


Electrical and Mechanical Motor Data

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Electrical Data

The tables below list the current electrical data for all FE Petro submersibles. This data is helpful for determining power requirements, cable sizing, fuse or circuit breaker sizing, and troubleshooting. Mechanical data for all of the pump motor models, as well as footnotes for the entire document, can be found on the next page.

Warning  **Highly flammable vapors or liquids may be present in the environment in which this equipment is installed or serviced. Installing or working on this equipment means working in an environment that presents risks of severe injury or death if instructions and standard industry practices are not followed. Follow all applicable codes governing the installation and servicing of this product and the entire system. Always lock out and tag electrical circuit breakers while installing or servicing this equipment and related equipment. Refer to the *Installation and Owner's Manual* of this equipment and related equipment for complete installation and safety information.**

60 Hertz Models

Model	Description	Winding Resistance (Ohms +/-1 Ω)			S.F. Amps	Lock Rotor Amps
		Red to Black	Red to Orange	Black to Orange		
←STP 33	1/3 hp, 208-230 V, 1 ph	27	19	8	3.1	11
←STP 75	3/4 hp, 208-230 V, 1 ph	20	17	3	6.1	27
←STP 150	1½ hp, 208-230 V, 1 ph	15	13	2	10.5	39
↑ STP 200	2 hp, 208-230 V, 1 ph	4.6	3	1.8	11.4	41

Model	Description	Winding Resistance Lead-to-Lead (Ohms +/-1 Ω)	S.F. Amps	Lock Rotor Amps
→ STP 3	3 hp, 208-230 V, 3 ph	2	11.0	63
→ STP 5	5 hp, 208-230 V, 3 ph	1	17.7	91
→ STP 5G	5 hp, 575 V, 3 ph	6	6.9	36
→ STP 5H	5 hp, 460 V, 3 ph	4	8.6	52

50 Hertz Models

Model	Description	Winding Resistance (Ohms +/-1 Ω)			S.F. Amps	Lock Rotor Amps
		Red to Black	Red to Orange	Black to Orange		
↓ STP 75B	¾ hp, 200-250 V, 1 ph	27	23	4	5.6	23
↓ STP 150B	1½ hp, 200-250 V, 1 ph	16	13	3	8.8	28
*** STP 200B	2 hp, 200-250 V, 1 ph	5.5	3.5	2	9.5	37

Model	Description	Winding Resistance Lead-to-Lead (Ohms +/-1 Ω)	S.F. Amps	Lock Rotor Amps
→ STP 75C	3/4 hp, 380-415 V, 3 ph	29	2.1	10
→ STP 150C	1½ hp, 380-415 V, 3 ph	14	3.0	14
→ STP 200C	2 hp, 380-415 V, 3 ph	11.6	4.1	23
→ STP 3C	3 hp, 380-415 V, 3 ph	8	5.4	29
→ STP 5C	5 hp, 380-415 V, 3 ph	4	8.7	49

Variable Speed Models

Model	Description	Winding Resistance (Ohms +/-1 Ω)			S.F. Amps	Lock Rotor Amps
		Red to Black	Red to Orange	Black to Orange		
* † IST VS2	2 hp, 190 V, 5-72 Hz, 3 ph	2.5	2.5	2.5	6.7	n/a
** † IST VS4	4 hp, 190 V, 5-72 Hz, 3 ph	1.2	1.2	1.2	14.4	n/a

Mechanical Data

The table below lists the current mechanical and physical data for all FE Petro Pump Motor Assemblies (PMAs). This information is helpful for troubleshooting or upgrading a system with a larger horsepower PMA. Like STP and PMA model numbers will match in electrical and mechanical characteristics.

60 Hertz Models

Model	Description	Operating Pressure		PMA Length	
		PSI	Bar	Inch	mm
PMA 33	1/3 hp, 208-230 V, 1ph	27	1,86	16	406
PMA 75	¾ hp, 208-230 V, 1 ph	30	2,07	18.25	464
PMA 150	1½ hp, 208-230 V, 1 ph	32	2,21	21	533
PMA H150	1 ½ hp, 208-230 V, 1 ph	45	3,10	21.75	553
PMA 200	2 hp, 208-230 V, 1 ph	36	2,48	23.75	603
PMA H200	2 hp, 208-230 V, 1 ph	46	3,17	24.50	622
PMA 3	3 hp, 208-230 V, 3 ph	33	2,28	33	838
PMA 5	5 hp, 208-230 V, 3 ph	40	2,76	39	991
PMA 5G	5 hp, 575 V, 3 ph	40	2,76	39	991
PMA 5H	5 hp, 460 V, 3 ph	40	2,76	39	991

50 Hertz Models

Model	Description	Operating Pressure		PMA Length	
		PSI	Bar	Inch	mm
PMA 75B	¾ hp, 200-250 V, 1 ph	37	2,55	20.5	521
PMA 150B	1½ hp, 200-250 V, 1 ph	38	2,62	22.75	578
PMA H150B	1½ hp, 200-250 V, 1 ph	48	3,31	23.25	591
PMA 200B	2 hp, 200-250 V, 1 ph	37	2,55	25.75	654
PMA H200B	2 hp, 200-250 V, 1 ph	44	3,03	26.25	669
PMA 75C	¾ hp, 380-415 V, 3 ph	37	2,55	19.75	502
PMA 150C	1½ hp, 380-415 V, 3 ph	38	2,62	21.75	553
PMA H150C	1½ hp, 380-415 V, 3 ph	48	3,31	22	559
PMA 200C	2 hp, 380-415 V, 3 ph	37	2,55	23.50	597
PMA H200C	2 hp, 380-415 V, 3 ph	44	3,03	24	610
PMA 3C	3 hp, 380-415 V, 3 ph	36	2,48	36	914
PMA 5C	5 hp, 380-415 V, 3 ph	42	2,90	42	1067

Variable Speed Models

Model	Description	Operating Pressure		PMA Length	
		PSI	Bar	Inch	mm
PMA VS2	2 hp, 190 V, 70 Hz, 3 ph	24 - 42	1,65 - 2,90	20	508
PMA VS4	4 hp, 190 V, 70 Hz, 3 ph	24 - 42	1,65 - 2,90	25	635

Symbol Key

- ← STP 33, 75, 150 use a 15 – 17.5 µF, 370V capacitor
- ↑ STP200 uses a 40 - 50 µF, 370V capacitor
- No capacitor is used with 3 phase pump motor assemblies
- ↓ STP 75B and 150B use a 15 – 17.5 µF, 440V capacitor
- * IST VS2 for use with the IST-VFC, MagVFC or EcoVFC controller (no capacitor used)
- ** IST VS4 for use with the EcoVFC controller only (no capacitor used)
- *** STP 200B uses a 40 – 50 µF, 440V capacitor
- † VFC output is 190 V, 5-72 Hz, 3 ph which is derived from either 200-250 V, 50 or 60 Hz, 1 or 3 ph input (IST-VFC or MagVFC), or 360-440 V, 50 or 60 Hz, 3 ph input (EcoVFC).

Note: Operating pressure is the pressure at the pump manifold when the pump is ON with zero flow “deadhead.”. This pressure is the maximum pressure the pump can generate at the pump manifold. Higher system pressures though can be generated by a hydraulic hammer when present in a system.

Note: S.F. amps (Service Factor Amps) are defined by the maximum operating amps of the motor.