



EBARA

CVM

VERTICAL MULTISTAGE CENTRIFUGAL PUMPS
ELETTROPOMPE CENTRIFUGHE MULTISTADIO VERTICALI

Temporary



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

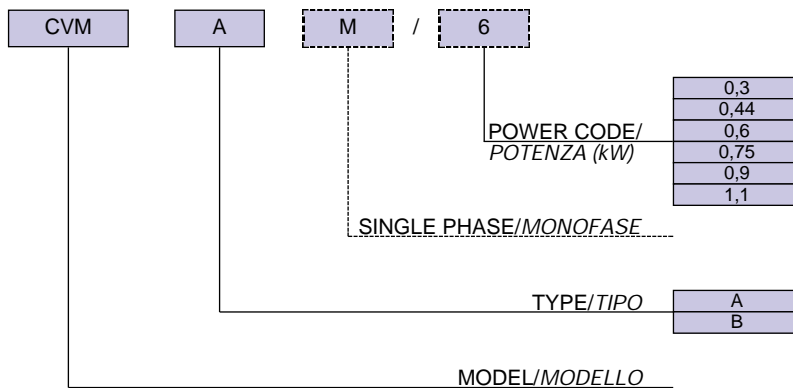
- **Civil/Domestic Uses / Industrial:**
 - Water supply systems
 - Pressure boosting
 - Water treatment plants (filtrations)
 - Water supply systems
 - Washing plants
 - Transfer of non-aggressive liquids
- **Agriculture:**
 - Irrigation

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 $\nu = 1 \text{ mm}^2/\text{s}$ (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

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 $\nu = 1 \text{ mm}^2/\text{s}$ (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

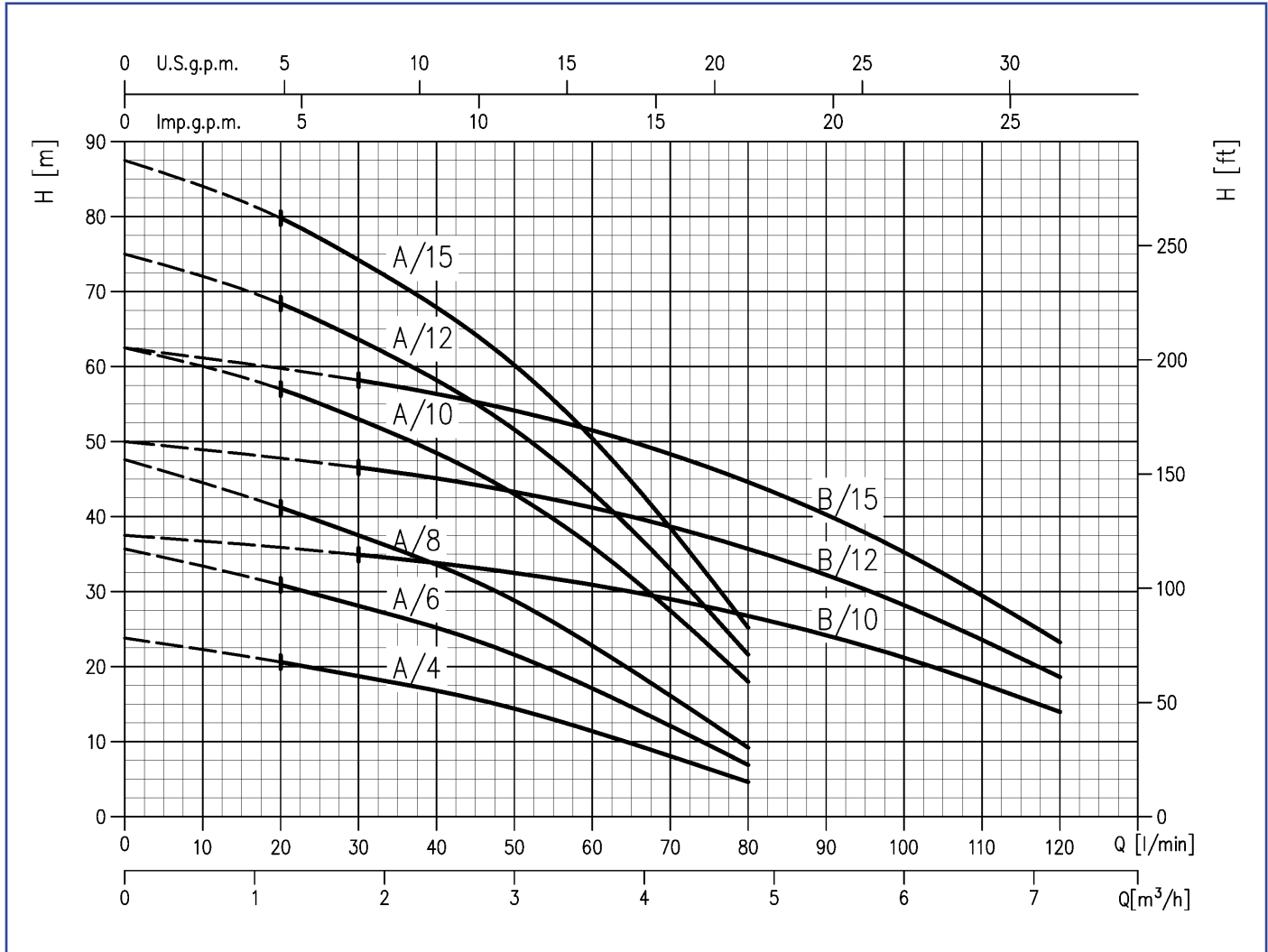
SPECIFICATIONS
SPECIFICHE TECNICHE

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

MOTOR/MOTORE		
Type/ <i>Tipo</i>	Electric - TEFC	
	Single-Phase/ <i>Monofase</i>	Three-Phase/ <i>Trifase</i>
N° of Poles/ <i>N° di poli</i>	2	
Rotation speed/ <i>R.P.M.</i> [min ⁻¹]	≈2900	
Insulation class/ <i>Classe isolamento</i>	F	
Protection degree/ <i>Grado di protezione</i>	IP 44	
Power rating/ <i>Potenze</i>	[kW]	0.3 ÷ 1.1
	[HP]	0.4 ÷ 1.5
Frequency/ <i>Frequenza</i> [Hz]	50	
Voltage/ <i>Voltaggio</i> [V]	230 ± 10%	230/400 ± 10%
Capacitor/ <i>Condensatore</i>	Built/ <i>Incorporato</i>	-
Overload protection/ <i>Protezione</i>	Built/ <i>Incorporato</i>	Provided by the user/ <i>A cura dell'utente</i>
Casing material/ <i>Materiale</i>	Aluminium/ <i>Alluminio</i>	
Base and motor support material/ Materiale base/ <i>supporto motore</i>	Cast Iron/ <i>Ghisa</i>	
Dimension of cable entry/ <i>Entrata cavo</i>	PG 11	

SELECTION CHART/CAMPO DI IMPIEGO

CVM A - CVM B



SELECTION CHART/CAMPO DI IMPIEGO

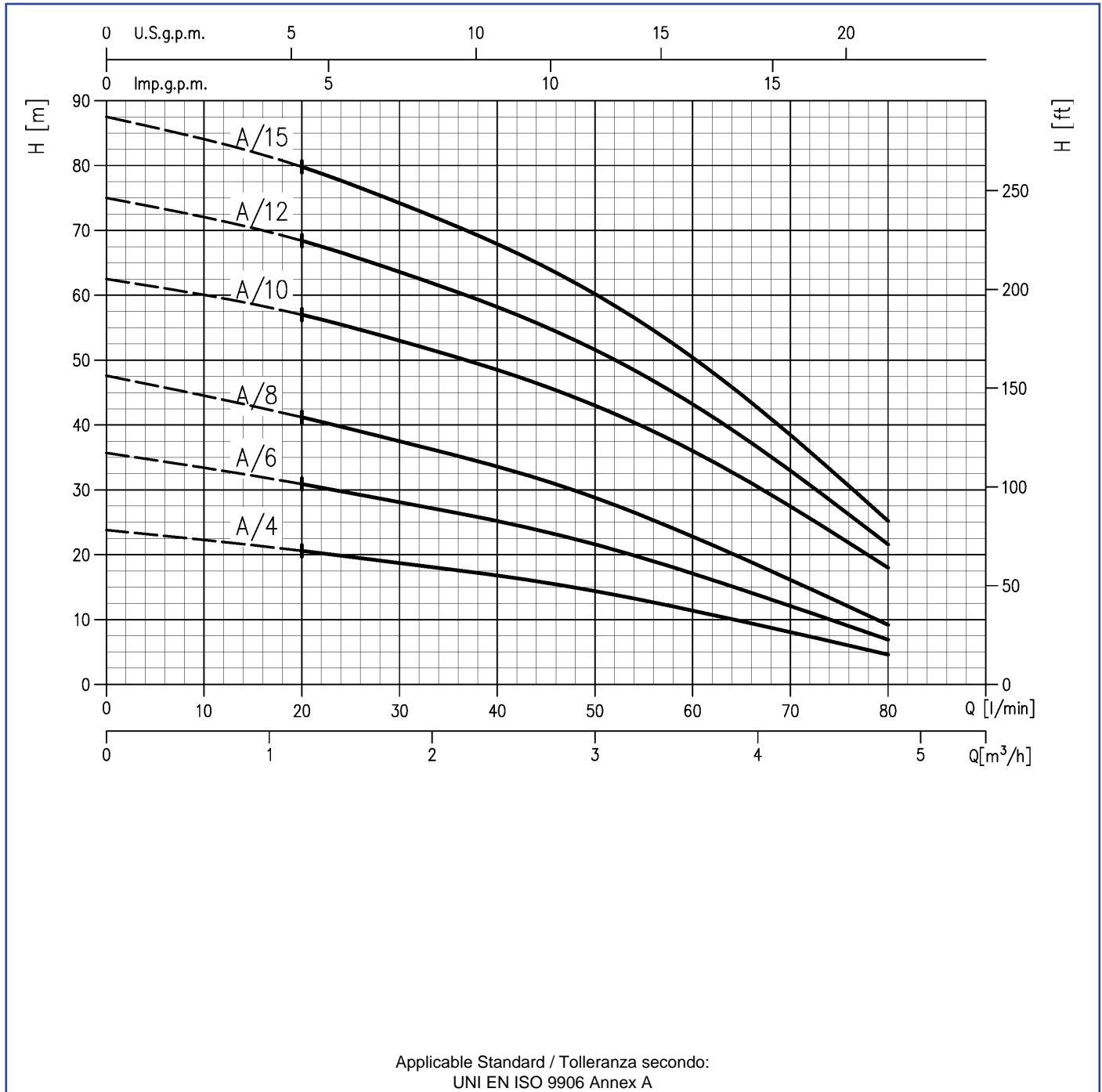
PERFORMANCE TABLE/TABELLA PRESTAZIONI

2 POLES/2 POLI

Type pumps Modelli		Power/Potenza		Q=Capacity/Portata								
Single Phase Monofase	Three Phase Trifase	kW	HP	l/min 0	20	30	40	50	60	80	100	120
				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	20,6	18,7	16,8	14,4	11,4	4,6	-	-
CVM AM/6	CVM A/6	0,44	0,6	35,7	30,9	28,1	25,2	21,6	17,1	6,9	-	-
CVM AM/8	CVM A/8	0,6	0,8	47,6	41,2	37,5	33,6	28,8	22,8	9,2	-	-
CVM AM/10	CVM A/10	0,75	1	62,5	57,0	53,0	48,5	43,0	36,0	18,0	-	-
CVM AM/12	CVM A/12	0,9	1,2	75,0	68,4	63,6	58,2	51,6	43,2	21,6	-	-
CVM AM/15	CVM A/15	1,1	1,5	87,5	79,8	74,2	67,9	60,2	50,4	25,2	-	-
CVM BM/10	CVM B/10	0,75	1	37,5	-	34,9	33,8	32,5	30,9	26,8	21,2	14,0
CVM BM/12	CVM B/12	0,9	1,2	50,0	-	46,6	45,1	43,3	41,2	35,7	28,2	18,6
CVM BM/15	CVM B/15	1,1	1,5	62,5	-	58,2	56,4	54,2	51,5	44,6	35,3	23,3

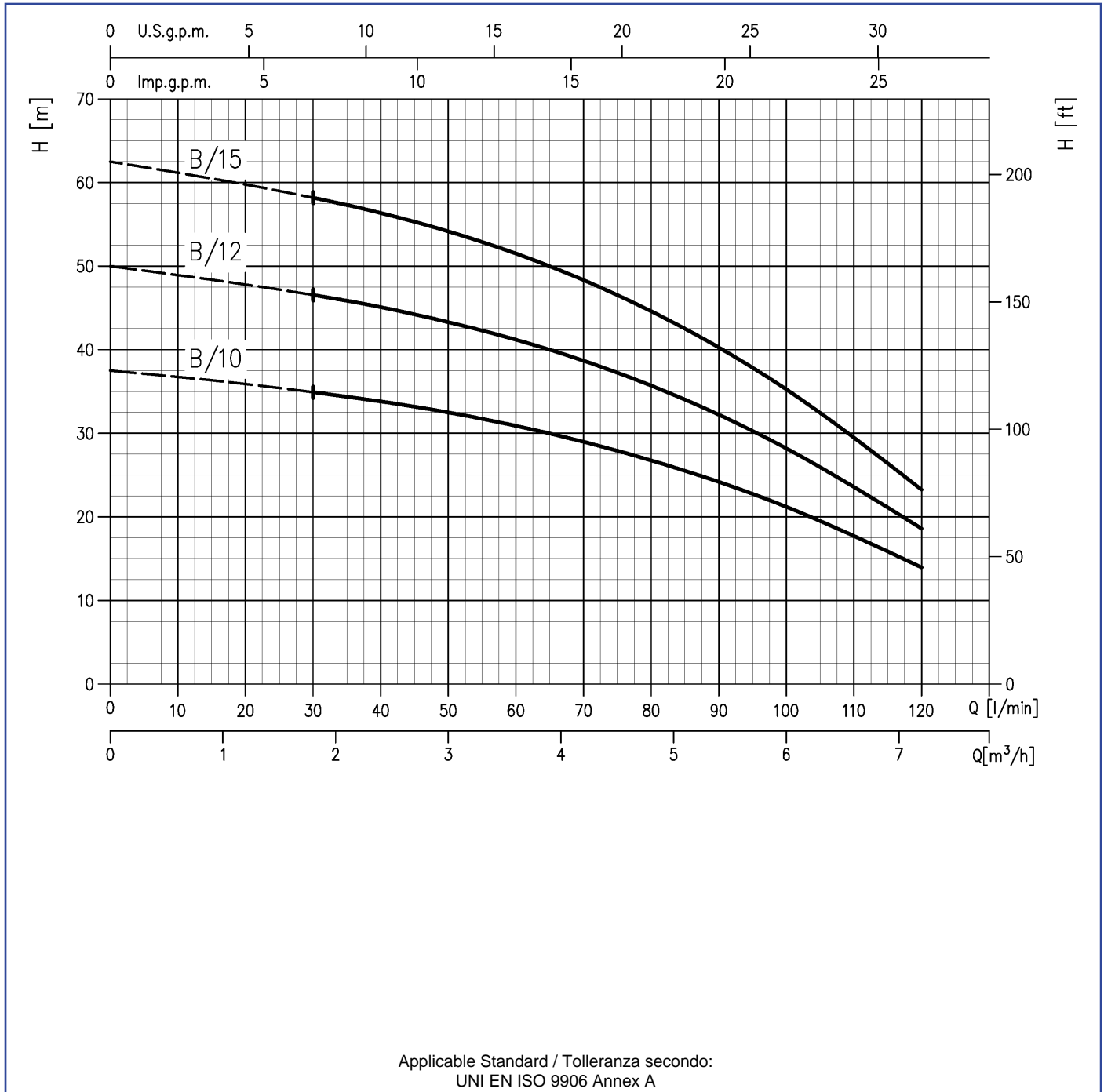
PERFORMANCE CURVES/CURVE DI PRESTAZIONI

CVM A



PERFORMANCE CURVES/CURVE DI PRESTAZIONI

CVM B



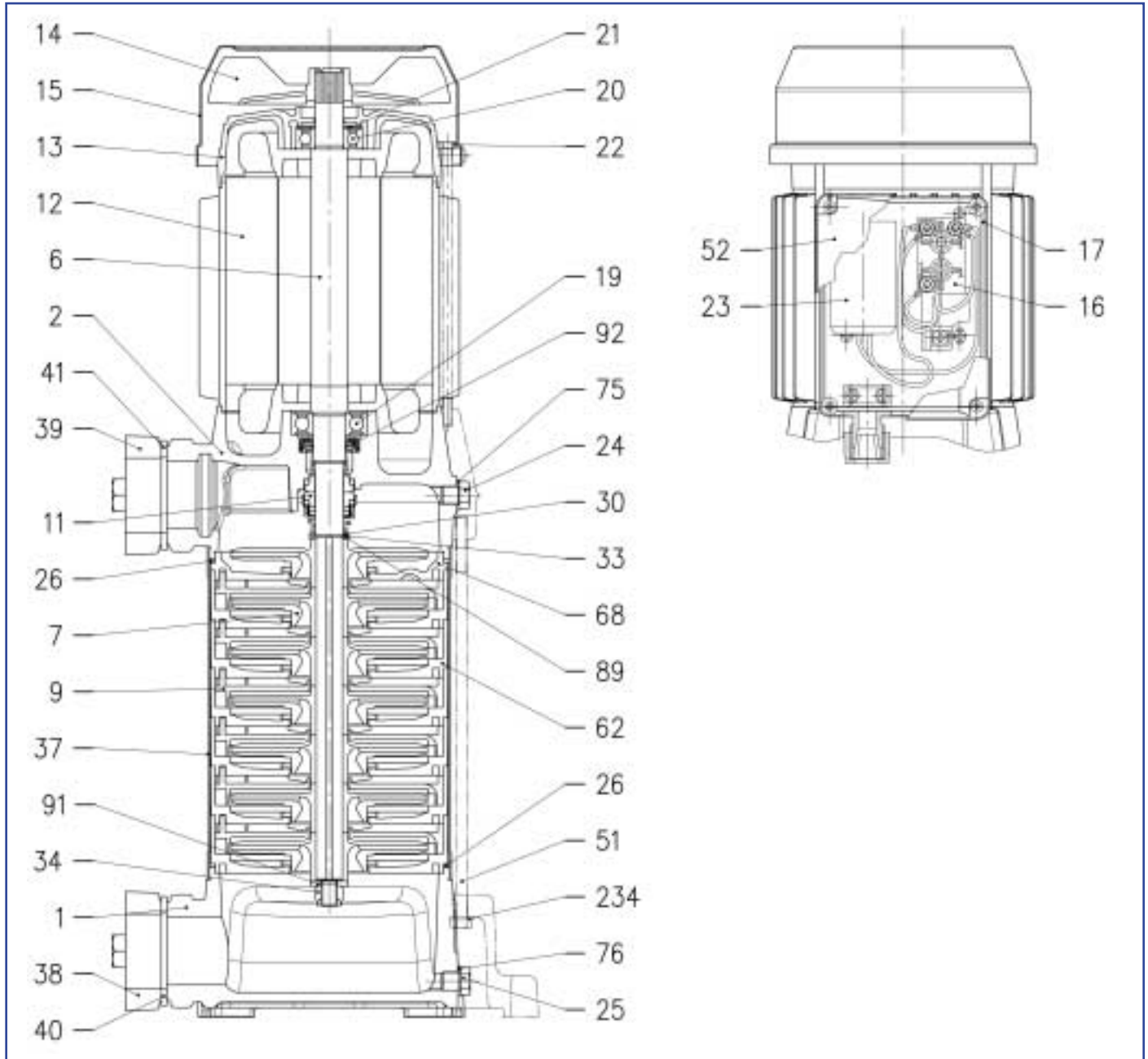
TECHNICAL DATA/DATI TECNICI

Type pumps <i>Modello</i>		Power <i>Potenza</i>		Capacitor <i>Condensatore</i>		Input power <i>Potenza ass. motore</i>		Full load current <i>Corrente a pieno carico</i>			Locked rotor current <i>Corrente a rotore bloccato</i>		
Single Phase <i>Monofase</i>	Three Phase <i>Trifase</i>	kW	HP	Single Phase <i>Monofase</i>		Single Phase <i>Monofase</i>	Three Phase <i>Trifase</i>	Single Phase <i>Monofase</i>	Three Phase <i>Trifase</i>		Single Phase <i>Monofase</i>	Three Phase <i>Trifase</i>	
				μF	V _c			230 V	400 V	1,1		230 V	400 V
CVM AM/4	CVM A/4	0,3	0,4	10	450	0,53	0,50	2,5	1,9	1,1	8,6	8,7	5
CVM AM/6	CVM A/6	0,44	0,6	12,5	450	0,70	0,65	3,0	2,3	1,3	10,6	10,5	6,1
CVM AM/8	CVM A/8	0,6	0,8	14	450	0,90	0,82	4,0	2,6	1,5	13,2	13,1	7,6
CVM AM/10	CVM A/10	0,75	1	20	450	1,25	1,15	6,0	4,2	2,4	24	24,2	14
CVM AM/12	CVM A/12	0,9	1,2	31,5	450	1,38	1,30	6,2	4,7	2,7	25	28,6	16,5
CVM AM/15	CVM A/15	1,1	1,5	31,5	450	1,60	1,60	7,3	5,7	3,3	31	31,5	18,2
CVM BM/10	CVM B/10	0,75	1	20	450	1,25	1,15	6,0	4,2	2,4	24	24,2	14
CVM BM/12	CVM B/12	0,9	1,2	31,5	450	1,30	1,30	5,8	4,7	2,7	25	28,6	16,5
CVM BM/15	CVM B/15	1,1	1,5	31,5	450	1,60	1,65	7,3	5,9	3,4	31	31,5	18,2



SECTIONAL VIEW/VISTE IN SEZIONE

CVM



SECTIONAL VIEW/VISTA IN SEZIONE

CVM

N°	PART NAME / DESCRIZIONE	MATERIAL / MATERIALE	Q.ty / Q.tà
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	PPO mod. fiber glass reinforced	[1]
9	Diffuser	PPO mod. fiber glass reinforced	[1]
11	Mechanical seal [2]	Carbon / Ceramic / NBR	1
12	Motor frame with stator	-	1
13	Motor cover	Aluminium	1
14	Fan	PA	1
15	Fan cover	Galvanized Fe P04	1
16	Terminal board	-	1
17	Terminal box cover [3]	Aluminium	1
19	Pump side ball Bearing	-	1
20	Fan side ball bearing	-	1
21	Adjusting ring	Steel C 70	1
22	Motor tie rod	Galvanized Fe 42	4
23	Capacitor [4]	-	1
24	Priming plug	OT 58 UNI 5705	1
25	Drain plug	OT 58 UNI 5705	1
26	O-ring	NBR	2
30	Washer	EN 1.4301 (AISI 304)	1
33	Seeger ring	EN 1.4021 (AISI 420) EN 1.4301 (AISI 304)	1
34	Impeller nut	EN 1.4301 (AISI 304)	1
37	External pump casing	En 1.4301 (AISI 304)	1
38	Counter flange	Cast iron EN-GJL_200_EN 1561	1
39	Counter flange	Cast iron EN-GJL_200_EN 1561	1
40	Counter flange gasket	NBR	1
41	Counter flange gasket	NBR	1
51	Tie rod	Galvanized Fe P04	4
52	Capacitor box [4]	PP	1
62	Stage housing	PPO mod. fiber glass reinforced/PTFE	[1]
68	Stage	PPO mod. fiber glass reinforced/PTFE	1
75	Washer	Aluminium	1
76	Washer	Aluminium	1
89	Washer	EN 1.4301 (AISI 304)	1
91	Washer	EN 1.4301 (AISI 304)	1
92	Lip seal	NBR	1
234	Washer	Galvanized steel	4

[1] See table below / vedi tabella sotto
 [2] See pag. 11 / vedi pag. 11

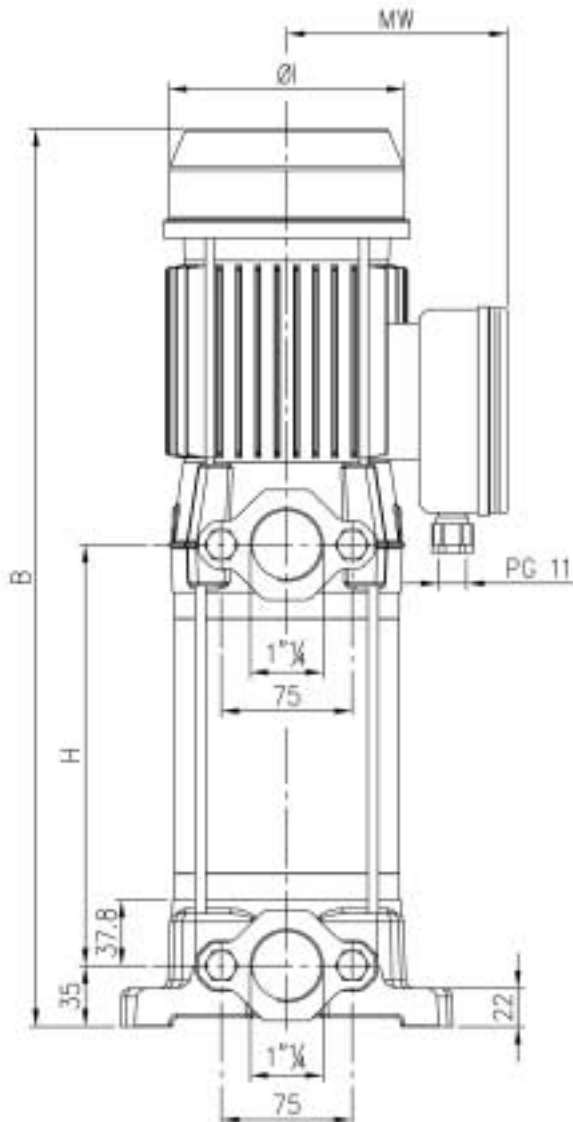
[3] Only for three phase / solo trifase
 [4] Only for single phase / solo monofase

PUMP / POMPA	QUANTITY FOR MODEL / QUANTITA' PER MODELLO		
	POS. 7	POS. 9	POS.62
CVM A/4	2	1	1
CVM A/6	3	2	2
CVM A/8	4	3	3
CVM A/10	5	4	4
CVM A/12	6	5	5
CVM A/15	7	6	6
CVM B/10	3	2	2
CVM B/12	4	3	3
CVM B/15	5	4	4



DIMENSIONS/DIMENSIONI

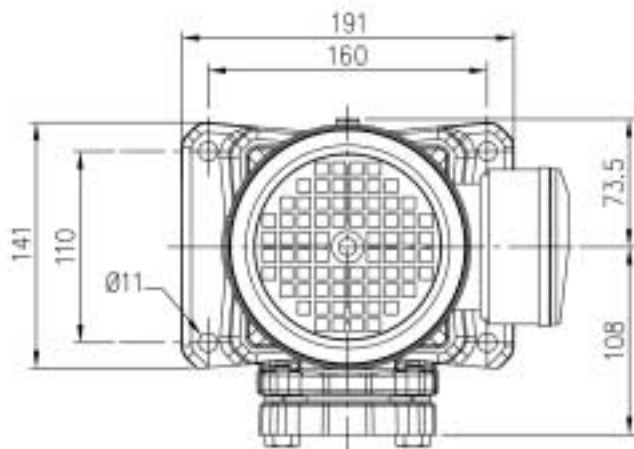
CVM



Pump type/Modello		Motor Size Motore	Dimension/Dimensioni				MW	
Single phase Monofase	Three phase Trifase		B	H	Ø	[1]	[2]	
CVM AM/4	CVM A/4	63	355	112	116	92	113	
CVM AM/6	CVM A/6	63	381	138	116	92	113	
CVM AM/8	CVM A/8	63	407	164	116	92	113	
CVM AM/10	CVM A/10	71	468	190	137	101	122	
CVM AM/12	CVM A/12	71	494	216	137	101	122	
CVM AM/15	CVM A/15	71	531	242	137	101	122	
CVM BM/10	CVM B/10	71	416	138	137	101	122	
CVM BM/12	CVM B/12	71	442	164	137	101	122	
CVM BM/15	CVM B/15	71	479	190	137	101	122	

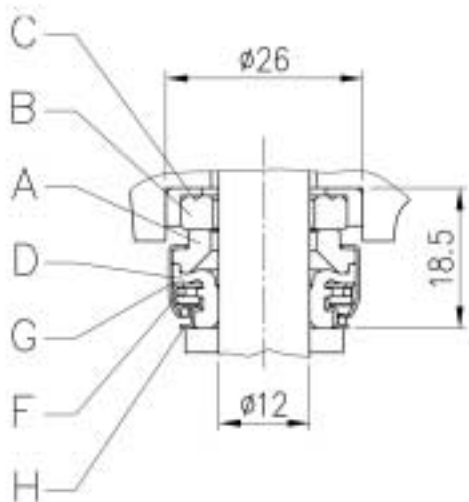
[1] Only for three phase / Solo trifase

[2] Only for single phase / Solo monofase



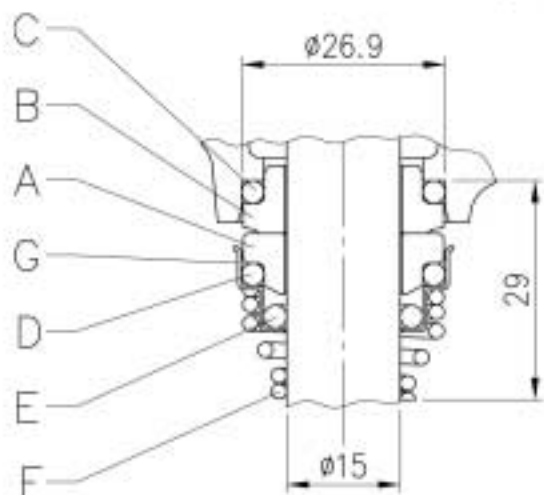
CONSTRUCTIONS/PARTICOLARE TENUTA MECCANICA

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



REF.	PART NAME DESCRIZIONE	MATERIAL / MATERIALE PRODUCT STANDARD 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 / *da 0,75 kW in su*



REF.	PART NAME DESCRIZIONE	MATERIAL / MATERIALE PRODUCT STANDARD STANDARD
A	Rotary seal ring	ceramic
B	Stationary seal ring	carbon graphite
C	O-Ring	NBR
D	O-Ring	NBR
F	O-Ring	NBR
G	Self driving spring	AISI 316
H	Frame	AISI 304


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