





Built like a Katana

A Katana is a traditional Japanese sword made with distinctive, longstanding expertise started in 300 A.D. Katana are manufactured with care and precise attention to detail. Only years of experience can provide the ability necessary to build a masterpiece.

This is what we do with our pumps. Our 100 years of Japanese expertise in our pump design and manufacturing is the basis for developing pumps with high quality and reliability as well as cutting edge components and performance.

We look forward, not forgetting the past.

EBARA new vertical multistage pumps – model EVMSU – are manufactured with the highest standards of quality to achieve reliable operating performance through strict technical evaluation criteria and control programs that involve the whole manufacturing process.

We listened to the market. Our design is unique. The EVMSU offers exceptional value through cutting-edge solutions to suit your application needs.



Precision, Quality, Cutting-Edge

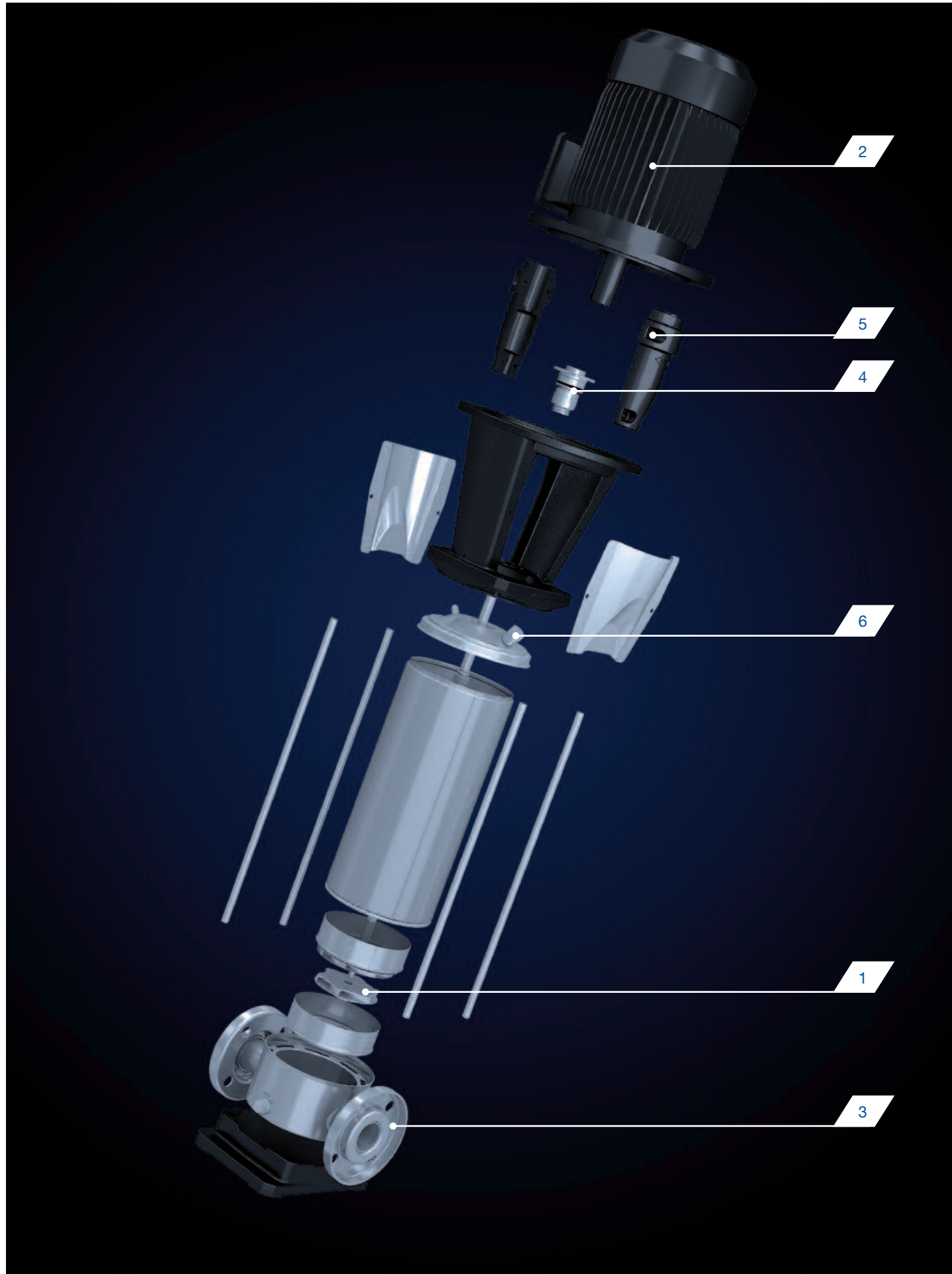


FEATURES

- Standard NEMA motor sizes
- Low axial thrust impeller enables long motor bearing life
- Air vent in casing cover allows proper venting preventing air entrapment and dry run
- Fill port in casing cover allows for water fill, as well as installation of sensors, gauges, and other measuring devices
- Liner ring is a self-aligning, floating design constructed to prevent swelling at high temperatures
- Tungsten carbide lower pump bearings and sleeves are standard construction for all services, providing maximum operating life
- Direct drive pump and motor shafts are keyed for positive, reliable power transmission with no adjustments necessary
- “Flexible” floating outer casing allows for thermal expansion in hot water applications, preventing deformation due to pressure fluctuations
- Square-edge four spline shaft provides positive location and drive of impellers, eliminating wear
- Dimensions & flanges – installation is to market accepted dimensions for easy upgrade of existing installations
- Piping connection options include Fixed ANSI compatible flange, Oval flange, Loose ANSI compatible flange, victaulic, and clamp connections
- Mechanical seal – Silicon Carbide/Carbon/Viton mechanical shaft seal. Cartridge mechanical seal design enables plug in replacement without disassembling the motor bracket



Note: Models EVMSU/EVMSUL 1-20 and EVMUG/EVMUL 32-64 certified to NSF/ANSI 61 & 372.



Main product features



Innovative hydraulic solutions

Any motor, anywhere.

- The Shurrricane impeller reduces axial thrust load
 - Long life of the motor bearing
- Patent application pending



Motor flexibility

- Standard NEMA motor sizes can be fitted with no modifications thanks to low axial thrust load.
- Allows a wider range of motors to be used.

Piping connection options

- Optional pipe connections are available depending on the application requirements
- Dimensions & flanges - installation is to market accepted dimensions for easy upgrade in existing installations

Material	Round flange ANSI Compatible	Loose Flange ANSI Compatible	Oval Flange	Plug-In connection (victaulic, clamp)
AISI304/ AISI316				



Shaft seal solutions

- **Shaft seal material:**
 - B: Resin impregnated carbon graphite
 - Q: Sintered silicon carbide
 - Qg: Silicon carbide with carbon graphite
- Carbon or graphite inclusions with silicon carbide can be used as **reduce friction.**
- Conforms to EN12756 (ex DIN 24960)



Easy maintenance

- The **cartridge shaft seal** enables **replacement** of the shaft seal without disassembling the motor bracket
- The **spacer coupling** allows easy maintenance without having to remove heavy motors over 7 1/2 HP.

Smart plug solutions



Air ventilation plug

Water filling & sensor plug

Drain plug



Reliability is made by numbers

1
Million

Cycles of the endurance test*

2
Times

Higher test criteria than nominal operating conditions*

3
Times

Lower thrust load than common pumps

* for main components

Solve axial thrust load



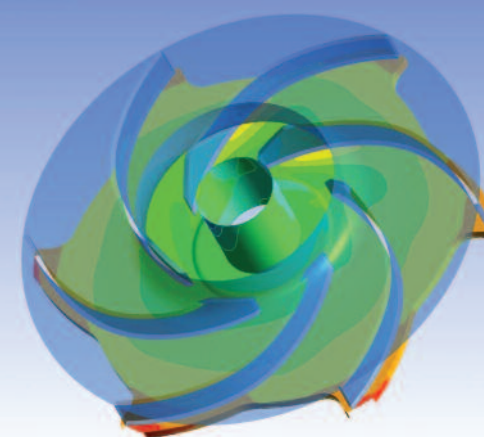
Axial thrust load in a pump is caused by unequal distribution of pressure between the front and back shrouds of an impeller. Axial thrust loading often leads to reduced life of the the motor bearings.

- General methods to absorb the axial thrust load include:
- Increasing the motor bearing size or using enhanced motor bearings.
 - Mounting additional ball bearings on the pump bracket.

EBARA's newly designed "Shurrricane" impeller reduces the axial thrust load with higher pump efficiency created by the innovative hydraulic design of the impeller shrouds.

The EVMSU can accept commercial motors without any modifications and improve the maintenance cycles of motor bearings.

Any motor, anywhere.






Typical Applications

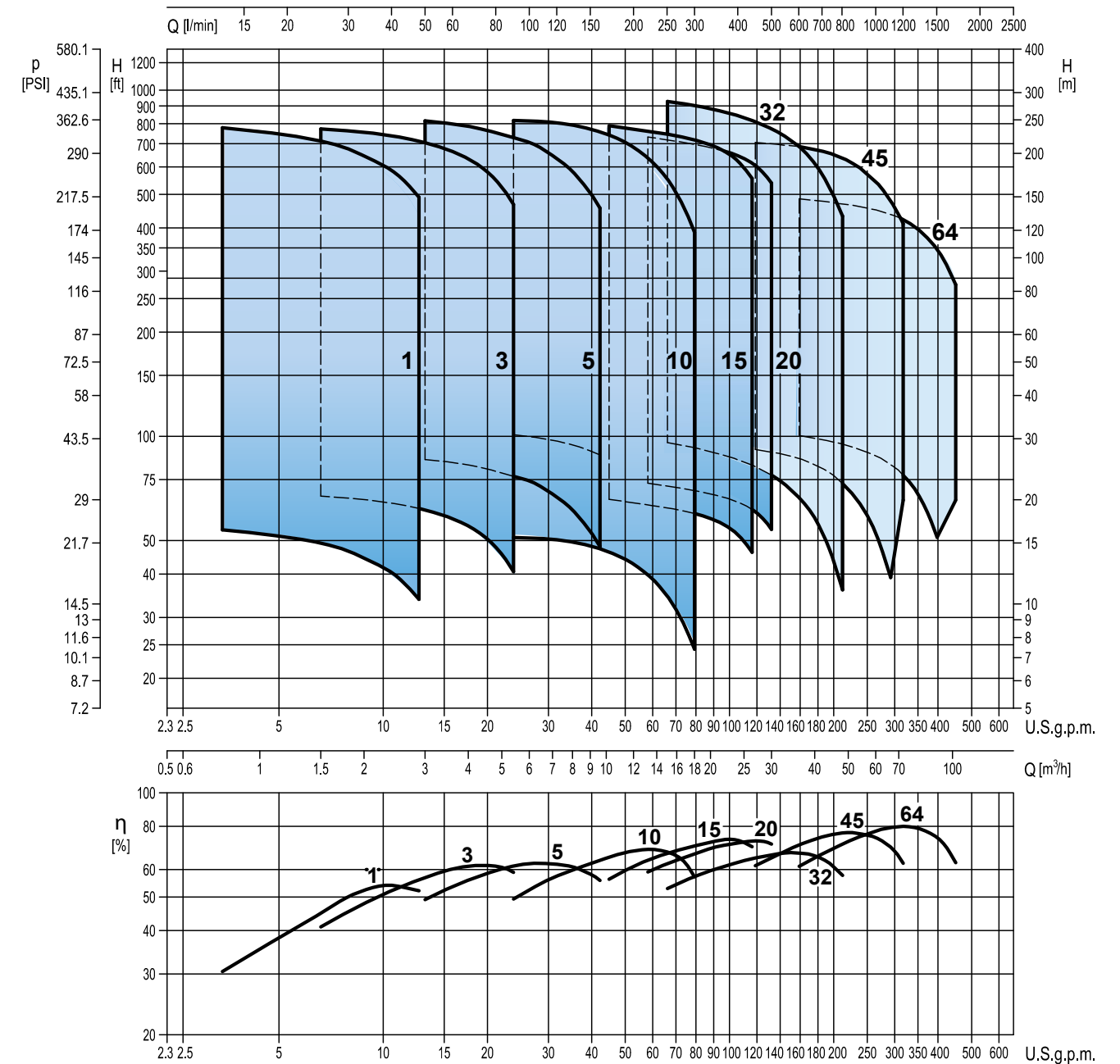
Performance Range

60Hz

EVMSU 1-3-5-10-15-20

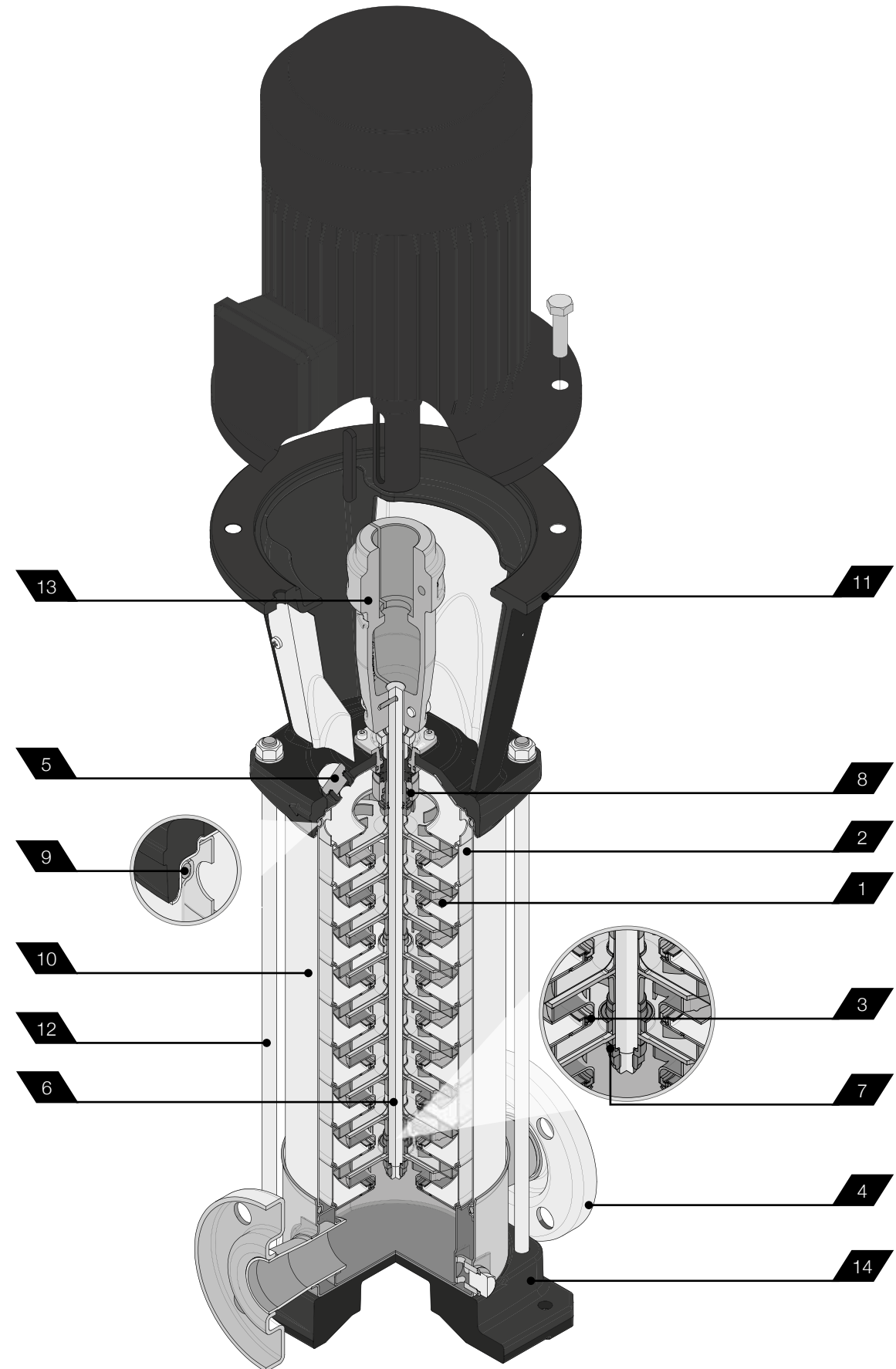
EVMU 32-45-64

INDUSTRY	BUILDING SERVICE	WATER SUPPLY
		
<ul style="list-style-type: none"> • Water treatment reverse osmosis ultra-filtration water purification micro-filtration softening, ionizing and demineralising systems swimming pools separators • Boiler feed 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 tool cooling lubricant supply for machine tools • 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 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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



Sectional Drawing

EVMSU 1-3-5-10-15-20



Product Specifications

EVMSU 1-3-5-10-15-20

		PUMP												
Version		EVMSU						EVMSUL						
Performance range	Nominal size	1	3	5	10	15	20	1	3	5	10	15	20	
	HP	1/2 to 25 HP												
	Capacity	2.9 to 132.1 gpm												
	Head	24.3 to 860 ft TDH												
Liquid Handling	Type of liquid	Clean water (for other clean liquids, consult factory)												
	Maximum working pressure	230 / 360 PSI (530 / 830 ft TDH)												
	Liquid temperature range	-22°F to 248°F (-30°C to 120°C)												
Size	Suction	1 1/4"		2"		1 1/4"		2"						
	Discharge	1 1/4"		2"		1 1/4"		2"						
Key Component Materials	1. Impeller	AISI 304 (EN 1.4301)						AISI 316 (EN 1.4401)						
	2. Intermediate casing	AISI 304 (EN 1.4301)						AISI 316 (EN 1.4401)						
	3. Liner ring	AISI 304 (EN 1.4301) + PPS						AISI 316 (EN 1.4401) + PPS						
	4. Bottom casing	AISI 304 (EN 1.4301)						AISI 316 (EN 1.4401)						
	5. Casing cover	AISI 304 (EN 1.4301)						AISI 316 (EN 1.4401)						
	6. Shaft	AISI 304 (EN 1.4301)	EVMSU 1-3-5, EVMSU 10-15-20 (depending on model)											
		AISI 316L (EN 1.4404)	EVMSUL 1-3-5, EVMSUL 10-15-20 (depending on model)											
		AISI 329A (EN 1.4462)	EVMSU / EVMSUL 5-15-20 (depending on model)											
	7. Shaft sleeve bearing	Tungsten carbide												
	8. Shaft Seal	Silicon Carbide / Carbon / FPM (standard)												
	9. O-ring	EPDM	○	○	○	○	○	○	○	○	○	○	○	○
		FPM	●	●	●	●	●	●	●	●	●	●	●	●
	10. Outer casing	AISI 304 (EN 1.4301)						AISI 316L (EN 1.4404)						
	11. Motor bracket	Cast Iron												
12. Tie rod	Galvanized steel 6.8 strength class ISO 898/1													
13. Coupling	up to 5 HP	Die cast aluminium												
	from 7 1/2 HP	Cast Iron												
14. Base	Die cast aluminium													
Pipe connection	Oval flange	up to 230 PSI		○	○	○	○	○	○	○	○	○	○	
	Round flange (ANSI compatible raised face)	up to 230 PSI	●	●	●	●	●	●	●	●	●	●	●	●
		from 230 PSI to 360 PSI	●	●	●	●	●	●	●	●	●	●	●	●
	Loose round flange (ANSI compatible raised face)	up to 230 PSI	○	○	○	○	○	○	○	○	○	○	○	○
		from 230 PSI to 360 PSI	○	○	○	○	○	○	○	○	○	○	○	○
victaulic	up to 230/360 PSI		○	○	○	○	○	○	○	○	○	○	○	
Clamp	up to 230/360 PSI		○	○	○	○	○	○	○	○	○	○	○	
Motor	Type	NEMA C/TC/TSC frame, TEFC enclosure												
	Speed	2-pole, 60 Hz, 3500 RPM												
	Power Requirements	3 Phase, 230/460V or 208-230/460V - Single Phase, 115/230V												
	Direction of Rotation	Clockwise when viewed from motor end												
	Motor Options	Consult factory for optional motor types												

Legend: ● Standard ○ Options





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ENGINEEREDfor**PERFORMANCE**

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All specifications subject to change without notice.
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