EBARA

Japanese Technology since 1912

EVMS - Vertical Multistage Pumps

Product Catalogue

Shurricane®

ETM MOTORS

Japanese Technology since 1912

www.ebaraeurope.com

Built like a Kata刀a

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.

Precision, Quality, Cutting-Edge

- **Pump Type**
  EBARA vertical multistage in line pumps EVMS

- **Model range**
  1, 3, 5, 10, 15, 20 m³/h flow sizes

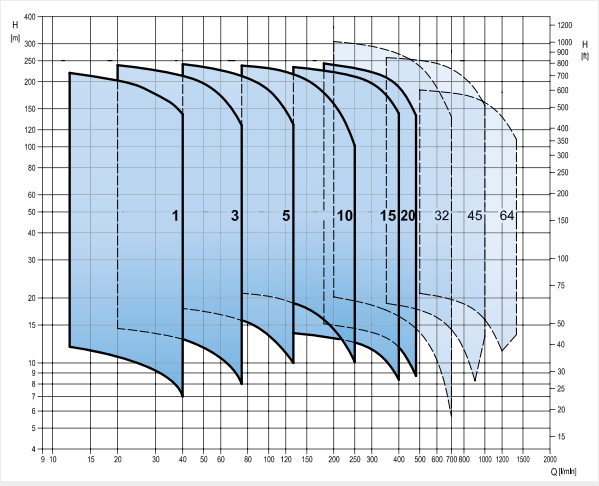
- **Maximum operating range (Pressure/Liquid temperature)**
  16 bar or 25 bar / - 30 to + 140 °C

- **Material version (bottom casing)**
  EVMS (AISI 304), EVMSL (AISI 316L), EVMSG (Cast iron)

- **Pipe connections**
  Round flange / Loose Flange / Oval flange / Victaulic® / Clamp

- **Motor**
  High Efficiency motor IE3 over 0.75 kW, 50 Hz / 60Hz,
  Single phase / Three phase
  PTC as standard for the above 1.5 kW
  EBARA three phase motors (model name: ETM) are available from 0.75 up to 11 kW for both 50 and 60 Hz.

EVMS 1-3-5-10-15-20
EVM 32-45-64 — **50 Hz**



	Drinking water approval				Atmosferes explosibles approval
	DM174/2004	ACS	KTW*	WRAS	ATEX 2014/34/UE
Mechanical seal	**SiC/Carbon_EPDM**	**SiC/Carbon_EPDM**	**SiC with graphite/ SiC_EPDM**	**SiC/Carbon_EPDM**	**All variations on page 18**
EVMSG	●	-	-	-	●
EVMS	●	●	●	●	●
EVMSL	●	●	●	●	●

Note: * KTW is certified for components.

● Available

Main product features

1

Shurricane®

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

ETM MOTORS

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

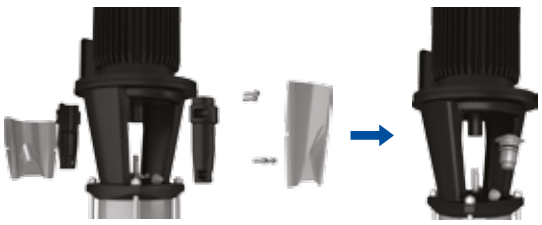
Shaft seal solutions

- **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

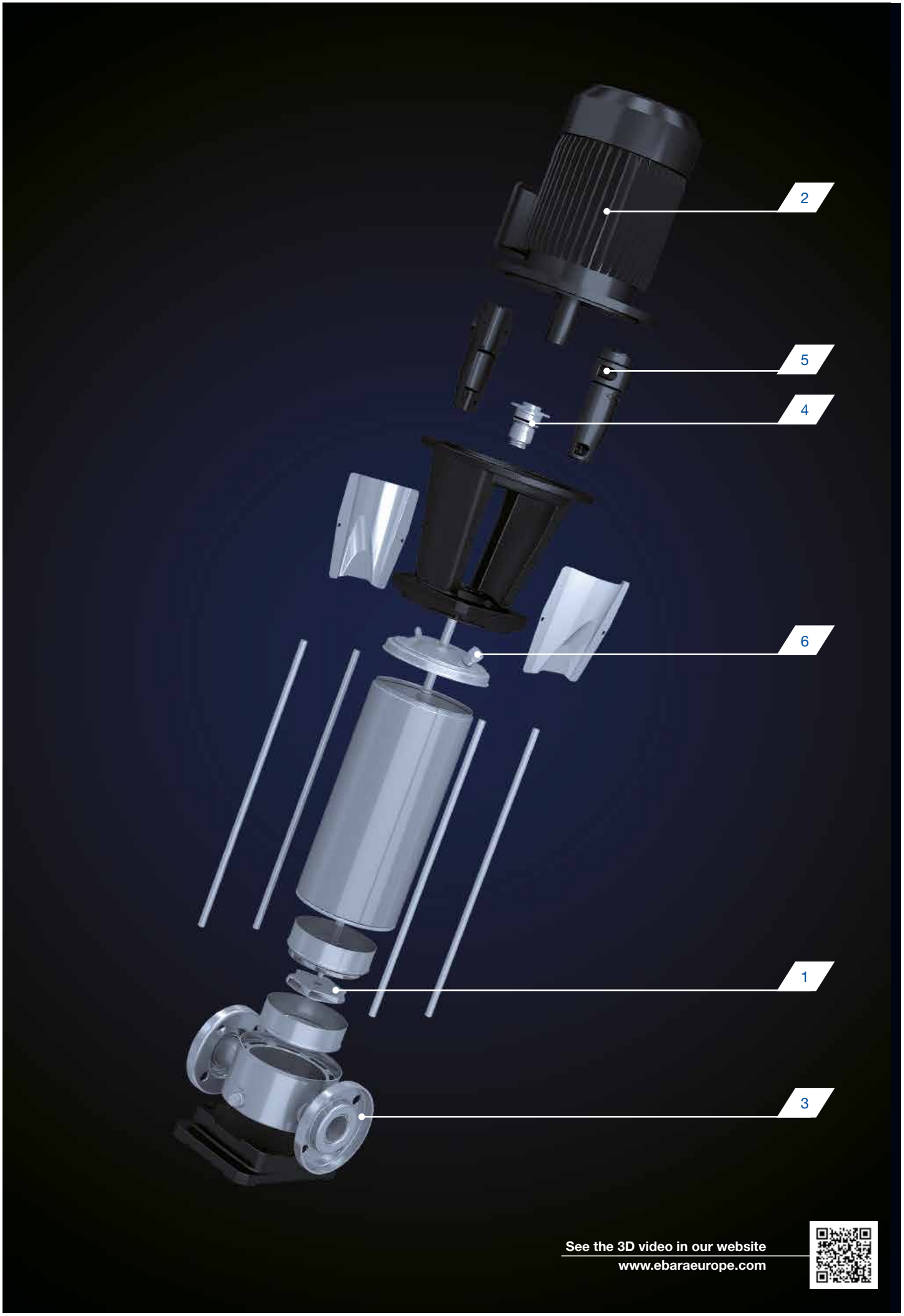
Smart plug solutions

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.ebaraeurope.com

Reliability is made by numbers

1
Million

Cycles of the endurance test*

2
Times

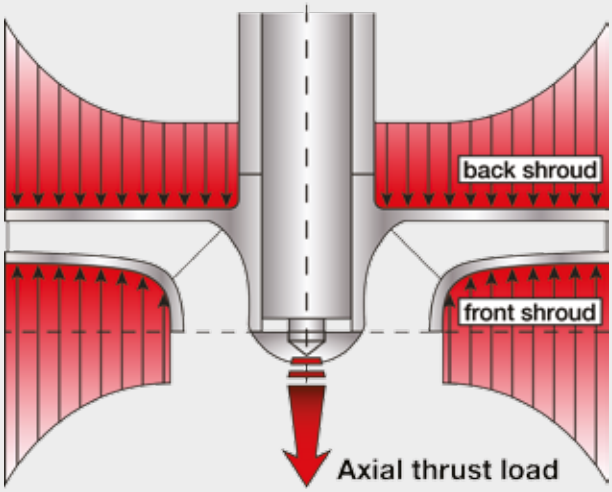
Higher test criteria than nominal operating conditions*

3
Times

Much less axial thrust load than common pumps

* for main components

Solve axial thrust load



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**

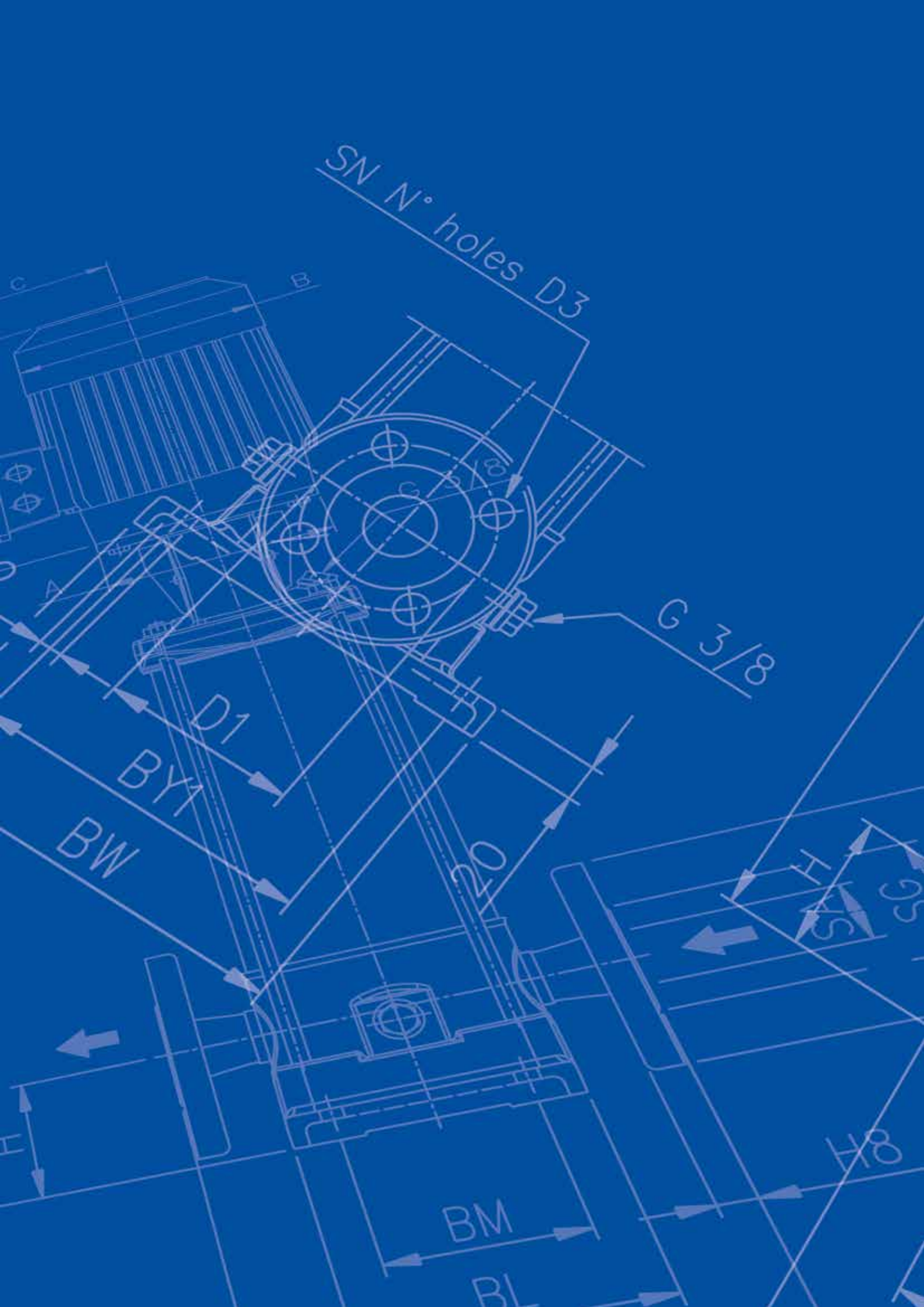
WATER SUPPLY

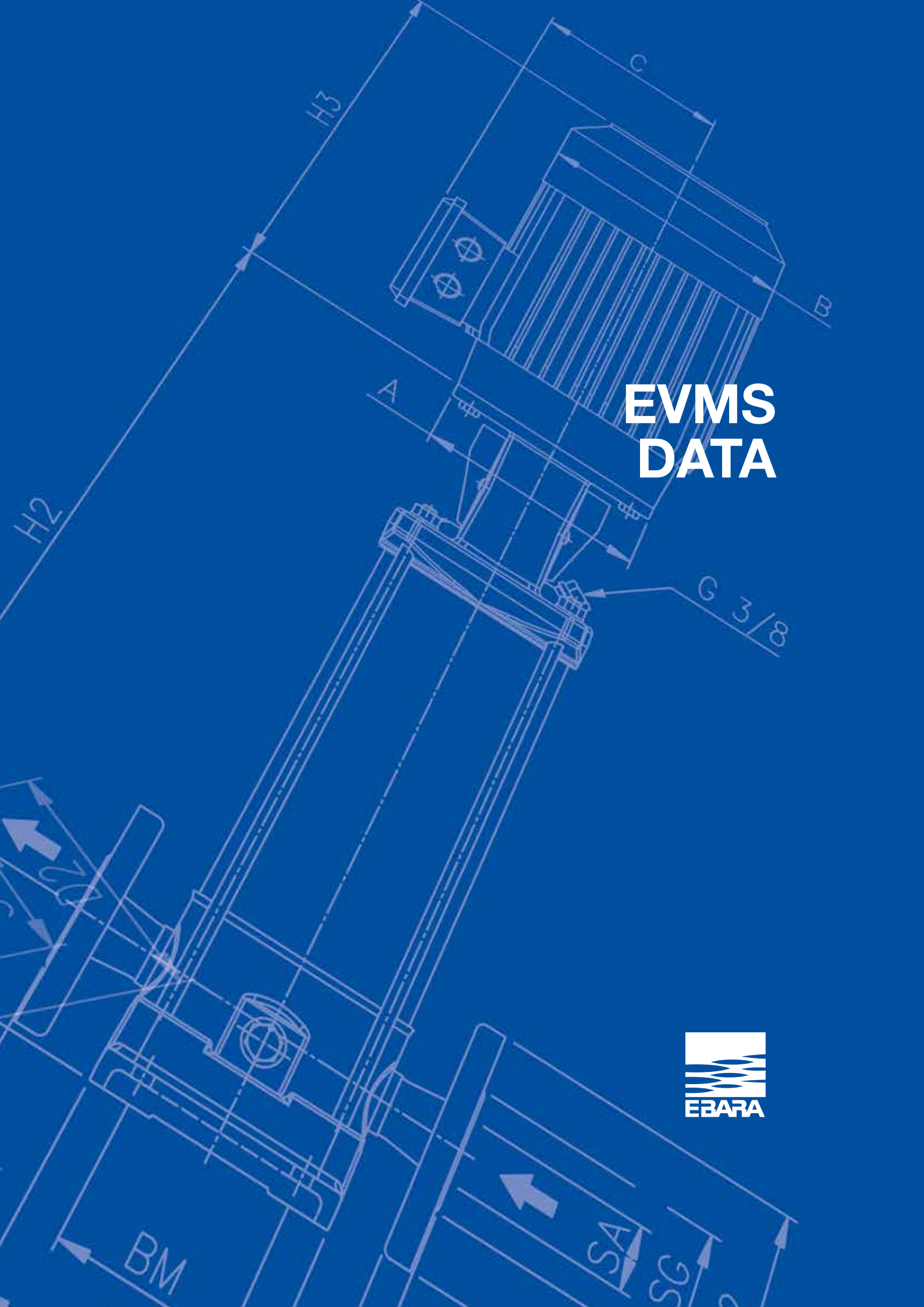
- **Water treatment**
  water treatment plants filtration
  water treatment plants transfer
- **Pressure boosting**
  transfer from water treatment plants (mains)
- **Irrigation**
  golf course / sport fields irrigation
- **Agriculture**
  sprinkler irrigation
  drip irrigation

In harmony with our customers

EBARA worldwide service points

please see the contact list on page 21.


SN N° holes D3
G 3/8
D1
BY1
BW
D2
BM
H8



EVMS DATA

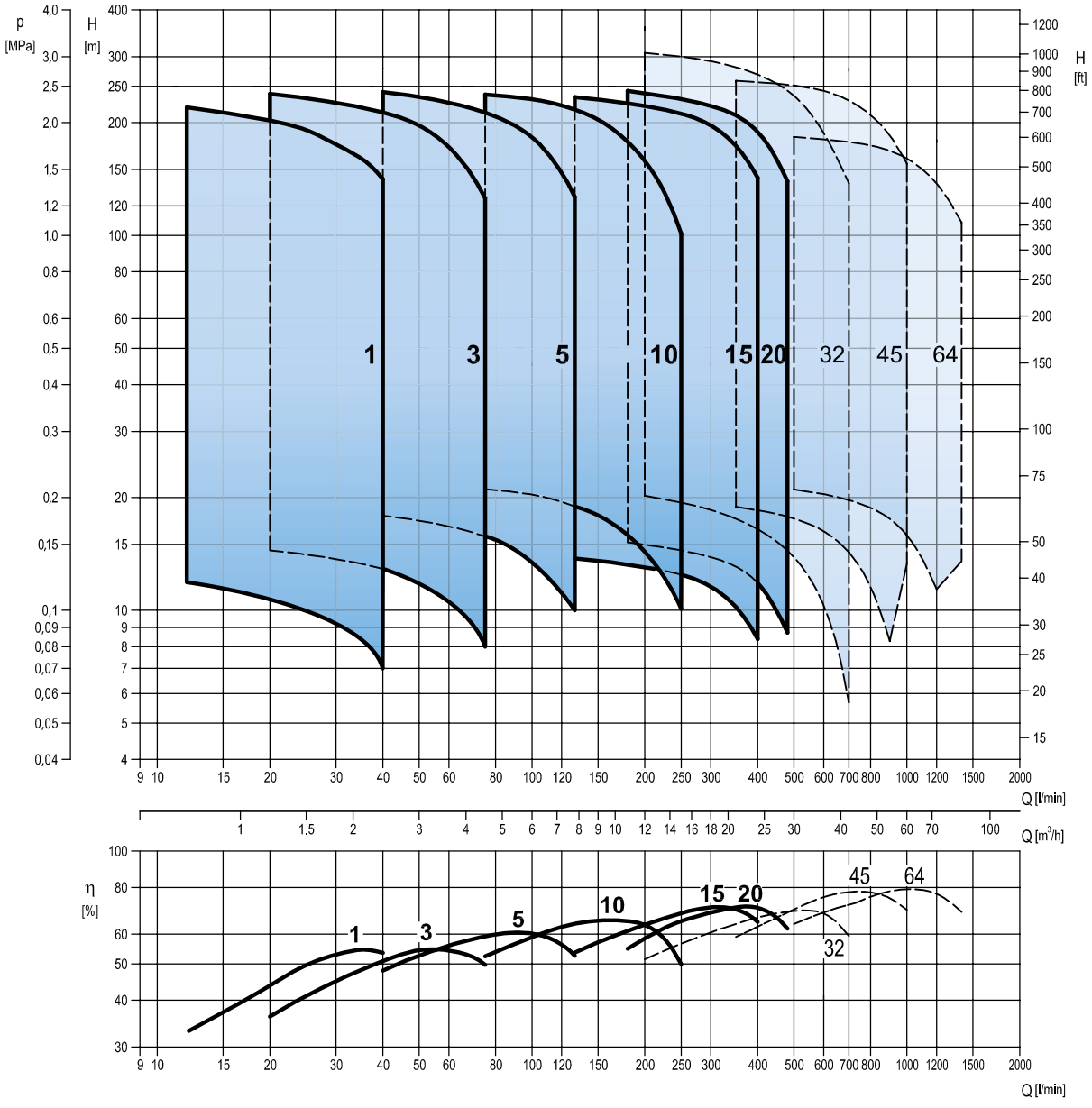
EBARA

Performance Range

50Hz

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

EVM 32-45-64



Minimum efficiency index (MEI)

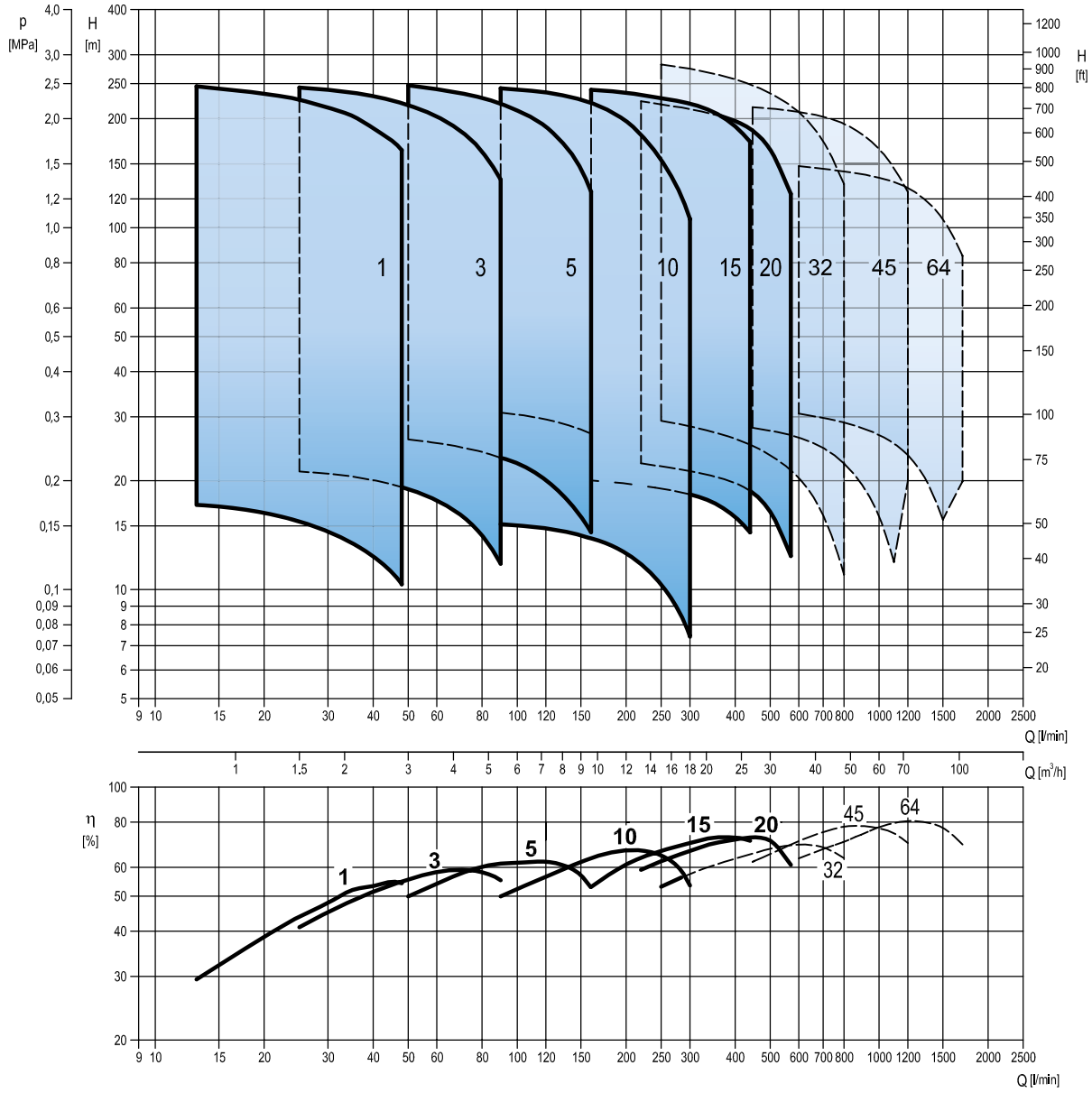
Pump type	MEI
EVMS(.)1	> 0.70
EVMS(.)3	> 0.70
EVMS(.)5	> 0.70
EVMS(.)10	> 0.70
EVMS(.)15	> 0.70
EVMS(.)20	> 0.70

Performance Range

60Hz

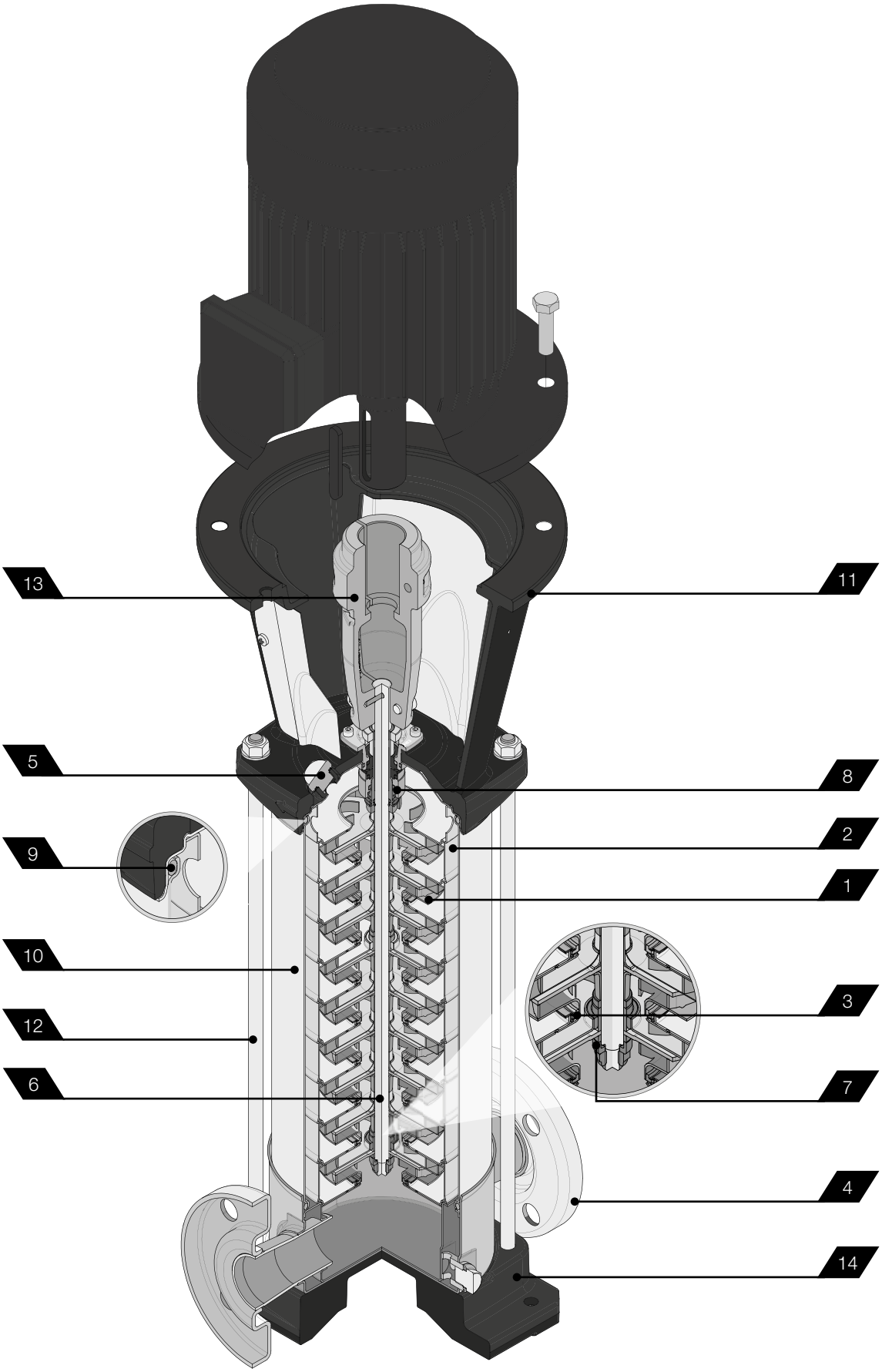
EVMS 1-3-5-10-15-20

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					
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)																	
	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 EVMSL5-15-20 (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							○	○	○	○	○	○	○	○	○	○	○	○

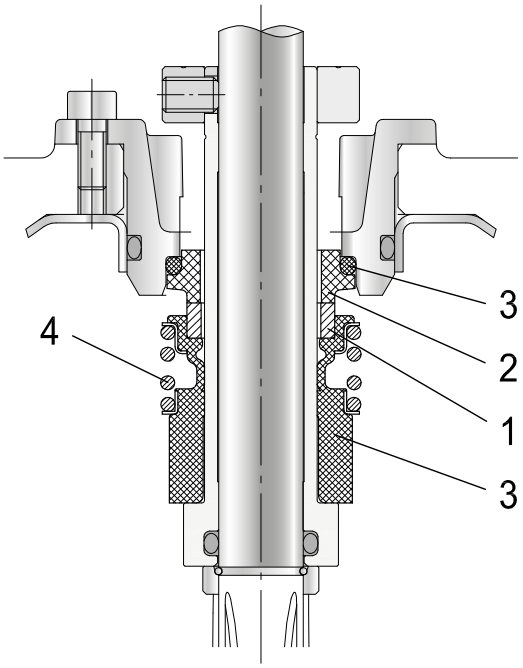
Legend: ● Standard ○ Options

Motor

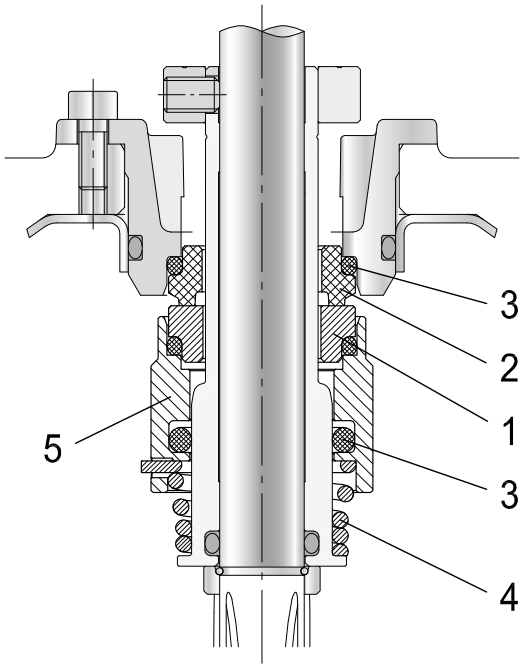
Power Source	Frequency	50 Hz		60 Hz	
	Phase	Single Phase	Three Phase	Three Phase	
	Rotation Speed	~ 2900 min^{-1}		~ 3500 min^{-1}	
	Power Rating	0.37 ÷ 2.2 kW	0.37 ÷ 18.5 kW	0.37 ÷ 18.5 kW	
		0.5 ÷ 3.0 HP	0.5 ÷ 25 HP	0.5 ÷ 25 HP	
	Voltage	230 ± 10%	230/400 ± 10% (up to 4kW) 400/690 ± 10% (above 5.5 kW)	220/380 ± 10% V (up to 4kW) 380/660 ± 10% V (above 5.5 kW)	265/460 ± 10% V (up to 4kW) 460 ± 10% V (above 5.5 kW)
Type	Type	Electric - TEFC		Electric - TEFC	
	Efficiency	from 0.37 to 2.2 kW	from 0.37 to 0.55 kW IE3 from 0.75 to 18.5 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



up to 16 bar



from 16 bar to 25 bar

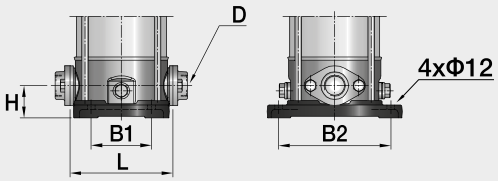
Legend: ● Standard ○ Options ( ) Type key

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)	AISI316 (G)		Q_1BEG
	- 30°C to + 80°C	○		SiC (Q_1)	Carbon (B)	FPM (V)	AISI316 (G)		Q_1BVG
	- 30°C to + 140°C		○	SiC with graphite (Q_g)	SiC (Q_1)	EPDM (E)	AISI316 (G)		HQ_gQ_1EG
	- 30°C to + 80°C		○	SiC with graphite (Q_g)	SiC (Q_1)	FPM (V)	AISI316 (G)		HQ_gQ_1VG
	- 30°C to + 140°C		○	SiC (Q_1)	Carbon (B)	EPDM (E)	AISI316 (G)		HQ_1BEG
from 16 bar to 25 bar	- 30°C to + 140°C		●	SiC (Q_1)	Carbon (B)	EPDM (E)	AISI316 (G)		HQ_1BEG
	- 30°C to + 80°C		○	SiC (Q_1)	Carbon (B)	FPM (V)	AISI316 (G)		HQ_1BVG
	- 30°C to + 140°C		○	SiC with graphite (Q_g)	SiC (Q_1)	EPDM (E)	AISI316 (G)		HQ_gQ_1EG
	- 30°C to + 80°C		○	SiC with graphite (Qg)	SiC (Q_1)	FPM (V)	AISI316 (G)		HQ_gQ_1VG

Pipe Connection data

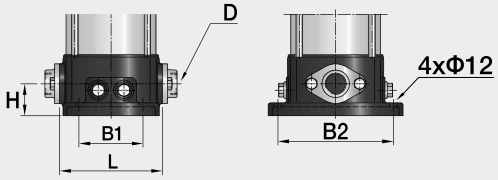
EVMS 1-3-5-10-15-20

Oval Flange (N)



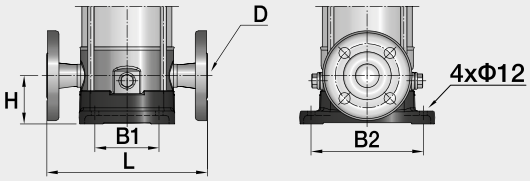
Maximum operating pressure	Dimensions	EVMS (AISI 1.4301) EVMSL (AISI 1.4401)			
		1/3	5	10	15/20
PN16	D	G1	G1¼	G1½	G2
	L	160	160	200	200
	B1 / B2	100/180	100/180	130/215	130/215
	H	50	50	80	90

Oval Flange (N)



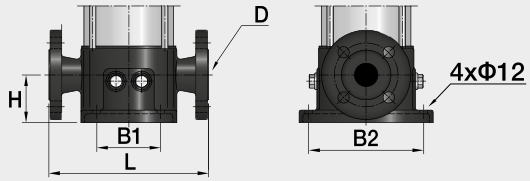
Maximum operating pressure	Dimensions	EVMSG (Cast Iron)			
		1/3	5	10	15/20
PN16	D	G1	G1¼	G1½	G2
	L	160	160	200	200
	B1 / B2	100/180	100/180	130/215	130/215
	H	50	50	80	90

Round Flange (F)



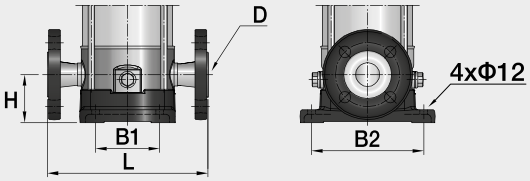
Maximum operating pressure	Dimensions	EVMS (AISI 1.4301) EVMSL (AISI 1.4401)			
		1/3	5	10	15/20
PN25	D	DN25	DN32	DN40	DN50
	L	250	250	280	300
	B1 / B2	100/180	100/180	130/215	130/215
	H	75	75	80	90

Round Flange (F)



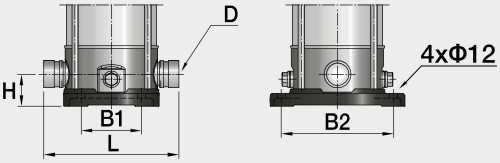
Maximum operating pressure	Dimensions	EVMSG (Cast Iron)			
		1/3	5	10	15/20
PN25	D	DN25	DN32	DN40	DN50
	L	250	250	280	300
	B1 / B2	100/180	100/180	130/215	130/215
	H	75	75	80	90

Loose Flange (LF)



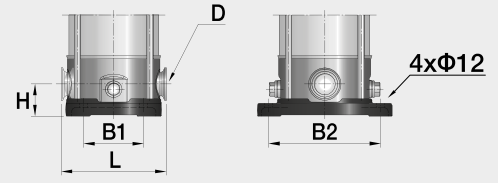
Maximum operating pressure	Dimensions	EVMS (AISI 1.4301) EVMSL (AISI 1.4401)			
		1/3	5	10	15/20
PN25	D	DN25	DN32	DN40	DN50
	L	250	250	280	300
	B1 / B2	100/180	100/180	130/215	130/215
	H	75	75	80	90

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

For further information

Data book

Instruction Manual

Kensaku
system for spare parts selection

Pump Selector
www.ebara.com

Please visit our website
www.ebaraeurope.com

EBARA worldwide service points

EUROPE

EBARA Pumps Europe S.p.A.
Via Pacinotti, 32
36040 Brendola (VI), Italy
Phone +39 0444 706811
Fax +39 0444 405811
www.ebaraeurope.com

Italian Sales (for order only):
e-mail: ordini@ebaraeurope.com

Export Sales (for order only):
e-mail: exportsales@ebaraeurope.com

Technical Customer Service (TCS):
e-mail: tcs@ebaraeurope.com
Phone +39 0444 706869/902/923/833

Marketing:
e-mail: marketing@ebaraeurope.com

EBARA Pumps Europe S.p.A. GERMANY
Elisabeth-Selbert-Straße 2
63110 Rodgau, Germany
Phone +49 (0) 6106-660 99-37
Fax +49 (0) 6106-660 99-42
e-mail: info@ebara.de

EBARA Pumps Europe S.p.A. UNITED KINGDOM
Unit 7 - Zodiac Business Park
High Road - Cowley Uxbridge
Middlesex - UB8 2GU, United Kingdom
Phone +44 1895 439027
Fax +44 1895 439028
e-mail: mktguk@ebaraeurope.com

EBARA Pumps Europe S.p.A. FRANCE
555, Rue Juliette Recamier
69970 Chaponnay, France
Phone +33 4 72769482
Fax +33 805101071
e-mail: mktgf@ebaraeurope.com

EBARA POMPY POLSKA Sp. z o.o.
ul. Działkowa 115 A
02-234 Warszawa, Poland
Phone +48 22 3909920
Fax +48 22 3909929
e-mail: mktgpl@ebaraeurope.com

EBARA Pumps RUS Ltd.
Prospekt Andropov 18, building 7, floor 11
115432 Moscow
Phone +7 499 6830133
e-mail: mktgrus@ebaraeurope.com

EBARA ESPAÑA BOMBAS S.A.
C/Cormoranes 6 Y 8
Polígono Ind. La Estación
28320 Pinto (Madrid), Spain
Phone +34 916.923.630
Fax +34 916.910.818
e-mail: marketing@ebara.es

ASIA & SOUTHEAST ASIA

EBARA Corporation
11-1, Haneda Asahi-cho, Ohta-ku,
Tokyo 144-8510, Japan
Phone +81 3 6275 7598
Fax +81 3 5736 3193
www.ebara.co.jp

EBARA Corporation Fujisawa plant
4-2-1, Hon-Fujisawa, Fujisawa-shi.
Kanagawa 251-8502, Japan
Phone +81-466-83-8111
Fax +81-466-81-2164

EBARA Machinery (CHINA) CO.,Ltd.
Room No.303, Beijing Fortune Plaza, No.7
Dongsanhuan Zhong Road, Chaoyang District
Beijing, 100020 P. R. China
Phone 86-10-65309996
Fax 86-10-6530-8968
e-mail: emc@ebare.cn
www.ebara.cn

EBARA Thailand Limited
3rd Floor Achme Build. 125 Phetchburi Road
Tungphayathai, Rajthevee, Bangkok 10400, Thailand
Phone 66-2-216-4935
Fax 66-2-216-4937
e-mail: info@ebara.co.th
www.ebara.co.th

EBARA Fluid Machinery Korea Co., Ltd.
3rd Fl. Hyun-Seok Tower
Seolleung-Ro 93-Gil, Gangnam-Gu
Seoul, 135-513 Korea
Phone 82 70 43621100
Fax 82 70 82302030
e-mail: nishikura.ryutaro@efmk-ebara.com

EBARA Pumps Philippines, Inc.
Canlubang Industrial Estate,
Cabuyao 4025, Laguna, Philippines
Phone 0063-49-549-1806
Fax 0063-49-549-1915
e-mail: pumpsales@ebaraphilippines.com
www.ebaraphilippines.com.ph

P.T. EBARA Indonesia
Jl. Raya Jakarta - Borgor Km. 32
Desa Curug, Cimanggis-Depok
Jawa Barat, 16953 Indonesia
Phone (62-21) 874 0852-53
Fax (62-21) 874 0033
e-mail: marketing@ebaraindonesia.com
www.ebaraindonesia.com

EBARA Pumps Malaysia Sdn. Bhd
6, Jalan TP3, UEP Subang Jaya Industrial Park,
47620, Subang Jaya, Selangor, Malaysia.
Phone 603-8023 6622
Fax 603-8023 9355
e-mail: sales@ebara.com.my
www.ebara.com.my

EBARA Engineering Singapore Pte. Ltd.
No 1, Tuas Link 2, Singapore 638550
Phone 65-6862-3536
Fax 65-6861-0589
e-mail: stdpump@ebrnet.com.sg
www.ebara.com.sg

EBARA Pumps Europe S.p.A INDIA LIAISON OFFICE
1503,Bhumiraj Costarica,
Sector-18, Palm Beach Rd.
Sanpada, Navi Mumbai
Maharashtra, Pin: 400705 - India
Phone +91 22 2781 2862
Fax +91 22 2781 2865
e-mail: mktgind@ebaraeurope.com

EBARA Vietnam Pump Company Limited
Lai Cach Industrial Zone, Lai Cach Town,
Cam Giang District,
Hai Duong Province, Vietnam
Phone 84-3203-850182
Fax 84-3203-850180
e-mail: sales@evpc-vn.com
www.ebarapump.com.vn

AMERICA

EBARA Fluid Handling
1651 Cedar Line Drive
Rock hill, SC 29730 U.S.A
Phone 803 327-5005
Fax 803 327-5097
e-mail: info@pumpsebara.com
www.pumpsebara.com

EBARA Industrias Mecanicas
& Comercio Ltda. (Brazil)
Rua Joaquim Marques de Figueiredo, 2-31,
Distrito Industrial, CEP 17034-290, Bauru, SP, Brasil
Phone +55 14 4009-0000
Fax +55 14 4009-0033
e-mail: assistencia@ebara.com.br
www.ebara.com.br

MIDDLE EAST

EBARA Pumps Middle East FZE
P.O.BOX 61383
Jebel Ali, Dubai, UAE
Phone +971 4 8838889
Fax +971 4 8835307
e-mail: nhasebe@ebarame.ae

OCEANIA

EBARA Pumps Australia Pty. Ltd.
7, Holloway Drive
Bayswater 3153 Victoria, Australia
Phone 0061-3-97613033
Fax 0061-3-97613044
e-mail: berrett@ebara.com.au
sales@ebara.com.au

Japanese Technology since 1912

www.ebaraeurope.com

EBARA Pumps Europe S.p.A.
Via Pacinotti, 32
36040 Brendola (Vicenza), Italy
Phone +39 0444 706811
Fax +39 0444 405811
ebara_pumps@ebaraeurope.com
www.ebaraeurope.com

EBARA Pumps Europe S.p.A. reserves the right to make modifications without prior notice: all specifications could be subject to change

FSC
www.fsc.org
MISTO
Carta
da fonti gestite in
maniera responsabile
Paper from
responsible sources
FSC® C127350

EBARA Corporation
11-1, Haneda Asahi-cho, Ohta-ku,
Tokyo 144-8510
Japan
Phone +81 3 6275 7598
Fax +81 3 5736 3193
www.ebara.com

S.C. 106 11/16