EBARA

RANGE ENLARGEMENT
NEW
AMPLIAMENTO GAMMA

CVM

VERTICAL MULTISTAGE CENTRIFUGAL PUMPS
ELETTROPOMPE CENTRIFUGHE MULTISTADIO VERTICALI



CVM

Vertical multistage centrifugal pumps manufactured with the great experience of EBARA in design and production of pumps. Reliable and noiseless pumps. Easy maintenance.

CVM

Elettropompe centrifughe multistadio verticali frutto dell'esperienza EBARA nella progettazione e nella produzione di pompe. Affidabili, molto silenziose e di facile manutenzione.

APPLICATION

- **Civil/Domestic Uses / Industrial:**
  Water supply systems
  Pressure boosting
  Water treatment plants (filtrations)
  Water supply systems
  Washing plants
  Transfer of non-aggressive liquids

- **Agricolture:**
  Irrigation

APPLICAZIONI

- ***Civili / Industriali:***
  Sollevamento acqua
  Impianti di pressurizzazione
  Impianti di trattamento acque (filtrazione)
  Movimentazione acqua
  Impianti lavaggio
  Travaso liquidi non aggressivi

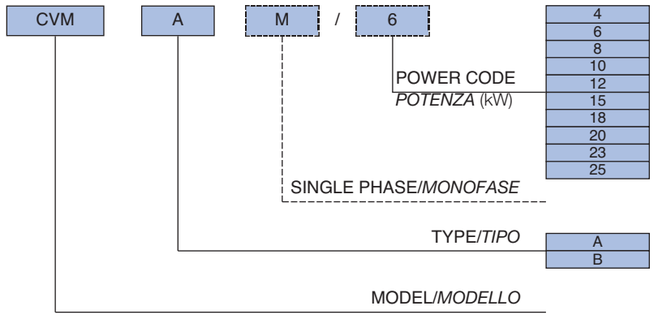
- ***Agricoltura:***
  Irrigazione

IDENTIFICATIONAL CODE

Example: CVM

SIGLA IDENTIFICATIVA

Esempio: CVM



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 $\nu = mm^2/s$ (1 cSt)
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

Specifiche
Le specifiche sotto riportate si riferiscono alle curve illustrate nelle pagine seguenti.
Tutte le curve di prestazione sono calcolate secondo ISO 9906 Annex A.
Le curve si riferiscono a una velocità effettiva dei motori asincroni a 50 Hz.
Le misure sono state effettuate con temperatura dell'acqua di 20°C e con viscosità cinematica di $\nu = 1\ mm^2/s$ (1 cSt).
Al fine di evitare il rischio di surriscaldamento, le pompe non dovrebbero essere usate a una portata al di sotto del 10% del punto di migliore efficienza.

Simboli
Q = Portata
H = Prevalenza
P_2 = potenza
η = efficienza della pompa
NPSH = "net positive suction" richiesta dalla pompa

SPECIFICATIONS

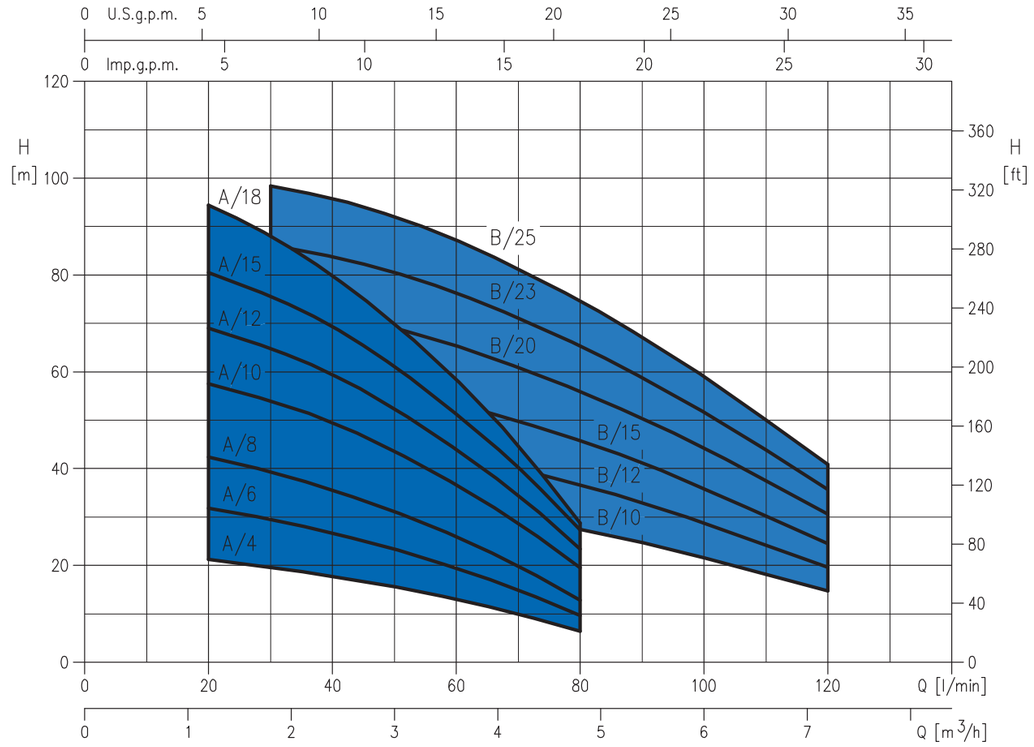
SPECIFICHE TECNICHE

PUMP/*POMPA*		
Liquid Handled/*Liquido*	Type of liquid/*Tipo di liquido*	Clean water/*Acqua pulita*
	Max temperature/*Temperatura massima* [°C]	40
Costruction/*Costruzione*	Impeller/*Girante*	Closed centrifugal type/*Girante chiusa*
	Shaft seal Type/*Tipo tenuta*	Mechanical seal/*Tenuta meccanica*
	Bearing/*Cuscinetti*	Sealed ball bearing/*Cuscinetti*
Pipe connection/*Connessioni*	Suction/*Aspirazione*	G 1"1/4 UNI ISO 228
	Discharge/*Mandata*	G 1"1/4 UNI ISO 228
Material/*Materiale*	Casing/*Corpo pompa*	Cast iron/*Ghisa*
	Impeller/*Girante*	PPO mod. glass fibre reinforced/*PPO rinforzato con fibre di vetro*
	External pump casing/*Camicia esterna*	AISI 304
	Shaft seal/*Tenuta meccanica*	Ceramic/Carbon/NBR
	Shaft/*Albero motore*	AISI 416
	Bracket/*motore*	Cast iron/*Ghisa*
Applicable standard of test/*Standard di prova*		ISO 9906 Annex A

MOTOR/*MOTORE*			
Type/*Tipo*		Electric asynchronous - TEFC	
		Single-Phase/*Monofase*	Three-Phase/*Trifase*
N° of Poles/*N° di poli*		2	
Rotation speed/*R.P.M.*	[min^{-1}]	≈2850	
Insulation class/*Classe isolamento*		F	
Protection degree/*Grado di protezione*		IP 44	
Power rating/*Potenze*	[kW]	1.3 ÷ 1.7	1.3 ÷ 1.85
	[HP]	1.8 ÷ 2.3	1.8 ÷ 2.5
Frequency/*Frequenza*	[Hz]	50	
Voltage/*Voltaggio*	[V]	230 ± 10%	230/400 ± 10%
Capacitor/*Condensatore*		Built/*Incorporato*	–
Overload protection/*Protezione*		Built/*Incorporato*	Provided by the user/*A cura dell'utente*
Casing material/*Materiale*		Aluminium/*Alluminio*	
Base and motor support matirial Materiale base/*supporto motore*		Cast Iron/*Ghisa*	
Dimension of cable entry/*Entrata cavo*		PG 11 - PG 13.5	

SELECTION CHART/*CAMPO DI IMPIEGO*

CVM A - CVM B



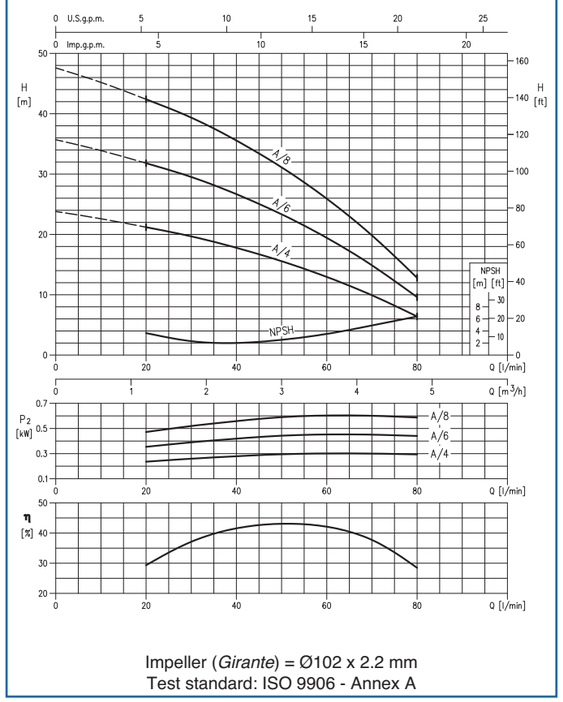
SELECTION CHART/*CAMPO DI IMPIEGO*

PERFORMANCE TABLE/*TABELLA PRESTAZIONI* 2 POLES/*2 POLI*

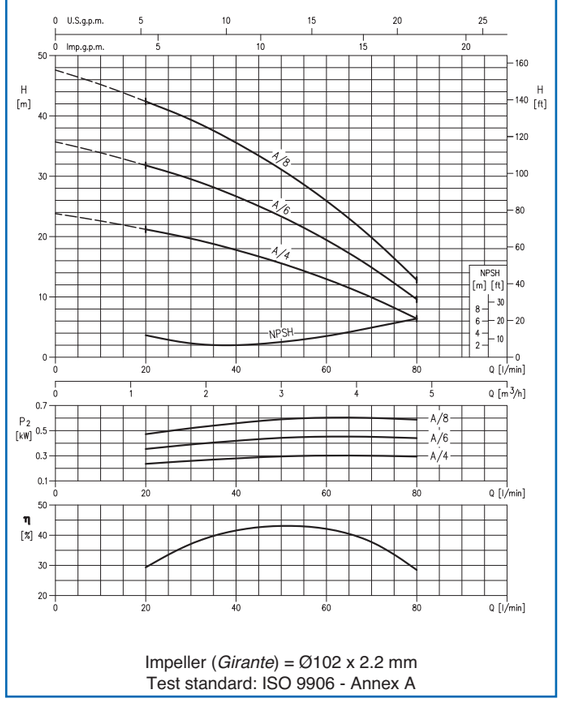
Type pumps *Modelli*		Power/*Potenza*		Q=Capacity/*Portata*								
		kW	HP	l/min 0	20	30	40	50	60	80	100	120
Single Phase *Monofase*	Three Phase *Trifase*			m³/h 0	1,2	1,8	2,4	3	3,6	4,8	6	7,2
				H=Total manometric head in meters/*Prevalenza* [m]								
CVM AM/4	CVM A/4	0,3	0,4	23,8	21,2	19,7	17,8	15,6	13,0	6,4	-	-
CVM AM/6	CVM A/6	0,44	0,6	35,7	31,8	29,5	26,7	23,3	19,4	9,6	-	-
CVM AM/8	CVM A/8	0,6	0,8	47,6	41,2	37,5	33,6	31,1	25,9	12,8	-	-
CVM AM/10	CVM A/10	0,75	1	62,5	57,0	53,0	48,5	43,5	36,6	19,5	-	-
CVM AM/12	CVM A/12	0,9	1,2	75,0	68,4	63,6	58,2	52,5	44,0	23,4	-	-
CVM AM/15	CVM A/15	1,1	1,5	87,5	79,8	74,2	67,9	61,0	51,0	27,3	-	-
CVM AM/18	CVM A/18	1,3	1,8	103,0	94,5	88,0	80,0	70,0	58,5	28,8	-	-
CVM BM/10	CVM B/10	0,75	1	38,1	-	36,2	35,1	33,7	32,0	27,5	21,6	14,7
CVM BM/12	CVM B/12	0,9	1,2	51,0	-	48,0	46,8	45,0	42,6	36,6	28,8	19,6
CVM BM/15	CVM B/15	1,1	1,5	63,5	-	60,5	58,5	56,2	53,3	45,8	36,0	24,5
CVM BM/20	CVM B/20	1,5	2	78,5	-	74,0	72,0	69,0	65,5	56,0	44,5	30,6
CVM BM/23	CVM B/23	1,7	2,3	91,5	-	86,0	84,0	80,5	76,5	65,5	51,5	35,7
-	CVM B/25	1,85	2,5	105,0	-	98,5	96,0	92,0	87,0	74,5	59,0	41,0

PERFORMANCE CURVES/*CURVE DI PRESTAZIONI*

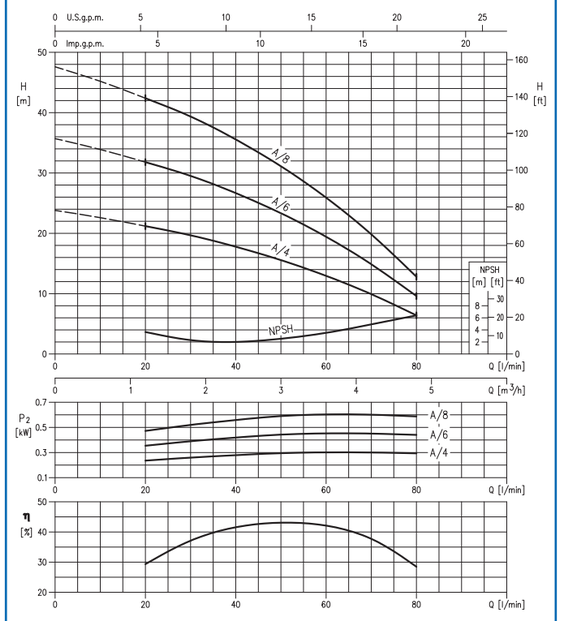
CVM A



Impeller (*Girante*) = Ø102 x 2.2 mm
Test standard: ISO 9906 - Annex A



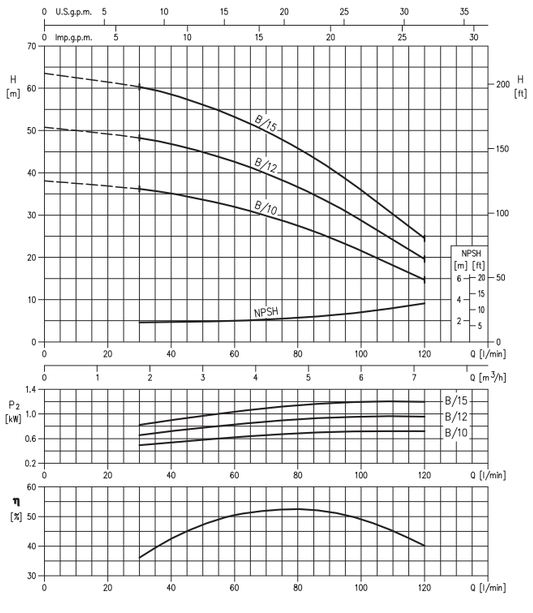
Impeller (*Girante*) = Ø102 x 2.2 mm
Test standard: ISO 9906 - Annex A



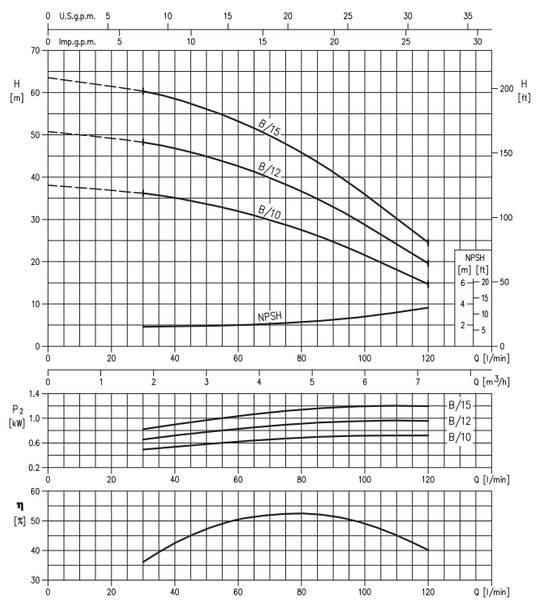
Impeller (*Girante*) = Ø102 x 2.2 mm
Test standard: ISO 9906 - Annex A

PERFORMANCE CURVES/*CURVE DI PRESTAZIONI*

CVM B



Impeller (*Girante*) = Ø102 x 4 mm
Test standard: ISO 9906 - Annex A



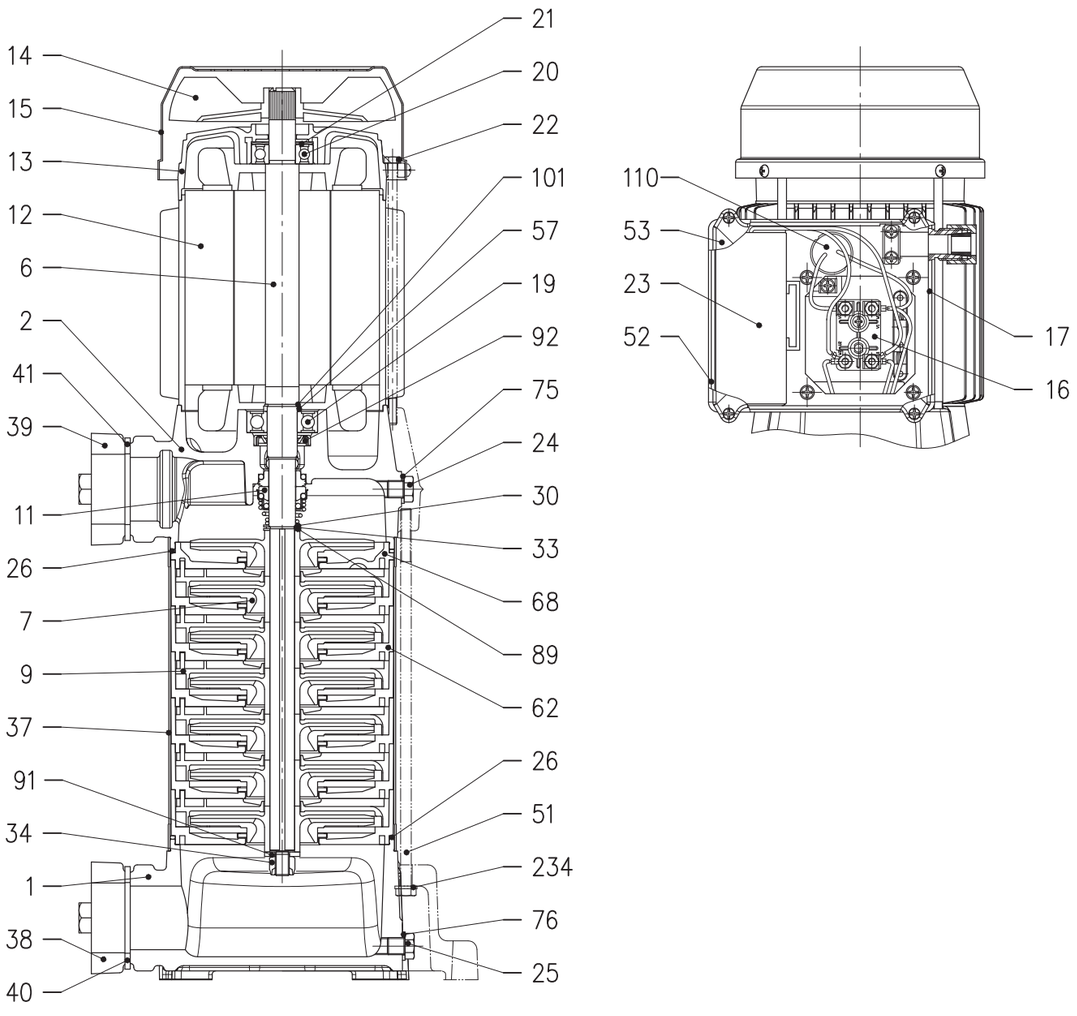
Impeller (*Girante*) = Ø102 x 4 mm
Test standard: ISO 9906 - Annex A

TECHNICAL DATA/*DATI TECNICI*

Type pumps *Modello*		Power *Potenza*		Capacitor *Condensatore* Single Phase *Monofase*		Input power *Potenza ass. motore* [kW]		Full load current *Corrente a pieno carico* [A]			Locked rotor current *Corrente a rotore bloccato* [A]		
		kW	HP			Single Phase	Three Phase	Single Phase	Three Phase *Trifase*		Single Phase	Three Phase *Trifase*	
Single Phase *Monofase*	Three Phase *Trifase*			µF	Vc	*Monofase*	*Trifase*	*Monofase*	230 V	400 V	*Monofase*	230 V	400 V
CVM AM/4	CVM A/4	0,3	0,4	10	450	0,54	0,49	2,6	1,9	1,1	8,5	6,8	3,9
CVM AM/6	CVM A/6	0,44	0,6	12,5	450	0,69	0,69	3,2	2,3	1,3	9,7	9,7	5,6
CVM AM/8	CVM A/8	0,6	0,8	14	450	0,89	0,83	4,0	2,8	1,6	11,9	10,4	6,0
CVM AM/10	CVM A/10	0,75	1	20	450	1,27	1,15	6,0	4,0	2,3	25,1	23,2	13,4
CVM AM/12	CVM A/12	0,9	1,2	31,5	450	1,45	1,37	6,5	4,8	2,8	24,8	26,3	15,2
CVM AM/15	CVM A/15	1,1	1,5	31,5	450	1,60	1,58	7,2	5,7	3,3	29,3	26,8	15,5
CVM AM/18	CVM A/18	1,3	1,8	31,5	450	1,76	1,68	7,8	5,4	3,1	40,3	35,1	20,3
CVM BM/10	CVM B/10	0,75	1	20	450	1,14	1,06	5,6	4,1	2,4	23,5	23,7	13,7
CVM BM/12	CVM B/12	0,9	1,2	31,5	450	1,38	1,32	6,2	4,7	2,7	23,6	25,8	14,9
CVM BM/15	CVM B/15	1,1	1,5	31,5	450	1,63	1,63	7,4	5,5	3,2	30,1	25,8	14,9
CVM BM/20	CVM B/20	1,5	2	35	450	1,91	1,80	8,3	5,7	3,3	30,7	34,8	20,1
CVM BM/23	CVM B/23	1,7	2,3	40	450	2,14	2,07	9,6	7,4	4,3	41,5	45,9	26,5
-	CVM B/25	1,85	2,5	-	-	-	2,33	-	7,4	4,3	-	46,6	26,9

SECTIONAL VIEW/*VISTA IN SEZIONE*

CVM



EBARA

SECTIONAL VIEW/*VISTA IN SEZIONE*

CVM

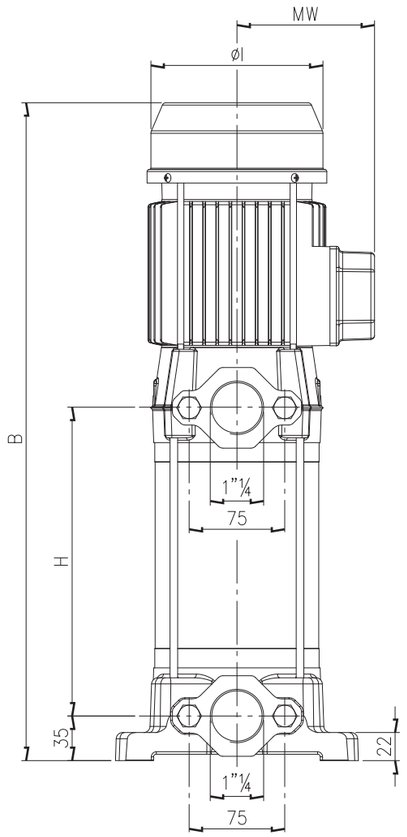
N°	PART NAME / *DESCRIZIONE*	MATERIAL / *MATERIALE*	Q.ty / *Q.tà*
1	Suction casing/Corpo pompa	Cast iron/Ghisa EN-GJL-200-EN 1561	1
2	Delivery casing/Sup. corpo pompa	Cast iron/Ghisa EN-GJL-200-EN 1561	1
6	Shaft with rotor/Albero rotante	EN 1.4005 (AISI 416)	1
7	Impeller/Girante	PPO mod. fiber glass reinforced/*PPO rinforzato con fibre di vetro*	[1]
9	DiffuserDiffusore	PPO mod. fiber glass reinforced/*PPO rinforzato con fibre di vetro*	[1]
11	Mechanical seal/Tenuta mec. [2]	Carbon/Ceramic/NBR Carbone/Ceramica/NBR	1
12	Motor frame/Cassa motore	-	1
13	Motor cover/Coperchio motore	Aluminium/Alluminio	1
14	Fan/Vantola	PA	1
15	Fan cover/Copriventola	Galvanized Fe P04/Acciaio zincato	1
16	Terminal board/Morsettiera	-	1
17	Terminal box cover/Coprimorsettiera [3]	Aluminium/Alluminio	1
19	Bearing/Cuscinetto	-	1
20	Bearing/Cuscinetto	-	1
21	Adjusting ring/Anello compensatore	Steel C 70/Acciao C 70	1
22	Motor tie rod/Tirante motore	Galvanized Fe 42/Acciaio zincato	4
23	Capacitor/Condensatore [4]	-	1
24	Priming plug/Tappo	OT 58 UNI 5705	1
25	Drain plug/Tappo	OT 58 UNI 5705	1
26	O-ring/Anello OR	NBR	2
30	Washer/Rondella	EN 1.4301 (AISI 304)	1
33	Seeger ring/Anello seeger	EN 1.4021 (AISI 420) EN 1.4301 (AISI 304)	1
34	Impeller nut/Dado girante	EN 1.4301 (AISI 304)	1
37	External pump casing/Camicia pompa	En 1.4301 (AISI 304)	1
38	Counter flange/Controflangia	Cast iron/Ghisa EN-GJL_200_EN 1561	1
39	Counter flange/Controflangia	Cast iron/Ghisa EN-GJL_200_EN 1561	1
40	Counter flange gasket/Guarnizione	NBR	1
41	Counter flange gasket/Guarnizione	NBR	1
51	Tie rod/Tirante pompa	Galvanized Fe P04/Acciaio zincato	4
52	Capacitor box/Scatola p/Cond. [4]	PP	1
53	Capacitor box cover/Coperchio scat. p/Cond. [5]	PP	1
57	Pump side ball bearing spacer/ [5]	Steel C 40/Acciao C 40	1
62	Stage housing/Scatola stadio	PPO mod. fiber glass reinforced/*PPO rinforzato con fibre di vetro*/PTFE	[1]
68	Stage/Stadio iniziale	PPO mod. fiber glass reinforced/*PPO rinforzato con fibre di vetro*/PTFE	1
75	Washer/Rondella	Aluminium/Alluminio	1
76	Washer/Rondella	Aluminium/Alluminio	1
89	Washer/Rondella	EN 1.4301 (AISI 304)	1
91	Washer/Rondella	EN 1.4301 (AISI 304)	1
92	Lip seal/Anello tenuta	NBR	1
101	Seeger ring/Anello seeger [5]	EN 1.4301 (AISI 304)	1
110	Motor protector/Protezione motore [5]	-	1
234	Washer/rondella	Galvanized steel/Acciao galvanizzato	4

[1] See table below / *vedi tabella sotto*
[2] See pag. 11 / *vedi pag. 11*
[3] Only for three phase / *solo trifase*
[4] Only for single phase / *solo monofase*
[5] Only for motor size 80 / *solo per motori di grandezza 80*

PUMP / *POMPA*		QUATITY FOR MODEL *QUANTITA' PER MODELLO*		
A type *Tipo A*	B type *Tipo B*	POS. 7	POS. 9	POS.62
CVM A/4	-	2	1	1
CVM A/6	CVM B/10	3	2	2
CVM A/8	CVM B/12	4	3	3
CVM A/10	CVM B/15	5	4	4
CVM A/12	CVM B/20	6	5	5
CVM A/15	CVM B/23	7	6	6
CVM A/18	CVM B/25	8	7	7

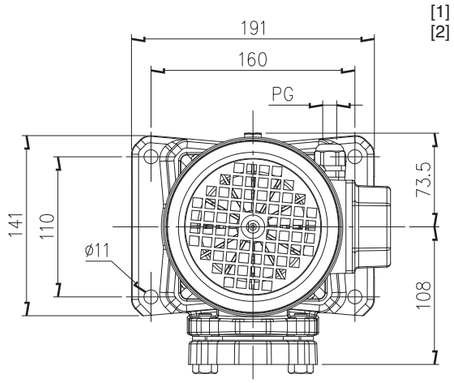
DIMENSIONS/*DIMENSIONI*

CVM



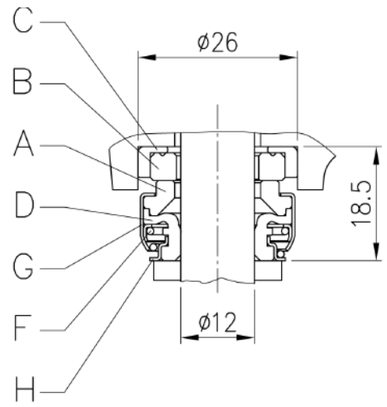
Pump type *Modello*	Motor *Motore*	Dimensions/*Dimensioni* [mm] B	H	Ø	MW [1]	MW [2]	PG [1]	PG [2]	Weight/*Peso* [kg] [1]	[2]
CVM A/4	63	336	112	116	101	91,5	11	11	11	11
CVM A/6		362	138						11,7	11,6
CVM A/8		388	164						12,7	12,6
CVM A/10	71	452	190	137	111	101			16,5	16,6
CVM A/12		478	216						17,5	17,6
CVM A/15		517	242						18,5	18,6
CVM A/18	80	565	268	153	136	120,5	13,5		21,2	21,2
CVM B/10	71	400	138	137	111	101	11		15,9	15,9
CVM B/12		426	164						16,8	16,7
CVM B/15		465	190						18	17,9
CVM B/20	80	513	216	153	136	120,5	13,5		21,3	21,3
CVM B/23		552	242						22,6	22,4
CVM B/25		578	268		-		-		-	23,7

[1] Single phase / *Monofase*
[2] Three phase / *Trifase*



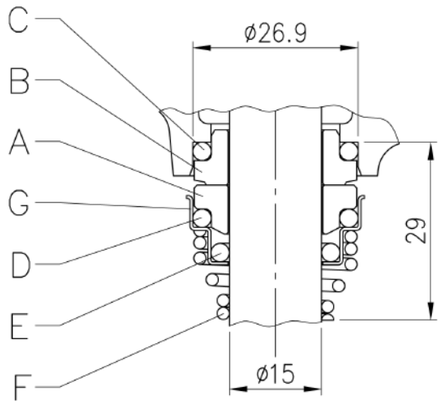
CONSTRUCTIONS/*PARTICOLARE TENUTA MECCANICA*

up to 0,6 kW */ fino a 0,6 kW*



REF.	PART NAME *DESCRIZIONE*	MATERIAL *MATERIALE*
A	Rotary seal ring / *Parte rotante*	carbon graphite
B	Stationary seal ring / *Parte fissa*	ceramic
C	Gasket / *Guarnizione*	NBR
D	Bellows / *Soffietto*	NBR
F	Self driving spring / *Molla*	AISI 304
G	Frame / *Armatura*	AISI 304
H	Retainer ring / *Anello di bloccaggio*	AISI 304

0,75 kW and above */ da 0,75 kW in su*



REF.	PART NAME *DESCRIZIONE*	MATERIAL *MATERIALE*
A	Rotary seal ring / *Parte rotante*	ceramic
B	Stationary seal ring / *Parte fissa*	carbon graphite
C	O-Ring	NBR
D	O-Ring	NBR
E	O-Ring	NBR
F	Self driving spring / *Molla*	AISI 316
G	Frame / *Armatura*	AISI 304

Filiali EBARA in Italia
Italian Branches

EBARA BARI
Via Po, 3
70026 Modugno (BA)
Tel. 080 5320531 - Fax 080 5320478

EBARA CAGLIARI
Via del Fangario, 29
09122 Cagliari
Tel. 070 274281 - Fax 070 253643

EBARA FIRENZE
Via del Pesco, 15 Loc. La Querce
59100 Prato
Tel. 0574 514175 - Fax 0574 700126

EBARA MILANO
Via Magenta, 77
20017 Rho (MI)
Tel. 02 93507358/59 - Fax 02 93507361

EBARA PALERMO
Via Don L. Sturzo, 181/183 Z. Ind.
90044 Carini (PA)
Tel. 091 8680840 - Fax 091 8669790

EBARA PESCARA
Via Aterno, 61 Z. Ind. e Com.
66020 Sambuceto - S. Giovanni Teatino (CH)
Tel. 085 4465145 - Fax 085 4465171

EBARA ROMA
Via degli Agrostemmi snc
Loc. Santa Palomba - 00134 Roma
Tel. 06 71300354 - Fax 06 71300060

Agenzie
Agencies

NAPOLI
DIVIERRE
Tel. 081 2583654 - Fax 081 2508617

PADOVA
NEGRISOLO GIANNI
Tel. 049 9900296 - Fax 049 9903539

PORDENONE
FOR-TEC
Tel. 0434 957878 - Fax 0434 560343

GENOVA
VOLPARA FABRIZIO
Tel. 010 7727084 - Fax 010 7729018

EBARA Pumps Europe S.p.A. reserves the right to make modification without prior notice. / *EBARA Pumps Europe S.p.A. si riserva il diritto di apportare senza preavviso le modifiche che riterrà più opportune.* cod. 475250206 12/06

EBARA PUMPS EUROPE S.p.A.
Via Pacinotti, 32
36040 Brendola (Vicenza), Italy
Phone +39 0444 706811 - Fax +39 0444 706950
Plants: Cles, Brendola
e-mail: marketing@ebaraeurope.com
www.ebaraeurope.com

EBARA PUMPS UK LIMITED
Unit 7 - Zodiac Business Park
High Road - Cowley Uxbridge
Middlesex - UB8 2 GU, United Kingdom
Phone: +44 1895 439027
Fax: +44 1895 439028

EBARA ESPAÑA BOMBAS S.A.
C/Cormoranes 6Y8
Poligono La Estación
28320 Pinto (Madrid), Spain
Phone: +34 916.923.630
Fax: +34 916.910.818

EBARA FRANCE
Maille Nord 2
8, Avenue Montaigne
93160 Noisy Le Grand, France
Phone: +33 (0) 155851616
Fax: +33 (0) 155851639

EBARA PUMPEN
Philipp-Reis - Str. 15
63128 Dietzenbach, Germany
Phone: +49 6074/82790
Fax: +49 6074/827942

EBARA POMPY POLSKA SP Z O.O.
ul. Minska 63
03-828 Warszawa, Poland
Phone: +48 22 3308118
Fax: +48 22 3308119