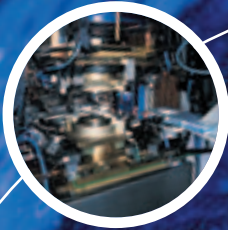


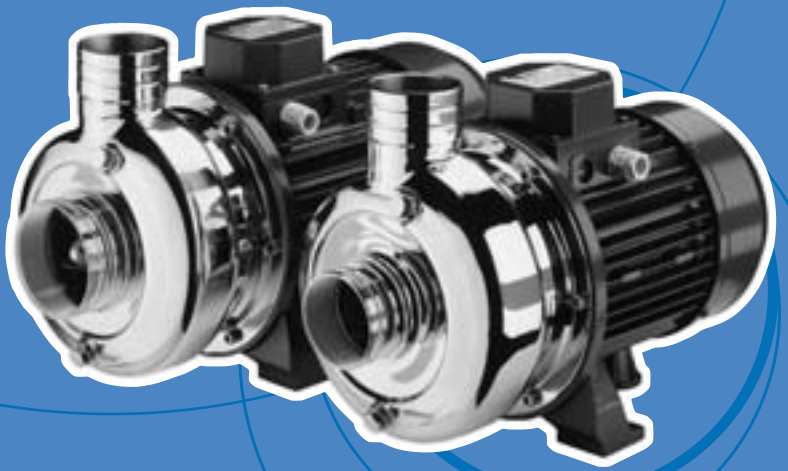
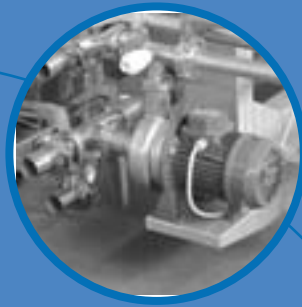
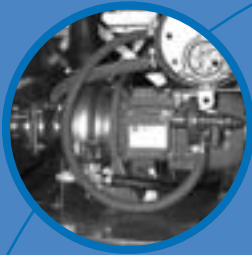


**DWO**



## Centrifugal Pumps







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Technical data	pag. 4
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Open impeller centrifugal pumps with the hydraulic element manufactured from stainless steel AISI 304.

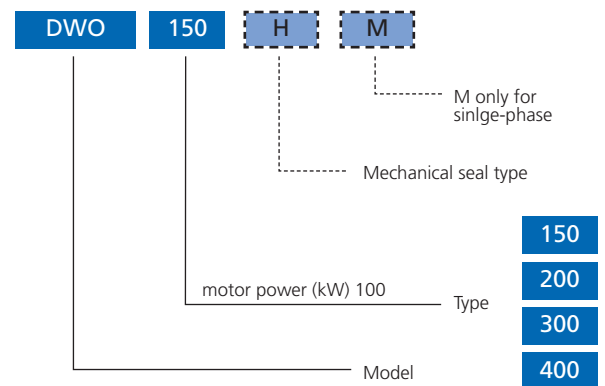
### APPLICATIONS

- Industrial dish washer machines
- Washing machines (washing vegetables, meats, fish)
- Water treatment plants
- Painting system cabins
- Dyery machines
- Enology and food plants

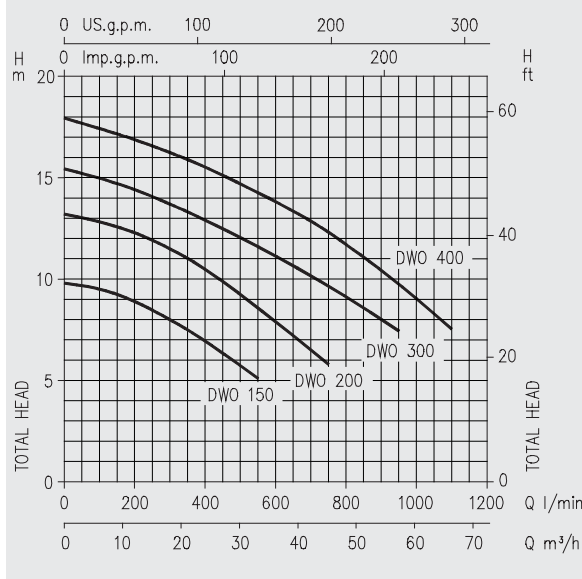
### TECHNICAL FEATURES

- Hydraulic robust construction
- High performances and efficiency
- The Hydro-forming process to obtain the integrated volute is patented
- Low noise
- Compact dimensions
- Passage of solids: maximum diameter of 19 mm

### TYPE KEY



### PERFORMANCE CURVES (ACCORDING TO ISO 9906 ANNEX A)



### TECHNICAL DATA

- Capacity up to 66 m<sup>3</sup>/h
- total head up to 18 m
- Asincronous 2 poles motor
- Insulation class F
- Protection degree IP55
- 1~230V ± 10% 50Hz, 3~230/400V ± 10% 50Hz
- Permanent split capacitor and automatic thermal overload protection for single-phase version
- Thermal protection to be provided by the user for three-phase version
- DNA 2"½ for DWO 300-400
- DNA 2" for the other models
- DNM 2"

### PERFORMANCE TABLE

Pump type		kW	Capacitor		Absorbed Current (A)			Q=Capacity								
Single-phase 230V 50Hz	Three-phase 230/400V 50Hz		µF	V <sub>c</sub>	Single-phase	Three-phase		H=Total head								
						230V	400V	l/min m <sup>3</sup> /h	100 6	200 12	300 18	400 24	550 33	750 42	950 57	1100 66
DWO 150M	DWO 150	1,1	31,5	450	6,8	4,4	2,5		9,5	8,9	7,9	6,9	5,1	-	-	-
DWO 200M	DWO 200	1,5	40	450	9,0	6,1	3,5		12,7	12,3	11,5	10,5	8,6	5,8	-	-
-	DWO 300	2,2	-	-	-	8,3	4,8		15	14,5	13,8	12,9	11,7	9,7	7,5	-
-	DWO 400	3,0	-	-	-	11,0	6,4		17,5	16,9	16,3	15,6	14,3	12,4	9,8	7,6



PUMP		
Liquid Handled	Type of liquid	Clean water
	Max temperature [°C]	90 (standard version)
Maximum working pressure	[MPa]	0,8
Construction	Impeller	Open centrifugal type. Passage of solids max Ø 19 mm
	Shaft seal type	Mechanical seal
	Bearing	Sealed ball bearing
Pipe Connection	Suction	G 2
		G 2 1/2 (DWO 300-400)
Material	Discharge	G 2
	Casing	AISI 304
	Impeller	AISI 304
	Casing cover	AISI 304
	Shaft seal	Ceramic/Carbon/NBR (standard)
	Casing cover	AISI 304
	Shaft	AISI 304 (Part in contact with liquid)
	Bracket	Aluminium

MOTOR			
Type		Electric - TEFC	
		Single Phase	Three Phase
No. of Poles		2	
Synchronous speed	[min-1]	2900	
Insulation Class		F	
Protection degree		IP 55	
Power rating	[kW]	1.1 ÷ 1.5	1.1 ÷ 3
	[HP]	1.5 ÷ 2	1.5 ÷ 4
Frequency	[Hz]	50	
Voltage	[V]	230 ±10%	230/400 ±10%
Capacitor		Built in	-
Over load protection		Built in	Provided by the user
Casing material		Aluminium	
Base material/motor support		Aluminium	
Dimensions of cable entry		PG11 - PG13.5	

Standard motors for ambient temperatures up to 40°C and an altitude up to 1000 m.  
For different applications, please contact our sales dept.

### ELECTRICAL DATA

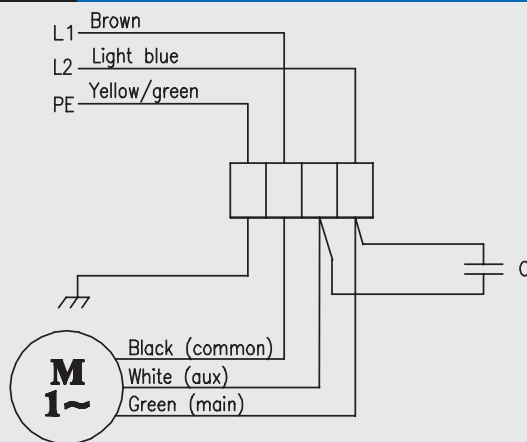
TYPE PUMPS		kW	HP	CAPACITOR		INPUT [kW]		FULL LOAD CURRENT [A]		
Single Phase 230 V 50 Hz	Three Phase 230/400 V 50 Hz			µF	Vc	Single Phase	Three Phase	Single Phase	Three Phase	
								230 V	400 V	
DWO 150 M	DWO 150	1.1	1.5	31.5	450	1.36	1.25	6.8	4.4	2.5
DWO 200 M	DWO 200	1.5	2	40	450	2.05	2.0	9.0	6.1	3.5
-	DWO 300	2.2	3	-	-	-	2.7	-	8.3	4.8
-	DWO 400	3	4	-	-	-	3.7	-	11.0	6.4

### AIRBORNE NOISE EMITTED BY ELECTRO-PUMPS

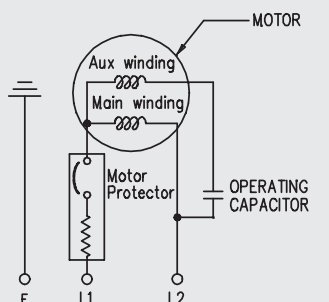
PUMP	MOTOR		50 Hz	
	Power kW	Size Mec	LpA - dB (A)*	LwA - dB (A)**
DWO 150 M	1.1	80	64	73
DWO 150	1.1	80	64	73
DWO 200 M	1.5	80	64	73
DWO 200	1.5	80	64	73
DWO 300	2.2	90	68	77
DWO 400	3	90	68	77

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

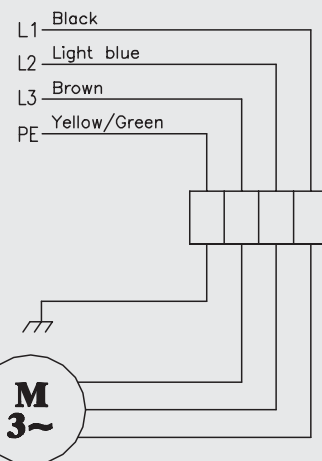
#### DIAGRAM AND ELECTRIC CONNECTIONS SINGLE PHASE MOTOR



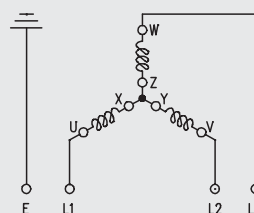
#### 230 V EXTERNAL MOTOR PROTECTOR



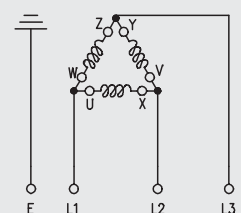
#### DIAGRAM AND ELECTRIC CONNECTIONS THREE PHASE MOTOR



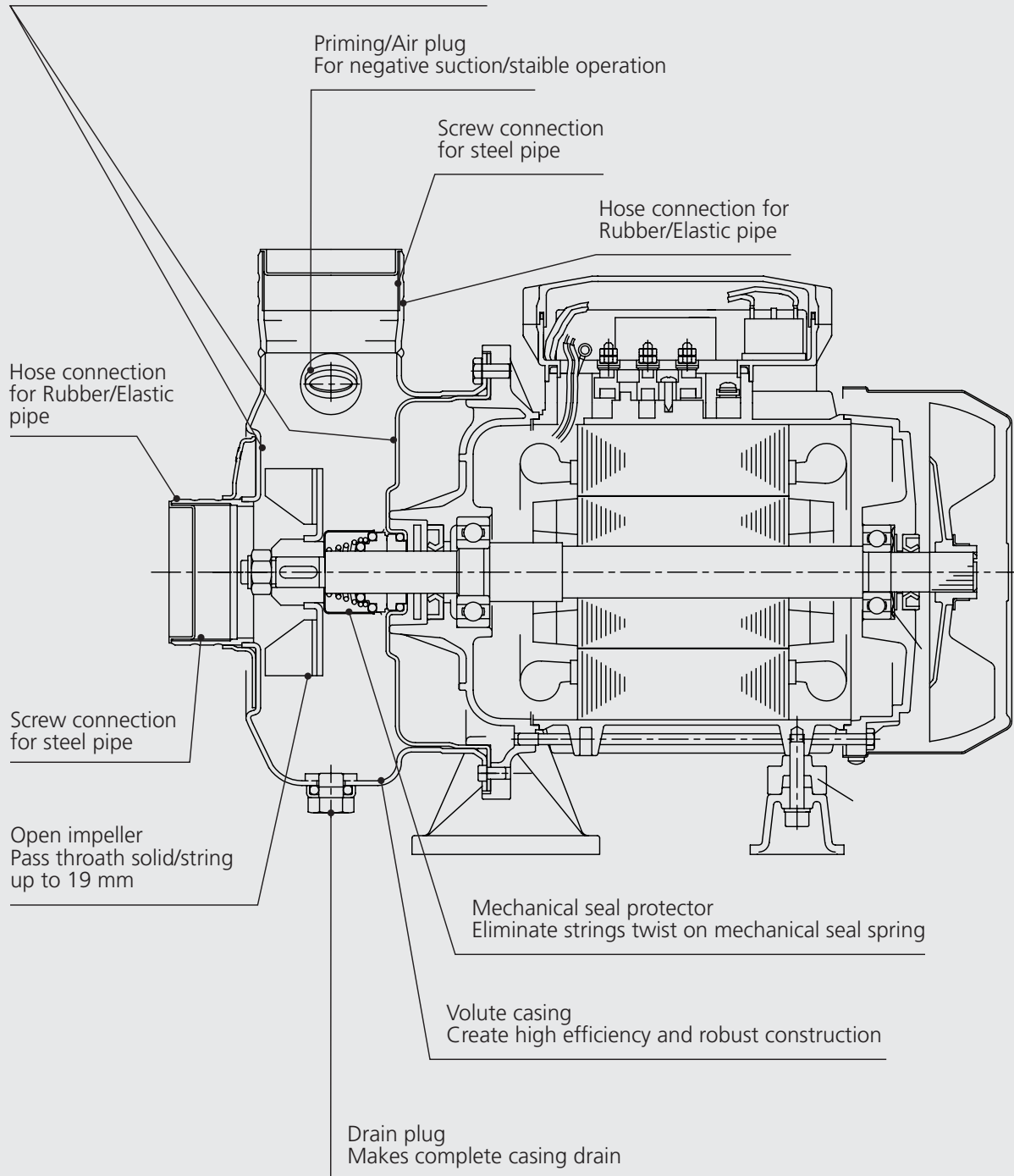
#### 400 V STAR CONNECTION



#### 230 V DELTA CONNECTION

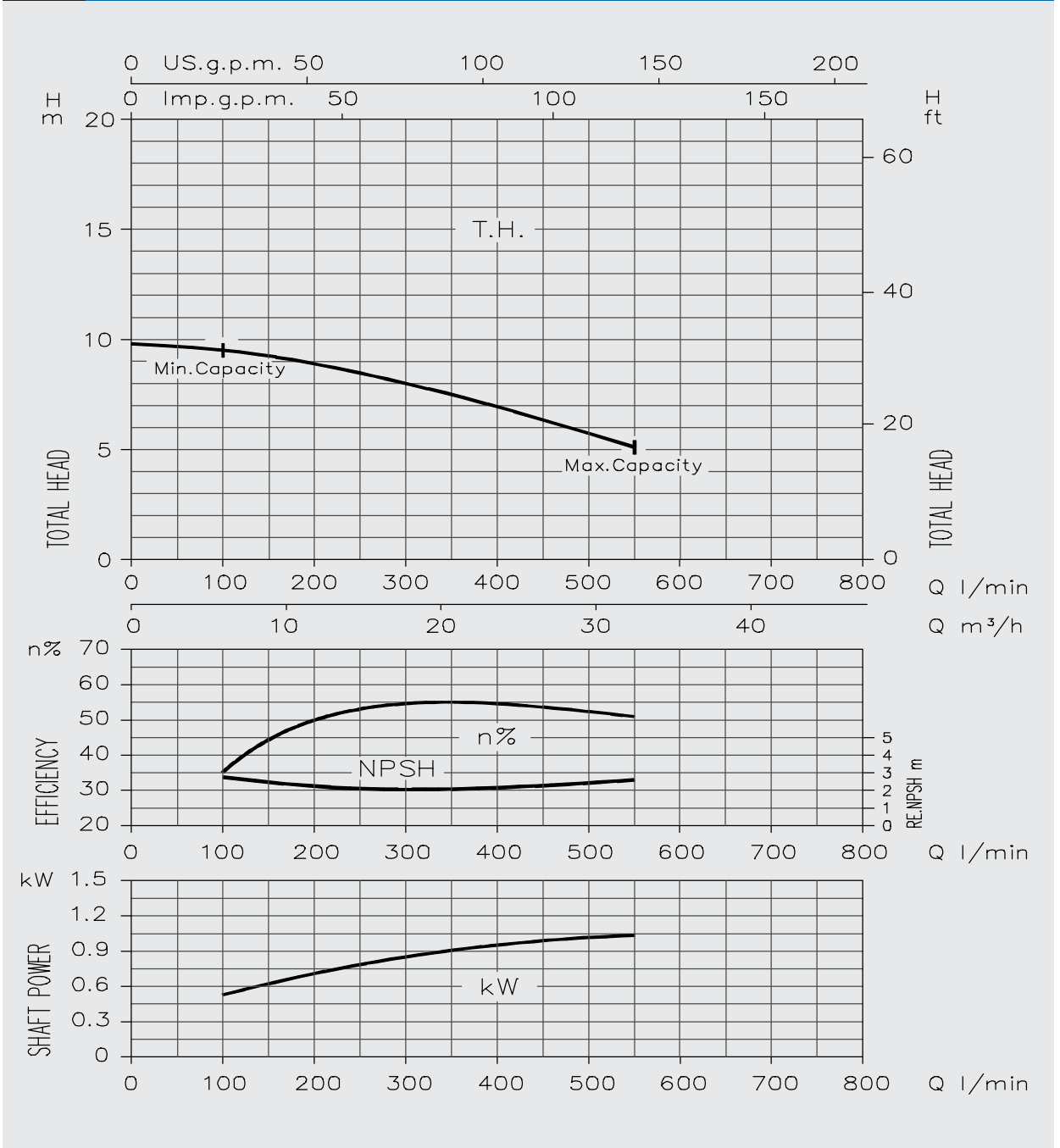


Fully smooth surface  
Eliminates foreign object and maintains cleanness



**DWO 150** Impeller diameter = 88 mm

2900 min<sup>-1</sup>

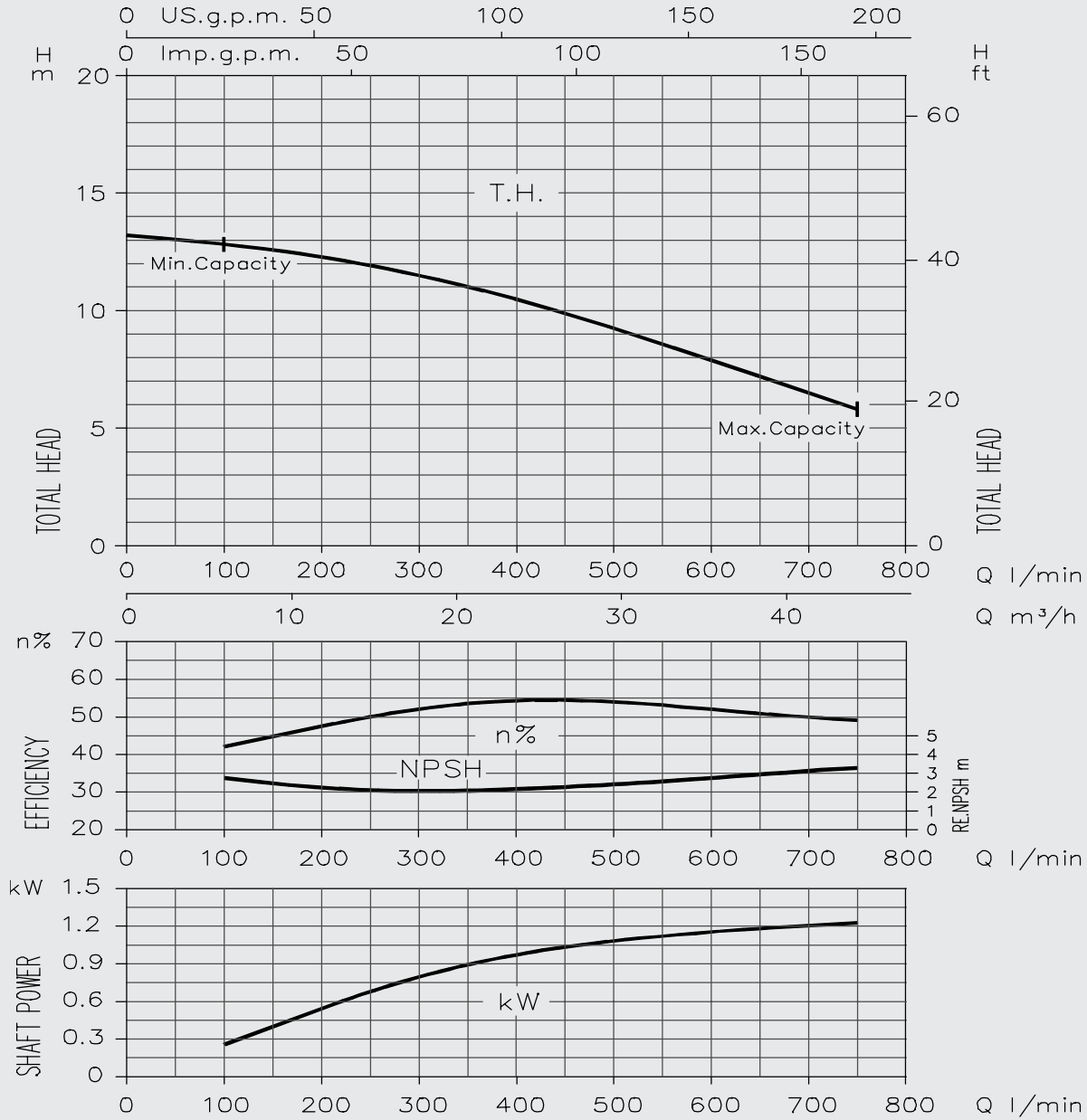


The hydraulic performances indicated refer to the tests executed with water at 20°C according to standard ISO 9906, annex A. On the values of NPSH indicated, we suggest you to add a security margin of 0,5 m. in order to guarantee the practical working.



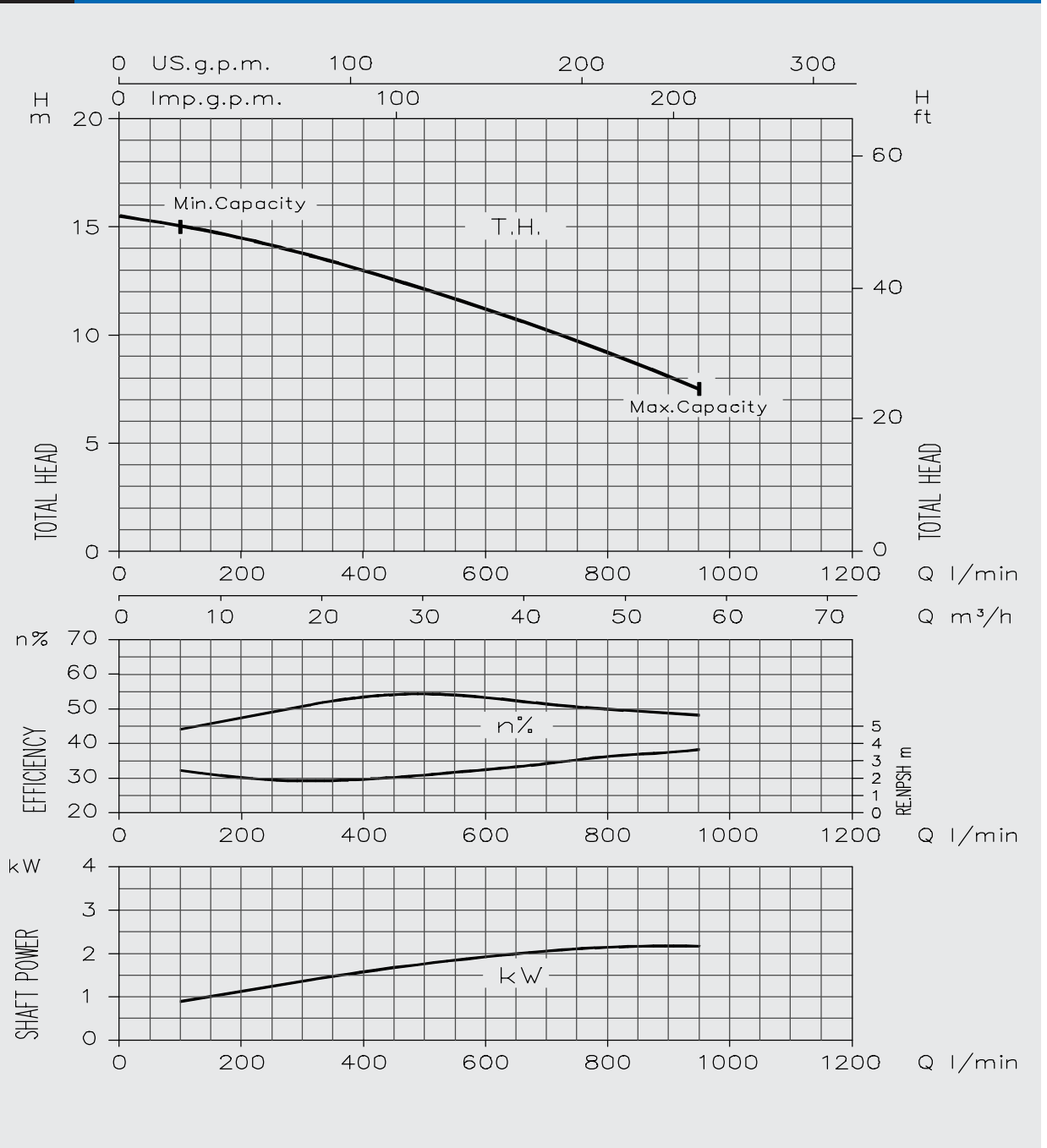
**DWO 200** Impeller diameter = 103 mm

2900 min<sup>-1</sup>



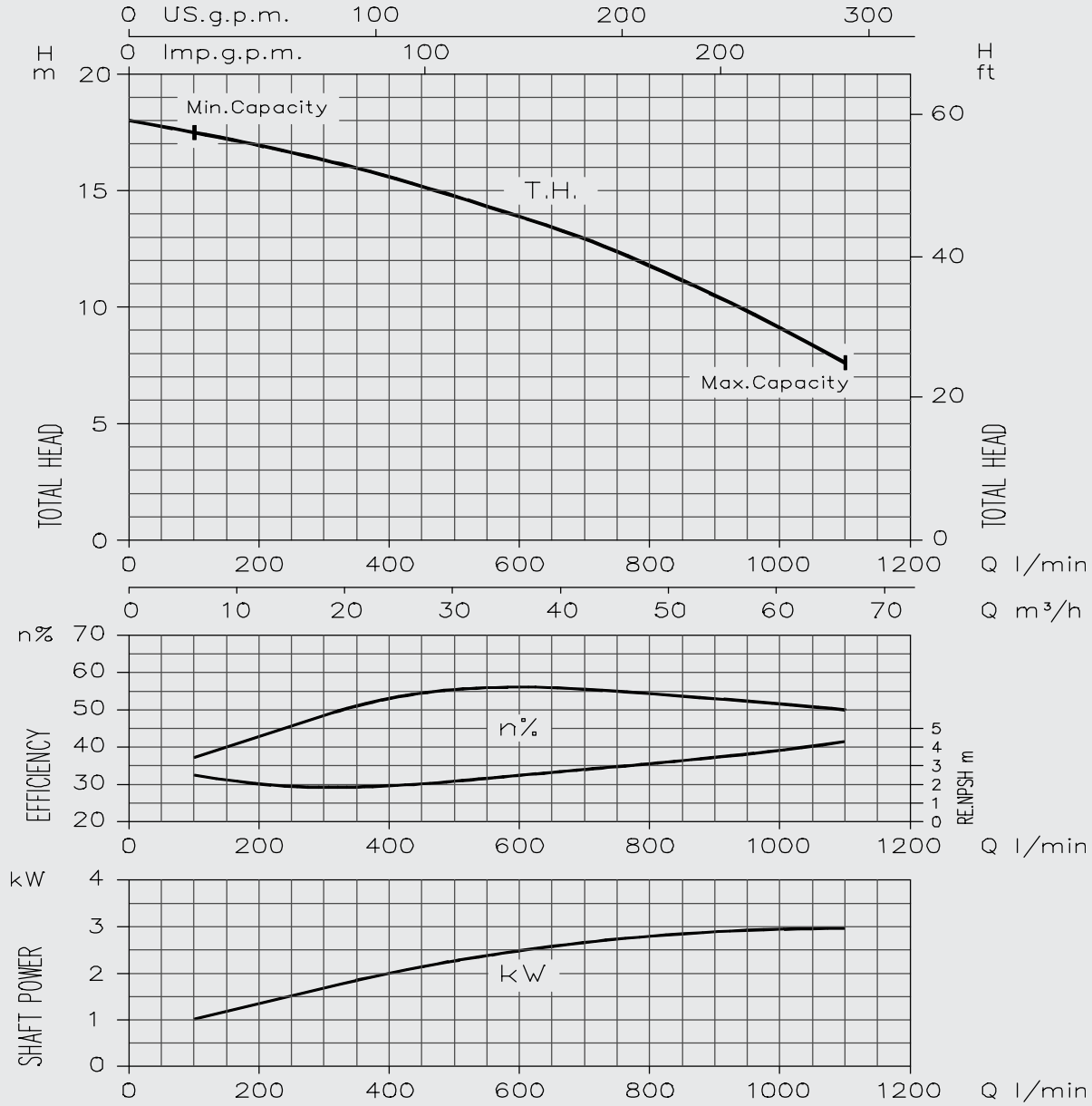
**DWO 300** Impeller diameter = 107 mm

2900 min<sup>-1</sup>

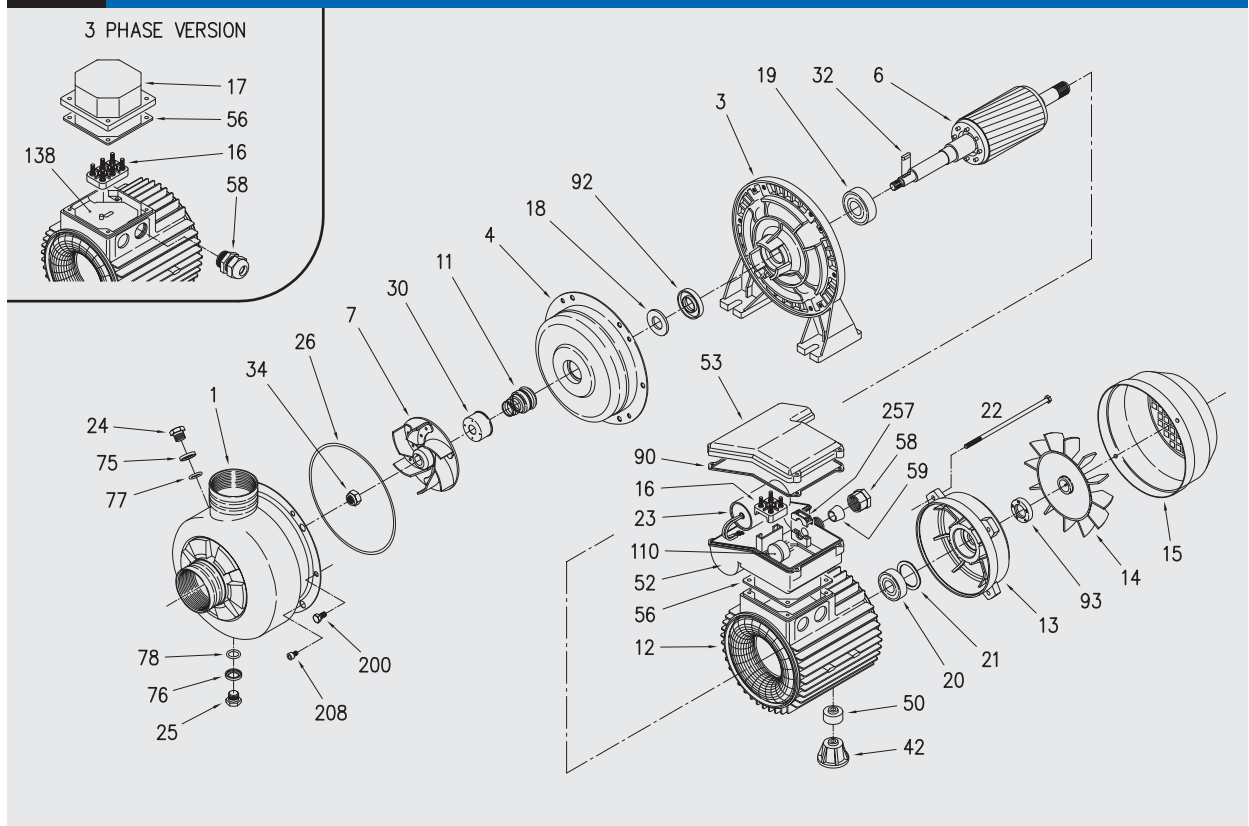


**DWO 400** Impeller diameter: 118 mm

2900 min<sup>-1</sup>



#### SECTIONAL VIEW



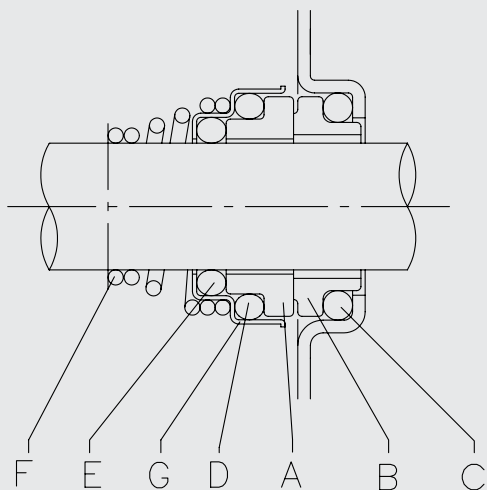
N°	PART NAME	MATERIAL	Q.TY	N°	PART NAME	MATERIAL	Q.TY
1	Casing	AISI 304	1	25	Drain plug	AISI 303	1
3	Motor bracket	Aluminium	1	26	O-ring	NBR	1
4	Casing cover	AISI 304	1	30	Mechanical seal protect.	AISI 304	1
6	Shaft with rotor	AISI 304 (Part in contact with liquid)	1	32	Key	AISI 304	1
7	Impeller	AISI 304	1	34	Impeller nut	AISI 304	1
11	Mechanical seal [3]	Carbon/Ceramic/NBR	1	42	Motor support	Aluminium	1
12	Motor frame with stator	-	1	50	Spacer	-	1
13	Motor cover	Aluminium	1	52	Terminal box [1]	Polypropilene	1
14	Fan	Polypropilene	1	56	Box gasket	NBR	1
15	Fan cover	Fe P04 Zinked	1	75	Washer	AISI 304	1
16	Terminal box	-	1	76	Washer	AISI 304	1
17	Terminal box cover [2]	Aluminium	1	77	O-ring	NBR	1
18	Splash ring	NBR	1	78	O-ring	NBR	1
19	Pump side ball bearing	-	1	90	Cover gasket [1]	NBR	1
20	Fan side ball bearing	-	1	92	Lip seal	-	1
21	Adjusting ring	Steel C70	1	93	Lip seal	-	1
22	Tie rod	Fe 42 Zinked	4	110	Protector [1]	-	1
23	Capacitor [1]	-	1	200	Screw	Stainless steel A2 UNI7323	6
24	Priming plug	AISI 303	1				

[1] Only for single phase

[2] Only for three phase

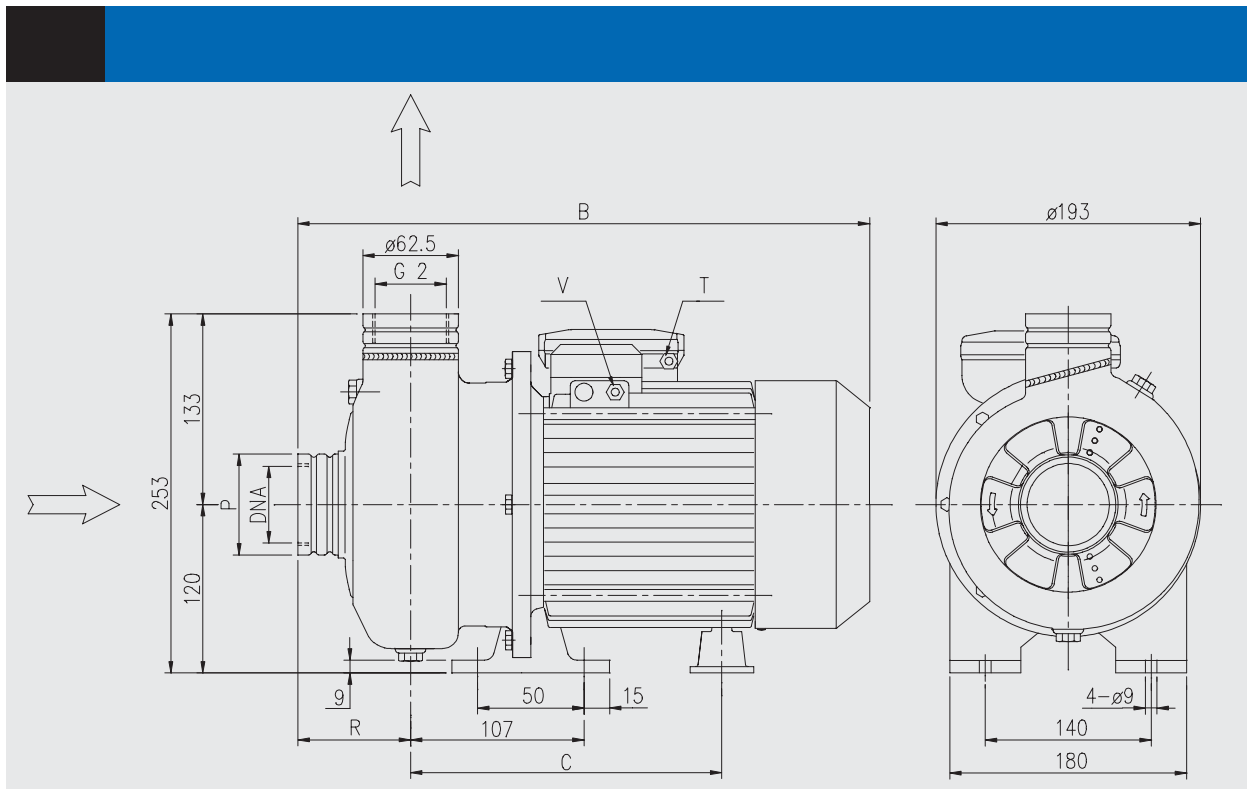
[3] See constructions mechanical seal (page 12)

#### MECHANICAL SEAL



REF	PART NAME	MATERIAL product standard
A	Rotary seal ring	ceramic
B	Stationary seal ring	carbon graphite
C	O Ring	NBR
D	O Ring	NBR
E	O Ring	NBR
F	Self driving spring	AISI 316
G	Frame	AISI 304

On request we are at your disposal to select a right mechanical seal suitable for all your fluid pumping needs



**DIMENSIONAL TABLE**

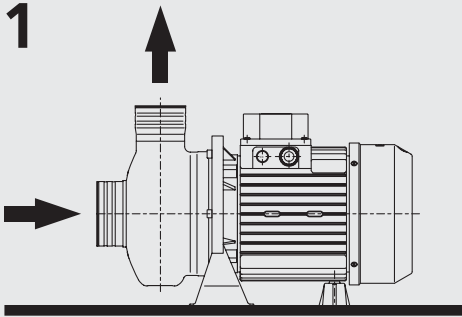
Pump type		Dimensions (mm)							Weight	
		B	C	R	Ø P	V	T	Ø DNA	kg	
Single-phase	Three-phase					3~	1~	G2	1~	3~
DWO 150 M	DWO 150	364	198,5	74	62,5	PG11	PG13,5	G2	13,6	12,6
DWO 200 M	DWO 200	364	198,5	74	62,5	PG11	PG13,5	G2 1/2	15,7	14,4
-	DWO 300	390	215,5	78	80	PG13,5	-	G2 1/2	-	16,9
-	DWO 400	415	240,5	78	80	PG13,5	-	G2 1/2	-	20,0

1~ single-phase

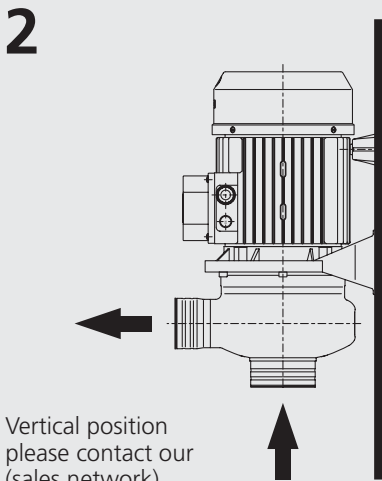
3~ three-phase



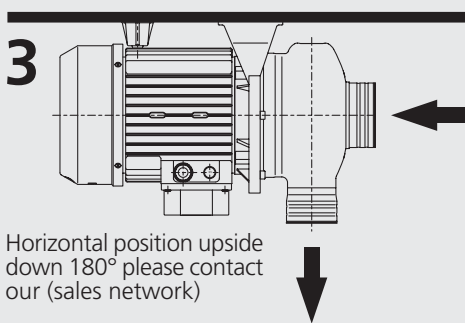
### ON REQUEST ROTATION POSSIBILITIES



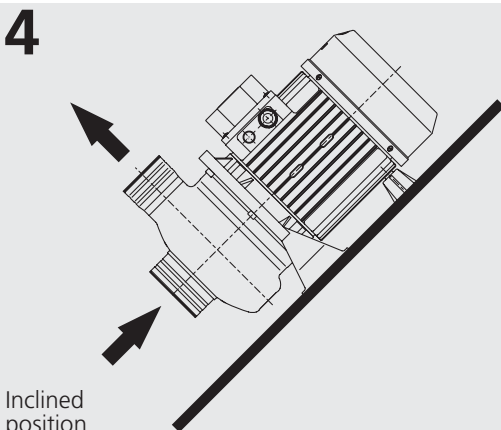
Horizontal position



Vertical position  
please contact our  
(sales network)

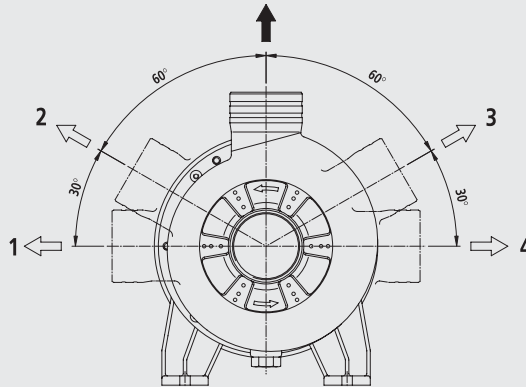


Horizontal position upside  
down 180° please contact  
our (sales network)

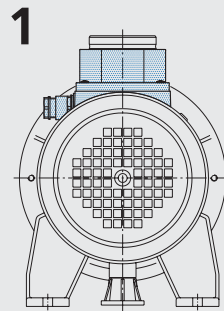


Inclined  
position

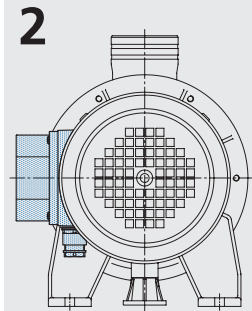
### DISCHARGE POSITION



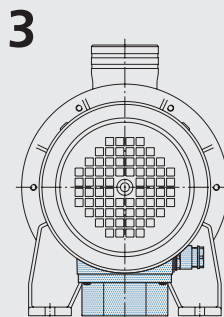
### TERMINAL BOX



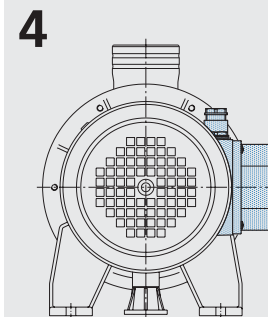
Terminal box on the  
delivery side standard



Terminal box on the  
left of the delivery side



Terminal box opposite  
delivery side



Terminal box on the right  
of the delivery side

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