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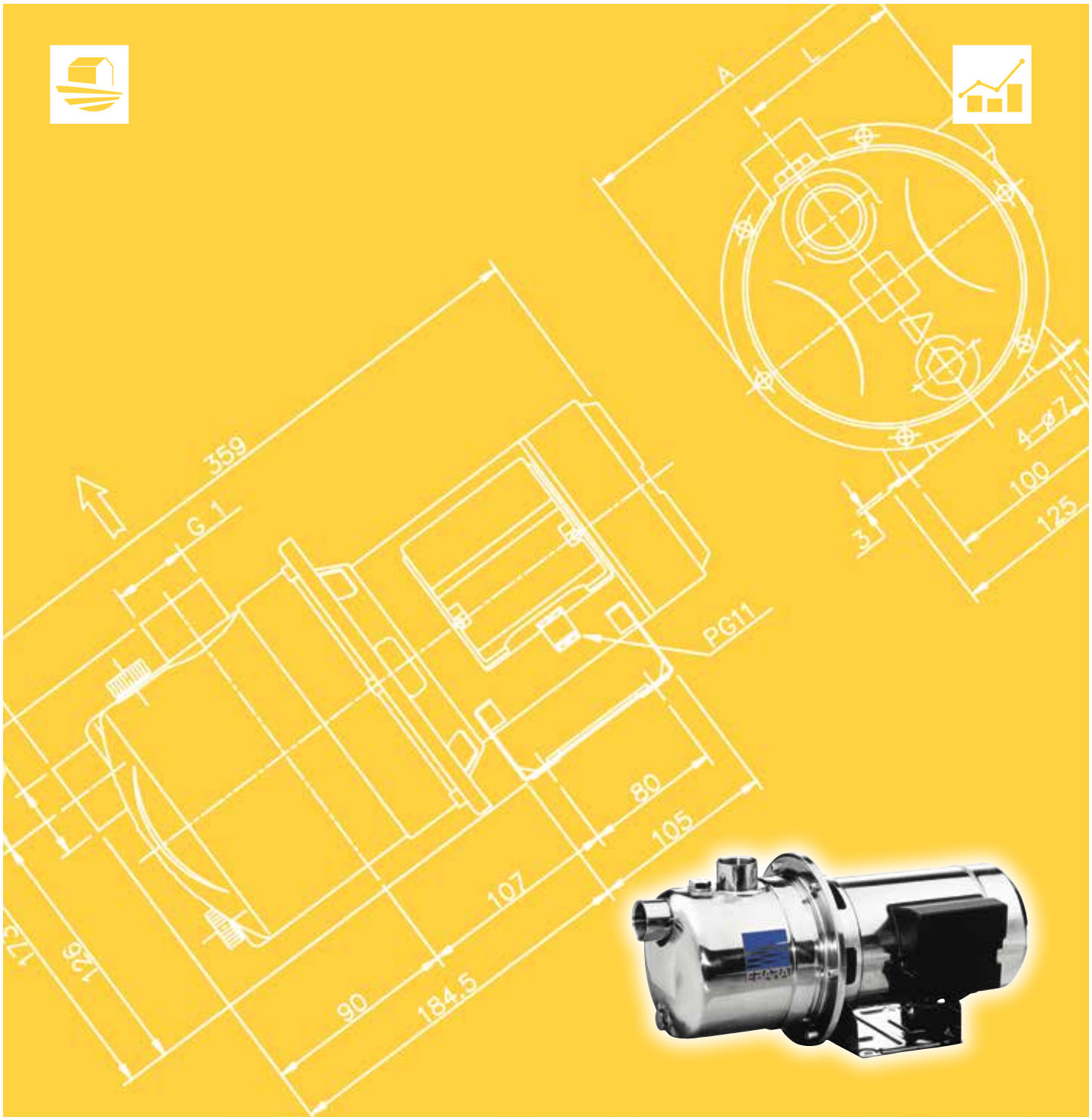
JES

Data Book 50Hz



CONTENTS

50Hz

Rev. F

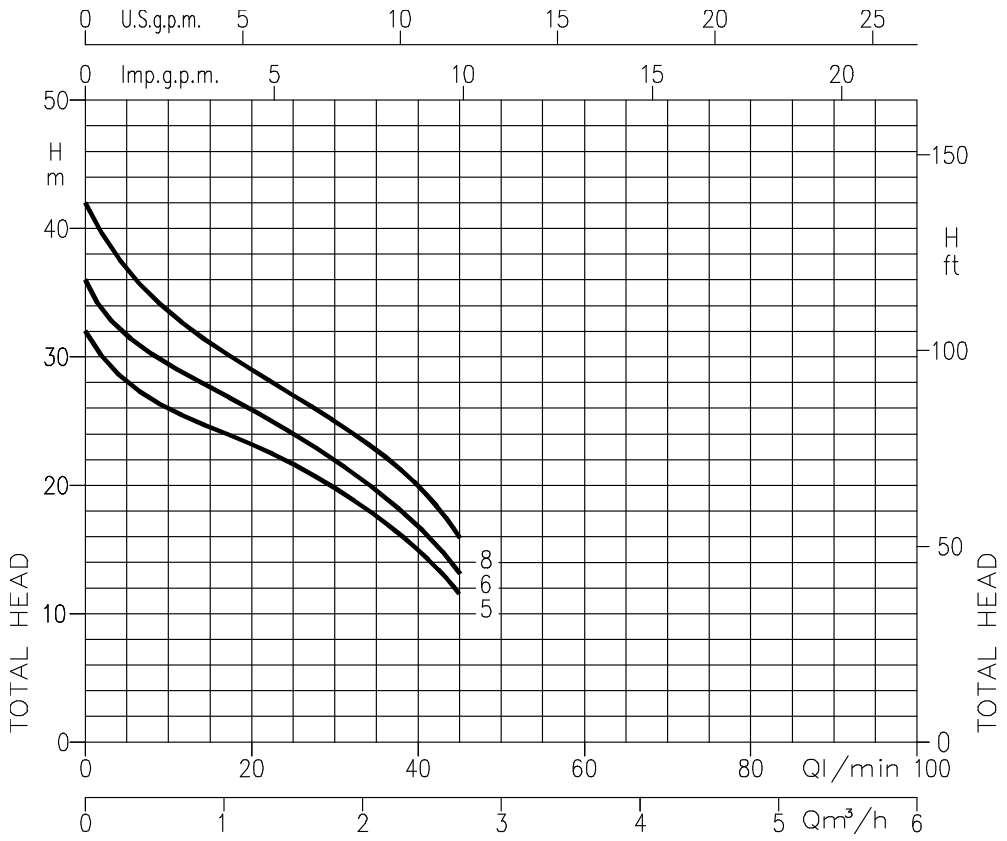
SPECIFICATION 50Hz

Rev. F

PUMP			
Liquid Handled	Type of liquid		Clean water
	Max temperature	[℃]	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
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	

PERFORMANCE RANGE



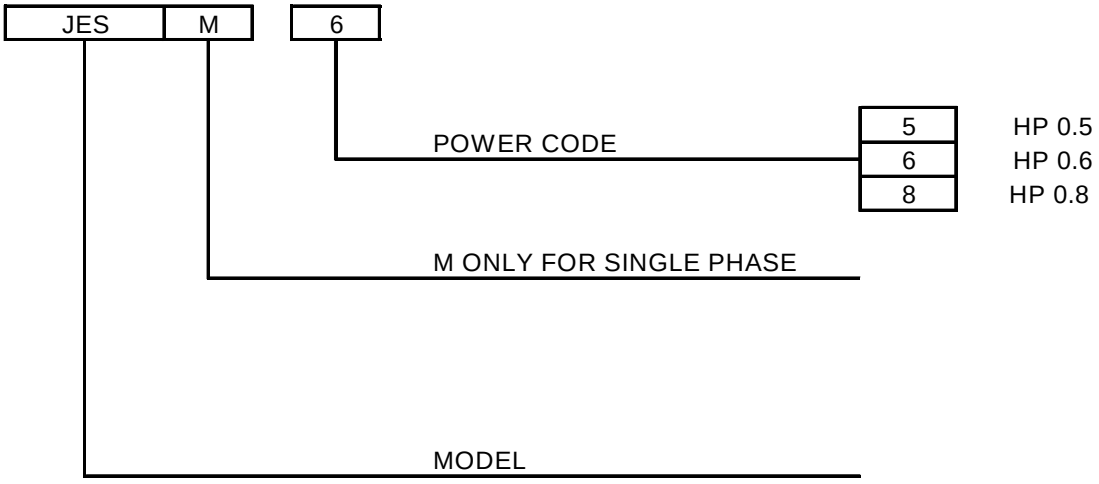
SELECTION CHART

Pump Type		Power		Q=Capacity					
				l/min	0	5	20	40	45
Single Phase	Three Phase	[kW]	[HP]	m³/h	0	0.3	1.2	2.4	2.7
				H=Total manometric head in meters					
JESM 5	JES 5	0.37	0.5		32	28	23	15	11.5
JESM 6	JES 6	0.44	0.6		36	31.5	26	17	13.5
JESM 8	JES 8	0.6	0.8		42	37	29	20	16

TYPE KEY AND CURVE SPECIFICATIONS 50Hz

Rev. F

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℃ of temperature and with a kinematic viscosity of $\nu = 1\ mm^2/s$ (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

PERFORMANCE CURVE

50Hz

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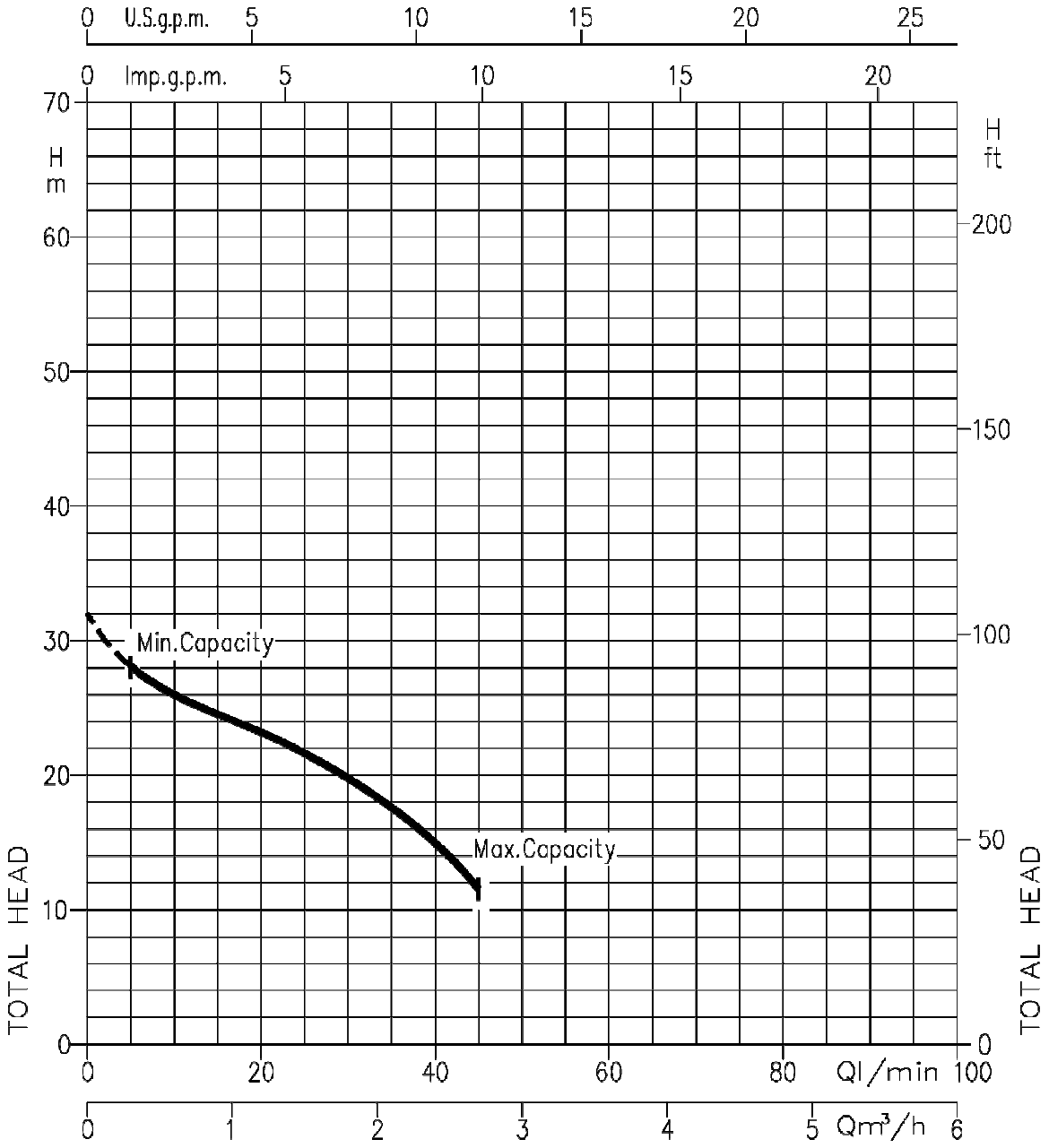
JES 5 (0.37 kW) Impeller diameter = 104 mm



Rotation speed ≈ 3000 min^{-1}
Test Standard: ISO 9906:2012 – Grade 3B
Temperature of water: 20℃

PERFORMANCE CURVE

50Hz

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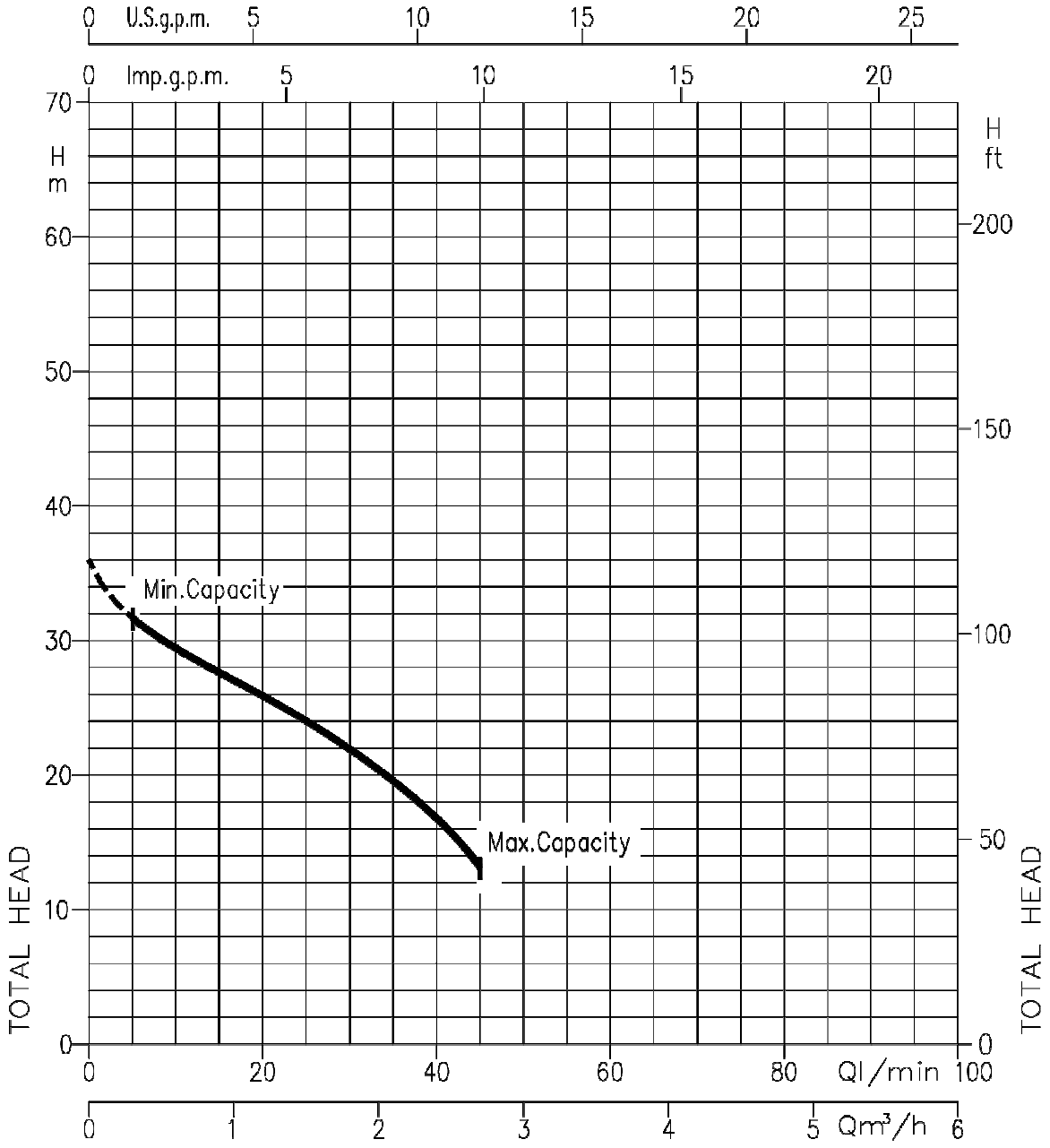
JES 6 (0.44 kW) Impeller diameter = 104 mm



Rotation speed ≈ 3000 min^{-1}
Test standard: ISO 9906:2012 – Grade 3B
Temperature of water: 20℃

PERFORMANCE CURVE

50Hz

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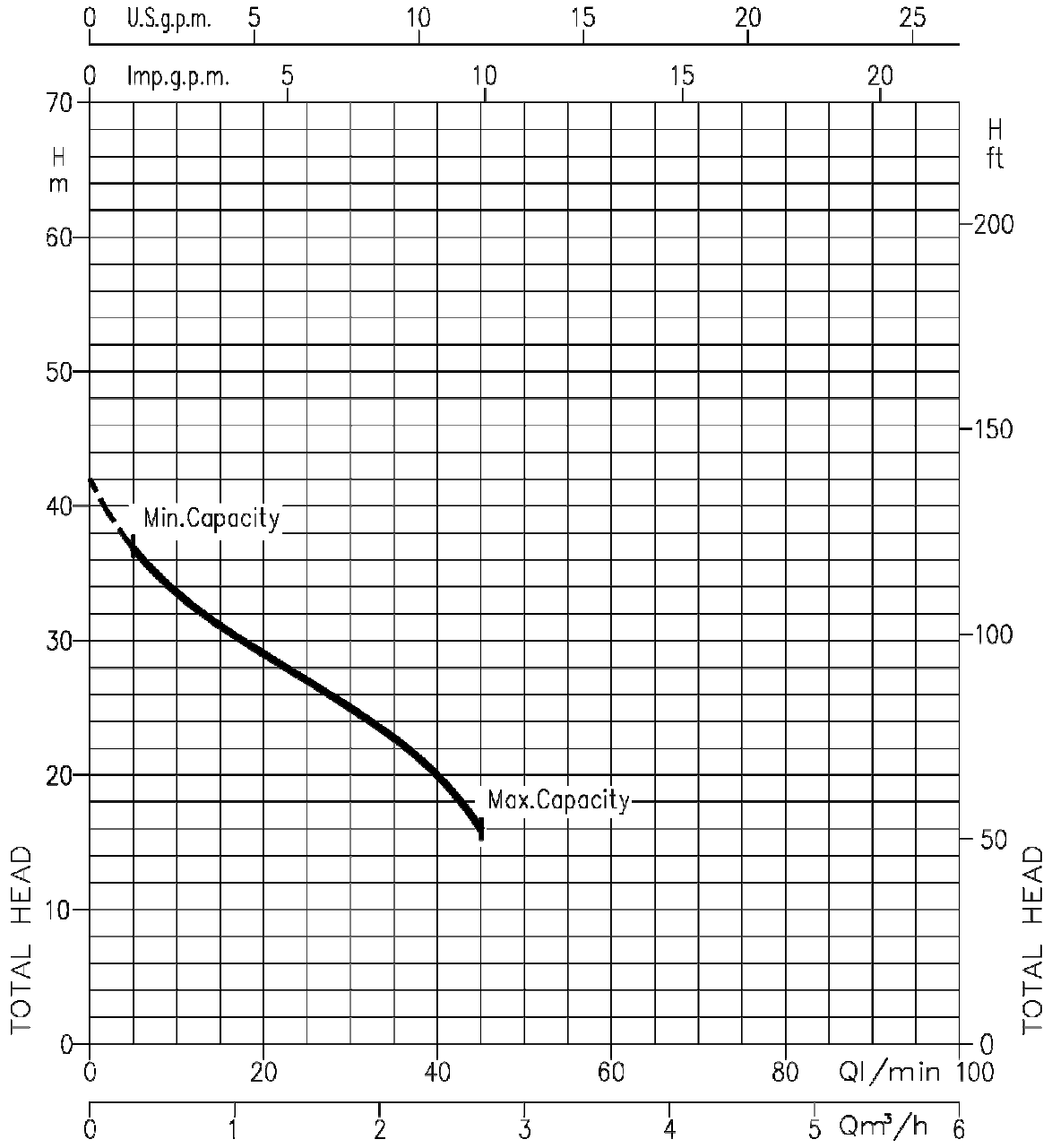
JES 8 (0.6 kW) Impeller diameter = 110 mm



Rotation speed ≈ 3000 min^{-1}
Test standard: ISO 9906:2012 – Grade 3B
Temperature of water: 20℃

CONSTRUCTION

50Hz

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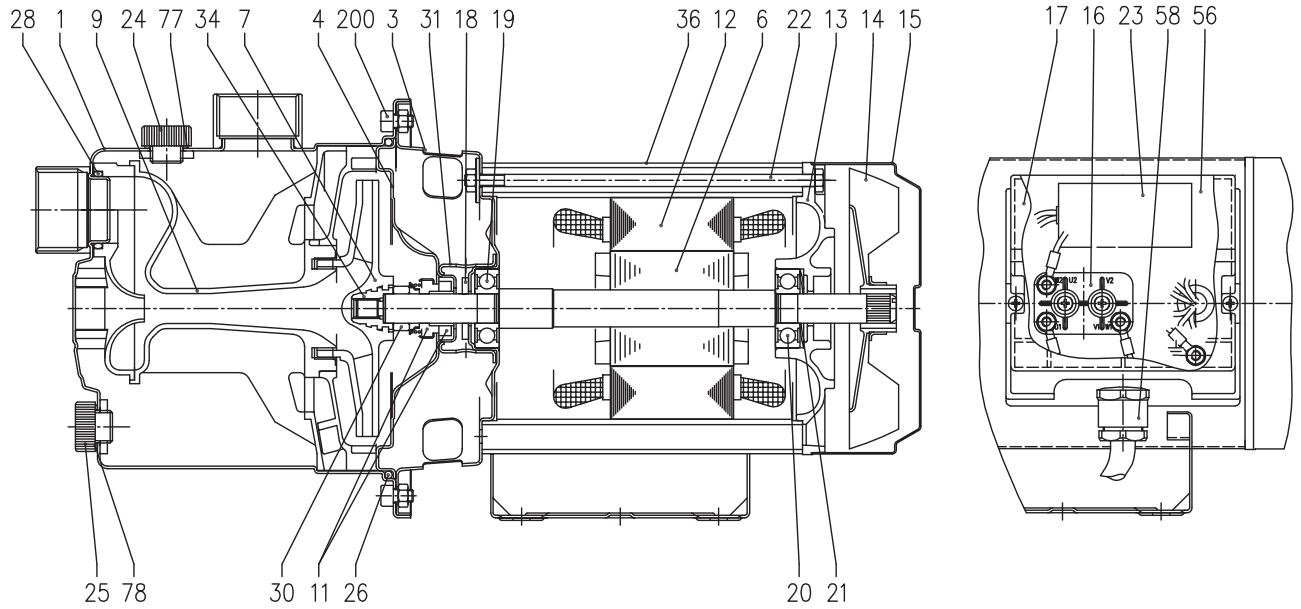
SECTIONAL VIEW



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

CONSTRUCTION

50Hz

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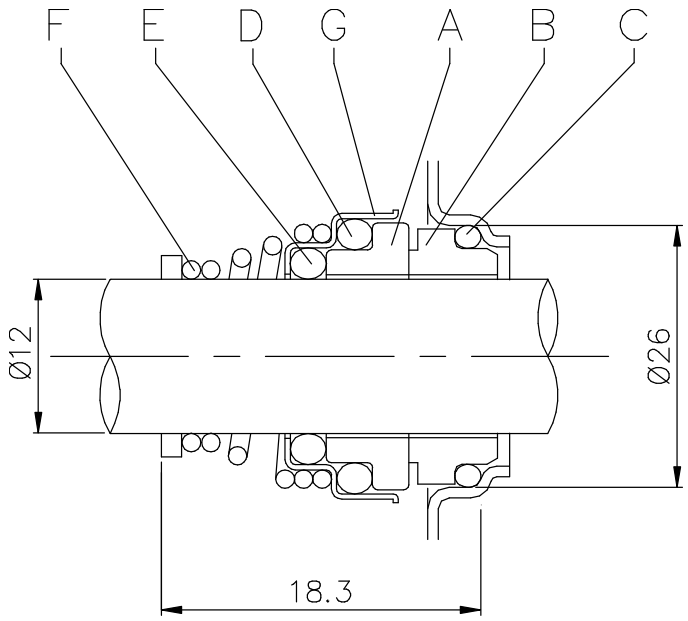
MECHANICAL SEAL



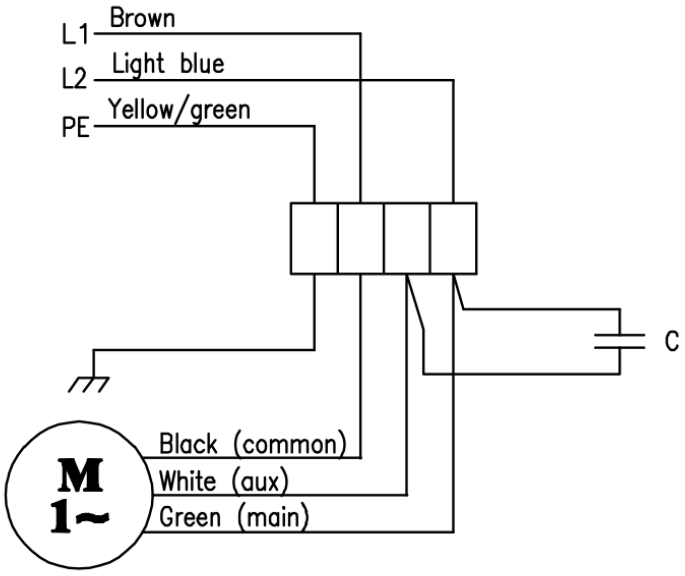
REF	PART NAME	MATERIAL
A	Rotary seal ring	Ceramic
B	Stationary seal ring	Carbon graphite
C	O Ring	NBR
D	O Ring	NBR
E	O Ring	NBR
F	Self driving spring	AISI 316
G	Frame	AISI 304

BEARINGS

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

DIAGRAM AND ELECTRIC CONNECTIONS

SINGLE PHASE MOTOR



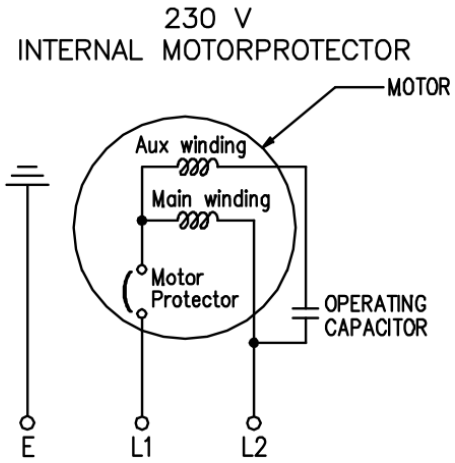
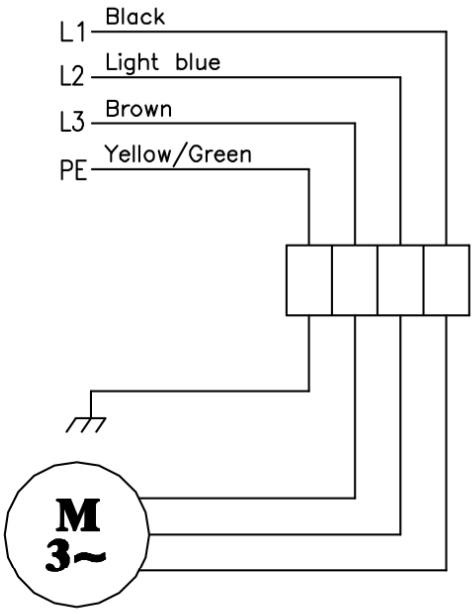
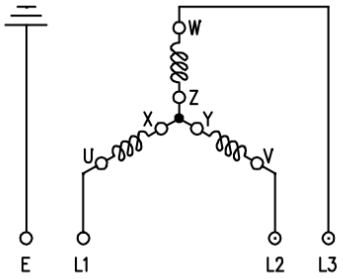


DIAGRAM AND ELECTRIC CONNECTIONS

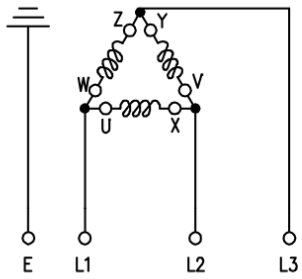
THREE PHASE MOTOR



400 V
STAR CONNECTION



230 V
DELTA CONNECTION

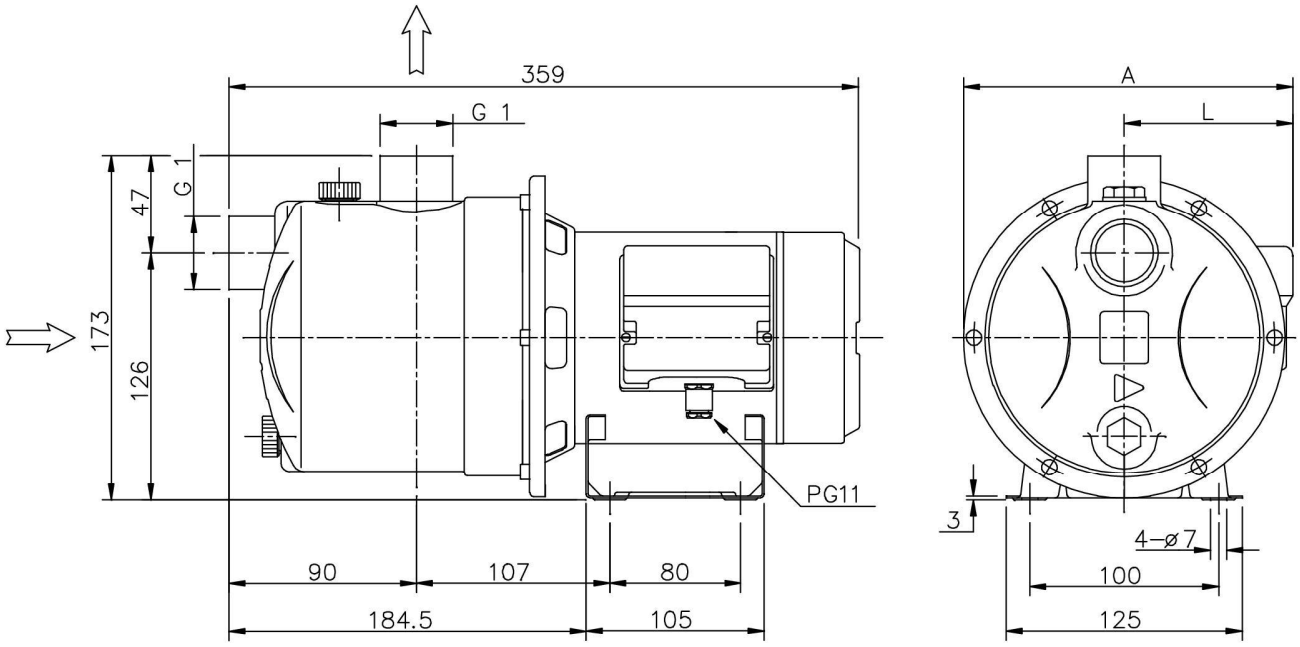


DIMENSIONS AND WEIGHT

50Hz

Rev. F

PUMP



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

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

DIMENSIONS AND WEIGHT

50Hz

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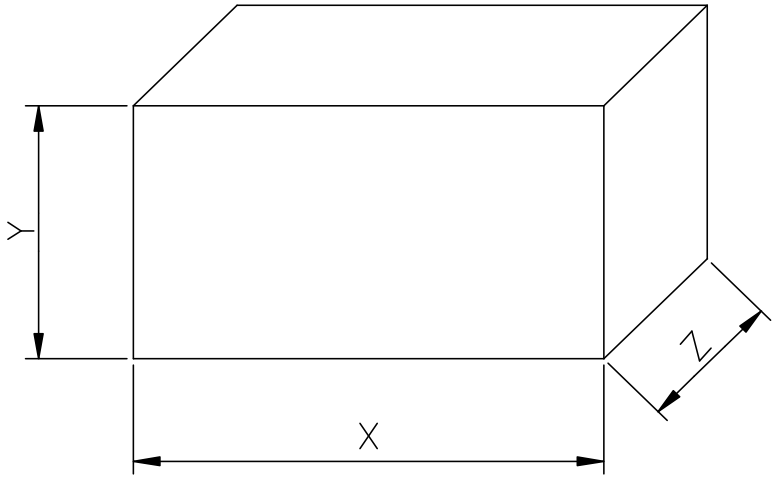
PACKING



Pump type		Packing [mm]			Weight [kgf]	
Single Phase	Three Phase	X	Y	Z	[1~]	[3~]
JESM 5	JES 5	190	190	370	5.6	5.6
JESM 6	JES 6	190	190	370	5.8	5.8
JESM 8	JES 8	190	190	370	6	6

[1~] Single phase
[3~] Three phase

TECHNICAL DATA 50Hz

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MOTOR DATA

Pump type		Power		Capacitor		Input [kW]		Full load current [A]			Locked rotor current [A]		
Single Phase	Three Phase	[kW]	[HP]	Single Phase [µF]	[V]	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
JESM 5	JES 5	0.37	0.5	10	450	0.44	0.43	2.1	1.5	0.85	6.3	6.4	3.7
JESM 6	JES 6	0.45	0.6	10	450	0.54	0.49	2.4	1.9	1.1	8.5	8.6	5.0
JESM 8	JES 8	0.6	0.8	12.5	450	0.63	0.58	3.0	2.25	1.3	10.6	10.7	6.2

INSTALLATION

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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.