



Japanese Technology since 1912

EVMS - Vertical Multistage Pumps

Product Catalogue



Main product features

1



Innovative hydraulic solutions

Any motor, anywhere.

- Commercial motors can be fitted to all of the pump models without any modifications thanks to low pump axial thrust load
- Long life of the motor bearing
- High pump efficiency classified in MEI > 0.7 as the most efficient models
- Patent Pending

2



EBARA standard motor solutions

- IE3 efficiency for both 50 and 60 Hz* operation, according IEC 60034-30 standard.
- ETM motors are available from 0.75 up to 11 kW for both 50 and 60 Hz**
- Downsized motor frame with compact unique design
- PTC sensors (thermistors) are standard from 1.5 kW upwards for motor protection at 150°C
- Unloosable screws and sealing are standard for terminal box fixing from 0.75 kW upwards
- Stable inverter mounting on fan covers made of pressed steel

* IE3 for 60Hz is depending on motor size and voltage.

** All other sizes including single phase motors are available with commercial IEC standard motors

3

Piping connection options

- The various pipe connections are available depending on the application requirements
- The external dimensions can be adjusted to the replacement of the existing pump in the wide majority

Material	Round flange DIN (Incl. ANSI depending on models)	Loose Flange DIN (Incl. ANSI depending on models)	Oval Flange	Plug-In connection (Victaulic®, Clamp)
AISI304/ AISI316				
Cast Iron				

4



Shaft seal solutions

- Shaft seal material:
B: Resin impregnated carbon graphite
Q: Sintered silicon carbide
Q_g: Silicon carbide with carbon graphite

Carbon or graphite inclusions with silicon carbide can be used as **dry lubricant** to reduce friction.

- It's conforming to EN12756 (ex DIN 24960)

5



Easy maintenance

- The cartridge shaft seal enables the plug in replacement of the shaft seal without disassembling the motor bracket
- The spacer coupling allows easy maintenance without having to remove heavy motors over 5.5 kW.

6

Smart plug solutions



Air ventilation plug



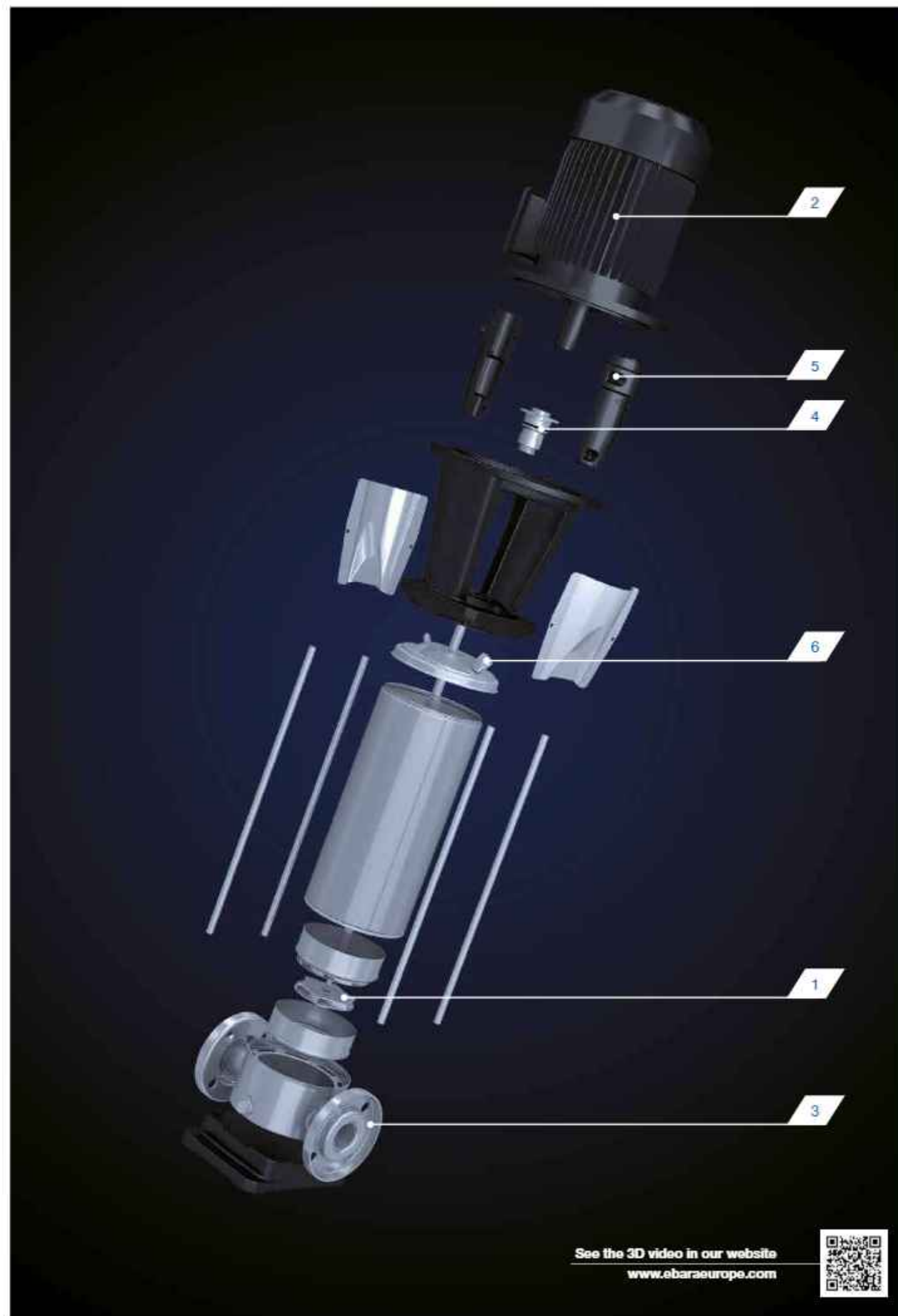
Water filling
& sensor plug



Commercial sensor
fitting



Measurements for suction
and discharge pressure / drain



See the 3D video in our website
www.ebara-europe.com

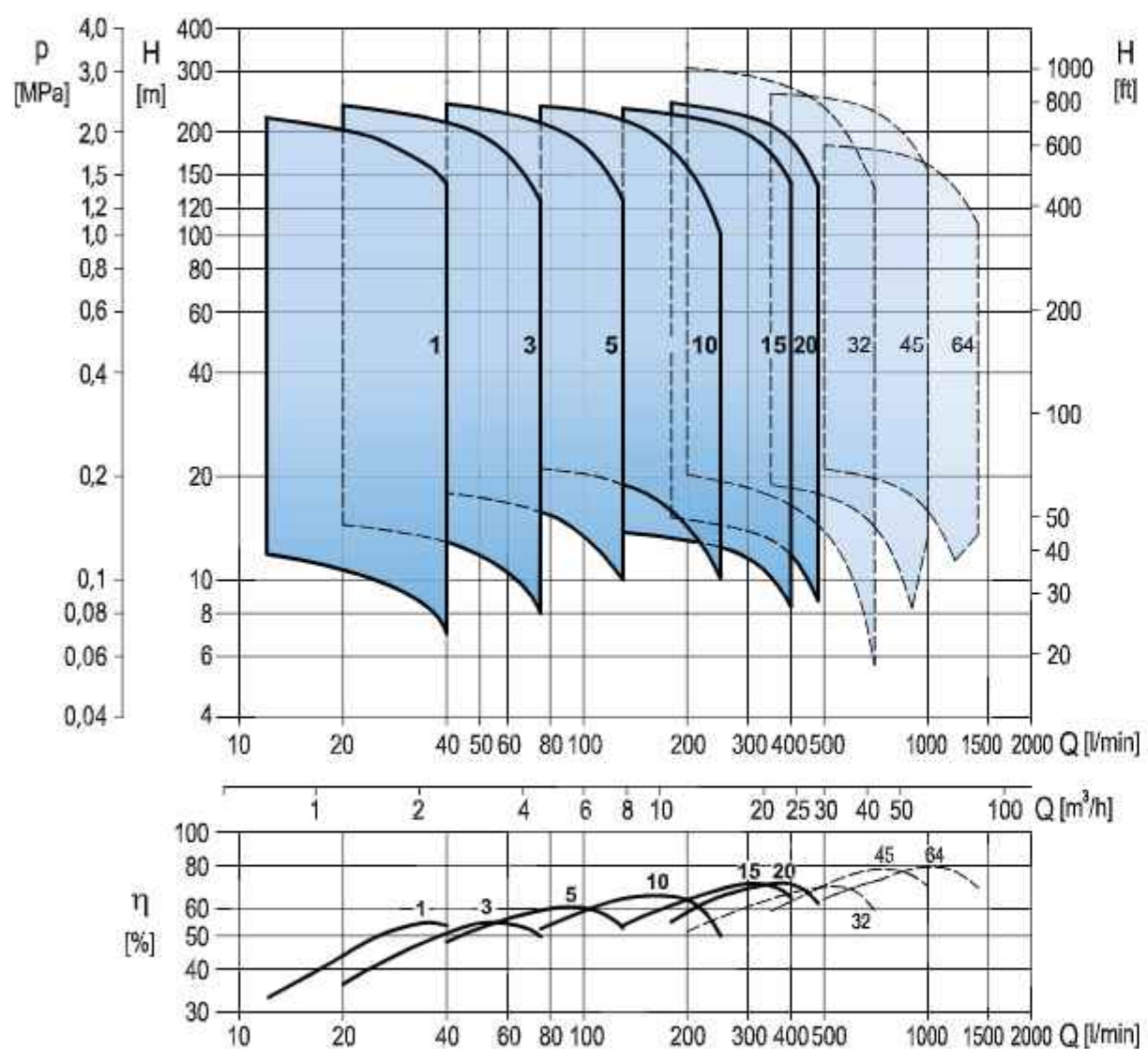


Performance Range

50Hz

EVMS 1-3-5-10-15-20

EVM 32-45-64



Minimum efficiency index (MEI)

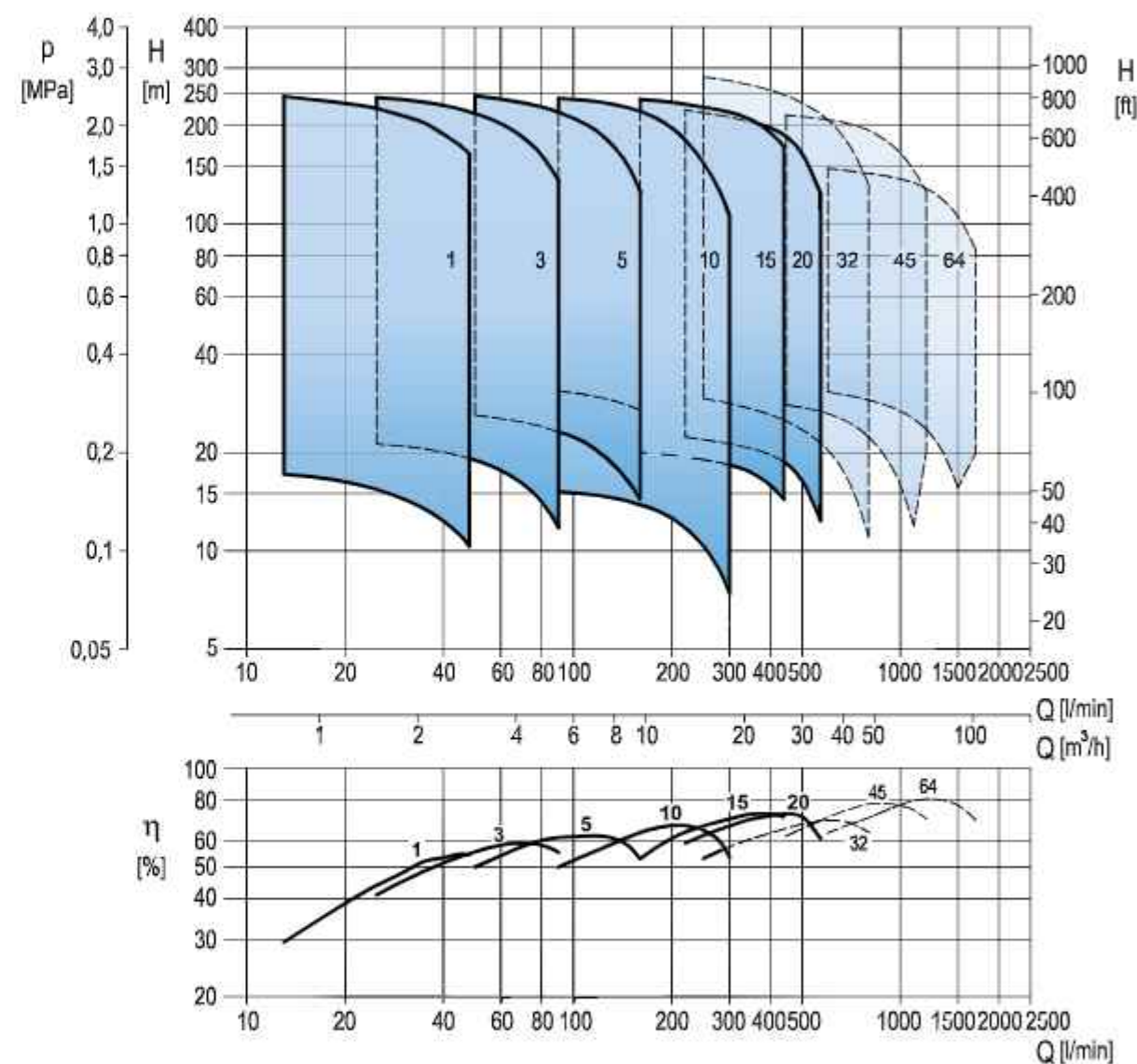
Pump type	MEI
EVMS(.)1	> 0.70
EVMS(.)3	> 0.70
EVMS(.)5	> 0.70
EVMS(.)10	> 0.70
EVMS(.)15	> 0.70
EVMS(.)20	> 0.70

Performance Range

60Hz

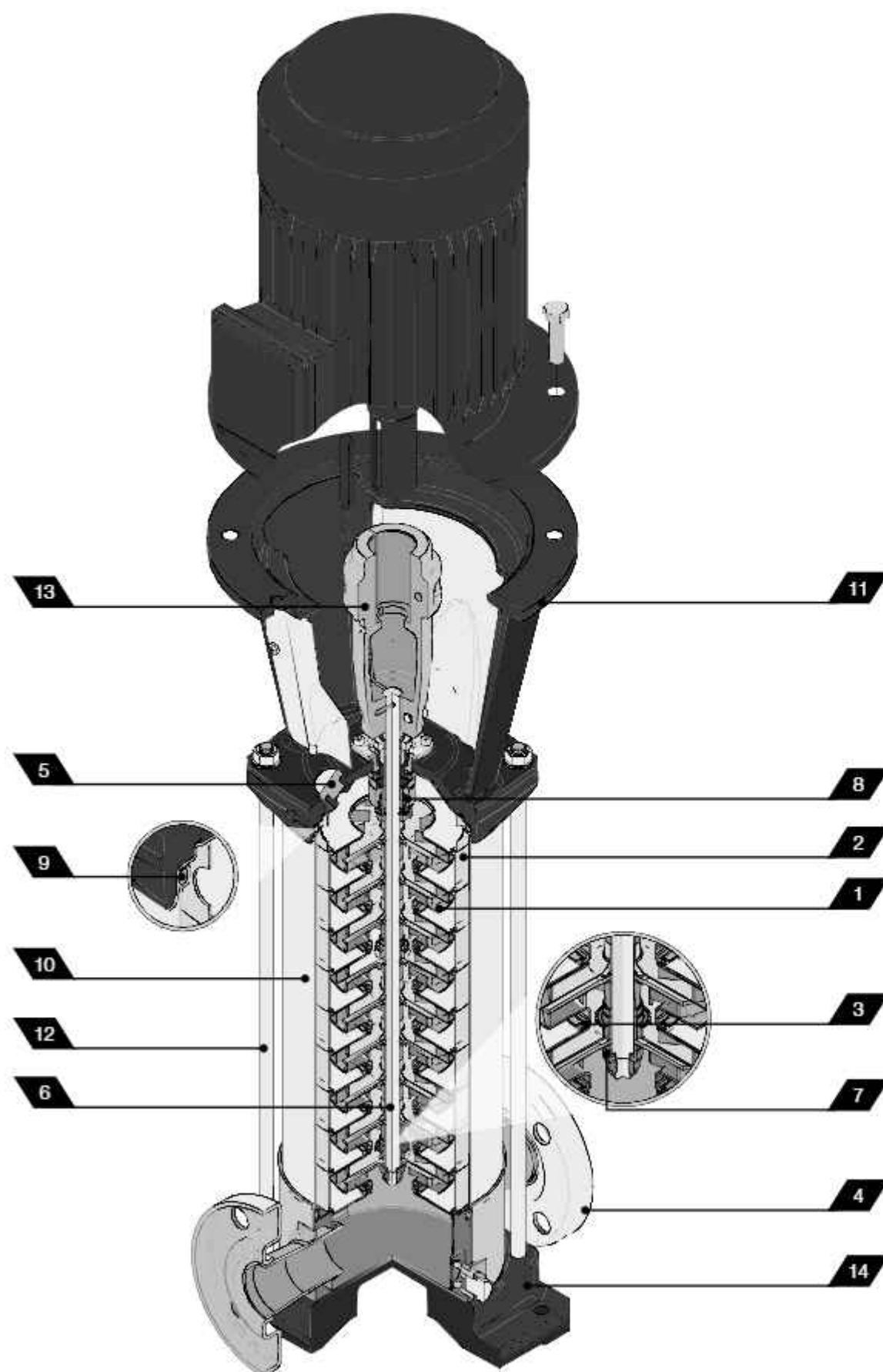
EVMS 1-3-5-10-15-20

EVM 32-45-64



Sectional Drawing

EVMS 1-3-5-10-15-20



Product Specifications

EVMS 1-3-5-10-15-20

Pump

Version		EVMSG					EVMS					EVMSL								
Nominal flow rate (m³/h)		1	3	5	10	15	20	1	3	5	10	15	20	1	3	5	10	15	20	
Operating range	Maximum working pressure	1.6/2.5 MPa (16 bar/25 bar)																		
	Maximum liquid temperature range	-30° to 140°C																		
Key Components Materials	1. Impeller	EN 1.4301 (AISI 304)										EN 1.4404 (AISI 316L)								
	2. Intermediate casing	EN 1.4301 (AISI 304)										EN 1.4404 (AISI 316L)								
	3. Liner ring	EN 1.4301 (AISI 304) + PPS										EN 1.4404 (AISI 316L) + PPS								
	4. Bottom casing	Cast iron					EN 1.4301 (AISI 304)					EN 1.4404 (AISI 316L)								
	5. Casing cover	EN 1.4301 (AISI 304)										EN 1.4404 (AISI 316L)								
	6. Shaft	EN 1.4301 (AISI 304)	EVMS(G) 1-3-10 EVMSG 5-15-20 (depend on models)																	
		EN 1.4404 (AISI 316L)	EVMSL 1-3-10 EVMSL 5-15-20 (depend on models)																	
		EN 1.4460 (AISI 329A)	EVMS(G)(L) 5-15-20 (depend on models)																	
	7. Shaft sleeve bearing	Tungsten carbide																		
	8. Shaft seal	Please see the shaft seal options on page 18																		
	9. O ring	EPDM	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		FPM	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	10. Outer casing	EN 1.4301 (AISI 304)										EN 1.4404 (AISI 316L)								
	11. Motor bracket	Cast Iron																		
	12. Tie rod	Galvanized steel 6.8 strength class ISO 898/1																		
13. Coupling	Die cast aluminium (up to 4 kW), Cast iron (from 5.5 kW)																			
14. Base	Cast iron					Die cast aluminium														
Pipe Connection	Oval flange	up to 16 bar	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Round flange DIN (EVMS(L) 1-3-5 DIN/ANSI)	up to 16 bar	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
		from 16 bar to 25 bar	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Loose Flange DIN (EVMS(L) 1-3-5 DIN/ANSI)	up to 16 bar																		
		from 16 bar to 25 bar																		
	Victaulic®	up to 25 bar																		
Clamp	up to 25 bar																			

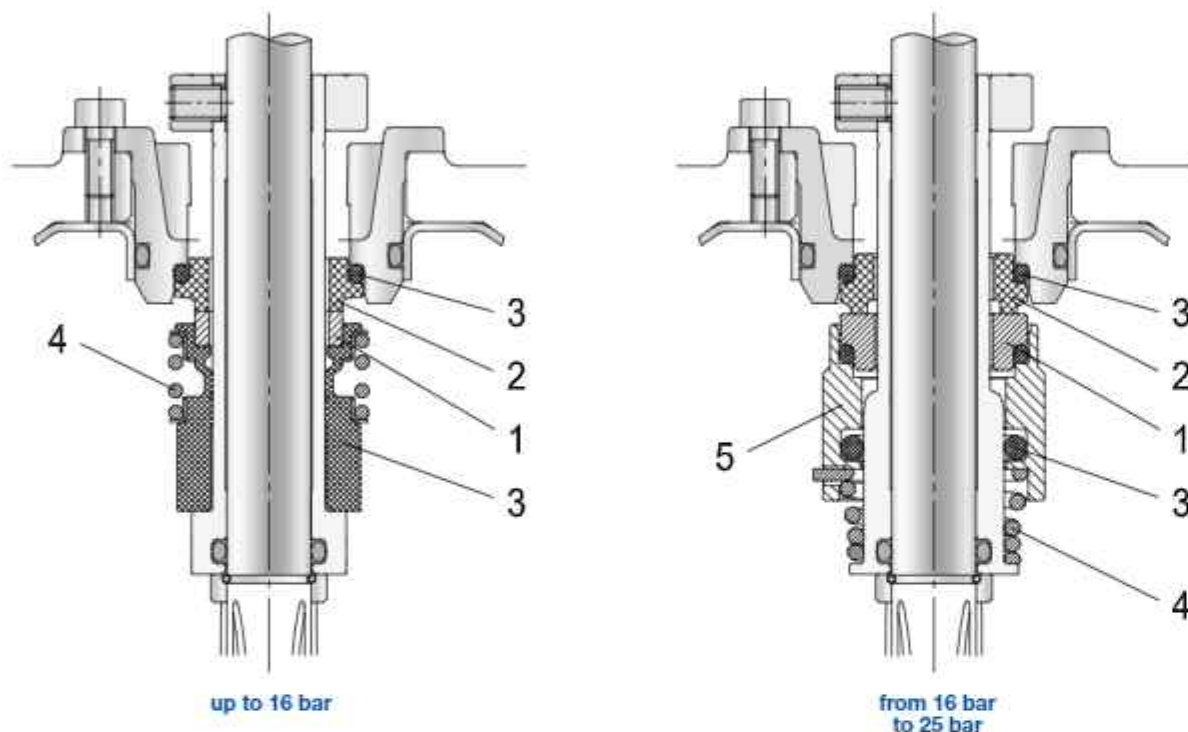
Legend: ● Standard ○ Options

Motor

Power Source	Frequency	50 Hz		60 Hz	
	Phase	Single Phase		Three Phase	
	Rotation Speed	~ 2900 min ⁻¹		~ 3500 min ⁻¹	
	Power Rating	0.37 ÷ 2.2 kW 0.5 ÷ 3.0 HP		0.37 ÷ 18.5 kW 0.5 ÷ 25 HP	
	Voltage	230 ± 10%		230/400 ± 10% (up to 4kW) 400/690 ± 10% (above 5.5 kW)	
Type	Type	Electric - TEFC		Electric - TEFC	
	Efficiency	from 0.37 to 2.2 kW		from 0.37 kW to 0.55 kW IE2/IE3 from 0.75 to 18.5 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 as standard for the above 1.5 kW		PTC as standard for the above 1.5 kW	
	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)	
	Terminal Box fixing	Unlosable screw and sealing from 0.75 kW to 11 kW		Unlosable screw and sealing from 0.75 kW to 11 kW	

Shaft seal data

EVMS 1-3-5-10-15-20



Legend: ● Standard ○ Options () Type key

Pump model	Max liquid temperature range	Shaft seal type Cartridge		Shaft seal material					Type key
		Unbalanced	Balanced	1 Rotating Part	2 Stationary Part	3 Elastomers	4 Spring	5 Collar	
up to 16 bar	-30°C to +120°C	●		SiC (Q ₁)	Carbon (B)	EPDM (E)	AlSi316 (G)		Q ₁ BEG
	-30°C to +80°C	○		SiC (Q ₁)	Carbon (B)	FPM (V)	AlSi316 (G)		Q ₁ BVG
	-30°C to +140°C		○	SiC with graphite (Q ₃)	SiC (Q ₁)	EPDM (E)	AlSi316 (G)		HQ ₃ Q ₁ EG
	-30°C to +80°C		○	SiC with graphite (Q ₃)	SiC (Q ₁)	FPM (V)	AlSi316 (G)		HQ ₃ Q ₁ VG
	-30°C to +140°C		○	SiC (Q ₁)	Carbon (B)	EPDM (E)	AlSi316 (G)		HQ ₁ BEG
from 16 bar to 25 bar	-30°C to +140°C		●	SiC (Q ₁)	Carbon (B)	EPDM (E)	AlSi316 (G)		HQ ₁ BEG
	-30°C to +80°C		○	SiC (Q ₁)	Carbon (B)	FPM (V)	AlSi316 (G)		HQ ₁ BVG
	-30°C to +140°C		○	SiC with graphite (Q ₃)	SiC (Q ₁)	EPDM (E)	AlSi316 (G)		HQ ₃ Q ₁ EG
	-30°C to +80°C		○	SiC with graphite (Q ₃)	SiC (Q ₁)	FPM (V)	AlSi316 (G)		HQ ₃ Q ₁ VG

Pipe Connection data

EVMS 1-3-5-10-15-20

Oval Flange (N)	Maximum operating pressure	Dimensions	EVMS (AISI 1.4301) EVMSL (AISI 1.4401)			
			1/3	5	10	15/20
	PN16	D	G1	G1½	G1½	G2
		L	160	160	200	200
		B1 / B2	100/180	100/180	130/215	130/215
		H	50	50	80	90
Oval Flange (N)	Maximum operating pressure	Dimensions	EVMSG (Cast Iron)			
			1/3	5	10	15/20
	PN16	D	G1	G1½	G1½	G2
		L	160	160	200	200
		B1 / B2	100/180	100/180	130/215	130/215
		H	50	50	80	90
Round Flange (F)	Maximum operating pressure	Dimensions	EVMS (AISI 1.4301) EVMSL (AISI 1.4401)			
			1/3	5	10	15/20
	PN25	D	DN25	DN32	DN40	DN50
		L	250	250	280	300
		B1 / B2	100/180	100/180	130/215	130/215
		H	75	75	80	90
Round Flange (F)	Maximum operating pressure	Dimensions	EVMSG (Cast Iron)			
			1/3	5	10	15/20
	PN25	D	DN25	DN32	DN40	DN50
		L	250	250	280	300
		B1 / B2	100/180	100/180	130/215	130/215
		H	75	75	80	90
Loose Flange (LF)	Maximum operating pressure	Dimensions	EVMS (AISI 1.4301) EVMSL (AISI 1.4401)			
			1/3	5	10	15/20
	PN25	D	DN25	DN32	DN40	DN50
		L	250	250	280	300
		B1 / B2	100/180	100/180	130/215	130/215
		H	75	75	80	90
Victaulic® (V)	Maximum operating pressure	Dimensions	EVMS (AISI 1.4301) EVMSL (AISI 1.4401)			
			1/3	5	10	15/20
	PN25	D	DN32	DN32	DN50	DN50
		L	210	210	261	261
		B1 / B2	100/180	100/180	130/215	130/215
		H	50	50	80	90
Clamp (C)	Maximum operating pressure	Dimensions	EVMS (AISI 1.4301) EVMSL (AISI 1.4401)			
			1/3	5	10	15/20
	PN25	D	Φ59	Φ59	Φ87	Φ87
		L	162	162	202	202
		B1 / B2	100/180	100/180	130/215	130/215
		H	50	50	80	90