
CS4



(CONTROLBOX only for single-phase version)

GENERAL DATA

Applications

Bore hole pumps for 4" wells or greater capable of developing a wide range of flow rates and heads. These pumps can be used in a wide range of lifting, distributing and pressurising applications in civil and industrial supplies, autoclaves and tanks, fire-fighting and washing installations, irrigation systems.

Construction features of pump

Centrifugal multi-stage pump with radial or semi-axial impellers. Pump and motor directly connected with a rigid coupling.

The technopolymer impeller with parts subject to wear in stainless steel, operating on floating adjustment rings in abrasion-proof synthetic material and the technopolymer diffusers make the pump particularly hard-wearing.

Pump liner, shaft with coupling, filter and cable sheath in stainless steel.

Base (with incorporated filter) and upper head (with incorporated resin check valve) in technopolymer.

Plastic cable sheaths.

These pumps comply with Community Directives.

Construction features of motor

Asynchronous 2-pole submerged motor totally built from AISI 304 stainless steel. Squirrel-cage rotor mounted on a self-centring thrust block bearing suitable for withstanding axial loads. The bearings and the bushings are cooled by the water so as to prevent dangers of pollution.

Stator encased in synthetic resin with high quality dielectric inserted in a stainless steel airtight casing.

Capacitor and manually resettable overload cut-out located on the standard supplied electrical power panel for the single-phase version.

The user must provide overload protection for the three-phase version.

Flanging to NEMA - 4"

Protection level: IP58

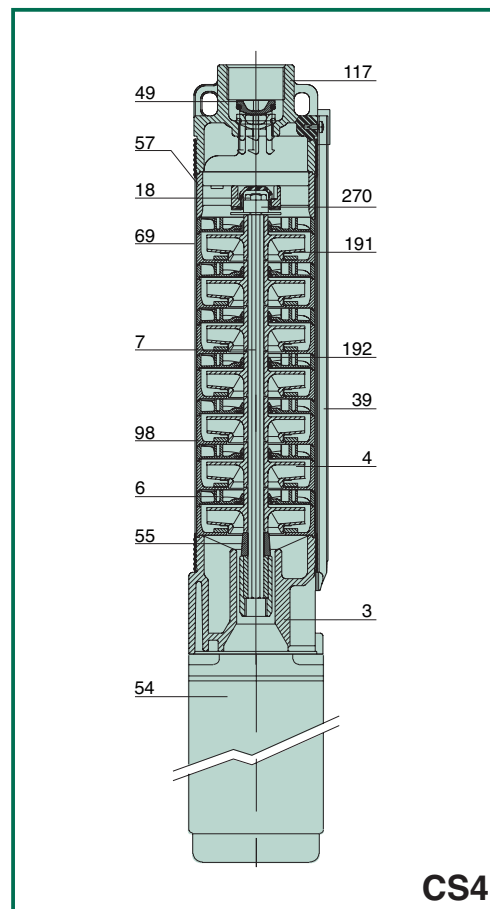
Heat insulation class: B

Input voltage: single-phase 220-230 V/50Hz
three-phase 400 V / 50Hz

TECHNICAL DATA

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

* In contact with the liquid



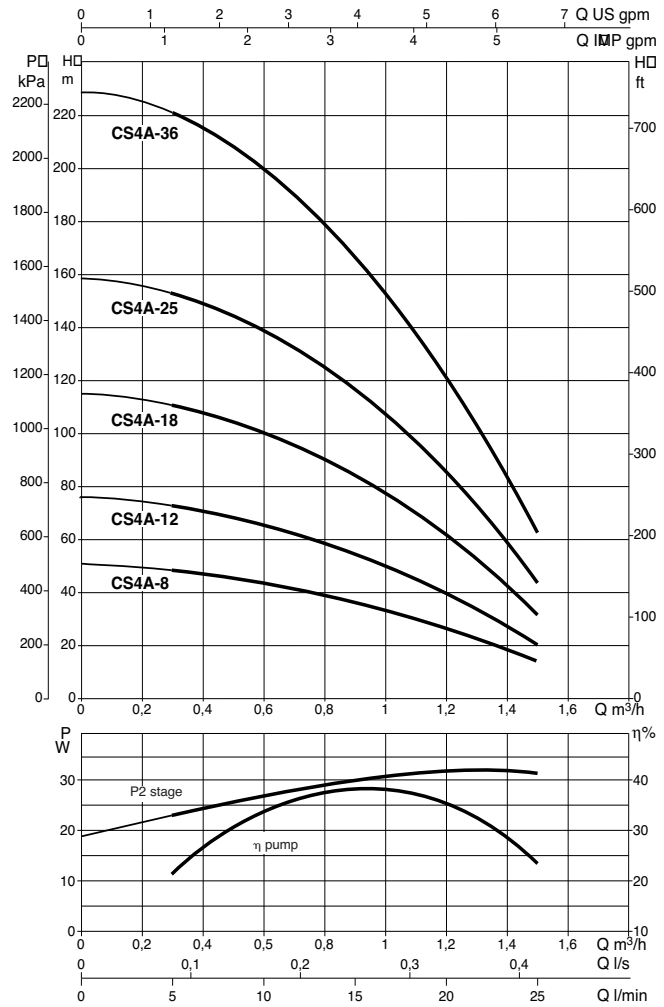
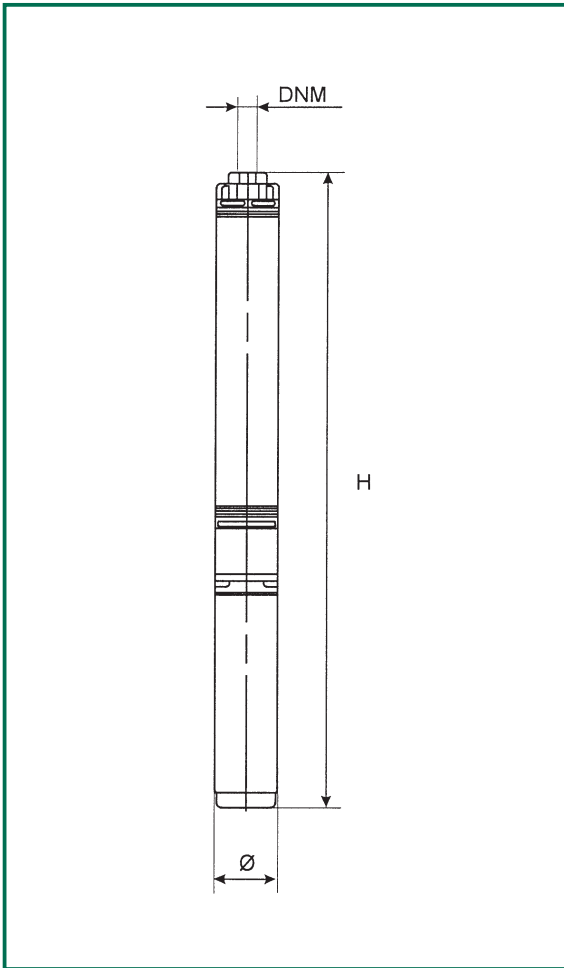
- Operating range: from 0,24 to 6 m³/h with head up to 230 metres.
- Liquid quality requirements: clean, free from solids or abrasive substances, non viscous, non aggressive, non crystallized, chemically neutral, close to the characteristics of water.
- Liquid temperature range: from 0°C to +40°C
- Installation: in wells and bore-holes with a diameter of 4" or greater, tanks and cisterns, in a vertical position.
- Starts/hour : max 20
- Cooling flow: 8 cm/sec.
- **Maximum quantity of sand:** **120 gr/m³**
- Special versions on request: different voltages and/or frequencies.
- Length of power cable :

15 metres:	CS4A-8 / CS4A-12 / CS4B-5 / CS4B-8 / CS4B-12 CS4C-6 / CS4C-9 / CS4D-4 / CS4D-6 / CS4D-8
standard nylon: 30 metres long:	CS4A-18 / CS4A-25 / CS4A-36 / CS4B-16 CS4B-24 / CS4C-13 / CS4C-19 / CS4D-13
- Accessories: see pages 94-95.
- Power cable section: see page 95.
- CONTROL BOX HS for increasing static torque may be supplied for the single-phase version on request.

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.

CS4A

Liquid temperature range: from 0°C to +40°C



MODEL	Ø (mm)	H Franklin motor (mm)	H Dab motor (mm)	DNM	PACKING DIMENSIONS (mm)			VOLUME m ³	WEIGHT Kg
					L/A	L/B	H		
CS4A-8 M	97	577	571	1" 1/4 G	815	90	250	0,018	13,2
CS4A-12 M	97	677	671	1" 1/4 G	815	90	250	0,018	14,7
CS4A-12 T	97	657	650	1" 1/4 G	815	90	250	0,018	12,7
CS4A-18 M	97	825	820	1" 1/4 G	945	90	250	0,021	19,8
CS4A-18 T	97	797	791	1" 1/4 G	945	90	250	0,021	17,5
CS4A-25 M	97	993	981	1" 1/4 G	1145	90	250	0,026	22
CS4A-25 T	97	965	960	1" 1/4 G	1145	90	250	0,026	19,8
CS4A-36 M	97	1303	1307	1" 1/4 G	1375	90	250	0,030	26,3
CS4A-36 T	97	1245	1233	1" 1/4 G	1375	90	250	0,030	22,6

MODEL	ELECTRICAL DATA			HYDRAULIC DATA (n ≈ 2850 1/min)						
	VOLTAGE 50 Hz	P2 NOMINAL		Q m ³ /h	0	0,3	0,6	0,9	1,2	1,5
		kW	HP							
CS4A-8 M ⁽¹⁾	1x230 V ~*	0,25	0,33	H (m)	51	48,6	44,4	37,3	26,8	13,7
CS4A-12 M	1x230 V ~*	0,37	0,5		76,5	72,9	66,6	55,9	40,2	20,5
CS4A-12 T	3x400 V ~**	0,37	0,5		76,5	72,9	66,6	55,9	40,2	20,5
CS4A-18 M	1x230 V ~*	0,55	0,75		114,8	109,3	99,8	84	60,3	30,8
CS4A-18 T	3x400 V ~**	0,55	0,75		114,8	109,3	99,8	84	60,3	30,8
CS4A-25 M	1x230 V ~*	0,75	1		159,4	151,8	138,7	116,5	83,7	42,7
CS4A-25 T	3x400 V ~**	0,75	1		159,4	151,8	138,7	116,5	83,7	42,7
CS4A-36 M	1x230 V ~*	1,1	1,5		229,5	218,6	200	167,8	120,6	61,6
CS4A-36 T	3x400 V ~**	1,1	1,5		229,5	218,6	200	167,8	120,6	61,6

* 1x220-230 V ~ for Franklin motor.

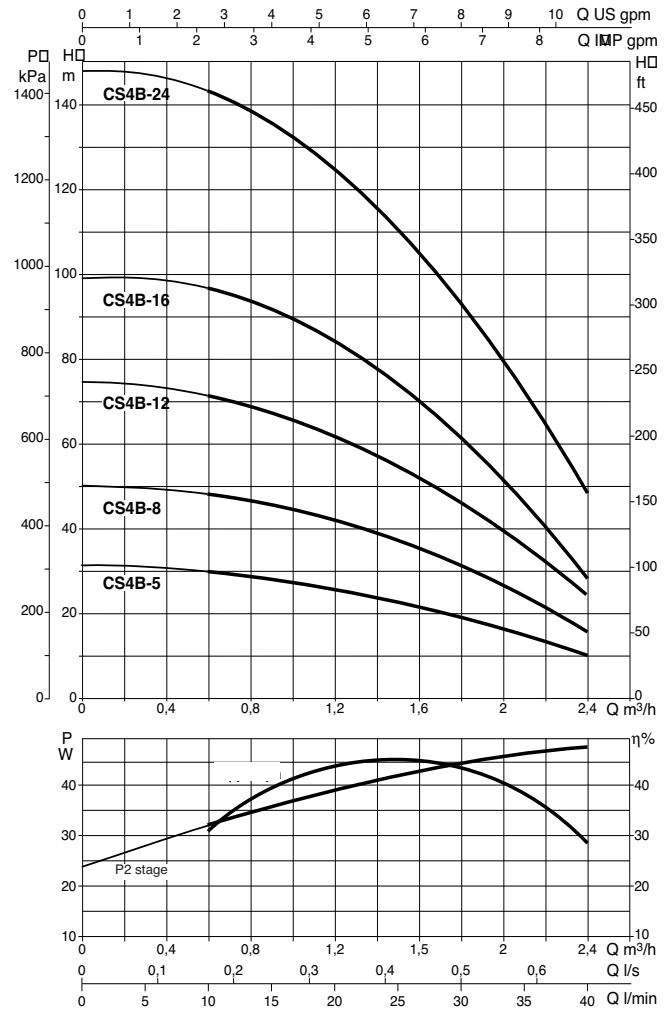
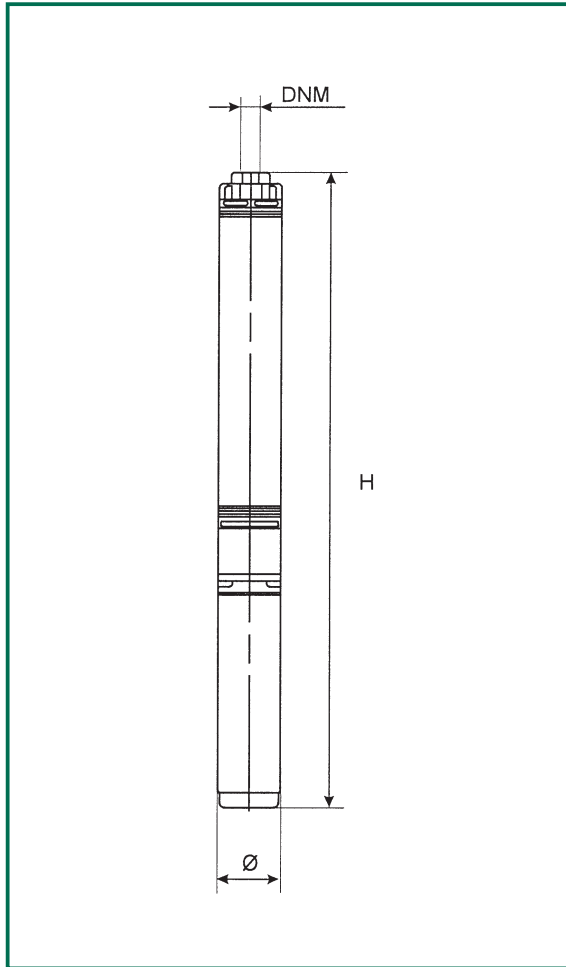
** 3x230 V ~ available on request.

⁽¹⁾ Dab motor: P2(kW) = 0,37 and P2(HP) = 0,5

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.

CS4B

Liquid temperature range: from 0°C to +40°C



MODEL	Ø (mm)	H Franklin motor (mm)	H Dab motor (mm)	DNM	PACKING DIMENSIONS (mm)			VOLUME m ³	WEIGHT Kg
					L/A	L/B	H		
CS4B-5 M	97	530	524	1" 1/4 G	815	90	250	0,018	12,9
CS4B-8 M	97	617	611	1" 1/4 G	815	90	250	0,018	14,3
CS4B-8 T	97	597	590	1" 1/4 G	815	90	250	0,018	12,3
CS4B-12 M	97	735	730	1" 1/4 G	815	90	250	0,018	16,1
CS4B-12 T	97	707	701	1" 1/4 G	815	90	250	0,018	13,8
CS4B-16 M	97	853	841	1" 1/4 G	945	90	250	0,021	21
CS4B-16 T	97	825	820	1" 1/4 G	945	90	250	0,021	18,8
CS4B-24 M	97	1090	1094	1" 1/4 G	1375	90	250	0,030	25
CS4B-24 T	97	1033	1021	1" 1/4 G	1145	90	250	0,026	21,1

MODEL	ELECTRICAL DATA			HYDRAULIC DATA (n = 2850 1/min)								
	VOLTAGE 50 Hz	P2 NOMINAL		Q m ³ /h	0	0,6	0,9	1,2	1,5	1,8	2,1	2,4
		kW	HP									
CS4B-5 M ⁽¹⁾	1x230 V ~*	0,37	0,5	H (m)	31	30	28,6	26	22,6	19	14,8	10
CS4B-8 M	1x230 V ~*	0,37	0,5		49,6	47,8	45,8	41,5	36,2	30,6	23,7	16
CS4B-8 T	3x400 V ~**	0,37	0,5		49,6	47,8	45,8	41,5	36,2	30,6	23,7	16
CS4B-12 M	1x230 V ~*	0,55	0,75		74,4	71,8	68,6	62,3	54,4	45,8	35,5	24
CS4B-12 T	3x400 V ~**	0,55	0,75		74,4	71,8	68,6	62,3	54,4	45,8	35,5	24
CS4B-16 M	1x230 V ~*	0,75	1		99,2	95,7	91,5	83	72,5	61	47,4	32
CS4B-16 T	3x400 V ~**	0,75	1		99,2	95,7	91,5	83	72,5	61	47,4	32
CS4B-24 M	1x230 V ~*	1,1	1,5		148,8	143,5	137,3	124,6	108,7	91,7	71	48
CS4B-24 T	3x400 V ~**	1,1	1,5		148,8	143,5	137,3	124,6	108,7	91,7	71	48

* 1x220-230 V ~ for Franklin motor.

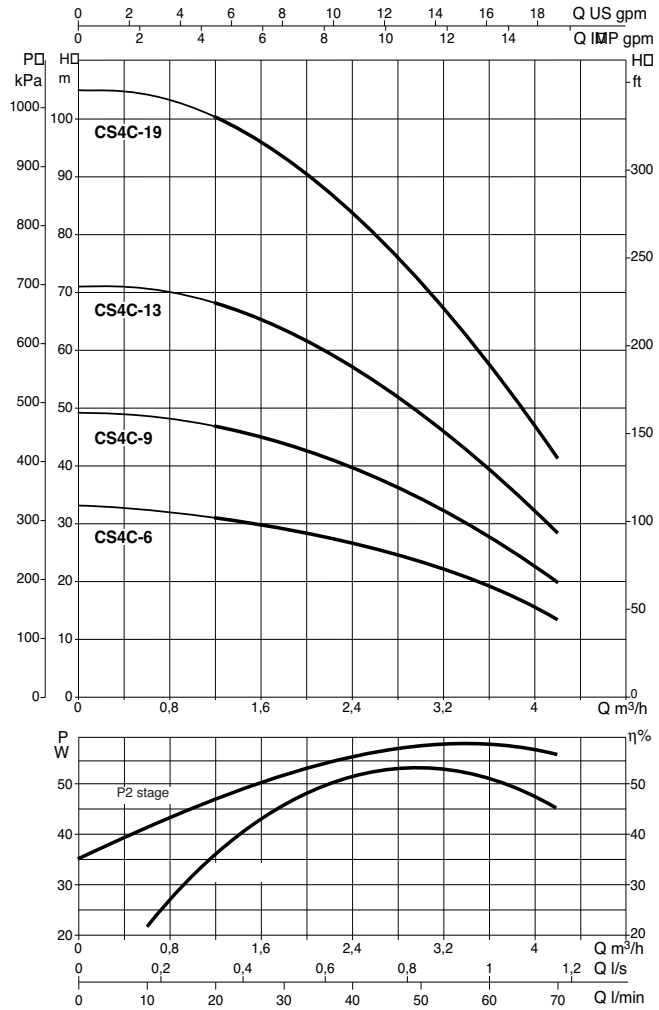
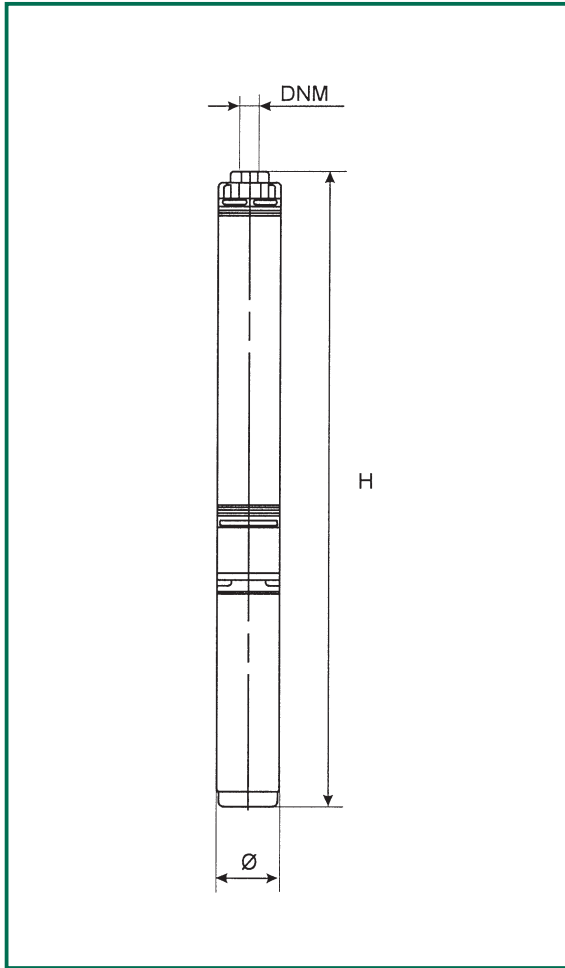
** 3x230 V ~ available on request.

⁽¹⁾ Dab motor: P2(kW) = 0,37 and P2(HP) = 0,5

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.

CS4C

Liquid temperature range: from 0°C to +40°C



MODEL	Ø (mm)	H Franklin motor (mm)	H Dab motor (mm)	DNM	PACKING DIMENSIONS (mm)			VOLUME m ³	WEIGHT Kg
					L/A	L/B	H		
CS4C-6 M	97	632	626	1" 1/4 G	815	90	250	0,018	14,3
CS4C-6 T	97	612	605	1" 1/4 G	815	90	250	0,018	12,3
CS4C-9 M	97	758	753	1" 1/4 G	945	90	250	0,021	16,2
CS4C-9 T	97	729	723	1" 1/4 G	815	90	250	0,018	13,8
CS4C-13 M	97	915	903	1" 1/4 G	1145	90	250	0,026	21,3
CS4C-13 T	97	888	883	1" 1/4 G	1145	90	250	0,026	19,1
CS4 C-19 M	97	1168	1172	1" 1/4 G	1375	90	250	0,030	25,3
CS4C-19 T	97	1110	1098	1" 1/4 G	1375	90	250	0,030	21,6

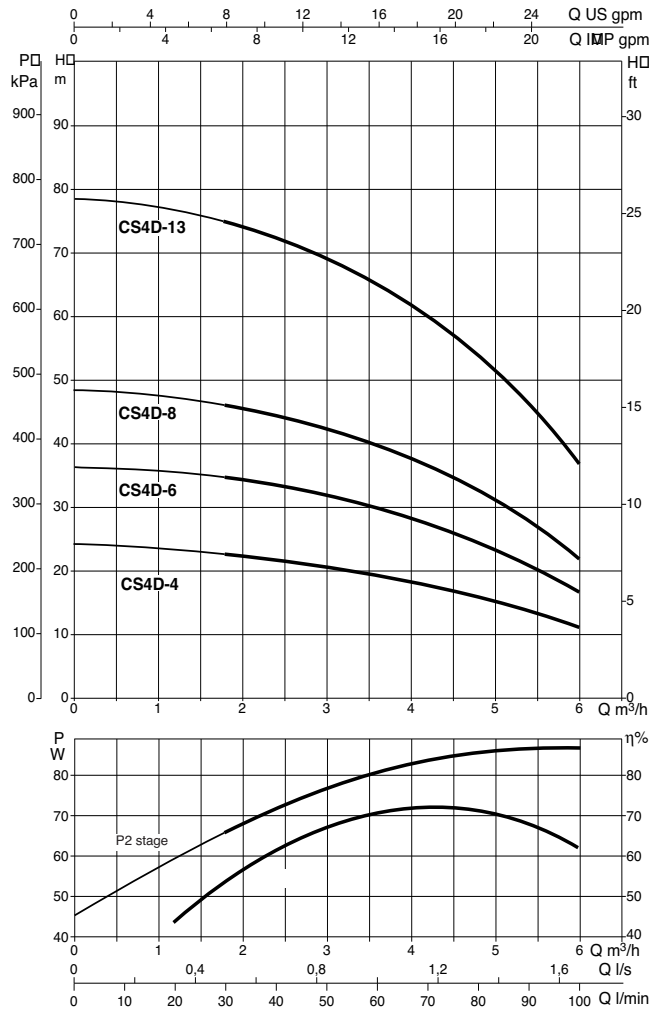
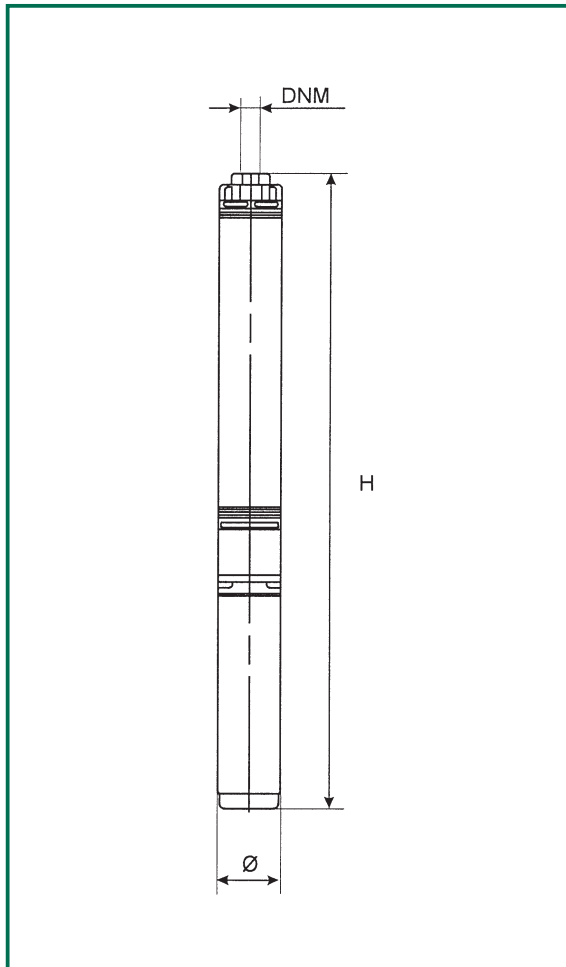
MODEL	ELECTRICAL DATA			HYDRAULIC DATA (n = 2850 1/min)									
	VOLTAGE 50 Hz	P2 NOMINAL		Q m ³ /h l/min	0	1,2	1,5	1,8	2,1	2,4	3	3,6	4,2
		kW	HP		0	20	25	30	35	40	50	60	70
CS4C-6 M	1x230 V ~*	0,37	0,5	H (m)	33	31,8	30,7	29,4	27,5	26,4	22,7	18,5	13,2
CS4C-6 T	3x400 V ~**	0,37	0,5		33	31,8	30,7	29,4	27,5	26,4	22,7	18,5	13,2
CS4C-9 M	1x230 V ~*	0,55	0,75		49,5	47,7	46	44	41,5	39,6	34	27,5	19,8
CS4C-9 T	3x400 V ~**	0,55	0,75		49,5	47,7	46	44	41,5	39,6	34	27,5	19,8
CS4C-13 M	1x230 V ~*	0,75	1		71,5	68,9	66,4	63,7	60,5	57,2	49,2	40	28,6
CS4C-13 T	3x400 V ~**	0,75	1		71,5	68,9	66,4	63,7	60,5	57,2	49,2	40	28,6
CS4 C-19 M	1x230 V ~*	1,1	1,5		104,5	100,7	97	93	87,8	83,6	71,8	58,5	41,8
CS4C-19 T	3x400 V ~**	1,1	1,5		104,5	100,7	97	93	87,8	83,6	71,8	58,5	41,8

* 1x220-230 V ~ for Franklin motor.
** 3x230 V ~ available on request.

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.

CS4D

Liquid temperature range: from 0°C to +40°C



MODEL	Ø (mm)	H Franklin motor (mm)	H Dab motor (mm)	DNM	PACKING DIMENSIONS (mm)			VOLUME m ³	WEIGHT Kg
					L/A	L/B	H		
CS4D-4 M	97	567	561	1" 1/4 G	815	90	250	0,018	14
CS4D-4 T	97	547	540	1" 1/4 G	815	90	250	0,018	12
CS4D-6 M	97	660	655	1" 1/4 G	815	90	250	0,018	15,6
CS4D-6 T	97	632	626	1" 1/4 G	815	90	250	0,018	13,3
CS4D-8 M	97	753	741	1" 1/4 G	945	90	250	0,021	17,3
CS4D-8 T	97	725	720	1" 1/4 G	815	90	250	0,018	15
CS4D-13 M	97	973	977	1" 1/4 G	1145	90	250	0,026	24,1
CS4D-13 T	97	915	903	1" 1/4 G	1145	90	250	0,026	20,4

MODEL	ELECTRICAL DATA			HYDRAULIC DATA (n ≈ 2850 1/min)									
	VOLTAGE 50 Hz	P2 NOMINAL		Q m ³ /h l/min	0	1,8	2,1	2,4	3	3,6	4,2	4,8	6
		kW	HP										
CS4D-4 M	1x230 V ~*	0,37	0,5	H (m)	24	23	22,5	22	21,8	19,9	18	16,2	11,2
CS4D-4 T	3x400 V ~**	0,37	0,5		24	23	22,5	22	21,8	19,9	18	16,2	11,2
CS4D-6 M	1x230 V ~*	0,55	0,75		36	34,5	33,7	33	31,5	29,8	27	24,3	16,8
CS4D-6 T	3x400 V ~**	0,55	0,75		36	34,5	33,7	33	31,5	29,8	27	24,3	16,8
CS4D-8 M	1x230 V ~*	0,75	1		48	46	45	44	42	40	36	32,5	22,4
CS4D-8 T	3x400 V ~**	0,75	1		48	46	45	44	42	40	36	32,5	22,4
CS4D-13 M	1x230 V ~*	1,1	1,5		78	74,7	73,2	71,5	68,3	64,6	59	52,6	36,4
CS4D-13 T	3x400 V ~**	1,1	1,5		78	74,7	73,2	71,5	68,3	64,6	59	52,6	36,4

* 1x220-230 V ~ per i motors Franklin.
** 3x230 V ~ fornibile su richiesta.