



EBARA

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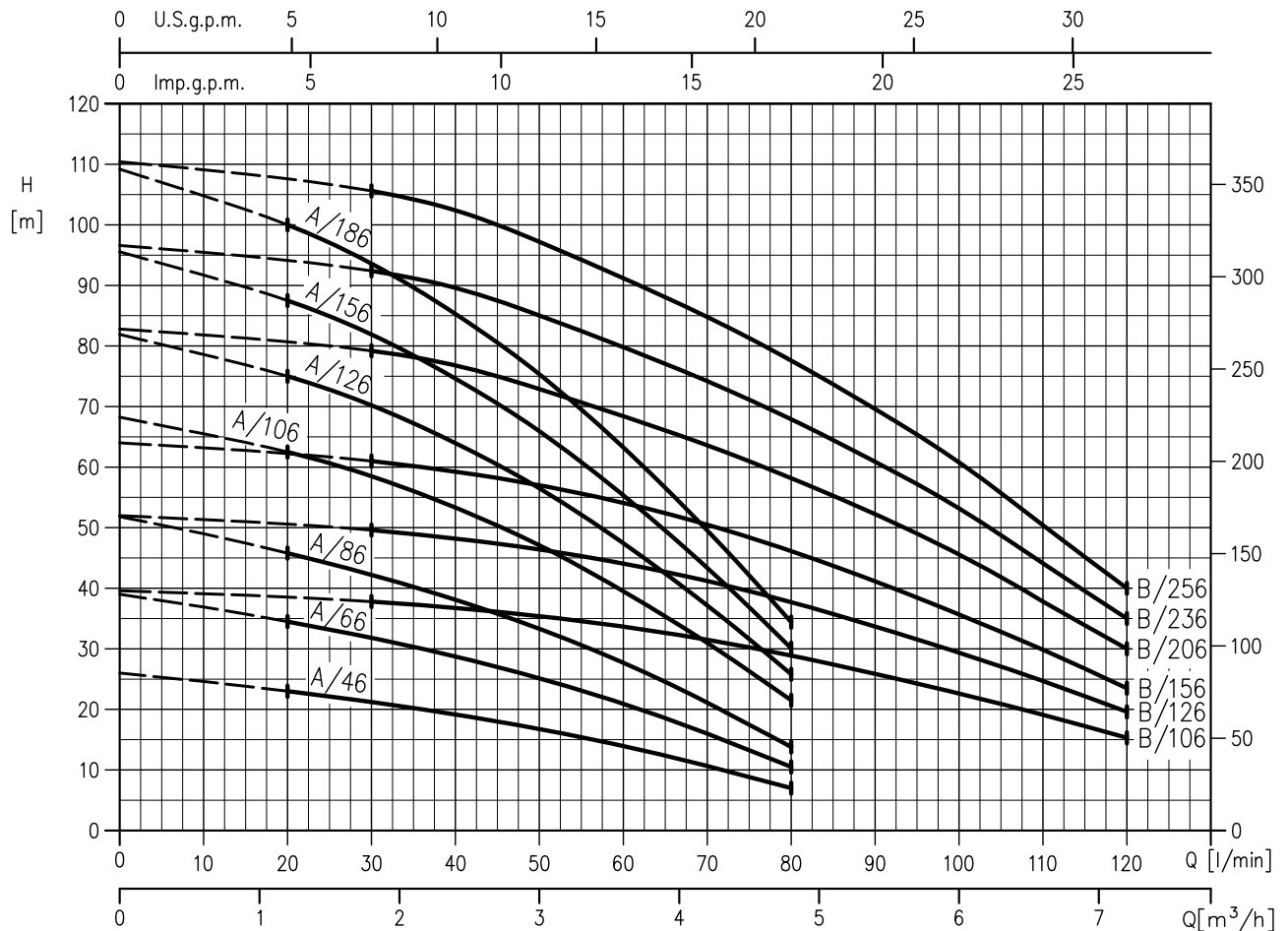
PUMP		
Liquid Handled	Type of liquid	Clean water
	Temperature [°C]	min.+5 max.+40
Maximum working pressure [MPa]		1.1
Construction	Impeller	Closed centrifugal
	Shaft seal type	Mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction	G 1"¼ UNI ISO 228
	Discharge	G 1"¼ UNI ISO 228
Material	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 – Annex A

MOTOR		
Type	Electric - TEFC	
	Single Phase	Three Phase
No. of Poles	2	
Rotation speed [min ⁻¹]	≈ 3450	
Insulation Class	F	
Protection degree	IP 44	
Power rating	[kW]	0.3 ÷ 1.7
	[HP]	0.4 ÷ 2.3
Frequency [Hz]	60	
Voltage [V]	220-230 ±6%	220/380 -6%+10%
Capacitor	Built in	-
Over load protection	Built in	Provided by the user
Casing material	Aluminium	
Dimensions of cable entry	PG 11 – PG 13.5 (see pag. 400)	

SELECTION CHART

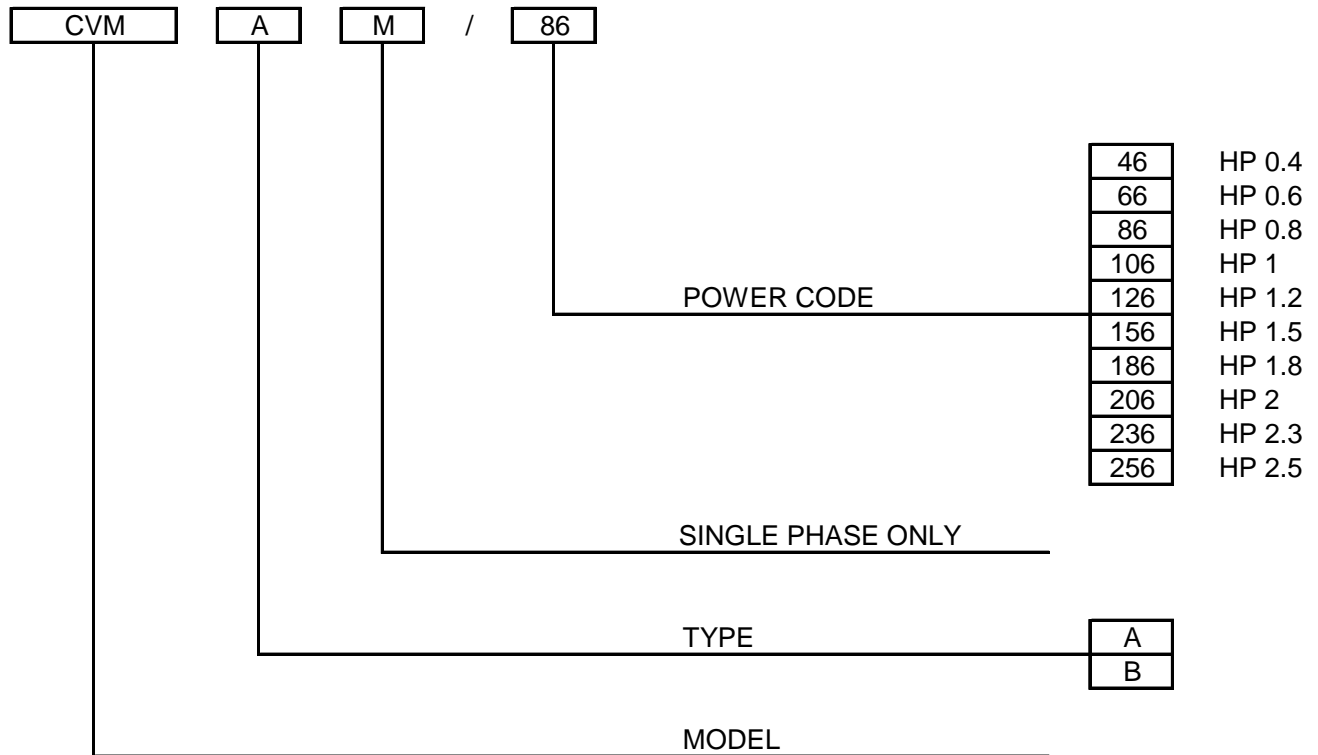
60Hz

Rev. D



Pump type		Power		Q=Capacity									
				l/min	0	20	30	40	50	60	80	100	120
Single Phase	Three Phase	[kW]	[HP]	m³/h	0	1.2	1.8	2.4	3	3.6	4.8	6	7.2
H=Total manometric head in meters													
CVM AM/46	CVM A/46	0.3	0.4	26	23	21.2	19.2	16.7	14	7	-	-	-
CVM AM/66	CVM A/66	0.44	0.6	39	34.5	31.8	28.7	25.1	20.9	10.5	-	-	-
CVM AM/86	CVM A/86	0.6	0.8	52	45.5	42	38.1	33.3	27.7	13.8	-	-	-
CVM AM/106	CVM A/106	0.75	1	68.5	62.5	58.5	53.0	47	39.5	21.5	-	-	-
CVM AM/126	CVM A/126	0.9	1.2	82	75	70	64	56.5	47.5	25.8	-	-	-
CVM AM/156	CVM A/156	1.1	1.5	95.5	87.5	82	74.5	66	55.5	30.1	-	-	-
CVM AM/186	CVM A/186	1.3	1.8	109	100	93.5	85.5	75.5	63	34.4	-	-	-
CVM BM/106	CVM B/106	0.75	1	39.6	-	37.8	36.8	35.4	33.7	28.9	22.6	15.3	-
CVM BM/126	CVM B/126	0.9	1.2	52	-	49.5	48	46.5	44	37.7	29.4	19.6	-
CVM BM/156	CVM B/156	1.1	1.5	64	-	61	59.5	57	54	46	35.7	23.5	-
CVM BM/206	CVM B/206	1.5	2	83	-	79	77	73	68.5	58	45.5	30	-
CVM BM/236	CVM B/236	1.7	2.3	95.5	-	92.5	89.5	85	80	68	53	35	-
-	CVM B/256	1.9	2.5	110	-	106	102	97	91	77.5	61	40	-

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 60 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 NPSH curve is an average curve obtained in the same conditions of performance curves.

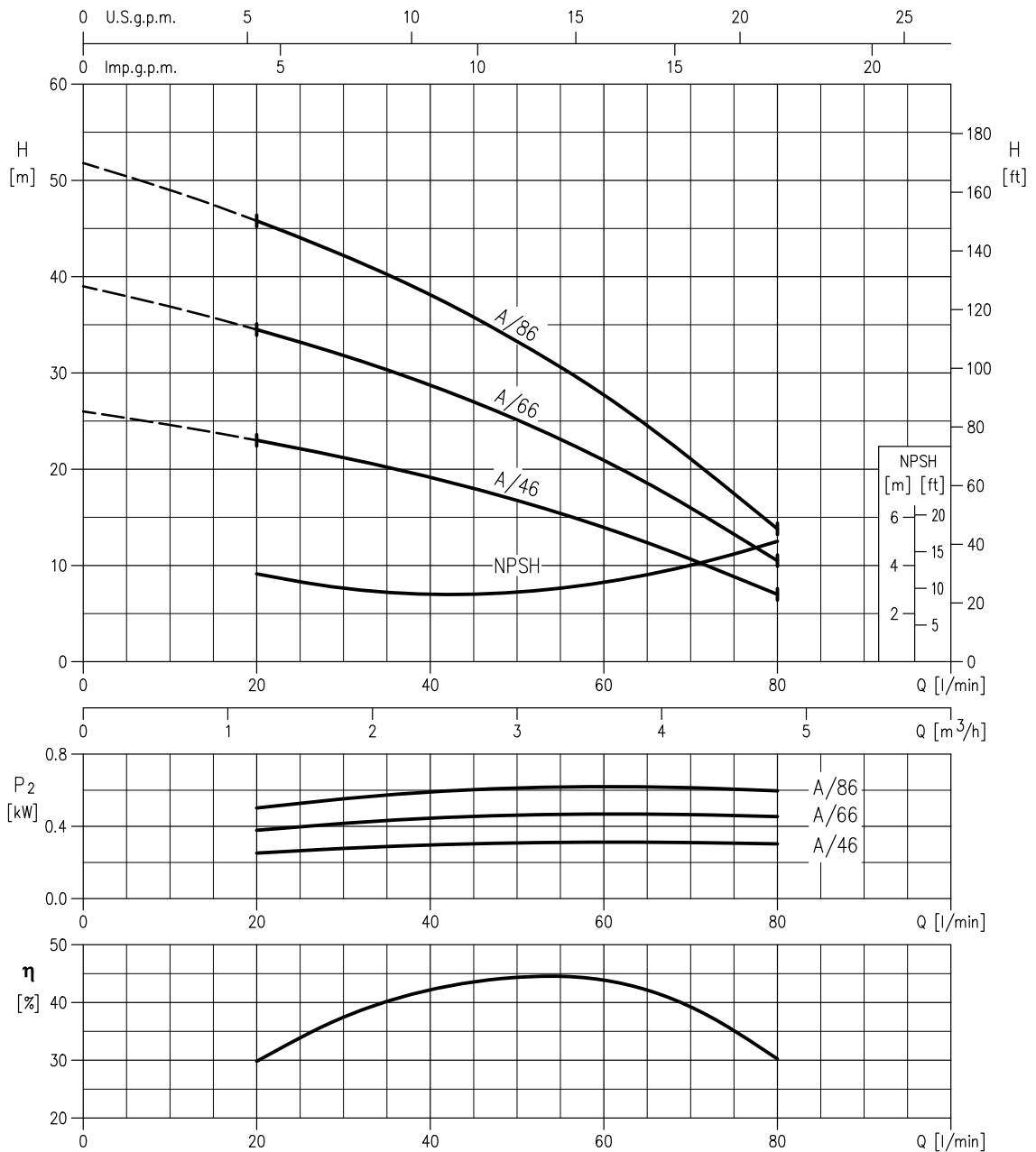
The continuous curves indicate the recommended working range. The dotted curve is only a guide.

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:

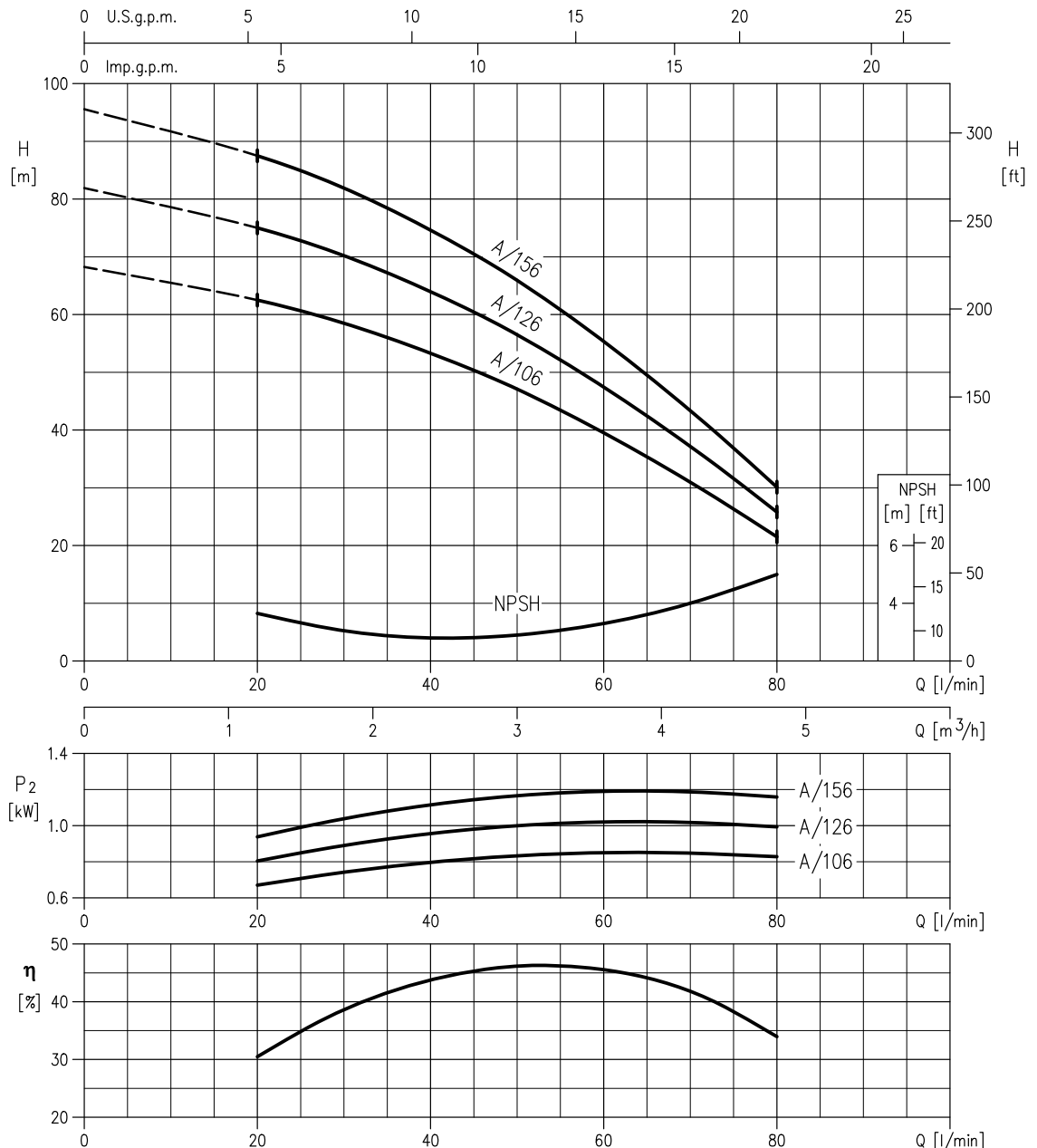
- Q = volume flow rate
- H = total head
- P_2 = pump power input (shaft power)
- η = pump efficiency
- NPSH = net positive suction head required by the pump

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



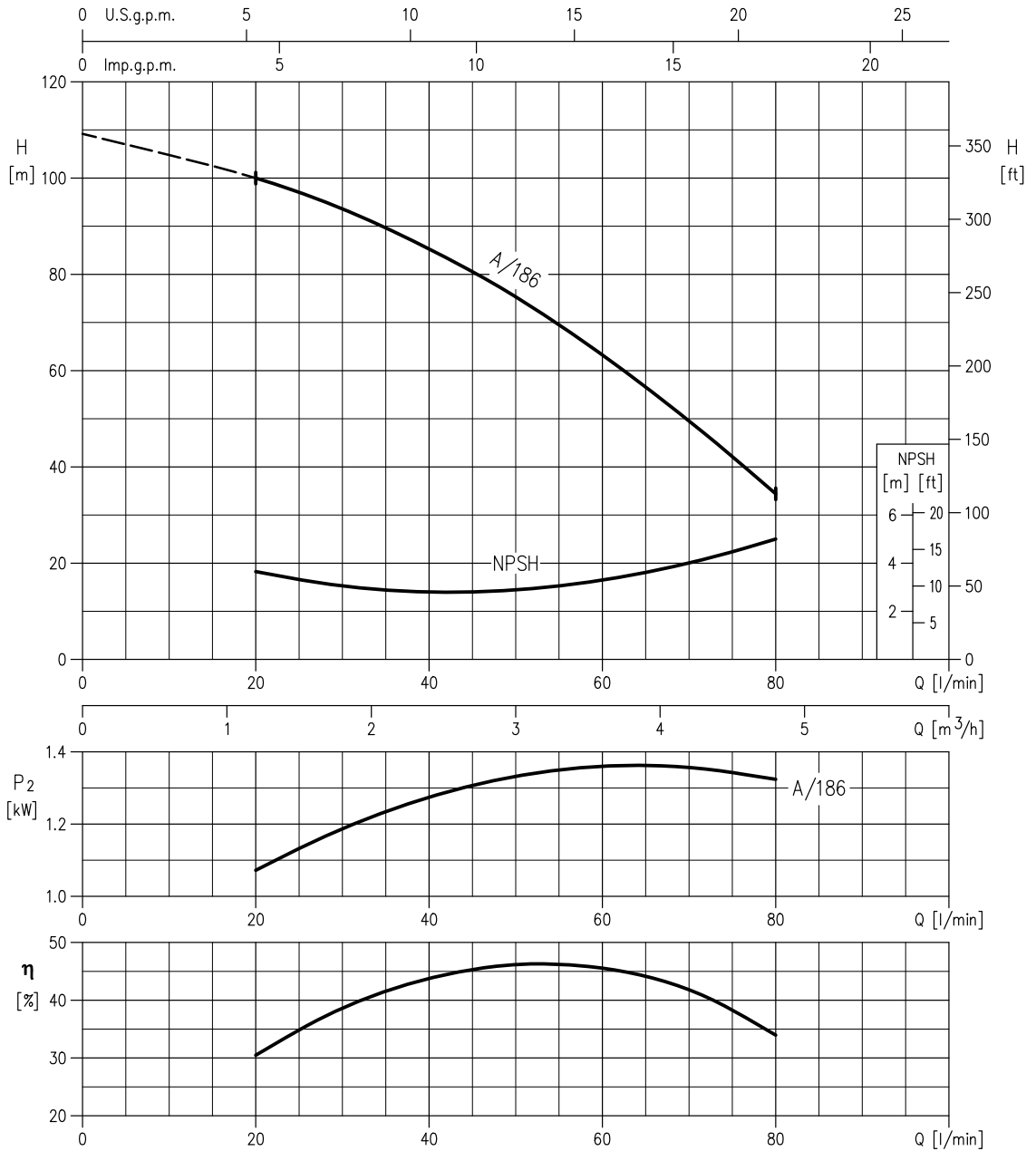
Rotation speed $\approx 3450 \text{ min}^{-1}$
 Test standard: ISO 9906 – Annex A

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



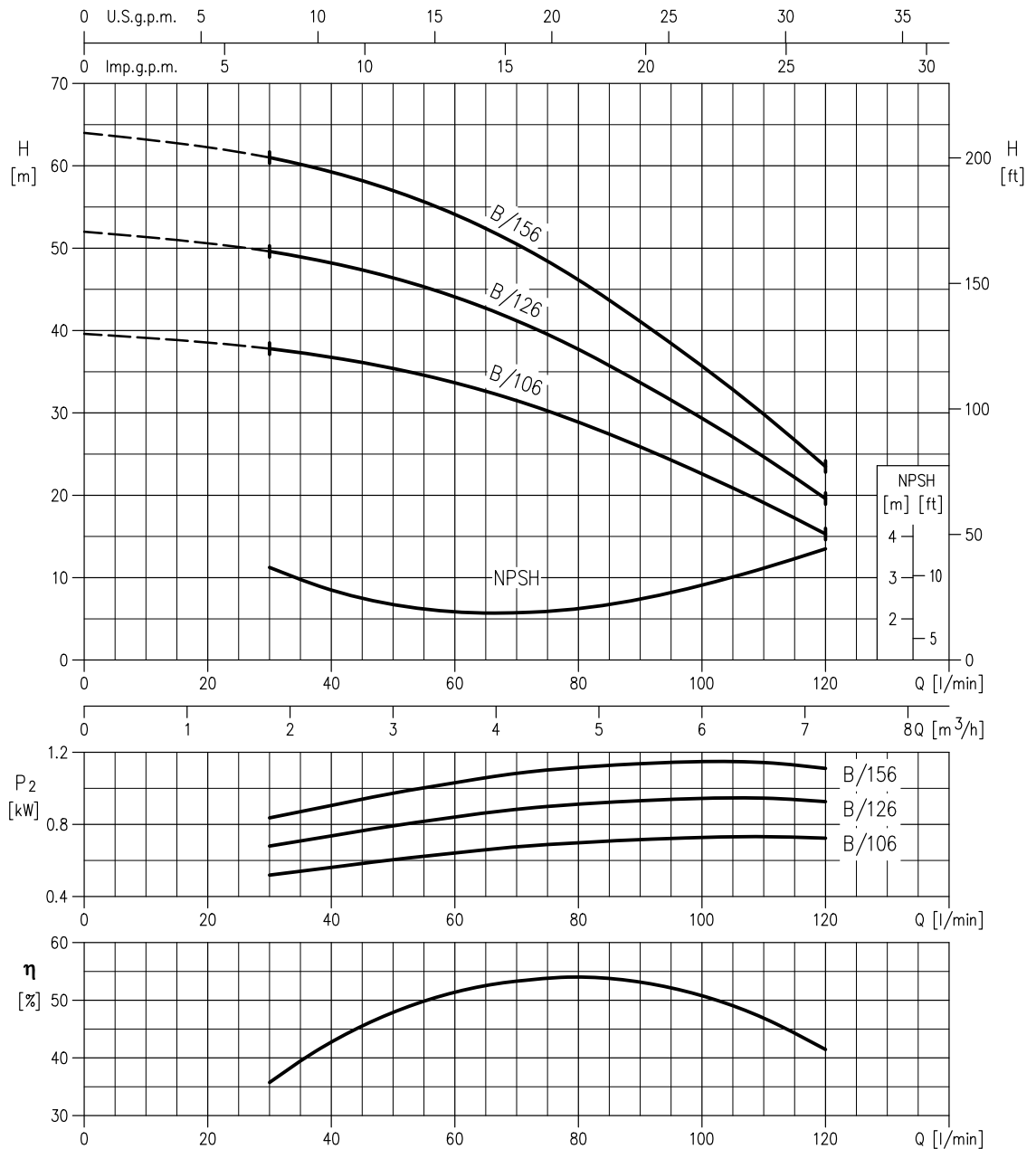
Rotation speed $\approx 3450 \text{ min}^{-1}$
 Test standard: ISO 9906 – Annex A

CVM A/186 (1.3 kW) - Impeller diameter = 90 mm



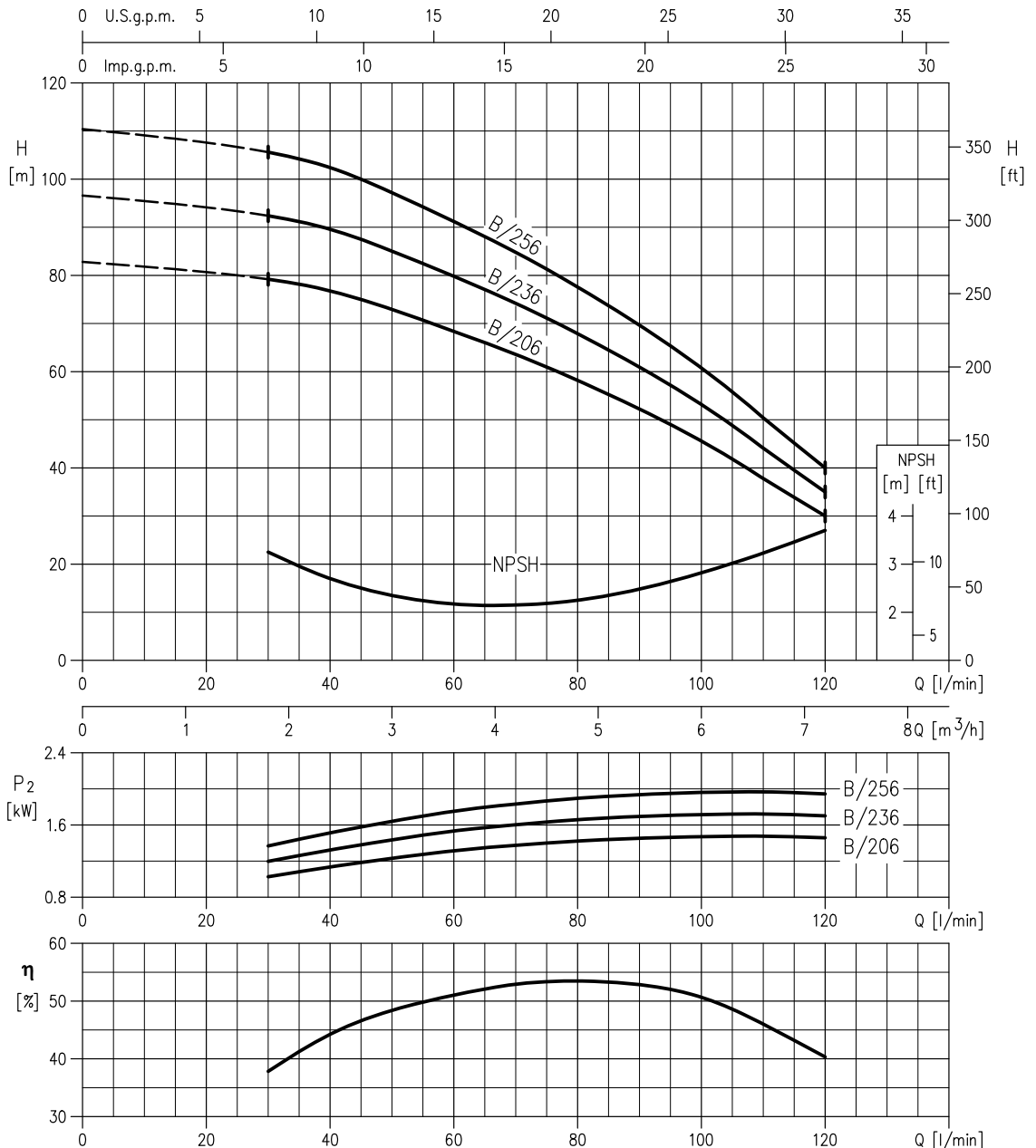
Rotation speed $\approx 3450 \text{ min}^{-1}$
 Test standard: ISO 9906 – Annex A

CVM B/106 (0.75 kW) - Impeller diameter = 88 mm
 CVM B/126 (0.9 kW) - Impeller diameter = 88 mm
 CVM B/156 (1.1 kW) - Impeller diameter = 88 mm



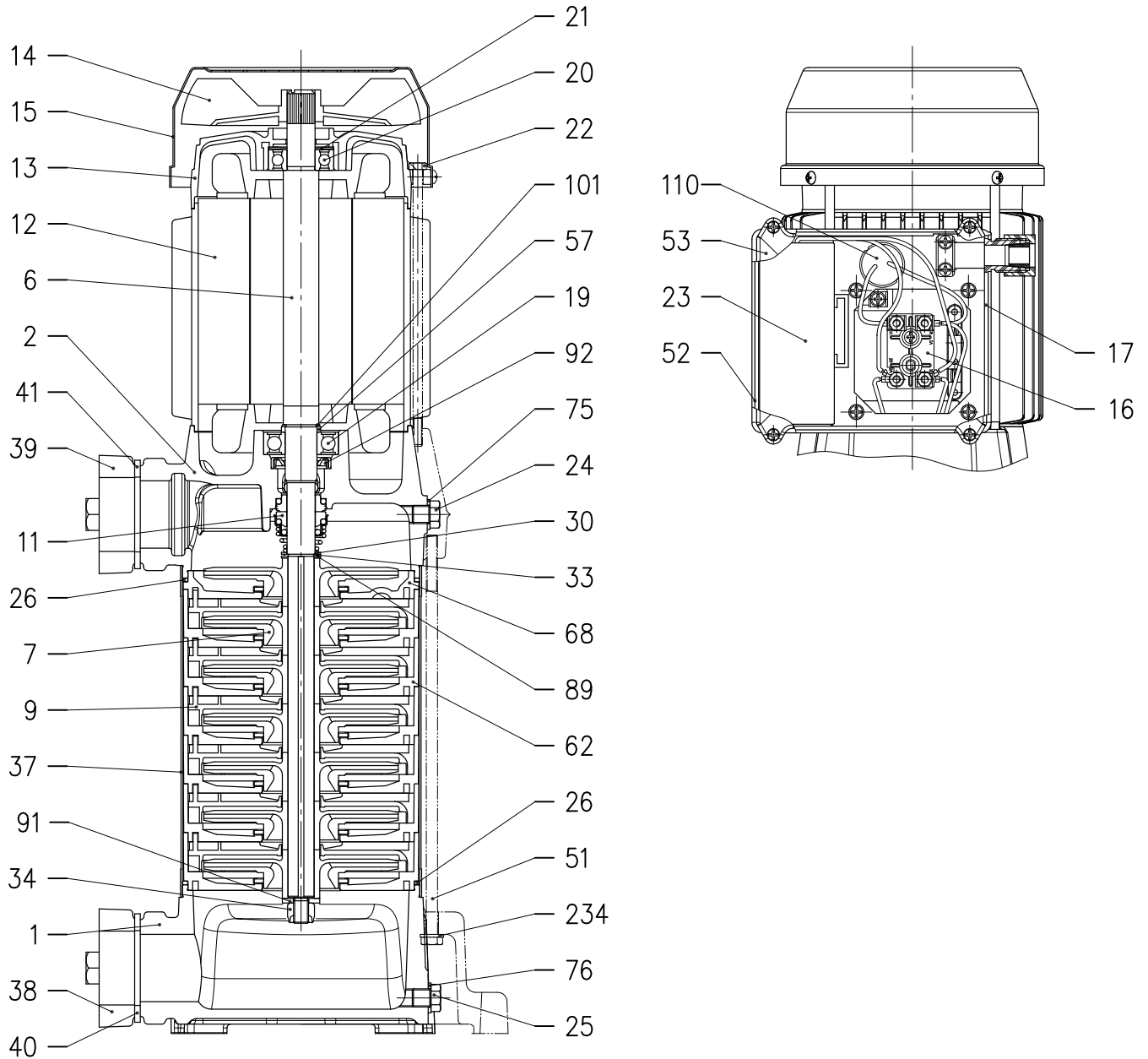
Rotation speed $\approx 3450 \text{ min}^{-1}$
 Test standard: ISO 9906 – Annex A

CVM B/206 (1.5 kW) - Impeller diameter = 88 mm
CVM B/236 (1.7 kW) - Impeller diameter = 88 mm
CVM B/256 (1.9 kW) - Impeller diameter = 88 mm



Rotation speed $\approx 3450 \text{ min}^{-1}$
 Test standard: ISO 9906 – Annex A

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 Glass fibre reinforced	-	-	[1]
9	Diffuser	PPE+PS Glass fibre reinforced	-	-	[1]
11	Mechanical seal [2]	Carbon / Ceramic / NBR	-	-	1
12	Motor frame with stator	-	-	-	1
13	Motor cover	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)	12x22x1 - [UP to 0,6kW] 15x22x1 - [0,75 kW and above]	EBARA DRAWING	1
33	Seeger ring	EN 1.4021 (AISI 420) EN 1.4301 (AISI 304)	12 14	UNI 7435 JIS B2804-1978	1
34	Impeller nut	EN 1.4301 (AISI 304)	M8x1 - [UP to 0,6kW] M10x1,25 - [0,75 kW and above]	UNI 7474	1
37	External pump casing	EN 1.4301 (AISI 304)	-	-	1
38	Counterflange	Cast iron EN-GJL-200-EN 1561	1"¼	EBARA DRAWING	1
39	Counterflange	Cast iron EN-GJL-200-EN 1561	1"¼	EBARA DRAWING	1
40	Counterflange gasket	NBR	-	EBARA DRAWING	1
41	Counterflange gasket	NBR	-	EBARA DRAWING	1
51	Tie rod	Galvanized Fe P04	M6	EBARA DRAWING	4
52	Capacitor box [5]	ABS	-	-	1
53	Capacitor box cover [5] [8]	ABS [8]	-	-	1
57	Pump side ball bearing spacer [6]	Steel C40	22x27x3	EBARA DRAWING	1
62	Stage housing	PPE+PS Glass fibre reinforced/PTFE	-	-	[1]
68	Stage	PPE+PS Glass fibre 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] 14,1x22x1 - [0,75 kW and above]	EBARA DRAWING	1
91	Washer	EN 1.4301 (AISI 304)	8,4x17x1,6 - [UP to 0,6kW] 10,2x20x2,5 - [0,75 kW and above]	UNI EN ISO 7089 EBARA DRAWING	1
92	Lip seal	NBR	12x24x4 17x32x6	EBARA DRAWING	1
101	Seeger ring [6]	EN 1.4301 (AISI 304)	20	UNI 7435	1
110	Motor protector [7]	-	-	-	1
234	Washer	Galvanized steel	6,4x12,5x1,6	UNI EN ISO 7089	4

[1] See pag. 302

[2] See pag. 303

[3] Only for three phase

[4] See pag. 302

[5] Only for single phase

[6] Only for motor size 80

[7] Only for motor size 71 e 80 single phase version

[8] With gasket in NBR only for version single phase:

CVM A from 0.3 kW up to 1.1 kW

CVM B from 0.75 kW up to 1.1 kW

QUANTITY FOR MODEL

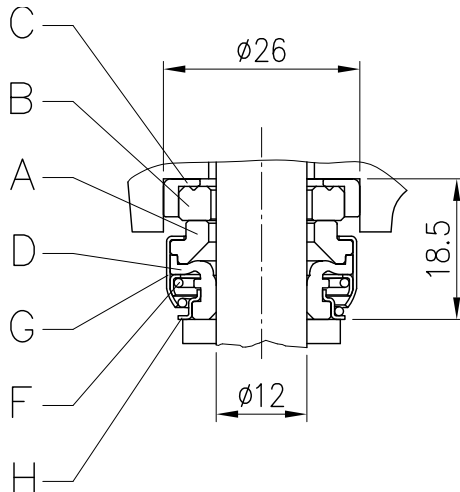
Pump		POS. 7	POS. 9	POS. 62
A type	B type			
CVM A/46	-	2	1	1
CVM A/66	CVM B/106	3	2	2
CVM A/86	CVM B/126	4	3	3
CVM A/106	CVM B/156	5	4	4
CVM A/126	CVM B/206	6	5	5
CVM A/156	CVM B/236	7	6	6
CVM A/186	CVM B/256	8	7	7

BEARINGS

Pump type		Ball Bearing	
Single Phase	Three Phase	Pump side	Fan side
CVM AM/46	CVM A/46	6201 2RSH	6201 2RSH
CVM AM/66	CVM A/66		
CVM AM/86	CVM A/86		
CVM AM/106	CVM A/106	6203 2RSH	6202 2RSH
CVM AM/126	CVM A/126		
CVM AM/156	CVM A/156		
CVM AM/186	CVM A/186	6304 2RSH	6203 2RSH
CVM BM/106	CVM B/106	6203 2RSH	6202 2RSH
CVM BM/126	CVM B/126		
CVM BM/156	CVM B/156		
CVM BM/206	CVM B/206	6304 2RSH	6203 2RSH
CVM BM/236	CVM B/236		
-	CVM B/256		

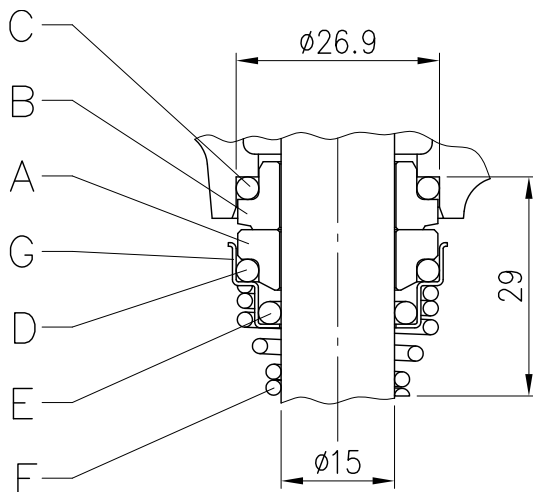
MECHANICAL SEAL

UP TO 0.6 kW



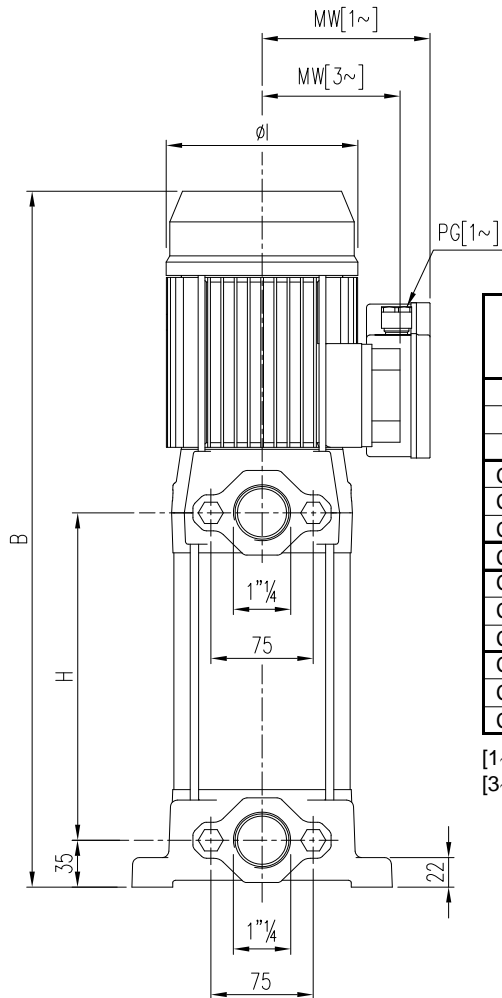
REF	PART NAME	MATERIAL product standard
A	Rotary seal ring	carbon graphite
B	Stationary seal ring	ceramic
C	Gasket	NBR
D	Bellows	NBR
F	Self driving spring	AISI 304
G	Frame	AISI 304
H	Retainer ring	AISI 304

0.75 kW AND ABOVE



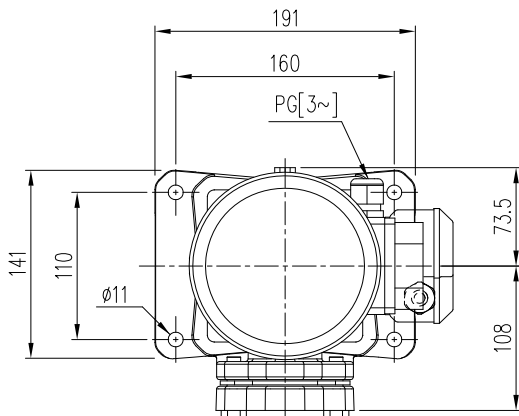
REF	PART NAME	MATERIAL product standard
A	Rotary seal ring	ceramic
B	Stationary seal ring	carbon graphite
C	O Ring	NBR
D	O Ring	NBR
E	O Ring	NBR
F	Self driving spring	AISI 316
G	Frame	AISI 304

PUMP

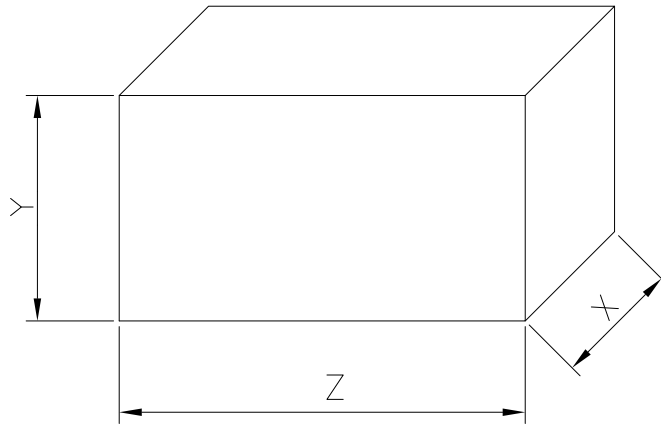


Pump type	Motor Size	Dimensions [mm]						Weight [kgf]			
		B		H	Ø	MW		PG			
		[1~]	[3~]			[1~]	[3~]	[1~]	[3~]		
CVM A/46	63	336	336	112	124	101	92	11	11	11	
CVM A/66		362	362	138					11.7	11.6	
CVM A/86		388	388	164					12.7	12.6	
CVM A/106	71	452	454	190	140	110.5	101	11	16.5	16.6	
CVM A/126		478	492	216					17.5	17.6	
CVM A/156		516	518	242					18.5	18.6	
CVM A/186	80	565	565	268	159	136	119	13.5	11	20.5	20.6
CVM B/106	71	400	402	138	140	110.5	101	11	15.9	15.9	
CVM B/126		426	440	164					16.8	16.7	
CVM B/156		464	466	190					18	17.9	
CVM B/206	80	526	526	216	159	134.5	119	13.5	21.2	21.3	
CVM B/236		552	552	242					22.2	22.3	
CVM B/256		578	578	268					-	-	-

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



PACKING



Pump type	Packing [mm]			Weight [kgf]		
	X	Y	Z	[1~]	[3~]	
CVM A/46	212	208	427	11.9	11.9	
CVM A/66				12.6	12.5	
CVM A/86				13.6	13.5	
CVM A/106			537	17.6	17.7	
CVM A/126				18.6	19.5	
CVM A/156				19.6	19.7	
CVM A/186	252		590	21.4	22.5	
CVM B/106	212		208	427	16.8	16.8
CVM B/126				537	17.9	18.6
CVM B/156					19.1	19.0
CVM B/206				252	590	22.3
CVM B/236	23.3					24.4
CVM B/256	-	25.1				

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

MOTOR DATA

Pump type		Power		Capacitor		Efficiency (% load)			Efficiency (% load)			Input		Full load current			Locked rotor current		
Single Phase	Three Phase	[kW]	[HP]	Single Phase		Three phase (380 V)			Three phase (460 V)			Single Phase	Three Phase	[A]			[A]		
				[μF]	[V]	50%	75%	100%	50%	75%	100%			220-230 V	220 V	380 V	220-230 V	220 V	380 V
CVM AM/46	CVM A/46	0.3	0.4	10	450	-	-	-	-	-	-	0.54	0.45	2.9	1.6	0.9	9.5	7.7	4.4
CVM AM/66	CVM A/66	0.44	0.6	12.5	450	-	-	-	-	-	-	0.73	0.63	3.5	2.1	1.2	12.5	9.9	5.7
CVM AM/86	CVM A/86	0.6	0.8	14	450	-	-	-	-	-	-	0.91	0.75	4.3	2.4	1.4	12.8	12.2	7.0
CVM AM/106	CVM A/106	0.75	1	20	450	77.2	79.5	79.3	76.6	80.9	82.3	1.33	1.00	6.7	2.9	1.7	35.2	20.6	11.9
CVM AM/126	CVM A/126	0.9	1.2	31.5	450	80.7	82.3	81.5	77.9	81.7	82.7	1.53	1.50	7.0	3.8	2.2	29.3	28.8	16.6
CVM AM/156	CVM A/156	1.1	1.5	31.5	450	80.7	82.3	81.5	77.9	81.7	82.7	1.60	1.50	7.5	3.8	2.2	30.7	28.8	16.6
CVM AM/186	CVM A/186	1.3	1.8	35	450	78.3	80.4	81.0	76.5	81.3	83.4	1.87	2.00	8.2	5.7	3.3	55.0	38.8	22.4
CVM BM/106	CVM B/106	0.75	1	20	450	77.2	79.5	79.3	76.6	80.9	82.3	1.19	1.00	6.4	2.9	1.7	33.7	20.6	11.9
CVM BM/126	CVM B/126	0.9	1.2	31.5	450	80.7	82.3	81.5	77.9	81.7	82.7	1.46	1.50	6.8	3.8	2.2	28.5	28.8	16.6
CVM BM/156	CVM B/156	1.1	1.5	31.5	450	80.7	82.3	81.5	77.9	81.7	82.7	1.58	1.50	7.4	3.8	2.2	30.3	28.8	16.6
CVM BM/206	CVM B/206	1.5	2	40	450	82.4	83.0	82.2	79.5	82.9	83.8	1.97	2.90	8.9	8.1	4.7	69.0	54.4	31.4
CVM BM/236	CVM B/236	1.7	2.3	40	450	82.4	83.0	82.2	79.5	82.9	83.8	2.29	2.90	10.7	8.1	4.7	69.0	54.4	31.4
-	CVM B/256	1.9	2.5	-	-	82.4	83.0	82.2	79.5	82.9	83.8	-	2.90	-	8.1	4.7	-	54.4	31.4

NOISE DATA

Pump type		Power		L _{pA} - dB(A) *
Single Phase	Three Phase	[kW]	[HP]	
CVM AM/46	CVM A/46	0.3	0.4	57
CVM AM/66	CVM A/66	0.44	0.6	
CVM AM/86	CVM A/86	0.6	0.8	
CVM AM/106	CVM A/106	0.75	1	66
CVM AM/126	CVM A/126	0.9	1.2	
CVM AM/156	CVM A/156	1.1	1.5	
CVM AM/186	CVM A/186	1.3	1.8	67
CVM BM/106	CVM B/106	0.75	1	
CVM BM/126	CVM B/126	0.9	1.2	
CVM BM/156	CVM B/156	1.1	1.5	66
CVM BM/206	CVM B/206	1.5	2	
CVM BM/236	CVM B/236	1.7	2.3	
-	CVM B/256	1.9	2.5	

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