



(Control Box for single-phase versions only).

## TECHNICAL DATA

**Operating range:** from 0,24 to 6 m<sup>3</sup>/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/m<sup>3</sup>.

**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

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

Electric pump with 40L 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.

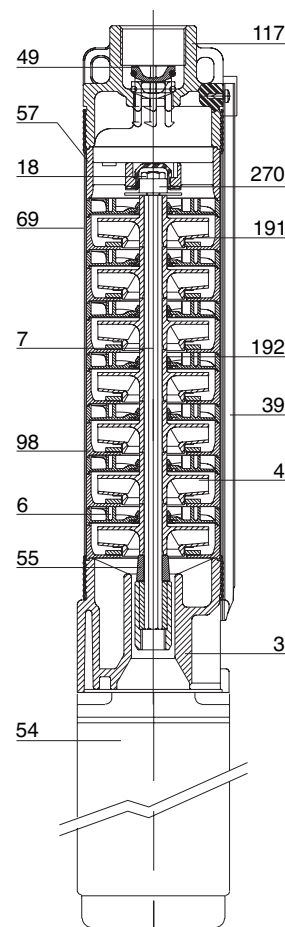
### Standard power supply cable and nylon cord:

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

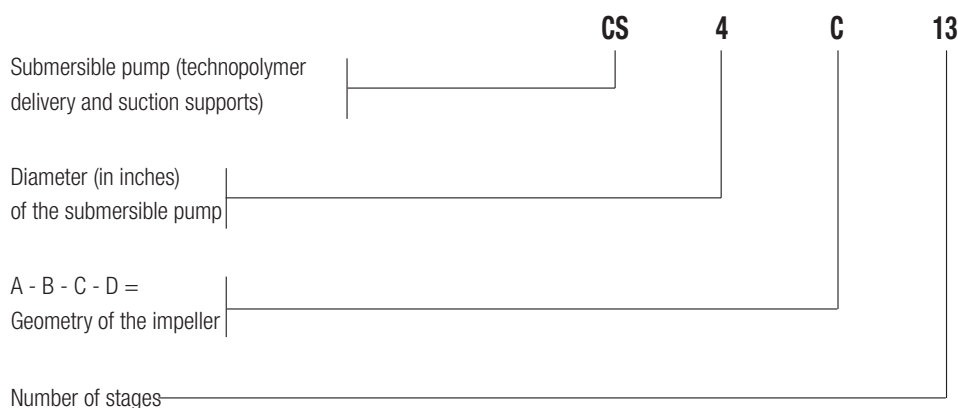
### MATERIALS

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)



## PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA										
	P2 NOMINAL		Q=m <sup>3</sup> /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

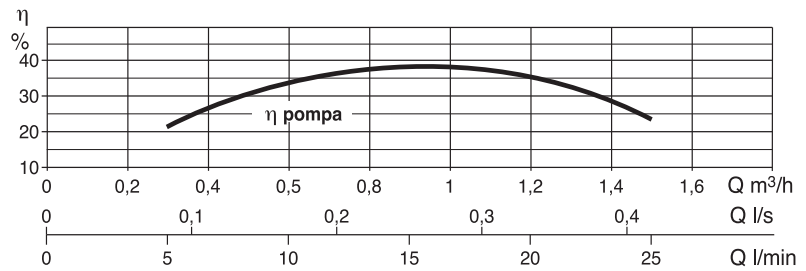
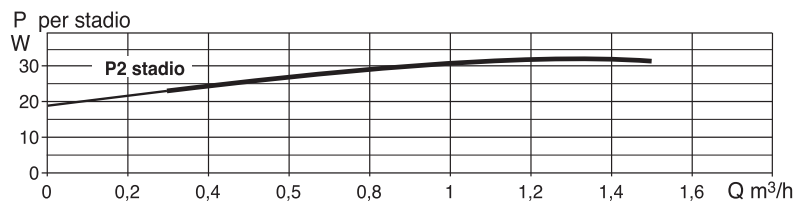
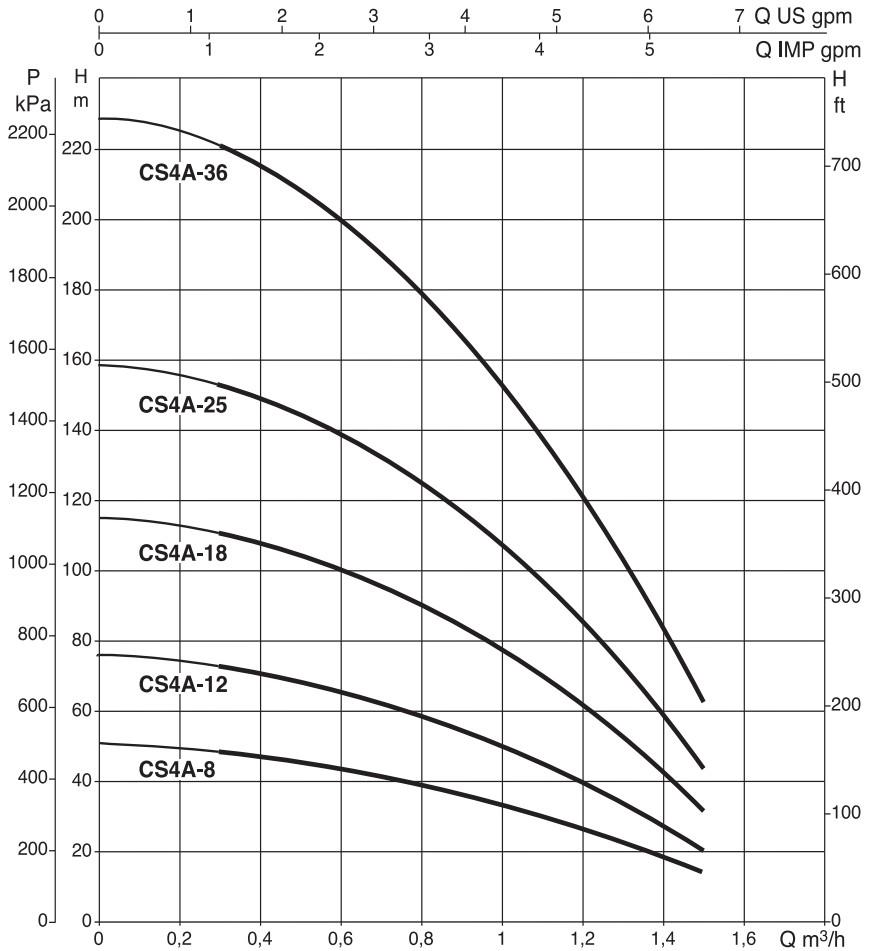
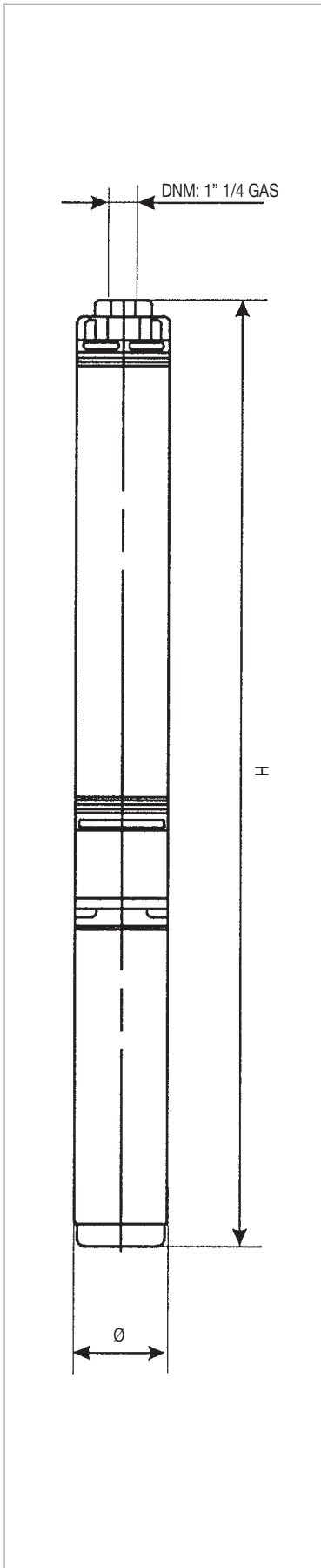
MODEL	MOTOR	ELECTRICAL DATA				Ø mm	H mm	PACKING DIMENSIONS			VOLUME m <sup>3</sup>	CABLE LENGTH m	Q.TY X PALLET	WEIGHT kg
		P2 NOMINAL		POWER INPUT 50 Hz	In A			L/A	L/B	H				
		kW	HP											
CS4A-8	4GG M	0,37	0,5	1x230 V ~	3,3	97	591	400	110	720	0,032	15	27	13
	4OL M	0,37	0,5	1x230 V ~	3,5	97	640	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.

## PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA										
	P2 NOMINAL		Q=m <sup>3</sup> /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

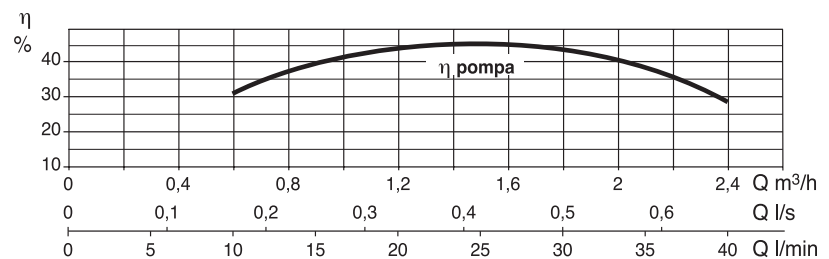
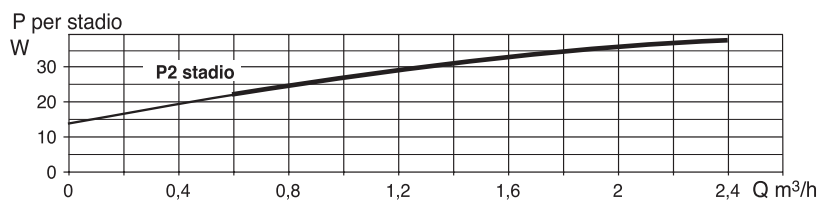
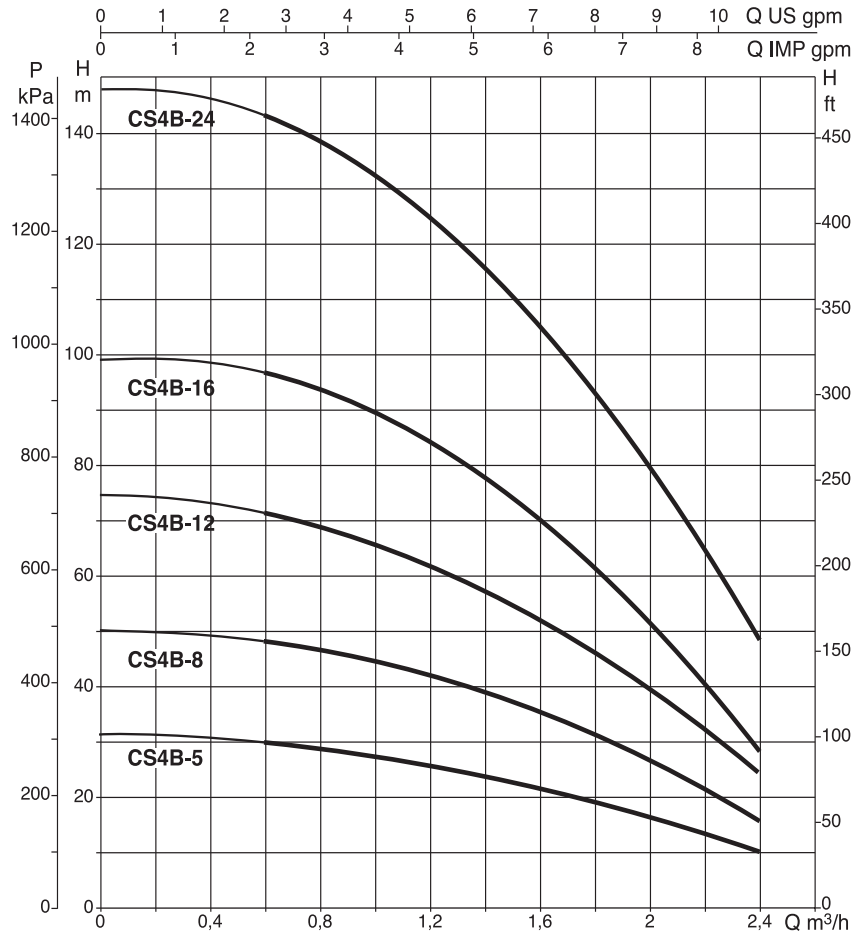
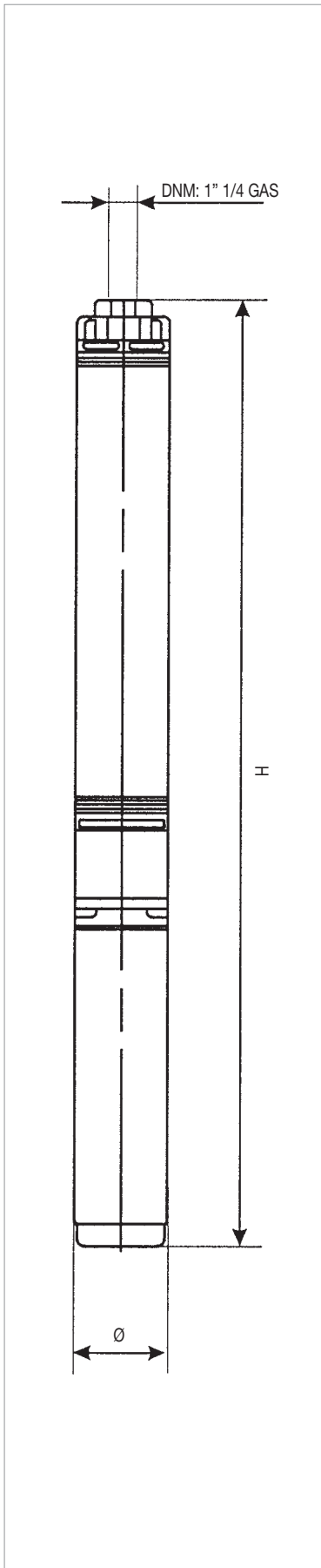
MODEL	ELECTRICAL DATA				Ø mm	H mm	PACKING DIMENSIONS			VOLUME m <sup>3</sup>	LENGTH CABLE m	Q.TY X PALLET	WEIGHT kg	
	MOTOR	P2 NOMINAL		POWER INPUT 50 Hz			In A	L/A	L/B					H
		kW	HP											
CS4B-5	4GG M	0,37	0,5	1x230 V ~	3,3	97	543,5	400	110	720	0,032	15	27	12,5
	4OL M	0,37	0,5	1x230 V ~	3,5	97	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 mm²/s and density equal to 1000 kg/m³. Curve tolerance according to ISO 9906.

## PERFORMANCE AT 50 Hz

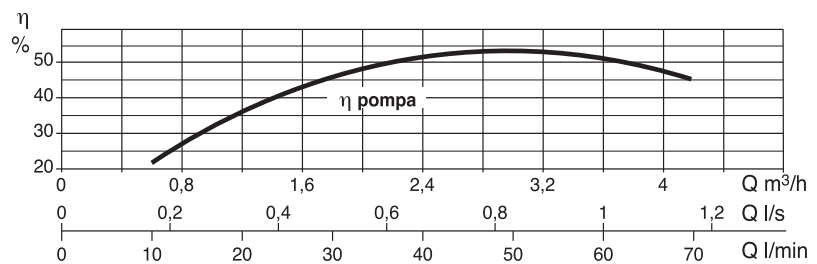
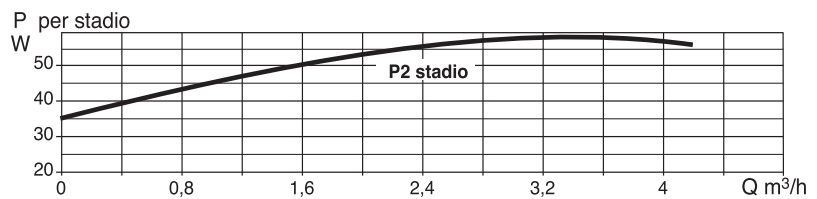
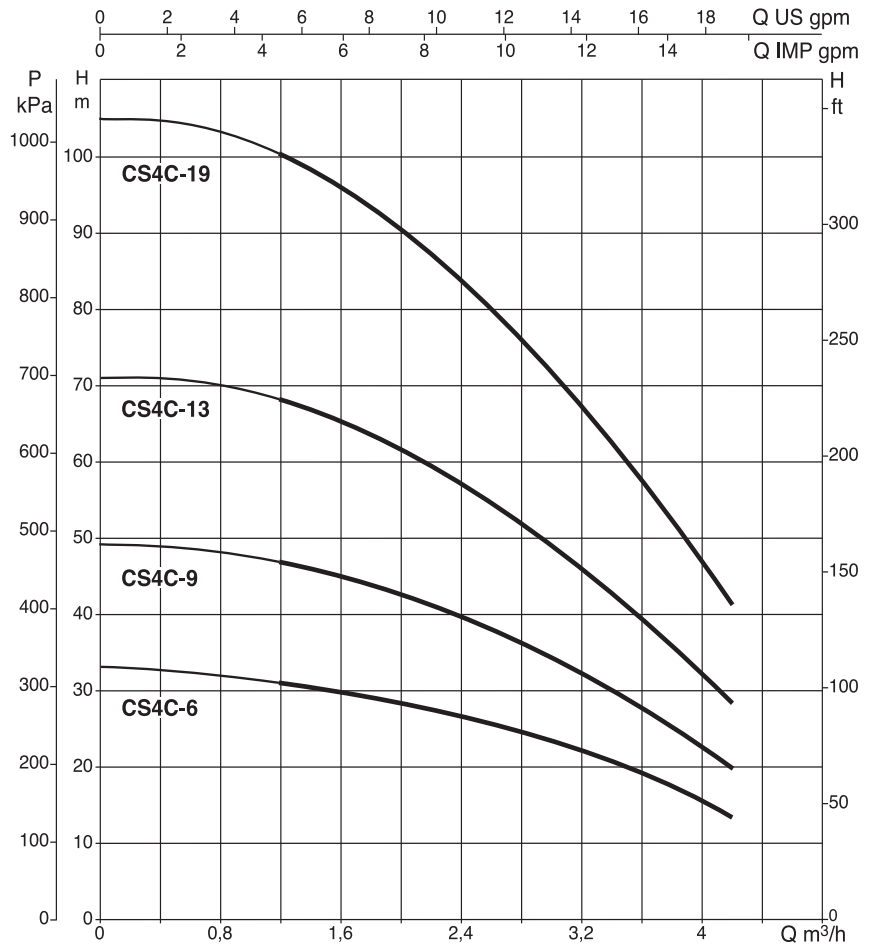
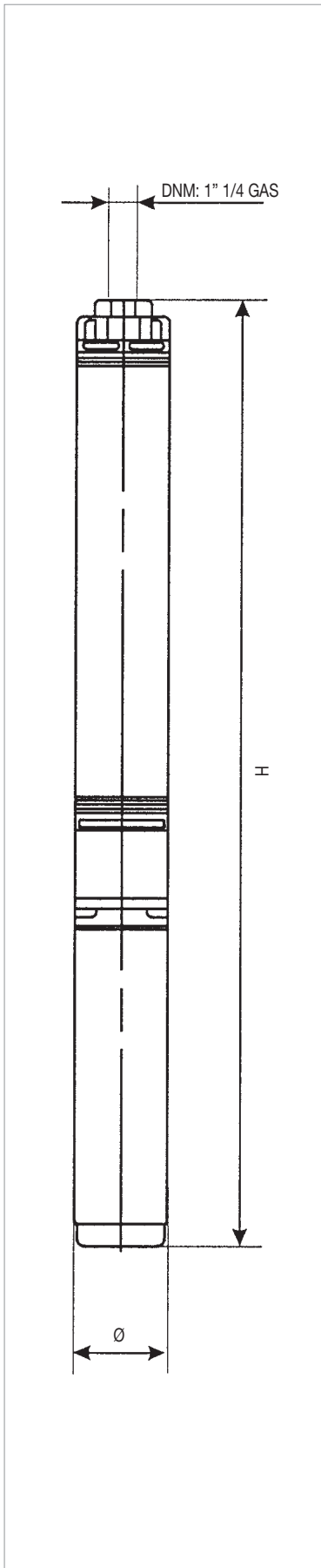
MODEL	ELECTRICAL DATA		HYDRAULIC DATA										
	P2 NOMINAL		Q=m <sup>3</sup> /h	0	0,6	1,2	1,5	1,8	2,4	3	4,2	4,8	6
	kW	HP	Q=l/min	0	10	20	25	30	40	50	70	80	100
CS4C-6	0,37	0,5	H (m)	33	-	31,8	30,7	29,4	26,4	22,7	13,2	-	-
CS4C-9	0,55	0,75		49,5	-	47,7	46	44	39,6	34	19,8	-	-
CS4C-13	0,75	1		71,5	-	68,9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



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.



## PERFORMANCE AT 50 Hz

MODEL	ELECTRICAL DATA		HYDRAULIC DATA										
	P2 NOMINAL		Q=m <sup>3</sup> /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

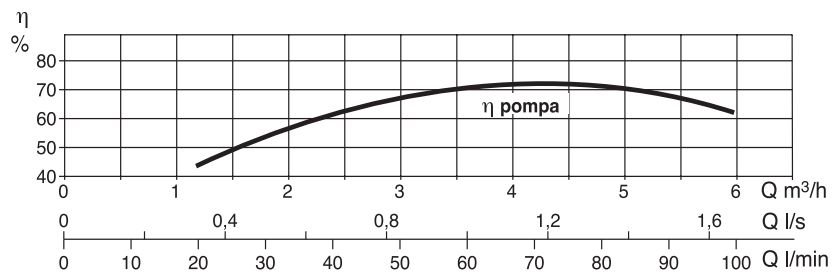
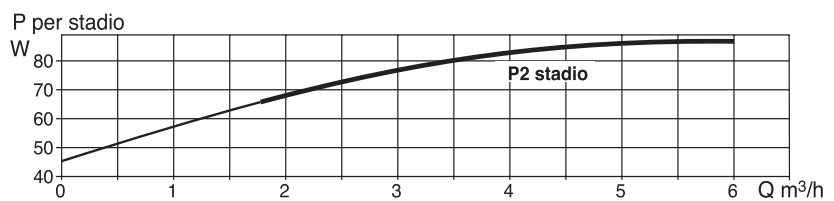
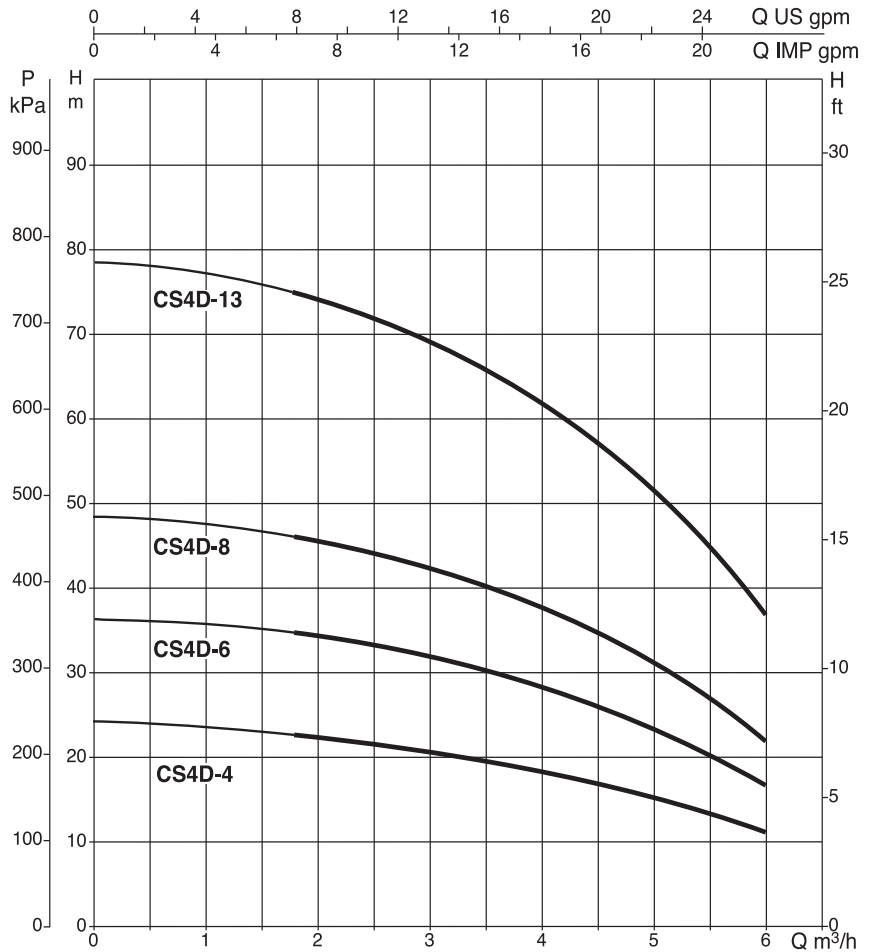
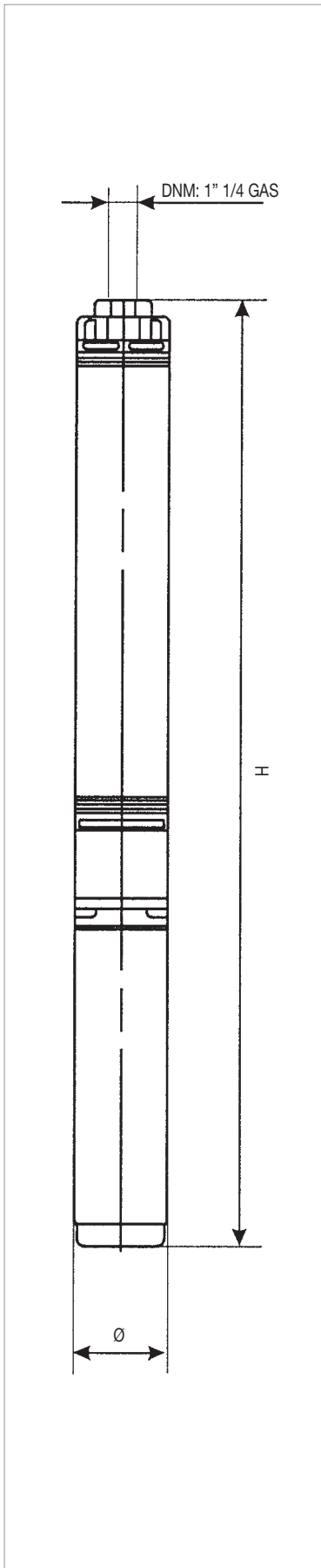
MODEL	ELECTRICAL DATA					Ø mm	H mm	PACKING DIMENSIONS			VOLUME m <sup>3</sup>	CABLE LENGTH m	Q.TY X PALLET	WEIGHT kg
	MOTOR	P2 NOMINAL		POWER INPUT 50 Hz	In A			L/A	L/B	H				
		kW	HP											
CS4D-4	4GG M	0,37	0,5	1x230 V ~	3,3	97	561	400	110	720	0,032	15	27	14
	4OL M	0,37	0,5	1x230 V ~	3,5	97	610	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.