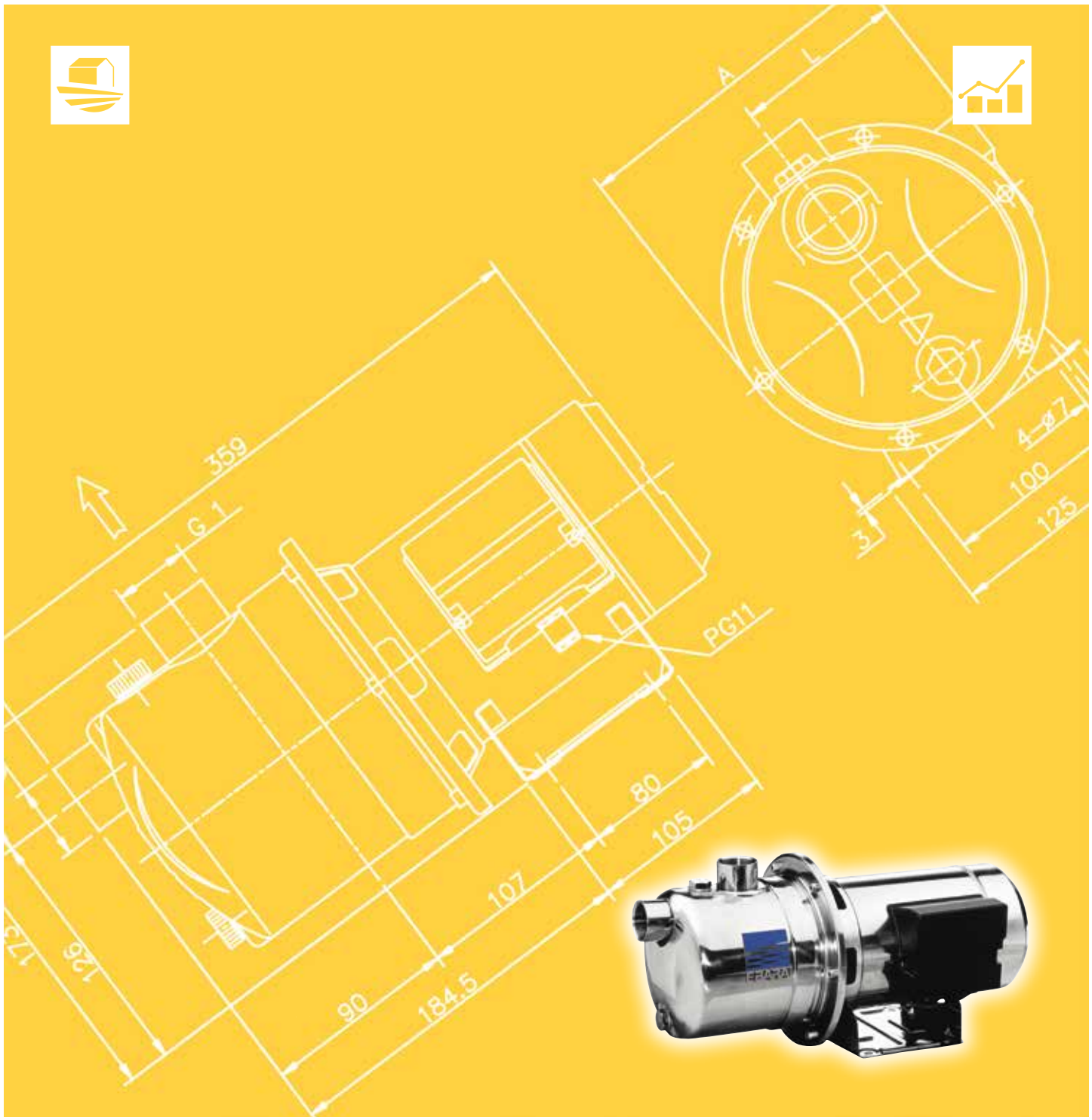




Japanese Technology since 1912

JES

Data Book 50Hz



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SPECIFICATION

50Hz

Rev.I

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 1 UNI ISO 228
	Discharge [inch]	G 1 UNI ISO 228
Material	Casing	AISI 304
	Impeller	PPO mod. Glass fibre reinforced
	Casing cover	AISI 304
	Shaft seal	Ceramic/Carbon/NBR
	Shaft	AISI 303 (Wet extension)
	Ejector	PPO mod. glass fibre reinforced
	Bracket	AISI 304
	Diffuser	PPO mod. glass fibre reinforced
Applicable standard of test		ISO 9906:2012 – Grade 3B

MOTOR		
Type	Electric – TEFC	
	Single Phase	Three Phase
Efficiency level(Reg.1781/2019)	IE2	IE3
No. of Poles	2	
Rotation speed [min ⁻¹]	≈ 3000	
Insulation Class	Class F	
Protection degree (CEI EN 60034-5)	IP 44	
	IP 55 (on request)	
Power rating [kW]	0.37 ÷ 0.6	
	[HP] 0.5 ÷ 0.8	
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	
Motor support	AISI 304	
Dimensions of cable entry	PG 11	

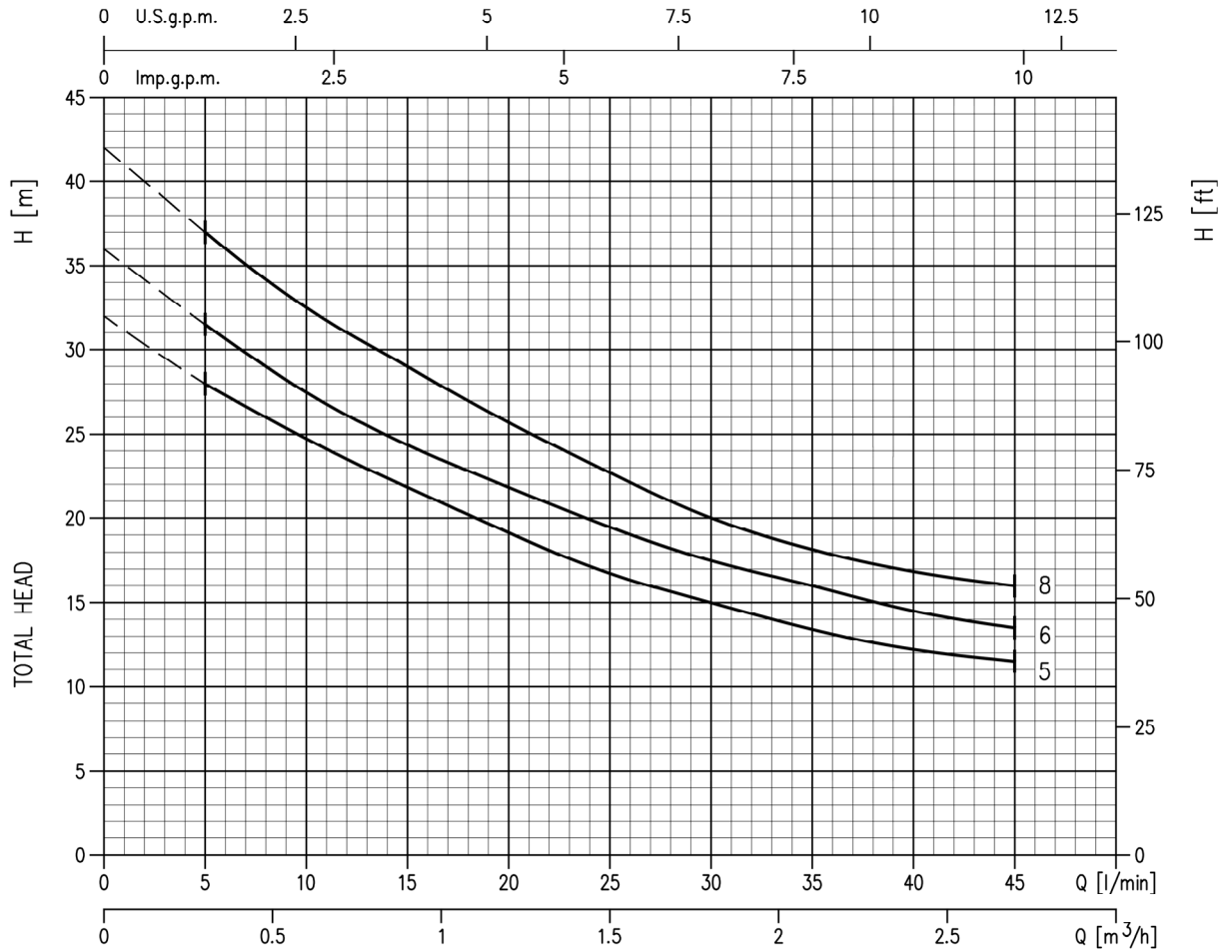
CENTRIFUGAL PUMPS SELECTION CHART

JES

50Hz

Rev.I

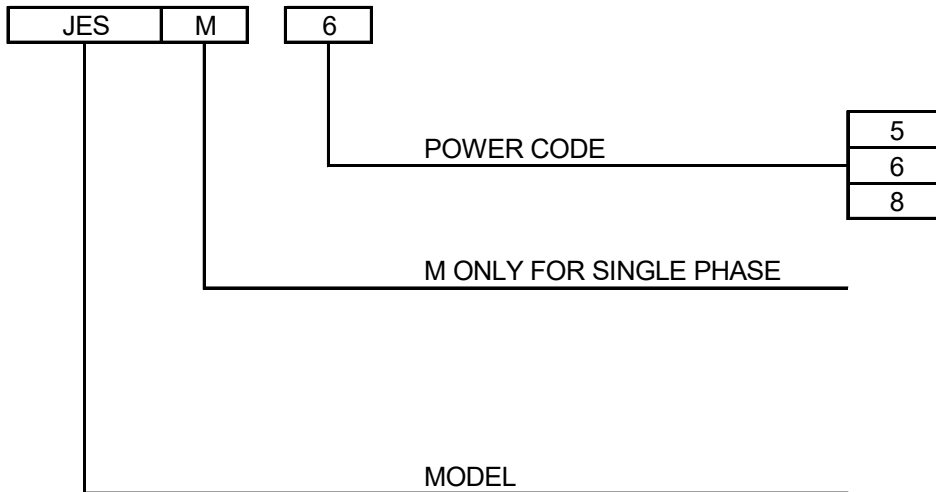
PERFORMANCE RANGE



SELECTION CHART

Pump Type		Q=Capacity					
		l/min	0	5	20	40	45
Single Phase	Three Phase	m³/h	0	0.3	1.2	2.4	2.7
		H=Total manometric head in meters					
JESM 5	JES 5		32	28	19.5	12	11.5
JESM 6	JES 6		36	31.5	22	14.5	13.5
JESM 8	JES 8		42	37	26	17	16

TYPE KEY



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 $\nu = 1 \text{ mm}^2/\text{s}$ (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.

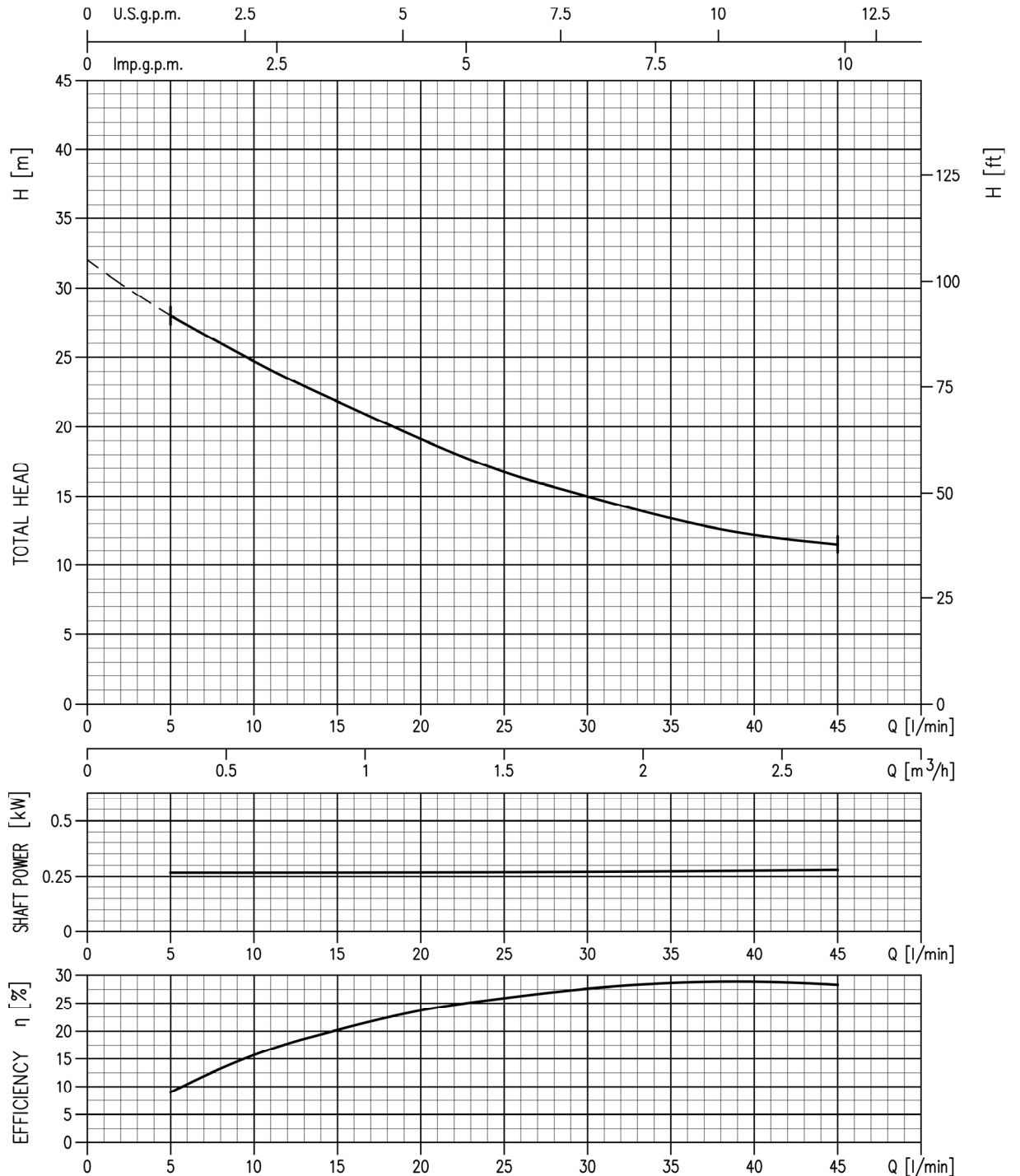
In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

Q = volume flow rate

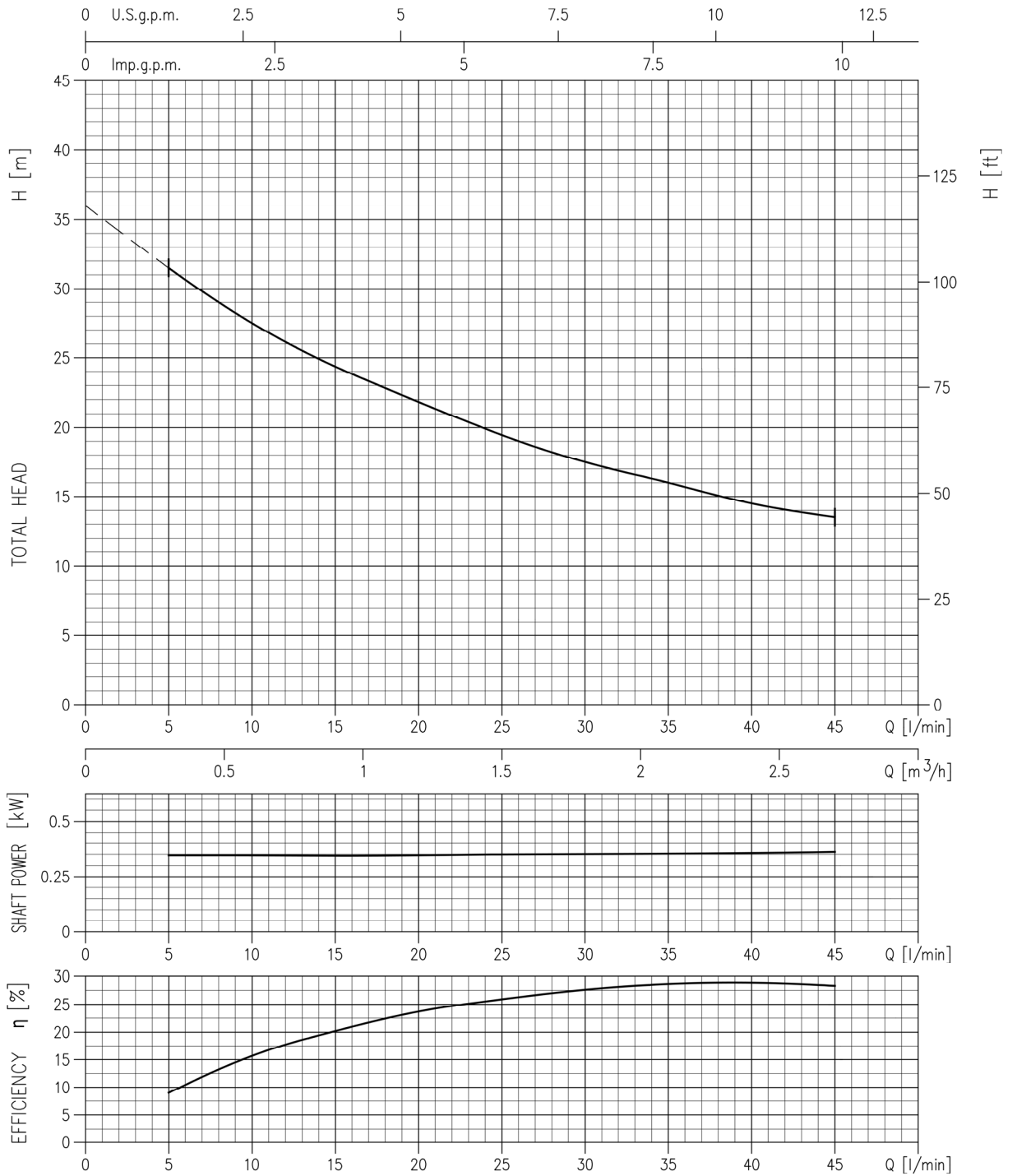
H = total head

JES 5 - Impeller diameter = 104 mm



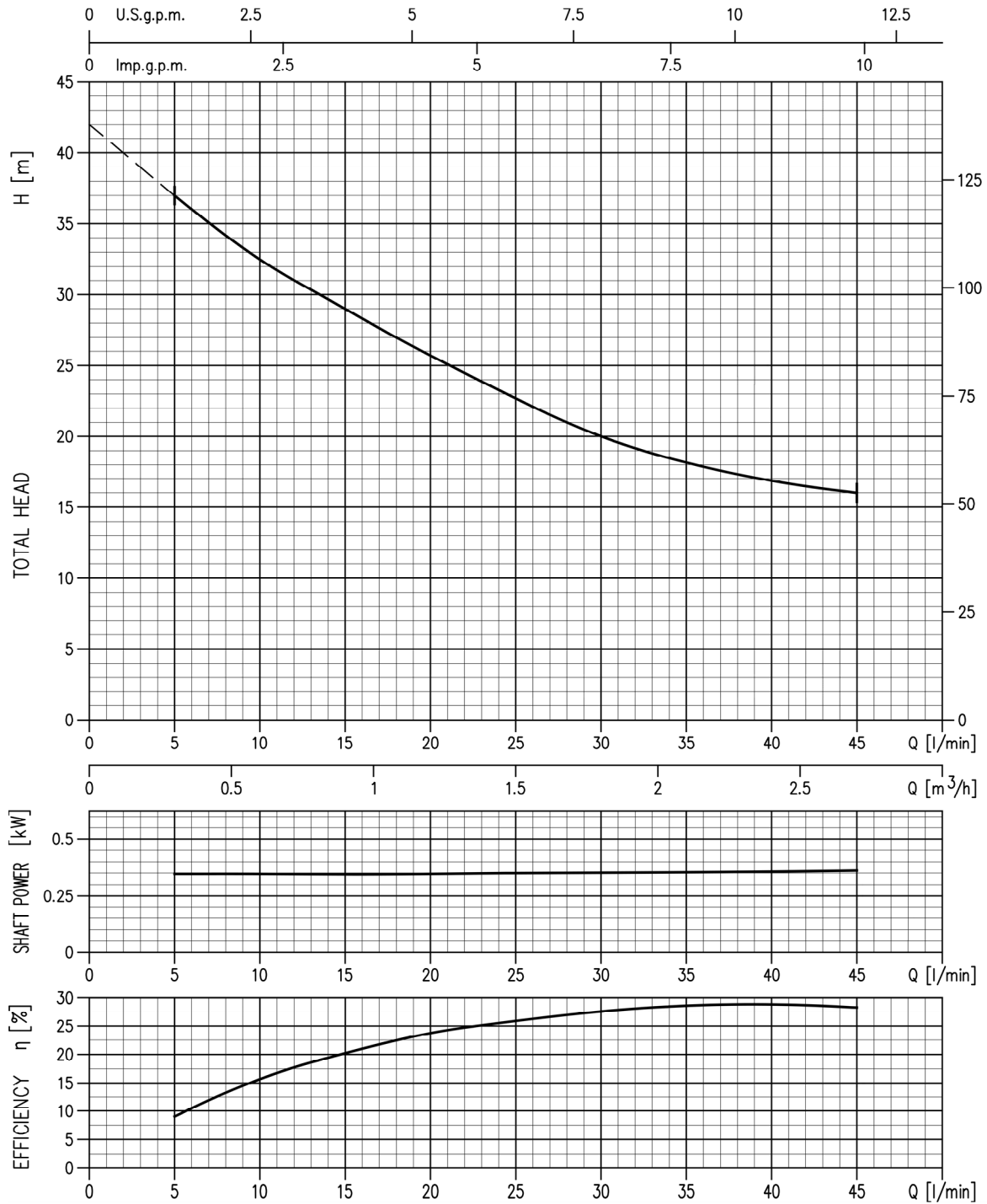
Rotation speed ≈ 3000 min⁻¹
 Test Standard: ISO 9906:2012 – Grade 3B
 Temperature of water: 20°C

JES 6 - Impeller diameter = 104 mm



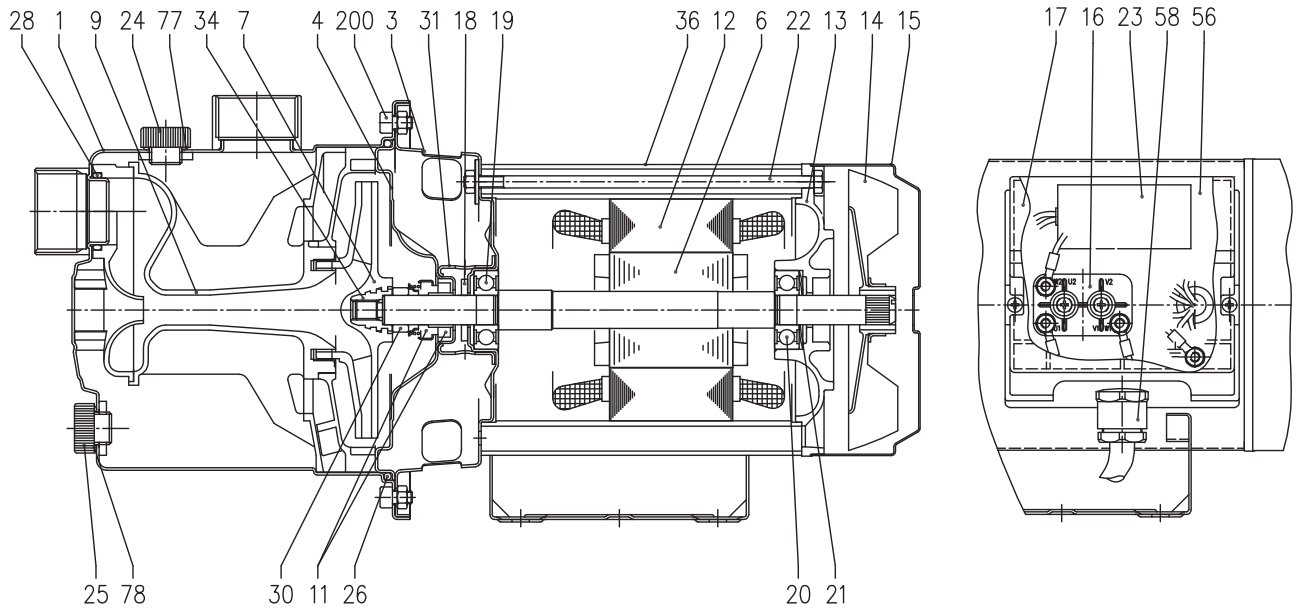
Rotation speed $\approx 3000 \text{ min}^{-1}$
 Test standard: ISO 9906:2012 – Grade 3B
 Temperature of water: 20°C

JES 8 - Impeller diameter = 110 mm



Rotation speed $\approx 3000 \text{ min}^{-1}$
 Test standard: ISO 9906:2012 – Grade 3B
 Temperature of water: 20°C

SECTIONAL VIEW



N°	PART NAME	MATERIAL	Q.TY
1	Casing	AISI 304	1
3	Motor bracket	Aluminium	1
4	Casing cover	AISI 304	1
6	Shaft with rotor	AISI 303 (Wet extension)	1
7	Impeller	PPE+PS glass fibre reinforced	1
9	Diffuser Venturi tube	PPE+PS glass fibre reinforced	1
11	Mechanical seal	[3] Carbon/Ceramic/NBR	1
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	[2] Aluminium	1
18	Splash ring	NBR	1
19	Pump side ball bearing	6201 ZZ	1
20	Fan side ball bearing	6201 ZZ	1

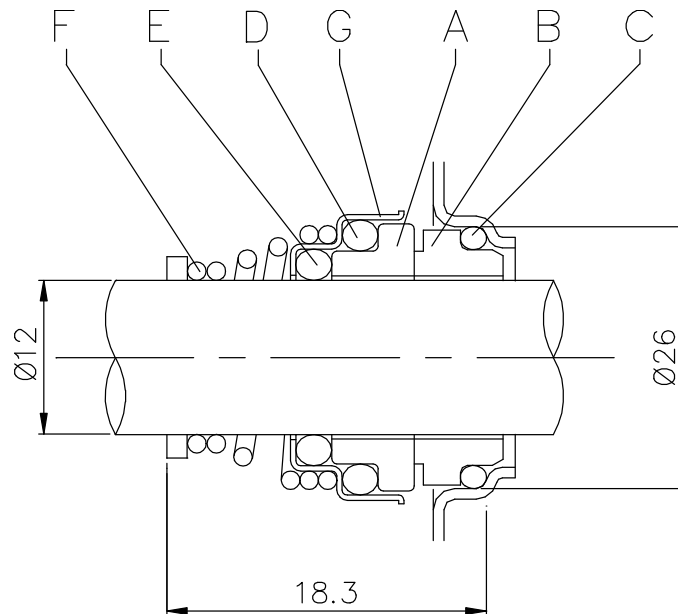
N°	PART NAME	MATERIAL	Q.TY
21	Adjusting ring	Steel C70	1
22	Tie rod	Fe 42 Zincate	4
23	Capacitor	[1] -	1
24	Priming plug	PA	1
25	Drain plug	PA	1
26	O-ring	NBR	1
28	O-ring	NBR	1
30	Mechanical seal spacer	Brass	1
34	Impeller nut	[2] AISI 304	1
42	Motor support	Aluminium	1
52	Capacitor box	[1] ABS	1
53	Capacitor box cover with gasket	[1] ABS+NBR	1
56	Box gasket	NBR	1
77	O-ring	NBR	1
78	O-ring	NBR	1
200	Screw	Stainless steel A2 UNI7323	6

[1] Only for single phase

[2] Only for three phase

[3] See mechanical seal page. 301

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

BEARINGS

Type pumps		Ball Bearing	
Single phase 230 V	Three phase 230/400 V	Pump side	Fan side
JESM 5	JES 5	6201	6201
JESM 6	JES 6	6201	6201
JESM 8	JES 8	6201	6201

DIAGRAM AND ELECTRIC CONNECTIONS

SINGLE PHASE MOTOR

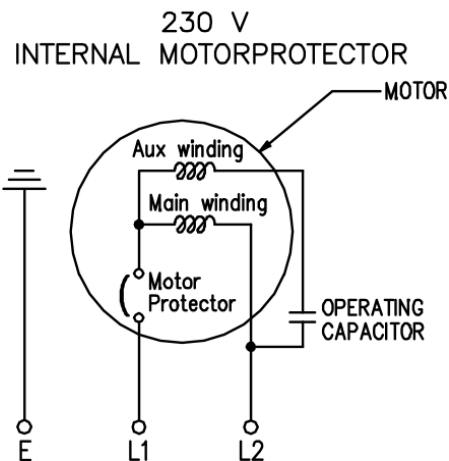
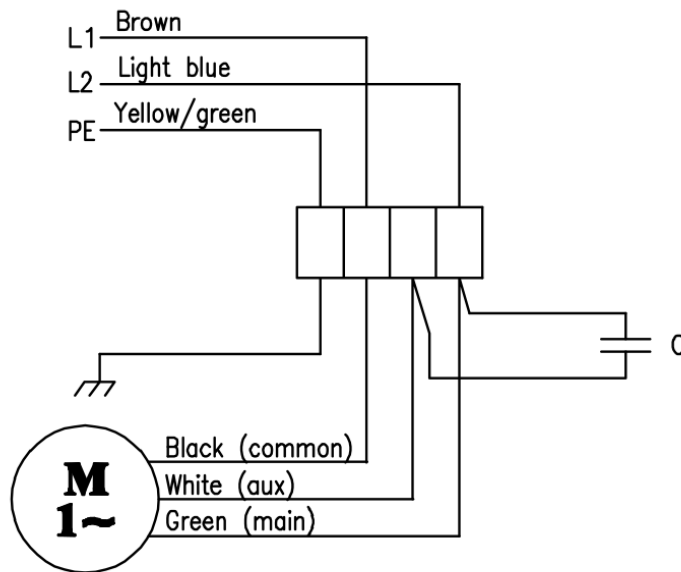
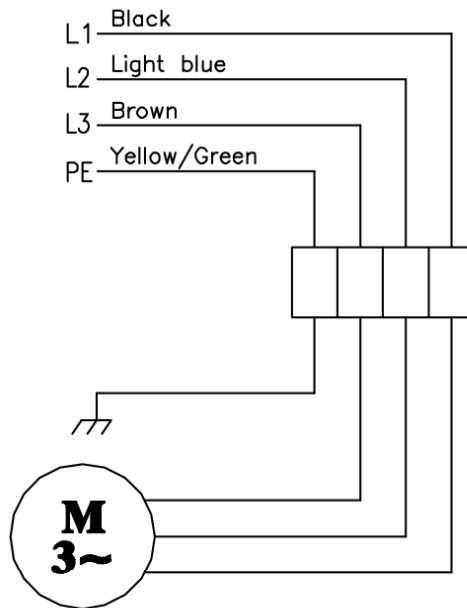


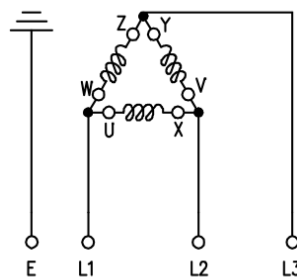
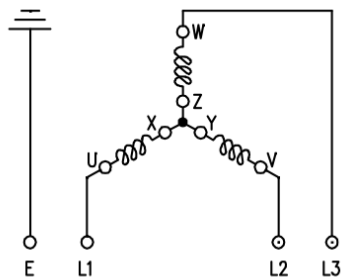
DIAGRAM AND ELECTRIC CONNECTIONS

THREE PHASE MOTOR

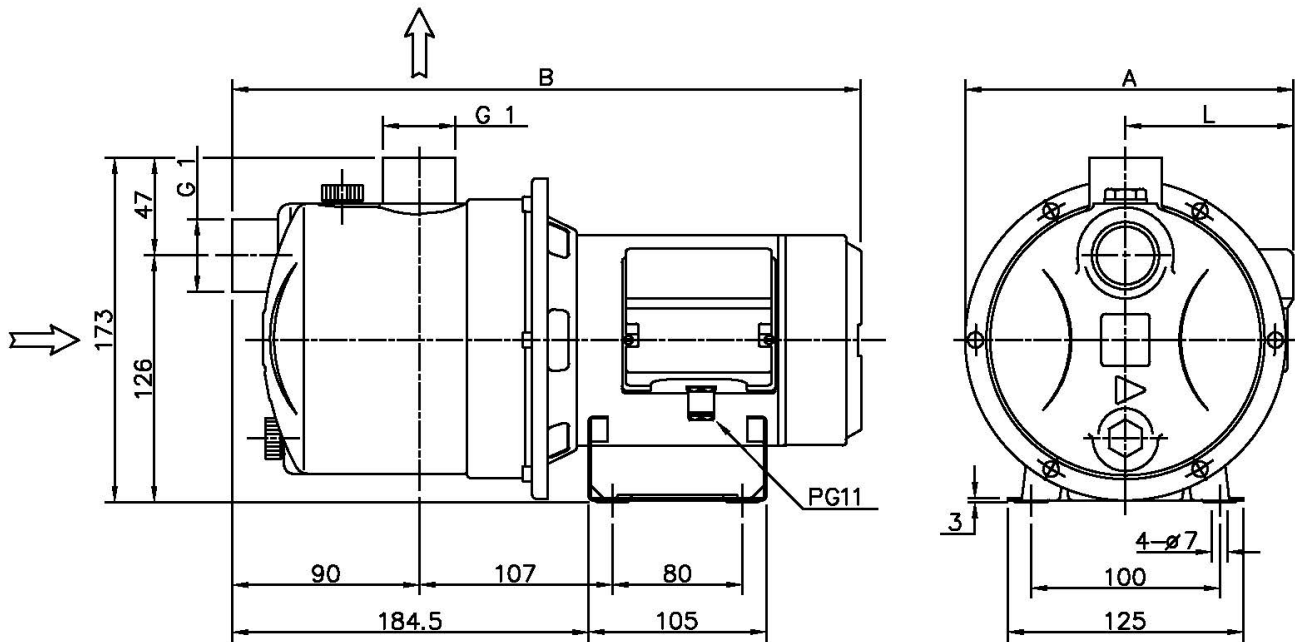


400 V
STAR CONNECTION

230 V
DELTA CONNECTION



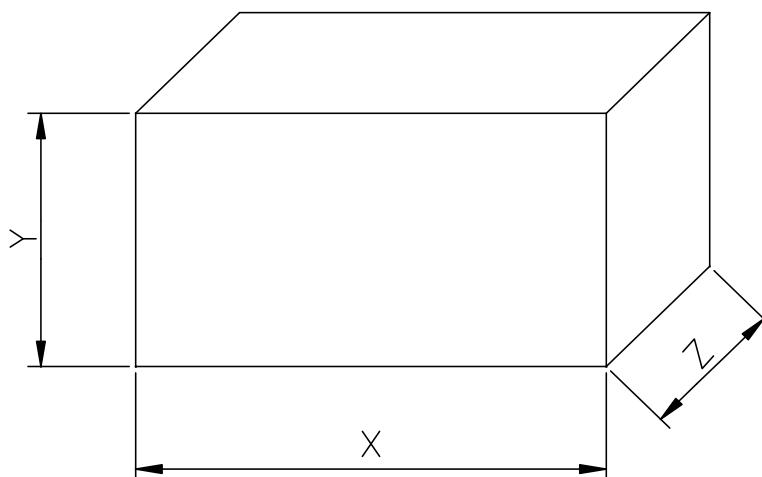
PUMP



Pump type	Dimensions [mm]					
	A		B		L	
JES	[1]	[2]	[1]	[2]	[1]	[2]
5	181	177	359	359	96	92
6	181	177	359	374	96	92
8	181	177	359	374	96	92

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

PACKING



Pump type		Packing [mm]				Weight [kgf]	
Single Phase	Three Phase	X	Y	Z			
				[1~]	[3~]	[1~]	[3~]
JESM 5	JES 5	239	225	442	442	7	5.6
JESM 6	JES 6	239	225	442	442	7.5	5.8
JESM 8	JES 8	239	225	442	442	7.5	6

[1~] Single phase

[3~] Three phase

MOTOR DATA

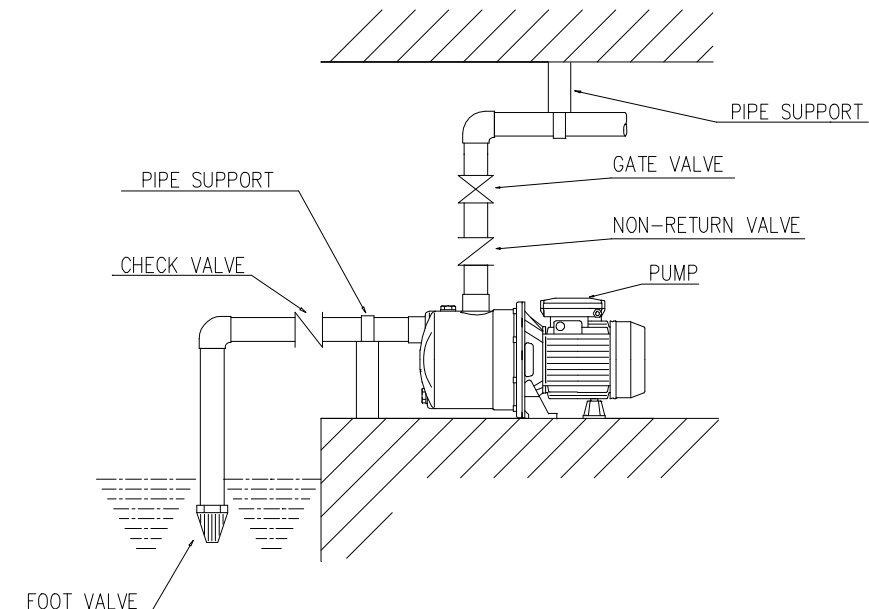
Pump type	Power		Efficiency [IE2 / IE3]	Capacitor		Efficiency (% load) and power factor				Input [kW]	Full load current		Locked rotor current	
	[kW]	[HP]		[μF]	[V]	η %			cos-φ		[A]	[A]	[A]	
						50%	75%	100%					110 V	230 V
JESM 5	0,27	0,36	IE2	12,5	450	53,5	63,7	68,8	0,91	0,40	-	1,9	-	7,3
JESM 6	0,37	0,5	IE2	12,5	450	60,0	67,6	69,8	0,92	0,55	-	2,6	-	9,6
JESM 8	0,37	0,5	IE2	12,5	450	60,0	67,6	69,8	0,92	0,55	-	2,6	-	9,6

Pump type	Power		Efficiency	Input [kW]	Full load current [A]		Locked rotor current [A]	
	[kW]	[HP]			230 V	400 V	230 V	400 V
JES 5	0,37	0,5	IE3	0,43	1,5	0,85	6,4	3,7
JES 6	0,45	0,6	IE3	0,49	1,9	1,1	8,6	5,0
JES 8	0,6	0,8	IE3	0,58	2,25	1,3	10,7	6,2

If you use this pump on suction condition, it tends to breath 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.





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