DAB
WATER•TECHNOLOGY

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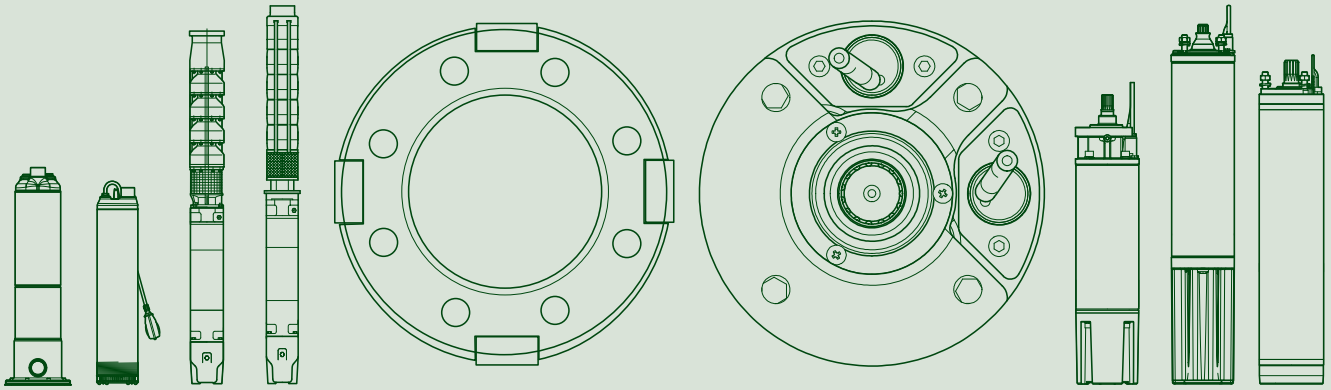
SUBMERSIBLE PUMPS AND MOTORS



TECHNICAL CATALOGUE

CERTIFICATES

IQNet

THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and its partner
CISQ/IMQ-CSQ
hereby certify that the organization

DWT HOLDING SPA
VIA MARCO POLO 14 - 35035 MESTRINO (PD)
BRENDOLA (VI) - CASTELLO DI GODEGO (TV) - BIENTINA (PI) -
SAN GERMANO DEI BERICI (VI) - PRC CHINA - HUNGARY

for the following field of activities

Design, production, sale and assistance of components and electronic controls for pumps, electropumps, and pump sets for cold and hot water for civil, industrial and agricultural use

Refer to quality manual for details of applications to ISO 9001:2008 requirements

has implemented and maintains a
Quality Management System
which fulfills the requirements of the following standard

ISO 9001:2008

Issued on: 2015 - 05 - 28 Expiry date: 2018 - 05 - 27

Registration Number: IT – 824

The status of validity of the certificate can be verified at http://www.cisq.com or by e-mail to fedcisq@cisq.com

Michael Drechsel
President of IQNET

Ing. Claudio Provetti
President of CISQ

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All. 1 di 1
Ann. 1 of 1

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ALLEGATO CERTIFICATO n. **9101.COGE**
ANNEX CERTIFICATE

(*) Unità Operative:
(*) Operative Units:

DAB PUMPS SPA
VIA BONANNO PISANO 1 - 56031 BIENTINA (PI)

DAB PUMPS SPA
VIA DEL LAVORO 3 - 36040 SAN GERMANO DEI BERICI (VI)

DAB PUMPS QINGDAO CO. LTD
40 KAITUO ROAD, QINGDAO DEVELOPMENT ZONE - SHANGDONG PROVINCE, PRC CHINA

DAB PUMPS HUNGARY KFT
BUDA ERNO H - 8800 NAGYKANISZA HUNGARY

DATE:	PRIMA CERTIFICAZIONE *FIRST CERTIFICATION*	EMISSIONE CORRENTE *CURRENT ISSUE*	SCADENZA *EXPIRY*
	1995-07-17	2015-05-28	2018-05-27

IMQ S.p.A. - VIA QUINTILIANO, 43 - 20138 MILANO

CISQ è la Federazione Italiana di Organismi di Certificazione dei sistemi di gestione aziendale.
CISQ is the Italian Federation of management system Certification Bodies.

ACCREDIA
IAF: 18, 19, 29

La validità del certificato è subordinata a sorveglianza annuale e esame completo del Sistema di Gestione con periodicità triennale
The validity of the certificate is submitted to annual audit and a reassessment of the entire Management System within three years

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CERTIFICATO N. **9101.COGE**
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SI CERTIFICA CHE IL SISTEMA QUALITA' DI
WE HEREBY CERTIFY THAT THE QUALITY SYSTEM OPERATED BY
DWT HOLDING SPA
VIA MARCO POLO 14 - 35035 MESTRINO (PD)

UNITA' OPERATIVE
OPERATIVE UNITS
DAB PUMPS SPA
VIA MARCO POLO 14 - 35035 MESTRINO (PD)
DAB PUMPS SPA
VIA EINAUDI 2 - 36040 BRENDOLA (VI)
DAB PUMPS SPA
VIA E. FERMI 6-8-10 - 31030 CASTELLO DI GODEGO (TV)

Vedere gli Allegati per le altre Unità Operative (n° 1 pagina)
View the Annexes for the other Operative Units (n° 1 page)

E' CONFORME ALLA NORMA
IS IN COMPLIANCE WITH THE STANDARD
ISO 9001:2008

PER LE SEGUENTI ATTIVITA'
FOR THE FOLLOWING ACTIVITIES

Progettazione, produzione, commercializzazione e assistenza di componenti e controlli elettronici per pompe, elettropompe e gruppi di pompaggio per acqua fredda e calda ad uso civile, industriale ed agricolo
Design, production, sale and assistance of components and electronic controls for pumps, electropumps, and pump sets for cold and hot water for civil, industrial and agricultural use

Riferirsi al manuale della qualità per l'applicabilità dei requisiti della norma ISO 9001:2008
Refer to quality manual for details of applications to ISO 9001:2008 requirements

IL PRESENTE CERTIFICATO E' SOGGETTO AL RISPETTO DEL REGOLAMENTO PER LA CERTIFICAZIONE DEI SISTEMI DI GESTIONE
THE USE AND THE VALIDITY OF THE CERTIFICATE SHALL SATISFY THE REQUIREMENTS OF THE RULES FOR CERTIFICATION OF MANAGEMENT SYSTEMS

DATE:	PRIMA CERTIFICAZIONE *FIRST CERTIFICATION*	EMISSIONE CORRENTE *CURRENT ISSUE*	SCADENZA *EXPIRY*
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DAB complies with the EcoDesign Directive (ErP - *Energy related Products* - Directive, 2009/125/EC)
EC 547/2012 Regulation that requires:
FOR 4" AND 6" SUBMERSIBLE MULTISTAGE PUMPS (MSS)

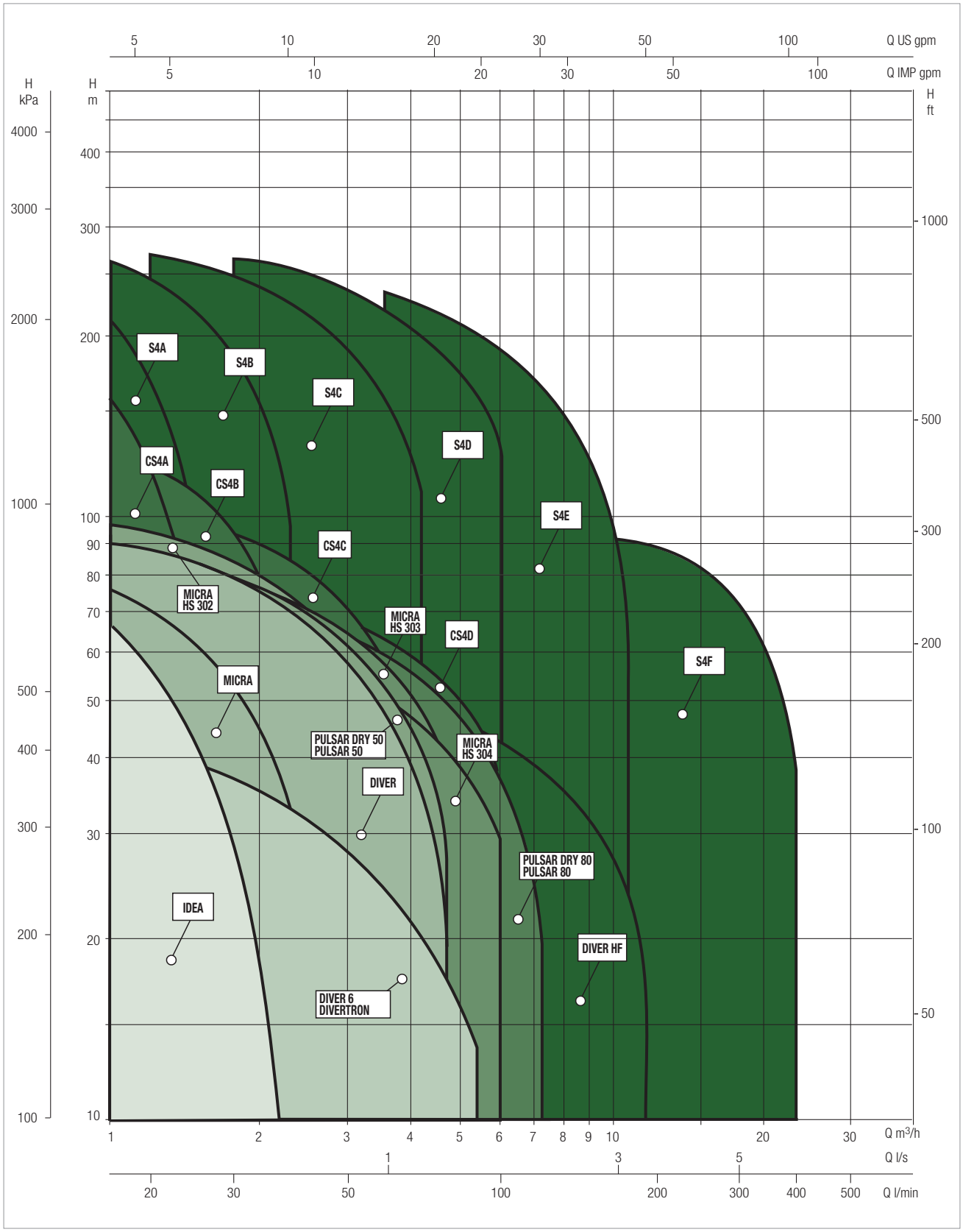
- starting from January 1st 2013 MEI $\geq$ 0,1
- starting from January 1st 2015 MEI $\geq$ 0,4

RANGE OF SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE RANGE

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

GRAPHIC SELECTION TABLE



IDEA

4" SUBMERSIBLE PERIPHERAL PUMPS

TECHNICAL DATA

Operating range: from 0,4 a 2,4 m^3/h with head of up to 52 metres.
Pumped liquid: clean, free of solids and abrasives, non-viscous, non crystallised and chemically neutral, with properties similar to water.
Liquid temperature range: from 0 °C to +35 °C.
Max. immersion depth: 20 m.
Discharge port diameter: 1**"** GAS.
Power supply tolerance: +6 % / -10 %.
Max. starts: 20/h.
Installation: in 4" wells or larger, tanks and cisterns, vertical position.
Special executions on requests: alternative voltages and frequencies.

APPLICATIONS

Single-impeller (version 75 and 100) or double-impeller (version 150) peripheral submersible pump for 4" wells, capable of providing high heads in limited power conditions. Suitable for water lifting and distribution applications in domestic systems, small agricultural concerns, pressurisation of pressure vessels and DIY uses.

CONSTRUCTION FEATURES OF THE PUMP

Pump body and motor support in cast iron.
Brass impeller.
Rotor shaft extension and strainer in stainless steel.

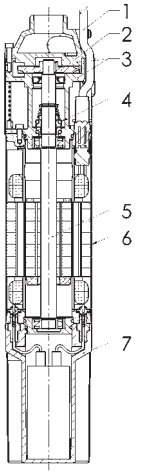
CONSTRUCTION FEATURES OF THE MOTOR

Submersible asynchronous two-pole motor, made entirely of stainless steel, dry design with external cooling by means of the pumped liquid. Canned-type AISI 304L stator.
Squirrel cage rotor running on ball bearings, oversized to ensure reliability and durability.
Graphite/alumina mechanical seal and lip seal.
In the single-phase version the start capacitor is enclosed in a sturdy, electrically insulated high-density plastic enclosure.
Overload protection to be provided by the user for the three-phase version.
Protection class: IP 68
Insulation class: F
Standard voltage: single-phase 230 V / 50 Hz
three-phase 400 V / 50 Hz
Power cable: Removable H07RN-F power cable, length 15 m.
Supplied with 15 m nylon rope

MATERIALS

N.	PART*	MATERIALS
1	CABLE	H07 RNF CEI 20-19
2	IMPELLER	BRASS PCuZn40Pb2 UNI 5705
3	SUPPORT	CAST IRON G20 UNI 5007 (Epoxy electrocoat)
4	MECHANICAL SEAL	GRAPHITE/ALUMINA
5	SHAFT WITH ROTOR	STAINLESS STEEL AISI 431 X17CrNi16 2 UNI 10088-3
6	MOTOR	STAINLESS STEEL AISI 304L X2CrNi19 11 UNI 10088-3
7	CAPACITOR CARTRIDGE	Noryl 20 % fibreglass

* In contact with the liquid.



IDEA

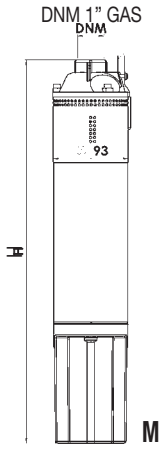
4" SUBMERSIBLE PERIPHERAL PUMPS

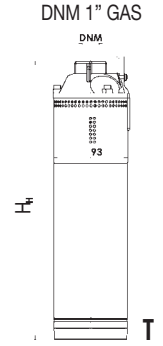
PERFORMANCE AT 50 Hz

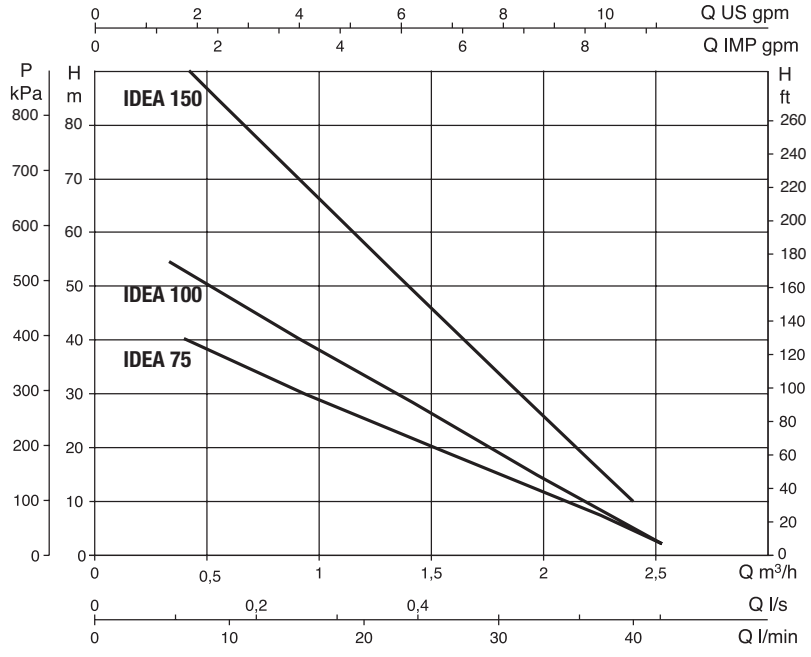
MODEL	ELECTRICAL DATA		HYDRAULIC DATA								
	P2 NOMINAL		Q=m³/h	0,4	0,6	0,9	1,2	1,5	1,8	2,1	2,4
	kW	HP	Q=l/min	7	10	15	20	25	30	35	40
IDEA 75 M	0,55	0,75	H (m)	39	37	32	27,6	22,5	17,6	12,2	6,8
IDEA 100 M	0,75	1		52	48,3	41,4	34,6	28	21,2	14,4	7,3
IDEA 150 M	1	1,5		90	81	70	60	48	35	22	10
IDEA 75 T	0,55	0,75		39	37	32	27,6	22,5	17,6	12,2	6,8
IDEA 100T	0,75	1		52	48,3	41,4	34,6	28	21,2	14,4	7,3
IDEA 150T	1	1,5		90	81	70	60	48	35	22	10

ELECTRICAL DATA AND DIMENSIONS

MODEL	ELECTRICAL DATA							Ø mm	H mm	PACKING DIMENSIONS			WEIGHT kg
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	CAPACITOR				L/A	L/B	H	
			kW	HP		µF	Vc						
IDEA 75 M	1x230 V ~	0,8	0,55	0,75	4	16	450	93	482	630	265	125	10,5
IDEA 100 M	1x230 V ~	1,1	0,75	1	4,7	20	450	93	512	630	265	125	12
IDEA 150 M	1x230 V ~	2,2	1	1,5	10,5	35	450	93	602	630	265	125	15
IDEA 75 T	3x400 V~	0,65	0,55	0,75	1,5	–	–	93	353	420	310	118	10,2
IDEA 100T	3x400 V ~	1,1	0,75	1	2,3	–	–	93	383	420	310	118	11,7
IDEA 150T	3x400 V ~	2,5	1	1,5	4,3	–	–	93	475	630	265	125	14,6







The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIVER - DIVER HF

5" SUBMERSIBLE MONOBLOC MULTISTAGE PUMPS

TECHNICAL DATA

Operating range: from 0,6 to 12 m^3/h with head up to 96 metres.
Pumped liquid: clean, free of solids and abrasives, non-aggressive.
Max percentage of sand in water: 50 g/m^3.
Liquid temperature range: from 0 °C to +35 °C.
Max. immersion depth: 20 m.
Discharge port diameter: 1" 1/4 GAS.
Power supply tolerance: +6 % / -10 %.
Max. starts: 20/h.
Motor protection class: IP 68.
Motor protection rating: F.
Installation: in wells, tanks and cisterns, vertical position.
Special executions on request:
alternative voltages and/or frequencies.
Automatic version available with float switch.

APPLICATIONS

DIVER electric pumps are utilised for lifting clear water from boreholes, first water collection tanks or cisterns, wells or water courses, and are capable of distributing pressurised water to domestic installations, small agricultural plants, and sprinkler systems for lawns and vegetable gardens.
The pump has a very silent operation, and can be installed inside boreholes and tanks, thus avoiding all the potential problems connected with suction and unpriming.

CONSTRUCTION FEATURES OF THE PUMP

Multistage monobloc submersible pump with hydraulic section below the motor, which is cooled by the pumped liquid. Impellers and diffusers made of fibreglass reinforced Noryl, with wear-resistant stainless steel thrust ring. Outer liner, stator sleeve, upper head with delivery connection and closing ring in AISI 304 stainless steel. Canned-type stator. Supports in cast iron. Rotor shaft extension in AISI 304 stainless steel. Lip seal on the motor side, and silicon carbide/silicon carbide seal on the pump side.

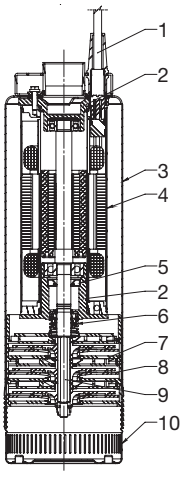
CONSTRUCTION FEATURES OF THE MOTOR

Submersible asynchronous two-pole motor, made entirely of stainless steel, dry design with external cooling by means of the pumped liquid. Canned-type AISI 304L stator.
Squirrel cage rotor running on ball bearings, oversized to ensure silent operation, reliability and durability.
The single-phase version can be supplied with CONTROL BOX on request.
Overload protection to be provided by the user for the three-phase version.
Automatic version available with float switch.
Available on request with support base and lateral suction (DRY).

Protection class: IP 68
Insulation class: F
Standard voltage: single-phase 230 V / 50 Hz.
three-phase 400 V / 50 Hz
Power cable: Removable H07RN-F power cable, length 10 m.

MATERIALS

N.	PART*	MATERIALS
1	CABLE	H07RN-F CEI 20-19
2	SUPPORT	BRASS PCuZn40Pb2 UNI 5705
3	OUTER LINER	AISI 304 STAINLESS STEEL X5CrNi1810 UNI 10088-3
4	STATOR	AISI 304 STAINLESS STEEL X5CrNi1810 UNI 10088-3
5	LIP SEAL	NBR 70
6	MECHANICAL SEAL	SiC/SiC
7	DIFFUSER	TECHNOPOLYMER
8	IMPELLER	TECHNOPOLYMER
9	SHAFT WITH ROTOR	AISI 304 STAINLESS STEEL X5CrNi1810 UNI 10088-3
10	STRAINER	AISI 304 STAINLESS STEEL X5CrNi1810 UNI 10088-3



DIVER

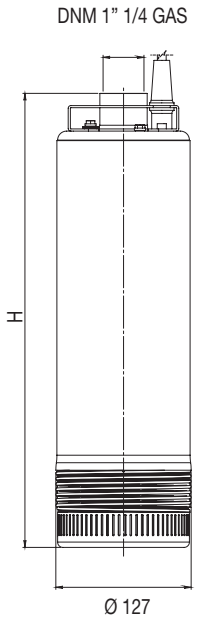
5" SUBMERSIBLE MONOBLOC MULTISTAGE PUMPS

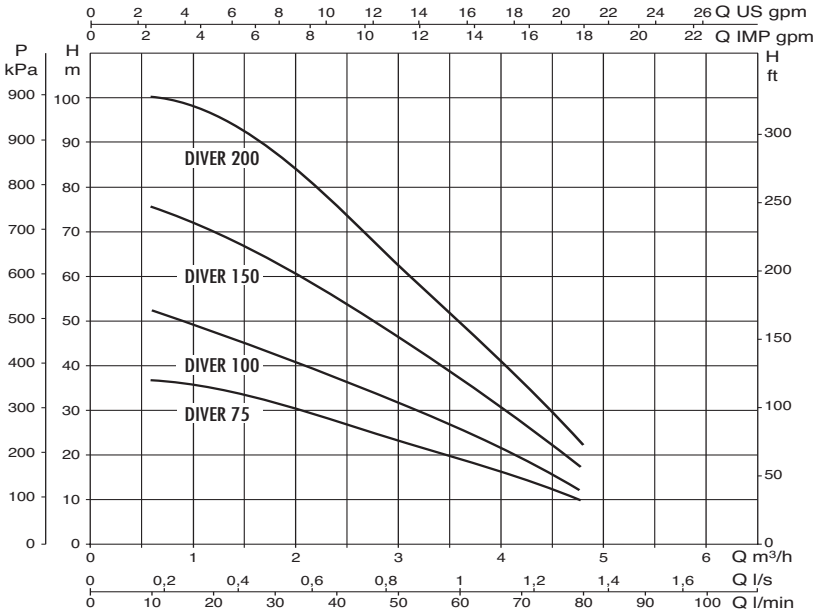
PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA									
	P2 NOMINAL		Q=m³/h	0	0,6	1,2	1,8	2,4	3	3,6	4,2	4,8
	kW	HP	Q=l/min	0	10	20	30	40	50	60	70	80
DIVER 75	0,55	0,75	H (m)	39	35	33	30	26	22	18	14	9
DIVER 100	0,75	1		55	50	45	41	35	30	25	18	11
DIVER 150	1	1,5		80	72	67	60	52	45	35	26	16
DIVER 200	1,5	2		101	96	90	85	70	60	47	35	21

ELECTRICAL DATA AND DIMENSIONS

MODEL	ELECTRICAL DATA							Ø mm	H mm	PACKING DIMENSIONS			VOLUME PACKING m³	Q.TY X PALLET	WEIGHT kg
	POWER INPUT 50 Hz	P1 MAX kW	P2 NOMINAL		In A	CAPACITOR				L/A	L/B	H			
			kW	HP		µF	Vc								
DIVER 75 M	1x230 V~	0,85	0,55	0,75	4,6	16	450	127	427	625	230	170	0,024	35	10
DIVER 75 T-NA	3x230 V~	0,8	0,55	0,75	2,9	-	-	127	427	625	230	170	0,024	35	10
DIVER 75 T-NA	3x400 V~	0,8	0,55	0,75	1,7	-	-	127	427	625	230	170	0,024	35	10
DIVER 100 M	1x230 V~	1,1	0,75	1	5,9	20	450	127	482	625	230	170	0,024	35	11,7
DIVER 100 T-NA	3x230 V~	1,2	0,75	1	4,2	-	-	127	482	625	230	170	0,024	35	11,7
DIVER 100 T-NA	3x400 V~	1,2	0,75	1	2,4	-	-	127	482	625	230	170	0,024	35	11,7
DIVER 150 M	1x230 V~	1,6	1	1,5	7,8	30	450	127	550	625	230	170	0,024	35	13,1
DIVER 150 T-NA	3x230 V~	1,55	1	1,5	5,7	-	-	127	550	625	230	170	0,024	35	13,1
DIVER 150 T-NA	3x400 V~	1,55	1	1,5	3,3	-	-	127	550	625	230	170	0,024	35	13,1
DIVER 200 M-A	1x230 V~	2,3	1,5	2	10,7	35	450	127	648	710	220	160	0,025	35	15,8
DIVER 200 T-NA	3x230 V~	2,15	1,5	2	8,5	-	-	127	648	710	220	160	0,025	35	15,8
DIVER 200 T-NA	3x400 V~	2,15	1,5	2	4,9	-	-	127	648	710	220	160	0,025	35	15,8





The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIVER HF (HIGH FLOW)

5" SUBMERSIBLE MONOBLOC MULTISTAGE PUMPS

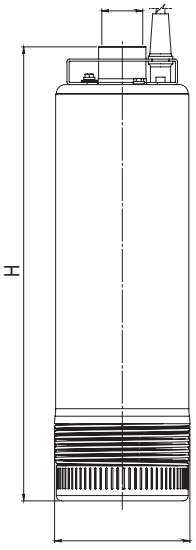
PERFORMANCE AT 50 Hz

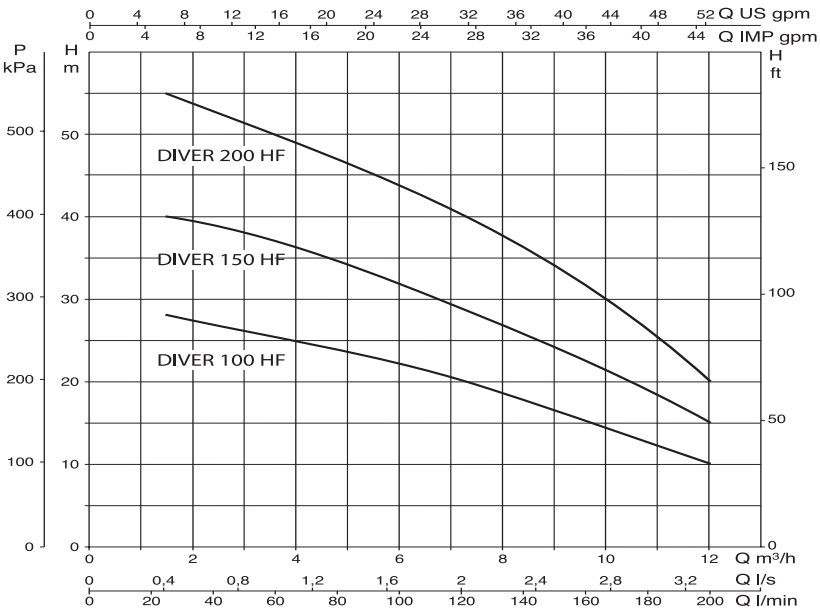
MODEL	ELECTRICAL DATA		HYDRAULIC DATA									
	P2 NOMINAL		Q=m³/h	0	1,5	3	4,5	6	7,5	9	10,5	12
	kW	HP	Q=l/min	0	25	50	75	100	125	150	175	200
DIVER 100 HF	0,75	1	H (m)	30	28	26	24	22	20	16	13	10
DIVER 150 HF	1	1,5	H (m)	42	40	38	35	32	28	24	20	15
DIVER 200 HF	1,5	2		59	55	51	48	44	39	34	28	20

ELECTRICAL DATA AND DIMENSIONS

MODEL	ELECTRICAL DATA							Ø mm	H mm	PACKING DIMENSIONS			PACKING VOLUME m³	Q.TY X PALLET	WEIGHT kg
	POWER INPUT 50 Hz	P1 kW	P2 NOMINAL		In A	CAPACITOR				L/A	L/B	H			
			kW	HP		µF	Vc								
DIVER 100 HF M	1x230 V~	1,1	0,75	1	6,2	20	450	127	459	625	230	170	0,024	35	11,5
DIVER 100 HF T-NA	3x230 V~	1,2	0,75	1	4,3	-	-	127	459	625	230	170	0,024	35	11,5
DIVER 100 HF T-NA	3x400 V~	1,2	0,75	1	2,5	-	-	127	459	625	230	170	0,024	35	11,5
DIVER 150 HF M	1x230 V~	1,7	1	1,5	8,1	30	450	127	523	625	230	170	0,024	35	13
DIVER 150 HF T-NA	3x230 V~	1,8	1	1,5	6	-	-	127	523	625	230	170	0,024	35	13
DIVER 150 HF T-NA	3x400 V~	1,8	1	1,5	3,5	-	-	127	523	625	230	170	0,024	35	13
DIVER 200 HF M	1x230 V~	2,15	1,5	2	10,8	35	450	127	608	710	220	160	0,025	35	15,5
DIVER 200 HF T-NA	3x230 V~	2,1	1,5	2	8,5	-	-	127	608	710	220	160	0,025	35	15,5
DIVER 200 HF T-NA	3x400 V~	2,1	1,5	2	4,9	-	-	127	608	710	220	160	0,025	35	15,5

DNM 1" 1/4 GAS





The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

PULSAR

5” SUBMERSIBLE MONOBLOC MULTISTAGE PUMPS

TECHNICAL DATA

Operating range: from 0,9 to 7,2 m^3/h with head up to 86 metres.
Pumped liquid: clean, free of solids and abrasives, non-aggressive.
Max percentage of sand in water: 50 g/m^3.
Liquid temperature range: from 0 °C to +40 °C.
Maximum immersion depth: 20 metres.
Motor protection class: IP 68.
Motor protection rating: F.
Installation: fixed or portable, vertical or horizontal position.
Operation: manual or automatic (continuous duty with totally submerged pump).
Discharge port diameter: 1”1/4 GAS.
Pump maximum diameter: 138 mm.

APPLICATIONS

PULSAR electric pumps are utilised for lifting clear water from boreholes, first water collection tanks or cisterns, wells or water courses, and are capable of distributing pressurised water to domestic installations, small agricultural plants, and sprinkler systems for lawns and vegetable gardens.
The pump has a very silent operation, and can be installed inside boreholes and tanks, thus avoiding all the potential problems connected with suction and unpriming.

CONSTRUCTION FEATURES OF THE PUMP

Multistage monobloc submersible pump with hydraulic section below the motor, which is cooled by the pumped liquid. Impellers, diffusers, strainer and oil sump in abrasion-proof thermoplastic material. Outer liner, stator sleeve, upper head with delivery connection and closing ring in AISI 304 stainless steel. Upper and lower bearing support in pressed anti-dezincification brass. Rotor shaft extension in AISI 304 stainless steel. Elastomers in NBR. Stainless steel screws. Double mechanical seal with interposed oil chamber, in ceramic/carbon on the motor side, and silicon carbide/silicon carbide on the pump side. The seal system adopted ensures watertight sealing of the motor and good performance of the mechanical seal even in the event of short term dry operation.

CONSTRUCTION FEATURES OF THE MOTOR

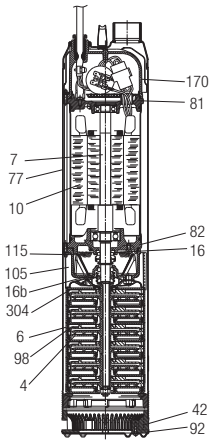
Submersible type continuous duty asynchronous motor. Stator enclosed in airtight casing made of AISI 304 stainless steel and covered by an outer protection that protects the wiring and the capacitor. Rotor running on ball bearings, oversized to ensure low noise and durability.
The single-phase version has built-in thermal-amperometric protection and permanently connected capacitor. For the protection of the three-phase motor, we recommend the use of remote overload cut-outs, in compliance with current local regulations. Construction according to CEI 2-3 and CEI 61-69 (EN 60335-2-41).

Motor protection class: IP 68
Insulation class: F
Standard voltages: Single-phase 220/240 V - 50 Hz.
Three-phase 400 V - 50 Hz.
Standard cables: 20 m cable type H07 RN-F; single-phase version complete with SCHUKO CEE 7-VII-UNEL 47166-68 plug.
The single-phase version can be supplied with or without float switches for automatic operation.

MATERIALS

N.	PART*	MATERIALS
4*	IMPELLER	TECHNOPOLYMER
6*	DIFFUSER	TECHNOPOLYMER
7*	SHAFT WITH ROTOR	AISI 304 (part in contact with the pumped liquid)
10*	MOTOR CASING WITH WOUND STATOR	AISI 304
16*	COMPLETE UPPER MECHANICAL SEAL	NBR/CERAMIC/CARBON
16b	COMPLETE LOWER MECHANICAL SEAL	NBR/SILICON/CARBON
42*	SUCTION STRAINER	TECHNOPOLYMER
77*	OUTER LINER	AISI 304
81*	UPPER BEARING SUPPORT	PRESSED BRASS
82*	LOWER BEARING SUPPORT	PRESSED BRASS
92*	STRAINER COVER	AISI 304
98*	DIFFUSER HOUSING	TECHNOPOLYMER
105*115	SUMP	TECHNOPOLYMER
170*	SEAL LUBRICATION FLUID	ESSO MARCOL 172 OIL
304*	WIRING COMPARTMENT COVER	TECHNOPOLYMER
	REAR DISC	TECHNOPOLYMER

* In contact with the pumped liquid.



PULSAR 50

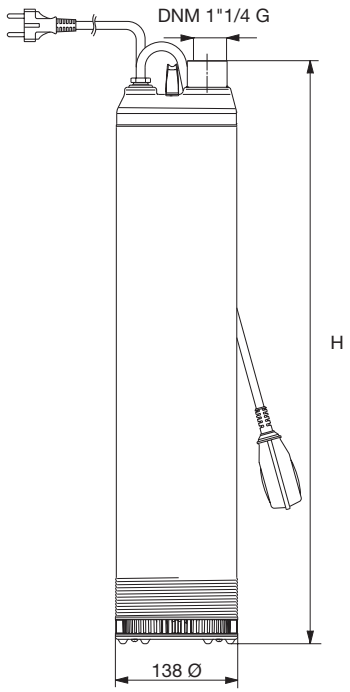
5" SUBMERSIBLE MONOBLOC MULTISTAGE PUMPS

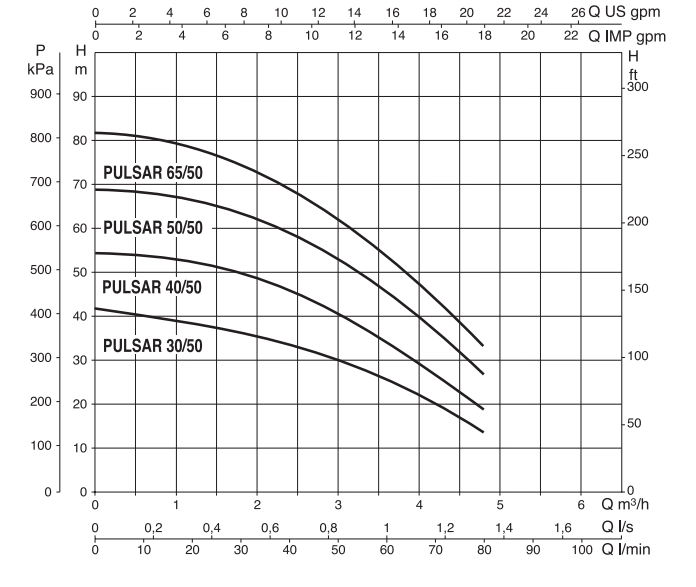
PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA							
	P2 NOMINAL		Q=m³/h	0	1,2	2,4	3,6	4,8	6	7,2
	kW	HP	Q=l/min	0	20	40	60	80	100	120
PULSAR 30/50	0,55	0,75	H (m)	42	38,2	33,8	24,8	13,5	-	-
PULSAR 40/50	0,75	1		56	51	45	33	18	-	-
PULSAR 50/50	1	1,36		72	65,5	58	43,6	24,5	-	-
PULSAR 65/50	1,2	1,6		86	78,5	70	52,8	29	-	-

ELECTRICAL DATA AND DIMENSIONS

MODEL	ELECTRICAL DATA							H mm	PACKING DIMENSIONS			PACKING VOLUME m³	Q.TY X PALLET	WEIGHT kg
	POWER INPUT 50 Hz	P1 kW	P2 NOMINAL		In A	CAPACITOR			L/A	L/B	H			
			kW	HP		µF	Vc							
PULSAR 30/50 M	1x230 V~	0,94	0,55	0,75	4,5	16	450	562	690	220	165	0,037	20	17,3
PULSAR 30/50 T-NA	3x230 V~	0,87	0,55	0,75	2,85	-	-	562	690	220	165	0,037	20	17,3
PULSAR 30/50 T-NA	3x400 V~	0,87	0,55	0,75	1,65	-	-	562	690	220	165	0,037	20	17,3
PULSAR 40/50 M	1x230 V~	1,12	0,75	1	5,2	16	450	562	690	220	165	0,037	20	17,5
PULSAR 40/50 T-NA	3x230 V~	1,03	0,75	1	3,2	-	-	562	690	220	165	0,037	20	17,5
PULSAR 40/50 T-NA	3x400 V~	1,03	0,75	1	1,85	-	-	562	690	220	165	0,037	20	17,5
PULSAR 50/50 M	1x230 V~	1,45	1	1,36	6,5	25	450	630	690	220	165	0,037	20	18,5
PULSAR 50/50 T-NA	3x230 V~	1,35	1	1,36	4,15	-	-	630	690	220	165	0,037	20	18,5
PULSAR 50/50 T-NA	3x400 V~	1,35	1	1,36	2,4	-	-	630	690	220	165	0,037	20	18,5
PULSAR 65/50 M	1x230 V~	1,70	1,2	1,6	7,8	30	450	657	690	220	165	0,037	20	19,5
PULSAR 65/50 T-NA	3x230 V~	1,60	1,2	1,6	5	-	-	657	690	220	165	0,037	20	19,5
PULSAR 65/50 T-NA	3x400 V~	1,60	1,2	1,6	2,9	-	-	657	690	220	165	0,037	20	19,5





The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

PULSAR 80

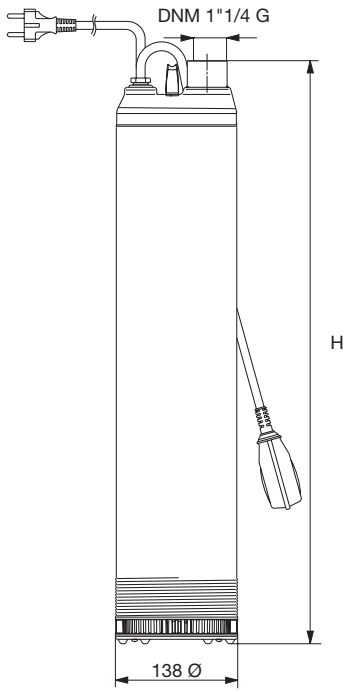
5” SUBMERSIBLE MONOBLOC MULTISTAGE PUMPS

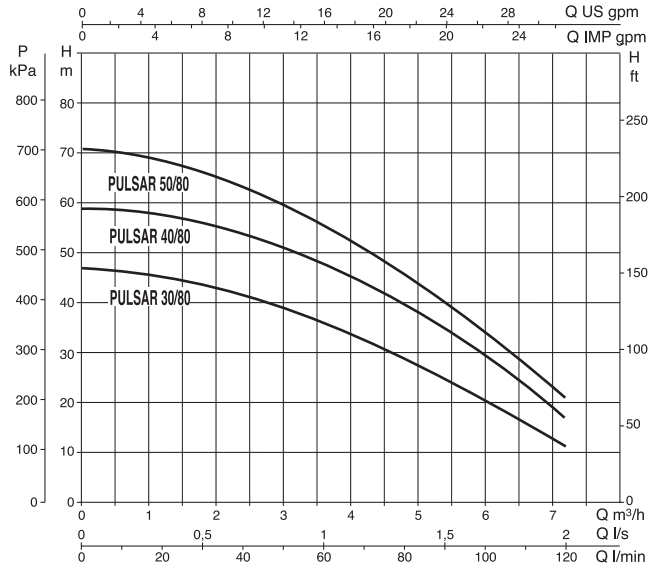
PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA							
	P2 NOMINAL		Q=m³/h	0	1,2	2,4	3,6	4,8	6	7,2
	kW	HP	Q=l/min	0	20	40	60	80	100	120
PULSAR 30/80	0,75	1	H (m)	51	48,2	44,8	39,2	32,4	23,5	13
PULSAR 40/80	1	1,36		64	61	56,8	50	41,5	30,5	16,2
PULSAR 50/80	1,2	1,6		77	73,2	68	60	50	37	19,6

ELECTRICAL DATA AND DIMENSIONS

MODEL	ELECTRICAL DATA							H mm	PACKING DIMENSIONS			PACKING VOLUME m³	Q.TY X PALLET	WEIGHT kg
	POWER INPUT 50 Hz	P1 kW	P2 NOMINAL		In A	CAPACITOR			L/A	L/B	H			
			kW	HP		µF	Vc							
PULSAR 30/80 M	1x230 V~	1,12	0,75	1	5,2	16	450	562	690	220	165	0,037	20	17,5
PULSAR 30/80 T-NA	3x230 V~	1,03	0,75	1	3,2	-	-	562	690	220	165	0,037	20	17,5
PULSAR 30/80 T-NA	3x400 V~	1,03	0,75	1	1,85	-	-	562	690	220	165	0,037	20	17,5
PULSAR 40/80 M	1x230 V~	1,45	1	1,36	6,5	25	450	630	690	220	165	0,037	20	18,5
PULSAR 40/80 T-NA	3x230 V~	1,35	1	1,36	4,15	-	-	630	690	220	165	0,037	20	18,5
PULSAR 40/80 T-NA	3x400 V~	1,35	1	1,36	2,4	-	-	630	690	220	165	0,037	20	18,5
PULSAR 50/80 M	1x230 V~	1,70	1,2	1,6	7,8	30	450	657	690	220	165	0,037	20	19,5
PULSAR 50/80 T-NA	3x230 V~	1,60	1,2	1,6	5	-	-	657	690	220	165	0,037	20	19,5
PULSAR 50/80 T-NA	3x400 V~	1,60	1,2	1,6	2,9	-	-	657	690	220	165	0,037	20	19,5





The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

PULSAR DRY

5” SUBMERSIBLE MONOBLOC MULTISTAGE PUMPS

TECHNICAL DATA

Operating range: from 0,9 to 7,2 m^3/h with head of up to 86 metres.
Pumped liquid: clean, free of solids and abrasives, non-aggressive.
Max percentage of sand in water: 50 g/m^3.
Liquid temperature range: from 0 °C to +40 °C.
Maximum immersion depth: 20 metres.
Motor protection class: IP 68.
Motor protection rating: F.
Maximum working pressure: 10 bar.
Installation: fixed or portable, vertical or horizontal position.
Operation: manual or automatic
(continuous duty with totally submerged pump).
Discharge and suction port diameters: 1”1/4 GAS.
Pump maximum diameter: 138 mm.

APPLICATIONS

PULSAR DRY electric pumps are utilised for lifting and pressurizing clear water from first water collection tanks or cisterns, and are capable of distributing pressurised water to domestic installations, small agricultural plants, and sprinkler systems for lawns and vegetable gardens. Thanks to its particularly silent operation, the pump is suitable for the creation of pressurization assemblies for installation in environments without aeration or prone to flooding.

CONSTRUCTION FEATURES OF THE PUMP

Multistage monobloc submersible or surface pump with hydraulic section below the motor, which is cooled by the pumped liquid. Impellers, diffusers, strainer and oil sump in abrasion-proof thermoplastic material. Outer liner, pump body, stator sleeve, upper head with delivery connection and closing ring in AISI 304 stainless steel. Upper and lower bearing support in pressed anti-dezincification brass. Rotor shaft extension in AISI 304 stainless steel. Elastomers in NBR. Stainless steel screws. Double mechanical seal with interposed oil chamber, in ceramic/carbon on the motor side, and silicon carbide/silicon carbide on the pump side. The seal system adopted ensures watertight sealing of the motor and good performance of the mechanical seal even in the event of short term dry operation.

CONSTRUCTION FEATURES OF THE MOTOR

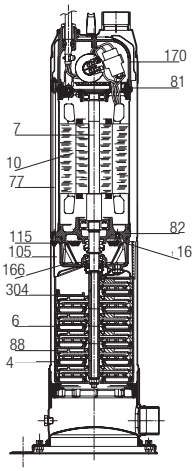
Submersible type continuous duty asynchronous motor. Stator enclosed in airtight casing made of AISI 304 stainless steel and covered by an outer protection that protects the wiring and the capacitor. Rotor running on ball bearings, oversized to ensure low noise and durability. The single-phase version has built-in thermal-amperometric protection and permanently connected capacitor. For the protection of the three-phase motor, we recommend the use of remote overload cut-outs, in compliance with current local regulations. Construction according to CEI 2-3 and CEI 61-69 (EN 60335-2-41).

Motor protection class: IP 68
Insulation class: F
Standard voltages: Single-phase 220/240 V - 50 Hz.
Three-phase 400 V - 50 Hz.
Standard cables: 15 m cable type H07 RN-F; single-phase version complete with SCHUKO CEE 7-VII-UNEL 47166-68 plug.
The single-phase version can be supplied with or without float switches for automatic operation.

MATERIALS

N.	PART*	MATERIALS
4*	IMPELLER	TECHNOPOLYMER
6*	DIFFUSER	TECHNOPOLYMER
7*	SHAFT WITH ROTOR	AISI 304 (part in contact with the pumped liquid)
10*	MOTOR CASING WITH WOUND STATOR	AISI 304
16*	COMPLETE UPPER MECHANICAL SEAL	NBR/CERAMIC/CARBON
16b	COMPLETE LOWER MECHANICAL SEAL	NBR/SILICON/CARBON
77*	OUTER LINER	AISI 304
81*	UPPER BEARING SUPPORT	PRESSED BRASS
82*	LOWER BEARING SUPPORT	PRESSED BRASS
98*	DIFFUSER HOUSING	TECHNOPOLYMER
105*115	SUMP	TECHNOPOLYMER
170*	SEAL LUBRICATION FLUID	ESSO MARCOL 172 OIL
304*	WIRING COMPARTMENT COVER	TECHNOPOLYMER
	REAR DISC	TECHNOPOLYMER

* In contact with the pumped liquid.



PULSAR DRY

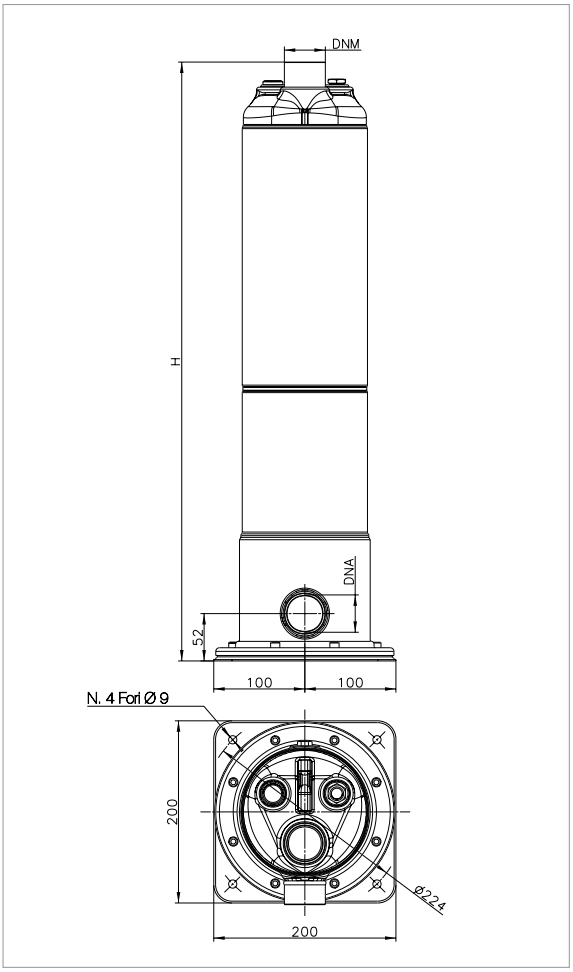
5” SUBMERSIBLE MONOBLOC MULTISTAGE PUMPS

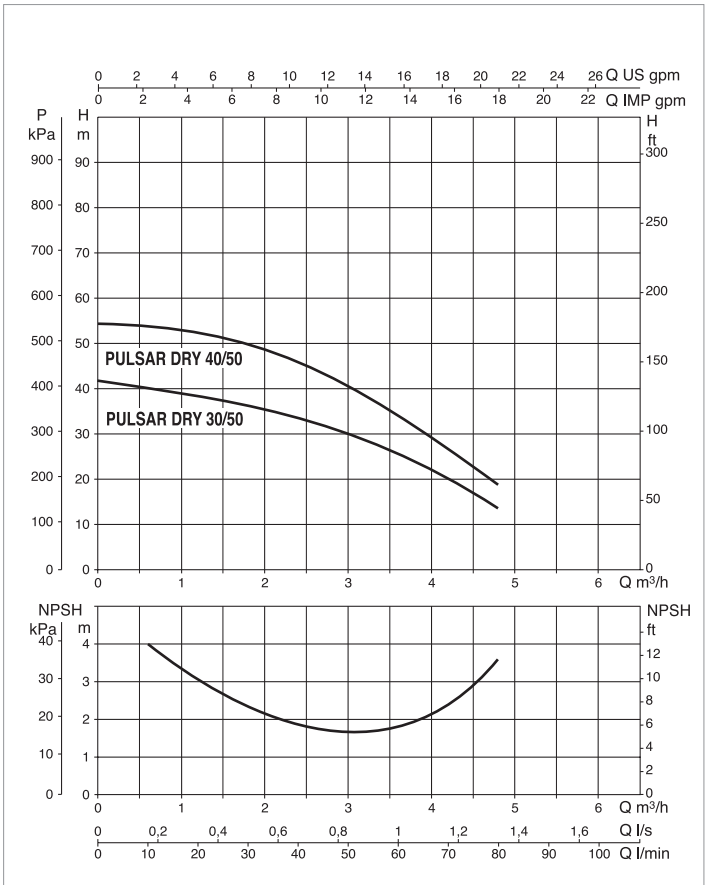
PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA							
	P2 NOMINAL		Q=m³/h	0	1,2	2,4	3,6	4,8	6	7,2
	kW	HP	Q=l/min	0	20	40	60	80	100	120
PULSAR DRY 30/50	0,55	0,75	H (m)	42	38,2	33,8	24,8	13,5	-	-
PULSAR DRY 40/50	0,75	1		56	51	45	33	18	-	-

ELECTRICAL DATA AND DIMENSIONS

MODEL	ELECTRICAL DATA					H mm	PACKING DIMENSIONS			PACKING VOLUME m³	Q.TY X PALLET	WEIGHT kg
	POWER INPUT 50 Hz	P1 kW	P2 NOMINAL		In A		L/A	L/B	H			
			kW	HP								
PULSAR DRY 30/50 M-NA	1x230 V~	0,94	0,55	0,75	4,4	562	690	220	165	0,037	20	16,7
PULSAR DRY 30/50 T-NA	3x230 V~	0,87	0,55	0,75	2,85	562	690	220	165	0,037	20	17,3
PULSAR DRY 30/50 T-NA	3x400 V~	0,87	0,55	0,75	1,65	562	690	220	165	0,037	20	17,3
PULSAR DRY 40/50 M-NA	1x230 V~	1,12	0,75	1	5,2	562	690	220	165	0,037	20	17
PULSAR DRY 40/50 T-NA	3x230 V~	1,03	0,75	1	3,2	562	690	220	165	0,037	20	17,5
PULSAR DRY 40/50 T-NA	3x400 V~	1,03	0,75	1	1,85	562	690	220	165	0,037	20	17,5





The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

PULSAR DRY

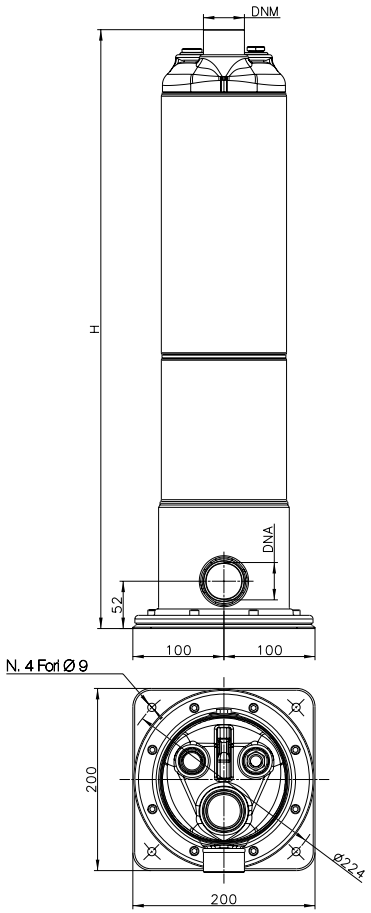
5" SUBMERSIBLE MONOBLOC MULTISTAGE PUMPS

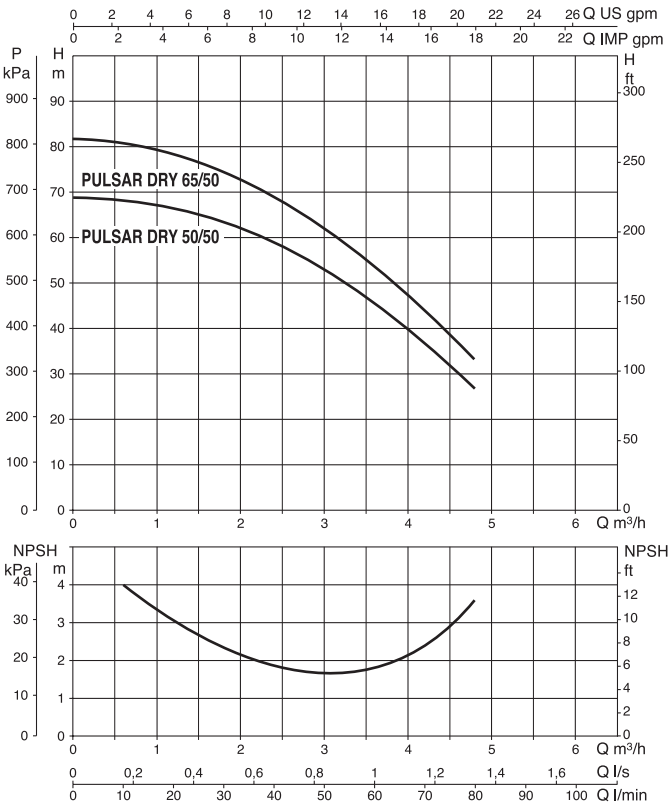
PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA							
	P2 NOMINAL		Q=m³/h	0	1,2	2,4	3,6	4,8	6	7,2
	kW	HP	Q=l/min	0	20	40	60	80	100	120
PULSAR DRY 50/50	1	1,36	H (m)	72	65,5	58	43,6	24,5	-	-
PULSAR DRY 65/50	1,2	1,6		86	78,5	70	52,8	29	-	-

ELECTRICAL DATA AND DIMENSIONS

MODEL	ELECTRICAL DATA					H mm	PACKING DIMENSIONS			PACKING VOLUME m³	Q.TY X PALLET	WEIGHT kg
	POWER INPUT 50 Hz	P1 kW	P2 NOMINAL		In A		L/A	L/B	H			
			kW	HP								
PULSAR DRY 50/50 M-NA	1x230 V~	1,45	1	1,36	6,5	630	690	220	165	0,037	20	18
PULSAR DRY 50/50 T-NA	3x230 V~	1,35	1	1,36	4,15	630	690	220	165	0,037	20	18,5
PULSAR DRY 50/50 T-NA	3x400 V~	1,35	1	1,36	2,4	630	690	220	165	0,037	20	18,5
PULSAR DRY 65/50 M-NA	1x230 V~	1,70	1,2	1,6	7,8	657	690	220	165	0,037	9	19
PULSAR DRY 65/50 T-NA	3x230 V~	1,60	1,2	1,6	5	657	690	220	165	0,037	9	19,5
PULSAR DRY 65/50 T-NA	3x400 V~	1,60	1,2	1,6	2,9	657	690	220	165	0,037	9	19,5





The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

PULSAR DRY

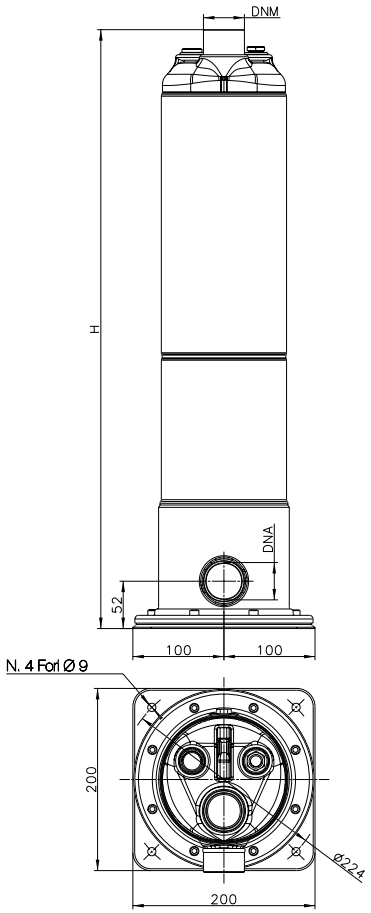
5" SUBMERSIBLE MONOBLOC MULTISTAGE PUMPS

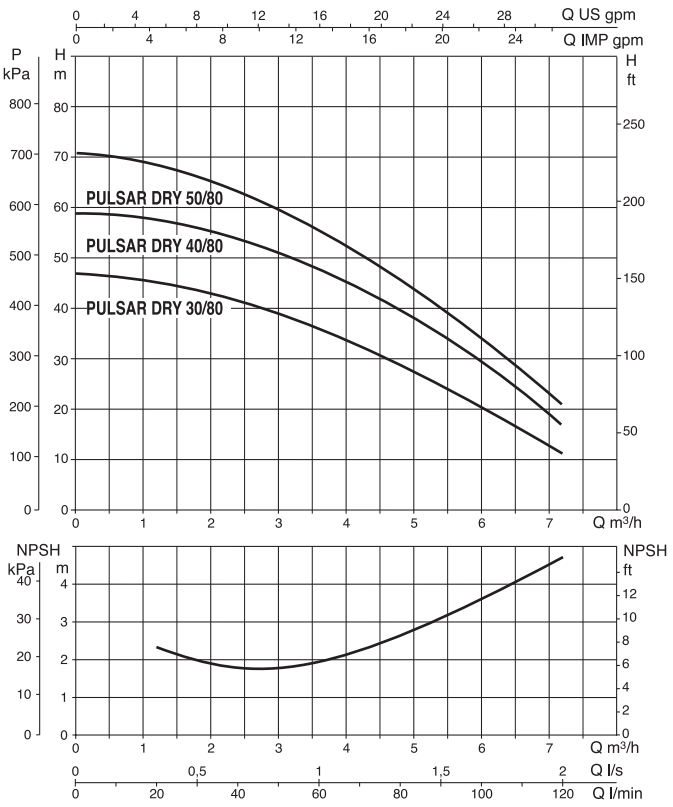
PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA							
	P2 NOMINAL		Q=m³/h	0	1,2	2,4	3,6	4,8	6	7,2
	kW	HP	Q=l/min	0	20	40	60	80	100	120
PULSAR DRY 30/80	0,75	1	H (m)	51	48,2	44,8	39,2	32,4	23,5	13
PULSAR DRY 40/80	1	1,36		64	61	56,8	50	41,5	30,5	16,2
PULSAR DRY 50/80	1,2	1,6		77	73,2	68	60	50	37	19,6

ELECTRICAL DATA AND DIMENSIONS

MODEL	ELECTRICAL DATA					H mm	PACKING DIMENSIONS			PACKING VOLUME m³	Q.TY X PALLET	WEIGHT kg
	POWER INPUT 50 Hz	P1 kW	P2 NOMINAL		In A		L/A	L/B	H			
			kW	HP								
PULSAR DRY 30/80 M-NA	1x230 V~	1,12	0,75	1	5,2	562	690	220	165	0,037	20	17
PULSAR DRY 30/80 T-NA	3x230 V~	1,03	0,75	1	3,2	562	690	220	165	0,037	20	17,5
PULSAR DRY 30/80 T-NA	3x400 V~	1,03	0,75	1	1,85	562	690	220	165	0,037	20	17,5
PULSAR DRY 40/80 M-NA	1x230 V~	1,5	1	1,36	6,5	630	690	220	165	0,037	20	18
PULSAR DRY 40/80 T-NA	3x230 V~	1,4	1	1,36	4,15	630	690	220	165	0,037	20	18,5
PULSAR DRY 40/80 T-NA	3x400 V~	1,4	1	1,36	2,4	630	690	220	165	0,037	20	18,5
PULSAR DRY 50/80 M-NA	1x230 V~	1,8	1,2	1,6	7,8	657	690	220	165	0,037	9	19
PULSAR DRY 50/80 T-NA	3x230 V~	1,75	1,2	1,6	5	657	690	220	165	0,037	9	19,5
PULSAR DRY 50/80 T-NA	3x400 V~	1,64	1,2	1,6	2,9	657	690	220	165	0,037	9	19,5





The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIVER 6

6" MULTI-IMPELLER SUBMERSIBLE ELECTRIC PUMPS

TECHNICAL DATA

Operating range: from 1 to 5,4 m^3/h with head up to 46 metres.
Pumped liquid: clean, free of solids and abrasives, non-aggressive.
Liquid temperature range: from 0 °C to +35 °C.
Max. immersion depth: 12 metres.
Motor protection class: IP 68.
Motor protection rating: F.
Installation: fixed or portable, vertical position.
Operation: manual or automatic with float switch (continuous duty with totally submerged pump).
Discharge port diameter: 1".
Pump maximum diameter: 150 mm.

APPLICATIONS

Multi-impeller submersible pumps ideal for use in rain water systems and watering networks, to pump water from cisterns, ponds, and wells, and for other applications requiring high pressure. Available with 2, 3, or 4 impellers.
Suitable for pumping clean waters.
Very efficient motor cooling, allowing the pump to also be used only partially submerged. Automatic version with float switch for automatic pump start and stop. Fitted with power supply cable with plug, non return valve and 4-level connector.

CONSTRUCTION FEATURES OF THE PUMP

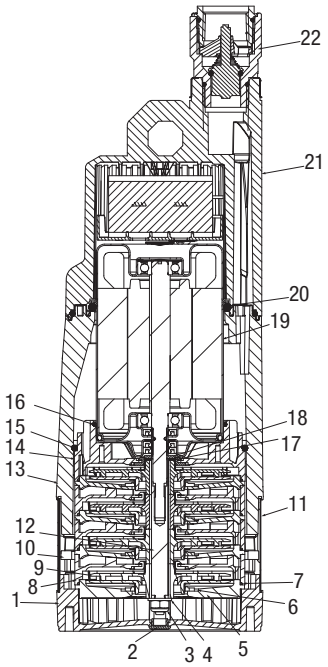
Corrosion and oxidation resistant material. Stainless steel debris strainer.

CONSTRUCTION FEATURES OF THE MOTOR

Submersible type continuous duty asynchronous motor.
Thermal overheating protection.
Wear-resistant motor shaft.

MATERIALS

N.	PARTS		MATERIALS
1	BASE		TECHNOPOLYMER
2	PLUG		TECHNOPOLYMER
3	NUT		A2 UNI 7474 STAINLESS STEEL
4	WASHER		A2 STAINLESS STEEL
5	FINAL DIFFUSER CAP		TECHNOPOLYMER
6	THRUST RING		TECHNOPOLYMER
7	OR RING		NBR
8	DIFFUSER		TECHNOPOLYMER
9	IMPELLER		TECHNOPOLYMER/AISI 304 STAINLESS STEEL
10	SPACER		TECHNOPOLYMER
11	STRAINER RING		AISI 304 STAINLESS STEEL
12	SHAFT		AISI 303 STAINLESS STEEL
13	BODY		TECHNOPOLYMER
14	DIFFUSER SUPPORT		TECHNOPOLYMER
15	OR RING		NBR
16	OR RING		NBR
17	WASHER		A2 STAINLESS STEEL
18	WASHER		A2 STAINLESS STEEL
19	MOTOR	CASE	ALUMINIUM
		ROTOR SHAFT	AISI 416 STAINLESS STEEL
20	OR RING		NBR
21	COVER		TECHNOPOLYMER
22	NON-RETURN VALVE		TECHNOPOLYMER/NBR/AISI 302 STAINLESS STEEL



DIVER 6

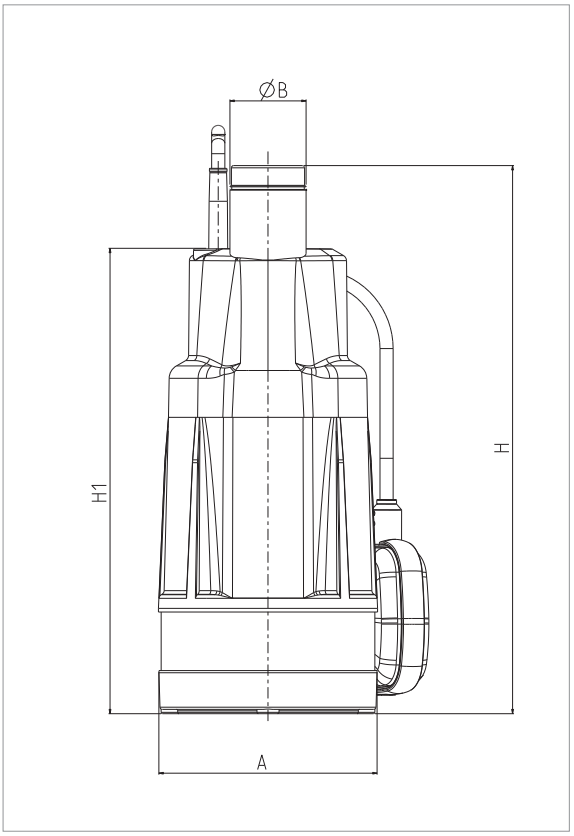
6" MULTI-IMPELLER SUBMERSIBLE ELECTRIC PUMPS

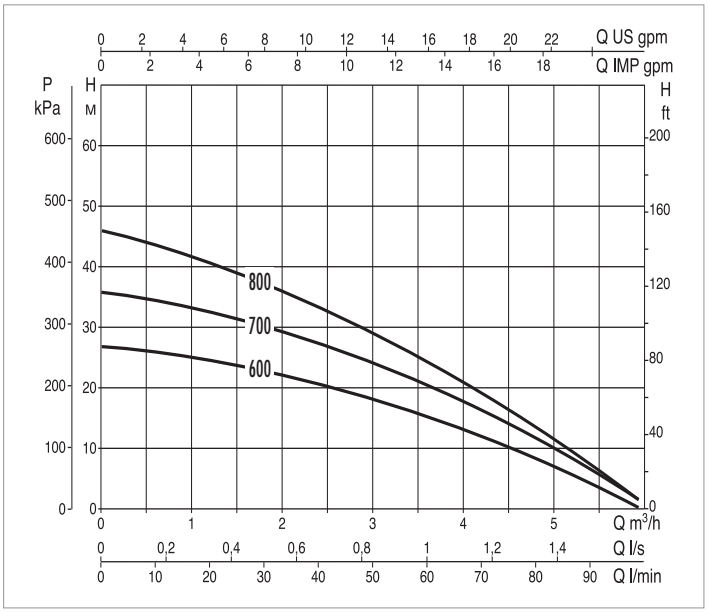
PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA								
	P2 NOMINAL		Q=m³/h	0	0,9	1,8	2,7	3,6	4,5	5,1	5,4
	kW	HP	Q=l/min	0	15	30	45	60	75	85	90
DIVER 6 - 600 M-A	0,55	0,75	H (m)	24	22	19,5	16,2	12,5	7,5	3,7	1,5
DIVER 6 - 700 M-A	0,65	0,88		36	32,6	28,5	23,6	17	9,5	4,6	1,8
DIVER 6 - 800 M-A	0,75	1		46	41	35,5	29,2	21,8	13,5	7,8	3,5

ELECTRICAL DATA AND DIMENSIONS

MODEL	ELECTRICAL DATA					A	Ø B	H	H1	Ø	PACKING DIMENSIONS			PACKING VOLUME m³	Q.TY X PALLET	WEIGHT kg
	POWER INPUT 50 Hz	P1 kW	P2 NOMINAL		In A						L/A	L/B	H			
			kW	HP												
DIVER 6 - 600 M-A	1x230 V~	750	0,55	0,75	3	150	52	350	293	1"	232	192	456	0,02	40	7,5
DIVER 6 - 700 M-A	1x230 V~	900	0,65	0,88	3,8	150	52	375	318	1"	232	192	456	0,02	40	8,7
DIVER 6 - 800 M-A	1x230 V~	1100	0,75	1	4,8	150	52	400	343	1"	232	192	456	0,02	40	9





The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

DIVERTRON

6” ELECTRONIC MULTI-IMPELLER PUMP

TECHNICAL DATA

Operating range: from 1 to 5,4 m^3/h with head up to 46 metres.
Pumped liquid: clean, free of solids and abrasives, non-aggressive.
Liquid temperature range: from 0 °C to +35 °C.
Max. immersion depth: 12 metres.
Motor protection class: IP 68.
Motor protection rating: F.
Installation: fixed or portable, vertical position.
Operation: Manual or automatic with electronic ON/OFF (continuous duty with totally submerged pump).
Discharge port diameter: 1”.
Pump maximum diameter: 150 mm.

APPLICATIONS

Multi-impeller submersible pump with integrated electronics for automatic switching on and off. Ideal for use in rain water systems and watering networks, to pump water from cisterns, ponds, and wells, and for other applications requiring high pressure. Available with 3 or 4 impellers. Built-in pressure switch, control circuit board and sensor. Dry run protection. Built-in non-return valve at the delivery. Easy to use and highly reliable.
Suitable for pumping clean waters. Very efficient motor cooling, allowing the pump to also be used only partially submerged. Supplied with stainless steel suction filter or stainless steel connection fitting for use with suction kits, particularly suitable for tanks with debris or dirt lying at the bottom. A version complete with suction kit is also available.

CONSTRUCTION FEATURES OF THE PUMP

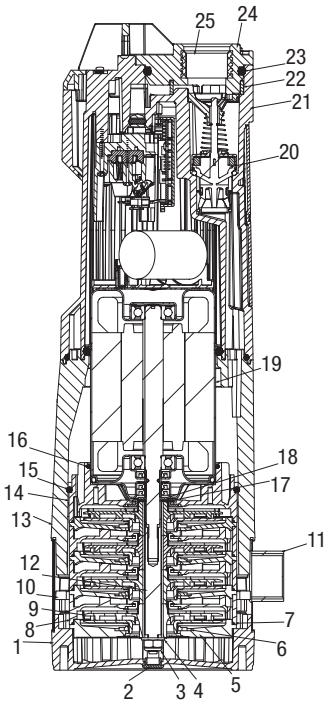
Corrosion and oxidation resistant material. Stainless steel debris strainer.

CONSTRUCTION FEATURES OF THE MOTOR

Submersible type continuous duty asynchronous motor. Thermal overheating protection. Wear-resistant motor shaft.

MATERIALS

N.	PARTS		MATERIALS
1	BASE		TECHNOPOLYMER
2	PLUG		TECHNOPOLYMER
3	NUT		A2 UNI 7474 STAINLESS STEEL
4	WASHER		A2 STAINLESS STEEL
5	FINAL DIFFUSER CAP		TECHNOPOLYMER
6	THRUST RING		TECHNOPOLYMER
7	OR RING		NBR
8	DIFFUSER		TECHNOPOLYMER
9	IMPELLER		TECHNOPOLYMER/AISI 304 STAINLESS STEEL
10	SPACER		TECHNOPOLYMER
11	STRAINER RING		AISI 304 STAINLESS STEEL
12	SHAFT		AISI 303 STAINLESS STEEL
13	BODY		TECHNOPOLYMER
14	DIFFUSER SUPPORT		TECHNOPOLYMER
15	OR RING		NBR
16	OR RING		NBR
17	WASHER		A2 STAINLESS STEEL
18	WASHER		A2 STAINLESS STEEL
19	MOTOR	CASE	ALUMINIUM
		ROTOR SHAFT	AISI 416 STAINLESS STEEL
20	NON-RETURN VALVE		TECHNOPOLYMER/NBR/SILOPREN FERRIMAX/AISI 302
21	COVER		TECHNOPOLYMER
22	SAND STRAINER		TECHNOPOLYMER
23	OR RING		NBR
24	DELIVERY COVER		TECHNOPOLYMER
25	INSERT		NICKEL PLATED BRASS



DIVERTRON

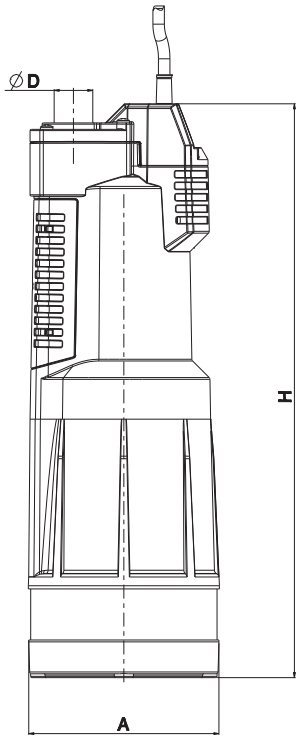
6" ELECTRONIC MULTI-IMPELLER PUMP

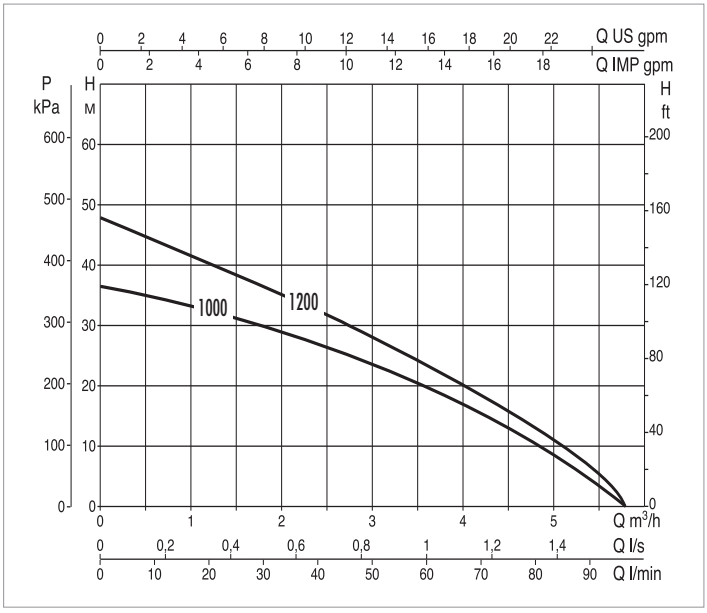
PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA								
	P2 NOMINAL		Q=m³/h	0	0,9	1,8	2,7	3,6	4,5	5,1	5,4
	kW	HP	Q=l/min	0	15	30	45	60	75	85	90
DIVERTRON 1000 M	0,65	0,88	H (m)	36	32,6	28,5	23,6	17	9,5	4,6	1,8
DIVERTRON X 1000 M	0,65	0,88		36	32,6	28,5	23,6	17	9,5	4,6	1,8
DIVERTRON 1200 M	0,75	1		46	41	35,5	29,2	21,8	13,5	7,8	3,5
DIVERTRON X 1200 M	0,75	1		46	41	35,5	29,2	21,8	13,5	7,8	3,5

ELECTRICAL DATA AND DIMENSIONS

MODEL	ELECTRICAL DATA					A	Ø D	H	DNM	PACKING DIMENSIONS			PACKING VOLUME m³	Q.TY X PALLET	WEIGHT kg
	POWER INPUT 50 Hz	P1 kW	P2 NOMINAL		In A					L/A	L/B	H			
			kW	HP											
DIVERTRON 1000 M	1x230 V~	900	0,65	0,88	3,8	150	30	450	1"	230	190	500	0,02	40	11
DIVERTRON X 1000 M	1x230 V~	900	0,65	0,88	3,8	150	30	450	1"	230	190	500	0,02	40	11
DIVERTRON 1200 M	1x230 V~	1100	0,75	1	4,8	150	30	480	1"	230	190	500	0,02	40	11
DIVERTRON X 1200 M	1x230 V~	1100	0,75	1	4,8	150	30	480	1"	230	190	500	0,02	40	11





The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

MICRA HS

3" HIGH SPEED MULTISTAGE SUBMERSIBLE ELECTRIC PUMP

ACTIVE DRIVER PLUS included

TECHNICAL DATA

Operating range: from 1 to 5,5 m^3/h.
Maximum head: up to 90 metres.
Pumped liquid: clean, free of solids and abrasives, non-viscous, non-aggressive, and chemically neutral, with properties similar to water.
Liquid temperature range: from 0 °C to +35 °C.
Maximum permitted amount of sand: 30 g/m^3.
Discharge port diameter: 1" GAS.
Inverter supply tolerance: +10 % / -20 %.
Max. starts: 20/h.
Maximum motor supply frequency: 110 Hz (~6300 r.p.m.)
Installation: in 3" wells or larger, tanks and cisterns, vertical position. In case of horizontal installation, ensure a minimum load on the thrust assembly.
Special executions on request: 30 m shielded cable.
Motor power cable: 1,4 m.

APPLICATIONS

Submersible electric pumps for 3" wells or larger.
These units have a very extensive range of applications for lifting and distribution in civil and industrial water systems, filling of pressure vessels and tanks, pressurization and irrigation systems.

CONSTRUCTION FEATURES OF THE PUMP

Multistage centrifugal type. Pump and motor directly coupled with rigid coupling. Impellers and thrust rings in Noryl and diffusers in self-lubricating polyacetyl. Pump liner, shaft and coupling, strainer and cable sheath in stainless steel.
Base support and head in brass, with check valve incorporated in the head.

CONSTRUCTION FEATURES OF THE MOTOR

Submersible asynchronous two-pole motor made entirely of AISI 304 stainless steel, with brass bearings. Copper squirrel cage rotor mounted on Kingsbury thrust block. Cooling of the thrust bearing assembly and the bushings is provided by water, thereby eliminating the risk of contamination. Canned-type stator in an airtight casing made of AISI 304L stainless steel.

CONSTRUCTION FEATURES OF THE INVERTER

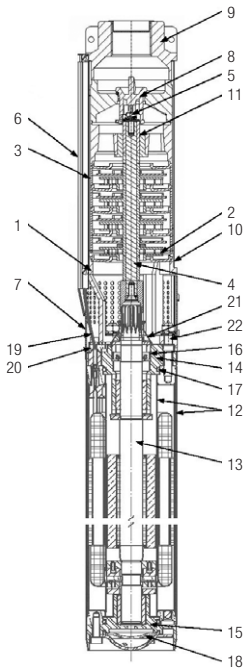
Active Driver plus is an electric pump inverter that keeps a constant pressure even in case of variation of the flow, by adjusting the speed of the pump. The inverter is fitted with internal pressure switch and flow sensor, which ensure continuous monitoring of system conditions.
The inverter is already configured by default for MICRA HS.

MATERIALS

N.	PART*	MATERIALS
	PUMP	
1	BASE SUPPORT	BRASS OT58
2	IMPELLER	NORYL GFN2
3	DIFFUSER	POLYACETYL
4	SHAFT WITH COUPLING	AISI 430F
5	LOCKING NUT	AISI 304
6	CABLE SHEATH	AISI 430
7	STRAINER	AISI 430
8	VALVE	POLYACETYL
9	DELIVERY BODY	BRASS OT58
10	PUMP LINER	AISI 304
11	BUSHES	AISI 316L

N.	PART*	MATERIALS
	MOTOR	
12	INTERNAL AND OUTER LINER	AISI 304
13	SHAFT	AISI 431
14	UPPER SUPPORT	BRASS OT58
15	LOWER SUPPORT	BRASS OT58
16	LIP SEAL	NBR
17	GASKETS	NBR
18	BELLOW SEAL	EPDM
19	CABLE	EPDM
20	CONNECTOR PLUG	AISI 304
21	SAND GUARD	NBR
22	SCREWS	AISI 304

* In contact with the liquid.

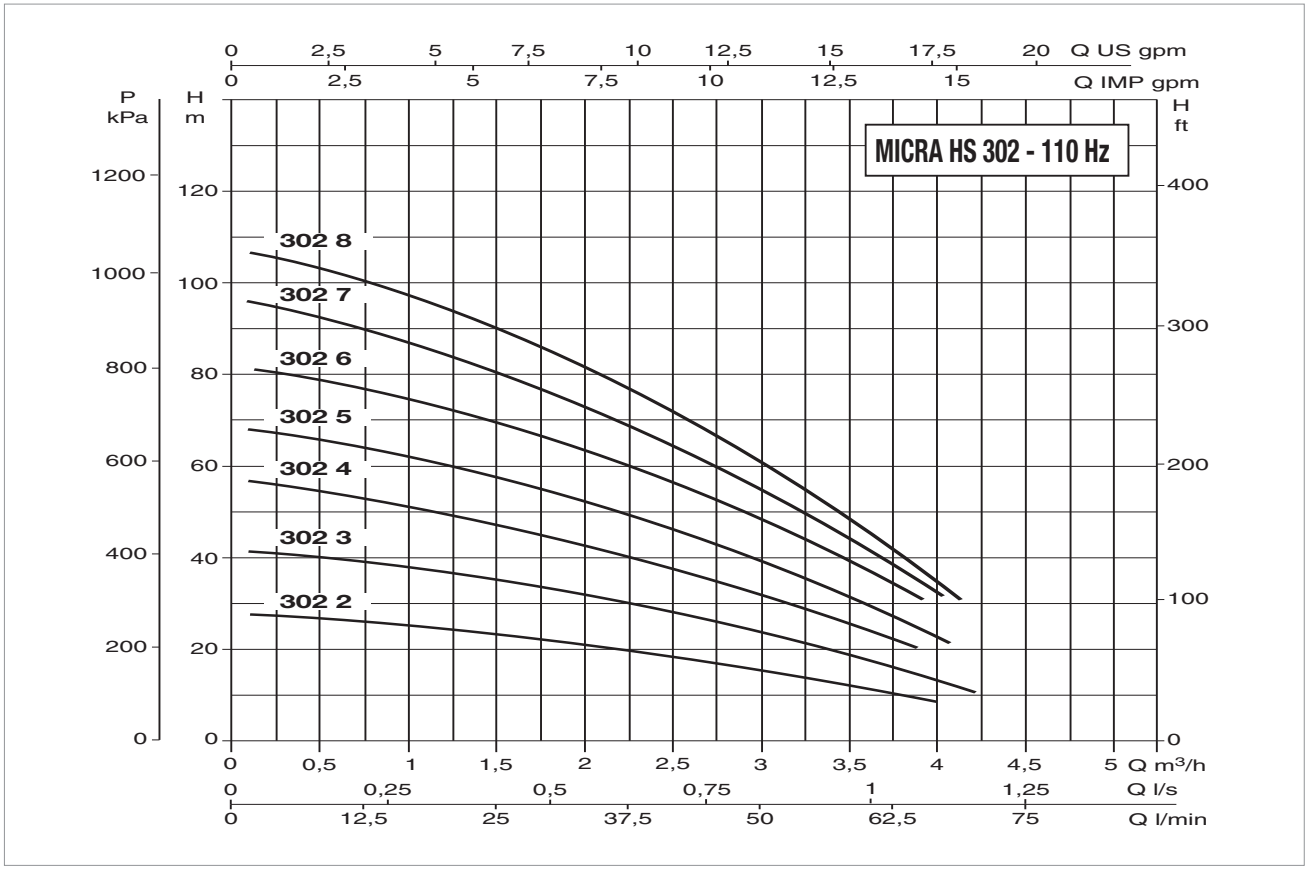


MICRA HS

3" HIGH SPEED MULTISTAGE SUBMERSIBLE ELECTRIC PUMP

ELECTRICAL DATA AND PERFORMANCE AT 110 Hz

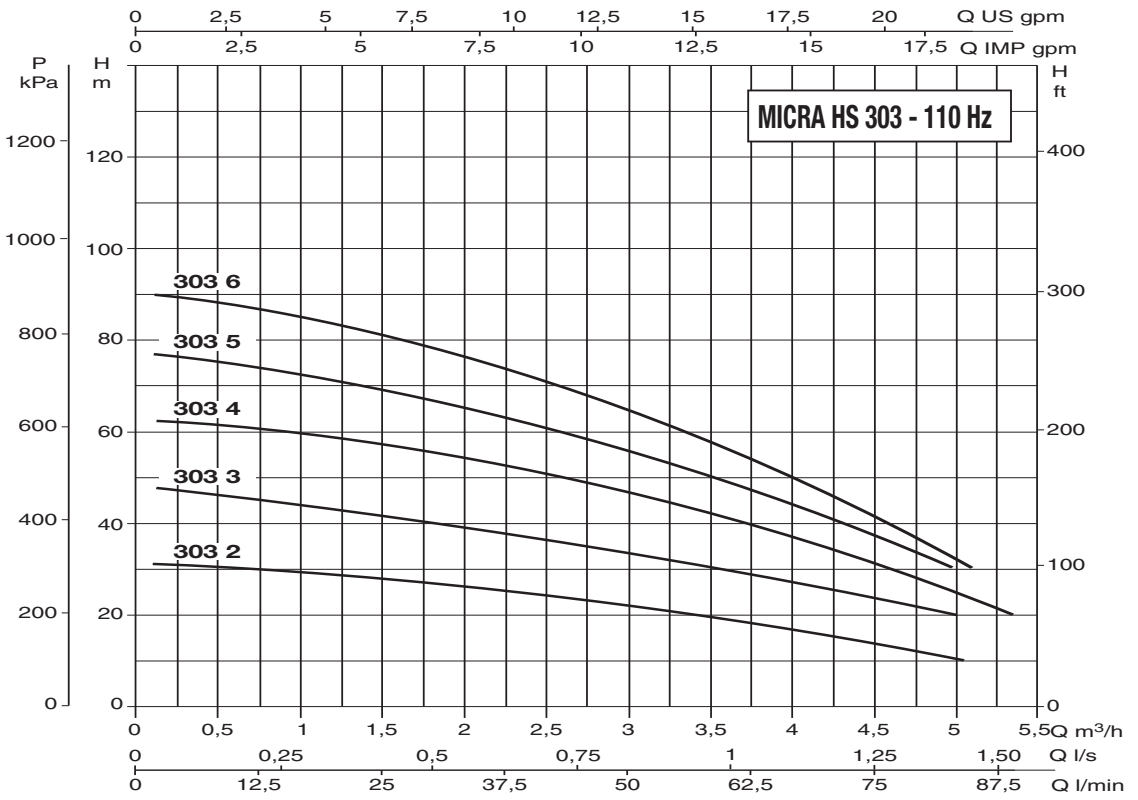
MODEL	ELECTRICAL DATA					HYDRAULIC DATA										
	INVERTER POWER INPUT	ELECTRIC PUMP POWER INPUT	P1 MAX kW	In MAX A	MINIMUM FREQUENCY Hz	Q=m³/h	1	1.5	2	2.5	3	3.5	4	4.5	5	5,5
						Q=l/min	17	25	33	42	50	58	67	75	84	92
MICRA HS 302 - 2	1x230 V ~	3x230 V~	1	5,3	90		24	21	19	16	13	10	6			
MICRA HS 302 - 3	1x230 V ~	3x230 V ~	1.1	5,4	80		35	31	29	25	20	15	10			
MICRA HS 302 - 4	1x230 V ~	3x230 V ~	1.2	5,7	70		45	42	40	32	28	20	12			
MICRA HS 302 - 5	1x230 V ~	3x230 V ~	1.5	5,5	70		62	57	52	45	39	30	20			
MICRA HS 302 - 6	1x230 V ~	3x230 V ~	1.6	5,7	60		70	65	60	50	40	30	20			
MICRA HS 302 - 7	1x230 V ~	3x230 V ~	1.8	6,5	60		80	75	68	55	47	35	22			
MICRA HS 302 - 8	1x230 V ~	3x230 V ~	2	6,5	60	H (m)	90	82	79	63	55	40	23			
MICRA HS 303 - 2	1x230 V ~	3x230 V ~	1.1	5,5	90		30	27	26	24	22	20	16	13		
MICRA HS 303 - 3	1x230 V ~	3x230 V ~	1.3	5,5	80		45	42	40	36	33	30	25	20		
MICRA HS 303 - 4	1x230 V ~	3x230 V ~	1.6	5,6	70		60	57	54	50	47	41	37	30		
MICRA HS 303 - 5	1x230 V ~	3x230 V ~	1.9	6,2	70		72	70	65	61	56	50	44	36		
MICRA HS 303 - 6	1x230 V ~	3x230 V ~	2.2	7,1	60		85	81	77	71	65	58	50	40		
MICRA HS 304 - 3	1x230 V ~	3x230 V ~	1.8	5,8	80		48	45	43	41	39	37	33	30	28	25
MICRA HS 304 - 4	1x230 V ~	3x230 V ~	2.1	6,6	70		65	63	61	58	55	51	47	42	38	32



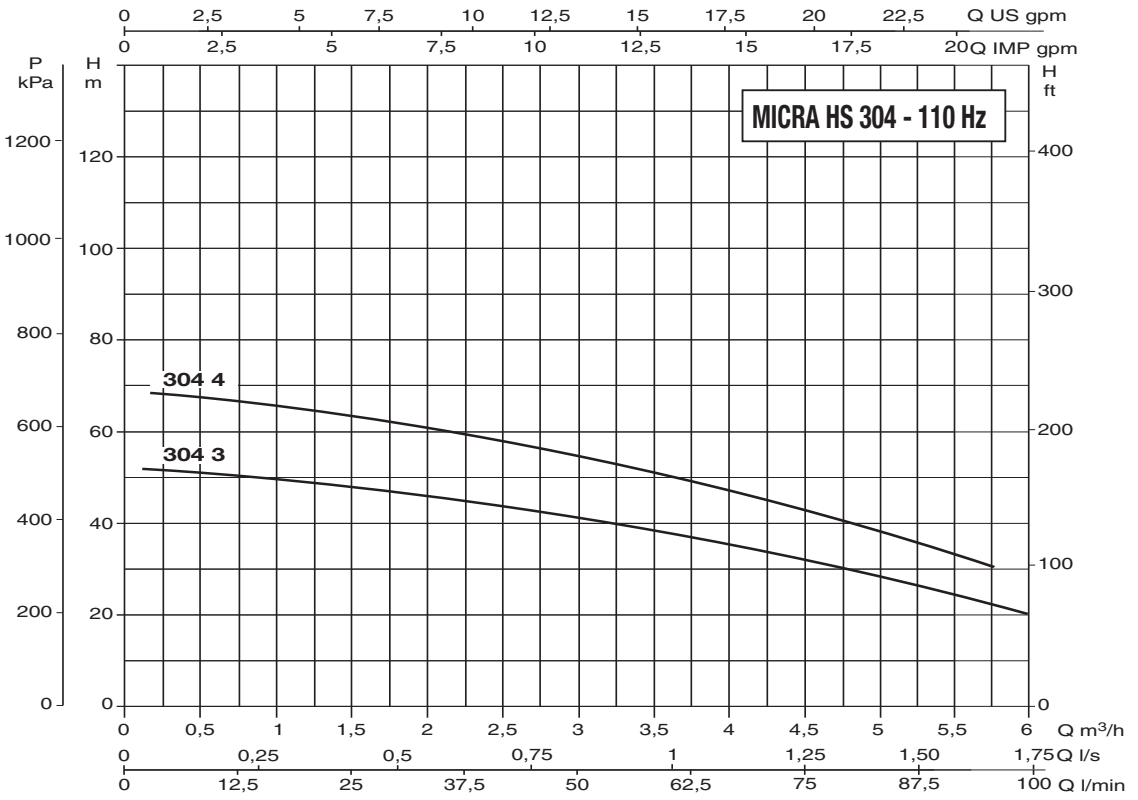
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

MICRA HS

3" HIGH SPEED MULTISTAGE SUBMERSIBLE ELECTRIC PUMP



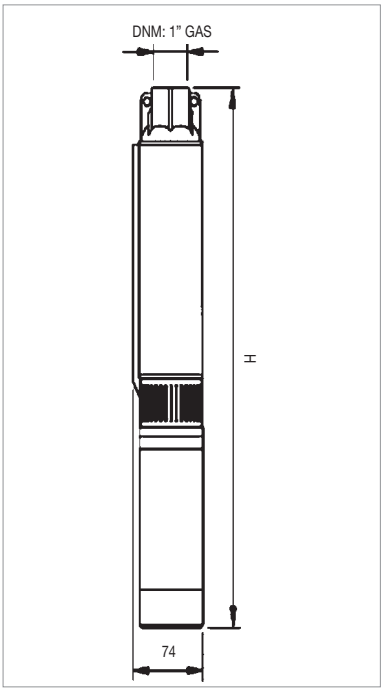
The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.



The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

MICRA HS

3” HIGH SPEED MULTISTAGE SUBMERSIBLE ELECTRIC PUMP

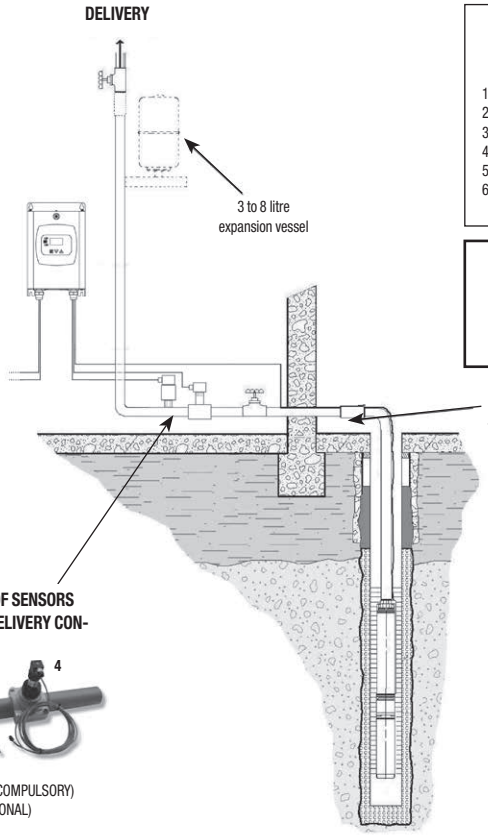


DIMENSIONAL DATA

MODEL	Ø	H	DNM G	PACK DIMENSIONS (mm)		
				L/A	L/B	H
MICRA HS 302 - 2	74	580	1"	320	1300	275
MICRA HS 302 - 3	74	605	1"	320	1300	275
MICRA HS 302 - 4	74	630	1"	320	1300	275
MICRA HS 302 - 5	74	655	1"	320	1300	275
MICRA HS 302 - 6	74	680	1"	320	1300	275
MICRA HS 302 - 7	74	705	1"	320	1300	275
MICRA HS 302 - 8	74	730	1"	320	1300	275
MICRA HS 303 - 2	74	580	1"	320	1300	275
MICRA HS 303 - 3	74	605	1"	320	1300	275
MICRA HS 303 - 4	74	630	1"	320	1300	275
MICRA HS 303 - 5	74	655	1"	320	1300	275
MICRA HS 303 - 6	74	680	1"	320	1300	275
MICRA HS 304 - 3	74	605	1"	320	1300	275
MICRA HS 304 - 4	74	630	1"	320	1300	275

MICRA HS OPTIONAL VERSION WITH ADAC - EXAMPLE OF INSTALLATION

+



NECESSARY COMPONENTS FOR THE INSTALLATION OF THE SYSTEM

1. Submersible pump
2. ADAC inverter
3. Pressure sensor (COMPULSORY)
4. Flow sensor (OPTIONAL)
5. Non-return valve
6. Expansion vessel

WARNING

The ADAC must be configured for operation at a maximum frequency of 110 Hz

INSTALLATION OF SENSORS ON THE PUMP DELIVERY CONNECTOR

3. Pressure sensor (COMPULSORY)
4. Flow sensor (OPTIONAL)

SUGGESTION

In some systems, we recommend that a filter is installed upstream the sensors, to prevent them from getting damaged.

MICRA

3" MULTISTAGE SUBMERSIBLE ELECTRIC PUMP

CB for single-phase versions only.

TECHNICAL DATA

Operating range: from 0,3 to 2,7 m^3/h.
Maximum head: up to 90 metres.
Pumped liquid: clean, free of solids and abrasives, non-viscous, non-aggressive, and chemically neutral, with properties similar to water.
Liquid temperature range: from 0 °C to +35 °C.
Maximum permitted amount of sand: 40 g/m^3.
Discharge port diameter: 1" GAS.
Power supply tolerance: +6 % / -10 %.
Max. starts: 20/h.
Installation: in 3" wells or larger, tanks and cisterns, vertical position. In case of horizontal installation, ensure a minimum load on the thrust assembly.
Special executions on requests: alternative voltages and frequencies.
Power cable: Micra 50 – 1 m.
Micra 75 – 1,2m
Micra 100 – 1,4m
The single-phase version can be supplied with CONTROL BOX on request.

APPLICATIONS

Submersible electric pumps for 3" wells or larger.
These units have a very extensive range of applications for lifting and distribution in civil and industrial water systems, filling of pressure vessels and tanks, pressurization and irrigation systems.

CONSTRUCTION FEATURES OF THE PUMP

Multistage centrifugal type. Pump and motor directly coupled with rigid coupling. Impellers and thrust rings in Noryl and diffusers in self-lubricating polyacetyl. Pump liner, shaft and coupling, strainer and cable sheath in stainless steel.
Base support and head in brass, with check valve incorporated in the head.

CONSTRUCTION FEATURES OF THE MOTOR

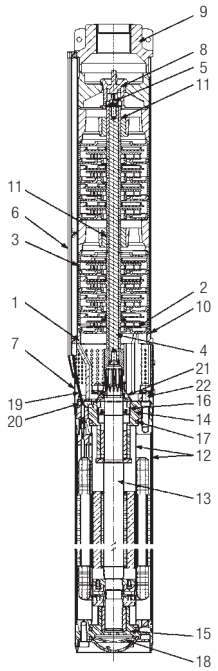
Submersible asynchronous two-pole motor made entirely of AISI 304 stainless steel
with brass bearings. Copper squirrel cage rotor mounted on Kingsbury thrust block.
Cooling of the thrust bearing assembly and the bushings is provided by water, thereby eliminating the risk of contamination. Canned-type stator in an airtight casing made of AISI 304L stainless steel. The thermal protector with automatic reset is included with the motor.
Protection class: IP68
Insulation class: F
Supply voltage: single-phase 230 V / 50 Hz.
three-phase 400 V / 50 Hz
three-phase 230 V / 50 Hz

MATERIALS

N.	PART*	MATERIALS
	PUMP	
1	BASE SUPPORT	BRASS OT58
2	IMPELLER	NORYL GFN2
3	DIFFUSER	POLYACETYL
4	SHAFT WITH COUPLING	AISI 430F
5	LOCKING NUT	AISI 304
6	CABLE SHEATH	AISI 430
7	STRAINER	AISI 430
8	VALVE	POLYACETYL
9	DELIVERY BODY	BRASS OT58
10	PUMP LINER	AISI 304
11	BUSHES	AISI 316L

N.	PART*	MATERIALS
	MOTOR	
12	INTERNAL AND OUTER LINER	AISI 304
13	SHAFT	AISI 431
14	UPPER SUPPORT	BRASS OT58
15	LOWER SUPPORT	BRASS OT58
16	LIP SEAL	NBR
17	GASKETS	NBR
18	BELLOW SEAL	EPDM
19	CABLE	EPDM
20	CONNECTOR PLUG	AISI 304
21	SAND GUARD	NBR
22	SCREWS	AISI 304

* In contact with the liquid.



MICRA

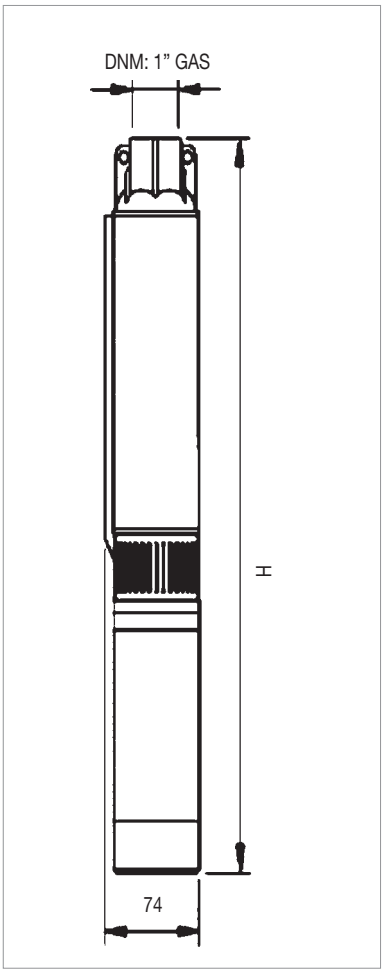
3" MULTISTAGE SUBMERSIBLE ELECTRIC PUMP

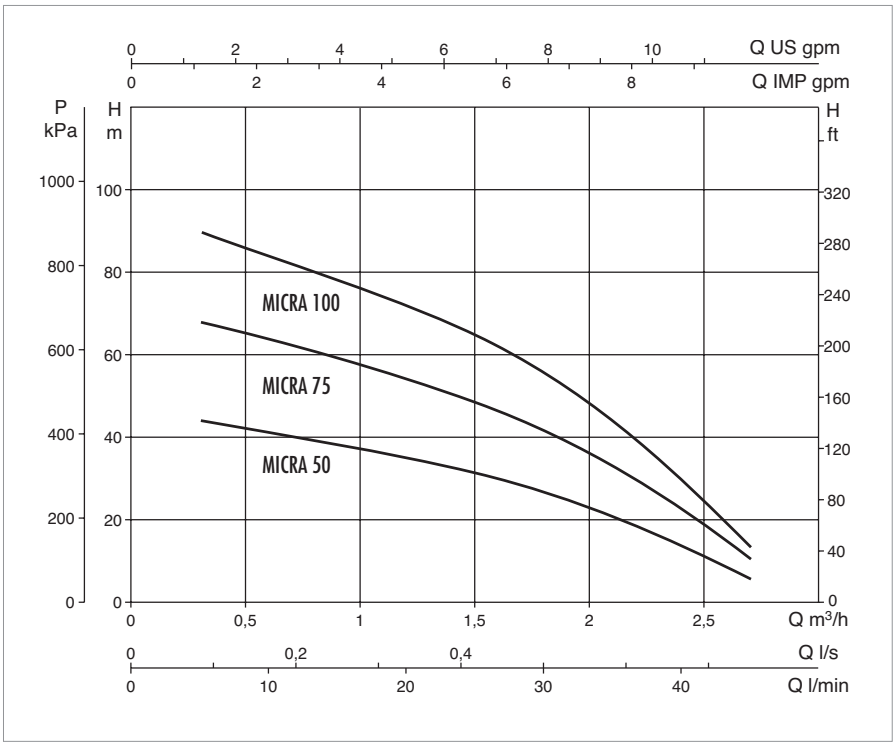
PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA									
	P2 NOMINAL		Q=m³/h	0,3	0,6	0,9	1,2	1,5	1,8	2,1	2,4	2,7
	kW	HP	Q=l/min	5	10	15	20	25	30	35	40	45
MICRA 50 M	0,37	0,5	H (m)	45	41	38	35	31	27	21	14	6
MICRA 75 M	0,55	0,75		68	64	59	54	48	42	33	23	11
MICRA 75 T	0,55	0,75		68	64	59	54	48	42	33	23	11
MICRA 100 M	0,75	1		90	84	78	72	65	56	44	30	14
MICRA 100 T	0,75	1		90	84	78	72	65	56	44	30	14

ELECTRICAL DATA AND DIMENSIONS

MODEL	ELECTRICAL DATA							Ø mm	H mm	PACKING DIMENSIONS		WEIGHT kg
	POWER INPUT 50 Hz	P1 kW	P2 NOMINAL		In A	CAPACITOR				Ø	H	
			kW	HP		µF	Vc					
MICRA 50 M	1x230 V ~	0,65	0,37	0,5	3,3	12	450	74	930	86	1150	9
MICRA 75 M	1x230 V ~	0,95	0,55	0,75	5,1	16	450	74	1145	86	1350	10,2
MICRA 75 T	3x400 V ~	0,9	0,55	0,75	1,9	-	-	74	1145	86	1350	10,2
MICRA 100 M	1x230 V ~	1,2	0,75	1	6,1	20	450	74	1390	86	1600	13,6
MICRA 100 T	3x400 V ~	1,15	0,75	1	2,4	-	-	74	1390	86	1600	13,6





The performance curves are based on kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

CS4

4" SUBMERSIBLE ELECTRIC PUMPS

(Control Box for single-phase versions only).

TECHNICAL DATA

Operating range: from 0,24 to 6 m³/h.
Maximum head: up to 230 metres.
Pumped liquid: clean, free of solids and abrasives, non-viscous, non-aggressive, non-crystallised and chemically neutral, with properties similar to water.
Liquid temperature range: from 0 °C to +40 °C.
Installation: in 4" wells or larger, tanks and cisterns, vertical position.
Starts/hour: max 20.
Cooling flow: 8 cm/s.
Maximum permitted amount of sand: 120 g/m³.
Special executions on request: alternative voltages and/or frequencies.

On request, the single-phase version can be supplied with **CONTROL BOX BOOSTER** for the increase of the starting torque.

Electric pumps complying with the 2009/125/EC Directive (EcoDesign - ErP)
M.E.I. ≥ 0.4

APPLICATIONS

Submersible electric pumps for 4" wells or larger, capable of generating a wide range of flows and heads. These units have a very extensive range of applications for lifting, distribution, and pressurisation in civil and industrial water systems, filling of pressure vessels and tanks, fire-fighting systems and washing of irrigation systems.

CONSTRUCTION FEATURES OF THE PUMP

Multistage centrifugal type with radial impellers. Pump and motor directly coupled with rigid coupling. Technopolymer impellers with stainless steel wearing parts, fitted on floating clearance rings made of synthetic low abrasion material, and technopolymer diffusers that impart significant wear resistance to the pump. Pump liner, shaft and coupling in stainless steel. Base support (with built-in filter) and upper head (with built-in check valve) in technopolymer. Plastic cable sheath. The pumps comply with the European Community Directives.

CONSTRUCTION FEATURES OF THE MOTOR

Submersible asynchronous two-pole motor with the parts in contact with water made of AISI 304 stainless steel.
Squirrel cage rotor mounted on self-centring thrust block designed to withstand significant axial loads. Cooling of the bearing assembly and the bushings is provided by water, thereby eliminating the risk of contamination. Canned-type stator installed inside an airtight casing made of stainless steel.
Capacitor and manual reset ampere protection in the control board supplied as standard with the single-phase version.
Overload protection to be provided by the user for the three-phase version.
Flanging: NEMA-4"
Protection class: IP 68
Insulation class: F

Supply voltage:	single-phase	230 V / 50 Hz.
	three-phase	400 V / 50 Hz.
	three-phase	230 V / 50 Hz.

Electric pump with 4OL motor in oil bath available on request.

SUPPLY

CS4 submersible electric pumps in the three-phase version are supplied as a pump and motor kit.
The single-phase version kit includes pump, motor and control box.

Standard power supply cable and nylon cord:

15 metre length:	CS4A-8 / CS4A-12 / CS4B-5 / CS4B-8 / CS4B-12
	CS4C-6 / CS4C-9 / CS4D-4 / CS4D-6 / CS4D-8
30 metre length:	CS4A-18 / CS4A-25 / CS4A-36 / CS4B-16
	CS4B-24 / CS4C-13 / CS4C-19 / CS4D-13

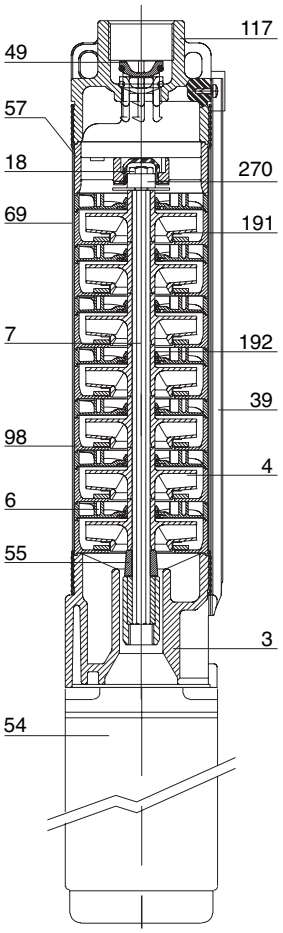
CS4

4" SUBMERSIBLE ELECTRIC PUMPS

MATERIALS

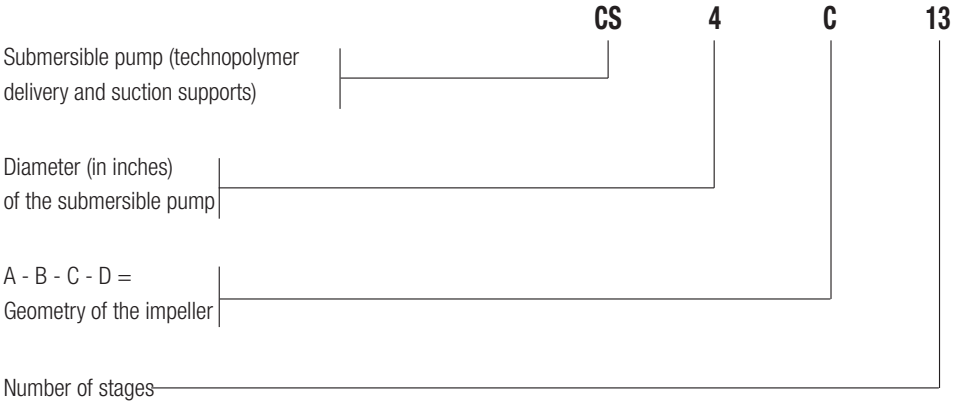
N.	PART*	MATERIALS
3	BASE SUPPORT	TECHNOPOLYMER A
4	IMPELLER	TECHNOPOLYMER A with thrust in STAINLESS STEEL AISI 304 X5CrNi1810 - UNI 6900/71
6	DIFFUSER	TECHNOPOLYMER A
7	SHAFT WITH COUPLING	STAINLESS STEEL AISI 304 X5CrNi1810 - UNI 6900/71
18	LOCKING NUT	STAINLESS STEEL
39	CABLE SHEATH	PLASTIC MATERIAL
49	VALVE	ACETAL RESIN
54	MOTOR	STAINLESS STEEL AISI 304 X5CrNi1810 - UNI 6900/71
55	SPACER	TECHNOPOLYMER A
57	SUPPORT	TECHNOPOLYMER A
69	PUMP LINER	STAINLESS STEEL AISI 304 X5CrNi1810 - UNI 6900/71
98	DIFFUSER BODY	TECHNOPOLYMER A
117	UPPER HEAD	TECHNOPOLYMER A
191	FRONT THRUST RING	SYNTHETIC ABRASION-PROOF MATERIAL
192	REAR THRUST RING	SYNTHETIC ABRASION-PROOF MATERIAL
270	UPPER SHAFT GUIDE BUSH	RUBBER

* In contact with the liquid.



– Denomination index:

(example)



CS4 A

4" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA										
	P2 NOMINAL		Q=m³/h	0	0,6	1,2	1,5	1,8	2,4	3	4,2	4,8	6
	kW	HP	Q=l/min	0	10	20	25	30	40	50	70	80	100
CS4A-8	0,37	0,5	H (m)	51	44,4	26,8	13,7	-	-	-	-	-	-
CS4A-12	0,37	0,5		76,5	66,6	40,2	20,5	-	-	-	-	-	-
CS4A-18	0,55	0,75		114,8	99,8	60,3	30,8	-	-	-	-	-	-
CS4A-25	0,75	1		159,4	138,7	83,7	42,7	-	-	-	-	-	-
CS4A-36	1,1	1,5		229,5	200	120,6	61,6	-	-	-	-	-	-

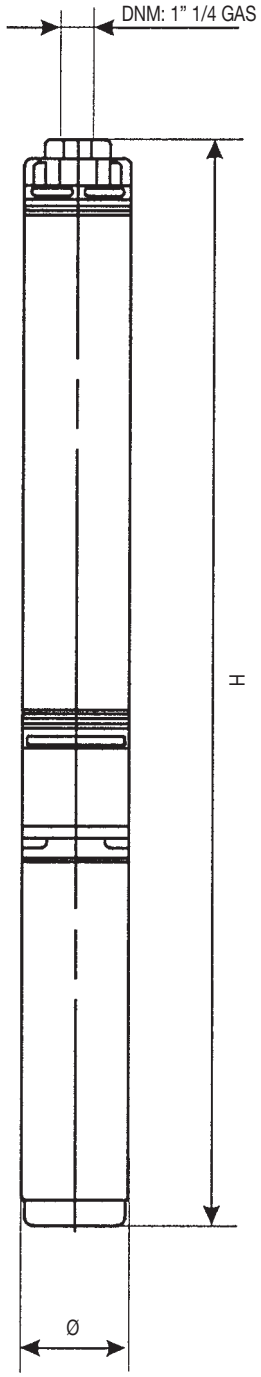
ELECTRICAL DATA AND DIMENSIONS

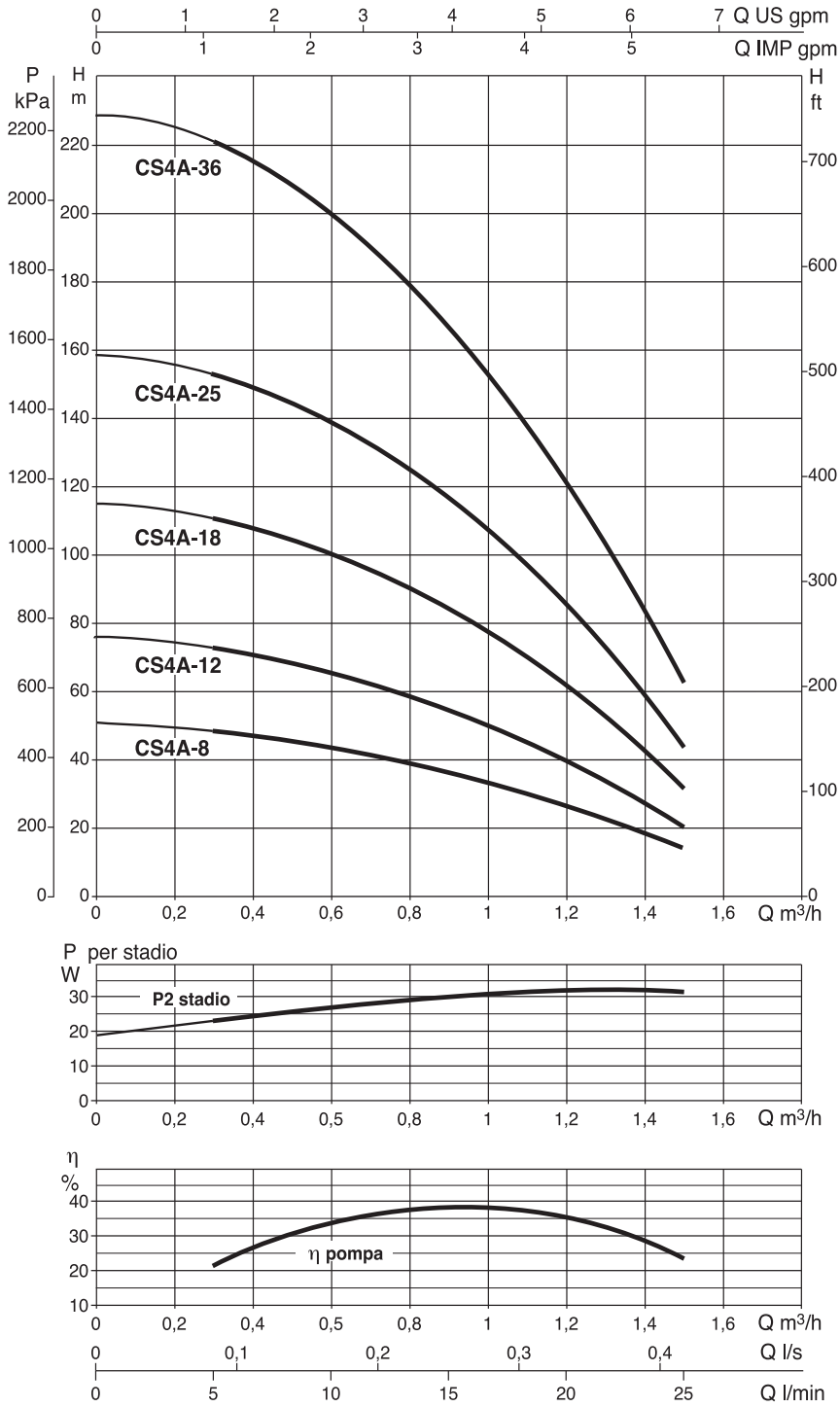
MODEL	ELECTRICAL DATA					Ø mm	H mm	PACKING DIMENSIONS			VOLUME m³	CABLE LENGTH m	Q.TY X PALLET	WEIGHT kg
	MOTOR	P2 NOMINAL		POWER INPUT 50 Hz	In A			L/A	L/B	H				
		kW	HP											
CS4A-8	4GG M	0,37	0,5	1x230 V ~	3,3	97	591	400	110	720	0,032	15	27	13
	4OL M	0,37	0,5	1x230 V ~	3,5	97	640	400	110	720	0,032	15	27	12,6
CS4A-12	4GG M	0,37	0,5	1x230 V ~	3,3	97	671	400	110	720	0,032	15	27	14,7
	4OL M	0,37	0,5	1x230 V ~	3,5	97	720	400	110	720	0,032	15	27	14,3
CS4A-12	4GG T	0,37	0,5	3x400 V ~	1,6	97	651	400	110	720	0,032	15	27	12,9
	4OL T	0,37	0,5	3x400 V ~	1,6	97	720	400	110	720	0,032	15	27	13,2
CS4A-18	4GG M	0,55	0,75	1x230 V ~	4,6	97	821	360	110	920	0,036	30	18	18,3
	4OL T	0,55	0,75	3x400 V ~	2,2	97	860	360	110	1120	0,044	30	18	17,6
CS4A-18	4GG T	0,55	0,75	3x400 V ~	1,9	97	791	360	110	920	0,036	30	18	17,2
	4OL T	0,55	0,75	3x400 V ~	2,2	97	840	360	110	920	0,036	30	18	16,8
CS4A-25	4GG M	0,75	1	1x230 V ~	6,2	97	981	360	110	1120	0,044	30	18	22
	4OL M	0,75	1	1x230 V ~	6,3	97	1030	360	110	1120	0,044	30	18	21,6
CS4A-25	4GG T	0,75	1	3x400 V ~	2,4	97	961	360	110	1120	0,044	30	18	19,4
	4OL T	0,75	1	3x400 V ~	2,6	97	1000	360	110	1120	0,044	30	18	18,7
CS4A-36	4GG M	1,1	1,5	1x230 V ~	8,6	97	1278,5	360	110	1335	0,053	30	18	25
	4OL M	1,1	1,5	1x230 V ~	8,5	97	1302,5	360	110	1335	0,053	30	18	23,7
CS4A-36	4GG T	1,1	1,5	3x400 V ~	3,4	97	1233,5	360	110	1335	0,053	30	18	22,6
	4OL T	1,1	1,5	3x400 V ~	3,6	97	1282,5	360	110	1335	0,053	30	18	21,3

4GG motor: 4" encapsulated in water bath.
4OL motor: 4" rewindable in oil bath.

CS4 A

4" SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

CS4 B

4" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA										
	P2 NOMINAL		Q=m³/h	0	0,6	1,2	1,5	1,8	2,4	3	4,2	4,8	6
	kW	HP	Q=l/min	0	10	20	25	30	40	50	70	80	100
CS4B-5	0,25	0,33	H (m)	31	30	26	22,6	19	10	-	-	-	-
CS4B-8	0,37	0,5		49,6	47,8	41,5	36,2	30,6	16	-	-	-	-
CS4B-12	0,55	0,75		74,4	71,8	62,3	54,4	45,8	24	-	-	-	-
CS4B-16	0,75	1		99,2	95,7	83	72,5	61	32	-	-	-	-
CS4B-24	1,1	1,5		148,8	143,5	124,6	108,7	91,7	48	-	-	-	-

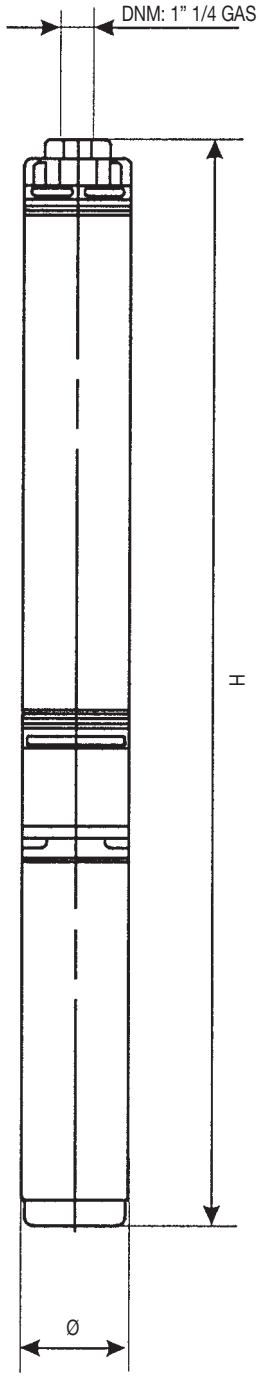
ELECTRICAL DATA AND DIMENSIONS

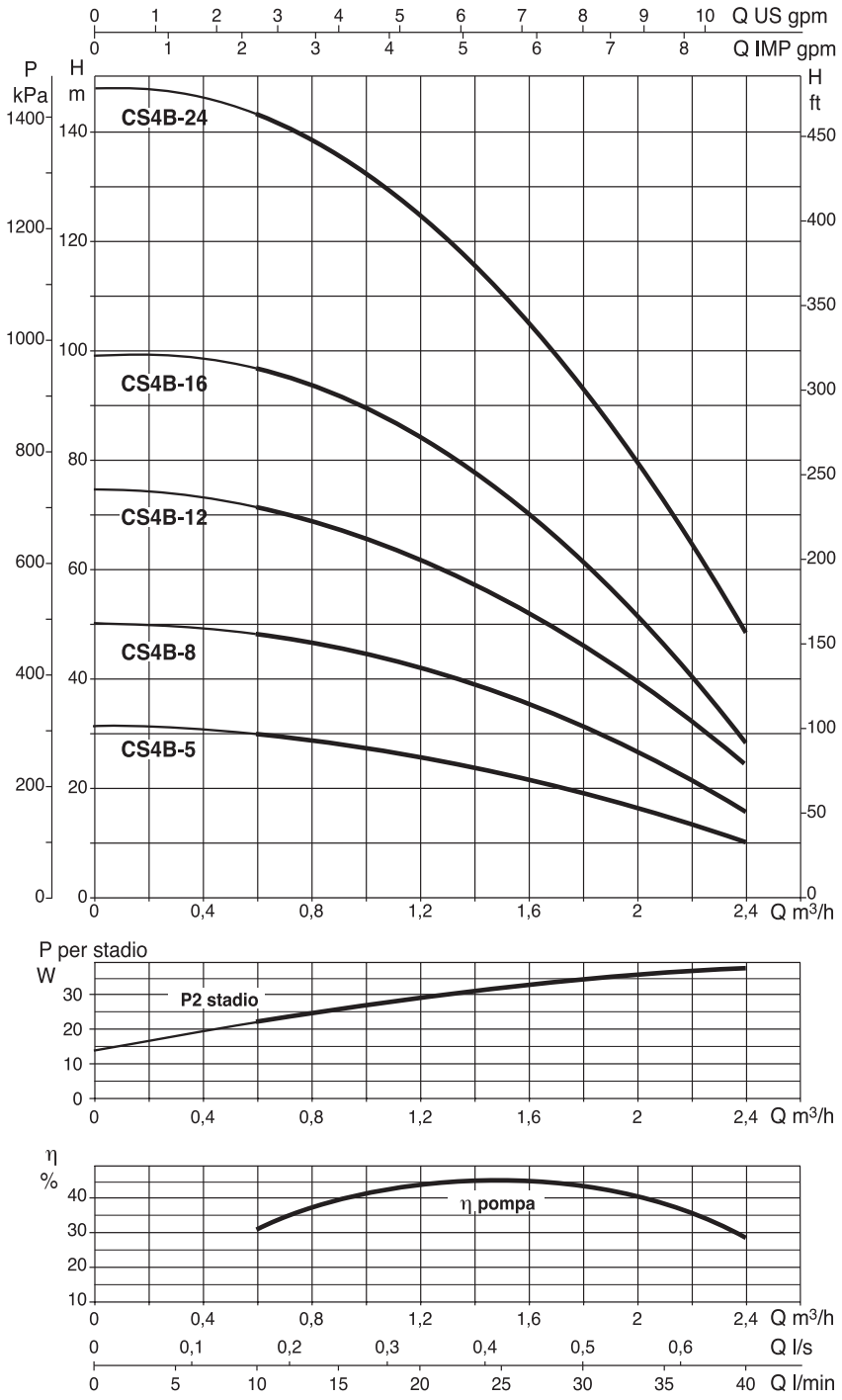
MODEL	ELECTRICAL DATA					Ø mm	H mm	PACKING DIMENSIONS			VOLUME m³	LENGTH CABLE m	Q.TY X PALLET	WEIGHT kg
	MOTOR	P2 NOMINAL		POWER INPUT 50 Hz	In A			L/A	L/B	H				
		kW	HP											
CS4B-5	4GG M	0,37	0,5	1x230 V ~	3,3	97	543,5	400	110	720	0,032	15	27	12,5
	4OL M	0,37	0,5	1x230 V ~	3,5	97	592,5	400	110	720	0,032	15	27	12,1
CS4B-8	4GG M	0,37	0,5	1x230 V ~	3,3	97	611	400	110	720	0,032	15	27	14
	4OL M	0,37	0,5	1x230 V ~	3,5	97	660	360	110	920	0,036	15	18	13,6
CS4B-8	4GG T	0,37	0,5	3x400 V ~	1,6	97	591	400	110	720	0,032	15	27	12,2
	4OL T	0,37	0,5	3x400 V ~	1,6	97	660	360	110	920	0,036	15	18	12,5
CS4B-12	4GG M	0,55	0,75	1x230 V ~	4,6	97	731	360	110	920	0,036	15	18	15,9
	4OL M	0,55	0,75	1x230 V ~	4,5	97	770	360	110	920	0,036	15	18	15,2
CS4B-12	4GG T	0,55	0,75	3x400 V ~	1,9	97	701	360	110	920	0,036	15	18	13,5
	4OL T	0,55	0,75	3x400 V ~	2,2	97	750	360	110	920	0,036	15	18	13,1
CS4B-16	4GG M	0,75	1	1x230 V ~	6,2	97	841	360	110	920	0,036	30	18	20
	4OL M	0,75	1	1x230 V ~	6,3	97	890	360	110	1120	0,044	30	18	19,6
CS4B-16	4GG T	0,75	1	3x400 V ~	2,4	97	821	360	110	920	0,036	30	18	18,4
	4OL T	0,75	1	3x400 V ~	2,6	97	860	360	110	1120	0,044	30	18	17,7
CS4B-24	4GG M	1,1	1,5	1x230 V ~	8,6	97	1066	360	110	1120	0,044	30	18	25
	4OL M	1,1	1,5	1x230 V ~	8,5	97	1090	360	110	1335	0,053	30	18	23,7
CS4B-24	4GG T	1,1	1,5	3x400 V ~	3,4	97	1021	360	110	1120	0,044	30	18	21
	4OL T	1,1	1,5	3x400 V ~	3,6	97	1070	360	110	1335	0,053	30	18	20,5

4GG motor: 4" encapsulated in water bath.
4OL motor: 4" rewindable in oil bath.

CS4 B

4" SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

CS4 C

4" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA										
	P2 NOMINAL		Q=m³/h	0	0,6	1,2	1,5	1,8	2,4	3	4,2	4,8	6
	kW	HP	Q=l/min	0	10	20	25	30	40	50	70	80	100
CS4C-6	0,37	0,5	H (m)	33	-	31,8	30,7	29,4	26,4	22,7	13,2	-	-
CS4C-9	0,55	0,75		49,5	-	47,7	46	44	39,6	34	19,8	-	-
CS4C-13	0,75	1		71,5	-	68,9	66,4	63,7	57,2	49,2	28,6	-	-
CS4C-19	1,1	1,5		104,5	-	100,7	97	93	83,6	71,8	41,8	-	-

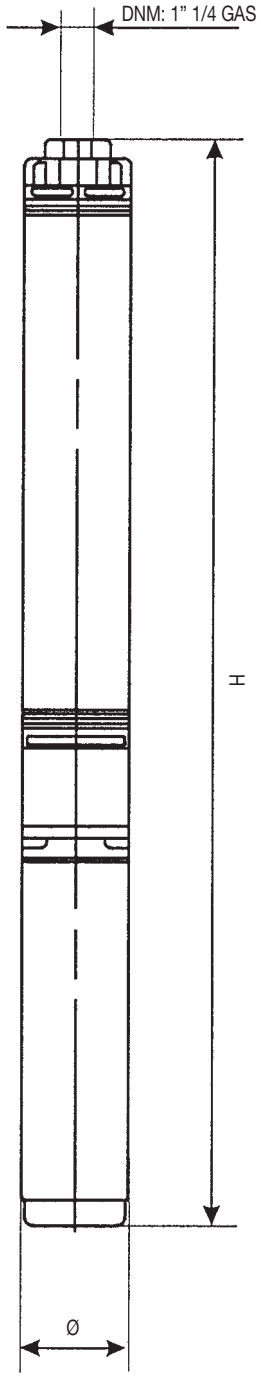
ELECTRICAL DATA AND DIMENSIONS

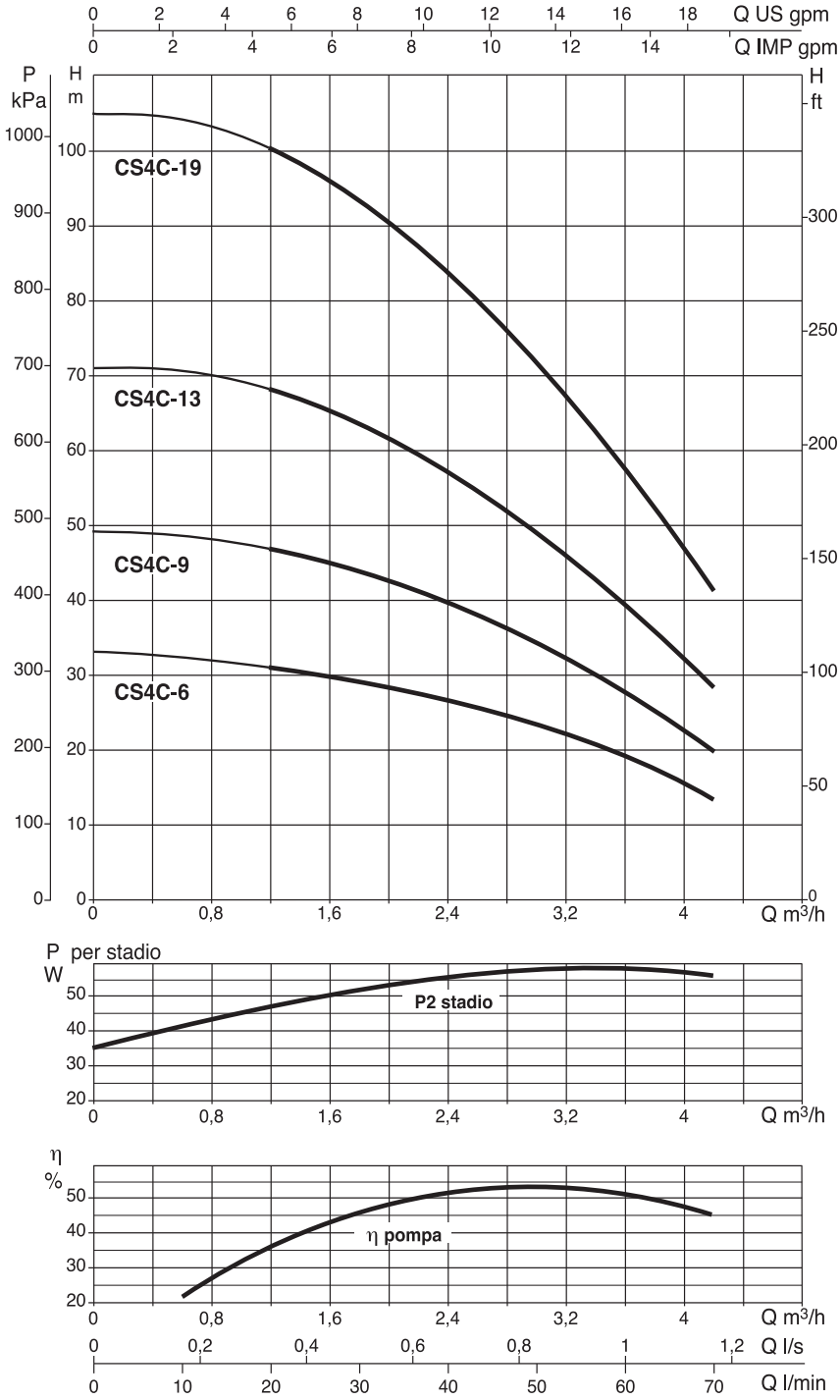
MODEL	ELECTRICAL DATA					Ø mm	H mm	PACKING DIMENSIONS			VOLUME m³	CABLE LENGTH m	Q.TY X PALLET	WEIGHT kg
	MOTOR	P2 NOMINAL		POWER INPUT 50 Hz	In A			L/A	L/B	H				
		kW	HP											
CS4C-6	4GG M	0,37	0,5	1x230 V ~	3,3	97	626	400	110	720	0,032	15	27	14,1
	4OL M	0,37	0,5	1x230 V ~	3,5	97	675	360	110	920	0,036	15	18	13,7
CS4C-6	4GG T	0,37	0,5	3x400 V ~	1,6	97	606	400	110	720	0,032	15	27	12
	4OL T	0,37	0,5	3x400 V ~	1,6	97	675	360	110	920	0,036	15	18	12,3
CS4C-9	4GG M	0,55	0,75	1x230 V ~	4,6	97	753,5	360	110	920	0,036	15	18	14,8
	4OL M	0,55	0,75	1x230 V ~	4,5	97	792,5	360	110	920	0,036	15	18	14,1
CS4C-9	4GG T	0,55	0,75	3x400 V ~	1,9	97	723,5	360	110	920	0,036	15	18	13
	4OL T	0,55	0,75	3x400 V ~	2,2	97	772,5	360	110	920	0,036	15	18	12,6
CS4C-13	4GG M	0,75	1	1x230 V ~	6,2	97	903,5	360	110	1120	0,044	30	18	21,2
	4OL M	0,75	1	1x230 V ~	6,3	97	952,5	360	110	1120	0,044	30	18	20,8
CS4C-13	4GG T	0,75	1	3x400 V ~	2,4	97	883,5	360	110	920	0,036	30	18	18,5
	4OL T	0,75	1	3x400 V ~	2,6	97	922,5	360	110	1120	0,044	30	18	17,8
CS4C-19	4GG M	1,1	1,5	1x230 V ~	8,6	97	1143,5	360	110	1335	0,053	30	18	23,7
	4OL M	1,1	1,5	1x230 V ~	8,5	97	1167,5	360	110	1335	0,053	30	18	22,5
CS4C-19	4GG T	1,1	1,5	3x400 V ~	3,4	97	1098,5	360	110	1335	0,053	30	18	21,3
	4OL T	1,1	1,5	3x400 V ~	3,6	97	1147,5	360	110	1335	0,053	30	18	20

4GG motor: 4" encapsulated in water bath.
4OL motor: 4" rewindable in oil bath.

CS4 C

4" SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

CS4 D

4" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA										
	P2 NOMINAL		Q=m³/h	0	0,6	1,2	1,5	1,8	2,4	3	4,2	4,8	6
	kW	HP	Q=l/min	0	10	20	25	30	40	50	70	80	100
CS4D-4	0,37	0,5	H (m)	24	-	-	-	23	22	21,8	18	16,2	11,2
CS4D-6	0,55	0,75		36	-	-	-	34,5	33	31,5	27	24,3	16,8
CS4D-8	0,75	1		48	-	-	-	46	44	42	36	32,5	22,4
CS4D-13	1,1	1,5		78	-	-	-	74,7	71,5	68,3	59	52,6	36,4

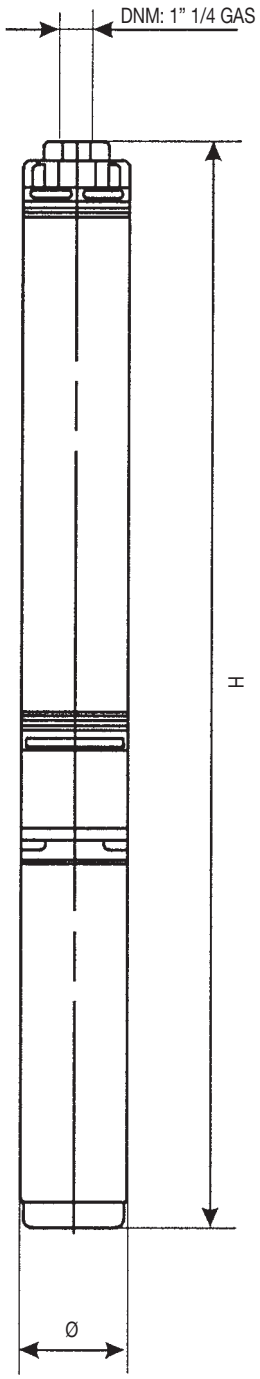
ELECTRICAL DATA AND DIMENSIONS

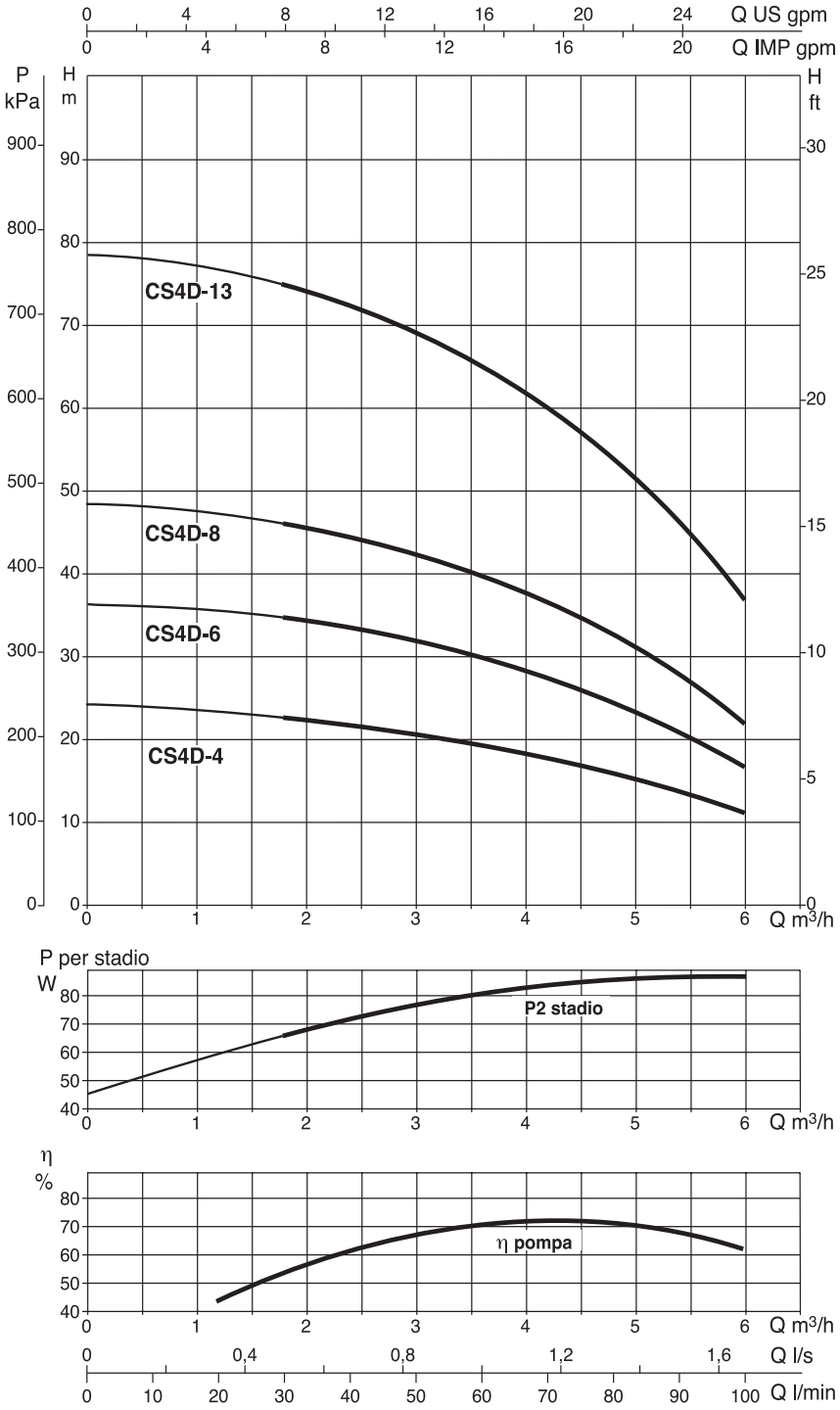
MODEL	ELECTRICAL DATA					Ø mm	H mm	PACKING DIMENSIONS			VOLUME m³	CABLE LENGTH m	Q.TY X PALLET	WEIGHT kg
	MOTOR	P2 NOMINAL		POWER INPUT 50 Hz	In A			L/A	L/B	H				
		kW	HP											
CS4D-4	4GG M	0,37	0,5	1x230 V ~	3,3	97	561	400	110	720	0,032	15	27	14
	4OL M	0,37	0,5	1x230 V ~	3,5	97	610	400	110	720	0,032	15	27	13,6
CS4D-4	4GG T	0,37	0,5	3x400 V ~	1,6	97	541	400	110	720	0,032	15	27	11,8
	4OL T	0,37	0,5	3x400 V ~	1,6	97	610	400	110	720	0,032	15	27	12,1
CS4D-6	4GG M	0,55	0,75	1x230 V ~	4,6	97	656	400	110	720	0,032	15	27	14,2
	4OL M	0,55	0,75	1x230 V ~	4,5	97	695	360	110	920	0,036	15	18	13,5
CS4D-6	4GG T	0,55	0,75	3x400 V ~	1,9	97	626	400	110	720	0,032	15	27	13,1
	4OL T	0,55	0,75	3x400 V ~	2,2	97	675	360	110	920	0,036	15	18	12,7
CS4D-8	4GG M	0,75	1	1x230 V ~	6,2	97	741	360	110	920	0,036	15	18	17,2
	4OL M	0,75	1	1x230 V ~	6,3	97	790	360	110	920	0,036	15	18	16,8
CS4D-8	4GG T	0,75	1	3x400 V ~	2,4	97	721	360	110	920	0,036	15	18	14,6
	4OL T	0,75	1	3x400 V ~	2,6	97	760	360	110	920	0,036	15	18	13,9
CS4D-13	4GG M	1,1	1,5	1x230 V ~	8,6	97	948,5	360	110	1120	0,044	30	18	22,6
	4OL M	1,1	1,5	1x230 V ~	8,5	97	972,5	360	110	1120	0,044	30	18	21,3
CS4D-13	4GG T	1,1	1,5	3x400 V ~	3,4	97	903,5	360	110	1120	0,044	30	18	20,2
	4OL T	1,1	1,5	3x400 V ~	3,6	97	952,5	360	110	1120	0,044	30	18	20,3

4GG motor: 4" encapsulated in water bath.
4OL motor: 4" rewindable in oil bath.

CS4 D

4" SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

S4

4" SUBMERSIBLE ELECTRIC PUMPS

SAND RESISTANT

TECHNICAL DATA

Operating range: from 0,3 to 24 m^3/h.
Maximum head: up to 320 metres.
Pumped liquid: clean, free of solids and abrasives, chemically neutral, with properties similar to water.
Liquid temperature range: from 0 °C to +40 °C.
Maximum permitted amount of sand: 120 g/m^3.
300 gr/m^3 (only for S4F)
Installation: in 4" wells or larger, tanks and cisterns, vertical position.
Starts/hour: max 20.
Cooling flow: 8 cm/s.
Special executions on requests: alternative voltages and/or frequencies.
On request, the single phase version can be supplied with **CONTROL BOX BOOSTER** for the increase of the starting torque.
Electric pumps complying with the 2009/125/EC Directive (EcoDesign - ErP)
M.E.I. $\geq$ **0.4**

APPLICATIONS

Submersible electric pumps for 4" wells or larger, capable of generating a wide range of flows and heads. These units have a very extensive range of applications for lifting, distribution, and pressurisation in civil and industrial water systems, filling of pressure vessels and tanks, fire-fighting systems and washing of irrigation systems.

CONSTRUCTION FEATURES OF THE PUMP

Multistage centrifugal type with radial or semi-axial impellers. Pump and motor directly coupled with rigid coupling. Technopolymer impellers with stainless steel wearing parts, fitted on floating clearance rings made of synthetic low abrasion material, and technopolymer diffusers that impart significant wear resistance to the pump. Pump liner, shaft and coupling, strainer and cable sheath in stainless steel.
Base support and upper head in microcast AISI 304 stainless steel; check valve incorporated in the head. The pumps comply with the European Community Directives.

CONSTRUCTION FEATURES OF THE MOTOR

Submersible asynchronous two-pole motor made of AISI 304 stainless steel.
Squirrel cage rotor mounted on self-centring thrust block designed to withstand significant axial loads. Cooling of the bearing assembly and the bushings is provided by water, thereby eliminating the risk of contamination. Canned-type stator installed inside an airtight casing made of stainless steel.

Flanging: NEMA - 4"
Protection class: IP68
Insulation class: F

Supply voltage:	single-phase	230 V / 50 Hz.
	three-phase	400 V / 50 Hz.
	three-phase	230 V / 50 Hz.

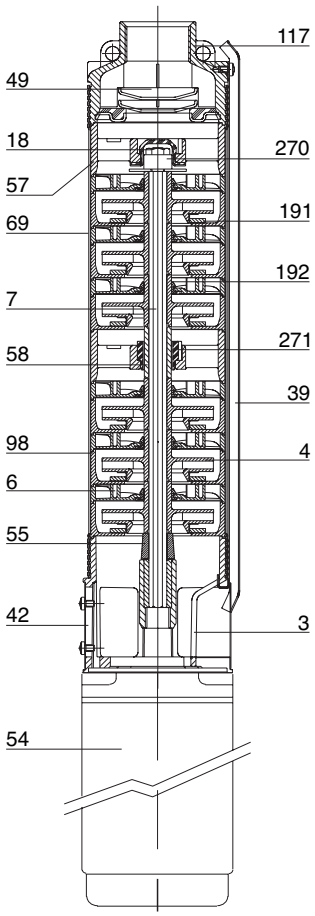
Electric pump with 4OL motor in oil bath available on request.

SUPPLY

Control box (for the single-phase version) and motor to be ordered separately.

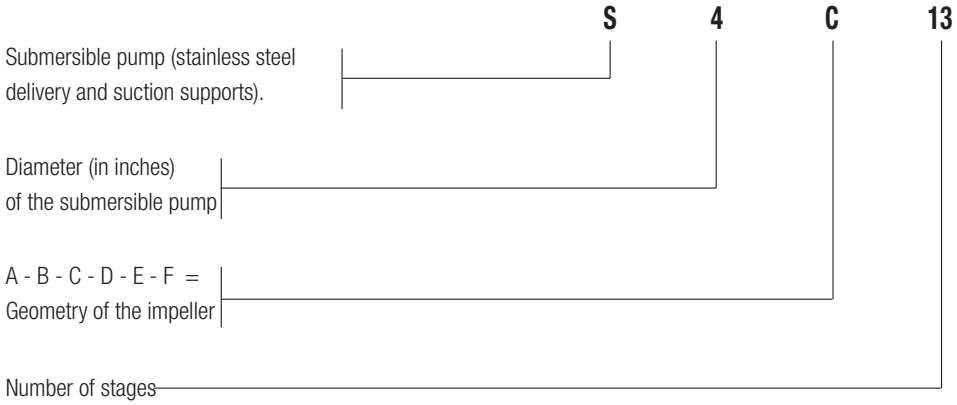
MATERIALS

N.	PART*	MATERIALS
3	BASE SUPPORT	AISI 304 MICROCAST STAINLESS STEEL
4	IMPELLER	TECHNOPOLYMER A with thrust in STAINLESS STEEL AISI 304 X5CrNi1810 - UNI 6900/71
6	DIFFUSER	TECHNOPOLYMER A
7	SHAFT WITH COUPLING	STAINLESS STEEL AISI 304 X5CrNi1810 - UNI 6900/71
18	LOCKING NUT	STAINLESS STEEL
39	CABLE SHEATH	STAINLESS STEEL AISI 304 X5CrNi1810 - UNI 6900/71
42	STRAINER	STAINLESS STEEL
49	VALVE	STAINLESS STEEL AISI 304 X5CrNi1810 - UNI 6900/71
54	MOTOR	STAINLESS STEEL AISI 304 X5CrNi1810 - UNI 6900/71
55	SPACER	TECHNOPOLYMER A
57	SUPPORT	TECHNOPOLYMER A
58	INTERMEDIATE BUSHING	STAINLESS STEEL AISI 304 X5CrNi1810 - UNI 6900/71
69	PUMP LINER	STAINLESS STEEL AISI 304 X5CrNi1810 - UNI 6900/71
98	DIFFUSER BODY	TECHNOPOLYMER A
117	UPPER HEAD	AISI 304 MICROCAST STAINLESS STEEL
191	FRONT THRUST RING	ABRASION-PROOF SYNTHETIC MATERIAL
192	REAR THRUST RING	ABRASION-PROOF SYNTHETIC MATERIAL
270	UPPER SHAFT GUIDE BUSH	RUBBER
271	INTERMEDIATE SHAFT GUIDE BUSH	ABRASION-PROOF SYNTHETIC MATERIAL



* In contact with the liquid.

– Denomination index:
(example)



S4 A

4" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA																
	P2 NOMINAL		Q=m³/h	0	0,6	1,2	1,5	1,8	2,4	3	4,2	4,8	6	9	11,4	18	24	27
	kW	HP	Q=l/min	0	10	20	25	30	40	50	70	80	100	150	190	300	400	450
S4 A 8	0,37	0,5	H (m)	51	44,4	26,8	13,7	-	-	-	-	-	-	-	-	-	-	-
S4 A 12	0,37	0,5		76,5	66,6	40,2	20,5	-	-	-	-	-	-	-	-	-	-	-
S4 A 18	0,55	0,75		114,8	99,8	60,3	30,8	-	-	-	-	-	-	-	-	-	-	-
S4 A 25	0,75	1		159,4	138,7	83,7	42,7	-	-	-	-	-	-	-	-	-	-	-
S4 A 36	1,1	1,5		229,5	200	120,6	61,6	-	-	-	-	-	-	-	-	-	-	-
S4 A 50	1,5	2		318,8	277,4	167,5	85,5	-	-	-	-	-	-	-	-	-	-	-

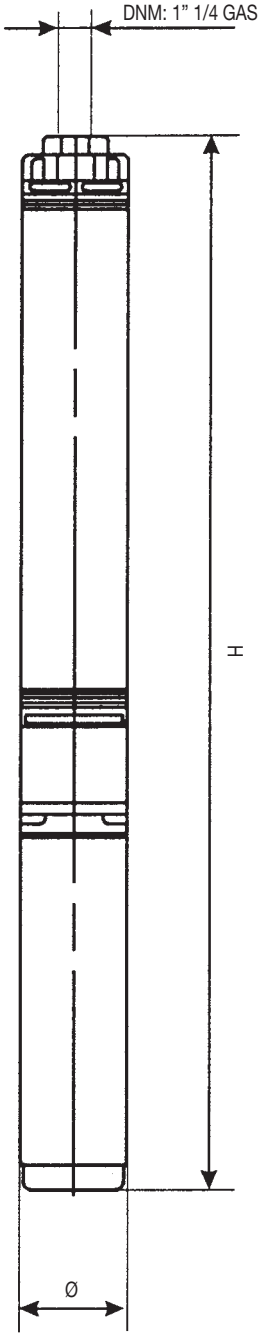
ELECTRICAL DATA AND DIMENSIONS

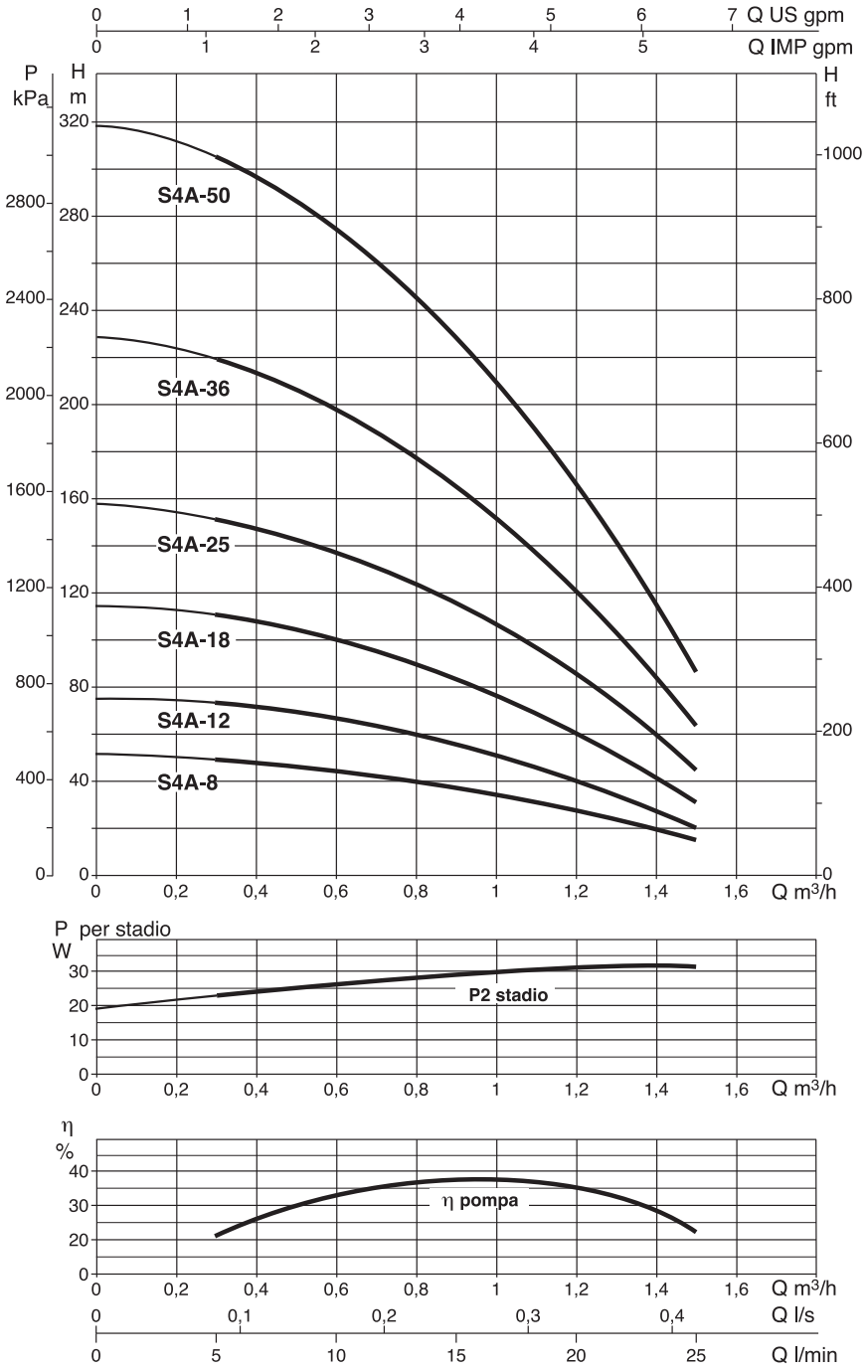
MODEL	ELECTRICAL DATA					Ø mm	H mm	PACKING DIMENSIONS			VOLUME m³	WEIGHT kg
	MOTOR	P2 NOMINAL		POWER INPUT 50 Hz	In A			L/A	L/B	H		
		kW	HP									
S4 A 8	4GG M	0,37	0,5	1x230 V ~	3,3	97	578	110	110	770	0,009	11,2
	4OL M	0,37	0,5	1x230 V ~	3,5	97	627	110	110	770	0,009	10,8
S4 A 12	4GG M	0,37	0,5	1x230 V ~	3,3	97	658	110	110	770	0,009	12,5
	4OL M	0,37	0,5	1x230 V ~	3,5	97	707	110	110	770	0,009	12,1
S4 A 18	4GG M	0,55	0,75	1x230 V ~	4,6	97	808	110	110	910	0,011	14,5
	4OL M	0,55	0,75	1x230 V ~	4,5	97	847	110	110	910	0,011	13,8
S4 A 18	4GG T	0,55	0,75	3x400 V ~	1,9	97	778	110	110	910	0,011	13,2
	4OL T	0,55	0,75	3x400 V ~	2,2	97	827	110	110	910	0,011	12,8
S4 A 25	4GG M	0,75	1	1x230 V ~	6,2	97	968	110	110	1080	0,013	19,8
	4OL M	0,75	1	1x230 V ~	6,3	97	1017	110	110	1080	0,013	19,4
S4 A 25	4GG T	0,75	1	3x400 V ~	2,4	97	948	110	110	1080	0,013	15
	4OL T	0,75	1	3x400 V ~	2,6	97	987	110	110	1080	0,013	14,3
S4 A 36	4GG M	1,1	1,5	1x230 V ~	8,6	97	1265,5	120	120	1590	0,023	25
	4OL M	1,1	1,5	1x230 V ~	8,5	97	1289,5	120	120	1590	0,023	18,5
S4 A 36	4GG T	1,1	1,5	3x400 V ~	3,4	97	1220,5	120	120	1590	0,023	22,6
	4OL T	1,1	1,5	3x400 V ~	3,6	97	1269,5	120	120	1590	0,023	21,3
S4 A 50	4GG M	1,5	2	1x230 V ~	11	97	1607,5	120	120	1920	0,028	27,8
	4OL M	1,5	2	1x230 V ~	10,8	97	1614,5	120	120	1920	0,028	20,3
S4 A 50	4GG T	1,5	2	3x400 V ~	4,4	97	1562,5	120	120	1920	0,028	26,8
	4OL T	1,5	2	3x400 V ~	4,6	97	1569,5	120	120	1920	0,028	25,5

4GG motor: 4" encapsulated in water bath.
4OL motor: 4" rewindable in oil bath.

S4 A

4" SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

S4 B

4" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA																
	P2 NOMINAL		Q=m³/h	0	0,6	1,2	1,5	1,8	2,4	3	4,2	4,8	6	9	11,4	18	24	27
	kW	HP	Q=l/min	0	10	20	25	30	40	50	70	80	100	150	190	300	400	450
S4 B 5	0,37	0,5	H (m)	31	30	26	22,6	19	10	-	-	-	-	-	-	-	-	-
S4 B 8	0,37	0,5		49,6	47,8	41,5	36,2	30,6	16	-	-	-	-	-	-	-	-	-
S4 B 12	0,55	0,75		74,4	71,8	62,3	54,4	45,8	24	-	-	-	-	-	-	-	-	-
S4 B 16	0,75	1		99,2	95,7	83	72,5	61	32	-	-	-	-	-	-	-	-	-
S4 B 24	1,1	1,5		148,8	143,5	124,6	108,7	91,7	48	-	-	-	-	-	-	-	-	-
S4 B 32	1,5	2		198,4	191,4	166	144,9	122,2	64	-	-	-	-	-	-	-	-	-
S4 B 40	2,2	3		248	239,2	207,6	181,2	152,8	80	-	-	-	-	-	-	-	-	-
S4 B 48	2,2	3		297,6	287,1	249,2	217,4	183,4	96	-	-	-	-	-	-	-	-	-

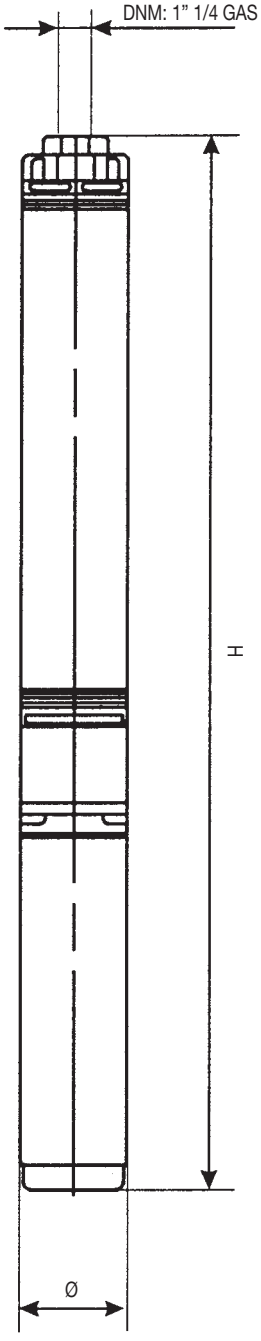
ELECTRICAL DATA AND DIMENSIONS

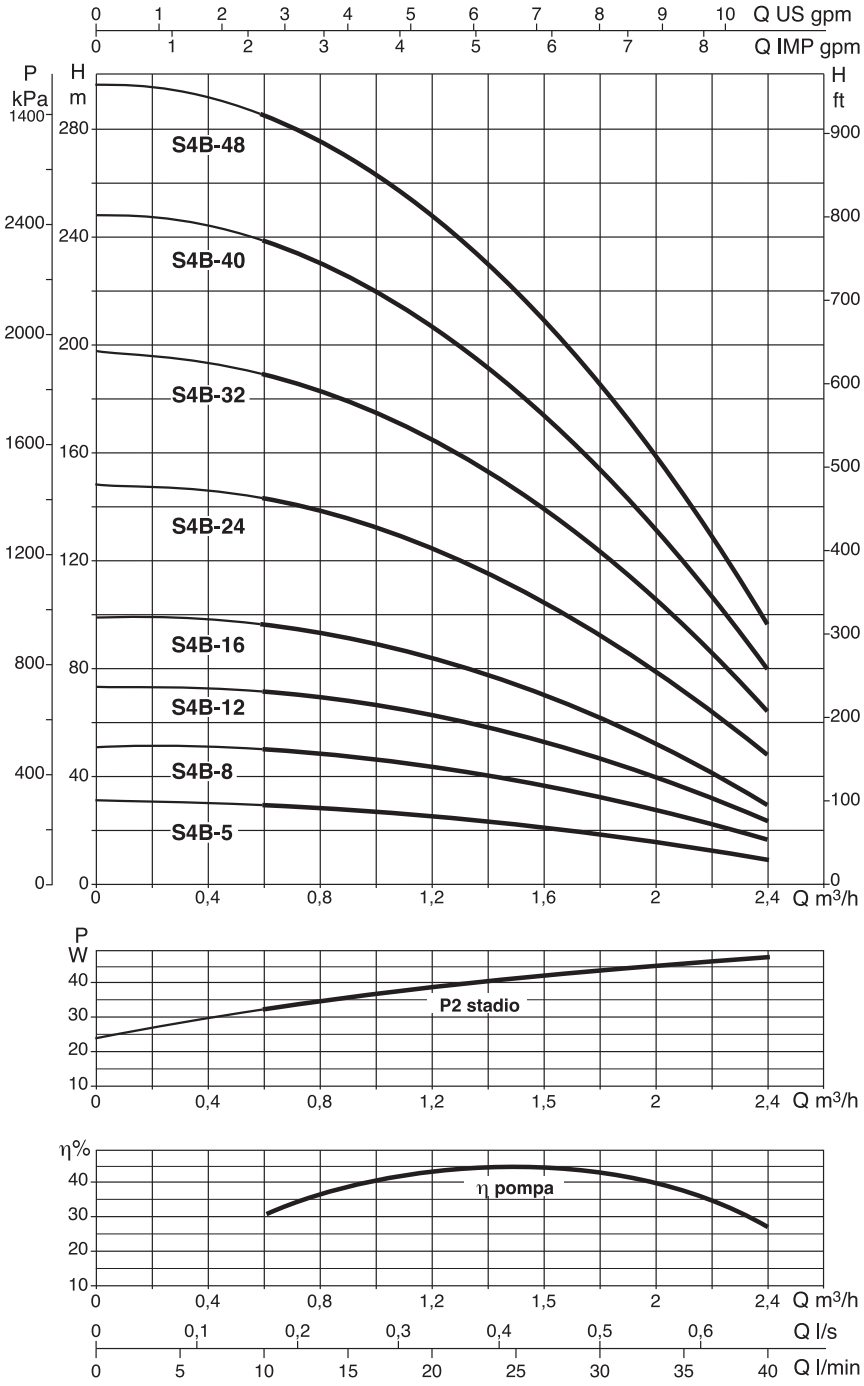
MODEL	ELECTRICAL DATA					Ø mm	H mm	PACKING DIMENSIONS			VOLUME m³	WEIGHT kg
	MOTOR	P2 NOMINAL		POWER INPUT 50 Hz	In A			L/A	L/B	H		
		kW	HP									
S4 B 5	4GG M	0,37	0,5	1x230 V ~	3,3	97	530,5	110	110	770	0,009	10,8
	4OL M	0,37	0,5	1x230 V ~	3,5	97	579,5	110	110	770	0,009	10,4
S4 B 8	4GG M	0,37	0,5	1x230 V ~	3,3	97	598	110	110	770	0,009	12,1
	4OL M	0,37	0,5	1x230 V ~	3,5	97	647	110	110	770	0,009	11,7
S4 B 12	4GG M	0,55	0,75	1x230 V ~	4,6	97	718	110	110	770	0,009	14
	4OL M	0,55	0,75	1x230 V ~	4,5	97	757	110	110	770	0,009	13,3
S4 B 12	4GG T	0,55	0,75	3x400 V ~	1,9	97	688	110	110	770	0,009	12,5
	4OL T	0,55	0,75	3x400 V ~	2,2	97	737	110	110	770	0,009	12,1
S4 B 16	4GG M	0,75	1	1x230 V ~	6,2	97	828	110	110	1080	0,013	15,9
	4OL M	0,75	1	1x230 V ~	6,3	97	877	110	110	1080	0,013	15,5
S4 B 16	4GG T	0,75	1	3x400 V ~	2,4	97	808	110	110	910	0,011	14,2
	4OL T	0,75	1	3x400 V ~	2,6	97	847	110	110	910	0,011	13,5
S4 B 24	4GG M	1,1	1,5	1x230 V ~	8,6	97	1053	120	120	1240	0,018	22,6
	4OL M	1,1	1,5	1x230 V ~	8,5	97	1077	120	120	1240	0,018	21,3
S4 B 24	4GG T	1,1	1,5	3x400 V ~	3,4	97	1008	120	120	1240	0,018	16,7
	4OL T	1,1	1,5	3x400 V ~	3,6	97	1057	120	120	1240	0,018	15,4
S4 B 32	4GG M	1,5	2	1x230 V ~	11	97	1295	120	120	1590	0,023	25,4
	4OL M	1,5	2	1x230 V ~	10,8	97	1302	120	120	1590	0,023	23,9
S4 B 32	4GG T	1,5	2	3x400 V ~	4,4	97	1250	120	120	1330	0,019	23,5
	4OL T	1,5	2	3x400 V ~	4,6	97	1257	120	120	1330	0,019	22,2
S4 B 40	4GG M	2,2	3	1x230 V ~	16	97	1527,5	120	120	1920	0,028	29
	4OL M	2,2	3	1x230 V ~	14	97	1632,5	120	120	1920	0,028	29,6
S4 B 40	4GG T	2,2	3	3x400 V ~	5,9	97	1507,5	120	120	1590	0,023	25,3
	4OL T	2,2	3	3x400 V ~	6	97	1514,5	120	120	1590	0,023	25,5
S4 B 48	4GG M	2,2	3	1x230 V ~	16	97	1706,5	120	120	1920	0,028	32,3
	4OL M	2,2	3	1x230 V ~	14	97	1811,5	120	120	1920	0,028	32,9
S4 B 48	4GG T	2,2	3	3x400 V ~	5,9	97	1686,5	120	120	1920	0,028	27,5
	4OL T	2,2	3	3x400 V ~	6	97	1693,5	120	120	1920	0,028	27,7

4GG motor: 4" encapsulated in water bath.
4OL motor: 4" rewindable in oil bath.

S4 B

4" SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

S4 C

4" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA															
	P2 NOMINAL		Q=m³/h	0	0,6	1,2	1,5	1,8	2,4	3	4,2	4,8	6	9	11,4	18	24	27
	kW	HP	Q=l/min	0	10	20	25	30	40	50	70	80	100	150	190	300	400	450
S4 C 6	0,37	0,5		33	-	31,8	30,7	29,4	26,4	22,7	13,2	-	-	-	-	-	-	-
S4 C 9	0,55	0,75		49,5	-	47,7	46	44	39,6	34	19,8	-	-	-	-	-	-	-
S4 C 13	0,75	1		71,5	-	68,9	66,4	63,7	57,2	49,2	28,6	-	-	-	-	-	-	-
S4 C 19	1,1	1,5		104,5	-	100,7	97	93	83,6	71,8	41,8	-	-	-	-	-	-	-
S4 C 25	1,5	2	H (m)	137,5	-	132,5	128	122,5	110	94,5	55	-	-	-	-	-	-	-
S4 C 32	2,2	3		176	-	169,6	163	156,8	140,8	120,9	70,4	-	-	-	-	-	-	-
S4 C 39	2,2	3		214,5	-	206,7	200	191,1	171,6	147,4	85,8	-	-	-	-	-	-	-
S4 C 45	3	4		247,5	-	238,5	229	220,5	198	170,1	99	-	-	-	-	-	-	-
S4 C 51	3	4		280,5	-	270,3	261	250	224,4	192,8	112,2	-	-	-	-	-	-	-

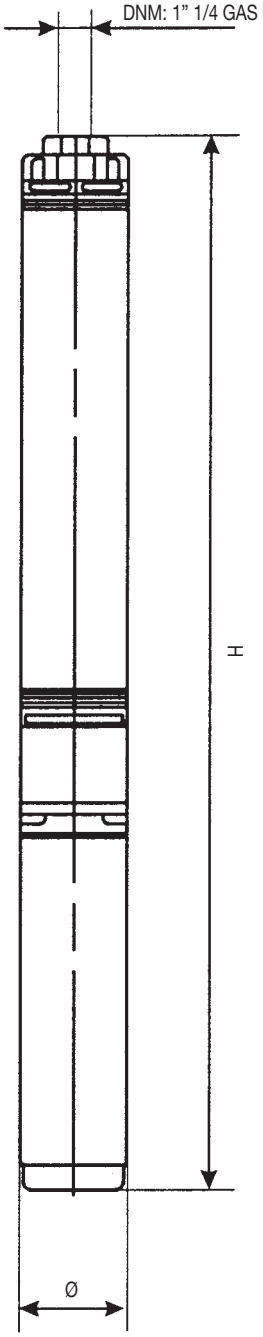
ELECTRICAL DATA AND DIMENSIONS

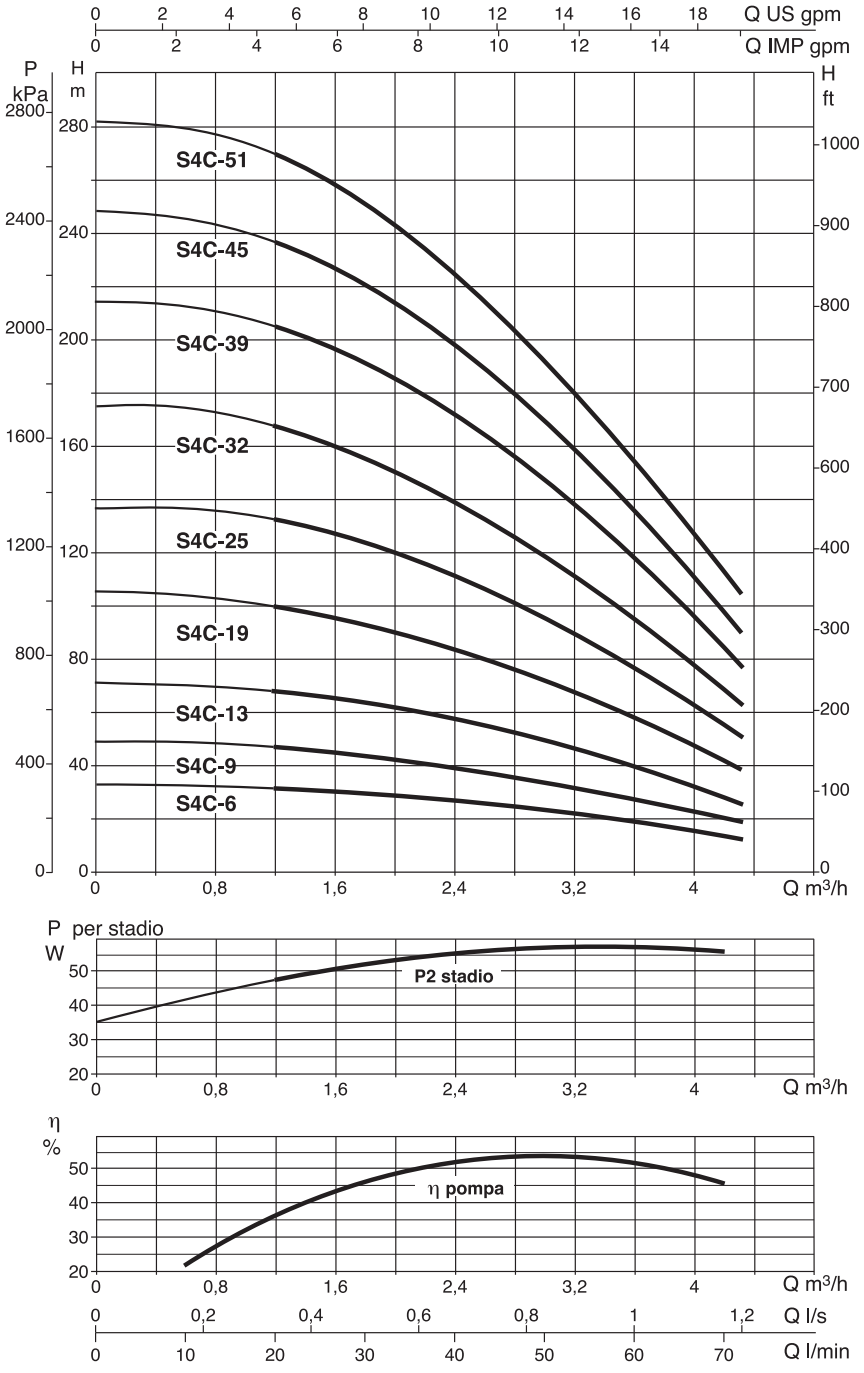
MODEL	ELECTRICAL DATA					Ø mm	H mm	PACKING DIMENSIONS			VOLUME m³	WEIGHT kg
	MOTOR	P2 NOMINAL		POWER INPUT 50 Hz	In A			L/A	L/B	H		
		kW	HP									
S4 C 6	4GG M	0,37	0,5	1x230 V ~	3,3	97	613	110	110	770	0,009	12
	4OL M	0,37	0,5	1x230 V ~	3,5	97	662	110	110	770	0,009	11,6
S4 C 9	4GG M	0,55	0,75	1x230 V ~	4,6	97	740,5	110	110	910	0,011	14,2
	4OL M	0,37	0,5	1x230 V ~	3,5	97	779,5	110	110	910	0,011	13,5
S4 C 9	4GG T	0,55	0,75	3x400 V ~	1,9	97	710,5	110	110	910	0,011	12,5
	4OL T	0,55	0,75	3x400 V ~	2,2	97	759,5	110	110	910	0,011	12,1
S4 C 13	4GG M	0,75	1	1x230 V ~	6,2	97	890,5	110	110	1080	0,013	16,2
	4OL M	0,75	1	1x230 V ~	6,3	97	939,5	110	110	1080	0,013	15,8
S4 C 13	4GG T	0,75	1	3x400 V ~	2,4	97	870,5	110	110	1080	0,013	14,5
	4OL T	0,75	1	3x400 V ~	2,6	97	909,5	110	110	1080	0,013	13,8
S4 C 19	4GG M	1,1	1,5	1x230 V ~	8,6	97	1130,5	120	120	1240	0,018	18,6
	4OL M	1,1	1,5	1x230 V ~	8,5	97	1154,5	120	120	1240	0,018	17,3
S4 C 19	4GG T	1,1	1,5	3x400 V ~	3,4	97	1085,5	120	120	1240	0,018	17,1
	4OL T	1,1	1,5	3x400 V ~	3,6	97	1134,5	120	120	1240	0,018	15,8
S4 C 25	4GG M	1,5	2	1x230 V ~	11	97	1387,5	120	120	1590	0,023	25,2
	4OL M	1,5	2	1x230 V ~	10,8	97	1394,5	120	120	1590	0,023	244,7
S4 C 25	4GG T	1,5	2	3x400 V ~	4,4	97	1342,5	120	120	1590	0,023	23,2
	4OL T	1,5	2	3x400 V ~	4,6	97	1349,5	120	120	1590	0,023	21,9
S4 C 32	4GG M	2,2	3	1x230 V ~	16	97	1667,5	120	120	1920	0,028	27,4
	4OL M	2,2	3	1x230 V ~	14	97	1772,5	120	120	1920	0,028	28
S4 C 32	4GG T	2,2	3	3x400 V ~	5,9	97	1647,5	120	120	1920	0,028	29,5
	4OL T	2,2	3	3x400 V ~	6	97	1654,5	120	120	1920	0,028	29,7
S4 C 39	4GG M	2,2	3	1x230 V ~	16	97	1895	120	120	2200	0,032	38
	4OL M	2,2	3	1x230 V ~	14	97	2000	120	120	2200	0,032	38,6
S4 C 39	4GG T	2,2	3	3x400 V ~	5,9	97	1875	120	120	2200	0,032	33,5
	4OL T	2,2	3	3x400 V ~	6	97	1882	120	120	2200	0,032	33,7
S4 C 45	4GG T	3	4	3x400 V ~	8,3	97	2252,9	120	120	2600	0,037	42,6
	4OL T	3	4	3x400 V ~	7,9	97	2226,9	120	120	2600	0,037	38,6
S4 C 51	4GG T	3	4	3x400 V ~	8,3	97	2447	120	120	2600	0,037	44
	4OL T	3	4	3x400 V ~	7,9	97	2421	120	120	2600	0,037	40,3

4GG motor: 4" encapsulated in water bath.
4OL motor: 4" rewindable in oil bath.

S4 C

4" SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

S4 D

4" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA																
	P2 NOMINAL		Q=m³/h	0	0,6	1,2	1,5	1,8	2,4	3	4,2	4,8	6	9	11,4	18	24	27
	kW	HP	Q=l/min	0	10	20	25	30	40	50	70	80	100	150	190	300	400	450
S4 D 4	0,37	0,5	H (m)	24	-	-	-	23	22	21,8	18	16,2	11,2	-	-	-	-	-
S4 D 6	0,55	0,75		36	-	-	-	34,5	33	31,5	27	24,3	16,8	-	-	-	-	-
S4 D 8	0,75	1		48	-	-	-	46	44	42	36	32,5	22,4	-	-	-	-	-
S4 D 13	1,1	1,5		78	-	-	-	74,7	71,5	68,3	59	52,6	36,4	-	-	-	-	-
S4 D 17	1,5	2		102	-	-	-	98	93,5	89,5	77,5	68,8	47,6	-	-	-	-	-
S4 D 21	2,2	3		126	-	-	-	121	115,5	110	96	85	58,8	-	-	-	-	-
S4 D 25	2,2	3		150	-	-	-	144	137,5	132	114,5	101,2	70	-	-	-	-	-
S4 D 29	3	4		174	-	-	-	166	159,5	152	132	117,4	81,2	-	-	-	-	-
S4 D 34	3	4		204	-	-	-	196	187	179,5	155	137,7	95,2	-	-	-	-	-
S4 D 38	4	5,5		228	-	-	-	219	209	200	173	153,9	106,4	-	-	-	-	-
S4 D 45	4	5,5		270	-	-	-	259	247,5	237	205	182,2	127	-	-	-	-	-

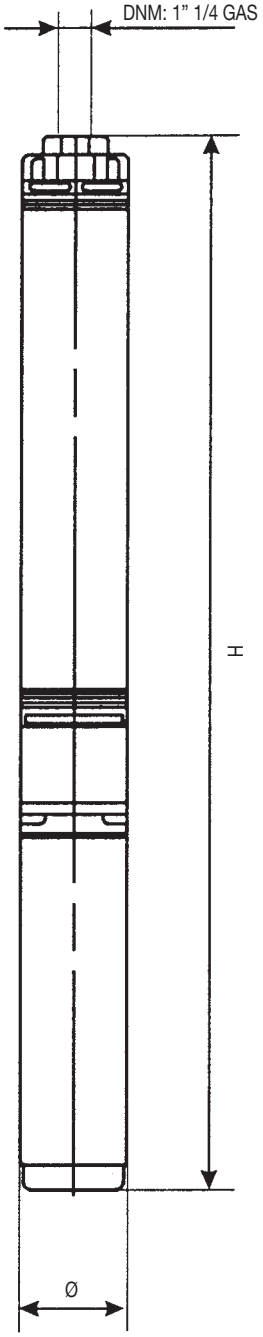
ELECTRICAL DATA AND DIMENSIONS

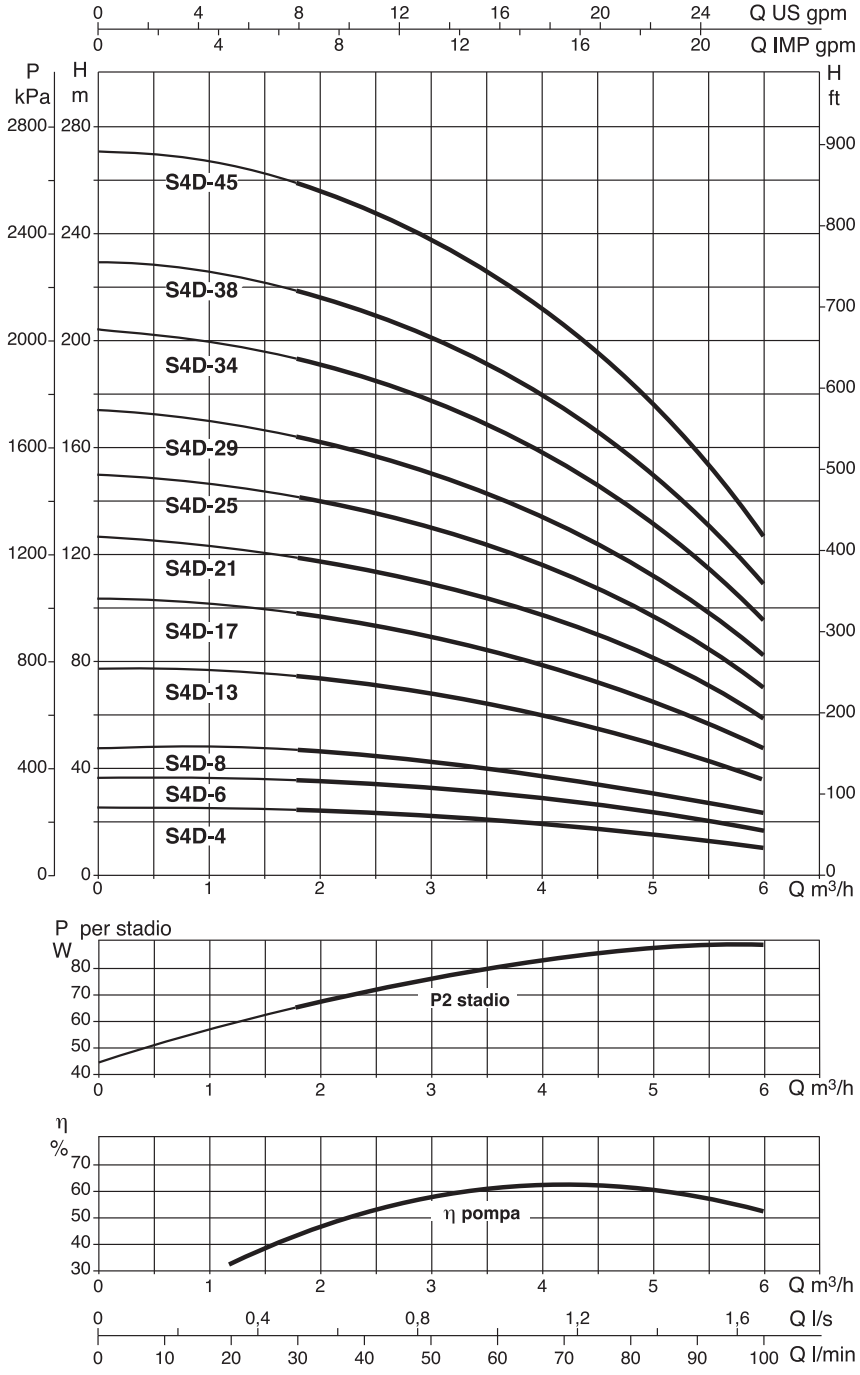
MODEL	ELECTRICAL DATA					Ø mm	H mm	PACKING DIMENSIONS			VOLUME m³	WEIGHT kg
	MOTOR	P2 NOMINAL		POWER INPUT 50 Hz	In A			L/A	L/B	H		
		kW	HP									
S4 D 4	4GG M	0,37	0,5	1x230 V ~	3,3	97	548	110	110	770	0,009	11,8
	4OL M	0,37	0,5	1x230 V ~	3,5	97	597	110	110	770	0,009	11,4
S4 D 6	4GG M	0,55	0,75	1x230 V ~	4,6	97	643	110	110	770	0,009	13,5
	4OL M	0,55	0,75	1x230 V ~	4,5	97	682	110	110	770	0,009	12,8
S4 D 6	4GG T	0,55	0,75	3x400 V ~	1,9	97	613	110	110	770	0,009	12
	4OL T	0,55	0,75	3x400 V ~	2,2	97	662	110	110	770	0,009	11,6
S4 D 8	4GG M	0,75	1	1x230 V ~	6,2	97	728	110	110	910	0,011	15
	4OL M	0,75	1	1x230 V ~	6,3	97	777	110	110	910	0,011	14,6
S4 D 8	4GG T	0,75	1	3x400 V ~	2,4	97	708	110	110	910	0,011	13,5
	4OL T	0,75	1	3x400 V ~	2,6	97	747	110	110	910	0,011	12,8
S4 D 13	4GG M	1,1	1,5	1x230 V ~	8,6	97	935,5	110	110	1080	0,013	17,5
	4OL M	1,1	1,5	1x230 V ~	8,5	97	959,5	110	110	1080	0,013	16,2
S4 D 13	4GG T	1,1	1,5	3x400 V ~	3,4	97	890,5	110	110	1080	0,013	15,8
	4OL T	1,1	1,5	3x400 V ~	3,6	97	939,5	110	110	1080	0,013	14,5
S4 D 17	4GG M	1,5	2	1x230 V ~	11	97	1127,5	120	120	1240	0,018	19,6
	4OL M	1,5	2	1x230 V ~	10,8	97	1134,5	120	120	1240	0,018	18,1
S4 D 17	4GG T	1,5	2	3x400 V ~	4,4	97	1082,5	120	120	1240	0,018	17,8
	4OL T	1,5	2	3x400 V ~	4,6	97	1089,5	120	120	1240	0,018	16,5
S4 D 21	4GG M	2,2	3	1x230 V ~	16	97	1277,5	120	120	1590	0,023	24,9
	4OL M	2,2	3	1x230 V ~	14	97	1382,5	120	120	1590	0,023	25,5
S4 D 21	4GG T	2,2	3	3x400 V ~	5,9	97	1257,5	120	120	1330	0,019	20,1
	4OL T	2,2	3	3x400 V ~	6	97	1264,5	120	120	1330	0,019	20,3
S4 D 25	4GG M	2,2	3	1x230 V ~	16	97	1407,5	120	120	1590	0,023	25,8
	4OL M	2,2	3	1x230 V ~	14	97	1512,5	120	120	1590	0,023	26,4
S4 D 25	4GG T	2,2	3	3x400 V ~	5,9	97	1387,5	120	120	1590	0,023	26,5
	4OL T	2,2	3	3x400 V ~	6	97	1394,5	120	120	1590	0,023	26,7
S4 D 29	4GG T	3	4	3x400 V ~	8,3	97	1701	120	120	1820	0,026	32,5
	4OL T	3	4	3x400 V ~	7,9	97	1675	120	120	1820	0,026	28,5
S4 D 34	4GG T	3	4	3x400 V ~	8,3	97	1863,5	120	120	2200	0,032	36,5
	4OL T	3	4	3x400 V ~	7,9	97	1837,5	120	120	2200	0,032	32,5
S4 D 38	4GG T	4	5,5	3x400 V ~	10	97	2096	120	120	2200	0,032	43,6
	4OL T	4	5,5	3x400 V ~	10,2	97	2056	120	120	2200	0,032	37,8
S4 D 45	4GG T	4	5,5	3x400 V ~	10	97	2323	120	120	2600	0,037	46
	4OL T	4	5,5	3x400 V ~	10,2	97	2283	120	120	2600	0,037	40,2

4GG motor: 4" encapsulated in water bath.
4OL motor: 4" rewindable in oil bath.

S4 D

4" SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

S4 E

4" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA															
	P2 NOMINAL		Q=m³/h	0	0,6	1,2	1,5	1,8	2,4	3	4,2	4,8	6	9	11,4	18	24	27
	kW	HP	Q=l/min	0	10	20	25	30	40	50	70	80	100	150	190	300	400	450
S4 E 6	0,75	1	H (m)	40,5	-	-	-	-	-	-	31,5	30	27	17,6	7,7	-	-	-
S4 E 8	1,1	1,5		54	-	-	-	-	-	-	42	40	37	23,4	10,3	-	-	-
S4 E 12	1,5	2		81	-	-	-	-	-	-	63	60	55	35,2	15,5	-	-	-
S4 E 17	2,2	3		114,8	-	-	-	-	-	-	89,5	86	78	49,8	21,9	-	-	-
S4 E 20	3	4		135	-	-	-	-	-	-	105	101,5	91	58,6	25,7	-	-	-
S4 E 23	3	4		155,4	-	-	-	-	-	-	120,5	117	104,5	67,4	29,6	-	-	-
S4 E 27	4	5,5		182,4	-	-	-	-	-	-	141,5	137	122,5	79,2	34,8	-	-	-
S4 E 31	4	5,5		209,4	-	-	-	-	-	-	162	156	140	90,9	39,9	-	-	-
S4 E 36	5,5	7,5		243,2	-	-	-	-	-	-	188	180	162	105,5	46,5	-	-	-
S4 E 42	5,5	7,5		283,7	-	-	-	-	-	-	220	211	189	123,2	54	-	-	-

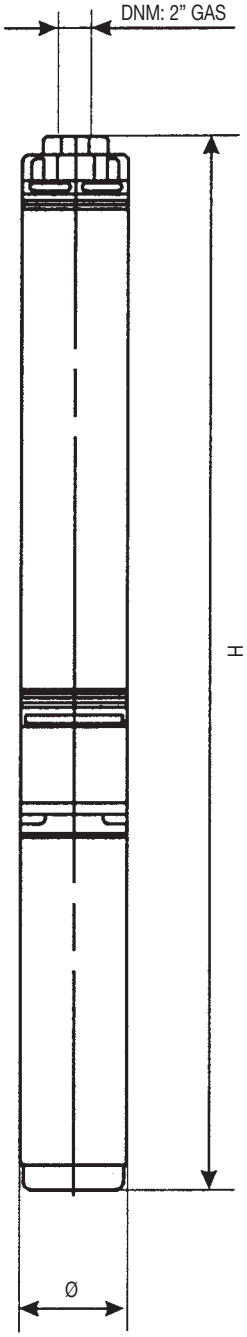
ELECTRICAL DATA AND DIMENSIONS

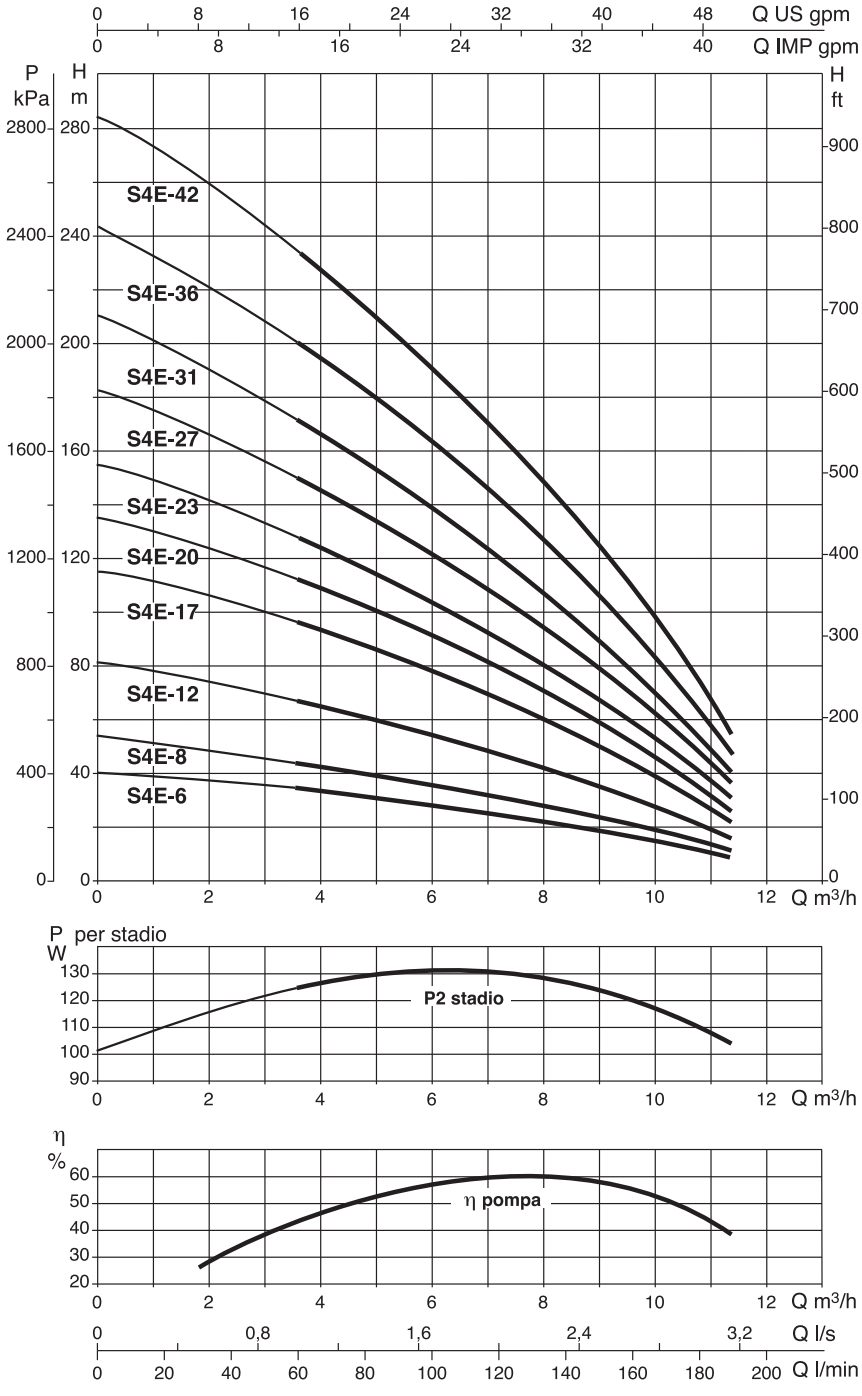
MODEL	ELECTRICAL DATA					Ø mm	H mm	PACKING DIMENSIONS			VOLUME m³	WEIGHT kg
	MOTOR	P2 NOMINAL		POWER INPUT 50 Hz	In A			L/A	L/B	H		
		kW	HP									
S4 E 6	4GG M	0,75	1	1x230 V ~	6,2	97	788,5	110	110	910	0,011	15,4
	4OL M	0,75	1	1x230 V ~	6,3	97	837,5	110	110	910	0,011	15
S4 E 6	4GG T	0,75	1	3x400 V ~	2,4	97	768,5	110	110	910	0,011	13,9
	4OL T	0,75	1	3x400 V ~	2,6	97	807,5	110	110	910	0,011	13,2
S4 E 8	4GG M	1,1	1,5	1x230 V ~	8,6	97	938,5	110	110	1080	0,013	17,1
	4OL M	1,1	1,5	1x230 V ~	8,5	97	962,5	110	110	1080	0,013	15,8
S4 E 8	4GG T	1,1	1,5	3x400 V ~	3,4	97	893,5	110	110	1080	0,013	15,5
	4OL T	1,1	1,5	3x400 V ~	3,6	97	942,5	110	110	1080	0,013	14,2
S4 E 12	4GG M	1,5	2	1x230 V ~	11	97	1210,5	120	120	1330	0,019	19,5
	4OL M	1,5	2	1x230 V ~	10,8	97	1217,5	120	120	1330	0,019	18
S4 E 12	4GG T	1,5	2	3x400 V ~	4,4	97	1165,5	120	120	1330	0,019	18,5
	4OL T	1,5	2	3x400 V ~	4,6	97	1172,5	120	120	1330	0,019	17,2
S4 E 17	4GG M	2,2	3	1x230 V ~	16	97	1525,5	120	120	1920	0,028	25,9
	4OL M	2,2	3	1x230 V ~	14	97	1630,5	120	120	1920	0,028	26,5
S4 E 17	4GG T	2,2	3	3x400 V ~	5,9	97	1505,5	120	120	1590	0,023	20,9
	4OL T	2,2	3	3x400 V ~	6	97	1512,5	120	120	1590	0,023	21,1
S4 E 20	4GG T	3	4	3x400 V ~	8,3	97	1814	120	120	1920	0,028	25,2
	4OL T	3	4	3x400 V ~	7,9	97	1788	120	120	1920	0,028	21,2
S4 E 23	4GG T	3	4	3x400 V ~	8,3	97	1971,5	120	120	2200	0,032	29,5
	4OL T	3	4	3x400 V ~	7,9	97	1945,5	120	120	2200	0,032	25,5
S4 E 27	4GG T	4	5,5	3x400 V ~	10	97	2284	120	120	2600	0,037	45,8
	4OL T	4	5,5	3x400 V ~	10,2	97	2244	120	120	2600	0,037	40
S4 E 31	4GG T	4	5,5	3x400 V ~	10	97	2494	120	120	2600	0,037	47
	4OL T	4	5,5	3x400 V ~	10,2	97	2454	120	120	2600	0,037	42,2
S4 E 36	4GG T	5,5	7,5	3x400 V ~	14	97	2859	180	180	3000	0,097	62
	4OL T	5,5	7,5	3x400 V ~	13,1	97	2819	180	180	3000	0,097	59,3
S4 E 42	4GG T	5,5	7,5	3x400 V ~	14	97	3174	180	180	3300	0,107	65
	4OL T	5,5	7,5	3x400 V ~	13,1	97	3134	180	180	3300	0,107	62,5

4GG motor: 4" encapsulated in water bath.
4OL motor: 4" rewindable in oil bath.

S4 E

4" SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

S4 F

4" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA															
	P2 NOMINAL		Q=m³/h	0	0,6	1,2	1,5	1,8	2,4	3	4,2	4,8	6	9	11,4	18	24	27
	kW	HP	Q=l/min	0	10	20	25	30	40	50	70	80	100	150	190	300	400	450
S4 F 7	2,2	3	H (m)	40,5	-	-	-	-	-	-	-	-	-	36	33	24	15	11
S4 F 10	3	4		58	-	-	-	-	-	-	-	-	-	50,8	47	34	22	16
S4 F 13	4	5,5		76	-	-	-	-	-	-	-	-	-	66	62	44,7	28	20
S4 F 18	5,5	7,5		104,5	-	-	-	-	-	-	-	-	-	91	84	61,2	39	28

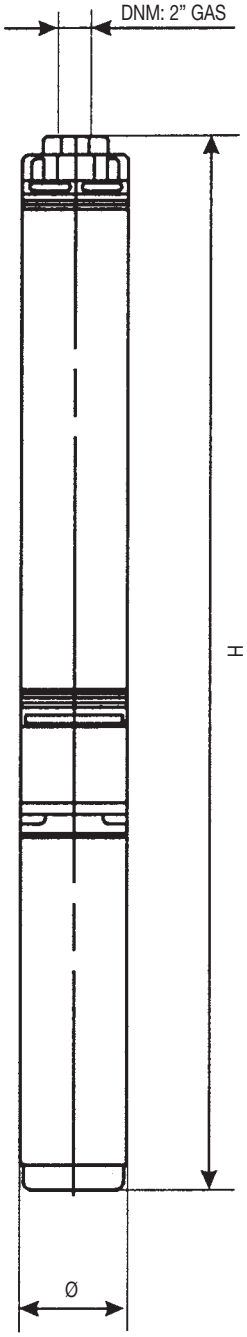
ELECTRICAL DATA AND DIMENSIONS

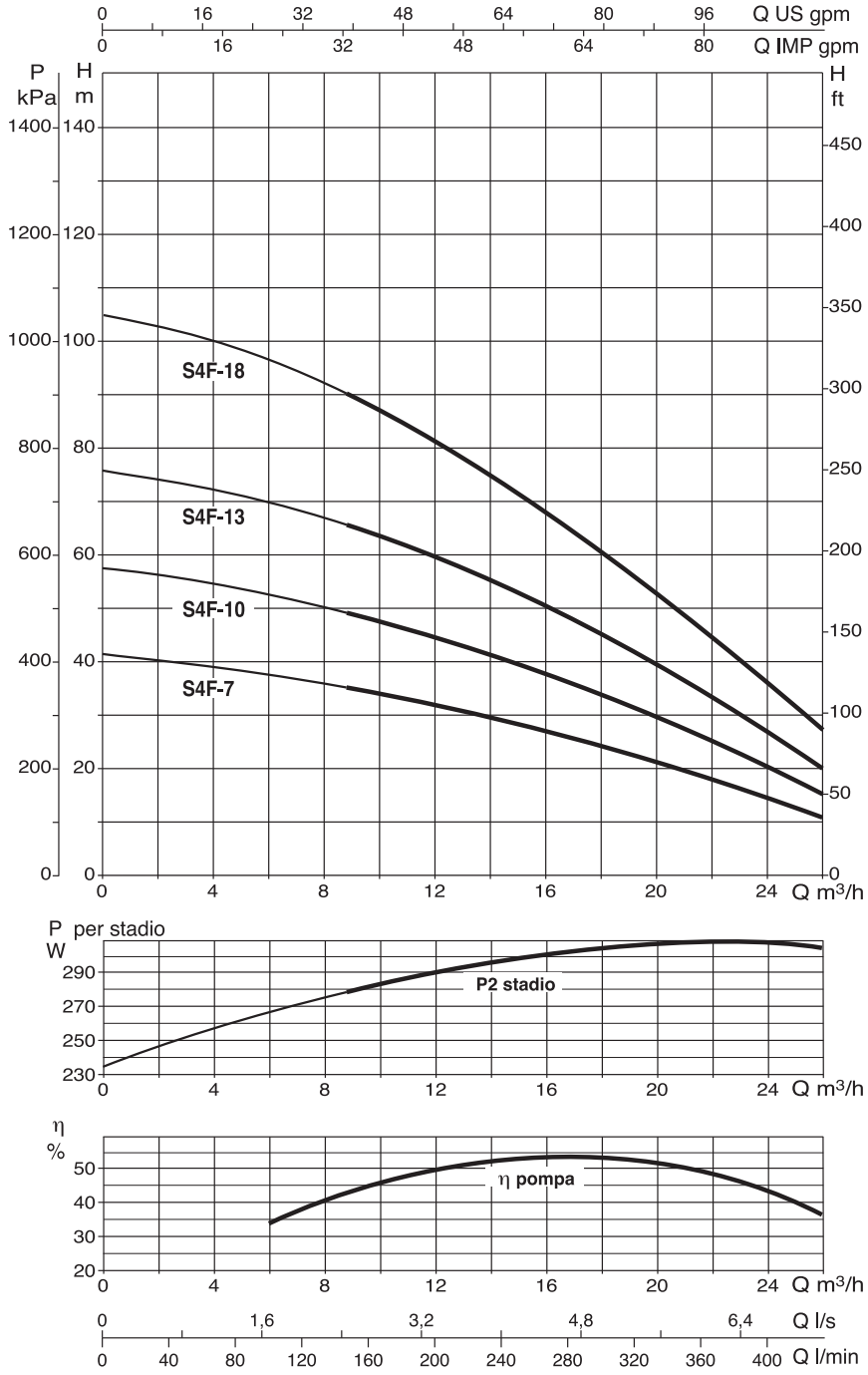
MODEL	ELECTRICAL DATA					Ø mm	H mm	PACKING DIMENSIONS			VOLUME m³	WEIGHT kg
	MOTOR	P2 NOMINAL		POWER INPUT 50 Hz	In A			L/A	L/B	H		
		kW	HP									
S4 F 7 M	4GG M	2,2	3	1x230 V ~	16	97	1076,5	120	120	1240	0,018	23,5
	4OL M	2,2	3	1x230 V ~	14	97	1181,5	120	120	1240	0,018	24,1
S4 F 7 T	4GG T	2,2	3	3x400 V ~	5,9	97	1056,5	120	120	1240	0,018	20
	4OL T	2,2	3	3x400 V ~	6	97	1063,5	120	120	1240	0,018	20,2
S4 F 10 T	4GG T	3	4	3x400 V ~	8,3	97	1411,5	120	120	1590	0,023	23,6
	4OL T	3	4	3x400 V ~	7,9	97	1385,5	120	120	1590	0,023	22
S4 F 13 T	4GG T	4	5,5	3x400 V ~	10	97	1718	120	120	1920	0,028	34,5
	4OL T	4	5,5	3x400 V ~	10,2	97	1678	120	120	1920	0,028	28,7
S4 F 18 T	4GG T	5,5	7,5	3x400 V ~	14	97	2160,5	120	120	2600	0,037	40
	4OL T	5,5	7,5	3x400 V ~	13,1	97	2120,5	120	120	2600	0,037	37,1

4GG motor: 4" encapsulated in water bath.
4OL motor: 4" rewindable in oil bath.

S4 F

4” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SS6

SUBMERSIBLE ELECTRIC PUMPS 6”

TECHNICAL DATA

Performance range: flow up to 75 m3/h and max head of 670 m
Max. quantity of sand/silt: 50g/m3
Max. ambient temperature: 30°C (50°C available on request)
Outlet connection diameter (inside threaded): SS6 A – SS6 B : 2 ½”
SS6 C : 3”
SS6 D – SS6 E : 4”
Nr of starts: refer to the motor specification
Motor Cooling flow: refer to the motor specification
Installation: horizontal or vertical, refer to the motor specification

APPLICATIONS

Multistage mixed-flow borehole electric pumps, completely made in stainless steel (AISI 304L or AISI 316 on request), usable for wells from a minimum diameter equal to pump size or greater and capable of developing a wide range of Flows and Heads.
These pumps can be used in a wide range of lifting, distributing, and pressuring application: domestic and general water supply; sprinkler and drip irrigations systems; fire-fighting installations; lowering of groundwater level; industrial supplies as mining, hot springs, autoclaves and tanks.
These pumps are suitable both for standard water and for aggressive water applications by choosing the proper manufacturing material (AISI 304L or AISI 316) both for hydraulic part and motor.
Special version of motors with PE2+PA windings can be used on request for high-temperature water applications up to maximum 50°C.
Pumps can be installed both vertically and horizontally simply by removing the non-return valve and adding a cooling sleeve to the suction case (the only remark is to check the motor applicability to horizontal operations, refer to the motor specifications section).

CONSTRUCTION FEATURES OF PUMP

Mixed flow pumps with diffusers, impellers, brackets, suction case and discharge case completely made of stainless steel AISI 304 in order to provide maximum strength, durability, wear and tear resistance.

The impellers are balanced and locked to the shaft with a specially shaped collet and nut coupling, in order to guarantee ease-to-assembly feature and avoid vibration sensitive malfunctions and noise increase during rotation.

Rubber bearings that drive the shaft are water lubricated and have sand channels to make enable the sand particles leave the pump with the pumped liquid (maximum permissible sand content 50 gr/m3).

Built-in non returned valve provided in order to minimize local friction losses.

Stainless steel strainer provided in order to prevent particles over a certain size from entering the pump.

Coupling with 6”, 8” or 10” motor depending on the power requested by hydraulic part:
- 4GG: 4“ canned submersible motor
- 4OL: 4” oil filled submersible motor
- 6GF: 6” canned submersible motor
- TR6: 6” rewindable submersible motor
- TR8: 8” rewindable submersible motor
- TR10: 10” rewindable submersible motor

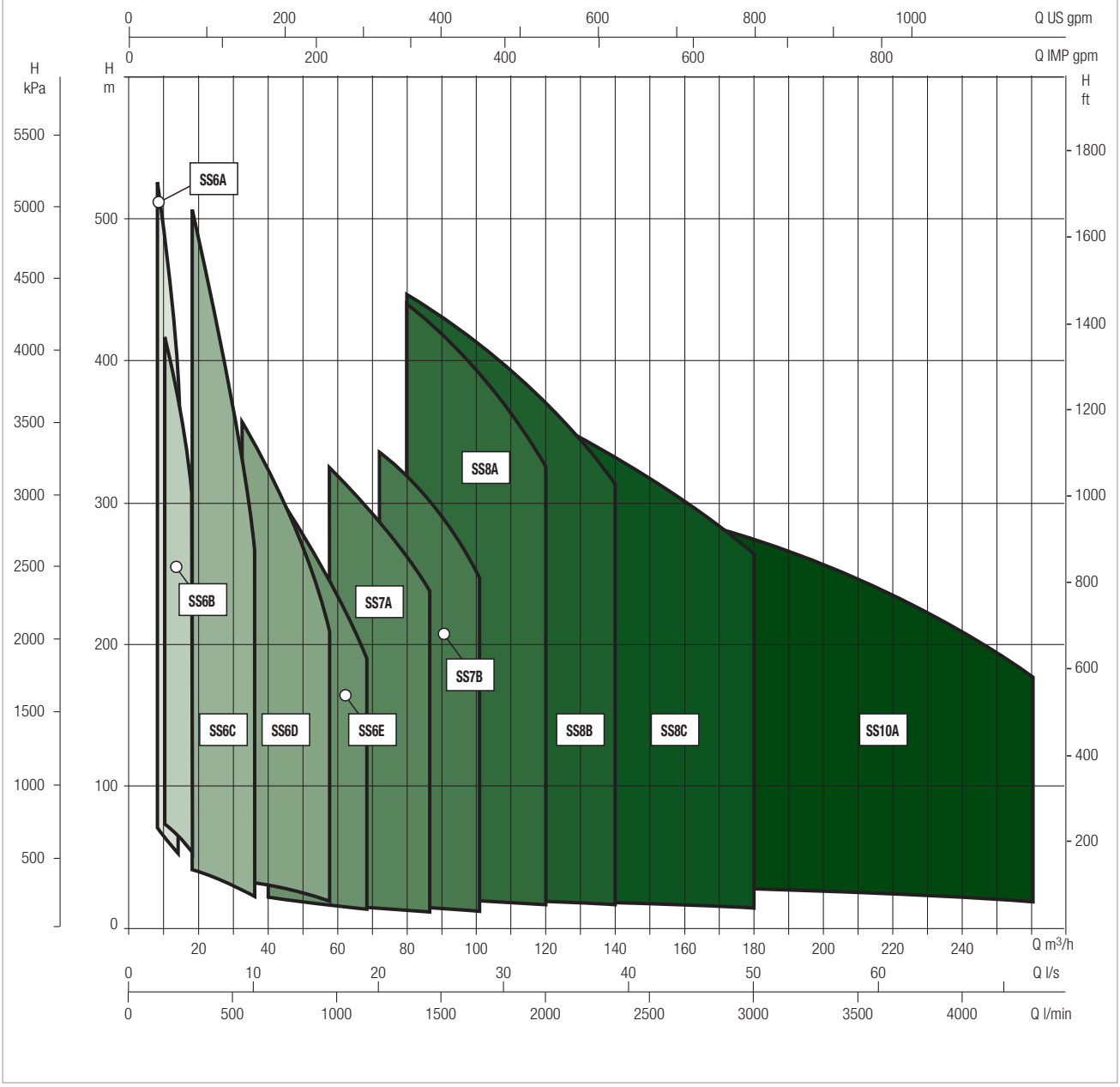
For inverter application refer to the detailed motor specification.

ON REQUEST:

- Pump body stainless steel AISI 316 for aggressive water application
- Impellers stainless steel AISI 316
- Motors in full stainless steel AISI 316 for aggressive water application
- Star/Delta starting version
- Special version of the motor for high temperature application
- Non-standard power coupling

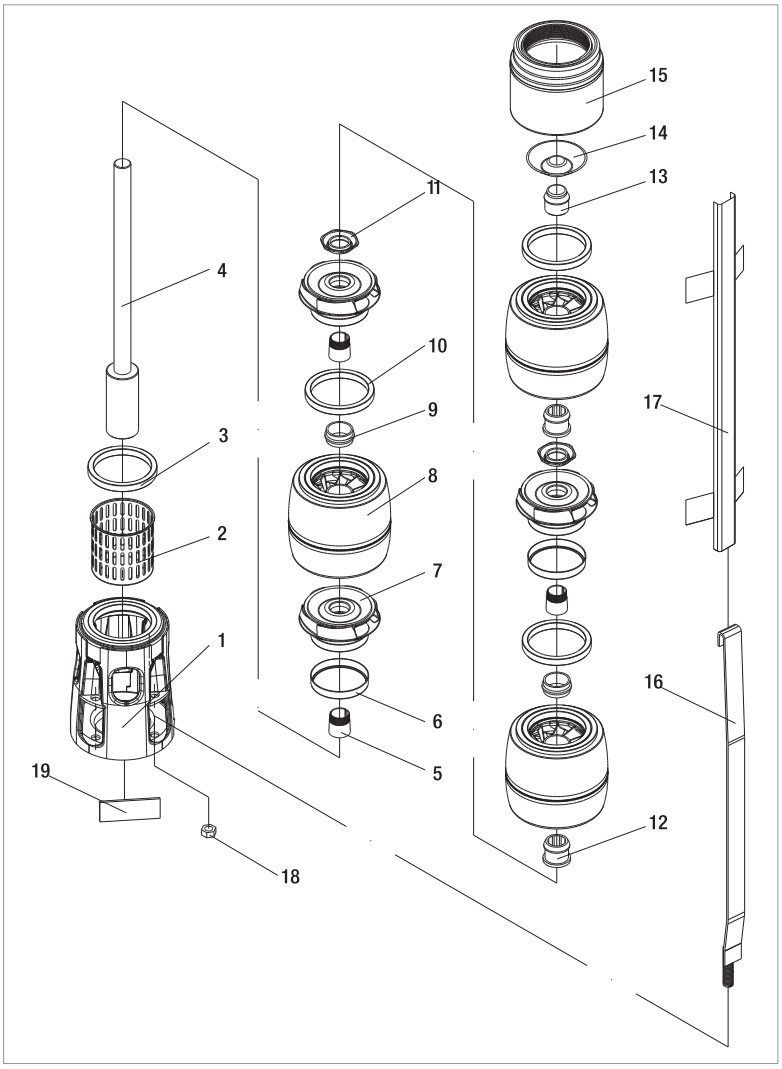
PERFORMANCE RANGE

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.



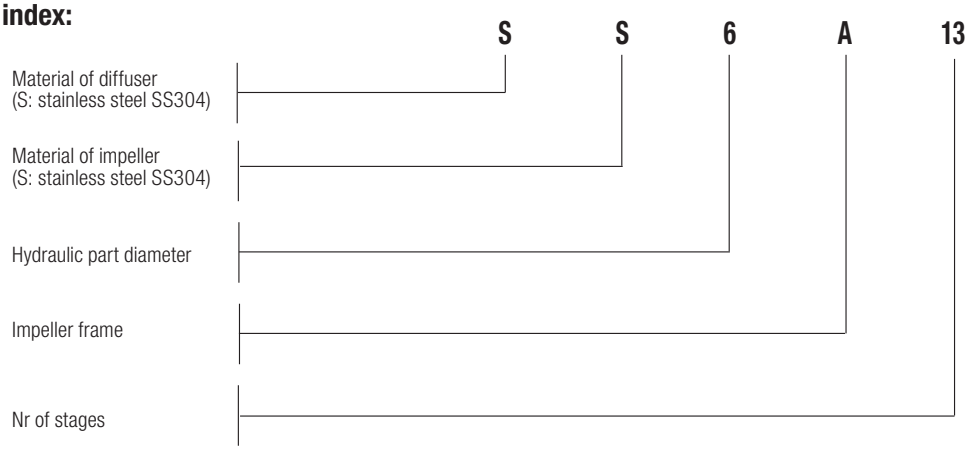
MATERIALS

N°	PART NAME	MATERIAL
1	Suction Case	Stainless Steel (AISI 304L)
2	Filter	Stainless Steel (AISI 304L)
3	Suction Case Wear Ring	Bronze (ASTM B145-4A)
4	Pump Shaft	Stainless Steel (AISI 420)
5	Collet	Stainless Steel
6	Impeller Wear Ring	STAINLESS STEEL (AISI 304)
7	Impeller	Stainless Steel (AISI 304L)
8	Diffuser	Stainless Steel (AISI 304L)
9	Rubber Bearing	Rubber
10	Diffuser Wear Ring	Rubber
11	Nut for Stop Ring	Stainless Steel (AISI 304L)
12	Bearing	Rubber
13	Shaft Stopper	Bronze (ASTM B145-4A)
14	Valve	Stainless Steel (AISI 304)
15	Discharge Case	Stainless Steel (AISI 304)
16	TIE ROD	STAINLESS STEEL (AISI 304L)
17	CABLE GUARD	STAINLESS STEEL (AISI 304)
18	TIR ROD NUT	STAINLESS STEEL (AISI 303)
19	NAME PLATE	STAINLESS STEEL (AISI 304)



– Denomination index:

(EXAMPLE)



SS6A

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	2	4	6	8	10	12	14	16	17	
	kW	HP	Q=l/min	0	33,3	66,6	100	133,3	166,6	200	233,3	266,6	283,3	
SS6A 01	0,55	0,75	H (mt)	9	9	9	9	9	8	7	6	5	4	4”
SS6A 02	1,1	1,5		19	19	19	18	17	16	15	13	10	9	4”
SS6A 03	1,5	2		28	28	28	27	26	24	22	19	15	13	4”
SS6A 04	2,2	3		37	37	37	36	35	32	29	25	20	18	4”
SS6A 05	2,2	3		37	37	37	36	35	32	29	25	20	18	4”
SS6A 06	2,2	3		56	56	56	54	52	49	44	38	31	27	4”
SS6A 07	3	4		65	66	65	64	61	57	51	44	36	31	4”
SS6A 08	4	5,5		75	75	74	73	70	65	59	51	41	36	6”
SS6A 09	4	5,5		84	84	84	82	78	73	66	57	46	40	6”
SS6A 10	4	5,5		93	94	93	91	87	81	73	63	51	44	6”
SS6A 11	4	5,5		103	103	102	100	96	89	81	70	56	49	6”
SS6A 12	5,5	7,5		112	112	112	109	104	97	88	76	61	53	6”
SS6A 13	5,5	7,5		121	122	121	118	113	105	95	82	67	58	6”
SS6A 14	5,5	7,5		131	131	130	127	122	114	103	89	72	62	6”
SS6A 15	5,5	7,5		140	140	139	136	130	122	110	95	77	67	6”
SS6A 16	7,5	10		149	150	149	145	139	130	117	101	82	71	6”
SS6A 17	7,5	10		159	159	158	154	148	138	124	108	87	76	6”
SS6A 18	7,5	10		168	169	167	163	156	146	132	114	92	80	6”
SS6A 19	7,5	10		177	178	177	172	165	154	139	120	97	84	6”
SS6A 20	7,5	10		187	187	186	182	174	162	146	127	102	89	6”
SS6A 21	7,5	10		196	197	195	191	182	170	154	133	108	93	6”
SS6A 22	9,2	12,5		205	206	204	200	191	178	161	139	113	98	6”
SS6A 23	9,2	12,5		215	215	214	209	200	186	168	146	118	102	6”
SS6A 24	9,2	12,5		224	225	223	218	209	195	176	152	123	107	6”

SS6A

SUBMERSIBLE ELECTRIC PUMPS 6”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA			OPERATING BY INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A								
		kW	HP									
SS6A 01	4GG	0,55	0,75	1,9	●	●	566	236	330	98	132	11,9
	4OL	0,55	0,75	2,2	●	●	566	284	330	98	132	11,9
SS6A 02	4GG	1,1	1,5	3,4	●	●	676	286	390	98	132	16,1
	4OL	1,1	1,5	3,6	●	●	676	334	390	98	132	16,1
SS6A 03	4GG	1,5	2	4,4	●	●	799	348	451	98	132	19
	4OL	1,5	2	4,6	●	●	799	354	451	98	132	19
SS6A 04	4GG	2,2	3	5,9	●	●	904	393	511	98	132	23,2
	4OL	2,2	3	6,1	●	●	904	458	511	98	132	23,2
SS6A 05	4GG	2,2	3	5,9	●	●	965	393	572	98	132	24,2
	4OL	2,2	3	6,1	●	●	965	458	572	98	132	24,2
SS6A 06	4GG	2,2	3	5,9	●	●	1025	393	632	98	132	26,2
	4OL	2,2	3	6,1	●	●	1025	458	632	98	132	26,2
SS6A 07	4GG	3	4	8,3	●	●	1237	544	693	98	132	33,9
	4OL	3	4	7,5	●	●	1237	518	693	98	132	33,9
SS6A 08	6GF	4	5,5	10,6	●	●	1353	600	753	141	132	54,4
SS6A 09	6GF	4	5,5	10,6	●	●	1414	600	814	141	132	56,4
SS6A 10	6GF	4	5,5	10,6	●	●	1474	600	874	141	132	57,4
SS6A 11	6GF	4	5,5	10,6	●	●	1535	600	935	141	132	59,4
SS6A 12	6GF	5,5	7,5	14	●	●	1626	631	995	141	132	63,6
	TR6	5,5	7,5	13	○	●	1802	807	995	144	132	71
SS6A 13	6GF	5,5	7,5	14	●	●	1687	631	1056	141	132	65,6
	TR6	5,5	7,5	13	○	●	1863	807	1056	144	132	73
SS6A 14	6GF	5,5	7,5	14	●	●	1747	631	1116	141	132	66,6
	TR6	5,5	7,5	13	○	●	1923	807	1116	144	132	74
SS6A 15	6GF	5,5	7,5	14	●	●	1808	631	1177	141	132	68,6
	TR6	5,5	7,5	13	○	●	1984	807	1177	144	132	76
SS6A 16	6GF	7,5	10	18	●	●	1897	660	1237	141	132	72,2
	TR6	7,5	10	18	○	●	2074	837	1237	144	132	80
SS6A 17	6GF	7,5	10	18	●	●	1958	660	1298	141	132	73,2
	TR6	7,5	10	18	○	●	2135	837	1298	144	132	81
SS6A 18	6GF	7,5	10	18	●	●	2018	660	1358	141	132	75,2
	TR6	7,5	10	18	○	●	2195	837	1358	144	132	83
SS6A 19	6GF	7,5	10	18	●	●	2079	660	1419	141	132	76,2
	TR6	7,5	10	18	○	●	2256	837	1419	144	132	84
SS6A 20	6GF	7,5	10	18	●	●	2139	660	1479	141	132	78,2
	TR6	7,5	10	18	○	●	2316	837	1479	144	132	86
SS6A 21	6GF	7,5	10	18	●	●	2200	660	1540	141	132	79,2
	TR6	7,5	10	18	○	●	2377	837	1540	144	132	87
SS6A 22	6GF	9,2	12,5	22	●	●	2285	685	1600	141	132	84,6
	TR6	9,2	12,5	21	○	●	2467	867	1600	144	132	91
SS6A 23	6GF	9,2	12,5	22	●	●	2346	685	1661	141	132	85,6
	TR6	9,2	12,5	21	○	●	2528	867	1661	144	132	92
SS6A 24	6GF	9,2	12,5	22	●	●	2406	685	1721	141	132	87,6
	TR6	9,2	12,5	21	○	●	2588	867	1721	144	132	94

*** MOTORE 4GG:** 4“ canned submersible motors.
MOTORE 4OL: 4” oil filled motor

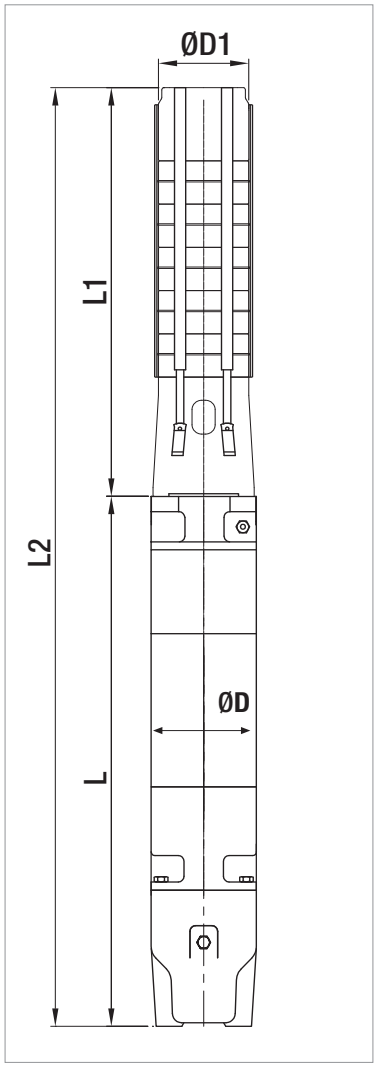
Motor 6GF: 6“ canned submersible motors.
Motor TR6: 6“ rewindable submersible motors.

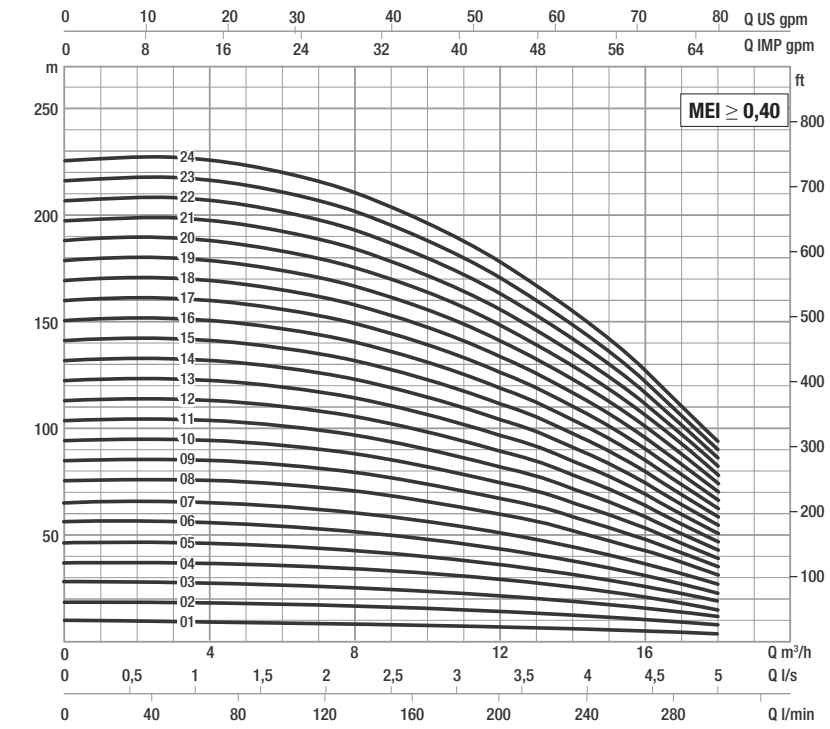
●	Allowed
○	Only PE2 + PA version

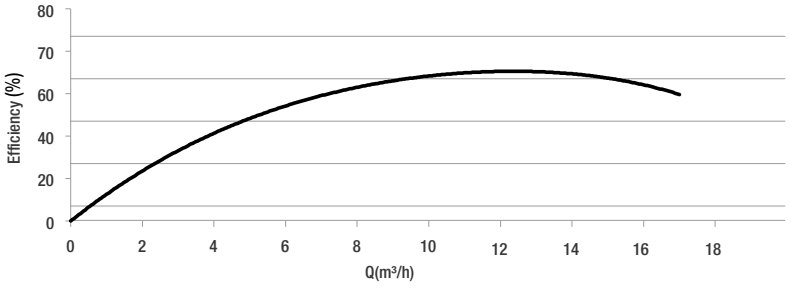
SS6A

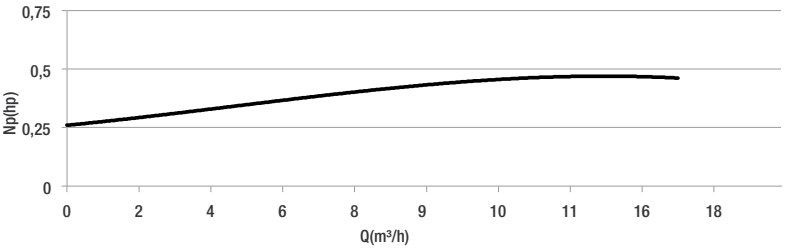
SUBMERSIBLE ELECTRIC PUMPS 6”

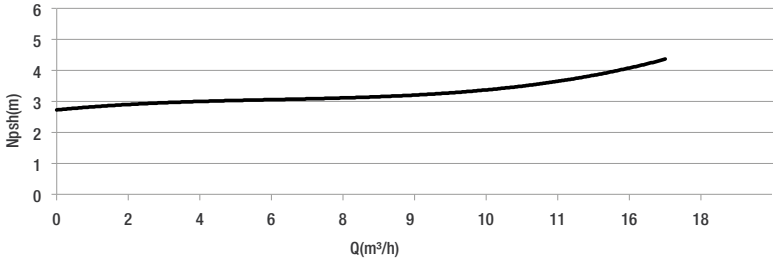
The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.











For hydraulic efficiency see pag. 233

SS6A

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	2	4	6	8	10	12	14	16	17	
	kW	HP	Q=l/min	0	33,3	66,6	100	133,3	166,6	200	233,3	266,6	283,3	
SS6A 25	9,2	12,5	H (mt)	233	234	232	227	217	203	183	158	128	111	6”
SS6A 26	9,2	12,5		243	244	242	236	226	211	190	165	133	116	6”
SS6A 27	11	15		252	253	251	245	235	219	198	171	138	120	6”
SS6A 28	11	15		261	262	260	254	243	227	205	177	143	124	6”
SS6A 29	11	15		270	272	270	263	252	235	212	184	149	129	6”
SS6A 30	11	15		280	281	279	272	261	243	220	190	154	133	6”
SS6A 31	13	17,5		289	290	288	281	269	251	227	196	159	138	6”
SS6A 32	13	17,5		298	300	297	290	278	259	234	202	164	142	6”
SS6A 33	13	17,5		308	309	307	300	287	268	242	209	169	147	6”
SS6A 34	13	17,5		317	318	316	309	295	276	249	215	174	151	6”
SS6A 35	13	17,5		326	328	325	318	304	284	256	221	179	156	6”
SS6A36	13	17,5		336	337	335	327	313	292	264	228	184	160	6”
SS6A 37	13	17,5		345	347	344	336	321	300	271	234	190	164	6”
SS6A 38	15	20		354	356	353	345	330	308	278	240	195	169	6”
SS6A 39	15	20		364	365	362	354	339	316	286	247	200	173	6”
SS6A 40	15	20		373	375	372	363	348	324	293	253	205	178	6”
SS6A 41	15	20		382	384	381	372	356	332	300	259	210	182	6”
SS6A 42	18,5	25		392	393	390	381	365	341	308	266	215	187	6”

SS6A

SUBMERSIBLE ELECTRIC PUMPS 6”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS6A 25	6GF	9,2	12,5	22	●	●	2467	685	1782	141	132	88,6
	TR6	9,2	12,5	21	O	●	2649	867	1782	144	132	95
SS6A 26	6GF	9,2	12,5	22	●	●	2527	685	1842	141	132	89,6
	TR6	9,2	12,5	21	O	●	2709	867	1842	144	132	96
SS6A 27	6GF	11	15	25,5	●	●	2633	730	1903	141	132	96
	TR6	11	15	25	O	●	2800	897	1903	144	132	103
SS6A 28	6GF	11	15	25,5	●	●	2693	730	1963	141	132	97
	TR6	11	15	25	O	●	2860	897	1963	144	132	104
SS6A 29	6GF	11	15	25,5	●	●	2754	730	2024	141	132	99
	TR6	11	15	25	O	●	2921	897	2024	144	132	106
SS6A 30	6GF	11	15	25,5	●	●	2814	730	2084	141	132	100
	TR6	11	15	25	O	●	2981	897	2084	144	132	107
SS6A 31	6GF	15	20	33,4	●	●	2930	785	2145	141	132	108
	TR6	13	17,5	29	O	●	3072	927	2145	144	132	114
SS6A 32	6GF	15	20	33,4	●	●	2990	785	2205	141	132	109
	TR6	13	17,5	29	O	●	3132	927	2205	144	132	115
SS6A 33	6GF	15	20	33,4	●	●	3051	785	2266	141	132	111
	TR6	13	17,5	29	O	●	3193	927	2266	144	132	117
SS6A 34	6GF	15	20	33,4	●	●	3111	785	2326	141	132	112
	TR6	13	17,5	29	O	●	3253	927	2326	144	132	118
SS6A 35	6GF	15	20	33,4	●	●	3172	785	2387	141	132	113
	TR6	13	17,5	29	O	●	3314	927	2387	144	132	119
SS6A 36	6GF	15	20	33,4	●	●	3232	785	2447	141	132	115
	TR6	13	17,5	29	O	●	3374	927	2447	144	132	121
SS6A 37	6GF	15	20	33,4	●	●	3293	785	2508	141	132	116
	TR6	13	17,5	29	O	●	3435	927	2508	144	132	122
SS6A 38	6GF	15	20	33,4	●	●	3353	785	2568	141	132	118
	TR6	15	20	32	O	●	3565	997	2568	144	132	136
SS6A 39	6GF	15	20	33,4	●	●	3664	785	2879	141	167	150
	TR6	15	20	32	O	●	3876	997	2879	144	167	168
SS6A 40	6GF	15	20	33,4	●	●	3724	785	2939	141	167	151
	TR6	15	20	32	O	●	3936	997	2939	144	167	169
SS6A 41	6GF	15	20	33,4	●	●	3785	785	3000	141	167	153
	TR6	15	20	32	O	●	3997	997	3000	144	167	171
SS6A 42	6GF	18,5	25	41	●	●	3920	860	3060	141	167	163
	TR6	18,5	25	39	O	●	4117	1057	3060	144	167	179

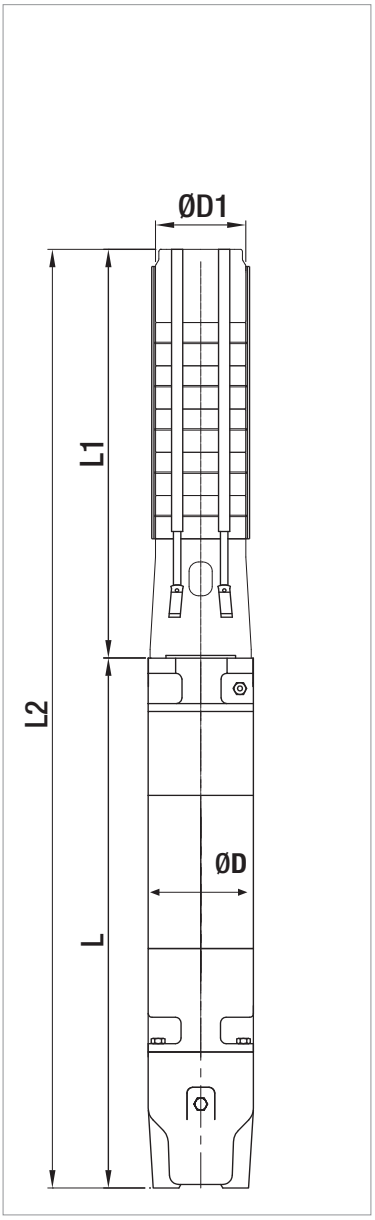
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR6: 6“ rewindable submersible motors.

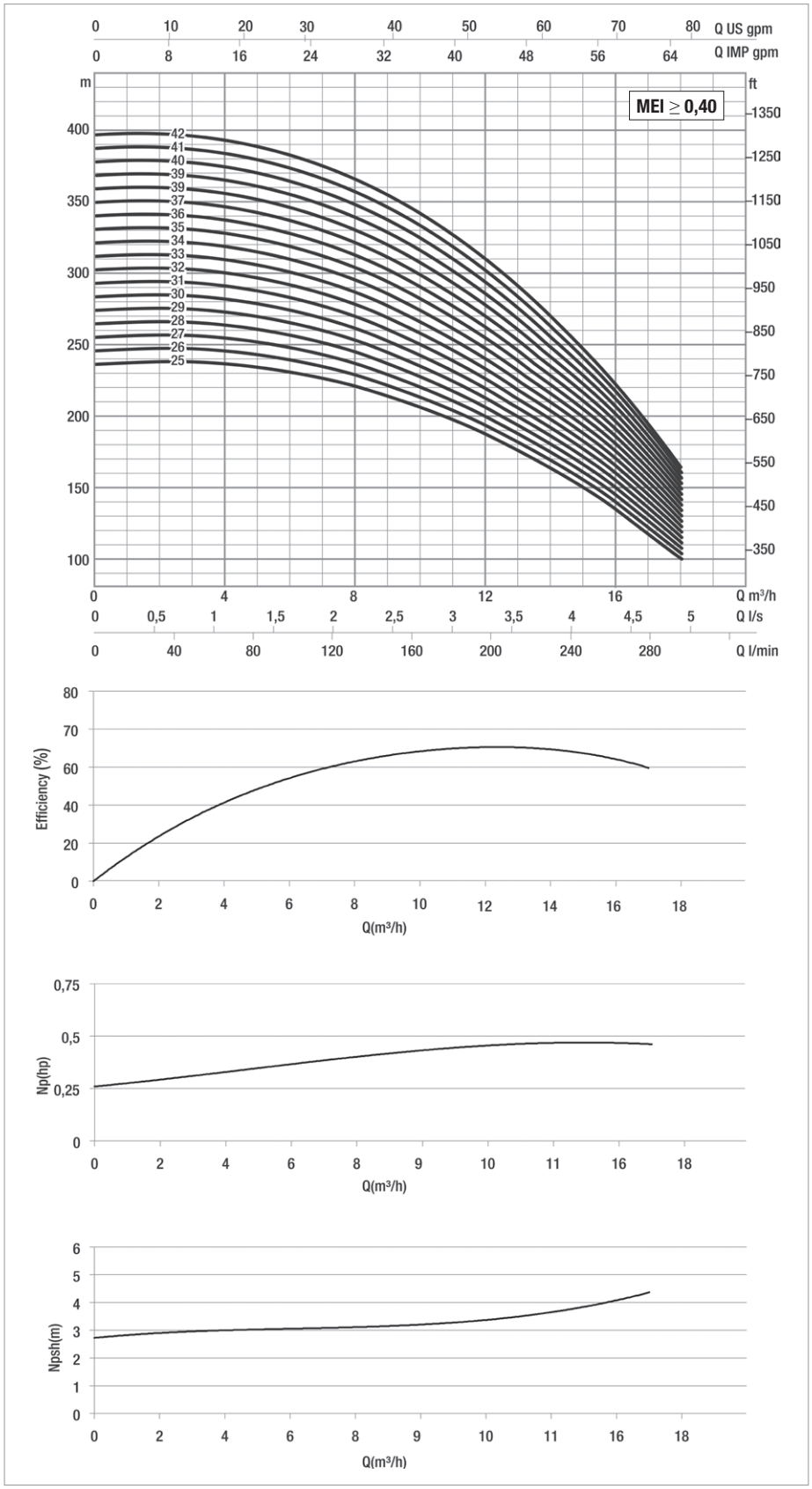
●	Allowed
O	Only PE2 + PA version

SS6A

SUBMERSIBLE ELECTRIC PUMPS 6”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





For hydraulic efficiency see pag. 233

SS6A

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	2	4	6	8	10	12	14	16	17	
	kW	HP	Q=l/min	0	33,3	66,6	100	133,3	166,6	200	233,3	266,6	283,3	
SS6A 43	18,5	25	H (mt)	401	403	400	390	374	349	315	272	220	191	6”
SS6A 44	18,5	25		410	412	409	399	382	357	322	278	225	196	6”
SS6A 45	18,5	25		420	421	418	408	391	365	330	285	231	200	6”
SS6A 46	18,5	25		429	431	428	418	400	373	337	291	236	204	6”
SS6A 47	18,5	25		438	440	437	427	408	381	344	297	241	209	6”
SS6A 48	18,5	25		448	450	446	436	417	389	352	304	246	213	6”
SS6A 49	18,5	25		457	459	455	445	426	397	359	310	251	218	6”
SS6A 50	22	30		466	468	465	454	434	405	366	316	256	222	6”
SS6A 51	22	30		476	478	474	463	443	414	373	323	261	227	6”
SS6A 52	22	30		485	487	483	472	452	422	381	329	266	231	6”
SS6A 53	22	30		494	496	493	481	460	430	388	335	272	236	6”
SS6A 54	22	30		504	506	502	490	469	438	395	342	277	240	6”
SS6A 55	22	30		513	515	511	499	478	446	403	348	282	244	6”
SS6A 56	22	30		522	524	520	508	487	454	410	354	287	249	6”
SS6A 57	22	30		532	534	530	517	495	462	417	361	292	253	6”
SS6A 58	22	30		541	543	539	526	504	470	425	367	297	258	6”
SS6A 59	22	30		550	553	548	536	513	478	432	373	302	262	6”
SS6A 60	22	30		560	562	558	545	521	486	439	380	307	267	6”

SS6A

SUBMERSIBLE ELECTRIC PUMPS 6”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS6A 43	6GF	18,5	25	41	●	●	3981	860	3121	141	167	165
	TR6	18,5	25	39	O	●	4178	1057	3121	144	167	181
SS6A 44	6GF	18,5	25	41	●	●	4041	860	3181	141	167	167
	TR6	18,5	25	39	O	●	4238	1057	3181	144	167	183
SS6A 45	6GF	18,5	25	41	●	●	4102	860	3242	141	167	168
	TR6	18,5	25	39	O	●	4299	1057	3242	144	167	184
SS6A 46	6GF	18,5	25	41	●	●	4162	860	3302	141	167	170
	TR6	18,5	25	39	O	●	4359	1057	3302	144	167	186
SS6A 47	6GF	18,5	25	41	●	●	4223	860	3363	141	167	172
	TR6	18,5	25	39	O	●	4420	1057	3363	144	167	188
SS6A 48	6GF	18,5	25	41	●	●	4283	860	3423	141	167	174
	TR6	18,5	25	39	O	●	4480	1057	3423	144	167	190
SS6A 49	6GF	18,5	25	41	●	●	4344	860	3484	141	167	175
	TR6	18,5	25	39	O	●	4541	1057	3484	144	167	191
SS6A 50	6GF	22	30	47	●	●	4464	920	3544	141	167	180,6
	TR6	22	30	49	O	●	4631	1087	3544	144	167	205
SS6A 51	6GF	22	30	47	●	●	4525	920	3605	141	167	182,6
	TR6	22	30	49	O	●	4692	1087	3605	144	167	207
SS6A 52	6GF	22	30	47	●	●	4585	920	3665	141	167	184,6
	TR6	22	30	49	O	●	4752	1087	3665	144	167	209
SS6A 53	6GF	22	30	47	●	●	4646	920	3726	141	167	186,6
	TR6	22	30	49	O	●	4813	1087	3726	144	167	211
SS6A 54	6GF	22	30	47	●	●	4706	920	3786	141	167	187,6
	TR6	22	30	49	O	●	4873	1087	3786	144	167	212
SS6A 55	6GF	22	30	47	●	●	4767	920	3847	141	167	189,6
	TR6	22	30	49	O	●	4934	1087	3847	144	167	214
SS6A 56	6GF	22	30	47	●	●	4827	920	3907	141	167	191,6
	TR6	22	30	49	O	●	4994	1087	3907	144	167	216
SS6A 57	6GF	22	30	47	●	●	4888	920	3968	141	167	193,6
	TR6	22	30	49	O	●	5055	1087	3968	144	167	218
SS6A 58	6GF	22	30	47	●	●	4948	920	4028	141	167	195,6
	TR6	22	30	49	O	●	5115	1087	4028	144	167	220
SS6A 59	6GF	22	30	47	●	●	5009	920	4089	141	167	196,6
	TR6	22	30	49	O	●	5176	1087	4089	144	167	221
SS6A 60	6GF	22	30	47	●	●	5069	920	4149	141	167	198,6
	TR6	22	30	49	O	●	5236	1087	4149	144	167	223

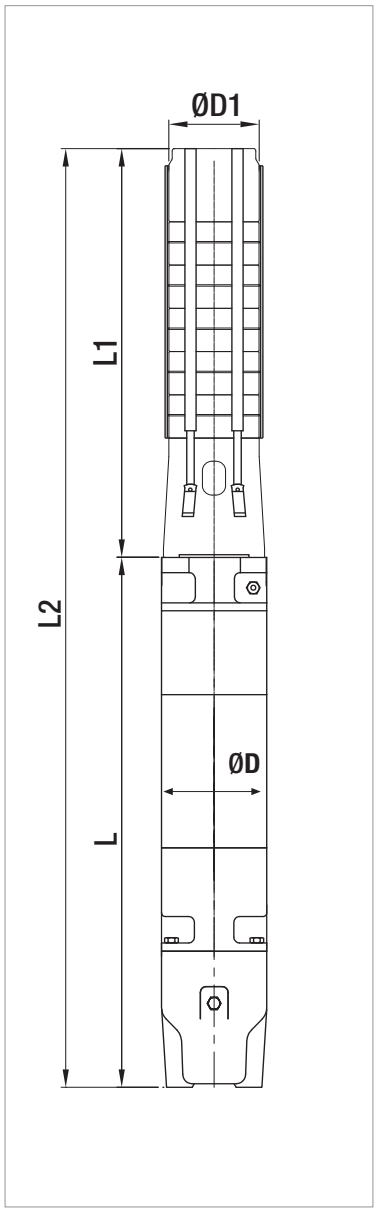
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR6: 6“ rewindable submersible motors.

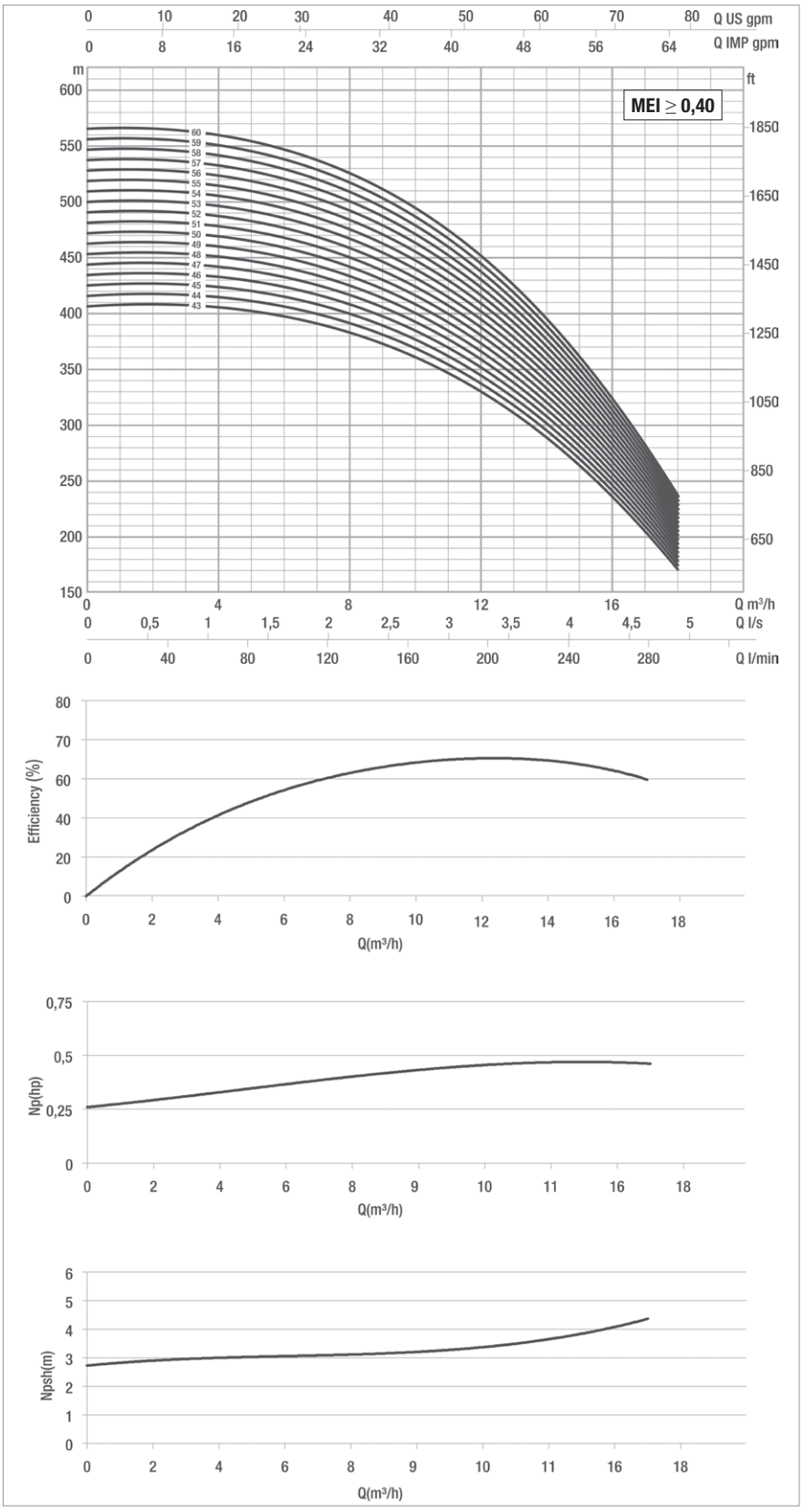
●	Allowed
O	Only PE2 + PA version

SS6A

SUBMERSIBLE ELECTRIC PUMPS 6”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





For hydraulic efficiency see pag. 233

SS6B

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	6	8	10	12	14	15	16	18	20	
	kW	HP	Q=l/min	0	100	133,3	166,6	200	233,3	250	266,6	300	333,3	
SS6B 01	0,75	1		11	11	11	10	10	9	9	9	8	6	4”
SS6B 02	1,5	2		23	22	22	21	20	19	18	17	15	13	4”
SS6B 03	2,2	3		34	33	33	31	30	28	27	26	23	19	4”
SS6B 04	3	4		45	44	43	42	40	37	36	34	30	26	4”
SS6B 05	3	4		56	55	54	52	50	47	45	43	38	32	4”
SS6B 06	4	5,5		68	66	65	63	60	56	54	51	45	39	4”
SS6B 07	4	5,5		79	77	76	73	70	65	63	60	53	45	6”
SS6B 08	5,5	7,5		90	89	87	84	80	75	71	68	60	52	6”
SS6B 09	5,5	7,5		102	100	98	94	90	84	80	77	68	58	6”
SS6B 10	5,5	7,5		113	111	108	105	100	93	89	85	76	65	6”
SS6B 11	7,5	10		124	122	119	115	110	102	98	94	83	71	6”
SS6B 12	7,5	10		135	133	130	126	120	112	107	102	91	78	6”
SS6B 13	7,5	10		147	144	141	136	130	121	116	111	98	84	6”
SS6B 14	7,5	10	H (mt)	158	155	152	147	140	130	125	119	106	91	6”
SS6B 15	9,3	12,5		169	166	163	157	150	140	134	128	113	97	6”
SS6B 16	9,3	12,5		181	177	173	168	160	149	143	136	121	103	6”
SS6B 17	9,3	12,5		192	188	184	178	170	158	152	145	128	110	6”
SS6B 18	11	15		203	199	195	189	180	168	161	153	136	116	6”
SS6B 19	11	15		214	210	206	199	190	177	170	162	143	123	6”
SS6B 20	11	15		226	221	217	210	199	186	179	170	151	129	6”
SS6B 21	13	17,5		237	232	228	220	209	196	188	179	159	136	6”
SS6B 22	13	17,5		248	243	238	230	219	205	196	187	166	142	6”
SS6B 23	13	17,5		260	254	249	241	229	214	205	196	174	149	6”
SS6B 24	13	17,5		271	266	260	251	239	224	214	204	181	155	6”
SS6B 25	15	20		282	277	271	262	249	233	223	213	189	162	6”
SS6B 26	15	20		293	288	282	272	259	242	232	221	196	168	6”
SS6B 27	15	20		305	299	293	283	269	252	241	230	204	175	6”

SS6B

SUBMERSIBLE ELECTRIC PUMPS 6”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS6B 01	4GG	0,75	1	2,4	●	●	596	266	330	98	132	13,1
	40L	0,75	1	2,6	●	●	596	304	330	98	132	13,1
SS6B 02	4GG	1,5	2	4,4	●	●	738	348	390	98	132	18
	40L	1,5	2	4,6	●	●	738	354	390	98	132	18
SS6B 03	4GG	2,2	3	5,9	●	●	844	393	451	98	132	21,2
	40L	2,2	3	6,1	●	●	844	458	451	98	132	21,2
SS6B 04	4GG	3	4	8,3	●	●	1055	544	511	98	132	29,9
	40L	3	4	7,5	●	●	1055	518	511	98	132	29,9
SS6B 05	4GG	3	4	8,3	●	●	1116	544	572	98	132	30,9
	40L	3	4	7,5	●	●	1116	518	572	98	132	30,9
SS6B 06	6GF	4	5,5	10,6	●	●	1232	600	632	98	132	52,4
SS6B 07	6GF	4	5,5	10,6	●	●	1293	600	693	141	132	53,4
SS6B 08	6GF	5,5	7,5	14	●	●	1384	631	753	141	132	58,6
	TR6	5,5	7,5	13	○	●	1560	807	753	144	132	66
SS6B 09	6GF	5,5	7,5	14	●	●	1445	631	814	141	132	59,6
	TR6	5,5	7,5	13	○	●	1621	807	814	144	132	67
SS6B 10	6GF	5,5	7,5	14	●	●	1505	631	874	141	132	60,6
	TR6	5,5	7,5	13	○	●	1681	807	874	144	132	68
SS6B 11	6GF	7,5	10	18	●	●	1595	660	935	141	132	65,2
	TR6	7,5	10	18	○	●	1772	837	935	144	132	73
SS6B 12	6GF	7,5	10	18	●	●	1655	660	995	141	132	66,2
	TR6	7,5	10	18	○	●	1832	837	995	144	132	74
SS6B 13	6GF	7,5	10	18	●	●	1716	660	1056	141	132	68,2
	TR6	7,5	10	18	○	●	1893	837	1056	144	132	76
SS6B 14	6GF	7,5	10	18	●	●	1776	660	1116	141	132	69,2
	TR6	7,5	10	18	○	●	1953	837	1116	144	132	77
SS6B 15	6GF	9,3	12,5	22	●	●	1862	685	1177	141	132	74,6
	TR6	9,2	12,5	21	○	●	2044	867	1177	144	132	81
SS6B 16	6GF	9,3	12,5	22	●	●	1922	685	1237	141	132	75,6
	TR6	9,2	12,5	21	○	●	2104	867	1237	144	132	82
SS6B 17	6GF	9,3	12,5	22	●	●	1983	685	1298	141	132	77,6
	TR6	9,2	12,5	21	○	●	2165	867	1298	144	132	84
SS6B 18	6GF	11	15	25,5	●	●	2088	730	1358	141	132	83
	TR6	11	15	25	○	●	2255	897	1358	144	132	90
SS6B 19	6GF	11	15	25,5	●	●	2149	730	1419	141	132	84
	TR6	11	15	25	○	●	2316	897	1419	144	132	91
SS6B 20	6GF	11	15	25,5	●	●	2209	730	1479	141	132	86
	TR6	11	15	25	○	●	2376	897	1479	144	132	93
SS6B 21	6GF	15	20	33,4	●	●	2325	785	1540	141	132	93
	TR6	13	17,5	29	○	●	2467	927	1540	144	132	99
SS6B 22	6GF	15	20	33,4	●	●	2385	785	1600	141	132	95
	TR6	13	17,5	29	○	●	2527	927	1600	144	132	101
SS6B 23	6GF	15	20	33,4	●	●	2446	785	1661	141	132	96
	TR6	13	17,5	29	○	●	2588	927	1661	144	132	102
SS6B 24	6GF	15	20	33,4	●	●	2506	785	1721	141	132	98
	TR6	13	17,5	29	○	●	2648	927	1721	144	132	104
SS6B 25	6GF	15	20	33,4	●	●	2567	785	1782	141	132	99
	TR6	15	20	32	○	●	2779	997	1782	144	132	117
SS6B 26	6GF	15	20	33,4	●	●	2627	785	1842	141	132	101
	TR6	15	20	32	○	●	2839	997	1842	144	132	119
SS6B 27	6GF	15	20	33,4	●	●	2688	785	1903	141	132	102
	TR6	15	20	32	○	●	2900	997	1903	144	132	120

*** MOTORE 4GG:** 4“ canned submersible motors.
MOTORE 40L: 4” oil filled motor

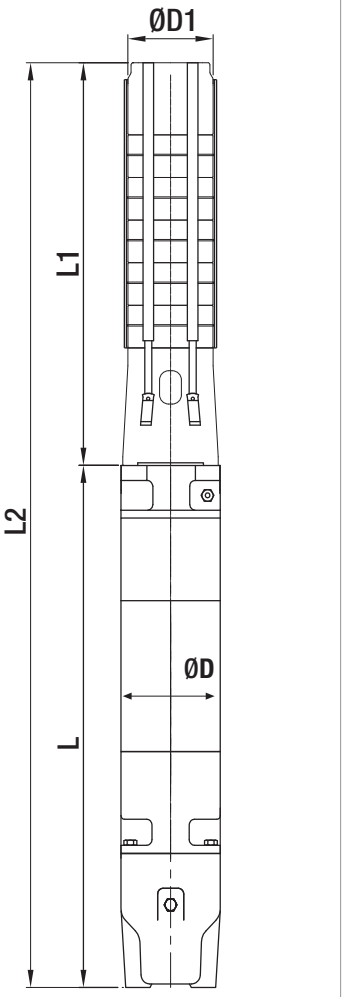
Motor 6GF: 6“ canned submersible motors.
Motor TR6: 6“ rewindable submersible motors.

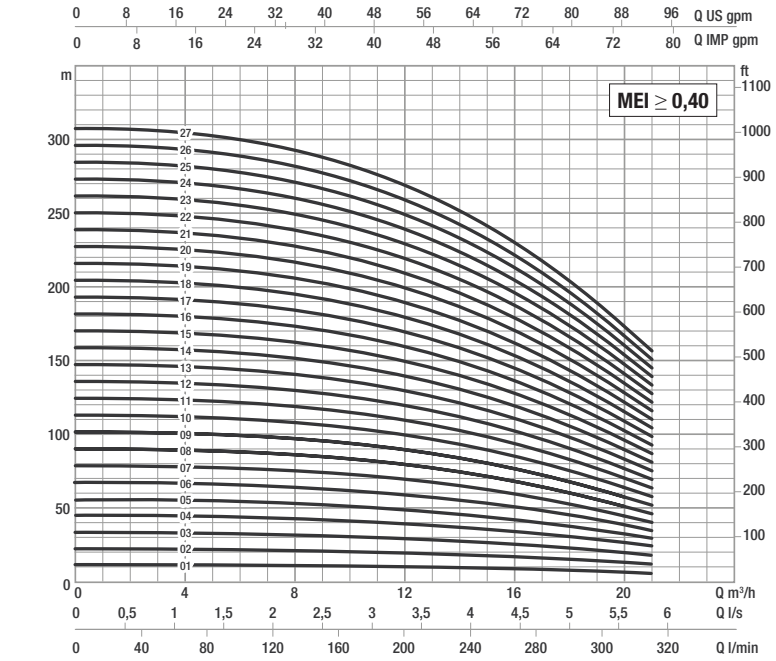
●	Allowed
○	Only PE2 + PA version

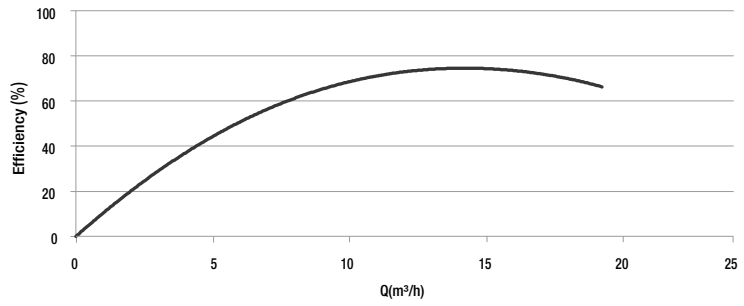
SS6B

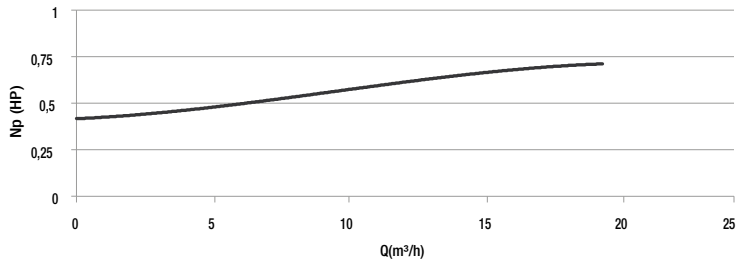
SUBMERSIBLE ELECTRIC PUMPS 6”

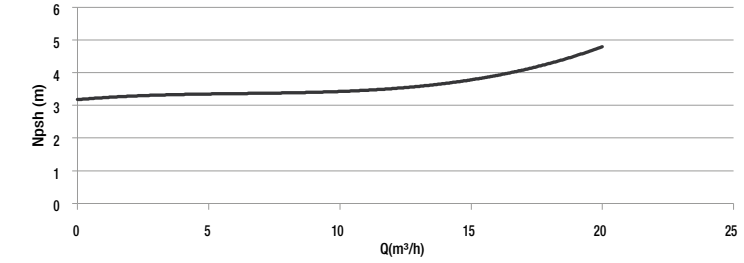
The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.











For hydraulic efficiency see pag. 233

SS6B

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	6	8	10	12	14	15	16	18	20	
	kW	HP	Q=l/min	0	100	133,3	166,6	200	233,3	250	266,6	300	333,3	
SS6B 28	15	20	H (mt)	316	310	303	293	279	261	250	238	211	181	6”
SS6B 29	18,5	25		327	321	314	304	289	270	259	247	219	188	6”
SS6B 30	18,5	25		339	332	325	314	299	280	268	255	227	194	6”
SS6B 31	18,5	25		350	343	336	325	309	289	277	264	234	200	6”
SS6B 32	18,5	25		361	354	347	335	319	298	286	272	242	207	6”
SS6B 33	18,5	25		372	365	358	346	329	307	295	281	249	213	6”
SS6B 34	18,5	25		384	376	368	356	339	317	304	289	257	220	6”
SS6B 35	22	30		395	387	379	367	349	326	313	298	264	226	6”
SS6B 36	22	30		406	398	390	377	359	335	322	306	272	233	6”
SS6B 37	22	30		418	409	401	388	369	345	330	315	279	239	6”
SS6B 38	22	30		429	420	412	398	379	354	339	323	287	246	6”
SS6B 39	22	30		440	432	423	409	389	363	348	332	294	252	6”
SS6B 40	22	30		451	443	433	419	399	373	357	340	302	259	6”
SS6B 41	22	30		463	454	444	430	409	382	366	349	310	265	6”
SS6B 42	26,5	35		474	465	455	440	419	391	375	357	317	272	6”
SS6B 43	26,5	35		485	476	466	450	429	401	384	366	325	278	6”

SS6B

SUBMERSIBLE ELECTRIC PUMPS 6”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS6B 28	6GF	15	20	33,4	●	●	2748	785	1963	141	132	104
	TR6	15	20	32	○	●	2960	997	1963	144	132	122
SS6B 29	6GF	18,5	25	41	●	●	2884	860	2024	141	132	113
	TR6	18,5	25	39	○	●	3081	1057	2024	144	132	129
SS6B 30	6GF	18,5	25	41	●	●	2944	860	2084	141	132	114
	TR6	18,5	25	39	○	●	3141	1057	2084	144	132	130
SS6B 31	6GF	18,5	25	41	●	●	3005	860	2145	141	132	116
	TR6	18,5	25	39	○	●	3202	1057	2145	144	132	132
SS6B 32	6GF	18,5	25	41	●	●	3065	860	2205	141	132	117
	TR6	18,5	25	39	○	●	3262	1057	2205	144	132	133
SS6B 33	6GF	18,5	25	41	●	●	3126	860	2266	141	132	119
	TR6	18,5	25	39	○	●	3323	1057	2266	144	132	135
SS6B 34	6GF	18,5	25	41	●	●	3186	860	2326	141	132	120
	TR6	18,5	25	39	○	●	3383	1057	2326	144	132	136
SS6B 35	6GF	22	30	47	●	●	3307	920	2387	141	132	125,6
	TR6	22	30	49	○	●	3474	1087	2387	144	132	150
SS6B 36	6GF	22	30	47	●	●	3367	920	2447	141	132	126,6
	TR6	22	30	49	○	●	3534	1087	2447	144	132	151
SS6B 37	6GF	22	30	47	●	●	3428	920	2508	141	132	128,6
	TR6	22	30	49	○	●	3595	1087	2508	144	132	153
SS6B 38	6GF	22	30	47	●	●	3488	920	2568	141	132	129,6
	TR6	22	30	49	○	●	3655	1087	2568	144	132	154
SS6B 39	6GF	22	30	47	●	●	3799	920	2879	141	167	161,6
	TR6	22	30	49	○	●	3966	1087	2879	144	167	186
SS6B 40	6GF	22	30	47	●	●	3859	920	2939	141	167	163,6
	TR6	22	30	49	○	●	4026	1087	2939	144	167	188
SS6B 41	6GF	22	30	47	●	●	3920	920	3000	141	167	165,6
	TR6	22	30	49	○	●	4087	1087	3000	144	167	190
SS6B 42	6GF	30	40	61,5	●	●	4110	1050	3060	141	167	182,8
	TR6	26	35	58	○	●	4217	1157	3060	144	167	201
SS6B 43	6GF	30	40	61,5	●	●	4171	1050	3121	141	167	184,8
	TR6	26	35	58	○	●	4278	1157	3121	144	167	203

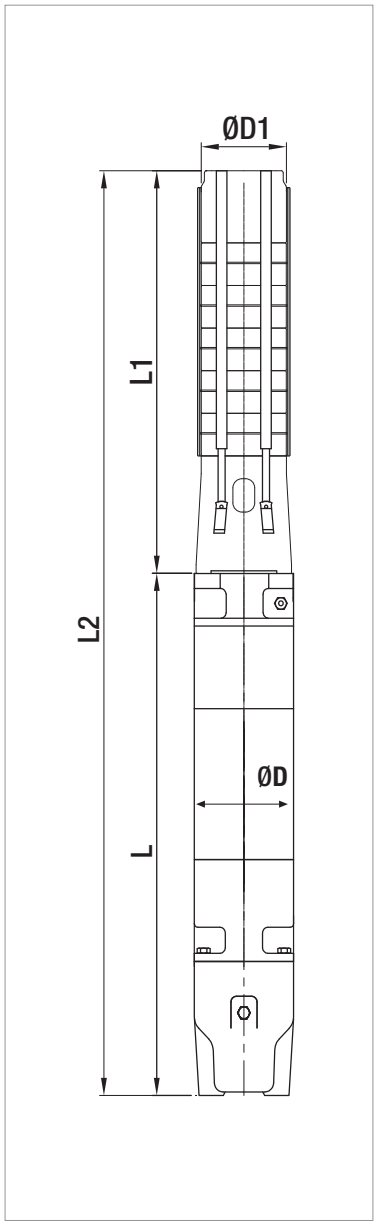
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR6: 6“ rewindable submersible motors.

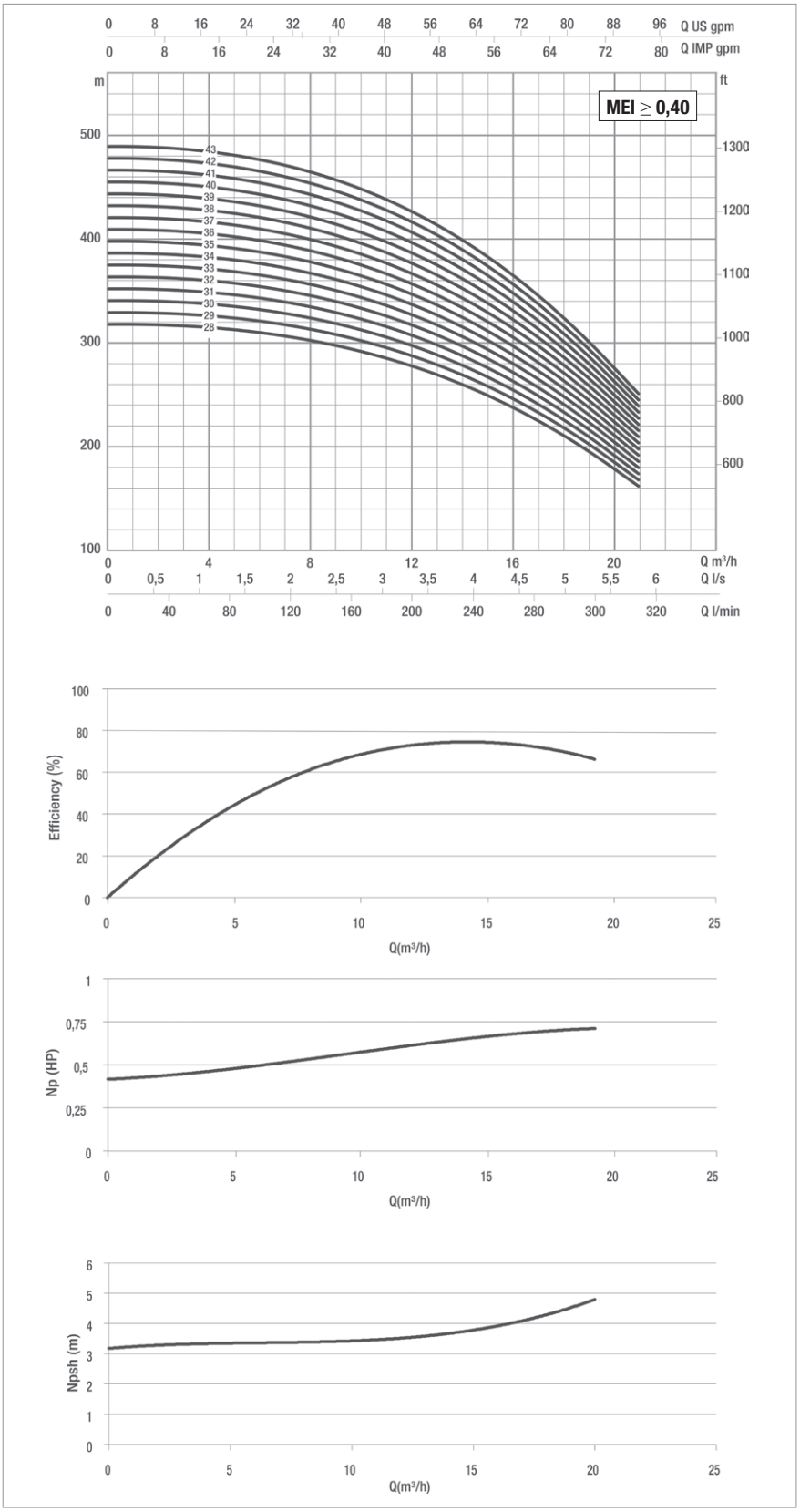
●	Allowed
○	Only PE2 + PA version

SS6B

SUBMERSIBLE ELECTRIC PUMPS 6”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





For hydraulic efficiency see pag. 233

SS6B

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	6	8	10	12	14	15	16	18	20	
	kW	HP	Q=l/min	0	100	133,3	166,6	200	233,3	250	266,6	300	333,3	
SS6B 44	26,5	35	H (mt)	497	487	477	461	439	410	393	374	332	284	6”
SS6B 45	26,5	35		508	498	488	471	449	419	402	383	340	291	6”
SS6B 46	26,5	35		519	509	498	482	459	429	411	391	347	297	6”
SS6B 47	26,5	35		531	520	509	492	469	438	420	400	355	304	6”
SS6B 48	26,5	35		542	531	520	503	479	447	429	408	362	310	6”
SS6B 49	30	40		553	542	531	513	489	457	438	417	370	317	6”
SS6B 50	30	40		564	553	542	524	499	466	447	425	378	323	6”
SS6B 51	30	40		576	564	553	534	509	475	456	434	385	330	6”
SS6B 52	30	40		587	575	563	545	519	485	464	442	393	336	6”
SS6B 53	30	40		598	586	574	555	529	494	473	451	400	343	6”
SS6B 54	30	40		610	597	585	566	539	503	482	459	408	349	6”
SS6B 55	30	40		621	609	596	576	549	512	491	468	415	356	6”
SS6B 56	30	40		632	620	607	587	559	522	500	476	423	362	6”
SS6B 57	37	50		643	631	618	597	569	531	509	485	430	369	6”
SS6B 58	37	50		655	642	628	608	578	540	518	493	438	375	6”
SS6B 59	37	50		666	653	639	618	588	550	527	502	446	381	6”
SS6B 60	37	50		677	664	650	629	598	559	536	510	453	388	6”

SS6B

SUBMERSIBLE ELECTRIC PUMPS 6”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS6B 44	6GF	30	40	61,5	●	●	4231	1050	3181	141	167	186,8
	TR6	26	35	58	O	●	4338	1157	3181	144	167	205
SS6B 45	6GF	30	40	61,5	●	●	4292	1050	3242	141	167	188,8
	TR6	26	35	58	O	●	4399	1157	3242	144	167	207
SS6B 46	6GF	30	40	61,5	●	●	4352	1050	3302	141	167	189,8
	TR6	26	35	58	O	●	4459	1157	3302	144	167	208
SS6B 47	6GF	30	40	61,5	●	●	4413	1050	3363	141	167	191,8
	TR6	26	35	58	O	●	4520	1157	3363	144	167	210
SS6B 48	6GF	30	40	61,5	●	●	4473	1050	3423	141	167	193,8
	TR6	26	35	58	O	●	4580	1157	3423	144	167	212
SS6B 49	6GF	30	40	61,5	●	●	4534	1050	3484	141	167	195,8
	TR6	30	40	65	O	●	4696	1212	3484	144	167	219
SS6B 50	6GF	30	40	61,5	●	●	4594	1050	3544	141	167	197,8
	TR6	30	40	65	O	●	4756	1212	3544	144	167	221
SS6B 51	6GF	30	40	61,5	●	●	4655	1050	3605	141	167	198,8
	TR6	30	40	65	O	●	4817	1212	3605	144	167	222
SS6B 52	6GF	30	40	61,5	●	●	4715	1050	3665	141	167	200,8
	TR6	30	40	65	O	●	4877	1212	3665	144	167	224
SS6B 53	6GF	30	40	61,5	●	●	4776	1050	3726	141	167	202,8
	TR6	30	40	65	O	●	4938	1212	3726	144	167	226
SS6B 54	6GF	30	40	61,5	●	●	4836	1050	3786	141	167	204,8
	TR6	30	40	65	O	●	4998	1212	3786	144	167	228
SS6B 55	6GF	30	40	61,5	●	●	4897	1050	3847	141	167	206,8
	TR6	30	40	65	O	●	5059	1212	3847	144	167	230
SS6B 56	6GF	30	40	61,5	●	●	4957	1050	3907	141	167	207,8
	TR6	30	40	65	O	●	5119	1212	3907	144	167	231
SS6B 57	6GF	37	50	79,3	●	●	5148	1180	3968	141	167	221,8
	TR6	37	50	80	O	●	5280	1312	3968	144	167	243
SS6B 58	6GF	37	50	79,3	●	●	5208	1180	4028	141	167	223,8
	TR6	37	50	80	O	●	5340	1312	4028	144	167	245
SS6B 59	6GF	37	50	79,3	●	●	5269	1180	4089	141	167	225,8
	TR6	37	50	80	O	●	5401	1312	4089	144	167	247
SS6B 60	6GF	37	50	79,3	●	●	5329	1180	4149	141	167	227,8
	TR6	37	50	80	O	●	5466	1317	4149	144	167	249

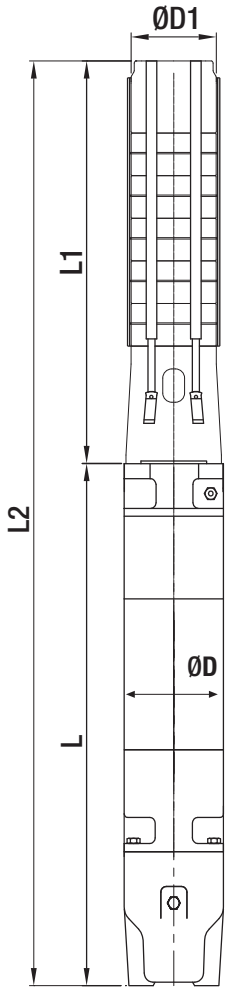
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR: 6“ rewindable submersible motors.

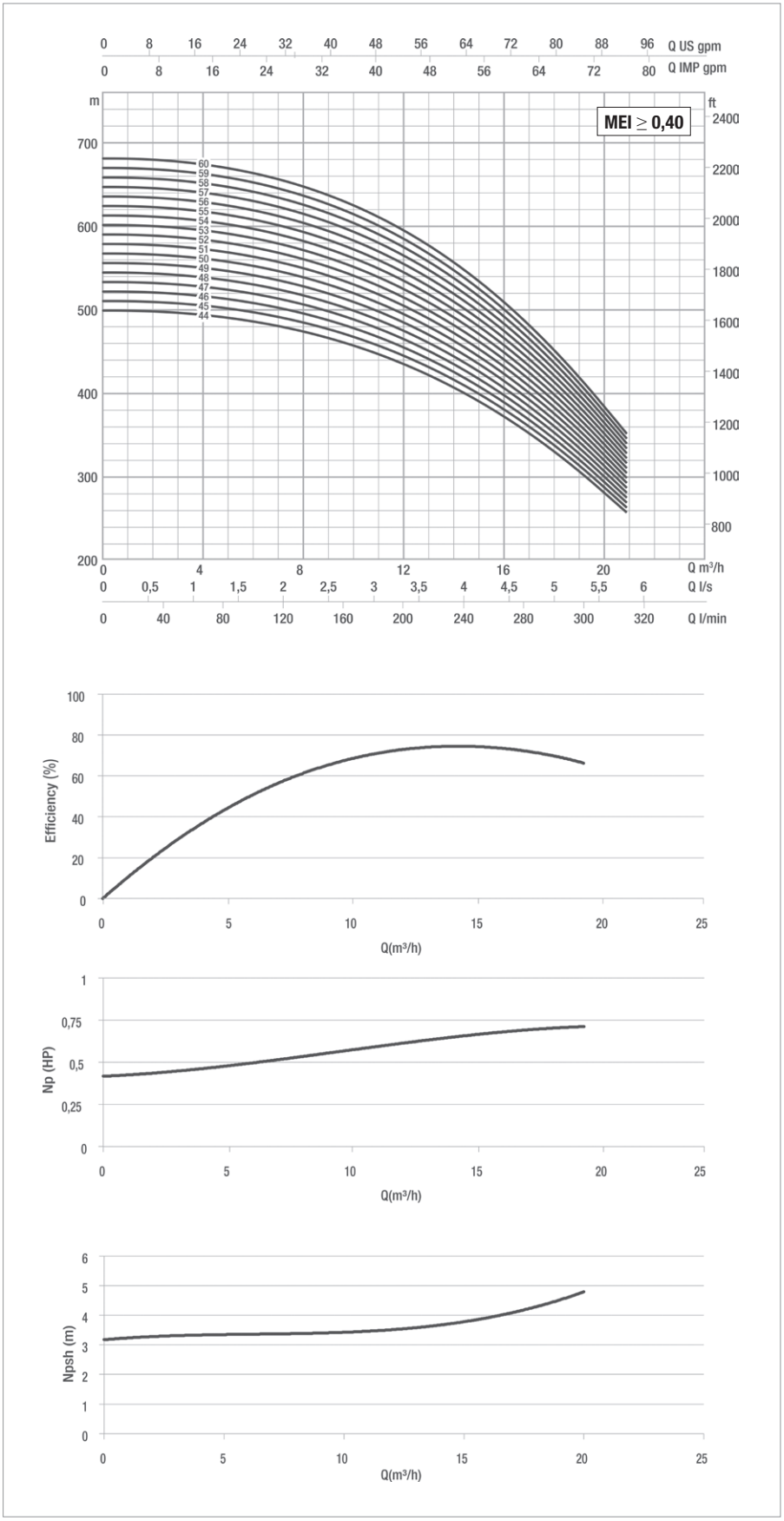
●	Allowed
O	Only PE2 + PA version

SS6B

SUBMERSIBLE ELECTRIC PUMPS 6”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





For hydraulic efficiency see pag. 233

SS6C

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	6	10	14	18	22	26	30	34	38	
	kW	HP	Q=l/min	0	100	166,6	233,3	300	366,6	433,3	500	566,6	633,3	
SS6C 01	1,1	1,5	H (mt)	12	11	11	11	10	9	8	7	6	5	4”
SS6C 02	2,2	3		12	11	11	11	10	9	8	7	6	5	4”
SS6C 03	3	4		35	34	33	32	30	28	25	22	19	15	4”
SS6C 04	4	5,5		47	46	44	43	40	37	34	30	25	20	6”
SS6C 05	5,5	7,5		59	57	55	53	50	47	42	37	32	25	6”
SS6C 06	5,5	7,5		70	69	67	64	60	56	51	45	38	30	6”
SS6C 07	7,5	10		82	80	78	74	70	65	59	52	44	35	6”
SS6C 08	7,5	10		94	92	89	85	80	75	68	60	51	40	6”
SS6C 09	9,2	12,5		105	103	100	96	90	84	76	67	57	45	6”
SS6C 10	9,2	12,5		117	114	111	106	100	93	85	75	63	50	6”
SS6C 11	9,2	12,5		129	126	122	117	110	103	93	82	70	55	6”
SS6C 12	11	15		141	137	133	128	120	112	102	90	76	60	6”
SS6C 13	11	15		152	149	144	138	131	121	110	97	82	65	6”
SS6C 14	15	20		164	160	155	149	141	131	119	105	89	70	6”
SS6C 15	15	20		176	172	166	159	151	140	127	112	95	75	6”
SS6C 16	15	20		187	183	178	170	161	149	136	120	101	80	6”
SS6C 17	15	20		199	195	189	181	171	159	144	127	108	85	6”
SS6C 18	18,5	25		211	206	200	191	181	168	153	135	114	90	6”
SS6C 19	18,5	25		223	217	211	202	191	177	161	142	121	95	6”
SS6C 20	18,5	25		234	229	222	213	201	186	170	150	127	100	6”

SS6C

SUBMERSIBLE ELECTRIC PUMPS 6”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS6C 01	4GG	1,1	1,5	3,4	●	●	650	286	364	98	132	15,1
	4OL	1,1	1,5	3,6	●	●	650	334	364	98	132	15,1
SS6C 02	4GG	2,2	3	5,9	●	●	852	393	459	98	132	22,2
	4OL	2,2	3	6,1	●	●	852	458	459	98	132	22,2
SS6C 03	4GG	3	4	8,3	●	●	1098	544	554	98	132	30,9
	4OL	3	4	7,5	●	●	1098	518	554	98	132	30,9
SS6C 04	6GF	4	5,5	10,6	●	●	1249	600	649	141	132	52,4
SS6C 05	6GF	5,5	7,5	14	●	●	1375	631	744	141	132	57,6
	TR6	5,5	7,5	13	○	●	1551	807	744	144	132	65
SS6C 06	6GF	5,5	7,5	14	●	●	1470	631	839	141	132	59,6
	TR6	5,5	7,5	13	○	●	1646	807	839	144	132	67
SS6C 07	6GF	7,5	10	18	●	●	1594	660	934	141	132	64,2
	TR6	7,5	10	18	○	●	1771	837	934	144	132	72
SS6C 08	6GF	7,5	10	18	●	●	1689	660	1029	141	132	66,2
	TR6	7,5	10	18	○	●	1866	837	1029	144	132	74
SS6C 09	6GF	9,2	12,5	22	●	●	1809	685	1124	141	132	71,6
	TR6	9,2	12,5	21	○	●	1991	867	1124	144	132	78
SS6C 10	6GF	9,2	12,5	22	●	●	1904	685	1219	141	132	73,6
	TR6	9,2	12,5	21	○	●	2086	867	1219	144	132	80
SS6C 11	6GF	9,2	12,5	22	●	●	1999	685	1314	141	132	75,6
	TR6	9,2	12,5	21	○	●	2181	867	1314	144	132	82
SS6C 12	6GF	11	15	25,5	●	●	2139	730	1409	141	132	82
	TR6	11	15	25	○	●	2306	897	1409	144	132	89
SS6C 13	6GF	11	15	25,5	●	●	2234	730	1504	141	132	84
	TR6	11	15	25	○	●	2401	897	1504	144	132	91
SS6C 14	6GF	15	20	33,4	●	●	2384	785	1599	141	132	92
	TR6	13	17,5	29	○	●	2526	927	1599	144	132	98
SS6C 15	6GF	15	20	33,4	●	●	2479	785	1694	141	132	95
	TR6	13	17,5	29	○	●	2621	927	1694	144	132	101
SS6C 16	6GF	15	20	33,4	●	●	2574	785	1789	141	132	97
	TR6	15	20	32	○	●	2786	997	1789	144	132	115
SS6C 17	6GF	15	20	33,4	●	●	2669	785	1884	141	132	99
	TR6	15	20	32	○	●	2881	997	1884	144	132	117
SS6C 18	6GF	18,5	25	41	●	●	2839	860	1979	141	132	109
	TR6	18,5	25	39	○	●	3036	1057	1979	144	132	125
SS6C 19	6GF	18,5	25	41	●	●	2934	860	2074	141	132	111
	TR6	18,5	25	39	○	●	3131	1057	2074	144	132	127
SS6C 20	6GF	18,5	25	41	●	●	3029	860	2169	141	132	113
	TR6	18,5	25	39	○	●	3226	1057	2169	144	132	129

*** MOTORE 4GG:** 4“ canned submersible motors.
MOTORE 4OL: 4“ oil filled motor

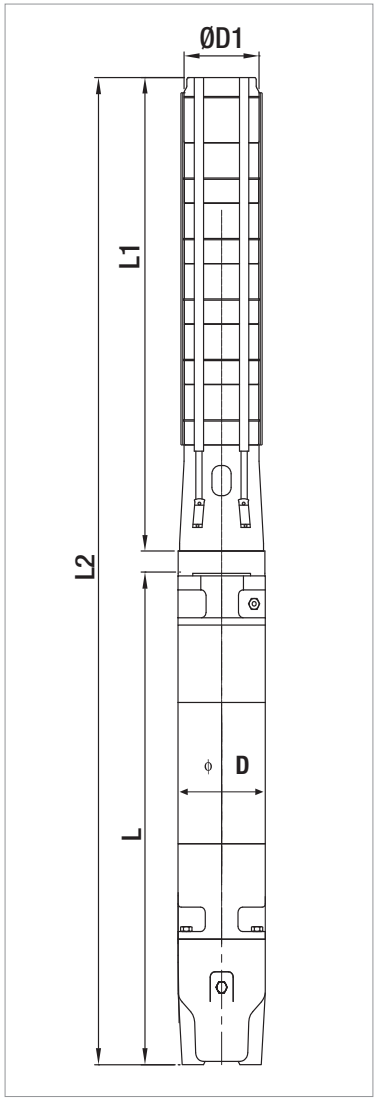
Motor 6GF: 6“ canned submersible motors.
Motor TR6: 6“ rewindable submersible motors.

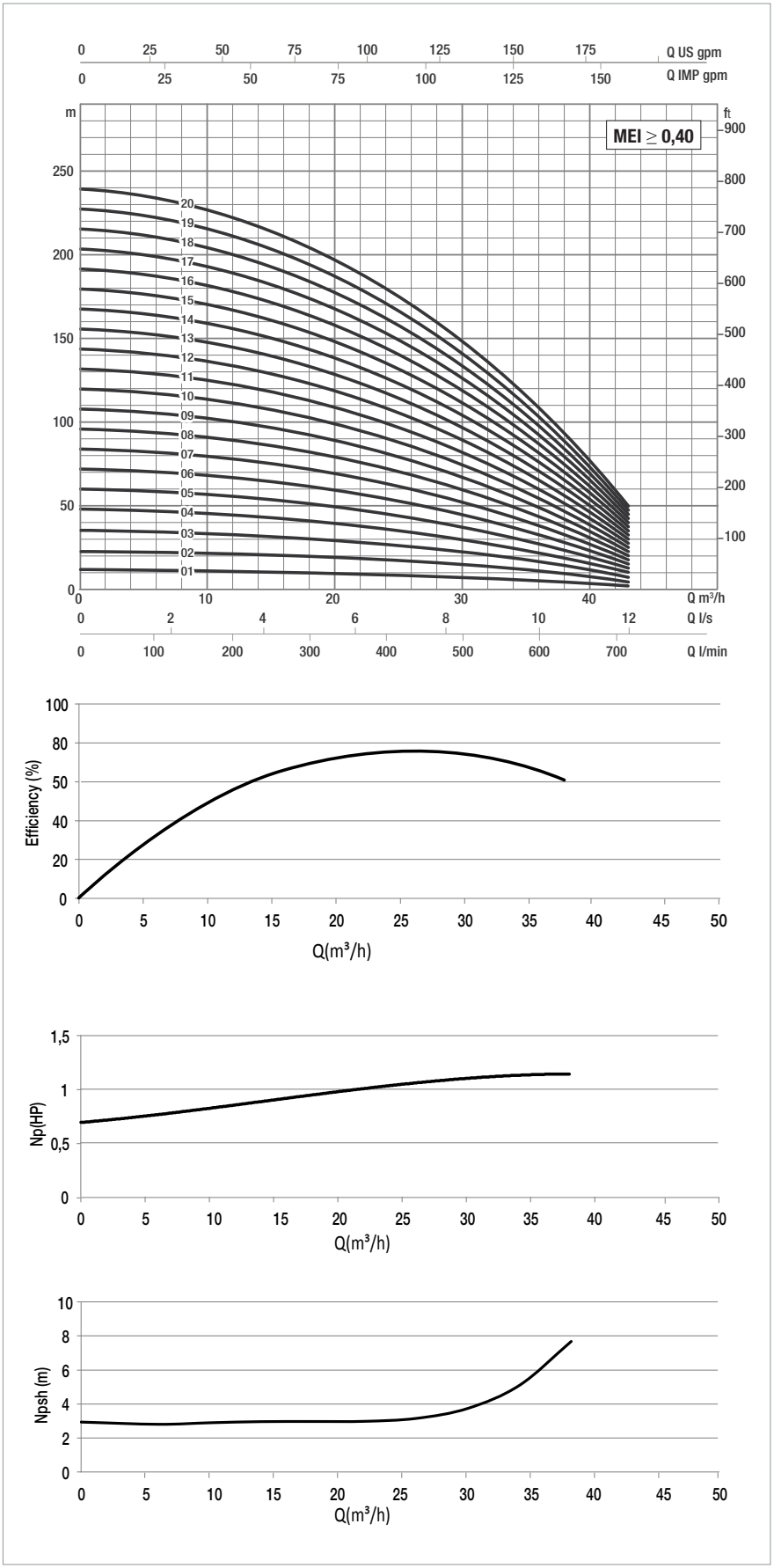
●	Allowed
○	Only PE2 + PA version

SS6C

SUBMERSIBLE ELECTRIC PUMPS 6”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





For hydraulic efficiency see pag. 233

SS6C

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	6	10	14	18	22	26	30	34	38	
	kW	HP	Q=l/min	0	100	166,6	233,3	300	366,6	433,3	500	566,6	633,3	
SS6C 21	18,5	25		246	240	233	223	211	196	178	157	133	105	6”
SS6C 22	22	30		258	252	244	234	221	205	187	165	140	110	6”
SS6C 23	22	30		269	263	255	244	231	214	195	172	146	115	6”
SS6C 24	22	30		281	275	266	255	241	224	203	180	152	120	6”
SS6C 25	22	30		293	286	277	266	251	233	212	187	159	125	6”
SS6C 26	22	30		305	298	289	276	261	242	220	195	165	130	6”
SS6C 27	26	35		316	309	300	287	271	252	229	202	171	136	6”
SS6C 28	26	35		328	320	311	298	281	261	237	210	178	141	6”
SS6C 29	26	35	H (mt)	340	332	322	308	291	270	246	217	184	146	6”
SS6C 30	26	35		351	343	333	319	301	280	254	225	190	151	6”
SS6C 31	30	40		363	355	344	330	311	289	263	232	197	156	6”
SS6C 32	30	40		375	366	355	340	321	298	271	240	203	161	6”
SS6C 33	30	40		387	378	366	351	331	308	280	247	209	166	6”
SS6C 34	30	40		398	389	377	361	341	317	288	255	216	171	6”
SS6C 35	30	40		410	401	388	372	351	326	297	262	222	176	6”
SS6C 36	30	40		422	412	400	383	361	336	305	270	228	181	6”
SS6C 37	37	50		433	423	411	393	371	345	314	277	235	186	6”

SS6C

SUBMERSIBLE ELECTRIC PUMPS 6”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS6C 21	6GF	18,5	25	41	●	●	3124	860	2264	141	132	115
	TR6	18,5	25	39	O	●	3321	1057	2264	144	132	131
SS6C 22	6GF	22	30	47	●	●	3279	920	2359	141	132	120,6
	TR6	22	30	49	O	●	3446	1087	2359	144	132	145
SS6C 23	6GF	22	30	47	●	●	3374	920	2454	141	132	122,6
	TR6	22	30	49	O	●	3541	1087	2454	144	132	147
SS6C 24	6GF	22	30	47	●	●	3469	920	2549	141	132	124,6
	TR6	22	30	49	O	●	3636	1087	2549	144	132	149
SS6C 25	6GF	22	30	47	●	●	3564	920	2644	141	132	126,6
	TR6	22	30	49	O	●	3731	1087	2644	144	132	151
SS6C 26	6GF	22	30	47	●	●	3659	920	2739	141	132	128,6
	TR6	22	30	49	O	●	3826	1087	2739	144	132	153
SS6C 27	6GF	30	40	61,5	●	●	3884	1050	2834	141	132	146,8
	TR6	26	35	58	O	●	3991	1157	2834	144	132	165
SS6C 28	6GF	30	40	61,5	●	●	3979	1050	2929	141	132	149,8
	TR6	26	35	58	O	●	4086	1157	2929	144	132	168
SS6C 29	6GF	30	40	61,5	●	●	4074	1050	3024	141	132	151,8
	TR6	26	35	58	O	●	4181	1157	3024	144	132	170
SS6C 30	6GF	30	40	61,5	●	●	4169	1050	3119	141	132	153,8
	TR6	26	35	58	O	●	4276	1157	3119	144	132	172
SS6C 31	6GF	30	40	61,5	●	●	4264	1050	3214	141	132	155,8
	TR6	30	40	65	O	●	4426	1212	3214	144	132	179
SS6C 32	6GF	30	40	61,5	●	●	4359	1050	3309	141	132	157,8
	TR6	30	40	65	O	●	4521	1212	3309	144	132	181
SS6C 33	6GF	30	40	61,5	●	●	4454	1050	3404	141	132	159,8
	TR6	30	40	65	O	●	4616	1212	3404	144	132	183
SS6C34	6GF	30	40	61,5	●	●	4549	1050	3499	141	132	161,8
	TR6	30	40	65	O	●	4711	1212	3499	144	132	185
SS6C 35	6GF	30	40	61,5	●	●	4644	1050	3594	141	132	163,8
	TR6	30	40	65	O	●	4806	1212	3594	144	132	187
SS6C 36	6GF	30	40	61,5	●	●	4739	1050	3689	141	132	165,8
	TR6	30	40	65	O	●	4901	1212	3689	144	132	189
SS6C 37	6GF	37	50	79,3	●	●	4964	1180	3784	141	132	179,8
	TR6	37	50	80	O	●	5096	1312	3784	144	132	201

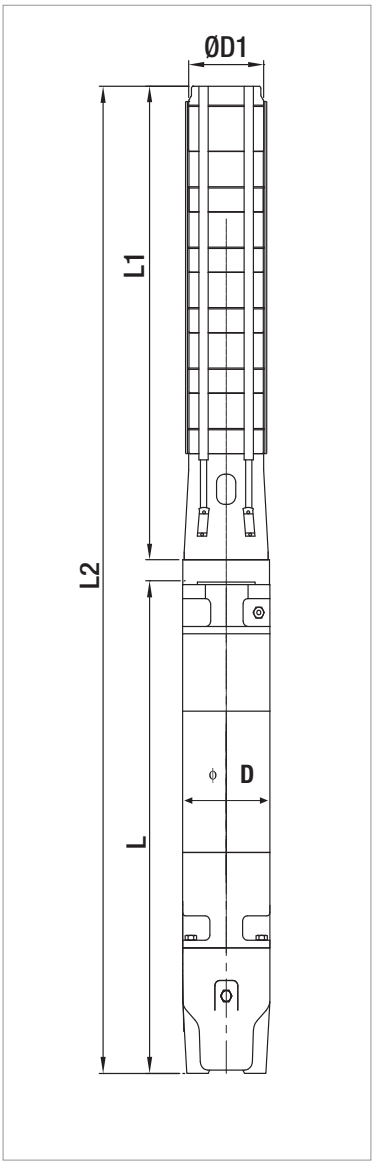
***Motor 6GF:** 6“ canned submersible motors
Motor TR:6“ rewindable submersible motors

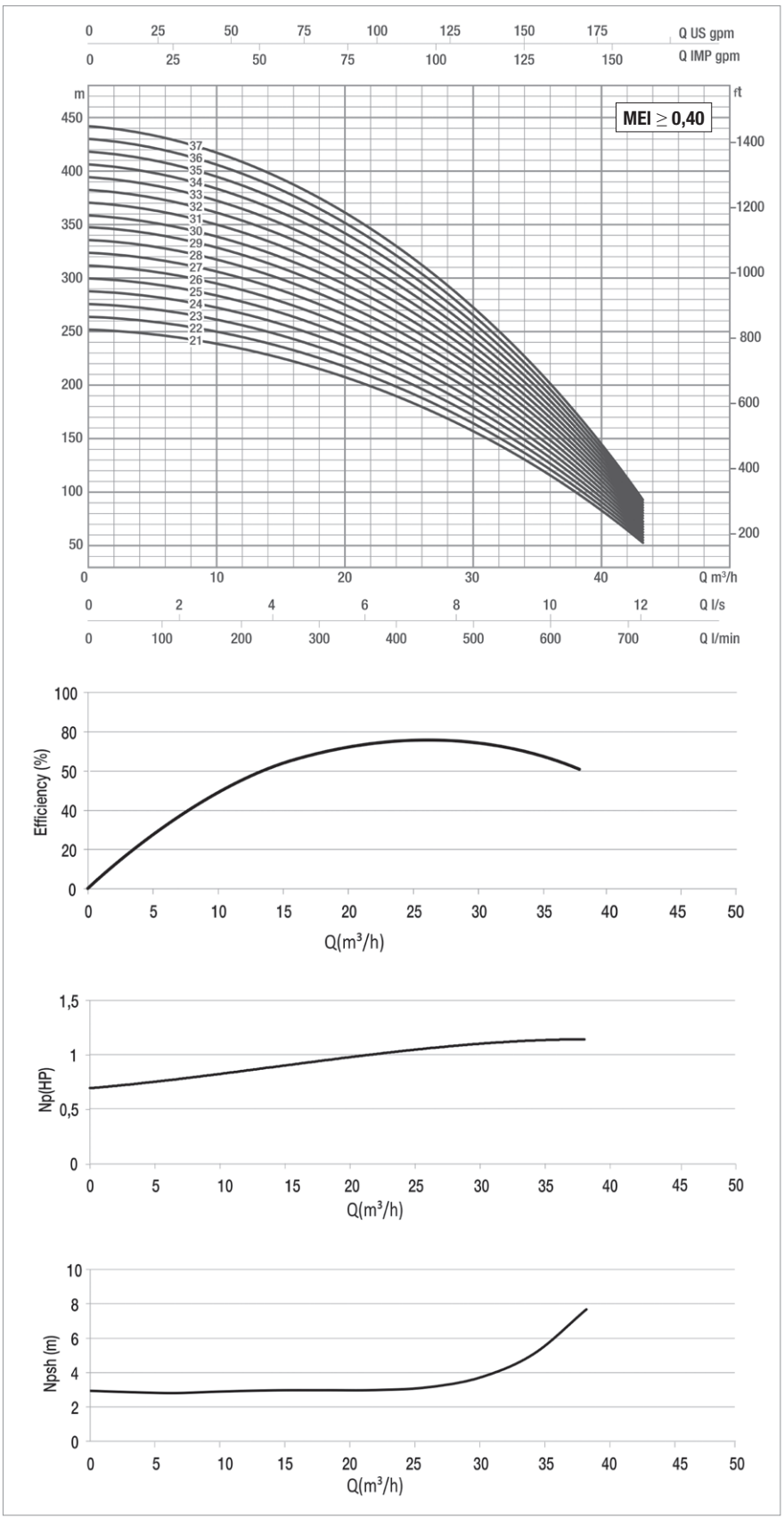
●	Allowed
O	Only PE2 + PA version

SS6C

SUBMERSIBLE ELECTRIC PUMPS 6”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





For hydraulic efficiency see pag. 233

SS6C

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	6	10	14	18	22	26	30	34	38	
	kW	HP	Q=l/min	0	100	166,6	233,3	300	366,6	433,3	500	566,6	633,3	
SS6C 38	37	50		445	435	422	404	381	354	322	285	241	191	6"
SS6C 39	37	50		457	446	433	415	392	364	331	292	247	196	6"
SS6C 40	37	50		469	458	444	425	402	373	339	300	254	201	6"
SS6C 41	37	50		480	469	455	436	412	382	348	307	260	206	6"
SS6C 42	37	50		492	481	466	446	422	392	356	315	266	211	6"
SS6C 43	45	60		504	492	477	457	432	401	365	322	273	216	8"
SS6C 44	45	60		515	504	488	468	442	410	373	330	279	221	8"
SS6C 45	45	60		527	515	499	478	452	420	381	337	285	226	8"
SS6C 46	45	60	H (mt)	539	526	511	489	462	429	390	344	292	231	8"
SS6C 47	45	60		551	538	522	500	472	438	398	352	298	236	8"
SS6C 48	45	60		562	549	533	510	482	448	407	359	304	241	8"
SS6C 49	45	60		574	561	544	521	492	457	415	367	311	246	8"
SS6C 50	45	60		586	572	555	532	502	466	424	374	317	251	8"
SS6C 51	45	60		597	584	566	542	512	476	432	382	323	256	8"
SS6C 52	55	75		609	595	577	553	522	485	441	389	330	261	8"
SS6C 53	55	75		621	607	588	563	532	494	449	397	336	266	8"
SS6C 54	55	75		633	618	599	574	542	503	458	404	342	271	8"

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS6C 38	6GF	37	50	79,3	●	●	5059	1180	3879	141	132	203
	TR6	37	50	80	O	●	5191	1312	3879	144	132	222,8
SS6C 39	6GF	37	50	79,3	●	●	5404	1180	4224	141	167	244
	TR6	37	50	80	O	●	5536	1312	4224	144	167	224,8
SS6C 40	6GF	37	50	79,3	●	●	5499	1180	4319	141	167	246
	TR6	37	50	80	O	●	5631	1312	4319	144	167	227,8
SS6C 41	6GF	37	50	79,3	●	●	5594	1180	4414	141	167	249
	TR6	37	50	80	O	●	5726	1312	4414	144	167	230,8
SS6C 42	6GF	37	50	79,9	●	●	5689	1180	4509	141	167	252
	TR6	37	50	80	O	●	5821	1312	4509	144	167	311
SS6C 43	TR8	45	60	92	O	●	5874	1270	4604	141	167	314
SS6C 44	TR8	45	60	92	O	●	5969	1270	4699	141	167	316
SS6C 45	TR8	45	60	92	O	●	6064	1270	4794	141	167	319
SS6C 46	TR8	45	60	92	O	●	6159	1270	4889	141	167	322
SS6C 47	TR8	45	60	92	O	●	6254	1270	4984	141	167	324
SS6C 48	TR8	45	60	92	O	●	6349	1270	5079	141	167	327
SS6C 49	TR8	45	60	92	O	●	6444	1270	5174	141	167	329
SS6C 50	TR8	45	60	92	O	●	6539	1270	5269	141	167	332
SS6C 51	TR8	45	60	92	O	●	6634	1270	5364	141	167	350
SS6C 52	TR8	55	75	109	O	●	6809	1350	5459	141	167	352
SS6C 53	TR8	55	75	109	O	●	6904	1350	5554	141	167	355
SS6C 54	TR8	55	75	109	O	●	6999	1350	5649	141	167	355

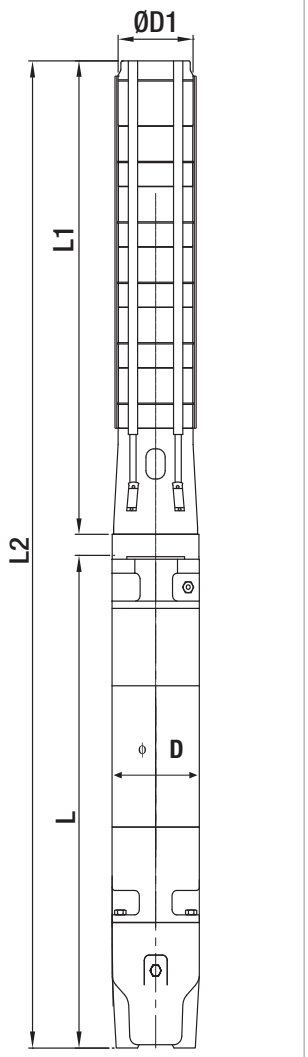
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR: 6“ 8“ rewindable submersible motors.

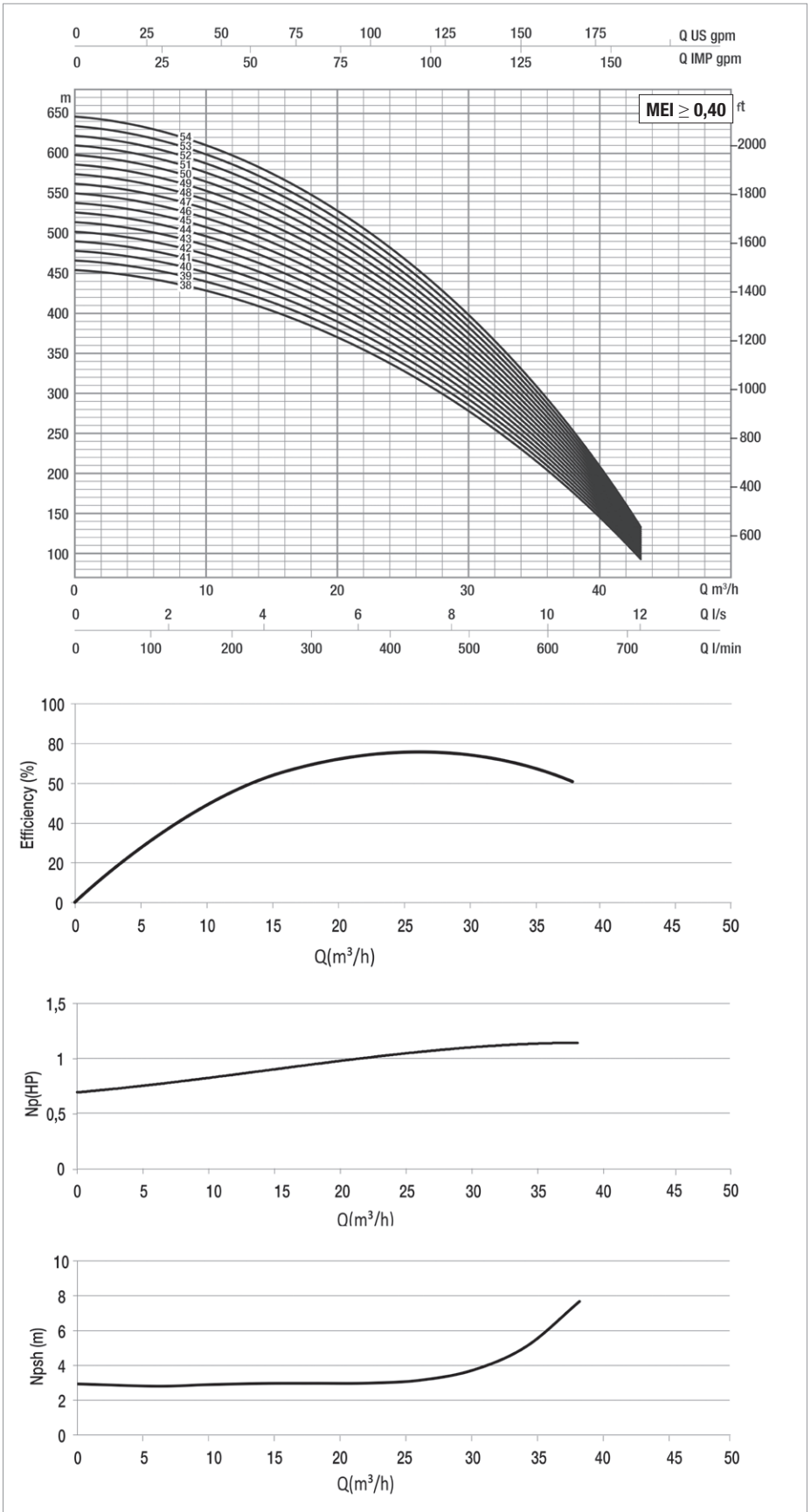
●	Allowed
O	Only PE2 + PA version

SS6C

SUBMERSIBLE ELECTRIC PUMPS 6”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





For hydraulic efficiency see pag. 233

SS6D

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	20	25	30	35	40	45	50	55	60	
	kW	HP	Q=l/min	0	333,3	416,6	500	583,3	666,6	750	833,3	916,6	1000	
SS6D 01	2,2	3		14	13	12	11	10	10	9	8	7	5	4"
SS6D 02	4	5,5		28	25	24	22	21	19	18	16	14	10	4"
SS6D 03	5,5	7,5		42	38	36	33	31	29	26	24	20	16	6"
SS6D 04	7,5	10		56	50	47	44	41	38	35	32	27	21	6"
SS6D 05	7,5	10		70	63	59	56	52	48	44	39	34	26	6"
SS6D 06	9,3	12,5		84	75	71	67	62	57	53	47	41	31	6"
SS6D 07	11	15		98	88	83	78	72	67	61	55	47	36	6"
SS6D 08	13	17,5		112	101	95	89	83	77	70	63	54	42	6"
SS6D 09	15	20		126	113	107	100	93	86	79	71	61	47	6"
SS6D 10	18,5	25	H (mt)	140	126	119	111	103	96	88	79	68	52	6"
SS6D 11	18,5	25		154	138	130	122	114	105	97	87	74	57	6"
SS6D 12	22	30		168	151	142	133	124	115	105	95	81	62	6"
SS6D 13	22	30		182	163	154	144	134	125	114	102	88	68	6"
SS6D 14	22	30		196	176	166	155	145	134	123	110	95	73	6"
SS6D 15	26,5	35		210	188	178	167	155	144	132	118	101	78	6"
SS6D 16	26,5	35		224	201	190	178	165	153	141	126	108	83	6"
SS6D 17	30	40		238	214	202	189	176	163	149	134	115	88	6"
SS6D 18	30	40		252	226	213	200	186	172	158	142	122	93	6"
SS6D 19	37	50		266	239	225	211	197	182	167	150	128	99	6"

SS6D

SUBMERSIBLE ELECTRIC PUMPS 6”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS6D 01	4GG	2,2	3	5,9	●	●	775	393	382	98	144	20,2
	4OL	2,2	3	6,1	●	●	775	458	382	98	144	20,2
SS6D 02	6GF	4	5,5	10,6	●	●	1094	600	494	98	144	49,4
SS6D 03	6GF	5,5	7,5	14	●	●	1237	631	606	141	144	54,6
	TR6	5,5	7,5	13	○	●	1413	807	606	144	144	62
SS6D 04	6GF	7,5	10	18	●	●	1378	660	718	141	144	60,2
	TR6	7,5	10	18	○	●	1555	837	718	144	144	68
SS6D 05	6GF	7,5	10	18	●	●	1490	660	830	141	144	63,2
	TR6	7,5	10	18	○	●	1667	837	830	144	144	71
SS6D 06	6GF	9,2	12,5	22	●	●	1627	685	942	141	144	68,6
	TR6	9,2	12,5	21	○	●	1809	867	942	144	144	75
SS6D 07	6GF	11	15	25,5	●	●	1784	730	1054	141	144	76
	TR6	11	15	25	○	●	1951	897	1054	144	144	83
SS6D 08	6GF	15	20	33,4	●	●	1951	785	1166	141	144	85
	TR6	13	17,5	29	○	●	2093	927	1166	144	144	91
SS6D 09	6GF	15	20	33,4	●	●	2063	785	1278	141	144	87
	TR6	15	20	32	○	●	2275	997	1278	144	144	105
SS6D 10	6GF	18,5	25	41	●	●	2250	860	1390	141	144	98
	TR6	18,5	25	39	○	●	2447	1057	1390	144	144	114
SS6D 11	6GF	18,5	25	41	●	●	2362	860	1502	141	144	101
	TR6	18,5	25	39	○	●	2559	1057	1502	144	144	117
SS6D 12	6GF	22	30	47	●	●	2534	920	1614	141	144	106,6
	TR6	22	30	49	○	●	2701	1087	1614	144	144	131
SS6D 13	6GF	22	30	47	●	●	2646	920	1726	141	144	109,6
	TR6	22	30	49	○	●	2813	1087	1726	144	144	134
SS6D 14	6GF	22	30	47	●	●	2758	920	1838	141	144	112,6
	TR6	22	30	49	○	●	2925	1087	1838	144	144	137
SS6D 15	6GF	30	40	61,5	●	●	3000	1050	1950	141	144	130,8
	TR6	26	35	58	○	●	3107	1157	1950	144	144	149
SS6D 16	6GF	30	40	61,5	●	●	3112	1050	2062	141	144	133,8
	TR6	26	35	58	○	●	3219	1157	2062	144	144	152
SS6D 17	6GF	30	40	61,5	●	●	3224	1050	2174	141	144	135,8
	TR6	30	40	65	○	●	3386	1212	2174	144	144	159
SS6D 18	6GF	30	40	61,5	●	●	3336	1050	2286	141	144	138,8
	TR6	30	40	65	○	●	3498	1212	2286	144	144	162
SS6D 19	6GF	37	50	79,3	○	●	3578	1180	2398	141	144	153,8
	TR6	37	50	80	●	●	3710	1312	2398	144	144	175

*** MOTORE 4GG:** 4“ canned submersible motors.
MOTORE 4OL: 4“ oil filled motor

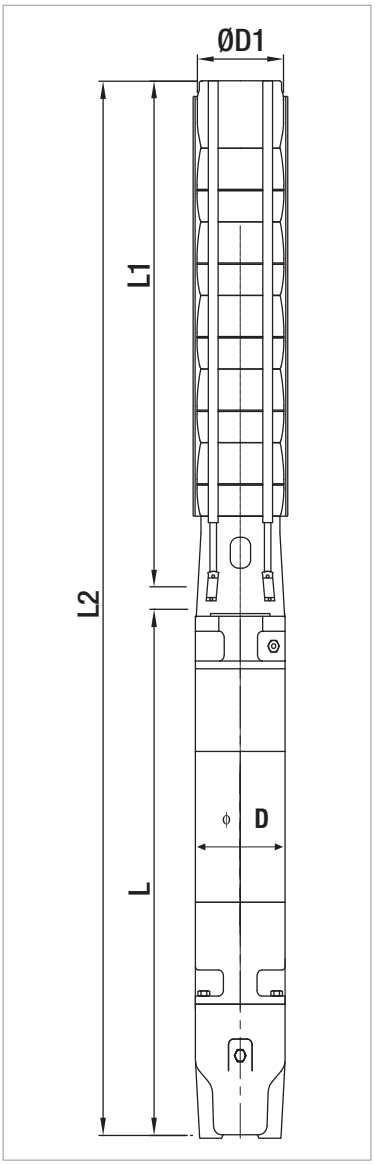
Motor 6GF: 6“ canned submersible motors.
Motor TR6: 6“ rewindable submersible motors.

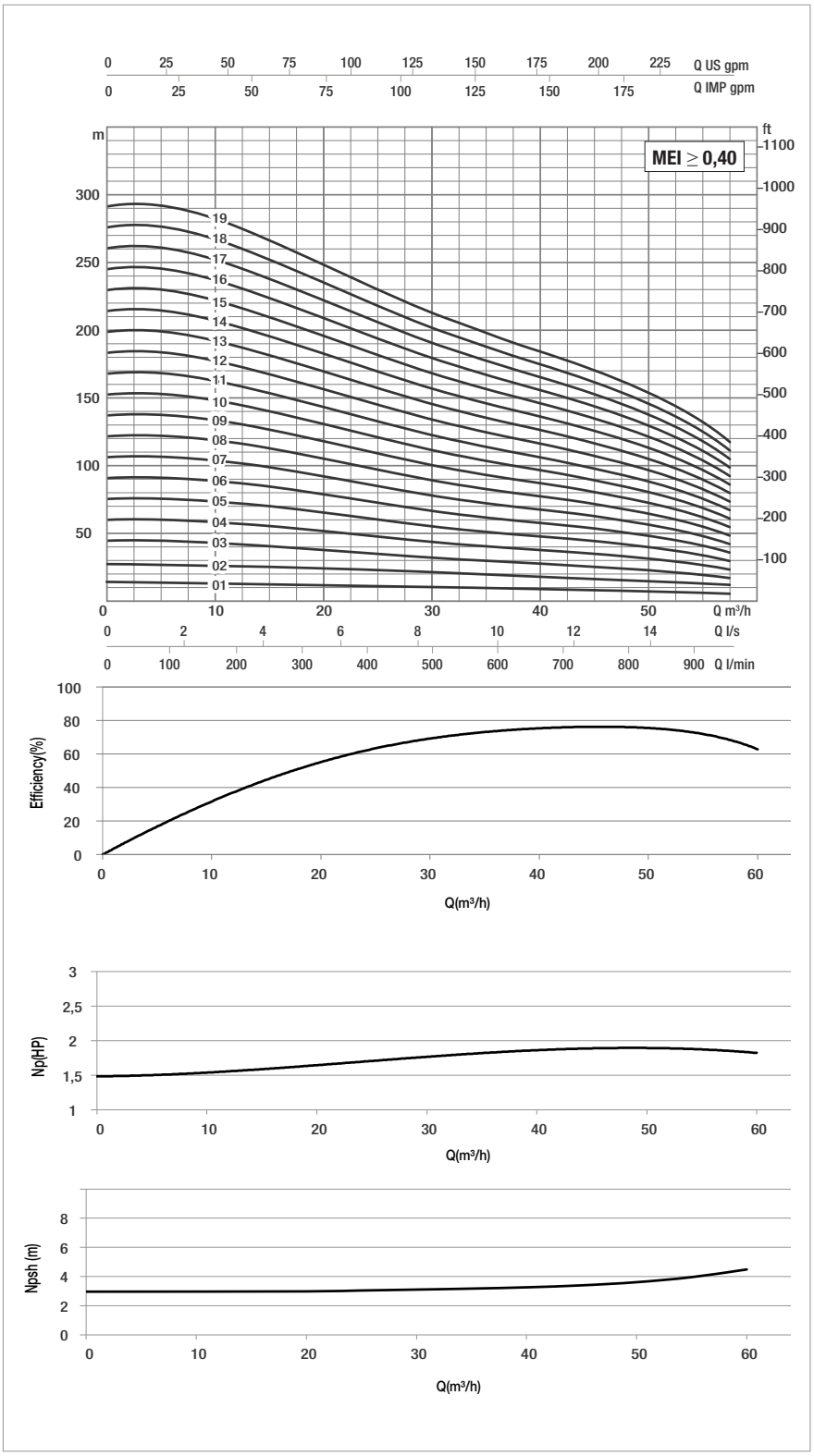
●	Allowed
○	Only PE2 + PA version

SS6D

SUBMERSIBLE ELECTRIC PUMPS 6”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





For hydraulic efficiency see pag. 233

SS6D

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	20	25	30	35	40	45	50	55	60	
	kW	HP	Q=l/min	0	333,3	416,6	500	583,3	666,6	750	833,3	916,6	1000	
SS6D 20	37	50	H (mt)	280	251	237	222	207	192	176	158	135	104	6”
SS6D 21	37	50		294	264	249	233	217	201	184	166	142	109	6”
SS6D 22	37	50		308	276	261	244	228	211	193	173	149	114	6”
SS6D 23	37	50		322	289	273	255	238	220	202	181	155	119	6”
SS6D 24	45	60		336	302	285	267	248	230	211	189	162	125	8”
SS6D 25	45	60		350	314	296	278	259	239	220	197	169	130	8”
SS6D 26	45	60		364	327	308	289	269	249	228	205	176	135	8”
SS6D 27	45	60		378	339	320	300	279	259	237	213	182	140	8”
SS6D 28	45	60		392	352	332	311	290	268	246	221	189	145	8”
SS6D 29	45	60		406	364	344	322	300	278	255	229	196	151	8”
SS6D 30	45	60		420	377	356	333	310	287	264	237	203	156	8”
SS6D 31	55	75		434	390	368	344	321	297	272	244	209	161	8”
SS6D 32	55	75		448	402	379	355	331	307	281	252	216	166	8”
SS6D 33	55	75		462	415	391	366	341	316	290	260	223	171	8”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS6D 20	6GF	37	50	79,3	●	●	3690	1180	2510	141	144	155,8
	TR6	37	50	80	O	●	3822	1312	2510	144	144	177
SS6D 21	6GF	37	50	79,3	●	●	3802	1180	2622	141	144	158,8
	TR6	37	50	80	O	●	3934	1312	2622	144	144	180
SS6D 22	6GF	37	50	79,3	●	●	3914	1180	2734	141	144	161,8
	TR6	37	50	80	O	●	4046	1312	2734	144	144	183
SS6D 23	6GF	37	50	79,3	●	●	4026	1180	2846	141	144	163,8
	TR6	37	50	80	O	●	4158	1312	2846	144	144	185
SS6D 24	TR8	45	60	92	O	●	4228	1270	2958	192	144	245
SS6D 25	TR8	45	60	92	O	●	4340	1270	3070	192	144	248
SS6D 26	TR8	45	60	92	O	●	4452	1270	3182	192	144	250
SS6D 27	TR8	45	60	92	O	●	4564	1270	3294	192	144	253
SS6D 28	TR8	45	60	92	O	●	4676	1270	3406	192	144	256
SS6D 29	TR8	45	60	92	O	●	4788	1270	3518	192	144	258
SS6D 30	TR8	45	60	92	O	●	4900	1270	3630	192	144	261
SS6D 31	TR8	55	75	109	O	●	5092	1350	3742	192	144	278
SS6D 32	TR8	55	75	109	O	●	5204	1350	3854	192	144	281
SS6D 33	TR8	55	75	109	O	●	5316	1350	3966	192	144	284

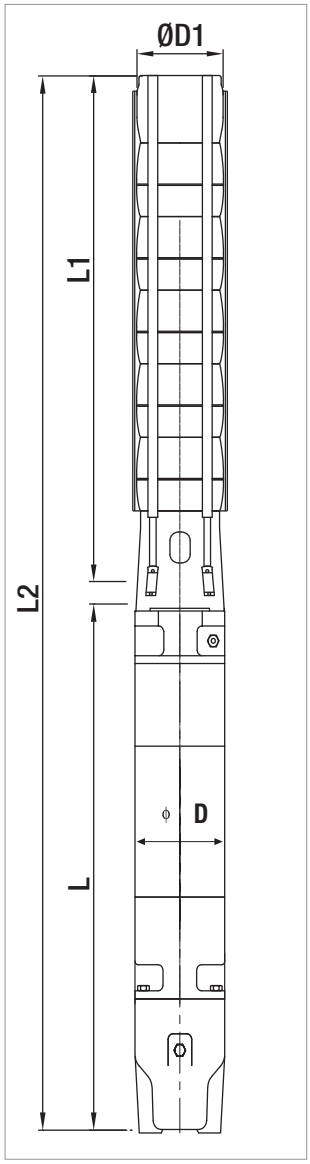
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR: 6“ 8“ rewindable submersible motors.

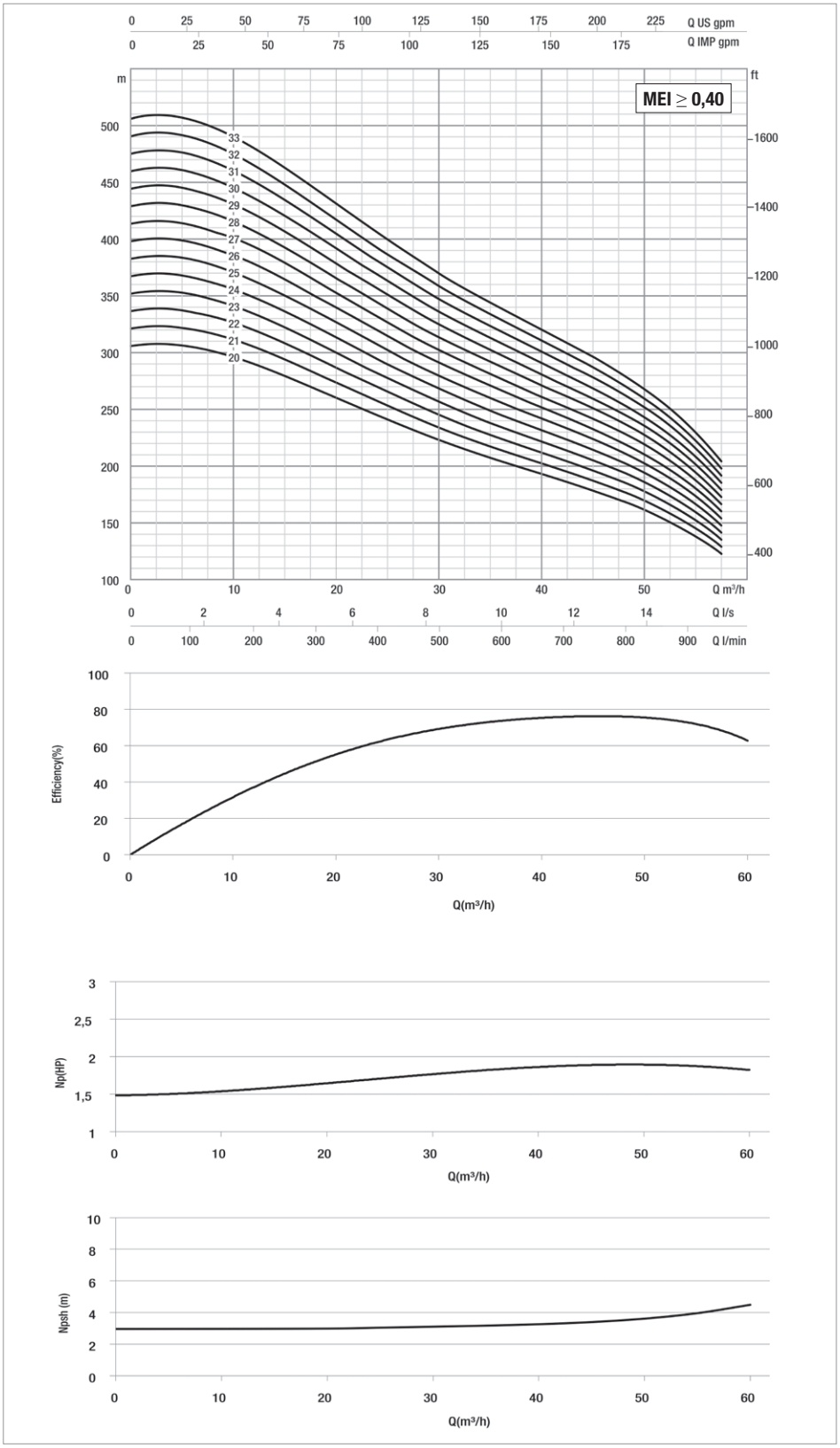
●	Allowed
O	Only PE2 + PA version

SS6D

SUBMERSIBLE ELECTRIC PUMPS 6”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





For hydraulic efficiency see pag. 233

SS6E

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	20	40	45	50	55	60	65	70	75	
	kW	HP	Q=l/min	0	333,3	666,6	750	833,3	916,6	1000	1083,3	1166,6	1250	
SS6E 01	2,2	3		15	13	10	10	9	9	8	8	7	6	4"
SS6E 02	4	5,5		30	26	21	20	19	18	17	15	14	11	6"
SS6E 03	5,5	7,5		45	38	31	30	28	27	25	23	20	17	6"
SS6E 04	7,5	10		60	51	42	40	38	36	33	31	27	23	6"
SS6E 05	9,2	12,5		75	64	52	50	47	45	42	38	34	28	6"
SS6E 06	11	15		90	77	62	59	57	54	50	46	41	34	6"
SS6E 07	13	17,5		105	90	73	69	66	63	59	54	48	40	6"
SS6E 08	15	20		120	103	83	79	75	71	67	61	54	45	6"
SS6E 09	18,5	25	H (mt)	135	115	94	89	85	80	75	69	61	51	6"
SS6E 10	18,5	25		150	128	104	99	94	89	84	77	68	56	6"
SS6E 11	22	30		165	141	115	109	104	98	92	85	75	62	6"
SS6E 12	22	30		180	154	125	119	113	107	100	92	82	68	6"
SS6E 13	26	35		195	167	135	129	123	116	109	100	88	73	6"
SS6E 14	26	35		210	180	146	139	132	125	117	108	95	79	6"
SS6E 15	30	40		225	192	156	149	141	134	126	115	102	85	6"
SS6E 16	30	40		240	205	167	159	151	143	134	123	109	90	6"
SS6E 17	30	40		255	218	177	169	160	152	142	131	116	96	6"

SS6E

SUBMERSIBLE ELECTRIC PUMPS 6”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS6E 01	4GG	2,2	3	5,9	●	●	775	393	382	98	144	20,2
	4OL	2,2	3	6,1	●	●	775	458	382	98	144	20,2
SS6E 02	6GF	4	5,5	10,6	●	●	1094	600	494	141	144	49,4
SS6E 03	6GF	5,5	7,5	14	●	●	1237	631	606	141	144	54,6
	TR6	5,5	7,5	13	O	●	1413	807	606	144	144	62
SS6E 04	6GF	7,5	10	18	●	●	1378	660	718	141	144	60,2
	TR6	7,5	10	18	O	●	1555	837	718	144	144	68
SS6E 05	6GF	9,2	12,5	22	●	●	1515	685	830	141	144	66,6
	TR6	9,2	12,5	21	O	●	1697	867	830	144	144	73
SS6E 06	6GF	11	15	25,5	●	●	1672	730	942	141	144	73
	TR6	11	15	25	O	●	1839	897	942	144	144	80
SS6E 07	6GF	15	20	33,4	●	●	1839	785	1054	141	144	82
	TR6	13	17,5	29	O	●	1981	927	1054	144	144	88
SS6E 08	6GF	15	20	33,4	●	●	1951	785	1166	141	144	85
	TR6	15	20	32	O	●	2163	997	1166	144	144	103
SS6E 09	6GF	18,5	25	41	●	●	2138	860	1278	141	144	95
	TR6	18,5	25	39	O	●	2335	1057	1278	144	144	111
SS6E 10	6GF	18,5	25	41	●	●	2250	860	1390	141	144	98
	TR6	18,5	25	39	O	●	2447	1057	1390	144	144	114
SS6E 11	6GF	22	30	47	●	●	2422	920	1502	141	144	104,6
	TR6	22	30	49	O	●	2589	1087	1502	144	144	129
SS6E 12	6GF	22	30	47	●	●	2534	920	1614	141	144	106,6
	TR6	22	30	49	O	●	2701	1087	1614	144	144	131
SS6E 13	6GF	30	35	61,5	●	●	2776	1050	1726	141	144	125,8
	TR6	26	35	58	O	●	2883	1157	1726	144	144	144
SS6E 14	6GF	30	35	61,5	●	●	2888	1050	1838	141	144	128,8
	TR6	26	35	58	O	●	2995	1157	1838	144	144	147
SS6E 15	6GF	30	40	61,5	●	●	3000	1050	1950	141	144	130,8
	TR6	30	40	65	O	●	3162	1212	1950	144	144	154
SS6E 16	6GF	30	40	61,5	●	●	3112	1050	2062	141	144	133,8
	TR6	30	40	65	O	●	3274	1212	2062	144	144	157
SS6E 17	6GF	30	40	61,5	●	●	3224	1050	2174	141	144	136,8
	TR6	30	40	65	O	●	3386	1212	2174	144	144	160

*** MOTORE 4GG:** 4“ canned submersible motors.
MOTORE 4OL: 4“ oil filled motor

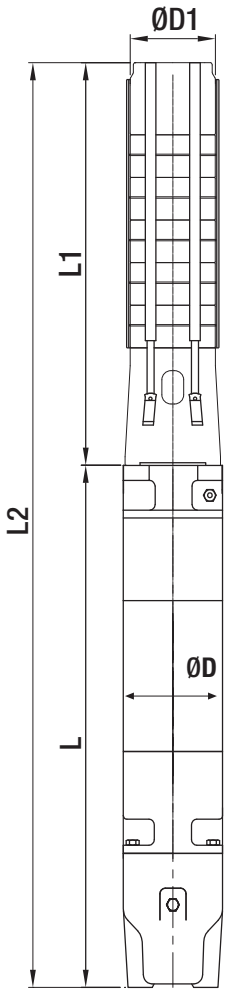
Motor 6GF: 6“ canned submersible motors.
Motor TR6: 6“ rewindable submersible motors.

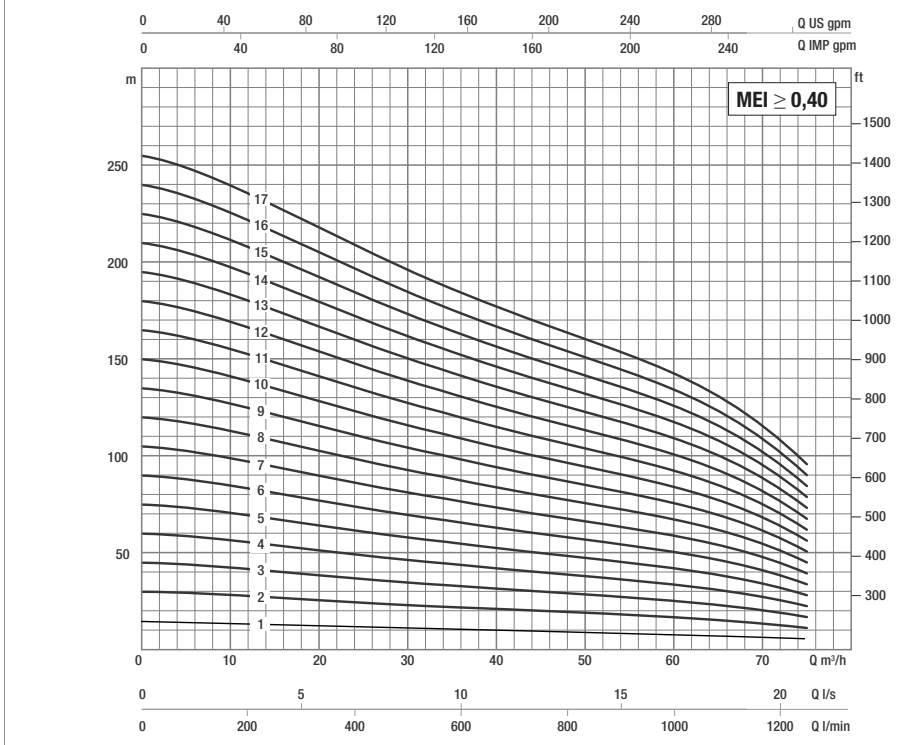
●	Allowed
O	Only PE2 + PA version

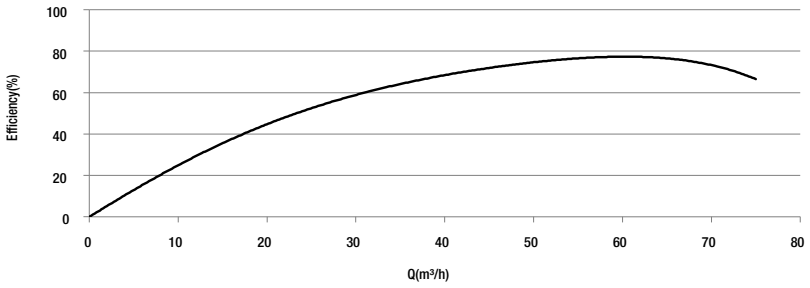
SS6E

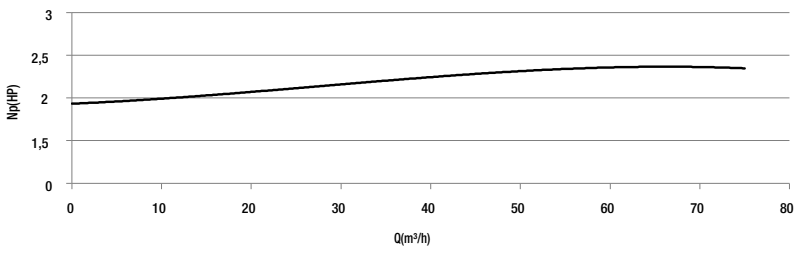
SUBMERSIBLE ELECTRIC PUMPS 6”

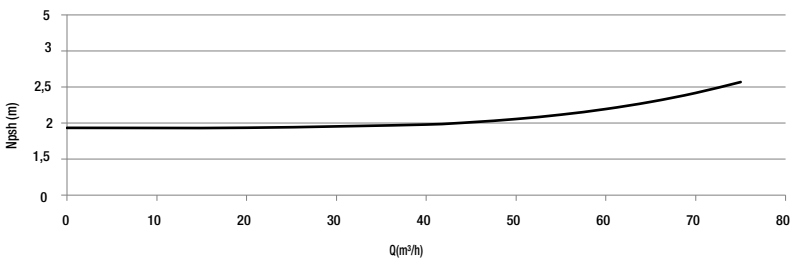
The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.











For hydraulic efficiency see pag. 233

SS6E

SUBMERSIBLE ELECTRIC PUMPS 6”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	20	40	45	50	55	60	65	70	75	
	kW	HP	Q=l/min	0	333,3	666,6	750	833,3	916,6	1000	1083,3	1166,6	1250	
SS6E 18	37	50	H (mt)	270	231	187	178	170	161	151	138	122	102	6”
SS6E 19	37	50		285	244	198	188	179	170	159	146	129	107	6”
SS6E 20	37	50		300	257	208	198	189	179	167	154	136	113	6”
SS6E 21	37	50		315	269	219	208	198	188	176	161	143	119	6”
SS6E 22	45	60		330	282	229	218	207	197	184	169	150	124	8“
SS6E 23	45	60		345	295	239	228	217	205	193	177	157	130	8“
SS6E 24	45	60		360	308	250	238	226	214	201	184	163	135	8“
SS6E 25	55	75		375	321	260	248	236	223	209	192	170	141	8“
SS6E 26	55	75		390	334	271	258	245	232	218	200	177	147	8“
SS6E 27	55	75		405	346	281	268	255	241	226	208	184	152	8“
SS6E 28	55	75		420	359	292	278	264	250	234	215	191	158	8“
SS6E 29	55	75		435	372	302	287	273	259	243	223	197	164	8“
SS6E 30	55	75		450	385	312	297	283	268	251	231	204	169	8“

SS6E

SUBMERSIBLE ELECTRIC PUMPS 6”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS6E 18	6GF	37	50	79,3	●	●	3466	1180	2286	141	144	150,8
	TR6	37	50	80	O	●	3598	1312	2286	144	144	172
SS6E 19	6GF	37	50	79,3	●	●	3578	1180	2398	141	144	153,8
	TR6	37	50	80	O	●	3710	1312	2398	144	144	175
SS6E 20	6GF	37	50	79,3	●	●	3690	1180	2510	141	144	156,8
	TR6	37	50	80	O	●	3822	1312	2510	144	144	178
SS6E 21	6GF	37	50	79,3	●	●	3802	1180	2622	141	144	158,8
	TR6	37	50	80	O	●	3934	1312	2622	144	144	180
SS6E 22	TR8	45	60	92	O	●	4004	1270	2734	192	144	240
SS6E 23	TR8	45	60	92	O	●	4116	1270	2846	192	144	242
SS6E 24	TR8	45	60	92	O	●	4228	1270	2958	192	144	245
SS6E 25	TR8	55	75	109	O	●	4420	1350	3070	192	144	263
SS6E 26	TR8	55	75	109	O	●	4532	1350	3182	192	144	265
SS6E 27	TR8	55	75	109	O	●	4644	1350	3294	192	144	268
SS6E 28	TR8	55	75	109	O	●	4756	1350	3406	192	144	271
SS6E 29	TR8	55	75	109	O	●	4868	1350	3518	192	144	273
SS6E 30	TR8	55	75	109	O	●	4980	1350	3630	192	144	276

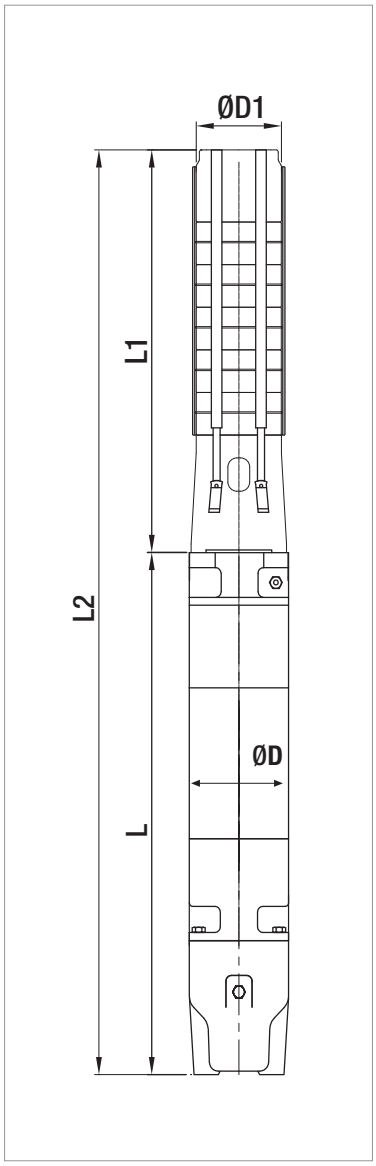
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR: 6“ 8“ rewindable submersible motors.

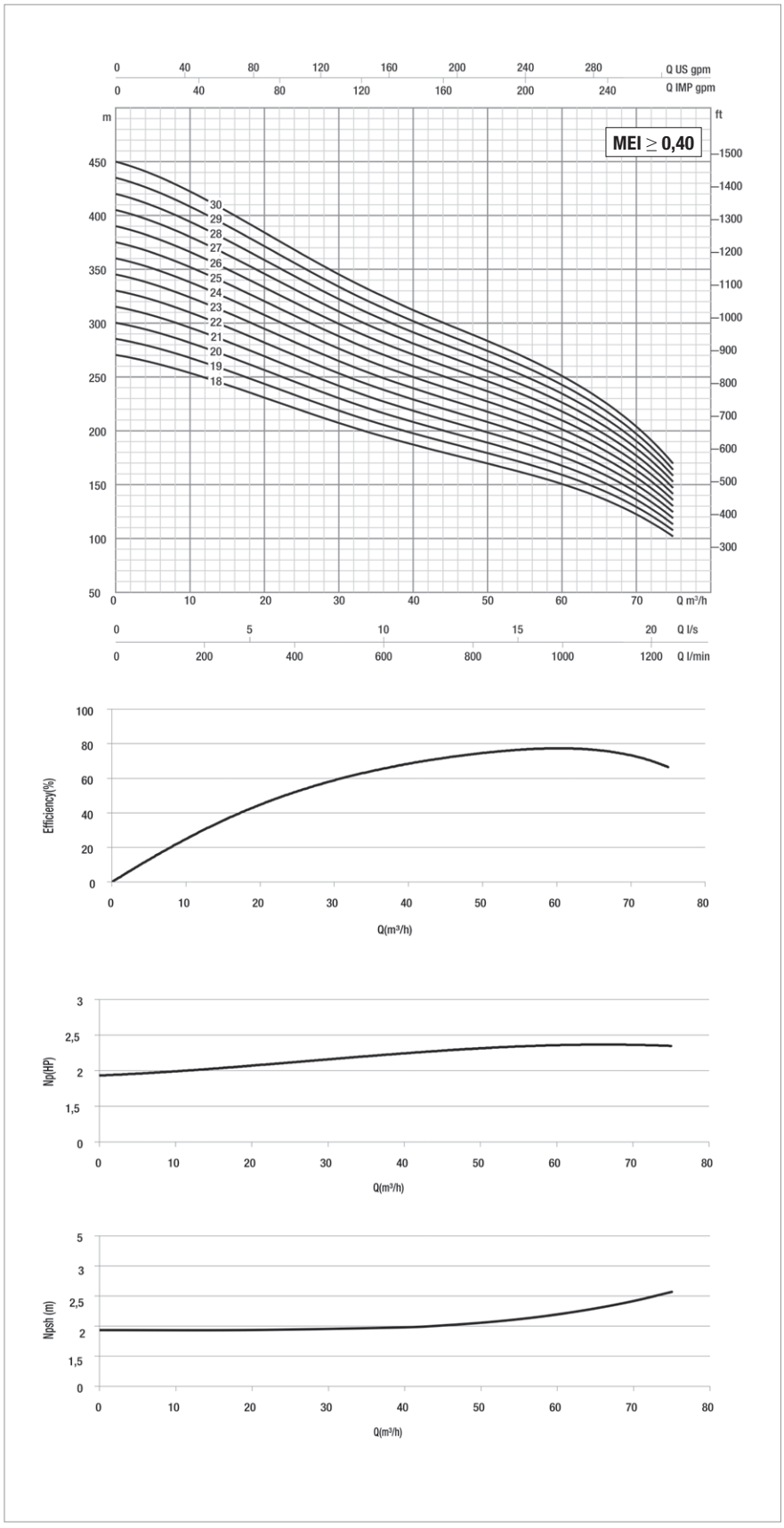
●	Allowed
O	Only PE2 + PA version

SS6E

SUBMERSIBLE ELECTRIC PUMPS 6”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





For hydraulic efficiency see pag. 233

SS7

SUBMERSIBLE ELECTRIC PUMPS 7”

TECHNICAL DATA

Performance range: flow up to 110 m3/h and max head of 423 m
Max. quantity of sand/silt: 50g/m3
Max. ambient temperature: 30°C (50°C available on request)
Outlet connection diameter (inside threaded): 5”
Nr of starts: refer to the motor specification
Motor Cooling flow: refer to the motor specification
Installation: horizontal or vertical, refer to the motor specification

APPLICATIONS

Multistage mixed-flow borehole electric pumps, completely made in stainless steel (AISI 304L or AISI 316 on request), usable for wells from a minimum diameter equal to pump size or greater and capable of developing a wide range of Flows and Heads.
These pumps can be used in a wide range of lifting, distributing, and pressuring application: domestic and general water supply; sprinkler and drip irrigations systems; fire-fighting installations; lowering of groundwater level; industrial supplies as mining, hot springs, autoclaves and tanks.
These pumps are suitable both for standard water and for aggressive water applications by choosing the proper manufacturing material (AISI 304L or AISI 316) both for hydraulic part and motor.
Special version of motors with PE2+PA windings can be used on request for high-temperature water applications up to maximum 50°C.
Pumps can be installed both vertically and horizontally simply by removing the non-return valve and adding a cooling sleeve to the suction case (the only remark is to check the motor applicability to horizontal operations, refer to the motor specifications section).

CONSTRUCTION FEATURES OF PUMP

Mixed flow pumps with diffusers, impellers, brackets, suction case and discharge case completely made of stainless steel AISI 304 in order to provide maximum strength, durability, wear and tear resistance.

The impellers are balanced and locked to the shaft with a specially shaped collet and nut coupling, in order to guarantee ease-to-assembly feature and avoid vibration sensitive malfunctions and noise increase during rotation.

Rubber bearings that drive the shaft are water lubricated and have sand channels to make enable the sand particles leave the pump with the pumped liquid (maximum permissible sand content 50 gr/m3).

Built-in non returned valve provided in order to minimize local friction losses.

Stainless steel strainer provided in order to prevent particles over a certain size from entering the pump.

Coupling with 6”, 8” or 10” motor depending on the power requested by hydraulic part:
- 6GF: 6” canned submersible motor
- TR6: 6” rewindable submersible motor
- TR8: 8” rewindable submersible motor
- TR10: 10” rewindable submersible motor

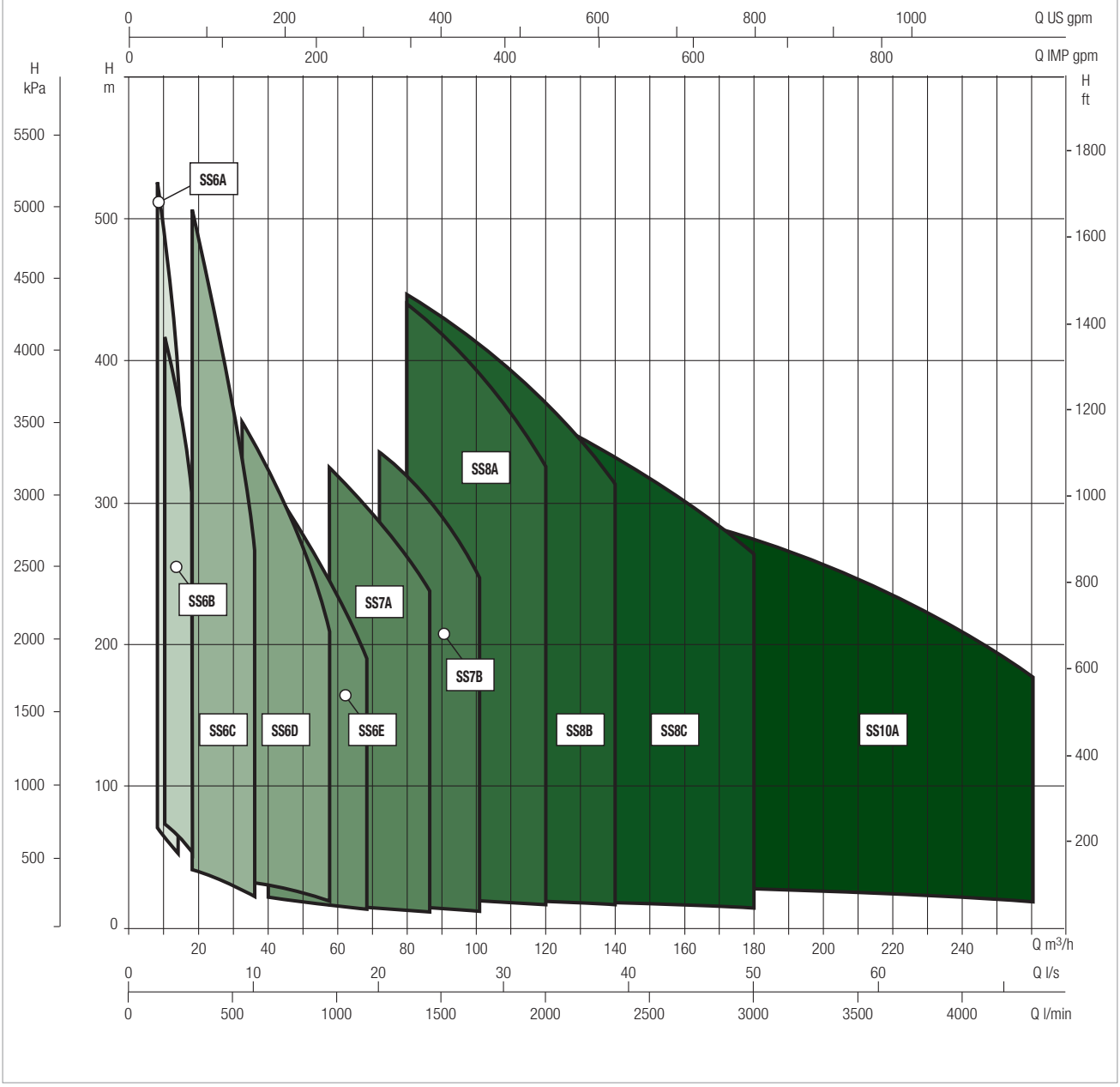
For inverter application refer to the detailed motor specification.

ON REQUEST:

- Pump body stainless steel AISI 316 for aggressive water application
- Impellers stainless steel AISI 316
- Motors in full stainless steel AISI 316 for aggressive water application
- Star/Delta starting version
- Special version of the motor for high temperature application
- Non-standard power coupling

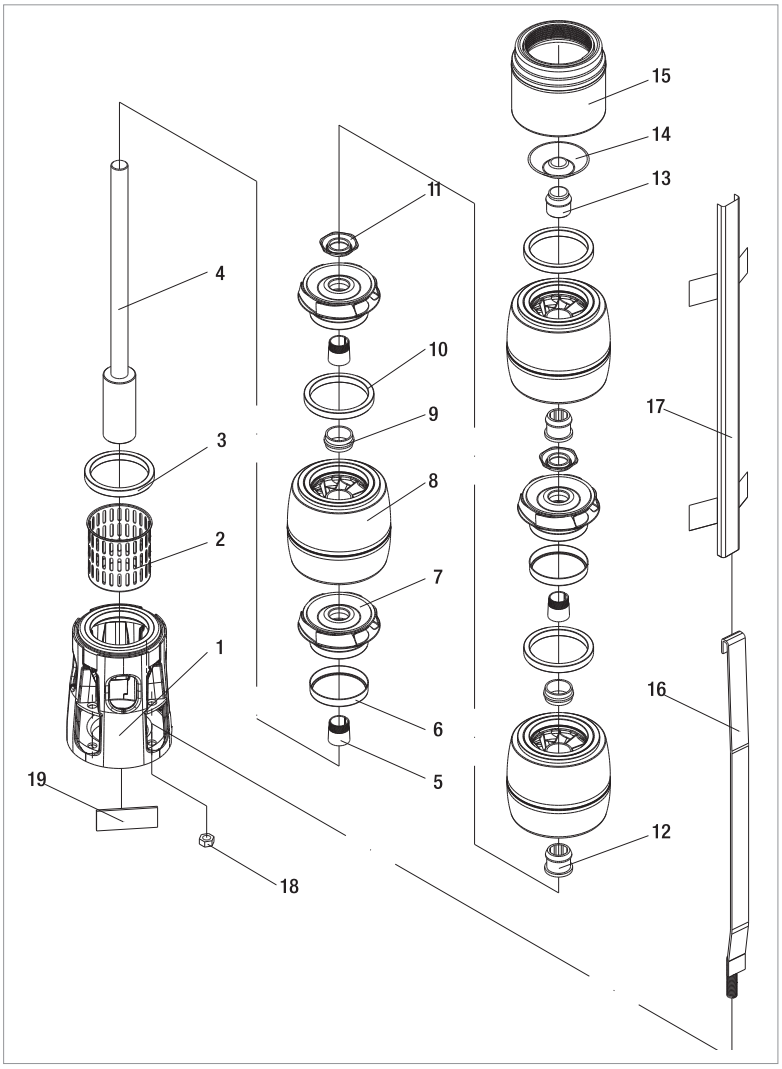
PERFORMANCE RANGE

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.



MATERIALS

N°	Part Name	Material
1	Suction Case	Stainless Steel (AISI 304L)
2	Filter	Stainless Steel (AISI 304L)
3	Suction Case Wear Ring	Bronze (ASTM B145-4A)
4	Pump Shaft	Stainless Steel (AISI 420)
5	Collet	Stainless Steel
6	Impeller Wear Ring	STAINLESS STEEL (AISI 304)
7	Impeller	Stainless Steel (AISI 304L)
8	Diffuser	Stainless Steel (AISI 304L)
9	Rubber Bearing	Rubber
10	Diffuser Wear Ring	Rubber
11	Nut for Stop Ring	Stainless Steel (AISI 304L)
12	Bearing	Rubber
13	Shaft Stopper	Bronze (ASTM B145-4A)
14	Valve	Stainless Steel (AISI 304)
15	Discharge Case	Stainless Steel (AISI 304)
16	TIE ROD	STAINLESS STEEL (AISI 304L)
17	CABLE GUARD	STAINLESS STEEL (AISI 304)
18	TIR ROD NUT	STAINLESS STEEL (AISI 303)
19	NAME PLATE	STAINLESS STEEL (AISI 304)



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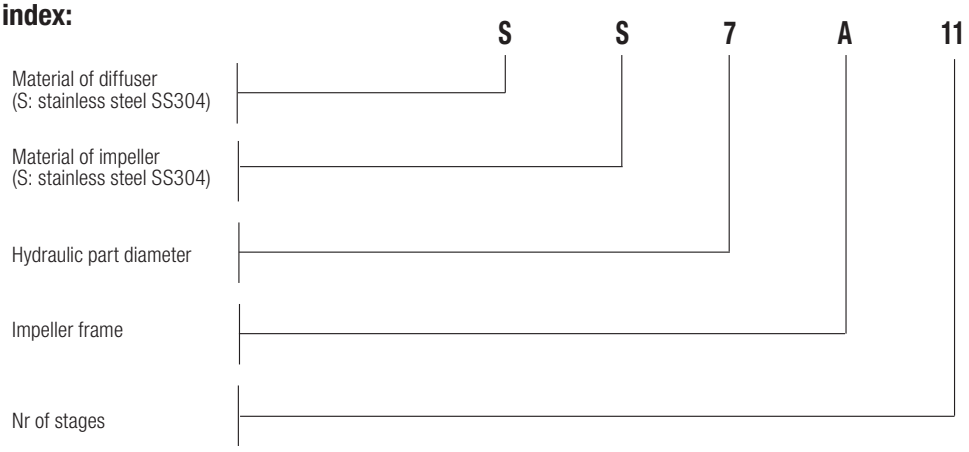


SS7A

SUBMERSIBLE ELECTRIC PUMPS 7”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	20	30	40	50	60	70	80	90	100	
	kW	HP	Q=l/min	0	333,3	500	666,6	833,3	1000	1166,6	1333,3	1500	1666,6	
SS7A 01	4	5,5	H (mt)	19	19	18	17	16	15	14	12	11	8	6”
SS7A 02	7,5	10		38	37	36	34	32	30	28	25	21	17	6”
SS7A 03	11	15		58	56	54	51	49	45	42	37	32	25	6”
SS7A 04	15	20		77	74	72	69	65	61	56	50	42	33	6”
SS7A 05	18,5	25		96	93	90	86	81	76	69	62	53	41	6”
SS7A 06	22	30		115	111	108	103	97	91	83	74	63	50	6”
SS7A 07	26	35		135	130	126	120	114	106	97	87	74	58	6”
SS7A 08	30	40		154	149	144	137	130	121	111	99	84	66	6”
SS7A 09	37	50		173	167	161	154	146	136	125	111	95	75	6”
SS7A 10	37	50		192	186	179	172	162	152	139	124	105	83	6”
SS7A 11	45	60		211	204	197	189	179	167	153	136	116	91	8”
SS7A 12	45	60		231	223	215	206	195	182	167	149	127	99	8”
SS7A 13	55	75		250	241	233	223	211	197	181	161	137	108	8”
SS7A 14	55	75		269	260	251	240	227	212	195	173	148	116	8”
SS7A 15	55	75		288	278	269	257	244	227	208	186	158	124	8”
SS7A 16	63	85		307	297	287	275	260	243	222	198	169	133	8”
SS7A 17	75	100		327	316	305	292	276	258	236	210	179	141	8”
SS7A 18	75	100		346	334	323	309	292	273	250	223	190	149	8”
SS7A 19	75	100		365	353	341	326	309	288	264	235	200	158	8”
SS7A 20	75	100		384	371	359	343	325	303	278	248	211	166	8”
SS7A 21	75	100		404	390	377	360	341	318	292	260	221	174	8”
SS7A 22	92	125		423	408	395	378	357	334	306	272	232	182	8”

SS7A

SUBMERSIBLE ELECTRIC PUMPS 7”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS7A 01	6GF	4	5,5	10,6	●	●	1171	600	571	141	172	65,4
SS7A 02	6GF	7,5	10	18	●	●	1359	660	699	141	172	75,2
	TR6	7,5	10	18	O	●	1536	837	699	144	172	83
SS7A 03	6GF	11	15	25,5	●	●	1557	730	827	141	172	87
	TR6	11	15	25	O	●	1724	897	827	144	172	94
SS7A 04	6GF	15	20	33,4	●	●	1740	785	955	141	172	97
	TR6	15	20	32	O	●	1952	997	955	144	172	115
SS7A 05	6GF	18,5	25	41	●	●	1943	860	1083	141	172	109
	TR6	18,5	25	39	O	●	2140	1057	1083	144	172	125
SS7A 06	6GF	22	30	47	●	●	2131	920	1211	141	172	116,6
	TR6	22	30	49	O	●	2298	1087	1211	144	172	141
SS7A 07	6GF	30	40	61,5	●	●	2389	1050	1339	141	172	136,8
	TR6	26	35	58	O	●	2496	1157	1339	144	172	155
SS7A 08	6GF	30	40	61,5	●	●	2517	1050	1467	141	172	140,8
	TR6	30	40	65	O	●	2679	1212	1467	144	172	164
SS7A 09	6GF	37	50	79,3	●	●	2775	1180	1595	141	172	156,8
	TR6	37	50	80	O	●	2907	1312	1595	144	172	178
SS7A 10	6GF	37	50	79,9	●	●	2903	1180	1723	141	172	160,8
	TR6	37	50	80	O	●	3035	1312	1723	144	172	182
SS7A 11	TR8	45	60	92	O	●	3121	1270	1851	192	172	243
SS7A 12	TR8	45	60	92	O	●	3249	1270	1979	192	172	247
SS7A 13	TR8	55	75	109	O	●	3457	1350	2107	192	172	266
SS7A 14	TR8	55	75	109	O	●	3585	1350	2235	192	172	270
SS7A 15	TR8	55	75	109	O	●	3713	1350	2363	192	172	274
SS7A 16	TR8	63	85	126	O	●	3981	1490	2491	192	172	304
SS7A 17	TR8	75	100	145	O	●	4209	1590	2619	192	172	326
SS7A 18	TR8	75	100	145	O	●	4337	1590	2747	192	172	330
SS7A 19	TR8	75	100	145	O	●	4465	1590	2875	192	172	334
SS7A 20	TR8	75	100	145	O	●	4593	1590	3003	192	172	338
SS7A 21	TR8	75	100	145	O	●	4721	1590	3131	192	172	342
SS7A 22	TR8	92	125	177	O	●	5089	1830	3259	192	172	392

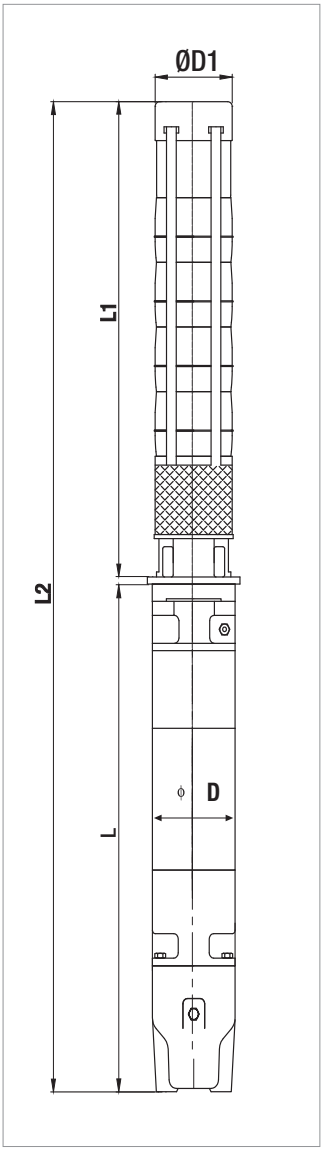
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR: 6“-8“ rewindable submersible motors.

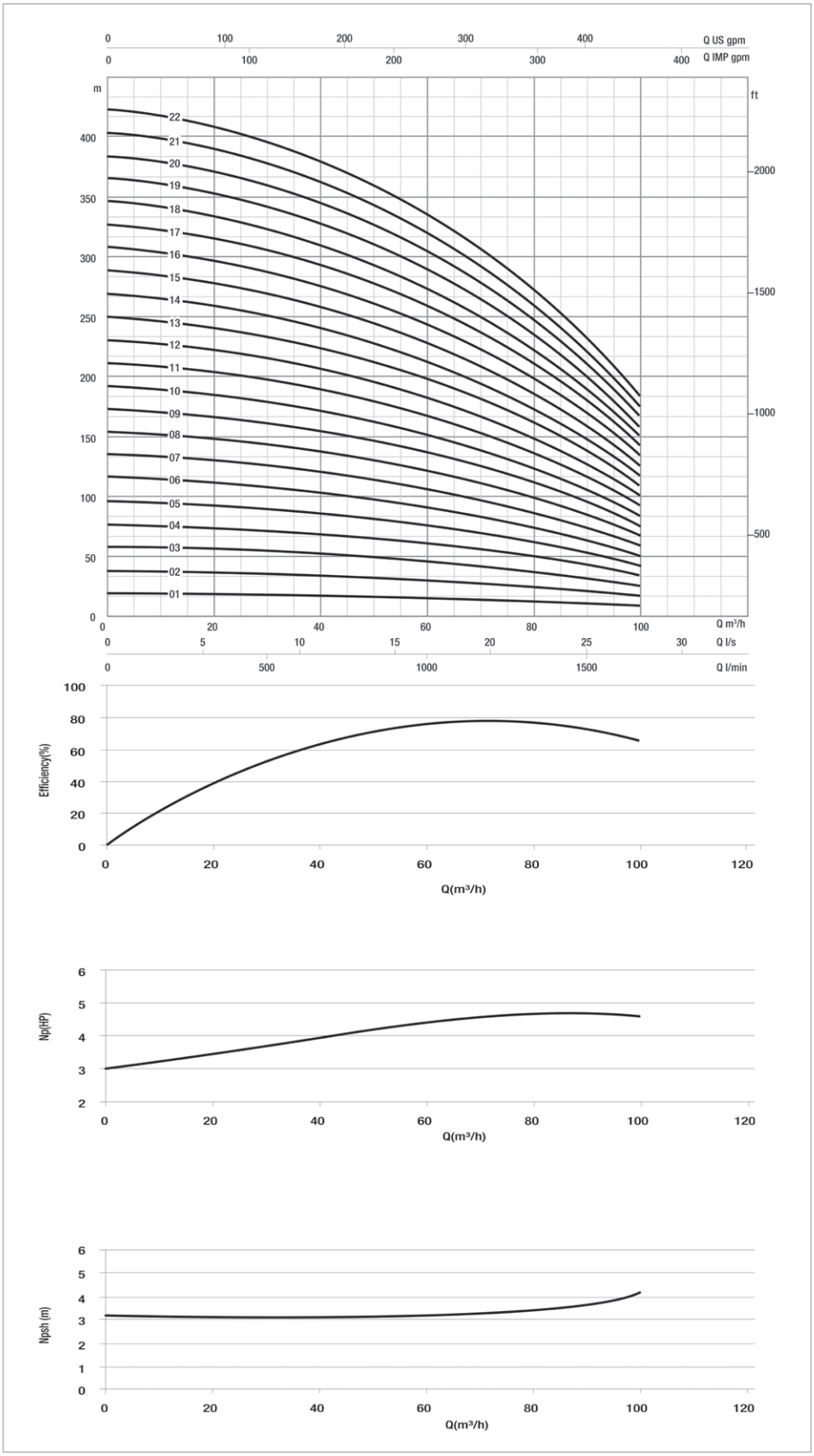
●	Allowed
O	Only PE2 + PA version

SS7A

SUBMERSIBLE ELECTRIC PUMPS 7”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





SS7B

SUBMERSIBLE ELECTRIC PUMPS 7”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	20	40	50	60	70	80	90	100	115	
	kW	HP	Q=l/min	0	333,3	666,6	833,3	1000	1166,6	1333,3	1500	1666,6	1916,6	
SS7B 01	5,5	7,5	H (mt)	21	21	20	20	19	18	17	16	14	11	6"
SS7B 02	11	15		43	43	41	39	38	36	34	32	28	21	6"
SS7B 03	15	20		64	64	61	59	56	54	51	47	43	32	6"
SS7B 04	22	30		85	86	81	78	75	72	68	63	57	43	6"
SS7B 05	30	40		106	107	101	98	94	90	85	79	71	54	6"
SS7B 06	37	50		128	128	122	117	113	108	102	95	85	64	6"
SS7B 07	37	50		149	150	142	137	132	126	119	111	100	75	6"
SS7B 08	45	60		170	171	162	156	150	144	136	126	114	86	8"
SS7B 09	45	60		192	193	183	176	169	162	153	142	128	96	8"
SS7B 10	55	75		213	214	203	196	188	180	170	158	142	107	8"
SS7B 11	63	85		234	235	223	215	207	197	187	174	157	118	8"
SS7B 12	75	100		256	257	243	235	225	215	204	190	171	128	8"
SS7B 13	75	100		277	278	264	254	244	233	221	206	185	139	8"
SS7B 14	75	100		298	300	284	274	263	251	238	221	199	150	8"
SS7B 15	92	125		319	321	304	293	282	269	255	237	214	161	8"
SS7B 16	92	125		341	342	325	313	301	287	272	253	228	171	8"
SS7B 17	92	125		362	364	345	332	319	305	289	269	242	182	8"
SS7B 18	110	150		383	385	365	352	338	323	306	285	256	193	8"
SS7B 19	110	150		405	407	385	372	357	341	323	300	271	203	8"
SS7B 20	110	150		426	428	406	391	376	359	340	316	285	214	8"

SS7B

SUBMERSIBLE ELECTRIC PUMPS 7”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS7B 01	6GF	5,5	7,5	14	●	●	1202	631	571	141	172	68,6
	TR6	5,5	7,5	13	O	●	1378	807	571	144	172	76
SS7B 02	6GF	11	15	25,5	●	●	1429	730	699	141	172	81,8
	TR6	11	15	25	O	●	1596	897	699	144	172	90
SS7B 03	6GF	15	20	33,4	●	●	1612	785	827	141	172	93
	TR6	15	20	32	O	●	1824	997	827	144	172	111
SS7B 04	6GF	22	30	47	●	●	1875	920	955	141	172	108,6
	TR6	22	30	49	O	●	2042	1087	955	144	172	133
SS7B 05	6GF	30	40	61,5	●	●	2133	1050	1083	141	172	128,8
	TR6	30	40	65	O	●	2295	1212	1083	144	172	152
SS7B 06	6GF	37	50	79,3	●	●	2391	1180	1211	141	172	144,8
	TR6	37	50	80	O	●	2523	1312	1211	144	172	166
SS7B 07	6GF	37	50	79,3	●	●	2519	1180	1339	141	172	148,8
	TR6	37	50	80	O	●	2651	1312	1339	144	172	170
SS7B 08	TR8	45	60	92	O	●	2737	1270	1467	192	172	231
SS7B 09	TR8	45	60	92	O	●	2865	1270	1595	192	172	235
SS7B 10	TR8	55	75	109	O	●	3073	1350	1723	192	172	254
SS7B 11	TR8	63	85	126	O	●	3341	1490	1851	192	172	284
SS7B 12	TR8	75	100	145	O	●	3569	1590	1979	192	172	307
SS7B 13	TR8	75	100	145	O	●	3697	1590	2107	192	172	311
SS7B 14	TR8	75	100	145	O	●	3825	1590	2235	192	172	315
SS7B 15	TR8	92	125	177	O	●	4193	1830	2363	192	172	365
SS7B 16	TR8	92	125	177	O	●	4321	1830	2491	192	172	369
SS7B 17	TR8	92	125	177	O	●	4449	1830	2619	192	172	373
SS7B 18	TR8	110	150	213	O	●	4807	2060	2747	192	172	427
SS7B 19	TR8	110	150	213	O	●	4935	2060	2875	192	172	431
SS7B 20	TR8	110	150	213	O	●	5063	2060	3003	192	172	435

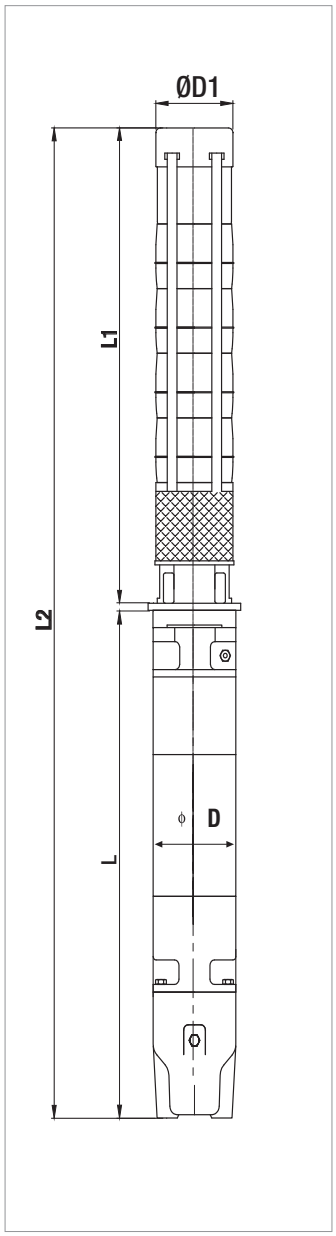
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR: 6“-8“ rewindable submersible motors.

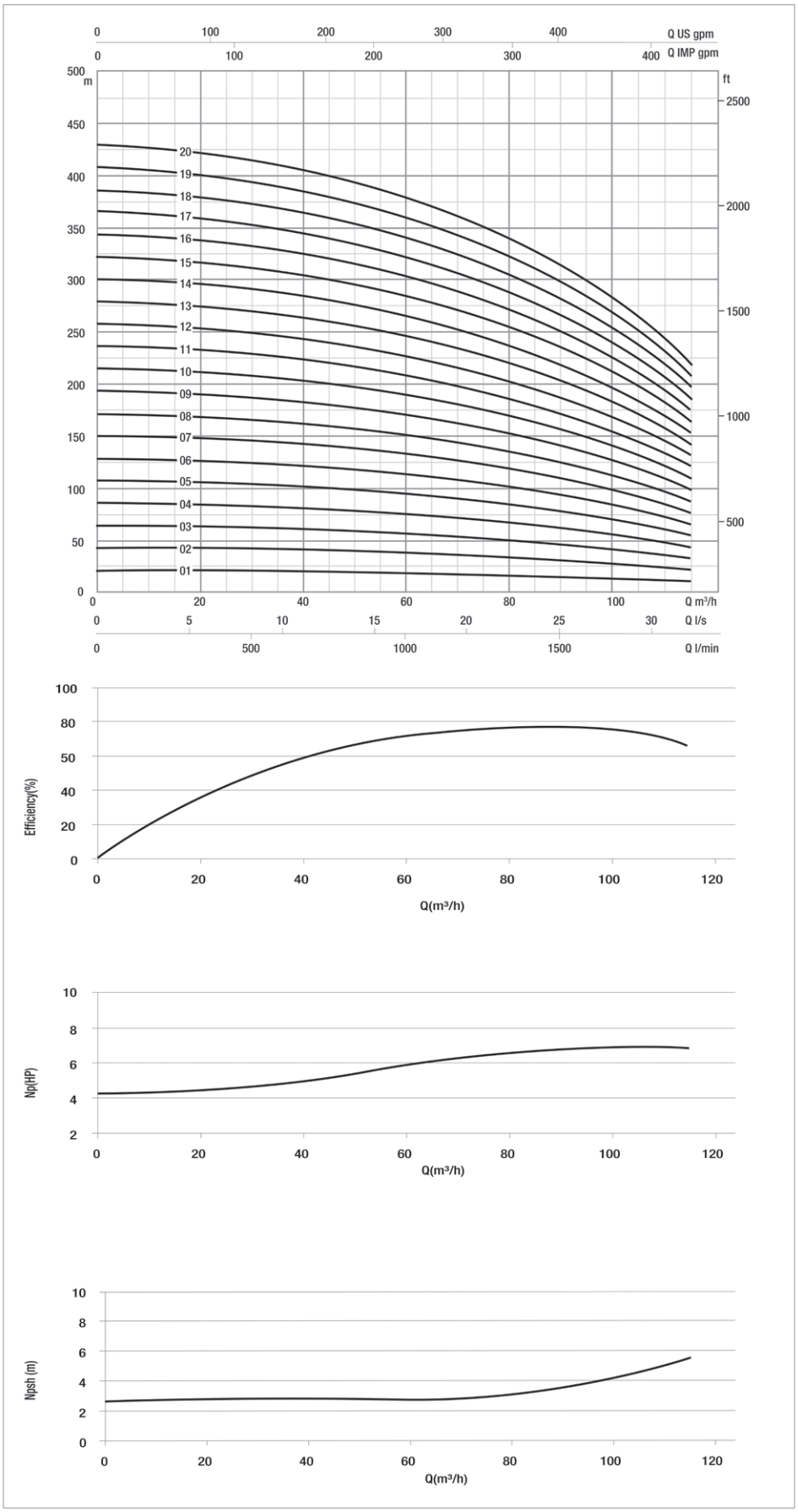
●	Allowed
O	Only PE2 + PA version

SS7B

SUBMERSIBLE ELECTRIC PUMPS 7”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





SS8

SUBMERSIBLE ELECTRIC PUMPS 8”

TECHNICAL DATA

Performance range: flow up to 210 m3/h and max head of 555 m
Max. quantity of sand/silt: 50g/m3
Max. ambient temperature: 30°C (50°C available on request)
Outlet connection diameter (inside threaded): 6”
Nr of starts: refer to the motor specification
Motor Cooling flow: refer to the motor specification
Installation: horizontal or vertical, refer to the motor specification

APPLICATIONS

Multistage mixed-flow borehole electric pumps, completely made in stainless steel (AISI 304L or AISI 316 on request), usable for wells from a minimum diameter equal to pump size or greater and capable of developing a wide range of Flows and Heads.
These pumps can be used in a wide range of lifting, distributing, and pressuring application: domestic and general water supply; sprinkler and drip irrigations systems; fire-fighting installations; lowering of groundwater level; industrial supplies as mining, hot springs, autoclaves and tanks.
These pumps are suitable both for standard water and for aggressive water applications by choosing the proper manufacturing material (AISI 304L or AISI 316) both for hydraulic part and motor.
Special version of motors with PE2+PA windings can be used on request for high-temperature water applications up to maximum 50°C.
Pumps can be installed both vertically and horizontally simply by removing the non-return valve and adding a cooling sleeve to the suction case (the only remark is to check the motor applicability to horizontal operations, refer to the motor specifications section).

CONSTRUCTION FEATURES OF PUMP

Mixed flow pumps with diffusers, impellers, brackets, suction case and discharge case completely made of stainless steel AISI 304 in order to provide maximum strength, durability, wear and tear resistance.

The impellers are balanced and locked to the shaft with a specially shaped collet and nut coupling, in order to guarantee ease-to-assembly feature and avoid vibration sensitive malfunctions and noise increase during rotation.

Rubber bearings that drive the shaft are water lubricated and have sand channels to make enable the sand particles leave the pump with the pumped liquid (maximum permissible sand content 50 gr/m3).

Built-in non returned valve provided in order to minimize local friction losses.

Stainless steel strainer provided in order to prevent particles over a certain size from entering the pump.

Coupling with 6”, 8” or 10” motor depending on the power requested by hydraulic part:
- 6GF: 6” canned submersible motor
- TR6: 6” rewindable submersible motor
- TR8: 8” rewindable submersible motor
- TR10: 10” rewindable submersible motor

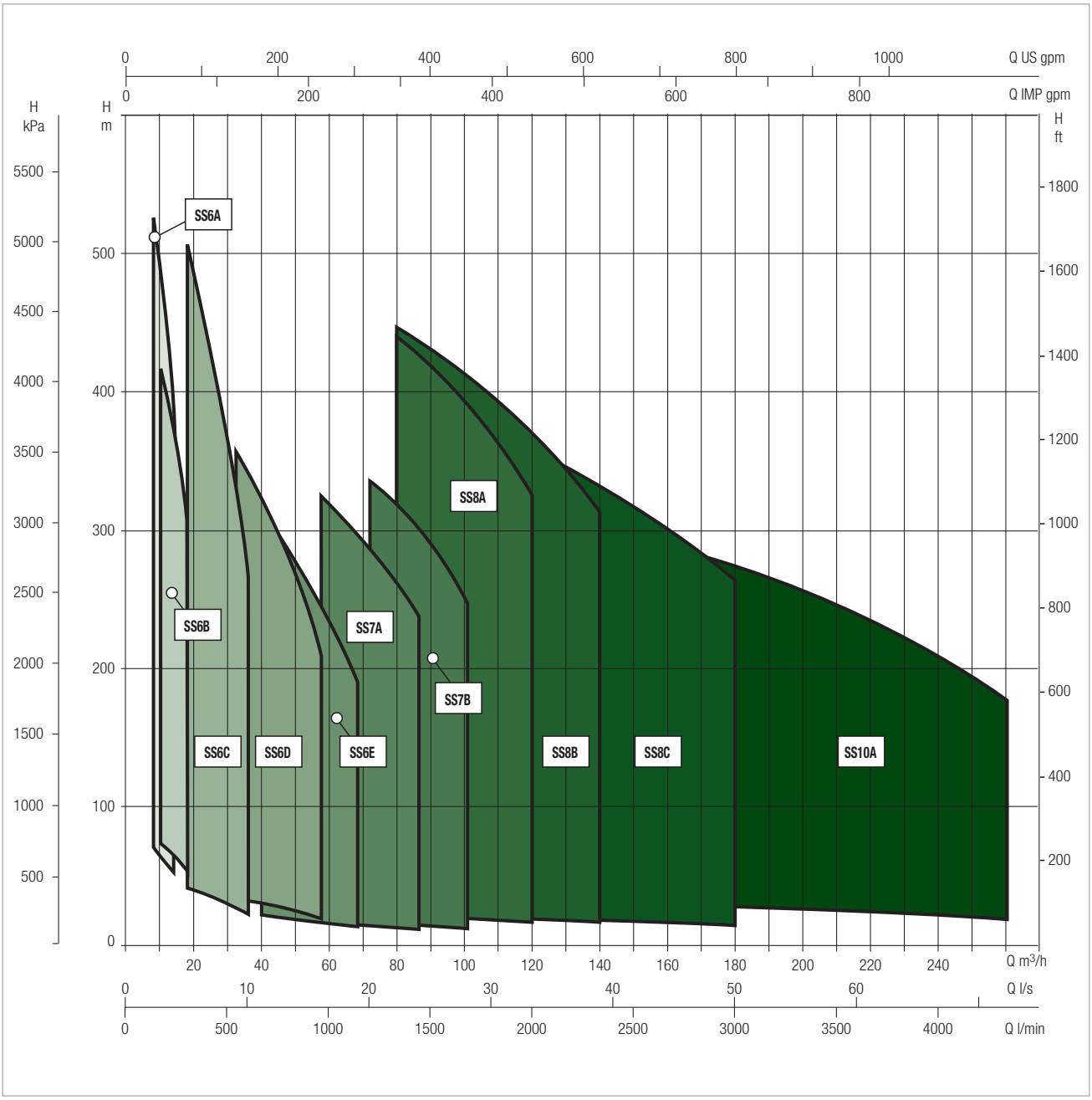
For inverter application refer to the detailed motor specification.

ON REQUEST:

- Pump body stainless steel AISI 316 for aggressive water application
- Impellers stainless steel AISI 316
- Motors in full stainless steel AISI 316 for aggressive water application
- Star/Delta starting version
- Special version of the motor for high temperature application
- Non-standard power coupling

PERFORMANCE RANGE

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.

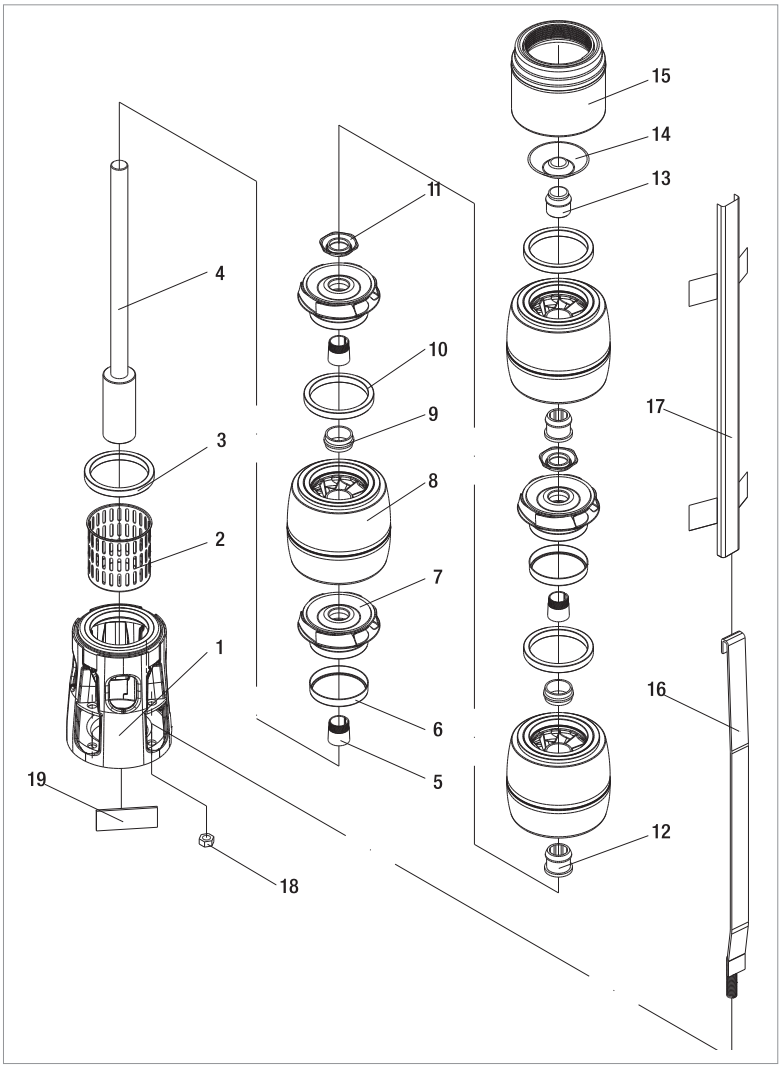


SS8

SUBMERSIBLE ELECTRIC PUMPS 8”

MATERIALS

N°	Part Name	Material
1	Suction Case	Stainless Steel (AISI 304L)
2	Filter	Stainless Steel (AISI 304L)
3	Suction Case Wear Ring	Bronze (ASTM B145-4A)
4	Pump Shaft	Stainless Steel (AISI 420)
5	Collet	Stainless Steel
6	Impeller Wear Ring	STAINLESS STEEL (AISI 304)
7	Impeller	Stainless Steel (AISI 304L)
8	Diffuser	Stainless Steel (AISI 304L)
9	Rubber Bearing	Rubber
10	Diffuser Wear Ring	Rubber
11	Nut for Stop Ring	Stainless Steel (AISI 304L)
12	Bearing	Rubber
13	Shaft Stopper	Bronze (ASTM B145-4A)
14	Valve	Stainless Steel (AISI 304)
15	Discharge Case	Stainless Steel (AISI 304)
16	TIE ROD	STAINLESS STEEL (AISI 304L)
17	CABLE GUARD	STAINLESS STEEL (AISI 304)
18	TIR ROD NUT	STAINLESS STEEL (AISI 303)
19	NAME PLATE	STAINLESS STEEL (AISI 304)



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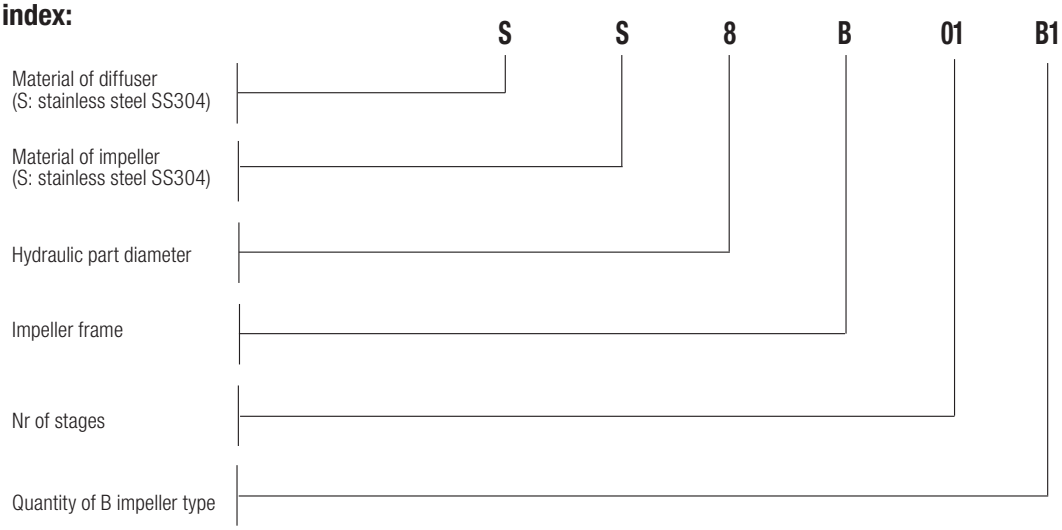


SS8A

SUBMERSIBLE ELECTRIC PUMPS 8”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	30	70	80	90	100	110	120	130	140	
	kW	HP	Q=l/min	0	500	1166,6	1333,3	1500	1666,6	1833,3	2000	2166,6	2333,3	
SS8A 01	7,5	10	H (mt)	28	26	23	22	21	20	18	16	15	12	6"
SS8A 02	15	20		56	52	46	44	42	39	36	33	29	24	6"
SS8A 03	22	30		83	78	69	66	63	59	54	49	44	37	6"
SS8A 04	30	40		111	104	91	88	83	78	73	66	58	49	6"
SS8A 05	37	50		139	129	114	110	104	98	91	82	73	61	6"
SS8A 06	45	60		167	155	137	131	125	118	109	99	87	73	8"
SS8A 07	55	75		194	181	160	153	146	137	127	115	102	86	8"
SS8A 08	63	85		222	207	183	175	167	157	145	132	116	98	8"
SS8A 09	75	100		250	233	206	197	188	176	163	148	131	110	8"
SS8A 10	75	100		278	259	229	219	208	196	182	165	145	122	8"
SS8A 11	92	125		305	285	252	241	229	216	200	181	160	135	8"
SS8A 12	92	125		333	311	274	263	250	235	218	198	174	147	8"
SS8A 13	92	125		361	337	297	285	271	255	236	214	189	159	8"
SS8A 14	110	150		389	362	320	307	292	274	254	231	203	171	8"
SS8A 15	110	150		416	388	343	329	313	294	272	247	218	184	8"
SS8A 16	132	180		444	414	366	351	333	313	290	264	232	196	10"
SS8A 17	132	180		472	440	389	373	354	333	309	280	247	208	10"
SS8A 18	132	180		500	466	412	394	375	353	327	297	262	220	10"
SS8A 19	147	200		527	492	435	416	396	372	345	313	276	233	10"
SS8A 20	147	200		555	518	457	438	417	392	363	330	291	245	10"

SS8A

SUBMERSIBLE ELECTRIC PUMPS 8”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS8A 01	6GF	7,5	10	18	●	●	1346	660	686	141	213	77,2
	TR6	7,5	10	18	O	●	1523	837	686	144	213	85
SS8A 02	6GF	15	20	33,4	●	●	1627	785	842	141	213	97
	TR6	15	20	32	O	●	1839	997	842	144	213	115
SS8A 03	6GF	22	30	47	●	●	1917	920	997	141	213	115,6
	TR6	22	30	49	O	●	2084	1087	997	144	213	140
SS8A 04	6GF	30	40	61,5	●	●	2203	1050	1153	141	213	137,8
	TR6	30	40	65	O	●	2365	1212	1153	144	213	161
SS8A 05	6GF	37	50	79,3	●	●	2489	1180	1309	141	213	155,8
	TR6	37	50	80	O	●	2621	1312	1309	144	213	177
SS8A 06	TR8	45	60	92	O	●	2735	1270	1465	192	213	241
SS8A 07	TR8	55	75	109	O	●	2970	1350	1620	192	213	262
SS8A 08	TR8	63	85	126	O	●	3266	1490	1776	192	213	294
SS8A 09	TR8	75	100	145	O	●	3522	1590	1932	192	213	320
SS8A 10	TR8	75	100	145	O	●	3677	1590	2087	192	213	326
SS8A 11	TR8	92	125	177	O	●	4073	1830	2243	192	213	378
SS8A 12	TR8	92	125	177	O	●	4229	1830	2399	192	213	384
SS8A 13	TR8	92	125	177	O	●	4384	1830	2554	192	213	391
SS8A 14	TR8	110	150	213	O	●	4770	2060	2710	192	213	447
SS8A 15	TR8	110	150	213	O	●	4926	2060	2866	192	213	453
SS8A 16	TR10	132	180	257	O	●	4892	1870	3022	232	213	562
SS8A 17	TR10	132	180	257	O	●	5047	1870	3177	232	213	568
SS8A 18	TR10	132	180	257	O	●	5203	1870	3333	232	213	574
SS8A 19	TR10	147	200	300	O	●	5559	2070	3489	232	213	645
SS8A 20	TR10	147	200	300	O	●	5714	2070	3644	232	213	652

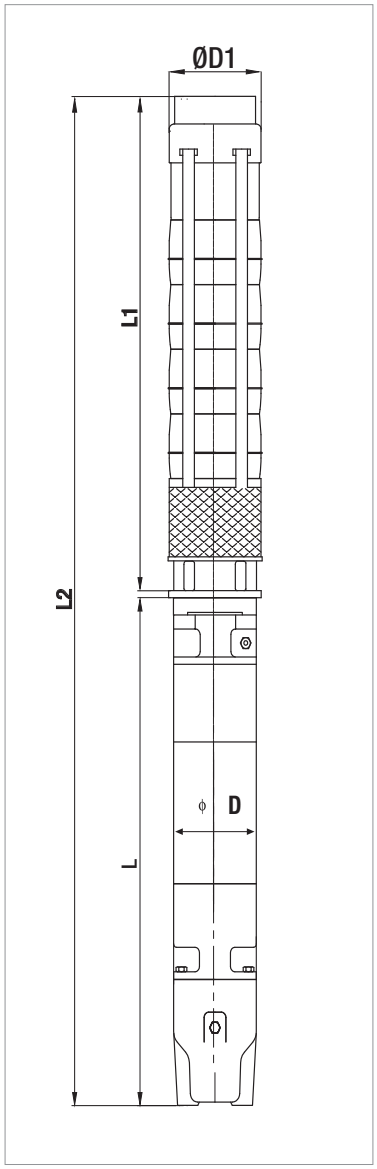
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR: 6“-10“ rewindable submersible motors.

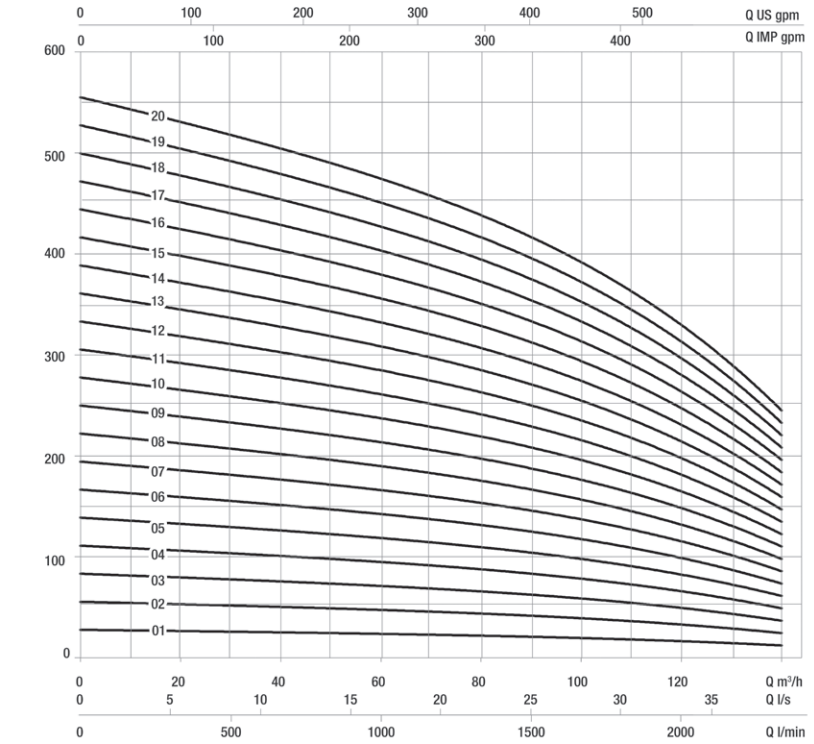
●	Allowed
O	Only PE2 + PA version

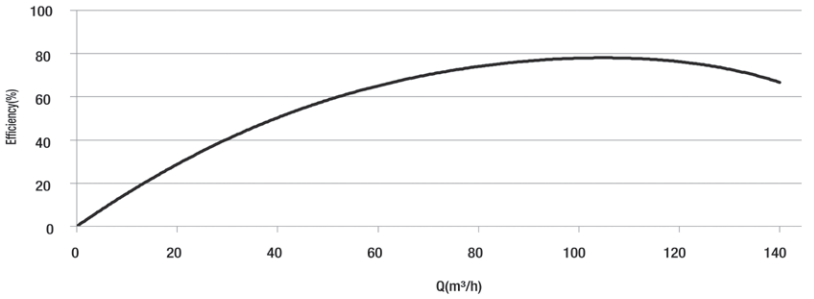
SS8A

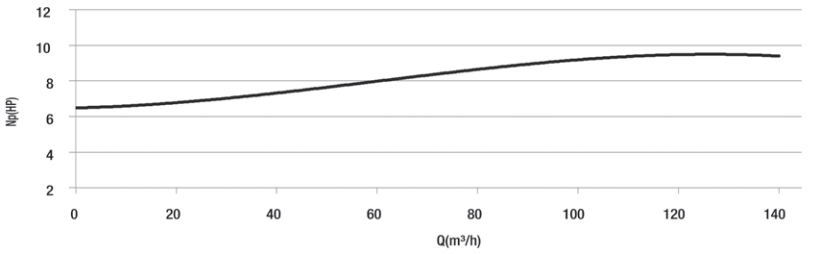
SUBMERSIBLE ELECTRIC PUMPS 8”

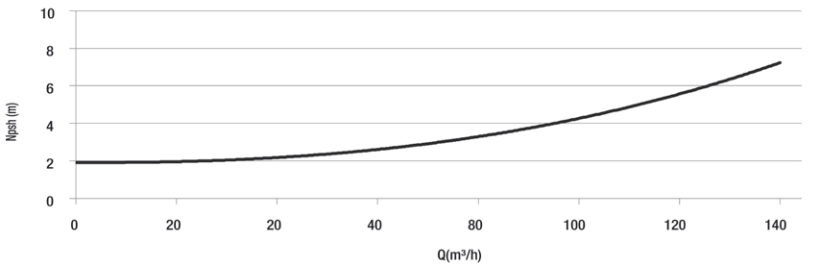
The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.











SS8B

SUBMERSIBLE ELECTRIC PUMPS 8”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	40	70	90	120	130	140	150	160	170	
	kW	HP	Q=l/min	0	666,6	1166,6	1500	2000	2166,6	2333,3	2500	2666,6	2833,3	
SS8B 01.B1	9,3	12,5		27	25	23	22	19	18	17	16	14	12	6"
SS8B 01	11	15		33	31	28	27	24	23	21	19	17	14	6"
SS8B 02.B2	18,5	25		54	50	46	44	39	37	34	32	28	24	6"
SS8B 02	22	30		65	61	57	53	48	45	42	38	34	29	6"
SS8B 03.B3	30	40		80	75	70	66	58	55	52	47	42	35	6"
SS8B 03	37	50		98	92	85	80	71	68	63	58	51	43	6"
SS8B 04	45	60		131	122	113	107	95	90	84	77	68	58	8"
SS8B 05.B3	55	75		146	136	126	119	106	100	94	86	76	64	8"
SS8B 05	55	75	H (mt)	163	153	142	134	119	113	105	96	85	72	8"
SS8B 06	75	100		196	183	170	160	143	135	126	115	102	87	8"
SS8B 07	75	100		228	214	198	187	166	158	147	135	119	101	8"
SS8B 08	92	125		261	245	227	214	190	180	168	154	136	115	8"
SS8B 09	110	150		294	275	255	240	214	203	189	173	153	130	8"
SS8B 10	110	150		326	306	283	267	238	225	210	192	171	144	8"
SS8B 11	132	180		359	336	312	294	261	248	231	211	188	159	10"
SS8B 12	132	180		392	367	340	320	285	270	252	231	205	173	10"
SS8B 13	147	200		424	397	368	347	309	293	273	250	222	187	10"

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS8B 01.B1	6GF	9,3	12,5	22	●	●	1371	685	686	141	213	80,6
	TR6	9,3	12,5	21	O	●	1553	867	686	144	213	87
SS8B 01	6GF	11	15	25,5	●	●	1416	730	686	141	213	85
	TR6	11	15	25	O	●	1583	897	686	144	213	92
SS8B 02.B2	6GF	18,5	25	41	●	●	1702	860	842	141	213	106
	TR6	18,5	25	39	O	●	1899	1057	842	144	213	122
SS8B 02	6GF	22	30	47	●	●	1762	920	842	141	213	109,6
	TR6	22	30	49	O	●	1929	1087	842	144	213	134
SS8B 03.B3	6GF	30	40	61,5	●	●	2047	1050	997	141	213	131,8
	TR6	30	40	65	O	●	2209	1212	997	144	213	155
SS8B 03	6GF	37	50	79,3	●	●	2177	1180	997	141	213	143,8
	TR6	37	50	80	O	●	2309	1312	997	144	213	165
SS8B 04	TR8	45	60	92	O	●	2423	1270	1153	192	213	229
SS8B 05.B3	TR8	55	75	109	O	●	2659	1350	1309	192	213	250
SS8B 05	TR8	55	75	109	O	●	2659	1350	1309	192	213	250
SS8B 06	TR8	75	100	145	O	●	3055	1590	1465	192	213	302
SS8B 07	TR8	75	100	145	O	●	3210	1590	1620	192	213	308
SS8B 08	TR8	92	125	177	O	●	3606	1830	1776	192	213	361
SS8B 09	TR8	110	150	213	O	●	3992	2060	1932	192	213	417
SS8B 10	TR8	110	150	213	O	●	4147	2060	2087	192	213	424
SS8B 11	TR10	132	180	257	O	●	4113	1870	2243	232	213	532
SS8B 12	TR10	132	180	257	O	●	4269	1870	2399	232	213	539
SS8B 13	TR10	147	200	300	O	●	4624	2070	2554	232	213	610

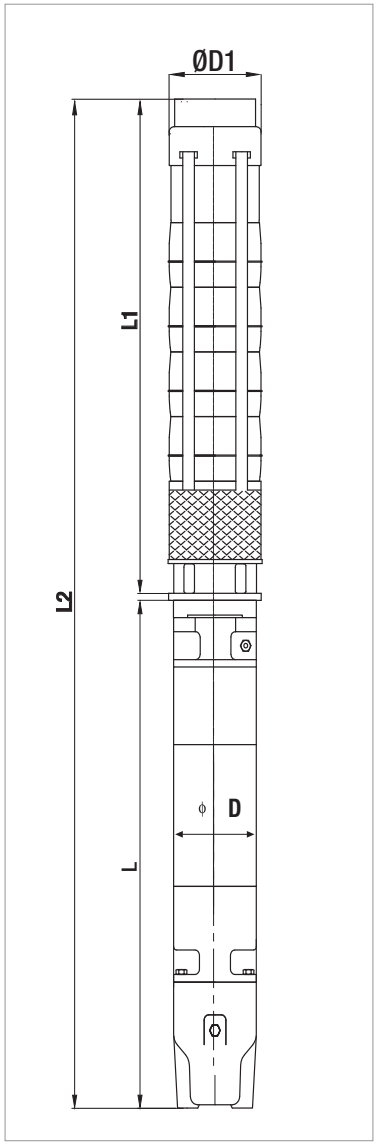
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR: 6“-10“ rewindable submersible motors.

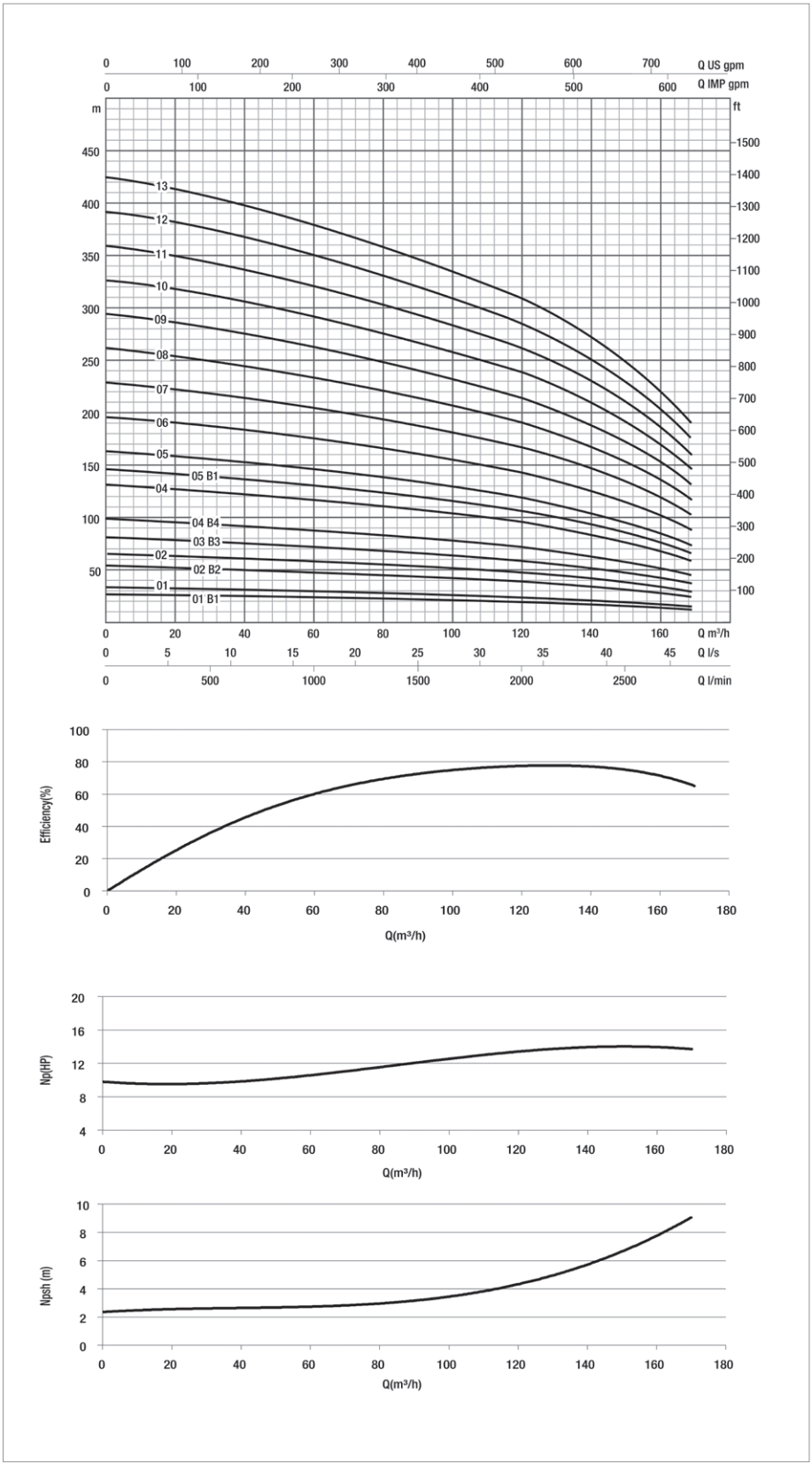
●	Allowed
O	Only PE2 + PA version

SS8B

SUBMERSIBLE ELECTRIC PUMPS 8”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





SS8C

SUBMERSIBLE ELECTRIC PUMPS 8”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	50	70	90	110	130	150	170	190	210	
	kW	HP	Q=l/min	0	833,3	1166,6	1500	1833,3	2166,6	2500	2833,3	3166,6	3500	
SS8C 01.B1	9,2	12,5		24	22	21	20	18	17	16	14	12	9	6”
SS8C 01	11	15		30	28	26	24	23	22	20	18	15	11	6”
SS8C 02.B2	18,5	25		48	44	42	39	37	34	32	28	23	17	6”
SS8C 02	22	30		60	55	52	49	46	43	40	35	29	22	6”
SS8C 03.B2	30	40		78	72	68	64	60	56	52	46	38	28	6”
SS8C 03	37	50		90	83	78	73	69	65	60	53	44	32	6”
SS8C 04	45	60		120	111	104	98	92	86	80	71	58	43	8”
SS8C 05	55	75		150	139	130	122	115	108	99	88	73	54	8”
SS8C 06.B3	63	85		162	150	141	132	124	116	107	95	79	58	8”
SS8C 06	75	100		180	166	156	147	138	129	119	106	88	65	8”
SS8C 07.B3	75	100	H (mt)	192	177	167	156	147	138	127	113	94	69	8”
SS8C 07	92	125		210	194	182	171	161	151	139	124	102	76	8”
SS8C 08	92	125		240	222	208	195	184	172	159	141	117	87	8”
SS8C 09	110	150		270	249	234	220	207	194	179	159	132	97	8”
SS8C 10	110	150		300	277	260	244	230	215	199	176	146	108	8”
SS8C 11	132	180		330	305	286	269	253	237	219	194	161	119	10“
SS8C 12	147	200		360	333	312	293	276	259	239	212	175	130	10“
SS8C 13	147	200		390	360	338	318	299	280	258	229	190	141	10“
SS8C 14	170	230		420	388	364	342	322	302	278	247	205	152	10“
SS8C 15	190	260		450	416	390	366	345	323	298	265	219	162	10“
SS8C 16	190	260		480	443	416	391	368	345	318	282	234	173	10“

SS8C

SUBMERSIBLE ELECTRIC PUMPS 8”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS8C 01.B1	6GF	9,2	12,5	22	●	●	1371	685	686	141	226	82,6
	TR6	9,2	12,5	21	O	●	1553	867	686	144	226	89
SS8C 01	6GF	11	15	25,5	●	●	1416	730	686	141	226	87
	TR6	11	15	25	O	●	1583	897	686	144	226	94
SS8C 02.B2	6GF	18,5	25	41	●	●	1702	860	842	141	226	107
	TR6	18,5	25	39	O	●	1899	1057	842	144	226	123
SS8C 02	6GF	22	30	47	●	●	1762	920	842	141	226	110,6
	TR6	22	30	49	O	●	1929	1087	842	144	226	135
SS8C 03.B2	6GF	30	40	61,5	●	●	2047	1050	997	141	226	133,8
	TR6	30	40	65	O	●	2209	1212	997	144	226	157
SS8C 03	6GF	37	50	79,3	●	●	2177	1180	997	141	226	145,8
	TR6	37	50	80	O	●	2309	1312	997	144	226	167
SS8C 04	TR8	45	60	92	O	●	2423	1270	1153	192	226	230
SS8C 05	TR8	55	75	109	O	●	2659	1350	1309	192	226	252
SS8C 06.B3	TR8	63	85	126	O	●	2955	1490	1465	192	226	284
SS8C 06	TR8	75	100	145	O	●	3055	1590	1465	192	226	303
SS8C 07.B3	TR8	75	100	145	O	●	3210	1590	1620	192	226	310
SS8C 07	TR8	92	125	177	O	●	3450	1830	1620	192	226	356
SS8C 08	TR8	92	125	177	O	●	3606	1830	1776	192	226	362
SS8C 09	TR8	110	150	213	O	●	3992	2060	1932	192	226	419
SS8C 10	TR8	110	150	213	O	●	4147	2060	2087	192	226	425
SS8C 11	TR10	132	180	257	O	●	4113	1870	2243	232	226	534
SS8C 12	TR10	147	200	300	O	●	4469	2070	2399	232	226	605
SS8C 13	TR10	147	200	300	O	●	4624	2070	2554	232	226	612
SS8C 14	TR10	170	230	348	O	●	4930	2220	2710	232	226	658
SS8C 15	TR10	190	260	405	O	●	5266	2400	2866	232	226	704
SS8C 16	TR10	190	260	405	O	●	5422	2400	3022	232	226	711

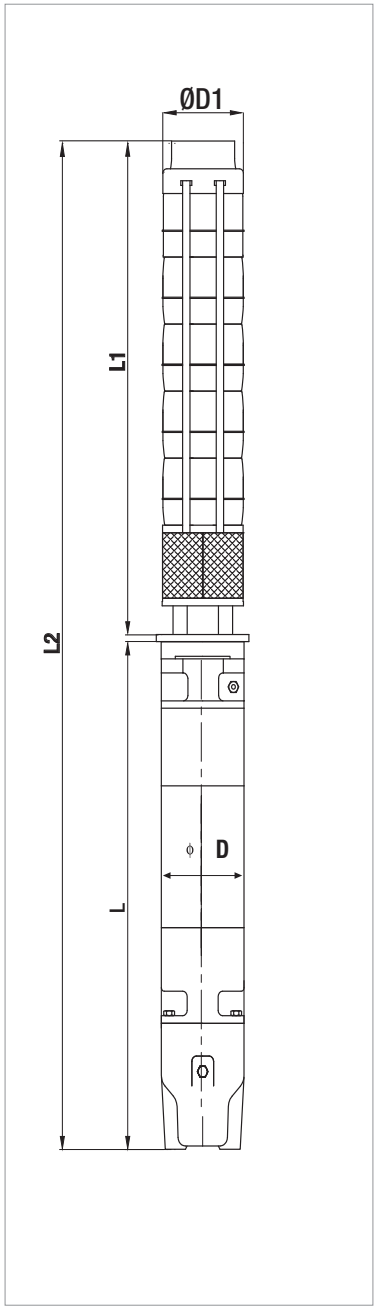
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR: 6“-10“ rewindable submersible motors.

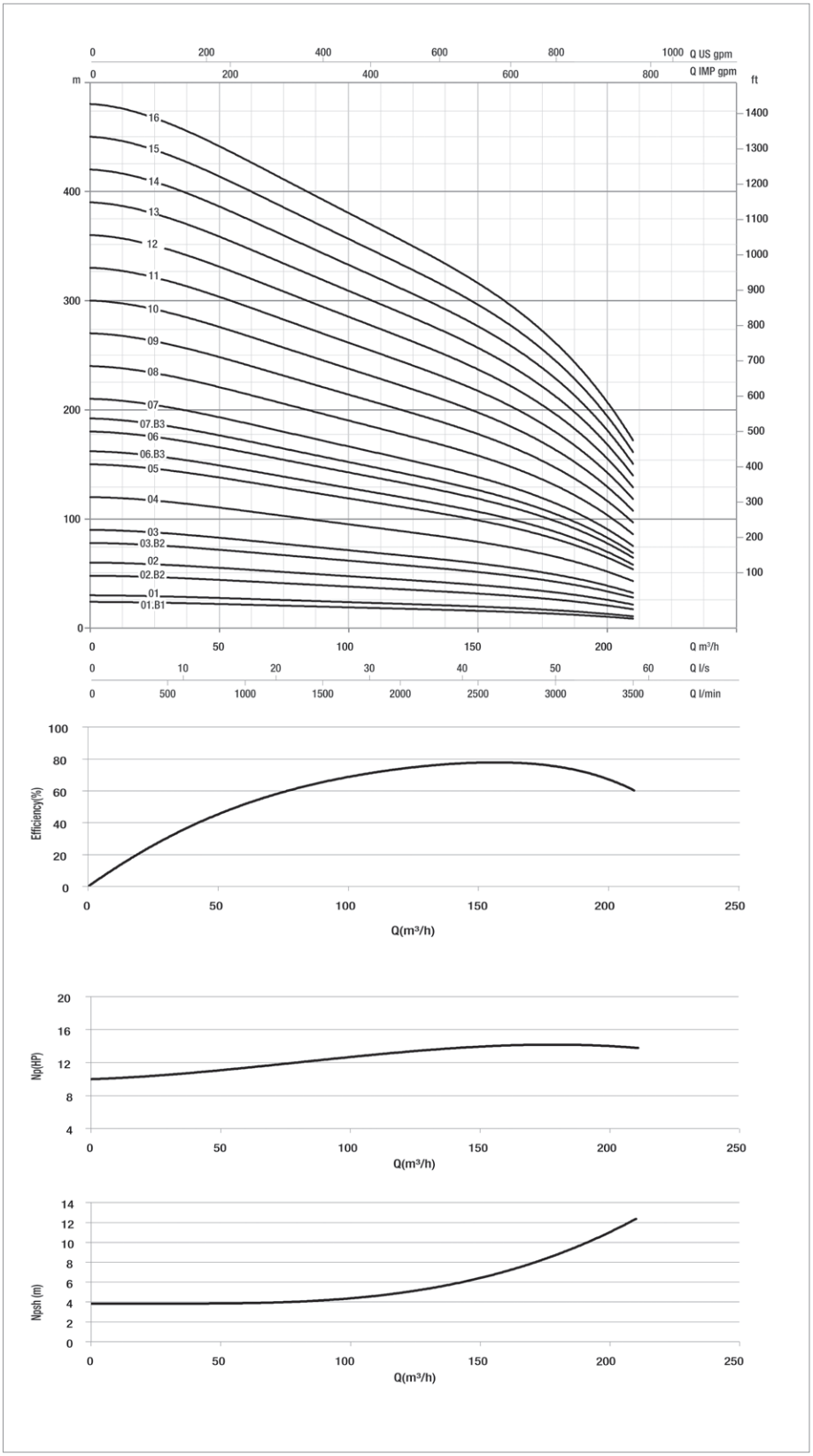
●	Allowed
O	Only PE2 + PA version

SS8C

SUBMERSIBLE ELECTRIC PUMPS 8”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





SS10A

SUBMERSIBLE ELECTRIC PUMPS 10”

TECHNICAL DATA

Performance range: flow up to 290 m3/h and max head of 385 m
Max. quantity of sand/silt: 50g/m3
Max. ambient temperature: 30°C (50°C available on request)
Outlet connection diameter (inside threaded): 6”
Nr of starts: refer to the motor specification
Motor Cooling flow: refer to the motor specification
Installation: horizontal or vertical, refer to the motor specification

APPLICATIONS

Multistage mixed-flow borehole electric pumps, completely made in stainless steel (AISI 304L or AISI 316 on request), usable for wells from a minimum diameter equal to pump size or greater and capable of developing a wide range of Flows and Heads.
These pumps can be used in a wide range of lifting, distributing, and pressuring application: domestic and general water supply; sprinkler and drip irrigations systems; fire-fighting installations; lowering of groundwater level; industrial supplies as mining, hot springs, autoclaves and tanks.
These pumps are suitable both for standard water and for aggressive water applications by choosing the proper manufacturing material (AISI 304L or AISI 316) both for hydraulic part and motor.
Special version of motors with PE2+PA windings can be used on request for high-temperature water applications up to maximum 50°C.
Pumps can be installed both vertically and horizontally simply by removing the non-return valve and adding a cooling sleeve to the suction case (the only remark is to check the motor applicability to horizontal operations, refer to the motor specifications section).

CONSTRUCTION FEATURES OF PUMP

Mixed flow pumps with diffusers, impellers, brackets, suction case and discharge case completely made of stainless steel AISI 304 in order to provide maximum strength, durability, wear and tear resistance.

The impellers are balanced and locked to the shaft with a specially shaped collet and nut coupling, in order to guarantee ease-to-assembly feature and avoid vibration sensitive malfunctions and noise increase during rotation.

Rubber bearings that drive the shaft are water lubricated and have sand channels to make enable the sand particles leave the pump with the pumped liquid (maximum permissible sand content 50 gr/m3).

Built-in non returned valve provided in order to minimize local friction losses.

Stainless steel strainer provided in order to prevent particles over a certain size from entering the pump.

Coupling with 6”, 8” or 10” motor depending on the power requested by hydraulic part:
- 6GF: 6” canned submersible motor
- TR6: 6” rewindable submersible motor
- TR8: 8” rewindable submersible motor
- TR10: 10” rewindable submersible motor

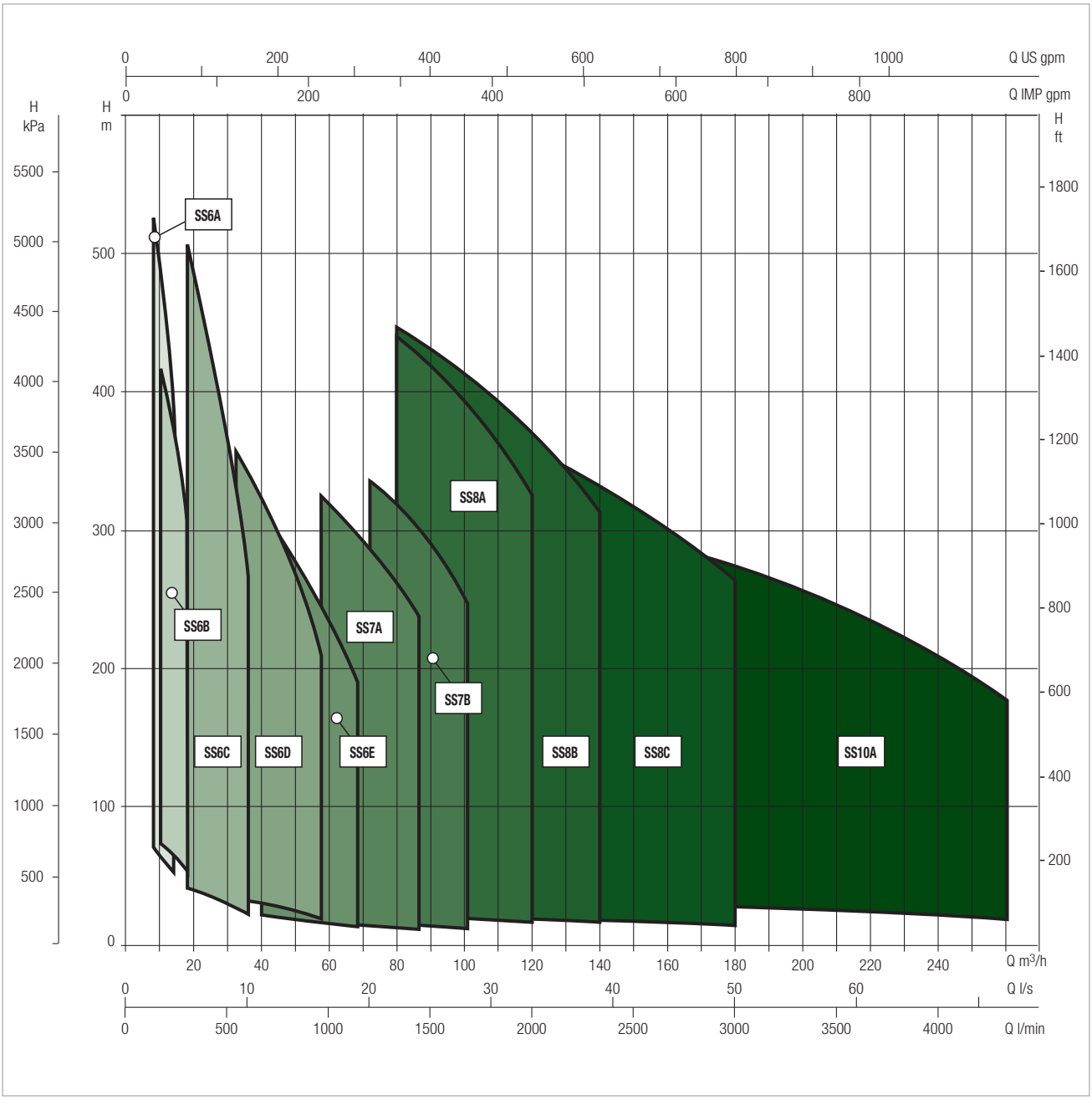
For inverter application refer to the detailed motor specification.

ON REQUEST:

- Pump body stainless steel AISI 316 for aggressive water application
- Impellers stainless steel AISI 316
- Motors in full stainless steel AISI 316 for aggressive water application
- Star/Delta starting version
- Special version of the motor for high temperature application
- Non-standard power coupling

PERFORMANCE RANGE

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.

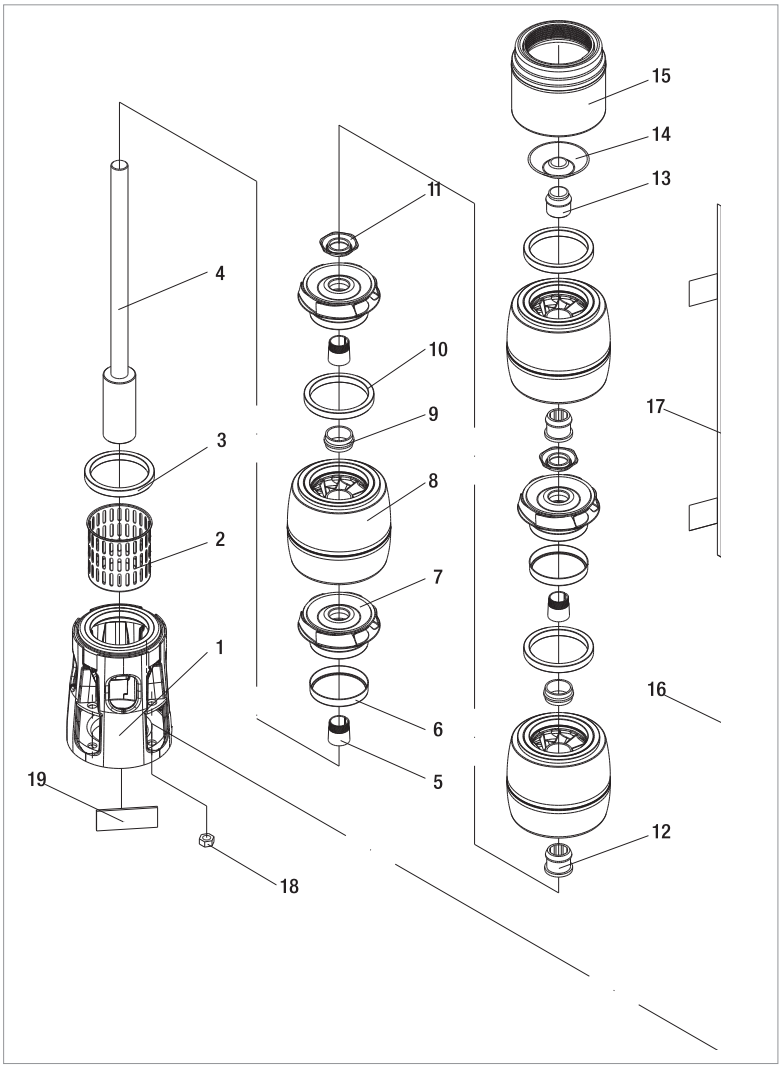


SS10A

SUBMERSIBLE ELECTRIC PUMPS 10”

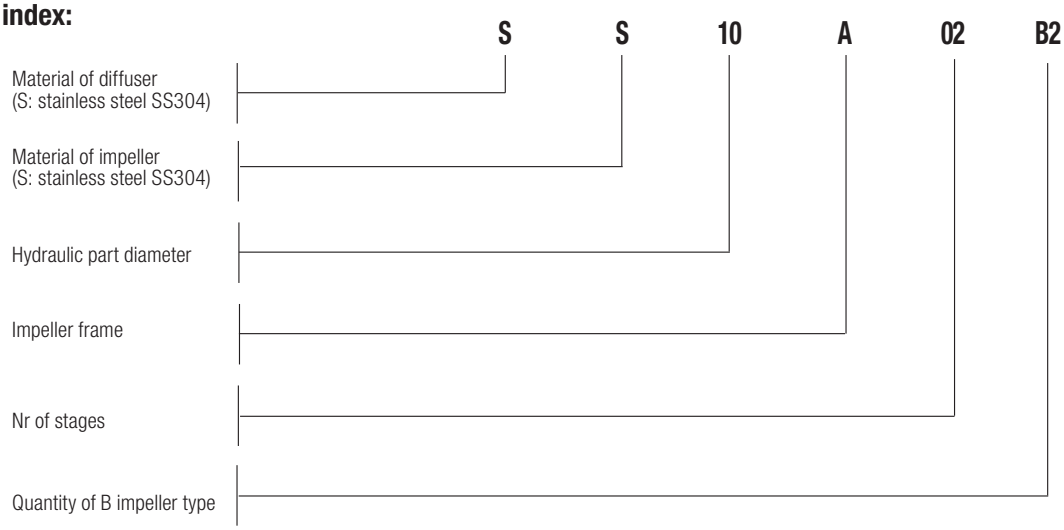
MATERIALS

N°	Part Name	Material
1	Suction Case	Stainless Steel (AISI 304L)
2	Filter	Stainless Steel (AISI 304L)
3	Suction Case Wear Ring	Bronze (ASTM B145-4A)
4	Pump Shaft	Stainless Steel (AISI 420)
5	Collet	Stainless Steel
6	Impeller Wear Ring	STAINLESS STEEL (AISI 304)
7	Impeller	Stainless Steel (AISI 304L)
8	Diffuser	Stainless Steel (AISI 304L)
9	Rubber Bearing	Rubber
10	Diffuser Wear Ring	Rubber
11	Nut for Stop Ring	Stainless Steel (AISI 304L)
12	Bearing	Rubber
13	Shaft Stopper	Bronze (ASTM B145-4A)
14	Valve	Stainless Steel (AISI 304)
15	Discharge Case	Stainless Steel (AISI 304)
16	TIE ROD	STAINLESS STEEL (AISI 304L)
17	CABLE GUARD	STAINLESS STEEL (AISI 304)
18	TIR ROD NUT	STAINLESS STEEL (AISI 303)
19	NAME PLATE	STAINLESS STEEL (AISI 304)



– Denomination index:

(EXAMPLE)



SS10A

SUBMERSIBLE ELECTRIC PUMPS 10”

PERFORMANCE 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA											STANDARD MOTOR COUPLING
	P2 NOMINAL		Q=m³h	0	50	100	140	180	200	220	240	260	290	
	kW	HP	Q=l/min	0	833,3	1666,6	2333,3	3000	3333,3	3666,6	4000	4333,3	4833,3	
SS10A 01.B1	15	20		29	27	25	22	20	19	18	16	15	11	6”
SS10A 01	18,5	25		39	36	33	30	27	25	24	22	19	15	6”
SS10A 02.B2	30	40		58	54	49	44	40	37	35	32	29	22	6”
SS10A 02	37	50		77	72	66	59	53	50	47	44	39	30	6”
SS10A 03.B3	45	60		87	81	74	66	59	56	53	49	44	34	8”
SS10A 03.B1	55	75		106	99	91	81	73	69	65	60	53	41	8”
SS10A 03	63	85		116	108	99	89	80	75	71	65	58	45	8”
SS10A 04.B2	75	100	H (mt)	135	126	115	103	93	88	82	76	68	53	8”
SS10A 04	75	100		155	145	132	119	106	100	94	87	78	60	8”
SS10A 05	92	125		194	181	165	148	133	125	118	109	97	75	8”
SS10A 06	110	150		232	217	198	178	159	151	141	131	117	91	8”
SS10A 07	132	180		271	253	231	207	186	176	165	152	136	106	10”
SS10A 08	147	200		310	289	264	237	212	201	189	174	156	121	10”
SS10A 09	170	230		349	325	298	267	239	226	212	196	175	136	10”
SS10A 10	190	260		387	362	331	296	265	251	236	218	195	151	10”

SS10A

SUBMERSIBLE ELECTRIC PUMPS 10”

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA				HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	TOTAL WEIGHT Kg
		P2 NOMINAL		In A	OPERATING BY INVERTER							
		kW	HP									
SS10A 01.B1	6GF	15	20	33,4	●	●	1579	785	794	141	247	103
	TR6	15	20	32	O	●	1791	997	794	144	247	121
SS10A 01	6GF	18,5	25	41	●	●	1654	860	794	141	247	111
	TR6	18,5	25	39	O	●	1851	1057	794	144	247	127
SS10A 02.B2	6GF	30	40	61,5	●	●	2020	1050	970	141	247	141,8
	TR6	30	40	65	O	●	2182	1212	970	144	247	165
SS10A 02	6GF	37	50	79,3	●	●	2150	1180	970	141	247	153,8
	TR6	37	50	80	O	●	2282	1312	970	144	247	175
SS10A 03.B3	TR8	45	60	92	O	●	2417	1270	1147	192	247	243
SS10A 03.B1	TR8	55	75	109	O	●	2497	1350	1147	192	247	258
SS10A 03	TR8	63	85	126	O	●	2637	1490	1147	192	247	284
SS10A 04.B2	TR8	75	100	145	O	●	2913	1590	1323	192	247	313
SS10A 04	TR8	75	100	145	O	●	2913	1590	1323	192	247	313
SS10A 05	TR8	92	125	177	O	●	3329	1830	1499	192	247	370
SS10A 06	TR8	110	150	213	O	●	3735	2060	1675	192	247	431
SS10A 07	TR10	132	180	257	O	●	3721	1870	1851	232	247	544
SS10A 08	TR10	147	200	300	O	●	4098	2070	2028	232	247	619
SS10A 09	TR10	170	230	348	O	●	4424	2220	2204	232	247	670
SS10A 10	TR10	190	260	405	O	●	4780	2400	2380	232	247	721

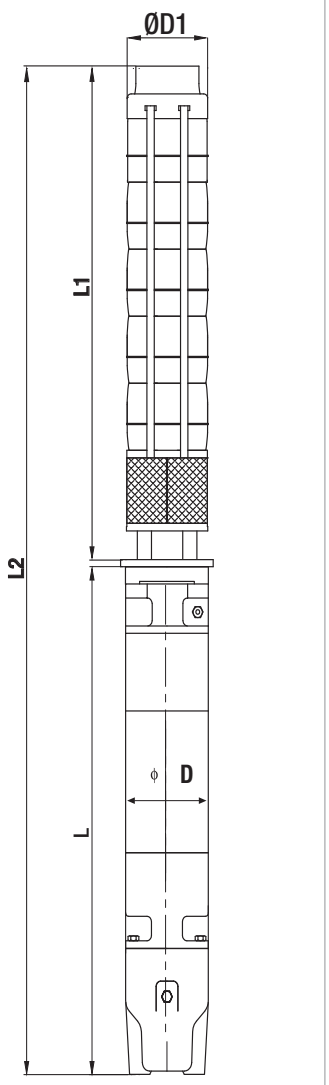
*** Motor 6GF:** 6“ canned submersible motors.
Motor TR: 6“-10“ rewindable submersible motors.

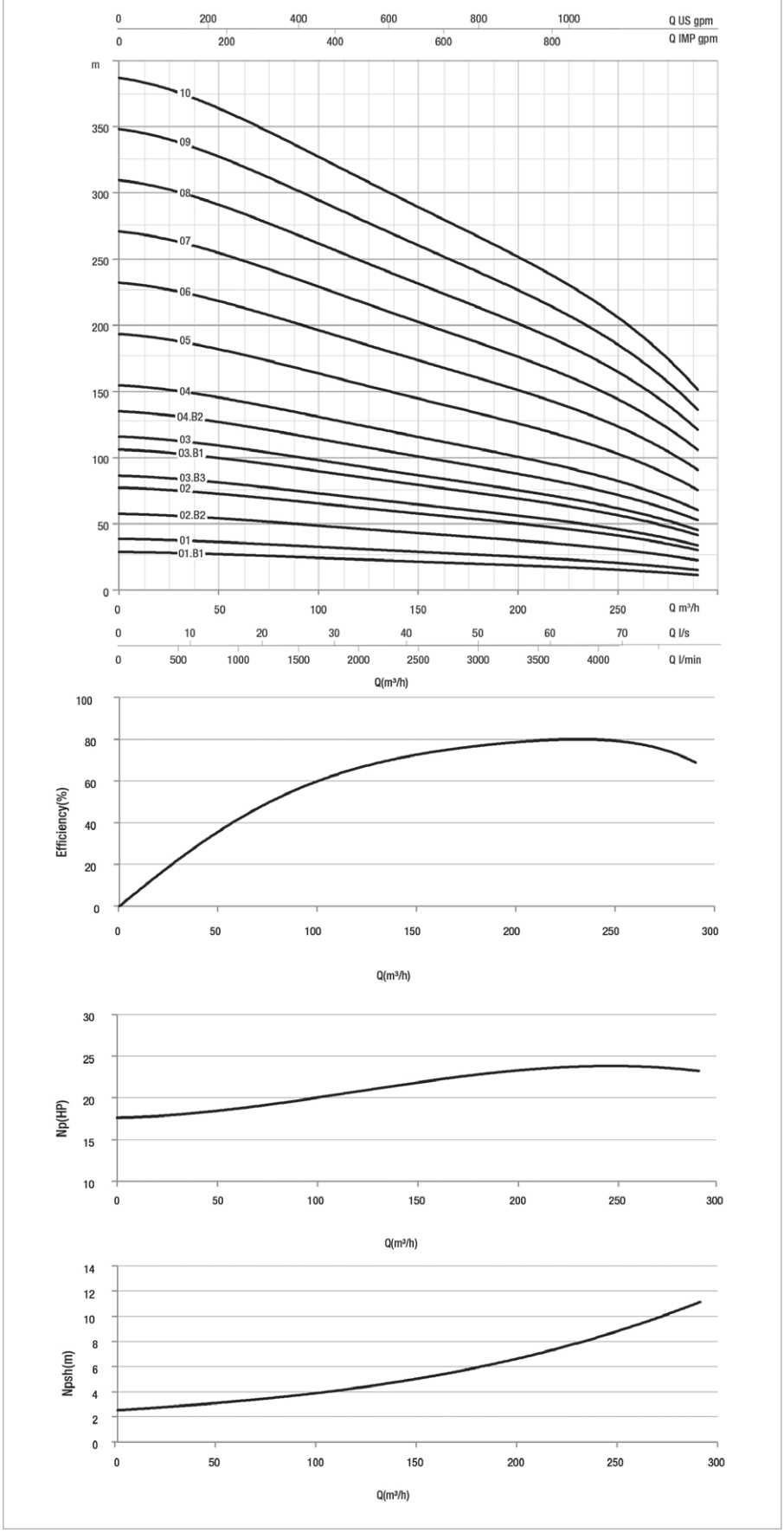
●	Allowed
O	Only PE2 + PA version

SS10A

SUBMERSIBLE ELECTRIC PUMPS 10”

The performance curves are based on the kinematic viscosity values = 1 mm2/s and density equal to 1000 Kg/m3. Curve tolerance according to ISO 9906.





SMC6

6” SUBMERSIBLE ELECTRIC PUMPS

SMC6 6GF TR8

TECHNICAL DATA

Operating range: up to 84 m^3/h with head up to 452 m.
Pumped liquid: clean, free of solids and abrasives, chemically neutral, with properties similar to water.
Starts/hour: see the coupled motor
Cooling flow: see the coupled motor
Maximum permitted amount of sand: 40 g/m^3
Ambient temperature: 30 °C
Minimum recommended level on suction line: 1 m
Installation: horizontal or vertical

Electric pumps complying with the 2009/125/EC Directive (EcoDesign - ErP)
M.E.I. ≥ 0,40

APPLICATIONS

Multistage semiaxial submersible electric pumps for wells measuring 6” or above, able to generate a broad range of flow rates and heads.
They are used extensively for the lifting, distribution and pressurisation of industrial water systems, the supply of pressure vessels and tanks, firefighting systems and irrigation systems.
Application with clean, non-aggressive water free from solids or abrasive substances.

CONSTRUCTION FEATURES OF THE PUMP

Cast iron pump body treated with cataphoresis paint coating and dynamically balanced impellers in microcast AISI 304 stainless steel coupled on the shaft with pull tab. Shaft guided with coaxial bush bearings and fully protected with bushes.

Pump with check valve of low pressure loss.
Threaded delivery port.

Coupling with motors of 4”, 6” or 8” depending on the required hydraulic power:
4GG: encapsulated 4” submersible motor
4OL: 4" submersible motor in oil bath
6GF: encapsulated 6” submersible motor
TR6: rewindable 6” submersible motor
TR8: rewindable 8” submersible motor
Refer to the technical data sheets of the specific model for the electrical characteristics of the coupled motors and the specifications for operation with inverter.

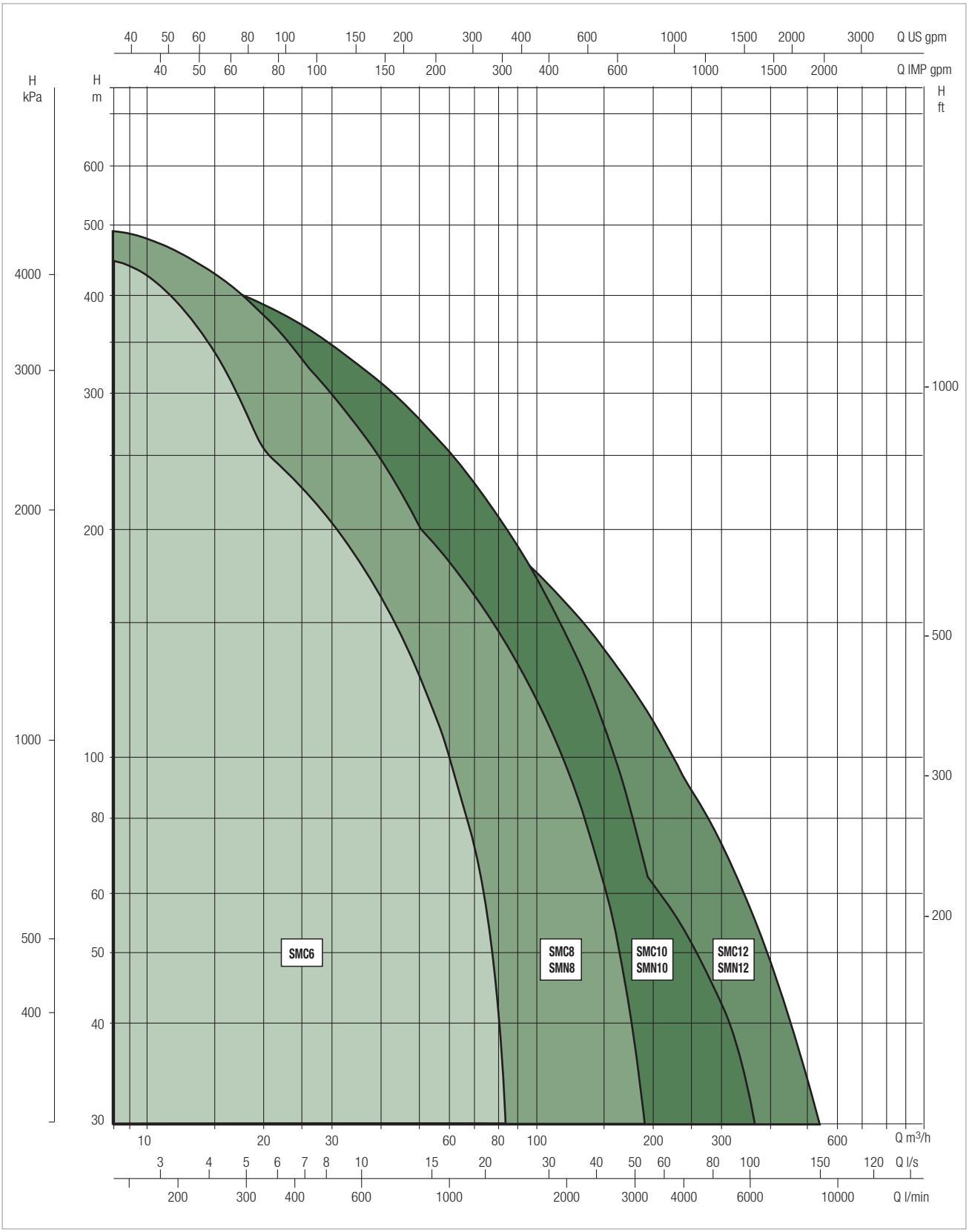
ON REQUEST

Motor in AISI 316 stainless steel for use in aggressive water.
Non-standard pump/motor couplings.
Star/Delta starting version.
Motor version for high temperature of water.

PERFORMANCE RANGE

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

GRAPHIC SELECTION TABLE

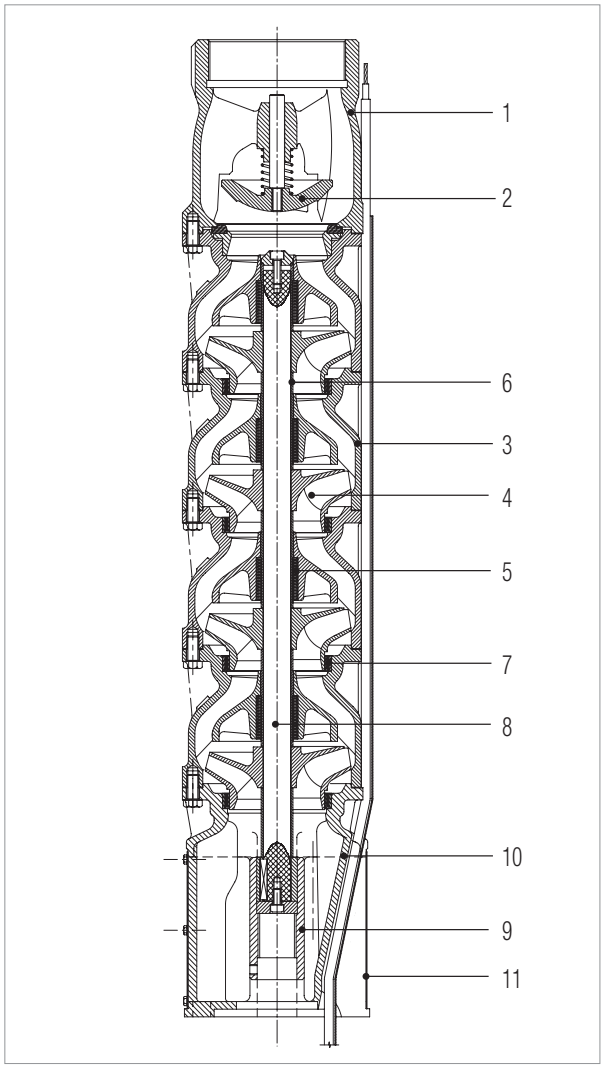


SMC6

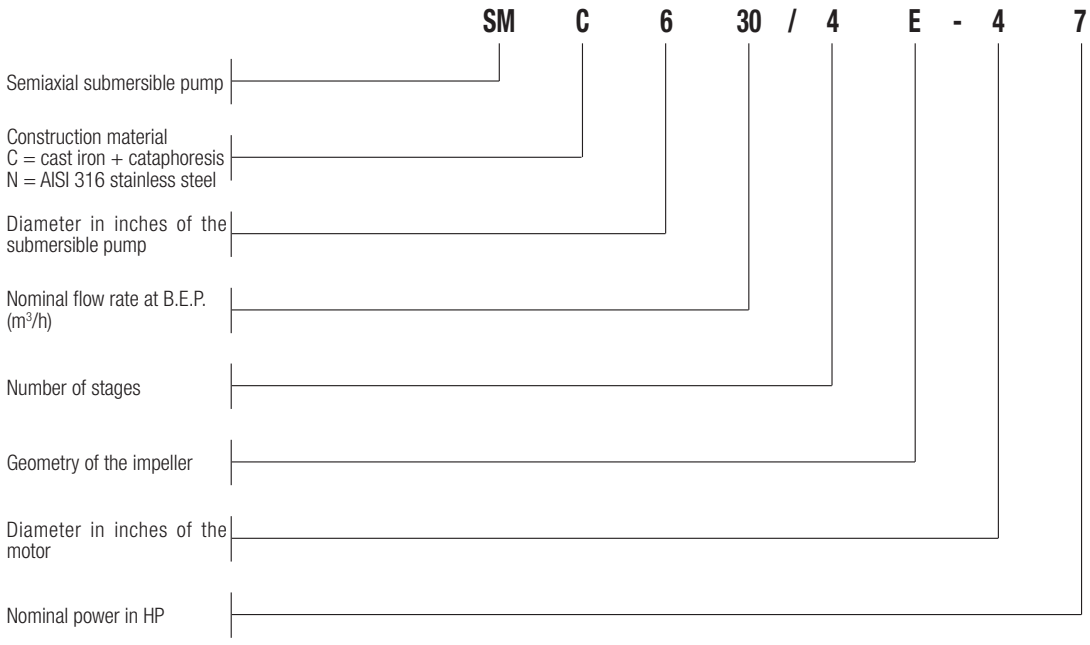
6" SUBMERSIBLE ELECTRIC PUMPS

MATERIALS

N.	PARTS	MATERIALS
1	DELIVERY BODY	CAST IRON + CATAPHORESIS
2	NON-RETURN VALVE	STAINLESS STEEL
3	DIFFUSER	CAST IRON + CATAPHORESIS
4	IMPELLER	AISI 304 STAINLESS STEEL
5	GUIDE BEARING	RUBBER
6	BUSH	CHROME-PLATED BRASS
7	WEAR RING	RUBBER FOR SMC6 30
	WEAR RING	STEEL FOR SMC6 45 AND SMC6 60
8	PUMP SHAFT	STAINLESS STEEL
9	PIPE	STAINLESS STEEL
10	SUCTION BODY	CAST IRON + CATAPHORESIS
11	FILTER GRID	STAINLESS STEEL



– Legend:
(example)



SMC6 30

6" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA													COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m³h	0	9	12	15	18	21	24	27	30	33	36	42	
	kW	HP	Q=l/min	0	150	200	250	300	350	400	450	500	550	600	700	
30/4E-47	5,5	7,5		66,5	63	62	60,5	59	57	54,5	51,5	47,5	42,5	36,5	23	4"
30/5E-610	7,5	10		83	79	77	75,5	73,5	71	68	64	59	53	45	28,5	6"
30/7G-612	9,2	12,5		113	107,5	105,5	102,5	99	95,5	90	84	76,5	67,5	56,5	32,5	6"
30/8E-615	11	15		133	126	123,5	120,5	117,5	113,5	108,5	102	94	84	71,5	45	6"
30/10F-617	13	17,5		161,5	150,5	148	144,5	140,5	136	129	120	109	96	79,5	49	6"
30/11E-620	15	20		182,5	171	167,5	164	159,5	154,5	147	137,5	125,5	111	93	58	6"
30/12E-625	18,5	25	H (m)	199,5	186,5	183	178,5	174	168,5	160	149,5	136,5	121	101,5	63,5	6"
30/14E-625	18,5	25		232,5	217,5	213,5	208,5	203	196,5	187	174,5	159,5	141	118	73,5	6"
30/15E-630	22	30		249	233	228,5	223,5	217,5	210,5	200	187	170,5	151	126,5	79	6"
30/17F-630	22	30		274,5	256	251,5	245,5	239	230,5	219	204	185	162,5	135	82	6"
30/20F-635	26	35		322,5	304	297,5	290	282	272,5	259	240,5	217,5	189	155	92,5	6"
30/22E-640	30	40		361	339	332	325	318	306	291	271,5	246	215	177	106,5	6"
30/25F-650	37	50		403	380	372	362,5	352,5	340,5	323,5	301	271,5	236	193,5	115,5	6"
30/28F-650	37	50		451,5	425,5	416,5	405,5	394,5	381,5	362	337	304	264,5	216,5	129	6"

SMC6 30

6" SUBMERSIBLE ELECTRIC PUMPS

ELECTRICAL DATA AND DIMENSIONS

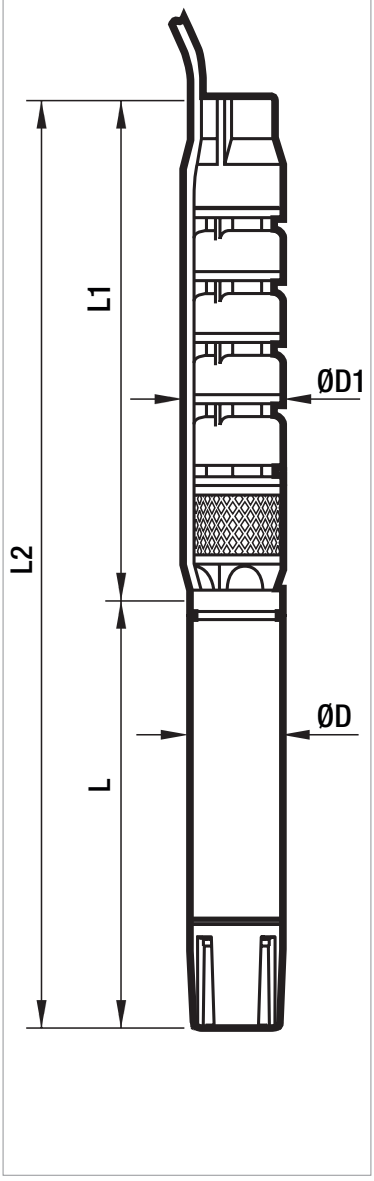
MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN GAS	HYDRAULIC WEIGHT kg	MOTOR WEIGHT kg
		P2 NOMINAL		In A										
		kW	HP											
30/4E-47	4GG	5,5	7,5	14	●	●	1318	684	634	94	150	2½"	28	27
	4OL	5,5	7,5	13	●	●	1292	658		94			28	24
30/5E-610	6GF	7,5	10	18	●	●	1370	660	710	141	150	2½"	33	47
	TR6	7,5	10	18	O	●	1547	837		144			33	53
30/7G-612	6GF	9,2	12,5	22	●	●	1560	685	875	141	150	2½"	42	50
	TR6	9,2	12,5	21	O	●	1742	867		144			42	55
30/8E-615	6GF	11	15	25,5	●	●	1688	730	958	141	150	2½"	46	55
	TR6	11	15	25	O	●	1855	897		144			46	60
30/10F-617	6GF	15	20	33,4	●	●	1908	785	1123	141	150	2½"	55	60
	TR6	13	17,5	29	O	●	2050	927		144			55	65
30/11E-620	6GF	15	20	33,4	●	●	1990	785	1205	141	150	2½"	60	60
	TR6	15	20	32	O	●	2202	997		144			60	77
30/12E-625	6GF	18,5	25	41	●	●	2148	860	1288	141	150	2½"	65	68
	TR6	18,5	25	39	O	●	2345	1057		144			65	83
30/14E-625	6GF	18,5	25	41	●	●	2313	860	1453	141	150	2½"	74	68
	TR6	18,5	25	39	O	●	2510	1057		144			74	83
30/15E-630	6GF	22	30	47	●	●	2455	920	1535	141	150	2½"	78	74
	TR6	22	30	49	O	●	2622	1087		144			78	95
30/17F-630	6GF	22	30	47	●	●	2620	920	1700	141	150	2½"	88	74
	TR6	22	30	49	O	●	2787	1087		144			88	95
30/20F-635	6GF	30	40	61,5	●	●	2998	1050	1948	141	153	2½"	101	89
	TR6	26	35	58	O	●	3105	1157		144			101	105
30/22E-640	6GF	30	40	61,5	●	●	3163	1050	2113	141	153	2½"	110	89
	TR6	30	40	65	O	●	3325	1212		144			110	110
30/25F-650	6GF	37	50	79,3	●	●	3540	1180	2360	141	153	2½"	124	100
	TR6	37	50	80	O	●	3672	1312		144			124	120
30/28F-650	6GF	37	50	79,3	●	●	3788	1180	2608	141	153	2½"	138	100
	TR6	37	50	80	O	●	3920	1312		144			138	120

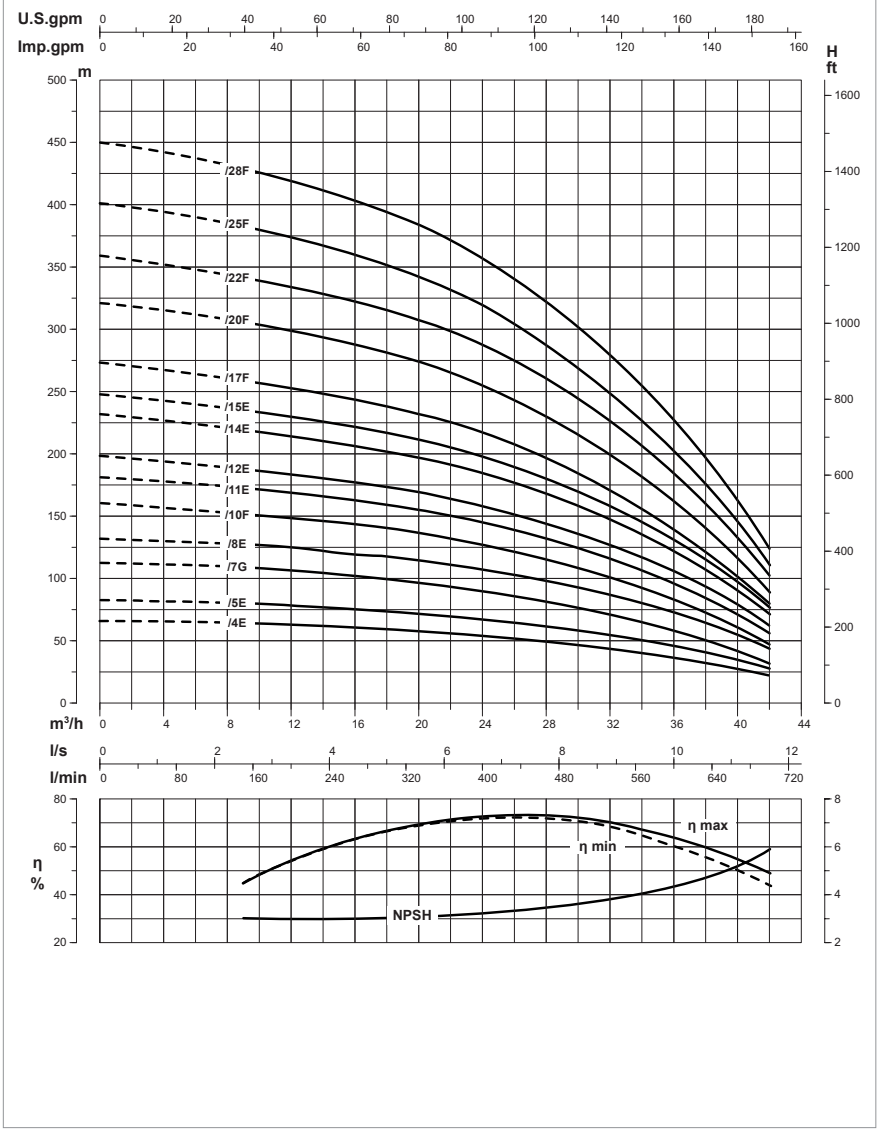
*** 4GG MOTOR:** 4" encapsulated in water bath
4OL MOTOR: 4" in oil bath
6GF MOTOR: 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

●	Permitted
O	Only version PE2 + PA
Δ	Contact our sales network

SMC6 30

6” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

Compliance with MEI

SMC6 45

6" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA														COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m3h	0	12	18	24	30	36	42	45	48	54	60	66		
	kW	HP	Q=l/min	0	200	300	400	500	600	700	750	800	900	1000	1100		
45/3H-45	4	5,5		39	35,5	33,5	32	30,5	28,5	26	24,5	23	18,5	14	9		4"
45/4H-47	5,5	7,5		52	47,5	45	43	41	38,5	35	33	30,5	25,5	19	13		4"
45/5G-610	7,5	10		70	64	61,5	59,5	57	54	49,5	47	44	37,5	29,5	20		6"
45/6F-612	9,2	12,5		85,5	78,5	75	72,5	69,5	66	60,5	57,5	53,5	45	35	24,5		6"
45/7E-615	11	15		101	95,5	92	89	85	80	72,5	68,5	64	53,5	41,5	28,5		6"
45/8E-617	13	17,5		116	110	106,5	103	99	93	85	80,5	75	63	48	31,5		6"
45/10F-620	15	20		140,5	130	124,5	119,5	114,5	108	99	93,5	87,5	73,5	57	39,5		6"
45/11F-625	18,5	25	H (m)	154,5	143	137	131,5	125,5	118,5	108,5	102,5	96	80,5	62,5	43,5		6"
45/12F-625	18,5	25		168,5	156	149	143,5	137	129,5	118,5	112	104,5	87,5	68	47		6"
45/13F-630	22	30		182,5	168,5	161,5	155,5	148,5	140	128	121	113	95	73,5	51		6"
45/14E-630	22	30		201,5	190,5	183,5	177	169	159	144,5	136	126,5	105,5	81,5	57		6"
45/17F-635	26	35		238,5	220,5	211	203	194	183	167,5	158	147,5	123,5	95,5	66		6"
45/20F-640	30	40		280,5	259,5	248,5	238,5	228	215	196,5	186	173,5	145,5	112	75		6"
45/22G-645	37	50		308	284,5	274	263	250	234	212,5	200,5	187	157	121	78,5		6"
45/24F-650	37	50		336,5	311	298	286	273,5	258	236	222,5	208	174	134,5	93		6"

SMC6 45

6" SUBMERSIBLE ELECTRIC PUMPS

ELECTRICAL DATA AND DIMENSIONS

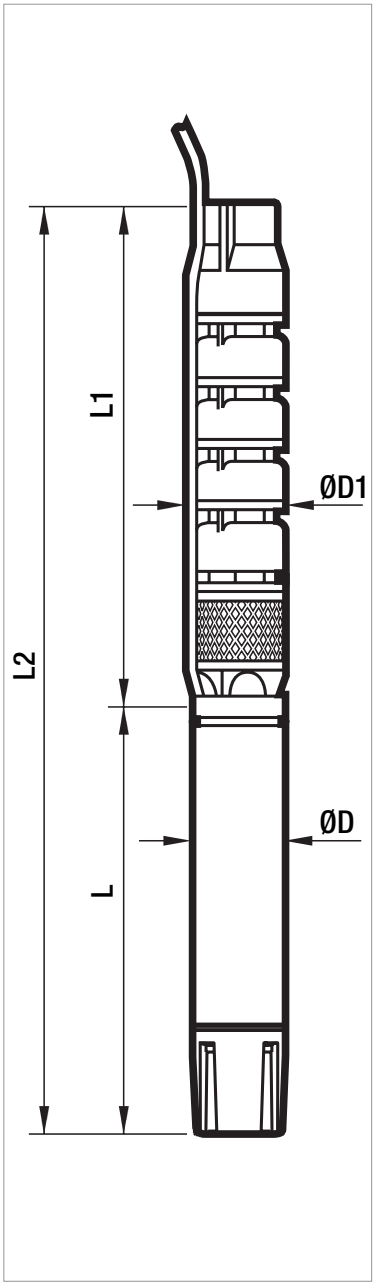
MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN GAS	HYDRAULIC WEIGHT kg	MOTOR WEIGHT kg
		P2 NOMINAL		In A										
		kW	HP											
45/3H-45	4GG	4	5,5	10	●	●	1278	614	664	94	149	3"	26	23
	4OL	4	5,5	9,5	●	●	1252	588		94			26	17
45/4H-47	4GG	5,5	7,5	14	●	●	1318	684	773	94	149	3"	31	27
	4OL	5,5	7,5	13	●	●	1292	658		94			31	24
45/5G-610	6GF	7,5	10	18	●	●	1548	660	888	141	150	3"	37	47
	TR6	7,5	10	18	○	●	1725	837		144			37	53
45/6F-612	6GF	9,2	12,5	22	●	●	1688	685	1003	141	150	3"	42	50
	TR6	9,2	12,5	21	○	●	1870	867		144			42	55
45/7E-615	6GF	11	15	25,5	●	●	1848	730	1118	141	150	3"	47	55
	TR6	11	15	25	○	●	2015	897		144			47	60
45/8E-617	6GF	15	20	33,4	●	●	2018	785	1233	141	150	3"	53	60
	TR6	13	17,5	29	○	●	2160	927		144			53	65
45/10F-620	6GF	15	20	33,5	●	●	2248	785	1463	141	150	3"	64	60
	TR6	15	20	32	○	●	2460	997		144			64	77
45/11F-625	6GF	18,5	25	41	●	●	2438	860	1578	141	150	3"	69	68
	TR6	18,5	25	39	○	●	2635	1057		144			69	83
45/12F-625	6GF	18,5	25	41	●	●	2553	860	1693	141	150	3"	74	68
	TR6	18,5	25	39	○	●	2750	1057		144			74	83
45/13F-630	6GF	22	30	47	●	●	2728	920	1808	141	153	3"	80	74
	TR6	22	30	49	○	●	2895	1087		144			80	95
45/14E-630	6GF	22	30	47	●	●	2843	920	1923	141	153	3"	85	74
	TR6	22	30	49	○	●	3010	1087		144			85	95
45/17F-635	6GF	30	40	61,5	●	●	3318	1050	2268	141	153	3"	101	89
	TR6	26	35	58	○	●	3425	1157		144			101	105
45/20F-640	6GF	30	40	61,5	●	●	3663	1050	2613	141	153	3"	117	89
	TR6	30	40	65	○	●	3825	1212		144			117	110
45/22G-645	6GF	37	50	79,3	●	●	4023	1180	2843	141	153	3"	128	100
	TR6	37	50	80	○	●	4155	1312		144			128	120
45/24F-650	6GF	37	50	79,3	●	●	4253	1180	3073	141	153	3"	139	100
	TR6	37	50	80	○	●	4385	1312		144			139	120

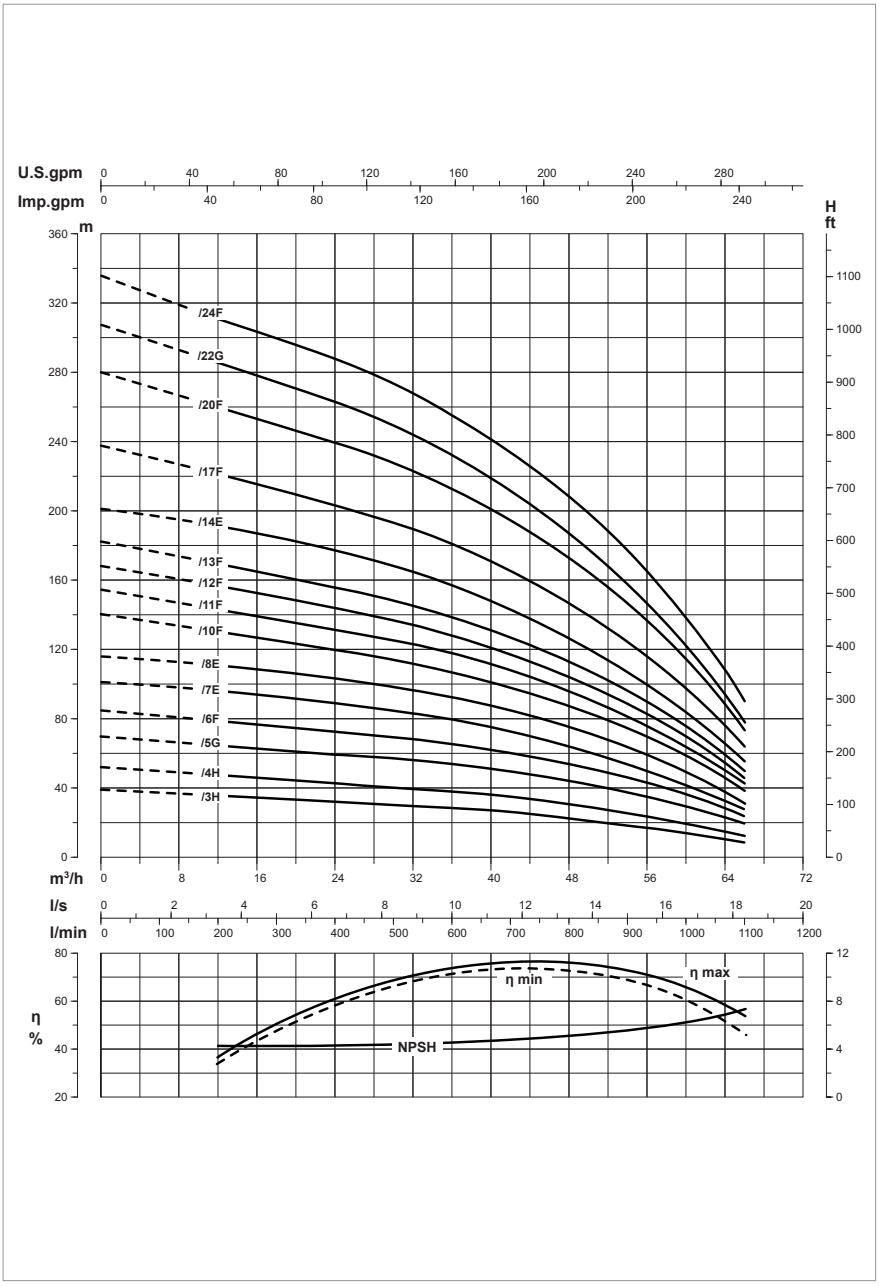
*** 4GG MOTOR:** 4" encapsulated in water bath
4OL MOTOR: 4" in oil bath
6GF MOTOR: 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

●	Permitted
○	Only version PE2 + PA
Δ	Contact our sales network

SMC6 45

6” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

Compliance with MEI

SMC6 60

6" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA													COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m3h	0	18	30	36	42	48	54	60	66	72	78	84	
	kW	HP	Q=l/min	0	300	500	600	700	800	900	1000	1100	1200	1300	1400	
60/2G-45	4	5,5	H (m)	26,5	24,5	23,5	22,5	21,5	20	18,5	16	14	11	8	5	4"
60/3G-47	5,5	7,5		39,5	37	35,5	34	32,5	30,5	28	24,5	21	17	13	8	4"
60/4G-610	7,5	10		52	50,5	48,5	47	45	42	39	34,5	30	25	19,5	13	6"
60/5G-612	9,2	12,5		65	63	60,5	58,5	56	52,5	48,5	43	37	31	24	16	6"
60/6G-615	11	15		78	75,5	72,5	70	67,5	63	58	51,5	44,5	36,5	28	18,5	6"
60/7E-617	13	17,5		94,5	89	83,5	81	77,5	72,5	67	59,5	51	42	32	22,5	6"
60/8E-620	15	20		108	101,5	95,5	92,5	88,5	83	76,5	68	58,5	47,5	36,5	25,5	6"
60/9E-625	18,5	25		121,5	114	107,5	104	99,5	93	86	76	65,5	53,5	41	28	6"
60/10E-625	18,5	25		135	126,5	119,5	115,5	110,5	103,5	95,5	84,5	72,5	59	45	31	6"
60/11E-630	22	30		148	139,5	131,5	127	121,5	113,5	104,5	93	79,5	65	49,5	34	6"
60/12E-630	22	30		161,5	152	143	138,5	132,5	124	114	101	87	70,5	54	36,5	6"
60/14E-635	26	35		188,5	178,5	169,5	163,5	156,5	146	134	119,5	103,5	85,5	66,5	44,5	6"
60/16E-640	30	40		215,5	204	193,5	187	178,5	166,5	153	136,5	118	97,5	75,5	50,5	6"
60/18F-650	37	50		238	225	213,5	206	196,5	183	167	148,5	128	105	80	52,5	6"
60/20E-650	37	50		269,5	255	242	233,5	223	208	191,5	170	147	121,5	94	62,5	6"
60/24E-660	45	60		323,5	306	290	280	267,5	249,5	229,5	204	176,5	145,5	112	74,5	6"

SMC6 60

6" SUBMERSIBLE ELECTRIC PUMPS

ELECTRICAL DATA AND DIMENSIONS

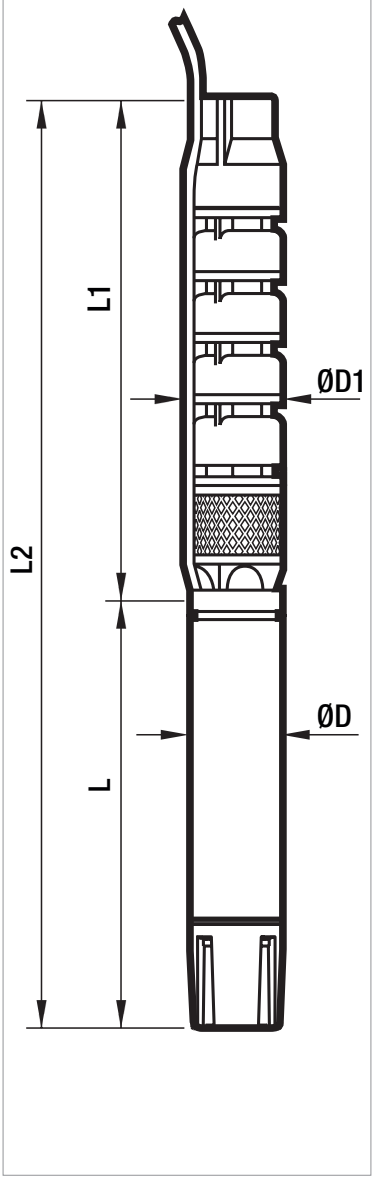
MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN GAS	HYDRAULIC WEIGHT kg	MOTOR WEIGHT kg
		P2 NOMINAL		In A										
		kW	HP											
60/2G-45	4GG	4	5,5	10	●	●	1278	614	549	94	149	3"	21	23
	4OL	4	5,5	9,5	●	●	1252	588		94			21	17
60/3G-47	4GG	5,5	7,5	14	●	●	1318	684	664	94	149	3"	26	27
	4OL	5,5	7,5	13	●	●	1292	658		94			26	24
60/4G-610	6GF	7,5	10	18	●	●	1433	660	773	141	150	3"	31	47
	TR6	7,5	10	18	○	●	1610	837		144			31	53
60/5G-612	6GF	9,2	12,5	22	●	●	1573	685	888	141	150	3"	37	50
	TR6	9,2	12,5	21	○	●	1755	867		144			37	55
60/6G-615	6GF	11	15	25,5	●	●	1733	730	1003	141	150	3"	42	55
	TR6	11	15	25	○	●	1900	897		144			42	60
60/7E-617	6GF	15	20	33,4	●	●	1903	785	1118	141	150	3"	47	60
	TR6	13	17,5	29	○	●	2045	927		144			47	65
60/8E-620	6GF	15	20	33,4	●	●	2018	785	1233	141	150	3"	53	60
	TR6	15	20	32	○	●	2230	997		144			53	77
60/9E-625	6GF	18,5	25	41	●	●	2208	860	1348	141	150	3"	58	68
	TR6	18,5	25	39	○	●	2405	1057		144			58	83
60/10E-625	6GF	18,5	25	41	●	●	2323	860	1463	141	150	3"	64	68
	TR6	18,5	25	39	○	●	2520	1057		144			64	83
60/11E-630	6GF	22	30	47	●	●	2498	920	1578	141	150	3"	69	74
	TR6	22	30	49	○	●	2665	1087		144			69	95
60/12E-630	6GF	22	30	47	●	●	2613	920	1693	141	150	3"	74	74
	TR6	22	30	49	○	●	2780	1087		144			74	95
60/14E-635	6GF	30	40	61,5	●	●	2973	1050	1923	141	153	3"	85	89
	TR6	26	35	58	○	●	3080	1157		144			85	105
60/16E-640	6GF	30	40	61,5	●	●	3203	1050	2153	141	153	3"	96	89
	TR6	30	40	65	○	●	3365	1212		144			96	110
60/18F-650	6GF	37	50	79,3	●	●	3563	1180	2383	141	153	3"	106	100
	TR6	37	50	80	○	●	3695	1312		144			106	120
60/20E-650	6GF	37	50	79,3	●	●	3793	1180	2613	141	153	3"	117	100
	TR6	37	50	80	○	●	3925	1312		144			117	120
60/24E-660	6GF	45	60	95	●	●	4433	1360	3073	141	153	3"	139	114
	TR6	45	60	96	○	●	4530	1457		144			139	135

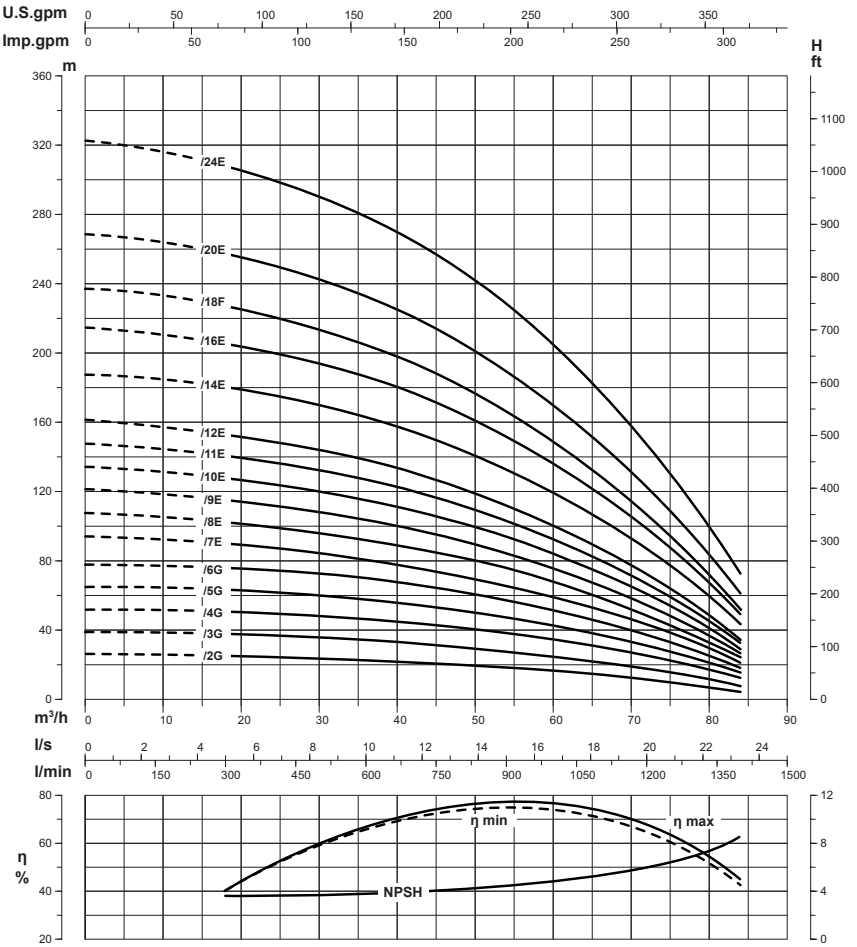
*** 4GG MOTOR:** 4" encapsulated in water bath
4OL MOTOR: 4" in oil bath
6GF MOTOR: 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

●	Permitted
○	Only version PE2 + PA
Δ	Contact our sales network

SMC6 60

6” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

Compliance with MEI

SMC8 - SMN8

8" SUBMERSIBLE ELECTRIC PUMPS

TECHNICAL DATA

Operating range: up to 192 m^3/h with head up to 488 m.
Pumped liquid: clean, free of solids and abrasives, chemically neutral, with properties similar to water.
Start-ups/hour: see the coupled motor
Cooling flow: see the coupled motor
Maximum permitted amount of sand: 40 g/m^3
Ambient temperature: 30 °C
Minimum recommended level on suction line: 1,5 m.
Installation: horizontal or vertical

APPLICATIONS

Multistage semiaxial submersible electric pumps for wells measuring 8" or above, able to generate a broad range of flow rates and heads.
They are used extensively for the lifting, distribution and pressurisation of industrial water systems, the supply of pressure vessels and tanks, firefighting systems and irrigation systems.
Application with clean, non-aggressive water free from solids or abrasive substances.

CONSTRUCTION FEATURES OF THE PUMP

SMC version:
Cast iron pump body treated with cataphoresis paint coating and dynamically balanced impellers in microcast AISI 304 stainless steel coupled on the shaft with pull tab. Shaft guided with coaxial bush bearings and fully protected with bushes.
Pump with check valve of low pressure loss.
Threaded delivery port.

SMN version:
Pump body and impellers in microcast AISI 316 stainless steel. Dynamically balanced impellers coupled on the shaft with pull tab. Shaft guided with coaxial bush bearings and fully protected with bushes.
Pump with check valve of low pressure loss.
Threaded delivery port.

Coupling with motors of 6" or 8" depending on the required hydraulic power and available in a standard version with cast iron supports treated with cataphoresis paint coating, and in a version entirely in AISI 316 stainless steel:
6GF/6GX: encapsulated 6" submersible motor
TR6: rewindable 6" submersible motor
TR8: rewindable 8" submersible motor
Refer to the technical data sheets of the specific model for the electrical characteristics of the submersible motors and the specifications for operation with inverter.

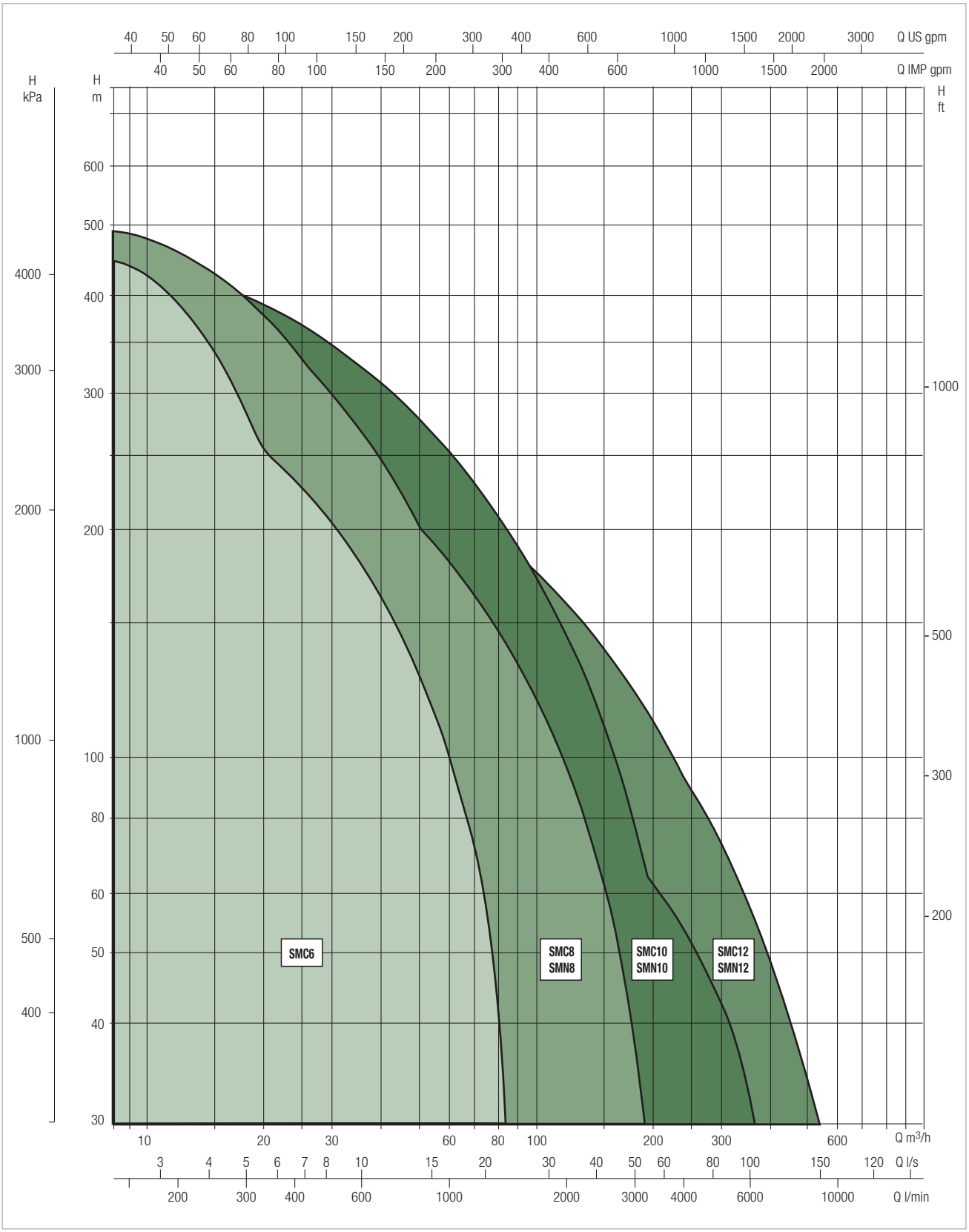
ON REQUEST

Non-standard pump/motor couplings.
Star/Delta starting version.
Motor version for high temperature of water.

PERFORMANCE RANGE

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

GRAPHIC SELECTION TABLE

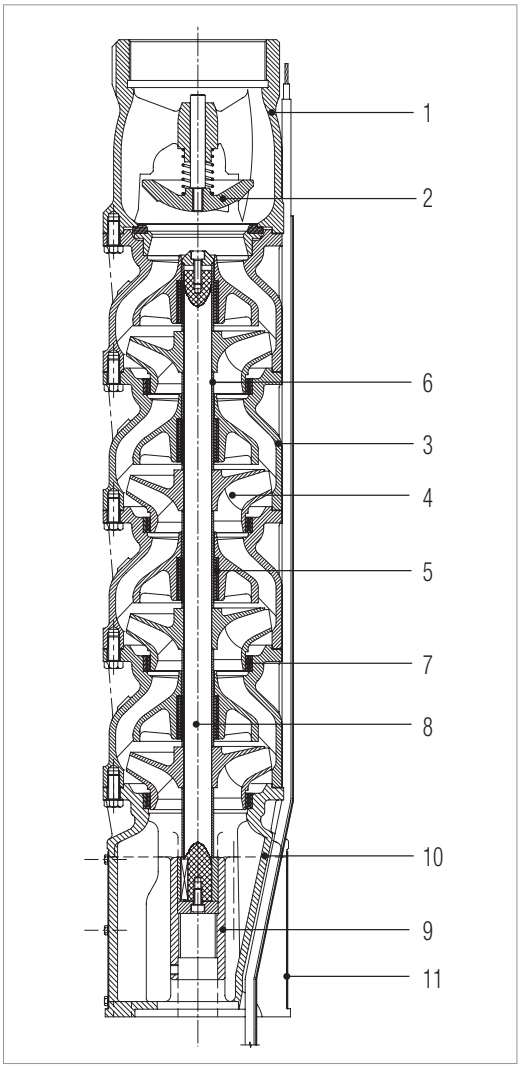


SMC8 - SMN8

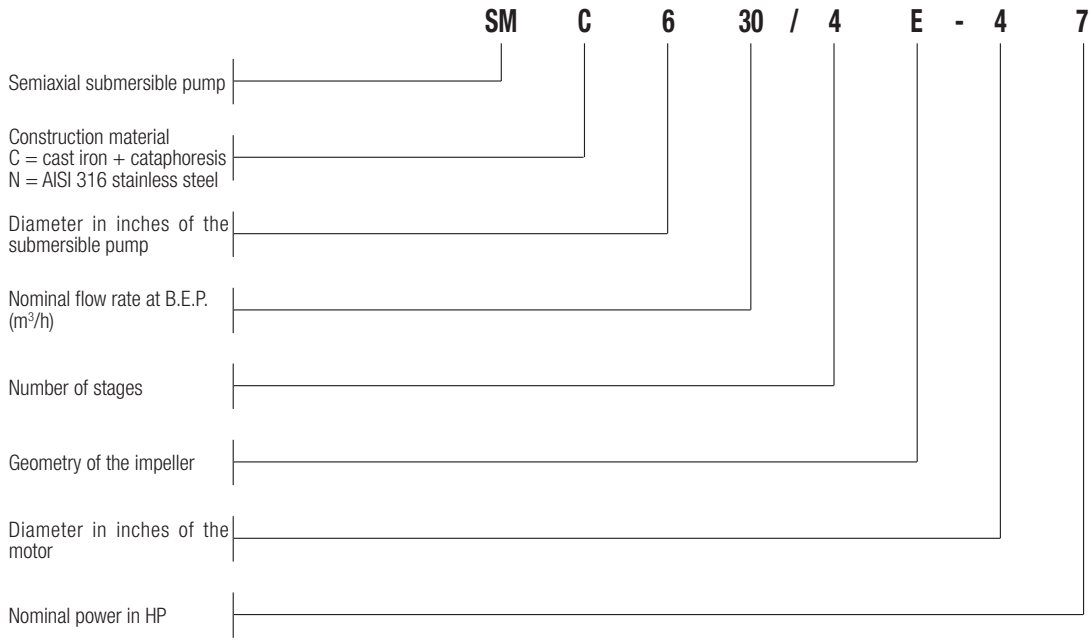
8" SUBMERSIBLE ELECTRIC PUMPS

MATERIALS

N.	PARTS	MATERIALS- SMC	MATERIALS- SMN
1	DELIVERY BODY	CAST IRON + CATAPHORESIS	AISI 316 STAINLESS STEEL
2	NON-RETURN VALVE	STAINLESS STEEL	AISI 316 STAINLESS STEEL
3	DIFFUSER	CAST IRON + CATAPHORESIS	AISI 316 STAINLESS STEEL
4	IMPELLER	CAST IRON + CATAPHORESIS PAINT COATING FOR SMC8 60 AND SMC8 85 AISI 304 STAINLESS STEEL FOR SMC8 110 AND SMC8 135	AISI 316 STAINLESS STEEL
5	GUIDE BEARING	RUBBER	VITON
6	BUSH	CHROME-PLATED BRASS	AISI 316 STAINLESS STEEL
7	WEAR RING	RUBBER	POM
8	PUMP SHAFT	STAINLESS STEEL	AISI 329 DUPLEX STAINLESS STEEL
9	PIPE	STAINLESS STEEL	AISI 329 DUPLEX STAINLESS STEEL
10	SUCTION BODY	CAST IRON + CATAPHORESIS	AISI 316 STAINLESS STEEL
11	FILTER GRID	STAINLESS STEEL	AISI 316 STAINLESS STEEL



– Legend:
(example)



SMC8 60

8" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA															COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m3h	0	24	30	36	42	48	54	60	66	72	78	84	90		
	kW	HP	Q=l/min	0	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500		
60/1D-65	4	5,5		23,5	20	19,5	19	18,5	18	17	16,5	15	14	12,5	11	9,5		6"
60/2I-67	5,5	7,5		38	32,5	31,5	30	28,5	27,5	25,5	23,5	21	17,5	14	10,5	7		6"
60/2F-610	7,5	10		47	41	39,5	38,5	37	36	34	32	29,5	27	24	21	18,5		6"
60/3G-612	9,2	12,5		62,5	54,5	53,5	52	50	48	45,5	42,5	38,5	33,5	29	24	19		6"
60/3F-615	11	15		70	62	60,5	58,5	56	54	51,5	48,5	44,5	40,5	35,5	31,5	26		6"
60/4H-615	11	15		79,5	69,5	68	65,5	62	58,5	54,5	50,5	45,5	40	35	28	21,5		6"
60/4G-617	13	17,5		83	73	71	69	66,5	64	60,5	56,5	51	45	38,5	32	25,5		6"
60/4F-620	15	20		93	82	80	78	75	72	68	64,5	59	53,5	47	41	35		6"
60/5G-625	18,5	25		104	91	89	86,5	83	80	76	70,5	64	56	48	40	32		6"
60/5F-625	18,5	25		115	103	100	96,5	93	89	84	79	72,5	65	57	49,5	41,5		6"
60/6G-630	22	30		125	109	107	104	99,5	95,5	91	84,5	76,5	67,5	57,5	48	38,5		6"
60/6F-630	22	30		138	123	120	116	112	107	101	95	86,5	78	68,5	59,5	50		6"
60/7G-630	22	30		146	128	125	121	116	112	106	99	89,5	78,5	67	56	45		6"
60/8G-635	26	35	H (m)	167	146	144	138	133	128	122	113	102	89,5	77	64	51		6"
60/8F-640	30	40		184	164	160	155	149	142	136	127	116	104	91,5	79,5	66,5		6"
60/9E-650	37	50		207	185	180	174	167	160	152	142	130	117	103	89,5	75		6"
60/10E-650	37	50		230	205	200	194	186	178	169	158	145	130	114	99	83,5		6"
60/11F-860	45	60		253	226	220	213	204	196	185	174	159	143	126	109	92		6"
60/11D-860	45	60		272	241	237	230	221	212	202	189	173	156	136	117	98		6"
60/12D-875	55	75		295	265	259	251	242	234	222	208	191	173	152	132	110		8"
60/13D-875	55	75		321	285	280	272	261	251	238	223	204	184	161	139	117		8"
60/14E-885	63	85		334	297	290	280	269	259	246	231	212	190	165	141	116		8"
60/15F-885	63	85		349	313	308	298	286	275	260	243	222	198	172	147	122		8"
60/15C-8100	75	100		375	340	334	324	313	300	287	270	247	222	194	164	135		8"
60/15B-8100	75	100		385	358	350	340	327	315	302	286	265	243	217	188	159		8"
60/16B-8100	75	100		411	382	374	363	349	333	316	298	278	255	228	200	170		8"
60/18B-8125	92	125		460	423	412	400	386	369	350	328	304	277	248	218	187		8"
60/19B-8125	92	125		488	453	444	431	415	396	376	354	330	303	271	238	202		8"

SMC8 60

8" SUBMERSIBLE ELECTRIC PUMPS

ELECTRICAL DATA AND DIMENSIONS

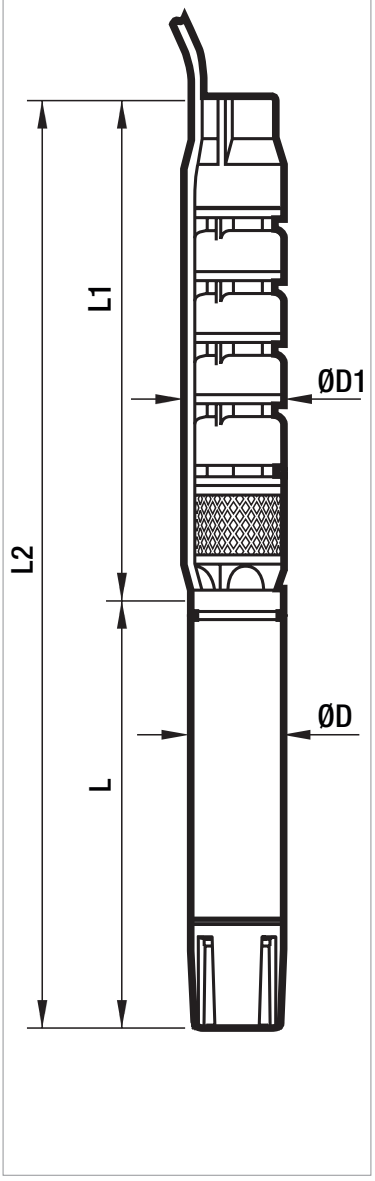
MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN GAS	HYDRAULIC WEIGHT kg	MOTOR WEIGHT kg
		P2 NOMINAL		In A										
		kW	HP											
60/1D-65	6GF	4	5,5	10,6	●	●	1151	600	551	141	196	5"	32	40
60/2I-67	6GF	5,5	7,5	14	●	●	1318	631	687	141	196	5"	42	44
	TR6	5,5	7,5	13	O	●	1494	807		144			42	50
60/2F-610	6GF	7,5	10	18	●	●	1347	660	687	141	196	5"	42	47
	TR6	7,5	10	18	O	●	1524	837		144			42	53
60/3G-612	6GF	9,2	12,5	22	●	●	1508	685	823	141	196	5"	52	50
	TR6	9,2	12,5	21	O	●	1690	867		144			52	55
60/3F-615	6GF	11	15	25,5	●	●	1553	730	823	141	196	5"	53	55
	TR6	11	15	25	O	●	1720	897		144			53	60
60/4H-615	6GF	11	15	25,5	●	●	1689	730	959	141	196	5"	63	55
	TR6	11	15	25	O	●	1856	897		144			63	60
60/4G-617	6GF	15	20	33,4	●	●	1744	785	959	141	196	5"	63	60
	TR6	13	17,5	29	O	●	1886	927		144			63	65
60/4F-620	6GF	15	20	33,4	●	●	1744	785	959	141	196	5"	63	60
	TR6	15	20	32	O	●	1956	997		144			63	77
60/5G-625	6GF	18,5	25	41	●	●	1955	860	1095	141	196	5"	74	68
	TR6	18,5	25	39	O	●	2152	1057		144			74	83
60/5F-625	6GF	18,5	25	41	●	●	1955	860	1095	141	196	5"	74	68
	TR6	18,5	25	39	O	●	2152	1057		144			74	83
60/6G-630	6GF	22	30	47	●	●	2151	920	1231	141	196	5"	84	74
	TR6	22	30	49	O	●	2318	1087		144			84	95
60/6F-630	6GF	22	30	47	●	●	2151	920	1231	141	196	5"	85	74
	TR6	22	30	49	O	●	2318	1087		144			85	95
60/7G-630	6GF	22	30	47	●	●	2287	920	1367	141	196	5"	95	74
	TR6	22	30	49	O	●	2454	1087		144			95	95
60/8G-635	6GF	30	40	61,5	●	●	2553	1050	1503	141	196	5"	105	89
	TR6	26	35	58	O	●	2660	1157		144			105	105
60/8F-640	6GF	30	40	61,5	●	●	2553	1050	1503	141	196	5"	106	89
	TR6	30	40	65	O	●	2715	1212		144			106	110
60/9E-650	6GF	37	50	79,3	●	●	2819	1180	1639	141	198	5"	117	100
	TR6	37	50	80	O	●	2951	1312		144			117	120
60/10E-650	6GF	37	50	79,3	●	●	2955	1180	1775	141	198	5"	128	100
	TR6	37	50	80	O	●	3087	1312		144			128	120
60/11F-860	TR8	45	60	92	O	●	3181	1270	1911	192	198	5"	140	177
60/11D-860	TR8	45	60	92	O	●	3181	1270	1911	192	198	5"	140	177
60/12D-875	TR8	55	75	109	O	●	3397	1350	2047	192	198	5"	150	192
60/13D-875	TR8	55	75	109	O	●	3533	1350	2183	192	198	5"	161	192
60/14E-885	TR8	63	85	126	O	●	3809	1490	2319	192	200	5"	172	218
60/15F-885	TR8	63	85	126	O	●	3945	1490	2455	192	200	5"	182	218
60/15C-8100	TR8	75	100	145	O	●	4045	1590	2455	192	200	5"	183	237
60/15B-8100	TR8	75	100	145	O	●	4045	1590	2455	192	200	5"	184	237
60/16B-8100	TR8	75	100	145	O	●	4181	1590	2591	192	200	5"	195	237
60/18B-8125	TR8	92	125	177	O	●	4693	1830	2863	192	202	5"	216	283
60/19B-8125	TR8	92	125	177	O	●	4829	1830	2999	192	202	5"	227	283

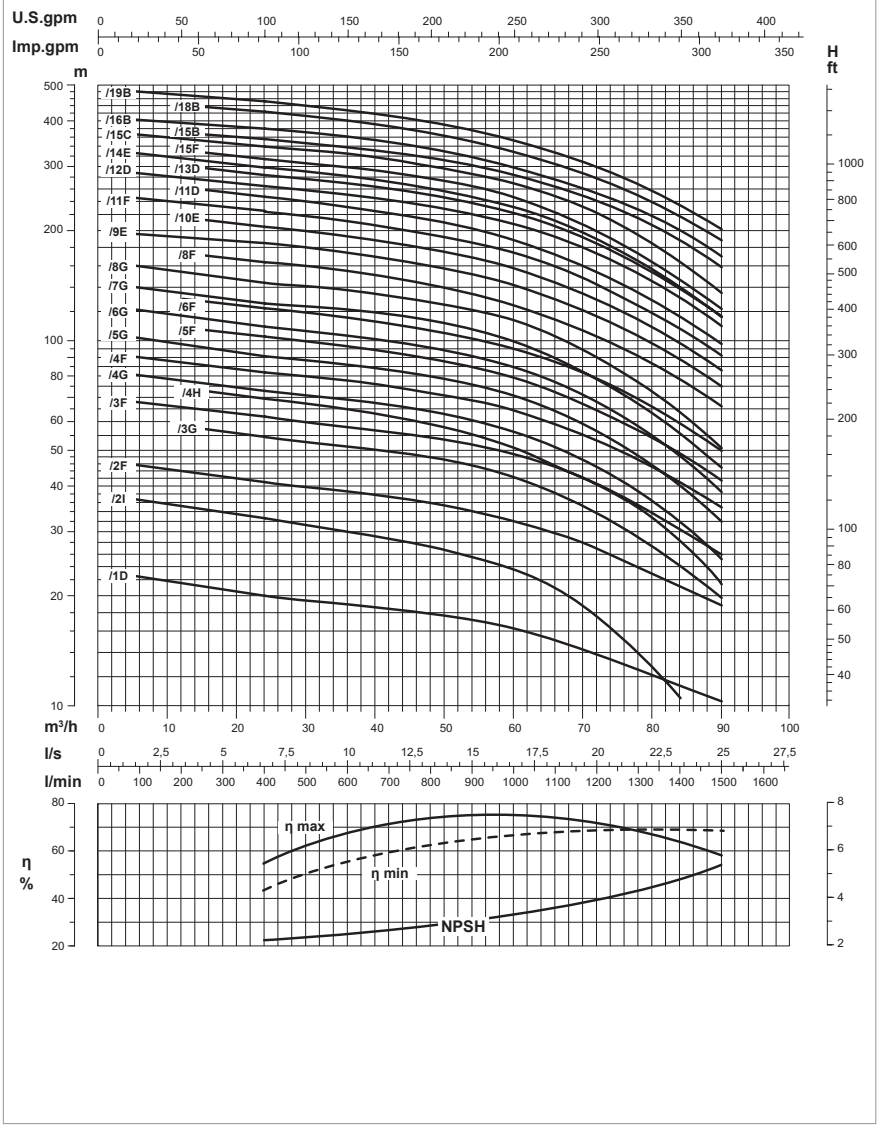
*** 6GF MOTOR:** 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

●	Permitted
O	Only version PE2 + PA
Δ	Contact our sales network

SMC8 60

8” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SMN8 60

8" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA														COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m3h	0	24	30	42	48	54	60	66	72	78	84	90		
	kW	HP	Q=l/min	0	400	500	700	800	900	1000	1100	1200	1300	1400	1500		
60/1E-65	4	5,5		25	21	20,5	19	18	17,5	16,5	15,5	14	13	11	9,5		6"
60/2E-610	7,5	10		49,5	42,5	41	38	36,5	35	33	31	28,5	25,5	22,5	19		6"
60/3E-615	11	15		75	64	62	57	55	52	49,5	46	42,5	38,5	33,5	28,5		6"
60/4E-620	15	20		99	85	82	76	73	70	66	62	57	51	45	38		6"
60/5E-625	18,5	25		124	106	103	95	91	87	82	77	71	64	56	48		6"
60/6E-630	22	30		149	127	123	114	110	105	99	93	85	77	68	57		6"
60/7E-635	26	35		174	149	144	133	128	122	115	108	99	90	79	67		6"
60/8E-640	30	40		199	170	164	152	146	139	132	123	113	102	90	76		6"
60/9E-650	37	50	H (m)	221	189	183	170	163	155	147	137	126	113	98	76		6"
60/10E-650	37	50		246	210	203	188	181	172	163	152	139	125	109	91		6"
60/11L-860	45	60		267	228	221	205	197	187	177	166	151	135	116	96		8"
60/12L-860	45	60		292	248	241	224	214	204	193	180	164	147	127	104		8"
60/13E-875	55	75		328	282	273	255	245	234	221	207	190	171	150	125		8"
60/14E-875	55	75		354	304	294	274	263	251	238	223	205	184	161	135		8"
60/15E-885	63	85		379	325	315	294	282	269	255	239	219	197	173	145		8"
60/15B-8100	75	100		410	355	343	318	306	294	278	262	245	225	200	174		8"
60/17B-8100	75	100		465	404	389	362	348	332	315	298	276	254	227	197		8"

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8" SUBMERSIBLE ELECTRIC PUMPS

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN GAS	HYDRAULIC WEIGHT kg	MOTOR WEIGHT ** kg
		P2 NOMINAL		In A										
		kW	HP											
60/1E-65	6GX	4	5,5	10,6	●	●	1151	600	551	141	198	5"	23	-
60/2E-610	6GX	7,5	10	18	●	●	1347	660	687	141	198	5"	30	-
	TR6	7,5	10	18	O	●	1524	837		144			30	-
60/3E-615	6GX	11	15	25,5	●	●	1553	730	823	141	198	5"	38	-
	TR6	11	15	25	O	●	1720	897		144			38	-
60/4E-620	6GX	15	20	33,4	●	●	1744	785	959	141	198	5"	46	-
	TR6	15	20	32	O	●	1956	997		144			46	-
60/5E-625	6GX	18,5	25	41	●	●	1955	860	1095	141	198	5"	53	-
	TR6	18,5	25	39	O	●	2152	1057		144			53	-
60/6E-630	6GX	22	30	47	●	●	2151	920	1231	141	198	5"	61	-
	TR6	22	30	49	O	●	2318	1087		144			61	-
60/7E-635	6GX	30	40	61,5	●	●	2417	1050	1367	141	198	5"	69	-
	TR6	26	35	58	O	●	2524	1157		144			69	-
60/8E-640	6GX	30	40	61,5	●	●	2553	1050	1503	141	198	5"	76	-
	TR6	30	40	65	O	●	2715	1212		144			76	-
60/9E-650	6GX	37	50	79,3	●	●	2819	1180	1639	141	198	5"	84	-
	TR6	37	50	80	O	●	2951	1312		144			84	-
60/10E-650	6GX	37	50	79,3	●	●	2955	1180	1775	141	198	5"	92	-
	TR6	37	50	80	O	●	3087	1312		144			92	-
60/11L-860	TR8	45	60	92	O	●	3181	1270	1911	192	198	5"	101	-
60/12L-860	TR8	45	60	92	O	●	3317	1270	2047	192	198	5"	109	-
60/13E-875	TR8	55	75	109	O	●	3533	1350	2183	192	198	5"	116	-
60/14E-875	TR8	55	75	109	O	●	3669	1350	2319	192	198	5"	124	-
60/15E-885	TR8	63	85	126	O	●	3945	1490	2455	192	198	5"	132	-
60/15B-8100	TR8	75	100	145	O	●	4045	1590	2455	192	198	5"	132	-
60/17B-8100	TR8	75	100	145	O	●	4317	1590	2727	192	198	5"	147	-

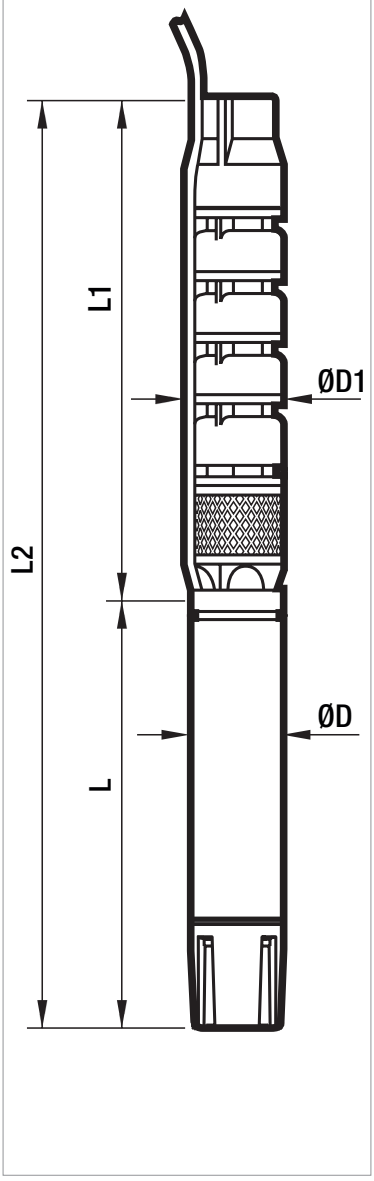
*** 6GF/6GX MOTOR:** 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

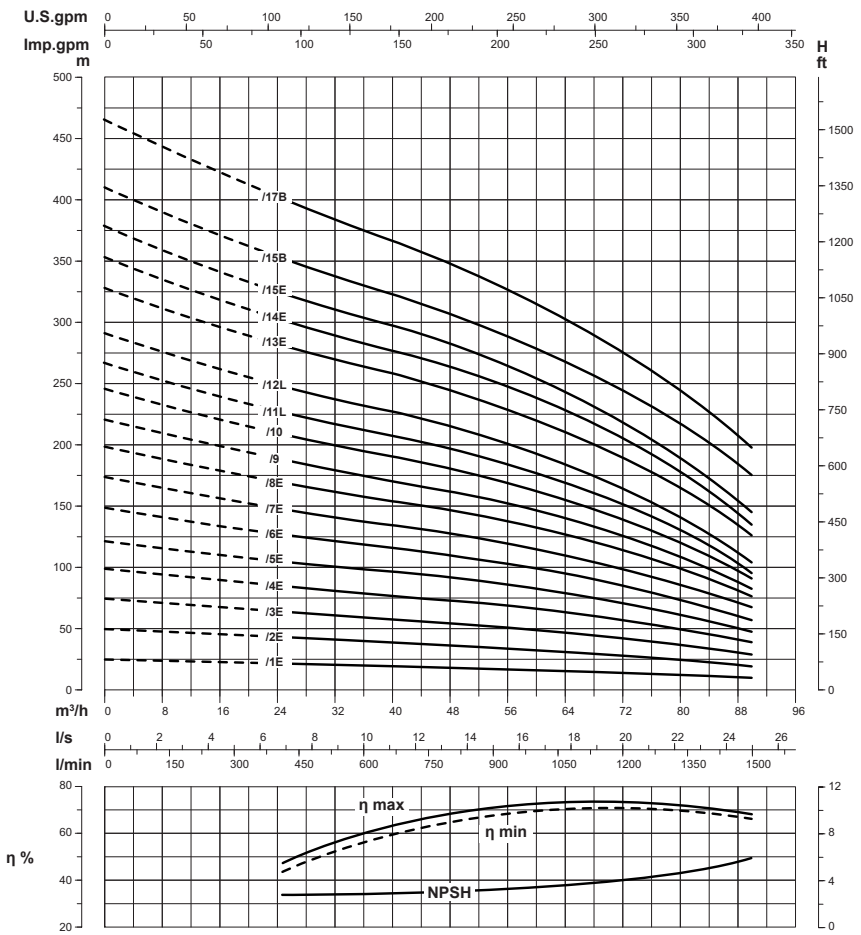
*** *** For the weight of the version in AISI 316, refer to the page of the motor concerned or contact our sales network.

●	Permitted
O	Only version PE2 + PA
Δ	Contact our sales network

SMN8 60

8” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

SMC8 85

8" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA															COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m3h	0	36	54	60	66	72	78	84	90	96	102	108	114		
	kW	HP	Q=l/min	0	600	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900		
85/1A-67	5,5	7,5		27	21,5	20	19,5	18,5	18	17,5	16,5	15,5	14,5	13	12	10,5		6"
85/2F-610	7,5	10		44	34,5	30,5	29,5	28	27	25	23	21	18,5	16,5	14	12,5		6"
85/2D-612	9,2	12,5		51	41	36,5	35	33,5	32,5	31,5	29,5	27	24,5	21,5	19	16		6"
85/3F-615	11	15		66	52	46	44	42	40	37,5	35	31,5	27,5	24,5	21,5	18		6"
85/3E-617	13	17,5		75	60,5	54,5	52,5	50	48,5	46	43,5	40	35,5	31,5	27,5	23		6"
85/3B-620	15	20		78,5	63	57	55	53	51	49	46,5	42,5	38,5	34	30	25		6"
85/4E-625	18,5	25		91	72	65	62,5	60	57	54	50	45,5	41	35,5	30	24,5		6"
85/4D-625	18,5	25		103	81,5	73	70	67	65	62,5	59	54	49	43,5	38	32,5		6"
85/4B-630	22	30		105	85,5	77	74	71	68,5	65,5	62,5	57,5	52	46,5	40,5	34,5		6"
85/5E-630	22	30		124	99	89	85	81,5	78,5	74,5	69,5	63	57	50	43,5	36,5		6"
85/5A-635	26	35		136	113	102	98	94	91	87,5	83,5	77,5	70,5	63	56	48,5		6"
85/6E-635	26	35		148	119	107	102	98	94	89,5	83	76	68	60	52	43,5		6"
85/6B-640	30	40		157	128	116	111	107	103	98,5	93	85	77	68	59,5	50,5		6"
85/7E-640	30	40	H (m)	173	139	125	120	116	110	104	97,5	88,5	79,5	70	61	51		6"
85/7D-650	37	50		178	145	131	126	121	116	111	105	95	85	75	65	54,5		6"
85/8D-650	37	50		202	161	145	140	134	128	122	116	105	93,5	81,5	70	57		6"
85/8C-860	45	60		212	173	157	151	146	141	135	128	118	106	94,5	83	70		8"
85/9C-860	45	60		237	194	175	169	162	157	150	142	131	117	104	91	76,5		8"
85/10C-875	55	75		267	218	196	189	182	176	170	162	150	137	122	106	90		8"
85/11C-875	55	75		291	239	215	207	199	192	184	174	160	146	130	114	97		8"
85/12D-885	63	85		304	251	227	218	209	201	193	182	167	150	132	114	95		8"
85/13E-885	63	85		329	262	236	227	217	208	198	188	170	152	133	114	93		8"
85/13C-8100	75	100		336	281	257	247	237	229	219	206	190	172	153	134	114		8"
85/14C-8100	75	100		359	301	276	265	255	245	234	221	203	183	163	142	120		8"
85/15C-8100	75	100		385	322	294	284	273	263	251	237	218	196	174	152	129		8"
85/17C-8125	92	125		436	365	333	322	310	298	285	269	246	222	197	173	146		8"
85/18C-8125	92	125		462	387	353	340	328	315	301	285	261	235	209	183	154		8"

SMC8 85

8" SUBMERSIBLE ELECTRIC PUMPS

ELECTRICAL DATA AND DIMENSIONS

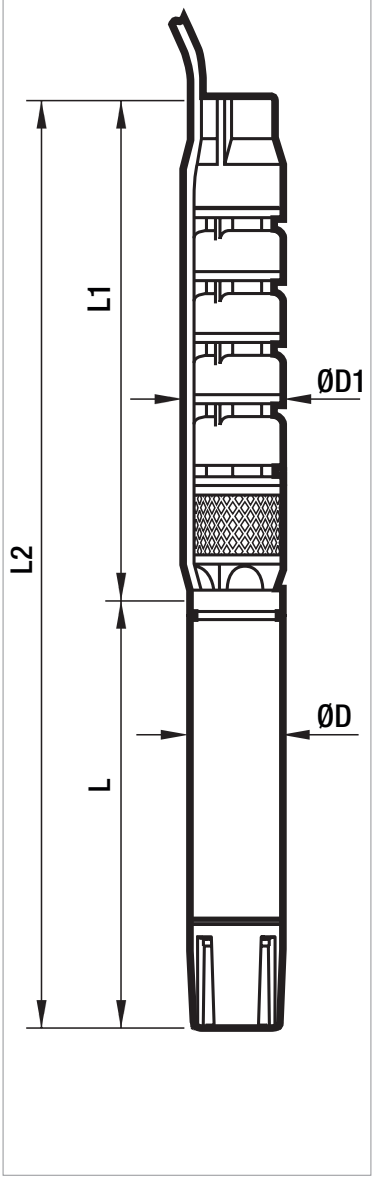
MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN GAS	HYDRAULIC WEIGHT kg	MOTOR WEIGHT kg
		P2 NOMINAL		In A										
		kW	HP											
85/1A-67	6GF	5,5	7,5	14	●	●	1182	631	551	141	196	5"	32	44
	TR6	5,5	7,5	13	O	●	1358	807		144			32	50
85/2F-610	6GF	7,5	10	18	●	●	1347	660	687	141	196	5"	41	47
	TR6	7,5	10	18	O	●	1524	837		144			41	53
85/2D-612	6GF	9,2	12,5	22	●	●	1372	685	687	141	196	5"	42	50
	TR6	9,2	12,5	21	O	●	1554	867		144			42	55
85/3F-615	6GF	11	15	25,5	●	●	1553	730	823	141	196	5"	52	55
	TR6	11	15	25	O	●	1720	897		144			52	60
85/3E-617	6GF	15	20	33,4	●	●	1608	785	823	141	196	5"	52	60
	TR6	13	17,5	29	O	●	1750	927		144			52	65
85/3B-620	6GF	15	20	33,4	●	●	1608	785	823	141	196	5"	52	60
	TR6	15	20	32	O	●	1820	997		144			52	77
85/4E-625	6GF	18,5	25	41	●	●	1819	860	959	141	196	5"	63	68
	TR6	18,5	25	39	O	●	2016	1057		144			63	83
85/4D-625	6GF	18,5	25	41	●	●	1819	860	959	141	196	5"	63	68
	TR6	18,5	25	39	O	●	2016	1057		144			63	83
85/4B-630	6GF	22	30	47	●	●	1879	920	959	141	196	5"	63	74
	TR6	22	30	49	O	●	2046	1087		144			63	95
85/5E-630	6GF	22	30	47	●	●	2015	920	1095	141	196	5"	73	74
	TR6	22	30	49	O	●	2182	1087		144			73	95
85/5A-635	6GF	30	40	61,5	●	●	2145	1050	1095	141	196	5"	74	89
	TR6	26	35	58	O	●	2252	1157		144			74	105
85/6E-635	6GF	30	40	61,5	●	●	2281	1050	1231	141	196	5"	84	89
	TR6	26	35	58	O	●	2388	1157		144			84	105
85/6B-640	6GF	30	40	61,5	●	●	2281	1050	1231	141	196	5"	84	89
	TR6	30	40	65	O	●	2443	1212		144			84	110
85/7E-640	6GF	30	40	61,5	●	●	2417	1050	1367	141	196	5"	94	89
	TR6	30	40	65	O	●	2579	1212		144			94	110
85/7D-650	6GF	37	50	79,3	●	●	2547	1180	1367	141	198	5"	95	100
	TR6	37	50	80	O	●	2679	1312		144			95	120
85/8D-650	6GF	37	50	79,3	●	●	2683	1180	1503	141	198	5"	105	100
	TR6	37	50	80	O	●	2815	1312		144			105	120
85/8C-860	TR8	45	60	92	O	●	2773	1270	1503	192	198	5"	107	177
85/9C-860	TR8	45	60	92	O	●	2909	1270	1639	192	198	5"	117	177
85/10C-875	TR8	55	75	109	O	●	3125	1350	1775	192	198	5"	128	192
85/11C-875	TR8	55	75	109	O	●	3261	1350	1911	192	198	5"	138	192
85/12D-885	TR8	63	85	126	O	●	3537	1490	2047	192	200	5"	149	218
85/13E-885	TR8	63	85	126	O	●	3673	1490	2183	192	200	5"	159	218
85/13C-8100	TR8	75	100	145	O	●	3773	1590	2183	192	200	5"	160	237
85/14C-8100	TR8	75	100	145	O	●	3909	1590	2319	192	200	5"	170	237
85/15C-8100	TR8	75	100	145	O	●	4045	1590	2455	192	200	5"	181	237
85/17C-8125	TR8	92	125	177	O	●	4557	1830	2727	192	202	5"	202	283
85/18C-8125	TR8	92	125	177	O	●	4693	1830	2863	192	202	5"	213	283

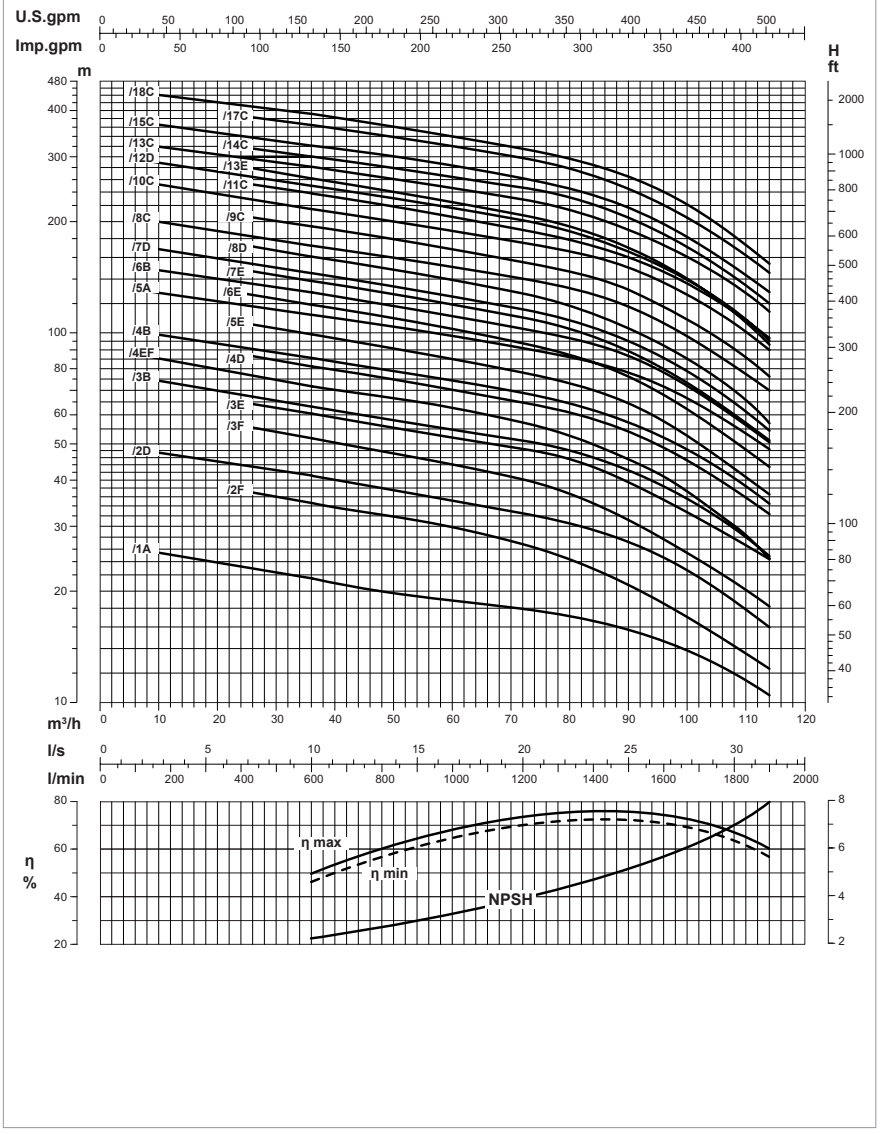
*** 6GF MOTOR:** 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

●	Permitted
O	Only version PE2 + PA
Δ	Contact our sales network

SMC8 85

8” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

SMN8 85

8" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA														COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m3h	0	36	60	66	72	78	84	90	96	102	108	114		
	kW	HP	Q=l/min	0	600	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900		
85/1A-67	5,5	7,5		28,5	20,5	19,5	19	18	17	16	15	14	12,5	11			6"
85/2D-612	9,2	12,5		54	37,5	36	34,5	33	31,5	29,5	27,5	25	22,5	20	17		6"
85/3A-620	15	20		85	61	59	57	54	52	49	45	42	37	32,5	27,5		6"
85/4D-625	18,5	25		108	75	73	70	66	63	59	55	50	45	40	34		6"
85/4A-630	22	30		114	83	80	77	74	70	66	62	56	51	44	38		6"
85/5D-630	22	30		134	94	91	87	83	79	74	69	63	57	50	43		6"
85/5A-635	26	35		142	104	100	96	92	88	83	77	70	63	55	47		6"
85/6A-640	30	40		170	124	120	116	111	105	99	92	84	76	67	56		6"
85/7C-650	37	50		191	151	130	125	119	113	107	99	91	82	72	62		6"
85/8G-650	37	50	H (m)	217	171	148	142	135	128	121	112	103	93	81	69		6"
85/8D-860	45	60		234	168	162	156	150	143	135	126	117	106	95	83		8"
85/9E-860	45	60		256	183	177	170	162	155	146	136	125	113	101	87		8"
85/10D-875	55	75		292	210	203	195	187	178	169	158	146	133	119	103		8"
85/11D-875	55	75		321	231	223	215	206	196	186	173	160	146	130	114		8"
85/12D-885	63	85		350	252	243	234	224	213,5	202	189	175	159	142	124		8"
85/13D-8100	75	100		379	273	264	254	243	232	219	205	189	172	154	134		8"
85/14A-8100	75	100		407	305	295	284	272	259	245	228	210	191	169	146		8"
85/15A-8125	92	125		436	327	316	304	291	277	262	245	225	204	181	156		8"
85/16A-8125	92	125		466	349	337	324	311	296	280	261	240	218	193	167		8"

SMN8 85

8" SUBMERSIBLE ELECTRIC PUMPS

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN GAS	HYDRAULIC WEIGHT kg	MOTOR WEIGHT ** kg
		P2 NOMINAL		In A										
		kW	HP											
85/1A-67	6GX	5,5	7,5	14	●	●	1182	631	551	141	198	5"	23	-
	TR6	5,5	7,5	13	O	●	1358	807		144			23	-
85/2D-612	6GX	9,2	12,5	22	●	●	1372	685	687	141	198	5"	30	-
	TR6	9,2	12,5	21	O	●	1554	867		144			30	-
85/3A-620	6GX	15	20	33,4	●	●	1608	785	823	141	198	5"	38	-
	TR6	15	20	32	O	●	1820	997		144			38	-
85/4D-625	6GX	18,5	25	41	●	●	1819	860	959	141	198	5"	45	-
	TR6	18,5	25	39	O	●	2016	1057		144			45	-
85/4A-630	6GX	22	30	47	●	●	1879	920	959	141	198	5"	45	-
	TR6	22	30	49	O	●	2046	1087		144			45	-
85/5D-630	6GX	22	30	47	●	●	2015	920	1095	141	198	5"	53	-
	TR6	22	30	49	O	●	2182	1087		144			53	-
85/5A-635	6GX	30	40	61,5	●	●	2145	1050	1095	141	198	5"	53	-
	TR6	26	35	58	O	●	2252	1157		144			53	-
85/6A-640	6GX	30	40	61,5	●	●	2281	1050	1231	141	198	5"	60	-
	TR6	30	40	65	O	●	2443	1212		144			60	-
85/7C-650	6GX	37	50	79,3	●	●	2547	1180	1367	141	198	5"	68	-
	TR6	37	50	80	O	●	2679	1312		144			68	-
85/8G-650	6GX	37	50	79,3	●	●	2683	1180	1503	141	198	5"	77	-
	TR6	37	50	80	O	●	2815	1312		144			77	-
85/8D-860	TR8	45	60	92	O	●	2773	1270	1503	192	198	5"	77	-
85/9E-860	TR8	45	60	92	O	●	2909	1270	1639	192	198	5"	85	-
85/10D-875	TR8	55	75	109	O	●	3125	1350	1775	192	198	5"	92	-
85/11D-875	TR8	55	75	109	O	●	3261	1350	1911	192	198	5"	100	-
85/12D-885	TR8	63	85	126	O	●	3537	1490	2047	192	198	5"	107	-
85/13D-8100	TR8	75	100	145	O	●	3773	1590	2183	192	198	5"	115	-
85/14A-8100	TR8	75	100	145	O	●	3909	1590	2319	192	198	5"	123	-
85/15A-8125	TR8	92	125	177	O	●	4285	1830	2455	192	198	5"	131	-
85/16A-8125	TR8	92	125	177	O	●	4421	1830	2591	192	198	5"	139	-

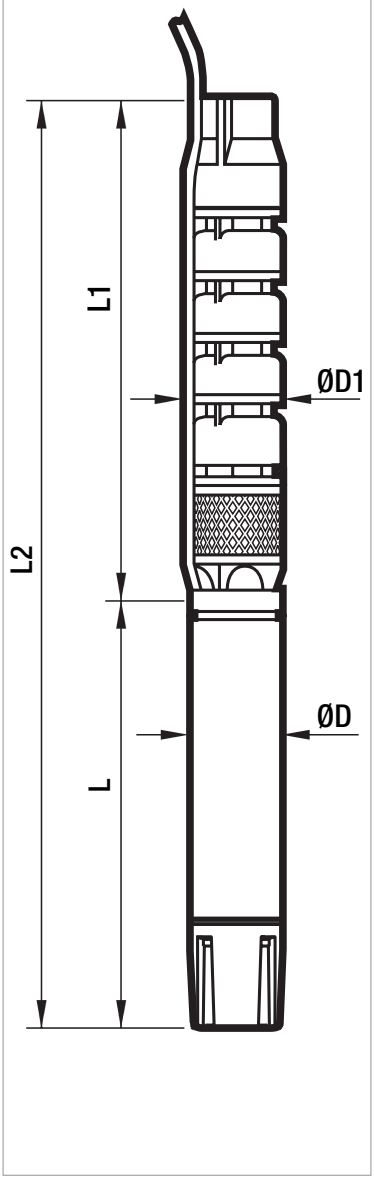
*** 6GF MOTOR:** 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

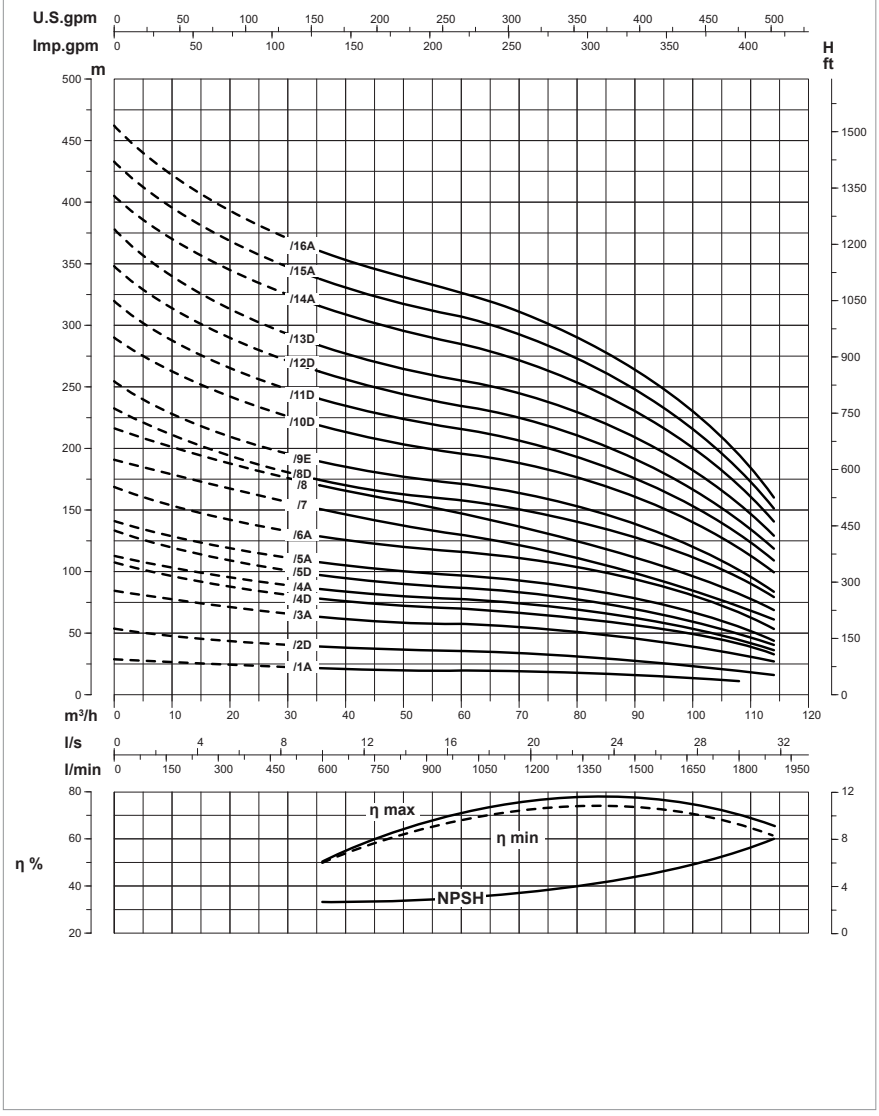
*** *** For the weight of the version in AISI 316, refer to the page of the motor concerned or contact our sales network.

●	Permitted
O	Only version PE2 + PA
Δ	Contact our sales network

SMN8 85

8” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

SMC8 110 - SMN8 110

8" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA														COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m3h	0	36	66	84	96	102	108	114	120	126	138	156		
	kW	HP	Q=l/min	0	600	1100	1400	1600	1700	1800	1900	2000	2100	2300	2600		
110/2H-617	13	17,5		47,5	42,5	39,5	37	35,5	34,5	33,5	32	30,5	28,5	24,5	17		6"
110/3G-625	18,5	25		69,5	63	57,5	53	50,5	49	47	45	42	39,5	33	22		6"
110/3B-630	22	30		76	69	64	60,5	57,5	56	54	51,5	49	46	39	27,5		6"
110/4F-635	26	35		95	87,5	80,5	75,5	72	69,5	67	63,5	60	56	47,5	32,5		6"
110/5I-640	30	40		112,5	103,5	95	89	84	81,5	78	74	69,5	64,5	53,5	35,5		6"
110/5F-650	37	50		118	109,5	101,5	95,5	91	88	85	80,5	76	71	60,5	41,5		6"
110/6H-650	37	50		137,5	126	117	109,5	103,5	100	96	90,5	85	79	66	45		6"
110/6F-860	45	60		144,5	134	124,5	117,5	112	109	105,5	100,5	95	89	76	53,5		8"
110/6B-860	45	60		155,5	144	134,5	127	121	117,5	113,5	108,5	102,5	96,5	83	59,5		8"
110/7C-875	55	75	H (m)	178,5	165,5	154	146	139	135	130,5	124,5	117,5	110	92,5	63,5		8"
110/9L-875	55	75		200,5	186	171,5	161,5	154	149	143	136	127,5	118,5	98,5	66		8"
110/9G-885	63	85		209	194,5	180	170	162	157	152	146	137,5	128,5	108,5	74,5		8"
110/9B-8100	75	100		225,5	212	196,5	185,5	176,5	171,5	165,5	159,0	150,5	141,0	121,0	88,0		8"
110/10B-8100	75	100		251,0	235,5	218	206	196	190,5	184	177	167,5	157	134,5	97,5		8"
110/11B-8125	92	125		276	259	240	226,5	215,5	209,5	202,5	194,5	184	172,5	147,5	107,5		8"
110/13E-8125	92	125		313	294	272	257	244,5	238	230	221	209	196,5	167,5	117,5		8"
110/14C-8150	110	150		351	329,5	305,5	288,5	274,5	266,5	257,5	247,5	234	219,5	188	137		8"
110/15C-8150	110	150		376	353	327,5	309	294	285,5	276	265,5	251	235,5	201,5	146,5		8"

SMC8 110 - SMN8 110

8" SUBMERSIBLE ELECTRIC PUMPS

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN GAS	WEIGHT SMC kg	WEIGHT SMN kg	MOTOR WEIGHT ** kg
		P2 NOMINAL		In A											
		kW	HP												
110/2H-617	6GF	15	20	33,4	●	●	1514	785	729	141	196	5"	43	36	60
	TR6	13	17,5	29	O	●	1656	927		144			43	36	65
110/3G-625	6GF	18,5	25	41	●	●	1746	860	886	141	196	5"	55	46	68
	TR6	18,5	25	39	O	●	1943	1057		144			55	46	83
110/3B-630	6GF	22	30	47	●	●	1806	920	886	141	196	5"	55	46	74
	TR6	22	30	49	O	●	1973	1087		144			55	46	95
110/4F-635	6GF	30	40	61,5	●	●	2093	1050	1043	141	196	5"	67	56	89
	TR6	26	35	58	O	●	2200	1157		144			67	56	105
110/5I-640	6GF	30	40	61,5	●	●	2250	1050	1200	141	196	5"	79	66	89
	TR6	30	40	65	O	●	2412	1212		144			79	66	110
110/5F-650	6GF	37	50	79,3	●	●	2380	1180	1200	141	198	5"	79	66	100
	TR6	37	50	80	O	●	2512	1312		144			79	66	120
110/6H-650	6GF	37	50	79,3	●	●	2537	1180	1357	141	198	5"	91	76	100
	TR6	37	50	80	O	●	2669	1312		144			91	76	120
110/6F-860	TR8	45	60	92	O	●	2627	1270	1357	192	198	5"	93	76	177
110/6B-860	TR8	45	60	92	O	●	2627	1270	1357	192	198	5"	93	76	177
110/7C-875	TR8	55	75	109	O	●	2864	1350	1514	192	198	5"	105	86	192
110/9L-875	TR8	55	75	109	O	●	3178	1350	1828	192	198	5"	129	106	192
110/9G-885	TR8	63	85	126	O	●	3318	1490	1828	192	198	5"	129	106	218
110/9B-8100	TR8	75	100	145	O	●	3418	1590	1828	192	200	5"	129	106	237
110/10B-8100	TR8	75	100	145	O	●	3575	1590	1985	192	200	5"	142	116	237
110/11B-8125	TR8	92	125	177	O	●	3972	1830	2142	192	202	5"	154	126	283
110/13E-8125	TR8	92	125	177	O	●	4286	1830	2456	192	202	5"	178	146	283
110/14C-8150	TR8	110	150	213	O	●	4673	2060	2613	192	202	5"	190	156	333
110/15C-8150	TR8	110	150	213	O	●	4830	2060	2770	192	202	5"	203	166	333

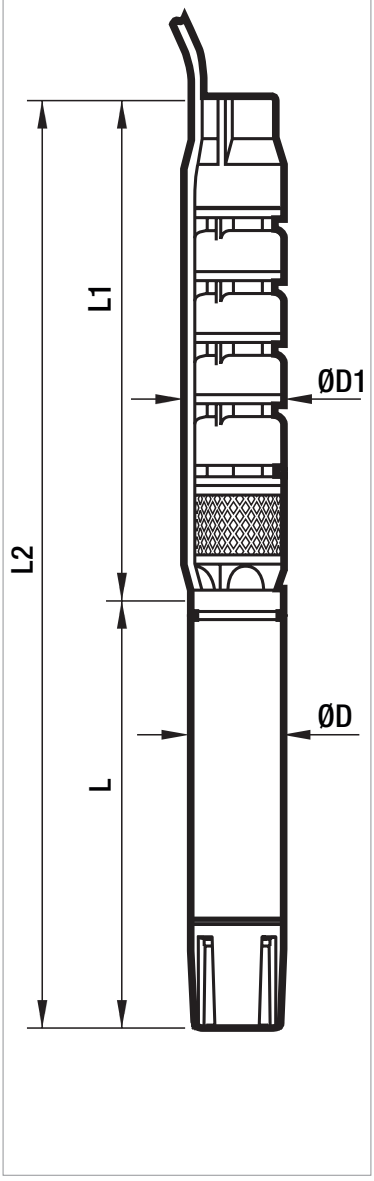
*** 6GF MOTOR:** 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

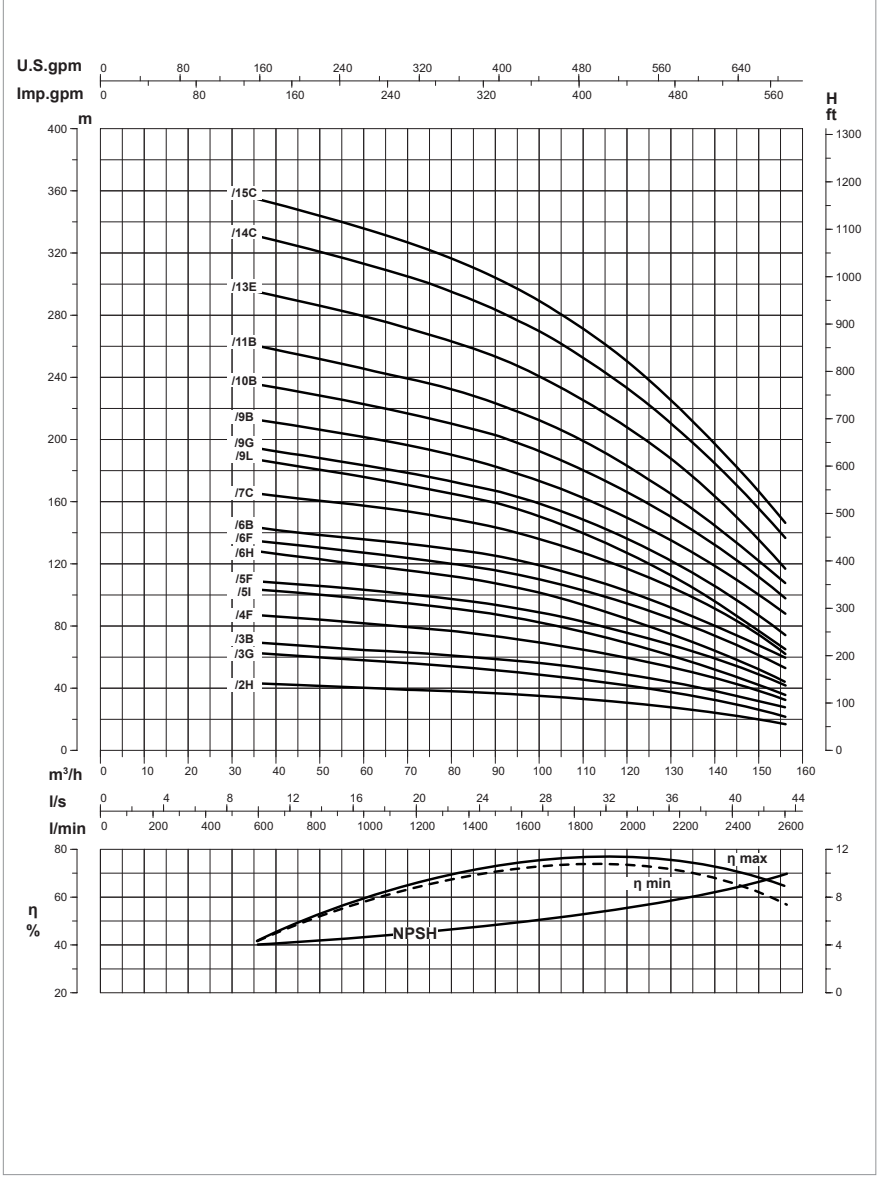
*** *** For the weight of the version in AISI 316, refer to the page of the motor concerned or contact our sales network.

●	Permitted
O	Only version PE2 + PA
Δ	Contact our sales network

SMC8 110 - SMN8 110

8” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

SMC8 135 - SMN8 135

8" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA														COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m3h	0	36	72	96	108	120	132	144	156	168	180	192		
	kW	HP	Q=l/min	0	600	1200	1600	1800	2000	2200	2400	2600	2800	3000	3200		
135/2M-617	13	17,5	H (m)	47,5	42	37,5	34,5	33	30,5	28	24,5	20,5	16	12	8,5		6"
135/2F-620	15	20		52	46	41	38,5	36,5	34,5	32	29	25	21	16,5	12		6"
135/2C-625	18,5	25		55	48,5	43,5	41	39	37	34,5	31	27	23	19	15,5		6"
135/3N-625	18,5	25		63,5	58,5	53,5	49	45,5	42	37	32	26	20	14			6"
135/3L-630	22	30		70	64	57,5	53	50,5	47	42,5	37,5	31,5	25	19	13,5		6"
135/3B-635	26	35		82,5	75	68,5	64	61	58	54,5	49,5	43	36	29,5	22		6"
135/4E-640	30	40		101	90	82	76,5	72,5	68,5	63	56,5	49,5	41,5	33	24		6"
135/4C-650	37	50		106	95	88	82	78	73,5	68	61,5	54	45,5	36,5	26,5		6"
135/5F-650	37	50		121,5	111	101,5	94	89	84	77,5	69	60	50	39,5	28		6"
135/5E-860	45	60		128,5	118	108	100	95,5	90,5	84,5	77	68	58,5	47,5	35,5		8"
135/6F-860	45	60		151	135,5	125	116	110,5	104	96,5	86,5	76	64	51,5	38		8"
135/7G-875	55	75		176	159,5	147	137	130,5	123	114	102	89	75	60	44,5		8"
135/7E-875	55	75		181	164	151,5	141,5	135,5	128	119	107	94	80	65	49,5		8"
135/8G-885	63	85		201,5	182	168	156,5	149,5	140,5	130	117	102	85,5	68,5	51		8"
135/9G-8100	75	100		220	200,5	185	171,5	163	153,5	141,5	127	110,5	93	74	54		8"
135/9C -8100	75	100		238	219,5	201,5	187	178,5	169	158	143,5	128	110,5	91	69,5		8"
135/11C-8125	92	125		291	268,5	246,5	228,5	218	206,5	193	175,5	156,5	135	111	85		8"
135/13C-8150	110	150		343,5	317	291	270	258	244	228	207,5	185	159,5	131,5	100,5		8"

SMC8 135 - SMN8 135

8" SUBMERSIBLE ELECTRIC PUMPS

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN GAS	WEIGHT SMC kg	WEIGHT SMN kg	MOTOR WEIGHT ** kg
		P2 NOMINAL		In A											
		kW	HP												
135/2M-617	6GF	15	20	33,4	●	●	1514	785	729	141	196	5"	43	36	60
	TR6	13	17,5	29	O	●	1656	927		144			43	36	65
135/2F-620	6GF	15	20	33,4	●	●	1514	785	729	141	196	5"	43	36	60
	TR6	15	20	32	O	●	1726	997		144			43	36	77
135/2C-625	6GF	18,5	25	41	●	●	1589	860	729	141	196	5"	43	36	68
	TR6	18,5	25	39	O	●	1786	1057		144			43	36	83
135/3N-625	6GF	18,5	25	41	●	●	1746	860	886	141	196	5"	55	46	68
	TR6	18,5	25	39	O	●	1943	1057		144			55	46	83
135/3L-630	6GF	22	30	47	●	●	1806	920	886	141	196	5"	55	46	74
	TR6	22	30	49	O	●	1973	1087		144			55	46	95
135/3B-635	6GF	30	40	61,5	●	●	1936	1050	886	141	196	5"	55	46	89
	TR6	26	35	58	O	●	2043	1157		144			55	46	105
135/4E-640	6GF	30	40	61,5	●	●	2093	1050	1043	141	196	5"	67	56	89
	TR6	30	40	65	O	●	2255	1212		144			67	56	110
135/4C-650	6GF	37	50	79,3	●	●	2223	1180	1043	141	198	5"	67	56	100
	TR6	37	50	80	O	●	2355	1312		144			67	56	120
135/5F-650	6GF	37	50	79,3	●	●	2380	1180	1200	141	198	5"	79	66	100
	TR6	37	50	80	O	●	2512	1312		144			79	66	120
135/5E-860	TR8	45	60	92	O	●	2470	1270	1200	192	198	5"	81	66	177
135/6F-860	TR8	45	60	92	O	●	2627	1270	1357	192	198	5"	93	76	177
135/7G-875	TR8	55	75	109	O	●	2864	1350	1514	192	198	5"	105	86	192
135/7E-875	TR8	55	75	109	O	●	2864	1350	1514	192	198	5"	105	86	192
135/8G-885	TR8	63	85	126	O	●	3161	1490	1671	192	198	5"	117	96	218
135/9G-8100	TR8	75	100	145	O	●	3418	1590	1828	192	200	5"	129	106	237
135/9C -8100	TR8	75	100	145	O	●	3418	1590	1828	192	200	5"	129	106	237
135/11C-8125	TR8	92	125	177	O	●	3972	1830	2142	192	202	5"	154	126	283
135/13C-8150	TR8	110	150	213	O	●	4516	2060	2456	192	202	5"	178	146	333

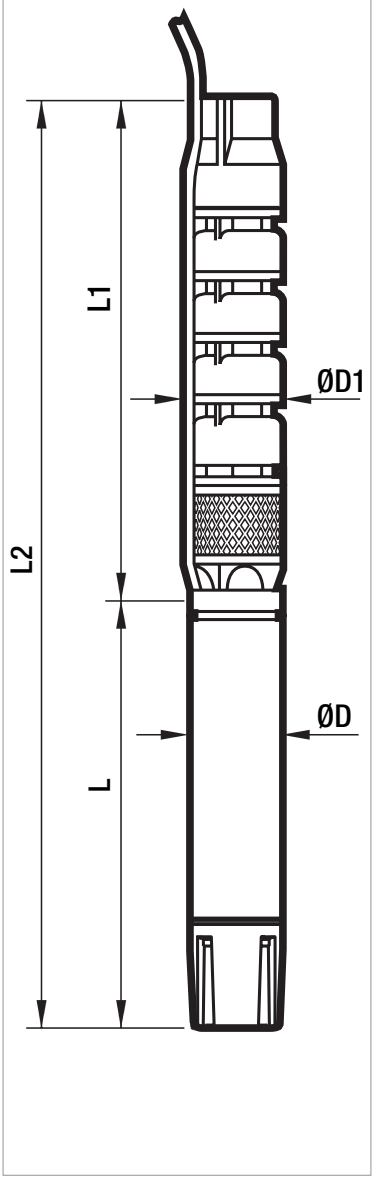
*** 6GF MOTOR:** 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

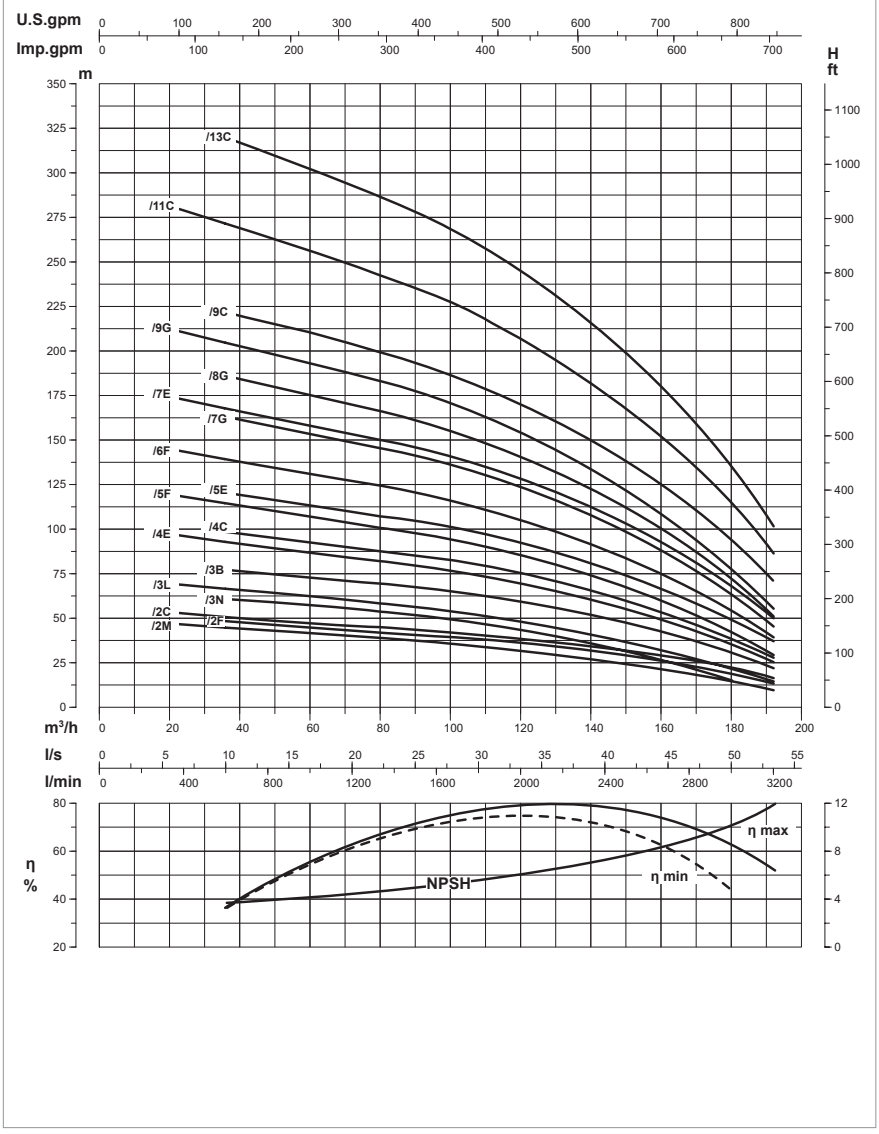
*** *** For the weight of the version in AISI 316, refer to the page of the motor concerned or contact our sales network.

●	Permitted
O	Only version PE2 + PA
Δ	Contact our sales network

SMC8 135 - SMN8 135

8" SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SMC10 - SMN10

10" SUBMERSIBLE ELECTRIC PUMPS

SMC10 SMN10 6GF TR8 TR10

TECHNICAL DATA

Operating range: up to 400 m^3/h with head up to 453 m.
Pumped liquid: clean, free of solids and abrasives, chemically neutral, with properties similar to water.
Start-ups/hour: see the coupled motor
Cooling flow: see the coupled motor
Maximum permitted amount of sand: 40 g/m^3
Ambient temperature: 30 °C
Minimum recommended level on suction line: 2 m
Installation: horizontal or vertical

APPLICATIONS

Multistage semiaxial submersible electric pumps for wells measuring 10" or above, able to generate a broad range of flow rates and heads.
They are used extensively for the lifting, distribution and pressurisation of industrial water systems, the supply of pressure vessels and tanks, firefighting systems and irrigation systems.
Application with clean, non-aggressive water free from solids or abrasive substances.

CONSTRUCTION FEATURES OF THE PUMP

SMC version:
Cast iron pump body treated with cataphoresis paint coating and dynamically balanced impellers in microcast AISI 304 stainless steel coupled on the shaft with pull tab. Shaft guided with coaxial bush bearings and fully protected with bushes.
Pump with check valve of low pressure loss.
Flanged delivery port and kit containing counter flange, bolts and gaskets.

SMN version:
Pump body and impellers in microcast AISI 316 stainless steel. Dynamically balanced impellers coupled on the shaft with pull tab. Shaft guided with coaxial bush bearings and fully protected with bushes.
Pump with check valve of low pressure loss.
Flanged delivery port and kit containing counter flange, bolts and gaskets.

Coupling with motors of 6" or 8" depending on the required hydraulic power and available in a standard version with cast iron supports treated with cataphoresis paint coating, and in a version entirely in AISI 316 stainless steel:
6GF/6GX: encapsulated 6" submersible motor
TR6: rewindable 6" submersible motor
TR8: rewindable 8" submersible motor
TR10: rewindable 10" submersible motor
Refer to the technical data sheets of the specific model for the electrical characteristics of the submersible motors and the specifications for operation with inverter.

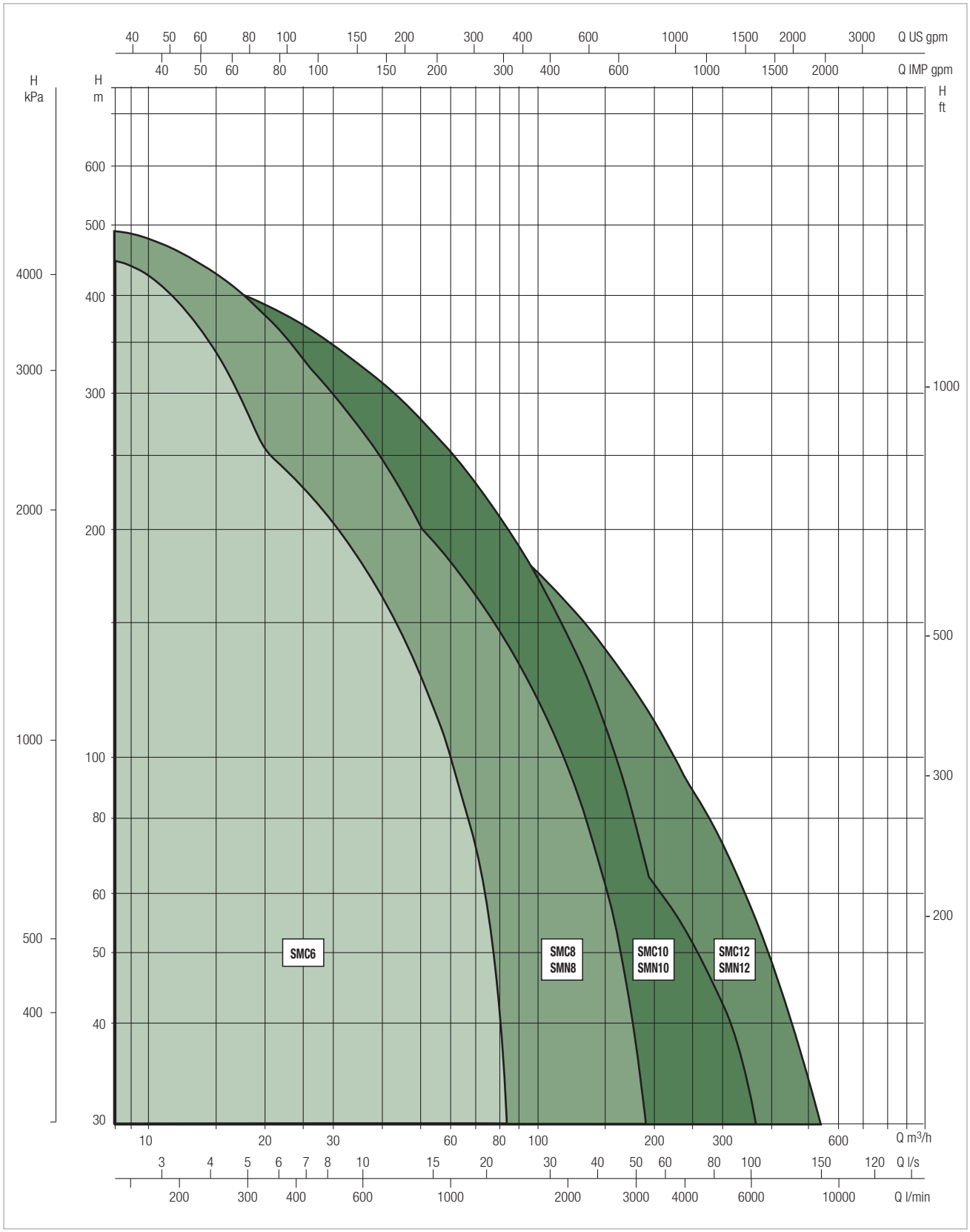
ON REQUEST

Motor in AISI 316 stainless steel for use in aggressive water.
Non-standard pump/motor couplings.
Star/Delta starting version.
Motor version for high temperature of water.

PERFORMANCE RANGE

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

GRAPHIC SELECTION TABLE

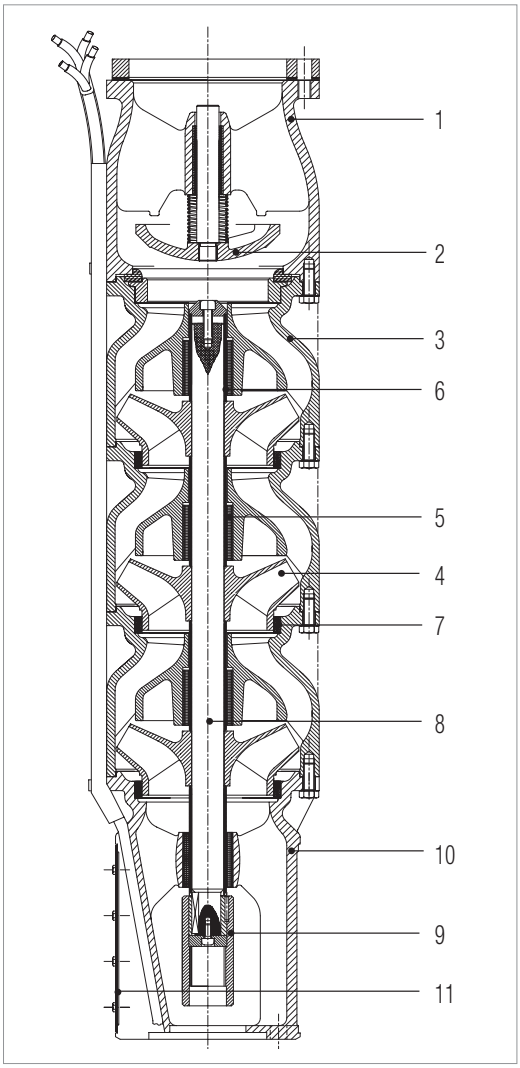


SMC10 - SMN10

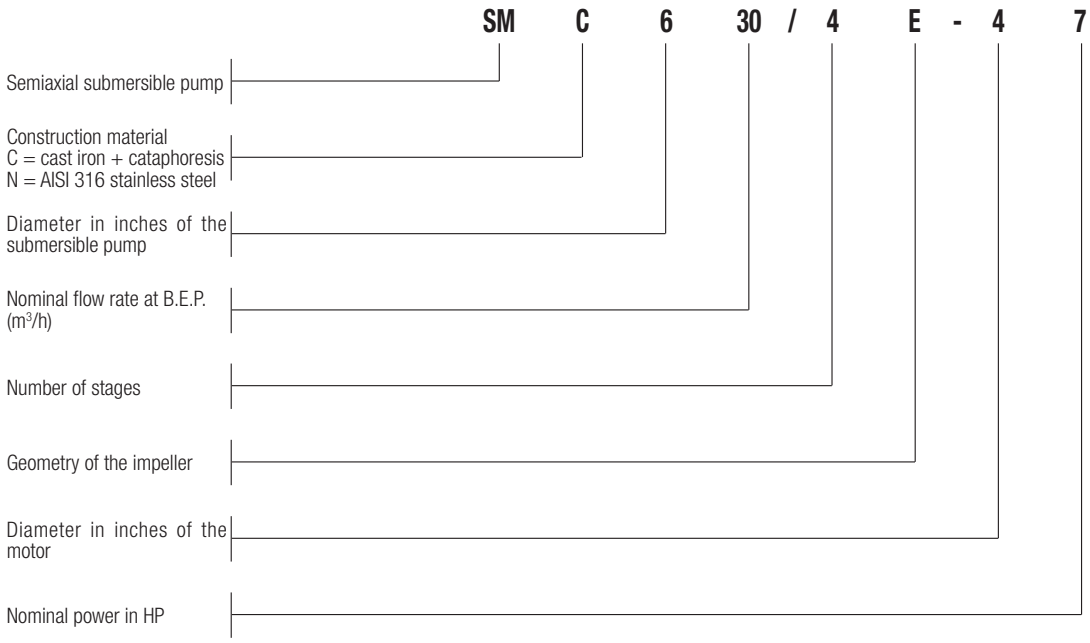
10" SUBMERSIBLE ELECTRIC PUMPS

MATERIALS

N.	PARTS	MATERIALS- SMC	MATERIALS- SMN
1	DELIVERY BODY	CAST IRON + CATAPHORESIS	AISI 316 STAINLESS STEEL
2	NON-RETURN VALVE	CAST IRON + CATAPHORESIS	AISI 316 STAINLESS STEEL
3	DIFFUSER	CAST IRON + CATAPHORESIS	AISI 316 STAINLESS STEEL
4	IMPELLER	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL
5	GUIDE BEARING	RUBBER	VITON
6	BUSH	CHROME-PLATED BRASS	AISI 316 STAINLESS STEEL
7	WEAR RING	RUBBER	POM
8	PUMP SHAFT	STAINLESS STEEL	AISI 329 DUPLEX STAINLESS STEEL
9	PIPE	STAINLESS STEEL	AISI 329 DUPLEX STAINLESS STEEL
10	SUCTION BODY	CAST IRON + CATAPHORESIS	AISI 316 STAINLESS STEEL
11	FILTER GRID	STAINLESS STEEL	AISI 316 STAINLESS STEEL



– Legend:
(example)



SMC10 200 - SMN10 200

10" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA													COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m³h	0	60	84	108	132	150	168	180	192	210	234	258	
	kW	HP	Q=l/min	0	1000	1400	1800	2200	2500	2800	3000	3200	3500	3900	4300	
200/1M-615	11	15		32	25,5	24	22	20,5	19	17,5	16,5	15	12,5	9		6"
200/1L-617	13	17,5		35,5	29	27	25,5	24	22,5	21	19,5	18	15,5	11,5	6,5	6"
200/1H-620	15	20		40	33	30,5	29	27	25,5	24	23	21,5	19	16	12	6"
200/1G-625	18,5	25		41	34	32	30	28	26,5	25	24	22,5	20	17	13	6"
200/1C-625	18,5	25		45	37	34,5	32,5	30,5	29	27,5	26	24,5	22	18,5	14	6"
200/1A-630	22	30		48	39	36,5	34,5	32,5	31,5	29,5	28,5	27	24	19,5	14	6"
200/2M-630	22	30		64	51,5	48	44,5	41	38,5	35,5	33	30	25,5	17,5		6"
200/2L-635	26	35		70,5	58,5	55	52	48,5	46	43	40,5	37,5	32,5	24	14,5	6"
200/2H-640	30	40		79,5	66	62	58,5	55	52	48,5	46	43	38	30	20,5	6"
200/2G-650	37	50		84	70,5	66,5	62,5	59	56	52,5	50	47	41,5	34	25	6"
200/2E-650	37	50		90	77	72	68	64	61	58	56	53	48	40,5	31	6"
200/2B-860	45	60		94,5	80	75,5	71,5	67,5	64,5	61	59	55,5	50,5	43	34,5	8"
200/3H-860	45	60		117	99	93,5	89	84	80	75,5	72	67,5	59,5	47,5	33	8"
200/3G-875	55	75	H (m)	130	110	104	98,5	93	88,5	84	80	75,5	67,5	56	42	8"
200/3E-875	55	75		137	116,5	110	104,5	99	94,5	90	86,5	81,5	73,5	62,5	48,5	8"
200/3B-885	63	85		143	122	115,5	109,5	104	99,5	94,5	91,5	86,5	78,5	67,5	54	8"
200/4G-8100	75	100		168,5	142,5	134,5	128	121	115	108,5	104	97,5	86,5	70,5	51	8"
200/4D-8100	75	100		183,5	156	148	141	133,5	128	121,5	117	110,5	100	84	65,5	8"
200/5I-8100	75	100		200	169	159,5	151,5	142,5	135,5	127,5	121,5	113,5	100,5	80	56,5	8"
200/5F-8125	92	125		224	192	180,5	171,5	163	157	150	144,5	137	124	104	80	8"
200/6I-8125	92	125		241	204,5	193,5	184,5	174,5	166,5	156,5	149,5	140	124	99	69	8"
200/6F-8150	110	150		269	230	216,5	205,5	195,5	188,5	180	173	164	149	124,5	96	8"
200/7H-8150	110	150		283	241,5	227,5	216,5	205,5	197	186,5	178,5	167	147,5	118	83	8"
200/7E-10180	132	180		319	271	256,5	244	231,5	222	211	203	192,5	174	148	116,5	10"
200/8D-10200	147	200		366,5	314	295,5	281	267	256,5	245	236,5	224,5	203,5	172,5	135,5	10"
200/9D-10230	170	230		412	353,5	332,5	316	300,5	288,5	275,5	266	252,5	229	194	152,5	10"
200/10E-10260	190	260		453	388	365	347	330	317	302	291,5	276,5	250	211	165	10"

SMC10 200 - SMN10 200

10" SUBMERSIBLE ELECTRIC PUMPS

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN	WEIGHT SMC kg	WEIGHT SMN kg	MOTOR WEIGHT ** kg
		P2 NOMINAL		In A											
		kW	HP												
200/1M-615	6GF	11	15	25,5	●	●	1417	730	687	141	247	6"	66	53	54,5
	TR6	11	15	25	O	●	1584	897		144			66	53	60
200/1L-617	6GF	15	20	33,4	●	●	1472	785	687	141	247	6"	66	53	60,4
	TR6	13	17,5	29	O	●	1614	927		144			66	53	65
200/1H-620	6GF	15	20	33,4	●	●	1472	785	687	141	247	6"	66	53	60,4
	TR6	15	20	32	O	●	1684	997		144			66	53	77
200/1G-625	6GF	18,5	25	41	●	●	1547	860	687	141	247	6"	66	53	68
	TR6	18,5	25	39	O	●	1744	1057		144			66	53	83
200/1C-625	6GF	18,5	25	41	●	●	1547	860	687	141	247	6"	66	53	68
	TR6	18,5	25	39	O	●	1744	1057		144			66	53	83
200/1A-630	6GF	22	30	47	●	●	1607	920	687	141	247	6"	66	53	74,2
	TR6	22	30	49	O	●	1774	1087		144			66	53	95
200/2M-630	6GF	22	30	47	●	●	1767	920	847	141	247	6"	92	76	74,2
	TR6	22	30	49	O	●	1934	1087		144			92	76	95
200/2L-635	6GF	30	40	61,5	●	●	1897	1050	847	141	247	6"	92	76	88,5
	TR6	26	35	58	O	●	2004	1157		144			92	76	105
200/2H-640	6GF	30	40	61,5	●	●	1897	1050	847	141	247	6"	92	76	88,5
	TR6	30	40	65	O	●	2059	1212		144			92	76	110
200/2G-650	6GF	37	50	79,3	●	●	2047	1180	867	141	249	6"	92	76	100
	TR6	37	50	80	O	●	2179	1312		144			92	76	120
200/2E-650	6GF	37	50	79,3	●	●	2047	1180	867	141	249	6"	92	76	100
	TR6	37	50	80	O	●	2179	1312		144			92	76	120
200/2B-860	TR8	45	60	92	O	●	2137	1270	867	192	249	6"	92	76	177
200/3H-860	TR8	45	60	92	O	●	2317	1270	1047	192	249	6"	118	98	177
200/3G-875	TR8	55	75	109	O	●	2397	1350	1047	192	249	6"	118	98	192
200/3E-875	TR8	55	75	109	O	●	2397	1350	1047	192	249	6"	118	98	192
200/3B-885	TR8	63	85	126	O	●	2537	1490	1047	192	249	6"	118	98	218
200/4G-8100	TR8	75	100	145	O	●	2817	1590	1227	192	249	6"	162	121	237
200/4D-8100	TR8	75	100	145	O	●	2817	1590	1227	192	249	6"	162	121	237
200/5I-8100	TR8	75	100	145	O	●	2997	1590	1407	192	249	6"	187	144	237
200/5F-8125	TR8	92	125	177	O	●	3413	1830	1583	192	249	6"	187	144	283
200/6I-8125	TR8	92	125	177	O	●	3585	1830	1755	192	249	6"	213	167	283
200/6F-8150	TR8	110	150	213	O	●	3731	2060	1671	192	249	6"	213	167	333
200/7H-8150	TR8	110	150	213	O	●	3911	2060	1851	192	249	6"	239	190	333
200/7E-10180	TR10	132	180	257	O	●	3721	1870	1851	237	249	6"	239	190	435
200/8D-10200	TR10	147	200	300	O	●	4101	2070	2031	237	249	6"	264	213	500
200/9D-10230	TR10	170	230	348	O	●	4431	2220	2211	237	249	6"	290	235	540
200/10E-10260	TR10	190	260	405	O	●	4791	2400	2391	237	249	6"	316	259	580

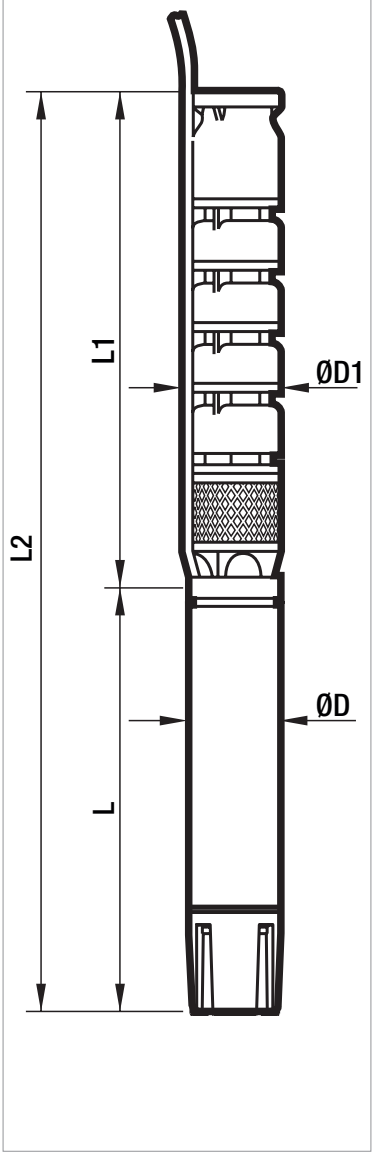
*** 6GF MOTOR:** 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

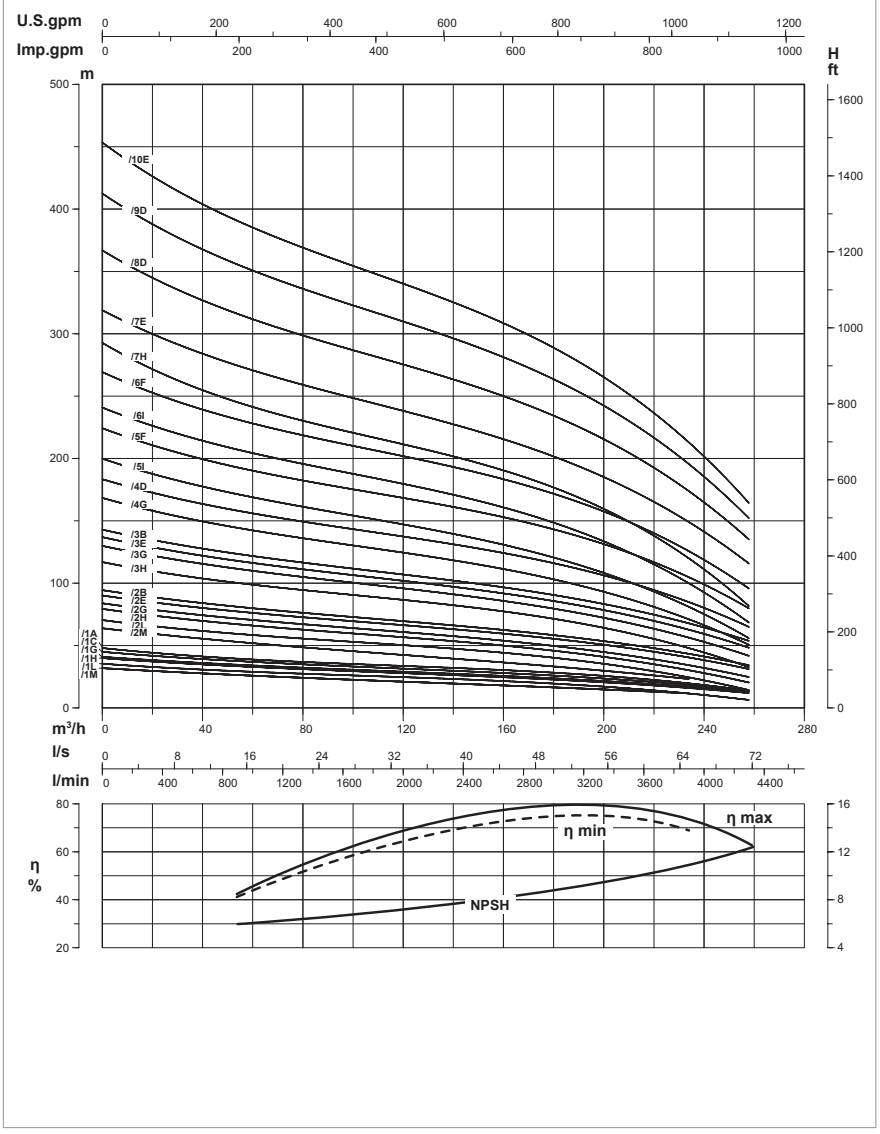
*** *** For the weight of the version in AISI 316, refer to the page of the motor concerned or contact our sales network.

●	Permitted
O	Only version PE2 + PA
Δ	Contact our sales network

SMC10 200 - SMN10 200

10” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm^2/s and density equal to 1000 kg/m^3. Curve tolerance according to ISO 9906.

SMC10 320 - SMN10 320

10" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA													COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m³/h	0	120	150	180	210	240	270	300	330	360	390	420	
	kW	HP	Q=l/min	0	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	
320/10-630	22	30		34	27,5	26,5	25,5	24,5	23,5	22	20	16,5	12,5			6"
320/1M-635	26	35		36	29,5	28,5	27,5	27	26	25	22,5	19,5	16	12,5		6"
320/1F-640	30	40		40	32,5	31	30	29,5	28,5	27,5	26	23	19,5	15,5	10,5	6"
320/1D-650	37	50		43,5	34,5	33	32	31,5	31	30,5	29	26	22,5	18,5	14	6"
320/1B-650	37	50		46	37	35	34,5	33,5	33	32,5	31	28,5	25	21	16,5	6"
320/2P-860	45	60		62	52	50,5	49	47	44	40,5	35,5	29	22			8"
320/2N-860	45	60		67,5	57,5	55,5	53,5	51,5	49	45,5	41,5	36	29,5	22,5	14	8"
320/2M-875	55	75		71	61	59	57,5	55,5	53,5	50,5	46,5	41	34	27	19,5	8"
320/2H-875	55	75	H (m)	72	64	61,5	60	58,5	56,5	54	50,5	45,5	38,5	31	21	8"
320/2D-885	63	85		77	67	65	63,5	62	60,5	58	54,5	49,5	43	35,5	27	8"
320/3I-8100	75	100		106	93,5	90,5	88	85,5	82	77,5	71,5	63	53,5	42,5	31,5	8"
320/3C-8125	92	125		117,5	104,5	102	99	96	94	91	86	79,5	70	57	41	8"
320/4G-8150	110	150		150	134,5	130	126,5	123	119	113,5	106,5	96,5	84,5	71	56	8"
320/4B-10180	132	180		162	147	142,5	138,5	135	130,5	125,5	118,5	108,5	96,5	84,5	69,5	10"
320/5L-10180	132	180		181	162	157	152,5	148	142,5	136	127	114,5	99	81,5	63	10"
320/5E-10200	150	200		196	177,5	172	167	162,5	157	150,5	141,5	129	114,5	98	79,5	10"
320/6G-10230	170	230		225	201,5	195,5	190	184,5	178	170	160	145	127	106	83,5	10"
320/7L-10260	190	260		253,5	227	219,5	213,5	207	199,5	190	178	160	138,5	114,5	88,5	10"

SMC10 320 - SMN10 320

10" SUBMERSIBLE ELECTRIC PUMPS

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN	WEIGHT SMC kg	WEIGHT SMN kg	MOTOR WEIGHT ** kg
		P2 NOMINAL		In A											
		kW	HP												
320/10-630	6GF	22	30	47	●	●	1623	920	703	141	247	6"	64,5	49	74
	TR6	22	30	49	O	●	1790	1087		144			64,5	49	95
320/1M-635	6GF	30	40	61,5	●	●	1753	1050	703	141	247	6"	64,5	49	89
	TR6	26	35	58	O	●	1860	1157		144			64,5	49	105
320/1F-640	6GF	30	40	61,5	●	●	1753	1050	703	141	247	6"	64,5	49	89
	TR6	30	40	65	O	●	1915	1212		144			64,5	49	110
320/1D-650	6GF	37	50	79,3	●	●	1883	1180	703	141	247	6"	64,5	49	100
	TR6	37	50	80	O	●	2015	1312		144			64,5	49	120
320/1B-650	6GF	37	50	79,3	●	●	1883	1180	703	141	249	6"	65,5	49	100
	TR6	37	50	80	O	●	2015	1312		144			65,5	49	120
320/2P-860	TR8	45	60	92	O	●	2168	1270	898	192	249	6"	91	68	177
320/2N-860	TR8	45	60	92	O	●	2168	1270	898	192	249	6"	91	68	177
320/2M-875	TR8	55	75	109	O	●	2248	1350	898	192	249	6"	91	68	192
320/2H-875	TR8	55	75	109	O	●	2248	1350	898	192	249	6"	91	68	192
320/2D-885	TR8	63	85	126	O	●	2388	1490	898	192	249	6"	91	68	218
320/3I-8100	TR8	75	100	145	O	●	2767	1590	1177	192	249	6"	116	88	237
320/3C-8125	TR8	92	125	177	O	●	3007	1830	1177	192	249	6"	116	88	283
320/4G-8150	TR8	110	150	213	O	●	3432	2060	1372	192	249	6"	160	117	333
320/4B-10180	TR10	132	180	257	O	●	3242	1870	1372	232	249	6"	160	117	435
320/5L-10180	TR10	132	180	257	O	●	3438	1870	1568	232	249	6"	185,5	137	435
320/5E-10200	TR10	150	200	300	O	●	3638	2070	1568	232	249	6"	185,5	137	500
320/6G-10230	TR10	170	230	348	O	●	3983	2220	1763	232	249	6"	211	157	540
320/7L-10260	TR10	190	260	405	O	●	4359	2400	1959	232	249	6"	236,5	177	580

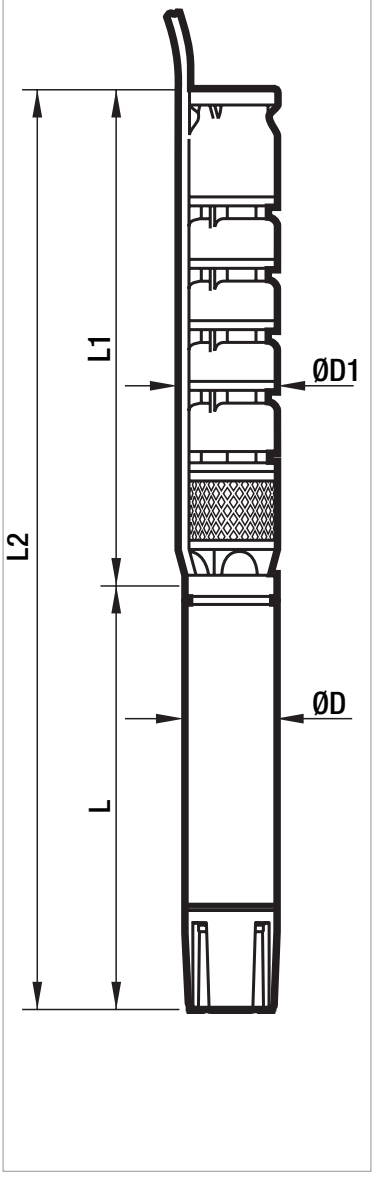
*** 6GF MOTOR:** 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

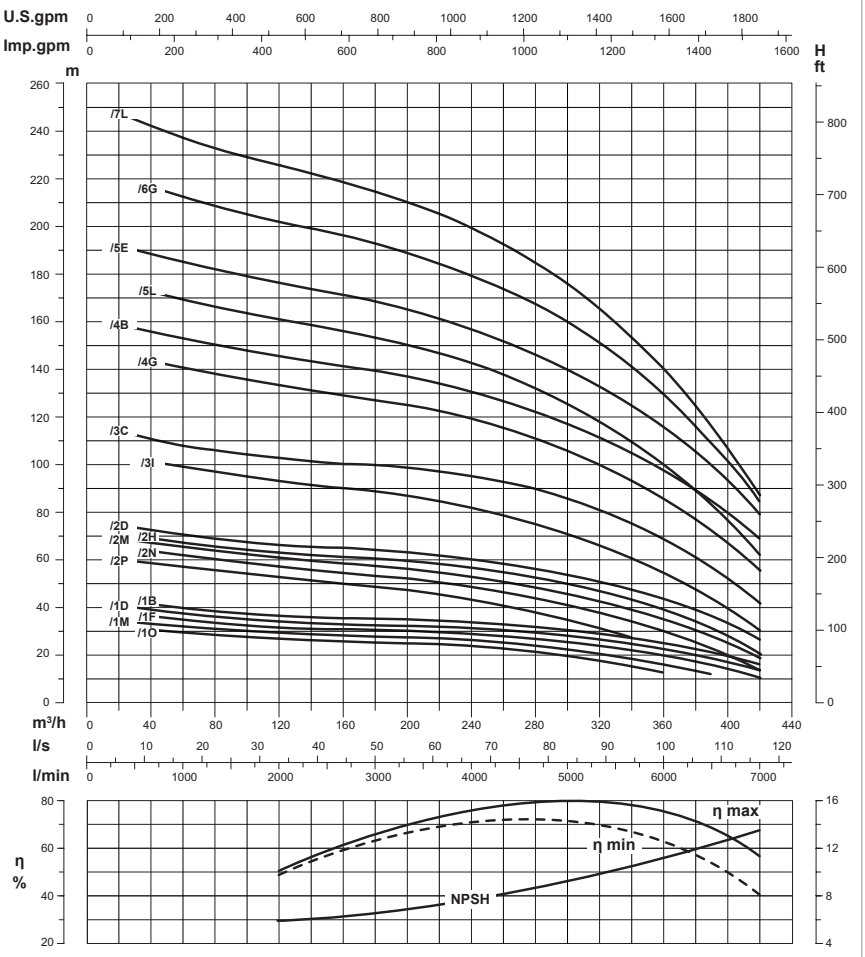
****** For the weight of the version in AISI 316, refer to the page of the motor concerned or contact our sales network.

●	Permitted
O	Only version PE2 + PA
Δ	Contact our sales network

SMC10 320 - SMN10 320

10” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

SMC12 - SMN12

12" SUBMERSIBLE ELECTRIC PUMPS

SMC12 SMN12 TR8 TR10 TR12

TECHNICAL DATA

Operating range: up to 540 m^3/h with head up to 320 m.
Pumped liquid: clean, free of solids and abrasives, chemically neutral, with properties similar to water.
Start-ups/hour: see the coupled motor
Cooling flow: see the coupled motor
Maximum permitted amount of sand: 40 g/m^3
Ambient temperature: 30 °C
Minimum recommended level on suction line: 2.5 m
Installation: horizontal or vertical

APPLICATIONS

Multistage semiaxial submersible electric pumps for wells measuring 12" or above, able to generate a broad range of flow rates and heads.
They are used extensively for the lifting, distribution and pressurisation of industrial water systems, the supply of pressure vessels and tanks, firefighting systems and irrigation systems.
Application with clean, non-aggressive water free from solids or abrasive substances.

CONSTRUCTION FEATURES OF THE PUMP

SMC version:
Cast iron pump body treated with cataphoresis paint coating and dynamically balanced impellers in microcast AISI 304 stainless steel coupled on the shaft with pull tab. Shaft guided with coaxial bush bearings and fully protected with bushes.
Pump with check valve of low pressure loss.
Flanged delivery port and kit containing counter flange, bolts and gaskets.

SMN version:
Pump body and impellers in microcast AISI 316 stainless steel. Dynamically balanced impellers coupled on the shaft with pull tab. Shaft guided with coaxial bush bearings and fully protected with bushes.
Pump with check valve of low pressure loss.
Flanged delivery port and kit containing counter flange, bolts and gaskets.

Coupling with motors of 6" or 8" depending on the required hydraulic power and available in a standard version with cast iron supports treated with cataphoresis paint coating, and in a version entirely in AISI 316 stainless steel:
6GF/6GX: encapsulated 6" submersible motor
TR6: rewindable 6" submersible motor
TR8: rewindable 8" submersible motor
TR10: rewindable 10" submersible motor
TR12: rewindable 12" submersible motor
Refer to the technical data sheets of the specific model for the electrical characteristics of the submersible motors and the specifications for operation with inverter.

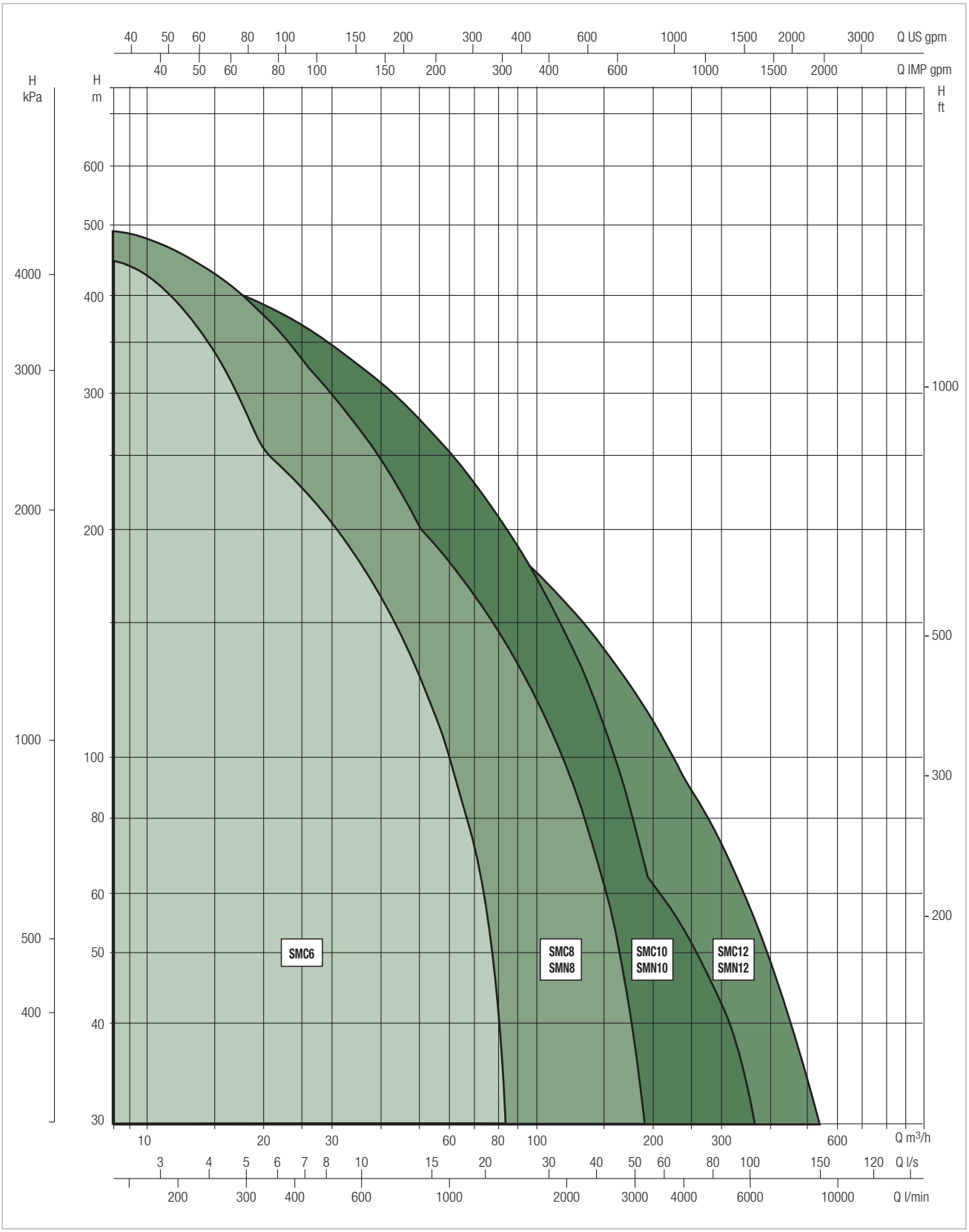
ON REQUEST

Motor in AISI 316 stainless steel for use in aggressive water.
Non-standard pump/motor couplings.
Star/Delta starting version.
Motor version for high temperature of water.

PERFORMANCE RANGE

The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

GRAPHIC SELECTION TABLE

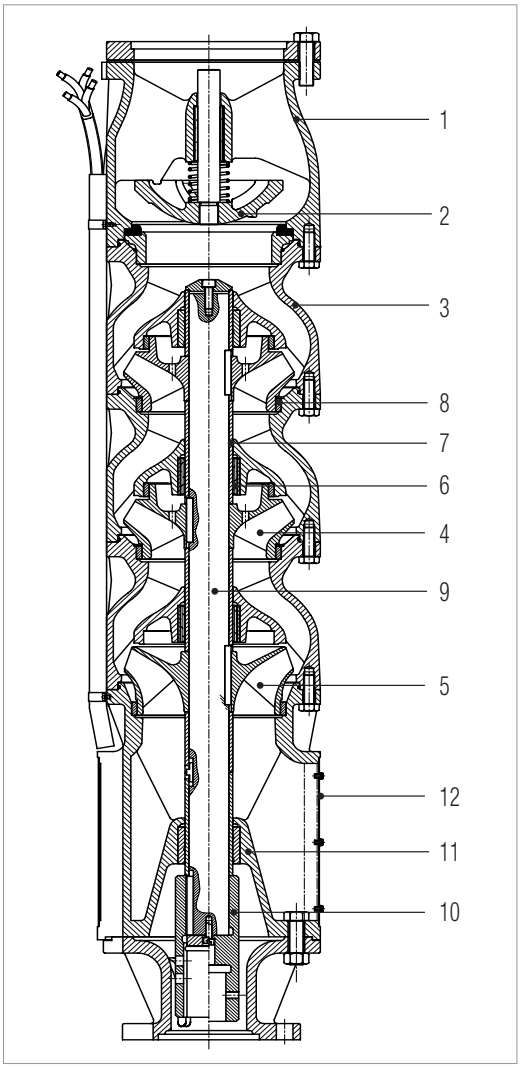


SMC12 - SMN12

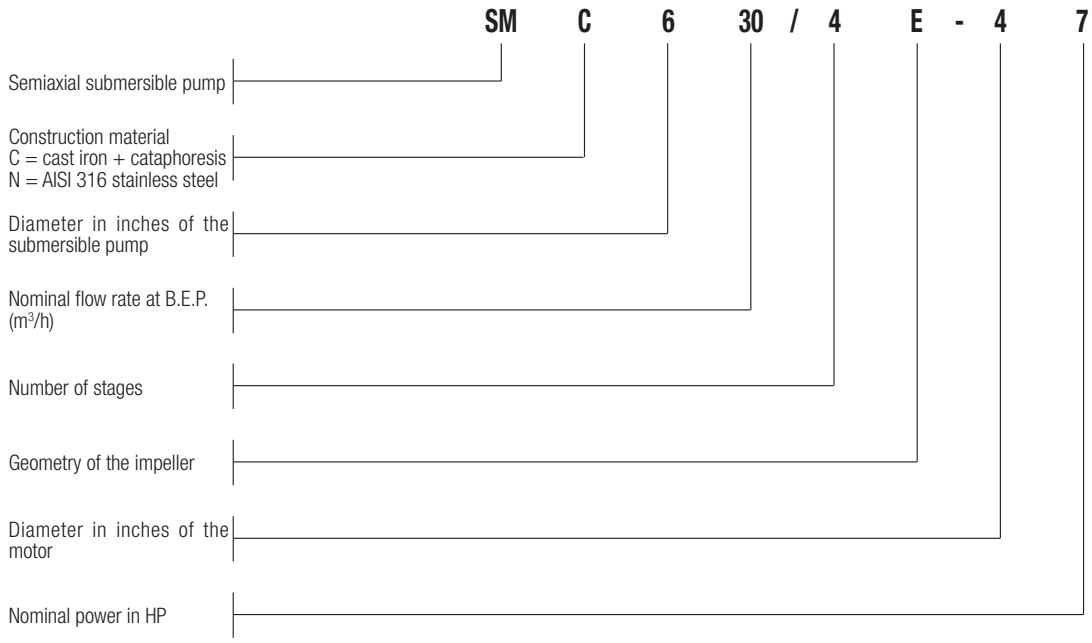
12" SUBMERSIBLE ELECTRIC PUMPS

MATERIALS

N.	PARTS	MATERIALS- SMC	MATERIALS- SMN
1	DELIVERY BODY	CAST IRON + CATAPHORESIS	AISI 316 STAINLESS STEEL
2	NON-RETURN VALVE	CAST IRON + CATAPHORESIS	AISI 316 STAINLESS STEEL
3	DIFFUSER	CAST IRON + CATAPHORESIS	AISI 316 STAINLESS STEEL
4	IMPELLER	AISI 316 STAINLESS STEEL	AISI 316 STAINLESS STEEL
5	SUCTION IMPELLER	AISI 316 STAINLESS STEEL	AISI 316 STAINLESS STEEL
6	GUIDE BEARING	RUBBER	VITON
7	BUSH	BRONZE	AISI 316 STAINLESS STEEL
8	WEAR RING	BRONZE	POM
9	PUMP SHAFT	STAINLESS STEEL	AISI 329 DUPLEX STAINLESS STEEL
10	PIPE	STAINLESS STEEL	AISI 329 DUPLEX STAINLESS STEEL
11	SUCTION BODY	CAST IRON + CATAPHORESIS	AISI 316 STAINLESS STEEL
12	FILTER GRID	STAINLESS STEEL	AISI 316 STAINLESS STEEL



– Legend:
(example)



SMC12 360 - SMN12 360

12" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA														COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m³/h	0	180	210	240	270	285	300	315	330	360	390	420	450	
	kW	HP	Q=l/min	0	3000	3500	4000	4500	4750	5000	5250	5500	6000	6500	7000	7500	
360/1A-860	45	60		55,5	46	44,5	43	41,5	40,5	39,5	38	36,5	33,5	29,5	25	20	8"
360/1B-875	55	75		63	51	49,5	48	46,5	46	45	44	42,5	39	35,5	31	26	8"
360/1C-8100	75	100		65,5	54,5	53,5	52	50,5	49,5	49	48	46,5	44	40,5	37	33	8"
360/2A-8100	75	100		100,5	85	82,5	79	75	72,5	69,5	66,5	62,5	53,5	43,5	33		8"
360/2B-8125	92	125		117,5	97,5	95	92	88,5	86,5	84	81	77,5	68,5	58,5	47		8"
360/2C-8150	110	150	H (m)	130,5	107,5	105	102,5	99,5	98	96,5	94,5	91,5	85,5	77,5	68,5	57,5	8"
360/3A-10180	132	180		168,5	139	134	129,5	125	122	119,5	116,5	112	101,5	86,5	65		10"
360/3B-10200	150	200		185	153,5	149	144	139,5	137	134	131	127	117,5	104,5	87	61,5	10"
360/4A-10260	190	260		224,5	193	188	182,5	176	171,5	167	162	155,5	140	122,5	102		10"
360/5A-12300	220	300		295,5	237,5	230	221,5	213,5	207,5	201,5	193	183,5	163,5	138	105		12"
360/5B-12340	250	340		319,5	259	252	244,5	236	231	224,5	217,5	208	187,5	166,5	137,5	100	12"

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN	WEIGHT SMC kg	WEIGHT SMN kg	MOTOR WEIGHT ** kg
		P2 NOMINAL		In A											
		kW	HP												
360/1A-860	TR8	45	60	92	o	●	2169	1270	899	192	298	7"	136	99	177
360/1B-875	TR8	55	75	109	o	●	2249	1350	899	192	298	7"	136	99	192
360/1C-8100	TR8	75	100	145	o	●	2489	1590	899	192	298	7"	136	99	237
360/2A-8100	TR8	75	100	145	o	●	2689	1590	1099	192	298	7"	174	129	237
360/2B-8125	TR8	92	125	177	o	●	2929	1830	1099	192	298	7"	174	129	283
360/2C-8150	TR8	110	150	213	o	●	3184	2060	1124	192	298	7"	178	129	333
360/3A-10180	TR10	132	180	257	o	●	3194	1870	1324	232	298	7"	217	158	435
360/3B-10200	TR10	150	200	300	o	●	3394	2070	1324	232	298	7"	217	158	500
360/4A-10260	TR10	190	260	405	o	●	3924	2400	1524	232	298	7"	255	188	580
360/5A-12300	TR12	220	300	424	o	Δ	3834	2110	1724	286	298	7"	294	217	700
360/5B-12340	TR12	250	340	481	o	Δ	4004	2280	1724	286	298	7"	294	217	775

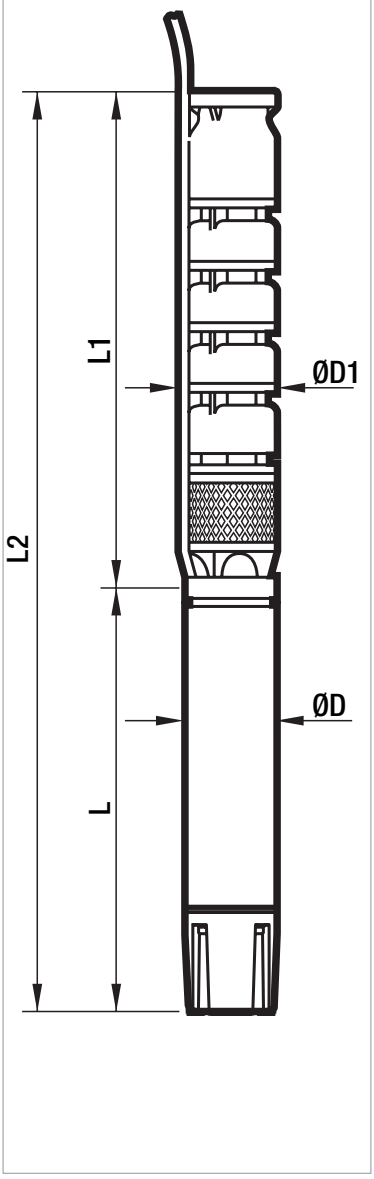
*** 6GF MOTOR:** 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

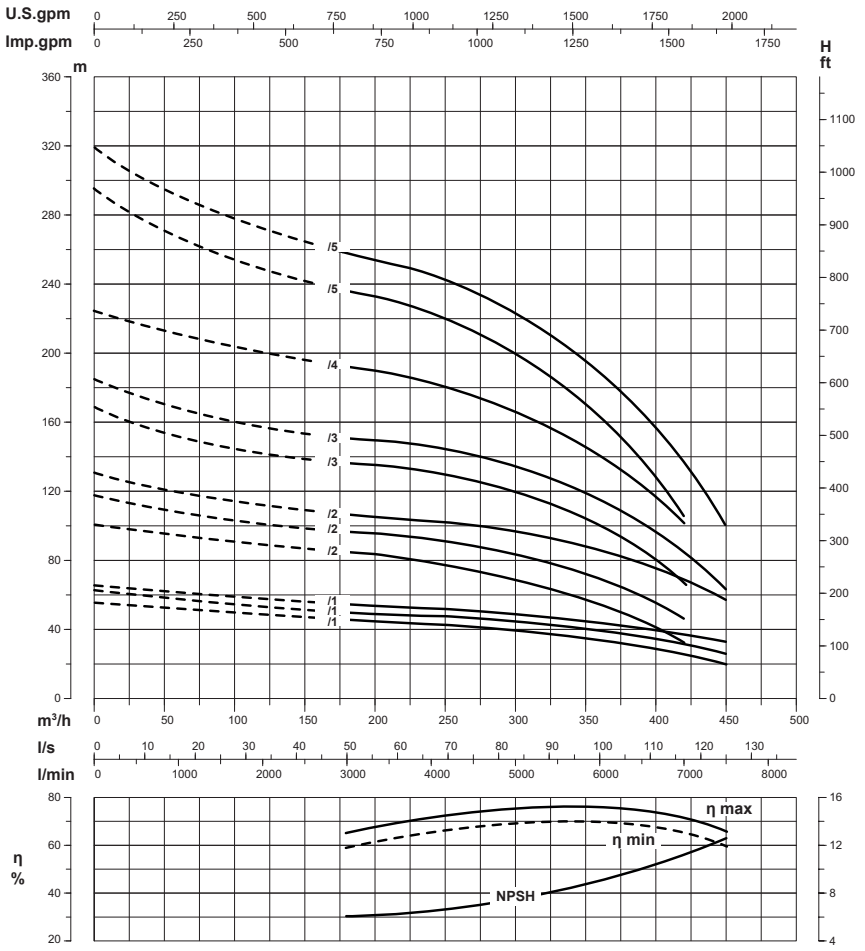
*** *** For the weight of the version in AISI 316, refer to the page of the motor concerned or contact our sales network.

●	Permitted
o	Only version PE2 + PA
Δ	Contact our sales network

SMC12 360 - SMN12 360

12” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

SMC12 420 - SMN12 420

12" SUBMERSIBLE ELECTRIC PUMPS

PERFORMANCE AT 50 Hz - 2 POLES

MODEL	ELECTRICAL DATA		HYDRAULIC DATA														COUPLING STANDARD MOTOR
	P2 NOMINAL		Q=m³/h	0	210	240	270	300	330	360	390	420	450	480	510	540	
	kW	HP	Q=l/min	0	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	
420/1A-860	45	60		52	39,5	38	36,5	35	34	32,5	30,5	28,5	26	22,5	19	14	8"
420/1B-875	55	75		58,5	44,5	43	41,5	40	39	38	36,5	35	32,5	30	26,5	22	8"
420/2A-8125	92	125		101,5	80,5	78	75,5	73	70,5	67,5	64,5	60,5	56	51,5	46	40,5	8"
420/2B-8150	110	150		114,5	90,5	88	85,5	83	80,5	77,5	74,5	71	66	61	54	46	8"
420/3A-10180	132	180	H (m)	134	111	107,5	104	100,5	96,5	92,5	88	82	75,5	68	59,5	50,5	10"
420/3B-10200	150	200		156,5	124	120,5	117	114	110	106,5	102,5	97	90,5	83,5	75,5	66,5	10"
420/4A-10260	190	260		196	154	149,5	145	140,5	135,5	130	124	116,5	107,5	97	85,5	72	10"
420/4B-12300	220	300		221	173,5	169	165	161	156,5	152	147	139,5	131	121,5	110,5	96	12"
420/5A-12340	250	340		260,5	204	198	192,5	187	182	176,5	170,5	162	152	139	121,5	100	12"

ELECTRICAL DATA AND DIMENSIONS

MODEL	MOTOR *	ELECTRICAL DATA			OPERATION WITH INVERTER	HORIZONTAL INSTALLATION	L2 mm	L mm	L1 mm	D mm	D1 mm	DN	WEIGHT SMC kg	WEIGHT SMN kg	MOTOR WEIGHT ** kg
		P2 NOMINAL		In A											
		kW	HP												
420/1A-860	**TR8**	45	60	92	o	●	2169	1270	899	192	298	7"	134	96	177
420/1B-875	**TR8**	55	75	109	o	●	2249	1350	899	192	298	7"	134	96	192
420/2A-8125	**TR8**	92	125	177	o	●	2929	1830	1099	192	298	7"	170	123	283
420/2B-8150	**TR8**	110	150	213	o	●	3184	2060	1124	192	298	7"	174	123	333
420/3A-10180	**TR10**	132	180	257	o	●	3194	1870	1324	237	298	7"	211	149	435
420/3B-10200	**TR10**	150	200	300	o	●	3394	2070	1324	237	298	7"	211	149	500
420/4A-10260	**TR10**	190	260	405	o	●	3924	2400	1524	237	298	7"	247	176	580
420/4B-12300	**TR12**	220	300	424	o	Δ	3634	2110	1524	286	298	7"	247	176	700
420/5A-12340	**TR12**	250	340	481	o	Δ	4004	2280	1724	286	298	7"	284	203	775

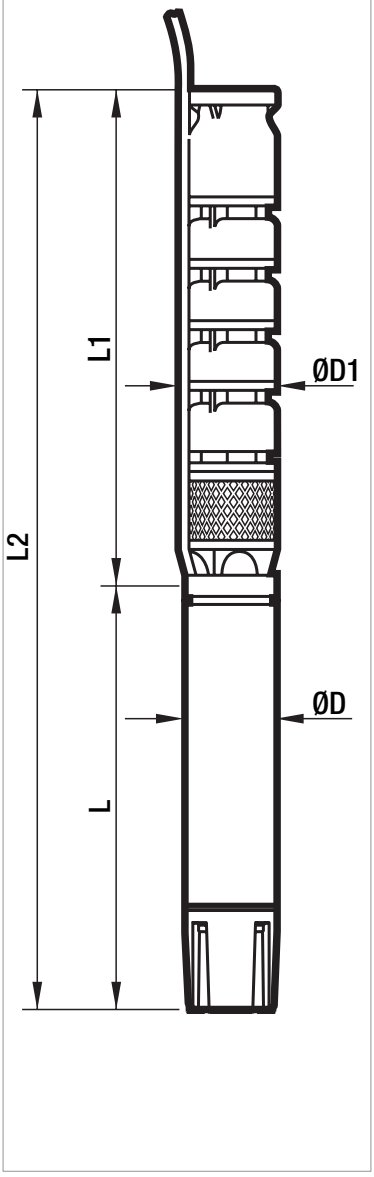
*** 6GF MOTOR:** 6" encapsulated in water bath.
TR MOTOR: 6" - 12" rewindable in water bath.

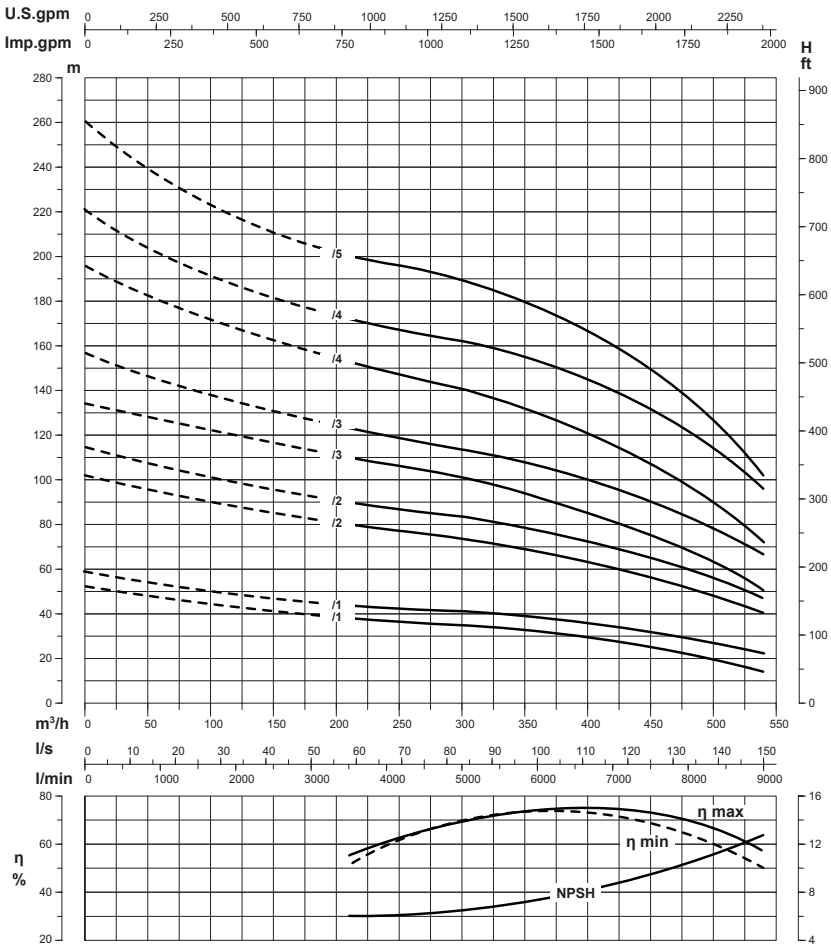
****** For the weight of the version in AISI 316, refer to the page of the motor concerned or contact our sales network.

●	Permitted
o	Only version PE2 + PA
Δ	Contact our sales network

SMC12 420

12” SUBMERSIBLE ELECTRIC PUMPS





Performance at 50 Hz 2 poles. The performance curves are based on kinematic viscosity values = 1 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

3GF - 3GS

3” SUBMERSIBLE MOTOR

TECHNICAL DATA

Flanging: 3”.
Insulation class: F.
Protection class: IP68.
Cooling flow speed: min. 0,3 m/s 35 °C.
Power supply tolerance: + 6 % / -10 %.
Max. starts: 20/h.
Max operating depth: 150 m.
Horizontal operation: 0,5 HP - 1 HP.

GENERAL DATA

3” submersible asynchronous two-pole electric motor made entirely of AISI 304 stainless steel and brass. The thrust block and bushes are cooled and lubricated with a mixture of water and glycol. The rotor is mounted on a Kingsbury self-centring thrust block designed to withstand significant axial loads. Stator housed in an airtight stainless steel casing with internal sleeve and outer casing and flanges. The 3GS version entirely in AISI 304 stainless steel is available on request. The cable connector is removable for the purpose of quick and easy maintenance. The cable is ACS, WRAS and KTW certified. The motor is suitable for use with variable frequency drive (30 Hz - 50/60 Hz). Overload protection is included in the motor for the single-phase version. Overload protection to be provided by the user for the three-phase version.

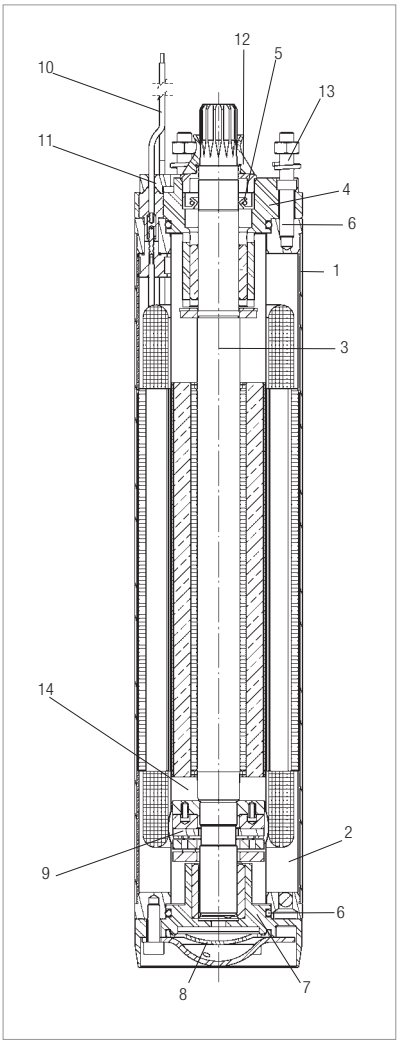
On request: cables of different lengths and voltage supply.

CONSTRUCTION FEATURES

Stator housed in an outer casing in AISI 304. The stator has 18 slots to ensure better elasticity and smooth operation; the copper conductors have a double layer of Class H insulating enamel. Overload protection is included (single-phase version).

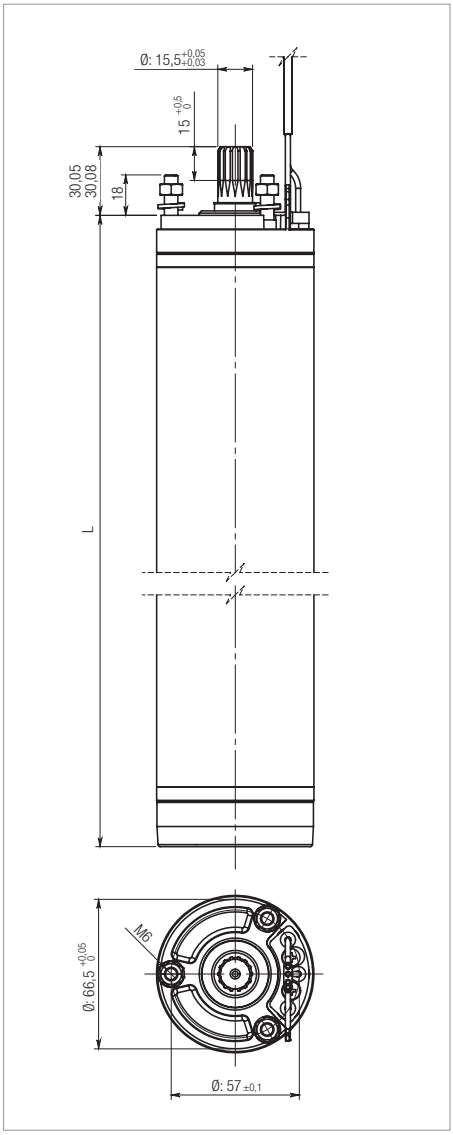
Kingsbury thrust block equipped with carbon clearance ring and oscillating pads in high-strength stainless steel machined by Tesla with a spherical lapping process.
From 0,5 HP to 1 HP: 2000 N

Shaft with special surface hardening and polishing in the work area of the bushings, shaft in AISI 431 stainless steel, squirrel cage rotor in copper for all power ratings.



MATERIALS

N.	PARTS	VERSION 3GF	VERSION 3GS
1	INTERNAL SLEEVE AND OUTER CASING	AISI 304	AISI 304
2	STATOR	AISI 304L	AISI 304L
3	SHAFT	AISI 431	AISI 304
4	UPPER SUPPORT	BRASS	AISI 304
5	LIP SEAL	NBR	EPDM
6	GASKETS	NBR	EPDM
7	LOWER SUPPORT	BRASS	AISI 304
8	BELLOW SEAL	EPDM	EPDM
9	THRUST BLOCK	STEEL - GRAPHITE	STEEL - GRAPHITE
10	CABLE	EPDM	EPDM
11	CONNECTOR PLUG	AISI 304	AISI 304
12	SAND GUARD	NBR	EPDM
13	SCREWS	AISI 304	AISI 304
14	COOLANT	ANTIFREEZE + WATER	ANTIFREEZE + WATER



DIMENSIONS - SINGLE-PHASE MOTORS

TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	0,5	0,37	331	6,1	2000
	0,75	0,55	351	6,6	2000
	1	0,75	391	7,6	2000

DIMENSIONS - THREE-PHASE MOTORS

TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	0,5	0,37	331	6,3	2000
	0,75	0,55	351	6,8	2000
	1	0,75	391	7,8	2000

ELECTRICAL DATA - SINGLE-PHASE MOTORS

MODEL	P2		POWER INPUT 50 Hz	In A	C µF	CABLE	
	hp	kW				Ø mm²	LC m
3GF/3GS - 0,37 kW - M	0,5	0,37	230 V	3,3	12	4x1	1
3GF/3GS - 0,55 kW - M	0,75	0,55	230 V	5,1	16	4x1	1,2
3GF/3GS - 0,75 kW - M	1	0,75	230 V	6,1	20	4x1	1,4

ELECTRICAL DATA - THREE-PHASE MOTORS

MODEL	P2		POWER INPUT 50 Hz	In A	C µF	CABLE	
	hp	kW				Ø mm²	LC m
3GF/3GS - 0,37 kW - T	0,5	0,37	400 V	1,3	-	4x1	1
3GF/3GS - 0,55 kW - T	0,75	0,55	400 V	1,9	-	4x1	1,2
3GF/3GS - 0,75 kW - T	1	0,75	400 V	2,4	-	4x1	1,4

P2: Nominal power
V: Nominal voltage
In: Nominal current
C: Capacitor
Ø: Cable cross section
LC: Cable length

Winding resistance: see technical appendix on page 251

TECHNICAL DATA

Flanging: NEMA 4".
Insulation class: F.
Protection class: IP68.
Cooling flow speed: min. 0,3 m/s 35 °C.
Power supply tolerance: + 6 % / -10 %.
Max. starts: 20/h.
Max operating depth: 300 m.
Horizontal operation: 0,5 HP - 10 HP.

GENERAL DATA

4” submersible asynchronous two-pole electric motor made entirely of AISI 304 stainless steel for the parts in contact with water. The thrust block and bushes are cooled and lubricated with a mixture of water and glycol. The rotor is mounted on a Kingsbury self-centring thrust block designed to withstand significant axial loads. Stator housed in an airtight AISI 304L stainless steel casing with internal sleeve and outer casing and flanges.
The 4GX version completely in AISI 316 stainless steel is available on request.
The cable connector is removable for the purpose of quick and easy maintenance. The cable is ACS, WRAS and KTW certified. The motor is suitable for use with variable frequency drive (30 Hz - 50 Hz). For the 50 Hz single-phase version, the capacitor and manually resettable overload protection are in the electrical control box provided separately. Overload protection to be provided by the user for the three-phase version.

On request: cables of a different length, different voltage supply, thermal protection device (50 Hz - PSC - of 0,5 HP to 1,5 HP).

CONSTRUCTION FEATURES

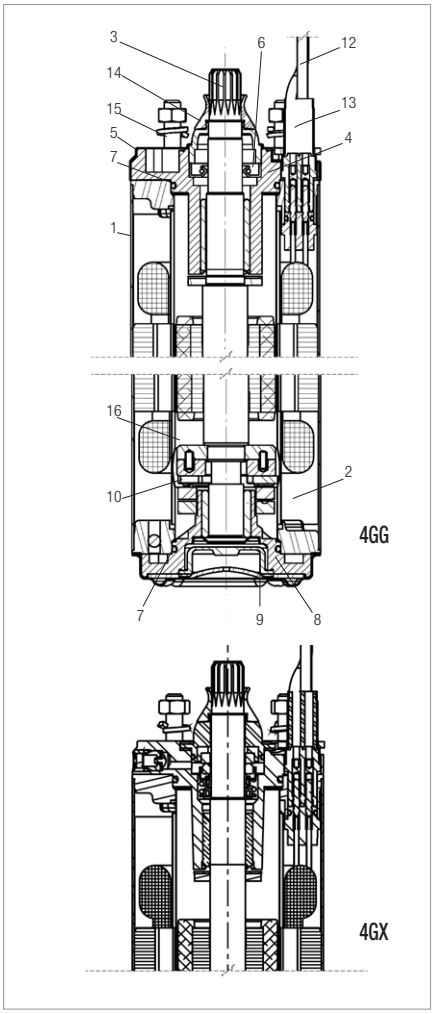
Stator housed in an outer casing and flanges in AISI 304L. The stator has 24 slots to ensure better elasticity and smooth operation; the copper conductors have a double layer of Class H insulating enamel.

Kingsbury thrust block equipped with carbon clearance ring and oscillating pads in high-strength stainless steel machined by Tesla with a spherical lapping process.
From 0,5 HP to 1.5 HP: 2000 N
From 2 HP to 3 HP: 3000 N
From 4 HP to 10 HP: 6000 N

Shafts with terminal in AISI 304/Duplex, with special surface hardening and polishing in the work area of the bushings. Squirrel cage rotor in aluminium for power ratings up to 3 HP and in copper for motors of power above 4 HP.

4GG - 4GX

4" SUBMERSIBLE MOTOR



MATERIALS

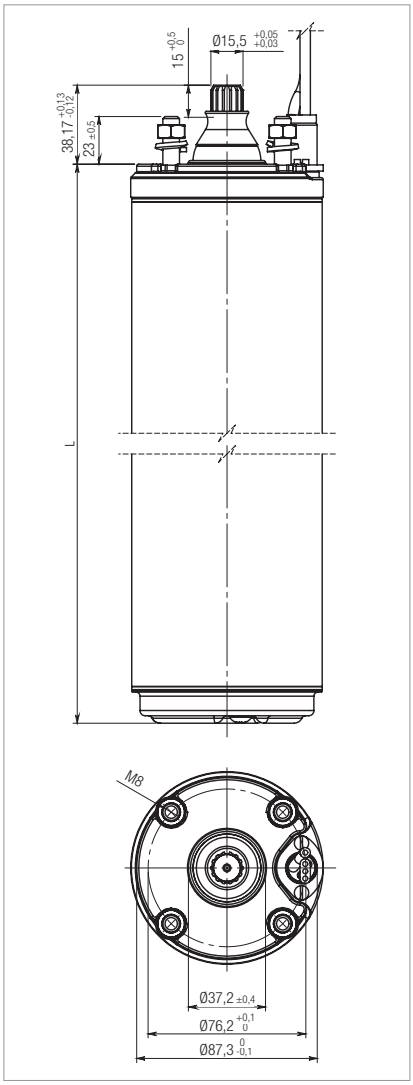
N.	PARTS	VERSION 4GG	VERSION 4GX
1	INTERNAL SLEEVE AND OUTER CASING	AISI 304	AISI 316
2	STATOR	AISI 304L	AISI 316 TI
3	SHAFT EXTENSION	AISI 304 / DUPLEX	DUPLEX
4	UPPER SUPPORT	TEFLON COATED CAST IRON	AISI 316
5	SUPPORT COVER	AISI 304	-
6	LIP SEAL	NBR	-
7	GASKETS	NBR	VITON
8	LOWER SUPPORT	TEFLON COATED CAST IRON	AISI 316
9	BELLOW SEAL	EPDM	EPDM
10	THRUST BLOCK	STEEL - GRAPHITE	STEEL - GRAPHITE
11	VALVE	AISI 303	AISI 316
12	CABLE	EPDM	EPDM
13	CONNECTOR PLUG	AISI 316	AISI 316
14	SAND GUARD	NBR	EPDM
15	SCREWS	AISI 304	AISI 316
16	COOLANT	ANTIFREEZE + WATER	ANTIFREEZE + WATER
17	MECHANICAL SEAL	-	SIC/SIC

DIMENSIONS - SINGLE-PHASE MOTORS

TYPE	P2		LENGTH mm	WEIGHT 4GG	WEIGHT 4GX	AXIAL THRUST N
	hp	kW				
50 Hz	0,5	0,37	236	6,9	7,3	2000
	0,75	0,55	266	8,1	8,5	2000
	1	0,75	286	9,1	9,4	2000
	1,5	1,1	331	11	11,4	2000
	2	1,5	393	13,2	13,6	3000
	3	2,2	413	13,9	14,2	3000
50 Hz	5	3,7	684	27	26,7	6000

DIMENSIONS - THREE-PHASE MOTORS

TYPE	P2		LENGTH mm	WEIGHT 4GG	WEIGHT 4GX	AXIAL THRUST N
	hp	kW				
50 Hz	0,5	0,37	216	6,2	6,6	2000
	0,75	0,55	236	6,9	7,3	2000
	1	0,75	266	8,1	8,5	2000
	1,5	1,1	286	9,1	9,4	2000
	2	1,5	348	11	11,4	3000
	3	2,2	393	13,2	13,6	3000
	4	3	544	19,9	20	6000
50 Hz	5,5	4	614	22,9	23	6000
	7,5	5,5	684	26,8	27	6000
	10	7,5	764	30,6	30,7	6000



ELECTRICAL DATA - SINGLE-PHASE MOTORS

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	Cs/Cn	P1 W	N min-1	Cos φ	η %	C µF	CABLE	
	hp	kW										Ø mm2	LC m
4GG / 4 GX - 0,37 kW - 230 V - M	0,5	0,37	230	3,3	2,7	0,69	740	2820	0,97	50	16	4x1,5	1,7
4GG / 4 GX - 0,55 kW - 230 V - M	0,75	0,55	230	4,6	3,3	0,68	1000	2820	0,94	56	20	4x1,5	1,7
4GG / 4 GX - 0,75 kW - 230 V - M	1	0,75	230	6,2 W	3,2	0,66	1300	2820	0,92	58	25	4x1,5	1,7
4GG / 4 GX - 1,1 kW - 230 V - M	1,5	1,1	230	8,6	3,6	0,68	1820	2830	0,90	62	35	4x1,5	1,7
4GG / 4 GX - 1,5 kW - 230 V - M	2	1,5	230	11	3,7	0,62	2320	2830	0,91	65	40	4x1,5	1,7
4GG / 4 GX - 2,2 kW - 230 V - M	3	2,2	230	16	3,1	0,6	3460	2810	0,89	65	60	4x1,5	1,7
4GG / 4 GX - 3,7 kW - 230 V - M	5	3,7	230	25	3,6	0,51	5500	2850	0,95	65	90	4x2	2,7

ELECTRICAL DATA - THREE-PHASE MOTORS

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	Cs/Cn	P1 W	N min-1	η %	C µF	CABLE	
	hp	kW									Ø mm2	LC m
4GG / 4 GX - 0,37 kW - 230 V - T	0,5	0,37	230	2,7	3,7	3	710	2820	53	-	4x1,5	1,7
4GG / 4 GX - 0,37 kW - 400 V - T			400	1,4	3,8	3	710	2820	53	-	4x1,5	1,7
4GG / 4 GX - 0,55 kW - 230 V - T	0,75	0,55	230	3,3	4,2	3,1	920	2830	60	-	4x1,5	1,7
4GG / 4 GX - 0,55 kW - 400 V - T			400	1,9	4,2	3,1	920	2830	60	-	4x1,5	1,7
4GG / 4 GX - 0,75 kW - 230 V - T	1	0,75	230	4,1	5,1	3,2	1190	2830	63	-	4x1,5	1,7
4GG / 4 GX - 0,75 kW - 400 V - T			400	2,4	5,0	3,2	1190	2830	63	-	4x1,5	1,7
4GG / 4 GX - 1,1 kW - 230 V - T	1,5	1,1	230	5,7	4,2	3,3	1720	2830	64	-	4x1,5	1,7
4GG / 4 GX - 1,1 kW - 400 V - T			400	3,4	4,1	3,3	1720	2830	64	-	4x1,5	1,7
4GG / 4 GX - 1,5 kW - 230 V - T	2	1,5	230	7,6	4,3	3,4	2200	2830	68	-	4x1,5	1,7
4GG / 4 GX - 1,5 kW - 400 V - T			400	4,4	4,3	3,4	2200	2830	68	-	4x1,5	1,7
4GG / 4 GX - 2,2 kW - 230 V - T	3	2,2	230	10,2	4,4	3,2	3170	2820	71	-	4x1,5	1,7
4GG / 4 GX - 2,2 kW - 400 V - T			400	5,9	4,4	3,2	3170	2820	71	-	4x1,5	1,7
4GG / 4 GX - 3,0 kW - 230 V - T	4	3	230	14,3	4,6	3,3	4050	2840	74	-	4x1,5	2,7
4GG / 4 GX - 3,0 kW - 400 V - T			400	8,3	4,6	3,3	4050	2840	74	-	4x1,5	2,7
4GG / 4 GX - 4,0 kW - 230 V - T	5,5	4	230	17,3	5,6	3,4	5340	2850	75	-	4x2	2,7
4GG / 4 GX - 4,0 kW - 400 V - T			400	10	5,6	3,4	5340	2850	75	-	4x1,5	2,7
4GG / 4 GX - 5,5 kW - 230 V - T	7,5	5,5	230	24,2	5,5	3,4	7110	2850	77	-	4x2	2,7
4GG / 4 GX - 5,5 kW - 400 V - T			400	14	5,5	3,4	7110	2850	77	-	4x1,5	2,7
4GG / 4 GX - 7,5 kW - 400 V - T	10	7,5	400	17,4	4,8	2,9	9520	2850	79	-	4x2	3,5

P2: Nominal power
V: Nominal voltage
In: Nominal current
Is/In: Starting current/Nominal current
Cs/Cn: Starting torque/Nominal torque
P1: Absorbed power
N: Rotations per minute - R.p.m

Cos φ: Power factor
η: Yield
C: Capacitor
Ø: Cable cross section
LC: Cable length

Winding resistance: see technical appendix on page 251

4TW - 4TWX

4” SUBMERSIBLE MOTOR

TECHNICAL DATA

Flanging: NEMA 4".
Insulation class: F.
Protection class: IP68.
Cooling flow speed: min. 0,3 m/s 35 °C.
Power supply tolerance: + 6 % / -10 %.
Max. starts: 20/h.
Max operating depth: 300 m.
Horizontal operation: 0,5 HP - 1,5 HP.

GENERAL DATA

4” submersible asynchronous two-pole electric motor made entirely of AISI 304 stainless steel for the parts in contact with water. The thrust block and bushes are cooled and lubricated with a mixture of water and glycol. The rotor is mounted on a Kingsbury self-centring thrust block designed to withstand significant axial loads. Stator housed in an airtight AISI 304L stainless steel casing with internal sleeve and outer casing and flanges.
The 4TWX version entirely in AISI 316 stainless steel is available on request.
The cable connector is removable for the purpose of quick and easy maintenance. The cable is ACS, WRAS and KTW certified. The motor is suitable for use with variable frequency drive (30 Hz - 50 Hz). The capacitor is included in the Noryl cartridge under the motor, and the motor does not therefore require the use of a control box. Thermal protection included in the motor of 0,5 HP to 1,5 HP in the 50 Hz version.

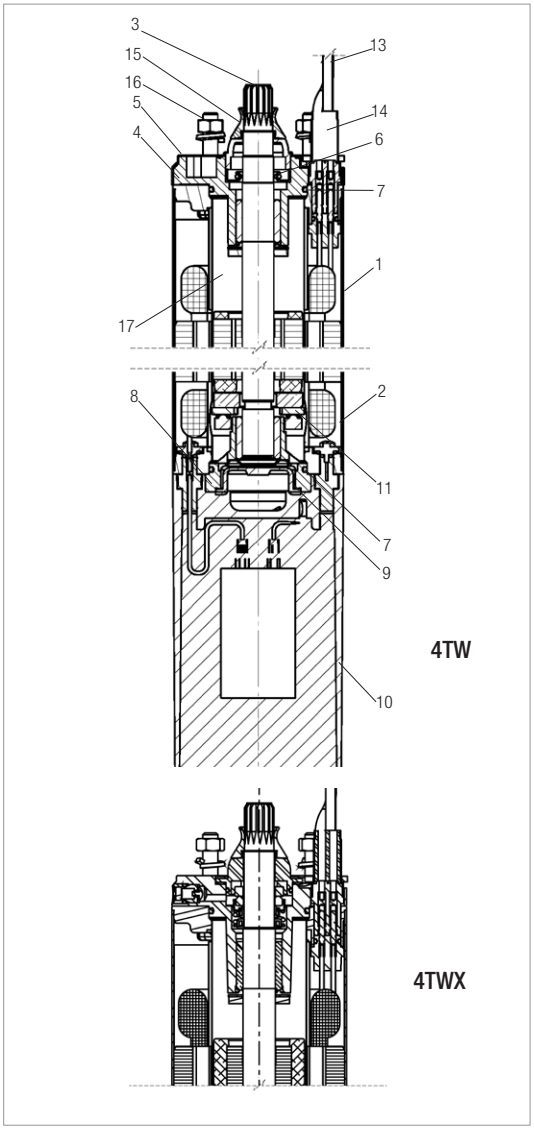
On request: cables of different lengths and different voltage supply.

CONSTRUCTION FEATURES

Stator housed in an outer casing in AISI 304L. The stator has 24 slots to ensure better elasticity and smooth operation; the copper conductors have a double layer of Class H insulating enamel. Thermal protection is included in the motor of 0,5 HP to 1,5 HP in the 50 Hz version of 0,5 HP.

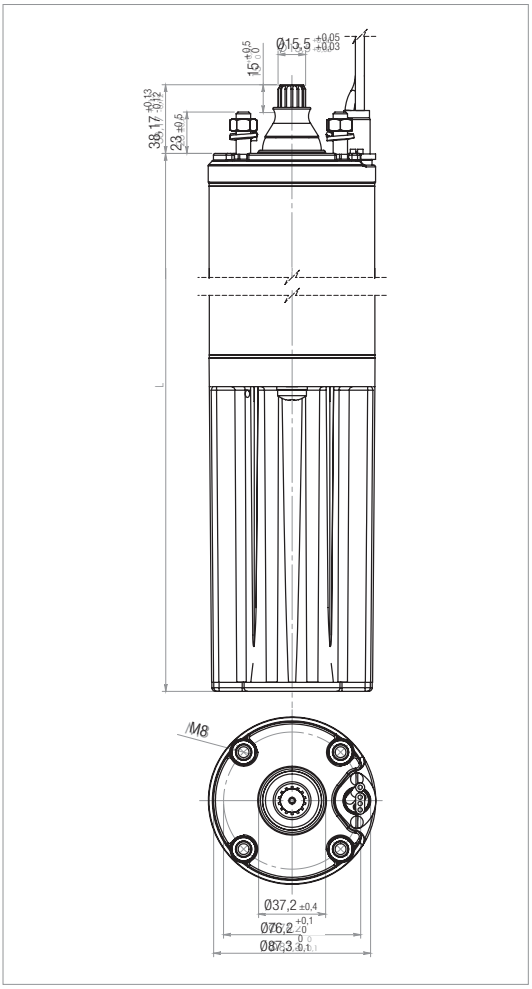
Kingsbury thrust block equipped with carbon clearance ring and oscillating pads in high-strength stainless steel machined by Tesla with a spherical lapping process.
From 0,5 HP to 1,5 HP: 2000 N

Shafts with terminal in AISI 304, with special surface hardening and polishing in the work area of the bushings; squirrel cage rotor in aluminium.



MATERIALS

N.	PARTS	VERSION 4TW	VERSION 4TWX
1	INTERNAL SLEEVE AND OUTER CASING	AISI 304	AISI 316
2	STATOR	AISI 304L	AISI 316 TI
3	SHAFT EXTENSION	AISI 304	DUPLEX
4	UPPER SUPPORT	TEFLON COATED CAST IRON	AISI 316
5	SUPPORT COVER	AISI 304	-
6	LIP SEAL	NBR	-
7	GASKETS	NBR	VITON
8	LOWER SUPPORT	TEFLON COATED CAST IRON	AISI 316
9	BELLOW SEAL	EPDM	EPDM
10	CAPACITOR ENCLOSURE	NORYL	NORYL
11	THRUST BLOCK	STEEL - GRAPHITE	STEEL - GRAPHITE
12	VALVE	AISI 303	AISI 316
13	CABLE	EPDM	EPDM
14	CONNECTOR PLUG	AISI 316	AISI 316
15	SAND GUARD	NBR	EPDM
16	SCREWS	AISI 304	AISI 316
17	COOLANT	ANTIFREEZE + WATER	ANTIFREEZE + WATER
18	MECHANICAL SEAL	-	SIC/SIC



DIMENSIONS - SINGLE-PHASE MOTORS

TYPE	P2		LENGTH mm	WEIGHT 4TW	WEIGHT 4WX	AXIAL THRUST N
	hp	kW				
50 Hz	0,5	0,37	405	7,4	7,9	2000
	0,75	0,55	435	8,7	9,2	2000
	1	0,75	455	9,6	10,1	2000
	1,5	1,1	500	11,5	12	2000

ELECTRICAL DATA - SINGLE-PHASE MOTORS

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	Cs/Cn	P1 W	N min-1	Cos φ	η %	C µF	CABLE	
	hp	kW										Ø mm²	LC m
4TW / 4 TWX - 0,37 kW - 230 V - M	0,5	0,37	230	3,3	2,7	0,69	740	2820	0,97	50	16	3x1,5	1,7
4TW / 4 TWX - 0,55 kW - 230 V - M	0,75	0,55	230	4,6	3,3	0,68	1000	2820	0,94	56	20	3x1,5	1,7
4TW / 4 TWX - 0,75 kW - 230 V - M	1	0,75	230	6,2 W	3,2	0,66	1300	2820	0,92	58	25	3x1,5	1,7
4TW / 4 TWX - 1,1 kW - 230 V - M	1,5	1,1	230	8,6	3,6	0,68	1820	2830	0,90	62	35	3x1,5	1,7

P2: Nominal power
V: Nominal voltage
In: Nominal current
Is/In: Starting current/Nominal current
Cs/Cn: Starting torque/Nominal torque
P1: Absorbed power
N: Rotations per minute - R.p.m

Cos φ: Power factor
η: Yield
C: Capacitor
Ø: Cable cross section
LC: Cable length

TECHNICAL DATA

Flanging: NEMA 4".
Insulation class: F.
Protection class: IP68.
Cooling flow speed: min. 0,3 m/s 35 °C.
Power supply tolerance: + 6 % / -10 %.
Max. starts: 20/h.
Max operating depth: 250 m.
Horizontal operation: 0,5 HP - 10 HP.

GENERAL DATA

4" rewindable submersible asynchronous two-pole electric motor made entirely of AISI 304 stainless steel for the parts in contact with water. Cooling and lubrication of ball bearings is assured by a special FDA approved coolant. Stator housed in a AISI 304L stainless steel casing fixed with steel pins to the upper support of the motor. The cable connector is removable for the purpose of quick and easy maintenance. The cable is ACS, WRAS and KTW certified. The motor is suitable for use with variable frequency drive (30 Hz - 50/60 Hz). For the single-phase version, the capacitor and manually resettable overload protection are in the electrical control box provided separately;
there is also a 4OLTW version with capacitor included in the motor.
Overload protection to be provided by the user for the three-phase version.

On request: cables of a different length, different voltage supply, thermal protection device (up to 1,5 HP, 50 Hz).

CONSTRUCTION FEATURES

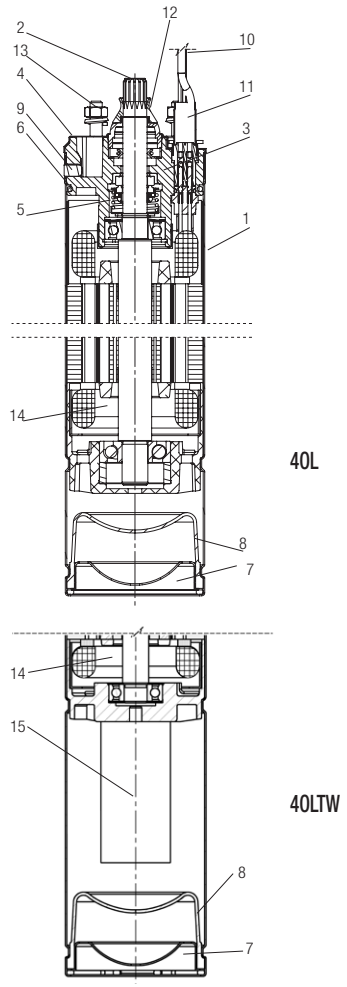
Rewindable stator housed in an outer casing in AISI 304L. The stator has 24 slots to ensure better elasticity and smooth operation;
copper conductors with a double layer of Class H insulating enamel.

Oversized ball bearings of high axial load.
From 0,5 HP to 2 HP: 2000 N
3 HP: 3000 N
From 4 HP to 5,5 HP: 4000 N
From 7,5 HP to 10 HP: 5000 N

Shafts with terminal in AISI 304/Duplex, with special surface hardening process. Squirrel cage rotor in aluminium for power ratings up to 3 HP and in copper for motors of power above 4 HP.

40L

4" SUBMERSIBLE MOTOR



MATERIALS

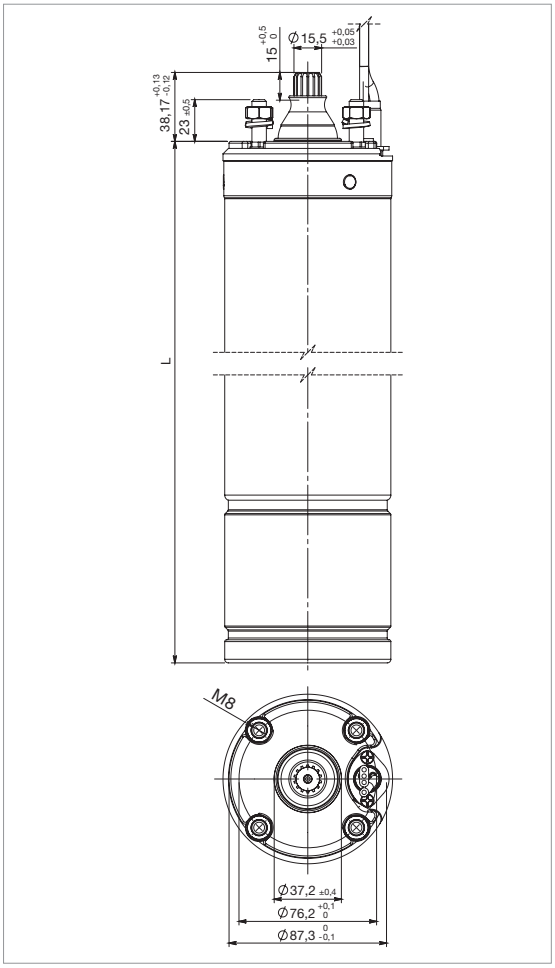
N.	PARTS	MATERIAL
1	OUTER CASING	AISI 304L
2	SHAFT EXTENSION	AISI 304 / DUPLEX
3	UPPER SUPPORT	NICKEL-PLATED CAST IRON
4	SUPPORT COVER	AISI 304
5	MECHANICAL SEAL	CARBON - CERAMIC
6	GASKETS	NBR
7	CAP	AISI 304
8	BELLOW SEAL	EPDM
9	PINS	AISI 304
10	CABLE	EPDM
11	CONNECTOR PLUG	AISI 316
12	SAND GUARD	NBR
13	SCREWS	AISI 304
14	COOLANT	MINERAL OIL
15	CAPACITOR	ONLY 40L/4TW

DIMENSIONS - SINGLE-PHASE MOTORS

TYPE	P2		LENGTH (mm)	WEIGHT (kg)	AXIAL THRUST (N)
	hp	kW			
50 Hz	0,5	0,37	284	6,5	2000
	0,75	0,55	304	74	2000
	1	0,75	334	8,7	2000
	1,5	1,1	354	9,7	2000
	2	2,2	400	11,7	2000
50 Hz	3	2,2	478	14,5	3000/4000

DIMENSIONS - THREE-PHASE MOTORS

TYPE	P2		LENGTH (mm)	WEIGHT (kg)	AXIAL THRUST (N)
	hp	kW			
50 Hz	0,5	0,37	284	6,5	2000
	0,75	0,55	284	6,5	2000
	1	0,75	304	7,4	2000
	1,5	1,1	334	8,7	2000
	2	1,5	354	9,7	2000
	3	2,2	458	13,4	3000/4000
	4	3	518	15,9	4000
	5,5	4	588	17,1	4000
	7,5	5,5	658	23,9	5000
	10	7,5	738	27,9	5000



ELECTRICAL DATA - SINGLE-PHASE MOTORS

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	Cs/Cn	P1 W	N min-1	Cos φ	η %	C µF	CABLE	
	hp	kW										Ø mm2	LC m
40L - 0,37 kW - 230 V - M	0,5	0,37	230	3,5	2,6	0,64	725	2800	0,9	51	16	4x1,5	1,7
40L - 0,55 kW - 230 V - M	0,75	0,55	230	4,5	2,7	0,60	950	2800	0,92	58	20	4x1,5	1,7
40L - 0,75 kW - 230 V - M	1	0,75	230	6,3	3,2	0,64	1275	2820	0,88	59	25	4x1,5	1,7
40L - 1,1 kW - 230 V - M	1,5	1,1	230	8,5	2,9	0,54	1780	2800	0,91	62	35	4x1,5	1,7
40L - 1,5 kW - 230 V - M	2	1,5	230	10,8	3,2	0,43	2160	2800	0,87	69	40	4x1,5	1,7
40L - 2,2 kW - 230 V - M	3	2,2	230	14	3,2	0,57	3060	2800	0,87	78	60	4x1,5	1,7
40L - 3,7 kW - 230 V - M	5	3,7	230	25,4	3,6	0,51	5130	2850	0,95	72	90	4x2	2,7

ELECTRICAL DATA - THREE-PHASE MOTORS

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	Cs/Cn	P1 W	N min-1	η %	C µF	CABLE	
	hp	kW									Ø mm2	LC m
40L - 0,37 kW - 230 V - M	0,5	0,37	230	2,8	3,2	3,5	700	2820	53	-	4x1,5	1,7
40L - 0,37 kW - 400 V - M			400	1,6	3,3	3,5	700	2820	53	-	4x1,5	1,7
40L - 0,55 kW - 230 V - M	0,75	0,55	230	3,8	3,4	3,9	980	2820	56	-	4x1,5	1,7
40L - 0,55 kW - 400 V - M			400	2,2	3,4	3,9	980	2820	56	-	4x1,5	1,7
40L - 0,75 kW - 230 V - M	1	0,75	230	4,5	3,8	3,7	1200	2820	62	-	4x1,5	1,7
40L - 0,75 kW - 400 V - M			400	2,6	3,8	3,7	1200	2820	62	-	4x1,5	1,7
40L - 1,1 kW - 230 V - M	1,5	1,1	230	6,2	4,5	4,3	1700	2830	65	-	4x1,5	1,7
40L - 1,1 kW - 400 V - M			400	3,6	4,4	4,3	1700	2830	65	-	4x1,5	1,7
40L - 1,5 kW - 230 V - M	2	1,5	230	7,9	4,4	4,4	2160	2810	69	-	4x1,5	1,7
40L - 1,5 kW - 400 V - M			400	4,6	4,3	4,4	2160	2810	69	-	4x1,5	1,7
40L - 2,2 kW - 230 V - M	3	2,2	230	10,4	5,5	3,3	3050	2830	72	-	4x1,5	1,7
40L - 2,2 kW - 400 V - M			400	6,0	5,5	3,3	3050	2830	72	-	4x1,5	1,7
40L - 3,0 kW - 230 V - M	4	3	230	13,6	5,7	3,3	4000	2840	75	-	4x1,5	2,7
40L - 3,0 kW - 400 V - M			400	7,9	5,7	3,3	4000	2840	75	-	4x1,5	2,7
40L - 4,0 kW - 230 V - M	5,5	4	230	17,6	5,4	3,4	5260	2850	76	-	4x2	2,7
40L - 4,0 kW - 400 V - M			400	10,2	5,4	3,4	5260	2850	76	-	4x1,5	2,7
40L - 5,5 kW - 230 V - M	7,5	5,5	230	22,6	5,4	3,4	6900	2850	80	-	4x2	2,7
40L - 5,5 kW - 400 V - M			400	13,1	5,3	3,4	6900	2850	80	-	4x1,5	2,7
40L - 7,5 kW - 400 V - M	10	7,5	400	16,9	5,0	3	9030	2840	81	-	4x2	3,5

P2: Nominal power
V: Nominal voltage
In: Nominal current
Is/In: Starting current/Nominal current
Cs/Cn: Starting torque/Nominal torque
P1: Absorbed power
N: Rotations per minute - R.p.m

Cos φ: Power factor
η: Yield
C: Capacitor
Ø: Cable cross section
LC: Cable length

Winding resistance: see technical appendix on page 251

6GF - 6GX

6” SUBMERSIBLE MOTOR

TECHNICAL DATA

Flanging: NEMA 6".
Insulation class: F.
Protection class: IP68.
Cooling flow speed: min. 0,3 m/s 35 °C.
Power supply tolerance: + 6 % / -10 %.
Max. starts: 25/h.
Max operating depth: 300 m.
Horizontal operation: 5,5 HP - 50 HP.

GENERAL DATA

6” submersible asynchronous two-pole electric motor made entirely of AISI 304 stainless steel and cast iron protected with an electrophoresic paint coating for the parts in contact with water. The thrust block and bushes are cooled and lubricated with a mixture of water and glycol. The rotor is mounted on a Kingsbury self-centring thrust block designed to withstand significant axial loads. Stator housed in an airtight stainless steel casing. The cable connector is removable for the purpose of quick and easy maintenance. The cable is ACS, WRAS and KTW certified. The motor is suitable for use with variable frequency drive (30 Hz - 50). Available in a three-phase version with DOL or STAR-DELTA starting and the user must provide the motor protection.
The 6GX version completely in AISI 316 stainless steel with a silicon carbide mechanical seal can be fitted on request.
The motor is available in a version equipped with a PT100 or PTC (only DOL version) temperature sensor.

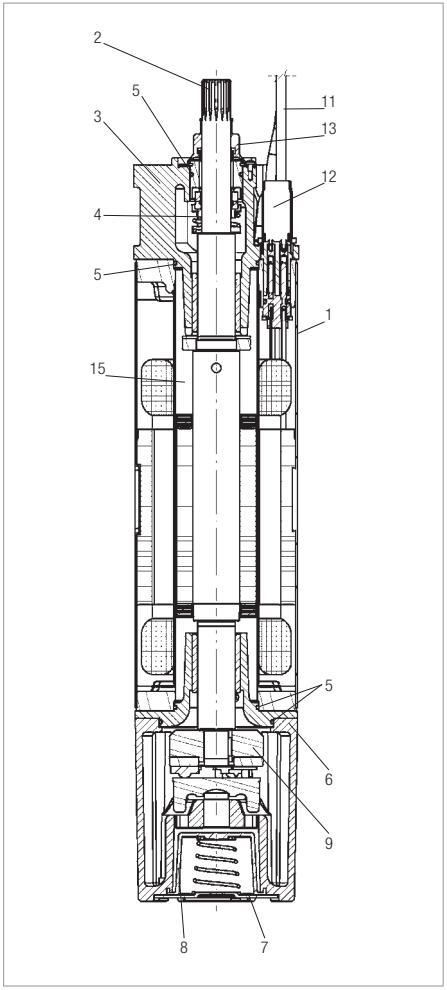
On request: cables of a different length, different voltage supply, single-phase version (up to 15 HP).

CONSTRUCTION FEATURES

Canned-type stator in an airtight casing made of AISI 304L stainless steel and flanges treated with corrosion inhibitor. The stator has 24 slots to ensure better elasticity and smooth operation; the copper conductors have a double layer of Class H insulating enamel.

Kingsbury thrust block equipped with carbon clearance ring and oscillating pads in high-strength stainless steel machined by Tesla with a spherical lapping process.
From 5,5 HP to 30 HP: 16000 N
From 40 HP to 50 HP: 27000 N

Shaft in stainless steel, with extremity section in “Duplex”; squirrel cage rotor in copper for all power ratings.



MATERIALS

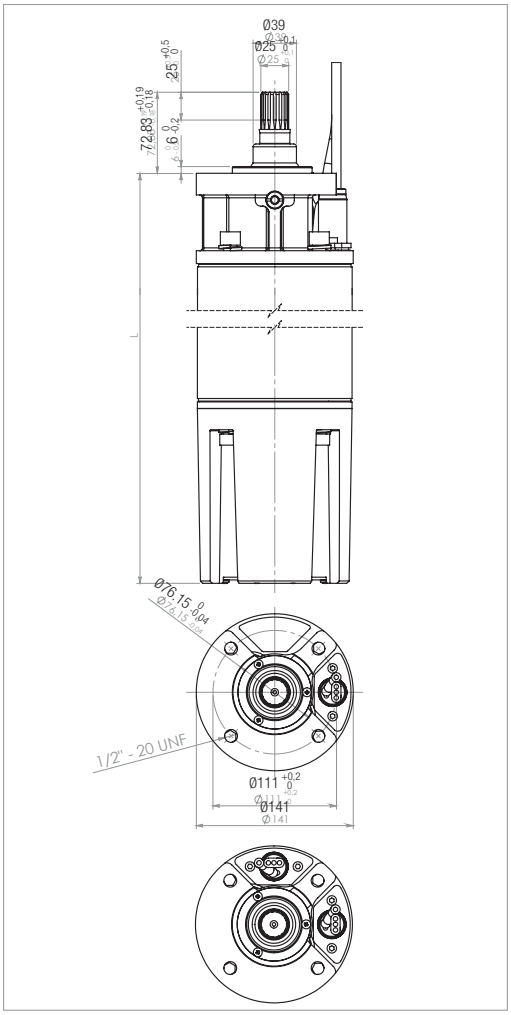
N.	PARTS	VERSION 6GF	VERSION 6GX
1	INTERNAL SLEEVE AND OUTER CASING	AISI 304L	AISI 316 TI
2	SHAFT EXTENSION	DUPLEX	DUPLEX
3	UPPER SUPPORT	CAST IRON WITH PAINT COATING	AISI 316
4	MECHANICAL SEAL	CARBON - CERAMIC	SIC/SIC
5	GASKETS	NBR	VITON
6	LOWER SUPPORT	CAST IRON WITH PAINT COATING	AISI 316
7	LOWER CAP	AISI 304	AISI 316
8	BELLOW SEAL	EPDM	EPDM
9	THRUST BLOCK	STEEL - GRAPHITE	STEEL - GRAPHITE
10	VALVE	BRASS	AISI 316
11	CABLE	EPDM	EPDM
12	CONNECTOR PLUG	AISI 316	AISI 316
13	SAND GUARD	NBR	EPDM
14	SCREWS	AISI 304	AISI 316
15	COOLANT	ANTIFREEZE + WATER	ANTIFREEZE + WATER

DIMENSIONS - SINGLE-PHASE MOTORS

TYPE	P2		LENGTH mm	WEIGHT 6GF kg	WEIGHT 6GX kg	AXIAL THRUST N
	hp	kW				
50 Hz	5	3,7	660	46,2	45	16000
	7,5	5,5	730	52,8	51	16000
	10	7,5	785	59,2	57,8	16000
	15	11	860	67,2	65,4	16000

DIMENSIONS - THREE-PHASE MOTORS

TYPE	P2		LENGTH mm	WEIGHT 6GF kg	WEIGHT 6GX kg	AXIAL THRUST N
	hp	kW				
50 Hz	5,5	4	600	39,4	38	16000
	7,5	5,5	631	42,6	41	16000
	10	7,5	660	45,2	44	16000
	12,5	9,3	685	48,6	47	16000
	15	11	730	53	51,8	16000
	20	15	785	59	57,6	16000
	25	18,5	860	67	65,2	16000
	30	22	920	70,6	71,2	16000
	40	30	1050	86,8	85,2	27000
	50	37	1180	98,8	97,6	27000
	60	45	1360	113,6	112,2	27000



ELECTRICAL DATA - THREE-PHASE MOTORS

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	P1 W	N min-1	Cos φ	η %	STARTING	CABLE	
	hp	kW									Ø mm2	LC m
6GF/6GX - 4kW - 230V - T	5,5	4	230	18,3	4,0	5290	2845	0,75	76	Δ	4x4	4
6GF/6GX - 4kW - 400V - T			400	10,6	4,1	5290	2845	0,75	76	Y	4x4	4
6GF/6GX - 4kW - 415V - T			415	11	4,3	5500	2860	0,7	73	Y	4x4	4
6GF/6GX - 5,5kW - 230V - T	7,5	5,5	230	24,3	4,6	7270	2845	0,75	76	Δ	4x4	4
6GF/6GX - 5,5kW - 400V - T			400	14	4,6	7270	2845	0,75	76	Y	4x4	4
6GF/6GX - 5,5kW - 415V - T			415	14,6	4,8	7330	2860	0,71	73	Y	4x4	4
6GF/6GX - 7,5kW - 230V - T	10	7,5	230	31	4,1	9550	2840	0,78	78	Δ	4x4	4
6GF/6GX - 7,5kW - 400V - T			400	18	4,1	9550	2840	0,78	78	Y	4x4	4
6GF/6GX - 7,5kW - 415V - T			415	18,3	4,4	9700	2850	0,73	77	Y	4x4	4
6GF/6GX - 9,2kW - 230V - T	12,5	9,2	230	37,3	3,9	11460	2840	0,8	80	Δ	4x4	4
6GF/6GX - 9,2kW - 400V - T			400	22	3,9	11460	2840	0,8	80	Y	4x4	4
6GF/6GX - 9,2kW - 415V - T			415	22,8	4,2	11600	2850	0,79	79	Y	4x4	4
6GF/6GX - 11kW - 230V - T	15	11	230	44,2	4,4	13860	2840	0,82	79	Δ	4x6	4
6GF/6GX - 11kW - 400V - T			400	25,5	4,4	13860	2840	0,82	79	Y	4x4	4
6GF/6GX - 11kW - 415V - T			415	26	4,8	14100	2845	0,79	78	Y	4x4	4
6GF/6GX - 15kW - 230V - T	20	15	230	56	4,8	17960	2840	0,8	83	Δ	4x6	4
6GF/6GX - 15kW - 400V - T			400	33,4	4,8	17960	2840	0,8	83	Y	4x4	4
6GF/6GX - 15kW - 415V - T			415	34,2	5,0	18200	2850	0,76	82	Y	4x4	4
6GF/6GX - 18,5kW - 230V - T	25	18,5	230	71	5,2	22300	2845	0,8	83	Δ	4x8	4
6GF/6GX - 18,5kW - 400V - T			400	41	5,2	22300	2845	0,8	83	Y	4x6	4
6GF/6GX - 18,5kW - 415V - T			415	42	5,5	22450	2855	0,73	82	Y	4x4	4
6GF/6GX - 22kW - 230V - T	30	22	230	81,4	5,1	26500	2825	0,84	83	Δ	4x8	4
6GF/6GX - 22kW - 400V - T			400	47	5,1	26500	2825	0,84	83	Y	4x6	4
6GF/6GX - 22kW - 415V - T			415	47,5	5,4	26850	2835	0,80	82	Y	4x4	4
6GF/6GX - 30kW - 400V - T	40	30	400	61,5	4,6	35130	2830	0,85	85	Y	4x8	4
6GF/6GX - 30kW - 415V - T			415	63,5	4,7	35600	2840	0,8	84	Y	4x8	4
6GF/6GX - 37kW - 400V - T	50	37	400	79,3	3,7	44200	2830	0,84	82	Y	4x8	4
6GF/6GX - 37kW - 415V - T			415	80	3,9	44200	2840	0,80	81	Y	4x8	4
6GF/6GX - 45kW - 400V - T	60	45	400	95	5,5	55000	2840	0,83	82	Y	4x8	4
6GF/6GX - 45kW - 415V - T			415	95	5,5	55000	2850	0,8	82	Y	4x8	4

P2: Nominal power
V: Nominal voltage
In: Nominal current
Is/In: Starting current/Nominal current
P1: Absorbed power
N: Rotations per minute - R.p.m
Cos φ: Power factor
η: Yield
Ø: Cable cross section
LC: Cable length

Winding resistance: see technical appendix on page 251

TECHNICAL DATA

Flanging: NEMA 6".
Protection class: IP68.
Cooling flow speed: 0,5 m/s.
Power supply tolerance: + 6 % / -10 %.
Max. starts: 15/h.
Max operating depth: 300 m.
Max operating temperature: 60 bar.
Horizontal operation: 7,5 HP - 50 HP.

GENERAL DATA

Rewindable 6" submersible asynchronous two-pole electric motor available in standard version with casing in AISI 304 stainless steel and supports in cast iron. The thrust block and bushes are cooled and lubricated with a mixture of water and glycol. The rotor is mounted on a Mitchell self-centring thrust block designed to withstand significant axial loads. The motor is also available in a version entirely in AISI 316 stainless steel and a version in AISI 904. There is also a version suitable for use with variable frequency drive (30 Hz - 50/60 Hz). The motor is equipped with a single-core cable of 5 m or 8 m (depending on the power) connected directly to the winding and earth cable, and is available in DOL or STAR-DELTA configuration. ACS, WRAS and KTW certified cable. The electrical protection must be provided by the user.

On request: cables of a different length, different voltage supply, PT100 and PTC temperature probes and a special shaft terminal.

CONSTRUCTION FEATURES

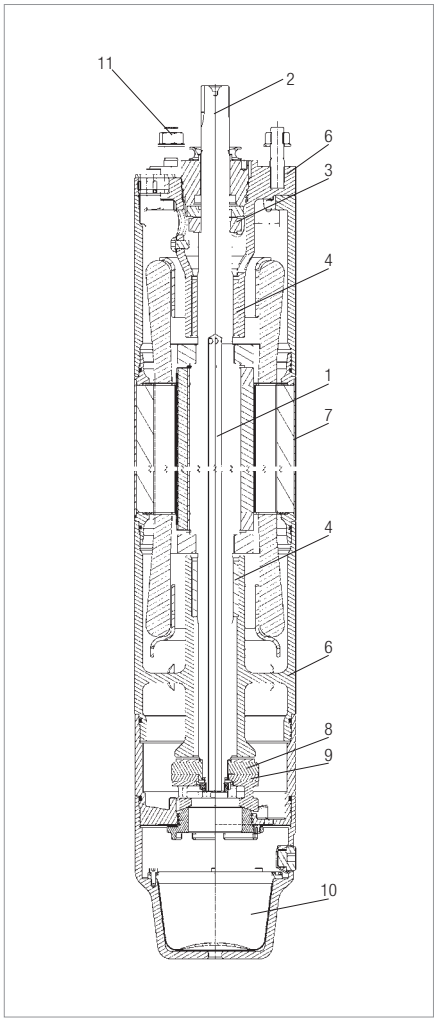
The rewindable stator is protected by an AISI 304 stainless steel jacket (AISI 316 or 904 on request). In the standard version the rotor is wound with PVC coated wire (60 HP in PE2+PA). On request, we can supply a version with a PE2+PA winding that makes the motor compatible with special applications and with the use of a variable frequency drive.

Mitchell type thrust bearings with lapped pads in stainless steel and graphite clearance ring.
from 5 HP to 20 HP: 15000 N
from 25 HP to 50 HP: 27500 N
Counter-thrust load: 6000 N

Rotor shaft in stainless steel with shaft extension to NEMA 6" standards. The rotor is made of die cast aluminium up to 20 HP and in copper for all other sizes. In the standard version the motor is supplied with a ceramic/carbon mechanical seal and is also equipped with a lip seal (IP 68). A silicon carbide (SiC/SiC) mechanical seal is available on request

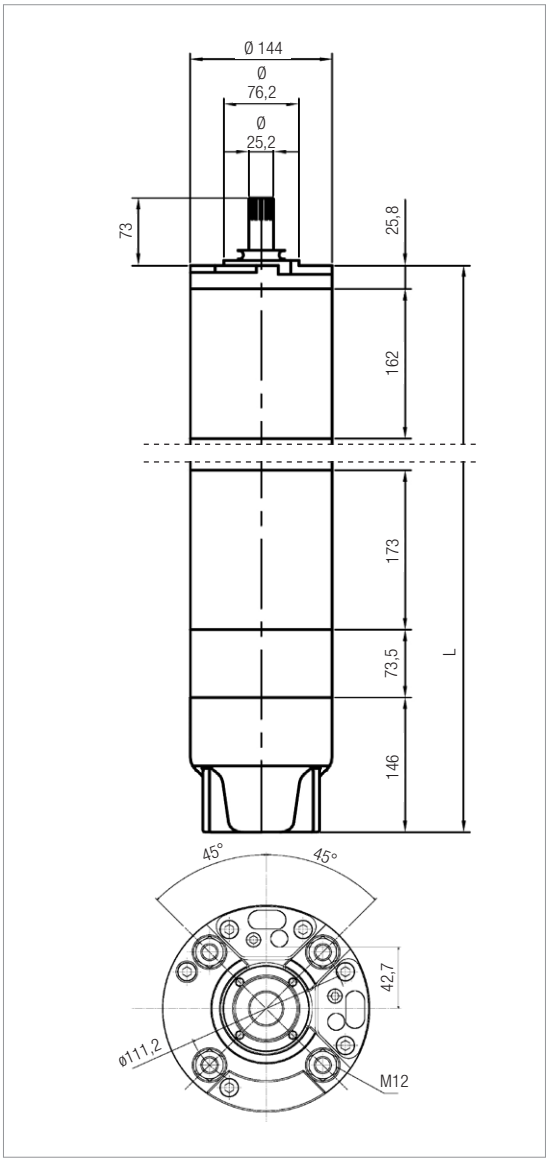
TR6

6” SUBMERSIBLE MOTOR



MATERIALS

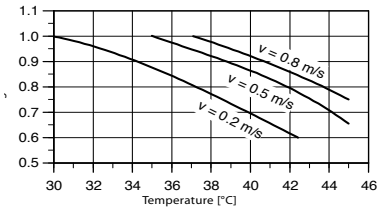
N.	PARTS	STD VERSION	VERSION 316 SS	VERSION 904 SS
1	SHAFT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
2	SHAFT TERMINAL	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
3	MECHANICAL SEAL	CERAMIC/CARBON	SIC/SIC	SIC/SIC
4	BUSHES	GRAPHITE	GRAPHITE	GRAPHITE
5	CABLE	EPDM	EPDM	EPDM
6	STRUCTURAL PARTS	CAST IRON	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
7	JACKET	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
8	CLEARANCE RING	GRAPHITE	GRAPHITE	GRAPHITE
9	THRUST	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
10	DIAPHRAGM	EPDM	EPDM	EPDM
11	SCREWS	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL



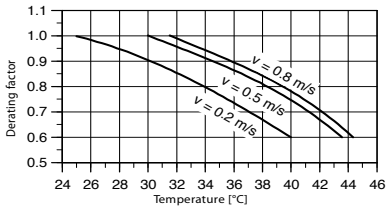
DIMENSIONS - THREE-PHASE MOTORS

TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	7,5	5,5	807	50	15000
	10	7,5	837	53	15000
	12,5	9,2	867	55	15000
	15	11	897	60	15000
	17,5	13	927	65	15000
	20	15	997	77	15000
	25	18,5	1057	83	27500
	30	22	1087	95	27500
	35	26	1157	105	27500
	40	30	1212	110	27500
	50	37	1312	120	27500
	60	45	1457	135	27500

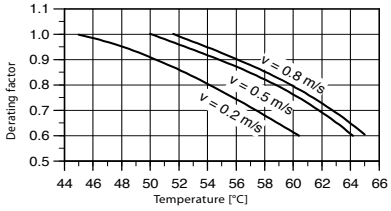
DOWNGRADING



PVC windings of 5,5 to 30 kW



PVC windings of 37 kW



PE2/PA windings of 5,5 to 37 kW

ELECTRICAL DATA - THREE-PHASE MOTORS - DOL

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	P1 W	N min-1	Cos φ	η %	CABLE	
	hp	kW								Ø mm2	LC m
TR6 - 5,5 kW - 400 V - T	7,5	5,5	400	13	3,7	7432	2870	0,81	74	3x6 + 1x6	5
TR6 - 7,5 kW - 400 V - T	10	7,5	400	18	3,7	9740	2870	0,80	77	3x6 + 1x6	5
TR6 - 9,2 kW - 400 V - T	12,5	9,2	400	21	3,6	11948	2860	0,81	77	3x6 + 1x6	5
TR6 - 11 kW - 400 V - T	15	11	400	25	3,7	14103	2860	0,82	78	3x6 + 1x6	5
TR6 - 13 kW - 400 V - T	17,5	13	400	29	3,8	16250	2870	0,82	80	3x6 + 1x6	5
TR6 - 15 kW - 400 V - T	20	15	400	32	3,8	18519	2860	0,83	81	3x6 + 1x6	5
TR6 - 18,5 kW - 400 V - T	25	18,5	400	39	5,3	22024	2890	0,83	84	3x6 + 1x6	5
TR6 - 22 kW - 400 V - T	30	22	400	49	5,5	26506	2880	0,79	83	3x6 + 1x6	5
TR6 - 26 kW - 400 V - T	35	26	400	58	5,7	31325	2880	0,79	83	3x10 + 1 x10	5
TR6 - 30 kW - 400 V - T	40	30	400	65	5,0	35714	2870	0,81	84	3x10 + 1 x10	8
TR6 - 37 kW - 400 V - T	50	37	400	80	5,0	44578	2860	0,81	83	3x10 + 1 x10	8
TR6 - 45 kW - 400 V - T	60	45	400	93,1	5,1	54127	2825	0,85	83	3x10 + 1 x10	8

P2: Nominal power
V: Nominal voltage
In: Nominal current
Is/In: Starting current/Nominal current
P1: Absorbed power
N: Rotations per minute - R.p.m
Cos φ: Power factor
η: Yield
Ø: Cable cross section
LC: Cable length

TR8

8” SUBMERSIBLE MOTOR

TECHNICAL DATA

Flanging: NEMA 8".
Protection class: IP58 (IP68 on request).
Cooling flow speed: 0,5 m/s.
Power supply tolerance: + 6 % / -10 %.
Max. starts: 10/h.
Max operating depth: 300 m.
Max operating temperature: 60 bar.
Horizontal operation: 30 HP - 125 HP.

GENERAL DATA

Rewindable 8" submersible asynchronous two or four-pole electric motor available in standard version with casing in AISI 316 stainless steel and supports in cast iron. The thrust block and bushes are cooled and lubricated with a mixture of water and glycol. The rotor is mounted on a Mitchell self-centring thrust block designed to withstand significant axial loads. The motor is also available in a version entirely in AISI 316 stainless steel and a version in AISI 904. There is also a version suitable for use with variable frequency drive (30 Hz - 50/60 Hz). The motor is equipped with a single-core cable of 8 m connected directly to the winding, and is available in DOL or STAR-DELTA configuration. The cable is ACS, WRAS and KTW certified. The electrical protection must be provided by the user.

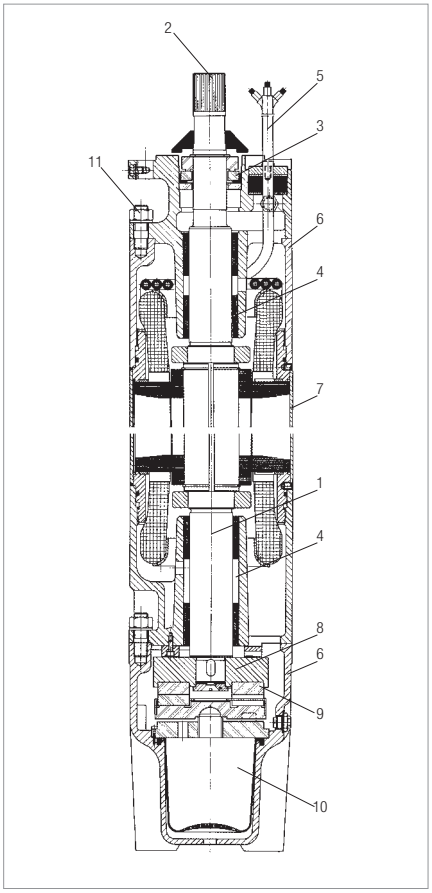
On request: PT100 and PTC temperature probes, cables of a different length, different voltage supply, special shaft terminals and protection class IP68.

CONSTRUCTION FEATURES

The rewindable stator is protected by an AISI 316 stainless steel jacket (AISI 904 on request). In the standard version the rotor is wound with PVC coated wire. On request, we can supply a version with a PE2+PA winding that makes the motor compatible with special applications and with the use of a variable frequency drive.

Mitchell type thrust bearings with lapped pads in graphite and ceramic clearance ring.
from 30 HP to 150 HP: 60000 N
Counter-thrust load: 12500 N

Rotor shaft in stainless steel with shaft extension to NEMA 8" standards. The rotor is in copper for all sizes. In the standard version the motor is supplied with a ceramic/carbon mechanical seal. A silicon carbide (SiC/SiC) mechanical seal is available on request. The motor can also be fitted with an additional lip seal (IP68).



MATERIALS

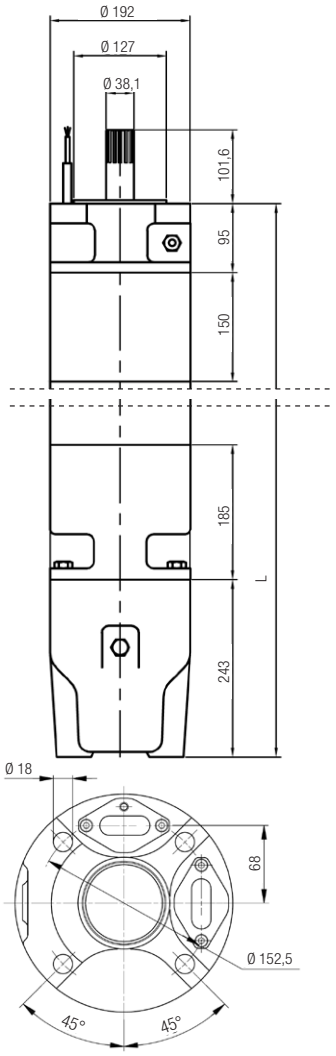
N.	PARTS	STD VERSION	VERSION 316 SS	VERSION 904 SS
1	SHAFT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
2	SHAFT TERMINAL	AISI 316 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
3	MECHANICAL SEAL	CERAMIC/CARBON	SIC/SIC	SIC/SIC
4	BUSHES	GRAPHITE	GRAPHITE	GRAPHITE
5	CABLE	EPDM	EPDM	EPDM
6	STRUCTURAL PARTS	CAST IRON	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
7	JACKET	AISI 316 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
8	CLEARANCE RING	CERAMIC	CERAMIC	CERAMIC
9	THRUST	GRAPHITE	GRAPHITE	GRAPHITE
10	DIAPHRAGM	EPDM	EPDM	EPDM
11	SCREWS	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL

DIMENSIONS -THREE-PHASE MOTORS - 2 poles

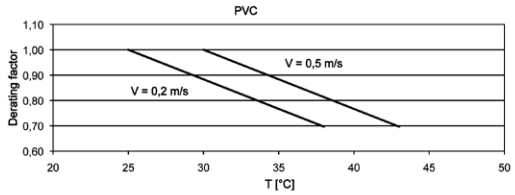
TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	30	22	1010	126	60000
	35	26	1050	134	60000
	40	30	1110	146	60000
	50	37	1160	156	60000
	60	45	1270	177	60000
	75	55	1350	192	60000
	85	63	1490	218	60000
	100	75	1590	237	60000
	125	92	1830	283	60000
	150	110	2060	333	60000

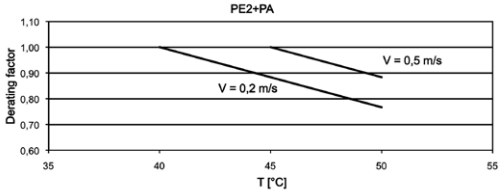
DIMENSIONS -THREE-PHASE MOTORS - 4 poles

TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	15	11	1110	146	60000
	20	15	1160	156	60000
	25	18,5	1270	177	60000
	30	22	1350	192	60000
	35	26	1490	218	60000
	40	30	1590	237	60000
	50	37	1830	283	60000



DOWNGRADING





For TR8 110 kW the maximum liquid temperature is 5 °C lower than that indicated in the graphs.

ELECTRICAL DATA - THREE-PHASE MOTORS - 2 POLES - DOL

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	P1 W	N min^{-1}	Cos φ	η %	CABLE	
	hp	kW								Ø mm^2	LC m
TR8 - 22 kW - 400 V - T	30	22	400	46	5,3	26829	2890	0,84	82	3x16 + 1 x16	8
TR8 - 26 kW - 400 V - T	35	26	400	54	5,1	31707	2880	0,85	82	3x16 + 1 x16	8
TR8 - 30 kW - 400 V - T	40	30	400	61	5,7	35714	2890	0,85	84	3x16 + 1 x16	8
TR8 - 37 kW - 400 V - T	50	37	400	75	5,7	44048	2890	0,85	84	3x16 + 1 x16	8
TR8 - 45 kW - 400 V - T	60	45	400	92	6,0	52326	2910	0,82	86	3x16 + 1 x16	8
TR8 - 55 kW - 400 V - T	75	55	400	109	5,9	63953	2900	0,85	86	3x16 + 1 x16	8
TR8 - 63 kW - 400 V - T	85	63	400	126	5,7	72414	2910	0,83	87	3x16 + 1 x16	8
TR8 - 75 kW - 400 V - T	100	75	400	145	5,8	86207	2910	0,86	87	3x16 + 1 x16	8
TR8 - 92 kW - 400 V - T	125	92	400	177	5,9	105747	2890	0,86	87	3x25 + 1x25	8
TR8 - 110 kW - 400 V - T	150	110	400	213	5,8	126437	2890	0,87	87	3x25 + 1x25	8

ELECTRICAL DATA - THREE-PHASE MOTORS - 4 POLES - DOL

MODEL	P2		POWER SUPPLY 50Hz	In A	Is/In	P1 W	N min^{-1}	Cos φ	η %	CABLE	
	hp	kW								Ø mm^2	LC m
TR8 - 11 kW - 380 V - T	15	11	380	26	5,0	13750	1450	0,79	80	3x6 + 1x6	8
TR8 - 15 kW - 380 V - T	20	15	380	35	4,9	18519	1450	0,80	81	3x6 + 1x6	8
TR6 - 18,5 kW - 380 V - T	25	18,5	380	41	4,7	22561	1450	0,83	82	3x6 + 1x6	8
TR8 - 22 kW - 380 V - T	30	22	380	49	4,7	26829	1450	0,82	82	3x6 + 1x6	8
TR8 - 26 kW - 380 V - T	35	26	380	58	4,7	32099	1450	0,83	81	3x6 + 1x6	8
TR8 - 30 kW - 380 V - T	40	30	380	65	4,5	36585	1450	0,85	82	3x6 + 1x6	8
TR8 - 37 kW - 380 V - T	50	37	380	81	4,5	45122	1450	0,84	82	3x6 + 1x6	8

P2: Nominal power
V: Nominal voltage
In: Nominal current
Is/In: Starting current/Nominal current
P1: Absorbed power

N: Rotations per minute - R.p.m
Cos φ: Power factor
η: Yield
Ø: Cable cross section
LC: Cable length

TR10

10” SUBMERSIBLE MOTOR

TECHNICAL DATA

Flanging: 10”.
Protection class: IP58 (IP68 on request).
Cooling flow speed: 0,5 m/s.
Power supply tolerance: + 6 % / -10 %.
Max. starts: 8/h.
Max operating depth: 300 m.
Max operating temperature: 60 bar.
Horizontal operation: 100 HP - 230 HP.

GENERAL DATA

Rewindable 10" submersible asynchronous two or four-pole electric motor available in standard version with casing in AISI 316 stainless steel and supports in cast iron. The thrust block and bushes are cooled and lubricated with a mixture of water and glycol. The rotor is mounted on a Mitchell self-centring thrust block designed to withstand significant axial loads. The motor is also available in a version entirely in AISI 316 stainless steel and a version in AISI 904. There is also a version suitable for use with variable frequency drive (30 Hz - 50/60 Hz). The motor is equipped with single-core cables of 8 m connected directly to the winding, and is available in DOL or STAR-DELTA configuration. The cables are ACS, WRAS and KTW certified. The electrical protection must be provided by the user.

On request: PT100 and PTC temperature probes, cables of a different length, different voltage supply, special shaft terminals and protection class IP68.

CONSTRUCTION FEATURES

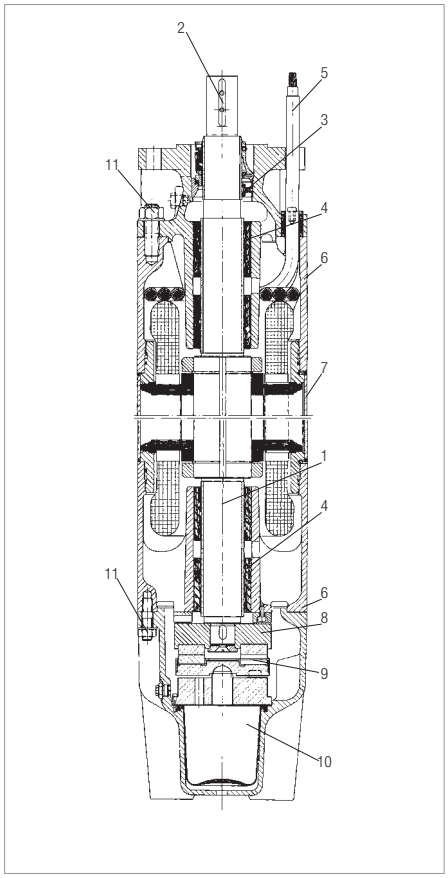
The rewindable stator is protected by an AISI 316 stainless steel jacket (AISI 904 on request). In the standard version the rotor is wound with PVC coated wire (230 HP and 260 HP in PE2+PA). On request, we can supply a version with a PE2+PA winding that makes the motor compatible with special applications and with the use of a variable frequency drive.

Mitchell type thrust bearings with lapped pads in graphite and ceramic clearance ring.
from 100 HP to 260 HP: 60000 N
Counter-thrust load: 12500 N

Rotor shaft in stainless steel, shaft extension with key connection. The rotor is in copper for all sizes.
In the standard version the motor is supplied with a ceramic/carbon mechanical seal. A silicon carbide (SiC/SiC) mechanical seal is available on request. The motor can also be fitted with an additional lip seal (IP68).

TR10

10” SUBMERSIBLE MOTOR



MATERIALS

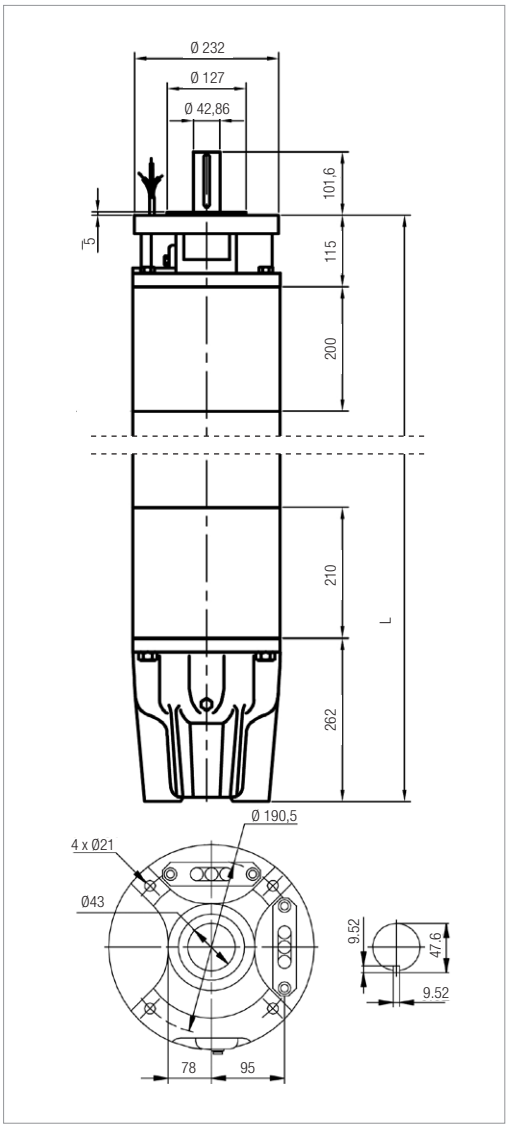
N.	PARTS	STD VERSION	VERSION 316 SS	VERSION 904 SS
1	SHAFT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
2	SHAFT TERMINAL	AISI 316 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
3	MECHANICAL SEAL	CERAMIC/CARBON	SIC/SIC	SIC/SIC
4	BUSHES	GRAPHITE	GRAPHITE	GRAPHITE
5	CABLE	EPDM	EPDM	EPDM
6	STRUCTURAL PARTS	CAST IRON	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
7	JACKET	AISI 316 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
8	CLEARANCE RING	CERAMIC	CERAMIC	CERAMIC
9	THRUST	GRAPHITE	GRAPHITE	GRAPHITE
10	DIAPHRAGM	EPDM	EPDM	EPDM
11	SCREWS	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL

DIMENSIONS -THREE-PHASE MOTORS - 2 poles

TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	100	75	1400	280	60000
	125	92	1500	330	60000
	150	110	1690	385	60000
	180	132	1870	435	60000
	200	147	2070	500	60000
	230	170	2220	540	60000
	260	190	2400	580	60000

DIMENSIONS -THREE-PHASE MOTORS - 4 poles

TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	40	30	1270	250	60000
	50	37	1400	280	60000
	60	45	1500	330	60000
	75	55	1690	385	60000
	100	75	1870	435	60000
	125	92	2070	500	60000



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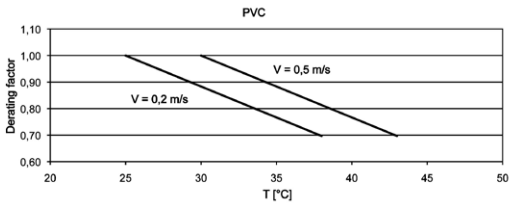
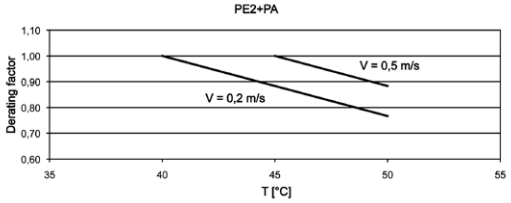




For TR10 170 kW PE2+PA the maximum liquid temperature is 5 °C lower than that indicated in the graphs. For TR10 190 kW PE2+PA it is 10 °C lower.

ELECTRICAL DATA - THREE-PHASE MOTORS - 2 POLES - DOL

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	P1 W	N min^{-1}	Cos φ	η %	CABLE	
	hp	kW								Ø mm^2	LC m
TR10 - 75 kW - 400 V - T	100	75	400	148	5,4	86207	2910	0,84	87	3x50+1x25	8
TR10 - 92 kW - 400 V - T	125	92	400	185	5,6	105747	2910	0,82	87	3x50+1x25	8
TR10 - 110 kW - 400 V - T	150	110	400	217	5,7	125000	2910	0,84	88	3x50+1x25	8
TR10 - 132 kW - 400 V - T	180	132	400	257	5,7	150000	2910	0,84	88	3x50+1x25	8
TR10 - 147 kW - 400 V - T	200	147	400	300	6,2	168966	2920	0,81	87	3x50+1x25	8
TR10 - 170 kW - 400 V - T	230	170	400	348	6,0	195402	2920	0,81	87	3x50+1x25	8
TR10 - 190 kW - 400 V - T	260	190	400	405	5,9	218391	2930	0,79	87	3x50+1x25	8

ELECTRICAL DATA - THREE-PHASE MOTORS - 4 POLES - DOL

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	P1 W	N min^{-1}	Cos φ	η %	CABLE	
	hp	kW								Ø mm^2	LC m
TR10 - 30 kW - 380 V - T	40	30	380	64	5,3	35294	1450	0,83	85	3x50+1x25	8
TR10 - 37 kW - 380 V - T	50	37	380	75	5,5	43023	1450	0,87	86	3x50+1x25	8
TR10 - 45 kW - 380 V - T	60	45	380	92	4,6	51724	1450	0,84	87	3x50+1x25	8
TR10 - 55 kW - 380 V - T	75	55	380	113	5,3	62500	1450	0,85	88	3x50+1x25	8
TR10 - 75 kW - 380 V - T	100	75	380	153	5,4	86207	1450	0,84	87	3x50+1x25	8
TR10 - 90 kW - 380 V - T	125	90	380	190	5,3	103448	1450	0,85	87	3x50+1x25	8

P2: Nominal power
V: Nominal voltage
In: Nominal current
Is/In: Starting current/Nominal current
P1: Absorbed power
N: Rotations per minute - R.p.m
Cos φ: Power factor
η: Yield
Ø: Cable cross section
LC: Cable length

TR12

12” SUBMERSIBLE MOTOR

TECHNICAL DATA

Flanging: 12”.
Protection class: IP58 (IP68 on request).
Cooling flow speed: 0,5 m/s.
Power supply tolerance: + 6 % / -10 %.
Max. starts: 5/h.
Max operating depth: 300 m.
Max operating temperature: 60 bar.
Horizontal operation: 180 HP - 260 HP.
Direction of rotation: to be specified in the order; the standard version turns anti-clockwise.

GENERAL DATA

Rewindable 12" submersible asynchronous two or four-pole electric motor available in standard version with casing in AISI 316 stainless steel and supports in cast iron. The thrust block and bushes are cooled and lubricated with a mixture of water and glycol. The rotor is mounted on a Mitchell self-centring thrust block designed to withstand significant axial loads. The motor is also available in a version entirely in AISI 316 stainless steel and a version in AISI 904. There is also a version suitable for use with variable frequency drive (30 Hz - 50/60 Hz). The motor is equipped with single-core cables of 8 m connected directly to the winding, and is available in DOL or STAR-DELTA configuration. The cables are ACS, WRAS and KTW certified. The electrical protection must be provided by the user.

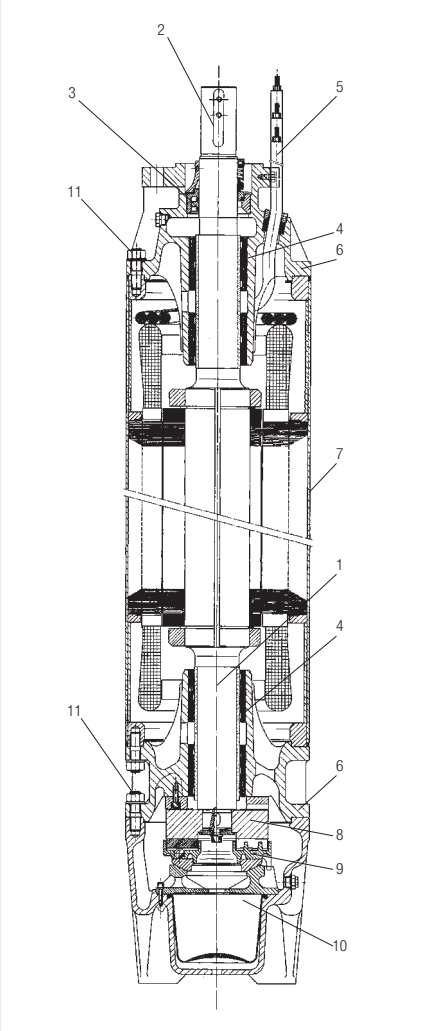
On request: PT100 and PTC temperature probes, cables of a different length, different voltage supply, special shaft terminals.

CONSTRUCTION FEATURES

The rewindable stator is protected by an AISI 316 stainless steel jacket. In the standard version the rotor is wound with PVC coated wire (PE2+PA for 300 HP and 340 HP). On request, we can supply a version with a PE2+PA winding that makes the motor compatible with special applications and with the use of a variable frequency drive.

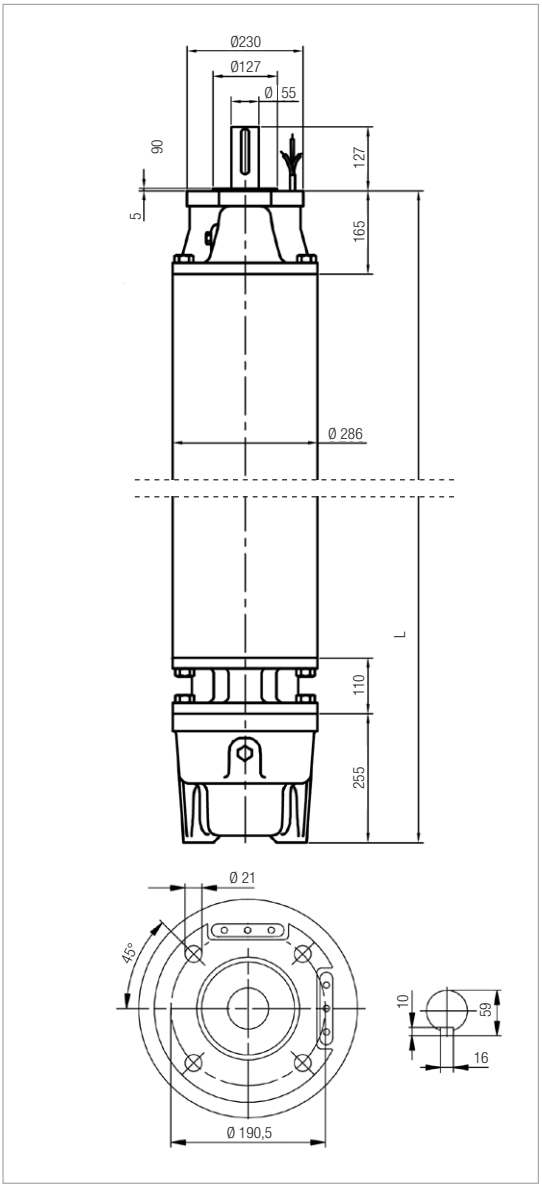
Mitchell type thrust bearings with pads in rubber coated steel and steel clearance ring.
from 200 HP to 340 HP:
70000 N (one-way)
35000 N (two-way)
Counter-thrust load: 15000 N

Rotor shaft in stainless steel, shaft extension with key connection. The rotor is in copper for all sizes.
In the standard version the motor is supplied with a ceramic/carbon mechanical seal. A silicon carbide (SiC/SiC) mechanical seal is available on request. The motor can also be fitted with an additional lip seal (IP68).



MATERIALS

N.	PARTS	STD VERSION	VERSION 316 SS	VERSION 904 SS
1	SHAFT	STAINLESS STEEL	STAINLESS STEEL	STAINLESS STEEL
2	SHAFT TERMINAL	AISI 316 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
3	MECHANICAL SEAL	CERAMIC/CARBON	SIC/SIC	SIC/SIC
4	BUSHES	STEEL/NBR	STEEL/NBR	STEEL/NBR
5	CABLE	EPDM	EPDM	EPDM
6	STRUCTURAL PARTS	CAST IRON	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
7	JACKET	AISI 316 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL
8	CLEARANCE RING	STEEL	STEEL	STEEL
9	THRUST	STEEL/NBR	STEEL/NBR	STEEL/NBR
10	DIAPHRAGM	EPDM	EPDM	EPDM
11	SCREWS	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL	AISI 904 STAINLESS STEEL



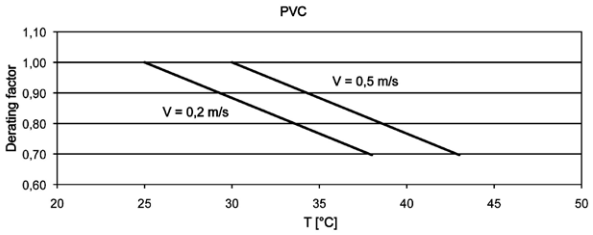
DIMENSIONS -THREE-PHASE MOTORS - 2 poles

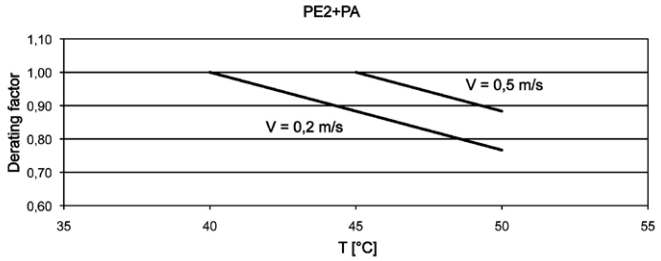
TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	180	132	1700	510	70000
	200	147	1790	565	70000
	230	170	1880	605	70000
	260	190	1980	650	70000
	300	220	2110	700	70000
	340	250	2280	775	70000
	400	300	2280	775	70000

DIMENSIONS -THREE-PHASE MOTORS - 4 poles

TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	100	75	1660	515	70000
	125	92	1790	565	70000
	150	110	1880	605	70000
	180	132	2110	700	70000
	200	147	2210	750	70000

DOWNGRADING





For TR12 220 kW PE2+PA and 250 kW PE2+PA 50 Hz and for all the TR12 60 Hz versions the maximum liquid temperature is 10 °C lower than that indicated in the graph.
For TR12 300kW PE2+PA the maximum liquid temperature is 25°C.

ELECTRICAL DATA - THREE-PHASE MOTORS - 2 POLES - DOL

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	P1 W	N min^{-1}	Cos φ	η %	CABLE	
	hp	kW								Ø mm^2	LC m
TR12 - 132kW - 400V - T	180	132	400	266	5,0	150700	2930	0,82	88	3x70+1x50	8
TR12 - 147kW - 400V - T	200	147	400	290	6,2	167045	2930	0,83	88	3x70+1x50	8
TR12 - 170kW - 400V - T	230	170	400	329	6,1	193182	2920	0,85	88	3x70+1x50	8
TR12 - 190kW - 400V - T	260	190	400	371	6,2	215909	2930	0,84	88	3x70+1x50	8
TR12 - 220kW - 400V - T	300	220	400	424	6,1	250000	2920	0,85	88	3x70+1x50	8
TR12 - 250kW - 400V - T	340	250	400	481	5,9	284091	2920	0,85	88	3x70+1x50	8
TR12 - 300kW - 400V - T	400	300	400	575	6	341000	2905	0,87	88	3x70+1x50	8

ELECTRICAL DATA - THREE-PHASE MOTORS - 4 POLES - DOL

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	P1 W	N min^{-1}	Cos φ	η %	CABLE	
	hp	kW								Ø mm^2	LC m
TR12 - 75 kW - 380 V - T	100	75	380	147	6,5	85227	1450	0,86	88	3x70+1x50	8
TR12 - 92 kW - 380 V - T	125	92	380	182	6,5	103371	1450	0,87	89	3x70+1x50	8
TR12 - 110 kW - 380 V - T	150	110	380	214	5,8	123596	1450	0,88	89	3x70+1x50	8
TR12 - 132 kW - 380 V - T	180	132	380	256	5,8	148315	1450	0,88	89	3x70+1x50	8
TR12 - 147 kW - 380 V - T	200	147	380	285	5,9	165169	1450	0,88	89	3x70+1x50	8

P2: Nominal power
V: Nominal voltage
In: Nominal current
Is/In: Starting current/Nominal current
P1: Absorbed power
N: Rotations per minute - R.p.m
Cos φ: Power factor
η: Yield
Ø: Cable cross section
LC: Cable length

TR14

14” SUBMERSIBLE MOTOR

TECHNICAL DATA

Flanging: 14”.
Protection class: IP58 (IP68 on request).
Cooling flow speed: 0,5 m/s.
Power supply tolerance: + 6 % / -10 %.
Max. starts: PVC: 3/h - PE2+PA: 5/H.
Max operating depth: 300 m.
Max operating temperature: 60 bar.
Horizontal operation: 300 HP - 340 HP.
Direction of rotation: to specified in the order.

GENERAL DATA

Rewindable 14" submersible asynchronous two or four-pole electric motor available in standard version with casing in AISI 316 stainless steel and supports in cast iron. The thrust block and bushes are cooled and lubricated with a mixture of water and glycol. The rotor is mounted on a Mitchell self-centring thrust block designed to withstand significant axial loads. The motor is also available in a version entirely in AISI 316 stainless steel.
There is also a version suitable for use with variable frequency drive (30 Hz - 50).
The motor is equipped with single-core cables of 8 m connected directly to the winding, and is available in DOL or STAR-DELTA configuration.
The cables are ACS, WRAS and KTW certified. The electrical protection must be provided by the user.
PT100 and PTC temperature probes are available on request.

CONSTRUCTION FEATURES

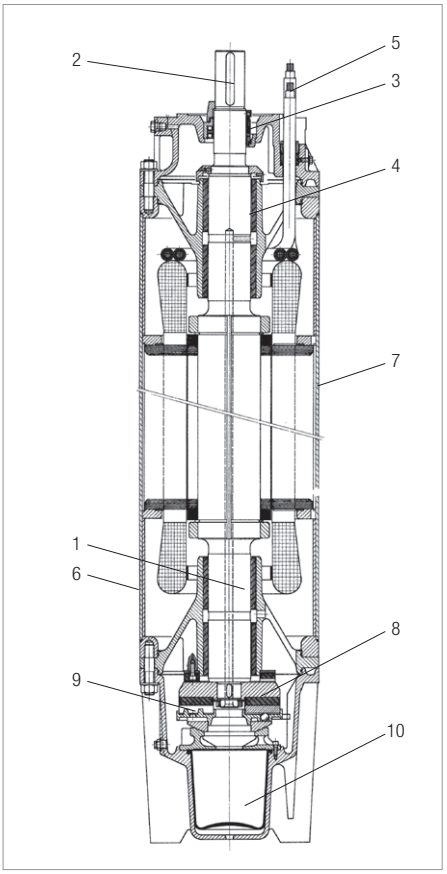
The rewindable stator is protected by an AISI 316 stainless steel jacket.
In the standard version the rotor is wound with PVC coated wire. On request, we can supply a version with a PE2+PA winding that makes the motor compatible with special applications and with the use of a variable frequency drive.

Mitchell type thrust bearings with pads in rubber coated steel and steel clearance ring.
From 300 HP to 550 HP:
70000 N (one-way)
35000 N (two-way)
Counter-thrust load: 15000 N

Rotor shaft in stainless steel, shaft extension with key connection.
The rotor is in copper for all sizes.
In the standard version the motor is supplied with a ceramic/carbon mechanical seal. A silicon carbide (SiC/SiC) mechanical seal is available on request.
The motor can also be fitted with an additional lip seal (IP68).

TR14

14” SUBMERSIBLE MOTOR



MATERIALS

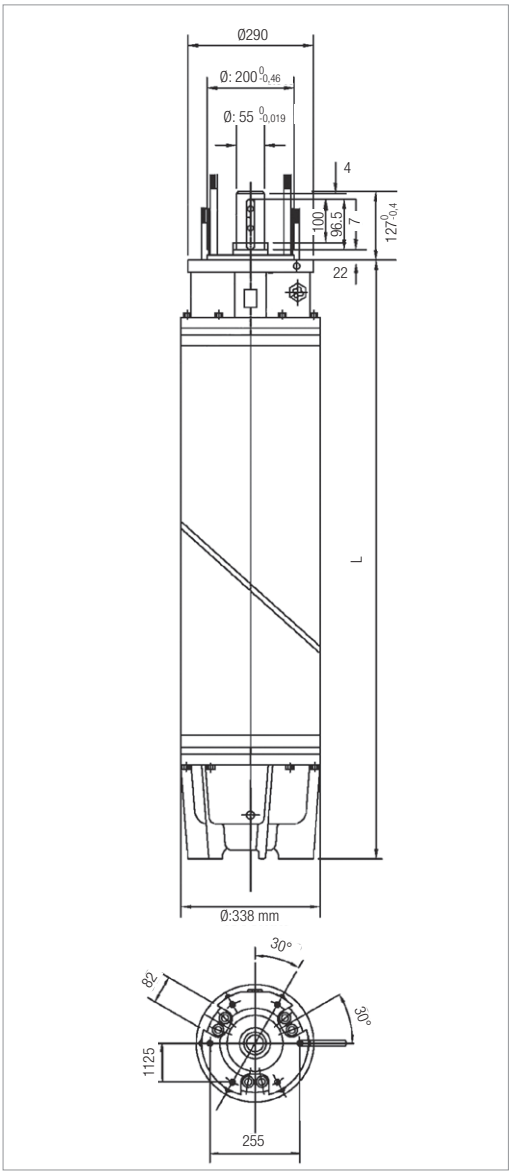
N.	PARTS	STD VERSION	VERSION 316 SS
1	SHAFT	STAINLESS STEEL	STAINLESS STEEL
2	SHAFT TERMINAL	AISI 904 STAINLESS STEEL	AISI 904 STAINLESS STEEL
3	MECHANICAL SEAL	SIC/SIC	SIC/SIC
4	BUSHES	STEEL/NBR	STEEL/NBR
5	CABLE	EPDM	EPDM
6	STRUCTURAL PARTS	CAST IRON	AISI 316 STAINLESS STEEL
7	JACKET	AISI 316 STAINLESS STEEL	AISI 316 STAINLESS STEEL
8	CLEARANCE RING	STEEL	STEEL
9	THRUST	STEEL/NBR	STEEL/NBR
10	DIAPHRAGM	EPDM	EPDM
11	SCREWS	AISI 304 STAINLESS STEEL	AISI 316 STAINLESS STEEL

DIMENSIONS -THREE-PHASE MOTORS - 2 poles

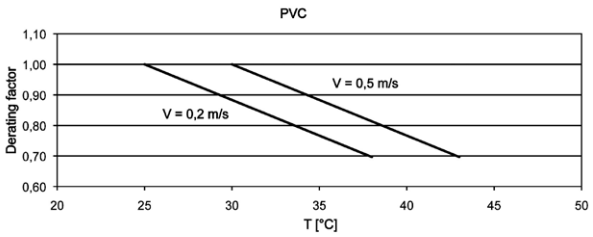
TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	300	220	1760	663	70000
	340	250	1910	784	70000
	400	294	2020	845	70000
	450	330	2160	906	70000
	500	367	2320	1010	70000
	550	404	2460	1105	70000

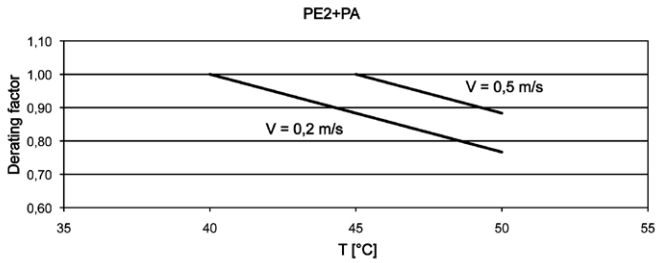
DIMENSIONS -THREE-PHASE MOTORS - 4 poles

TYPE	P2		LENGTH mm	WEIGHT kg	AXIAL THRUST N
	hp	kW			
50 Hz	230	170	1910	776	70000
	260	190	2020	855	70000
	300	220	2160	950	70000
	350	257	2320	1065	70000
	400	300	2460	1108	70000



DOWNGRADING





For TR14 220 kW PE2+PA and 250 kW PE2+PA 50 Hz and for all the TR14 60 Hz versions the maximum liquid temperature is 10 °C lower than that indicated in the graph.

ELECTRICAL DATA - THREE-PHASE MOTORS - 2 POLES

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	P1 W	N min-1	Cos φ	η %	CABLE	
	hp	kW								Ø mm2	LC m
TR14 - 220 kW - 380 V - T	300	220	380	423	5,5	247191	2900	0,89	89	6x70 + 1x50	8
TR14 - 250 kW - 380 V - T	340	250	380	479	6	528090	2900	0,89	89	6x70 + 1x50	8
TR14 - 294 kW - 380 V - T	400	294	380	551	5,8	326667	2900	0,9	90	6x95 + 1x50	8
TR14 - 330 kW - 380 V - T	450	330	380	620	6	366667	2900	0,9	90	6x95 + 1x50	8
TR14 - 367 kW - 380 V - T	500	367	380	693	6,4	405525	2900	0,89	90,5	6x95 + 1x50	8
TR14 - 404 kW - 380 V - T	550	404	380	798	6,8	446409	2900	0,85	90,5	6x95 + 1x50	8

ELECTRICAL DATA - THREE-PHASE MOTORS - 4 POLES

MODEL	P2		POWER INPUT 50 Hz	In A	Is/In	P1 W	N min-1	Cos φ	η %	CABLE	
	hp	kW								Ø mm2	LC m
TR14 - 170 kW - 380 V - T	230	170	380	356	4	191011	1450	0,81	89	6x70 + 1x50	8
TR14 - 190 kW - 380 V - T	260	190	380	397	4,2	213483	1450	0,82	89	6x70 + 1x50	8
TR14 - 220 kW - 380 V - T	300	220	380	450	4,1	245810	1450	0,83	89,5	6x70 + 1x50	8
TR14 - 257 kW - 380 V - T	350	257	380	525	4	287151	1450	0,83	89,5	6x95 + 1x50	8
TR14 - 294 kW - 380 V - T	400	294	380	612	3,8	326667	1450	0,81	90	6x95 + 1x50	8

P2: Nominal power
V: Nominal voltage
In: Nominal current
Is/In: Starting current/Nominal current
P1: Absorbed power
N: Rotations per minute - R.p.m
Cos φ: Power factor
η: Yield
Ø: Cable cross section
LC: Cable length

NOTES

HYDRAULIC EFFICIENCY

GENERAL INFORMATION

With the aim of defining a comparable performance threshold value among all water pumps present on the market, an index has been created which considers the size of the pump, its specific speed and rotation speed: the MEI (Minimum Efficiency Index).
The regulation applies to centrifugal pumps for pumping clean water included in these product categories:

- Pumps with axial intake with support (ESOB)
- Pumps with monobloc horizontal axial intake (ESCC)
- Pumps with monobloc in-line axial intake (ESCCI)
- Multistage vertical pumps (MS-V)
- Multistage submerged pumps (MSS)

MEI represents a dimensionless indicator for hydraulic performance and is a measurement of the sizing of the pump with respect to its performance.
The higher the MEI value, the better the sizing of the pump with respect to its performance and the lower the yearly energy consumption due to use of the pump. The upper limit of the MEI values is theoretically open, and depends only on physical and technological limits.

The minimum efficiency index (MEI) is based on the maximum diameter of the impeller. Multistage submerged water pumps must undergo tests in a version with 9 stages.

The reference value for the most efficient water pumps is MEI ≥ 0.70.

The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller adapts the pump to a fixed work point, with a consequent lower energy consumption.

The operation of this water pump with variable operating points may be more efficient and economic if controlled, for example, by means of a variable speed motor which adapts pump operation to the system.

You can find information on reference efficiency at the address: **www.dabpumps.com** or contact our sales network.

The efficiency graphs for MEI=0.7 and MEI=0.4 for the different types of pumps are available on the site: **www.europump.org/efficiencycharts**

PUMP MODEL	N° STAGES	MEI	η PL	η BEP	η OL
CS4A-12 M	12	≥ 0,40	35,83%	38,59%	38,19%
CS4A-12 T			39,64%	42,13%	41,85%
CS4A-8 M	8		36%	39,50%	38,80%
CS4A-18 M	18		38,60%	43,40%	43%
CS4A-18 T			39,00%	43,50%	43,00%
CS4A-25 M	25		36%	40,80%	40,10%
CS4A-25 T			38%	41%	40,90%
CS4A-36 M	36		38,30%	41%	39,20%
CS4A-36 T			39%	43,50%	43%
CS4B-12 M	12	≥ 0,40	53,81%	59,17%	58,42%
CS4B-12 T			54,86%	57%	56,41%
CS4B-5 M	5		57%	60,10%	59,50%
CS4B-8 M	8		45%	50%	48%
CS4B-8 T			55%	58,40%	58%
CS4B-16 M	16		43,50%	48,20%	47%
CS4B-16 T			46,20%	47%	46,80%
CS4B-24 M	24		46,20%	49,20%	48%
CS4B-24 T			51,80%	56%	54%

HYDRAULIC EFFICIENCY

EU REGULATION 547/2012 – MEI

PUMP MODEL	N° STAGES	MEI	η PL	η BEP	η OL
CS4C-9 M	9	≥ 0,40	66,40%	67,87%	66,78%
CS4C-9 T			66,40%	67,87%	66,78%
CS4C-6 M	6		59%	61,10%	58%
CS4C-6 T			64%	66%	65,80%
CS4C-13 M	13		56,50%	61%	58,80%
CS4C-13 T			57%	60%	59%
CS4C-19 M	19		55%	60%	59%
CS4C-19 T			61,50%	65,50%	65%
CS4D-13 M	13	≥ 0,40	64%	66,74%	66,32%
CS4D-13 T			71,70%	75,77%	75,33%
CS4D-4 M	4		63,50%	66%	65%
CS4D-4 T			72,50%	74%	72%
CS4D-6 M	6		64,20%	65,80%	65%
CS4D-6 T			70,50%	74,50%	74%
CS4D-8 M	8		64%	68,30%	67%
CS4D-8 T			64%	68%	67%

PUMP MODEL	N° STAGES	MEI	η PL	η BEP	η OL
S4A-12 M	12	≥ 0,40	42,53%	46,90%	46,10%
S4A-8 M	8		32,20%	34,40%	34%
S4A-18 M	18		43%	46,80%	46%
S4A-18 T			45%	47%	46,50%
S4A-25 M	25		40,50%	47,40%	46,90%
S4A-25 T			32,30%	33,50%	33%
S4A-36 M	36		34%	36%	35,80%
S4A-36 T			41%	42%	40,90%
S4A-50 M	50		41,50%	42%	41%
S4A-50 T			38,50%	39%	38,70%
S4B-12 M	12	≥ 0,40	38,50%	40,60%	39%
S4B-12 T			40,85%	42,88%	42,51%
S4B-5 M	5		46,50%	51%	50,50%
S4B-8 M	8		37,20%	42%	41%
S4B-16 M	16		43%	46,10%	45%
S4B-16 T			43,75%	48%	46,50%
S4B-24 M	24		41,20%	43,50%	43,20%
S4B-24 T			42%	44,80%	44%
S4B-32 M	32		49%	50%	49%
S4B-32 T			51%	54%	53%
S4B-40 M	40		48%	51,70%	50,60%
S4B-40 T			48,30%	51,70%	50,30%
S4B-48 M	48		48,50%	51%	50%
S4B-48 T			48,00%	52%	51%

HYDRAULIC EFFICIENCY

EU REGULATION 547/2012 – MEI

PUMP MODEL	N° STAGES	MEI	η PL	η BEP	η OL
S4C-9 M	9	≥ 0,40	64,55%	67,22%	66,95%
S4C-9 T			65,57%	67,13%	66,96%
S4C-6 M	6		51%	55%	52,50%
S4C-13 M	13		54%	58,70%	58%
S4C-13 T			56%	60%	59%
S4C-19 M	19		52%	56%	56,50%
S4C-19 T			50,30%	54%	53%
S4C-25 M	25		58%	62%	61%
S4C-25 T			58,80%	62%	57%
S4C-32 M	32		60%	63%	62,70%
S4C-32 T			57,50%	59%	58%
S4C-39 M	39		57%	60%	59,35
S4C-39 T			54,20%	57,40%	56,70%
S4C-45 T	45		56%	58,60%	58%
S4C-51 T	51		56,80%	60,50%	60%
S4D-13 M	13	≥ 0,40	55,18%	59,66%	58,70%
S4D-13 T	13		57,95%	62,15%	61,22%
S4D-4 M	4		48,60%	53%	52,60%
S4D-6 M	6		49,90%	54%	53%
S4D-6 T			49,60%	53,50%	52,20%
S4D-8 M	8		63,50%	67,20%	65%
S4D-8 T			65,30%	69,10%	68%
S4D-17 M	17		66%	68,35%	69,10%
S4D-17 T			64%	68%	67,60%
S4D-21 M	21		68%	71,80%	71%
S4D-21 T			65%	68,30%	67,60%
S4D-25 M	25		63%	67%	66,70%
S4D-25 T			62%	64%	63,50%
S4D-29 T	29		60%	64,70%	64%
S4D-34 T	34		61%	65,60%	64,80%
S4D-38 T	38		59,50%	63,30%	62%
S4D-45 T	45		58,50%	64,40%	63%
S4E-12 M	12	≥ 0,40	60%	64,05%	62,93%
S4E-12 T			60,06%	63,61%	62,87%
S4E-6 M	6		56%	60%	59%
S4E-6 T			58,50%	60,00%	59%
S4E-8 M	8		58,00%	61,40%	60%
S4E-8 T			63%	66,70%	65,50%
S4E-17 M	17		56,40%	62%	60,40%
S4E-17 T			56%	60%	58,60%
S4E-20 T	20		55,80%	60,20%	58,50%
S4E-23 T	23		56,70%	60,10%	59,50%
S4E-27 T	27		57%	61,90%	58,70%
S4E-31 T	31		55,50%	60%	58%
S4E-36 T	36		53,50%	56,20%	54%
S4E-42 T	42		53%	58%	55,50%

HYDRAULIC EFFICIENCY

EU REGULATION 547/2012 – MEI

PUMP MODEL	N° STAGES	MEI	η PL	η BEP	η OL
SS6A/09	9	≥ 0,40	67,01	70,60	69,74
SS6A/08	8		67,01	70,60	69,74
SS6A/10	10		67,01	70,60	69,74
SS6A/11	11		67,01	70,60	69,74
SS6A/12	12		67,01	70,60	69,74
SS6A/13	13		67,01	70,60	69,74
SS6A/14	14		67,01	70,60	69,74
SS6A/15	15		67,01	70,60	69,74
SS6A/16	16		67,01	70,60	69,74
SS6A/17	17		67,01	70,60	69,74
SS6A/18	18		67,01	70,60	69,74
SS6A/19	19		67,01	70,60	69,74
SS6A/20	20		67,01	70,60	69,74
SS6A/21	21		67,01	70,60	69,74
SS6A/22	22		67,01	70,60	69,74
SS6A/23	23		67,01	70,60	69,74
SS6A/24	24		67,01	70,60	69,74
SS6A/25	25		67,01	70,60	69,74
SS6A/26	26		67,01	70,60	69,74
SS6A/27	27		67,01	70,60	69,74
SS6A/28	28		67,01	70,60	69,74
SS6A/29	29		67,01	70,60	69,74
SS6A/30	30		67,01	70,60	69,74
SS6A/31	31		67,01	70,60	69,74
SS6A/32	32		67,01	70,60	69,74
SS6A/33	33		67,01	70,60	69,74
SS6A/34	34		67,01	70,60	69,74
SS6A/35	35		67,01	70,60	69,74
SS6A/36	36		67,01	70,60	69,74
SS6A/37	37		67,01	70,60	69,74
SS6A/38	38		67,01	70,60	69,74
SS6A/39	39		67,01	70,60	69,74
SS6A/40	40		67,01	70,60	69,74
SS6A/41	41		67,01	70,60	69,74
SS6A/42	42		67,01	70,60	69,74
SS6A/43	43		67,01	70,60	69,74
SS6A/44	44		67,01	70,60	69,74
SS6A/45	45		67,01	70,60	69,74
SS6A/46	46		67,01	70,60	69,74
SS6A/47	47		67,01	70,60	69,74
SS6A/48	48		67,01	70,60	69,74
SS6A/49	49		67,01	70,60	69,74
SS6A/50	50		67,01	70,60	69,74
SS6A/51	51		67,01	70,60	69,74
SS6A/52	52		67,01	70,60	69,74
SS6A/53	53		67,01	70,60	69,74
SS6A/54	54		67,01	70,60	69,74
SS6A/55	55		67,01	70,60	69,74
SS6A/56	56		67,01	70,60	69,74
SS6A/57	57		67,01	70,60	69,74
SS6A/58	58		67,01	70,60	69,74
SS6A/59	59		67,01	70,60	69,74
SS6A/60	60		67,01	70,60	69,74

HYDRAULIC EFFICIENCY

EU REGULATION 547/2012 – MEI

PUMP MODEL	N° STAGES	MEI	η PL	η BEP	η OL
SS6B/09	9	≥ 0,40	70,72	74,52	73,68
SS6B/7	7		70,72	74,52	73,68
SS6B/8	8		70,72	74,52	73,68
SS6B/10	10		70,72	74,52	73,68
SS6B/11	11		70,72	74,52	73,68
SS6B/12	12		70,72	74,52	73,68
SS6B/13	13		70,72	74,52	73,68
SS6B/14	14		70,72	74,52	73,68
SS6B/15	15		70,72	74,52	73,68
SS6B/16	16		70,72	74,52	73,68
SS6B/17	17		70,72	74,52	73,68
SS6B/18	18		70,72	74,52	73,68
SS6B/19	19		70,72	74,52	73,68
SS6B/20	20		70,72	74,52	73,68
SS6B/21	21		70,72	74,52	73,68
SS6B/22	22		70,72	74,52	73,68
SS6B/23	23		70,72	74,52	73,68
SS6B/24	24		70,72	74,52	73,68
SS6B/25	25		70,72	74,52	73,68
SS6B/26	26		70,72	74,52	73,68
SS6B/27	27		70,72	74,52	73,68
SS6B/28	28		70,72	74,52	73,68
SS6B/29	29		70,72	74,52	73,68
SS6B/30	30		70,72	74,52	73,68
SS6B/31	31		70,72	74,52	73,68
SS6B/32	32		70,72	74,52	73,68
SS6B/33	33		70,72	74,52	73,68
SS6B/34	34		70,72	74,52	73,68
SS6B/35	35		70,72	74,52	73,68
SS6B/36	36		70,72	74,52	73,68
SS6B/37	37		70,72	74,52	73,68
SS6B/38	38		70,72	74,52	73,68
SS6B/39	39		70,72	74,52	73,68
SS6B/40	40		70,72	74,52	73,68
SS6B/41	41		70,72	74,52	73,68
SS6B/42	42		70,72	74,52	73,68
SS6B/43	43		70,72	74,52	73,68
SS6B/44	44		70,72	74,52	73,68
SS6B/45	45		70,72	74,52	73,68
SS6B/46	46		70,72	74,52	73,68
SS6B/47	47		70,72	74,52	73,68
SS6B/48	48		70,72	74,52	73,68
SS6B/49	49		70,72	74,52	73,68
SS6B/50	50		70,72	74,52	73,68
SS6B/51	51		70,72	74,52	73,68
SS6B/52	52		70,72	74,52	73,68
SS6B/53	53		70,72	74,52	73,68
SS6B/54	54		70,72	74,52	73,68
SS6B/55	55		70,72	74,52	73,68
SS6B/56	56		70,72	74,52	73,68
SS6B/57	57		70,72	74,52	73,68
SS6B/58	58		70,72	74,52	73,68
SS6B/59	59		70,72	74,52	73,68
SS6B/60	60		70,72	74,52	73,68

HYDRAULIC EFFICIENCY

EU REGULATION 547/2012 – MEI

PUMP MODEL	N° STAGES	MEI	η PL	η BEP	η OL
SS6C/9	9	≥ 0,40	72,03	76,10	75,41
SS6C/4	4		71,03	75,10	74,41
SS6C/5	5		72,03	76,10	75,41
SS6C/6	6		72,03	76,10	75,41
SS6C/7	7		72,03	76,10	75,41
SS6C/8	8		72,03	76,10	75,41
SS6C/10	10		72,03	76,10	75,41
SS6C/11	11		72,03	76,10	75,41
SS6C/12	12		72,03	76,10	75,41
SS6C/13	13		72,03	76,10	75,41
SS6C/14	14		72,03	76,10	75,41
SS6C/15	15		72,03	76,10	75,41
SS6C/16	16		72,03	76,10	75,41
SS6C/17	17		72,03	76,10	75,41
SS6C/18	18		72,03	76,10	75,41
SS6C/19	19		72,03	76,10	75,41
SS6C/20	20		72,03	76,10	75,41
SS6C/21	21		72,03	76,10	75,41
SS6C/22	22		72,03	76,10	75,41
SS6C/23	23		72,03	76,10	75,41
SS6C/24	24		72,03	76,10	75,41
SS6C/25	25		72,03	76,10	75,41
SS6C/26	26		72,03	76,10	75,41
SS6C/27	27		72,03	76,10	75,41
SS6C/28	28		72,03	76,10	75,41
SS6C/29	29		72,03	76,10	75,41
SS6C/30	30		72,03	76,10	75,41
SS6C/31	31		72,03	76,10	75,41
SS6C/32	32		72,03	76,10	75,41
SS6C/33	33		72,03	76,10	75,41
SS6C/34	34		72,03	76,10	75,41
SS6C/35	35		72,03	76,10	75,41
SS6C/36	36		72,03	76,10	75,41
SS6C/37	37		72,03	76,10	75,41
SS6C/38	38		72,03	76,10	75,41
SS6C/39	39		72,03	76,10	75,41
SS6C/40	40		72,03	76,10	75,41
SS6C/41	41		72,03	76,10	75,41
SS6C/42	42		72,03	76,10	75,41
SS6C/43	43		72,03	76,10	75,41
SS6C/44	44		72,03	76,10	75,41
SS6C/45	45		72,03	76,10	75,41
SS6C/46	46		72,03	76,10	75,41
SS6C/47	47		72,03	76,10	75,41
SS6C/48	48		72,03	76,10	75,41
SS6C/49	49		72,03	76,10	75,41
SS6C/50	50		72,03	76,10	75,41
SS6C/51	51		72,03	76,10	75,41
SS6C/52	52		72,03	76,10	75,41
SS6C/53	53		72,03	76,10	75,41
SS6C/54	54		72,03	76,10	75,41

HYDRAULIC EFFICIENCY

EU REGULATION 547/2012 – MEI

PUMP MODEL	N° STAGES	MEI	η PL	η BEP	η OL
SS6D/9	9	≥ 0,40	72,67	76,30	75,42
SS6D/3	3		70,67	74,30	73,42
SS6D/4	4		71,67	75,30	74,42
SS6D/5	5		72,67	76,30	75,42
SS6D/6	6		72,67	76,30	75,42
SS6D/7	7		72,67	76,30	75,42
SS6D/8	8		72,67	76,30	75,42
SS6D/10	10		72,67	76,30	75,42
SS6D/11	11		72,67	76,30	75,42
SS6D/12	12		72,67	76,30	75,42
SS6D/13	13		72,67	76,30	75,42
SS6D/14	14		72,67	76,30	75,42
SS6D/15	15		72,67	76,30	75,42
SS6D/16	16		72,67	76,30	75,42
SS6D/17	17		72,67	76,30	75,42
SS6D/18	18		72,67	76,30	75,42
SS6D/19	19		72,67	76,30	75,42
SS6D/20	20		72,67	76,30	75,42
SS6D/21	21		72,67	76,30	75,42
SS6D/22	22		72,67	76,30	75,42
SS6D/23	23		72,67	76,30	75,42
SS6D/24	24		72,67	76,30	75,42
SS6D/25	25		72,67	76,30	75,42
SS6D/26	26		72,67	76,30	75,42
SS6D/27	27		72,67	76,30	75,42
SS6D/28	28		72,67	76,30	75,42
SS6D/29	29		72,67	76,30	75,42
SS6D/30	30		72,67	76,30	75,42
SS6D/31	31		72,67	76,30	75,42
SS6D/32	32		72,67	76,30	75,42
SS6D/33	33		72,67	76,30	75,42

HYDRAULIC EFFICIENCY

EU REGULATION 547/2012 – MEI

PUMP MODEL	N° STAGES	MEI	η PL	η BEP	η OL
SS6E/9	9	≥ 0,40	72,40	77,30	75,51
SS6E/2	2		69,40	74,30	72,51
SS6E/3	3		70,40	75,30	73,51
SS6E/4	4		71,40	76,30	74,51
SS6E/5	5		72,40	77,30	75,51
SS6E/6	6		72,40	77,30	75,51
SS6E/7	7		72,40	77,30	75,51
SS6E/8	8		72,40	77,30	75,51
SS6E/10	10		72,40	77,30	75,51
SS6E/11	11		72,40	77,30	75,51
SS6E/12	12		72,40	77,30	75,51
SS6E/13	13		72,40	77,30	75,51
SS6E/14	14		72,40	77,30	75,51
SS6E/15	15		72,40	77,30	75,51
SS6E/16	16		72,40	77,30	75,51
SS6E/17	17		72,40	77,30	75,51
SS6E/18	18		72,40	77,30	75,51
SS6E/19	19		72,40	77,30	75,51
SS6E/20	20		72,40	77,30	75,51
SS6E/21	21		72,40	77,30	75,51
SS6E/22	22		72,40	77,30	75,51
SS6E/23	23		72,40	77,30	75,51
SS6E/24	24		72,40	77,30	75,51
SS6E/25	25		72,40	77,30	75,51
SS6E/26	26		72,40	77,30	75,51
SS6E/27	27		72,40	77,30	75,51
SS6E/28	28		72,40	77,30	75,51
SS6E/29	29		72,40	77,30	75,51
SS6E/30	30		72,40	77,30	75,51

NOTES

ACCESSORIES

To ensure correct splicing, the cross section of the cable should be equal to or greater than that of the motor cable.
The cross section of the cable to be spliced must be sized properly in relation to the required length of the cable.

SHIELDED CABLES	DESCRIPTION	MICRA	MICRA HS	S4	S6	SM +6GF	SR+6GF
	4 x 1,5 mm² 4-CORE SHIELDED CABLE PER METRE	•	•	•			
	4 x 2,5 mm² 4-CORE SHIELDED CABLE PER METRE	•	•	•			
	4 x 4 mm² 4-CORE SHIELDED CABLE PER METRE	•	•	•	•	•	•
Advisable in the case of applications with inverter.							

4-CORE CABLES	DESCRIPTION	MICRA	MICRA HS	S4	s6	SM +6GF	SR+6GF
	4 x 1,5 mm² 4-CORE CABLE PER METRE	•	•	•	•		
	4 x 2,5 mm² 4-CORE CABLE PER METRE	•	•	•	•		
	4 x 4 mm² 4-CORE CABLE PER METRE	•	•	•	•	•	•
	4 x 6 mm² 4-CORE CABLE PER METRE	•	•	•	•	•	•
	4 x 10 mm² 4-CORE CABLE PER METRE	•	•	•	•	•	•
	4 x 16 mm² 4-CORE CABLE PER METRE	•	•	•	•	•	•
	4 x 25 mm² 4-CORE CABLE PER METRE	•	•	•	•	•	•

PROBES	DESCRIPTION	MICRA	MICRA HS	S4	S6	SM +6GF	SR+6GF
	ELECTRODE PROBE For use with ES control boxes. Suitable for conductive liquids with temperature up to +40°C. To be connected using 1,5 mm² cable with 550 V insulation capacity. Sensitivity: ≤ 53 kohm			•	•	•	•
	1 x 1,5 mm² CABLE FOR ELECTRIC PROBES PER METRE			•	•	•	•
Accessories to be connected only to ES control boxes							

SPLICING	DESCRIPTION	MICRA	MICRA HS	S4	S6	SM +6GF	SR+6GF
	CABLE SPLICING KIT (for 4 x 1 mm² cables)	•	•				
	CABLE SPLICING KIT (for 4 x 1,5/2,5/4/6 mm² cables)			•	•	•	•
	CABLE SPLICING KIT (for 4 x 10/16/25 mm² cables)			•	•	•	•
	SPLICING OF ELECTRIC PUMP CABLE	•	•	•	•	•	•

MOTOR CABLE KIT	DESCRIPTION	4GG	4TW	4OL
	20 M 4G1.5 CABLE WITH 4GG/4OL 4" MOTOR CONNECTOR KIT	•		•
	40 M 4G1.5 CABLE WITH 4GG/4OL 4" MOTOR CONNECTOR KIT	•		•
	20 M 4G2.5 CABLE WITH 4GG/4OL 4" MOTOR CONNECTOR KIT	•		•
	40 M 4G2.5 CABLE WITH 4GG/4OL 4" MOTOR CONNECTOR KIT	•		•
	30 M 3G1.5 CABLE WITH 4TW 4" MOTOR CONNECTOR KIT		•	

	DESCRIPTION	DIVERTRON	DIVERTRON X
	SUCTION KIT		•
	AUXILIARY TANK	•	•

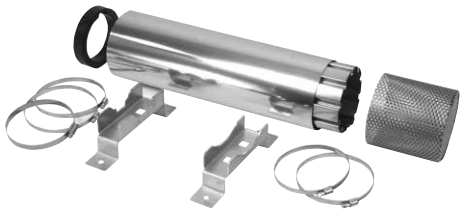
COOLING PIPE KIT	DESCRIPTION	CS4	S4	S6	SR6	SM6
	L400 COOLING PIPE KIT	•	•			
	L525 COOLING PIPE KIT	•	•			
	L885 COOLING PIPE KIT	•	•			
	4" HORIZONTAL INST. SUPPORTS KIT (2 pieces)	•	•			
	4" FILTER KIT	•	•			
	L725 COOLING PIPE KIT			•	•	•
	L960 COOLING PIPE KIT			•	•	•
	L1220 COOLING PIPE KIT			•	•	•
	L1490 COOLING PIPE KIT			•	•	•
	6" HORIZONTAL INST. SUPPORTS KIT (2 pieces)			•	•	•
	6" FILTER KIT			•	•	•

Photo of cooling pipe kit + Horizontal support kit + filter kit

CB - CONTROL BOXES OBLIGATORY FOR SINGLE-PHASE PUMPS

Box in shockproof thermoplastic with two cable glands.
Illuminated two-pole main switch (power).
Protection class: IP 43.
Starting capacitor.
Thermal protection with external manual reset facility.

MODEL	POWER INPUT 50 Hz	P2 NOMINAL kW	P2 NOMINAL HP	PROTECTION	MICROC. CAPAC.	DIMENSIONS mm	GROSS WEIGHT kg	DIVER		MICRA	
CB 16/5	1x230 V ~	0,55	0,75	5 A	16	85 x 170 x 65	0,65	•	DIVER 75 M		
CB 20/6	1x230 V ~	0,75	1	6 A	20	85 x 170 x 65	0,65	•	DIVER 100 M DIVER 100 HF M		
CB 30/9	1x230 V ~	1,1	1,5	9 A	30	85 x 170 x 65	0,65	•	DIVER 150 M DIVER 150 HF M		
CB 35/12	1x230 V ~	1,5	2	12 A	35	85 x 170 x 65	0,65	•	DIVER 200 M DIVER 200 HF M		
CB 05/12	1 x 230 V~	0,37	0,5	5 A	12	85 x 170 x 65	0,65			•	MICRA 50 M
CB 06/16	1 x 230 V~	0,55	0,75	6 A	16	85 x 170 x 65	0,65			•	MICRA 75 M
CB 07/20	1 x 230 V~	0,75	1	7 A	20	85 x 170 x 65	0,65			•	MICRA 100 M

ESC PLUS

Electronic control unit for protection and control of the single-phase/three-phase motor/pump with direct starting.
Two calibration modes of the control unit: automatic/manual
Dry run protection of motor/pump not with level probe but with measurement of the cos j of the motor.
Box in shockproof self-extinguishing thermoplastic with two cable glands.
Main switch.
Power input: single-phase 230 V + 10 % - 20 %, three-phase 400 V + 10 % - 20 %.
Digital display with status indications.
Four models available with power ratings of 0,5 - 15 HP.
Protection class IP54.
Starting capacitor for the single-phase version (to be ordered separately).
Opto-coupled auxiliary input for control with connection of probes, pressure switch or float switch.
ON-OFF switch.
Functional features:
Overload protection.
Power loss protection (three-phase version).
Overvoltage protection.
Short circuit protection.
Dry run protection.

MODEL	POWER INPUT 50-60 Hz	RANGE HP	MAX CURRENT A	BOX DIMENSIONS A	BOX DIMENSIONS B	BOX DIMENSIONS H	WEIGHT kg
ESC PLUS 3M 220-240/50-60	1 x 230 V,	0, 5 - 3	< 18	175	175	80	0,9
ESC PLUS 4T 400/50-60	3 x 400 V,	0, 5 - 4	< 9	245	195	95	1
ESC PLUS 10T 400/50-60	3 x 400 V,	5,5 - 10	< 20	215	170	75	1,4
ESC PLUS 15T 400/50-60	3 x 400 V,	12,5 - 15	< 30	215	170	75	1,6

4” CONTROL BOX

Electrical control box for operation of single-phase submersible electric pumps, containing manually resettable thermal protection, capacitor, and terminals for the connection of a pressure switch/float switch. Complete with 1,5 m cable with SCHUKO plug CEE 7- VII UNEL 47166-168. Wall-mounting box in self-extinguishing thermoplastic.

SINGLE-PHASE model	MOTOR POWER kW	OVERLOAD PROT. A	CAPACITOR µF	WEIGHT kg
0,5 4” CONTROL BOX	0,37	4	16	1,7
0,75 4” CONTROL BOX	0,55	5	20	1,7
1 4” CONTROL BOX	0,75	7	25	1,7
1,5 4” CONTROL BOX	1,1	10	35	1,7
2 4” CONTROL BOX	1,5	13	40	1,7
3 4” CONTROL BOX	2,2	16	60	1,7

4" BOOSTER CONTROL BOX

Control unit to increase starting torque of single-phase electric pumps with power ratings of 0,37 - 3,7 kW containing a manually resettable micro cutout for overload protection, the starting capacitor, a capacitor to boost starting torque, and terminals for electrical connections.
Plug not included.

Protection class: IP 54.
Ambient operating temperature: -10 °C + 40 °C.
Wall-mounting box in self-extinguishing thermoplastic.

MODEL	POWER INPUT 50 Hz	MAX POWER kW	MAX CURRENT A	STARTING CAPACITOR MF	STARTING TORQUE BOOST CAPACITOR MF	WEIGHT kg
CBB 05/16 (0,37 kW)	1 x 230 V	0,37	5	16	53-64	0,85
CBB 06/20 (0,55 kW)	1 x 230 V	0,55	6	20	53-64	0,85
CBB 09/25 (0,75 kW)	1 x 230 V	0,75	9	25	100-130	1,5
CBB 12/35 (1,1 kW)	1 x 230 V	1,1	12	35	100-130	1,1
CBB 15/40 (1,5 kW)	1 x 230 V	1,5	15	40	189-250	1,1
CBB 20/60 (2,2 kW)	1 x 230 V	2,2	20	60	189-250	1,5
CBB 32/90 (3,7 kW)	1 x 230 V	3,7	32	90	315-400	1,5

COMMANDER - SOFT-START AND PROTECTION CONTROL BOX

Soft-start control box with microprocessor for the protection and control of the three-phase motor/pump with direct starting. The Commander soft-start control box is used when limitation of the starting current is required; in this case, the traditional starting systems are no longer required (star-delta or reactor system). There are also various parameters for setting starting and stopping of the system. Features: Input voltage: 400 Vac +/- 10 %. Input frequency: 50/60 Hz. Ambient temperature: 0 - 40 °C. Relative humidity: 50 % at 40 °C. Protection IP55. Box in metal with epoxy coat. SCR bypass contactor. Pressure switch/float switch signal input. Possibility to connect more than one motor/pump. Power factor measurement (cos j). Programming of the following functions at the external LCD keypad: programming in 6 languages, set-up menu and visualisation of the following parameters: voltage, current, active and apparent power, power factor, list of events/actions. Functional features: Overload protection, starting current protection and control, power loss protection, overvoltage/undervoltage protection and short circuit protection.

MODEL	POWER INPUT 50-60 Hz	RANGE	MAX CURRENT	DIMENSIONS	WEIGHT kg
COMMANDER 1E	400 V	5,5 HP - 30 HP	< 50	300x300x160	8,6
COMMANDER 2E	400 V	35 HP - 60 HP	< 100	300x300x160	9,4

ES 1 M - ES 3 M

Control box for dry run protection of single-phase submersible electric pumps (see table). The control box is protected and it protects the electric pump from overloads and short circuits, with manual reset facility. Facility for operation with 1, 2 or 3 probes depending on use.

Protection class IP 55. Operating ambient temperature limits –10 °C +40 °C.
Supplied as standard with an electric probe and wall-mounting brackets. Wall-mounting box in self-extinguishing thermoplastic.

MODEL	POWER INPUT 50/60 Hz	POWER kW P2 MOT.	NOM. DUTY POWER (MAX) (kW)	MAX CURRENT A	DIMENSIONS			WEIGHT kg
					A	B	H	
ES 1 M	1x220-240 V,	0,37-0,55-0,75	1,85	10	270	300	190	5,6
ES 3 M	1x220-240 V,	1,1-1,5-2,2	2,2	16	270	300	190	5,6

ES 0,75 T - 1 T - 1,5 T - 3 T - 4 T - 7,5 T

Control box for dry run protection of three-phase submersible electric pumps (see table).
The control box is protected and it protects the electric pump from overloads and short circuits, with manual reset facility. Facility for operation with 1, 2 or 3 probes depending on use.

Protection class IP 55.
Operating ambient temperature limits –10 °C +40 °C.
Supplied as standard with an electric probe and wall-mounting brackets. Wall-mounting box in self-extinguishing thermoplastic.

MODEL	POWER INPUT 50 Hz	POWER kW P2 MOT.	NOM. DUTY POWER (MAX) (kW)	MAX CURRENT A	DIMENSIONS			WEIGHT kg
					A	B	H	
ES 0,75 T	3 x 400 V	0,37-0,55	0,88	1,6	270	300	190	5,6
ES 1 T	3 x 400 V	0,75	1,38	2,5	270	300	190	5,6
ES 1,5 T	3 x 400 V	1,1	2,2	4	270	300	190	5,6
ES 3 T	3 x 400 V	1,5 - 2,2	3,5	6,3	270	300	190	5,6
ES 4 T	3 x 400 V	3	5,5	10	270	300	190	5,6
ES 7,5 T	3 x 400 V	4-5,5	7,5	14	270	300	190	5,6

CONTROL SYSTEMS - ES

Control boxes for protection and automatic operation with float switch(es) of three-phase submersible electric pumps in single installations.
Available for direct starting and for star-delta starting.
Wall-mounting box in self-extinguishing thermoplastic.
The control box is self-protected and it protects the electric pump from overloads, short circuits and power loss, with manual reset facility.
Complete with:
Power line disconnect device with padlockable door lock handle;
Self-protected transformer to provide 24 V supply for external controls;
Terminals to connect electric pump and minimum/maximum level float switches;
Probe module for anti dry-run control;
Terminals to connect alarm control for remote installation of a sounder or warning light (voltage free);
Manual – 0 – automatic selector for electric pump on control box front panel;
Protection class: IP55.
Construction of electrical enclosures: to EN 60204-1 and EN 60439-1.
Supplied as standard with an electric probe.

MODEL	POWER INPUT 50-60 Hz	P2 NOMINAL kW	MAX CURRENT	WEIGHT kg
ES 7,5 T	3 x 400 V	4 - 5,5	14	5,6
ES 10 T	3 x 400 V	7,5	18	5,6
ES 12,5 T	3 x 400 V	9,2	25	5,9
ES 15 T	3 x 400 V	11	25	8
ES 20 T	3 x 400 V	15	32	8,1
ES 25 T	3 x 400 V	18,5	40	8,3
ES 30 T	3 x 400 V	22	63	8,5
ES 40 T	3 x 400 V	30	80	8,2
ES 50 T	3 x 400 V	37	90	9
ES 60 T	3 x 400 V	45	100	9
ES 75 T	3 x 400 V	55	109	-
ES 85 T	3 x 400 V	63	126	-
ES 100 T	3 x 400 V	75	148	-
ES 125 T	3 x 400 V	92	185	-
ES 150 T	3 x 400 V	110	217	-
ES 180 T	3 x 400 V	132	257	-
ES 200 T	3 x 400 V	147	300 A	-
ES 230 T	3 x 400 V	170	348 A	-
ES 260 T	3 x 400 V	190	405 A	-
ES 300 T	3 x 400 V	220	424 A	-
ES 340 T	3 x 400 V	250	481	-
ES 10 T S/D	3 x 400 V	7,5	18	5,6
ES 12,5 T S/D	3 x 400 V	9,2	25	5,9
ES 15 T S/D	3 x 400 V	11	25	8
ES 20 T S/D	3 x 400 V	15	32	8,1
ES 25 T S/D	3 x 400 V	18,5	40	8,3
ES 30 T S/D	3 x 400 V	22	63	8,5
ES 40 T S/D	3 x 400 V	30	80	8,2
ES 50 T S/D	3 x 400 V	37	90	9
ES 60 T S/D	3 x 400 V	45	100	9
ES 75 T S/D	3 x 400 V	55	109	-
ES 85 T S/D	3 x 400 V	63	126	-
ES 100 T S/D	3 x 400 V	75	148	-
ES 125 T S/D	3 x 400 V	92	185	-
ES 150 T S/D	3 x 400 V	110	217	-
ES 180 T S/D	3 x 400 V	132	257	-
ES 200 T S/D	3 x 400 V	147	300 A	-
ES 230 T S/D	3 x 400 V	170	348	-
ES 260 T S/D	3 x 400 V	190	405	-
ES 300 T S/D	3 x 400 V	220	424	-
ES 340 T S/D	3 x 400 V	250	481	-

ADAC - INVERTER

The **ADAC** family represents the new frontier of Dab inverters. These are intended for **HEAVY-DUTY PROFESSIONAL APPLICATIONS**.
They can pilot three-phase pumps up to 15 kW.
They combine the simplicity of the **ADAC** series with the strength and power of the inverter.
They are control box devices and are equipped with pressure sensors and with a flow sensor on request.
The latter guarantees improved pressure control.
These models also permit the assembly of pressurisation units.

The **ADAC** family combines comfort and savings and all the protection features, and is easy to install and configure.
The **ADAC** models are air-cooled. These control box inverters are extremely strong, with a metal body, and suitable for heavy duty uses.
They guarantee maximum comfort and increase the average life-span of the system.

MODEL	MAX MECHANICAL POWER (P2) PUMP kW	MAX NOMINAL CURRENT MOTOR A	MIN NOMINAL CURRENT MOTOR A	POWER INPUT 50 Hz	ELECTRIC PUMP POWER INPUT 50 - 200 Hz
AD M/T 1.0 AC	1,0	6,5	1	1x230	3x230
AD M/T 1.5 AC	1,5	9,0	1	1x230	3x230
AD M/T 2.2 AC	2.2	11,5	1	1x230	3x230
AD T/T 3.0 AC	3,0	9,0	2	3x400	3x400
AD T/T 4.0 AC	4,0	11	2	3x400	3x400
AD T/T 5.5 AC	5,5	15	2	3x400	3x400
AD T/T 7.5 AC	7,5	22	2	3x400	3x400
AD T/T 11.0 AC	11	31	2	3x400	3x400
AD T/T 15.0 AC	15	41	2	3x400	3x400

ACTIVE DRIVER PLUS - INVERTER

Active Driver Plus are inverters used for the control of hydraulic pumps. Their obvious fields of application are domestic, industrial, and agricultural constant pressure pumping systems.
The OLED display offers an extremely simple and intuitive graphic interface. Displaying or changing any parameters is extremely simple, which in turn also simplifies maintenance.
Installation is also very easy: the installation wizard asks the user for the parameters required for the configuration.
Active Driver Plus inverters provide a reduction of electric consumption, thanks to the inverter technology, whilst at the same time ensuring maximum comfort thanks to the constant pressure.
They are extremely versatile, as they do not require external sensors and non-return valves. There is in-fact a built-in pressure sensor, a flow switch, and a non-return valve.
The advantages of Active Driver Plus are:
- comfort, thanks to the constant pressure,
- energy savings, thanks to the inverter technology.
- less noise,
- compact shape,
- all the built-in protections: dry run, overload, abnormal voltage, overtemperature, freezing.

Line voltage: 115V and 230V single-phase.
400V three-phase
Electric pump voltage: 115V and 230V single-phase, 230V and 400V three-phase
Power supply frequency: 50 Hz - 60 Hz.
Installation: vertical and horizontal (M/M and M/T only)
Maximum liquid temperature: 50°C.
Max operating temperature: 60°C.
Max flow rate: 15m^3/h.
Maximum working pressure: 13 bar.
Pressure regulation range: from 1 to 13 bar.
Suction diameter (DNA): 1 1/4" male.
Delivery diameter (DNM): 1 1/2" female.
Protection level: IP55.
Communication interface for sets: YES, an Active Driver Plus for each pump

Non-return valve not required

MODELLO	MAX CURRENT OF MOTOR A	MAX MOTOR POWER kW	VOLTAGE 50 Hz	PUMP SUPPLY VOLTAGE Volt	CONNECTIVITY FOR PARALLEL WORKING	TO BE USED WITH PUMPS TYPE	PRESSURE REGULATION RANGE BAR
ACTIVE DRIVER PLUS M/M 1,1	8,5	1,1	Single-phase 1x230	Single-phase 1x230	YES	Surface pumps, 4" submersible pumps and 5" pumps with single-phase motor and input current of up to 8,5 A	1-6
ACTIVE DRIVER PLUS M/M 1,5/ DUAL VOLTAGE	11		Single-phase	Single-phase	YES	Surface pumps, 4" submersible pumps and 5" pumps with single-phase motor and input current of up to 11 A	1-9
		0,55	1x115	1x115			
		1,5	1x230	1x230			
ACTIVE DRIVER PLUS M/M 1,8/ DUAL VOLTAGE	14		Single-phase	Single-phase	YES	Surface pumps, 4" submersible pumps and 5" pumps with single-phase motor and input current of up to 14 A	1-9
		1,0	1x115	1x115			
		1,8	1x230	1x230			
ACTIVE DRIVER PLUS M/T 1	4,7	1,0	Single-phase 1x230	Three-phase 3x230	YES	Surface pumps, 4" submersible pumps and 5" pumps with three-phase 230V motor and input current of up to 4,7 A	1-9
ACTIVE DRIVER PLUS M/T 2,2	10,5	2,2	Single-phase 1x230	Three-phase 3x230	YES	Surface pumps, 4" submersible pumps and 5" pumps with three-phase 230V motor and input current of up to 10,5 A	1-13
ACTIVE DRIVER PLUS T/T 3	7,5	3,0	Three-phase 3x400	Three-phase 3x400	YES	Surface pumps, 4" submersible pumps and 5" pumps with three-phase 400V motor and input current of up to 7,5 A	1-13
ACTIVE DRIVER PLUS T/T 5,5	13,3	5,5	Three-phase 3x400	Three-phase 3x400	YES	Surface pumps, 4" submersible pumps and 5" pumps with three-phase 400V motor and input current of up to 13,3 A	1-13

TECHNICAL APPENDIX

GENERAL INFORMATION

FUNDAMENTAL TERMS USED IN PUMPS

The following is a list of fundamental terms used in pumps and an explanation of their meanings. Their knowledge is necessary in order to discuss hydraulic pumps. All measurements are given in Technical units. Reference should be made to the chart for their international and Anglo-Saxon equivalents.

HEAD

Head means height, difference in level, gradient. For example if a pump has a flow of Q litres per second and a head of 30 metres, it means that it is capable of raising Q litres of liquid by 30 metres every second (therefore achieving a 30 metre gradient). For each given pump, the head is determined by its construction, such as the external diameter of the impeller and the speed of rotation, but it is not affected by the pumped liquid. This means that the pump as such can raise by 30 metres Q litres per second of water, petrol, mercury, etc.; the only difference in the three cases will be the power of the motor required.

SPECIFIC WEIGHT OF A LIQUID OR FLUID

The specific weight of a liquid or fluid is the weight per unit volume of the liquid/fluid. Specific weight is usually measured in kg/dm^3 or kg/l, remembering that 1 dm^3 equals 1 litre.

PRESSURE

Pressure means weight per unit of area (e.g. kg/cm^2), and it should not be confused with head. In the case of liquids, the pressure that the liquid exerts on a surface is given by the product of the head (or height) of the liquid, multiplied by its specific weight. For this reason, the column of several km of air on the earth's surface produces at sea level a pressure of about 1kg/cm^2 (equal to approx. 1 atmosphere). If the same column were of water rather than air, the pressure would be some 700 to 800 times greater, due to the fact that water has a specific weight approximately 700-800 times greater than that of air.
Bearing in mind that a column of water 10 m high is equivalent to approx. 1 kg/cm^2, if we placed a manometer on the delivery of the pump, the following pressure increases would be measured:

a) with petrol (specific weight 0,7 kg/dm^3) = 00,7 x 0,001 x 30 x 100 = 2,1 kg/cm^2
b) with water (specific weight 1,0 kg/dm^3) = 00,1 x 0,001 x 30 x 100 = 3,0 kg/cm^2
c) with mercury (specific weight 13,6 kg/dm^3) = 13,6 x 0,001 x 30 x 100 = 40,8 kg/cm^2

FLOW

Flow means the quantity of liquid or fluid that passes through a point, such as the delivery outlet of a pump, or a cross section of a pipe, in the set unit of time.
This can be measured in litres per minute (l/min), litres per second (l/s), cubic metres per hour (m^3/h) etc.
It should be noted that there is a perfect analogy between the flow of water through a pipe and the flow of electricity through a wire. It is sufficient to remember that hydraulic head is equivalent to electrical potential or voltage, and hydraulic flow is equivalent to electric current or amperes in electrotechnics. Even their behaviour is the same. Just as a thin wire restricts the flow of electricity more than one with a larger section, in the same way, a pipe of a smaller diameter offers a greater resistance to the flow of a liquid than one of a larger one. Just as the passage of electric current through the wire to a cable needs a voltage difference, in the same way, the flow of a liquid or fluid through a pipe needs a certain head.
There will never be a movement of liquid between two points of a perfectly horizontal pipe, and with the liquid at the same head in both points. This is due to the fact that, in the same way as the cable exerts a certain resistance to the passage of the electric current (electric resistance), the pipe also exerts a certain resistance to the passage of the fluid, the extent of which depends on the quality of the pipe (material, shape, presence of scale) and its section, and therefore the speed at which the fluid runs through the pipe. This resistance is called head loss.

HEAD LOSS

Head loss is that part of the head, possessed by the liquid, which is lost when passing through a pipe, a valve, a filter, etc. This loss cannot be recovered, as it is lost due to friction. Going back to the analogy between electrical and hydraulic phenomena, just as the losses in a cable increase in proportion with the current, so head losses are proportionally greater as the speed of the liquid increases. This means that the more the flow is restricted by scaled pipes, clogged filters, partially closed valves etc. the greater the head loss will be.

PUMP

A pump is a machine used to give a certain head to a liquid that passes through it. The head can be used to raise the liquid to a higher level, or to make it flow inside a pipe, or even in the open air, so that it covers a certain distance. The characteristics of a pump are:

a) **Flow** (the quantity of liquid that is moved through the pump in a unit of time).
b) **Head** (that is the height at which the pump is capable lifting the flow).

Based on the existing relationship between the flow and the head, it is possible to have:

a) Pumps with small flow and large head (piston pumps, rotary pumps, small centrifugal pumps).
b) Pumps with medium flow and medium head (centrifugal pumps in general).
c) Pumps with large flow and small head (helico-centrifugal pumps, propeller pumps).

Centrifugal pumps, helico-centrifugal pumps and propeller pumps have a rotary motion and their speed is universally measured in revolutions per minute (rpm). With these machines operating at a given speed, for each given value of flow, there is only one value of head. This means that in order to increase or decrease the performance of these types of pumps, the operating speed must be varied accordingly. Basically, the liquid passing through the pump is supplied with energy that is related to the head and the speed of the liquid itself. This energy supplied within the unit of time is known as delivered power.

DELIVERED POWER

The delivered power is the power delivered by the pump to the liquid. The value of this delivered power depends on three factors: flow, head, and specific weight of the pumped liquid. The higher these three factors, the higher is the power delivered by the pump. For example, a pump delivering petrol does less work than when delivering sulphuric acid, because the specific weights of the two liquids are different.
In order to pump a liquid, a pump must be driven by a motor. In the vast majority of cases, this is either an electric, or an internal combustion motor. Electric motors use electric power, while internal combustion motors (engines) use oil or oil derivative fuels. The power that the pump needs in order to operate is called absorbed power.

DELIVERED POWER CALCULATION

Delivered power is normally expressed in kW or HP, indicating with:
Q = the flow
H = the head in metres of the column of liquid (m.c.l.)
γ = the specific weight of the liquid

The delivered power (P3) is calculated using one of the following equations:

$$P3 = \frac{\gamma\ (kg/dm^3) \times Q\ (l/s) \times H\ (m.c.l.)}{75} \text{ in HP}$$

$$P3 = \frac{\gamma\ (kg/dm^3) \times Q\ (m^3/h) \times H\ (m.c.l.)}{270} \text{ in HP}$$

$$P3 = \frac{\gamma\ (kg/dm^3) \times Q\ (l/s) \times H\ (m.c.l.)}{102} \text{ in kW}$$

$$P3 = \frac{\gamma\ (kg/dm^3) \times Q\ (l/min) \times H\ (m.c.l.)}{4500} \text{ in HP}$$

$$P3 = \frac{\gamma\ (kg/dm^3) \times Q\ (m^3/h) \times H\ (m.c.l.)}{367} \text{ in kW}$$

$$P3 = \frac{\gamma\ (kg/dm^3) \times Q\ (l/min) \times H\ (m.c.l.)}{6120} \text{ in kW}$$

ABSORBED POWER

Absorbed power is the power that the pump absorbs from the motor, to give to the liquid the delivered power discussed above.
Not all the absorbed power becomes delivered power, as some power is lost through friction, and even more within the pump itself, due to hydraulic losses. It is therefore clear that the delivered power is always less than the absorbed power, and the relation between the two is a number always lower than 1. This number is known as the efficiency.

EFFICIENCY

The efficiency is obtained by dividing the delivered power by the absorbed power, and is normally expressed as a percentage. For example, an efficiency of 75 % of a pump indicates that only 75 % of the absorbed power is converted into delivered power, with the remaining 25 % being lost due to friction. Therefore, the higher the efficiency of a pump, the smaller the portion of absorbed power being lost. If one then considers that the cost of energy relates to the absorbed power, it immediately becomes apparent just how important efficiency is. If we compare two pumps with the same 1 HP delivered power, but with an efficiency of 50 % for the first, and 60 % for the second, we can assume that the first one will need 2 HP to supply 1, while the second will only need 1,67 HP to achieve the same result. This means that the efficiency of a pump expresses, better than any other parameter, the quality of the pump and the related savings in terms of operating costs.

CALCULATION OF POWER OUTPUTS

P_1: is the power absorbed by the motor in kW (generally indicated by the wattmeter).
P_2: the power delivered by the motor in kW. This is measured at the brake (it basically is the power absorbed by the pump).
P_3: the power delivered by the pump in kW.

Power output of the motor $\eta = \frac{P_2}{P_1}$

Power output of the motor $\eta = \frac{P_3}{P_2}$

Power output of the motor $\eta = \frac{P_3}{P_1}$

THE HEAD OF A PUMP AND ITS MEASUREMENT

The head of a pump is always the differential head, or that given by the pump itself. This is generally expressed in metres. In order to ascertain the head of a surface pump, during its operation it is necessary to measure the value of the head both at the suction and at the delivery of the pump itself, making sure that the readings are taken at the same level, which is called the reference plane. Two cases are possible, depending on installation:

1) the value of the head at the suction is negative (i.e. below zero shown on the manometer): in this case, the level of the liquid collected is lower than the level of the suction inlet.

2) the value of the head at the suction is positive (i.e. above zero shown on the manometer) in this case, the level of the liquid collected is higher than the level of the suction inlet (flooded suction).

In the first case the head of the pump is given by the sum of the two readings, while in the second it is given by subtracting the value of the head at the suction inlet from the value at the delivery outlet.
Finally, it is necessary to make sure that the readings at the suction and the delivery have been taken from apertures of the same diameter, so that they are not distorted by a difference in the speed of the liquid at the point of measurement. Any correction is made by calculating the dynamic head, or that part of the head linked with the speed of the liquid, which means that part of the head that the liquid possesses at the measuring section, due to the fact that it is moving. The dynamic head Hd, expressed in metres, is calculated using the following formula:

$$Hd = \frac{v^2}{2g}$$

where: v = speed of the fluid at the measuring point, given in m/s
g = acceleration of gravity (9,81), expressed in m/s^2
$2g = 2 \times 9{,}81 = 19{,}62\ m/s^2$

The correction of the head is given by the difference between the dynamic head at the delivery, and the dynamic head at the suction. It is therefore clear that if the readings upstream and downstream the pump have been taken on pipes of the same diameter, and therefore with the liquid flowing at the same speed, the correction is zero.

For submersible impeller pumps, it is sufficient, during operation, to measure the head at the delivery outlet. In this case, the head of the pump is then given by adding the value read to the dynamic head (at the delivery outlet), and to the difference in level between the free surface of the liquid collected and the manometer.

VARIATION IN PUMP HEAD IN RELATION TO SPEED VARIATION

The performance of a pump is directly connected to its speed in rpm (**n**). Providing that there is no cavitation, the law of similarity may be used, which is expressed as follows:

$$Q_x = Q \times \frac{\mathbf{n_x}}{\mathbf{n}} \qquad H_x = H \times \left(\frac{\mathbf{n_x}}{\mathbf{n}}\right)^2 \qquad P_{2\text{-}x} = P_2 \times \left(\frac{\mathbf{n_x}}{\mathbf{n}}\right)^3$$

For example, when doubling the number of revolutions ($\mathbf{n}_x$) one obtains:
Q_x = the value of the flow doubles
H_x = the value of the head is 4 times higher
$P_{2\text{-}x}$ = the value of the absorbed power is 8 times higher

Q - H - P2 are the values at speed **n**
Q_x - H_x - $P_{2\text{-}x}$ are the values at speed $\mathbf{n_x}$.

NOTES ON THE MOTORS OF ELECTRIC PUMPS

INDEX OF SYMBOLS USED
P_1 : POWER ABSORBED BY THE MOTOR IN KW.
P_2 : POWER DELIVERED BY THE MOTOR IN KW OR HP.
V ~ = AC VOLTAGE AT THE MAINS.
Hz = FREQUENCY IN CYCLES PER SECOND OF THE SUPPLY VOLTAGE.
I = CURRENT ABSORBED BY THE MOTOR IN AMPERES.
cosφ = POWER FACTOR.
$\mathbf{n}^{1/min}$ = SPEED OF ROTATION IN RPM.
η = OUTPUT POWER (RELATION BETWEEN DEVELOPED POWER AND ABSORBED POWER P2/P1).
p = NUMBER OF POLES OF THE MOTOR.
Cn = NOMINAL TORQUE OF THE MOTOR.

NO-LOAD SPEED OF ROTATION

The no-load speed of single-phase and three-phase electric induction motors is given by the formula:

$$\mathbf{n}^{1/min} = \frac{120 \times Hz}{p}$$

No-load speed of rotation $\mathbf{n}^{1/min}$

FREQUENCY HZ	2 POLES	4 POLES
50	3000	1500
60	3600	1800

The full-load speed is 2 to 7 % lower than the no-load speed (2 to 7 % sliding).

CURRENT ABSORBED

Single-phase: $I = \frac{1000 \times P_2\,(kW)}{V \times \cos\varphi \times \eta}$ or: $I = \frac{736 \times P_2\,(HP)}{V \times \cos\varphi \times \eta}$

Three-phase: $I = \frac{1000 \times P_2\,(kW)}{1.73 \times V \times \cos\varphi \times \eta}$ or: $I = \frac{736 \times P_2\,(HP)}{1.73 \times V \times \cos\varphi \times \eta}$

ABSORBED POWER

Single-phase: $P_1\,(kW) = \frac{V \times I \times \cos\varphi}{1000}$

Three-phase: $P_1\,(kW) = \frac{1.73 \times V \times I \times \cos\varphi}{1000}$

POWER DELIVERED AT THE MOTOR AXIS

Single-phase: $P_2\,(kW) = \frac{V \times I \times \cos\varphi \times \eta}{1000}$ or: $P_2\,(HP) = \frac{V \times I \times \cos\varphi \times \eta}{736}$

Three-phase: $P_2\,(kW) = \frac{1{,}73 \times V \times I \times \cos\varphi \times \eta}{1000}$ or: $P_2\,(HP) = \frac{1{,}73 \times V \times I \times \cos\varphi \times \eta}{736}$

EFFICIENCY

$$\eta = \frac{P_2\,(kW)}{P_1\,(kW)}$$

POWER FACTOR

Single-phase: $\cos\varphi = \frac{P_2\,(kW) \times 1000}{V \times I \times \eta}$ or: $\cos\varphi = \frac{P_1\,(kW) \times 1000}{V \times I}$

Three-phase: $\cos\varphi = \frac{P_2\,(kW) \times 1000}{1{,}73 \times V \times I \times \eta}$ or: $\cos\varphi = \frac{P_1\,(kW) \times 1000}{1{,}73 \times V \times I}$

TORQUE FACTOR

$Cn = \frac{P_2\,(kW) \times 1000}{1.027 \times \mathbf{n}^{1/min}}$ in kgm

$Cn = \frac{P_2\,(HP) \times 736}{1.027 \times \mathbf{n}^{1/min}}$ in kgm

$Cn = \frac{702 \times HP}{\mathbf{n}^{1/min}}$ in decaNewtonmetres

RELATIONSHIP BETWEEN KW AND HP

1 HP = 0,736 kW 1 kW = 1,36 HP $\frac{HP}{1.36} = kW$ kW x 1,36 = HP

STARTING CURRENT (ISP)

The starting current (at switch on) of a motor is 4 to 8 times greater than the nominal current, depending on the power of the motor.
Isp = In x 4 ÷ 8

DETAILS ON CAPACITORS

The approximate current absorbed by a capacitor is:

$I = \frac{6{,}28 \times F \times C \times V}{1.000.000}$

Where:
I = current in Amps absorbed by the capacitor.
F = frequency in Hz of the applied voltage.
C = capacity of capacitor µF.
V = applied voltage.

Example:
The current absorbed by a 14 µF capacitor connected to a 220 Volt - 50 Hz power supply is:

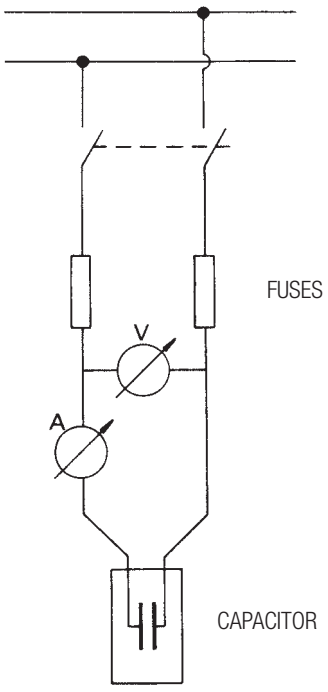
$I = \frac{6{,}28 \times 50 \times 14 \times 220}{1.000.000} = 0{,}96$ Amperes

The approximate capacity of a capacitor is determined by:

$C = \frac{I}{6{,}28 \times F \times V} \times 1{,}000{,}000$

Example:
The capacity of a capacitor absorbing 1,4 Amps connected to a 220 Volt - 50 Hz power supply is:

$C = \frac{1{,}4}{6{,}28 \times 50 \times 220} \times 1{,}000{,}000 = 20{,}2\ \mu F$



STAR-DELTA START-UP

The normally delta Δ connected motor is connected to the network using a star type connection. The current and the starting torque are both reduced to 1/3 of the value they would be if delta Δ connected.

PROTECTION

It is recommended that motors are connected to the power supply network using appropriate three-fuse thermal magnetic circuit breakers, or in any case circuit breakers complying with current local regulations.

LOAD LOSS AND SPEED TABLE

In order to accurately calculate **load losses and speed**, the following table is used:

FLOW			NEW GALVANISED PIPING									
			NOMINAL DIAMETERS: INCHES AND MM									
l/s	l/min	m³/h	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	3"1/2	4"
			15,75	21,25	27	35,75	41,25	52,5	68	80,25	92,5	105
0,17	10	0,6	0,856	0,47	0,291							
			9,01	20,9	0,65				HAZEN WILLIAMS CALCULATION FORMULA (UNI 9489 13.3.3.6)			
0,25	15	0,9	1,284	0,705	0,4387	0,249						
			19,07	4,43	1,38	0,35						
0,33	20	1,2	1,712	0,94	0,582	0,332	0,25					
			32,47	7,55	2,35	0,6	0,3					
0,42	25	1,5	2,14	1,175	0,728	0,415	0,31					
			49,06	11,41	3,55	0,91	0,45					
0,5	30	1,8	2,568	1,411	0,874	0,498	0,37	0,23				
			68,74	15,98	4,98	1,27	0,63	0,2				
0,58	35	2,1	2,996	1,646	1,019	0,581	0,44	0,27				
			91,42	21,26	6,62	1,69	0,84	0,26				
0,67	40	2,4		1,881	1,165	0,664	0,5	0,31				
				27,22	8,48	2,16	1,08	0,33				
0,83	50	3		2,351	1,456	0,831	0,62	0,39	0,23			
				41,13	12,81	3,27	1,63	0,5	0,14			
1	60	3,6		2,821	1,747	0,997	0,75	0,46	0,28			
				57,63	17,95	4,58	2,28	0,7	0,2			
1,17	70	4,2		3,291	2,039	1,163	0,87	0,54	0,32	0,23		
				76,64	23,88	6,08	3,03	0,94	0,27	0,12		
1,33	80	4,8			2,33	1,329	1	0,62	0,37	0,26		
					30,57	7,79	3,88	1,2	34	0,15		
1,5	90	5,4			2,621	1,495	1,12	0,69	0,41	0,3		
					38,01	9,69	4,83	1,49	0,42	0,19		
1,67	100	6			2,912	1,661	1,25	0,77	0,46	0,33	0,25	
					46,19	11,77	5,86	1,81	0,51	0,23	0,11	
2,08	125	7,5			3,641	2,077	1,56	0,96	0,57	0,41	0,31	0,24
					69,79	17,79	8,86	2,74	0,78	0,35	0,17	0,09
2,5	150	9				2,492	1,87	1,16	0,69	0,49	0,37	0,29
						24,92	12,41	3,84	1,09	0,49	0,24	0,13
2,92	175	10,5				2,907	2,18	1,35	0,8	0,58	0,43	0,34
						33,15	16,51	5,1	1,45	0,65	0,32	0,17

White numbers: Load losses in m for every 100 m of pipework

Green numbers: Water speed in m/sec

The table refers to galvanised pipework.

For other materials multiply as follows:
- 0,6 PVC pipes.
- 0,7 aluminium pipes.
- 0,8 laminated steel and stainless steel.

LOAD LOSS AND SPEED TABLE

In order to accurately calculate **load losses and speed**, the following table is used:

FLOW			NEW GALVANISED PIPING									
			NOMINAL DIAMETERS: INCHES AND MM									
l/s	l/min	m³/h	1"1/4	1"1/2	2"	2"1/2	3"	3"1/2	4"	5"	6"	8"
			35,75	41,25	52,5	68	80,25	92,5	105	130	155	206
3,33	200	12	3,322	2,5	1,54	0,92	0,66	0,5	0,39	0,25		
			42,43	21,14	6,53	1,85	0,83	0,41	**0,22**	**0,08**		
4,17	250	15	4,156	3,12	1,93	1,15	0,82	0,62	**0,48**	**0,31**		
			64,12	31,94	9,87	2,8	1,25	1,63	**0,34**	**0,12**		
5	300	18		3,74	2,31	1,38	0,99	0,74	**0,58**	**0,38**	**0,27**	
				44,75	13,83	3,92	1,75	0,88	0,47	0,17	0,07	
6,67	400	24		4,99	3,08	1,84	1,32	0,99	0,77	0,5	0,35	
				76,2	23,55	6,68	2,98	1,49	0,8	0,28	0,12	
8,33	500	30			3,85	2,3	1,65	1,24	0,96	0,63	0,44	
					35,58	10,09	4,51	2,26	1,22	0,43	0,18	
10	600	36			4,62	2,75	1,98	1,49	1,16	0,75	0,53	0,3
					49,85	14,14	6,31	3,16	1,7	0,6	0,26	0,06
11,67	700	42				3,21	2,31	1,74	1,35	0,88	0,62	0,35
						18,81	8,4	4,2	2,27	0,8	0,34	0,09
13,33	800	48				3,67	2,64	1,99	1,54	1,01	0,71	0,4
						24,08	10,75	5,38	2,9	1,03	0,44	0,11
15	900	54				4,13	2,97	2,23	1,73	1,13	0,8	0,45
						29,94	13,37	6,69	3,61	1,28	0,54	0,14
16,67	1000	60				4,59	3,3	2,48	1,93	1,26	0,88	0,5
						36,39	16,24	8,13	4,39	1,55	0,66	0,16
20,83	1250	75					4,12	3,1	2,41	1,57	1,1	0,63
							24,54	12,29	6,63	2,34	0,99	0,25
25	1500	90					4,95	3,72	2,89	1,88	1,33	0,75
							34,39	17,22	9,29	3,28	1,39	0,35
29,17	1750	105						4,34	3,37	2,2	1,55	0,88
								22,9	12,35	4,37	1,85	0,46
33,33	2000	120						4,96	3,85	2,5	1,77	1
								29,31	15,81	5,59	2,37	0,59
41,67	2500	150							4,81	3,14	2,21	1,25
									23,89	8,44	3,59	0,9
50	3000	180		HAZEN WILLIAMS CALCULATION FORMULA (UNI 9489 13.3.3.6)						3,77	2,65	1,5
										11,83	5,02	1,26
66,67	4000	240								5,03	3,53	2
										20,15	8,55	2,14
83,33	5000	300									4,42	2,5
											12,93	3,23

White numbers: Load losses in m for every 100 m of pipework

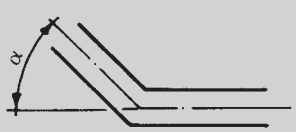
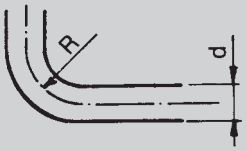
Green numbers: Water speed in m/sec

The table refers to galvanised pipework.

For other materials multiply as follows:
- 0,6 PVC pipes.
- 0,7 aluminium pipes.
- 0,8 laminated steel and stainless steel.

HEAD LOSS

in cm of column of water in bends, gate valves, and foot valves

VELOCITY OF WATER IN m/s	SHARP EDGED BENDS					NORMAL BENDS					GATE VALVE	FOOT VALVE	NON-RETURN VALVE	HEAD LOSS ON EXIT FROM PIPES $V^2:2G$
														
	$\alpha = 30°$	$\alpha = 40°$	$\alpha = 60°$	$\alpha = 80°$	$\alpha = 90°$	$\frac{d}{R\ 0,4} =$	$\frac{d}{R\ 0,6} =$	$\frac{d}{R\ 0,8} =$	$\frac{d}{R} = 1$	$\frac{d}{R\ 1,5} =$				
0,10	0,03	0,04	0,05	0,07	008	0,07	0,08	0,01	0,0155	0,027	0,03	30	30	0,05
0,15	0,06	0,73	0,1	0,14	0,17	0,016	0,019	0,024	0,033	0,06	0,033	31	31	0,12
0,2	0,11	0,13	0,18	0,26	0,31	0,028	0,033	0,04	0,059	0,11	0,058	31	31	0,21
0,25	0,17	0,21	0,28	0,4	0,48	0,044	0,052	0,063	0,091	0,17	0,09	31	31	0,32
0,3	0,25	0,3	0,41	0,6	0,7	0,063	0,074	0,09	0,13	0,25	0,13	31	31	0,46
0,35	0,33	0,4	0,54	0,8	0,93	0,085	0,10	0,12	0,18	0,33	0,18	31	31	0,62
0,14	0,43	0,52	0,71	1,0	1,2	0,11	0,13	0,16	0,23	0,43	0,23	32	31	0,82
0,5	0,67	0,81	1,1	1,6	1,9	0,18	0,21	0,26	0,37	0,67	0,37	33	32	1,27
0,6	0,97	1,2	1,6	2,3	2,8	0,25	0,29	0,36	0,52	0,97	0,52	34	32	1,84
0,7	1,35	1,65	2,2	3,2	3,9	0,34	0,40	0,48	0,70	1,35	0,7	35	32	2,5
0,8	1,7	2,1	2,8	4,0	4,8	0,45	0,53	0,64	0,93	1,7	0,95	36	33	3,3
0,9	2,2	2,7	6	5,2	6,2	0,57	0,67	0,82	1,18	2,2	1,2	37	34	4,2
1,0	2,7	3,3	4,5	6,4	7,6	0,7	0,82	1,0	1,45	2,7	1,45	38	35	5,1
1,5	6,0	7,3	10,0	14,0	17,0	1,6	1,9	2,3	3,3	6,0	3,3	47	40	11,5
2,0	11,0	14,0	18,0	26,0	31,0	2,8	3,3	4,0	5,8	11,0	5,8	61	48	20,4
2,5	17,0	21,0	28,0	40,0	48,0	4,4	5,2	6,3	9,1	17,0	9,1	78	58	32,0
3,0	25,0	30,0	41,0	60,0	70,0	6,3	7,4	9,0	13,0	25,0	13,0	100	71	46,0
3,5	33,0	40,0	55,0	78,0	93,0	8,5	10,0	12,0	18,0	33,0	18,0	123	85	62,0
4,0	43,0	52,0	70,0	100,0	120,0	11,0	13,0	16,0	23,0	42,0	23,0	150	100	82,0
4,5	55,0	67,0	90,0	130,0	160,0	14,0	21,0	26,0	37,0	55,0	37,0	190	120	103,0
5,0	67,0	82,0	110,0	160,0	190,0	18,0	29,0	36,0	52,0	67,0	52,0	220	140	127,0

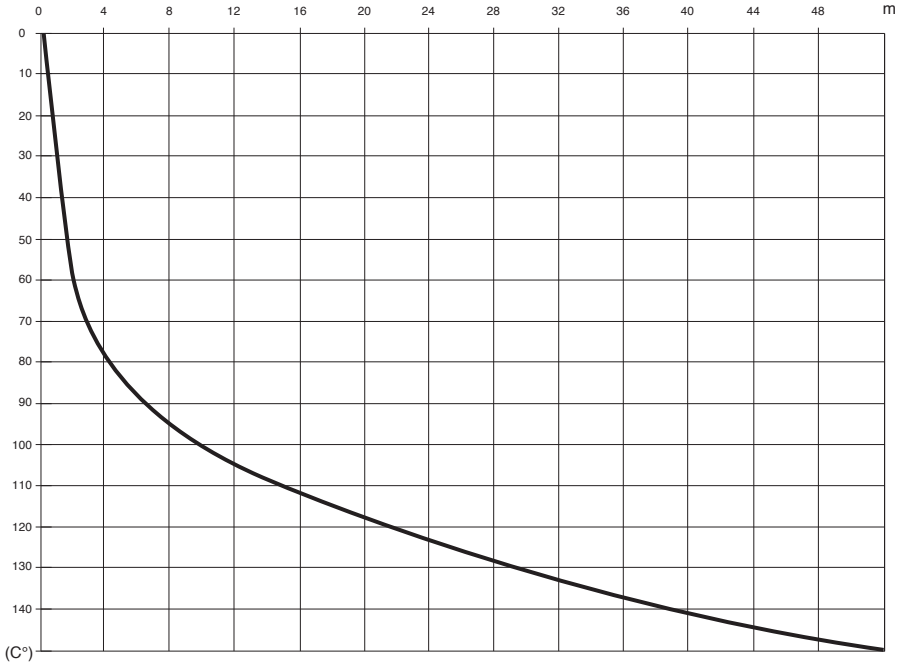
v = velocity of water in metres per second
d = diameter of pipes in m metres
h = head loss in cm of water column for each metre of pipework, calculated according to the Lang formula:

$$h = \lambda \times \frac{100}{d} \times \frac{v^2}{2g} \qquad \lambda = 0,02 + \frac{0,0018}{\sqrt{v \times d}}$$

The only loss in bends is that due to the contraction of the liquid stream when changing direction (the development of the curves must therefore be included in the length of the pipework); the head loss for gate valves has been determined through technical tests.
The head loss for gate valves and normal bends is equal to that of 5 m of straight pipework, while that of non-return valves is equal to 15 m.
The values given are for pipes with a completely smooth internal surface. In case of rough or scaled pipes, allowances must be made accordingly.

VAPOUR TENSION AND SPECIFIC WEIGHT OF WATER AS A FUNCTION OF TEMPERATURE

VAPOUR TENSION (pV)

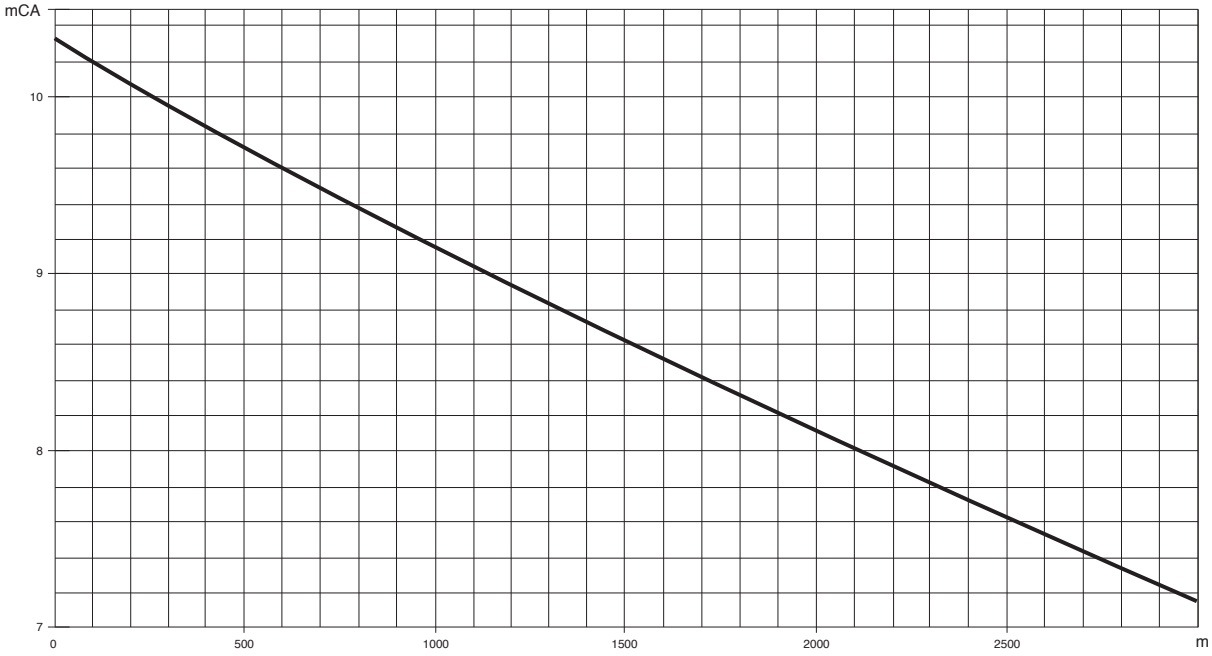


C°	m
10	0,121
20	0,22
30	0,387
40	0,675
50	1,147
60	1,888
70	3,014
80	4,67
90	7,035
100	10,33
110	14,83
120	20,85
130	28,744
140	38,97
150	52

$$\frac{Pb}{Y\ 4°} - \frac{(Pb-Pv)}{Y\ t}$$

Pb and Pv in mCA

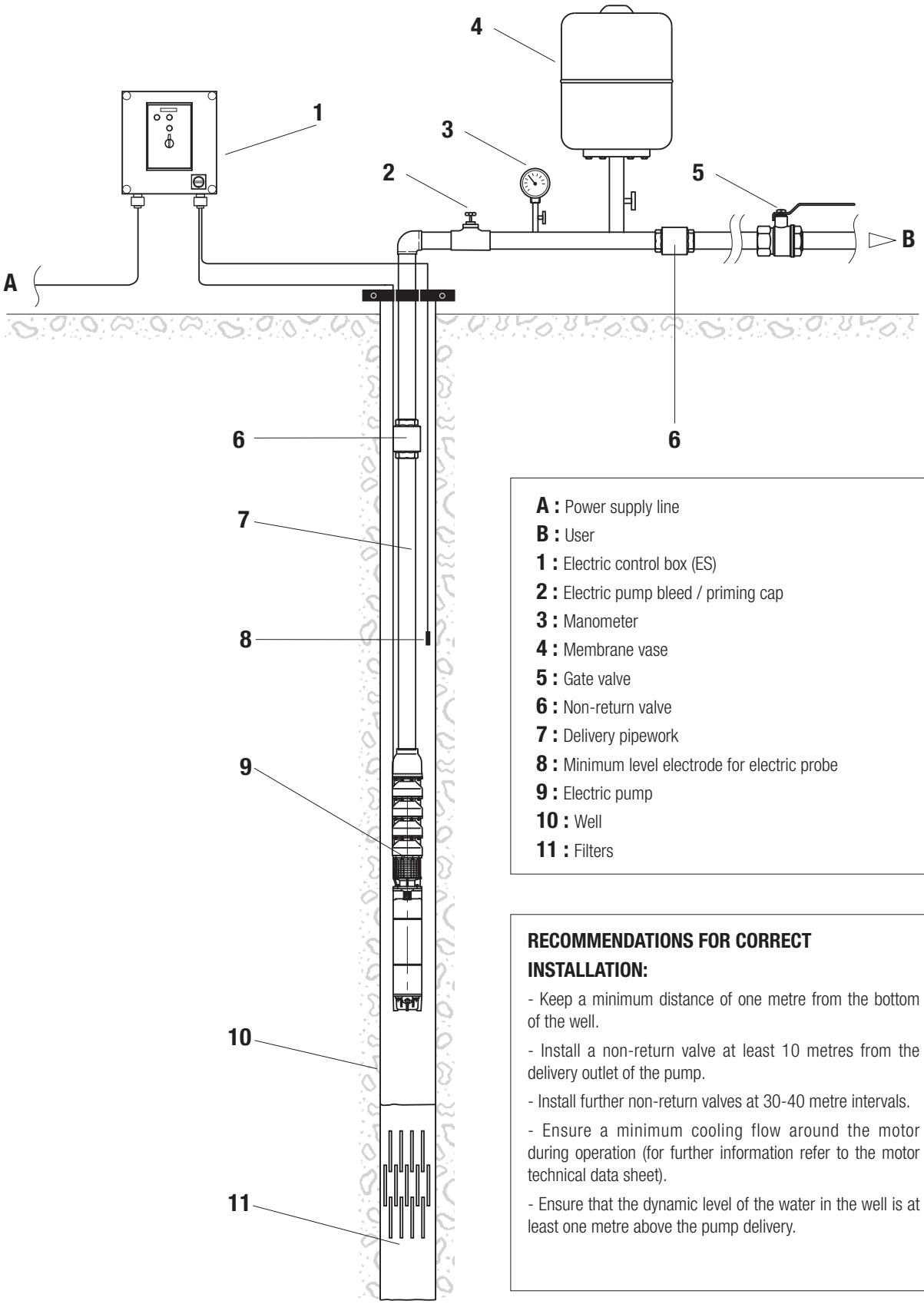
ATMOSPHERIC PRESSURE (pb)



CONVERSION TABLE FOR UNITS OF MEASURE

CHARACTERISTIC	SYSTEM UNIT OF MEASURE	UNIT OF MEASURE	SYMBOL	CONVERSIONS		
				SYSTEM	INTERNATIONAL SYSTEM (SI)	IMPERIAL SYSTEM
LENGTH	Technical and International	metre decimetre centimetre millimetre	m dm cm mm	1 dm = 0,1 m 1 cm = 0,01 m 1 mm = 0,001 m		1 m = 3,28 ft 1 dm = 3,937 in 1 cm = 0,3937 in
	Imperial	inch foot yard	1", in 1", ft yd	1" = 25,4 mm 1" ft = 0,3048 m 1 yd = 0,9144 m		 1 ft = 12" 1 yd = 3 ft = 26"
AREA	Technical and International	metres squared centimetres squared millimetres squared	m^2 cm^2 mm^2	 $1cm^2$ = 0,0001 m^2 1 mm^2 = 0,01 cm^2		1m^2 = 1,196 sq.yd 1m^2 = 10,764 sq.ft 1 cm^2 = 0,155 sq.in
	Imperial	square inch square foot square yard	sq.in sq.ft sq.yd	1 sq.in = 6,45 cm^2 1 sq.ft = 0,0929 m^2 1 sq.yd = 0,836 m^2		1 sq.ft = 144 sq.in 1 sq.yd = 1,296 sq.in 1 sq.yd = 9 sq.ft
VOLUME	Technical and International	metre cubed decimetre cubed centimetre cubed litre cubed	m^3 cm^3 mm^3 l	1 m^3 = 1.000 dm^3 1 cm^3 = 0,001 m = 1.000 cm^3 1 mm^3 = 0,001 dm^3 1 l = dm^3		1 dm^3 = 0,22 Imp.gal 1 dm^3 = 0,264 US.gal 1 dm^3 = 61,0 cu.in
	Imperial	cubic inch cubic feet Imperial gallons U.S. gallons	cu.in cu.ft Imp.gal USA.gal	1 cu.in = 16,39 cm^3 1 cu.ft = 28,34 m^3 1 Imp.gal = 4,546 m^3 1 US.gal = 3,785 dm^3		 1 Imp.gal = 1,201 US.gal 1 US.gal = 0,833 Imp.gal
TEMPERATURE	Technical and International	degrees Centigrade degrees Kelvin	°C °K	°C = °K-273 °K = °C + 273		°C = 5/9 x (°F - 32) °K = 5/9 x (°F - 32) + 273
	Imperial	degrees Fahrenheit	°F	°F = 9/5 x °C + 32		–
	freezing point of water at atmospheric pressure: boiling point of water at atmospheric pressure:			000 °C = 273 °K = 032 °F 100 °C = 373 °K = 212 °F		
WEIGHT and FORCE	Technical	kilogram	kg	–	1 kg = 9,81 N	1 kg = 2,203 lb
	International	Newton	N	1 N = 0,102 kg	–	1 N = 0,22546 lb
	Imperial	pound	lb	1 lB = 0,454 kg	1 lb = 4,452 N	–
SPECIFIC WEIGHT	Technical	kilogram per decimetre cubed	kg/dm^3	–	1 kg/dm^3 = 9,807 N/dm^3	1 kg/dm^3 = 62,46 lb/cu.ft
	International	Newton per decimetre cubed	N/dm^3	1 N/dm^3 = 0,102 kg/dm^3	–	1 N/dm^3 = 6,36 lb/cu.ft
	Imperial	pound per cubic foot	lb/dm^3	1 lb/cu.ft = 0,01600 kg/dm^3	1 lb/cu.ft = 0,160 N/dm^3	–
PRESSURE	Technical	atmospheres	kg/cm^2	–	1 kg/cm^2 = 98,067 kPa 1 kg/cm^2 = 0,9807 bar	1 kg/cm^2 = 14,22 psi
	International	Pascal kiloPascal bar	Pa kPa bar	1 kPa = 0,0102 kg/cm^2 1 bar = 1,02 kg/cm^2	1 kPa = 1.000 Pa 1 bar = 100.000 Pa	1 kPa = 0,145 psi 1 bar = 14,50 psi
	Imperial	pounds per square inch	psi	1 psi = 0,0703 kg/cm^2	1 psi = 0,06895 bar 1 psi = 6,894 kPa	–
FLOW	Technical	litres per minute litres per second metres cubed per hour	l/min l/s m^3/h	1 l/min = 0,0167 l/s 1 l/s = 3,6 m^3/h 1 m^3/h = 16,667 l/min	1 l/s = 0,001 m^3/s	1 l/min = 0,22 imp.g.p.m. 1 l/min = 0,264 US.g.p.m. 1 m^3/h = 3,666 imp.g.p.m. 1 m^3/h = 4,403 US.g.p.m.
	International	metres cubed per second	m^3/s	1 m^3/s = 1.000 l/s 1 m^3/s = 3.600 m^3/h	–	1 m^3/s = 13.198 imp.g.p.m. 1 m^3/s = 15.852 US.g.p.m.
	Imperial	imperial gallons per minute U.S. gallons per minute	Imp.g.p.m. US.g.p.m.	1 Imp.g.p.m. = 4,546 l/min 1 Imp.g.p.m. = 0,273 m^3/h 1 US.g.p.m. = 3,785 l/min 1 US.g.p.m. = 0,227 m^3/h	–	1 Imp.g.p.m. = 1,201 US.g.p.m. 1 US.g.p.m. = 0,833 Imp.g.p.m.
TORQUE	Technical	kilogram metre	kgm	–	1 kgm = 9,807 Nm	1 kgm = 7,233 ft.lb
	International	Newton metre	Nm	1 Nm = 0,102 kgm	–	1 Nm = 0,7376 ft.lb
	Imperial	foot pound	ft.lb	1 ft.lb = 0,138 kgm	1 ft.lb = 1,358 Nm	–
WORK and ENERGY	Technical	kilogram metre vapour-horsepower hour	kgm CVh		1 kgm = 9,807 J 1 CVh = 0,736 kWh	1 kgm = 7,233 ft.lb 1 Nm = 0,986 HP.hr.
	International	Joule kiloWatt hour	J kWhq	1 J = 0,102 kgm kWh = 1,36 CVh	–	1 Nm = 0,7376 ft.lb 1 Nm = 0,7376 ft.lb
	Imperial	foot pound Horsepower hour	ft.lb HP.hr.	1 ft.lb = 0,138 kgm 1 HP.hr. = 1,014 CVh	1 ft.lb = 0,358 Nm 1 HP.hr. = 0,746 kWh	–
POWER	Technical	Horse power	HP	1 HP = 0,736 kW	1 HP = 736 W	–
	International	Watt kiloWatt	W kW	1 W = 0,00136 Hp 1 kW = 1,36 Hp	1 kW = 1.000 W	–
KINETIC VISCOSITY	Technical	stokes centistokes	1 St 1 cSt	1 St = 1 cm^2/s 1 cSt = 0,01 St	1 St = 0,0001 m^2/s	1 St = 0,00107 ft^2/s
	International	m^2/s	m^2/s	1 m^2/s = 10.000 St	1 m^2/s = 10.000 cm^2/s	1 m^2/s = 10,764 ft^2/s
	Imperial	square foot per second	ft^2/s	1 ft^2/s = 929 St	1 ft^2/s = 0,0929 m^2/s	–

EXAMPLE OF INSTALLATION OF A SUBMERSIBLE ELECTRIC PUMP

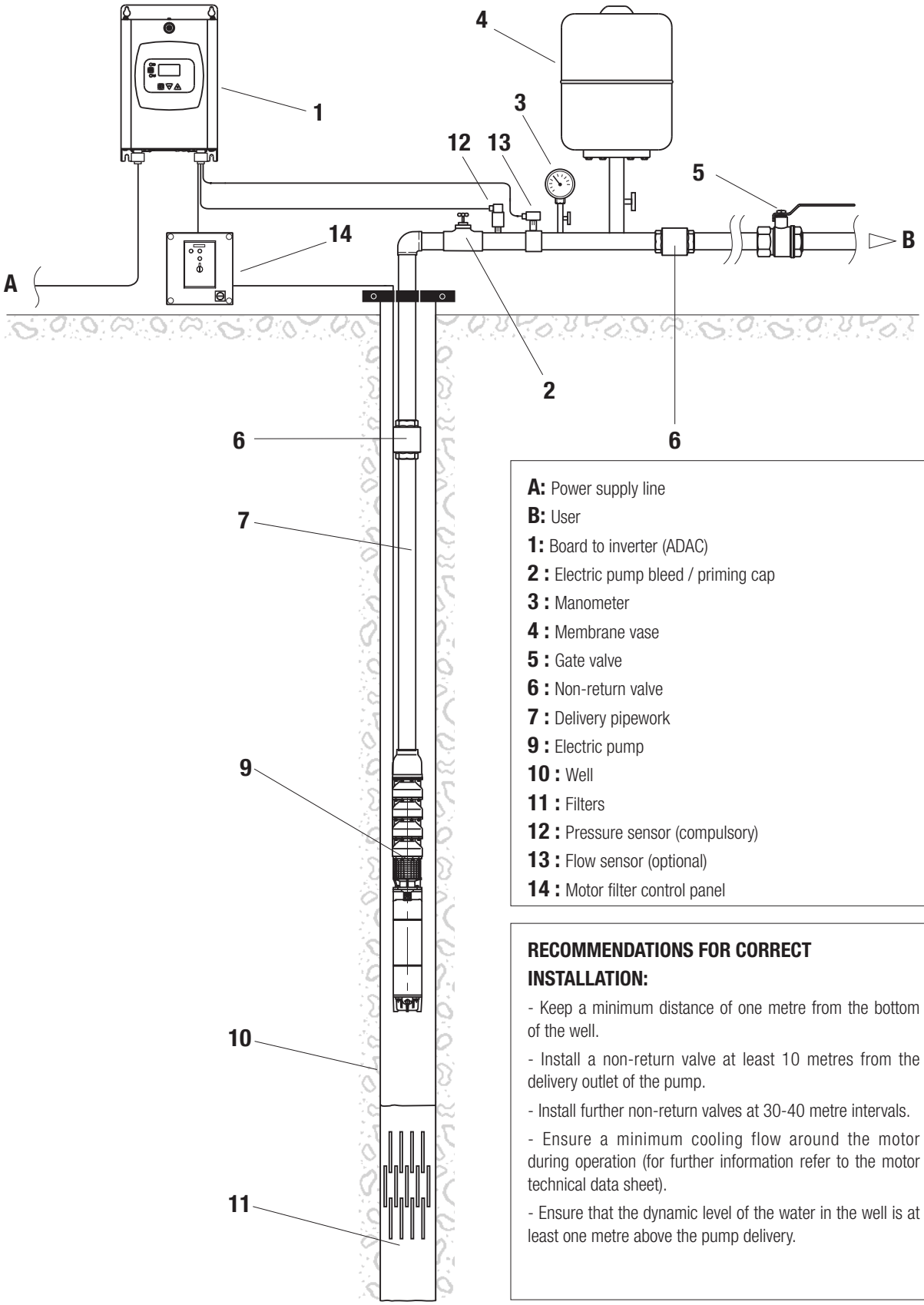


A : Power supply line
B : User
1 : Electric control box (ES)
2 : Electric pump bleed / priming cap
3 : Manometer
4 : Membrane vase
5 : Gate valve
6 : Non-return valve
7 : Delivery pipework
8 : Minimum level electrode for electric probe
9 : Electric pump
10 : Well
11 : Filters

RECOMMENDATIONS FOR CORRECT INSTALLATION:

- Keep a minimum distance of one metre from the bottom of the well.
- Install a non-return valve at least 10 metres from the delivery outlet of the pump.
- Install further non-return valves at 30-40 metre intervals.
- Ensure a minimum cooling flow around the motor during operation (for further information refer to the motor technical data sheet).
- Ensure that the dynamic level of the water in the well is at least one metre above the pump delivery.

EXAMPLE OF INSTALLATION OF A SUBMERSIBLE ELECTRIC PUMP CONTROLLED BY INVERTER



A: Power supply line
B: User
1: Board to inverter (ADAC)
2 : Electric pump bleed / priming cap
3 : Manometer
4 : Membrane vase
5 : Gate valve
6 : Non-return valve
7 : Delivery pipework
9 : Electric pump
10 : Well
11 : Filters
12 : Pressure sensor (compulsory)
13 : Flow sensor (optional)
14 : Motor filter control panel

RECOMMENDATIONS FOR CORRECT INSTALLATION:

- Keep a minimum distance of one metre from the bottom of the well.
- Install a non-return valve at least 10 metres from the delivery outlet of the pump.
- Install further non-return valves at 30-40 metre intervals.
- Ensure a minimum cooling flow around the motor during operation (for further information refer to the motor technical data sheet).
- Ensure that the dynamic level of the water in the well is at least one metre above the pump delivery.

DETERMINATION OF THE CROSS SECTION OF THE POWER CABLE

SINGLE-PHASE 4" MOTOR (4GG)

CABLE SIZING TAKING INTO ACCOUNT A 3 % VOLTAGE DROP

MOTOR TYPE	NOMINAL POWER		NOMINAL VOLTAGE V	MOTOR NOMINAL CURRENT In (A)	Cos φ	Cable section: 4x …mm²						
					mm²	1,5	2,5	4	6	10	16	25
					A max	23	30	41	53	74	99	131
	kW	HP			Maximum length in metres (m)							
4"	0,37	0,5	1x230	3,3	3,3	65	108	172	257	428		
4"	0,55	0,75	1x230	4,6	4,6	48	80	127	190	316	502	
4"	0,75	1	1x230	6,2	6,2	36	60	96	144	239	379	585
4"	1,1	1,5	1x230	8,6	8,6	27	44	71	106	176	279	430
4"	1,5	2	1x230	11	11	21	34	55	82	136	216	333
4"	2,2	3	1x230	16	16	15	24	39	58	95	151	233
4"	3,7	5	1x230	25	25	-	14	23	35	58	91	142

Free air installation at maximum temperature of 35 °C

THREE-PHASE 4" MOTOR (4GG)

CABLE SIZING TAKING INTO ACCOUNT A 3 % VOLTAGE DROP

MOTOR TYPE	NOMINAL POWER		NOMINAL VOLTAGE V	MOTOR NOMINAL CURRENT In (A)	Cos φ	Cable section: 4x …mm²						
					mm²	1,5	2,5	4	6	10	16	25
					A max	23	30	41	53	74	99	131
	kW	HP			Maximum length in metres (m)							
4"	0,37	0,5	3x230	2,7	0,66	178	296	471				
4"	0,55	0,75	3x230	3,3	0,72	134	222	354	528			
4"	0,75	1	3x230	4,1	0,72	108	179	285	425			
4"	1,1	1,5	3x230	5,7	0,76	73	122	194	290	478		
4"	1,5	2	3x230	7,6	0,72	58	96	154	229	377	593	
4"	2,2	3	3x230	10,2	0,78	40	66	106	158	261	411	
4"	3	4	3x230	14,3	0,71	31	52	83	123	203	319	486
4"	4	5,5	3x230	17,3	0,79	23	39	62	92	152	240	367
4"	5,5	7,5	3x230	24,2	0,74	-	29	47	70	116	182	277
4"	0,37	0,5	3x400	1,4	0,66	597						
4"	0,55	0,75	3x400	1,9	0,72	404						
4"	0,75	1	3x400	2,4	0,72	320	531					
4"	1,1	1,5	3x400	3,4	0,76	214	356	567				
4"	1,5	2	3x400	4,4	0,72	174	290	462				
4"	2,2	3	3x400	5,9	0,78	120	200	318	475			
4"	3	4	3x400	8,3	0,71	94	156	248	370			
4"	4	5,5	3x400	10	0,79	70	116	186	277	457		
4"	5,5	7,5	3x400	14	0,74	53	89	141	211	347	547	
4"	7,5	10	3x400	17,4	0,8	-	66	105	157	260	410	

Free air installation at maximum temperature of 35 °C

THREE-PHASE 6" ENCAPSULATED MOTOR (6GF)

CABLE SIZING TAKING INTO ACCOUNT A 3 % VOLTAGE DROP - DIRECT START-UP

MOTOR TYPE	POWER NOMINAL		NOMINAL VOLTAGE V	MOTOR NOMINAL CURRENT In (A)	Cos φ	Cable section: 4x …mm²							
						mm²	4	6	10	16	25	35	50	70
						A max	41	53	74	99	131	162	202	250
	kW	HP				Maximum length in metres (m)								
6"	4	5,5	3x230	18,3	0,75		46	69	113	178	272	371	511	
6"	5,5	7,5	3x230	24,3	0,75		35	52	85	134	205	279	385	514
6"	7,5	10	3x230	31	0,78		26	39	64	102	155	212	293	393
6"	9,3	12,5	3x230	37,3	0,8		21	32	52	82	126	173	239	322
6"	11	15	3x230	44,2	0,82		-	26	43	68	104	143	198	267
6"	15	20	3x230	56	0,8		-	-	35	55	84	115	159	214
6"	18,5	25	3x230	71	0,8		-	-	27	43	66	91	126	169
6"	22	30	3x230	81,4	0,84		-	-	-	36	56	76	106	143
6"	4	5,5	3x400	10,6	0,75		138	206	340	535				
6"	5,5	7,5	3x400	14	0,75		105	156	257	405				
6"	7,5	10	3x400	18	0,78		78	117	193	304	465			
6"	9,3	12,5	3x400	22	0,8		62	93	154	243	372	510		
6"	11	15	3x400	25,5	0,82		53	79	130	205	315	432	598	
6"	15	20	3x400	33,4	0,8		41	61	101	160	245	336	465	
6"	18,5	25	3x400	41	0,8		34	50	83	130	200	274	379	509
6"	22	30	3x400	47	0,84		-	42	69	109	167	230	319	431
6"	30	40	3x400	61,5	0,85		-	-	52	82	127	174	242	327
6"	37	50	3x400	79,3	0,8		-	-	-	67	103	141	196	263

Free air installation at maximum temperature of 35 °C

THREE-PHASE 6" ENCAPSULATED MOTOR (6GF)

CABLE SIZING TAKING INTO ACCOUNT A 3 % VOLTAGE DROP - STAR-DELTA START-UP

MOTOR TYPE	NOMINAL POWER		NOMINAL VOLTAGE V	MOTOR NOMINAL CURRENT In (A)	Cos φ	Cable section: 4x …mm²							
						mm²	4	6	10	16	25	35	50	70
						A max	41	53	74	99	131	162	202	250
	kW	HP				Maximum length in metres (m)								
6"	4	5,5	3x230	18,3	0,75		80	119	196	308	470			
6"	5,5	7,5	3x230	24,3	0,75		60	89	147	232	354	483		
6"	7,5	10	3x230	31	0,78		45	67	111	176	269	367	507	
6"	9,3	12,5	3x230	37,3	0,8		37	55	90	143	218	299	414	556
6"	11	15	3x230	44,2	0,82		-	45	75	118	181	248	343	463
6"	15	20	3x230	56	0,8		-	-	60	95	146	199	276	371
6"	18,5	25	3x230	71	0,8		-	-	47	75	115	157	218	292
6"	22	30	3x230	81,4	0,84		-	-	-	63	96	132	183	248
6"	4	5,5	3x400	10,6	0,75		239	356	588					
6"	5,5	7,5	3x400	14	0,75		181	270	445					
6"	7,5	10	3x400	18	0,78		135	202	334	526				
6"	9,3	12,5	3x400	22	0,8		108	161	266	421				
6"	11	15	3x400	25,5	0,82		91	136	225	355	544			
6"	15	20	3x400	33,4	0,8		71	106	176	277	424	581		
6"	18,5	25	3x400	41	0,8		58	87	143	226	346	473		
6"	22	30	3x400	47	0,84		-	72	119	188	289	397	552	
6"	30	40	3x400	61,5	0,85		-	-	90	143	219	301	419	566
6"	37	50	3x400	79,3	0,8		-	-	-	117	179	245	339	455

Free air installation at maximum temperature of 35 °C

THREE-PHASE 6"-12" WINDING MOTORS (TR6-TR12)

CABLE SIZING TAKING INTO ACCOUNT A 3 % VOLTAGE DROP - DIRECT START-UP

MOTOR TYPE	NOMINAL POWER		NOMINAL VOLTAGE V	MOTOR NOMINAL CURRENT In (A)	Cos φ	Cable section: 1x …mm²													
						mm²	4	6	10	16	25	35	50	70	95	120	150	185	240	300
						A max	41	53	74	99	131	162	202	250	301	352	404	461	547	633
	kW	HP				Maximum length in metres (m)														
6"	5,5	7,5	3x400	13	0,81		-	156	258	407	624	855								
6"	7,5	10	3x400	18	0,8		-	114	188	297	455	623	862							
6"	9,3	12,5	3x400	21	0,81		-	97	160	252	386	529	733	986						
6"	11	15	3x400	25	0,82		-	80	132	209	321	440	610	822						
6"	13	17,5	3x400	29	0,82		-	69	114	180	277	379	526	709	918					
6"	15	20	3x400	32	0,83		-	62	102	162	248	341	473	638	828					
6"	18,5	25	3x400	39	0,83		-	51	84	133	204	279	388	523	679	822	978			
6"	22	30	3x400	49	0,79		-	42	70	110	169	231	320	429	554	666	789	916		
6"	26	35	3x400	58	0,79		-	-	59	93	143	195	270	362	468	563	666	774	919	
6"	30	40	3x400	65	0,81		-	-	52	81	125	171	237	319	412	498	590	688	820	942
6"	37	50	3x400	80	0,81		-	-	-	66	101	139	192	259	335	404	480	559	666	766
8"	45	60	3x400	92	0,82		-	-	-	57	87	120	166	223	290	350	416	485	580	667
8"	55	75	3x400	109	0,85		-	-	-	-	71	98	137	185	240	292	348	408	491	569
8"	63	85	3x400	126	0,83		-	-	-	-	63	87	120	162	210	254	303	354	424	489
8"	75	100	3x400	145	0,86		-	-	-	-	-	73	102	138	180	218	261	307	370	429
8"	92	125	3x400	177	0,86		-	-	-	-	-	-	83	113	147	179	214	251	303	352
8"	110	150	3x400	213	0,87		-	-	-	-	-	-	-	93	122	148	178	209	252	293
10"	132	180	3x400	257	0,84		-	-	-	-	-	-	-	-	102	124	148	173	208	240
10"	147	200	3x400	300	0,81		-	-	-	-	-	-	-	-	89	108	128	149	178	204
10"	170	230	3x400	348	0,81		-	-	-	-	-	-	-	-	-	93	110	128	153	176
10"	190	260	3x400	405	0,79		-	-	-	-	-	-	-	-	-	-	-	111	132	151
12"	220	300	3x400	424	0,85		-	-	-	-	-	-	-	-	-	-	-	105	126	146
12"	250	340	3x400	481	0,85		-	-	-	-	-	-	-	-	-	-	-	-	111	129

Free air installation at maximum temperature of 35 °C

THREE-PHASE 6"-12" WINDING MOTORS (TR6-TR12)

CABLE SIZING TAKING INTO ACCOUNT A 3 % VOLTAGE DROP - STAR-DELTA START-UP

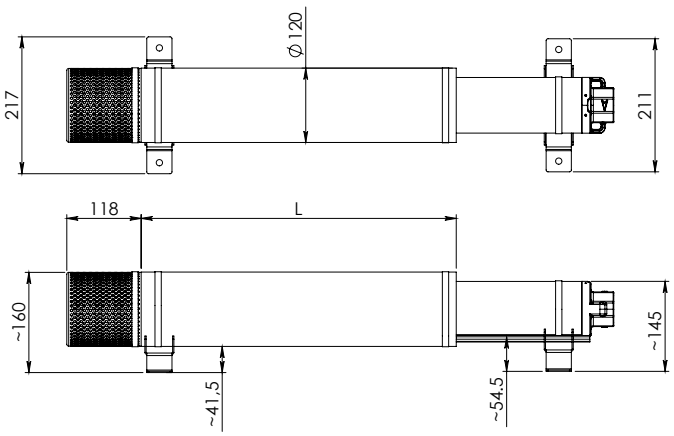
MOTOR TYPE	NOMINAL POWER		NOMINAL VOLTAGE V	MOTOR NOMINAL CURRENT In (A)	Cos φ	Cable section: 1x …mm²														
						mm²	4	6	10	16	25	35	50	70	95	120	150	185	240	300
						A max	41	53	74	99	131	162	202	250	301	352	404	461	547	633
	kW	HP				Maximum length in metres (m)														
6"	5,5	7,5	3x400	13	0,81		-	270	446	704										
6"	7,5	10	3x400	18	0,8		-	197	326	514	787									
6"	9,3	12,5	3x400	21	0,81		-	167	276	436	668	915								
6"	11	15	3x400	25	0,82		-	139	229	362	555	761								
6"	13	17,5	3x400	29	0,82		-	120	198	312	479	656	910							
6"	15	20	3x400	32	0,83		-	107	177	280	429	589	818							
6"	18,5	25	3x400	39	0,83		-	88	145	230	352	484	671	905						
6"	22	30	3x400	49	0,79		-	73	121	191	292	400	553	742	958					
6"	26	35	3x400	58	0,79		-	-	102	161	247	338	467	627	809	974				
6"	30	40	3x400	65	0,81		-	-	89	141	216	296	410	551	713	861				
6"	37	50	3x400	80	0,81		-	-	-	114	175	240	333	448	579	699	830	966		
8"	45	60	3x400	92	0,82		-	-	-	98	151	207	287	386	501	605	719	839		
8"	55	75	3x400	109	0,85		-	-	-	-	124	170	236	319	416	505	602	706	849	984
8"	63	85	3x400	126	0,83		-	-	-	-	109	150	208	280	364	440	524	612	733	845
8"	75	100	3x400	145	0,86		-	-	-	-	-	127	176	239	311	378	452	530	640	742
8"	92	125	3x400	177	0,86		-	-	-	-	-	-	144	195	255	310	370	435	524	608
8"	110	150	3x400	213	0,87		-	-	-	-	-	-	-	161	211	256	307	361	436	508
10"	132	180	3x400	257	0,84		-	-	-	-	-	-	-	-	177	215	256	300	360	416
10"	147	200	3x400	300	0,81		-	-	-	-	-	-	-	-	155	186	221	258	307	353
10"	170	230	3x400	348	0,81		-	-	-	-	-	-	-	-	-	161	191	222	265	305
10"	190	260	3x400	405	0,79		-	-	-	-	-	-	-	-	-	-	-	192	228	261
12"	220	300	3x400	424	0,85		-	-	-	-	-	-	-	-	-	-	-	181	218	253
12"	250	340	3x400	481	0,85		-	-	-	-	-	-	-	-	-	-	-	-	192	223

Free air installation at maximum temperature of 35 °C

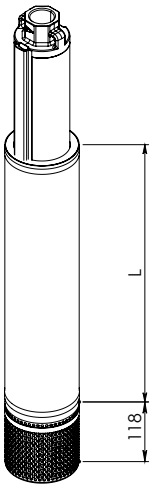
COOLING LINERS FOR 4" SUBMERSIBLE PUMP

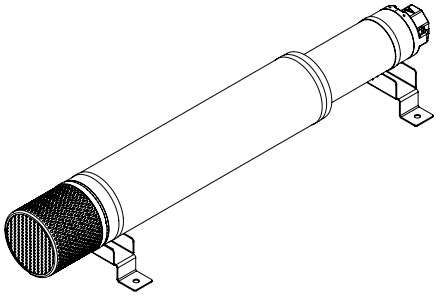
Kit of cooling liners of different lengths, used to ensure perfect cooling of the 4" motor in case of installation inside tanks or containers, or in any location where a minimum cooling flow on the motor cannot be guaranteed.
The length of the pipe must be selected based on the type of motor and its power, as indicated in the following table.

POWER SUPPLY 50 Hz	MOTOR POWER		MOTOR TYPE		
	HP	kW	4GG - 4GX	40L	4TW
SINGLE-PHASE	0,5	0,37	L400 PIPE KIT	L400 PIPE KIT	L525 PIPE KIT
	0,75	0,55			
	1	0,75			L885 PIPE KIT
	1,5	1,1	L525 PIPE KIT	L525 PIPE KIT	
	2	1,5			
	3	2,2		L885 PIPE KIT	
	5	3,7	L885 PIPE KIT		



THREE-PHASE	0,5	0,37	L400 PIPE KIT	L400 PIPE KIT
	0,75	0,55		
	1	0,75		
	1,5	1,1		
	2	1,5	L525 PIPE KIT	L525 PIPE KIT
	3	2,2		L885 PIPE KIT
	4	3	L885 PIPE KIT	
	5,5	4		
	7,5	5,5		
	10	7,5		

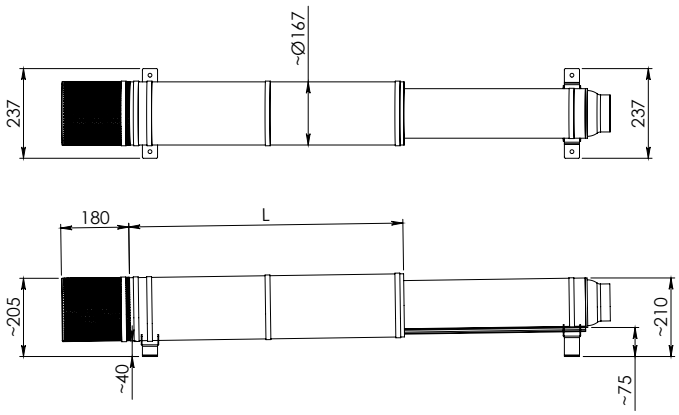


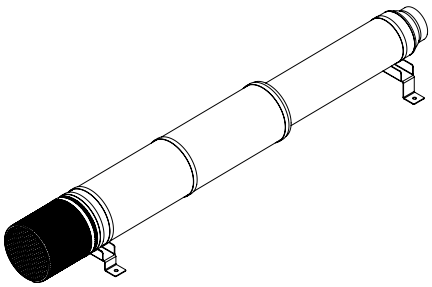


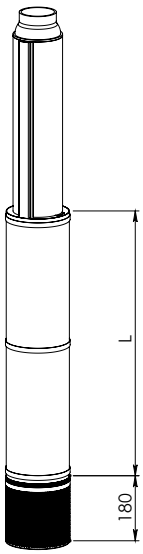
COOLING LINERS FOR 6" SUBMERSIBLE PUMP

Kit of cooling liners of different lengths, used to ensure perfect cooling of the 6" motor in case of installation inside tanks or containers, or in any location where a minimum cooling flow on the motor cannot be guaranteed.
The length of the pipe must be selected based on the type of motor and its power, as indicated in the following table.
SUITABLE FOR USE ON S6, SR6 E SM6 ELECTRIC PUMPS COUPLED WITH 6" MOTOR.

POWER SUPPLY 50 Hz	MOTOR POWER		MOTOR TYPE	
	HP	kW	6GF-6GX	TR6
THREE-PHASE	5,5	4	725 PIPE KIT	
	7,5	5,5		960 PIPE KIT
	10	7,5		
	12,5	9,3		
	15	11	960 PIPE KIT	
	17,5	13		1220 PIPE KIT
	20	15		
	25	18,5		
	30	22		
	35	26	1220 PIPE KIT	
	40	30		1490 PIPE KIT
	50	37		







in order to determine the cooling flow speed v [m/s] along the motor liner, the following formula can be used:

$$v = \frac{\frac{Q}{2}}{\pi \cdot (\frac{D^2}{4} - \frac{d^2}{4})}$$

On the other hand, in order to determine the correct diameter of the cooling liner, to ensure that the minimum required cooling flow condition is met at a certain pump flow level, the following formula can be used:

$$D = \sqrt{4 \cdot (\frac{Q}{v \cdot \pi} + \frac{d^2}{4})}$$

Q [m^3 /s] = flow at the point of operation of the electric pump.
D [m] = well diameter.
d [m] = motor diameter.
v [m/s] = cooling flow speed.

INDICATIVE CHOICE OF THE ELECTRIC GENERATOR CAPABLE OF POWERING THE SUBMERSIBLE MOTOR

P2 - MOTOR POWER		GENERATOR			
		DOL (DIRECT START-UP)		SD (STAR-DELTA START-UP)	
kW	Hp	kW	kVA	kW	KVA
2,2	3	6	7,5	-	-
4	5,5	10	12,5	8	10
5,5	7,5	12,5	15,6	11	13,8
7,5	10	15	18,8	14	17,5
9,2	12,5	19	24	17	21
11	15	22,5	28	21	26
13	17,5	26,5	33	24	30
15	20	30	38	28	35
18,5	25	37	46	34	42,5
22	30	45	56	41	51
26	35	52	65	45	57
30	40	60	75	52	65
37	50	75	94	64	81
45	60	90	112	78	97
55	75	110	138	95	119
63	85	135	169	114	142
75	100	150	190	128	160
92	125	185	230	158	198
110	150	210	260	190	237
132	180	260	325	225	281
147	200	300	375	260	325
170	230	340	425	295	369
190	260	380	475	329	411
220	300	440	550	381	476
250	340	500	625	433	541

WINDING RESISTANCE TABLES

In case of single-phase motors, both the running (Rm) and the start-up (Ra) winding resistance are indicated.

SINGLE-PHASE MOTORS

MODEL	P2		V	Rm	Ra
	HP	kW	V	Ω	Ω
3GF - 3GS	0,5	0,37	230	11,25	31,5
	0,75	0,55	230	9,15	28
	1	0,75	230	6,85	17,35

THREE-PHASE MOTORS

MODEL	P2		V	R
	HP	kW	V	Ω
3GF - 3GS	0,5	0,37	400	60,3
	0,75	0,55	400	44,5
	1	0,75	400	32,2

SINGLE-PHASE MOTORS

MODEL	P2		V	Rm	Ra
	HP	kW	V	Ω	Ω
4GG - 4GX	0,5	0,37	230	8,8	18,8
	0,75	0,55	230	5,6	13,5
	1	0,75	230	3,5	6,7
	1,5	1,1	230	2,5	5,4
	2	1,5	230	1,9	5,0
	3	2,2	230	1,6	3,7
	5	3,7	230	0,9	1,7

THREE-PHASE MOTORS

MODEL	P2		V	R
	HP	kW	V	Ω
4GG - 4GX	0,5	0,37	230	11,7
	0,5	0,37	400	35,0
	0,75	0,55	230	8,5
	0,75	0,55	400	25,6
	1	0,75	230	5,8
	1	0,75	400	17,3
	1,5	1,1	230	4,3
	1,5	1,1	400	13,0
	2	1,5	230	3,0
	2	1,5	400	8,9
	3	2,2	230	2,0
	3	2,2	400	6,0
	4	3	230	1,4
	4	3	400	4,2
	5,5	4	230	1,1
	5,5	4	400	3,3
	7,5	5,5	230	0,8
	7,5	5,5	400	2,4
	10	7,5	400	2,0

SINGLE-PHASE MOTORS

MODEL	P2		V	Rm	Ra
	HP	kW	V	Ω	Ω
4OL	0,5	0,37	230	9,3	20,3
	0,75	0,55	230	6,5	13,7
	1	0,75	230	4,0	8,6
	1,5	1,1	230	3,0	6,1
	2	1,5	230	2,3	5,0
	3	2,2	230	1,6	3,7

THREE-PHASE MOTORS

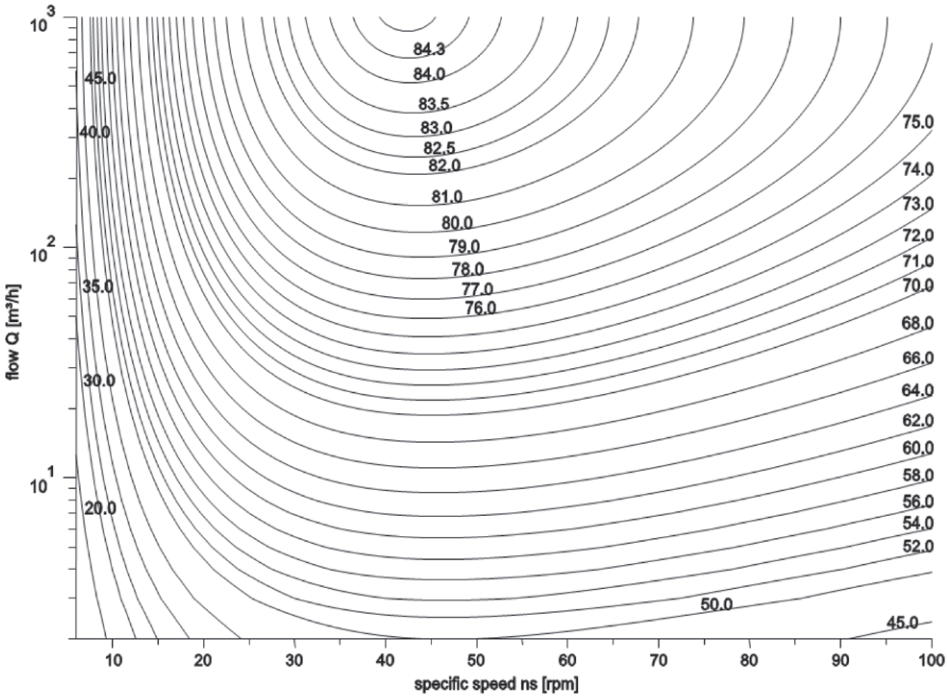
MODEL	P2		V	R
	HP	kW	V	Ω
4OL	0,5	0,37	230	14,2
	0,5	0,37	400	42,5
	0,75	0,55	230	8,5
	0,75	0,55	400	25,5
	1	0,75	230	6,3
	1	0,75	400	18,0
	1,5	1,1	230	3,8
	1,5	1,1	400	11,7
	2	1,5	230	2,7
	2	1,5	400	8,3
	3	2,2	230	2
	3	2,2	400	6,2
	4	3	230	1,6
	4	3	400	4,7
	5,5	4	230	1
	5,5	4	400	3
	7,5	5,5	230	0,9
	7,5	5,5	400	2,6
	10	7,5	400	1,9

THREE-PHASE MOTORS

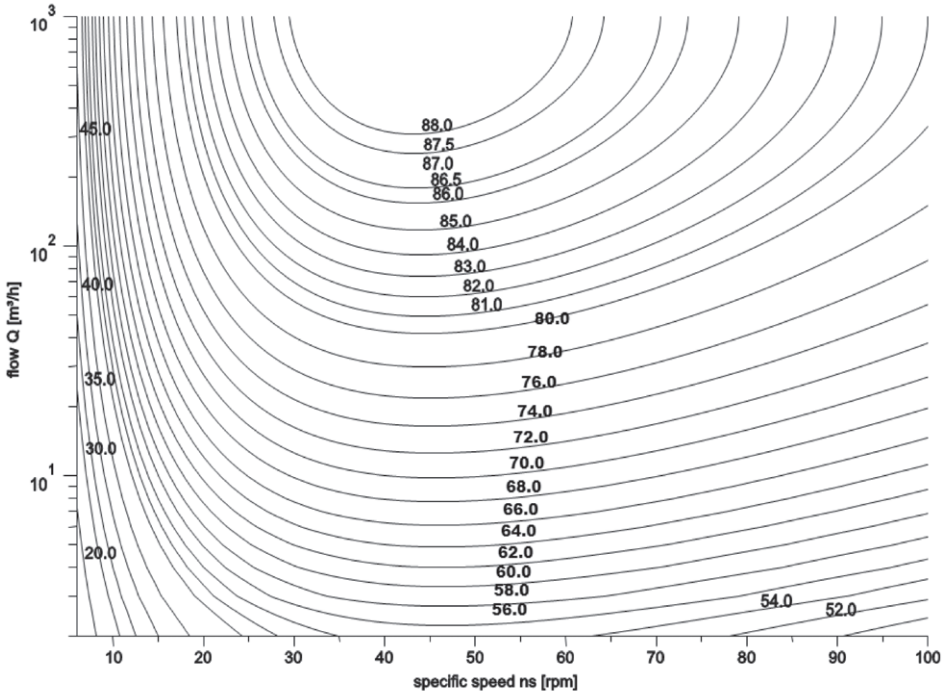
MODEL	P2		V	R
	HP	kW	V	Ω
6GF - 6GS - 6GX	5,5	4	230	0,97
	5,5	4	400	3,00
	5,5	4	400/690	3,00
	7,5	5,5	230	0,64
	7,5	5,5	400	2,00
	7,5	5,5	400/690	2,00
	10	7,5	230	0,51
	10	7,5	400	1,60
	10	7,5	400/690	1,60
	12,5	9,2	230	0,40
	12,5	9,2	400	1,25
	12,5	9,2	400/690	1,25
	15	11	230	0,29
	15	11	400	0,92
	15	11	400/690	0,92
	20	15	230	0,24
	20	15	400	0,65
	20	15	400/690	0,65
	25	18,5	230	0,18
	25	18,5	400	0,55
	25	18,5	400/690	0,55
	30	22	230	0,15
	30	22	400	0,46
	30	22	400/690	0,46
	40	30	400	0,31
	40	30	400/690	0,31
	50	37	400	0,25
	50	37	400/690	0,25

CHARTS OF REFERENCE - MEI INDEX

MEI = 0.4 for Multistage Submersible 2900rpm



MEI = 0.7 for Multistage Submersible 2900 rpm



DAB complies with the EcoDesign Directive (ErP - Energy related Products - Directive, 2009/125/EC)
EC 547/2012 Regulation that requires:
FOR 4" AND 6" SUBMERSIBLE MULTISTAGE PUMPS (MSS)

- starting from January 1st 2013 MEI ≥ 0,1
- starting from January 1st 2015 MEI ≥ 0,4

NOTES

NOTES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DAB
WATER•TECHNOLOGY
Via Marco Polo, 14 - 35035 Mestrino (PD) Italy - Tel. +39.049.5125000 - Fax +39.049.5125950
www.dabpumps.com

DAB PUMPS SELECTOR

On-line product selection

DAB PUMPS LTD.
Unit 4 and 5, Stortford Hall Industrial Park,
Dunmow Road,
Bishops Stortford,
Herts
CM23 5GZ - UK
salesuk@dwtgroup.com
Tel. +44 1279 652 776
Fax +44 1279 657 727

DAB PUMPS B.V.
Brusselstraat 150
B-1702 Groot-Bijgaarden - Belgium
info.belgium@dwtgroup.com
Tel. +32 2 4668353
Fax +32 2 4669218

DAB PUMPS B.V.
Albert Einsteinweg, 4
5151 DL Drunen - Nederland
info.netherlands@dwtgroup.com
Tel. +31 416 387280
Fax +31 416 387299

DAB PUMPEN DEUTSCHLAND GmbH
Tackweg 11
D - 47918 Tönisvorst - Germany
info.germany@dwtgroup.com
Tel. +49 2151 82136-0
Fax +49 2151 82136-36

DAB PUMPS IBERICA S.L.
Avenida de Castilla nr.1 Local 14
28830 - San Fernando De Henares - Madrid
Spain
info.spain@dwtgroup.com
Tel. +34 91 6569545
Fax: +34 91 6569676

DAB PRODUCTION HUNGARY KFT.
H-8800
Nagykanizsa, Buda Ernó u.5
Hungary
Tel. +36 93501700

DAB PUMPS POLAND Sp. z o.o.
Mokotów Marynarska
ul. Postępu 15C
02-676 Warszawa - Poland
polska@dabpumps.com.pl
Tel. +48 223 816 085

DAB UKRAINE Representative Office
Regus Horizon Park
4 M. Hrinchenka St, suit 147
03680 Kiev - Ukraine
Tel. +38 044 391 59 43

OOO DAB PUMPS
Novgorodskaya str. 1, block G
office 308, 127247, Moscow - Russia
info.russia@dwtgroup.com
Tel. +7 495 122 0035
Fax +7 495 122 0036

DAB PUMPS INC.
3226 Benchmark Drive
Ladson, SC 29456 - USA
info.usa@dwtgroup.com
Tel. 1-843-824-6332
Toll Free 1-866-896-4DAB (4322)
Fax 1-843-797-3366

DWT SOUTH AFRICA
Podium at Menlyn,
3rd Floor, Unit 3001b, 43 Ingersol Road,
C/O Lois and Atterbury street,
Menlyn, Pretoria, 0181 - South-Africa
info.sa@dwtgroup.com
Tel. +27 12 361 3997
Fax +27 12 361 3137

DAB PUMPS CHINA
No.40 Kaituo Road, Qingdao Economic & Technological
Development Zone
Qingdao City, Shandong Province - China
PC: 266500
info.china@dwtgroup.com
Tel. +8653286812030-6270
Fax +8653286812210

DAB PUMPS DE MÉXICO, S.A. DE C.V.
Av Gral Álvaro Obregón 270, oficina 355
Hipódromo, Cuauhtémoc 06100
México, D.F.
Tel. +52 55 6719 0493

60171428 - 08/2016