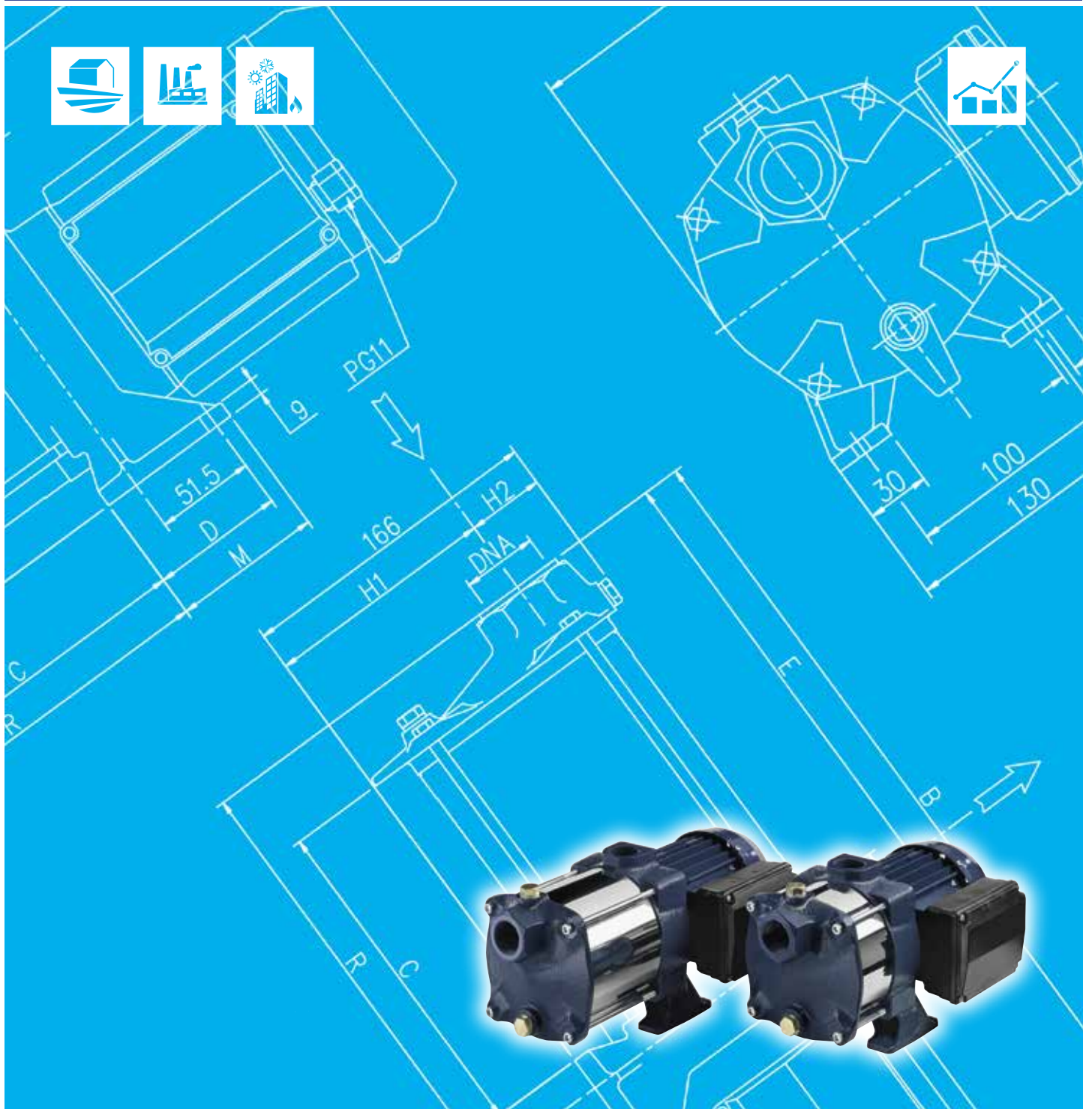




Japanese Technology since 1912

COMPACT

Data Book 60Hz



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SPECIFICATIONS

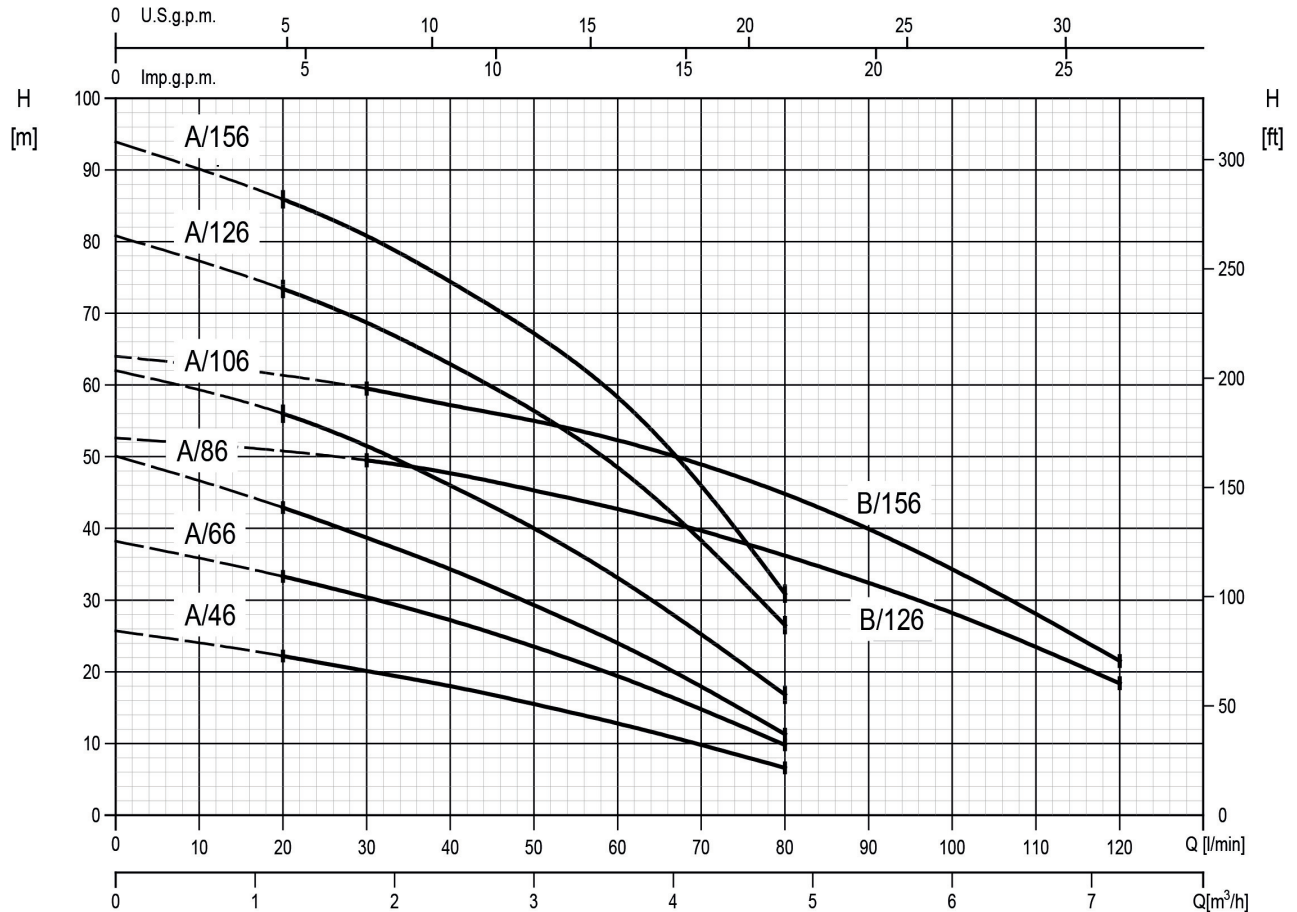
60Hz

Rev. G

PUMP		
Liquid Handled	Type of liquid	Clean water
	Temperature [°C]	min. +5 max. +40
Maximum working pressure	[MPa]	1
Construction	Impeller	Closed centrifugal
	Shaft seal type	Mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction	G 1" (Compact A version) UNI ISO 228
		G 1 1/4" (Compact B version) UNI ISO 228
	Discharge	G 1" (All version) UNI ISO 228
Material	Casing	Cast iron
	Impeller	PPE+PS glass fibre reinforced
	Shaft seal	Ceramic/Carbon/NBR
	External pump casing	AISI 304
	Shaft	AISI 416
	Stages	PPE+PS glass fibre reinforced/PTFE
	Diffuser	PPE+PS glass fibre reinforced
Bracket	Cast iron	
Applicable standard of test		ISO 9906:2012 - Grade 3B

MOTOR		
Type	Electric - TEFC	
	Single Phase	Three Phase
Efficiency level (Reg.1781/2019)	-	IE3
No. of Poles		2
Rotation speed [min ⁻¹]		≈ 3400
Insulation Class		F
Protection degree		IP 44
Power rating	[kW]	0.3 ÷ 1.1
	[HP]	0.4 ÷ 1.5
Frequency [Hz]		60
Voltage [V]	220 - 230 ±6%	220/380 -6%+10% (from 0.3 kW up to 1.1 kW) 220/380-460 ±10% (IE3* from 0.75 kW up to 1.1 kW)
Capacitor	Built in	-
Over load protection	Built in	Provided by the user
Casing material		Aluminium
Base material/motor support		Cast iron
Dimensions of cable entry	PG11 - M16x1.5 (see dimensions table page 400)	

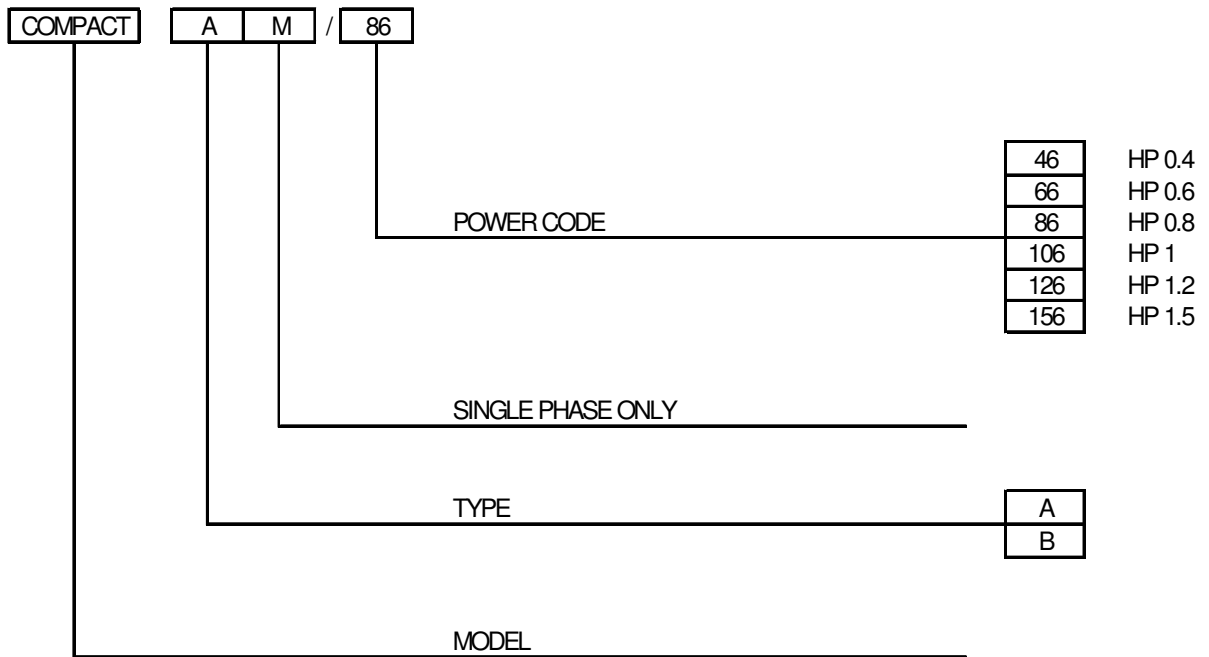
PERFORMANCE RANGE



SELECTION CHART

Pump type		Power		Q=Capacity									
Single Phase	Three Phase	[kW]	[HP]	l/min	20	30	40	50	60	80	100	120	
				0	1.2	1.8	2.4	3.0	3.6	4.8	6.0	7.2	
				m³/h									
				H=Total manometric head in meters									
COMPACT AM/46	COMPACT A/46	0.3	0.4	25.7	22.2	20.1	18	15.5	12.8	6.6	-	-	
COMPACT AM/66	COMPACT A/66	0.44	0.6	38.2	33.3	30.4	27.2	23.5	19.4	9.8	-	-	
COMPACT AM/86	COMPACT A/86	0.6	0.8	50	43	38.7	34.3	29.3	24	11.3	-	-	
COMPACT AM/106	COMPACT A/106	0.75	1	62	56	51.5	46	40	33.1	16.8	-	-	
COMPACT AM/126	COMPACT A/126	0.9	1.2	81	73.5	68.5	63	56.5	48.5	26.5	-	-	
COMPACT AM/156	COMPACT A/156	1.1	1.5	94	86	81	74.5	67	58.5	30.9	-	-	
COMPACT BM/126	COMPACT B/126	0.9	1.2	52.5	-	49.5	47.5	45.5	42.5	36.2	28.2	18.4	
COMPACT BM/156	COMPACT B/156	1.1	1.5	64	-	59.5	57	55	52.5	45	34.3	21.5	

TYPE KEY



CURVES 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 60 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 continuous curves indicate the recommended working range. The dotted curve is only a guide.

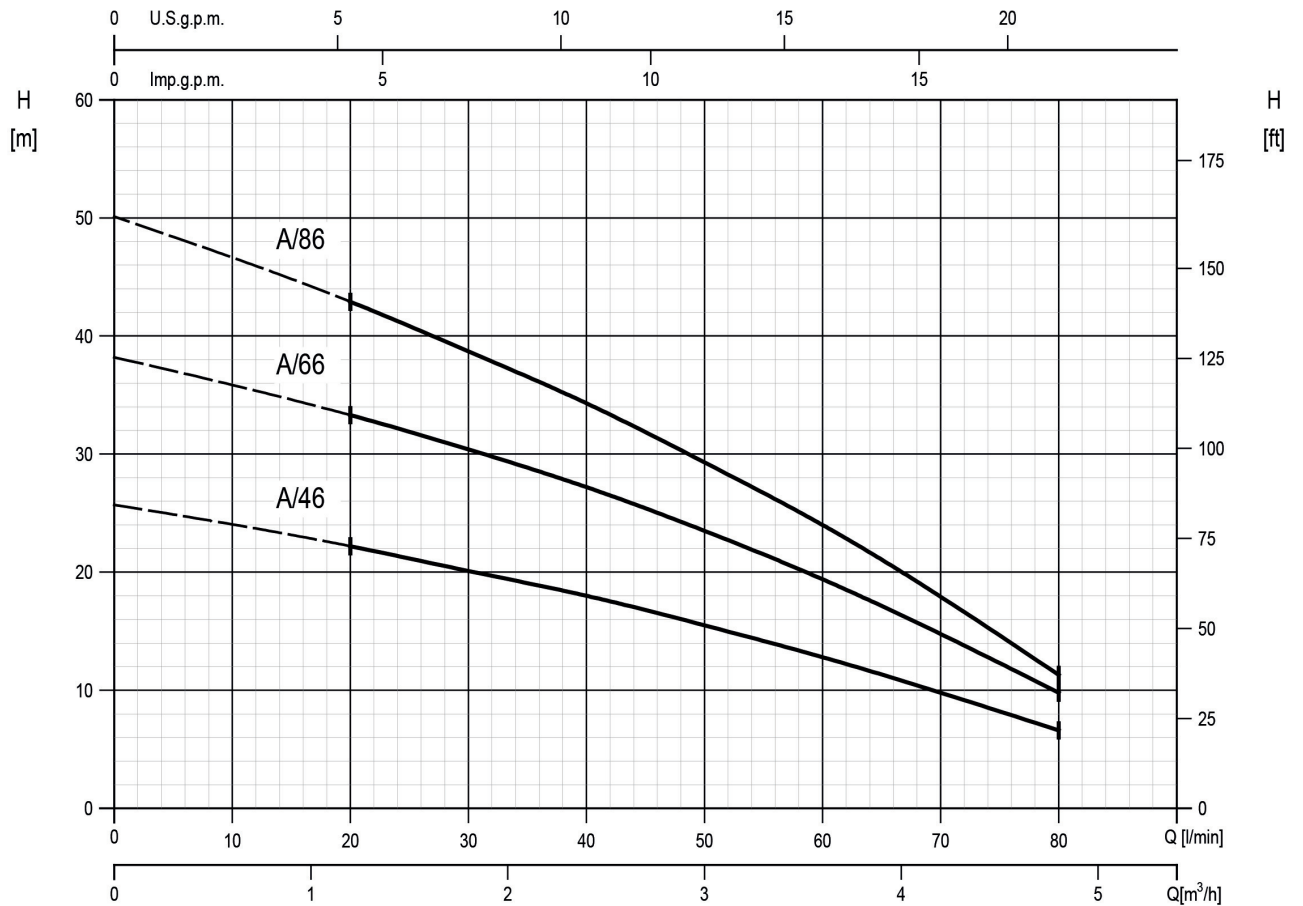
In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

Q = volume flow rate

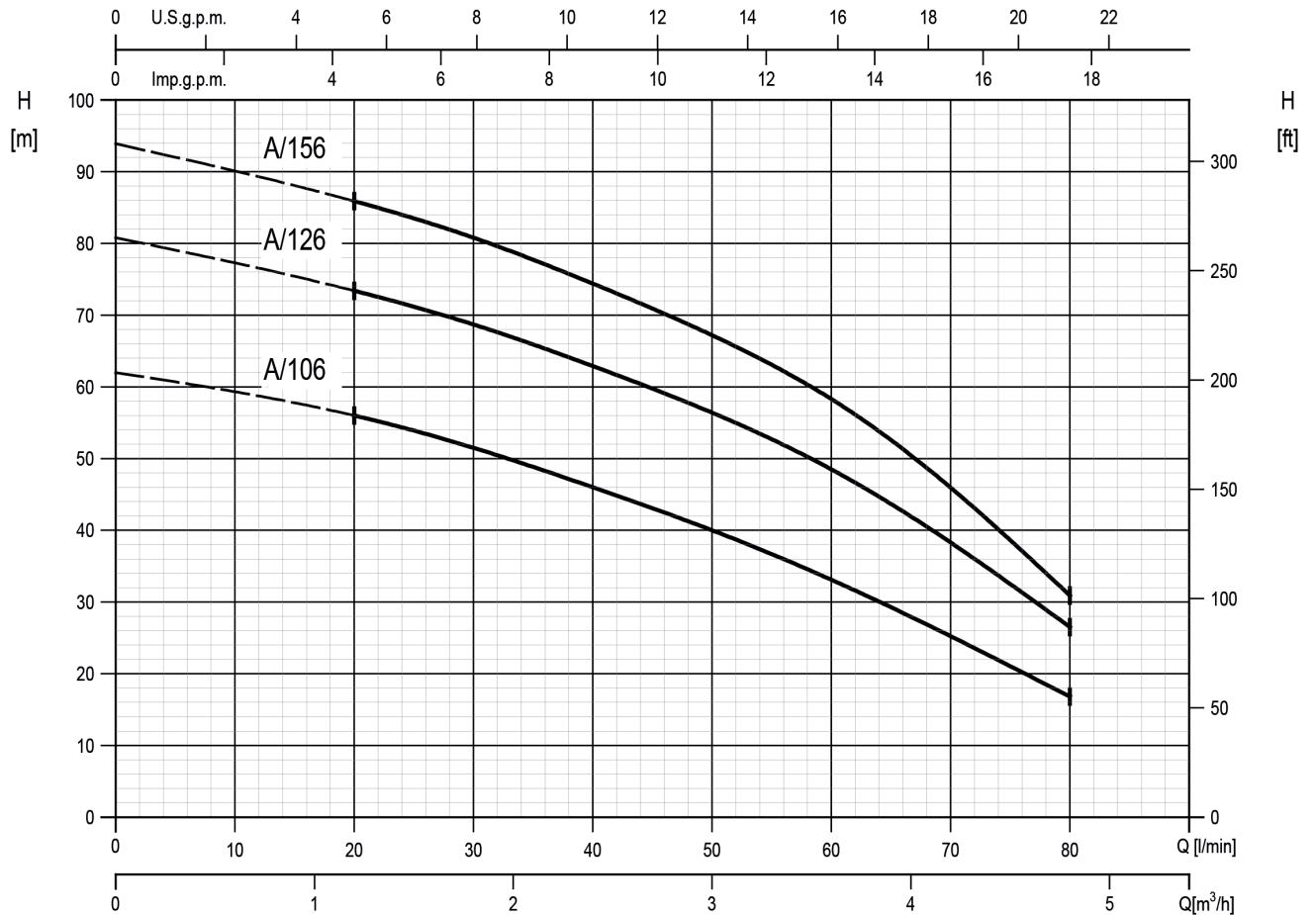
H = total head

COMPACT A/46 (0.3 kW) - Impeller diameter = 90 mm
 COMPACT A/66 (0.44 kW) - Impeller diameter = 90 mm
 COMPACT A/86 (0.6 kW) - Impeller diameter = 90 mm



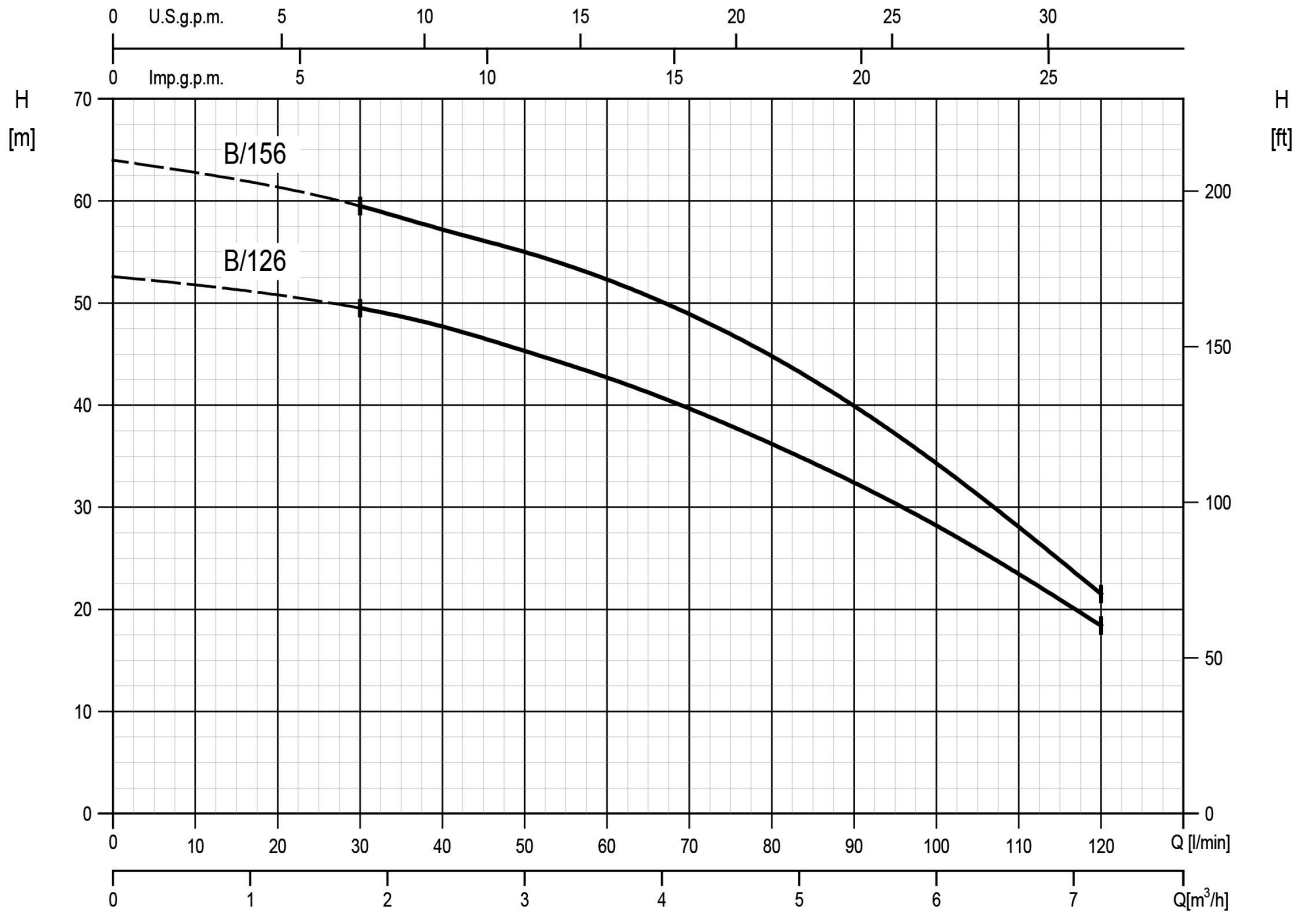
Rotation speed $\approx 3400 \text{ min}^{-1}$
 Test standard: ISO 9906:2012 - Grade 3B

COMPACT A/106 (0.75 kW) - Impeller diameter = 90 mm
COMPACT A/126 (0.9 kW) - Impeller diameter = 90 mm
COMPACT A/156 (1.1 kW) - Impeller diameter = 90 mm



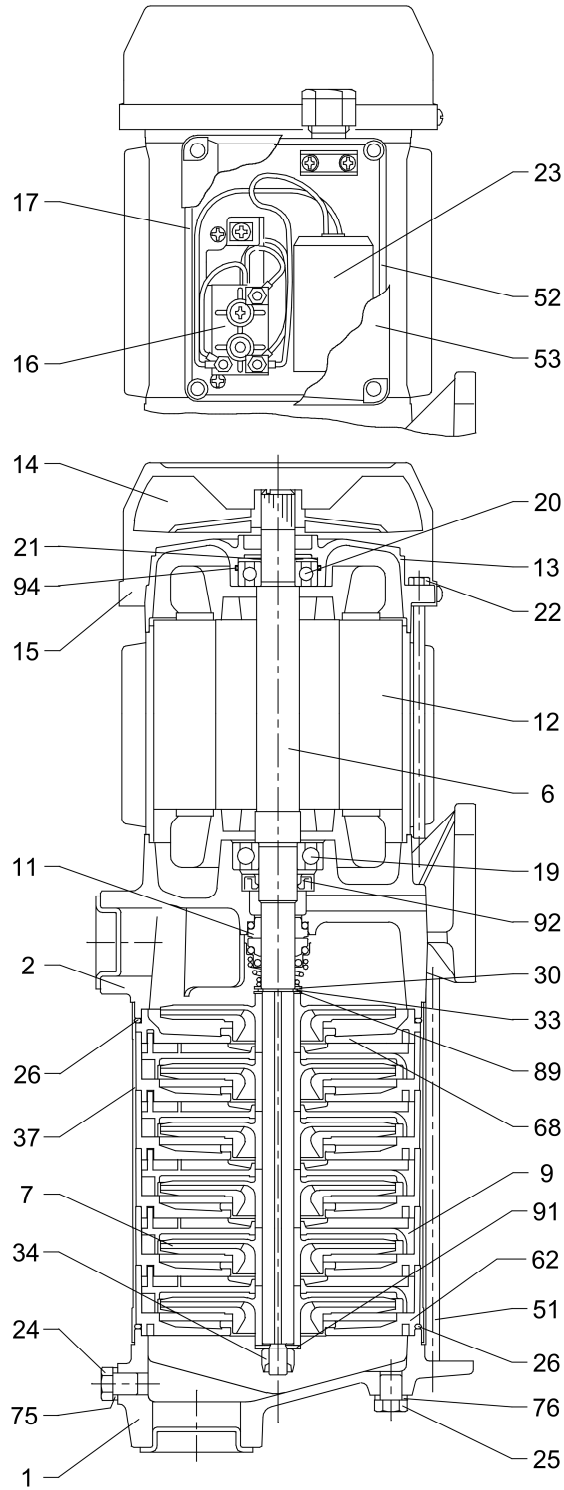
Rotation speed $\approx 3400 \text{ min}^{-1}$
 Test standard: ISO 9906:2012 - Grade 3B

COMPACT B/126 (0.9 kW) - Impeller diameter = 88 mm
COMPACT B/156 (1.1 kW) - Impeller diameter = 88 mm



Rotation speed $\approx 3400 \text{ min}^{-1}$
 Test standard: ISO 9906:2012 - Grade 3B

SECTIONAL VIEW DRAWING



SECTIONAL VIEW TABLE

N°	PART NAME	MATERIAL	DIMENSIONS	STANDARD	Q.TY
1	Suction casing	Cast iron EN-GJL-200-EN 1561	-	-	1
2	Delivery casing	Cast iron EN-GJL-200-EN 1561	-	-	1
6	Shaft with rotor	EN 1.4005 (AISI 416)	-	-	1
7	Impeller	PPE+PS fiber glass reinforced	-	-	[1]
9	Diffuser	PPE+PS fiber glass reinforced	-	-	[1]
11	Mechanical seal [2]	Carbon / Ceramic / NBR	-	-	1
12	Motor frame with stator	-	-	-	1
13	Motor cover + Spacer [6]	Aluminium	-	-	1
14	Fan	PA6	-	-	1
15	Fan cover	Galvanized Fe P04	-	-	1
16	Terminal board	-	-	-	1
17	Terminal box cover [3]	Aluminium	-	-	1
19	Pump side ball bearing	-	[4]	-	1
20	Fan side ball bearing	-	[4]	-	1
21	Adjusting ring	Steel C70	-	-	1
22	Motor tie rod	Galvanized Fe 42	M5xL	EBARA DRAWING	4
23	Capacitor [5]	-	-	-	1
24	Priming plug	OT 58 UNI 5705	G 1/8"	UNI ISO 228	1
25	Drain plug	OT 58 UNI 5705	G 1/8"	UNI ISO 228	1
26	O-ring	NBR	120x3	-	2
30	Washer	EN 1.4301 (AISI 304)	12x21x1 - [UP to 0,6kW]	EBARA DRAWING	1
			15x22x1 - [0,75 kW and above]		
33	Seeger ring	EN 1.4021 (AISI 420)	12	UNI 7435	1
		EN 1.4301 (AISI 304)	14	JIS B2804-1978	
34	Impeller nut	EN 1.4301 (AISI 304)	M8x1 - [UP to 0,6kW]	UNI 7474	1
			M10x1,25 - [0,75 kW and above]		
37	External pump casing	EN 1.4301 (AISI 304)	-	-	1
51	Tie rod	Galvanized Fe P04	M6xL	EBARA DRAWING	4
52	Capacitor box [5]	PP class V-0	-	-	1
53	Capacitor box cover [5]	PP class V-0	-	-	1
62	Stage housing	PPE+PS fiber glass reinforced/PTFE	-	-	[1]
68	Stage	PPE+PS fiber glass reinforced/PTFE	-	-	1
75	Washer	Aluminium	10x16x1,5	EBARA DRAWING	1
76	Washer	Aluminium	10x16x1,5	EBARA DRAWING	1
89	Washer	EN 1.4301 (AISI 304)	12x21x1 - [UP to 0,6kW]	EBARA DRAWING	1
			14,1x22x1 - [0,75 kW and above]		
91	Washer	EN 1.4301 (AISI 304)	8,4x17x1,6 - [UP to 0,6kW]	UNI EN ISO 7089	1
			10,2x20x2,5 - [0,75 kW and above]	EBARA DRAWING	
92	Lip seal	NBR	12x24x4	EBARA DRAWING	1
			17x32x6		
94	O-ring [7]	NBR	34.65x1.78	-	1

- [1] See **QUANTITY FOR MODEL** page 302
- [2] See **MECHANICAL SEAL** page 303
- [3] Only for three phase
- [4] See **BEARINGS** page 302
- [5] Only for single phase
- [6] Spacer only for A/8 3~model
- [7] Only for A/126, B/126, AM/156, A/156, BM/156, B/156 models

QUANTITY FOR MODEL

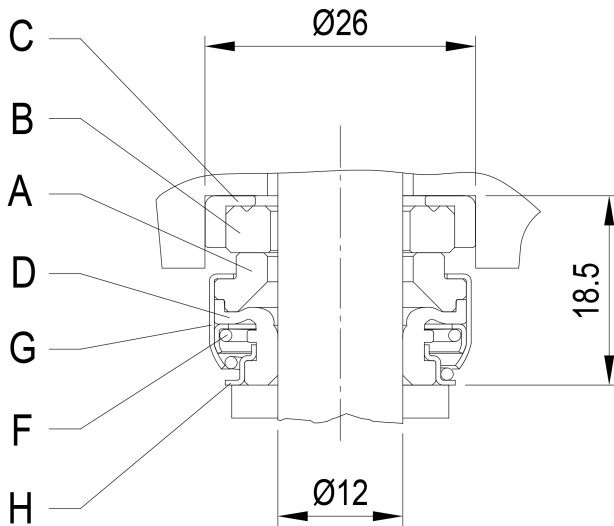
Pump type	N° 7 Impeller	N° 9 Diffuser	N° 62 Stage housing
COMPACT A/46	2	1	1
COMPACT A/66	3	2	2
COMPACT A/86	4	3	3
COMPACT A/106	5	4	4
COMPACT A/126	6	5	5
COMPACT A/156	7	6	6
COMPACT B/126	4	3	3
COMPACT B/156	5	4	4

BEARINGS

Pump type		Ball Bearing	
Single Phase	Three Phase	Pump side	Fan side
COMPACT AM/46	COMPACT A/46	6201 2DW C3	6201 2DW C3
COMPACT AM/66	COMPACT A/66		
COMPACT AM/86	COMPACT A/86		
COMPACT AM/106	COMPACT A/106	6203-2DW C3	6202-ZZ C3
COMPACT AM/126	COMPACT B/126		
COMPACT AM/156	COMPACT B/156		
COMPACT BM/126	COMPACT B/126		

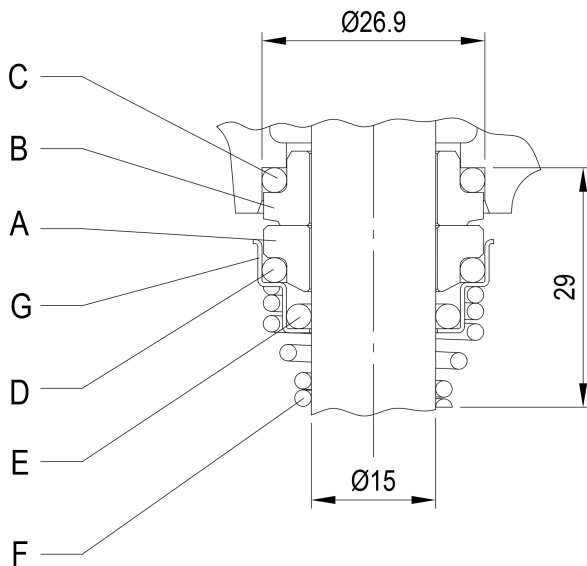
MECHANICAL SEAL

UP TO 0.6 kW



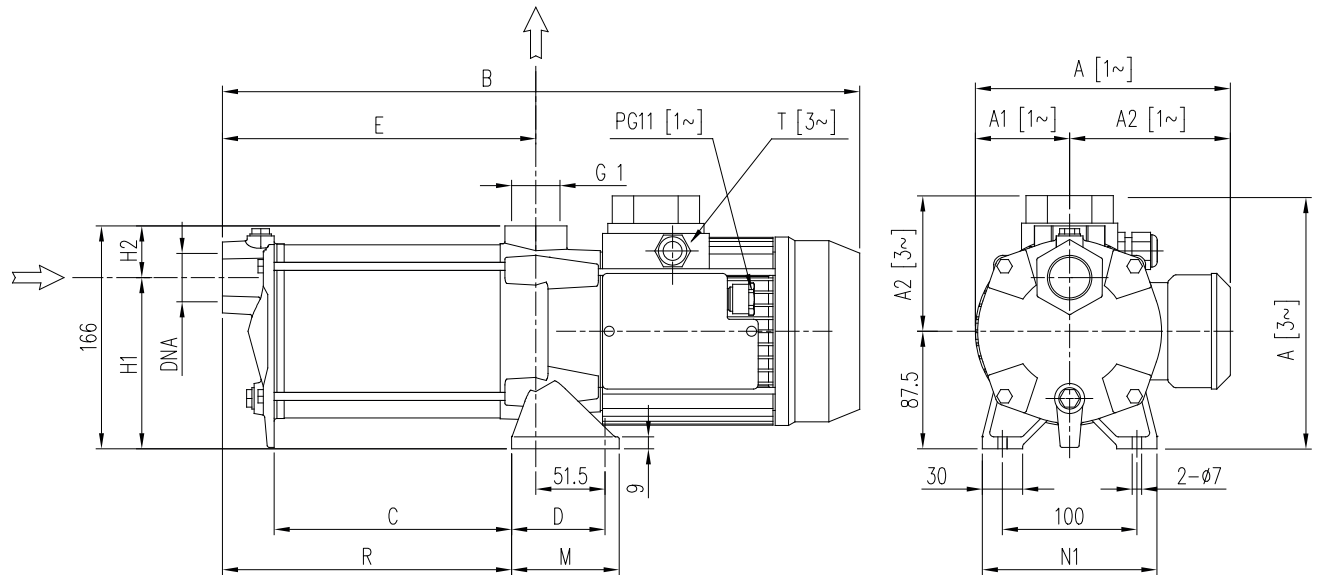
REF	PART NAME	MATERIAL Standard version
A	Rotary seal ring	Carbon Graphite
B	Stationary seal ring	Ceramic
C	Gasket	NBR
D	Bellows	NBR
F	Self driving spring	AISI 304
G	Frame	AISI 304
H	Retainer ring	AISI 304

0.75 kW AND ABOVE



REF	PART NAME	MATERIAL Standard version
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

PUMP

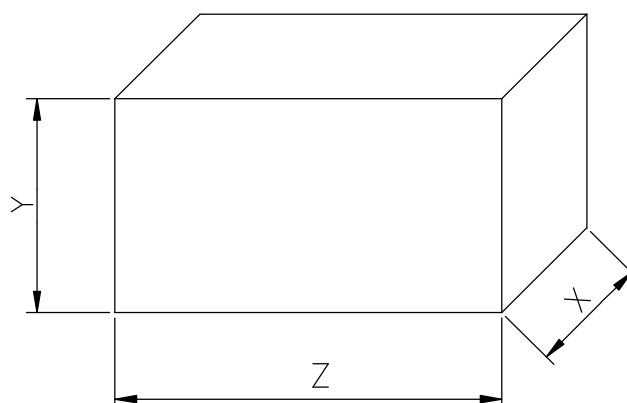


Pump type		Dimensions mm													Weight [kgf]	
Single phase [1~]	Three phase [3~]	A [3~]	A [1~]	B [1~]	B [3~]	C	D	E	H1	H2	M	R	T	DNA	[1~]	[3~]
COMPACT AM/46	COMPACT A/46	159	183.5	307.5	307.5	82	51.5	120.5	127.5	38.5	62	120.5	PG11	G 1"	8.4	8.5
COMPACT AM/66	COMPACT A/66	159	183.5	333.5	333.5	108	51.5	146.5	127.5	38.5	62	146.5	PG11	G 1"	9.3	9.4
COMPACT AM/8	COMPACT A/86	159	183.5	359.5	378.0	134	51.5	172.5	127.5	38.5	62	172.5	PG11	G 1"	10.3	10.5
COMPACT AM/106	COMPACT A/106	169	193.5	426	426	142	69.5	198.5	123.5	42.5	80	180.5	M16x1.5	G 1"	14.5	14.5
COMPACT AM/126	COMPACT A/126	169	193.5	452	464	168	69.5	224.5	123.5	42.5	80	206.5	M16x1.5	G 1"	15.5	16.3
COMPACT AM/156	COMPACT A/156	169	193.5	490	490	194	69.5	250.5	123.5	42.5	80	232.5	M16x1.5	G 1"	16.7	16.7
COMPACT BM/126	COMPACT B/126	169	193.5	400	412	116	69.5	172.5	123.5	42.5	80	154.5	M16x1.5	G 1 1/4	14.9	15.7
COMPACT BM/156	COMPACT B/156	169	193.5	438	438	142	69.5	198.5	123.5	42.5	80	180.5	M16x1.5	G 1 1/4	15.9	15.9

[1~] Single phase

[3~] Three phase

PACKING



Type pumps		Packing [mm]			Weight [kgf]	
Single Phase	Three Phase	X	Y	Z	[1~]	[3~]
COMPACT AM/46	COMPACT A/46	185	195	375	8.9	9.0
COMPACT AM/66	COMPACT A/66	185	195	375	9.8	9.9
COMPACT AM/86	COMPACT A/86	185	195	375	10.8	11.0
COMPACT AM/106	COMPACT A/106	212	201	515	15.5	15.5
COMPACT AM/126	COMPACT A/126	212	201	515	16.6	17.3
COMPACT AM/156	COMPACT A/156	212	201	515	17.7	17.9
COMPACT BM/126	COMPACT B/126	212	201	515	15.9	16.7
COMPACT BM/156	COMPACT B/156	212	201	515	16.9	16.9

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

MOTOR DATA

Pump type		Power		Efficiency		Capacitor		Efficiency (% load)			Efficiency (% load)			Input		Full load current				Locked rotor current			
Single Phase	Three Phase	[kW]	[HP]	Single Phase	Three Phase	Single Phase	Three Phase	Three phase (380 V)			Three phase (460 V)			Single	Three	[A]				[A]			
						I_{cF} [F]	V [V]	50%	75%	100%	50%	75%	100%	Phase	Phase	220-230 V	220 V	380 V	460 V	220-230 V	220 V	380 V	460 V
COMPACT AM/46	COMPACT A/46	0.3	0.4	-	IE3	10	450	77.3	78.8	76.4	69.8	76.6	77.8	0.54	0.49	2.9	1.5	0.9	0.9	9.5	6.8	3.9	4.8
COMPACT AM/66	COMPACT A/66	0.44	0.6	-	IE3	12.5	450	75.7	77.1	75.9	71.8	75.1	78.6	0.73	0.55	3.5	1.8	1.0	1.0	11.3	8.6	4.9	6.0
COMPACT AM/86	COMPACT A/86	0.6	0.8	-	IE3	14	450	80.9	80.1	78.5	76.9	80.1	80.3	0.91	0.74	4.3	2.2	1.3	1.3	12.8	11.8	6.8	8.3
COMPACT AM/106	COMPACT A/106	0.75	1.0	-	IE3	20	450	80.7	81.9	81.3	78.4	81.6	83.1	1.33	0.9	6.7	2.8	1.6	1.5	35.2	16.9	9.7	11.8
COMPACT AM/126	COMPACT A/126	0.9	1.2	-	IE3	31.5	450	84.8	84.5	82.7	82	84.4	84.5	1.53	1.30	7.0	4.0	2.3	2.2	29.4	24.6	14.2	17.2
COMPACT AM/156	COMPACT A/156	1.1	1.5	-	IE3	31.5	450	84.8	84.5	82.7	82	84.4	84.5	1.6	1.30	7.5	4.0	2.3	2.2	30.7	24.6	14.2	17.2
COMPACT BM/126	COMPACT B/126	0.9	1.2	-	IE3	31.5	450	84.8	84.5	82.7	82	84.4	84.5	1.46	1.30	6.8	4.0	2.3	2.2	28.6	24.6	14.2	17.2
COMPACT BM/156	COMPACT B/156	1.1	1.5	-	IE3	31.5	450	84.8	84.5	82.7	82	84.4	84.5	1.58	1.30	7.4	4.0	2.3	2.2	30.3	24.6	14.2	17.2