

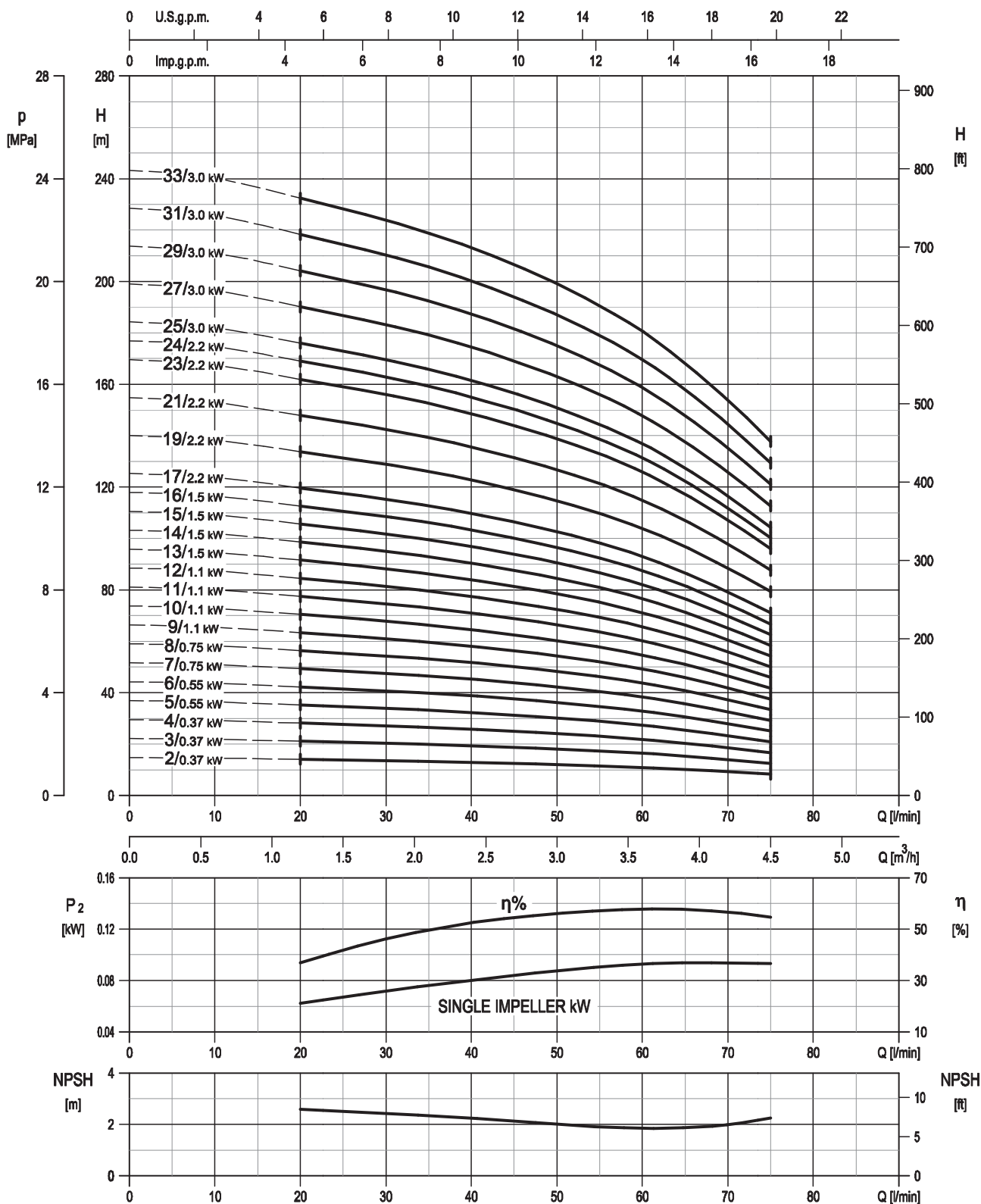
PRODUCT SPECIFICATIONS EVMS(.).1-3-5-10-15-20

		PUMP																		
Version		EVMSG					EVMS					EVMSL								
Operating range	Nominal flow rate (m ³ /h)	1	3	5	10	15	20	1	3	5	10	15	20	1	3	5	10	15	20	
		Maximum working pressure	1.6 / 2.5 MPa (16 bar/ 25 bar)																	
		Liquid temperature range	-30°C to 140°C																	
Key Components Material	Impeller	EN 1.4301 (AISI 304)					EN 1.4401 (AISI 316)													
	Intermediate casing	EN 1.4301 (AISI 304)					EN 1.4401 (AISI 316)													
	Liner ring	EN 1.4301 (AISI 304) + PPS					EN 1.4401 (AISI 316) + PPS													
	Bottom casing	Cast Iron					EN 1.4301 (AISI 304)					EN 1.4401 (AISI 316)								
	Casing cover	EN 1.4301 (AISI 304)					EN 1.4401 (AISI 316)													
	Shaft	EN 1.4301 (AISI 304)	EVMSG / EVMS 1-3-10 , EVMSG / EVMS 5-15-20 (depend on models)																	
		EN 1.4404 (AISI 316L)	EVMSL 1-3-10 , EVMSL 5-15-20 (depend on models)																	
		EN 1.4462 (AISI 329A)	EVMSG / EVMS / EVMSL 5-15-20 (depend on models)																	
	Shaft sleeve bearing	Tungsten carbide																		
	Shaft Seal	See the shaft seal options																		
	O-ring	EPDM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		FPM	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Outer casing	EN 1.4301 (AISI 304)					EN 1.4404 (AISI 316L)													
	Motor Bracket	Cast Iron																		
	Tie rod	Galvanized steel 6.8 strength class ISO 898/1																		
Coupling	up to 4 kW	Die cast aluminium																		
	from 5.5 kW	Cast Iron																		
Base	up to 16 bar	Cast Iron					Die cast aluminium													
		● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●																		
Pipe connection	Round flange (DIN)	up to 16 bar	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
		from 16 bar to 25 bar	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Loose round flange (DIN)	up to 16 bar																		
		from 16 bar to 25 bar																		
	Victaulic	up to 16/25 bar																		
Clamp	up to 16/25 bar																			

Legend: ● Standard ○ Options

		MOTOR		
Power Source	Frequency	50 Hz		
	Phase	Single Phase	Three Phase	
	Rotation speed	≈ 2900 min-1		
	Power rating	0.37 + 2.2 kW	0.37 + 18.5 kW	
		0.5 + 3.0 HP	0.5 + 25 HP	
Voltage	230 ± 10% V	230/400 ± 10% V (up to 4kW) 400/690 ± 10% V (above 5.5 kW)		
Type	Type	Electric - TEFC		
	Efficiency Level	from 0.37 to 2.2 kW	- from 0.37 to 0.55 kW IE3 from 0.75 to 18.5 kW	
	No' of poles	2		
	Protection degree	IP 55		
	Insulation Class	F (temperature rise class B)		
Others	Thermal Protection	PTC is available for the above 1.5 kW		
	Casing Material	Aluminium		
	Flange mount (IEC motor)	IM B14 (up to 4 kW) IM B5 (above 5.5 kW)		

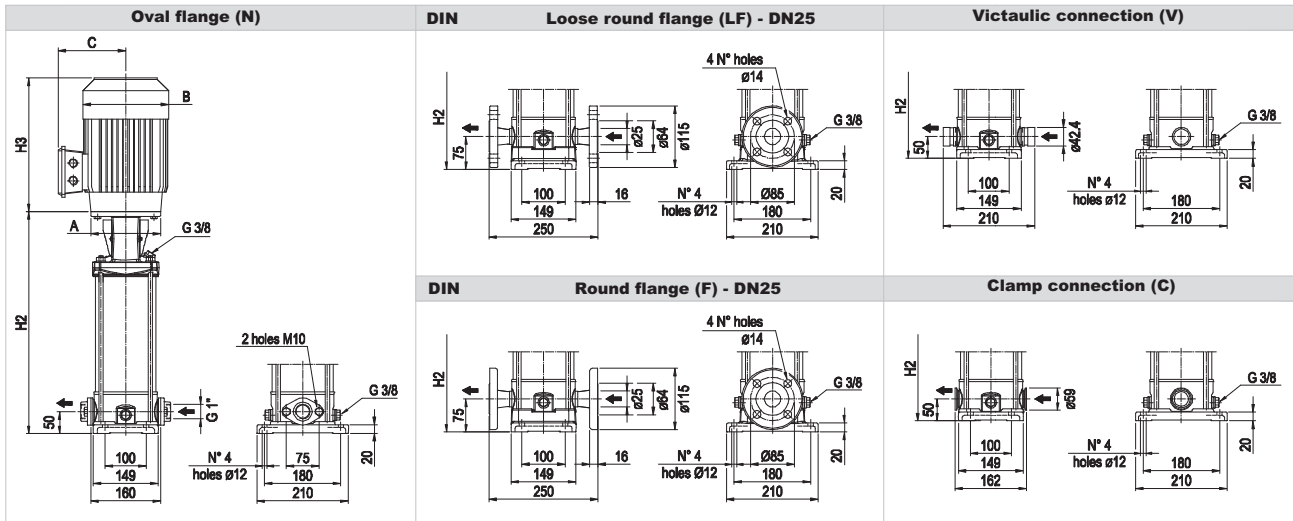
PERFORMANCE CURVE
EVMS(L)3



Rotation speed $\approx 2900 \text{ min}^{-1}$
Test standard: ISO 9906-Annex A

TECHNICAL DATA EVMS(L)3

Dimensional sketch



Dimensions [mm] and Weights [Kg]

Pump Type	P _{max} [MPa]	KW	Motor									Oval flange (N)			Loose round flange (LF) Round flange (F)				Victaulic connection (V) Clamp connection (C)				
			Size			1 ~			3 ~			H2	Weight Pump	Weight Pump + Motor		H2	Weight Pump	Weight Pump + Motor		H2	Weight Pump	Weight Pump + Motor	
			A	B	C	H3	B	C	H3	B	C			H3	1 ~			3 ~	1 ~			3 ~	1 ~
EVMS(L)3 2/0.37	1.6	0.37	71	ø105	139	133	216	142	114	215	250	9.7	16.8	15.5	275	10.5	17.6	16.3	250	9.7	16.8	15.5	
EVMS(L)3 3/0.37	1.6	0.37	71	ø105	139	133	216	142	114	215	271	10.1	17.2	15.9	296	10.9	18	16.7	271	10.2	17.3	16	
EVMS(L)3 4/0.37	1.6	0.37	71	ø105	139	133	216	142	114	215	292	10.6	17.7	16.4	317	11.3	18.4	17.1	292	10.6	17.7	16.4	
EVMS(L)3 5/0.55	1.6	0.55	71	ø105	139	133	216	142	114	215	313	11	19.5	17.2	338	11.8	20.3	18	313	11.1	19.6	17.3	
EVMS(L)3 6/0.55	1.6	0.55	71	ø105	139	133	216	142	114	215	334	11.4	19.9	17.6	359	12.2	20.7	18.4	334	11.5	20	17.7	
EVMS(L)3 7/0.75	1.6	0.75	80	ø120	160	151	232	160	139	232	365	12.4	23.8	21.9	390	13.1	24.5	22.6	365	12.4	23.8	21.9	
EVMS(L)3 8/0.75	1.6	0.75	80	ø120	160	151	232	160	139	232	386	12.8	24.2	22.3	411	13.6	25	23.1	386	12.9	24.3	22.4	
EVMS(L)3 9/1.1	1.6	1.1	80	ø120	160	151	232	160	139	232	407	13.2	25	24.3	432	14	25.8	25.1	407	13.3	25.1	24.4	
EVMS(L)3 10/1.1	1.6	1.1	80	ø120	160	151	232	160	139	232	428	13.7	25.5	24.8	453	14.5	26.3	25.6	428	13.7	25.5	24.8	
EVMS(L)3 11/1.1	1.6	1.1	80	ø120	160	151	232	160	139	232	449	14.1	25.9	25.2	474	14.9	26.7	26	449	14.2	26	25.3	
EVMS(L)3 12/1.1	1.6	1.1	80	ø120	160	151	232	160	139	232	470	14.6	26.4	25.7	495	15.4	27.2	26.5	470	14.6	26.4	25.7	
EVMS(L)3 13/1.5	1.6	1.5	90 S	ø140	172	140	278	180	148	267	501	15.3	33.1	29.3	526	16.1	33.9	30.1	501	15.3	33.1	29.3	
EVMS(L)3 14/1.5	1.6	1.5	90 S	ø140	172	140	278	180	148	267	522	15.7	33.5	29.7	547	16.5	34.3	30.5	522	15.8	33.6	29.8	
EVMS(L)3 15/1.5	1.6	1.5	90 S	ø140	172	140	278	180	148	267	543	16.2	34	30.2	568	17	34.8	31	543	16.3	34.1	30.3	
EVMS(L)3 16/1.5	1.6	1.5	90 S	ø140	172	140	278	180	148	267	564	17.3	35.1	31.3	589	18	35.8	32	564	17.3	35.1	31.3	
EVMS(L)3 17/2.2	1.6	2.2	90 L	ø140	172	140	278	180	148	267	585	17.7	37.2	33.7	610	18.5	38	34.5	585	17.7	37.2	33.7	
EVMS(L)3 19/2.2	1.6	2.2	90 L	ø140	172	140	278	180	148	267	627	18.7	38.2	34.7	652	19.5	39	35.5	627	18.7	38.2	34.7	
EVMS(L)3 21/2.2	1.6	2.2	90 L	ø140	172	140	278	180	148	267	669	19.6	39.1	35.6	694	20.4	39.9	36.4	669	19.6	39.1	35.6	
EVMS(L)3 23/2.2	2.5	2.2	90 L	ø140	172	140	278	180	148	267	-	-	-	736	21.4	40.9	37.4	711	20.6	40.1	36.6		
EVMS(L)3 24/2.2	2.5	2.2	90 L	ø140	172	140	278	180	148	267	-	-	-	757	21.8	41.3	37.8	732	21.1	40.6	37.1		
EVMS(L)3 25/3.0	2.5	3.0	100 L	ø160	-	-	-	196	155	306	-	-	-	788	22.4	-	45.2	763	21.7	-	44.5		
EVMS(L)3 27/3.0	2.5	3.0	100 L	ø160	-	-	-	196	155	306	-	-	-	830	23.4	-	46.2	805	22.6	-	45.4		
EVMS(L)3 29/3.0	2.5	3.0	100 L	ø160	-	-	-	196	155	306	-	-	-	872	24.3	-	47.1	847	23.6	-	46.4		
EVMS(L)3 31/3.0	2.5	3.0	100 L	ø160	-	-	-	196	155	306	-	-	-	914	25.3	-	48.1	889	24.6	-	47.4		
EVMS(L)3 33/3.0	2.5	3.0	100 L	ø160	-	-	-	196	155	306	-	-	-	956	26.1	-	48.9	931	25.4	-	48.2		

1.6 MPa=16 bar ; 2.5 MPa=25 bar
- not available model

VERTICAL MULTISTAGE PUMPS

GENERAL

Various regulatory authorities in many countries have introduced or are planning legislation to encourage the manufacture and use of higher efficiency motors, as part of a concerted effort worldwide to reduce energy consumption.

Indeed, the International Electrotechnical Commission (IEC) has introduced a new standards relating to energy efficient motors.

IEC 60034-30 defines new efficiency classes for motors and harmonizes the currently different requirements for induction motor efficiency levels around the world.

On 22 July 2009, **Commission Regulation (EC) N. 640/2009** implementing EcoDesign EUP Directive 2005/32/EC states that in the European Community, with the exception of some special applications, motors shall not be less efficient than the IE3 efficiency level as from 1 January 2015.

In detail:

IE3 by *January 1, 2015* (for motors ≥ 7.5 to 375 kW).

IE3 for all motors by *January 1, 2017*, (for motors from 0.75 to 375 kW).

		MOTOR EVMS		MOTOR EVM
Power Source	Frequency	50 Hz		50 Hz
	Phase	Single Phase	Three Phase	Three Phase
	Rotation speed	≈ 2900 min ⁻¹		≈ 2900 min ⁻¹
	Power rating	0.37 ÷ 2.2 kW 0.5 ÷ 3.0 HP	0.37 ÷ 18.5 kW 0.5 ÷ 25 HP	2.2 ÷ 37 kW 3.0 ÷ 50 HP
	Voltage	230 ± 10% V	230/400 ± 10% V (up to 4kW) 400/690 ± 10% V (above 5.5 kW)	230/400 ± 10% V (up to 4kW) 400/690 ± 10% V (above 5.5 kW)
Type	Type	Electric - TEFC		Electric - TEFC
	Efficiency Level	from 0.37 to 2.2 kW	- from 0.37 to 0.55 kW IE3 from 0.75 to 18.5 kW	IE3 from 2.2 to 37 kW
	No' of poles	2		2
	Protection degree	IP 55		IP 55
	Insulation Class	F (temperature rise class B)		F (temperature rise class B)
Others	Thermal Protection	PTC is available for the above 1.5 kW		PTC
	Casing Material	Aluminium		Aluminium
	Flange mount (IEC motor)	IM B14 (up to 4 kW) IM B5 (above 5.5 kW)		IM B14 (up to 4 kW) IM B5 (above 5.5 kW)

NOISE DATA

Motor Size	Power		Noise LpA - dB(A) *
	[kW]	[HP]	
71	0.37	0.5	<70
	0.55	0.75	
80	0.75	1	<70
	1.1	1.5	
90 S	1.5	2	<70
90 L	2.2	3	
100 L	3.0	4	<70
112 M	4.0	5.5	<70
132 S	5.5	7.5	72
	7.5	10	
160 M	11	15	74
	15	20	
160 L	18.5	25	77
180 M	22	30	
200 L	30	40	78
	37	50	

VERTICAL MULTISTAGE PUMPS

TECHNICAL MOTOR DATA

Single Phase Motor at 50Hz, 2 poles

Frame size	Motor Power		Capacitor		Load efficiency and power-factor		Full load current [A]			Locked rotor current [A]		
	[kW]	[HP]	[μF]	[V]	η % 100%	cos-φ 100%	230 V			230 V		
71	0.37	0.5	16	400	57.6	0.89	3.1			9.6		
71	0.55	0.75	16	400	69.0	0.89	3.9			13.6		
80	0.75	1	25	400	65.0	0.95	5.3			28.1		
			-	-	-	-	-			-		
80	1.1	1.5	36	400	74.0	0.97	6.5			26		
			-	-	-	-	-			-		
♦ 90 S	1.5	2	35	400	79.0	0.97	8.8			46		
			-	-	-	-	-			-		
♦ 90 L	2.2	3	40	400	78.0	0.97	12.9			61		

♦ Single phase motors manufactured by EBARA

Three Phase Motor at 50Hz, 2 poles

Frame size	Motor Power		Efficiency	Load efficiency and power-factor				Full load current [A]			Locked rotor current [A]		
	[kW]	[HP]		50%	η % 75%	100%	cos-φ 100%	230 V	400V	690V	230 V	400V	690V
71	0.37	0.5	-	58.0	64.0	70.0	0.78	1.7	1	-	8.1	4.7	-
71	0.55	0.75	-	57.0	64.0	71.0	0.77	2.6	1.5	-	12.5	7.2	-
80	0.75	1	IE3	77.8	81.2	82.0	0.78	2.9	1.7	-	26.1	15.1	-
80	1.1	1.5	IE3	78.7	81.7	82.7	0.76	4.2	2.4	-	38.7	22.3	-
90 S	1.5	2	IE3	83.2	84.8	84.2	0.85	5.2	3	-	43.6	25.2	-
90 L	2.2	3	IE3	85.0	86.2	86.5	0.82	8	4.6	-	73.3	42.3	-
100 L	3.0	4	IE3	82.3	85.8	87.1	0.89	9.7	5.6	-	85.4	49.3	-
112 M	4.0	5.5	IE3	86.8	87.8	88.1	0.93	12.1	7	-	116.4	67.2	-
132 S	5.5	7.5	IE3	88.0	88.5	89.2	0.90	-	10	5.8	-	89	51.4
132 S	7.5	10	IE3	88.6	89.2	90.1	0.92	-	13.1	7.6	-	116.6	67.3
160 M	11	15	IE3	87.4	89.8	91.2	0.89	-	19.7	11.4	-	179.3	103.5
160 M	15	20	IE3	91.0	91.3	91.9	0.89	-	26.7	15.4	-	259	149.5
160 L	18.5	25	IE3	91.6	92.8	92.4	0.88	-	33	19.1	-	353.1	203.9
180 M	22	30	IE3	92.3	92.9	92.9	0.90	-	38	22	-	361	209
200 L	30	40	IE3	92.8	93.9	94.0	0.89	-	51.8	30	-	459	270
200 L	37	50	IE3	93.0	93.9	93.8	0.90	-	62.5	36	-	496	288