

ELECTRICAL AND MECHANICAL MOTOR DATA

▲ CAUTION: 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 you do not follow instructions and standard industry practices. 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.

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 last page.

Symbol Key

- ← PMA33, 75, 150 use a 15 – 17.5 μ F, 370V capacitor
- ↑ PMAM200 uses a 40 - 50 μ F, 370V capacitor
- No capacitor is used with 3 phase pump motor assemblies
- ↓ PMA75B and 150B use a 15 – 17.5 μ F, 440V capacitor
- * PMAMVS2 for use with the IST-VFC, MagVFC or EcoVFC controller (no capacitor used)
- ** PMAMVS4 for use with the EcoVFC controller only (no capacitor used)
- *** PMAM200B uses a 40 – 50 μ F, 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).

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		
← PMA33	1/3 hp, 208-230 V, 1 ph	27	19	8	3.1	11
← PMA75	3/4 hp, 208-230 V, 1 ph	20	17	3	6.1	27
← PMA150	1 1/2 hp, 208-230 V, 1 ph	15	13	2	10.5	39
↑ PMA200	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
→ PMA3	3 hp, 208-230 V, 3 ph	2			11.0	63
→ PMA5	5 hp, 208-230 V, 3 ph	1			17.7	91
→ PMA5G	5 hp, 575 V, 3 ph	6			6.9	36
→ PMA5H	5 hp, 460 V, 3 ph	4			8.6	52



50 Hertz Models

Model	Description	Winding Resistance (Ohms +/-1Ω)			S.F. Amps	Lock Rotor Amps
		Red to Black	Red to Orange	Black to Orange		
↓ PMA75B	¾ hp, 200-250 V, 1 ph	27	23	4	5.6	23
↓ PMA150B	1½ hp, 200-250 V, 1 ph	16	13	3	8.8	28
*** PMAM200B	2 hp, 200-250 V, 1 ph	5.5	3.5	2	9.5	37

Model	Description	Winding Resistance Lead-to-Lead (Ohms +/-1Ω)			S.F. Amps	Lock Rotor Amps
→ PMA75C	¾ hp, 380-415 V, 3 ph	29			2.1	10
→ PMA150C	1½ hp, 380-415 V, 3 ph	14			3.0	14
→ PMAM200C	2 hp, 380-415 V, 3 ph	11.6			4.1	23
→ PMA3C	3 hp, 380-415 V, 3 ph	8			5.4	29
→ PMA5C	5 hp, 380-415 V, 3 ph	4			8.7	49

Variable Speed Models

Model	Description	Winding Resistance (Ohms +/-1Ω)			S.F. Amps	Lock Rotor Amps
		Red to Black	Red to Orange	Black to Orange		
* † PMAMVS2	2 hp, 190 V, 5-72 Hz, 3 ph	2.5	2.5	2.5	6.7	n/a
** † PMAMVS4	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. STP and PMA model numbers that are the same will match in electrical and mechanical characteristics.

60 Hertz Models

Model	Description	Operating Pressure		PMA Length	
		PSI	Bar	Inch	mm
PMA33	1/3 hp, 208-230 V, 1ph	27	1.86	16	406
PMA75	¾ hp, 208-230 V, 1 ph	30	2.07	18.25	464
PMA150	1½ hp, 208-230 V, 1 ph	32	2.21	21	533
PMAH150	1 ½ hp, 208-230 V, 1 ph	45	3.10	21.75	553
PMAM200	2 hp, 208-230 V, 1 ph	36	2.48	23.75	603
PMAMH200	2 hp, 208-230 V, 1 ph	46	3.17	24.50	622
PMA3	3 hp, 208-230 V, 3 ph	33	2.28	33	838
PMA5	5 hp, 208-230 V, 3 ph	40	2.76	39	991
PMA5G	5 hp, 575 V, 3 ph	40	2.76	39	991
PMA5H	5 hp, 460 V, 3 ph	40	2.76	39	991

50 Hertz Models

Model	Description	Operating Pressure		PMA Length	
		PSI	Bar	Inch	mm
PMA75B	¾ hp, 200-250 V, 1 ph	32	2.20	20.5	521
PMA150B	1½ hp, 200-250 V, 1 ph	36	2.48	22.75	578
PMAH150B	1½ hp, 200-250 V, 1 ph	42	2.70	23.25	591
PMAM200B	2 hp, 200-250 V, 1 ph	37	2.55	25.75	654
PMAMH200B	2 hp, 200-250 V, 1 ph	44	3.03	26.25	669
PMA75C	¾ hp, 380-415 V, 3 ph	32	2.20	19.75	502
PMA150C	1½ hp, 380-415 V, 3 ph	36	2.48	21.75	553
PMAH150C	1½ hp, 380-415 V, 3 ph	42	2.90	22	559
PMAM200C	2 hp, 380-415 V, 3 ph	37	2.55	23.50	597
PMAMH200C	2 hp, 380-415 V, 3 ph	44	3.03	24	610
PMA3C	3 hp, 380-415 V, 3 ph	36	2.48	36	914
PMA5C	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
PMAMVS2	2 hp, 190 V, 70 Hz, 3 ph	24 - 42	1.65 - 2.90	20	508
PMAMVS4	4 hp, 190 V, 70 Hz, 3 ph	24 - 42	1.65 - 2.90	25	635

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.

For technical assistance or questions regarding electrical and mechanical motor data, please contact Franklin Fueling Systems Technical Service at 1-800-984-6266.