

VERTICAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS

in cast iron



Cast iron vertical multistage centrifugal electric pumps.

APPLICATIONS

- Pressure boosting plants
- General pressure increases
- Irrigation
- Washing plants
- Moving clean water

TECHNICAL DETAILS

- Reliable
- Silent
- Easy maintenance
- Electric pumps supplied with counter-flanges

PUMP TECHNICAL DATA

- Maximum working pressure: 11 bar
 - Maximum temperature of the liquid: 40°C
 - G1¼ suction and discharge connection
 - MEI > 0,4
- For further information please see our Data Book

MOTOR TECHNICAL DATA

- High efficiency motor IE2 starting from 0,75 kW
- Self-ventilated 2 poles asynchronous motor
- Class of insulation F
- IP44 Protection degree
- 230V ±10%, 50Hz single phase voltage, 230/400V ±10%, 50Hz three phase voltage
- Permanent capacitor inserted and thermo-amperometric protection with automatic rearm incorporated for the single phase motor
- Protection under user's responsibility for the three phase version

MATERIALS

- Cast iron pump casing and motor bracket
- External casing in AISI 304
- Impeller and diffuser in PPE+PS reinforced with fibreglass
- Stages in PPE+PS reinforced with fibreglass/PTFE
- Shaft in AISI 416
- Mechanical seal in Carbon/Ceramic/NBR

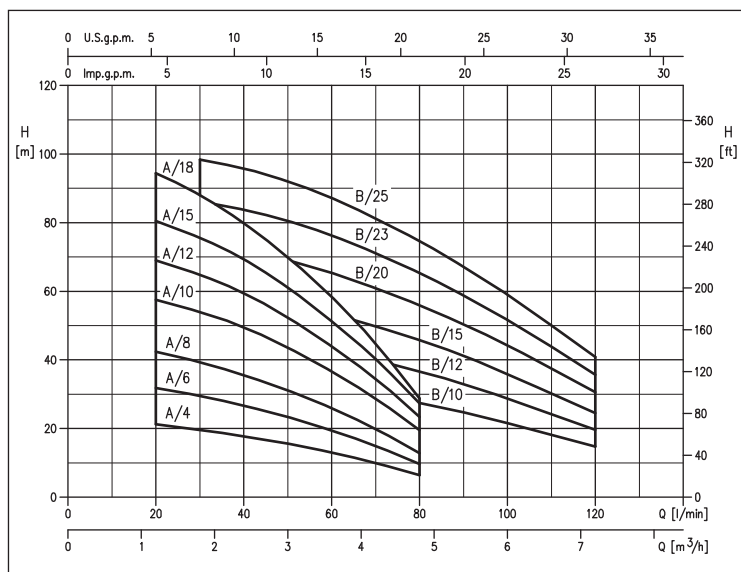
CONTROL PANELS

- 1EPBH

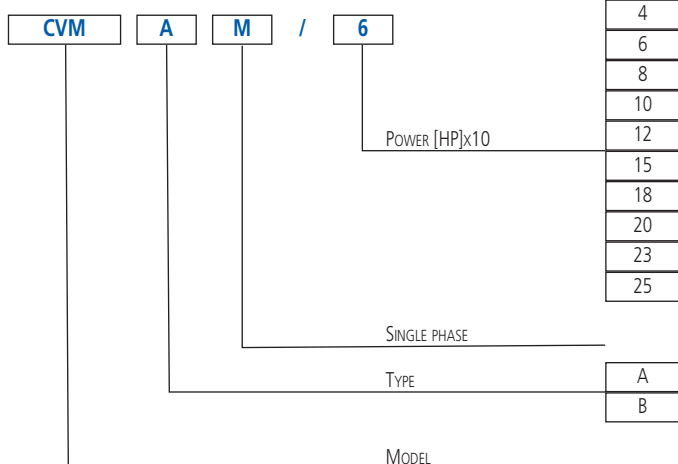
ACCESSORIES (on request)

- 5 litre 10 bar ¾ EPDM vessel
- 24 litre 8 bar 1" EPDM vessel
- 24 litre 10 bar 1" EPDM vessel
- 24 litre 16 bar 1" EPDM vessel
- PVC 5m key float with counter-weight
- PVC 10m key float with counter-weight
- SQUARE-D FSG-2 1.4÷4.6 bar G¼ F pressure switch
- FYG-22 2.8÷7 bar G¼ F pressure switch
- FYG-32 5.6÷10.5 bar G¼ F pressure switch
- Presscomfort - Pressure regulator
- Press•••Matic - Variable speed control system (230V±10% single phase power supply three phase 220V output – maximum motor power 2.2 kW - 3 HP)
- E-drive - Frequency converter

PERFORMANCE CURVES (according to ISO 9906 Attachment A)

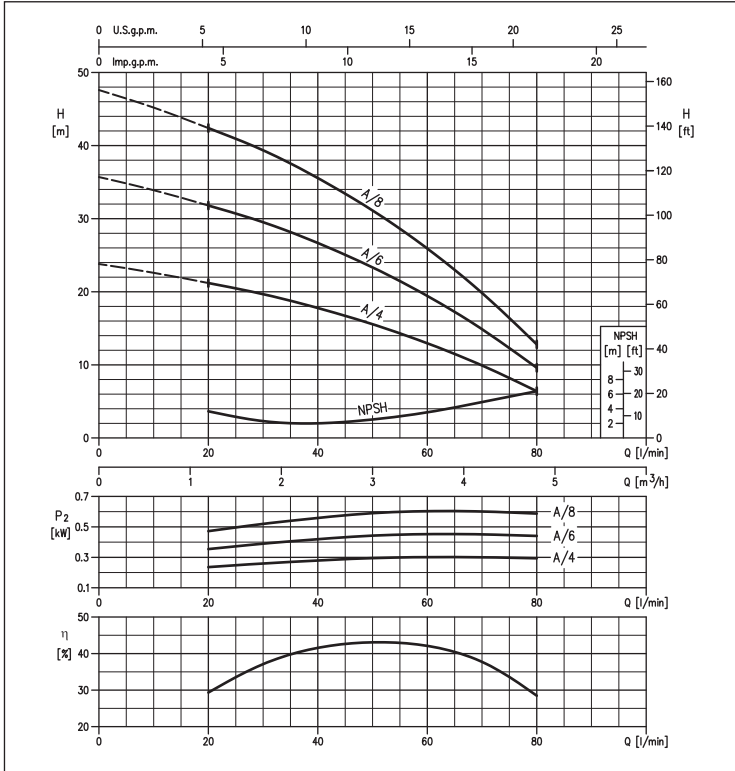


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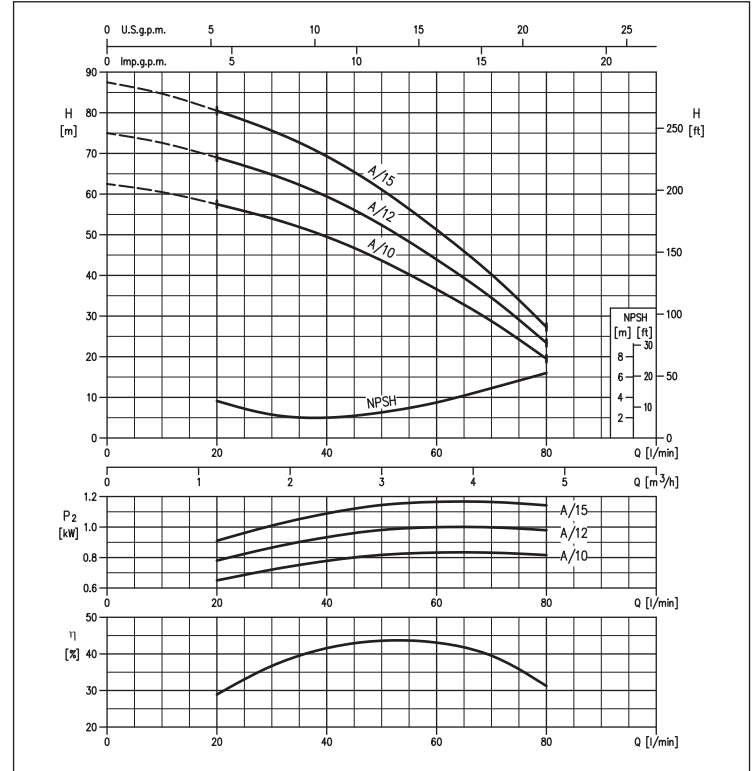


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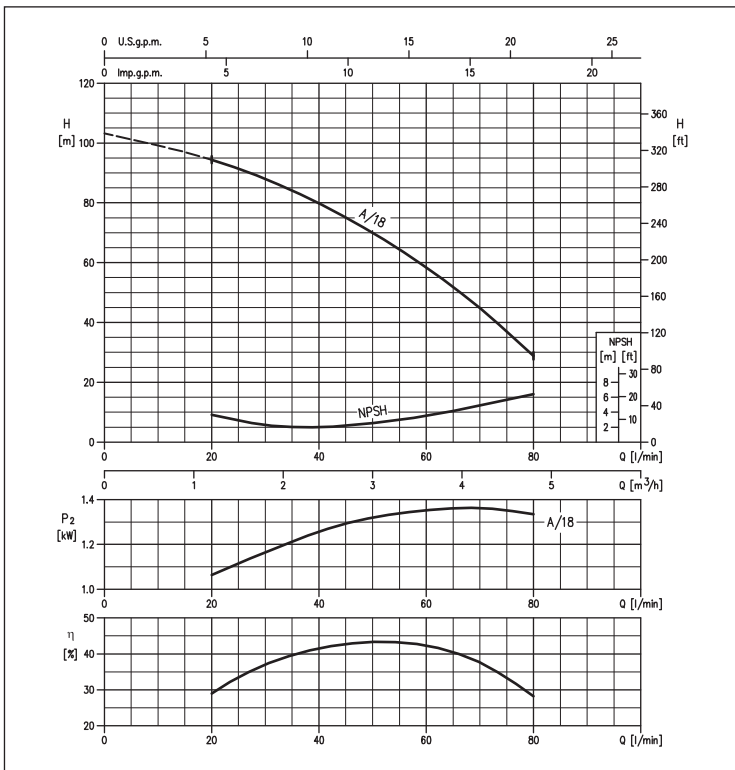
PERFORMANCE CURVES serie CVM A (from 0,3 to 0,6 kW)
(according to ISO 9906 Attachment A)



PERFORMANCE CURVES serie CVM A (from 0,75 to 1,1 kW)
(according to ISO 9906 Attachment A)



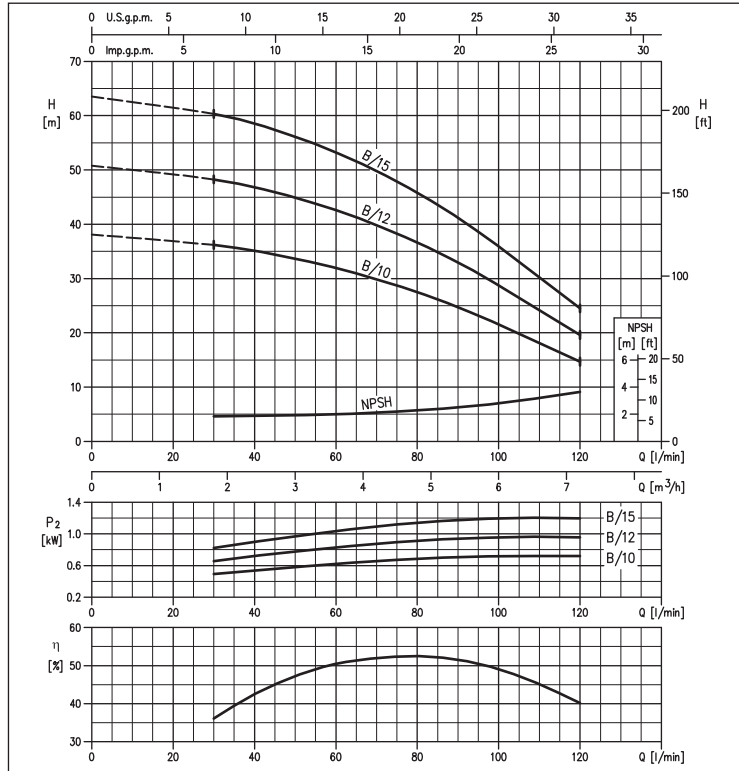
PERFORMANCE CURVES serie CVM A (1,3 kW)
(according to ISO 9906 Attachment A)



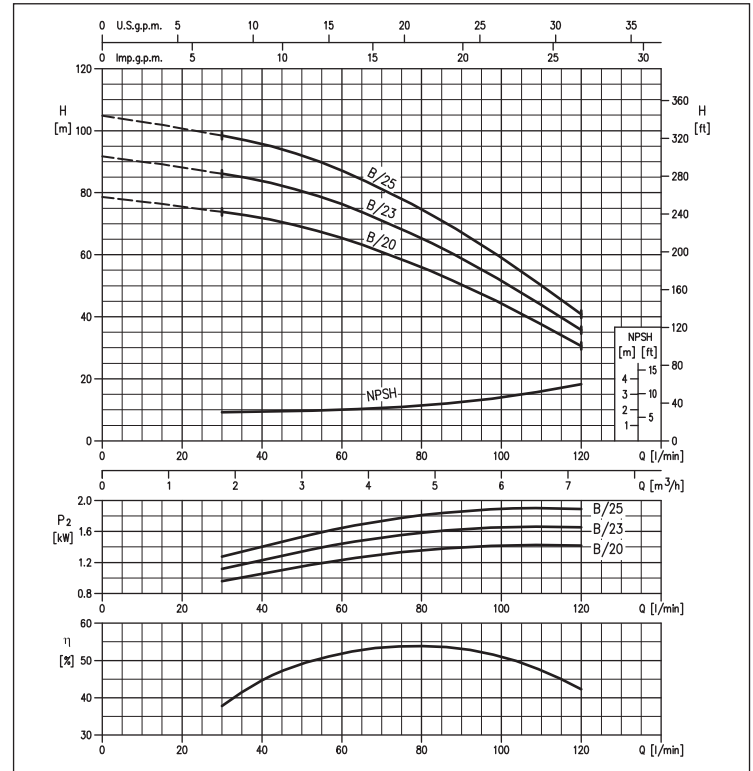
VERTICAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS

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PERFORMANCE CURVES serie CVM B (from 0,75 to 1,1 kW)
(according to ISO 9906 Attachment A)



PERFORMANCE CURVES serie CVM B (from 1,5 to 1,85 kW)
(according to ISO 9906 Attachment A)



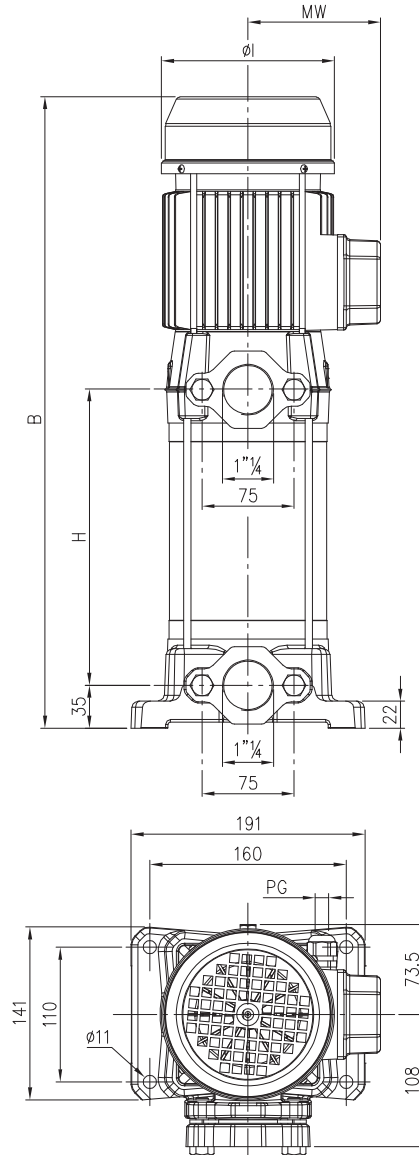
PERFORMANCE TABLE

Model		P ₂		Q=Flow rate										
Single phase 230V	Three phase 230/400V	[HP]	[kW]	l/min	20	30	40	50	60	80	100	120	H=Head [m]	
				m ³ /h	1,2	1,8	2,4	3	3,6	4,8	6	7,2		
CVM AM/4	CVM A/4	0,4	0,3	-	21,2	19,7	17,8	15,6	13,0	6,4	-	-		
CVM AM/6	CVM A/6	0,6	0,44	-	31,8	29,5	26,7	23,3	19,4	9,6	-	-		
CVM AM/8	CVM A/8	0,8	0,6	-	42,5	39,4	35,6	31,1	25,9	12,8	-	-		
CVM AM/10	CVM A/10	1	0,75	-	57,5	54,0	49,5	43,5	36,6	19,5	-	-		
CVM AM/12	CVM A/12	1,2	0,9	-	69,0	65,0	59,5	52,5	44,0	23,4	-	-		
CVM AM/15	CVM A/15	1,5	1,1	-	80,5	75,5	69,5	61,0	51,0	27,3	-	-		
CVM AM/18	CVM A/18	1,8	1,3	-	94,5	88,0	80,0	70,0	58,5	28,8	-	-		
CVM BM/10	CVM B/10	1	0,75	-	-	36,2	35,1	33,7	32,0	27,5	21,6	14,7		
CVM BM/12	CVM B/12	1,2	0,9	-	-	48,0	46,8	45,0	42,6	36,6	28,8	19,6		
CVM BM/15	CVM B/15	1,5	1,1	-	-	60,5	58,5	56,2	53,3	45,8	36,0	24,5		
CVM BM/20	CVM B/20	2	1,5	-	-	74,0	72,0	69,0	65,5	56,0	44,5	30,6		
CVM BM/23	CVM B/23	2,3	1,7	-	-	86,0	84,0	80,5	76,5	65,5	51,5	35,7		
-	CVM B/25	2,5	1,85	-	-	98,5	96,0	92,0	87,0	74,5	59,0	41,0		

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DIMENSIONS



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

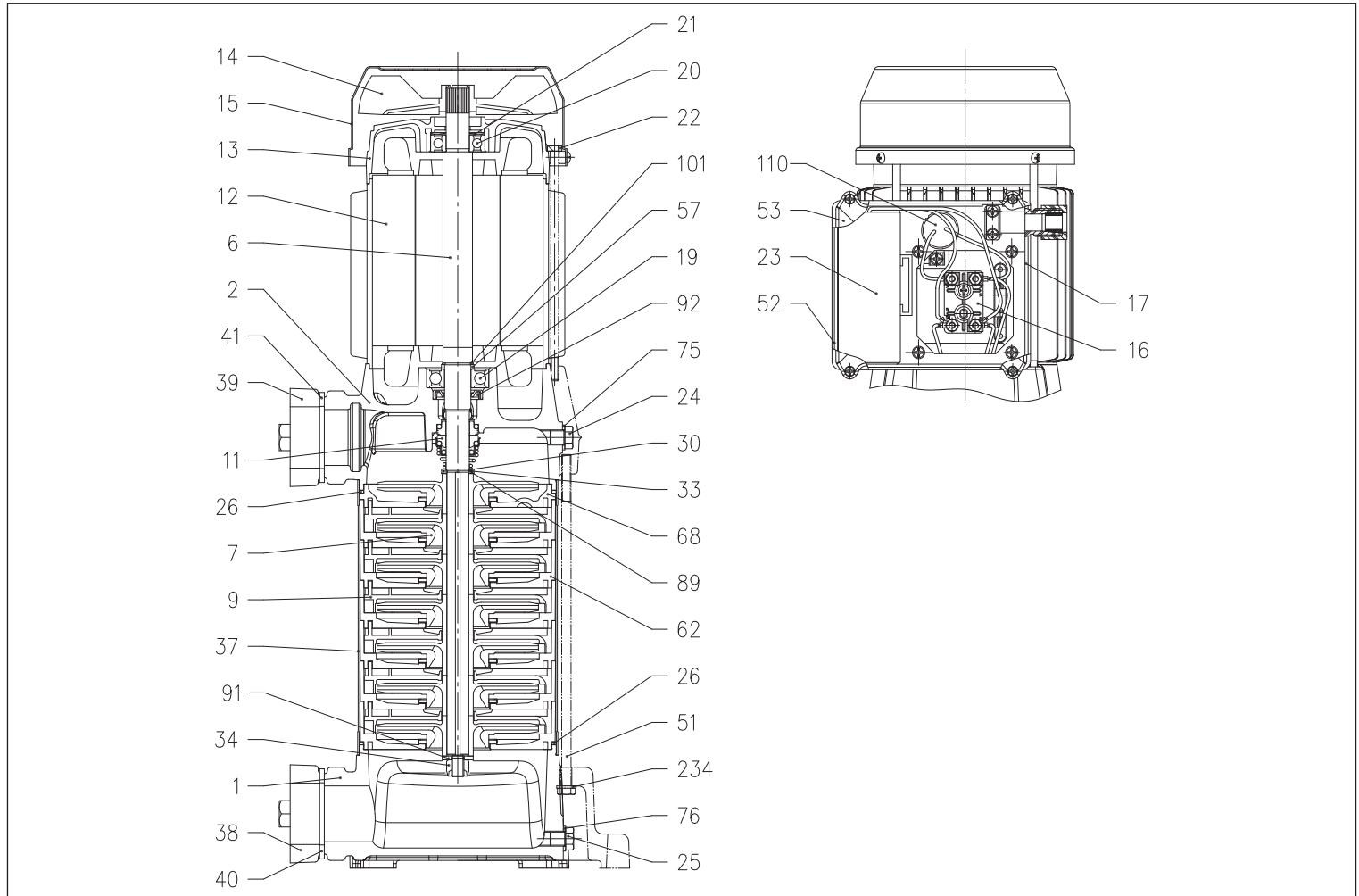
DIMENSIONS TABLE

Model		Motor Mec	Dimensions [mm]								Weight [kg]	
Single phase 230V	Three phase 230/400V		[2]	B	[1]	H	Ø1	[2]	MW	[1]	[2]	[1]
CVM AM/4	CVM A/4	63	336	336	112	124	101	91,5	11	11	11,0	11,0
CVM AM/6	CVM A/6	63	362	362	138	124	101	91,5	11	11	11,7	11,6
CVM AM/8	CVM A/8	63	388	388	164	124	101	91,5	11	11	12,7	12,6
CVM AM/10	CVM A/10	71	452	452	190	141	110,5	101	11	11	16,5	16,6
CVM AM/12	CVM A/12	71	478	490	216	141	110,5	101	11	11	17,5	18,4
CVM AM/15	CVM A/15	71	516	516	242	141	110,5	101	11	11	18,5	18,6
CVM AM/18	CVM A/18	80	565	565	268	159	136	120,5	13,5	11	21,2	21,8
CVM BM/10	CVM B/10	71	400	400	138	141	110,5	101	11	11	15,9	15,9
CVM BM/12	CVM B/12	71	426	438	164	141	110,5	101	11	11	16,8	17,5
CVM BM/15	CVM B/15	71	464	464	190	141	110,5	101	11	11	18,0	17,9
CVM BM/20	CVM B/20	80	513	526	216	159	134,5	120,5	13,5	11	21,3	22,8
CVM BM/23	CVM B/23	80	552	552	242	159	134,5	120,5	13,5	11	22,6	23,4
-	CVM B/25	80	-	578	268	159	-	120,5	-	11	-	23,7

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SECTIONAL VIEW



MATERIALS TABLE

Ref.	Name	Material	Ref.	Name	Material
1	Pump body	Cast iron EN-GJL-200-EN 1561	33	Seeger ring	EN 1.4021 (AISI 420) (Dim. 12)
2	Pump body support	Cast iron EN-GJL-200-EN 1561			EN 1.4301 (AISI 304) (Dim. 14)
6	Shaft	EN 1.4005 (AISI 416)	34	Impeller nut	EN 1.4301 (AISI 304)
7	Impeller	PPE+PS reinforced with fibreglass	37	Casing	EN 1.4301 (AISI 304)
9	Nozzle	PPE+PS reinforced with fibreglass	38	Counter-flange	Cast iron EN-GJL-200-EN 1561
11	Mechanical seal	Carbon/Ceramic/NBR	39	Counter-flange	Cast iron EN-GJL-200-EN 1561
12	Motor case	-	40	Counter-flange gasket	NBR
13	Motor cover	Aluminium	41	Counter-flange gasket	NBR
14	Fan	PA	51	Pump tie-rod	Galvanised Fe P04
15	Fan cover	Galvanised Fe P04	52	Capacitor-holder box [2]	ABS
16	Terminal box	-	53	Capacitor-holder box cover [2]	ABS
17	Terminal box cover [1]	Aluminium	57	Spacer [3]	Stainless steel C40
19	Bearing (pump side)	-	62	Stage box	PPE+PS reinforced with fibreglass/PTFE
20	Bearing (motor side)	-	68	Stage	PPE+PS reinforced with fibreglass/PTFE
21	Adjusting ring	Steel C70	75	Washer	Aluminium
22	Motor tie-rod	Galvanised Fe 42	76	Washer	Aluminium
23	Capacitor [2]	-	89	Washer	EN 1.4301 (AISI 304)
24	Filler cap	OT 58 UNI 5705	91	Washer	EN 1.4301 (AISI 304)
25	Drain plug	OT 58 UNI 5705	92	Sealing ring	NBR
26	O-Ring	NBR	101	Seeger ring [3]	EN 1.4301 (AISI 304)
30	Washer	EN 1.4301 (AISI 304)	110	Motorprotector [4]	-
			234	Washer	Galvanised steel

[1]= For three phase only

[2]= For single phase only

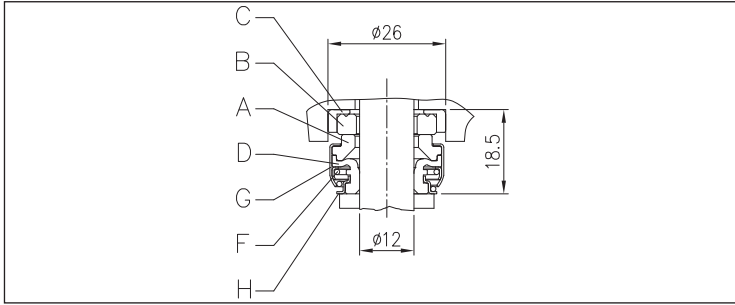
[3]= Only for motor size 80

[4]= Only for motor size 71 and 80 single phase

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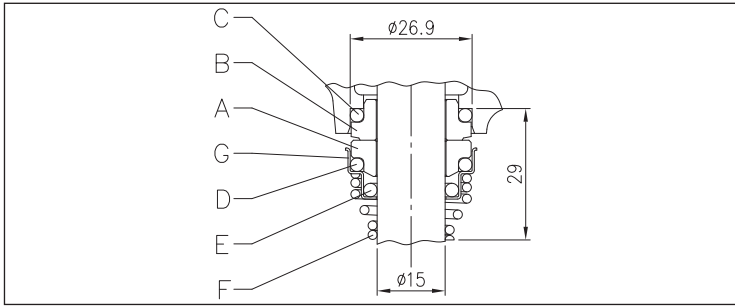
MECHANICAL SEAL for CVM up to 0,6 kW



MATERIALS TABLE

Ref.	Name	Material
A	Rotating part	Carbon
B	Fixed part	Ceramic
C	Gasket	NBR
D	Diaphragm	NBR
F	Spring	AISI 304
G	Structure/frame	AISI 304
H	Retainer ring	AISI 304

MECHANICAL SEAL for CVM up to 0,75 kW and over



MATERIALS TABLE

Ref.	Name	Material
A	Rotating part	Ceramic
B	Fixed part	Carbon
C	O-Ring	NBR
D	O-Ring	NBR
E	O-Ring	NBR
F	Spring	AISI 316
G	Structure/frame	AISI 304

ELECTRIC DATA TABLE

Model	Single phase 230V	Three phase 230/400V	P ₂		Efficiency		Capacitor		Efficiency (%)			P ₁		Absorbed Current		
			[HP]	[kW]	Single phase	Three phase	Single phase	V _c	50%	75%	100%	Single phase	Three phase	Single phase	[A]	
							μF									230V
CVM AM/4	CVM A/4		0,4	0,3	-	-	10	450	-	-	-	0,54	0,49	2,6	1,9	1,1
CVM AM/6	CVM A/6		0,6	0,44	-	-	12,5	450	-	-	-	0,69	0,69	3,2	2,3	1,3
CVM AM/8	CVM A/8		0,8	0,6	-	-	14	450	-	-	-	0,89	0,83	4,0	2,8	1,6
CVM AM/10	CVM A/10		1	0,75	-	IE2	20	450	77,2	80,9	81,3	1,27	0,92	6,0	2,9	1,7
CVM AM/12	CVM A/12		1,2	0,9	-	IE2	31,5	450	79,0	81,7	81,6	1,45	1,35	6,5	4,3	2,5
CVM AM/15	CVM A/15		1,5	1,1	-	IE2	31,5	450	79,0	81,7	81,6	1,60	1,35	7,2	4,3	2,5
CVM AM/18	CVM A/18		1,8	1,3	-	IE2	35	450	79,7	82,5	83,0	1,76	1,80	7,8	5,6	3,2
CVM BM/10	CVM B/10		1	0,75	-	IE2	20	450	77,2	80,9	81,3	1,14	0,92	5,6	2,9	1,7
CVM BM/12	CVM B/12		1,2	0,9	-	IE2	31,5	450	79,0	81,7	81,6	1,38	1,35	6,2	4,3	2,5
CVM BM/15	CVM B/15		1,5	1,1	-	IE2	31,5	450	79,0	81,7	81,6	1,63	1,35	7,4	4,3	2,5
CVM BM/20	CVM B/20		2	1,5	-	IE2	40	450	78,6	83,0	84,2	1,91	1,78	8,3	6,3	3,7
CVM BM/23	CVM B/23		2,3	1,7	-	IE2	40	450	80,3	83,4	83,8	2,14	2,09	9,6	6,9	4,0
-	CVM B/25		2,5	1,85	-	IE2	-	-	83,0	84,4	83,8	-	2,63	-	8,1	4,7

NOISE DATA TABLE

Model	Single phase 230V	Three phase 230/400V	P ₂		L _{PA} - dB(A)*
			[HP]	[kW]	
CVM AM/4	CVM A/4		0,4	0,3	53
CVM AM/6	CVM A/6		0,6	0,44	
CVM AM/8	CVM A/8		0,8	0,6	
CVM AM/10	CVM A/10		1	0,75	62
CVM AM/12	CVM A/12		1,2	0,9	
CVM AM/15	CVM A/15		1,5	1,1	
CVM AM/18	CVM A/18		1,8	1,3	67
CVM BM/10	CVM B/10		1	0,75	
CVM BM/12	CVM B/12		1,2	0,9	
CVM BM/15	CVM B/15		1,5	1,1	62
CVM BM/20	CVM B/20		2	1,5	
CVM BM/23	CVM B/23		2,3	1,7	
-	CVM B/25		2,5	1,85	67

* Mean value of several measures at 1m distance around the pump.
Tolerance ± 2,5 dB.