

Looking ahead,  
going beyond expectations

*Ahead > Beyond*



## EVMS 1-90 - Vertical Multistage pumps

Product Catalogue





[www.ebaraeurope.com](http://www.ebaraeurope.com)

Looking ahead,  
going beyond expectations  
*Ahead ➔ Beyond*

# Built like a Katana

A Katana is a Japanese product, it's made with a traditional know-how started in 300 a.C..  
Katana is manufactured with care and precision of details. Only years of experience can give the necessary capacity to build a masterpiece.

This is what we do with our pumps. Our 100 years of Japanese experience in pumps manufacturing are the base to project and realize pumps with high quality performance, reliability and cutting-edge mechanical parts.

We look forward not forgetting the past.

EBARA new vertical multistage pumps named "EVMS" are manufactured with the highest standards of quality, to achieve reliable operating performance by means of strict technical evaluation criteria and control programs that involve the whole manufacturing process.

We listen to the market. Our design is unique.  
EVMS can offer the exceptional values through the cutting-edge solutions that best suits your needs.



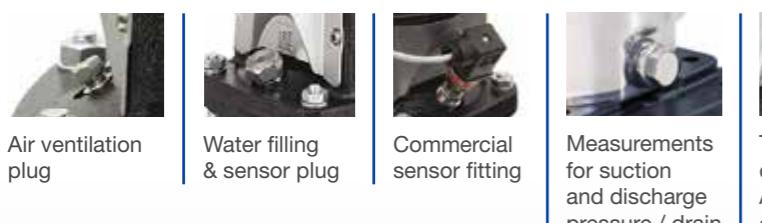


### Innovative hydraulic solutions

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

### Smart plug solutions



Two priming plugs are on both sides of motor brackets for EVMS32-90. A ventilation plug is integrated with one priming plug



### Stainless steel tie rods

Tie rods in EN 1.4057 (AISI 431) as standard.



### 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	Victaulic®	Clamp
AISI304/ AISI316L					
ASTM CF8/ ASTM CF8M					
Cast Iron					



### Shaft seal solutions

- Shaft seal material:
  - B: Resin impregnated carbon graphite
  - Q: Sintered silicon carbide
  - Q<sub>g</sub>: 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)



### 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.

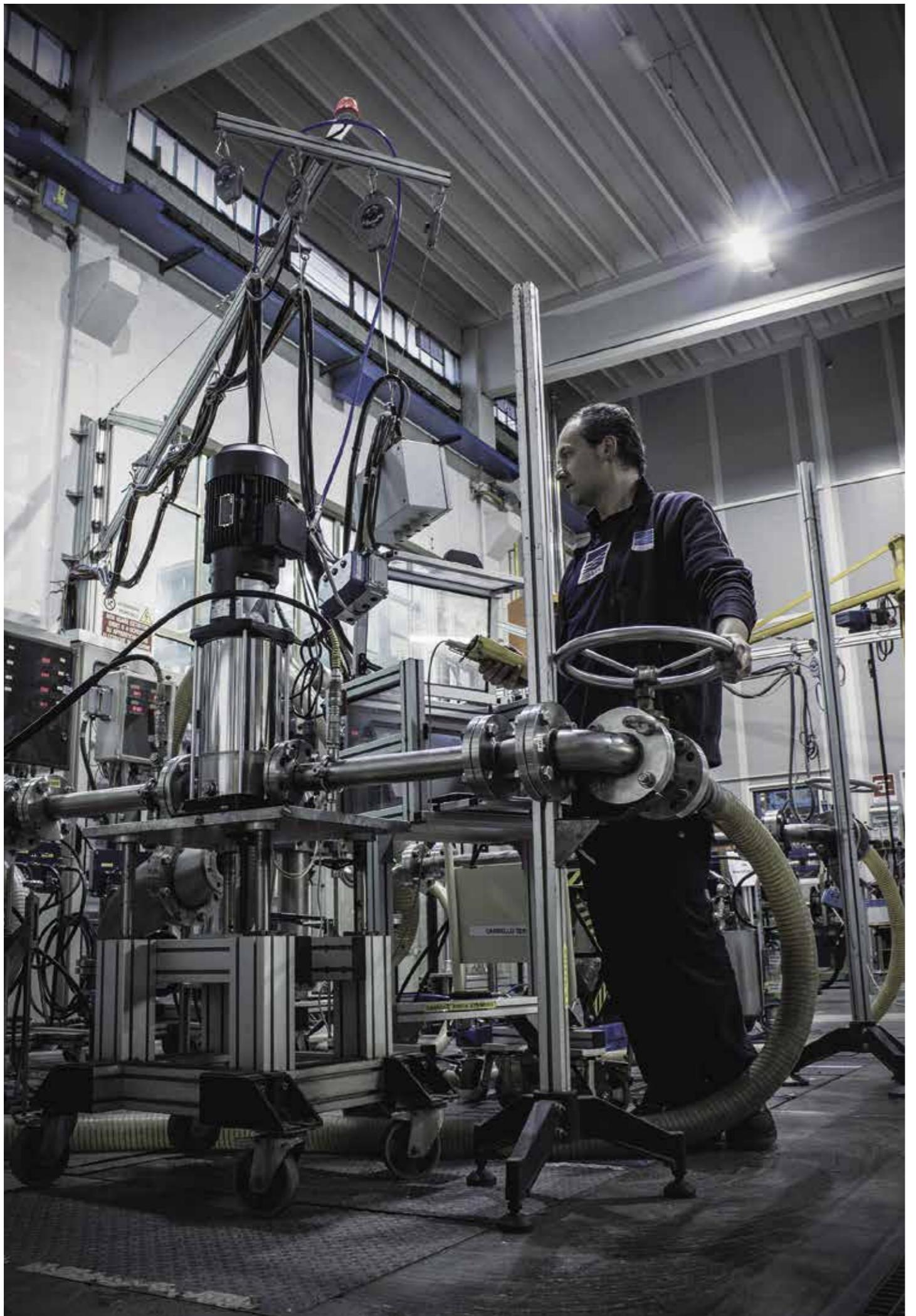
**ETM**  
M O T O R S



### 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\*\*
- 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



# Reliability is made by numbers

**1**

Million

Cycles of the endurance test\*

**2**

Times

Higher test criteria than nominal operating conditions\*

**3**

Times

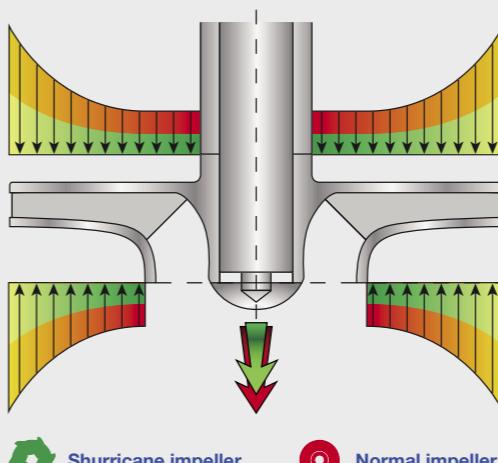
Much less axial thrust load than common pumps



Shurricane®

\* for main components

## Solve axial thrust load



Shurricane impeller

Normal impeller

The pump axial thrust load is caused by the unbalance of the static pressure between a front shroud and a back shroud of an impeller. That always causes the reduction of the bearing life of the motor.

General methods to work with the axial thrust load are as below.

- Increasing the size of motor bearing or using enhanced motor bearings.
- Mounting additional ball bearings on the pump bracket. These measurements are historically known to cause complicated mechanical structures.

EBARA new designed impeller "Shurricane" can reduce the pump axial thrust load with high pump efficiency by means of the innovative hydraulic design method.

EVMS can accept the commercial motors without any modifications and improve the maintenance cycles of motor bearing.

Any motor, anywhere.



## Fields of applications



### INDUSTRY

- **Water treatment**  
Reverse osmosis  
Ultra-filtration  
Water purification  
Micro-filtration  
Softening, ionizing, and demineralising systems  
Swimming pools  
Separators
- **Boiler feeding**  
Steam systems  
Condensate systems
- **Wash and clean**  
Vehicle washing systems  
Industrial part washing  
Laundry systems  
Supply of liquids with acids and bases  
Supply of chemical liquids
- **Chilling**  
Handling of refrigerants for cooling  
Thermal control systems  
Industrial cooling  
Laser cooling
- **Machine tooling**  
Cooling lubricant supply for tooling machines
- **Pressure boosting**  
Pressure boosting for industrial use
- **Food & beverage**  
Food washing systems  
Bottle wash systems
- **Pharmaceutical industries**
- **Marine applications**  
Freshwater, deckwash, high fog and fire fighting on ships



### BUILDING SERVICE

- **Pressure boosting**  
Pressure boosting for buildings  
Pressure boosting for high rise buildings/hotels
- **Sprinkler systems**
- **Fire fighting systems**  
Jockey pump
- **District heating**
- **Heat exchangers / fan heaters**
- **Air conditioning systems**
- **Heating systems**



### WATER SUPPLY

- **Water treatment**  
Water treatment plants filtration  
Water treatment plants transfer
- **Pressure boosting**  
Transfer from water treatment plants (mains)
- **Irrigation**  
Golf course / sport fields irrigation
- **Agriculture**  
Sprinkler irrigation  
Drip irrigation

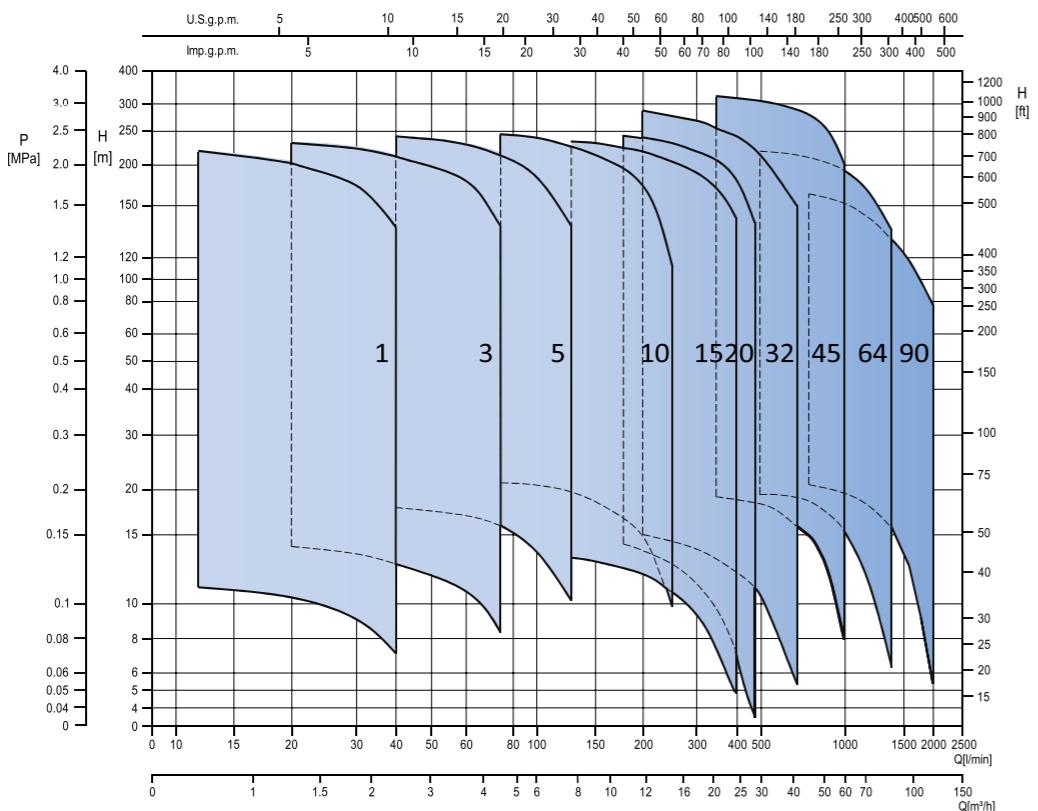
## EBARA worldwide service points



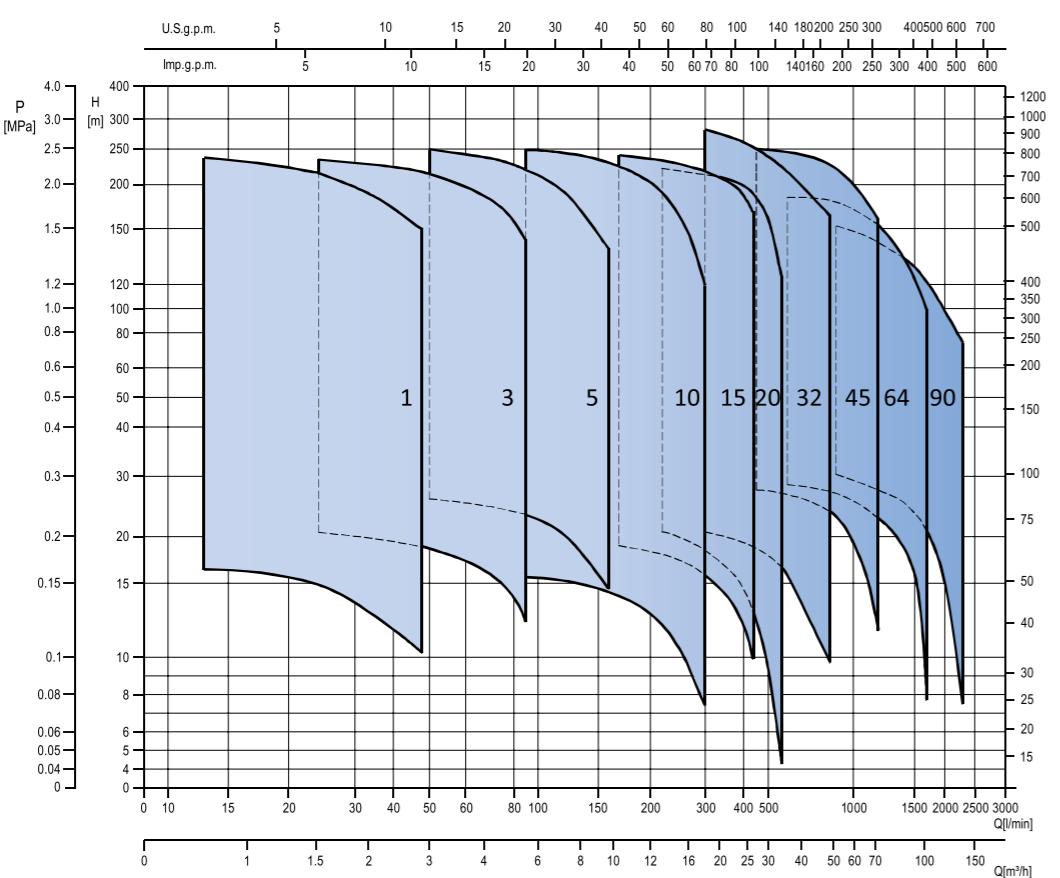
please see the contact list on page 17

# Performance Range

50Hz



60Hz



# General information



## 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
EVMS(.)32	> 0.70
EVMS(.)45	> 0.70
EVMS(.)64	> 0.70
EVMS(.)90	> 0.70

Version			EVMS (AISI 304), EVMSL(AISI 316L), EVMMSG (Cast Iron/AISI 304)		
<b>Operating range</b>			1, 3, 5, 10, 15, 20, 32, 45, 64, 90 m³/h 1.6, 2.5, 3.0, 3.5 MPa (16, 25, 30, 35 bar) -30°C to 140°C		
<b>Power source</b>	Frequency	50 Hz			60 Hz
	Phase	Single phase   Three phase			Three phase
	Nominal rotation speed	~ 2900 min -1			~ 3500 min -1
<b>Motor type</b>	Power rating	0.37 ÷ 2.2 kW	0.37 ÷ 45 kW	0.37 ÷ 45 kW	
	Voltage	230V±10%	230/400V±10% (up to 4kW) 400/690V±10% (above 5.5kW)	460V±10% (up to 4kW) 220/380V+10%/-5% (up to 4kW)	460V±10% (above 5.5kW) 380/660V+10%/-5% (above 5.5kW)
	Type			Electric - TEFC	
	Efficiency class		IE3 (above 0.75 kW)	IE2/IE3 (above 0.75 kW)	
	Nº of poles		2		
	Protection degree		IP55 (up to 11kW), IP56 (above 15kW)		
	Insulation class	F		F (temperature rise class B)	
	Thermal protection	-		PTC as standard for the above 1.5 kW	
	Flange mount (IEC motor)			IM B14 (up to 4 kW), IM B5 (above 5.5 kW)	

		Drinking water approval			Atmospheres explosives approval*	
		DM174/2004	ACS	DVGW**	WRAS*	PZH
Mechanical seal	SiC/Carbon_EPDM	SiC/Carbon_EPDM	All variations with EPDM on page 14-15	SiC/Carbon_EPDM	All variations with EPDM on page 14-15	All variations on page 14-15
EVMSG	●	-	-	-	●	●
EVMS	●	●	●	●	●	●
EVMSL	●	●	●	●	●	●

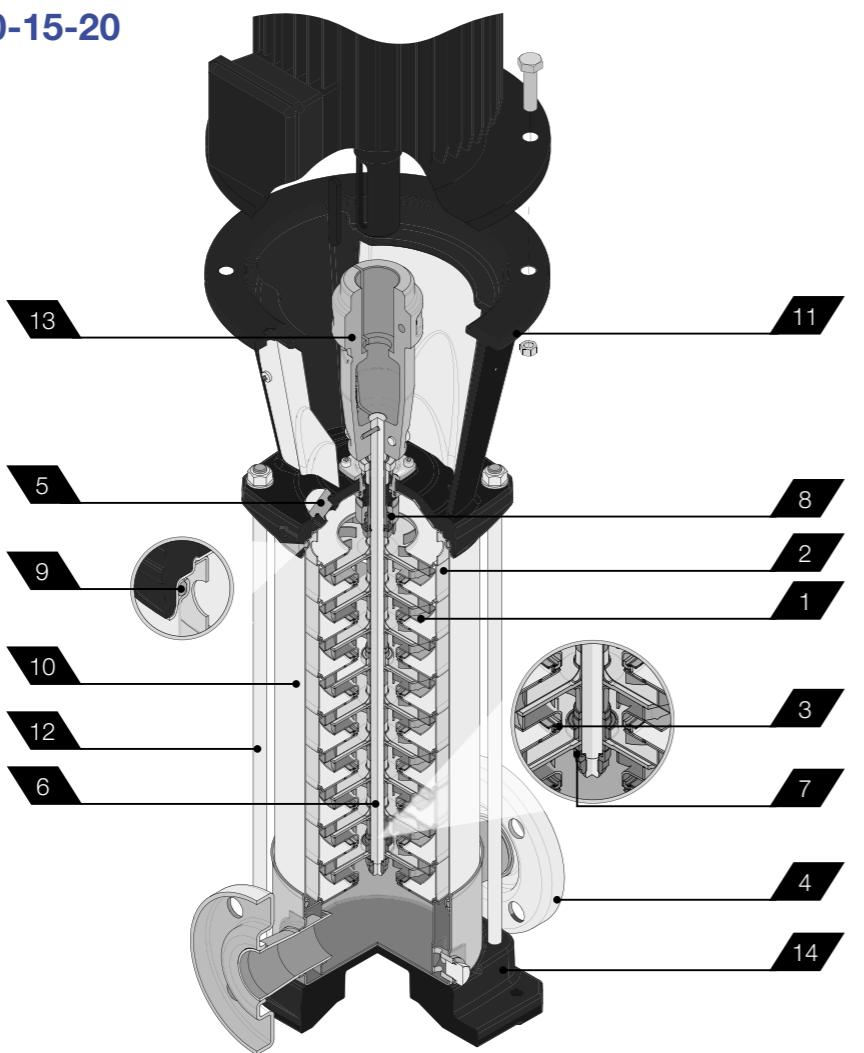
Note: \* Available only for EVMS 1-20

\*\* DVGW W270 is certified for elastomers. Reg. Nr. DW-5253CR0217  
KTW is certified for organic components.

● Available

# Construction

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

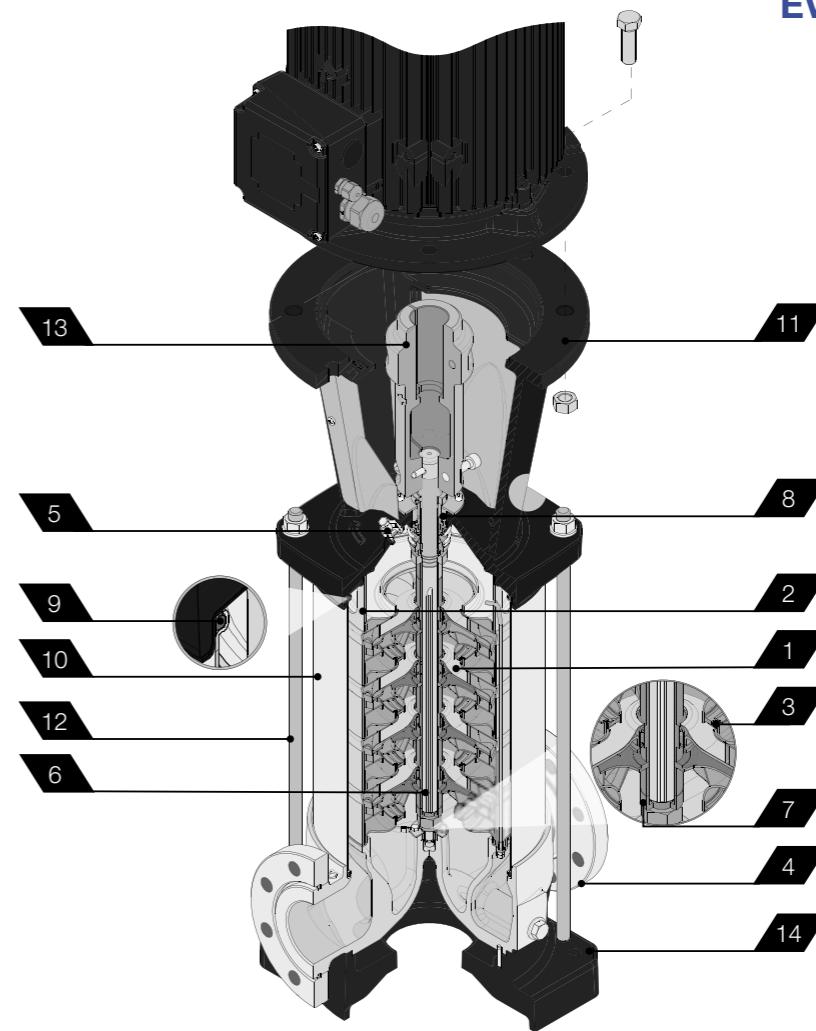


	Version	EVMSG	EVMS	EVMSL
Key Components Materials	1. Impeller	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	
	2. Intermediate casing	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	
	3. Liner ring	EN 1.4301 (AISI 304) + PPS	EN 1.4404 (AISI 316L) + PPS	
	4. Bottom casing	Cast iron EN GJL-250 EN1551	EN 1.4301 (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) EN 1.4404 (AISI 316L) EN 1.4460 (AISI 329A)	EVMSG 1-3-10 EVMSG 5-15-20 (depend on models) EVMSL 1-3-10 EVMSL 5-15-20 (depend on models) EVMS(G)L 5-15-20 (depend on models)	
	7. Shaft sleeve bearing		Tungsten carbide	
	8. Shaft seal		SiC/Carbon/EPDM or FPM SiC graphite/SiC/EPDM or FPM	
	9. O ring	EPDM FPM	● ●	● ●
	10. Outer casing	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	
	11. Motor bracket	Cast iron EN GJL-200 EN1561		
	12. Tie rod	EN 1.4057 (AISI 431)		
	13. Coupling	up to 4 kW from 5.5 kW	Die cast Aluminium EN AB-AISI11 Cu2 (Fe)	
	14. Base	Cast iron EN GJL-250 EN1551	Die cast Aluminium EN AB-AISI11 Cu2 (Fe)	
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: ● Available

# Construction

EVMS 32-45-64-90



	Version	EVMSG	EVMS	EVMSL
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 GJL-250 EN 1561 (for EVMSG32 and EVMSG45-90 up to 16 bar) Cast Iron EN GJS 400-15 EN 1563 (for EVMSG45-90 above 16 bar)	EN 1.4308 (ASTM CF8)	EN 1.4408 (ASTM CF8M)
	5. Casing cover	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	
	6. Shaft	EN 1.4301 (AISI 304) EN 1.4404 (AISI 316L) EN 1.4460 (AISI 329A)	EVMSG / EVMS 32-45-64-90 (depend on models) EVMSL 32-45-64 (depend on models) EVMSG / EVMS / EVMSL 45-64-90 (depend on models)	
	7. Shaft sleeve bearing		Tungsten carbide	
	8. Shaft seal		SiC/Carbon/EPDM or FPM SiC graphite/SiC/EPDM or FPM	
	9. O ring	EPDM FPM	● ●	● ●
	10. Outer casing	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	
	11. Motor bracket		Cast Iron EN GJS 400-15 EN 1563	
	12. Tie rod		EN 1.4057 (AISI 431)	
	13. Coupling	up to 4.0 kW from 5.5 kW to 30 kW above 37 kW	Die cast Aluminium EN AB-AISI11 Cu2 (Fe) Cast Iron EN GJL250 EN 1561 Carbon steel	
	14. Base		Cast iron EN GJL200 EN 1561	
Pipe connection	Round flange DIN/ANSI	●	●	●
	Loose flange DIN/ANSI			

Legend: ● Available

# Everything you need in just one click!

visit our website [www.ebaraeurope.com](http://www.ebaraeurope.com)



## Data book

The complete technical documentation where find all pumps data



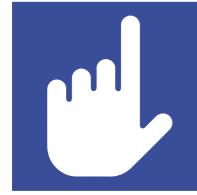
## Instruction Manual

The technical manual where find all information to install our pumps properly



## Kensaku

The system to select the spare parts



## Ez-finder

The software to find and select the suitable pump for any requirement  
<https://ezfinder.ebara.com>



## Service

An expert team at disposal to suggest the right product and supporting for aftersales matters

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going beyond expectations  
*Ahead > Beyond*



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