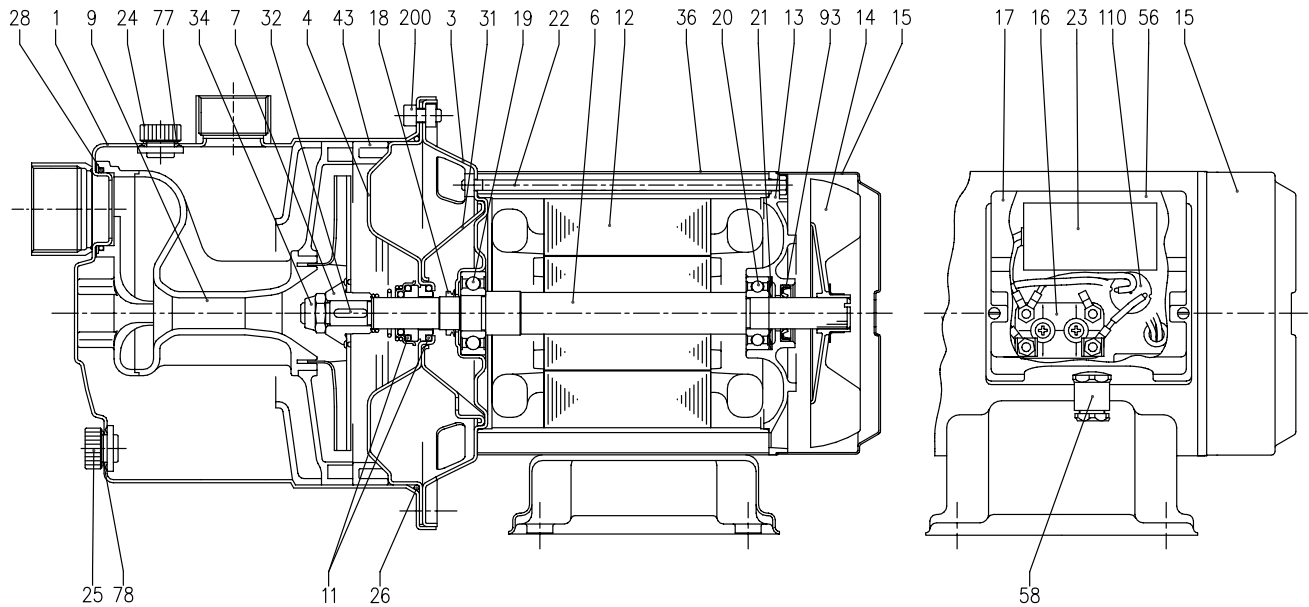


JE 150 (1.1 kW)



Impeller diameter = 141 mm  
Applicable standard of test: ISO 9906 – Annex A

### SECTIONAL VIEW

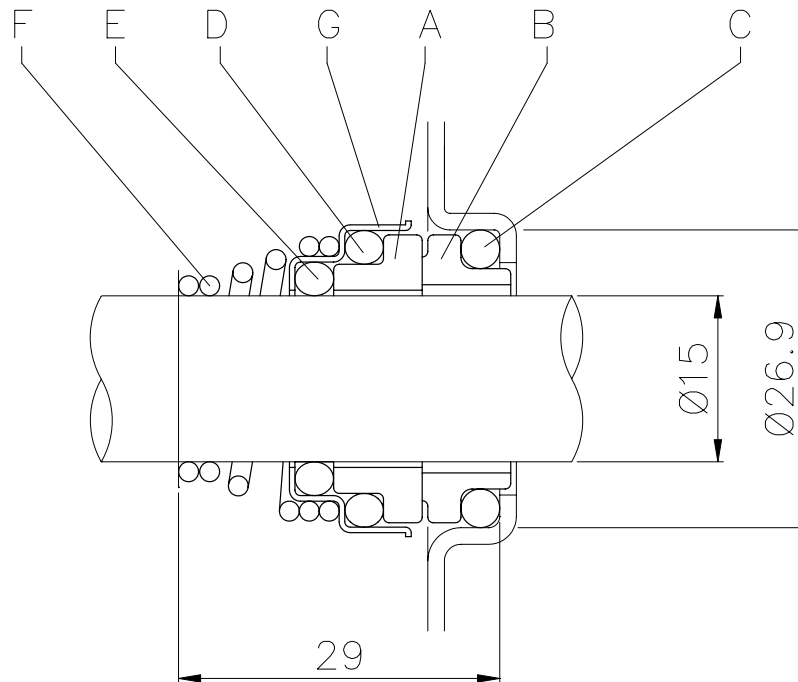


N°	PART NAME	MATERIAL	Q.TY	N°	PART NAME	MATERIAL	Q.TY
1	Casing	AISI 304	1	23	Capacitor [1]	-	1
3	Motor bracket	AISI 304	1	24	Priming plug	PA	1
4	Casing cover	AISI 304	1	25	Drain plug	PA	1
6	Shaft with rotor	AISI 303 (Wet extension)	1	26	O-ring	NBR	1
7	Impeller	AISI 304	1	28	O-ring	NBR	1
9	Diffuser Venturi tube	PPO mod. glass fibre reinforced	1	31	Thrust flange	AISI 304	1
11	Mechanical seal	Ceramic/Carbon/NBR	1	32	Key	AISI 304	1
12	Motor frame with stator	-	1	34	Impeller nut	AISI 304	1
13	Motor cover	Aluminium	1	36	External motor casing	AISI 304	1
14	Fan	PA6	1	43	Space diffuser	PPO mod. glass fibre reinforced	1
15	Fan cover	AISI 304	1	56	Box gasket	NBR	1
16	Terminal board	-	1	58	Cable entry	-	1
17	Terminal box cover	PA66 glass fibre reinforced	1	77	O-ring	NBR	1
18	Splash ring	NBR	1	78	O-ring	NBR	1
19	Pump side ball bearing	-	1	93	Lip seal [2]	NBR	1
20	Fan side ball bearing	-	1	110	Protector [1]	-	1
21	Adjusting ring	Steel C70	1	200	Screw	Stainless steel A2 UNI7323	8
22	Tie rod	Fe 42 Zinked	4	-	-	-	-

[1] Only for single phase

[2] Only for IP55

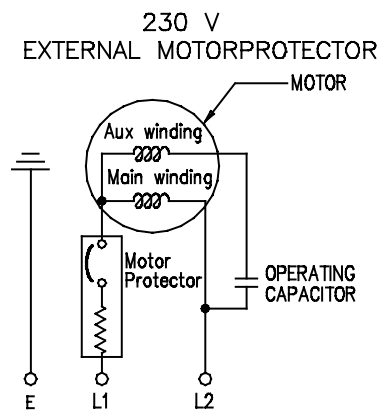
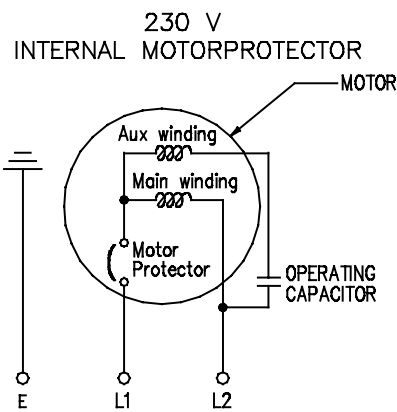
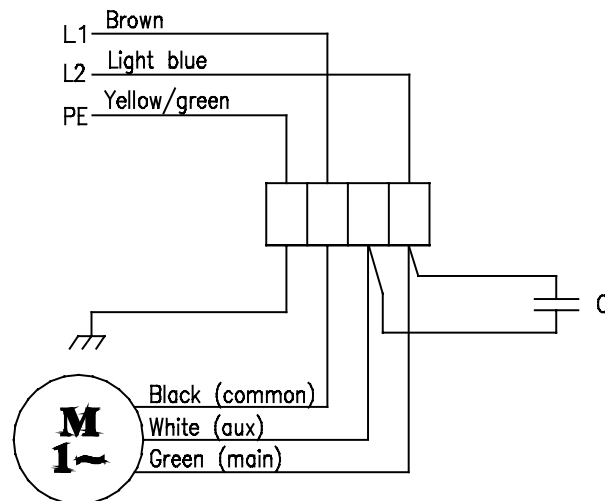
## MECHANICAL SEAL



REF	PART NAME	MATERIAL
A	Rotary seal ring	Ceramic
B	Stationary seal ring	Carbon graphite
C	O Ring	NBR
D	O Ring	NBR
E	O Ring	NBR
F	Self driving spring	AISI 316
G	Frame	AISI 304

DIAGRAM AND ELECTRIC CONNECTIONS

SINGLE PHASE MOTOR



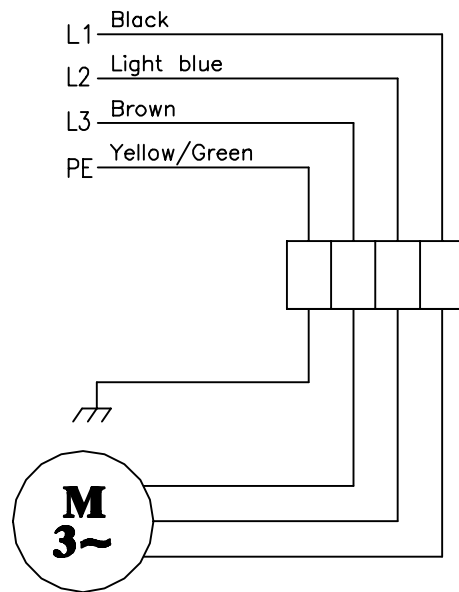
For model

JEM 80  
JEM 100  
JEM 120

JEM 150

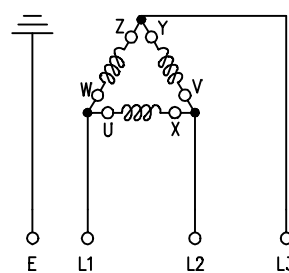
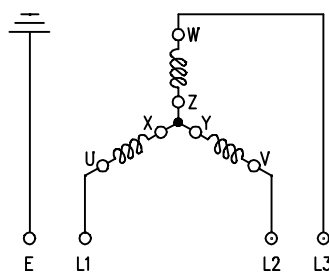
DIAGRAM AND ELECTRIC CONNECTIONS

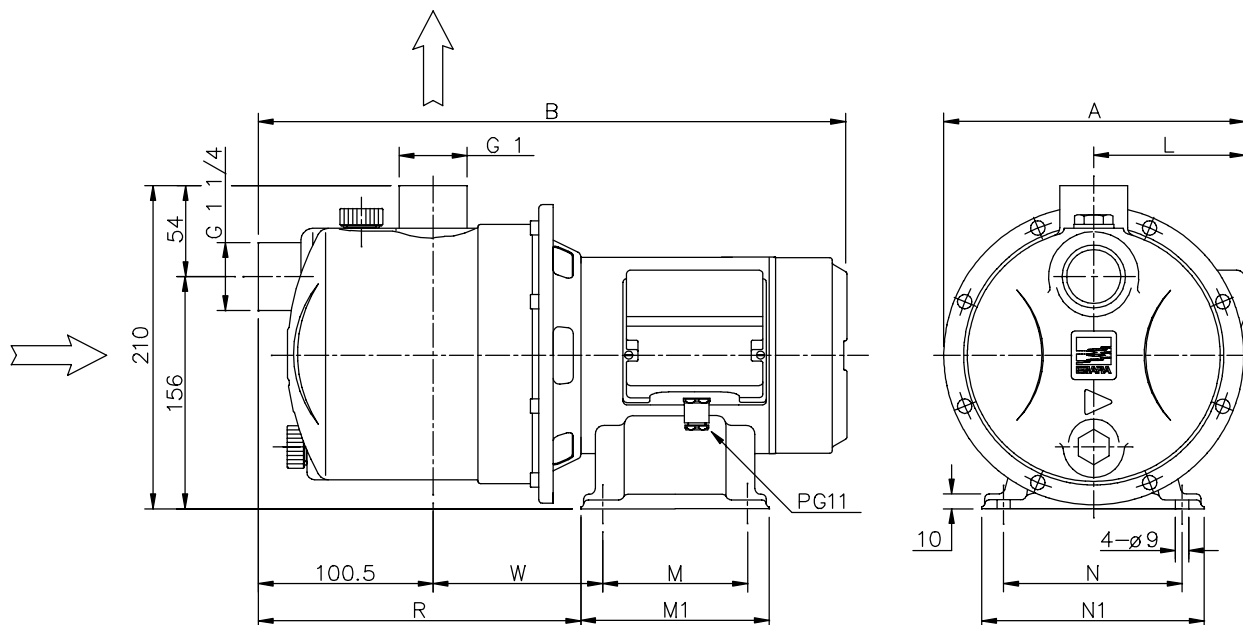
THREE PHASE MOTOR



400 V  
STAR CONNECTION

230 V  
DELTA CONNECTION

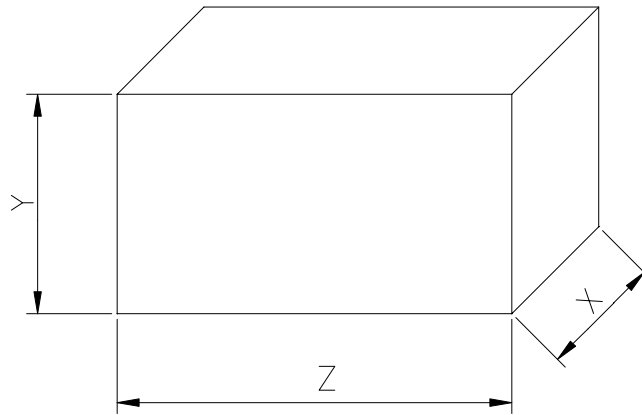




Pump type JEM-JE	Dimensions in mm										
	A		B	L		M	M1	N	N1	R	W
	[1]	[2]		[1]	[2]						
80	209	205	401	105	101	100	130	120	150	213.5	128
100	209	205	432	105	101	100	130	120	150	228.5	143
120	209	205	432	105	101	100	130	120	150	228.5	143
150	214	214	439	110	110	120	150	140	170	231	145.5

[1] = Only for single phase

[2] = Only for three phase



Type pumps		PACKING [mm]			WEIGHT [kg]	
Single Phase	Three Phase	X	Y	Z	Single Phase	Three Phase
JEM 80	JE 80	240	240	440	12	12
JEM 100	JE 100	240	240	440	13.5	13.5
JEM 120	JE 120	240	240	440	13.5	13.5
JEM 150	JE 150	240	240	440	15.5	15.5

Type pumps		kW	HP	Capacitor		Input [kW]		Full load current [A]			Locked rotor current		
Single Phase 230 V 50 Hz	Three Phase 230/400 V 50 Hz			Single Phase $\mu\text{F}$	Vc	Single Phase	Three Phase	Single Phase	Three Phase 230 V	400 V	Single Phase 230 V 50 Hz	Three Phase 230 V 50 Hz	400 V 50 Hz
JEM 80	JE 80	0.6	0.8	16	450	1.05	0.97	4.7	3.3	1.9	16.1	16.8	9.7
JEM 100	JE 100	0.75	1	20	450	1.33	1.25	6.4	4.5	2.6	22.7	24.2	14
JEM 120	JE 120	0.88	1.2	20	450	1.39	1.30	6.7	4.7	2.7	22.7	24.2	14
JEM 150	JE 150	1.1	1.5	31.5	450	1.70	1.58	7.6	5.9	3.3	32.5	32.9	19

Type pumps		Ball Bearing	
Single Phase 230 V 50 Hz	Three Phase 230/400 V 50 Hz	Pump side	Fan side
JEM 80	JE 80	6203 ZZ	6202 ZZ
JEM 100	JE 100	6203 ZZ	6202 ZZ
JEM 120	JE 120	6203 ZZ	6202 ZZ
JEM 150	JE 150	6204 ZZ	6203 ZZ



If you use this pump on suction condition, it tends to breathe the air from outside because the pressure in pump becomes vacuum condition when it stopped. So water in the pump sometimes fall down to breath the air from pipe connection. If it is used to operate continuously under this condition, this is the cause of breakdown to overheat inside the pump.



**So please install foot valve or check valve at suction pipe in order to prevent the pump from such a condition. And moreover will you please support the suction pipe and the delivery one to prevent the pump from leaning the weight of pipe.**

