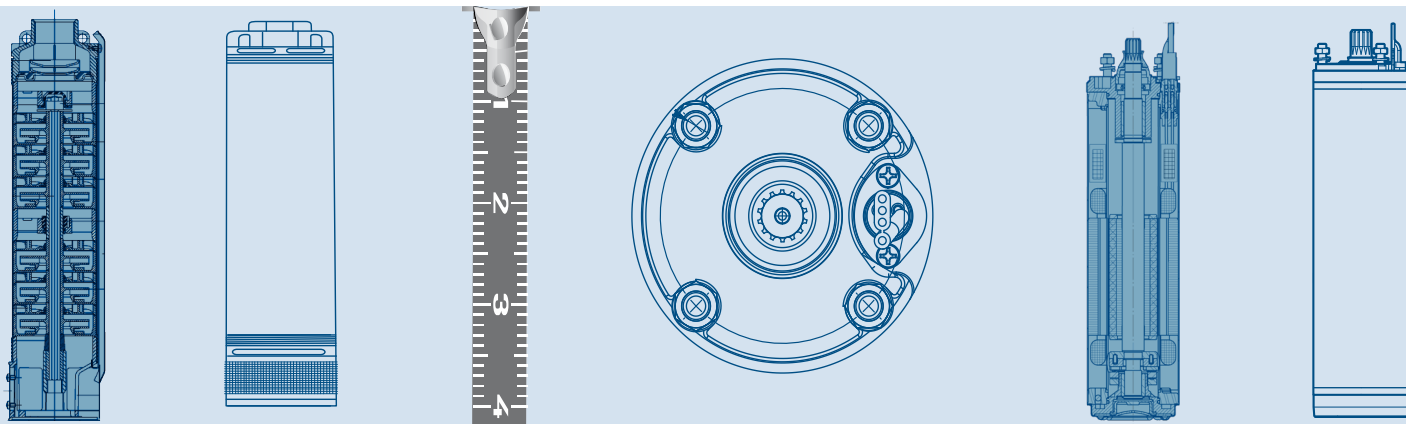


PRO SERIES 4" SUBMERSIBLE PUMPS AND TESLA 4" SUBMERSIBLE MOTORS



4" PRO SERIES

5 GPM

7 GPM

12 GPM

16 GPM

25 GPM

35 GPM

75 GPM

PERFORMANCE QUALITY SERVICE TRUST

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4" SUBMERSIBLE PUMPS



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4" SUBMERSIBLE MOTORS



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TF - 4" SUBMERSIBLE PUMPS



TECHNICAL DATA

Operating range:

capacity up to 122 gpm; head up to 1028 ft (445 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

Maximum permitted amount of sand: 120 g/m³.
300 gr/m³ (only for S75)

Installation: in 4" wells or larger, tanks and cisterns, vertical position.

Starts/hour: max 20.

Cooling flow: 9.84 ft/sec @ 95 °F

Special executions on requests: 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

TF- 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 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.

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

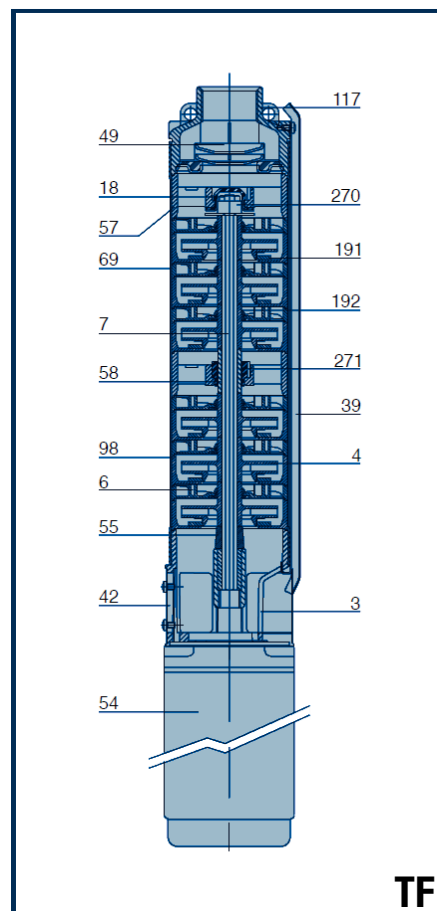
TF - submersible electric pumps in the three-phase version are supplied as a pump and motor kit.

TF 4

TF - 4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY 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.



MOTOR OPTIONS

TW

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 capacitor is included in 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

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 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.

TF - 5 GPM

TF - 4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY

PRO 4 PERFORMANCE CHART

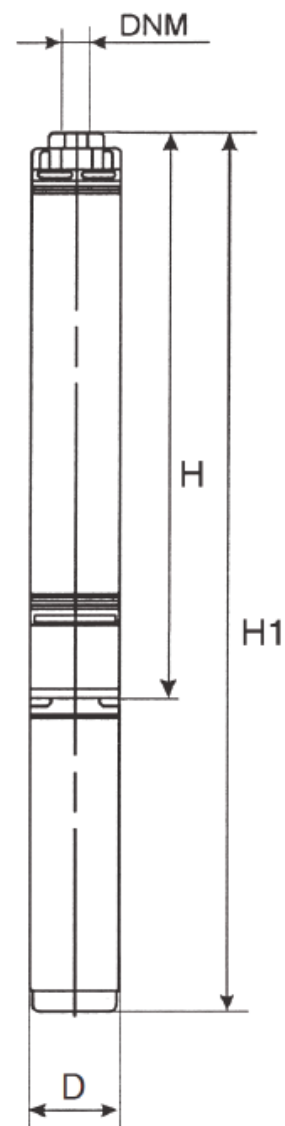
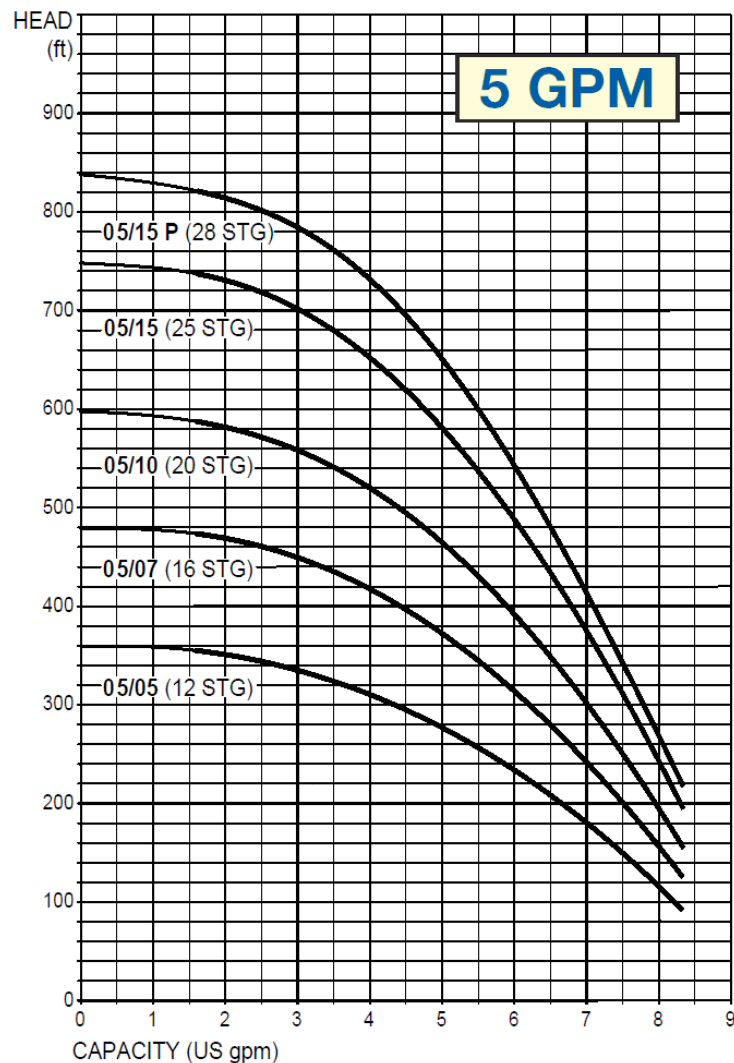
CAPACITY IN U.S. GALLONS PER MINUTE

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																									
			20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	340	380	420	460	500	540	580	620	660		
TF-0505	1/2	0					7.7	7.4	7.1	6.8	6.5	6.1	5.7	5.3	4.9	4.4	3.8	2.4										
		20			7.6	7.3	7	6.7	6.4	5.9	5.6	5.2	4.7	4.2	3.6	3	2											
		30		7.6	7.3	7	6.7	6.4	5.9	5.6	5.2	4.7	4.2	3.6	2.9	1.9												
		40	7.5	7.2	6.9	6.6	6.2	5.8	5.5	5.2	4.6	4.1	3.5	2.7	1.6													
		50	7.2	6.9	6.5	6.2	5.8	5.4	5	4.5	4	3.4	2.6	1.3														
		60	6.8	6.4	6.1	5.7	5.3	4.9	4.4	3.9	3.3	2.4	1															
Max Shut-Off PSI			147	139	130	121	113	104	95	87	78	69	61	52	43	35	26	9										
TF-0507	3/4	0						7.9	7.7	7.4	7.2	6.9	6.7	6.4	6.1	5.8	5.5	4.9	4.1	3.1	1.7							
		20				7.8	7.6	7.3	7.1	6.8	6.6	6.3	5.7	5.5	5.1	4.8	4	3	1.5									
		30			7.8	7.6	7.3	7.1	6.8	6.6	6.3	6	5.7	5.4	5.1	4.7	4.3	3.4	2.2									
		40		7.8	7.6	7.3	7.1	6.8	6.6	6.3	6	5.7	5.4	5.1	4.7	4.3	3.8	2.8										
		50	7.7	7.5	7.2	7	6.7	6.5	6.2	5.9	5.6	5.3	5	4.6	4.2	3.3	2											
		60	7.5	7.2	7	6.7	6.5	6.2	5.9	5.6	5.3	5	4.6	4.2	3.8	3.3	2.6											
Max Shut-Off PSI			200	191	183	174	165	157	148	139	130	122	113	104	96	87	78	61	44	26	9							
TF-0510	1	0							7.8	7.7	7.5	7.3	7.2	7	6.8	6.6	6.2	5.7	5.2	4.6	3.8	2.8	1.4					
		20						7.8	7.7	7.5	7.3	7.2	7	6.8	6.6	6.3	6.1	5.6	5.1	4.5	3.7	2.7						
		30					7.8	7.7	7.5	7.3	7.2	7	6.8	6.6	6.3	6.1	5.8	5.3	4.7	4	3.1	1.9						
		40				7.7	7.5	7.3	7.2	7.1	6.9	6.7	6.5	6.3	6.1	5.8	5.4	5	4.3	3.5	2.5							
		50			7.7	7.5	7.3	7.2	7.1	6.9	6.7	6.5	6.3	6.1	5.8	5.4	5.1	4.7	3.9	3	1.6							
		60		7.7	7.5	7.3	7.2	7.1	6.9	6.7	6.5	6.3	6	5.7	5.5	5.2	4.9	4.2	3.4	2.2								
Max Shut-Off PSI				242	234	225	216	208	199	190	182	173	164	156	147	138	130	112	95	78	60	43	26	8				

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																									
			100	120	140	160	180	200	220	240	260	280	300	340	380	420	460	500	540	580	620	660	700	740	780	820		
TF-0515	1 1/2	0						7.8	7.6	7.5	7.3	7.2	7	6.7	6.4	6	5.7	5.3	4.8	4.4	3.8	3.2	2.4					
		20				7.7	7.6	7.4	7.3	7.1	6.9	6.8	6.6	6.3	6	5.6	5.2	4.8	4.3	3.8	3.1	2.2						
		30			7.7	7.5	7.4	7.2	7.1	6.9	6.8	6.6	6.4	6.1	5.8	5.4	5	4.5	4	3.4	2.6							
		40		7.7	7.5	7.4	7.2	7.1	6.9	6.8	6.6	6.4	6.3	5.9	5.5	5.1	4.7	4.2	3.7	3	2.1							
		50	7.7	7.5	7.4	7.2	7.1	6.9	6.8	6.6	6.4	6.3	6.1	5.7	5.3	4.9	4.4	4	3.3	2.5								
		60	7.5	7.3	7.2	7	6.9	6.7	6.5	6.4	6.2	6	5.8	5.5	5.1	4.6	4.2	3.6	2.9									
Max Shut-Off PSI			281	272	264	255	246	238	229	220	212	203	194	177	160	142	125	108	90	73	55	38	21					
TF-0515P	1 1/2	0						7.8	7.7	7.6	7.4	7.3	7.1	6.8	6.5	6.2	5.9	5.5	5.2	4.8	4.3	3.8	3.2	2.4				
		20					7.8	7.7	7.6	7.4	7.3	7.2	7.1	6.8	6.5	6.2	5.9	5.5	5.2	4.8	4.3	3.8	3.2	2.4				
		30				7.8	7.7	7.6	7.4	7.3	7.2	7.1	6.9	6.6	6.3	6	5.6	5.3	4.9	4.5	4	3.4	2.6					
		40			7.7	7.6	7.5	7.4	7.2	7.1	7	6.9	6.7	6.4	6.1	5.8	5.4	5	4.6	4.2	3.6	3	2					
		50	7.8	7.7	7.6	7.5	7.3	7.2	7.1	7	6.8	6.7	6.5	6.2	5.9	5.6	5.2	4.8	4.4	3.9	3.3	2.5						
		60	7.7	7.6	7.5	7.3	7.2	7.1	6.8	6.6	6.5	6.3	6.1	5.7	5.4	5	4.6	4.1	3.5	2.9								
Max Shut-Off PSI			318	310	301	292	284	275	266	258	249	240	232	214	197	179	162	145	127	110	93	75	58	41	23			

TF - 5 GPM

TF - 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				DIMENSIONAL DATA				WEIGHT (lbs)		
	STAGES	HP	KW	Service Factor	D (in)	H (in)	H1 (in)	DNM (in)	PUMP END ONLY	3 Wire GG MOTOR ONLY	PUMP TOTAL
TF - 0505	12	0.5	0.37	1.6	3.82	16.5	26.97	1" 1/4 NPT	9.03	19.4	28.43
TF - 0507	16	0.75	0.55	1.5	3.82	19.6	30.86	1" 1/4 NPT	10.13	21.4	31.52
TF - 0510	20	1.0	0.75	1.4	3.82	22.8	36.42	1" 1/4 NPT	11.01	27.8	38.81
TF - 0515	25	1.5	1.1	1.3	3.82	26.7	42.88	1" 1/4 NPT	12.34	32.5	44.84
TF - 0515P	28	1.5	1.1	1.25	3.82	29.1	45.28	1" 1/4 NPT	13.00	32.5	45.5

TF - 7 GPM

TF - 4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY

PRO 4 PERFORMANCE CHART

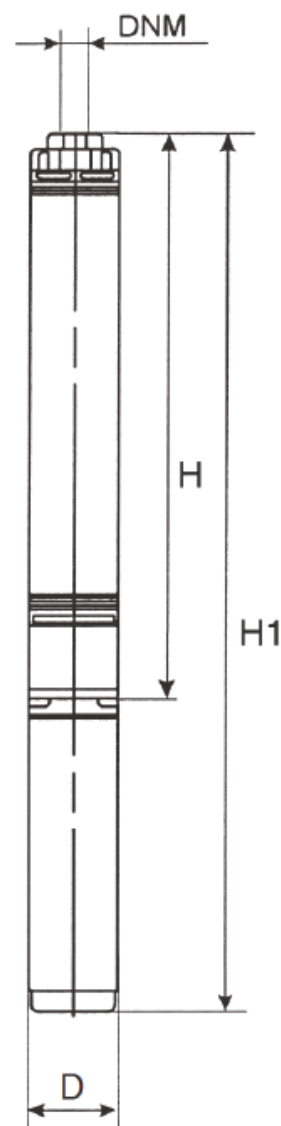
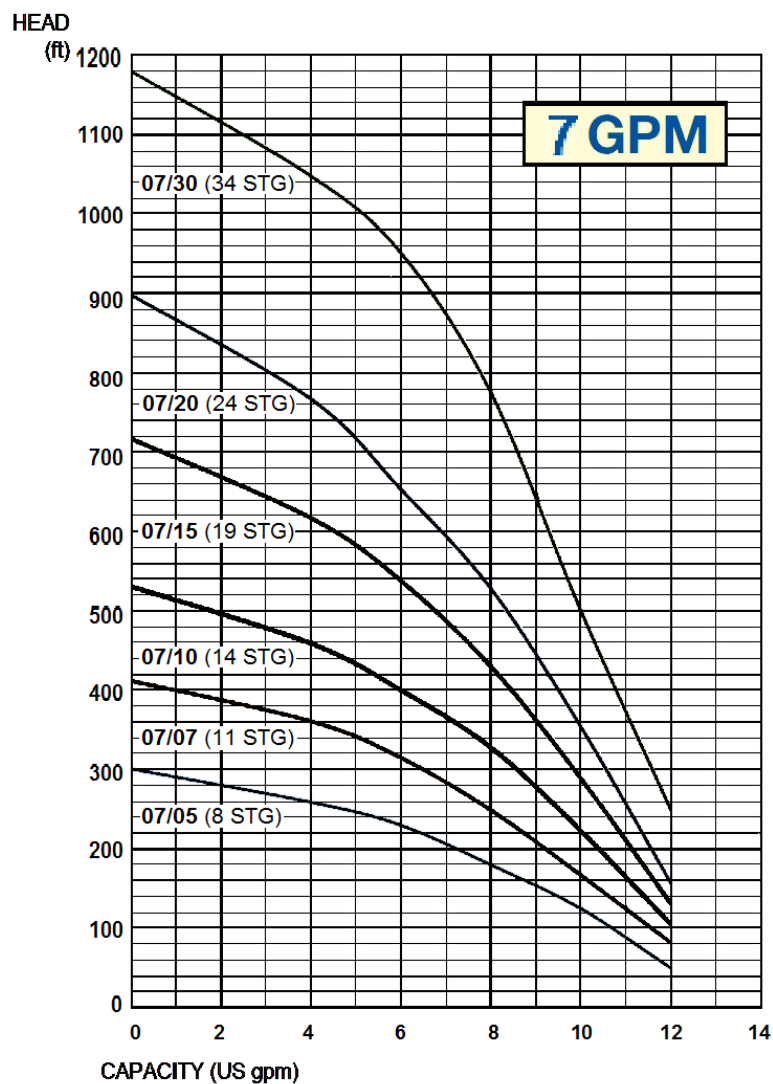
CAPACITY IN U.S. GALLONS PER MINUTE

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																											
			20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	440	480	520	560				
TF-0705-8	½	0			11.7	11.2	10.7	10.2	9.5	8.8	8.0	7.2	6.4	5.4	3.8	1.6														
		20	11.5	11.0	10.5	10.0	9.3	8.6	7.8	7.0	6.2	5.2	3.6	0.6																
		30	10.9	10.4	9.9	9.2	8.3	7.6	6.9	6.0	4.6	2.5	1.1																	
		40	10.4	9.7	9.1	8.3	7.6	6.9	6.0	4.1	3.0	1.0																		
		50	9.7	8.8	8.0	7.2	6.4	5.4	3.8	1.8	0.5																			
		60	8.8	8.0	7.2	6.4	5.4	3.8	1.8																					
Max Shut-off PSI			122	113	104	96	87	78	70	61	52	44	35	26	18	9														
TF-0707-11	¾	0				12	11.6	11.1	10.6	10.2	9.7	9.2	8.7	8.2	7.7	7.1	6.5	5.8	5	4	2.6	1								
		20		11.9	11.4	10.9	10.4	10	9.5	9	8.5	8	7.5	6.9	6.3	5.6	4.8	3.7	2.2	0.6										
		30	11.8	11.3	10.9	10.4	9.9	9.4	9	8.5	7.9	7.4	6.9	6.2	5.4	4.5	3.3	1.6												
		40	11.3	10.9	10.4	9.9	9.4	8.9	8.4	7.9	7.4	6.9	6.2	5.4	4.5	3.2	1.6													
		50	10.8	10.3	9.8	9.3	8.8	8.3	7.8	7.3	6.8	6.1	5.3	4.4	3.1	1.4														
		60	10.1	9.5	9	8.5	8	7.5	7	6.5	5.8	5	4.1	2.7	1.1															
Max Shut-off PSI			170	161	152	144	135	126	118	109	100	92	83	74	66	57	48	40	31	23	14	5								
TF-0710-14	1	0					12	11.7	11.4	11.1	10.7	10.4	10	9.7	9.3	9	8.6	8.1	7.7	7.2	6.6	6	4.7	2.9	0.6					
		20			11.9	11.6	11.2	10.9	10.5	10.2	9.8	9.5	9.1	8.8	8.4	7.9	7.5	7	6.4	5.8	5.2	4.5	2.7	0.5						
		30		11.9	11.7	11.2	10.9	10.6	10.2	9.9	9.5	9.2	8.8	8.4	7.9	7.5	6.9	6.3	5.7	5.1	4.4	3.5	1.2							
		40	11.8	11.6	11.1	10.8	10.5	10.1	9.8	9.4	9.1	8.7	8.3	7.8	7.4	6.8	6.2	5.6	5	4.3	3.4	2.3								
		50	11.6	11.1	10.8	10.5	10.1	9.8	9.4	9.1	8.7	8.3	7.8	7.4	6.8	6.2	5.6	5	4.3	3.3	2.1									
		60	11	10.7	10.4	10	9.7	9.3	9	8.6	8.2	7.7	7.3	6.7	6.1	5.5	4.9	4.2	3.2	2										
Max Shut-Off PS			221	213	204	195	187	178	169	161	152	143	135	126	117	109	100	91	83	74	65	57	39	22	5					

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																							
			200	240	280	320	360	400	440	480	520	560	600	640	680	720	760	800	850	900	950	1000	1050	1100	1150	1200
TF-0715-19	1½	0	11.1	10.6	10.1	9.5	9	8.4	7.8	7.1	6.4	5.6	4.6	3.1	1.5											
		20	10.5	10	9.4	8.9	8.3	7.7	7	6.3	5.5	4.5	2.9	1.4												
		30	10.2	9.7	9.2	8.6	8	7.3	6.6	5.8	4.8	3.5	2.1	0.3												
		40	9.9	9.4	8.9	8.3	7.6	6.9	6.1	5.3	4.2	2.7	0.9													
		50	9.6	9	8.4	7.8	7.1	6.4	5.6	4.6	3.3	2.1														
		60	9.3	8.8	8.2	7.5	6.8	6	5.2	4.1	2.6	0.8														
Max Shut-Off PS			224	206	189	172	155	137	120	103	85	68	51	33	16											
TF-0720-24	2	0	11.5	11.2	10.7	10.3	9.9	9.5	9.1	8.6	8.1	7.5	6.9	6.2	5.6	4.9	4.3	3	1.6							
		20	11.1	10.6	10.2	9.8	9.4	9	8.5	8	7.4	6.8	6.1	5.5	4.8	4.2	2.9	1.5								
		30	10.9	10.4	10	9.6	9.1	8.7	8.2	7.7	7.1	6.4	5.8	5.1	4.4	3.4	2.1	0.9								
		40	10.7	10.2	9.8	9.4	8.9	8.4	7.8	7.3	6.7	6	5.4	4.8	3.9	2.8	1.6									
		50	10.4	9.9	9.5	9.1	8.6	8.1	7.5	7	6.3	5.7	5	4.3	3.2	2	0.9									
		60	9.9	9.5	9.1	8.6	8.1	7.5	7	6.4	5.7	5.1	4.5	3.6	2.5	1.3										
Max Shut-Off PSI			302	285	268	250	233	216	198	181	164	146	129	112	94	77	60	42	21							
TF-0730-34	3	0			11.7	11.4	11.2	10.8	10.5	10.2	9.9	9.6	9.3	9	8.7	8.4	8.1	7.8	7.3	6.7	6	5.1	3.9	2.4	0.9	
		20	12	11.7	11.3	11.1	10.7	10.4	10.1	9.8	9.5	9.2	8.9	8.6	8.3	8	7.7	7.3	6.7	6.1	5.3	4.1	2.6	1.2		
		30	11.8	11.5	11.2	10.9	10.6	10.3	10	9.7	9.4	9.1	8.8	8.5	8.2	7.9	7.5	7.1	6.4	5.7	4.7	3.3	1.8	0.4		
		40	11.6	11.3	10.9	10.6	10.3	10	9.7	9.4	9.1	8.9	8.5	8.2	7.9	7.6	7.2	6.8	6.1	5.3	4.1	2.7	1			
		50	11.5	11.1	10.7	10.4	10.1	9.8	9.5	9.2	8.9	8.7	8.3	8	7.7	7.4	7	6.6	5.9	4.8	3.5	2	0.5			
		60	11.2	10.9	10.6	10.3	10	9.7	9.4	9.1	8.9	8.5	8.2	7.9	7.6	7.2	6.8	6.1	5.3	4.1	2.7	1.2				
MAX SHUT-OFF PSI			424	407	390	372	355	338	320	303	286	268	251	234	216	199	182	165	143	121	100	78	56	35	13	

TF - 7 GPM

TF - 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	3 Wire GG MOTOR ONLY	PUMP TOTAL
TF - 0705	7	0.5	0.37	1.6	3.82	13.2	23.67	1" 1/4 NPT	7.93	19.4	27.33
TF - 0707	10	0.75	0.55	1.5	3.82	15.9	27.16	1" 1/4 NPT	8.81	21.4	30.21
TF - 0710	13	1.0	0.75	1.4	3.82	18.6	32.22	1" 1/4 NPT	9.47	27.8	41.42
TF - 0715	18	1.5	1.1	1.3	3.82	23.0	39.18	1" 1/4 NPT	11.01	32.5	43.51
TF - 0720	23	2.0	1.5	1.25	3.82	27.4	43.58	1" 1/4 NPT	12.55	32.7	45.25
TF - 0730	31	3.0	2.2	1.15	3.82	34.5	55.92	1" 1/4 NPT	15.20	45.2	60.40

TF - 12 GPM

TF - 4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY

PRO 4 PERFORMANCE CHART

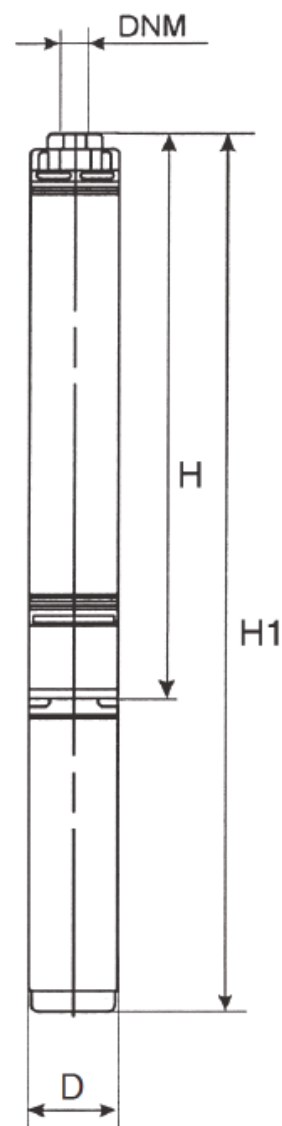
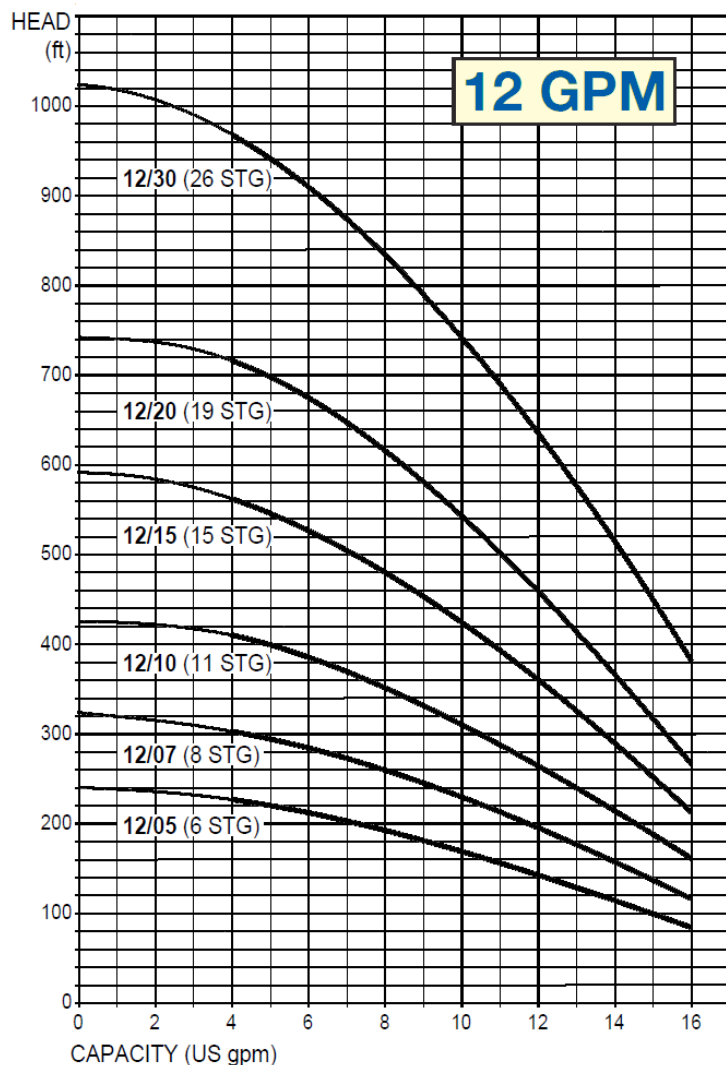
CAPACITY IN U.S. GALLONS PER MINUTE

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																									
			20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480		
TF-1205-06	1/2	0					14.8	13.5	12.1	10.6	9.1	7.2	5.1															
		20			14.5	13.1	11.7	10.2	8.7	6.8	4.1																	
		30	15.6	14.3	12.8	11.6	9.8	8.3	6.4	3.4																		
		40	14.1	12.6	11.2	9.6	8.7	6.2	2.8																			
		50	12.5	11.1	9.4	6.9	5.9	1.3																				
		60	10.8	9.2	6.7	5.5	0.8																					
Max Shut-off PSI			95	87	78	69	61	52	43	35	26	17	9	0														
TF-1207-08	3/4	0						15.8	14.8	13.8	12.8	11.8	10.6	9.4	8	6.2	4.4	0.9										
		20				15.6	14.5	13.4	12.4	11.4	10.4	9	7.6	5.8	3.6													
		30			15.5	14.4	13.2	12.2	11.2	10.2	8.8	7.4	5.6	3.4														
		40		15.4	14.3	12.9	11.9	10.9	9.9	8.6	7.2	4.8	2.8															
		50	15.2	14.1	12.6	11.6	10.6	9.6	8.3	6.9	4.6	2.2																
		60	14	12.1	11.2	10.3	9.3	7.9	6.1	4.3	1.3																	
Max S			131	122	114	105	96	88	79	70	62	53	44	36	27	18	10	1										
TF-1210-11	1	0								16	15.3	14.5	13.8	13	12.2	11.4	10.5	9.5	8.6	7.6	6.7	5	2.4					
		20						15.8	15.1	14.3	13.5	12.7	11.9	11.1	10.2	9.2	8.3	7.3	6	4.6								
		30					15.7	14.9	14.1	13.3	12.5	11.7	10.9	10	9	8.1	7.1	5.7	4.3									
		40				15.5	14.7	14	13.2	12.3	11.5	10.7	9.8	8.8	7.9	6.9	5.5	3.8										
		50			15.4	14.6	13.9	13.1	12.2	11.4	10.6	9.5	8.6	7.7	6.7	5.3	3.2											
		60		15.2	14.3	13.6	12.8	12	11.2	10.4	9.4	8.5	7.5	6.5	5.1	2.8												
Max Shut-Off PS			175	166	157	149	140	131	123	114	105	97	88	79	71	62	53	45	36	27	19	10	1					

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																									
			200	220	240	260	280	300	340	380	420	460	500	540	580	620	660	700	740	780	820	860	900	940	980	1020		
TF-1215-15	1.5	0		15.8	15.3	14.7	14.2	13.7	12.6	11.4	10.1	8.7	7.1	5.3	2.5													
		20	15.2	14.6	14.1	13.6	13	12.5	11.2	9.8	8.6	6.8	5	1.8														
		30	14.5	14	13.5	12.9	12.2	11.8	10.5	9.2	7.7	5.8	3.6															
		40	13.8	13.4	12.9	12.4	11.7	11.1	9.7	8.4	6.6	4.5																
		50	13.2	12.7	12.2	11.5	10.9	10.2	8.8	7.3	5.5																	
		60	12.6	12.1	11.4	10.8	10.1	6.5	8.2	6.4	4.2																	
Max Shut-Off PS			170	161	152	143	135	126	109	91	74	57	39	22	5													
TF-1220-19	2	0					15.8	15.3	14.5	13.7	12.8	12	11	10.1	9	7.9	6.6	4.8	1									
		20			15.7	15.2	14.8	14.4	13.5	12.7	11.9	10.9	9.9	8.8	7.7	6.2	4.6											
		30		15.6	15.2	14.7	14.3	13.9	13.1	12.3	11.3	10.4	9.5	8.2	6.8	5.5	3											
		40	15.5	15.2	14.6	14.2	13.8	13.5	12.5	11.8	10.8	9.8	8.7	7.3	6	4.4												
		50	15	14.5	14.1	13.7	13.4	12.9	12.2	11.2	10.2	9.2	8	6.7	5.2													
		60	14.4	14	13.6	13.3	12.8	12.3	11.6	10.6	9.6	8.6	7.2	5.9	4.1													
Max Shut-Off PSI			235	226	218	209	200	192	174	157	140	122	105	88	70	53	36	18	1									
TF-1230-26	3	0							16	15.5	14.8	14.2	13.6	12.9	12.2	11.6	10.8	10	9.2	8.3	7.3	6.3	5	3.5	0.7			
		20							15.9	15.4	14.7	14.1	13.4	12.7	12	11.4	10.6	9.8	9	8.1	7.1	6.1	4.8	3.3				
		30							15.6	15	14.3	13.8	13.2	12.5	11.7	11	10.3	9.6	8.6	7.7	6.7	5.5	4	1.8				
		40						15.8	15.3	14.6	13.9	13.4	12.8	12	11.3	10.5	9.7	8.9	8	7	5.9	4.5	3					
		50					15.8	15.4	14.9	14.2	13.4	12.8	12.3	11.5	10.8	10.1	9.2	8.4	7.5	6.5	5.2	3.7	1.5					
		60				15.8	15.6	15.2	14.7	14	13.2	12.6	12.1	11.3	10.6	9.8	8.8	7.9	6.9	5.9	4.2	2.6						
MAX SHUT-OFF PSI			356	348	339	330	322	313	296	278	261	244	226	209	192	174	157	140	122	105	88	70	53	36	18	1		

TF - 12 GPM

TF - 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	3 Wire GG MOTOR ONLY	PUMP TOTAL
TF - 1205	6	0.5	0.37	1.6	3.82	12.36	31.83	1" 1/4 NPT	7.05	19.4	26.45
TF - 1207	8	0.75	0.55	1.5	3.82	14.10	25.36	1" 1/4 NPT	7.93	21.4	29.33
TF - 1210	11	1.0	0.75	1.4	3.82	16.80	30.42	1" 1/4 NPT	8.81	27.8	36.61
TF - 1215	15	1.5	1.1	1.3	3.82	20.30	36.48	1" 1/4 NPT	9.70	32.5	42.20
TF - 1220	19	2.0	1.5	1.25	3.82	23.80	39.98	1" 1/4 NPT	10.01	32.7	42.71
TF - 1230	26	3.0	2.2	1.15	3.82	30.10	51.52	1" 1/4 NPT	12.64	45.2	57.84

TF - 16 GPM

TF - 4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY

PRO 4 PERFORMANCE CHART

CAPACITY IN U.S. GALLONS PER MINUTE

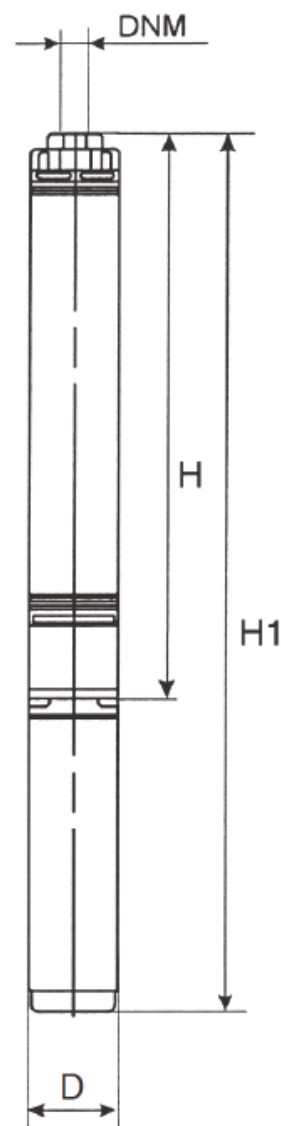
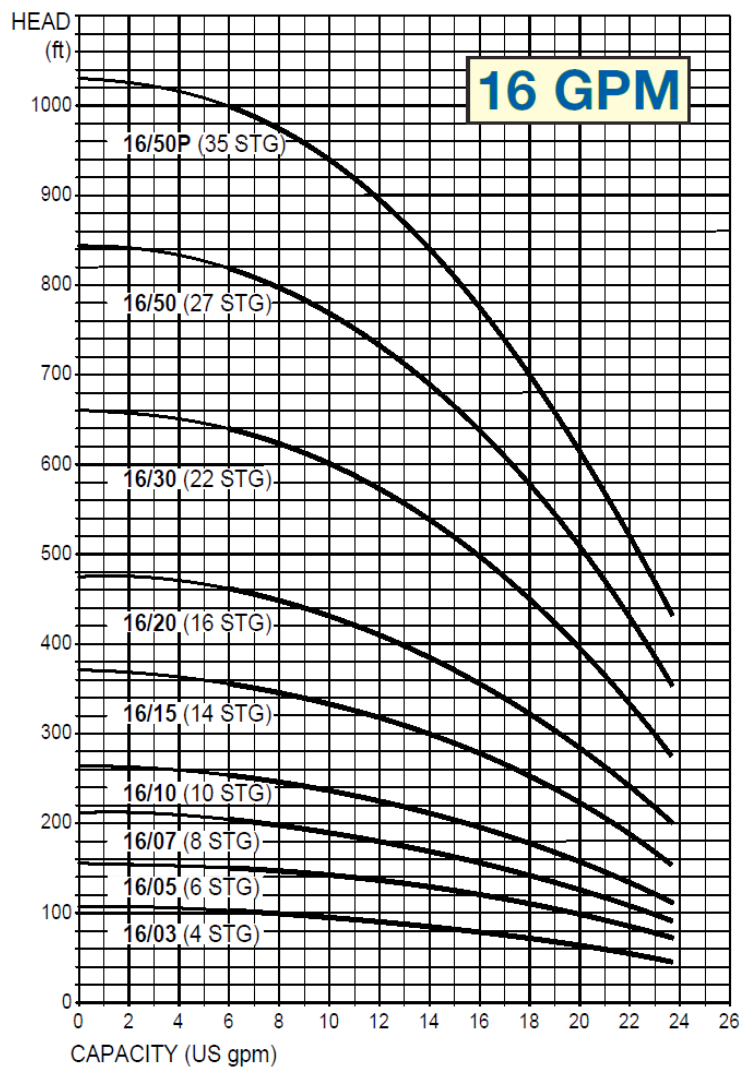
PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																											
			20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	220	240	260	280	300				
TF-1605-06	1/2	0						21.8	20.7	19.9	17.9	16.3	14.3	12.3	9.9	7.3	3.9													
		20	22.2	21.1	19.9	18.5	16.9	15	13.1	10.8	8.4	5.6																		
		30	19.5	18.1	16.4	14.4	12.3	10.1	7.7	4.2																				
		40	15.8	13.8	11.7	9.5	6.8																							
		50	11.1	8.7	6.1																									
		60	4.8																											
Max Shut-off PSI			62	57	53	49	44	40	36	31	27	23	18	14	10	5	1													
TF-1607-08	3/4	0								22	21	20	19	18	16.8	15.6	14.3	12.9	11.4	9.7	7.5									
		20			22.3	21.4	20.4	19.4	18.3	17.3	16.1	14.8	13.5	12	10.4	8.3	5.8													
		30	22	21	20	19	18	16.8	15.6	14.3	12.9	11.4	9.7	7.7																
		40	19.8	18.8	17.8	16.6	15.4	14.7	12.6	11.1	9.3	7.1																		
		50	17.4	16.2	14.9	13.6	12.2	10.5	8.6	6.1																				
		60	14.6	13.3	11.7	10	8.1	5.2																						
Max S			84	79	75	71	66	62	58	53	49	45	40	36	32	27	23	19	14	10	6									
TF-1610-10	1	0										22.2	21.4	20.7	19.9	19	18.2	17.3	16.3	15.3	14.2	11.9	9.1	5.2						
		20					22.4	21.7	21	20.2	19.4	18.6	17.7	16.7	15.7	14.7	13.6	12.4	11.1	9.7	8.2	2								
		30			22.3	21.5	20.7	19.9	19.1	18.2	17.3	16.3	15.3	14.3	13.3	12.1	10.7	9.2	7.5	5.3										
		40	22	21.3	20.5	19.7	18.9	18.1	17.1	16.1	15.1	14.1	12.9	11.7	10.3	8.8	6.9	4.6												
		50	20.2	19.4	18.6	17.8	16.8	15.8	14.7	13.6	12.5	11.2	9.9	8.2	6.4															
		60	18.3	17.5	16.5	15.5	14.5	13.4	12.2	10.8	9.4	7.7	5.6																	
Max Shut-Off PS			107	102	98	94	89	85	81	76	72	68	63	59	55	50	46	42	37	33	29	20	11	3						

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																								
			20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	340	380	420	460	500	540	580	620	660	
TF-1615-14	1.5	0								21.8	20.7	19.6	18.4	17.1	153.8	14.3	12.7	8.7									
		20						21.5	20.4	19.2	18	16.7	15.3	13.9	12.2	10.3	8										
		30				22.4	21.3	20.2	19.1	17.8	16.5	15.1	13.6	11.9	9.9	7.5	3.4										
		40			22.3	21.2	20.1	18.9	17.7	16.3	14.9	13.4	11.7	9.7	7												
		50		22.1	21	19.9	18.7	17.4	16.1	14.7	13.2	11.4	9.3	6.5													
		60	21.9	20.8	19.7	18.5	17.3	15.9	14.5	12.8	11.1	8.9	6.1														
Max Shut-Off PS			152	143	135	126	117	109	100	91	83	74	65	57	48	39	31	13									
TF-1620-18	2	0										22.1	21.3	20.5	19.6	18.6	17.7	15.5	12.9	10	6.3						
		20								21.9	21	20.2	19.3	18.3	17.3	16.3	15.1	12.6	9.5	5.4							
		30							21.7	20.9	20.1	19.1	18.1	17.1	16.1	14.9	13.7	10.9	7.4								
		40					22.3	21.6	20.8	19.9	19.1	18.1	17.1	15.9	14.8	13.5	12.1	9	4.4								
		50				22.3	21.5	20.7	19.8	18.9	17.9	16.9	15.7	14.6	13.3	11.9	10.4	6.8									
		60			22.1	21.4	20.5	19.7	18.7	17.7	16.7	15.6	14.4	13.1	11.7	10.2	8.4	3.1									
Max Shut-Off PSI			199	191	182	173	165	156	147	139	130	121	113	104	95	87	78	61	43	26	9						

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																								
			200	220	240	260	280	300	340	380	420	460	500	540	580	620	660	700	740	780	820	860	900	940	980	1020	
TF-1630-25	3	0					21.8	21.4	20.1	18.8	17.4	15.9	14.2	12.4	10.3	7.7	3.4										
		20		22.4	21.8	21.2	20.6	19.9	18.6	17.2	15.6	13.9	12.1	9.9	7.3												
		30	22.3	21.7	21.1	20.5	19.9	19.2	17.8	16.3	14.2	12.9	10.9	8.5	5.1												
		40	21.6	21	20.4	19.7	19.1	18.4	17	15.4	13.7	11.8	9.6	6.8													
		50	20.9	20.3	19.7	19	18.3	17.6	16.1	14.5	12.6	10.6	8.1	4.2													
		60	20.2	19.6	18.9	18.2	17.5	16.7	15.2	13.4	11.5	9.2	6.2														
MAX SHUT-OFF PSI			201	192	184	175	166	158	140	123	106	88	71	54	36	19	2										
TF-1650-32	5	0							22.4	21.6	20.6	19.6	18.5	17.4	16.2	14.8	13.6	12	10.4	8.4	5.9						
		20						22.3	21.4	20.5	19.4	18.4	17.2	16	14.7	13.3	11.8	10.1	8.1	5.5							
		30					22.2	21.8	20.8	19.9	18.8	17.7	16.6	15.3	13.9	12.5	10.9	9	6.7	2.6							
		40				22.2	21.7	21.3	20.3	19.3	18.2	17.1	15.8	14.5	13.1	11.6	9.8	7.7	5								
		50			22.1	21.7	21.2	2.7	19.7	18.7	17.8	16.4	15.1	13.7	12.2	10.6	8.7	6.3									
		60		22	21.6	21.1	20.7	20.3	19.1	18	16.9	15.7	14.3	12.9	11.3	9.5	7.4	4.4									
MAX SHUT-OFF PSI			282	274	265	256	248	239	222	204	187	170	152	135	117	100	83	65	48	31	13						
TF-1650-39	5	0							22.4	21.6	20.6	19.6	18.5	17.4	16.2	14.8	13.6	12	10.4	8.4	5.9						
		20						22.3	21.4	20.5	19.4	18.4	17.2	16	14.7	13.3	11.8	10.1	8.1	5.5							
		30					22.2	21.8	20.8	19.9	18.8	17.7	16.6	15.3	13.9	12.5	10.9	9	6.7	2.6							
		40				22.2	21.7	21.3	20.3	19.3	18.2	17.1	15.8	14.5	13.1	11.6	9.8	7.7	5								
		50			22.1	21.7	21.2	2.7	19.7	18.7	17.8	16.4	15.1	13.7	12.2	10.6	8.7	6.3									
		60		22	21.6	21.1	20.7	20.3	19.1	18	16.9	15.7	14.3	12.9	11.3	9.5	7.4	4.4									
MAX SHUT-OFF PSI			282	274	265	256	248	239	222	204	187	170	152	135	117	100	83	65	48	31	13						

TF - 16 GPM

TF - 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	3 Wire GG MOTOR ONLY	PUMP TOTAL
TF - 1605	6	0.5	0.37	1.6	3.82	14.7	25.17	1" 1/4 NPT	8.15	19.4	27.55
TF - 1607	8	0.75	0.55	1.5	3.82	17.3	28.56	1" 1/4 NPT	9.25	21.4	30.65
TF - 1610	10	1.0	0.75	1.4	3.82	19.8	33.42	1" 1/4 NPT	10.13	27.8	37.93
TF - 1615	14	1.5	1.1	1.3	3.82	25.0	41.18	1" 1/4 NPT	11.01	32.5	43.51
TF - 1620	18	2.0	1.5	1.25	3.82	30.1	46.28	1" 1/4 NPT	13.00	32.7	45.70
TF - 1630	25	3.0	2.2	1.15	3.82	39.0	55.18	1" 1/4 NPT	15.85	45.2	61.05
TF - 1650	32	5.0	3.7	1.15	3.82	49.3	70.72	1" 1/4 NPT	17.82	59.8	77.62
TF - 1650P	39	5.0	3.7	1.15	3.82	58.2	85.13	1" 1/4 NPT	24.23	59.8	84.03

TF - 25 GPM

TF - 4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY

PRO 4 PERFORMANCE CHART

CAPACITY IN U.S. GALLONS PER MINUTE

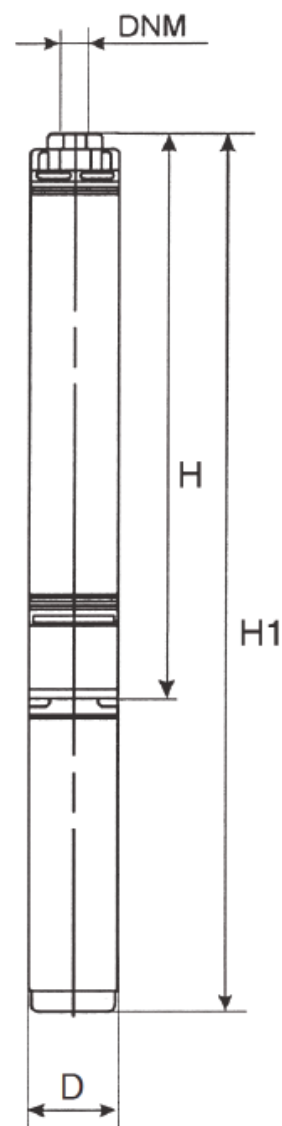
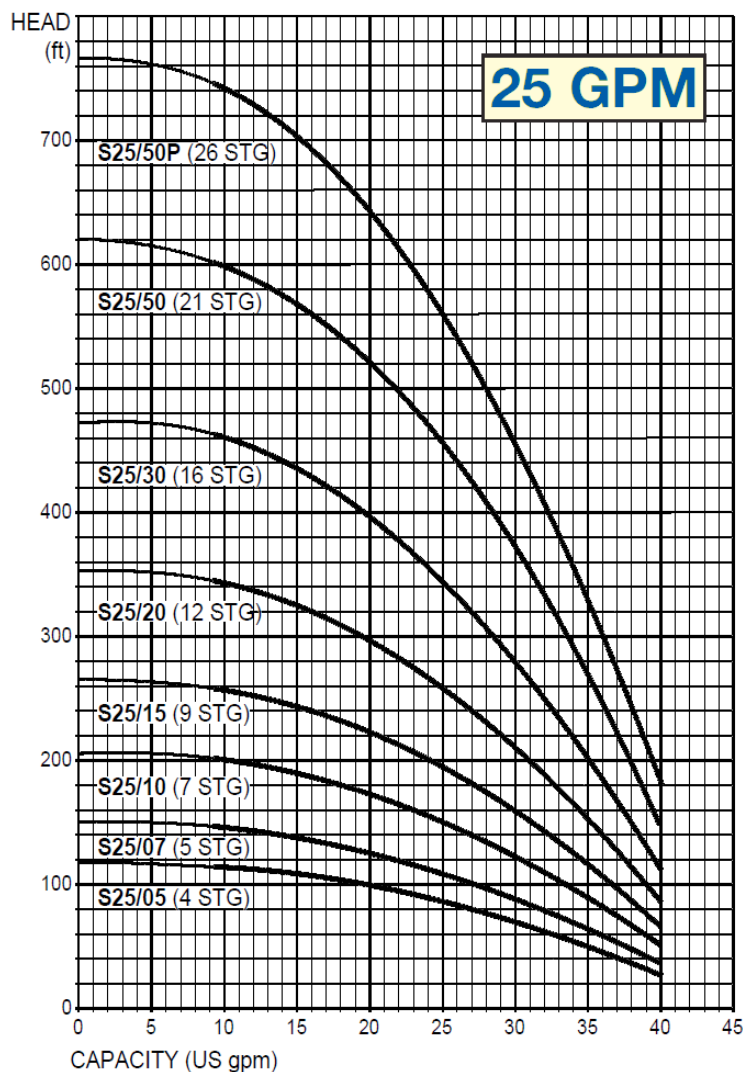
PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																								
			20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	
TF-2505-04	1/2	0		37.7	35.4	33	30.5	27.6	24.5	20.9	16.3	9.7															
		20	28.6	25.8	22.3	18.2	13																				
		30	21.3	16.7	10.2																						
		40	7.7																								
Max Shut-off PSI				37	33	29	24	20	16	11	7	3															
TF-2507-05	3/4	0			37.7	35.9	33.9	31.8	29.6	27.2	24.5	21.5	18	13.8	7.6												
		20	32.7	30.5	28.1	25.6	22.8	19.5	15.7	10.3																	
		30	27.3	24.8	21.8	18.4	14.1	8.4																			
		40	20.9	17.3	12.7	5.6																					
		50	11	1.6																							
Max S			55	50	46	42	37	33	29	24	20	16	11	7	3												
TF-2510-07	1	0				38.1	37.1	36	34.8	33.4	32	30.5	28.8	27	24.9	22.6	20.2	17.3	14.2	10.7	6.1						
		20	36.4	35.2	34	32.6	31.1	29.4	27.7	25.7	23.6	21.2	18.4	15.4	12	8.1	2.1										
		30	33.5	32.1	30.7	29	27.1	25.1	22.9	20.4	17.5	14.5	11.1	6.7													
		40	30.1	28.5	26.6	24.4	22.2	19.7	16.8	13.7	9.7	5															
		50	25.9	23.7	21.3	18.8	15.8	12.5	8.5	2.9																	
		20.7	18	14.8	11.3	7																					
Max Shut-Off PS			82	77	73	68	64	60	55	51	47	42	38	34	29	25	21	16	12	8	3						
TF-2515-09	1.5	0				38.2	37.4	36.5	35.5	34.6	33.5	32.4	31.1	29.9	28.6	27.1	25.6	24	22.2	20.3	18.3	16.1	13.6	10.9	7.9		
		20	37.7	36.9	35.9	35	33.9	32.9	31.7	30.5	29.1	27.7	26.3	24.7	22.9	21.1	19.1	17	14.6	11.9	9.1	5.7	1.2				
		30	35.6	34.6	33.6	32.5	34.3	30.1	28.8	27.5	25.9	24.2	22.4	20.5	18.5	16.3	13.8	11.2	8.1	4.4							
		40	33.2	32.2	31	29.6	28.3	26.9	25.3	23.7	21.9	20	17.8	15.6	13	10.4	7.2	3.2									
		50	30.6	29.3	27.9	26.4	24.8	23.1	21.2	19.3	17.2	14.3	12.3	9.4	6	1.9											
		60	27.4	25.9	24.3	22.5	20.8	18.7	16.5	14.1	11.4	8.5	4.9														
Max Shut-Off PS			108	104	99	95	91	86	82	78	73	69	65	60	56	52	47	43	39	34	30	26	21	17	13	8	

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																								
			40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	
TF-2520-12	2	0				36.8	35.3	33.8	32.3	30.5	28.6	26.7	24.6	22.3	19.7	16.6	12.9	7.4									
		20	37.9	36.4	34.9	33.3	31.7	29.9	28.1	26	23.9	21.5	18.8	15.7	11.6	4.7											
		30	36.2	34.7	33.1	31.4	29.6	27.8	25.3	23.6	21.2	15.4	15.1	10.8	3.3												
		40	34.4	32.8	31.2	29.4	27.4	25.4	23.2	20.9	17.9	14.4	10.1														
		50	32.6	30.9	29.1	27.2	25.2	22.6	20.3	17.4	13.9	9															
		60	30.7	28.8	26.9	24.7	22.5	20	17	13.3	8.3																
Max Shut-Off PSI			135	127	118	109	101	92	83	75	66	57	49	40	31	23	14	5									
TF-2530-16	3	0					37.8	36.7	35.6	34.4	33.2	31.9	30.6	29.2	27.8	26.2	24.5	22.8	20.8	18.6	16	12.9	9	3.3			
		20			37.4	36.4	35.2	34	32.8	31.5	30.2	28.7	27.3	25.7	24	22.2	20.2	17.8	15.1	11.8	7.6	1.2					
		30	38.4	37.3	36.2	35	33.8	32.6	31.3	30	28.6	27.1	25.5	23.7	21.9	19.8	17.5	14.7	11.2	6.7							
		40	37.1	36	34.9	33.6	32.4	31.1	29.8	28.3	26.8	25.2	23.5	21.3	19.5	17.1	14.2	10.7	5.8								
		50	35.8	34.7	33.4	32.2	30.9	29.5	28.1	26.6	25	23.3	21.3	19.2	16.7	13.8	10.1	4.9									
		60	34.5	33.3	32	30.7	29.3	27.9	26.4	24.8	23	20.9	18.7	16.3	13.2	9.4	4.1										
MAX SHUT-OFF PSI			186	178	169	160	152	143	134	126	117	108	100	91	82	74	65	56	48	39	30	22	13	4			

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																								
			160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	540	580	620	660	700	740	
TF-2550-21	5	0	37.5	36.7	36	35.1	34.2	33.3	32.5	30.5	31.5	29.5	28.4	27.3	26.2	24.9	32.6	22.2	20.8	19.1	15.2	9.9					
		20	35.7	34.9	34	33.1	32.1	31.2	30.2	29.2	28.1	27	25.8	24.5	23.2	21.8	20.3	18.5	16.7	14.5	8.9						
		30	34.7	33.9	33	32	31	30	29	28	26.8	25.6	24.3	23	21.6	20	18.3	16.4	14.2	11.6	3.3						
		40	33.7	32.8	31.9	30.9	29.9	28.9	27.8	26.6	25.4	24.2	22.8	21.4	19.8	18	16.1	13.9	11.2	7.8							
		50	32.7	31.8	30.8	29.8	28.7	27.6	26.4	25.2	24	22.6	21.1	19.5	17.8	15.8	13.5	10.3	7.1								
		60	31.6	30.6	29.6	28.5	27.4	26.3	25	23.7	22.4	20.9	19.2	17.4	15.5	13.2	10.3	6.4									
MAX SHUT-OFF PSI			198	189	180	172	163	154	146	137	128	120	111	102	94	85	76	68	59	50	33	16					
TF-2550-26	5	0		38.2	37.6	37	36.3	35.7	35	34.3	33.6	32.8	32	31.2	30.4	29.5	28.6	27.7	26.7	25.7	23.4	20.9	18.1	14.8	10.7	5.2	
		20	37.4	36.8	36.2	35.4	34.8	34.1	33.3	32.6	31.8	31	30.2	29.3	28.3	27.4	26.4	25.3	24.2	23	20.5	17.6	14.2	9.9	4.2		
		30	36.7	36.1	35.4	34.7	34	33.2	32.5	31.7	30.9	30	29.1	28.2	27.3	26.2	25.1	24.1	22.9	21.6	18.9	15.7	11.9	7			
		40	36	35.3	34.6	33.9	33.1	32.4	31.6	30.7	29.9	29	28.1	27.1	26.1	25	23.9	22.7	21.4	20.1	17.1	13.7	9.2				
		50	35.2	34.5	33.8	33	32.2	31.4	30.6	29.7	28.8	27.9	26.9	25.9	24.9	23.7	22.5	21.3	19.9	18.5	15.2	11.3	6.1				
		60	34.4	33.6	32.9	32.1	31.3	30.5	29.5	28.8	27.8	26.8	25.8	24.7	23.6	22.3	21	19.7	18.3	16.6	13.1	8.5					
MAX SHUT-OFF PSI			262	254	245	236	228	219	210	202	193	184	176	167	158	150	141	132	124	115	98	80	63	46	28	11	

TF - 25 GPM

TF - 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	3 Wire GG MOTOR ONLY	PUMP TOTAL
TF - 25/05	4	0.5	0.37	1.6	3.82	12.2	22.67	1" 1/4 NPT	7.27	19.4	26.67
TF - 25/07	5	0.75	0.55	1.5	3.82	13.4	24.66	1" 1/4 NPT	7.70	21.4	29.10
TF - 25/10	7	1.0	0.75	1.4	3.82	16.0	29.62	1" 1/4 NPT	8.37	27.8	36.17
TF - 25/15	9	1.5	1.1	1.3	3.82	18.6	34.78	1" 1/4 NPT	9.25	32.5	41.75
TF - 25/20	12	2.0	1.5	1.25	3.82	22.4	38.58	1" 1/4 NPT	10.58	32.7	43.28
TF - 25/30	16	3.0	2.2	1.15	3.82	27.5	48.92	1" 1/4 NPT	12.33	45.2	57.53
TF - 25/50	21	5.0	3.7	1.15	3.82	33.9	60.83	1" 1/4 NPT	16.74	59.8	76.58
TF - 25/50P	26	5.0	3.7	1.15	3.82	41.6	68.53	1" 1/4 NPT	18.74	59.8	78.54

TF - 35 GPM

TF - 4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY

PRO 4 PERFORMANCE CHART

CAPACITY IN U.S. GALLONS PER MINUTE

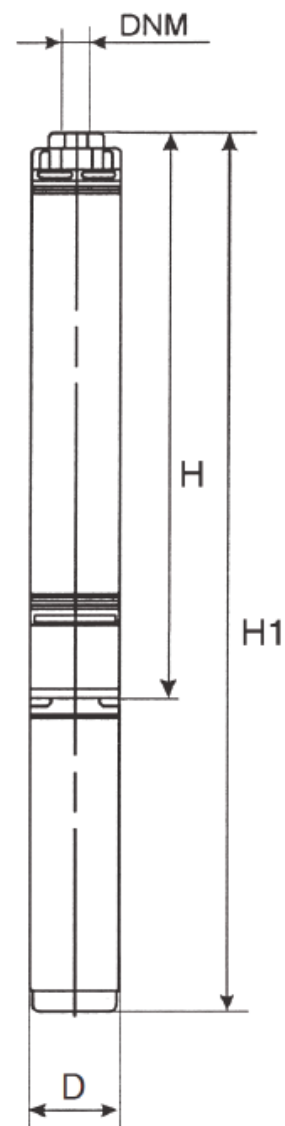
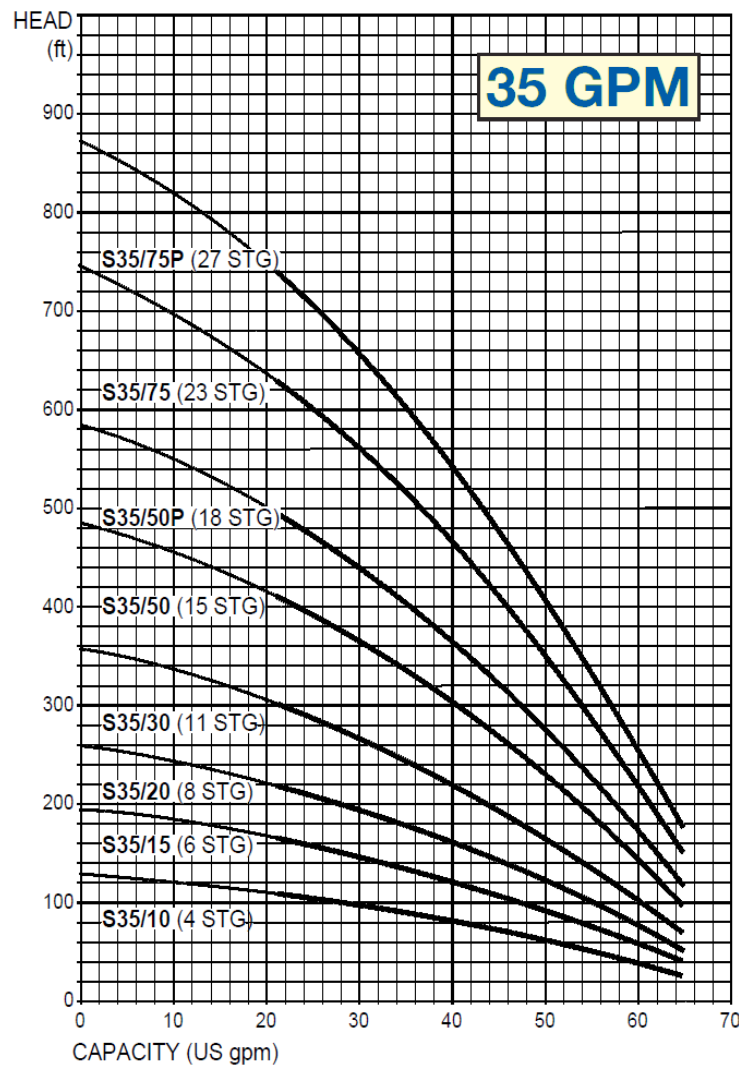
PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																									
			30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260		
TF-3510-04	1	0	58.6	54.5	50.2	45.9	41	35.9	30.1	23.6	15.9	7.7																
		20	38	32.4	26.2	19.1	11	2.8																				
		30	24.2	16.6	8.1	0.5																						
		40	6.1																									
Max Shut-off PSI			43	39	35	30	26	22	17	13	9	4																
TF-3515-06	1.5	0		60.1	57.5	54.9	52.1	49.2	46.2	43	39.7	36.2	32.4	28.9	24.2	19.3	14.4	8.8	2.8									
		20	50.4	47.4	44.4	41.1	37.7	34	30	25.8	21.2	16.1	11.1	5.2														
		30	43.3	40.1	36.6	32.8	28.9	24.4	19.8	14.7	9.1	3.2																
		40	35.6	31.8	27.6	23.2	18.5	13.5	7.9	1.7																		
		50	26.2	21.7	16.9	11.3	5.9																					
		60	15.3	10.1	3.9																							
Max Shut-off PSI			72	67	63	59	54	50	46	41	37	33	28	24	20	15	11	7	2									
TF-3520-08	2	0				58.8	56.7	54.7	52.6	50.5	48.2	46	43.7	41.3	38.7	36.1	33.3	30.3	27.1	23.7	20	16.2	12	7.9	3.6			
		20	55.5	53.4	51.3	49.2	47	44.7	42.3	39.8	37.1	34.4	31.4	28.4	25	21.5	17.7	13.7	9.5	5.4	1.3							
		30	50.7	48.6	46.4	44.1	41.7	39.1	36.5	33.7	30.7	27.5	24.2	20.4	16.4	12.4	8.1	4.1										
		40	45.5	43.3	40.9	38.2	35.4	32.6	29.7	26.5	23	19.1	15.5	11.5	7	2.9												
		50	40	37.5	34.8	31.8	28.7	25.4	21.9	18.2	14.2	10	5.8	1.6														
		60	33.7	30.9	27.7	24.4	20.9	17	12.9	8.8	4.5	0.5																
Max Shut-Off PS			99	95	91	86	82	78	73	69	65	60	56	52	47	43	39	34	30	26	21	17	13	8	4			

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																									
			20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	440	480	520	560		
TF-3530-11	3	0				59	56.1	53	50	46.8	43.4	39.9	36.1	32	27.4	22.5	17.2	11.1	5									
		20		58	55.1	52.2	49	45.8	42.4	38.7	34.9	30.7	26	21	15.3	9.4	3.3											
		30	57.6	54.8	51.7	48.5	45.2	41.8	38.2	34.2	30	25.3	20.2	14.5	8.5	2.3												
		40	54.3	51.3	48.1	44.9	41.4	37.7	33.6	29.4	24.6	19.3	13.7	7.6	1.4													
		50	50.8	47.6	44.2	40.8	37	32.9	28.7	23.8	18.5	12.9	6.4															
		60	47.1	43.8	40.3	36.4	32.4	27.9	23.1	17.7	11.9	5.7																
Max Shut-Off PSI			146	137	129	120	111	103	94	85	77	68	59	51	42	33	25	16	7									
TF-3550-15	5	0					60	58	55.9	53.7	51.5	49	46.6	44	41.3	38.6	35.8	32.9	29.8	26.5	23	19	9.2	1				
		20			59.5	57.4	55.3	53	50.8	48.4	45.9	43.2	40.5	37.7	35	31.9	28.9	25.4	21.9	17.8	12.9	7.7						
		30		59.2	57.1	55	52.7	50.4	47.9	45.4	42.8	40.1	37.4	34.5	31.6	28.4	24.9	21.3	17	12.1	6.9							
		40	58.9	56.8	54.6	52.4	50	47.6	45.1	42.4	39.7	36.9	34.1	31	27.9	24.4	20.6	16.4	11.3	6.3								
		50	56.4	54.2	52	49.7	47.3	44.6	42	39.3	36.5	33.7	30.6	27.3	23.8	20.1	15.6	10.6	5.6									
		60	54	51.7	49.3	46.8	44.3	41.7	38.9	36.1	33.1	30.2	26.9	23.3	19.3	14.9	9.7	4.9										
MAX SHUT-OFF PSI			202	194	185	176	168	159	150	142	133	124	116	107	98	90	81	72	64	55	46	38	20	3				
TF-2550-18	5	0						60	58.2	56.5	54.7	52.8	50.9	49	47	44.9	42.9	40.7	38.4	36.7	33.6	31	25.4	18.9	11.8	4.2		
		20				59.5	57.7	55.9	54.1	52.3	50.4	48.4	46.4	44.4	42.2	40.1	37.7	35.3	32.8	30.1	27.4	24.4	17.9	10.7	3.1			
		30			59.3	57.4	55.6	53.8	51.9	50.1	48.1	46.1	44	41.9	39.6	37.4	34.9	32.4	29.7	26.9	23.8	20.7	13.7	6.4				
		40	60.7	59	57.2	55.4	53.5	51.7	49.7	47.8	45.8	43.7	41.5	39.3	37	34.5	32.1	29.3	26.5	23.5	20.3	16.7	9.5	2				
		50	58.7	56.9	55.1	53.2	51.4	49.4	47.6	45.4	43.4	41.2	39	36.6	34.2	31.6	28.9	26	22.9	19.6	16.2	12.6	5.2					
		60	56.6	54.8	53	51.1	49.2	47.2	45.2	43.1	40.9	38.6	36.3	33.8	31.3	28.5	25.6	22.5	19.3	15.8	12.1	8.2	1					
MAX SHUT-OFF PSI			244	235	227	218	209	201	192	183	175	166	157	149	140	131	123	114	105	97	88	79	62	45	27	10		

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																							
			40	80	120	160	200	240	280	320	360	400	440	480	520	560	600	640	680	720	760	800	840	880	920	960
TF-3575-23	7.5	0				59.6	56.8	54	51	47.9	44.7	41.4	37.9	34.1	30	25.4	20.4	15.2	9.8	4.2						
		20			59.2	56.4	53.5	50.5	47.4	44.2	40.9	37.3	33.5	29.3	24.6	19.7	14.4	8.9	3.3							
		30		60.4	57.6	54.8	51.8	48.7	45.6	42.3	38.8	35.1	31.2	26.7	21.9	16.7	11.3	5.8								
		40		58.8	56	53.1	50	47	43.8	40.4	36.8	32.4	28.6	24	18.9	13.6	8.2	2.4								
		50	59.9	57.2	54.3	51.3	48.3	45.2	41.8	38.3	34.5	30.5	26	21.2	15.9	10.5	5									
		60	58.4	55.6	52.6	49.6	46.5	43.3	39.8	36.2	32.3	28	23.3	18.1	12.8	7.4	1.4									
MAX SHUT-OFF PSI			306	288	271	254	236	219	202	184	167	150	132	115	98	80	63	46	28	11						
TF-3575-27	7.5	0					58.9	56.6	54.1	51.6	49	46.3	43.5	40.6	37.5	34.2	30.7	26.9	22.9	18.6	14.1	9.4	4.6			
		20				58.5	56.2	53.7	51.2	48.6	45.9	43.1	40.2	37	33.7	30.2	26.3	22.2	18	13.5	8.7	3.9				
		30			59.5	57.2	54.8	52.3	49.7	47.1	44.3	41.4	38.3	35.1	31.7	28	24	19.8	15.4	10.8	6.1					
		40		60.5	58.2	55.8	53.3	50.8	48.2	45.5	42.6	39.7	36.5	33.2	29.6	25.8	21.6	17.2	12.7	8	3.2					
		50		59.1	56.8	54.4	51.9	49.3	46.6	43.9	41	37.9	34.6	31.1	27.4	23.4	19.1	14.7	10.1	5.3						
		60	60.2	57.8	55.4	53	50.4	47.8	45	42.2	39.2	36	32.7	29	25.1	21	16.6	12.1	7.4	2.4						
MAX SHUT-OFF PSI			362	344	327	310	292	275	258	240	223	205	188	171	153	136	119	101	84	67	49	32	15			

TF - 35 GPM

TF - 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				DIMENSIONAL DATA				WEIGHT (lbs)		
	STAGES	HP	KW	Service Factor	D (in)	H (in)	H1 (in)	DNM (in)	PUMP END ONLY	3 Wire GG MOTOR ONLY	PUMP TOTAL
TF - 3510	4	1.0	0.75	1.4	3.82	15.5	29.12	1" 1/4 NPT	8.37	27.8	36.17
TF - 3515	6	1.5	1.1	1.3	3.82	19.7	35.88	1" 1/4 NPT	9.47	32.5	41.97
TF - 3520	8	2.0	1.5	1.25	3.82	23.8	39.98	1" 1/4 NPT	10.58	32.7	43.28
TF - 35/30	11	3.0	2.2	1.15	3.82	30.0	51.42	1" 1/4 NPT	12.55	45.2	57.75
TF - 3550	15	5.0	3.7	1.15	3.82	39.5	66.43	1" 1/4 NPT	18.06	59.8	77.86
TF - 3550P	18	5.0	3.7	1.15	3.82	45.7	72.63	1" 1/4 NPT	19.06	59.8	78.86
TF - 3575	23	7.5	5.5	1.15	3.82	56.1	83.03	1" 1/4 NPT	21.15	59.8	80.95
TF - 3775P	27	7.5	5.5	1.15	3.82	65.6	92.53	1" 1/4 NPT	23.08	59.8	82.88

TF - 75 GPM

TF - 4" SUBMERSIBLE PUMPS FOR DOMESTIC WATER SUPPLY

PRO 4 PERFORMANCE CHART

CAPACITY IN U.S. GALLONS PER MINUTE

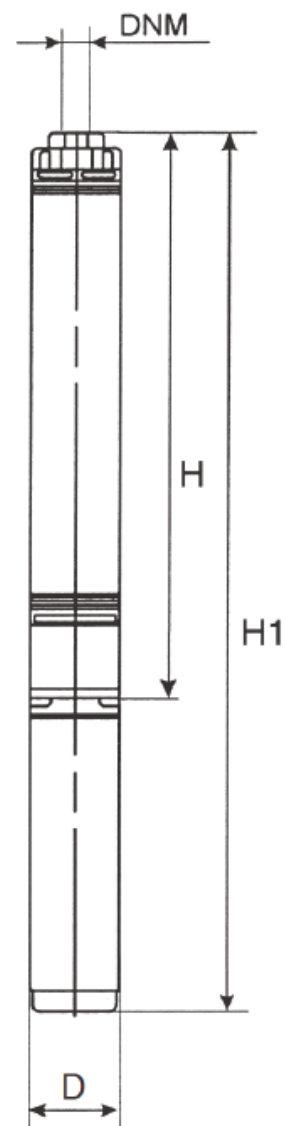
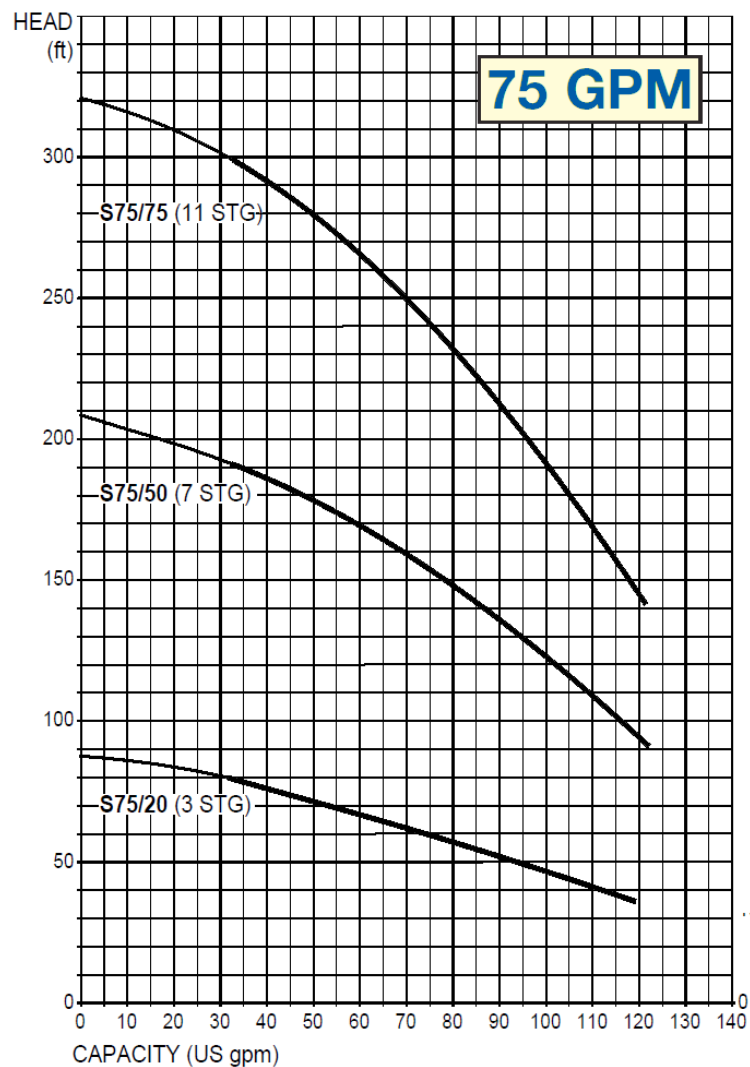
PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																							
			5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120
TF-7520-03	2	0								112	103	94	84	74	64	52	42	30	16							
		20	92	82	72	62	50	40	28	12																
		30	41	29																						
Max Shut-off PSI			36	34	32	29	27	25	23	21	19	16	14	12	10	8	6	3	1							

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																							
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240
TF-7550-07	5	0									116	108	101	93.3	85.8	78	70.3	61.3	51.6	39.4	24.3					
		20				119	111	104	96.3	89.1	81.4	73.1	65.3	56	45	31.2	7.8									
		30		116	108	101	94.3	86.6	79	71	62.5	52.9	41.3	25												
		40	107	98.9	91.9	84.2	76.7	68.6	59.9	49.7	37.4	20.2														
		50	89.5	82.1	74.1	65.9	56.3	46.1	32.6	12.4																
		60	72	63.3	53	42.1	27																			
Max Shut-Off PSI			82	77	73	68	64	60	55	51	47	42	38	34	29	25	21	16	12	8	3					

PUMP MODEL	HP	PSI	DEPTH TO PUMPING WATER LEVEL																									
			40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	220	240	260	280	300	320	340		
TF-7575-11	7.5	0									118	114	110	106	102	98	98	89.9	85.6	76.8	66.9	55.8	42	22.1				
		20					115	111	108	104	99.6	95.7	91.8	87.5	82.9	78.7	73.8	69.1	63.8	51.8	36.4	12.5						
		30		118	114	110	106	102	98.6	94.3	90.5	86.1	81.8	77.1	72.7	67.4	62.3	56.5	49.8	33.7	6.5							
		40	113	109	105	101	97.2	93.3	88.9	84.9	80.5	75.7	71	65.9	60.5	54.6	47.9	40	31.3									
		50	104	100	96.2	91.9	87.8	83.4	79.1	74.5	69.6	64.3	58.8	52.5	45.8	37.7	27.5	14.9										
		60	94.9	90.9	86.6	82.2	77.5	73.1	68	62.6	56.8	50.5	43.4	34.7	24	9												
MAX SHUT-OFF PSI			118	114	109	105	101	96	92	88	83	79	75	70	66	62	57	53	49	40	31	23	14	5				

TF - 75 GPM

TF - 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				DIMENSIONAL DATA				WEIGHT (lbs)		
	STAGES	HP	KW	Service Factor	D (in)	H (in)	H1 (in)	DNM (in)	PUMP END ONLY	3 Wire GG MOTOR ONLY	PUMP TOTAL
TF - 7520	3	2.0	1.1	1.25	3.82	16.5	32.68	1" 1/4 NPT	10.58	32.7	73.28
TF - 7550	7	5.0	4.0	1.15	3.82	19.6	46.53	1" 1/4 NPT	18.06	59.8	77.86
TF - 7575	11	7.5	5.5	1.15	3.82	22.8	49.73	1" 1/4 NPT	20.70	59.8	80.50

4" SUBMERSIBLE MOTORS



4TW

TECHNICAL SPECIFICATION

Flange	NEMA 4"
Insulation class	F
Degree of protection	IP68
Cooling flow	min. 0.3 m/s @ 35°C (1.0 ft/sec @ 95 °F)
Voltage tolerance	+ 6% / -10%
Max starts	20/h
Max operating depth	300 m (984 ft)
Horizontal operation	0.5 HP - 1.5 HP

GENERAL DATA

4" Asynchronous two-poles submersible motor, made in AISI 304 stainless steel for parts in contact with water. Cooling and lubrication of the thrust bearing assembly and carbon bushes is provided by a mixture of water and glycol. Squirrel-cage rotor mounted on Kingsbury self-centring thrust bearing. Stator housed in an airtight resin filled stainless steel casing (canned-type) with both flanges and shell in AISI 304L stainless steel.

Removable cable connector to allow fast and easy maintenance.

The cable is certified to **CSA & UL electrical safety standards**.

Motor suitable for use with variable frequency drive (30 Hz – 50/60 Hz).

The capacitor is placed inside motor stator, so the motor doesn't require an external control box.

Thermal protection included in the motor from 0,5 HP to 1 HP in the 230 V - 60 Hz version.

CONSTRUCTION FEATURES



Canned resin filled stator with external shell and flanges made in AISI 304L stainless steel. The stator has 24 slots for better elasticity and regularity of operation. Class F double insulated copper wire. Thermal protection included in the motor from 0,5 HP to 1,5 HP in the 50 Hz version, from 0,5 HP to 1 HP in the 230 V - 60 Hz version.



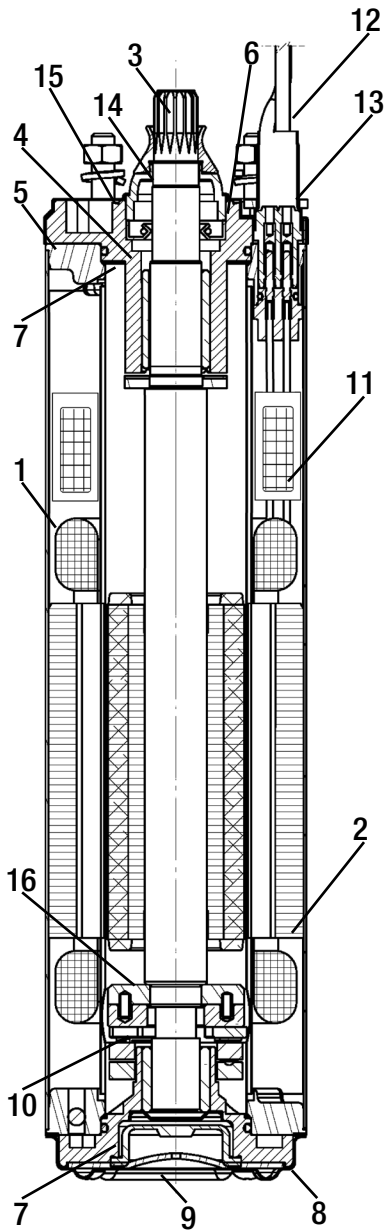
Kingsbury type thrust bearing unit consisting of tilting pads made of highly-resistant stainless steel and machined by Tesla using the spherical lapping process.
From 0,5 HP to 1.5 HP: 2000N (450 lbf)
(3000N (700 lbf) in the 1.5 HP 60 Hz version)



Shafts with end part made of stainless steel AISI 304 with a special process of surface hardening and polishing of the working area of the bushes. Squirrel-cage rotor made in aluminium.

4TW

4" SUBMERSIBLE MOTOR



MATERIALS

MATERIALS - MATERIALI - MATERIALES

COMPONENT	VERSION 4TW
1 Int. and external sleeve	AISI 304
2 Stator	AISI 304L
3 Shaft	AISI 431
4 Upper bracket	Cast iron
5 Bracket cover	AISI 304
6 Lip seal	NBR
7 Gasket	NBR
8 Lower bracket	Cast iron
9 Diaphragm	EPDM
10 Thrust bearing	Stainless steel - Graphite
11 Capacitor	Internal Capacitor
12 Cable	EPDM
13 Connecting plug	AISI 316
14 Sand guard (fixed-removable)	NBR
15 Bolts & screws	AISI 304
16 Cooling liquid	Antifreeze + water
17 Mechanical Seal	-

CERTIFICATION

CLASS 4211-81 MOTORS AND GENERATORS-Certified to US Standards

REQUIREMENTS:

UL 1004 Electric Motors

UL 2111 Overheating Protection for Motors

4211-01 MOTORS AND GENERATORS

REQUIREMENTS:

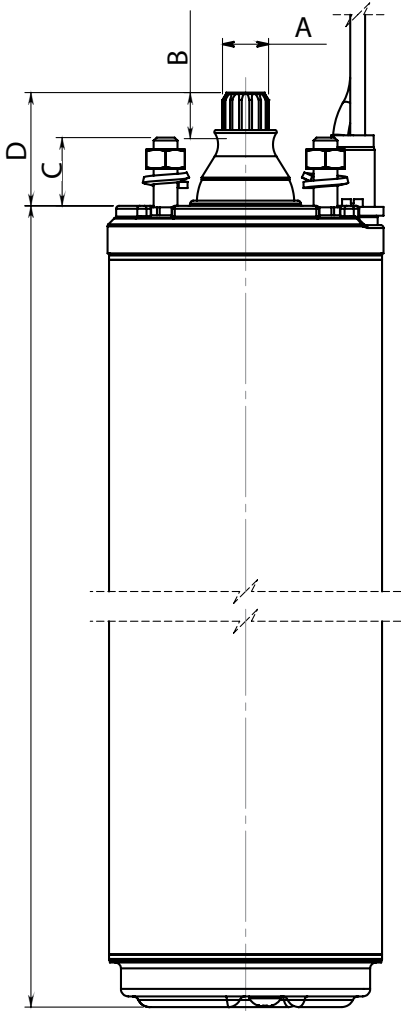
CSA Standard C22.2 No 0 General Requirements - Canadian Electrical Code, Part II

CSA Standard C22.2 No 0.4 Bonding and Grounding of Electrical Equipment (Protective Grounding)

CSA Standard C22.2 No 77 Motors with Inherent Overheating Protection

CSA Standard C22.2 No 100 Motors and Generators





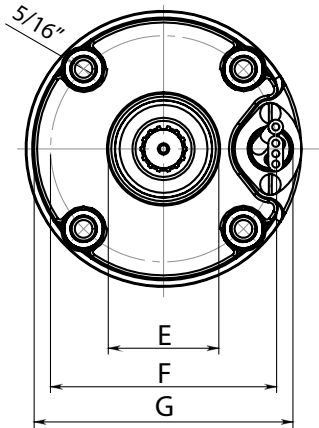
60 Hz DIMENSIONS

SINGLE PHASE MOTORS

Type	P2		L		Weight TW		Axial thrust
	[hp]	[kW]	[mm]	[inch]	[Kg]	[lbs]	[lbf]
60 Hz 2W	0.5/115v	0.37	341	13.425	9.7	21.4	500
	0.5/230v	0.37	331	13.031	9.5	21	500
	0.75	0.55	351	13.819	10.5	23.2	500
	1	0.75	426	16.772	13.1	28.9	700
	1.5	1.1	471	18.543	15.1	33.3	700

60 Hz DIMENSIONS

Pos.	mm	inch	Pos.	mm	inch
A	$\varnothing 15.5^{+0.05}_{-0.03}$	$0.61^{+0.002}_{-0.003}$	E	$37.2^{+0.4}_{-0.4}$	$1.465^{+0.016}_{-0.016}$
B	$15^{+0.5}_{-0}$	$0.591^{+0.02}_{-0}$	F	$\varnothing 76.2^{+0.01}_{-0}$	$3^{+0.004}_{-0}$
C	$23^{+0.5}_{-0.5}$	$0.906^{+0.005}_{-0.005}$	G	$\varnothing 87.3^{+0}_{-0.1}$	$3.437^{+0}_{-0.004}$
D	$38.17^{+0.13}_{-0.12}$	$1\frac{1}{2}^{+0.02}_{-0.02}$			



ELECTRICAL DATA 60 Hz**SINGLE PHASE MOTORS - MOTORI MONOFASE - MOTORES MONOFASICOS**

P2		V	SF	In	In (SF)	Is/In	Cs/Cn	P1	N	Cos ϕ	η	C	Ø	LC
[hp]	[kW]	[V]		[A]	[A]			[W]	[min ⁻¹]		%	[μF]	[AWG]	[ft]
0.5	0.37	115	1.6	8.6	10	4.2	0.65	800	3450	0.88	46	80	3x14	5½
		230	1.6	3.9	5	4.6	0.65	800	3450	0.88	46	20	3x14	5½
0.75	0.55	230	1.5	6.3	6.9	4.3	0.65	1200	3450	0.82	47	25	3x14	5½
1	0,75	230	1.4	7.7	8.8	4.8	0.68	1500	3450	0.84	50	35	3x14	5½
1.5	1.1	230	1.3	11.8	12.7	4.7	0.7	2120	3450	0.85	53	40	3x14	5½

P2: Rated output
 V: Rated voltage
 SF: Service factor
 In: Rated current
 In (SF): Service factor current
 Cs/Cn: Locked rotor Torque/Rated Torque
 P1: Power consumption

N: R.P.M
 Cos φ: Power factor
 η: Efficiency
 C: Capacitor
 Ø: Cable section
 LC: Cable length



TECHNICAL SPECIFICATION

Flange	NEMA 4"
Insulation class	F
Degree of protection	IP68
Cooling flow	min. 0.3 m/s @ 35°C (1.0 ft/sec @ 95 °F)
Voltage tolerance	+ 6% / -10%
Max starts	20/h
Max operating depth	300 m (984 ft)
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.

The resin filled stator is housed in an airtight AISI 304L stainless steel casing with internal sleeve and outer casing and flanges.

The cable connector is removable for the purpose of quick and easy maintenance.

The cable is certified to **CSA & UL electrical safety standards**.

The motor is suitable for use with variable frequency drive (30 Hz - 50 Hz).

For the single phase motors 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.

CONSTRUCTION FEATURES



Canned resin filled 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.

MATERIALS

MATERIALS

COMPONENT	VERSION 4GG
1 Int. and external sleeve	AISI 304
2 Stator	AISI 304L
3 Shaft end	AISI 304 / Duplex
4 Upper bracket	Cast iron
5 Bracket cover	AISI 304
6 Lip seal	NBR
7 Gasket	NBR
8 Lower bracket	Cast iron
9 Diaphragm	EPDM
10 Thrust bearing	Stainless steel - Graphite
11 Valve	AISI 303
12 Cable	EPDM
13 Connecting plug	AISI 316
14 Sand guard (fixed-removable)	NBR
15 Bolts & screws	AISI 304
16 Cooling liquid	Antifreeze + water
17 Mechanical seal	-

CERTIFICATION

CLASS 4211-81 MOTORS AND GENERATORS-Certified to US Standards

REQUIREMENTS:

UL 1004 Electric Motors

UL 2111 Overheating Protection for Motors

4211-01 MOTORS AND GENERATORS

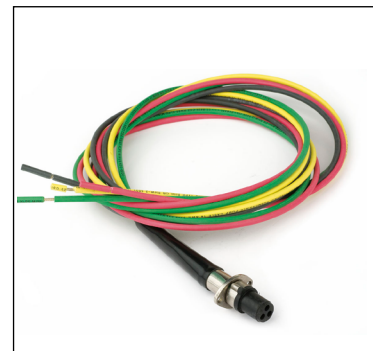
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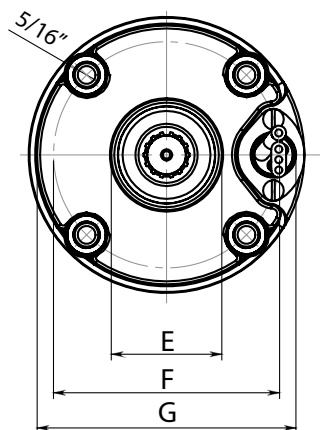
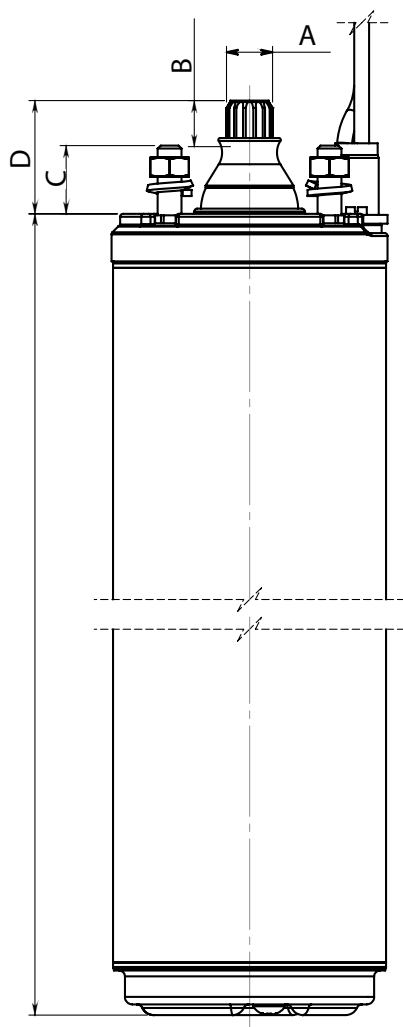
CSA Standard C22.2 No 0 General Requirements - Canadian Electrical Code, Part II

CSA Standard C22.2 No 0.4 Bonding and Grounding of Electrical Equipment (Protective Grounding)

CSA Standard C22.2 No 77 Motors with Inherent Overheating Protection

CSA Standard C22.2 No 100 Motors and Generators





DIMENSIONS

SINGLE PHASE MOTORS

Type	P2		L		Weight GG		Axial thrust
	[hp]	[kW]	[mm]	[inch]	[Kg]	[lbs]	
60 Hz 3W	0.5	0.37	266	10.472	8.8	19.4	500
	0.75	0.55	286	11.26	9.7	21.4	500
	1	0.75	346	13.622	12.6	27.8	700
	1.5	1.1	411	16.181	14.7	32.5	700
	2	1.5	411	16.181	14.8	32.7	700
	3	2.2	544	21.417	20.5	45.2	1500
	5	3.7	684	26.929	27.1	59.8	1500

THREE PHASE MOTORS

Type	P2		L		Weight GG		Axial thrust
	[hp]	[kW]	[mm]	[inch]	[Kg]	[lbs]	
60 Hz 3~	0.5	0.37	236	9.291	7.4	16.3	500
	0.75	0.55	266	10.472	8.8	19.4	500
	1	0.75	286	11.26	9.7	21.4	500
	1.5	1.1	346	13.622	11.7	25.8	700
	2	1.5	391	15.394	13.8	30.5	700
	3	2.2	504	19.843	18.5	40.8	1500
	5.5	4	614	24.173	23.5	51.9	1500
	7.5	5.5	684	26.929	27.1	59.8	1500
	10	7.5	764	30.079	31.1	68.7	1500

DIMENSIONS

Pos.	mm	inch	Pos.	mm	inch
A	$\varnothing 15.5^{+0.05}_{-0.03}$	0.610	E	$37.2^{+0.4}_{-0.4}$	1.465
B	$15^{+0.5}_{-0}$	0.591	F	$\varnothing 76.2^{+0.01}_{-0}$	3"
C	$23^{+0.5}_{-0}$	$\frac{7}{8}$ "	G	$\varnothing 87.3^{+0}_{-0.1}$	$3\frac{3}{8}$ "
D	$38.17^{+0.13}_{-0.12}$	$1\frac{1}{2}$ "			

4GG

4" SUBMERSIBLE MOTOR

ELECTRICAL DATA 60 Hz

SINGLE PHASE MOTORS

P2	V	SF	In	In (SF)	Is/In	Cs/Cn	P1	N	Cos φ	η	C1	C2	Ø	LC
[hp] [kW]	[V]		[A]	[A]			[W]	[min ⁻¹]		%	[μF]	[μF]	[AWG]	[ft]
0.5 0.37	115	1.6	10	12.6	4.2	0.65	1050	3450	0.8	56	-	250-300	4x14	5½
	230	1.6	5.5	6.6	4.6	0.65	1130	3450	0.78	54	-	59-71	4x14	5½
0.75 0.55	230	1.5	7.4	8.6	4	0.65	1420	3450	0.8	56	-	86-103	4x14	5½
1 0.75	230	1.4	8.3	9.8	4.9	0.68	1650	3450	0.8	62	-	105-126	4x14	5½
1.5 1.1	230	1.3	10.1	11.5	4.6	0.7	2100	3450	0.88	67	10	105-126	4x14	5½
2 1.5	230	1.25	10.6	13	5.4	0.65	2700	3450	0.95	70	20	105-126	4x14	5½
3 2.2	230	1.15	14.3	16.2	3.6	0.5	3500	3450	0.94	71	45	208-250	4x14	5½
5 3.7	230	1.15	22.2	24.3	3.3	0.5	5700	3450	0.98	76	2x40	270-324	4x14	8¾

THREE PHASE MOTORS

P2	V	SF	In	In (SF)	Is/In	Cs/Cn	P1	N	Cos φ	η	C	Ø	LC
[hp] [kW]	[V]		[A]	[A]			[W]	[min ⁻¹]		%	[μF]	[mm ²]	[ft]
0.5 0.37	230	1.6	3.2	3.8	4.4	3.2	870	3450	0.4	42	-	4x14	5½
	460	1.6	1.6	1.9	5	3.2	870	3450	0.4	42	-	4x14	5½
0.75 0.55	230	1.5	4.4	4.8	5.2	3.6	1140	3450	0.47	48	-	4x14	5½
	460	1.5	2.2	2.4	5.5	3.6	1140	3450	0.47	48	-	4x14	5½
1 0.75	230	1.4	5.2	5.6	6.4	4.2	1260	3450	0.59	59	-	4x14	5½
	460	1.4	2.6	2.8	5.8	4.2	1260	3450	0.59	59	-	4x14	5½
1.5 1.1	230	1.3	7.2	7.8	5.9	4.1	1875	3450	0.53	60	-	4x14	5½
	460	1.25	3.6	3.9	6.7	4.1	1875	3450	0.53	60	-	4x14	5½
2 1.5	230	1.15	9.2	9.8	6.1	3.8	2230	3450	0.57	67	-	4x14	5½
	460	1.15	4.6	4.9	6.7	3.8	2230	3450	0.57	67	-	4x14	5½
3 2.2	230	1.15	11.2	12	7.5	4.8	3160	3450	0.69	71	-	4x14	5½
	460	1.15	5.6	6	7.1	4.8	3160	3450	0.69	71	-	4x14	5½
5.5 4	230	1.15	17.8	19.2	7.4	4	5230	3450	0.7	77	-	4x14	8¾
	460	1.15	8.9	9.6	7.4	4	5230	3450	0.7	77	-	4x14	8¾
7.5 5.5	230	1.15	24	26	7.5	3.8	7100	3450	0.71	78	-	4x14	8¾
	460	1.15	12	13	7.5	3.8	7100	3450	0.71	78	-	4x14	8¾
10 7.5	460	1.15	15.4	16.6	7.1	3.9	9300	3450	0.78	80	-	4x14	11½

P2: Rated output
 SF: Service factor
 In: Rated current
 In (SF): Service factor current
 Is/In: Locked rotor current/Rated current
 Cs/Cn: Locked rotor Torque/Rated Torque
 P1: Power consumption

N: R.P.M
 Cos φ: Power factor
 η: Efficiency
 C: Capacitor
 Ø: Cable section
 LC: Cable length

ACCESSORIES

SUBMERSIBLE ELECTRIC PUMPS AND MOTORS

CONTROL BOXES FOR THREE WIRE SUBMERSIBLE MOTORS



The control boxes are made with metal casing which is painted with a protective coating.

The control boxes come with three knockouts for easy access.

It is a well-known fact that, unlike three-phase motors, single phase motors have a starting torque which is a fraction of the rated torque, therefore a control box / starter box is required to solve this problem.

Tesla offers a range of Control Boxes with either Capacitor Start or Capacitor Start Capacitor Run.

The Small Type is available for **GG & GX** motors up to 1.0Hp with capacitor start and the Larger Type with Capacitor Start, Capacitor Run are available from 1.5Hp to 5.0Hp in either **Basic** or **Plus** version.

The **Plus** boxes contain magnetic line contactors carefully matched to the motor rating, eliminating the need for external line contactors.

OL 4" single phase motors require Permanent Split Capacitor Type Control Box Type CBOL

ELECTRICAL DATA 60Hz

Control Box CBUS small Type BASIC for GG

Volts	Motor		Model	Capacitor	
	HP	kW		uF	volt
115	1/2	0.37	4CBUS 0.5HP 115V 60HZ BASIC	250 - 300	125
230	1/2	0.37	4CBUS 0.5HP 230V 60HZ BASIC	59 - 71	250
	3/4	0.55	4CBUS 0.75HP 230V 60HZ BASIC	86 - 103	250
	1	0.75	4CBUS 1.0HP 230V 60HZ BASIC	105 - 126	250

Control Box CBUS Large Type BASIC for GG

Volts	Motor		Model	Start Capacitor		Run Capacitor	
	HP	kW		uF	volt	uF	volt
230	1.5	1.1	4CBUS 1.5HP BASIC	105 - 126	250	10	370
	2	1.5	4CBUS 2.0HP BASIC	105 - 126	250	20	370
	3	2.2	4CBUS 3.0HP BASIC	208 - 250	250	45	370
	5	3.0	4CBUS 5.0HP BASIC	270 - 324	250	2 x 40	370

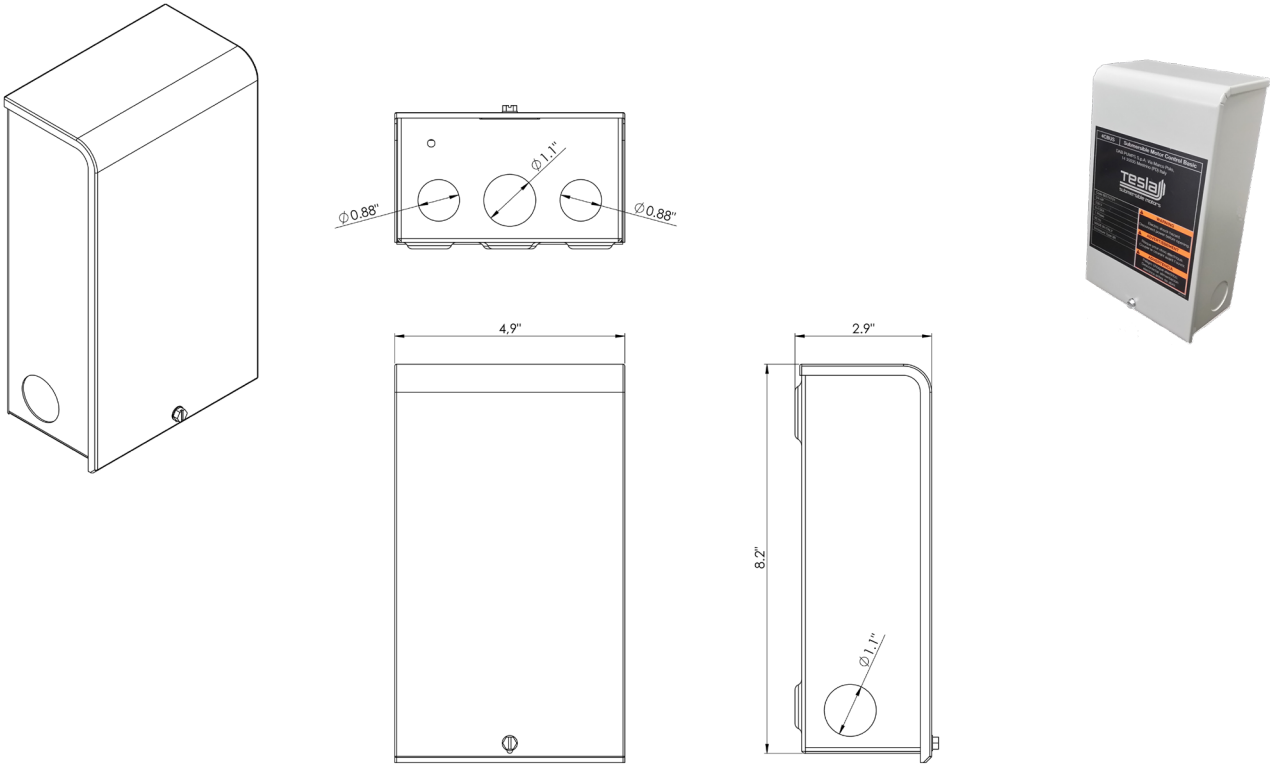
Control Box CBUS Large Type PLUS for GG

Volts	Motor		Model	Start Capacitor		Run Capacitor	
	HP	kW		uF	volt	uF	volt
230	1.5	1.1	4CBUS 1.5HP PLUS	105 - 126	250	10	370
	2	1.5	4CBUS 2.0HP PLUS	105 - 126	250	20	370
	3	2.2	4CBUS 3.0HP PLUS	208 - 250	250	45	370
	5	3.0	4CBUS 5.0HP PLUS	270 - 324	250	2 x 40	370

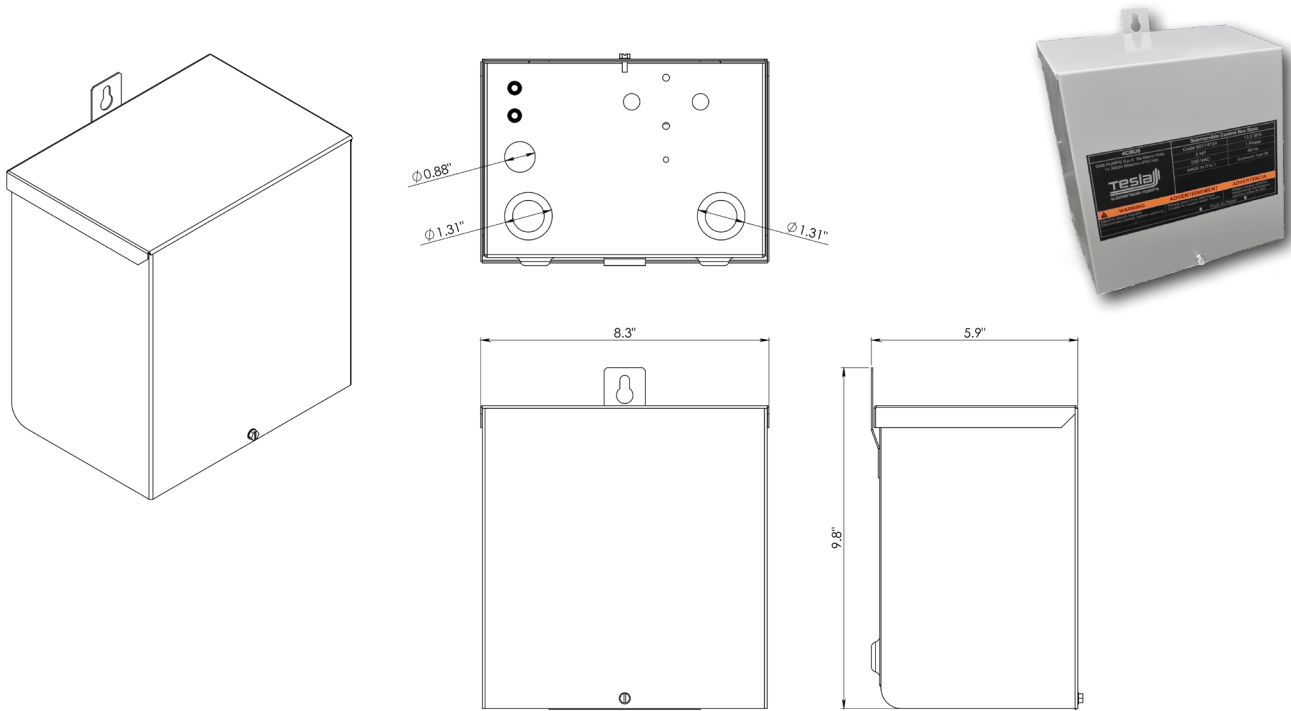
ACCESSORIES

SUBMERSIBLE ELECTRIC PUMPS AND MOTORS

CONTROL BOX - DIMENSION - 4CBUS & CBOL Small



CONTROL BOX - DIMENSION - 4CBUS & CBOL Large

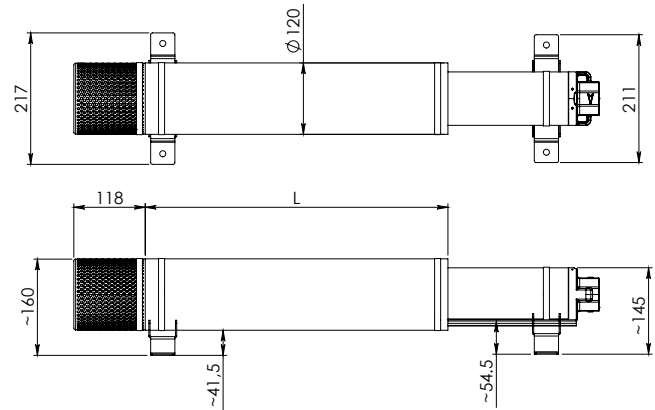


COOLING LINERS FOR 4" SUBMERSIBLE PUMP

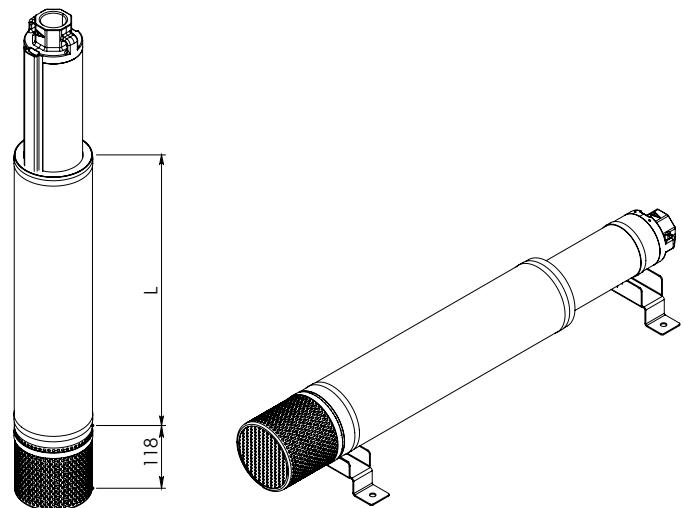
Kit of cooling liners of different lengths, used to ensure perfect cooling of the 4" motor in case of installation inside tanks or containers, or in any location where a minimum cooling flow on the motor cannot be guaranteed.

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 60 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		
	5,5	4		
	7,5	5,5		
	10	7,5		



ACCESSORIES

SUBMERSIBLE ELECTRIC PUMPS AND MOTORS

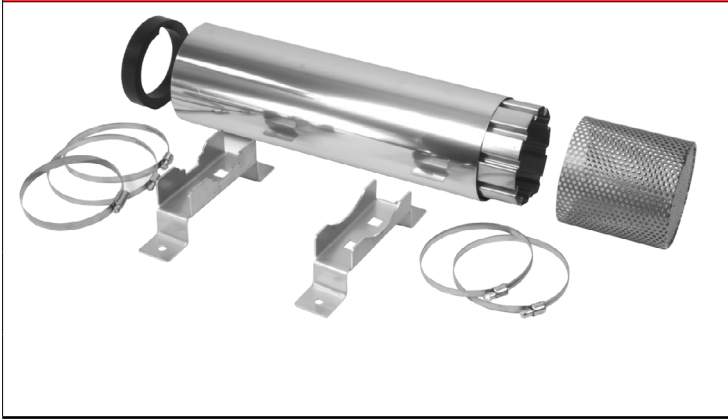
COOLING LINER KIT	DESCRIPTION	PRO 4
	L400 COOLING PIPE KIT	•
	L525 COOLING PIPE KIT	•
	L885 COOLING PIPE KIT	•
	4" HORIZONTAL INST. SUPPORTS KIT (2 pieces)	•
	4" FILTER KIT	•

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

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.
$V \sim$	= AC VOLTAGE AT THE MAINS.
Hz	= FREQUENCY IN CYCLES PER SECOND OF THE SUPPLY VOLTAGE.
I	= CURRENT ABSORBED BY THE MOTOR IN AMPERES.
$\cos\phi$	= POWER FACTOR.
$n^{1/min}$	= SPEED OF ROTATION IN RPM.
η	= OUTPUT POWER (RELATION BETWEEN DEVELOPED POWER AND ABSORBED POWER P_2/P_1).
p	= NUMBER OF POLES OF THE MOTOR.
C_n	= 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:

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

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

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

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

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

ABSORBED POWER

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

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

POWER DELIVERED AT THE MOTOR AXIS

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

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

TECHNICAL APPENDIX

SUBMERSIBLE ELECTRIC PUMPS AND MOTORS

EFFICIENCY

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

POWER FACTOR

$$\text{Single-phase: } \cos\phi = \frac{P_2 \text{ (kW)} \times 1000}{V \times I \times \eta}$$

$$\text{or: } \cos\phi = \frac{P_1 \text{ (kW)} \times 1000}{V \times I}$$

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

$$\text{or: } \cos\phi = \frac{P_1 \text{ (kW)} \times 1000}{1,73 \times V \times I}$$

TORQUE FACTOR

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

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

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

RELATIONSHIP BETWEEN KW AND HP

$$1 \text{ HP} = 0,736 \text{ kW}$$

$$1 \text{ kW} = 1,36 \text{ HP}$$

$$\frac{\text{HP}}{1.36} = \text{kW}$$

$$\text{kW} \times 1,36 = \text{HP}$$

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.

$$I_{sp} = I_n \times 4 \div 8$$

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:

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

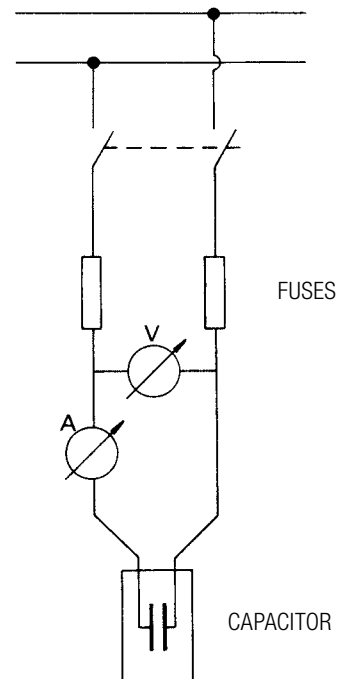
The approximate capacity of a capacitor is determined by:

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

Example:

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

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



TECHNICAL APPENDIX

SUBMERSIBLE ELECTRIC PUMPS AND MOTORS

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	1 cm ² = 0,0001 m ² 1 mm ² = 0,01 cm ²		1 m ² = 1,196 sq.yd 1 m 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	—

TECHNICAL APPENDIX

SUBMERSIBLE ELECTRIC PUMPS AND MOTORS

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 2 WIRE MOTORS

MODEL	P2		V	R
	HP	kW	V	Ω
4TW	0.5	0.37	115	0.95
			230	3.7
	0.75	0.5	230	2.5
	1	0.75	230	1.9
	1.5	1.1	230	1.45

SINGLE-PHASE 3 WIRE MOTORS

MODEL	P2		V	Rm	Ra
	HP	kW	V	Ω	Ω
4GG	0.5	0.37	115	1.2	4.9
			230	3.9	15
	0.75	0.5	230	3	10.8
	1	0.75	230	2.4	9.9
	1.5	1.1	230	1.8	9.1
	2	1.5	230	1.9	5.7
	3	2.2	230	1.2	2.5
	5	3	230	0.8	1.5

THREE-PHASE MOTORS

MODEL	P2		V	R
	HP	kW	V	Ω
4GG	0.5	0.37	230	5.80
			460	25.60
	0.75	0.5	230	3.90
			460	17.30
	1	0.75	230	2.40
			460	13.00
	1.5	1.1	230	2.20
			460	8.90
	2	1.5	230	1.50
			460	6.00
	3	2.2	230	1.30
			460	5.10
	5	3	230	0.83
			460	3.30
	7.5	5	230	0.60
			460	2.35
	10	7.5	460	2.00

TECHNICAL APPENDIX

SUBMERSIBLE ELECTRIC PUMPS AND MOTORS

DETERMINATION OF THE CROSS SECTION OF THE POWER CABLE

SINGLE-PHASE 4" MOTOR (4GG)

SINGLE PHASE 140 °F CABLE 60Hz (Service Entrance to Motor) Maximum Length in Feet

NOMINAL POWER		NOMINAL VOLTAGE V	140 °F INSULATION - AWG COPPER WIRE SIZE												
			14	12	10	8	6	4	3	2	1	0	00	000	0000
kW	HP		Maximum length in Feet (ft)												
0.37	0.5	115	100	160	250	390	620	960	1190	1460	1780	2160	2630	3140	3770
0.37	0.5	230	400	650	1020	1610	2510	3880	4810	5880	7170	8720			
0.55	0.75		300	480	760	1200	1870	2890	3580	4370	5330	6470	7870		
0.75	1		250	400	630	990	1540	2380	2960	3610	4410	5360	6520		
1.1	1.5		190	310	480	770	1200	1870	2320	2850	3500	4280	5240		
1.5	2		150	250	390	620	970	1530	1910	2360	2930	3620	4480		
2.2	3		120	190	300	470	750	1190	1490	1850	2320	2890	3610		
3.7	5		0	0	180	280	450	710	890	1110	1390	1740	2170	2680	

Length meets NEC ampacity requirements for individual conductors or jacketed cable in free air or water.

TECHNICAL APPENDIX

SUBMERSIBLE ELECTRIC PUMPS AND MOTORS

DETERMINATION OF THE CROSS SECTION OF THE POWER CABLE

THREE-PHASE 4" MOTOR (4GG)

THREE PHASE 140 °F CABLE 60Hz (Service Entrance to Motor) Maximum Length in Feet

NOMINAL POWER		NOMINAL VOLTAGE V	140 °F INSULATION - AWG COPPER WIRE SIZE												
			14	12	10	8	6	4	3	2	1	0	00	000	0000
kW		HP	Maximum length in Feet (ft)												
0,37		0,5	230	930	1490	2350	3700	5760	8910						
0,55		0,75		670	1080	1700	2580	4190	6490	8060	9860				
0,75		1		560	910	1430	2260	3520	5460	6780	8290				
1,1		1,5		420	670	1060	1670	2610	4050	5030	6160	7530	9170		
1,5		2		320	510	810	1280	2010	3130	3890	4770	5860	7170	8780	
2,2		3		240	390	620	990	1540	2400	2980	3660	4480	5470	6690	8020
3,7		5		140	230	370	590	920	1430	1790	2190	2690	3290	4030	4850
5.5		7.5		0	160	260	420	650	1020	1270	1560	1920	2340	2870	3440
7.5		10		0	0	190	310	490	760	950	1170	1440	1760	2160	2610
0,37		0,5	460	3770	6020	9460									
0,55		0,75		2730	4350	6850									
0,75		1		2300	3670	5770	9070								
1,1		1,5		1700	2710	4270	6730								
1,5		2		1300	2070	3270	5150	8050							
2,2		3		1000	1600	2520	3970	6200							
3,7		5		590	950	1500	2360	3700	5750						
5.5		7.5		420	680	1070	1690	2640	4100	5100	6260	7680			
7.5		10		310	500	790	1250	1960	3050	3800	4680	5750	7050		

Length in BOLD only meet the US National Electrical Code ampacity requirements for individual conductors in free air or water.

Length NOT in bold meet NEC ampacity requirements for individual conductors or jacketed cable in free air or water.



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