

Electrical and Mechanical Motor Data

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 +/-5%)			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 +/-5%)	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 +/-5%)			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	10.2	28
*** STP 200B	2 hp, 200-250 V, 1 ph	5.5	3.5	2	10.9	36.5

Model	Description	Winding Resistance Lead-to-Lead (Ohms +/-5%)	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	3.4	14
→ STP 200C	2 hp, 380-415 V, 3 ph	11.6	4.1	22.5
→ 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 +/-5%)			S.F. Amps	Lock Rotor Amps
		Red to Black	Red to Orange	Black to Orange		
* † IST VS2	2 hp, 190 V, 70 Hz, 3 ph	2.5	2.5	2.5	6.7	n/a
** † IST VS4	4 hp, 190 V, 70 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 (PSI)	PMA Length (in)
PMA 33	1/3 hp, 208-230 V, 1 ph	27	16
PMA 75	¾ hp, 208-230 V, 1 ph	30	18.25
PMA 150	1½ hp, 208-230 V, 1 ph	32	21
PMA H150	1 ½ hp, 208-230 V, 1 ph	45	21.75
PMA 200	208-230 V, 1 ph	36	23.75
PMA H200	208-230 V, 1 ph	46	24.50

Model	Description	Operating Pressure (PSI)	PMA Length (in)
PMA 3	3 hp, 208-230 V, 3 ph	33	33
PMA 5	5 hp, 208-230 V, 3 ph	40	39
PMA 5G	5 hp, 575 V, 3 ph	40	39
PMA 5H	5 hp, 460 V, 3 ph	40	39

50 Hertz Models

Model	Description	Operating Pressure (PSI)	PMA Length (in)
PMA 75B	200-250 V, 1 ph	37	20.5
PMA 150B	200-250 V, 1 ph	38	22.75
PMA H150B	200-250 V, 1 ph	48	23.25
PMA 200B	200-250 V, 1 ph	37	25.75
PMA H200B	200-250 V, 1 ph	44	26.25

Model	Description	Operating Pressure (PSI)	PMA Length (in)
PMA 75C	380-415 V, 3 ph	37	19.75
PMA 150C	380-415 V, 3 ph	38	21.75
PMA H150C	380-415 V, 3 ph	48	22
PMA 200C	380-415 V, 3 ph	37	23.50
PMA H200C	380-415 V, 3 ph	44	24
PMA 3C	3 hp, 380-415 V, 3 ph	36	36
PMA 5C	5 hp, 380-415 V, 3 ph	42	42

Variable Speed Models

Model	Description	Operating Pressure (PSI)	PMA Length (in)
* † PMA VS2	190 V, 70 Hz, 3 ph	24 - 42	20
** † PMA VS4	190 V, 70 Hz, 3 ph	24 - 42	25

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 or MagVFC controller (no capacitor used)
- ** IST VS4 for use with the MagVFC controller only (no capacitor used)
- *** STP 200B uses a 40 – 50 µF, 440V capacitor
- † IST-VFC and MagVFC output is 190V, 70 Hz, 3 ph which is derived from 200-250 V, 50 or 60 Hz, 3 ph input.

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.

Please contact Technical Support if we may be of any assistance.

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