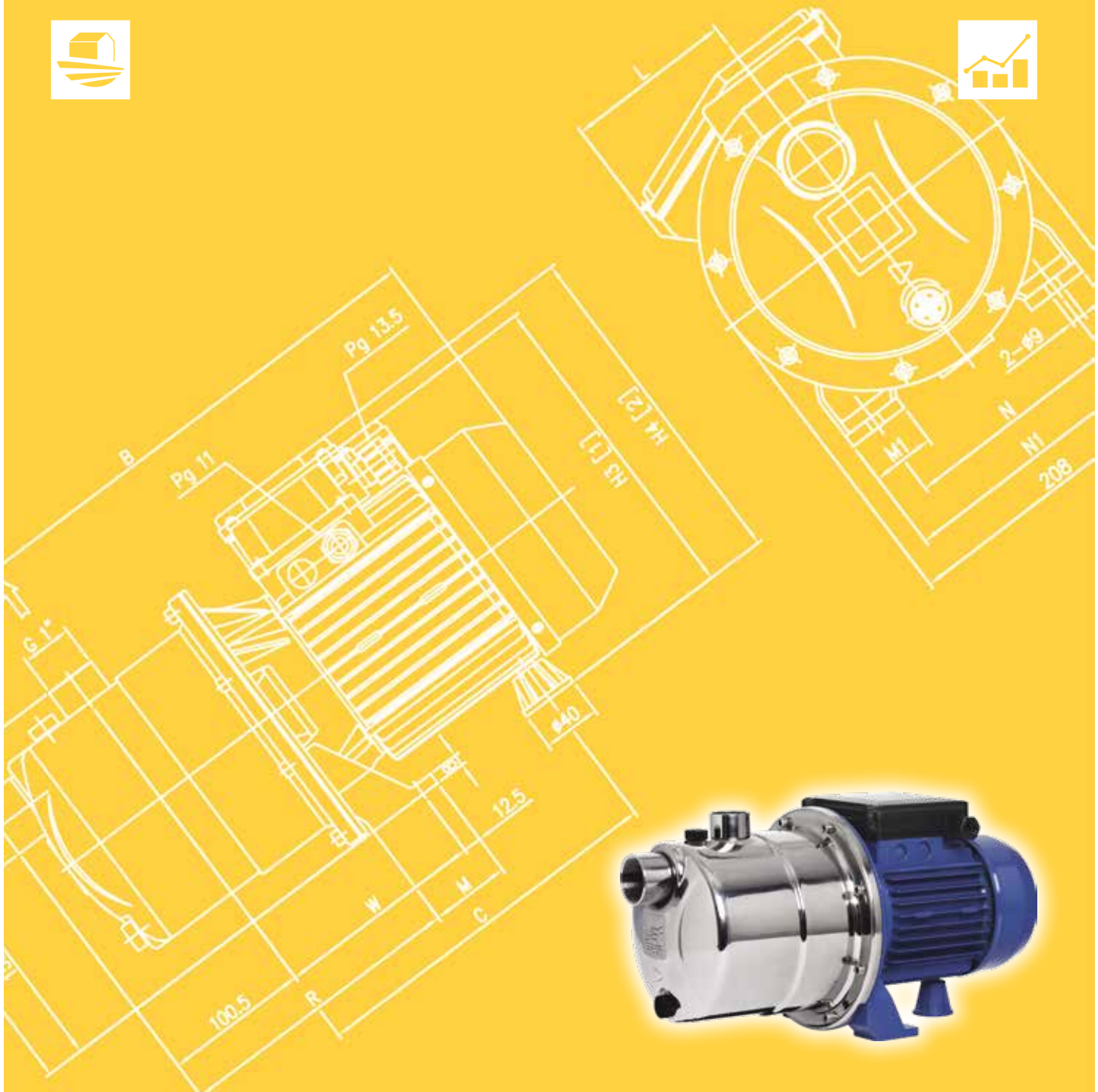




Japanese Technology since 1912

JEX

Data Book 50Hz



	Page
- SPECIFICATIONS	200
SELECTION CHART	201
TYPE KEY AND CURVE SPECIFICATIONS	202
PERFORMANCE CURVE JEX 80	203
PERFORMANCE CURVE JEX 100	204
PERFORMANCE CURVE JEX 120	205
PERFORMANCE CURVE JEX 150	206
- CONSTRUCTIONS	300
SECTIONAL VIEW	300
MECHANICAL SEAL	301
- DIMENSIONS AND WEIGHT	400
PUMP	400
PACKING	401
- TECHNICAL DATA	500
MOTOR DATA	500
NOISE DATA	500
- INSTALLATION	600

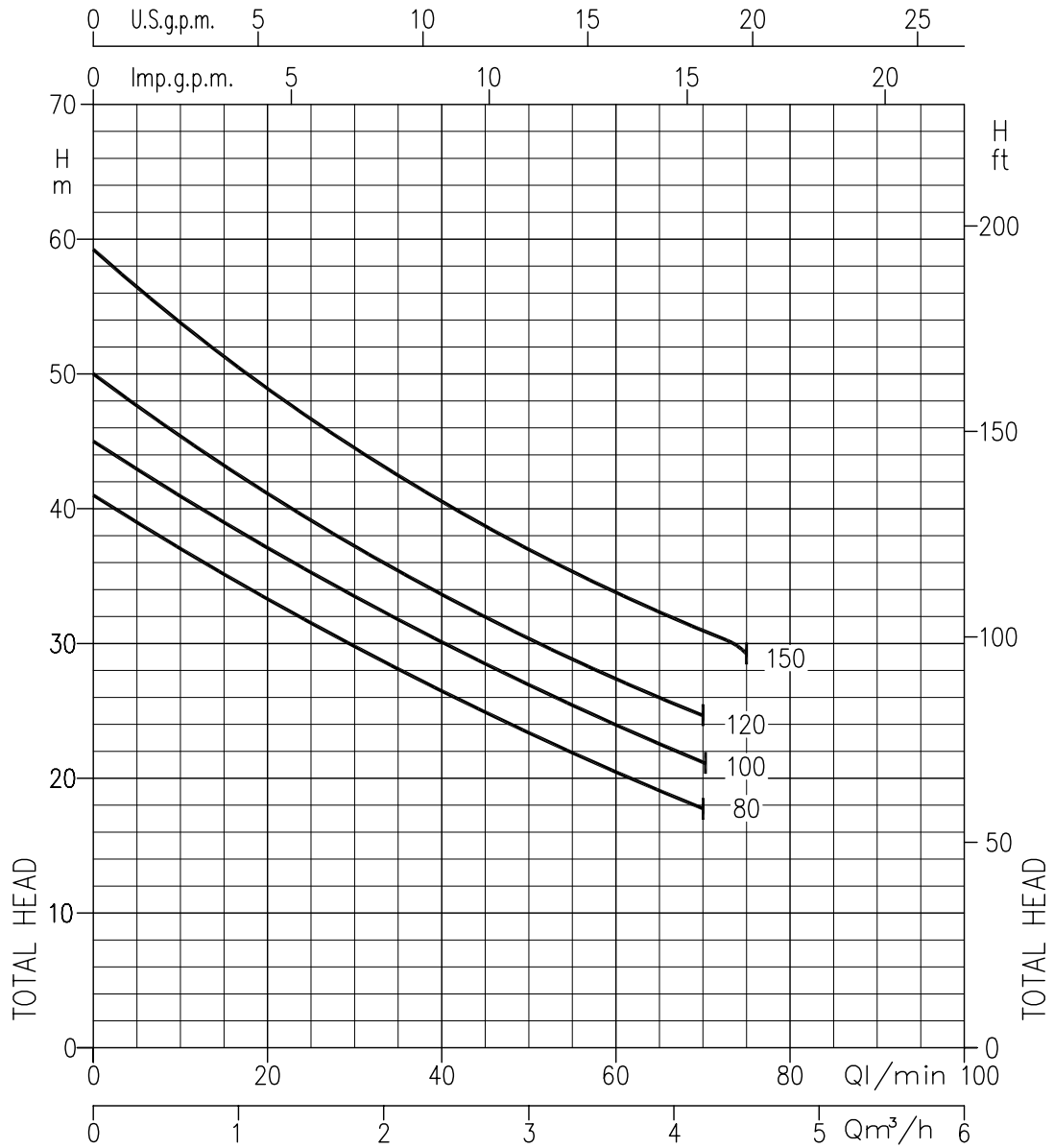
SPECIFICATION

50Hz

Rev. J

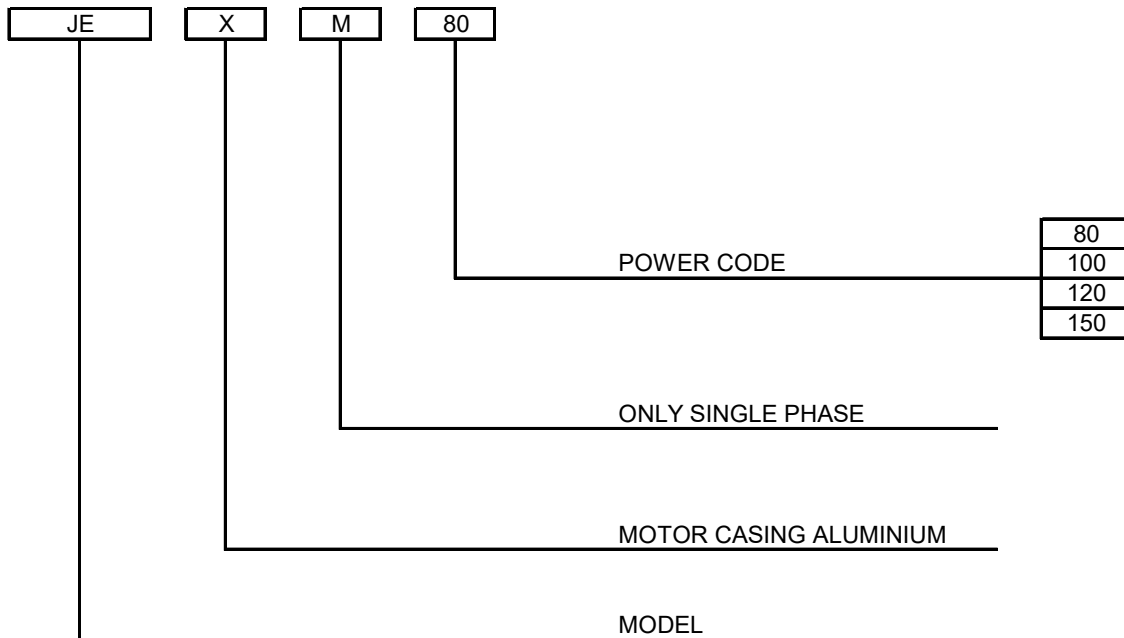
PUMP		
Liquid Handled	Type of liquid	Clean water
	Temperature [°C]	min. +5 max. +45
Maximum working pressure	[MPa]	0.6
Maximum suction depth	[m]	8
Construction	Impeller	Closed centrifugal type
	Shaft seal type	Mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction [inch]	G 1¼ UNI ISO 228
	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	Aluminium
	Ejector	PPE+PS glass fibre reinforced
	Diffuser	PPE+PS glass fibre reinforced
Applicable standard of test		ISO 9906 – Annex A

MOTOR		
Type	Electric - TEFC	
	Single Phase	Three Phase
Efficiency level (Reg. 1781/2019)	IE2	IE3
No. of Poles	2	
Rotation speed [min ⁻¹]	≈ 2800	
Insulation Class	F	
Protection degree (CEI EN 60034-5)	IP 54	
	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	Aluminium	
Base material / Motor support	Aluminium	
Dimensions of cable entry	PG11 - PG13.5 - M16x1.5 – M20x1.5 (see dimensions page 400)	



Pump type		Q=Capacity								
Single Phase	Three Phase	l/min	0	20	30	40	50	60	70	75
		m³/h	0	1,2	1,8	2,4	3	3,6	4,2	4,5
JEXM 80	JEX 80		41	33	29	26,5	23,5	20,5	18	-
JEXM 100	JEX 100		45	37	33,5	30	27	24	21	-
JEXM 120	JEX 120		50	41	37	34	30,5	27,5	24,5	-
JEXM 150	JEX 150		59	49	44,5	40,5	37	34	31	29,5

TYPE KEY



PERFORMANCE 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)

The continuous curves indicate the recommended working range. The dotted curve is only a guide.

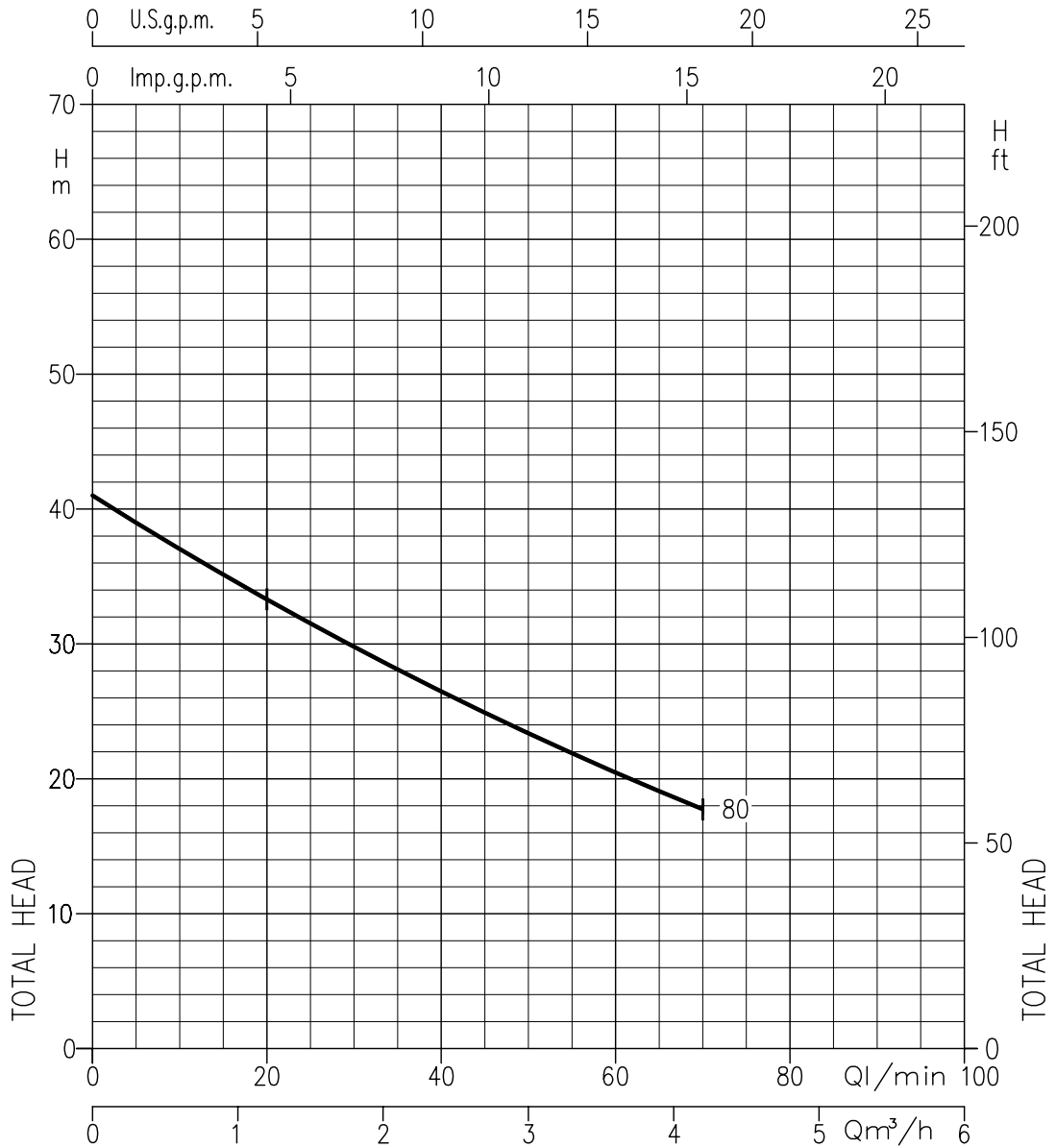
In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

Q = volume flow rate

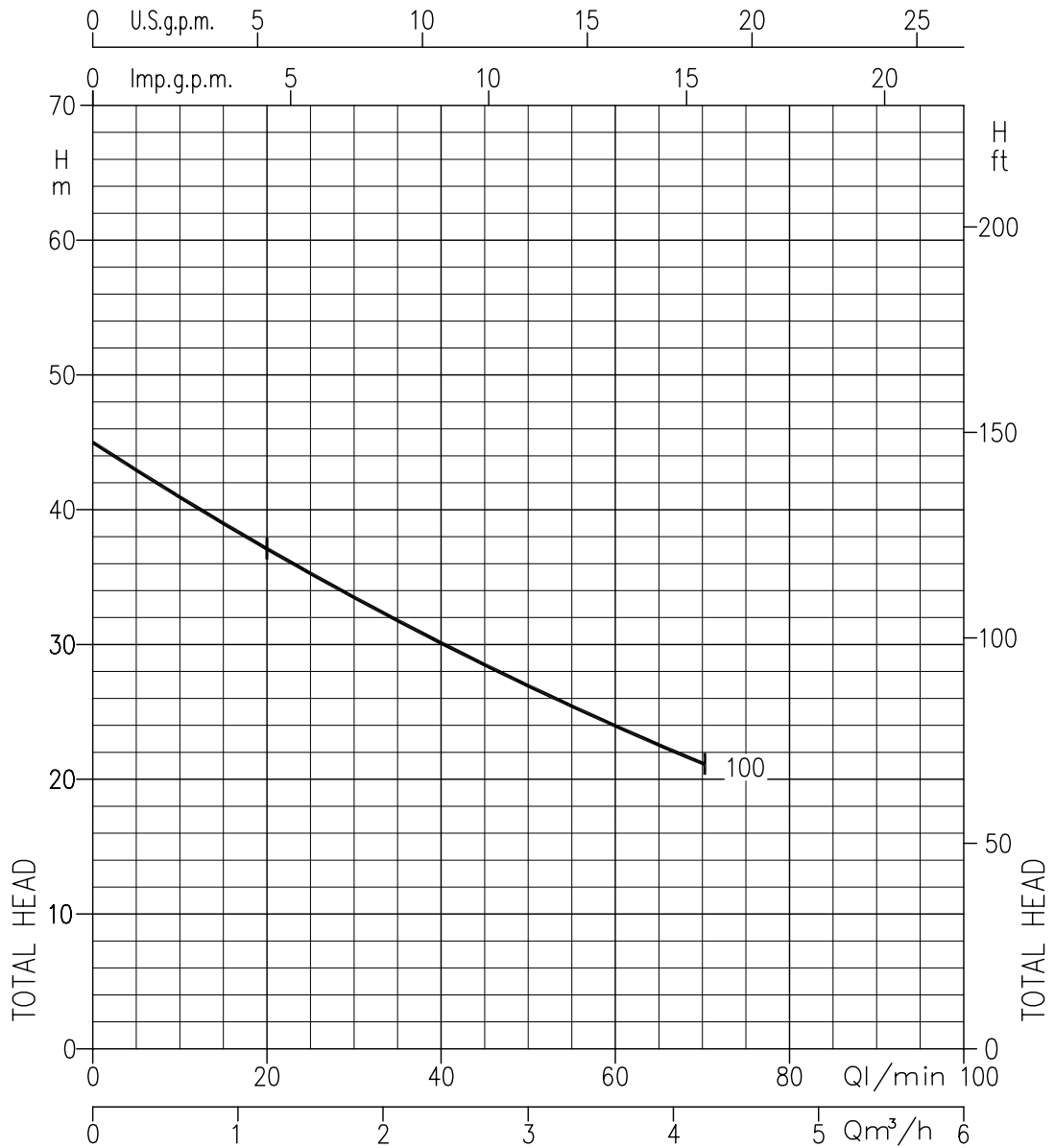
H = total head

JEX 80 - Impeller diameter = 132 mm



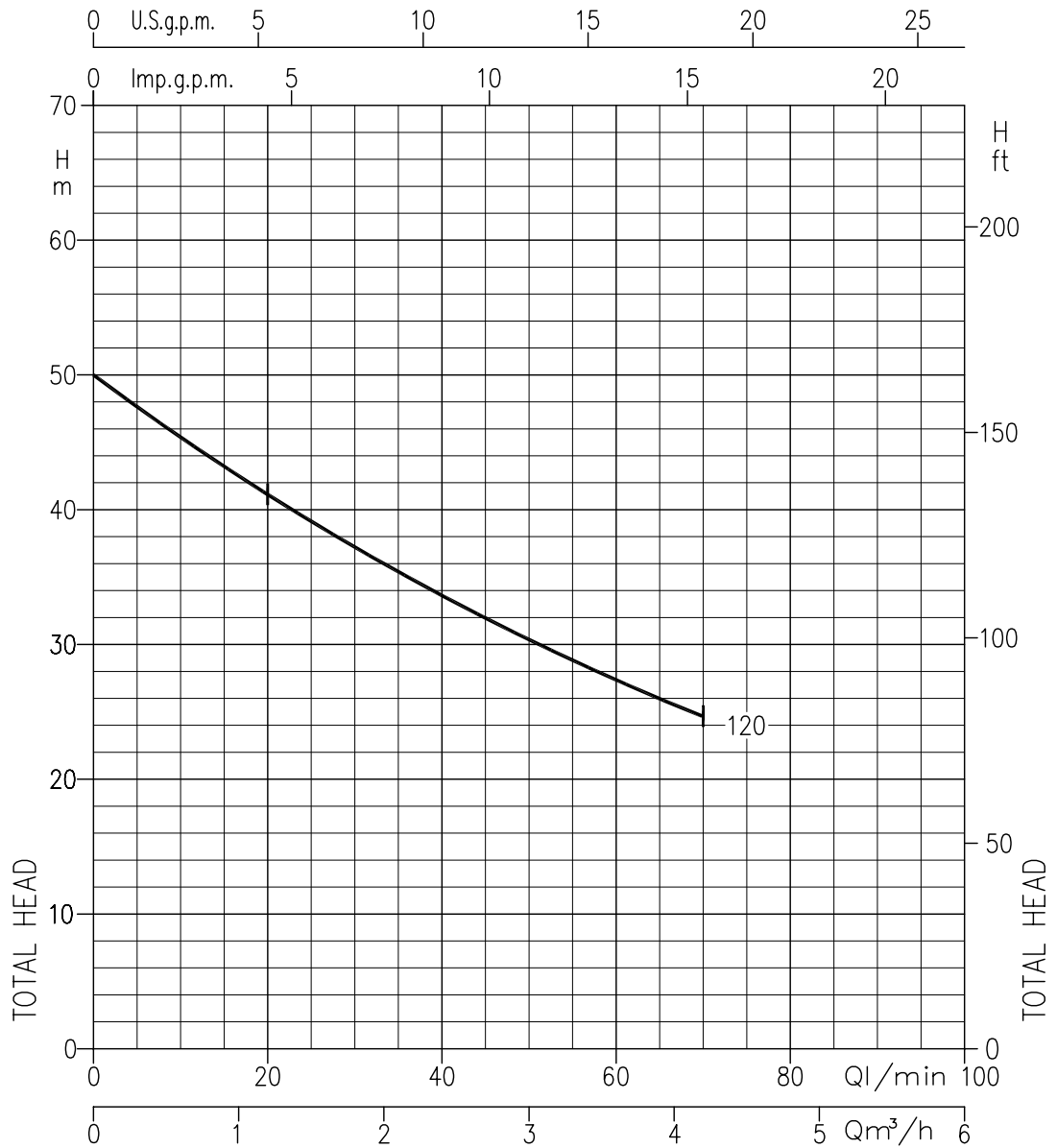
Rotation speed \approx 2800 min⁻¹
Test standard: ISO 9906 – Annex A

JEX 100 - Impeller diameter = 141 mm



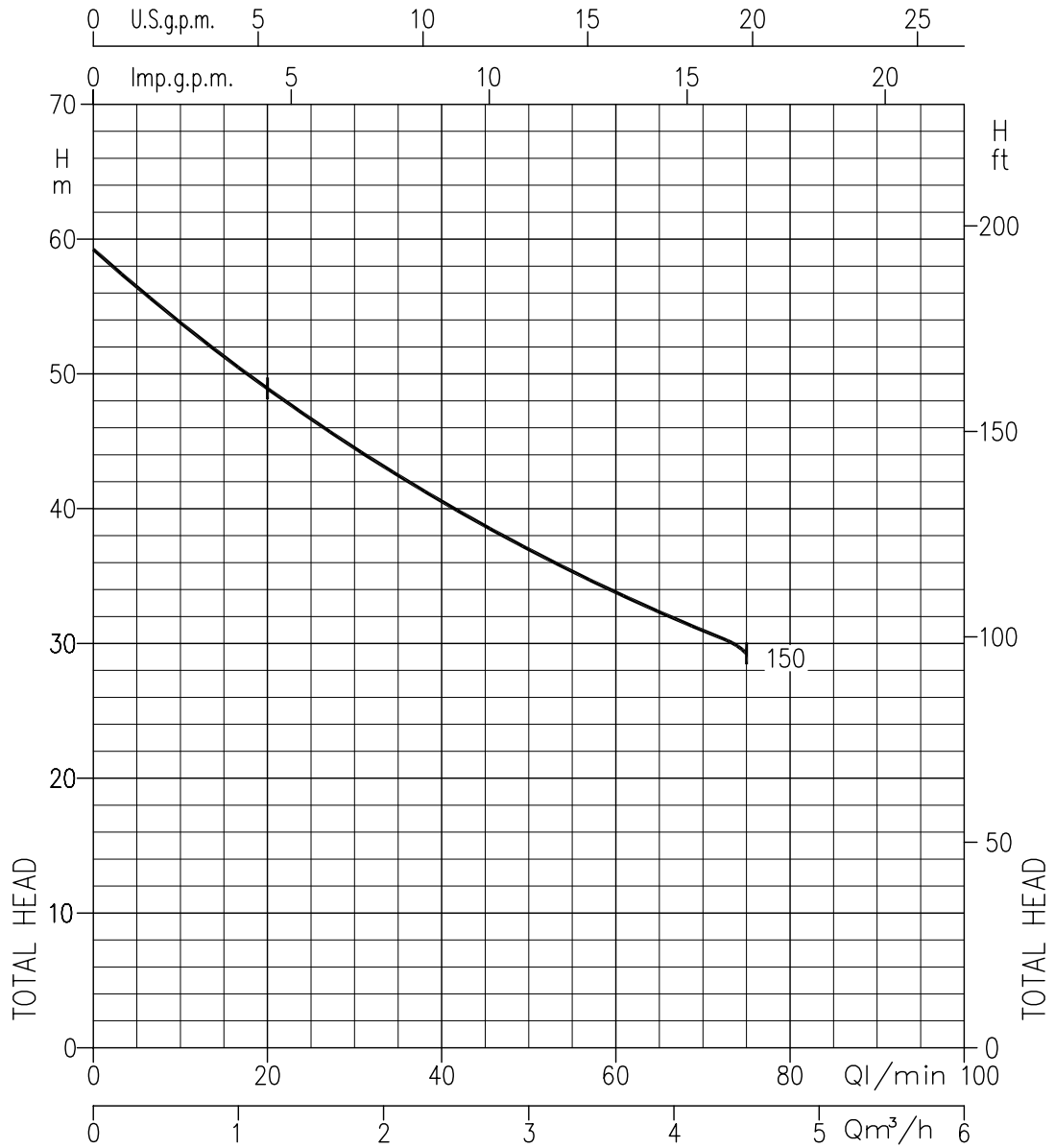
Rotation speed \approx 2800 min⁻¹
Test standard: ISO 9906 – Annex A

JEX 120 - Impeller diameter = 141 mm



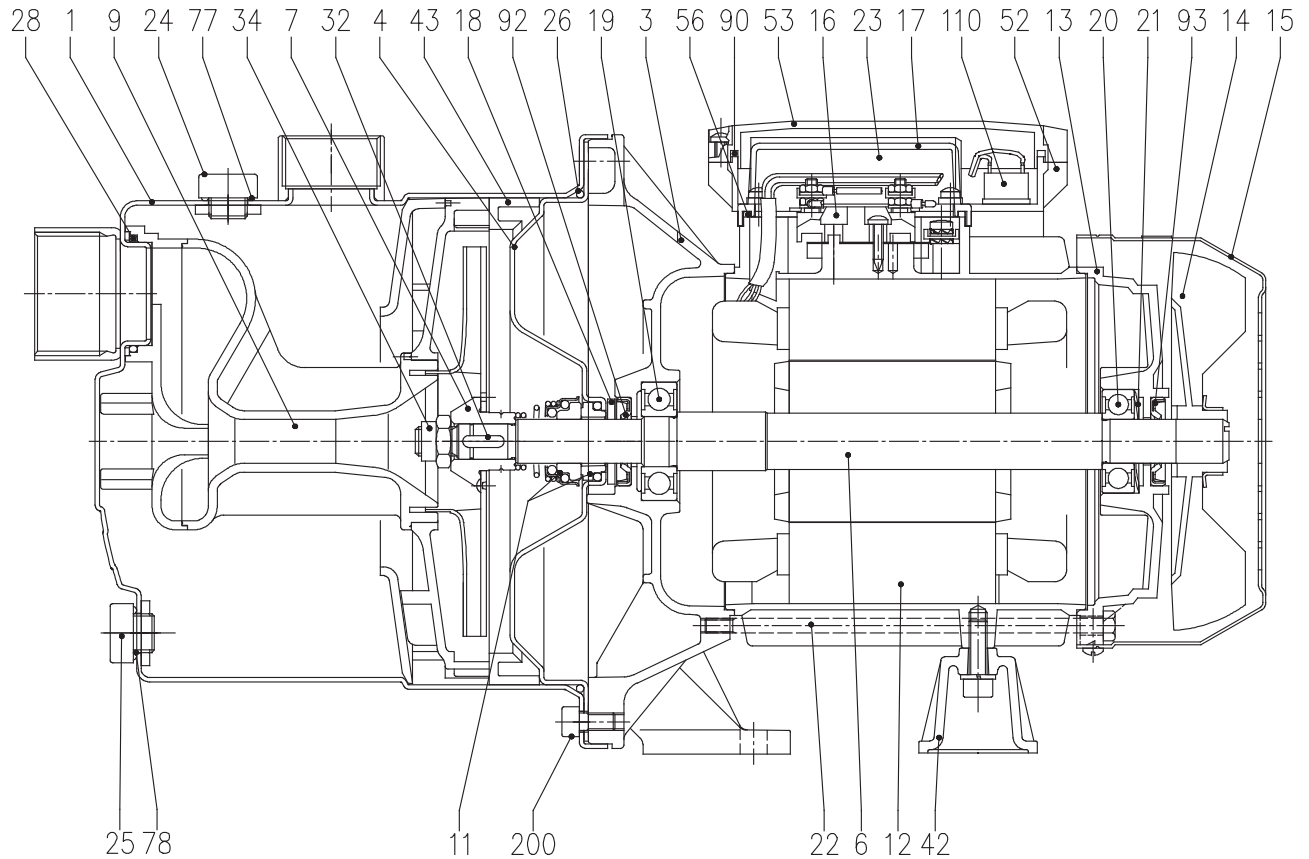
Rotation speed \approx 2800 min⁻¹
Test standard: ISO 9906 – Annex A

JEX 150 - Impeller diameter = 141 mm



Rotation speed $\approx 2800 \text{ min}^{-1}$
Test standard: ISO 9906 – Annex A

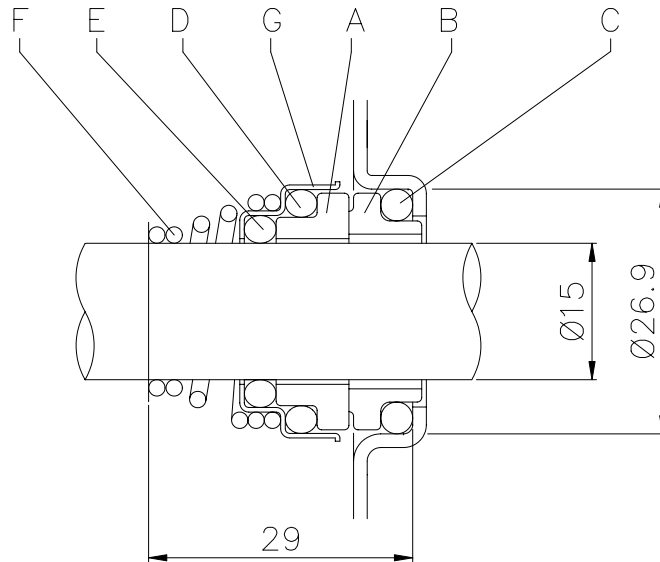
SECTIONAL VIEW



N°	PART NAME	MATERIAL	Q.TY	N°	PART NAME	MATERIAL	Q.TY
1	Casing	AISI 304	1	24	Priming plug	PA	1
3	Motor bracket	Aluminium	1	25	Drain plug	PA	1
4	Casing cover	AISI 304	1	26	O-ring	NBR	1
6	Shaft with rotor	AISI 303 (Wet extension)	1	28	O-ring	NBR	1
7	Impeller	AISI 304	1	32	Key	AISI 304	1
9	Diffuser Venturi tube	PPE+PS glass fibre reinforced	1	34	Impeller nut	AISI 304	1
11	Mechanical seal	Carbon/Ceramic/NBR	1	42	Motor support	Aluminium	1
12	Motor frame with stator	-	1	43	Space diffuser	PPE+PS glass fibre reinforced	1
13	Motor cover	Aluminium	1	52	Capacitor box [1]	ABS class V-0	1
14	Fan	PA	1	53	Capacitor box cover [4]	ABS class V-0 [4]	1
15	Fan cover	Fe P04 Zincate	1	56	Box gasket	NBR	1
16	Terminal board	-	1	77	O-ring	NBR	1
17	Terminal box cover [2]	Aluminium	1	78	O-ring	NBR	1
18	Splash ring	NBR	1	90	Terminal box cover gasket [5]	NBR	1
19	Pump side ball bearing	-	1	92	Lip seal [3]	-	1
20	Fan side ball bearing	-	1	93	Lip seal [3]	-	1
21	Adjusting ring	Steel C70	1	110	Protector [1]	-	1
22	Tie rod	Fe 420 Zincate	4	200	Screw	Stainless steel A2 UNI7323	8
23	Capacitor [1]	-	1				

- [1] Only for single phase
- [2] Only for three phase
- [3] Only for IP55
- [4] Whit gasket in NBR only for version single phase JEX 80, 100, 120
- [5] Only for JEXM 150 IP55

MECHANICAL SEAL

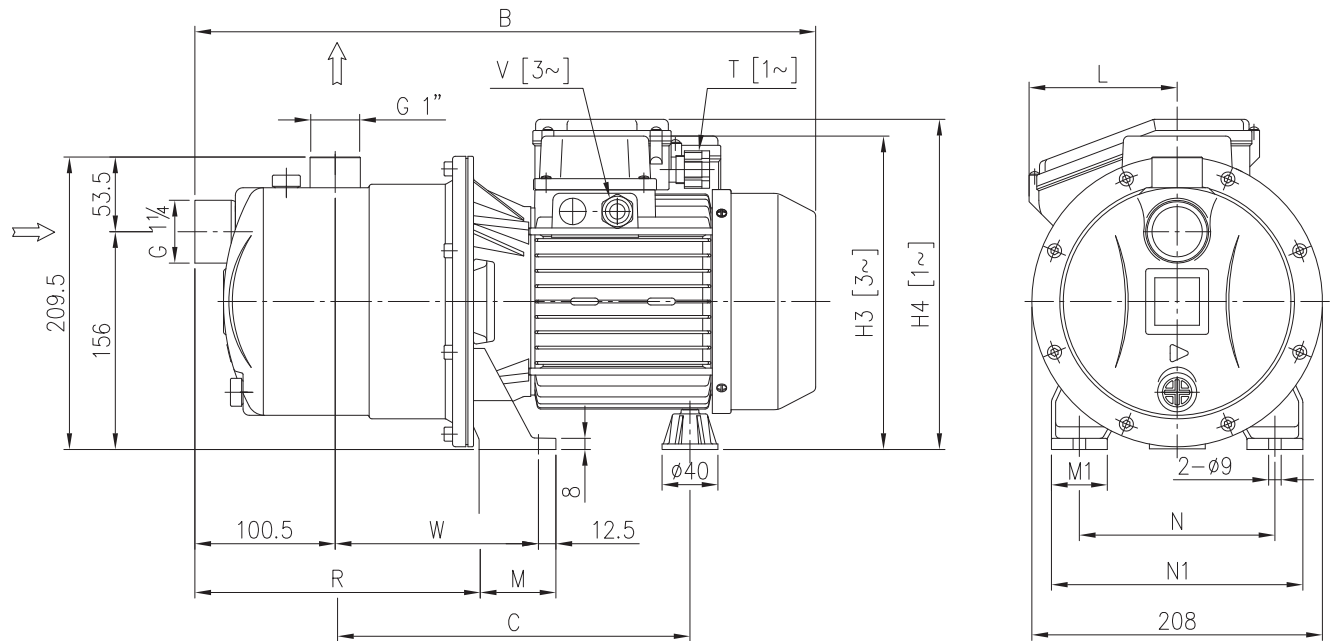


REF	PART NAME	MATERIAL
A	Rotary seal ring	Ceramic
B	Stationary seal ring	Carbon graphite
C	O Ring	NBR
D	O Ring	NBR
E	O Ring	NBR
F	Self driving spring	AISI 316
G	Frame	AISI 304

BEARINGS

Pump type		Ball Bearing	
Single Phase	Three Phase	Pump side	Fan side
JEXM 80	JEX 80	6203	6202
JEXM 100	JEX 100	6203	6202
JEXM 120	JEX 120	6203	6202
JEXM 150	JEX 150	6204	6203

PUMP

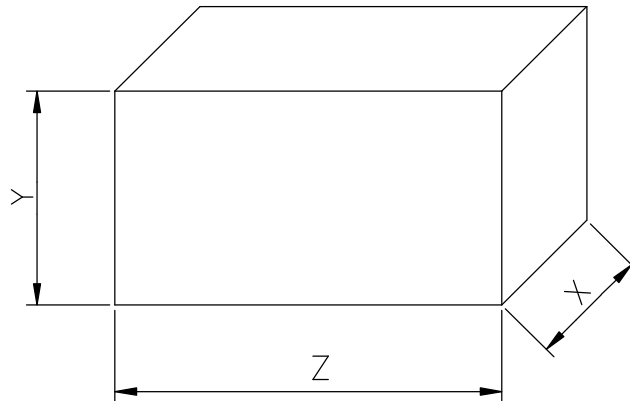


Pump type	Dimensions in mm														Weight [kgf]	
	B		C	H3	H4	L	M	M1	N	N1	R	T	V	W	[1~]	[3~]
JEXM-JEX	[1~]	[3~]		[3~]	[1~]	[1~]						[1~]	[3~]			
80	419	449	232,5	207,5	216	84	50	38	120	160	206,5	PG11	M16x1.5	143,5	10,2	11,7
100	431	419	232,5	207,5	216	84	50	38	120	160	206,5	PG11	M16x1.5	143,5	12	11,6
120	431	419	232,5	207,5	216	84	50	38	120	160	206,5	PG11	M16x1.5	143,5	12	11,6
150	470	469,5	254	224,5	236,5	106	55	40	140	180	203,5	PG13.5	M20x1.5	145,5	15,5	16,2

[1~] Single phase

[3~] Three phase

PACKING



Pump type		Packing [mm]						Weight [kgf]	
Single Phase	Three Phase	X		Y		Z		[1~]	[3~]
		[1~]	[3~]	[1~]	[3~]	[1~]	[3~]		
JEXM 80	JEX 80	222	222	265	265	527	462	10,9	12,4
JEXM 100	JEX 100	222	222	265	265	527	462	12,9	12,3
JEXM 120	JEX 120	222	222	265	265	527	462	12,8	12,3
JEXM 150	JEX 150	222	227	265	275	527	497	16,7	16

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

MOTOR DATA

Pump type Single Phase	Power		Efficiency [IE2 / IE3]	Capacitor		Efficiency (% load) and power factor				Input [kW]	Full load current		Locked rotor current	
	[kW]	[HP]		[μF]	[V]	cos-φ	η %				[A]	[A]	[A]	
					50%		75%	100%	110 V	230 V			110 V	230 V
JEXM 80	0,75	1,0	IE2	25	450	61,0	70,8	79,2	0,93	0,95	-	4,4	-	24,0
JEXM 100	0,9	1,2	IE2	31,5	450	67,0	75,3	79,0	0,92	1,15	-	5,4	-	31,3
JEXM 120	0,9	1,2	IE2	31,5	450	67,0	75,3	79,0	0,92	1,15	-	5,4	-	31,3
JEXM 150	1,3	1,75	IE2	40	450	71,5	78,0	81,8	0,97	1,64	-	7,4	-	51,3

Pump type Three Phase	Power		Efficiency		Efficiency (% load) Three phase			Input [kW] Three Phase	Full load current		Locked rotor current	
	[kW]	[HP]	Single Phase	Three Phase	η %				[A] Three Phase		[A] Three Phase	
					50%	75%	100%	230 V	400 V	230 V	400 V	
JEX 80	0,6	0,8	-	IE3	80,2	82,8	82,9	0,97	3,0	1,7	20,5	11,8
JEX 100	0,75	1,0	-	IE3	80,9	82,3	82,1	0,91	3,0	1,7	19,7	11,4
JEX 120	0,88	1,2	-	IE3	80,9	82,3	82,1	0,91	3,0	1,7	19,7	11,4
JEX 150	1,1	1,5	-	IE3	83,0	85,8	85,6	1,77	5,8	3,3	47,4	27,4

NOISE DATA

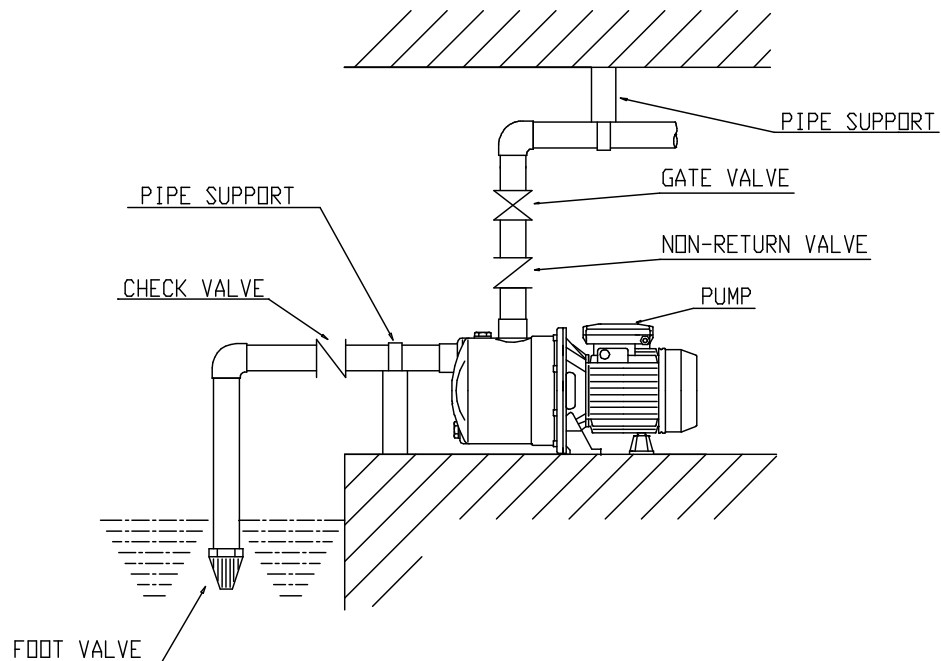
Pump type		L _{pA} - dB(A) *
Single Phase	Three Phase	
JEXM 80	JEX 80	71
JEXM 100	JEX 100	
JEXM 120	JEX 120	
JEXM 150	JEX 150	76

* Mean value of several measures at 1m distance around
Tolerance ± 2.5 dB.

If you use this pump on suction condition , it tends to breath the air from outside because the pressure in pump becomes vaccum 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.





EBARA Pumps Europe S.p.A.
Via Torri di Confine 2/1 int. C
36053 Gambellara (Vicenza), Italy
Phone +39 0444 706811
ebarapumps.epe@ebaracom
www.ebaraeurope.com

EBARA Pumps Europe S.p.A. GERMANY
Elisabeth-Selbert-Straße 2
63110 Rodgau, Germany
Phone +49 (0) 6106-660 99-0
info.epde@ebaracom

EBARA Pumps South Africa (PTY) LTD
26 Kyalami Boulevard,
Kyalami Business Park, 1684, Midrand,
Gauteng, South Africa
Phone +27 11 466 1844
ebarae.psa@ebaracom

EBARA Pumps Europe S.p.A. UK
Unit A, Park 34
Collett Way - Didcot
Oxfordshire - OX11 7WB, United Kingdom
Phone +44 1895 439027
marketing.epuk@ebaracom

EBARA Pumps Europe S.p.A. FRANCE
122, Rue Pasteur
69780 Toussieu, France
Phone: +33 04 72 76 94 82
mktg.efr@ebaracom

EBARA Pumps East Africa
Delta Corner Tower 2, 13th Floor, Office 1308,
Chiromo Road, Westlands
P.O. Box 13796-00800, Nairobi
Phone: +254(0)722913119
info.epea@ebaracom

EBARA POMPY POLSKA Sp. z o.o.
ul. Działkowa 115 A
02-234 Warszawa, Poland
Phone +48 22 3909920
marketing.epl@ebaracom

EBARA Pumps RUS Ltd.
Prospekt Andropov 18, building 7, floor 11
115432 Moscow
Phone +7 499 6830133
mktg.epr@ebaracom