CS
4" SUBMERSIBLE PUMPS

TECHNICAL DATA

Operating range:
capacity up to 40 gpm; head up to 741 ft (320 psi)
Liquid quality requirements: clean, free from solid or abrasive contaminants, non-viscous, non-aggressive, uncrystallised and chemically neutral.
Liquid temperature range: from 32°F to +104°F
Installation: in 4" wells or larger, tanks and cisterns, vertical position.
Starts/hour: max 20.
Cooling flow: 9.84 ft/sec @ 95 °F
Maximum permitted amount of sand: 120 g/m^3.
Special executions on request: alternative voltages and/or frequencies.

On request, the single-phase version can be supplied with **CONTROL BOX 4CBUS** for the increase of the starting torque.

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

- Domestic and industrial water supply
- Acqueducts
- Fire-fighting systems
- Pressurizing water system
- Shower and running irrigation
- Several other industrial applications
- Farming and agriculture

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.

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	115V / 60 Hz.
	single-phase	230 V / 60 Hz.
	three-phase	230 V / 60 Hz.
	three-phase	460 V / 60 Hz.

SUPPLY

CS4 submersible electric pumps in the three-phase version are supplied as a pump and motor kit.

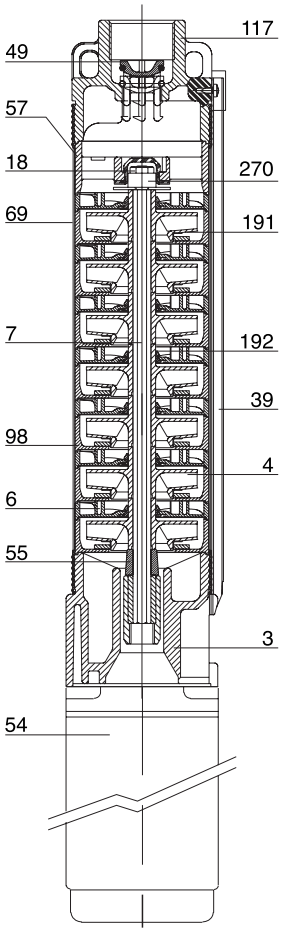
CS

4” SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY

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.



MOTOR OPTIONS

TW & TWX

4” submersible asynchronous two-pole, two wire 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 Resin filled 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 capacitor is included inside the motor stator, 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

GG & GX

4” submersible asynchronous two-pole, three wire 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 Resin filled 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 motor is suitable for use with variable frequency drive (30 Hz - 60 Hz). For the 60 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.

OL & OLTW

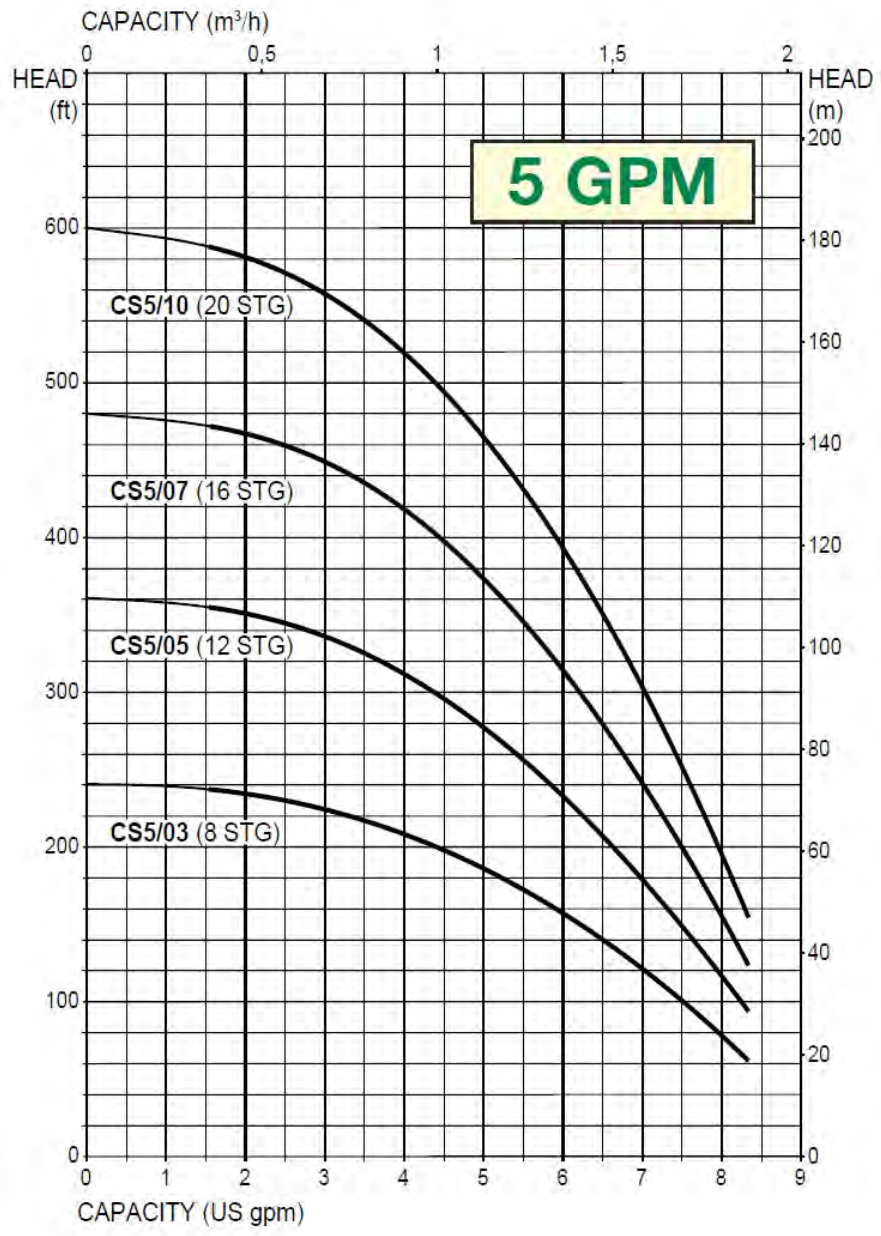
4” rewindable submersible asynchronous two-pole electric motor made entirely of AISI 304 stainless steel for the parts in contact with water. Cooling and lubrication of ball bearings is assured by a special FDA approved coolant. Stator housed in a AISI 304L stainless steel casing fixed with steel pins to the upper support of the motor. The cable connector is removable for the purpose of quick and easy maintenance. The 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.

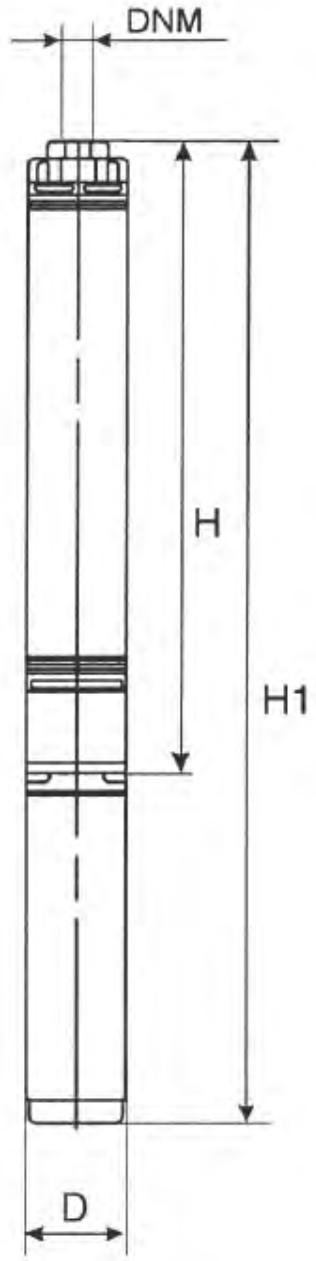
S46 PERFORMANCE CHART Tolerances according to ISO 2548 class C ann. B

60 Hz 2 Poles			FLOW (USgpm)																	
Type	HP	Q gpm	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	35	40
CS5/03	1/2	Head (Feet)	240	237	209	158	78													
CS5/05	1/2		360	351	312	235	118													
CS5/07	3/4		480	468	418	317	156													
CS5/10	1.0		600	582	518	388	196													
CS8/03	1/2		148		143	137	112	104	75											
CS8/05	1/2		207		200	192	176	152	99											
CS8/07	3/4		297		286	268	246	214	142											
CS8/10	1.0		382		371	352	319	278	187											
CS8/15	1.5		528		516	486	418	377	260											
CS12/05	1/2		240		226	212	192	170	140	116	84									
CS12/07	3/4		322		302	282	258	228	197	158	118									
CS12/10	1.0		423		411	384	352	306	263	214	161									
CS12/15	1.5		592		562	528	480	422	351	288	217									
CS12/20	2.0		741		718	678	618	540	450	364	264									
CS16/03	1/2		106			102	97	92	87	82	77	72	64	53						
CS16/05	1/2		158			150	148	143	138	128	118	108	98	87						
CS16/07	3/4		214			204	196	188	180	168	155	142	124	106						
CS16/10	1.0		262			256	246	236	224	210	194	178	158	134						
CS16/15	1.5		368			358	342	336	318	300	278	252	222	186						
CS16/20	2.0		476			462	446	430	410	385	354	322	283	240						
CS25/05	1/2		118					115	112	110	107	103	99	94	89	83	76	69	50	27
CS25/07	3/4		150					143	140	137	134	130	124	118	112	105	98	88	63	37
CS25/10	1.0		205					200	197	193	189	182	174	166	157	148	137	124	90	50
CS25/15	1.5		264					258	252	247	240	232	223	213	201	188	175	158	116	64
CS25/20	2.0		354					344	338	331	323	311	298	283	269	251	232	210	152	86

CS 5

4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY





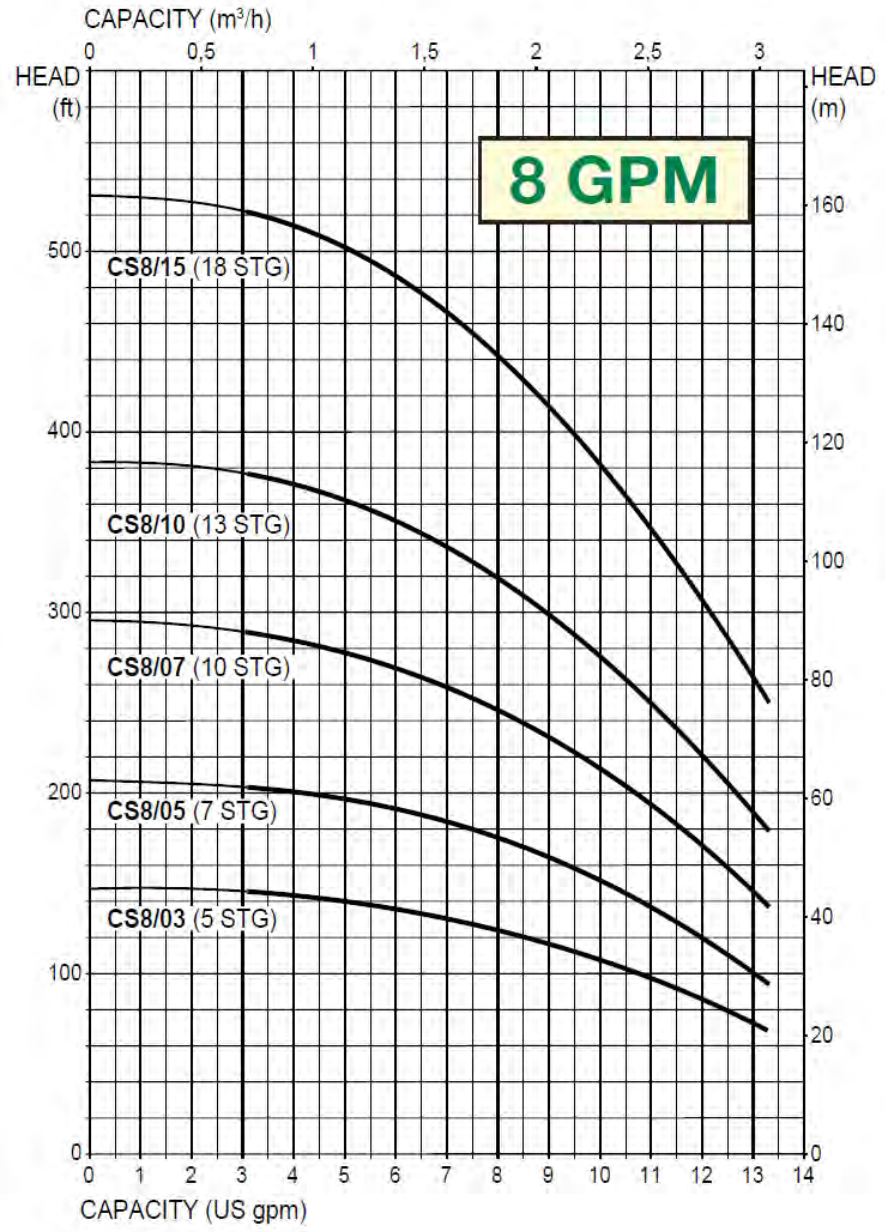
The performance curves are based on the kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

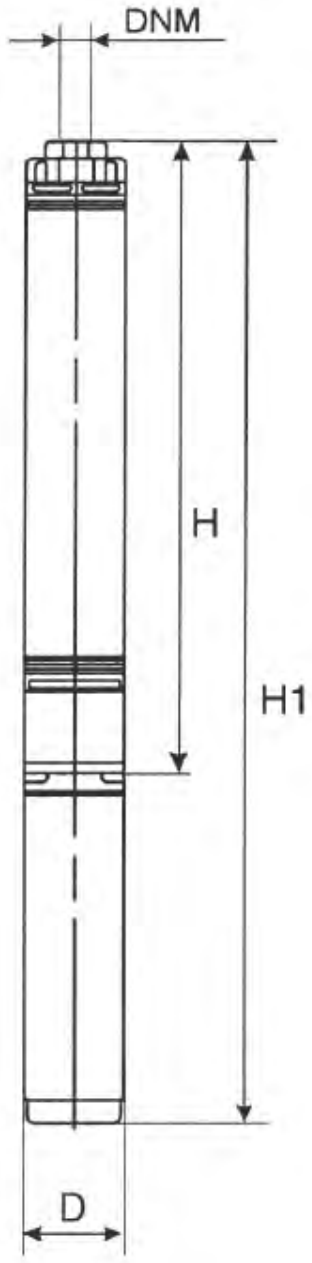
DIMMENSIONS, WEIGHT & ELECTRICAL DATA

MODEL	ELECTRICAL DATA				DIMMENSIONAL DATA				WEIGHT (lbs)		
	STAGES	HP	KW	Service Factor	D (in)	H (in)	H1 (in)	DNM (in)	PUMP END ONLY	MOTOR ONLY	PUMP TOTAL
CS 5/03 D 4	8	0.5	0.44	1.75	3.82	13.9	24.37	1" 1/4 NPT	5.73	17.62	23.35
CS 5/05 D 4	12	0.5	0.59	1.6	3.82	17.0	27.47	1" 1/4 NPT	6.01	17.62	23.63
CS 5/07 D 4	16	0.75	0.83	1.5	3.82	20.2	31.46	1" 1/4 NPT	8.15	19.82	27.97
CS 5/10 D 4	20	1.0	1	1.4	3.82	23.3	36.33	1" 1/4 NPT	9.25	24.23	33.48

CS 8

4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY





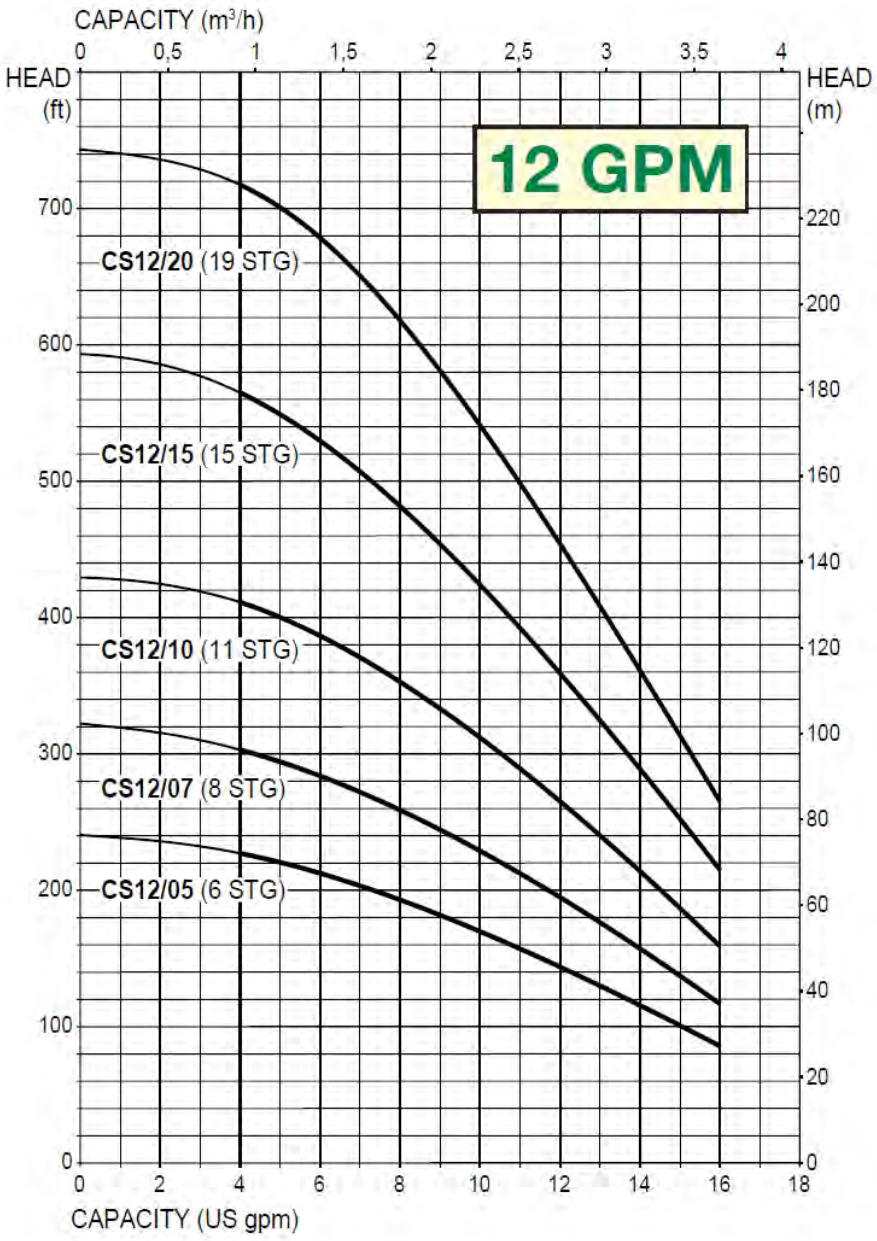
The performance curves are based on the kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

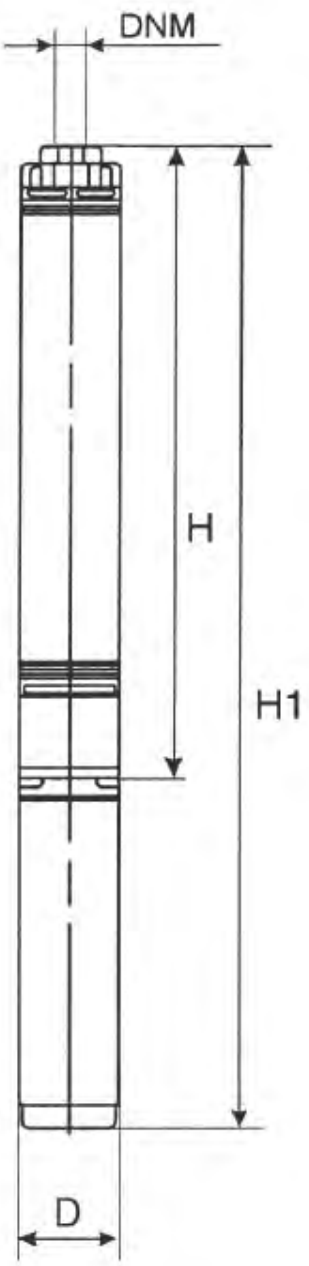
DIMMENSIONS, WEIGHT & ELECTRICAL DATA

MODEL	ELECTRICAL DATA				DIMMENSIONAL DATA				WEIGHT (lbs)		
	STAGES	HP	KW	Service Factor	D (in)	H (in)	H1 (in)	DNM (in)	PUMP END ONLY	GG MOTOR ONLY	PUMP TOTAL
CS 8/03 D 4	5	0.5	0.44	1.75	3.82	12.0	22.47	1" 1/4 NPT	5.07	17.62	22.69
CS 8/05 D 4	7	0.5	0.59	1.6	3.82	13.8	24.27	1" 1/4 NPT	5.51	17.62	23.13
CS 8/07 D 4	10	0.75	0.83	1.5	3.82	16.4	27.66	1" 1/4 NPT	6.6	19.82	26.42
CS 8/10 D 4	13	1.0	1.0	1.4	3.82	19.1	32.13	1" 1/4 NPT	7.27	24.23	31.5
CS 8/15 D 4	18	1.5	1.4	1.3	3.82	23.5	38.89	1" 1/4 NPT	8.81	28.63	37.44

CS 12

4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY





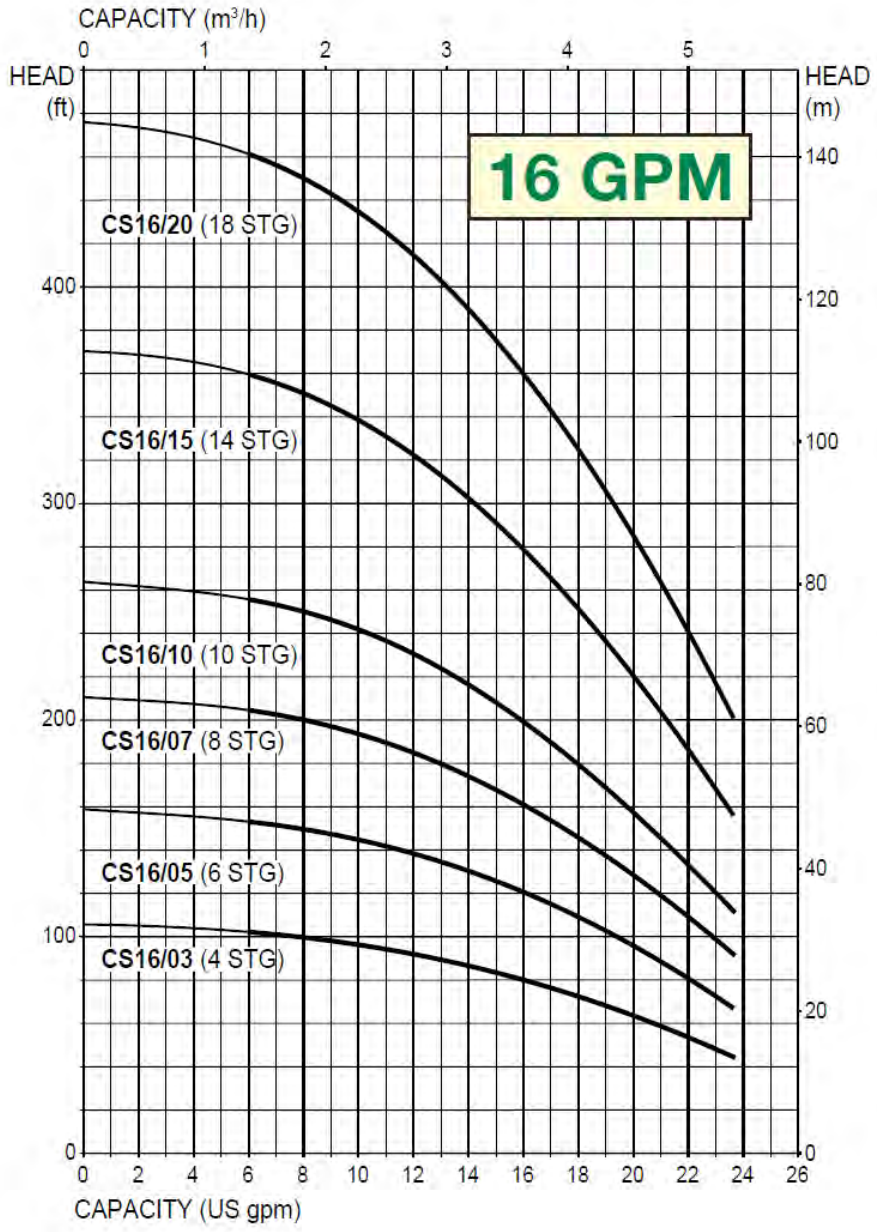
The performance curves are based on the kinematic viscosity values = 1 mm²/s and density equivalent to 1000 kg/m³. Curve tolerance according to ISO 9906.

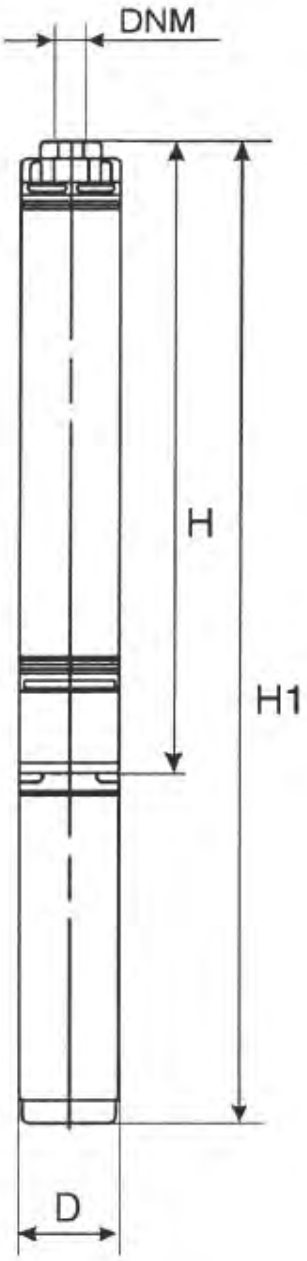
DIMMENSIONS, WEIGHT & ELECTRICAL DATA

MODEL	ELECTRICAL DATA				DIMMENSIONAL DATA				WEIGHT (lbs)		
	STAGES	HP	KW	Service Factor	D (in)	H (in)	H1 (in)	DNM (in)	PUMP END ONLY	GG MOTOR ONLY	PUMP TOTAL
CS 12/05 D 4	6	0.5	0.59	1.6	3.82	12.9	23.37	1" 1/4 NPT	5.07	17.62	22.69
CS 12/07 D 4	8	0.75	0.83	1.5	3.82	14.6	25.86	1" 1/4 NPT	5.73	19.82	25.55
CS 12/10 D 4	11	1.0	1.0	1.4	3.82	17.3	30.33	1" 1/4 NPT	6.6	24.23	30.83
CS 12/15 D 4	15	1.5	1.4	1.3	3.82	20.8	36.19	1" 1/4 NPT	7.5	28.63	36.13
CS 12/20 D 4	19	2.0	1.8	1.25	3.82	24.4	40.58	1" 1/4 NPT	8.81	30.84	39.65

CS 16

4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY





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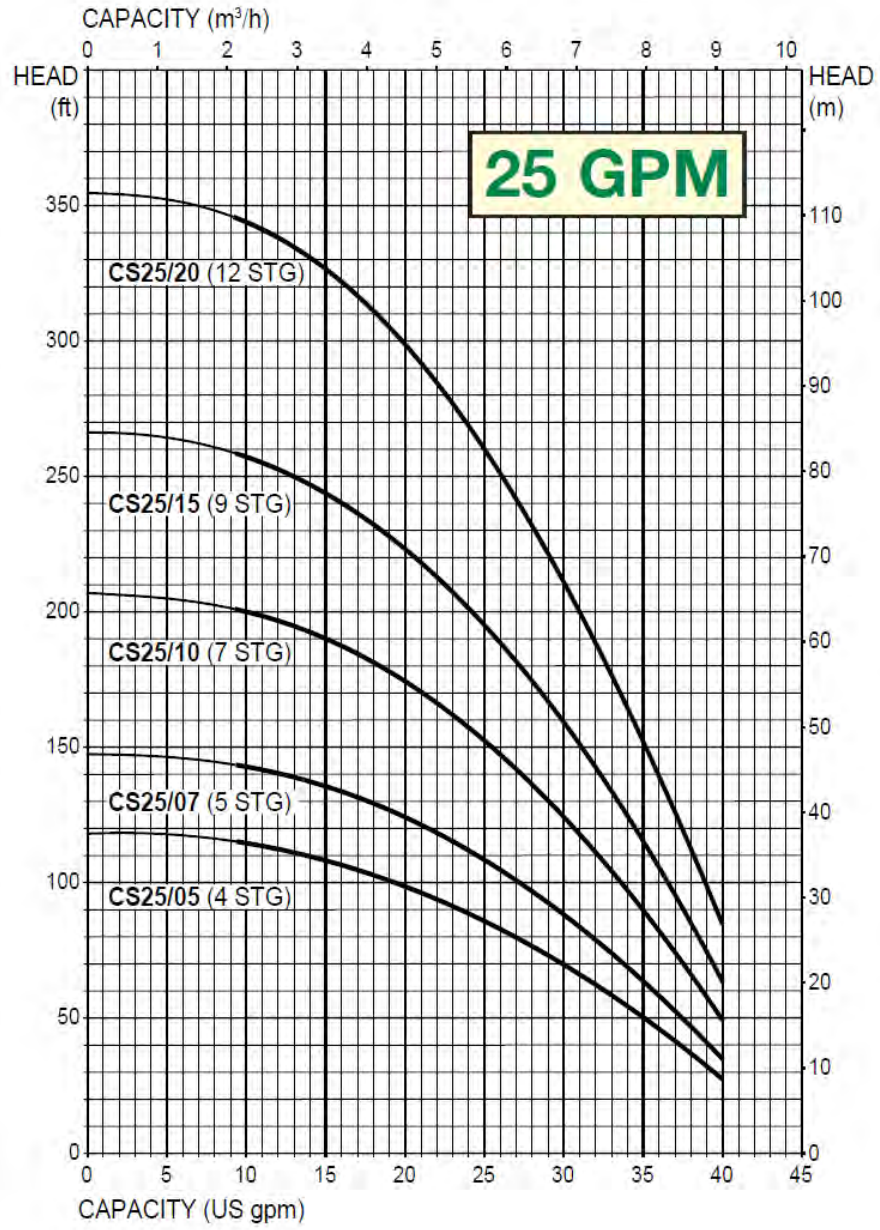
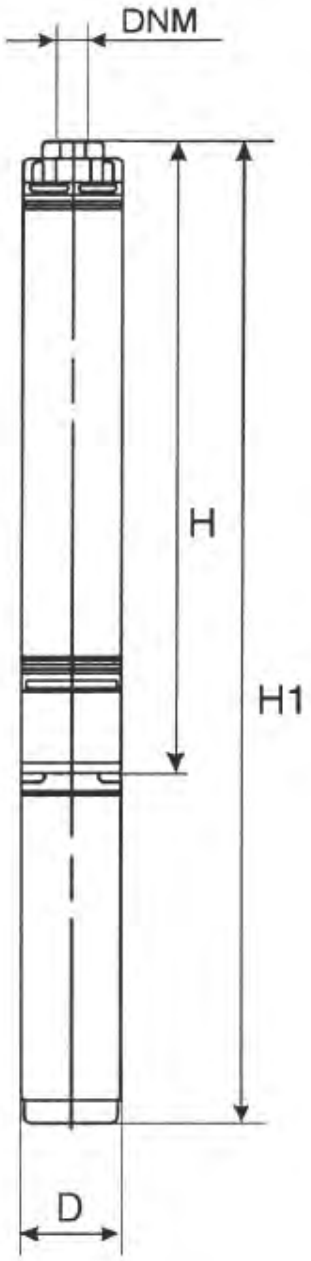
DIMMENSIONS, WEIGHT & ELECTRICAL DATA

MODEL	ELECTRICAL DATA				DIMMENSIONAL DATA				WEIGHT (lbs)		
	STAGES	HP	KW	Service Factor	D (in)	H (in)	H1 (in)	DNM (in)	PUMP END ONLY	GG MOTOR ONLY	PUMP TOTAL
CS 16/03 D 4	4	0.5	0.44	1.75	3.82	12.7	23.17	1" 1/4 NPT	5.30	17.62	22.92
CS 25/05 D 4	6	0.5	0.59	1.6	3.82	15.2	25.67	1" 1/4 NPT	5.73	17.62	23.35
CS 25/07 D 4	8	0.75	0.83	1.5	3.82	17.8	29.06	1" 1/4 NPT	6.6	19.82	26.42
CS 25/10 D 4	10	1.0	1.0	1.4	3.82	20.4	33.43	1" 1/4 NPT	7.5	24.23	31.73
CS 25/15 D 4	14	1.5	1.4	1.3	3.82	25.5	40.89	1" 1/4 NPT	8.8	28.63	37.43
CS 25/20 D 4	18	2.0	1.8	1.25	3.82	30.6	46.78	1" 1/4 NPT	11.01	30.84	41.85

CS 25

4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY





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DIMMENSIONS, WEIGHT & ELECTRICAL DATA

MODEL	ELECTRICAL DATA				DIMMENSIONAL DATA				WEIGHT (lbs)		
	STAGES	HP	KW	Service Factor	D (in)	H (in)	H1 (in)	DNM (in)	PUMP END ONLY	MOTOR ONLY	PUMP TOTAL
CS 25/05 D 4	4	0.5	0.59	1.6	3.82	12.7	23.17	1"1/4 NPT	5.70	17.62	23.32
CS 25/07 D 4	5	0.75	0.83	1.5	3.82	14.0	25.26	1"1/4 NPT	5.51	19.82	25.33
CS 25/10 D 4	7	1	1	1.4	3.82	16.5	29.53	1"1/4 NPT	6.20	24.23	30.43
CS 25/15 D 4	9	1.5	1.4	1.3	3.82	19.1	34.49	1"1/4 NPT	6.83	28.63	35.46
CS 25/20 D 4	12	2.0	1.8	1.25	3.82	22.9	39.08	1"1/4 NPT	8.81	30.84	39.65