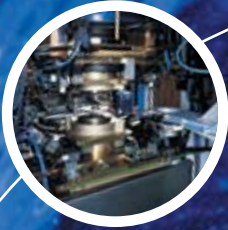


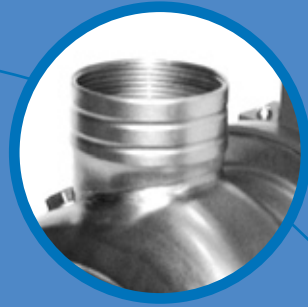


DWC



Centrifugal Pumps







DWC

SPECIFICATIONS	pag. 4
Applications	pag. 4
Technical features	pag. 4
Technical data	pag. 4
Type key	pag. 4
Pump	pag. 5
Motor	pag. 5
PERFORMANCE CHART	pag. 6
Performance table	pag. 6
ELECTRICAL DATA AND SOUND LEVEL	pag. 7
PERFORMANCE CURVES	pag. 8
SECTIONAL VIEW	pag. 10
DWC-V Victaulic connection	pag. 10
DWC-N Threaded connection	pag. 12
MECHANICAL SEAL	pag. 14
INSULATION	pag. 15
DIMENSIONS	pag. 16
INSTALLATIONS	pag. 18



DWC-V
Victaulic connection



DWC-N
Threaded connection

Single impeller centrifugal pumps with hydraulic components manufactured from stainless steel AISI 304.

APPLICATIONS

- Chillers
- Refrigeration
- Conditioning and heating
- Transferring of industrial liquids
- Domestic and industrial water supply
- Irrigation
- Swimming pools
- Washing systems
- Drainage

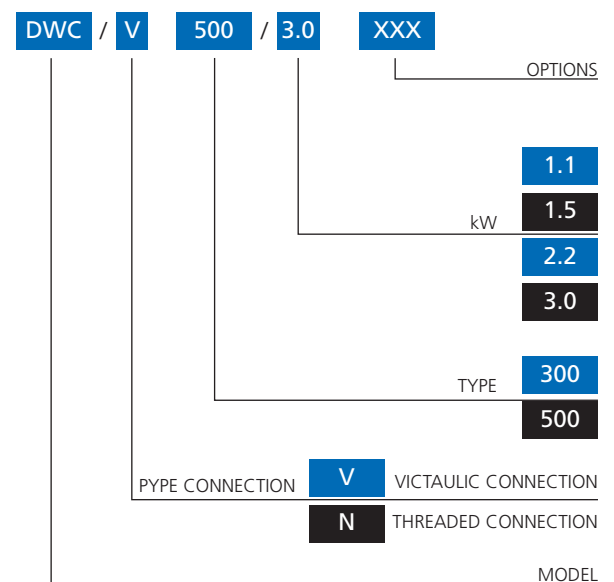
TECHNICAL FEATURES

- Hydraulic robust construction
- High performances and efficiency
- Ebara exclusive patent for hydraulic volute obtained from hydro-forming process
- No condensation: insulation as standard for Victaulic version (DWC-V)
- EPDM mechanical seal and elastomers as standard
- Connections:
 - Victaulic Ø 2"
 - Female thread G2
 - Hose-union

TECHNICAL DATA

- Capacity up to 45 m³/h
- Total head up to 26 m
- T.E.F.C. 2 poles motor
- Insulation class F
- Protection Degree IP55
- 3 ~ 230/400 ± 10% 50 Hz
- Thermal protection to be provided by the user
- DNA 2"
- DNM 2"

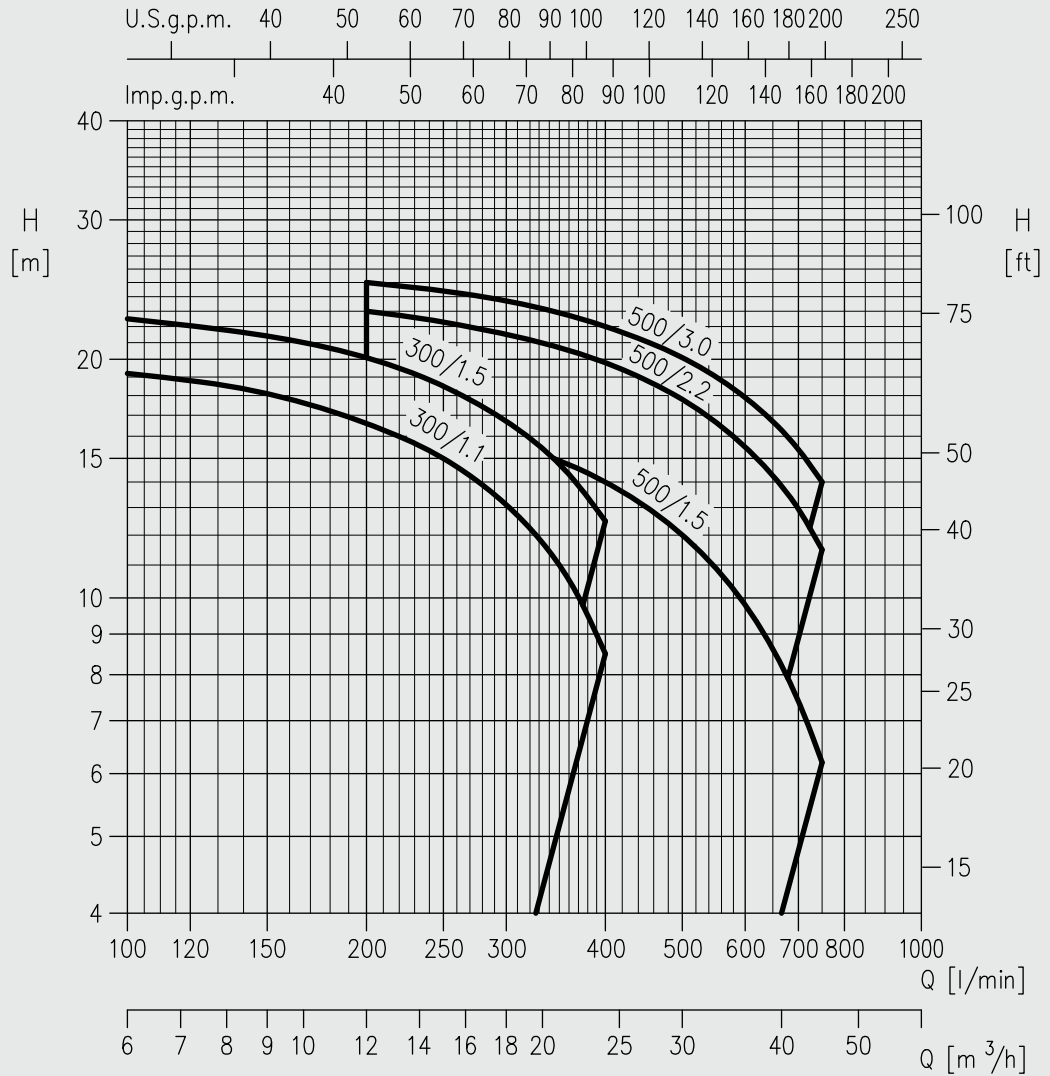
TYPE KEY



PUMP		
Liquid Handled	Type of liquid	Clean water, moderate aggressive fluids, glycol solutions, other industrial fluids after a check by our sales network
	Temperature [°C]	-15°C ÷ +90°C +110°C version H
Maximum working pressure	[MPa]	0,8
Construction	Impeller	Closed centrifugal type
	Shaft seal type	Mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction	DWC-V Victaulic connection Ø 2" (60.3mm) DWC-N G 2
	Discharge	DWC-V Victaulic connection Ø 2" (60.3mm) DWC-N G 2
Material	Casing	EN 1.4301 (AISI 304)
	Impeller	EN 1.4301 (AISI 304)
	Casing cover	EN 1.4301 (AISI 304)
	Shaft seal	Ceramic/Carbon/EPDM
	Casing cover	EN 1.4301 (AISI 304)
	Shaft	EN 1.4301 (AISI 304) (Part in contact with liquid)
	Bracket	Aluminium
Applicable standard of test		ISO 9906 – Annex A

MOTOR		
Type	Electric - TEFC Three Phase	
No. of Poles	2	
Synchronous speed	[min ⁻¹]	3000
Insulation Class	F	
Protection degree	IP 55	
Power rating	[kW]	1.1 ÷ 3
	[HP]	1.5 ÷ 4
Frequency	[Hz]	50
Voltage	[V]	230/400 ±10%
Over load protection	User provide	
Casing material	Aluminium	
Base material/motor support	Aluminium	
Dimensions of cable entry	PG11 - PG13.5 (See page 16 - 17)	

PERFORMANCE CHART



PERFORMANCE TABLE

Pumps Type Three-phase 230/400 V 50 Hz	Power		Q=Capacity												
	kW	HP	l/min	0	100	150	200	250	300	350	400	500	600	700	750
			m ³ /h	0	6	9	12	15	18	21	24	30	36	42	45
H=Total head in meters															
DWC 300/1,1	1,1	1,5		21,0	19,2	18,1	16,6	15,0	13,1	11,0	8,5	-	-	-	-
DWC 300/1,5	1,5	2		24,5	22,5	21,4	20,1	18,5	16,7	14,6	12,0	-	-	-	-
DWC 500/1,5	1,5	2		18,5	-	-	17,0	16,4	15,7	14,9	14,0	12,0	9,8	7,4	6,2
DWC 500/2,2	2,2	3		24,5	-	-	23,0	22,3	21,5	20,7	19,8	17,8	15,5	13,0	11,5
DWC 500/3,0	3	4		26,3	-	-	25,0	24,4	23,7	22,9	22,0	20,0	17,6	15,0	13,6

ELECTRICAL DATA

PUMP TYPE Three Phase 230/400 V	POWER		INPUT in [kW] Three Phase	FULL LOAD CURRENT in [A] Three Phase		LOCKED ROTOR CURRENT Three Phase	
	kW	HP		230 V	400 V	230 V	400 V
DWC 300/1.1	1,1	1,5	1,36	4,3	2,5	23,8	13,7
DWC 300/1.5	1,5	2	1,76	5,5	3,2	35,7	20,6
DWC 500/1.5	1,5	2	1,82	5,9	3,4	38,5	22,2
DWC 500/2.2	2,2	3	2,93	8,3	4,8	64,7	37,3
DWC 500/3.0	3	4	3,27	9,7	5,6	100	57,6

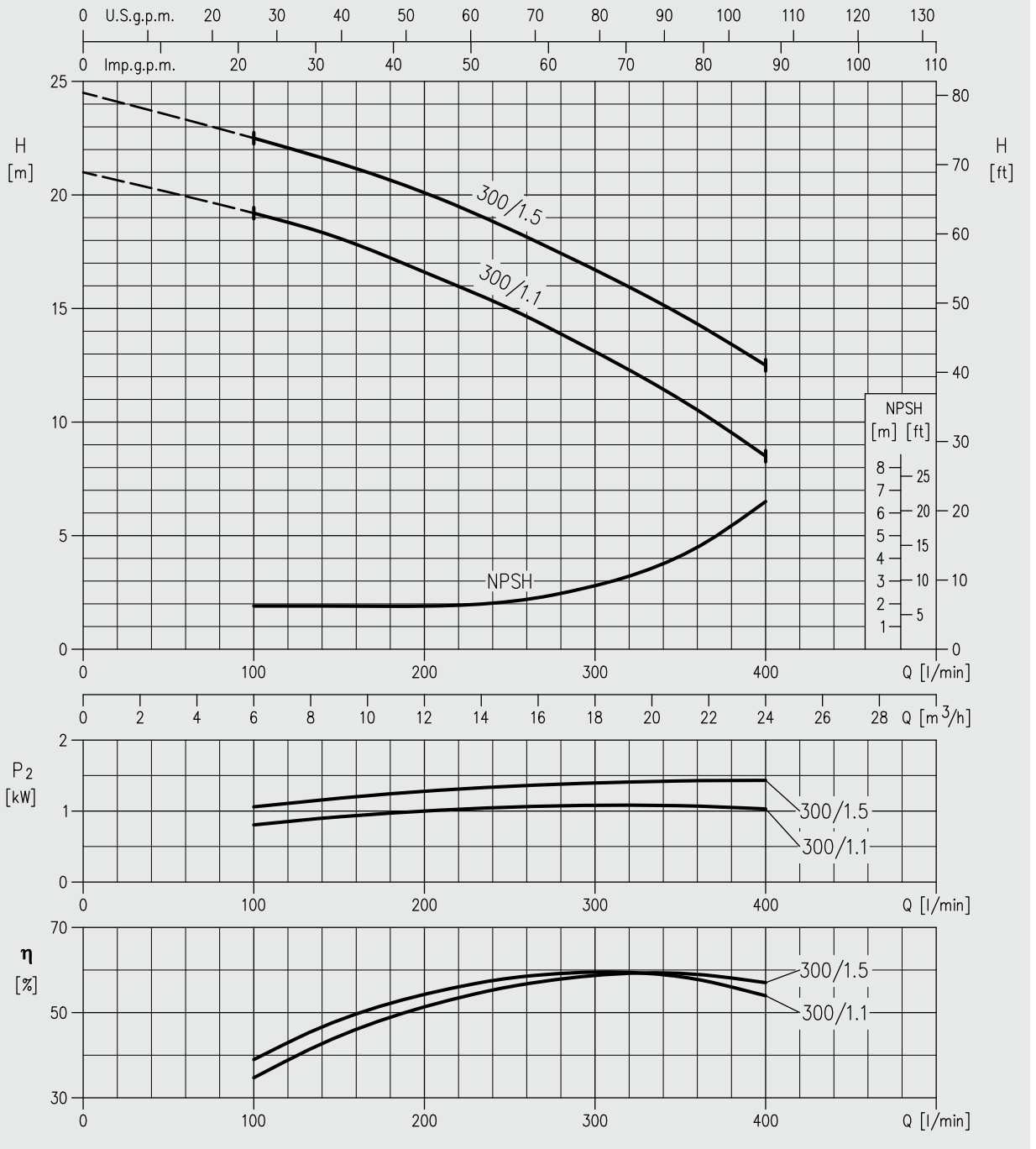
SOUND PRESSURE LEVEL EMITTED BY ELECTRO-PUMPS

Power kW	MOTOR		50 Hz LpA - dB (A)*	60 Hz LpA - dB (A)**
	Size Mec			
1.1	80	64	73	
1.5	80	64	73	
1.5	80	64	73	
2.2	90	68	77	
3	90	68	77	

* Sound pressure level - Mean value of several measures at 1m distance around the pump of free field conditions. Tolerance ± 2.5 dB.

* Sound power level - Tolerance ± 2.5 dB.

DWC 300/1.1 (1.1 kW) - Impeller diameter = 133 mm
 DWC 300/1.5 (1.5 kW) - Impeller diameter = 148 mm

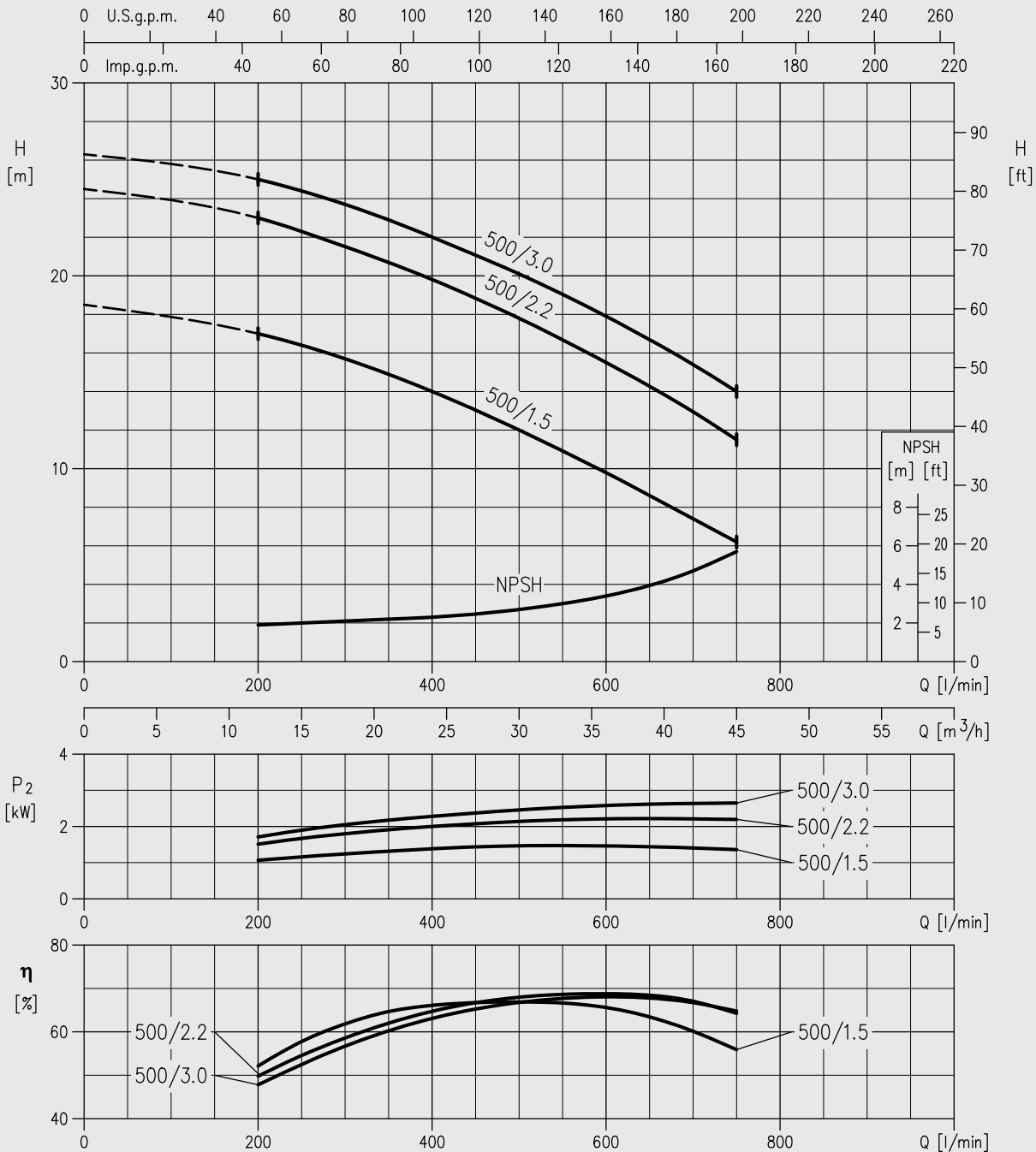


Rotation speed : ≈2900 min⁻¹
 Applicable standard of test: ISO 9906 - Annex A

SYMBOLS EXPLANATION:

- Q** = volume flow rate
- H** = total head
- P₂** = pump power input (shaft power)
- η** = pump efficiency
- NPSH** = net positive suction head required by the pump

DWC 500/1.5 (1.5 kW) - Impeller diameter = 125 mm
 DWC 500/2.2 (2.2 kW) - Impeller diameter = 140 mm
 DWC 500/3.0 (3.0 kW) - Impeller diameter = 148 mm



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

SYMBOLS EXPLANATION:

Q = volume flow rate

H = total head

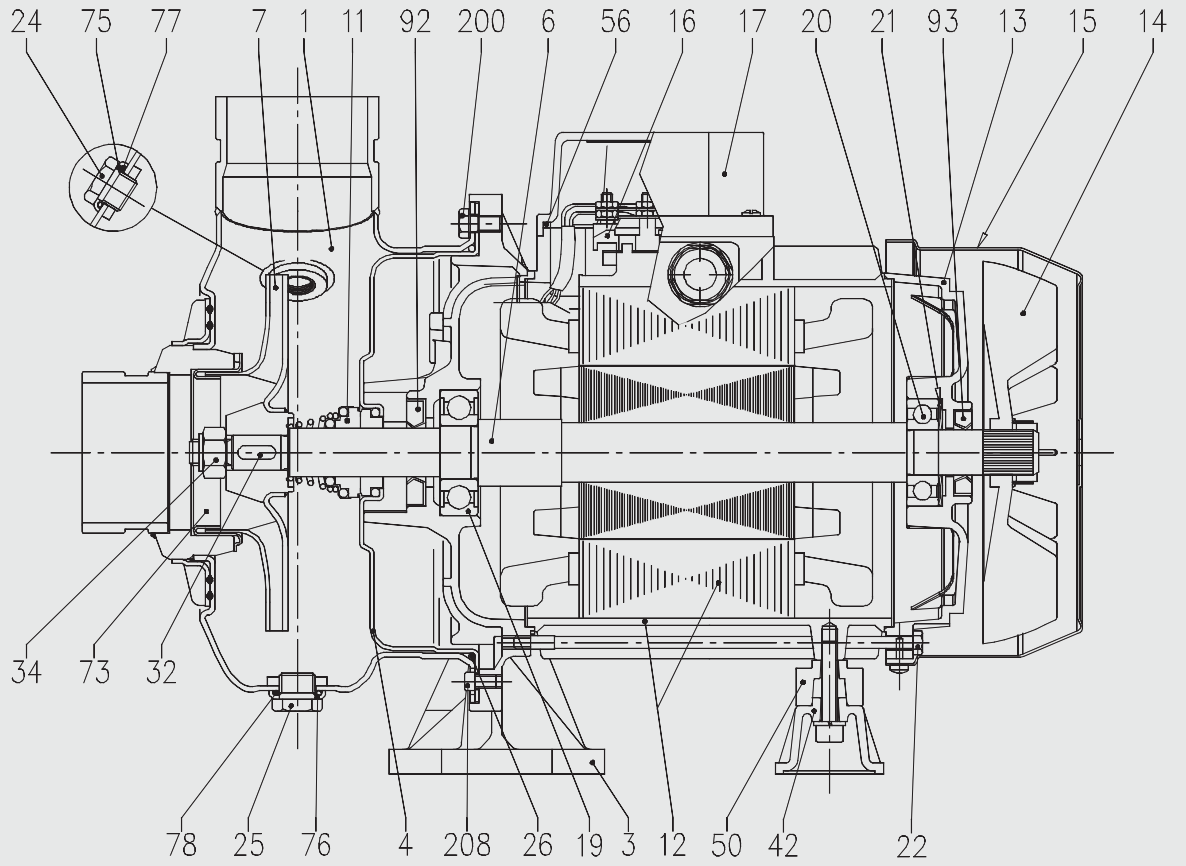
P₂ = pump power input (shaft power)

η = pump efficiency

NPSH = net positive suction head required by the pump

EXPLODED VIEW AND LIST OF COMPONENT

DWC-V
Victaulic connection



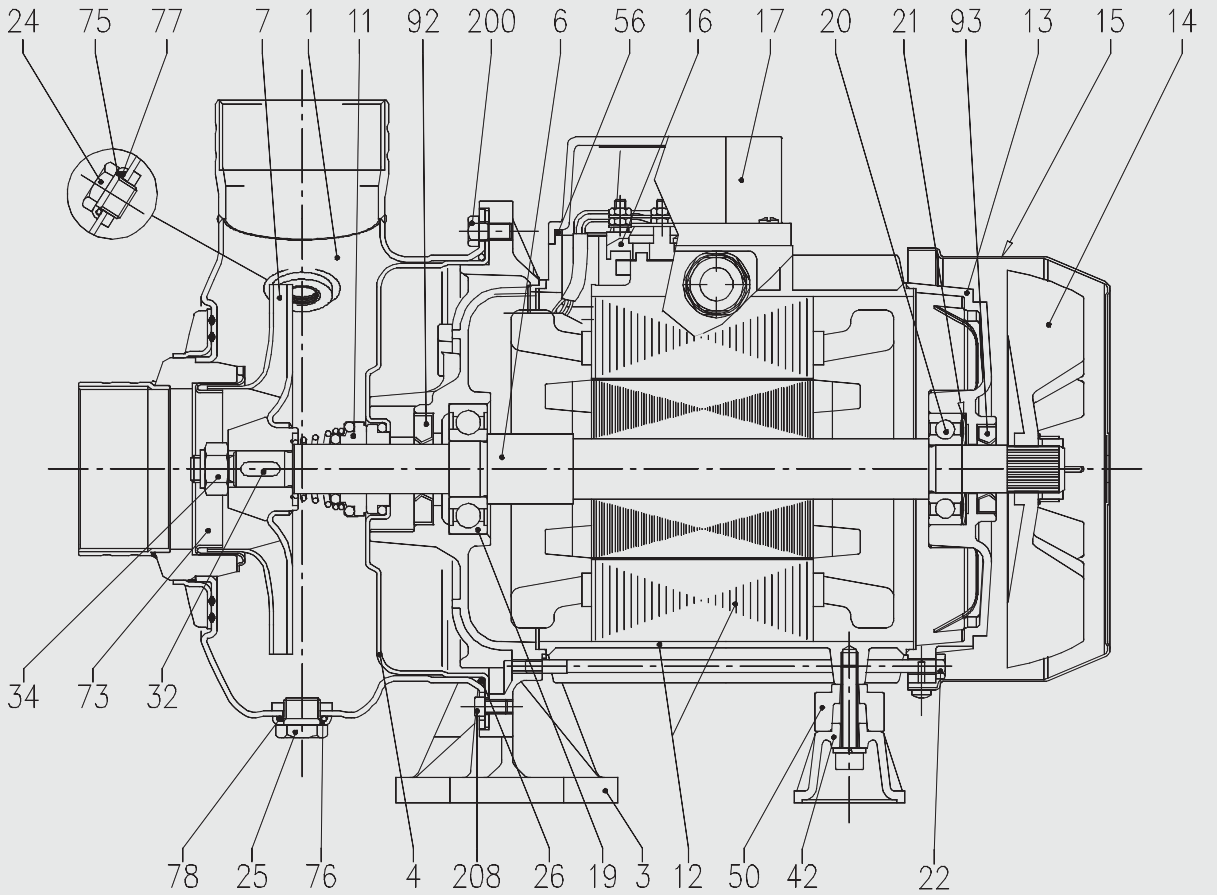
N°	PART NAME	MATERIAL	Q.TY	N°	PART NAME	MATERIAL	Q.TY
001	Casing	EN 1.4301 (AISI 304)	1	026	"O" ring	EPDM / FPM (version H and W)	1
003	Motor bracket	Aluminium	1	032	Key	EN 1.4401 (AISI 316)	1
004	Casing cover	EN 1.4301 (AISI 304)	1	034	Impeller nut	EN 1.4301 (AISI 304)	1
006	Shaft with rotor	EN 1.4301(AISI 304) Wet extension	1	042	Foot	Aluminium/Galvanized steel	1
007	Impeller	EN 1.4301 (AISI 304)	1	050	Spacer	-	[1]
011	Mechanical seal	Ceramic/Carbon/EPDM	1	056	Box gasket	NBR	1
012	Motor frame with stator	-	1	073	Casing ring	EN 1.4301 (AISI 304)	1
013	Motor cover	Aluminium	1	075	Washer	EN 1.4301 (AISI 304)	1
014	Fan	Poliammide (PA)	1	076	Washer	EN 1.4301 (AISI 304)	1
015	Fan cover	Fe P04 Galvanized	1	077	O-ring	EPDM / FPM (version H and W)	1
016	Terminal board	-	1	078	O-ring	EPDM / FPM (version H and W)	1
017	Terminal board cover	Aluminium	1	092	Lip seal	-	1
019	Bearing	-	1	093	Lip seal Up to 1,5 kW For 2,2 and 3.0 kW		1
020	Bearing	-	1	200	Screw	Stainless steel A2-70 class ISO 3506/1	6
021	Adjusting ring	Steel C70	1	208	Screw	Stainless steel A2-70 class ISO 3506/1	4
022	Tie rod	Fe 42 Galvanized	4				
024	Priming plug	EN 1.4301 (AISI 304)	1				
025	Draing plug	EN 1.4301 (AISI 304)	1				

[1] N°1 only for 1,1kW and 1,5kW



EXPLODED VIEW AND LIST OF COMPONENT

DWC-N
Threaded connection

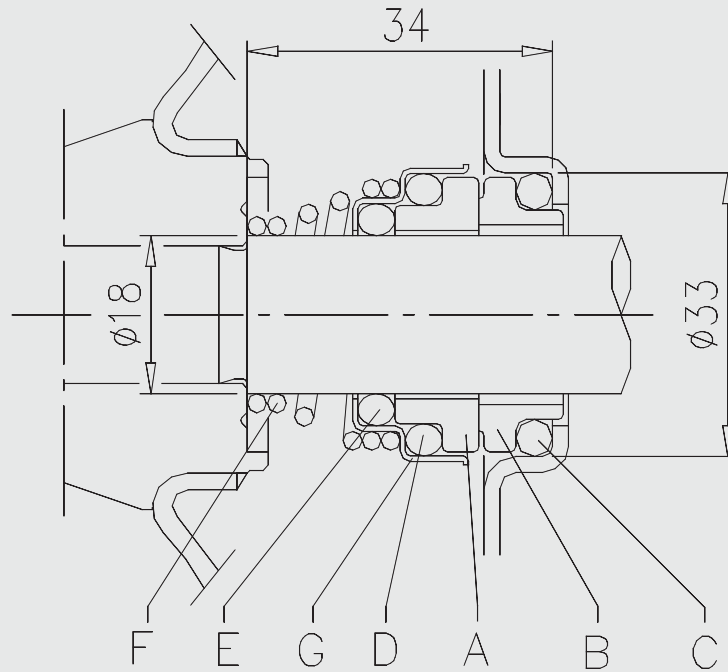


N°	PART NAME	MATERIAL	Q.TY	N°	PART NAME	MATERIAL	Q.TY
001	Casing	EN 1.4301 (AISI 304)	1	026	"O" ring	EPDM / FPM (version H and W)	1
003	Motor bracket	Aluminium	1	032	Key	EN 1.4401 (AISI 316)	1
004	Casing cover	EN 1.4301 (AISI 304)	1	034	Impeller nut	EN 1.4301 (AISI 304)	1
006	Shaft with rotor	EN 1.4301(AISI 304) Wet extension	1	042	Foot	Aluminium/Galvanized steel	1
007	Impeller	EN 1.4301 (AISI 304)	1	050	Spacer	-	[1]
011	Mechanical seal	Ceramic/Carbon/EPDM	1	056	Box gasket	NBR	1
012	Motor frame with stator	-	1	073	Casing ring	EN 1.4301 (AISI 304)	1
013	Motor cover	Aluminium	1	075	Washer	EN 1.4301 (AISI 304)	1
014	Fan	Poliammide (PA)	1	076	Washer	EN 1.4301 (AISI 304)	1
015	Fan cover	Fe P04 Galvanized	1	077	O-ring	EPDM / FPM (version H and W)	1
016	Terminal board	-	1	078	O-ring	EPDM / FPM (version H and W)	1
017	Terminal board cover	Aluminium	1	092	Lip seal	-	1
019	Bearing	-	1	093	Lip seal Up to 1,5 kW For 2,2 and 3.0 kW	-	1
020	Bearing	-	1	200	Screw	Stainless steel A2-70 class ISO 3506/1	6
021	Adjusting ring	Steel C70	1	208	Screw	Stainless steel A2-70 class ISO 3506/1	4
022	Tie rod	Fe 42 Galvanized	4				
024	Priming plug	EN 1.4301 (AISI 304)	1				
025	Draing plug	EN 1.4301 (AISI 304)	1				

[1] N°1 only for 1,1kW and 1,5kW

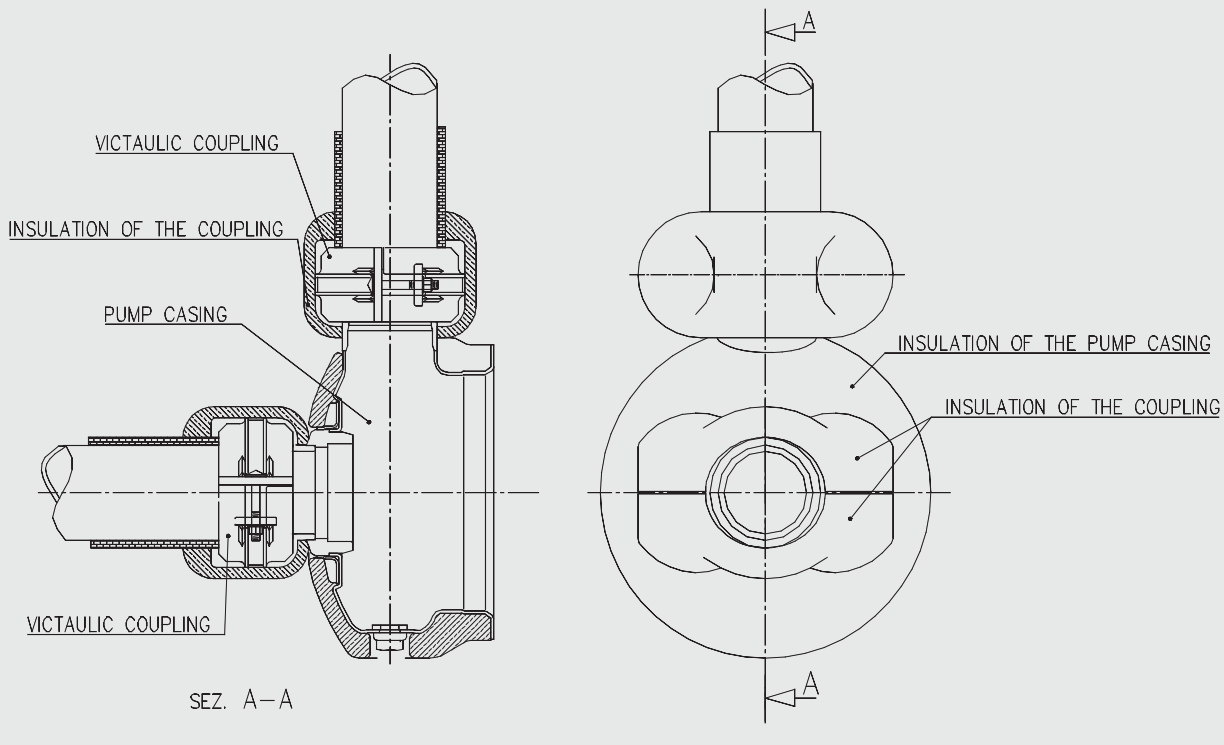


MECHANICAL SEAL



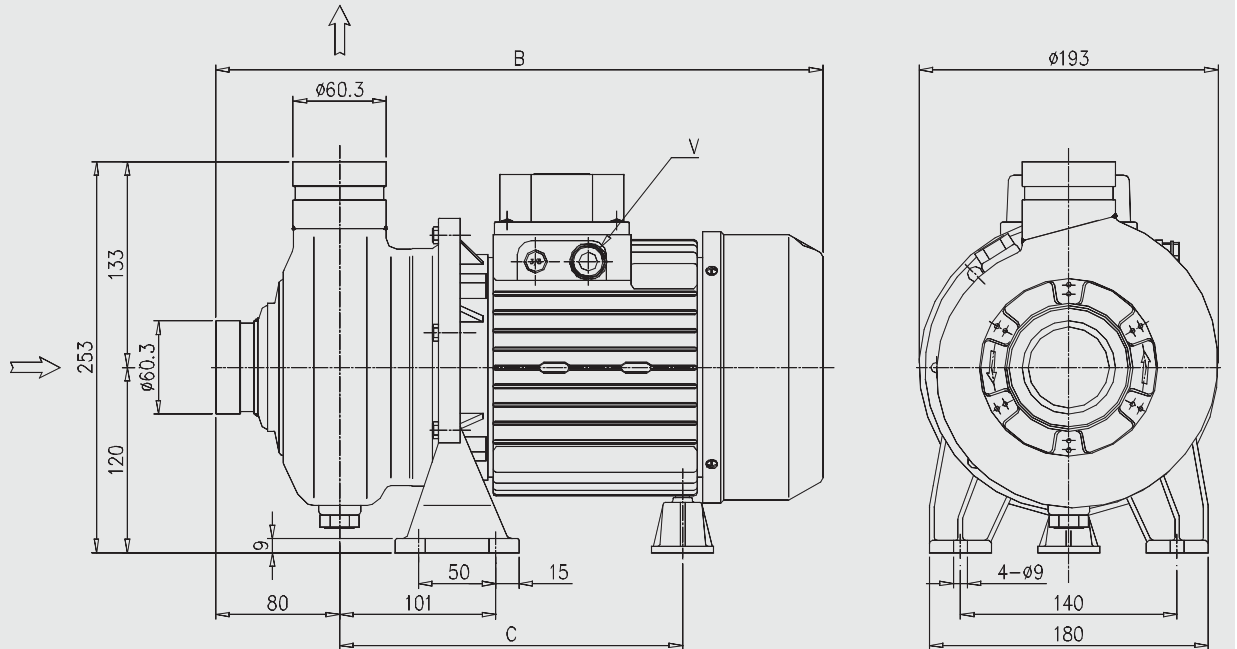
REF	PART NAME	MATERIAL			
		Product standard	H version	HSW version	option
A	Rotary seal ring	ceramic	ceramic	SiC	ceramic
B	Stationary seal ring	carbon graphite	carbon graphite	tungsten carbide	carbon graphite
C	O Ring	EPDM	FPM	FPM	NBR
D	O Ring	EPDM	FPM	FPM	NBR
E	O Ring	EPDM	FPM	FPM	NBR
F	Self driving spring	AISI 316	AISI 316	AISI 316	AISI 316
G	Frame	AISI 304	AISI 304	AISI 304	AISI 304

THERMAL INSULATION



	PUMP TYPE	INSULATION OF THE PUMP CASING	INSULATION OF THE COUPLING	VICTAULIC COUPLING
VICTAULIC CONNECTION	DWC-V 300/1.1	STANDARD	ON REQUEST	ON REQUEST
	DWC-V 300/1.5			
	DWC-V 500/1.5			
	DWC-V 500/2.2			
	DWC-V 500/3.0			
THREADED CONNECTION	DWC-N 300/1.1	ON REQUEST	NO NECESSARY	NO NECESSARY
	DWC-N 300/1.5			
	DWC-N 500/1.5			
	DWC-N 500/2.2			
	DWC-N 500/3.0			

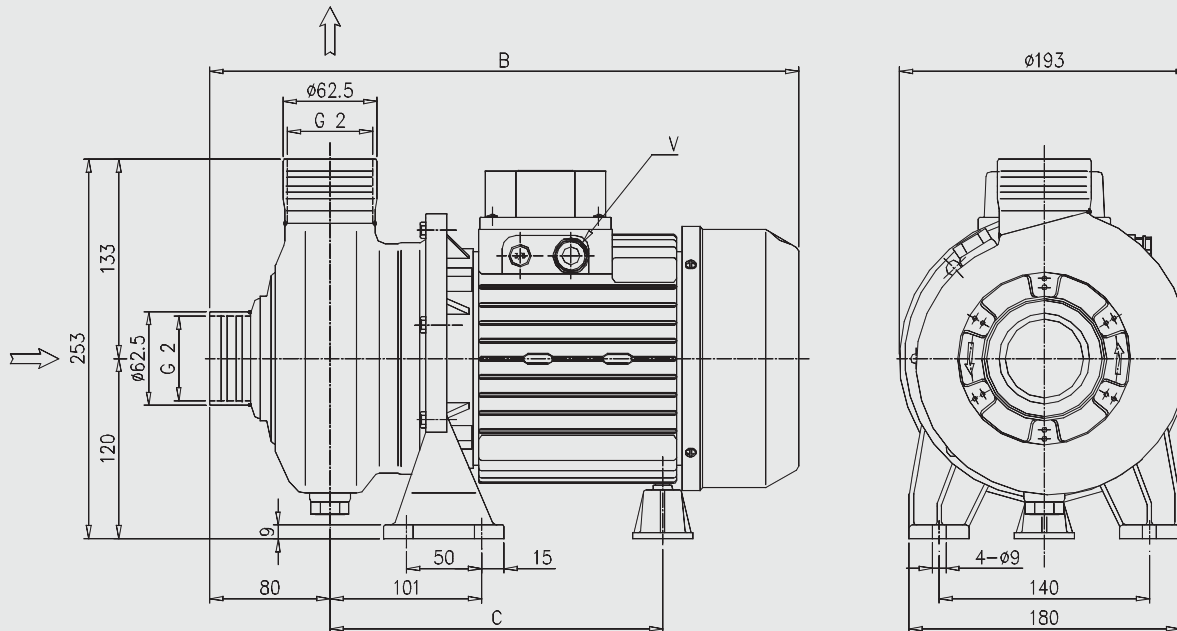
DWC-V Victaulic connection



DWC-V

PUMP TYPE	DIMENSIONS [mm]		
	B	C	V
DWC-V 300/1.1	371.5	197.5	PG11
DWC-V 300/1.5	371.5	197.5	PG11
DWC-V 500/1.5	371.5	197.5	PG11
DWC-V 500/2.2	392	221.5	PG13.5
DWC-V 500/3.0	392	221.5	PG13.5

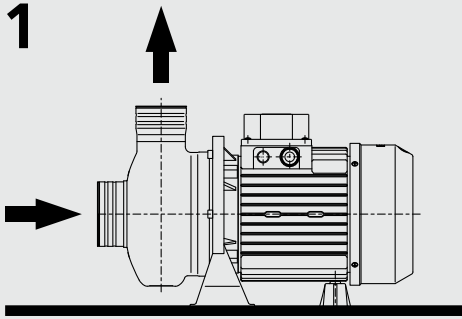
DWC-N Threaded connection



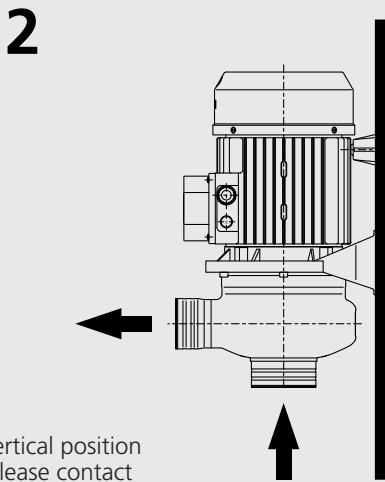
DWC-N

PUMP TYPE	DIMENSIONS [mm]		
	B	C	V
DWC-N 300/1.1	371.5	197.5	PG11
DWC-N 300/1.5	371.5	197.5	PG11
DWC-N 500/1.5	371.5	197.5	PG11
DWC-N 500/2.2	392	221.5	PG13.5
DWC-N 500/3.0	392	221.5	PG13.5

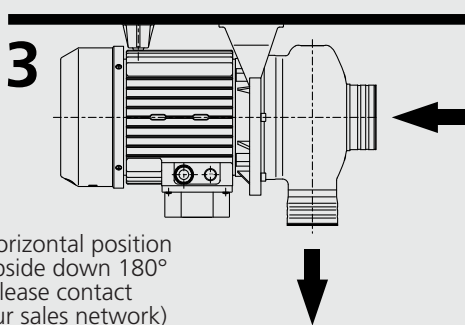
ON REQUEST ROTATION POSSIBILITIES



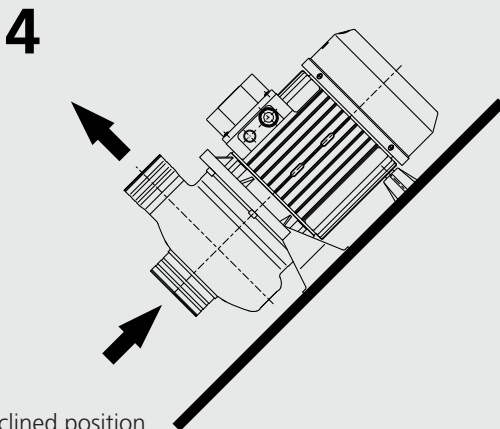
Horizontal position



Vertical position
(please contact
our sales network)

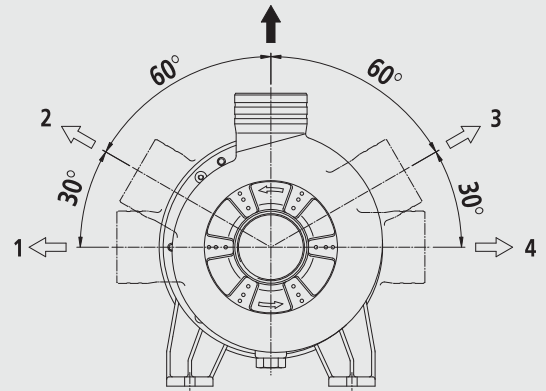


Horizontal position
upside down 180°
(please contact
our sales network)

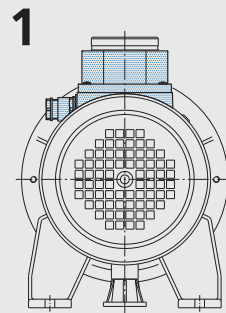


Inclined position

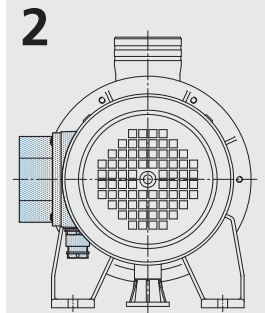
DISCHARGE POSITION



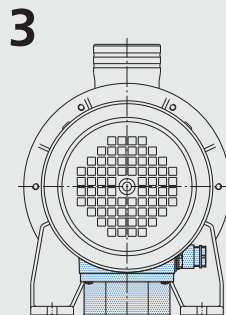
TERMINAL BOX



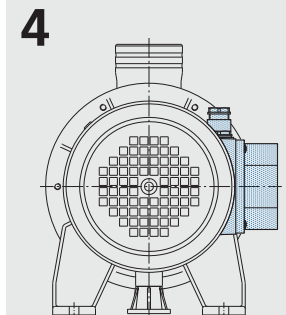
Terminal box on the
delivery side standard



Terminal box on the
left of the delivery side



Terminal box opposite
delivery side



Terminal box on the right
of the delivery side



www.ebara.eu



EBARA PUMPS EUROPE S.p.A.
Via Pacinotti, 32
36040 BRENDOLA (VICENZA), Italy
Phone: +39-0444-706811
Fax: +39-0444-706950
Plants: Cles, Brendola
marketing@ebara.eu
www.ebara.eu