



Standard Vertical Motor Catalog

AC
1 - 1750 HP



When reliability is critical.



We are committed to be your supplier of choice with superior service delivering the quality and reliability you absolutely require.

- North American manufacturing with the fastest cycle-times in the industry
- Robustly engineered GE motors for severe-duty applications
- Highly experienced account managers and seasoned application engineers
- Extensive inventory and distribution network

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Ultra™ and Ultra+™ Vertical Hollow Shaft
Weather Protection I (WPI)
Premium Efficient

Standard Features



Type	Ultra™ WPI VHS	Ultra+™ WPI VHS with bearing fluting protection	Key Differences
HP Range	5 - 450	15 - 1750	
Poles	2, 4, 6	2, 4	
Voltage	200-230/460, 230/460, 460 PWS, 460/575	230/460, 460, 460 PWS, 575, 2300/4000	
Efficiency	NEMA Premium	NEMA Premium	
Frequency	60 Hz (De-rated at 50 Hz and noted on the nameplate.)	60 Hz (De-rated at 50 Hz and noted on the nameplate.)	
NEMA Design	B	B (select marked ratings are A)	
Agency Approvals	UL - Component and Insulation System Recognition, CSA - Motors	UL - Component and Insulation System Recognition, CSA - Motors	
Altitude	3300 ft	3300 ft	
Ambient	40°C	40°C	
Balance/Vibration	Special Balance = 0.075 IPS	Special Balance = 0.075 IPS	
Bearing Caps	Yes	Yes	
Bearing Protection	Shaft Slinger	Shaft Slinger	
Bearing Type	High Thrust and Extra High Thrust	High Thrust and Extra High Thrust	
Conduit Box	Cast Iron	Cast Iron	
Coupling	Non-Reverse Standard, kitted for Self Release, or Bolted	Non-Reverse Standard, kitted for Self Release, or Bolted	
End Shield	Cast Iron	Cast Iron	
Fasteners	SAE	SAE	
Frame Material	Cast Iron	Cast Iron	
Frame Size	213-5011	254-5813	
Grease/Oil	All Guide and 213-286 Thrust Bearings: Polyrex EM, 324-449 Oil Lubricated Thrust Bearings: ISO 32	All Guide and 213-286 Thrust Bearings: Polyrex EM, 324-509 Oil Lubricated Thrust Bearings: ISO 32	
Ground	Brass Bolt on Frame and in Conduit Box	Brass Bolt on Frame and in Conduit Box	
Insulation Class	H	H	
Insulation System	GEGARD2400, Non-Hygroscopic, Anti-Fungus, 2400Volt at .1microsecond rise time, Exceeds NEMA MG1-31 for variable frequency drives	GEGARD2400, Non-Hygroscopic, Anti-Fungus, 2400Volt at .1microsecond rise time, Exceeds NEMA MG1-31 for variable frequency drives	
Inverter Capabilities	Variable Torque 0-60 Hz w/out non-reverse ratchet & *5-60 Hz w/NRR	Variable Torque 0-60 Hz w/out non-reverse ratchet & *5-60 Hz w/NRR	
Lifting Means	Yes, Integral to Endshield	Yes, Integral to Endshield	
Mounting	Vertical P-Base	Vertical P-Base	
Nameplate	Stainless Steel	Stainless Steel	
Non-Reverse Ratchet Type	Ball Style	Ball Style	
Paint	Grey Epoxyester	Grey Epoxyester	
Relubrication	Yes	Yes	
Rotor	Cast Aluminum	Cast Aluminum	
Service Factor	1.15	1.15	
Shaft Grounding	N/A	15-100HP: Aegis SGR on lower end, 125HP and up: Aegis SGR on lower end and insulated bearing carrier on upper end	*
Space Heater	115 Volt, 60 Hz	115 Volt, 60 Hz	
Temperature Rise	80°C @ 1.0 SF	80°C @ 1.0 SF	
Tests	NEMA Routine only	NEMA Routine only	
Thermostats	N/A	Includes NC Winding Thermostats	*
Time Rating	Continuous	Continuous	
Top Hat	Cast Aluminum	Cast Aluminum	
Warranty	36 months from date of installation or 42 months from date of manufacture, whichever occurs first	36 months from date of installation or 42 months from date of manufacture, whichever occurs first	



Ultra™ Vertical Hollow Shaft
Inverter Duty
Weather Protection I (WPI)
Premium Efficient



Pricing

HP: 5 - 450

HP	RPM	Volts	Frame	Thrust Down	Cat. No.	Model No.	Motor List Price	Coupling BX	Coupling Key	Price Symbol	Normally Stocked	Notes
5	3600	230/460	L213TP10	1,900	V4000	5KS213DAE5045	\$5,366	1	1/4	G6-7VHS	N	111
5	1800	230/460	L213TP10	2,071	V4008	5KS213DAE6064	\$5,508	1	1/4	G6-7VHS	Y	111
7.5	3600	230/460	L213TP10	1,900	V4001	5KS213DAE5043	\$5,779	1	1/4	G6-7VHS	N	111
7.5	1800	230/460	L213TP10	2,071	V4009	5KS213DAE6065	\$5,685	1	1/4	G6-7VHS	Y	111
10	3600	230/460	L213TP10	1,900	V4002	5KS213DAE5044	\$6,246	1	1/4	G6-7VHS	N	111
10	1800	230/460	L215TP10	2,071	V4010	5KS215DAE6039	\$6,094	1	1/4	G6-7VHS	Y	111
10	1200	230/460	L256TP12	3,379	V4019	5KS256DAE7023	\$8,177	1	1/4	G6-7VHS	N	111
15	3600	230/460	L215TP10	1,850	V4003	5KS215DAE5038	\$6,672	1	1/4	G6-7VHS	N	111
15	1800	230/460	L254TP10	2,575	V4011	5KS254DAE6049	\$6,731	1	1/4	G6-7VHS	Y	111
15	1800	230/460	L254TP10	2,575	V4035	5KS254DAE6055	\$6,731	1 1/4	1/4	G6-7VHS	N	111
15	1800	230/460	L254TP12	2,575	V4074	5KS254DAE6061	\$6,731	1 3/16	1/4	G6-7VHS	N	111
15	1800	230/460	L254TP16	2,575	V4012	5KS254DAE6050	\$6,731	1	1/4	G6-7VHS	Y	111
15	1800	230/460	L254TP16	2,575	V4075	5KS254DAE6062	\$6,731	1 3/16	1/4	G6-7VHS	N	111
15	1800	230/460	L254TP16	2,575	V4036	5KS254DAE6054	\$6,731	1 1/4	1/4	G6-7VHS	N	111
15	1200	230/460	L284TP12	3,379	V4020	5KS284DAE7026	\$8,961	1	1/4	G6-7VHS	N	111, 166
20	3600	230/460	L254TP10	2,600	V4004	5KS256DAE5035	\$7,192	1	1/4	G6-7VHS	N	111
20	3600	230/460	L254TP12	2,600	V4033	5KS256DAE5039	\$7,192	1	1/4	G6-7VHS	N	111
20	1800	230/460	L256TP12	2,575	V4013	5KS256DAE6065	\$7,702	1	1/4	G6-7VHS	Y	111
20	1800	230/460	L256TP12	2,575	V4076	5KS256DAE6091	\$7,702	1 3/16	1/4	G6-7VHS	N	111
20	1800	230/460	L256TP12	2,575	V4037	5KS256DAE6075	\$7,702	1 1/4	1/4	G6-7VHS	N	111
20	1800	230/460	L256TP16	2,575	V4014	5KS256DAE6066	\$7,702	1	1/4	G6-7VHS	Y	111
20	1800	230/460	L256TP16	2,575	V4077	5KS256DAE6092	\$7,702	1 3/16	1/4	G6-7VHS	N	111
20	1800	230/460	L256TP16	2,575	V4038	5KS256DAE6076	\$7,702	1 1/4	1/4	G6-7VHS	N	111
20	1200	230/460	L286TP12	3,379	V4021	5KS286DAE7028	\$11,163	1	1/4	G6-7VHS	N	111, 166
20	900	230/460	L324TP16	8,046	V4067	5KS324DAJ8005	\$18,240	1 3/16	1/4	G6-7VHS	N	111
25	3600	230/460	L256TP12	2,600	V4005	5KS256DAE5036	\$8,248	1	1/4	G6-7VHS	N	111, 166
25	3600	230/460	L256TP12	2,600	V4062	5KS256DAE5042	\$8,248	1 3/16	1/4	G6-7VHS	N	111,166
25	1800	230/460	L284TP12	2,960	V4015	5KS284DAE6061	\$8,788	1	1/4	G6-7VHS	Y	111, 166
25	1800	230/460	L284TP12	2,960	V4063	5KS284DAE6074	\$8,788	1 3/16	1/4	G6-7VHS	N	111,166
25	1800	230/460	L284TP16	2,960	V4016	5KS284DAE6062	\$8,788	1	1/4	G6-7VHS	Y	111, 166
25	1800	230/460	L284TP16	2,960	V4070	5KS284DAE6087	\$8,788	1 3/16	1/4	G6-7VHS	N	111, 166
25	1800	230/460	L284TP16	2,960	V4039	5KS284DAE6071	\$8,788	1 1/4	1/4	G6-7VHS	N	111, 166
25	1200	230/460	L324TP16	6,700	V4603	5KS324DAJ7005	\$12,954	1	1/4	G6-7VHS	N	111
25	900	460	L326TP16	8,047	V4064	5KS326DAJ8026	\$20,401	1	1/4	G6-7VHS	N	110

The motor list price includes "Standard" sized NRR and SRC. Additional sizes are available at additional cost.

Notes:

- 110 Usable on 380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 111 Usable on 190/380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 166 137 cubic inch conduit box



Ultra™ Vertical Hollow Shaft
Inverter Duty
Weather Protection I (WPI)
Premium Efficient



Pricing (cont.)

HP: 5 - 450

HP	RPM	Volts	Frame	Thrust Down	Cat. No.	Model No.	Motor List Price	Coupling BX	Coupling Key	Price Symbol	Normally Stocked	Notes
30	3600	230/460	L284TP12	2,600	V4006	5KS284DAE5038	\$8,433	1	1/4	G6-7VHS	N	111, 166
30	3600	230/460	L284TP12	2,600	V4055	5KS284DAE5040	\$8,433	1 1/4	1/4	G6-7VHS	N	111, 166
30	1800	230/460	L286TP12	2,960	V4017	5KS286DAE6059	\$9,633	1	1/4	G6-7VHS	Y	111, 166
30	1800	230/460	L286TP12	2,960	V4071	5KS286DAE6106	\$9,633	1 3/16	1/4	G6-7VHS	N	111, 166
30	1800	230/460	L286TP16	2,960	V4018	5KS286DAE6060	\$9,633	1	1/4	G6-7VHS	Y	111, 166
30	1800	230/460	L286TP16	2,960	V4072	5KS286DAE6107	\$9,633	1 3/16	1/4	G6-7VHS	N	111, 166
30	1800	200-230/460	L286TP16	2,960	V4034	5KS286DAE6072	\$9,633	1 1/4	1/4	G6-7VHS	N	111, 166
30	1200	230/460	L326TP16	6,700	V4073	5KS326DAJ7024	\$13,438	1 3/16	1/4	G6-7VHS	N	111
30	1200	230/460	L326TP16	6,700	V4604	5KS326DAJ7005	\$13,438	1 1/4	3/8	G6-7VHS	N	111
40	3600	230/460	L286TP12	2,500	V4007	5KS286DAE5040	\$10,704	1	1/4	G6-7VHS	N	111, 167
40	3600	230/460	L286TP12	2,500	V4069	5KS286DAE5043	\$10,704	1 1/4	1/4	G6-7VHS	N	111, 167
40	3600	230/460	L286TP16	2,500	V4061	5KS286DAE5041	\$10,704	1	1/4	G6-7VHS	N	111, 167
40	1800	200-230/460	L324TP12	6,320	V4455	5KS324DAJ6055	\$11,021	1 3/16	1/4	G6-7VFPD	N	111, 117
40	1800	230/460	L324TP12	6,324	V4412	5KS324DAJ6020	\$11,521	1 1/4	1/4	G6-7VHS	Y	111, 117
40	1800	200-230/460	L324TP12	6,320	V4456	5KS324DAJ6056	\$11,021	1 1/2	3/8	G6-7VFPD	N	111, 117
40	1800	200-230/460	L324TP16	6,320	V4060	5KS324DAJ6074	\$11,021	1	1/4	G6-7VFPD	N	111, 117
40	1800	200-230/460	L324TP16	6,320	V4457	5KS324DAJ6057	\$11,021	1 3/16	1/4	G6-7VFPD	N	111, 117
40	1800	230/460	L324TP16	6,324	V4413	5KS324DAJ6005	\$11,521	1 1/4	1/4	G6-7VHS	Y	111
40	1800	200-230/460	L324TP16	6,320	V4458	5KS324DAJ6058	\$11,021	1 1/2	3/8	G6-7VFPD	N	111, 117
40	1800	460 PWS	L324TP16	6,324	V4414	5KS324DAJ6008	\$11,521	1 1/4	1/4	G6-7VHS	Y	110
40	1800	460 PWS	L324TP16	6,320	V4043	5KS324DAJ6066	\$11,521	1 1/2	3/8	G6-7VHS	N	110, 117
40	1800	575	L324TP16	6,320	V4056	5KS324DAJ6071	\$11,021	1 1/2	3/8	G6-7VFPD	N	117
40	1200	230/460	L364TP16	6,700	V4605	5KS364DAJ7005	\$16,034	1 1/4	3/8	G6-7VHS	Y	111, 116, 167
50	3600	230/460	L324TP12	6,300	V4209	5KS324DAJ5020	\$14,038	1	1/4	G6-7VHS	N	111
50	3600	230/460	L324TP16	6,300	V4210	5KS324DAJ5005	\$14,038	1	1/4	G6-7VHS	N	111
50	1800	200-230/460	L326TP12	6,320	V4459	5KS326DAJ6061	\$11,776	1 3/16	1/4	G6-7VFPD	N	111, 117
50	1800	230/460	L326TP12	6,324	V4453	5KS326DAJ6054	\$12,375	1 1/4	1/4	G6-7VHS	N	111, 117
50	1800	200-230/460	L326TP12	6,320	V4460	5KS326DAJ6062	\$11,776	1 1/2	3/8	G6-7VFPD	N	111, 117
50	1800	200-230/460	L326TP16	6,320	V4461	5KS326DAJ6063	\$11,776	1 3/16	1/4	G6-7VFPD	N	111, 117
50	1800	230/460	L326TP16	6,324	V4415	5KS326DAJ6005	\$12,375	1 1/4	1/4	G6-7VHS	Y	111, 117
50	1800	200-230/460	L326TP16	6,320	V4462	5KS326DAJ6064	\$11,776	1 1/2	3/8	G6-7VFPD	N	111, 117
50	1800	460 PWS	L326TP16	6,324	V4416	5KS326DAJ6008	\$12,375	1 1/4	1/4	G6-7VHS	Y	110
50	1800	460 PWS	L326TP16	6,320	V4041	5KS326DAJ6069	\$12,375	1 1/2	3/8	G6-7VHS	N	110, 117
50	1200	230/460	L365TP16	6,700	V4606	5KS365DAJ7005	\$19,129	1 1/4	3/8	G6-7VHS	N	111, 116, 167

The motor list price includes "Standard" sized NRR and SRC. Additional sizes are available at additional cost.

Notes:

- 110 Usable on 380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 111 Usable on 190/380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 116 Maximum BX diameter is 1.5 inches.
- 117 Also certified for UL Fire Pump Usage
- 166 137 cubic inch conduit box
- 167 346 cubic inch conduit box



Ultra™ Vertical Hollow Shaft
Inverter Duty
Weather Protection I (WPI)
Premium Efficient



Pricing (cont.)

HP: 5 - 450

HP	RPM	Volts	Frame	Thrust Down	Cat. No.	Model No.	Motor List Price	Coupling BX	Coupling Key	Price Symbol	Normally Stocked	Notes
60	3600	460 PWS	L326TP16	6,300	V4211	5KS326DAJ5008	\$14,838	1 1/4	1/4	G6-7VHS	N	110
60	1800	200-230/460	L364TP12	6,244	V4463	5KS364DAJ6052	\$13,187	1 3/16	1/4	G6-7VFPD	N	111, 117, 163
60	1800	200-230/460	L364TP12	6,244	V4464	5KS364DAJ6053	\$13,187	1 1/2	3/8	G6-7VFPD	N	111, 117, 163
60	1800	200-230/460	L364TP16	6,244	V4465	5KS364DAJ6054	\$13,187	1 3/16	1/4	G6-7VFPD	N	111, 117, 163
60	1800	230/460	L364TP16	6,244	V4417	5KS364DAJ6005	\$13,882	1 1/4	1/4	G6-7VHS	Y	111, 116, 117, 167
60	1800	200-230/460	L364TP16	6,244	V4466	5KS364DAJ6055	\$13,187	1 1/2	3/8	G6-7VFPD	N	111, 117, 163
60	1800	460 PWS	L364TP16	6,244	V4418	5KS364DAJ6008	\$13,882	1 1/4	1/4	G6-7VHS	Y	110, 116, 167
60	1800	575	L364TP16	6,244	V4496	5KS364DAJ6058	\$13,187	1 3/16	1/4	G6-7VFPD	N	117, 167
60	1200	460 PWS	L404TP16	7,800	V4607	5KS404DAJ7008	\$21,808	1 1/2	3/8	G6-7VHS	N	110
75	3600	460 PWS	L364TP16	6,500	V4212	5KS364DAJ5008	\$17,855	1 1/4	1/4	G6-7VHS	N	110, 116, 167
75	1800	200-230/460	L365TP12	6,244	V4467	5KS365DAJ6076	\$16,079	1 3/16	1/4	G6-7VFPD	N	111, 117, 163
75	1800	200-230/460	L365TP12	6,244	V4468	5KS365DAJ6077	\$16,079	1 1/2	3/8	G6-7VFPD	N	111, 117, 163
75	1800	200-230/460	L365TP16	6,244	V4469	5KS365DAJ6078	\$16,079	1 3/16	1/4	G6-7VFPD	N	111, 117, 163
75	1800	230/460	L365TP16	6,244	V4419	5KS365DAJ6005	\$16,927	1 1/4	1/4	G6-7VHS	Y	111, 116, 117, 163
75	1800	200-230/460	L365TP16	6,244	V4470	5KS365DAJ6079	\$16,079	1 1/2	3/8	G6-7VFPD	N	111, 117, 163
75	1800	230/460	L365TP16	12,009	V4066	5KS365DAJ6074	\$17,773	1 1/2	1/4	G6-7VHS	N	116, 163
75	1800	230/460	L365TP16	12,009	V4068	5KS365DAJ6097	\$17,773	1 7/16	3/8	G6-7VHS	N	116, 163
75	1800	460 PWS	L365TP16	6,244	V4420	5KS365DAJ6008	\$16,927	1 1/4	1/4	G6-7VHS	Y	110, 116, 167
75	1800	460 PWS	L365TP16	6,244	V4040	5KS365DAJ6085	\$16,927	1 1/2	3/8	G6-7VHS	N	110, 116, 117, 167
75	1200	460 PWS	L405TP16	16,516	V4516	5KS405DAJ7031	\$29,399	1 1/4	1/4	G6-7VHS	N	110, 113
75	1200	460 PWS	L405TP16	7,800	V4608	5KS405DAJ7008	\$25,821	1 1/2	3/8	G6-7VHS	N	110
75	900	230/460	L444TP16	17,831	V4059	5KS444DAJ8022	\$40,353	1 1/2	3/8	G6-7VHS	N	163
100	1800	200-230/460	L404TP16	7,539	V4471	5KS404DAJ6062	\$20,900	1 3/16	1/4	G6-7VFPD	N	111, 117
100	1800	200-230/460	L404TP16	7,539	V4472	5KS404DAJ6063	\$20,900	1 1/2	3/8	G6-7VFPD	N	111, 117
100	1800	230/460	L404TP16	14,609	V4422	5KS404DAJ6005	\$22,775	1 1/2	3/8	G6-7VHS	Y	111
100	1800	200-230/460	L404TP16	7,539	V4473	5KS404DAJ6064	\$20,900	1 11/16	3/8	G6-7VFPD	N	111, 117
100	1800	460 PWS	L404TP16	7,539	V4421	5KS404DAJ6008	\$22,001	1 1/2	3/8	G6-7VHS	Y	110, 117
100	1800	460 PWS	L404TP16	14,609	V4423	5KS404DAJ6022	\$22,775	1 1/2	3/8	G6-7VHS	Y	110
100	1800	460/575	L404TP16	7,539	V4053	5KS404DAJ6075	\$20,900	1 1/2	3/8	G6-7VFPD	N	110, 117
100	1800	460/575	L404TP16	7,539	V4054	5KS404DAJ6076	\$20,900	1 11/16	3/8	G6-7VFPD	N	110, 117

The motor list price includes "Standard" sized NRR and SRC. Additional sizes are available at additional cost.

Notes:

- 110 Usable on 380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 111 Usable on 190/380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 113 Aegis Shaft Grounding ring on bearing cap (40-100HP)
- 116 Maximum BX diameter is 1.5 inches.
- 117 Also certified for UL Fire Pump Usage
- 163 700 cubic inch conduit box
- 167 346 cubic inch conduit box



Ultra™ Vertical Hollow Shaft
Inverter Duty
Weather Protection I (WPI)
Premium Efficient



Pricing (cont.)

HP: 5 - 450

HP	RPM	Volts	Frame	Thrust Down	Cat. No.	Model No.	Motor List Price	Coupling BX	Coupling Key	Price Symbol	Normally Stocked	Notes
100	1200	460 PWS	L444TP16	16,000	V4609	5KS444DAJ7008	\$34,305	1 11/16	3/8	G6-7VHS	N	110, 163
100	1200	460 PWS	L444TP20	16,000	V4611	5KS444DAJ7039	\$34,305	1 1/2	3/8	G6-7VHS	N	110, 163
100	900	460	L445TP24	17,830	V4852	5KS445DAJ8039	\$41,220	2 3/16	1/2	G6-7VHS	N	163
125	1800	460/575	L405TP16	7,539	V4474	5KS405DAJ6057	\$25,788	1 3/16	1/4	G6-7VFPD	N	110, 117
125	1800	460 PWS	L405TP16	7,539	V4424	5KS405DAJ6008	\$27,146	1 1/2	3/8	G6-7VHS	Y	110, 117
125	1800	460/575	L405TP16	7,539	V4475	5KS405DAJ6058	\$25,788	1 1/2	3/8	G6-7VFPD	N	110, 117
125	1800	460 PWS	L405TP16	14,609	V4425	5KS405DAJ6022	\$28,125	1 1/2	3/8	G6-7VHS	Y	110
125	1800	460/575	L405TP16	7,539	V4476	5KS405DAJ6059	\$25,788	1 11/16	3/8	G6-7VFPD	N	110, 117
125	1800	460 PWS	L405TP20	14,609	V4065	5KS405DAJ6066	\$28,125	1 3/16	1/4	G6-7VHS	N	110, 117
125	1200	460 PWS	L445TP16	24,668	V4449	5KS445DAJ7051	\$52,267	1 11/16	3/8	G6-7VHS	N	163
125	1200	460	L445TP16	16,083	V4612	5KS445DAJ7050	\$52,267	1 15/16	1/2	G6-7VHS	N	163
125	1200	460 PWS	L445TP20	24,668	V4445	5KS445DAJ7053	\$52,267	1 11/16	3/8	G6-7VHS	N	163
125	720	460 PWS	L445TP20	18,417	V4452	5KS445DAJ508	\$106,030	2 3/16	1/2	G6-7VHS	N	110, 117
150	1800	460 PWS	L444TP16	14,462	V4426	5KS444DAJ6008	\$34,409	1 11/16	3/8	G6-7VHS	Y	110, 117, 163
150	1800	460 PWS	L444TP16	22,551	V4444	5KS444DAJ6074	\$35,784	1 11/16	3/8	G6-7VHS	Y	110, 163
150	1800	460/575	L444TP20	14,462	V4477	5KS444DAJ6092	\$32,689	1 1/2	3/8	G6-7VFPD	N	110, 117, 163
150	1800	460 PWS	L444TP20	14,462	V3666	5KS444DAJ6037	\$34,409	1 11/16	3/8	G6-7VHS	N	110, 163
150	1800	460/575	L444TP20	14,462	V4478	5KS444DAJ6093	\$32,689	1 11/16	3/8	G6-7VFPD	N	110, 117, 163
150	1800	460/575	L444TP20	14,462	V4479	5KS444DAJ6094	\$32,689	1 15/16	1/2	G6-7VFPD	N	110, 117, 163
150	1200	460 PWS	L445TP16	25,024	V4450	5KS445DAJ7054	\$53,350	1 11/16	3/8	G6-7VHS	N	163
150	1200	460 PWS	L445TP20	25,024	V4446	5KS445DAJ7052	\$53,350	1 11/16	3/8	G6-7VHS	N	163
150	720	460	B509TP24	11,925	V4616	5KS509DAJ527	\$79,287	2 7/16	5/8	G6-7VHS	N	163
200	1800	460 PWS	L444TP16	22,551	V4427	5KS444DAJ6020	\$45,138	1 11/16	3/8	G6-7VHS	Y	110, 117, 163
200	1800	460/575	L444TP20	14,462	V4480	5KS444DAJ6095	\$42,880	1 1/2	3/8	G6-7VFPD	N	110, 117, 163
200	1800	460/575	L444TP20	14,462	V4481	5KS444DAJ6096	\$42,880	1 11/16	3/8	G6-7VFPD	N	110, 117, 163
200	1800	460 PWS	L444TP20	22,551	V4428	5KS444DAJ6025	\$45,138	1 11/16	3/8	G6-7VHS	Y	110, 163
200	1800	460/575	L444TP20	14,462	V4482	5KS444DAJ6097	\$42,880	1 15/16	1/2	G6-7VFPD	N	110, 117, 163
200	1200	460 PWS	L447TP20	22,551	V4451	5KS447DAJ7038	\$71,975	1 11/16	3/8	G6-7VHS	N	163
250	1800	460/575	L445TP20	14,462	V4483	5KS445DAJ6087	\$53,868	1 1/2	3/8	G6-7VFPD	N	110, 117, 164
250	1800	460/575	L445TP20	14,462	V4484	5KS445DAJ6088	\$53,868	1 11/16	3/8	G6-7VFPD	N	110, 117, 164
250	1800	460 PWS	L445TP20	22,551	V4429	5KS445DAJ6008	\$56,704	1 11/16	3/8	G6-7VHS	Y	110, 117, 164
250	1800	460/575	L445TP20	14,462	V4485	5KS445DAJ6089	\$53,868	1 15/16	1/2	G6-7VFPD	N	110, 117, 164
250	1800	460 PWS	L445TP24	22,551	V4454	5KS445DAJ6086	\$56,704	1 11/16	3/8	G6-7VHS	N	110, 117, 164

The motor list price includes "Standard" sized NRR and SRC. Additional sizes are available at additional cost.

Notes:

- 110 Usable on 380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 117 Also certified for UL Fire Pump Usage
- 163 700 cubic inch conduit box
- 164 1260 cubic inch conduit box



Ultra™ Vertical Hollow Shaft
Inverter Duty
Weather Protection I (WPI)
Premium Efficient



Pricing (cont.)

HP: 5 - 450

HP	RPM	Volts	Frame	Thrust Down	Cat. No.	Model No.	Motor List Price	Coupling BX	Coupling Key	Price Symbol	Normally Stocked	Notes
250	1200	460 PWS	L447TP20	24,668	V4447	5KS447DAJ7039	\$73,250	1 15/16	1/2	G6-7VHS	N	164
250	600	460	L5011TP30	12,181	V4057	5KS511DAJ621	\$134,595	2 11/16	5/8	G6-7VHS	N	164
300	1800	460/575	L447TP20	14,188	V4486	5KS447DAJ6062	\$62,072	1 11/16	3/8	G6-7VFPD	N	110, 117, 164
300	1800	460 PWS	L447TP20	22,277	V4430	5KS447DAJ6008	\$65,340	1 11/16	3/8	G6-7VHS	Y	110, 117, 164
300	1800	460/575	L447TP20	14,188	V4487	5KS447DAJ6063	\$62,072	1 15/16	1/2	G6-7VFPD	N	110, 117, 164
300	1800	460/575	L447TP20	14,188	V4488	5KS447DAJ6064	\$62,072	2 3/16	1/2	G6-7VFPD	N	110, 117, 164
300	1800	2300	L449TP20	22,277	V4615	5KS449DAJ6109	\$98,203	1 15/16	1/2	G6-7VHS	N	163
300	1200	460 PWS	L449TP20	24,668	V4448	5KS449DAJ7039	\$75,250	1 15/16	1/2	G6-7VHS	N	164
350	1800	460/575	L447TP20	14,188	V4489	5KS447DAJ6065	\$69,110	1 11/16	3/8	G6-7VFPD	N	110, 117, 164
350	1800	460 PWS	L447TP20	22,277	V4431	5KS447DAJ6020	\$72,748	1 11/16	3/8	G6-7VHS	Y	110, 117, 164
350	1800	460/575	L447TP20	14,188	V4490	5KS447DAJ6066	\$69,110	1 15/16	1/2	G6-7VFPD	N	110, 117, 164
350	1800	460/575	L447TP20	14,188	V4491	5KS447DAJ6067	\$69,110	2 3/16	1/2	G6-7VFPD	N	110, 117, 164
350	1800	460/575	L447TP20	14,188	V4492	5KS447DAJ6068	\$69,110	2 3/8	5/8	G6-7VFPD	N	110, 117, 164
400	1800	460/575	L449TP20	14,188	V4493	5KS449DAJ6095	\$76,805	1 15/16	1/2	G6-7VFPD	N	110, 117, 165
400	1800	460/575	L449TP20	14,188	V4494	5KS449DAJ6096	\$76,805	2 3/16	1/2	G6-7VFPD	N	110, 117, 165
400	1800	460/575	L449TP20	14,188	V4495	5KS449DAJ6097	\$76,805	2 3/8	5/8	G6-7VFPD	N	110, 117, 165
400	1800	460 PWS	L449TP20	20,800	V4432	5KS449DAJ6008	\$80,846	1 15/16	1/2	G6-7VHS	Y	110, 117, 165
400	1800	460 PWS	L449TP20	30,000	V4433	5KS449DAJ6022	\$86,892	1 15/16	1/2	G6-7VHS	N	110, 165
400	1800	2300	B509TP24	8,100	V4499	5KS509DAJ6048	\$112,162	2 3/16	1/2	G6-7VHS	N	163
400	1200	460	B5011TP24	15,850	V4613	5KS511DAJ7027	\$120,878	2 3/16	1/2	G6-7VHS	N	165
450	900	4160	B5011TP24	17,650	V4614	5KS511DAJ8024	\$228,972	2 7/16	5/8	G6-7VHS	N	165

The motor list price includes "Standard" sized NRR and SRC. Additional sizes are available at additional cost.

Notes:

- 110 Usable on 380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 117 Also certified for UL Fire Pump Usage
- 163 700 cubic inch conduit box
- 164 1260 cubic inch conduit box
- 165 2500 cubic inch conduit box 2-4" NPT



Ultra+™ Vertical Hollow Shaft
Inverter Duty with Bearing Fluting Protection
Weather Protection I (WPI)
Premium Efficient

Pricing



HP: 15 - 1750

HP	RPM	Volts	Frame	Thrust Down	Cat. No.	Model No.	Motor List Price	Coupling BX	Coupling Key	Price Symbol	Normally Stocked	Notes
15	1800	230/460	L254TP10	2,575	V4506	5KS254DAE6060	\$7,270	1	1/4	G6-7VHS	N	111, 113, 132
20	1800	230/460	L256TP10	2,575	V4507	5KS256DAE6090	\$8,318	1	1/4	G6-7VHS	N	111, 113, 132
25	1800	230/460	L284TP12	2,960	V4512	5KS284DAE6086	\$9,491	1	1/4	G6-7VHS	N	111, 113, 132, 166
25	1800	230/460	L284TP16	2,960	V4504	5KS284DAE6085	\$9,491	1	1/4	G6-7VHS	N	111, 113, 132, 166
30	1800	230/460	L286TP12	2,960	V4517	5KS286DAE6105	\$10,404	1	1/4	G6-7VHS	N	111, 113, 132, 166
30	1800	230/460	L286TP16	2,960	V4505	5KS286DAE6104	\$10,404	1	1/4	G6-7VHS	N	111, 113, 132, 166
40	1800	230/460	L324TP12	6,324	V4514	5KS324DAJ6052	\$12,394	1 1/4	1/4	G6-7VHS	N	111, 113, 132
40	1800	230/460	L324TP16	6,324	V4513	5KS324DAJ6021	\$12,394	1 1/4	1/4	G6-7VHS	N	111, 113, 132
40	1800	230/460	L324TP16	6,324	V4044	5KS324DAJ6067	\$12,394	1 1/2	3/8	G6-7VHS	N	111, 113, 132
40	1800	575	L324TP16	5,700	V4550	5KS324DAJ6022	\$12,394	1 1/4	1/4	G6-7VHS	N	113, 132
50	3600	230/460	L324TP16	5,272	V4501	5KS324DAJ5028	\$16,764	1	1/4	G6-7VHS	N	111, 113, 132
50	1800	230/460	L326TP16	6,324	V4515	5KS326DAJ6020	\$13,405	1 1/4	1/4	G6-7VHS	Y	111, 113, 132
50	1800	230/460	L326TP16	6,324	V4046	5KS326DAJ6070	\$13,405	1 1/2	3/8	G6-7VHS	N	111, 113, 132
50	1800	575	L326TP16	5,700	V4551	5KS326DAJ6021	\$13,405	1 1/4	1/4	G6-7VHS	N	113, 132
60	3600	230/460	L326TP16	5,272	V4502	5KS326DAJ5026	\$17,719	1 3/16	1/4	G6-7VHS	N	111, 113, 132
60	1800	230/460	L364TP16	6,244	V4509	5KS364DAJ6074	\$15,067	1 3/16	1/4	G6-7VHS	N	111, 113, 116, 132, 167
60	1800	460 PWS	L364TP16	6,244	V4518	5KS364DAJ6020	\$15,067	1 1/4	1/4	G6-7VHS	N	110, 113, 116, 132, 167
60	1800	460 PWS	L364TP16	6,244	V4045	5KS364DAJ6067	\$15,067	1 1/2	3/8	G6-7VHS	N	110, 113, 116, 132, 167
60	1800	575	L364TP16	5,700	V4552	5KS364DAJ6021	\$15,067	1 1/4	1/4	G6-7VHS	N	113, 116, 132, 167
75	3600	230/460	L364TP16	5,225	V4503	5KS364DAJ5030	\$21,322	1 3/16	1/4	G6-7VHS	N	111, 113, 132, 163
75	1800	230/460	L365TP16	6,244	V4510	5KS365DAJ6100	\$18,353	1 3/16	1/4	G6-7VHS	N	111, 113, 116, 132, 163
75	1800	460 PWS	L365TP16	6,244	V4520	5KS365DAJ6020	\$18,353	1 1/4	1/4	G6-7VHS	Y	110, 113, 116, 132, 167
75	1800	460 PWS	L365TP16	6,244	V4042	5KS365DAJ6086	\$18,353	1 1/2	3/8	G6-7VHS	N	110, 113, 116, 132, 167
75	1800	575	L365TP16	5,700	V4553	5KS365DAJ6021	\$18,353	1 1/4	1/4	G6-7VHS	N	113, 116, 132, 167
75	1200	460 PWS	L405TP16	16,516	V4516	5KS405DAJ7031	\$29,399	1 1/4	1/4	G6-7VHS	N	110, 113

The motor list price includes "Standard" sized NRR and SRC. Additional sizes are available at additional cost.

Notes:

- 110 Usable on 380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 111 Usable on 190/380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 113 Aegis Shaft Grounding ring on bearing cap
- 114 Insulated Upper Bearing Carrier and Aegis Shaft Grounding ring on bearing cap
- 116 Maximum BX diameter is 1.5 inches.
- 132 Includes NC Winding Thermostats
- 156 With Spherical Roller Bearing water cooling required
- 163 700 cubic inch conduit box
- 164 1260 cubic inch conduit box
- 165 2500 cubic inch conduit box 2-4" NPT
- 166 137 cubic inch conduit box
- 167 346 cubic inch conduit box



Ultra+™ Vertical Hollow Shaft
Inverter Duty with Bearing Fluting Protection
Weather Protection I (WPI)
Premium Efficient

Pricing (cont.)



HP: 15 - 1750

HP	RPM	Volts	Frame	Thrust Down	Cat. No.	Model No.	Motor List Price	Coupling BX	Coupling Key	Price Symbol	Normally Stocked	Notes
100	3600	230/460	L365TP16	5,224	V4508	5KS365DAJ5029	\$23,955	1 3/16	1/4	G6-7VHS	N	111, 113, 116, 132, 163
100	1800	230/460	L404TP16	7,539	V4511	5KS404DAJ6081	\$23,843	1 3/16	1/4	G6-7VHS	N	111, 113, 132
100	1800	460 PWS	L404TP16	14,609	V4521	5KS404DAJ6020	\$23,843	1 1/2	3/8	G6-7VHS	Y	110, 113, 132
100	1800	575	L404TP16	6,700	V4554	5KS404DAJ6021	\$23,843	1 1/2	3/8	G6-7VHS	N	113, 132
100	1800	575	L404TP16	6,700	V4561	5KS404DAJ6071	\$23,843	1 1/4	3/8	G6-7VHS	N	113, 132
100	1200	460	L444TP16	16,082	V4560	5KS444DAJ7035	\$50,038	1 1/2	3/8	G6-7VHS	N	114, 132, 163
125	1800	460 PWS	L405TP16	14,609	V4524	5KS405DAJ6020	\$29,399	1 1/2	3/8	G6-7VHS	Y	111, 114, 132
125	1800	575	L405TP16	6,700	V4555	5KS405DAJ6021	\$29,399	1 1/2	3/8	G6-7VHS	N	114, 132
150	1800	460 PWS	L444TP16	14,462	V4526	5KS444DAJ6021	\$37,284	1 11/16	3/8	G6-7VHS	Y	111, 114, 132, 163
150	1800	575	L444TP16	13,500	V4556	5KS444DAJ6023	\$37,284	1 11/16	3/8	G6-7VHS	N	114, 132, 163
200	1800	460 PWS	L444TP20	22,551	V4528	5KS444DAJ6022	\$48,870	1 11/16	3/8	G6-7VHS	Y	111, 114, 132, 163
200	1800	575	L444TP20	13,500	V4557	5KS444DAJ6024	\$48,870	1 11/16	3/8	G6-7VHS	N	114, 132, 163
250	1800	460 PWS	L445TP20	22,551	V4529	5KS445DAJ6020	\$61,365	1 11/16	3/8	G6-7VHS	Y	111, 114, 132, 164
250	1800	575	L445TP20	21,100	V4558	5KS445DAJ6021	\$61,365	1 11/16	3/8	G6-7VHS	N	114, 132, 163
300	1800	460 PWS	L447TP20	22,277	V4530	5KS447DAJ6021	\$70,691	1 11/16	3/8	G6-7VHS	N	111, 114, 132, 164
300	1800	575	L447TP20	20,800	V4559	5KS447DAJ6023	\$70,691	1 11/16	3/8	G6-7VHS	N	114, 132, 164
350	1800	460 PWS	L447TP20	22,277	V4531	5KS447DAJ6022	\$78,690	1 11/16	3/8	G6-7VHS	N	111, 114, 132, 164
400	1800	460 PWS	L449TP20	20,800	V4532	5KS449DAJ6021	\$87,437	1 15/16	1/2	G6-7VHS	N	111, 114, 132, 165
400	1800	460 PWS	L449TP20	30,000	V4533	5KS449DAJ6023	\$93,965	1 15/16	1/2	G6-7VHS	N	110, 114, 132, 165
450	1800	460 PWS	L449TP20	30,000	V4534	5KS449DAJ6020	\$98,613	1 15/16	1/2	G6-7VHS	N	110, 114, 132, 165
500	1800	460	B509TP20	31,604	V959	5KS509DAJ6028	\$180,096	2 3/16	1/2	G6-7VHS	N	110, 114, 132, 168, 176
500	1800	460 PWS	B509TP24	14,935	V954	5KS509DAJ6020	\$106,569	2 3/16	1/2	G6-7VHS	Y	110, 114, 132, 165
500	1800	460 PWS	B509TP24	27,484	V956	5KS509DAJ6070	\$111,881	2 3/16	1/2	G6-7VHS	Y	110, 114, 132, 165
500	1800	460 PWS	B509TP24	45,304	V955	5KS509DAJ6030	\$115,060	2 3/16	1/2	G6-7VHS	N	110, 114, 132, 156, 165
500	1800	2300	B509TP20	13,984	V979	5KS509DAJ6055	\$128,599	2 3/16	1/2	G6-7VHS	N	114

The motor list price includes "Standard" sized NRR and SRC. Additional sizes are available at additional cost.

Notes:

- 110 Usable on 380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 111 Usable on 190/380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 113 Aegis Shaft Grounding ring on bearing cap
- 114 Insulated Upper Bearing Carrier and Aegis Shaft Grounding ring on bearing cap
- 116 Maximum BX diameter is 1.5 inches.
- 132 Includes NC Winding Thermostats
- 156 With Spherical Roller Bearing water cooling required
- 163 700 cubic inch conduit box
- 164 1260 cubic inch conduit box
- 165 2500 cubic inch conduit box 2-4" NPT
- 168 2500 cubic inch conduit box 2-3" NPT
- 169 5700 cubic inch conduit box
- 176 Formed Coil Epoxy VPI



Ultra+™ Vertical Hollow Shaft
Inverter Duty with Bearing Fluting Protection
Weather Protection I (WPI)
Premium Efficient

Pricing (cont.)



HP: 15 - 1750

HP	RPM	Volts	Frame	Thrust Down	Cat. No.	Model No.	Motor List Price	Coupling BX	Coupling Key	Price Symbol	Normally Stocked	Notes
600	1800	460 PWS	B511TP24	26,976	V957	5KS511DAJ6032	\$123,404	2 3/16	1/2	G6-7VHS	Y	110, 114, 132, 169
600	1800	460 PWS	B511TP30	26,976	V917	5KS511DAJ6028	\$123,404	2 3/16	1/2	G6-7VHS	N	110, 114, 132
600	1800	460 PWS	L511TP24	44,796	V958	5KS511DAJ6023	\$129,013	2 3/16	1/2	G6-7VHS	N	110, 114, 132, 156, 169
700	1800	460	B513TP24	26,976	V972	5KS513DAJ6021	\$136,882	2 3/16	1/2	G6-7VHS	N	114, 132, 169
700	1800	460 PWS	B513TP24	44,796	V973	5KS513DAJ6026	\$139,620	2 3/16	1/2	G6-7VHS	N	114, 132, 156, 169
800	1800	460 PWS	B513TP24	44,796	V974	5KS513DAJ6027	\$141,015	2 3/16	1/2	G6-7VHS	N	114, 132, 156, 169
800	1800	460 PWS	B513TP30	44,796	V975	5KS513DAJ6028	\$141,015	2 3/16	1/2	G6-7VHS	N	114, 132, 156, 169
900	1800	2300/4000	B513TP24	44,796	V976	5KS513DAJ6029	\$153,992	2 3/16	1/2	G6-7VHS	N	114, 132, 156, 165
900	1800	2300/4000	B513TP30	44,796	V977	5KS513DAJ6030	\$153,992	2 3/16	1/2	G6-7VHS	N	114, 132, 156, 165
1000	1800	460	B513TP30	21,900	V919	5KS513DAJ6033	\$176,053	2 7/16	5/8	G6-7VHS	N	114, 132, 169
1000	1800	2300/4000	B513TP30	44,796	V978	5KS513DAJ6031	\$156,697	2 3/16	1/2	G6-7VHS	N	114, 132, 156, 165
1250	1800	2300/4000	B585TP30	50,000	V501	5KS585DAJ6020	Call ISR	Not Included		G6-7VHS	N	114, 132, 156
1250	1800	2300/4000	B585TP36	50,000	V504	5KS585DAJ6023	Call ISR	Not Included		G6-7VHS	N	114, 132, 156
1500	1800	2300/4000	B585TP30	50,000	V502	5KS585DAJ6021	Call ISR	Not Included		G6-7VHS	N	114, 132, 156
1500	1800	2300/4000	B585TP36	50,000	V505	5KS585DAJ6024	Call ISR	Not Included		G6-7VHS	N	114, 132, 156
1750	1800	2300/4000	B585TP30	50,000	V503	5KS585DAJ6022	Call ISR	Not Included		G6-7VHS	N	114, 132, 156
1750	1800	2300/4000	B585TP36	50,000	V506	5KS585DAJ6025	Call ISR	Not Included		G6-7VHS	N	114, 132, 156

The motor list price includes "Standard" sized NRR and SRC. Additional sizes are available at additional cost.

Notes:

- 110 Usable on 380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 111 Usable on 190/380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 114 Insulated Upper Bearing Carrier and Aegis Shaft Grounding ring on bearing cap
- 132 Includes NC Winding Thermostats
- 156 With Spherical Roller Bearing water cooling required
- 163 700 cubic inch conduit box
- 164 1260 cubic inch conduit box
- 165 2500 cubic inch conduit box 2-4" NPT
- 168 2500 cubic inch conduit box 2-3" NPT
- 169 5700 cubic inch conduit box
- 176 Formed Coil Epoxy VPI



Fire Pump Duty Motors Vertical Hollow Shaft

Standard Features



Datapacks available online in the Wolong America store - store.wolongamerica.com

Type	Fire Pump Duty VHS (EPACT Eff.)	Fire Pump Duty VHS (NEMA Prem. Eff.)
HP Range	15 - 400	40 - 400
Poles	4	4
Voltage	200-230/460, 230/460, 460 PWS, 460/575	230/460, 460 PWS
Efficiency	EPACT	NEMA Premium
Frequency	60 Hz (De-rated at 50 Hz and noted on the nameplate.)	60 Hz (De-rated at 50 Hz and noted on the nameplate.)
NEMA Design	B	B
Agency Approvals	UL - Component and Insulation System Recognition, CSA - Motors UL - Firepump	UL - Component and Insulation System Recognition, CSA - Motors UL - Firepump
Altitude	3300 ft	3300 ft
Ambient	40°C	40°C
Balance/Vibration	Special Balance = 0.075 IPS	Special Balance = 0.075 IPS
Bearing Caps	Yes	Yes
Bearing Protection	Shaft Slinger	Shaft Slinger
Bearing Type	High Thrust and Extra High Thrust	High Thrust and Extra High Thrust
Conduit Box	Cast Iron	Cast Iron
Coupling	Non-Reverse Standard, kitted for Self Release, or Bolted Upper Half Coupling ordered separately	Non-Reverse Standard, kitted for Self Release, or Bolted Upper Half Coupling ordered separately
End Shield	Cast Iron	Cast Iron
Fasteners	SAE	SAE
Finishing Varnish	Trickle Treat system	Trickle Treat system
Frame Material	Cast Iron	Cast Iron
Frame Size	254-449	324-449
Grease/Oil	All Guide and 213-286 Thrust Bearings: Polyrex EM, 324-449 Oil Lubricated Thrust Bearings: ISO 32	All Guide and 213-286 Thrust Bearings: Polyrex EM, 324-449 Oil Lubricated Thrust Bearings: ISO 32
Ground	Brass Bolt on Frame and in Conduit Box	Brass Bolt on Frame and in Conduit Box
Inverter Capabilities	Variable Torque 0-60 Hz w/out non-reverse ratchet & *5-60 Hz w/NRR	Variable Torque 0-60 Hz w/out non-reverse ratchet & *5-60 Hz w/NRR
Insulation Class	H	H
Insulation System	GEGARD2400, Non-Hygroscopic, Anti-Fungus, 2400 Volt at .1 microsecond rise time, Exceeds NEMA MG1-31 for variable frequency drives	GEGARD2400, Non-Hygroscopic, Anti-Fungus, 2400 Volt at .1 microsecond rise time, Exceeds NEMA MG1-31 for variable frequency drives
Lifting Means	Yes, Integral to Endshield	Yes, Integral to Endshield
Mounting	Vertical P-Base	Vertical P-Base
Nameplate	Stainless Steel	Stainless Steel
Non-Reverse Ratchet Type	Axial Ball Style	Axial Ball Style
Paint	Grey Epoxyester	Grey Epoxyester
Relubrication	Yes	Yes
Rotor	Cast Aluminum	Cast Aluminum
Service Factor	1.15	1.15
Shaft Grounding	N/A	N/A
Space Heater	115 Volt, 60 Hz	115 Volt, 60 Hz
Temperature Rise	80°C @ 1.0 SF	80°C @ 1.0 SF
Tests	NEMA Routine only	NEMA Routine only
Thermostats	N/A	N/A
Time Rating	Continuous	Continuous
Top Hat/Fan Cover	Cast Aluminum	Cast Aluminum
Warranty	36 months from date of installation or 42 months from date of manufacture, whichever occurs first	36 months from date of installation or 42 months from date of manufacture, whichever occurs first



Fire Pump Duty Motors
Vertical Hollow Shaft
EPACT Efficient and Premium Efficient
Inverter Duty



Pricing

HP: 15 - 400

HP	RPM	Volts	Frame	Thrust Down (lbs)	Max LRA @ 460 V	Cat. No.	Model No.	Motor List Price	Coupling BX	Coupling Key	Price Symbol	Norm. Stk.	Notes
15	1800	230/460	L254TP10	2,570	116.0	VF101	5KE254DAE6020	\$5,761	1	1/4	G6-7VFPD	N	
15	1800	200-230/460	L254TP10	2,570	116.0	VF118	5KE254DAE6021	\$5,761	1 3/16	1/4	G6-7VFPD	N	111
20	1800	230/460	L256TP10	2,570	145.0	VF102	5KE256DAE6020	\$6,211	1	1/4	G6-7VFPD	N	
20	1800	200-230/460	L256TP10	2,570	145.0	VF119	5KE256DAE6021	\$6,211	1 3/16	1/4	G6-7VFPD	N	111
25	1800	200-230/460	L284TP12	2,960	182.5	VF120	5KE284DAE6021	\$7,121	1 3/16	1/4	G6-7VFPD	N	111, 166
25	1800	230/460	L284TP16	2,960	182.5	VF103	5KE284DAE6020	\$7,121	1	1/4	G6-7VFPD	N	166
25	1800	200-230/460	L284TP16	2,960	182.5	VF122	5KE284DAE6023	\$7,121	1 3/16	1/4	G6-7VFPD	N	111, 166
30	1800	200-230/460	L286TP12	2,960	217.5	VF124	5KE286DAE6022	\$7,284	1 3/16	1/4	G6-7VFPD	N	111, 167
30	1800	230/460	L286TP16	2,960	217.5	VF104	5KE286DAE6020	\$7,284	1	1/4	G6-7VFPD	N	166
30	1800	200-230/460	L286TP16	2,960	217.5	VF126	5KE286DAE6024	\$7,284	1 3/16	1/4	G6-7VFPD	N	111, 167
40	1800	200-230/460	L324TP12	6,320	290.0	V4455	5KS324DAJ6055	\$11,021	1 3/16	1/4	G6-7VFPD	N	111, 162
40	1800	230/460	L324TP12	6,324	290.0	V4412	5KS324DAJ6020	\$11,521	1 1/4	1/4	G6-7VHS	Y	111, 162
40	1800	200-230/460	L324TP12	6,320	290.0	V4456	5KS324DAJ6056	\$11,021	1 1/2	3/8	G6-7VFPD	N	111, 162
40	1800	200-230/460	L324TP16	6,320	290.0	V4457	5KS324DAJ6057	\$11,021	1 3/16	1/4	G6-7VFPD	N	111, 162
40	1800	230/460	L324TP16	6,320	290.0	VF105	5KE324DAJ6020	\$11,021	1 1/4	1/4	G6-7VFPD	N	
40	1800	200-230/460	L324TP16	6,320	290.0	V4458	5KS324DAJ6058	\$11,021	1 1/2	3/8	G6-7VFPD	N	111, 162
40	1800	460 PWS	L324TP16	6,320	290.0	V4043	5KS324DAJ6066	\$11,521	1 1/2	3/8	G6-7VHS	N	110, 162
40	1800	575	L324TP16	6,320	214.0	V4056	5KS324DAJ6071	\$11,021	1 1/2	3/8	G6-7VFPD	N	162
50	1800	200-230/460	L326TP12	6,320	362.5	V4459	5KS326DAJ6061	\$11,776	1 3/16	1/4	G6-7VFPD	N	111, 162
50	1800	200-230/460	L326TP12	6,320	362.5	V4460	5KS326DAJ6062	\$11,776	1 1/2	3/8	G6-7VFPD	N	111, 162
50	1800	200-230/460	L326TP16	6,320	362.5	V4461	5KS326DAJ6063	\$11,776	1 3/16	1/4	G6-7VFPD	N	111, 162
50	1800	230/460	L326TP16	6,320	362.5	VF106	5KE326DAJ6020	\$11,776	1 1/4	1/4	G6-7VFPD	N	
50	1800	230/460	L326TP16	6,324	362.5	V4415	5KS326DAJ6005	\$12,375	1 1/4	1/4	G6-7VHS	Y	111, 162
50	1800	200-230/460	L326TP16	6,320	362.5	V4462	5KS326DAJ6064	\$11,776	1 1/2	3/8	G6-7VFPD	N	111, 162
50	1800	460 PWS	L326TP16	6,320	362.5	V4041	5KS326DAJ6069	\$12,375	1 1/2	3/8	G6-7VHS	N	110
60	1800	200-230/460	L364TP12	6,244	435.0	V4463	5KS364DAJ6052	\$13,187	1 3/16	1/4	G6-7VFPD	N	111, 162, 163
60	1800	200-230/460	L364TP12	6,244	435.0	V4464	5KS364DAJ6053	\$13,187	1 1/2	3/8	G6-7VFPD	N	111, 162, 163
60	1800	200-230/460	L364TP16	6,244	435.0	V4465	5KS364DAJ6054	\$13,187	1 3/16	1/4	G6-7VFPD	N	111, 162, 163
60	1800	230/460	L364TP16	6,244	435.0	VF107	5KE364DAJ6020	\$13,187	1 1/4	1/4	G6-7VFPD	N	116, 167
60	1800	230/460	L364TP16	6,244	435.0	V4417	5KS364DAJ6005	\$13,882	1 1/4	1/4	G6-7VHS	Y	111, 116, 162, 167
60	1800	200-230/460	L364TP16	6,244	435.0	V4466	5KS364DAJ6055	\$13,187	1 1/2	3/8	G6-7VFPD	N	111, 162, 163

The motor list price includes "Standard" sized NRR and SRC. Additional sizes are available at additional cost.

Notes:

- 110 Usable on 380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 111 Usable on 190/380 Volts, 50 Hz at 1.0 Service Factor and derated to next lower HP.
- 116 Maximum BX diameter is 1.5 inches.
- 162 Premium Efficient also meets NEMA Premium
- 163 700 cubic inch conduit box
- 166 137 cubic inch conduit box
- 167 346 cubic inch conduit box



Fire Pump Duty Motors
Vertical Hollow Shaft
EPACT Efficient and Premium Efficient
Inverter Duty



Pricing (cont.)

HP: 15 - 400

HP	RPM	Volts	Frame	Thrust Down (lbs)	Max LRA @ 460 V	Cat. No.	Model No.	Motor List Price	Coupling BX	Coupling Key	Price Symbol	Norm. Stk.	Notes
75	1800	200-230/460	L365TP12	6,244	542.5	V4467	5KS365DAJ6076	\$16,079	1 3/16	1/4	G6-7VFPD	N	111, 162, 163
75	1800	200-230/460	L365TP12	6,244	542.5	V4468	5KS365DAJ6077	\$16,079	1 1/2	3/8	G6-7VFPD	N	111, 162, 163
75	1800	200-230/460	L365TP16	6,244	542.5	V4469	5KS365DAJ6078	\$16,079	1 3/16	1/4	G6-7VFPD	N	111, 162, 163
75	1800	230/460	L365TP16	6,244	542.5	VF108	5KE365DAJ6020	\$16,079	1 1/4	1/4	G6-7VFPD	N	116, 163
75	1800	230/460	L365TP16	6,244	542.5	V4419	5KS365DAJ6005	\$16,927	1 1/4	1/4	G6-7VHS	Y	111, 116, 162, 163
75	1800	200-230/460	L365TP16	6,244	542.5	V4470	5KS365DAJ6079	\$16,079	1 1/2	3/8	G6-7VFPD	N	111, 162, 163
75	1800	460 PWS	L365TP16	6,244	542.5	V4040	5KS365DAJ6085	\$16,927	1 1/2	3/8	G6-7VHS	N	110, 116, 167
100	1800	200-230/460	L404TP16	7,539	725.0	V4471	5KS404DAJ6062	\$20,900	1 3/16	1/4	G6-7VFPD	N	111, 162
100	1800	230/460	L404TP16	7,539	725.0	VF109	5KE404DAJ6020	\$20,900	1 1/2	3/8	G6-7VFPD	N	
100	1800	200-230/460	L404TP16	7,539	725.0	V4472	5KS404DAJ6063	\$20,900	1 1/2	3/8	G6-7VFPD	N	111, 162
100	1800	200-230/460	L404TP16	7,539	725.0	V4473	5KS404DAJ6064	\$20,900	1 11/16	3/8	G6-7VFPD	N	111, 162
100	1800	460 PWS	L404TP16	7,539	725.0	V4421	5KS404DAJ6008	\$22,001	1 1/2	3/8	G6-7VHS	Y	110, 162
100	1800	460/575	L404TP16	7,539	725.0	V4053	5KS404DAJ6075	\$20,900	1 1/2	3/8	G6-7VFPD	N	110, 117
100	1800	460/575	L404TP16	7,539	725.0	V4054	5KS404DAJ6076	\$20,900	1 11/16	3/8	G6-7VFPD	N	110, 117
125	1800	460/575	L405TP16	7,539	907.5	V4474	5KS405DAJ6057	\$25,788	1 3/16	1/4	G6-7VFPD	N	110, 162
125	1800	460 PWS	L405TP16	7,539	907.5	VF110	5KE405DAJ6020	\$25,788	1 1/2	3/8	G6-7VFPD	N	
125	1800	460 PWS	L405TP16	7,539	907.5	V4424	5KS405DAJ6008	\$27,146	1 1/2	3/8	G6-7VHS	Y	110, 162
125	1800	460/575	L405TP16	7,539	907.5	V4475	5KS405DAJ6058	\$25,788	1 1/2	3/8	G6-7VFPD	N	110, 162
125	1800	460/575	L405TP16	7,539	907.5	V4476	5KS405DAJ6059	\$25,788	1 11/16	3/8	G6-7VFPD	N	110, 162
150	1800	460 PWS	L444TP16	14,462	1,085.0	VF111	5KE444DAJ6020	\$32,689	1 11/16	3/8	G6-7VFPD	N	164
150	1800	460 PWS	L444TP16	14,462	1,085.0	V4426	5KS444DAJ6008	\$34,409	1 11/16	3/8	G6-7VHS	Y	110, 162, 163
150	1800	460/575	L444TP20	14,462	1,085.0	V4477	5KS444DAJ6092	\$32,689	1 1/2	3/8	G6-7VFPD	N	110, 162, 163
150	1800	460/575	L444TP20	14,462	1,085.0	V4478	5KS444DAJ6093	\$32,689	1 11/16	3/8	G6-7VFPD	N	110, 162, 163
150	1800	460/575	L444TP20	14,462	1,085.0	V4479	5KS444DAJ6094	\$32,689	1 15/16	1/2	G6-7VFPD	N	110, 162, 163
200	1800	460 PWS	L444TP16	14,462	1,450.0	VF112	5KE444DAJ6021	\$42,880	1 11/16	3/8	G6-7VFPD	N	170
200	1800	460 PWS	L444TP16	22,551	1,450.0	V4427	5KS444DAJ6020	\$45,138	1 11/16	3/8	G6-7VHS	Y	110, 162, 163

The motor list price includes "Standard" sized NRR and SRC. Additional sizes are available at additional cost.

Notes:

- 110 Usable on 380 Volts, 50 Hz at 1.0 Service Factor and derated to next lower HP.
- 111 Usable on 190/380 Volts, 50 Hz at 1.0 Service Factor and derated to next lower HP.
- 116 Maximum BX diameter is 1.5 inches.
- 117 Also certified for UL Fire Pump Usage
- 162 Premium Efficient also meets NEMA Premium
- 163 700 cubic inch conduit box
- 164 1260 cubic inch conduit box
- 167 346 cubic inch conduit box
- 170 2500 cubic inch conduit box



Fire Pump Duty Motors
Vertical Hollow Shaft
EPACT Efficient and Premium Efficient
Inverter Duty



Pricing (cont.)

HP: 15 - 400

HP	RPM	Volts	Frame	Thrust Down (lbs)	Max LRA @ 460 V	Cat. No.	Model No.	Motor List Price	Coupling BX	Coupling Key	Price Symbol	Norm. Stk.	Notes
200	1800	460/575	L444TP20	14,462	1,450.0	V4480	5KS444DAJ6095	\$42,880	1 1/2	3/8	G6-7VFPD	N	110, 162, 163
200	1800	460/575	L444TP20	14,462	1,450.0	V4481	5KS444DAJ6096	\$42,880	1 11/16	3/8	G6-7VFPD	N	110, 162, 163
200	1800	460/575	L444TP20	14,462	1,450.0	V4482	5KS444DAJ6097	\$42,880	1 15/16	1/2	G6-7VFPD	N	110, 162, 163
250	1800	460 PWS	L445TP16	14,462	1,825.0	VF113	5KE445DAJ6021	\$53,868	1 11/16	3/8	G6-7VFPD	N	164
250	1800	460/575	L445TP20	14,462	1,825.0	V4483	5KS445DAJ6087	\$53,868	1 1/2	3/8	G6-7VFPD	N	110, 162, 164
250	1800	460/575	L445TP20	14,462	1,825.0	V4484	5KS445DAJ6088	\$53,868	1 11/16	3/8	G6-7VFPD	N	110, 162, 164
250	1800	460 PWS	L445TP20	22,551	1,825.0	V4429	5KS445DAJ6008	\$56,704	1 11/16	3/8	G6-7VHS	Y	110, 162, 164
250	1800	460/575	L445TP20	14,462	1,825.0	V4485	5KS445DAJ6089	\$53,868	1 15/16	1/2	G6-7VFPD	N	110, 162, 164
300	1800	460 PWS	L447TP16	14,188	2,200.0	VF114	5KE447DAJ6020	\$62,072	1 11/16	3/8	G6-7VFPD	N	164
300	1800	460/575	L447TP20	14,188	2,200.0	V4486	5KS447DAJ6062	\$62,072	1 11/16	3/8	G6-7VFPD	N	110, 162, 164
300	1800	460 PWS	L447TP20	22,277	2,200.0	V4430	5KS447DAJ6008	\$65,340	1 11/16	3/8	G6-7VHS	Y	110, 162, 164
300	1800	460/575	L447TP20	14,188	2,200.0	V4487	5KS447DAJ6063	\$62,072	1 15/16	1/2	G6-7VFPD	N	110, 162, 164
300	1800	460/575	L447TP20	14,188	2,200.0	V4488	5KS447DAJ6064	\$62,072	2 3/16	1/2	G6-7VFPD	N	110, 162, 164
350	1800	460 PWS	L447TP16	14,188	2,550.0	VF115	5KE447DAJ6021	\$69,110	1 11/16	3/8	G6-7VFPD	N	164
350	1800	460/575	L447TP20	14,188	2,550.0	V4489	5KS447DAJ6065	\$69,110	1 11/16	3/8	G6-7VFPD	N	110, 162, 164
350	1800	460 PWS	L447TP20	22,277	2,550.0	V4431	5KS447DAJ6020	\$72,748	1 11/16	3/8	G6-7VHS	Y	110, 162, 164
350	1800	460/575	L447TP20	14,188	2,550.0	V4490	5KS447DAJ6066	\$69,110	1 15/16	1/2	G6-7VFPD	N	110, 162, 164
350	1800	460/575	L447TP20	14,188	2,550.0	V4491	5KS447DAJ6067	\$69,110	2 3/16	1/2	G6-7VFPD	N	110, 162, 164
350	1800	460/575	L447TP20	14,188	2,550.0	V4492	5KS447DAJ6068	\$69,110	2 3/8	5/8	G6-7VFPD	N	110, 162, 164
400	1800	460 PWS	L449TP16	14,188	2,900.0	VF116	5KE449DAJ6021	\$76,805	1 15/16	1/2	G6-7VFPD	N	170
400	1800	460/575	L449TP20	14,188	2,900.0	V4493	5KS449DAJ6095	\$76,805	1 15/16	1/2	G6-7VFPD	N	110, 162, 170
400	1800	460 PWS	L449TP20	20,800	2,900.0	V4432	5KS449DAJ6008	\$80,846	1 15/16	1/2	G6-7VHS	Y	110, 162, 170
400	1800	460/575	L449TP20	14,188	2,900.0	V4494	5KS449DAJ6096	\$76,805	2 3/16	1/2	G6-7VFPD	N	110, 162, 170
400	1800	460/575	L449TP20	14,188	2,900.0	V4495	5KS449DAJ6097	\$76,805	2 3/8	5/8	G6-7VFPD	N	110, 162, 170

The motor list price includes "Standard" sized NRR and SRC. Additional sizes are available at additional cost.

Notes:

- 110 Usable on 380 Volts, 50 Hz at 1.0 Service Factor and derated to next lower HP.
- 162 Premium Efficient also meets NEMA Premium
- 163 700 cubic inch conduit box
- 164 1260 cubic inch conduit box
- 170 2500 cubic inch conduit box



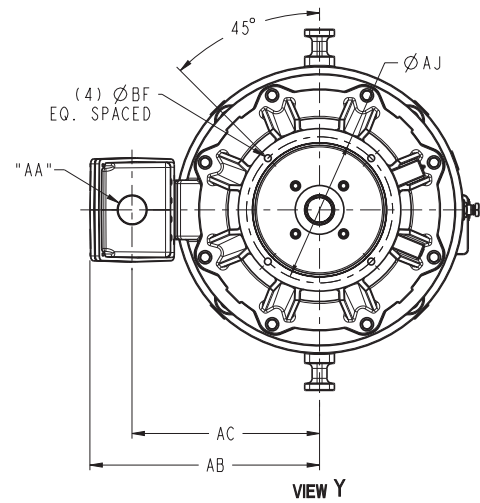
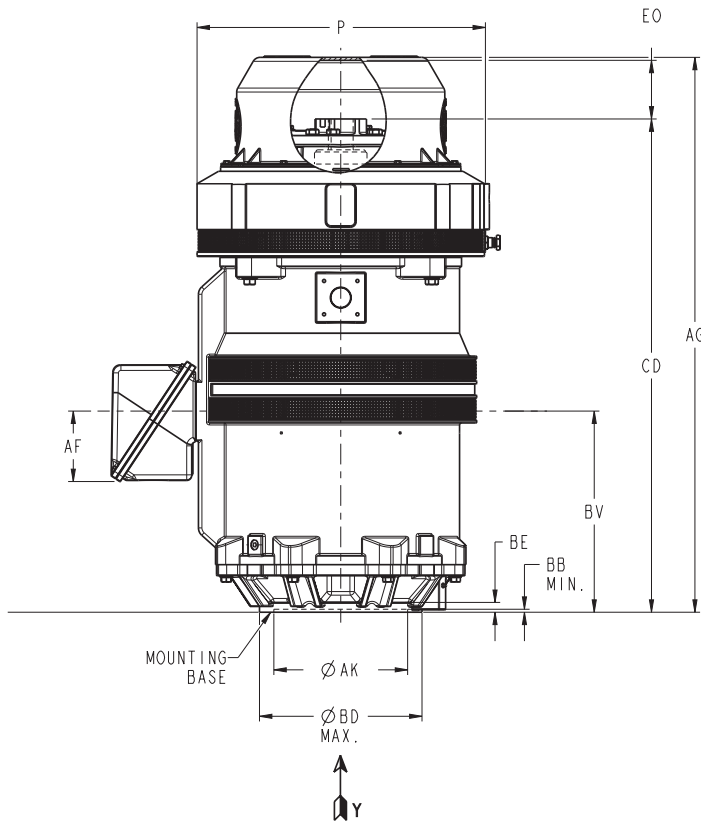
**Ultra™, Ultra+™ and Fire Pump
Vertical Hollow Shaft
Weather Protection I (WPI)
213 - 5813 Frame**



Dimensions

Dimensions on next page

213 - 5813 Frame





**Ultra™, Ultra+™ and Fire Pump
Vertical Hollow Shaft
Weather Protection I (WPI)
213 - 5813 Frame**



Dimensions (cont.)

Dimensions refer to drawings on the previous page

Frame	Dimensions in Inches									
	BD	P	AG	CD	AJ	AK	BE	BF	BV	EO Min
210	10.0	14.76	22.44	18.88	9.13	8.25	0.77	0.44	8.59	2.75
250	10.0	17.20	26.75	23.38	9.13	8.25	0.77	0.44	10.75	3.18
	12.0				9.13	8.25		0.44		
	16.5				14.75	13.50		0.69		
280	10.0	19.32	28.21	24.75	9.13	8.25	0.77	0.44	12.00	3.00
	12.0				9.13	8.25	0.93	0.44		
	16.5				14.75	13.50	0.93	0.69		
320	12.0	19.50	32.58	28.22	9.13	8.25	0.88	0.44	15.79	4.00
	16.5				14.75	13.50				
360	12.0	21.70	35.47	31.16	9.13	8.25	0.88	0.44	17.53	4.00
	16.5				14.75	13.50				
400	16.5	24.50	41.97	36.94	14.75	13.50	1.06	0.69	20.93	4.70
444/445	16.5	29.00	51.00	44.78	14.75	13.50	0.99	0.69	17.80	5.00
	20.0									
	24.5									
447/449	16.5	29.00	56.00	49.78	14.75	13.50	0.99	0.69	20.30	5.00
	20.0									
	24.5									
509	20.0	36.45	63.45	57.06	14.75	13.50	1.40	0.69	23.49	6.08
	24.5				14.75	13.50		0.69		
	30.5				26.00	22.00		0.81		
5011	20.0	36.45	71.45	65.06	14.75	13.50	1.40	0.69	27.49	6.08
	24.5				14.75	13.50		0.69		
	30.5				26.00	22.00		0.81		
5013	20.0	36.45	80.45	74.06	14.75	13.50	1.40	0.69	31.99	6.08
	24.5				14.75	13.50		0.69		
	30.5				26.00	22.00		0.81		
5813	30.5	50.90	100.80	89.70	26.00	22.00	2.30	0.81	56.13	11.00
	36.0				32.00	26.00		1.00		

Conduit Box Dimensions

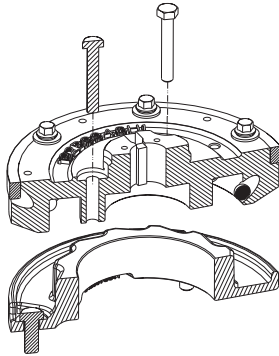
Frame	CBOX Size (ci)	AA	Dimensions in Inches				
			AB	AC	AF	XL	XN
210	55	1" - NPT	9.41	7.30	3.50	5.79	4.16
250	137	1-1/4" - NPT	12.15	9.12	4.59	7.37	5.20
280	137	1-1/2 - 11.5 NPT	12.79	9.76	4.59	7.37	5.20
	346	2 - 11.5 NPT	14.06	10.40	6.44	10.11	7.00
320	346	3" - 8 NPT	16.77	13.07	6.44	10.15	7.00
360	346	3" - 8 NPT	17.77	14.07	6.44	10.15	7.00
	700	3" - 8 NPT	20.51	16.25	7.00	12.13	10.50
400	700	3" - 8 NPT	21.20	16.94	7.00	12.13	10.50
	700	3" - 8 NPT	23.17	18.91	7.00	12.13	10.50
440	1260	(2) 4" - 8 NPT	23.67	18.91	7.00	12.39	16.25
	2500	(2) 4" - 8 NPT	25.31	19.85	7.69	14.08	27.25
500	2500	(2) 3" - 8 NPT	31.45	25.99	14.20	23.95	14.50
	2500	(2) 4" - 8 NPT	31.27	25.80	14.20	23.95	14.50
	5700	(3) 3" - 8 NPT	35.30	27.80	10.87	23.24	22.25
580	5700	(2) 4" - 8 NPT	35.40	27.90	10.30	23.24	22.25
	12500	(2) 4" - 8 NPT	40.80	32.00	16.00	28.10	28.74



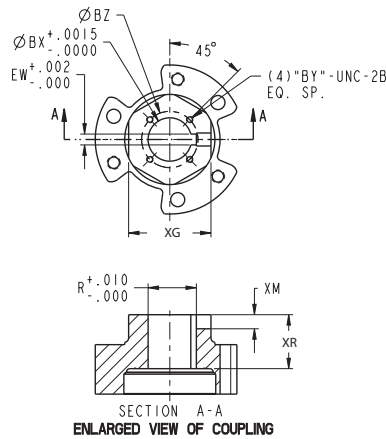
**Ultra™, Ultra+™ and Fire Pump
Vertical Hollow Shaft**
Weather Protection I (WPI)
Ball Style Non-Reverse, Self-Release, Bolted
Kits and Accessories



213 - 286 Frame NRR Ratchet and Coupling



324 - 511 Frame Coupling



Ultra™, Ultra+™ and Fire Pump Couplings
HP: 5 - 600

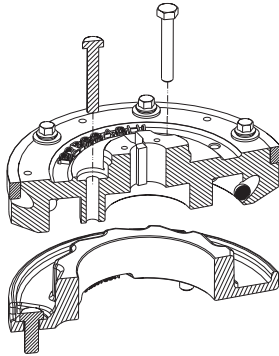
Frame	Ball Type Non-Reverse Ratchet Cat. No.	Part No.	Self-Release and Bolted Part No.	List Price	Price Symbol	BX	Keyway Depth	Keyway Width	XG	BY	BZ	XM	XR
213/215	Y8804	192B9950EX-G04	4002B5521AB-G04	\$761	G6-7KITS	0.751	0.125	0.250	2.435	# 10-32	1.375	0.438	1.250
	Y8803	192B9950EX-G03	4002B5521AB-G03	\$761	G6-7KITS	0.876							
	Y8802	192B9950EX-G02	4002B5521AB-G02	\$761	G6-7KITS	0.939							
	Y8801	192B9950EX-G01	4002B5521AB-G01	\$761	G6-7KITS	1.001							
	Y8805	192B9950EX-G05	N/A	\$761	G6-7KITS	1.032							
254/256/ 284/286	Y8813	192B9950EZ-G08	4002B5525AB-G05	\$888	G6-7KITS	0.751	0.125	0.250	2.435	# 10-32	1.375	0.438	1.125
	Y8812	192B9950EZ-G07	4002B5525AB-G04	\$888	G6-7KITS	0.876							
	Y8811	192B9950EZ-G06	N/A	\$888	G6-7KITS	0.939							
	Y8810	192B9950EZ-G05	4002B5525AB-G03	\$888	G6-7KITS	1.001							
	Y8814	192B9950EZ-G09	N/A	\$888	G6-7KITS	1.032							
	Y8808	192B9950EZ-G03	N/A	\$888	G6-7KITS	1.066							
	Y8809	192B9950EZ-G04	N/A	\$888	G6-7KITS	1.126							
	Y8807	192B9950EZ-G02	4002B5525AB-G02	\$888	G6-7KITS	1.189							
	Y8806	192B9950EZ-G01	4002B5525AB-G01	\$888	G6-7KITS	1.251							
	Y8815	192B9950EZ-G10	4002B5525AB-G07	\$888	G6-7KITS	1.251							



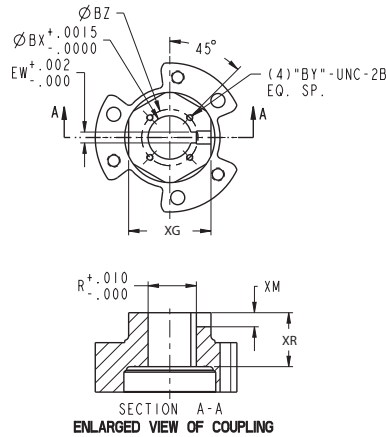
**Ultra™, Ultra+™ and Fire Pump
Vertical Hollow Shaft
Weather Protection I (WPI)
Ball Style Non-Reverse, Self-Release, Bolted
Kits and Accessories (cont.)**



213 - 286 Frame NRR Ratchet and Coupling



324 - 511 Frame Coupling



Ultra™, Ultra+™ and Fire Pump Couplings
HP: 5 - 600

Frame Size	Cat. No.	Part No.	List Price	Price Symbol	Dimension in Inches											
					BX	Depth	EW	XG	BY	BZ	XM	XR				
324/326	Y8730	192B9950FA-G21	\$913	G6-7KITS	1.001	0.118	0.250	3.243	1/4-20 UNC	1.375	0.438	1.913				
	Y8731	192B9950FA-G22	\$913	G6-7KITS	1.188	0.133				1.750						
	Y8732	192B9950FA-G23	\$913	G6-7KITS	1.251	0.169				2.125						
	364/365	Y8733	192B9950FA-G24	\$913	G6-7KITS	1.251	0.169	0.375	3.243	1/4-20 UNC	1.375	0.438	1.913			
		Y8734	192B9950FA-G25	\$913	G6-7KITS	1.438	0.172				2.125					
		Y8735	192B9950FA-G26	\$913	G6-7KITS	1.501	0.172				2.125					
404/405		Y8730	192B9950FA-G21	\$913	G6-7KITS	1.001	0.118	0.250	3.250	1/4-20 UNC	1.375	0.562	2.413			
		Y8731	192B9950FA-G22	\$913	G6-7KITS	1.188	0.133				1.750					
		Y8732	192B9950FA-G23	\$913	G6-7KITS	1.251	0.168				2.125					
	444/445 and 447/449	Y8741	192B9950FC-G21	\$1,015	G6-7KITS	1.188	0.121	0.375	4.750	1/4-20 UNC	1.750	0.812	3.112			
		Y8742	192B9950FC-G22	\$1,015	G6-7KITS	1.251	0.168				2.500					
		Y8743	192B9950FC-G23	\$1,015	G6-7KITS	1.251	0.176				2.125					
509/511/513		Y8744	192B9950FC-G24	\$1,015	G6-7KITS	1.438	0.230	0.500	4.750	3/8-16 UNC	2.125	0.562	4.165			
		Y8745	192B9950FC-G25	\$1,015	G6-7KITS	1.501					2.500					
		Y8746	192B9950FC-G26	\$1,015	G6-7KITS	1.688					2.125					
	509/511/513	Y8747	192B9950FC-G27	\$1,015	G6-7KITS	1.751	0.188	0.375	4.750	.250-20 UNC	2.125	0.688	4.165			
		Y8655	192B9950EG-G02	\$1,522	G6-7KITS	1.501					2.500					
		Y8656	192B9950EG-G03	\$1,522	G6-7KITS	1.688					2.125					
		509/511/513	Y8658	192B9950EG-G05	\$1,522	G6-7KITS	1.813	0.250	0.500	4.750	.375-16 UNC	2.500	0.812	4.165		
			Y8659	192B9950EG-G06	\$1,522	G6-7KITS	1.938					2.125				
			Y8662	192B9950EG-G09	\$1,522	G6-7KITS	2.126					2.500				
			509/511/513	Y8651	192B9950EG-G10	\$1,522	G6-7KITS	2.188	0.188	0.375	4.750	.250-20 UNC	2.125	0.688	4.165	
				Y8665	192B9950EG-G12	\$1,522	G6-7KITS	2.376					2.500			
				Y8826	192B9950FF-G02	\$4,186	G6-7KITS	1.501					2.125			
				509/511/513	Y8827	192B9950FF-G03	\$4,186	G6-7KITS	1.688	0.250	0.500	4.750	.375-16 UNC	2.125	0.812	4.165
					Y8828	192B9950FF-G04	\$4,186	G6-7KITS	1.751					2.500		
Y8829					192B9950FF-G05	\$4,186	G6-7KITS	1.813	2.125							
509/511/513					Y8830	192B9950FF-G06	\$4,186	G6-7KITS	1.938	0.313	0.625	4.750	.375-16 UNC	2.125	0.812	4.165
					Y8831	192B9950FF-G07	\$4,186	G6-7KITS	2.001					2.500		
	Y8832				192B9950FF-G08	\$4,186	G6-7KITS	2.188	2.125							
	509/511/513				Y8833	192B9950FF-G09	\$4,186	G6-7KITS	2.251	0.250	0.500	4.750	.375-16 UNC	2.125	0.812	4.165
					Y8834	192B9950FF-G10	\$4,186	G6-7KITS	2.438					2.500		
		Y8835			192B9950FF-G11	\$4,186	G6-7KITS	2.501	2.125							
		509/511/513			Y8836	192B9950FF-G12	\$4,186	G6-7KITS	2.626	0.188	0.375	4.750	.250-20 UNC	2.125	0.688	4.165
					Y8837	192B9950FF-G13	\$4,186	G6-7KITS	2.688					2.500		
			Y8838		192B9950FF-G14	\$4,186	G6-7KITS	2.751	2.125							

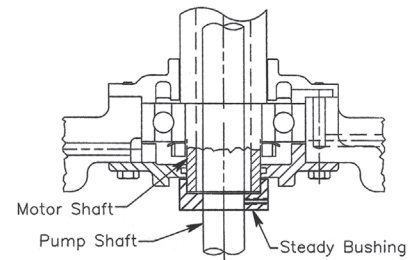
320-500 Frame - "Standard" non-reverse coupling shipped with motor. For other sizes order from above list.



Ultra™ and Ultra+™ Vertical Hollow Shaft

Weather Protection I (WPI) and
Totally Enclosed Fan Cooled (TEFC)
Stabilizer Bushings

Kits and Accessories



Ultra™ and Ultra+™ WPI/TEFC VHS Stabilizer Bushings
HP: 5 - 400

Frame Size	Cat. No.	Part Number	List Price	Price Symbol	Dimensions in Inches	
					BX	A
210	Y8414	4001A5521AA-G01	\$608	G6-7KITS	1.001	1.573
250	Y8415	4001A5525AA-G03	\$608	G6-7KITS	1.001	1.767
	Y8416	4001A5525AA-G02	\$608	G6-7KITS	1.188	
	Y8417	4001A5525AA-G01	\$608	G6-7KITS	1.251	
280	Y8418	4001A5528AA-G03	\$608	G6-7KITS	1.001	1.964
	Y8419	4001A5528AA-G02	\$608	G6-7KITS	1.188	
	Y8420	4001A5528AA-G01	\$608	G6-7KITS	1.251	
320/360	Y8470	249A4245AD-G05	\$710	G6-7KITS	1.001	2.266
	Y8421	249A4245AD-G04	\$710	G6-7KITS	1.188	
	Y8422	249A4245AD-G03	\$710	G6-7KITS	1.250	
	Y8423	249A4245AD-G02	\$710	G6-7KITS	1.438	
	Y8424	249A4245AD-G01	\$710	G6-7KITS	1.501	
400	Y8471	249A4245AE-G06	\$914	G6-7KITS	1.189	2.7827
	Y8472	249A4245AE-G05	\$914	G6-7KITS	1.250	
	Y8426	249A4245AE-G03	\$914	G6-7KITS	1.501	
	Y8473	249A4245AE-G02	\$914	G6-7KITS	1.688	
440	Y8474	249A4245BJ-G01	\$1,320	G6-7KITS	1.501	3.000
	Y8475	249A4245BJ-G02	\$1,320	G6-7KITS	1.688	
	Y8476	249A4245BJ-G05	\$1,320	G6-7KITS	1.938	
	Y8477	249A4245BJ-G09	\$1,320	G6-7KITS	2.188	



Ultra™ and Ultra+™ Vertical Hollow Shaft
Weather Protection I (WPI) and
Totally Enclosed Fan Cooled (TEFC)
P-Base Kits



Kits and Accessories

P-Base Kits

Frame	BD Diameter	Kit Number	List Price
250	10	128D6124PA1	\$300
	12	128D6125PA1	\$300
	16	128D6126PA1	\$300
280	10	128D6235AC1	\$750
	12	128D6235AB1	\$750
	16	128D6235AA1	\$750
320	12	115E7204AC1	\$1,500
	16	115E7205AA1	\$1,500
360	12	115E7254AC1	\$1,750
	16	115E7255AA1	\$1,750
400	16	115E7306AC1	\$2,300
	20	115E7307AA1	\$2,300
440	16	115E7660AA1	\$5,000
	20	115E7661AA1	\$5,000
	24	115E7662AA1	\$5,000



Ultra™ TEFC Vertical Hollow Shaft
Inverter Duty with Bearing Fluting Protection
(40HP and up)
Totally Enclosed Fan Cooled (TEFC)
Premium Efficient

Standard Features



HP Range	5 - 300
Poles	2, 4
Voltage	230/460, 460
Efficiency	NEMA Premium
Frequency	60 Hz (De-rated at 50 Hz and noted on the nameplate.)
NEMA Design	B
Agency Approvals	UL - Component and Insulation System Recognition, CSA - Motors
Altitude	3300 ft
Ambient	40°C
Balance/Vibration	Special Balance = 0.075 IPS
Bearing Caps	Yes
Bearing Protection	Shaft Slinger
Bearing Type	High Thrust
Conduit Box	Cast Iron
Coupling	Non-Reverse Standard. 320 frame and higher kitted for self-release or bolted
End Shield	Cast Iron
Fan Cover	Cast Iron
Fasteners	SAE
Finishing Varnish	Trickle Treat system
Frame Material	Cast Iron
Frame Size	213-449
Grease/Oil	All Guide and 213-286 Thrust Bearings: Polyrex EM, 324-449 Oil Lubricated Thrust Bearings: ISO 32
Ground	Brass Bolt on Frame and in Conduit Box
Insulation Class	H
Insulation System	GEGARD2400, Non-Hygroscopic, Anti-Fungus, 2400Volt at .1microsecond rise time, Exceeds NEMA MG1-31 for variable frequency drives
Inverter Capabilities	Variable Torque 0-60 Hz w/out non-reverse ratchet & *5-60 Hz w/ NRR
Lifting Means	Yes, Integral to Endshield
Mounting	Vertical P-Base
Nameplate	Stainless Steel
Non-Reverse Ratchet Type	Axial Ball Style
Paint	Buff Epoxyester
Relubrication	Yes
Rotor	Cast Aluminum
Service Factor	1.15
Shaft Grounding	40-100HP: Aegis SGR on Bearing Cap, 125HP and up: Aegis SGR on Bearing Cap and Insulated Upper Bearing Carrier
Space Heater	115 Volt, 60 Hz
Temperature Rise	80°C @ 1.0 SF
Tests	NEMA Routine only
Thermostats	Includes NC Winding Thermostats (40HP and greater)
Time Rating	Continuous
Warranty	36 months from date of installation or 42 months from date of manufacture, whichever occurs first



Ultra™ TEFC Vertical Hollow Shaft
Inverter Duty with Bearing Fluting Protection
(40HP and up)
Totally Enclosed Fan Cooled (TEFC)
Premium Efficient



Pricing

Volts: 230/460, 460
HP: 5 - 300

HP	RPM	Volts	Frame	Thrust Down	Cat. No.	Model No.	Motor List Price	Coupling BX	Coupling Key	Price Symbol	Normally Stocked	Notes
5	3600	230/460	L213TP10	1,663	V4022	5KS213SAE5035	\$6,081	1	1/4	G6-7VHS	N	51, 111
5	1800	230/460	L213TP10	2,071	V4026	5KS213SAE6056	\$5,751	1	1/4	G6-7VHS	N	51, 111
7.5	3600	230/460	L213TP10	1,658	V4023	5KS213SAE5036	\$6,175	1	1/4	G6-7VHS	N	51, 111
7.5	1800	230/460	L213TP10	2,071	V4027	5KS213SAE6054	\$6,266	1	1/4	G6-7VHS	N	51, 111
10	3600	230/460	L215TP10	1,658	V4024	5KS215SAE5027	\$7,033	1	1/4	G6-7VHS	N	51, 111
10	1800	230/460	L215TP10	2,065	V4028	5KS215SAE6042	\$6,786	1	1/4	G6-7VHS	N	51, 111
15	3600	230/460	L254TP10	2,070	V4025	5KS254SAE5033	\$7,900	1	1/4	G6-7VHS	N	51, 111
15	1800	230/460	L254TP10	2,570	V4029	5KS254SAE6057	\$10,016	1	1/4	G6-7VHS	N	51, 111
20	1800	230/460	L256TP10	2,597	V4030	5KS256SAE6062	\$10,516	1	1/4	G6-7VHS	N	51, 111
25	3600	230/460	L284TP10	2,363	V4052	5KS284SAE5038	\$12,137	1	1/4	G6-7VHS	N	51, 111
25	1800	230/460	L284TP16	2,976	V4031	5KS284SAE6054	\$12,137	1	1/4	G6-7VHS	N	51, 111
30	1800	230/460	L286TP16	2,959	V4032	5KS286SAE6061	\$13,238	1	1/4	G6-7VHS	N	51, 111
40	1800	230/460	L324TP12	6,324	V4726	5KS324SAJ6050	\$16,069	1 3/16	1/4	G6-7VHS	N	51, 111, 113, 132
40	1800	230/460	L324TP16	4,700	V4711	5KS324SAJ6005	\$16,069	1 1/4	1/4	G6-7VHS	N	51, 111, 113, 132
50	1800	230/460	L326TP16	4,700	V4712	5KS326SAJ6005	\$18,188	1 1/4	1/4	G6-7VHS	Y	51, 111, 113, 132
60	1800	460	L364TP16	5,700	V4713	5KS364SAJ6008	\$23,038	1 1/4	1/4	G6-7VHS	N	51, 110, 113, 132, 167
75	1800	460	L365TP16	5,700	V4714	5KS365SAJ6008	\$27,468	1 1/4	1/4	G6-7VHS	N	51, 110, 113, 132, 167
75	1200	460	L405TP16	8,500	V4722	5KS405SAJ7008	\$58,644	1 1/4	3/8	G6-7VHS	N	51, 110, 113, 132
100	1800	460	L405TP16	6,700	V4715	5KS405SAJ6008	\$35,985	1 1/2	3/8	G6-7VHS	Y	51, 110, 113, 132
125	1800	460	L444TP16	13,500	V4716	5KS444SAJ6008	\$50,763	1 1/2	3/8	G6-7VHS	N	51, 110, 114, 132, 163
150	1800	460	L445TP16	13,500	V4717	5KS445SAJ6008	\$60,946	1 1/2	3/8	G6-7VHS	N	51, 110, 114, 132, 163
200	1800	460	L447TP16	13,300	V4718	5KS447SAJ6008	\$78,507	1 11/16	3/8	G6-7VHS	N	51, 110, 114, 132, 163
250	1800	460	L449TP16	13,300	V4719	5KS449SAJ6008	\$88,541	1 11/16	3/8	G6-7VHS	N	51, 110, 114, 132, 164
250	1200	460	B509TP24	21,915	V4721	5KS509SAJ7020	\$114,019	2 7/16	5/8	G6-7VHS	N	51, 110, 114, 132, 164
300	1800	460	L449TP16	13,300	V4720	5KS449SAJ6020	\$97,841	1 11/16	3/8	G6-7VHS	N	51, 110, 114, 132, 164
300	1800	460	L449TP20	22,776	V4724	5KS449SAJ6087	\$114,053	1 11/16	3/8	G6-7VHS	N	51, 110, 114, 132, 164
300	1200	2300	B5011TP24	16,600	V4723	5KS511DAJ7034	\$141,335	2 3/16	1/2	G6-7VHS	N	51, 114

The motor list price includes "Standard" sized NRR and SRC. Additional sizes are available at additional cost.

Notes:

- 51 Space Heater, 115V/60 Hz
- 110 Usable on 380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 111 Usable on 190/380 volts, 50 Hz at 1.0 Service Factor and derated to next lower HP
- 113 Aegis Shaft Grounding ring on bearing cap (40-100HP)
- 114 Insulated Upper Bearing Carrier and Aegis Shaft Grounding ring on bearing cap (125HP and greater)
- 132 Includes NC Winding Thermostats
- 163 700 cubic inch conduit box
- 164 1260 cubic inch conduit box
- 167 346 cubic inch conduit box

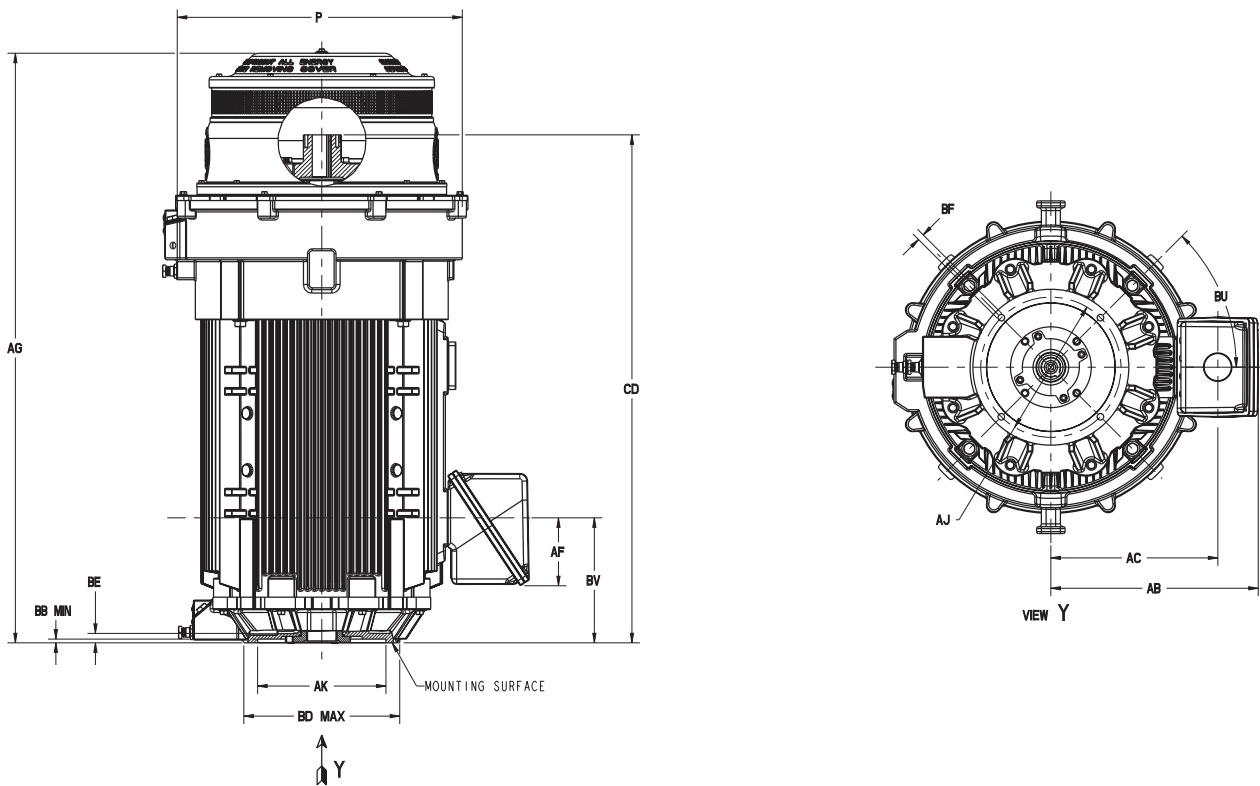


Ultra™ TEFC Vertical Hollow Shaft
Inverter Duty with Bearing Fluting Protection
Totally Enclosed Fan Cooled (TEFC)
Premium Efficient
213 - 5013 Frame

Dimensions

Dimensions on next page

213 - 5013 Frame





Ultra™ TEFC Vertical Hollow Shaft
Inverter Duty with Bearing Fluting Protection
Totally Enclosed Fan Cooled (TEFC)
Premium Efficient
213 - 5013 Frame

Dimensions (cont.)

Dimensions refer to drawings on the previous page

Frame	Dimensions in Inches									
	P	AG	CD	AJ	AK	BD	BE	BF	BV	EO Min
210	13.16	23.70	18.88	9.125	8.25	10.00	0.77	0.438	8.59	4.00
250	15.64	28.32	23.38	9.125	8.25	10.00	0.77	0.438	10.75	4.69
280	17.56	30.60	25.68	9.125	8.25	10.00	0.77	0.438	12.00	2.50
				9.125	8.25	12.00		0.438		
				14.750	13.50	16.50		0.688		
320	21.80	38.80	31.39	9.125	8.25	12.00	0.88	0.438	11.96	4.00
				14.750	13.50	16.50		0.690		
360	24.15	42.11	32.99	9.125	8.25	12.00	0.48	0.440	12.58	4.00
				14.750	13.50	16.50	0.88	0.690		
400	27.75	47.59	39.93	14.750	13.50	16.50	1.06	0.690	16.41	4.50
444/445	31.50	55.00	45.94	14.750	13.50	16.50	0.99	0.690	13.16	5.00
						20.00				
						24.50				
447/449	31.50	62.47	53.44	14.750	13.50	16.50	0.99	0.690	13.16	5.00
						20.00				
						24.50				
509	40.24	66.39	56.50	14.750	13.50	20.00	1.40	0.690	12.00	9.18
				14.750	13.50	24.50		0.690		
				26.000	22.00	30.50		0.810		
5011	40.24	74.39	64.50	14.750	13.50	20.00	1.40	0.690	27.49	9.18
				14.750	13.50	24.50		0.690		
				26.000	22.00	30.50		0.810		
5013	40.24	83.39	73.50	14.750	13.50	20.00	1.40	0.690	31.99	9.18
				14.750	13.50	24.50		0.690		
				26.000	22.00	30.50		0.810		

Conduit Box Dimensions

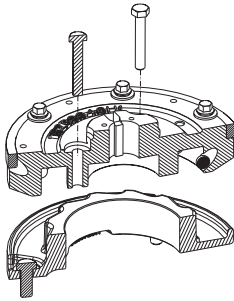
Frame	CBOX Size (ci)	AA	Dimensions in Inches				
			AB	AC	AF	XL	XN
210	55	1" - NPT	9.53	7.42	3.50	5.79	4.16
250	137	1-1/4" - NPT	12.15	9.12	4.59	7.38	5.38
280	137	1-1/2" - 11.5 NPT	12.91	9.88	4.59	7.38	5.38
320	346	3" - 8 NPT	16.07	12.37	6.44	10.15	7.00
360	346	3" - 8 NPT	17.07	13.36	6.44	10.15	7.00
	700	3" - 8 NPT	19.00	14.74	7.00	12.13	10.50
400	700	3" - 8 NPT	20.40	16.14	7.00	12.13	10.50
440	700	3" - 8 NPT	21.81	17.57	7.00	12.13	10.50
	1260	(2) 4" - 8 NPT	22.39	17.74	7.00	12.39	16.25
	2500	(2) 4" - 8 NPT	23.95	18.49	7.69	14.08	27.25
500	2500	(2) 3" - 8 NPT	25.40	19.94	14.20	22.70	12.00
	2500	(2) 4" - 8 NPT	25.40	19.94	14.20	22.70	12.00
	5700	(3) 3" - 8 NPT	29.44	21.94	10.87	23.24	22.25



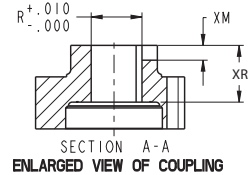
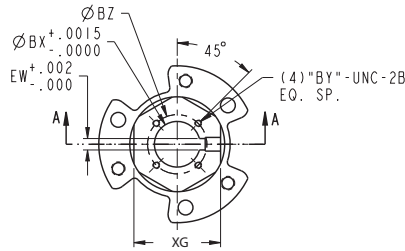
Ultra™ TEFC Vertical Hollow Shaft
Totally Enclosed Fan Cooled (TEFC)
Premium Efficient
Ball Style Non-Reverse, Self-Release, Bolted

Kits and Accessories

213 - 286 Frame UHC Coupling and NRR Assembly



324 - 449 Upper Half Coupling



TEFC Ultra™ and Ultra+™ Couplings
HP: 5 - 300

Frame	Ball Type Non-Reverse Ratchet Cat. No.	Part No.	Self-Release and Bolted Part No.	List Price	Price Symbol	BX	Keyway Depth	Keyway Width	XG	BY	BZ	XM	XR
213/215	Y8804	192B9950EX-G04	4002B5521AB-G04	\$761	G6-7KITS	0.751	0.090	0.189	2.435	# 10-32	1.375	0.438	1.250
	Y8803	192B9950EX-G03	4002B5521AB-G03	\$761	G6-7KITS	0.876	0.125	0.250					
	Y8802	192B9950EX-G02	4002B5521AB-G02	\$761	G6-7KITS	0.939							
	Y8801	192B9950EX-G01	4002B5521AB-G01	\$761	G6-7KITS	1.001							
	Y8805	192B9950EX-G05	N/A	\$761	G6-7KITS	1.032							
254/256/ 284/286	Y8813	192B9950EZ-G08	4002B5525AB-G05	\$888	G6-7KITS	0.751	0.091	0.189	2.435	# 10-32	1.375	0.438	1.125
	Y8812	192B9950EZ-G07	4002B5525AB-G04	\$888	G6-7KITS	0.876	0.125	0.250					
	Y8811	192B9950EZ-G06	N/A	\$888	G6-7KITS	0.939							
	Y8810	192B9950EZ-G05	4002B5525AB-G03	\$888	G6-7KITS	1.001							
	Y8814	192B9950EZ-G09	N/A	\$888	G6-7KITS	1.032							
	Y8808	192B9950EZ-G03	N/A	\$888	G6-7KITS	1.066							
	Y8809	192B9950EZ-G04	N/A	\$888	G6-7KITS	1.126							
	Y8807	192B9950EZ-G02	4002B5525AB-G02	\$888	G6-7KITS	1.189							
	Y8806	192B9950EZ-G01	4002B5525AB-G01	\$888	G6-7KITS	1.251							
Y8815	192B9950EZ-G10	4002B5525AB-G07	\$888	G6-7KITS	1.251	0.188	0.375	1/4-20 UNC	1.750				

Frame Size	Cat. No.	Part No.	List Price	Price Symbol	Dimension in Inches							
					BX	Depth	EW	XG	BY	BZ	XM	XR
324/326	Y8730	192B9950FA-G21	\$913	G6-7KITS	1.000	0.118	0.250	3.243	1/4-20 UNC	1.375	0.438	1.913
	Y8731	192B9950FA-G22	\$913	G6-7KITS	1.189	0.133						
	Y8732	192B9950FA-G23	\$913	G6-7KITS	1.250	0.375	2.125					
	Y8733	192B9950FA-G24	\$913	G6-7KITS	1.250					0.169		
	Y8734	192B9950FA-G25	\$913	G6-7KITS	1.438					0.172		
Y8735	192B9950FA-G26	\$913	G6-7KITS	1.501								
364/365	Y8730	192B9950FA-G21	\$913	G6-7KITS	1.000	0.118	0.250	3.243	1/4-20 UNC	1.375	0.438	1.913
	Y8731	192B9950FA-G22	\$913	G6-7KITS	1.188	0.134						
	Y8732	192B9950FA-G23	\$913	G6-7KITS	1.251	0.375	2.125					
	Y8733	192B9950FA-G24	\$913	G6-7KITS	1.251					0.169		
	Y8734	192B9950FA-G25	\$913	G6-7KITS	1.438					0.172		
	Y8735	192B9950FA-G26	\$913	G6-7KITS	1.501							
Y8736	192B9950FA-G27	\$913	G6-7KITS	1.688	0.176							
404/405	Y8741	192B9950FC-G21	\$1,015	G6-7KITS	1.188	0.121	0.250	3.250	1/4-20 UNC	1.750	0.562	2.413
	Y8742	192B9950FC-G22	\$1,015	G6-7KITS	1.251	0.168						
	Y8743	192B9950FC-G23	\$1,015	G6-7KITS	1.251	0.375	2.125					
	Y8744	192B9950FC-G24	\$1,015	G6-7KITS	1.438					0.172		
	Y8745	192B9950FC-G25	\$1,015	G6-7KITS	1.501					0.176		
	Y8746	192B9950FC-G26	\$1,015	G6-7KITS	1.688							
Y8747	192B9950FC-G27	\$1,015	G6-7KITS	1.751								
444/445 and 447/449	Y8765	192B9950EH-G34	\$1,522	G6-7KITS	1.438	0.180	0.375	3.740	1/4-20 UNC	2.125	0.688	4.452
	Y8755	192B9950EH-G02	\$1,522	G6-7KITS	1.501							
	Y8756	192B9950EH-G03	\$1,522	G6-7KITS	1.688	0.230	0.500					
	Y8758	192B9950EH-G05	\$1,522	G6-7KITS	1.813							
	Y8759	192B9950EH-G06	\$1,522	G6-7KITS	1.938							
	Y8762	192B9950EH-G09	\$1,522	G6-7KITS	2.126							
Y8751	192B9950EH-G10	\$1,522	G6-7KITS	2.188			3/8-16 UNC	3.250				

320-500 Frame - "Standard" non-reverse coupling shipped with motor. For other sizes order from above list.
Stabilizer bushings for Ultra™ TEFC shown on page VP.22.



Ultra™ TEFC Vertical Hollow Shaft
Totally Enclosed Fan Cooled (TEFC)
Premium Efficient
Ball Style Non-Reverse, Self-Release, Bolted
Kits and Accessories (cont.)

P-Base Kits

Frame	BD Diameter	Kit Number	List Price
250	10	128D6129PA1	\$550
280	10	128D6229PD1	\$1,150
	12	128D6234AB1	\$1,150
	16	128D6234AA1	\$1,150
320	12	115E8204AA1	\$1,500
	16	115E8205AA1	\$1,500
360	12	115E8261AA1	\$2,300
	16	115E8258AA1	\$2,300
400	16	115E8306AA1	\$3,000
440	16	115E8660AA1	\$3,000
	20	115E8661AA1	\$3,000
	24	115E8662AA1	\$3,000



Ultra™ TEFC VSS NT
Vertical Solid Shaft Normal Thrust
Premium Efficiency
TEFC - Severe Duty



Standard Features

HP Range	3 - 75
Poles	2, 4
Voltage	230/460, 460, 575
Efficiency	NEMA Premium Efficiency
Frequency	60 Hz (Suitable for 50 Hz and 190/380V at 1.0 SF)
NEMA Design	B
Agency Approvals	UL - Component and Insulation System Recognition, CSA - Motors
Altitude	3300 ft
Ambient	40°C
Balance/Vibration	Special Balance = 0.075 IPS
Bearing Caps	Yes
Bearing Protection	Shaft Slinger both ends, IP55
Bearing Type	Normal Thrust
Conduit Box	Cast Iron
Coupling	None
End Shield	Cast Iron
Fasteners	SAE
Frame Material	Cast Iron
Frame Size	182-365
Grease/Oil	Grease – Polyrex EM
Ground	Frame Ground Bolt and Brass Bolt in Conduit Box
Inverter Capabilities	Variable Torque 0-60Hz at 1.0 SF
Insulation Class	H
Insulation System	GEGard 2400, Non-Hygroscopic, Anti-Fungus, Meets NEMA MG1-31 for variable frequency drives.
Lifting Means	Yes, integral bidirectional lifting posts
Mounting	Vertical P-Base
Nameplate	Stainless Steel
Paint	Buff Epoxyester
Relubrication	Yes
Rotor	Cast Aluminum
Service Factor	1.15
Shaft Dimensions	API 610 12th edition shaft dimensions
Space Heater	115 Volt, 60 Hz
Temperature Rise	80°C @ 1.0 SF
Tests	NEMA Routine only
Time Rating	Continuous
Top Hat	Cast Iron Steel
Warranty	36 months from date of installation or 42 months from date of manufacture, whichever occurs first



Ultra™ TEFC VSS NT
Vertical Solid Shaft Normal Thrust
Premium Efficiency
TEFC - Severe Duty



Pricing

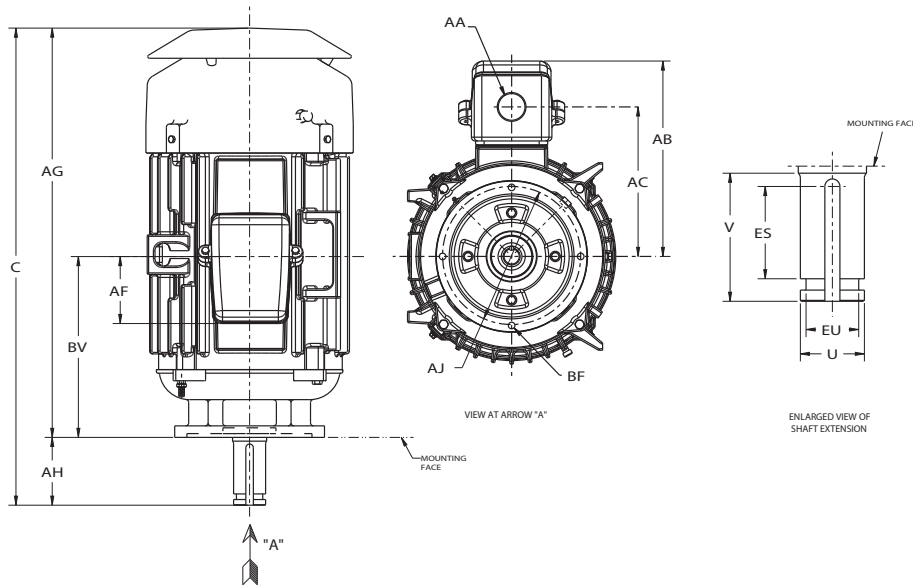
Normal Thrust
Volts: 230/460, 460, 575
HP: 3 - 75

HP	RPM	Volts	NEMA Frame	Cat. No.	Model No.	List Price	Price Symbol	Normally Stocked	L10 Down Thrust (lbs) @ 8760 Hrs	Notes
3	3600	230/460	182HP10	V960	5KS182SAE123	\$3,039	G6-7VIL	N	522	
3	1800	230/460	182HP10	V980	5KS182SAE226	\$2,791	G6-7VIL	N	652	
5	3600	230/460	184HP10	V961	5KS184SAE120	\$3,496	G6-7VIL	N	522	
5	1800	230/460	184HP10	V981	5KS184SAE228	\$3,230	G6-7VIL	N	652	
5	1800	575	184HP10	V918	5KS184SAE204	\$3,230	G6-7VIL	N	652	
7.5	3600	230/460	213HP10	V962	5KS213SAE133	\$4,293	G6-7VIL	N	620	
7.5	1800	230/460	213HP10	V982	5KS213SAE230	\$4,123	G6-7VIL	N	772	
10	3600	230/460	215HP10	V963	5KS215SAE184	\$4,673	G6-7VIL	N	620	
10	1800	230/460	215HP10	V983	5KS215SAE226	\$4,640	G6-7VIL	N	772	
15	3600	230/460	254HP10	V964	5KS254SAE126	\$6,101	G6-7VIL	N	685	
15	1800	230/460	254HP10	V984	5KS254SAE225	\$5,929	G6-7VIL	N	856	
20	3600	230/460	256HP10	V965	5KS256SAE129	\$6,677	G6-7VIL	N	685	
20	1800	230/460	256HP10	V985	5KS256SAE225	\$6,761	G6-7VIL	N	856	
25	3600	230/460	284HP10	V966	5KS284SAE129	\$7,629	G6-7VIL	N	783	
25	1800	230/460	284HP10	V986	5KS284SAE222	\$7,246	G6-7VIL	N	968	
30	3600	230/460	286HP10	V967	5KS286SAE131	\$8,423	G6-7VIL	N	783	
30	1800	230/460	286HP10	V987	5KS286SAE222	\$8,260	G6-7VIL	N	968	
30	1200	460	326HP12	V4967	5KS326SAJ323	\$16,643	G6-7VIL	N	1,255	
30	1200	230/460	326HP16	V4972	5KS326SAJ305	\$16,643	G6-7VIL	N	1,255	
40	3600	460	324HP16	V4968	5KS324SAJ108	\$11,041	G6-7VIL	N	1,067	
40	1800	460	324HP16	V4988	5KS324SAJ208	\$10,737	G6-7VIL	N	1,294	
50	3600	460	326HP16	V4969	5KS326SAJ108	\$12,304	G6-7VIL	N	1,067	
50	1800	460	326HP16	V4989	5KS326SAJ208	\$12,304	G6-7VIL	N	1,294	
60	3600	460	364HP16	V4970	5KS364SAJ108	\$14,874	G6-7VIL	N	1,000	
60	1800	460	364HP16	V4990	5KS364SAJ208	\$14,704	G6-7VIL	N	1,205	
75	3600	460	365HP16	V4971	5KS365SAJ108	\$17,734	G6-7VIL	N	1,000	
75	1800	460	365HP16	V4991	5KS365SAJ208	\$17,099	G6-7VIL	N	1,205	



Ultra™ TEFC VSS NT
Vertical Solid Shaft Normal Thrust
Premium Efficiency
TEFC - Severe Duty
182 - 449 Frame

Dimensions



Normal Thrust

Frame	Shaft				Dimensions in Inches									
	ES Min	EU	U	V Min	C	AG	AH	BV	AF	AA	AB	AC	AJ	BF
L182/L184HP10	1.28	0.875	1.125	2.75	17.83	15.08	2.75	6.50	2.50	3/4" -14 NPT	8.76	6.68	9.125	0.438
L213/L215HP10	1.28	0.875	1.125	2.75	22.34	19.59	2.75	8.59	3.50	1 - NPT	9.53	7.42	9.125	0.438
L254/L256HP10	1.28	0.875	1.125	2.75	27.33	24.58	2.75	10.75	4.59	1.25 - NPT	11.4	9.12	9.125	0.438
L284/L286HP10	1.28	0.875	1.125	2.75	29.91	27.41	2.75	12.00	4.59	1.5 - NPT	12.91	9.88	9.125	0.438
L324/L326HP16	3.03	1.250	1.625	4.50	33.71	29.21	4.50	11.96	6.44	3" - 8 NPT	16.07	12.37	14.750	0.690
L364/L365HP16	3.03	1.250	1.625	4.50	36.68	32.18	4.50	12.58	6.44	3" - 8 NPT	17.07	13.36	14.750	0.690
L404/L405HP16	3.03	1.250	1.625	4.50	43.76	39.26	4.50	16.41	7.00	3" - 8 NPT	20.40	16.14	14.750	0.690
L444/L445HP16	3.03	1.750	2.125	4.50	45.53	41.03	4.50	15.80	7.00	3" - 8 NPT	21.81	17.55	14.750	0.690
L447/L449HP16/20	3.03	1.750	2.125	4.50	54.10	49.60	4.50	20.05	7.00	3" - 8 NPT	21.81	17.55	14.750	0.690

Notes

Tolerances:

- AH: +/- 0.010"
- U: + 0.000" ; - 0.005"
- EU: + 0.000" ; - 0.005"



XSD Ultra 841 VSS

Vertical Solid Shaft Inline Pump and High Thrust TEFC - 841 - Extra Severe Duty

Standard Features



HP Range	3 - 300
Poles	2, 4
Voltage	460, 575
Agency Approvals	UL - Component and Insulation System Recognition, CSA - Motors
Altitude	3300 ft
Ambient	40°C
Balance/Vibration	0.075 in/sec max
Bearing Caps	Cast Iron and Sealed
Bearing Protection	IP55, 182-286: Non-contact rotating labyrinth seal on both ends; 324-445: Non-contact rotating labyrinth seal DE
Bearing Type	Guide Bearing: Deep Groove Ball Bearing; Thrust Bearing: Double Row Angular Contact Ball Bearing
Conduit Box	Cast Iron, Gasketed and Rotatable in 90 degree increments
Coupling	Not available on this product construction
Div 2 Temp Codes	Motors have a AIT of 200 degrees C stamped on nameplates
Drains	Stainless Steel T-drain
Efficiency	NEMA Premium
End Shield	Cast Iron
Fan	Non-Sparking Plastic or Bronze
Fan Cover	Cast Iron
Fasteners	SAE Grade 5
Frame Material	Cast Iron
Frame Size	182-445
Frequency	60Hz (De-rated at 50Hz and noted on the nameplate)
Grease/Oil	All Guide and 182-286 Thrust Bearings: Polyurea 324-445 Upper Thrust Bearings: Oil
Ground	Ground lug in Conduit box and Frame Ground
Insulation Class	H
Insulation System	GEGARD2400, Non-Hygroscopic, Anti-Fungus, 2400Volt at .1microsecond rise time, Exceeds NEMA MG1-31 for variable frequency drives
Inverter Capabilities	Inverter duty, INF:1 Variable torque, Suitable for PWM Operation
Bearing L10 Life	Direct Coupled - 50,000 hrs
Lifting Means	4 lugs cast in frames
Mounting	Vertical P-Base
Mounting Holes	Per NEMA
Nameplate	316 Stainless Steel
NEMA Design	B
Paint	Buff, Epoxyester
Shaft Dimensions	API 610 12th edition shaft dimensions
Special Painting	Meets IEEE841
Relubrication	Yes
Rotor	Cast Aluminum
Service Factor	1.15
Temperature Rise	80°C @ 1.0 SF
Tests	NEMA Routine only
Time Rating	Continuous
Top Hat	Cast Iron
Warranty	36 months from date of installation or 42 months from date of manufacture, whichever occurs first



XSD Ultra 841 VSS

Vertical Solid Shaft Inline Motor
TEFC - 841 - Extra Severe Duty
NEMA Premium



Pricing

Inline Pump
Volts: 460, 575
HP: 3 - 250

HP	RPM	Volts	NEMA Frame	Cat. No.	Model No.	List Price	Price Symbol	Normally Stocked	L10 Down Thrust (lbs) @ 8,760 Hrs	L10 Down Thrust (lbs) @ 26,280 Hrs	Notes
3	3600	460	L182LP10	V768	5KS182XAE5723	\$4,853	G6-7VIL	N	752	516	
3	1800	460	L182LP10	V780	5KS182XAE6722	\$4,782	G6-7VIL	N	752	516	
3	1200	460	L213LP10	V4854	5KS213XAE7721	\$5,794	G6-7VIL	N	1,090	755	
5	3600	460	L184LP10	V769	5KS184XAE5724	\$6,269	G6-7VIL	Y	752	516	
5	1800	460	L184LP10	V781	5KS184XAE6722	\$5,789	G6-7VIL	N	752	516	
5	1200	460	L215LP10	V4856	5KS215XAE7721	\$6,108	G6-7VIL	N	1,090	755	
7.5	3600	460	L213LP10	V770	5KS213XAE5724	\$7,423	G6-7VIL	Y	758	516	
7.5	1800	460	L213LP10	V782	5KS213XAE6722	\$7,182	G6-7VIL	N	758	516	
7.5	1200	460	L254LP10	V4858	5KS254XAE7720	\$10,773	G6-7VIL	N	1,284	890	
10	3600	460	L215LP10	V771	5KS215XAE5721	\$7,740	G6-7VIL	Y	758	516	
10	1800	460	L215LP10	V783	5KS215XAE6721	\$8,060	G6-7VIL	N	758	516	
10	1200	460	L256LP10	V4860	5KS256XAE7720	\$12,090	G6-7VIL	N	1,284	890	
15	3600	460	L254LP10	V772	5KS254XAE5722	\$8,923	G6-7VIL	Y	910	612	
15	1800	460	L254LP10	V784	5KS254XAE6727	\$9,250	G6-7VIL	N	1,140	764	
15	1200	460	L284LP10	V4862	5KS284XAE7720	\$13,875	G6-7VIL	N	1,427	990	
20	3600	460	L256LP10	V773	5KS256XAE5725	\$9,704	G6-7VIL	Y	910	612	
20	1800	460	L256LP10	V785	5KS256XAE6721	\$10,506	G6-7VIL	Y	1,140	764	
20	1200	460	L286LP10	V4864	5KS286XAE7721	\$15,759	G6-7VIL	N	1,427	990	
25	3600	460	L284LP10	V774	5KS284XAE5721	\$10,318	G6-7VIL	Y	1,057	705	
25	1800	460	L284LP10	V786	5KS284XAE6720	\$11,718	G6-7VIL	Y	1,313	870	
25	1200	460	L324LP16	V4865	5KS324XAJ7721	\$22,494	G6-7VIL	N	6,361	4,415	
30	3600	460	L286LP10	V775	5KS286XAE5722	\$11,931	G6-7VIL	Y	1,057	705	
30	1800	460	L286LP10	V787	5KS286XAE6722	\$13,809	G6-7VIL	Y	1,313	870	
40	3600	460	L324LP16	V4801	5KS324XAJ5708	\$17,421	G6-7VIL	Y	1,963	1,323	
40	1800	460	L324LP16	V4802	5KS324XAJ6708	\$17,102	G6-7VIL	Y	5,553	3,791	
40	1200	460	L364LP16	V4866	5KS364XAJ7721	\$26,951	G6-7VIL	N	6,961	4,831	
50	3600	460	L326LP16	V4803	5KS326XAJ5708	\$20,298	G6-7VIL	Y	1,963	1,323	
50	1800	460	L326LP16	V4804	5KS326XAJ6708	\$20,930	G6-7VIL	Y	5,553	3,791	
50	1200	575	L365LP16	V4868	5KS365XAJ7721	\$27,609	G6-7VIL	N	6,260	4,345	
60	3600	460	L364LP16	V4805	5KS364XAJ5708	\$23,695	G6-7VIL	Y	3,768	2,555	
60	1800	460	L364LP16	V4806	5KS364XAJ6708	\$24,736	G6-7VIL	Y	5,473	3,711	
75	3600	460	L365LP16	V4807	5KS365XAJ5708	\$28,125	G6-7VIL	Y	3,768	2,555	
75	1800	460	L365LP16	V4808	5KS365XAJ6708	\$30,127	G6-7VIL	Y	5,473	3,711	
75	1200	575	L405LP16	V4870	5KS405XAJ7720	\$44,466	G6-7VIL	N	7,310	5,073	



XSD Ultra 841 VSS

Vertical Solid Shaft Inline Motor
TEFC - 841 - Extra Severe Duty
NEMA Premium



Pricing (cont.)

Inline Pump
Volts: 460, 575
HP: 3 - 250

HP	RPM	Volts	NEMA Frame	Cat. No.	Model No.	List Price	Price Symbol	Normally Stocked	L10 Down Thrust (lbs) @ 8,760 Hrs	L10 Down Thrust (lbs) @ 26,280 Hrs	Notes
100	3600	460	L405LP16	V4809	5KS405XAJ5708	\$35,591	G6-7VIL	Y	3,715	2,501	
100	1800	460	L405LP16	V4810	5KS405XAJ6708	\$36,659	G6-7VIL	Y	6,414	4,320	
125	3600	460	L444LP16	V4811	5KS444XAJ5708	\$42,672	G6-7VIL	Y	3,901	2,578	
125	1800	460	L444LP16	V4812	5KS444XAJ6708	\$43,953	G6-7VIL	Y	12,856	9,529	
150	3600	460	L445LP16	V4813	5KS445XAJ5708	\$49,631	G6-7VIL	Y	3,901	2,578	
150	1800	460	L445LP16	V4814	5KS445XAJ6708	\$51,120	G6-7VIL	Y	12,856	9,529	
200	1800	460	L447LP20	V4872	5KS447XAJ6721	\$60,627	G6-7VIL	N	4,864	—	
250	1800	460	L449LP24	V4832	5KS449XAJ6720	\$62,482	G6-7VIL	N	4,864	—	



XSD Ultra 841 VSS
Vertical Solid Shaft High Thrust
TEFC - 841 - Extra Severe Duty
NEMA Premium



Pricing

High Thrust
Volts: 460
HP: 3 - 300

HP	RPM	NEMA Frame	Cat. No.	Model No.	List Price	Price Symbol	Normally Stocked	L10 Down Thrust (lbs) @ 8,760 Hrs	L10 Down Thrust (lbs) @ 26,280 Hrs	Notes
3	3600	L182VP10	V854	5KS182XAE5420	\$4,612	G6-7VIL	N	1,912	1,320	
3	1800	L182VP10	V868	5KS182XAE6421	\$4,544	G6-7VIL	N	1,912	1,320	
3	1200	L213VP10	V4853	5KS213XAE7420	\$6,816	G6-7VIL	N	3,589	2,491	
5	3600	L184VP10	V853	5KS184XAE5422	\$5,954	G6-7VIL	N	1,912	1,320	
5	1800	L184VP10	V867	5KS184XAE6421	\$5,500	G6-7VIL	N	1,912	1,320	
5	1200	L215VP10	V4855	5KS215XAE7420	\$8,250	G6-7VIL	N	3,589	2,491	
7.5	3600	L213VP10	V855	5KS213XAE5422	\$7,050	G6-7VIL	N	2,692	1,857	
7.5	1800	L213VP10	V866	5KS213XAE6423	\$6,824	G6-7VIL	N	2,692	1,857	
7.5	1200	L254VP10	V4857	5KS254XAE7420	\$10,236	G6-7VIL	N	5,009	3,476	
10	3600	L215VP10	V856	5KS215XAE5421	\$7,355	G6-7VIL	N	2,692	1,857	
10	1800	L215VP10	V865	5KS215XAE6422	\$7,657	G6-7VIL	N	2,692	1,857	
10	1200	L256VP10	V4859	5KS256XAE7420	\$11,486	G6-7VIL	N	5,009	3,476	
15	3600	L254VP10	V857	5KS254XAE5424	\$8,476	G6-7VIL	N	2,988	2,053	
15	1800	L254VP10	V864	5KS254XAE6422	\$8,788	G6-7VIL	N	3,758	2,580	
15	1200	L284VP10	V4861	5KS284XAE7420	\$13,182	G6-7VIL	N	5,613	3,895	
20	3600	L256VP10	V858	5KS256XAE5420	\$9,219	G6-7VIL	N	2,988	2,053	
20	1800	L256VP10	V863	5KS256XAE6422	\$9,978	G6-7VIL	N	3,758	2,580	
20	1200	L286VP10	V4863	5KS286XAE7420	\$14,967	G6-7VIL	N	5,613	3,895	
25	3600	L284VP10	V859	5KS284XAE5425	\$9,803	G6-7VIL	N	3,356	2,300	
25	1800	L284VP10	V862	5KS284XAE6421	\$11,132	G6-7VIL	N	4,210	2,879	
30	3600	L286VP10	V860	5KS286XAE5423	\$11,333	G6-7VIL	N	3,356	2,300	
30	1800	L286VP10	V861	5KS286XAE6429	\$13,116	G6-7VIL	Y	4,210	2,879	
40	3600	L324VP16	V4815	5KS324XAJ5408	\$16,549	G6-7VIL	N	2,926	1,991	
40	1800	L324VP16	V4816	5KS324XAJ6408	\$16,247	G6-7VIL	N	5,553	3,791	
50	3600	L326VP16	V4817	5KS326XAJ5408	\$19,281	G6-7VIL	N	2,926	1,991	
50	1800	L326VP12	V4831	5KS326XAJ6424	\$19,885	G6-7VIL	N	5,553	3,791	
50	1800	L326VP16	V4818	5KS326XAJ6408	\$19,885	G6-7VIL	Y	5,553	3,791	
50	1200	L365VP16	V4867	5KS365XAJ7420	\$25,970	G6-7VIL	N	6,261	4,339	
60	3600	L364VP16	V4819	5KS364XAJ5408	\$22,511	G6-7VIL	N	3,768	2,555	
60	1800	L364VP16	V4820	5KS364XAJ6408	\$23,500	G6-7VIL	N	5,473	3,711	
75	3600	L365VP16	V4821	5KS365XAJ5408	\$28,128	G6-7VIL	Y	3,768	2,555	
75	1800	L365VP16	V4822	5KS365XAJ6408	\$28,620	G6-7VIL	Y	5,473	3,711	
75	1200	L405VP16	V4869	5KS405XAJ7421	\$35,647	G6-7VIL	N	8,539	5,926	
100	3600	L405VP16	V4823	5KS405XAJ5408	\$33,100	G6-7VIL	Y	3,715	2,501	
100	1800	L405VP16	V4824	5KS405XAJ6408	\$34,095	G6-7VIL	Y	6,414	4,320	



XSD Ultra 841 VSS

Vertical Solid Shaft High Thrust
TEFC - 841 - Extra Severe Duty
NEMA Premium

Pricing (cont.)

High Thrust
Volts: 460
HP: 3 - 300



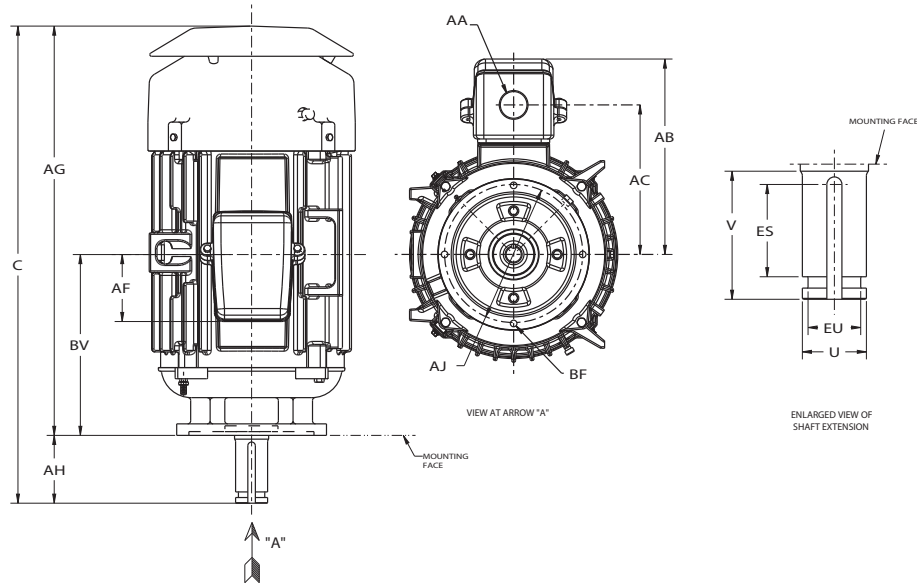
HP	RPM	NEMA Frame	Cat. No.	Model No.	List Price	Price Symbol	Normally Stocked	L10 Down Thrust (lbs) @ 8,760 Hrs	L10 Down Thrust (lbs) @ 26,280 Hrs	Notes
125	3600	L444VP16	V4825	5KS444XAJ5408	\$40,539	G6-7VIL	N	8,298	5,500	
125	1800	L444VP16	V4826	5KS444XAJ6408	\$41,756	G6-7VIL	Y	12,856	9,529	
125	1200	L445VP16	V4873	5KS445XAJ7408	\$53,409	G6-7VIL	N	21,980	15,254	
150	3600	L445VP16	V4827	5KS445XAJ5408	\$47,152	G6-7VIL	N	8,298	5,500	
150	1800	L445VP16	V4828	5KS445XAJ6408	\$48,566	G6-7VIL	Y	12,856	9,529	
200	3600	L447VP20	V4829	5KS447XAJ5408	\$60,063	G6-7VIL	Y	8,008	5,211	
200	1800	L447VP20	V4830	5KS447XAJ6408	\$62,258	G6-7VIL	Y	12,308	8,981	
300	1200	B5011VP30	V4874	5KS511XAJ7423	\$180,220	G6-7VIL	N	12,221	8,474	



XSD Ultra 841 VSS

Vertical Solid Shaft Inline Pump and High Thrust
TEFC - 841 - Extra Severe Duty
182 - 449 Frame

Dimensions



Inline Pump

Frame	Shaft Extension				Dimensions in Inches									
	ES Min	EU	U	V Min	C	AG	AH	BV	AF	AA	AB	AC	AJ	BF
L182/L184LP	1.28	0.875	1.125	2.50	18.17	15.42	2.75	6.50	2.89	1 - NPT	8.76	6.68	9.125	0.438
L213/L215LP	1.28	1.250	1.625	2.75	22.34	19.59	2.75	8.59	3.50	1 - NPT	9.53	7.42	9.125	0.438
L254/L256LP	1.28	1.250	1.625	2.75	27.33	24.58	2.75	10.75	4.59	1.25 - NPT	12.15	9.12	9.125	0.438
L284/L286LP	3.00	1.750	2.125	4.25	31.66	27.16	4.50	12.00	4.59	1.5 - NPT	12.91	9.88	9.125	0.438
L324/L326LP	3.03	1.750	2.125	4.50	43.10	38.60	4.50	11.96	6.44	3" - 8 NPT	16.07	12.36	14.750	0.690
L364/L365LP	3.03	1.750	2.125	4.50	46.61	42.11	4.50	12.58	6.44	3" - 8 NPT	17.07	13.36	14.750	0.690
L404/L405LP	3.03	1.750	2.125	4.50	52.09	47.59	4.50	16.41	7.00	3" - 8 NPT	20.40	16.14	14.750	0.690
L444/L445LP	3.03	1.750	2.125	4.50	59.50	55.00	4.50	13.16	7.00	3" - 8 NPT	21.81	17.55	14.750	0.690
L447/L449LP	3.03	1.750	2.125	4.50	67.00	62.50	4.50	13.16	7.00	(2) 4" - 8 NPT	22.50	17.74	14.750	0.690

High Thrust

Frame	Shaft Extension				Dimensions in Inches									
	ES Min	EU	U	V Min	C	AG	AH	BV	AF	AA	AB	AC	AJ	BF
L182/L184VP	1.28	0.875	1.125	2.50	18.17	15.42	2.75	6.50	2.89	1 - NPT	8.76	6.68	9.125	0.438
L213/L215VP	1.28	0.875	1.125	2.75	22.34	19.59	2.75	8.59	3.50	1 - NPT	9.53	7.42	9.125	0.438
L254/L256VP	1.28	0.875	1.125	2.75	27.33	24.58	2.75	10.75	4.59	1.25 - NPT	12.15	9.12	9.125	0.438
L284/L286VP	1.28	0.875	1.125	2.75	29.92	27.16	2.75	12.00	4.59	1.5 - NPT	12.91	9.88	9.125	0.438
L324/L326VP	3.03	1.250	1.625	4.50	43.10	38.60	4.50	11.96	6.44	3" - 8 NPT	16.07	12.36	14.750	0.690
L364/L365VP	3.03	1.250	1.625	4.50	46.61	42.11	4.50	12.58	6.44	3" - 8 NPT	17.07	13.36	14.750	0.690
L404/L405VP	3.03	1.250	1.625	4.50	52.09	47.59	4.50	16.41	7.00	3" - 8 NPT	20.40	16.14	14.750	0.690
L444/L445VP	3.03	1.750	2.125	4.50	59.50	55.00	4.50	13.16	7.00	3" - 8 NPT	21.81	17.55	14.750	0.690
L447/L449VP	3.03	1.750	2.125	4.50	67.00	62.50	4.50	13.16	7.00	3" - 8 NPT	21.81	17.55	14.750	0.690

Note

Tolerances:

AH: +/- 0.010"
U: + 0.000" ; - 0.005"
EU: + 0.000" ; - 0.005"



XSD Ultra 841 VSS

*Vertical Solid Shaft Inline Pump and High Thrust
TEFC - 841 - Extra Severe Duty
182 - 449 Frame*

Kits and Accessories

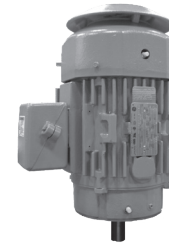
P-Base Kits

Frame	Enclosure	BD Diameter	Kit Number	List Price
280	841 INLINE	10	128D6229PM1	\$1,140
	841 INLINE	16	128D6230PF1	\$1,140
	841 VSS-HT	10	128D6229PH1	\$1,140
	841 VSS-HT	16	128D6230PE1	\$1,140
320	841 IL & HT	12	115E8204AC1	\$1,500
	841 IL & HT	16	115E8205AC1	\$1,500
360	841 IL & HT	12	115E8261AC1	\$2,300
	841 IL & HT	16	115E8258AC1	\$2,300
400	841 IL & HT	16	115E8306AC1	\$3,100
440	841 IL & HT	16	115E8660AA1	\$3,100
	841 IL & HT	20	115E8661AA1	\$3,100
	841 IL & HT	24	115E8662AA1	\$3,100



XSD Ultra 841 Vertical C-Face NT TEFC—Extra Severe Duty (IP56)

Standard Features

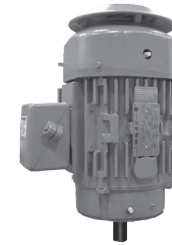


NEMA Frame Size	143 - 365
Poles	2, 4 & 6
Horsepower Range	2-pole - 1 - 75 4-pole - 1 - 75 6-pole - 1.5 - 50
Voltage	460
Shaft Extension	2-pole 143 - 286 fr - T 284 - 365 fr - TS 4 & 6-pole 4P: 143 - 365, 6P: 182 - 326 - T
Agency Approvals	UL - Component and Insulation System Recognition CSA - Certification and Efficiency Verification
Industry Specifications	IEEE 841, IEEE 45 Marine Duty
Warranty (months)	60 months from date of installation or 66 months from date of manufacture, whichever occurs first
Max Ambient & Altitude	40°C & 3300 feet
Insulation Class	H
Winding Temperature Rise	80C @1.0SF Sine wave (with some high end exceptions)
Service Factor	1.15 Sine wave (with some high end exceptions)
Bearing Housing Rise	Per IEEE 841 - 2-pole - 50C 4 & 6-pole - 45C
Division 2 Temperature Code	CSA Certified Div 2, T3 (200 C) (with some high end exceptions)
NEMA Design	B
Insulation System	Non-Hygroscopic, Anti-Fungus, Polyester Resin, Trickle Treated, Tested to Exceed NEMA MG 1 Part 31
Inverter Capability	Variable Torque INF:1
Efficiency	Per IEEE 841 (NEMA Premium 1-300 HP)
Frame Material	Cast iron
Frame/Conduit Box Gasket	Neoprene Rubber
Frame/End Shield Seal	Yes
End Shield Material	Cast Iron
Conduit Box Material	Cast Iron or Fabricated Steel Plate
Conduit Box Cover Gasket	Neoprene Rubber
Conduit Box Rotation	90 degree increments
Conduit Box Hole Thread	NPT
Shaft Runout	Per IEEE 841
Fan Cover Material	Cast Iron
Fan	2-pole - Bi-Directional, Non-sparking Plastic (except Uni-directional Aluminum in 449 frame) 4 & 6-pole - Bi-Directional, Non-sparking Plastic
Sound Power	90 dBA sound power (with some high end exceptions)
Mounting	W6, Shaft Down with C-Face Flange
Mounting Holes	Per NEMA
Lifting	4 point cast in lugs
Bearing Type	Single Shield Ball
Bearing L10 Life	Direct Coupled - 50,000 hrs per IEEE 841
Bearing Caps	Cast Iron, gasketed
Bearing Lubricant	Polyurea
Bearing Re-Lubrication	Grease fitting & plug. Extended through the fan cover. Includes provisions for conversion to Oil Mist Lubrication
Bearing Protection	Non-contact rotating labyrinth seal on both ends
Fasteners	Hex Head, Zinc Plated
Condensation Drain	Stainless Steel T-drains at the lowest point of both end shields
Balance & Vibration	ISO 1940 Grade 1 Ball bearings - .040 peak in/sec
Vibration Pads	Cast in vibration pads for repeatable measurements
Nameplate	316 Stainless Steel
Paint	Epoxy ester, RAL 1001
Tests	NEMA Routine only



XSD Ultra 841 Vertical C-Face NT
TEFC—Extra Severe
Duty (IP56)

Pricing



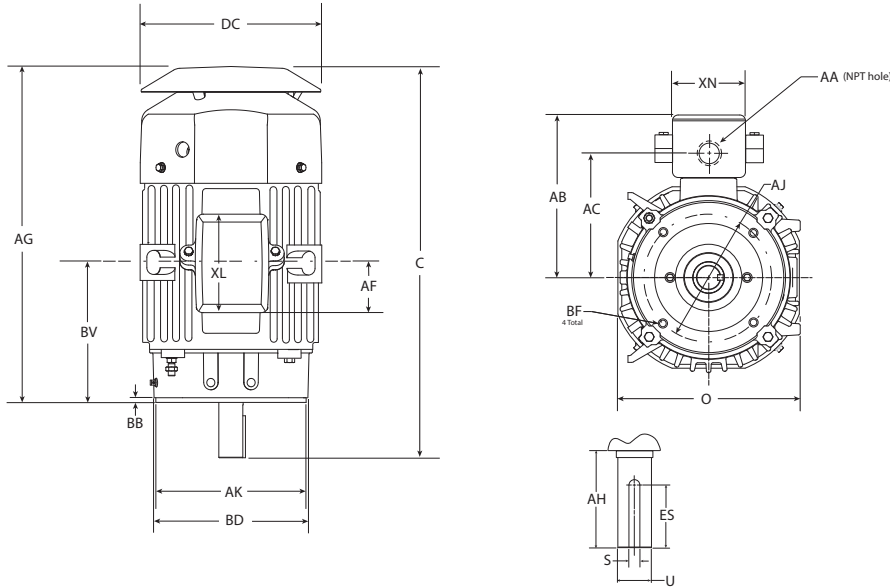
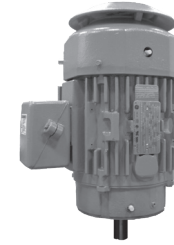
Volts: 460
HP: 1 - 75

HP	RPM	Volts	Frame	Cat. No.	Model No.	List Price	Price Symbol	Normally Stocked	L10 Down Thrust (lbs) @ 8,760 Hrs	L10 Down Thrust (lbs) @ 50,000 Hrs	Notes
1	3600	460	143TC	M9400	5KS143XAA145	\$2,086	G4-7UX1	N	260	120	
1	1800	460	143TC	M9401	5KS143XAA2008	\$2,063	G4-7UX1	N	332	146	
1.5	3600	460	143TC	M9402	5KS143XAA146	\$2,159	G4-7UX1	N	253	115	
1.5	1800	460	145TC	M9403	5KS145XAA2009	\$2,285	G4-7UX1	N	321	137	
1.5	1200	460	182TC	M9404	5KS182XAA326	\$2,346	G4-7UX1	N	690	308	
2	3600	460	145TC	M9405	5KS145XAA145	\$2,507	G4-7UX1	N	249	110	
2	1800	460	145TC	M9406	5KS145XAA2010	\$2,438	G4-7UX1	N	316	132	
2	1200	460	184TC	M9407	5KS184XAA325	\$2,630	G4-7UX1	N	677	295	
3	3600	460	182TC	M9408	5KS182XAA138	\$2,466	G4-7UX1	N	448	205	
3	1800	460	182TC	M9409	5KS182XAA2004	\$2,359	G4-7UX1	N	575	254	
3	1200	460	213TC	M9410	5KS213XAA335	\$2,934	G4-7UX1	N	1089	495	
5	3600	460	184TC	M9411	5KS184XAA1022	\$2,719	G4-7UX1	N	438	196	
5	1800	460	184TC	M9412	5KS184XAA2031	\$2,473	G4-7UX1	N	555	235	
5	1200	460	215TC	M9500	5KS215XAA341	\$3,882	G4-7UX1	N	1056	467	
7.5	3600	460	213TC	M9501	5KS213XAA1023	\$3,447	G4-7UX1	N	698	320	
7.5	1800	460	213TC	M9502	5KS213XAA2049	\$3,430	G4-7UX1	N	903	400	
7.5	1200	460	254TC	M9503	5KS254XAA335	\$5,252	G4-7UX1	N	1293	591	
10	3600	460	215TC	M9504	5KS215XAA1018	\$3,681	G4-7UX1	N	691	313	
10	1800	460	215TC	M9505	5KS215XAA2043	\$3,755	G4-7UX1	N	887	385	
10	1200	460	256TC	M9506	5KS256XAA327	\$6,071	G4-7UX1	N	1284	583	
15	3600	460	254TC	M9507	5KS254XAA1044	\$4,976	G4-7UX1	N	793	353	
15	1800	460	254TC	M9508	5KS254XAA2059	\$4,900	G4-7UX1	N	999	419	
15	1200	460	284TC	M9509	5KS284XAA338	\$8,008	G4-7UX1	N	1231	533	
20	3600	460	256TC	M9513	5KS256XAA198	\$5,979	G4-7UX1	N	761	321	
20	1800	460	256TC	M9515	5KS256XAA2041	\$5,920	G4-7UX1	N	999	412	
20	1200	460	286TC	M9516	5KS286XAA332	\$9,549	G4-7UX1	N	1189	490	
25	3600	460	284TC	M9517	5KS284XAA186	\$7,397	G4-7UX1	N	749	312	
25	3600	460	284TSC	M9518	5KS284XAA187	\$7,397	G4-7UX1	N	749	312	
25	1800	460	284TC	M9519	5KS284XAA2002	\$7,108	G4-7UX1	N	970	387	
25	1200	460	324TC	M9520	5KS324XAA354	\$12,289	G4-7UX1	N	1540	634	
30	3600	460	286TC	M9521	5KS286XAA167	\$8,476	G4-7UX1	N	712	275	
30	3600	460	286TSC	M9522	5KS286XAA168	\$8,476	G4-7UX1	N	712	275	
30	1800	460	286TC	M9523	5KS286XAA2010	\$8,106	G4-7UX1	N	944	362	
30	1200	460	326TC	M9524	5KS326XAA342	\$13,550	G4-7UX1	N	1540	634	
40	3600	460	324TSC	M9525	5KS324XAA1079	\$11,628	G4-7UX1	N	334	96	
40	1800	460	324TC	M9526	5KS324XAA2109	\$11,324	G4-7UX1	N	1295	539	
50	3600	460	326TSC	M9527	5KS326XAA1009	\$12,151	G4-7UX1	N	321	83	
50	1800	460	326TC	M9528	5KS326XAA2055	\$11,806	G4-7UX1	N	1247	492	
60	3600	460	364TSC	M9529	5KS364XAA187	\$17,863	G4-7UX	N	543	172	
60	1800	460	364TC	M9530	5KS364XAA2034	\$17,484	G4-7UX	N	1675	690	
75	3600	460	365TSC	M9531	5KS365XAA1002	\$20,015	G4-7UX	N	523	154	
75	1800	460	365TC	M9532	5KS365XAA2034	\$19,685	G4-7UX	N	1604	620	



XSD Ultra 841 Vertical C-Face NT
TEFC—Extra Severe
Duty (IP56)

Dimensions



Frame	Approx. Net Weight in lbs	Dimensions in inches																	
		Shaft								Mounting									
		Key			AH	ES	S	U	AF	AG	AK	AJ	BB (Min)	BF	BD	BV	C	DC	O
Width	Depth	Length																	
143TC	43	0.187	0.187	1.38	1.90	1.41	0.187	0.875	2.50	13.34	8.5	7.25	0.16	3/8-16 UNC	6.5	11.93	15.77	8	7.25
145TC	50	0.187	0.187	1.38	1.90	1.41	0.187	0.875	2.50	13.34	8.5	7.25	0.16	3/8-16 UNC	6.5	11.93	15.77	8	7.25
182TC	76	0.25	0.25	1.75	2.40	1.78	0.25	1.125	3.50	15.31	8.5	7.25	0.25	1/2-13 UNC	8.5	15.58	17.93	8.76	9.21
184TC	101	0.25	0.25	1.75	2.40	1.78	0.25	1.125	3.50	15.31	8.5	7.25	0.25	1/2-13 UNC	8.5	15.58	17.93	8.76	9.21
213TC	200	0.312	0.312	2.38	3.31	2.41	0.312	1.375	3.50	19	8.5	7.25	0.25	1/2-13 UNC	8.7	19.27	22.13	10.24	10.31
215TC	220	0.312	0.312	2.38	3.31	2.41	0.312	1.375	3.50	19	8.5	7.25	0.25	1/2-13 UNC	8.7	19.27	22.13	10.24	10.31
254TC	315	0.375	0.375	2.88	3.61	2.91	0.375	1.625	4.59	23.82	8.5	7.25	0.25	1/2-13 UNC	8.7	24.09	27.57	12.24	12.38
256TC	350	0.375	0.375	2.88	3.61	2.91	0.375	1.625	4.59	23.82	8.5	7.25	0.25	1/2-13 UNC	8.7	24.09	27.57	12.24	12.38
284TC	460	0.5	0.5	3.25	4.10	3.28	0.5	1.875	4.59	25.66	10.5	9	0.25	1/2-13 UNC	10.77	25.66	30.04	13.5	13.76
286TC	510	0.5	0.5	3.25	4.10	3.28	0.5	1.875	4.59	25.66	10.5	9	0.25	1/2-13 UNC	10.77	25.66	30.04	13.5	13.76
284TSC	460	0.375	0.375	1.88	3.00	1.91	0.375	1.625	4.59	25.66	10.5	9	0.25	1/2-13 UNC	10.77	25.93	28.66	13.5	13.76
286TSC	510	0.375	0.375	1.88	3.00	1.91	0.375	1.625	4.59	25.66	10.5	9	0.25	1/2-13 UNC	10.77	25.93	28.66	13.5	13.76
324TC	664	0.5	0.5	3.88	5.00	3.91	0.5	2.125	6.44	28	10.5	11	0.25	5/8-11 UNC	12.86	28.25	33	14.7	17
326TC	800	0.5	0.5	3.88	5.00	3.91	0.5	2.125	6.44	28	10.5	11	0.25	5/8-11 UNC	12.86	28.25	33	14.7	17
324TSC	664	0.5	0.5	2	3.50	2.03	0.5	1.875	6.44	28	12.5	11	0.25	5/8-11 UNC	12.86	28.25	31.5	14.7	16.68
326TSC	800	0.5	0.5	2	3.50	2.03	0.5	1.875	6.44	28	12.5	11	0.25	5/8-11 UNC	12.86	28.25	31.5	14.7	16.68
364TC	1122	0.625	0.5	4.25	5.62	4.28	0.625	2.375	6.44	32.45	12.5	11	0.25	5/8-11 UNC	13.02	32.7	38.06	19.02	18.86
365TC	1155	0.625	0.5	4.25	5.62	4.28	0.625	2.375	6.44	32.45	12.5	11	0.25	5/8-11 UNC	13.02	32.7	38.06	19.02	18.86
364TSC	1122	0.5	0.5	2	3.47	2.03	0.5	1.875	6.44	32.45	12.5	11	0.25	5/8-11 UNC	13.02	32.7	35.93	19.02	18.86
365TSC	1155	0.5	0.5	2	3.47	2.03	0.5	1.875	6.44	32.45	12.5	11	0.25	5/8-11 UNC	13.02	32.7	35.93	19.02	18.86

Frame	Nominal HP	Approx. Volume	AA (NPT Thread)	AB	AC	AF	XL	XN
143-145	2	32	3/4"	6.63	5.12	2.5	4.3	5.4
182-184	5	55	1"	8.7	6.62	3.5	5.78	4.16
213-215	10	55	1"	9.5	7.42	3.5	5.78	4.16
254-256	20	140	1-1/4"	12.15	9.12	4.59	7.37	5.37
284-286	30	140	1-1/2"	12.91	9.88	4.59	7.37	5.37
324-326	50	346	3"	16.13	12.43	6.44	10.15	7
364-365	75	346	3"	17.14	13.43	6.44	10.09	7

Terms and Conditions for Sale of Products and Services
Form ES 104 (Rev. 4)

NOTICE: Sale of any Products or Services is expressly conditioned on Buyer's assent to these Terms and Conditions. Any acceptance of Seller's offer is expressly limited to acceptance of these Terms and Conditions and Seller expressly objects to any additional or different terms proposed by Buyer. No facility entry form shall modify these Terms and Conditions even if signed by Seller's representative. Any order to perform work and Seller's performance of work shall constitute Buyer's assent to these Terms and Conditions. Unless otherwise specified in the quotation, Seller's quotation shall expire 30 days from its date and may be modified or withdrawn by Seller before receipt of Buyer's conforming acceptance.

1. Definitions

"Buyer" means the entity to which Seller is providing Products or Services under the Contract.

"Contract" means either the contract agreement signed by both parties, or the purchase order signed by Buyer and accepted by Seller in writing, for the sale of Products or Services, together with these Terms and Conditions, Seller's final quotation, the agreed scope(s) of work, and Seller's order acknowledgement. In the event of any conflict, the Terms and Conditions shall take precedence over other documents included in the Contract.

"Contract Price" means the agreed price stated in the Contract for the sale of Products and Services, including adjustments (if any) in accordance with the Contract.

"Hazardous Materials" means any toxic or hazardous substance, hazardous material, dangerous or hazardous waste, dangerous good, radioactive material, petroleum or petroleum-derived products or by-products, or any other chemical, substance, material or emission, that is regulated, listed or controlled pursuant to any national, state, provincial, or local law, statute, ordinance, directive, regulation or other legal requirement of the United States ("U.S.") or the country of the Site.

"Insolvent/Bankrupt" means that a party is insolvent, makes an assignment for the benefit of its creditors, has a receiver or trustee appointed for it or any of its assets, or files or has filed against it a proceeding under any bankruptcy, insolvency dissolution or liquidation laws.

"Products" means the equipment, parts, materials, supplies, software, and other goods Seller has agreed to supply to Buyer under the Contract.

"Seller" means the entity providing Products or performing Services under the Contract.

"Services" means the services Seller has agreed to perform for Buyer under the Contract.

"Site" means the premises where Products are used or Services are performed, not including Seller's premises from which it performs Services.

"Terms and Conditions" means these "Terms and Conditions for Sale of Products and Services", including any relevant addenda pursuant to Article 18, together with any modifications or additional provisions specifically stated in Seller's final quotation or specifically agreed upon by Seller in writing.

2. Payment

2.1 Buyer shall pay Seller for the Products and Services by paying all invoiced amounts in U.S. dollars, without set-off for any payment from Seller not due under this Contract, within thirty (30) days from the invoice date. If the Contract Price is less than U.S. Two Hundred Fifty Thousand Dollars (\$250,000), Seller shall issue invoices upon shipment of Products and Services as performed. If the Contract Price is U.S. Two Hundred Fifty Thousand Dollars (\$250,000) or more, progress payments shall be invoiced starting with twenty-five percent (25%) of the Contract Price for Products and Services upon the earlier of Contract signature or issuance of Seller's order acknowledgement and continuing such that ninety percent (90%) of the Contract Price for Products is received before the earliest scheduled Product shipment and Services are invoiced as performed ("Progress Payments"). For each calendar month, or fraction thereof, that payment is late, Buyer shall pay a late payment charge computed at the rate of 1.5% per month on the overdue balance, or the maximum rate permitted by law, whichever is less.

2.2 As and if requested by Seller, Buyer shall at its expense establish and keep in force payment security in the form of an irrevocable, unconditional, sight letter of credit or bank guarantee allowing for pro-rata payments as Products are shipped and Services are performed, plus payment of cancellation and termination charges, and all other amounts due from Buyer under the Contract ("Payment Security"). The Payment Security shall be (a) in a form, and issued or confirmed by a bank acceptable to Seller, (b) payable at the counters of such acceptable bank or negotiating bank, (c) opened at least sixty (60) days prior to both the earliest scheduled shipment of Products and commencement of Services, and (d) remain in effect until the latest of ninety (90) days after the last scheduled Product shipment, completion of all Services and Seller's receipt of the final payment required under the Contract. Buyer shall, at its expense, increase the amount(s), extend the validity period(s) and make other appropriate modifications to any Payment Security within ten (10) days of Seller's notification that such adjustment is necessary in connection with Buyer's obligations under the Contract.

2.3 Seller is not required to commence or continue its performance unless and until any required Payment Security is received, operative and in effect and all applicable Progress Payments have been received. For each day of delay in receiving Progress Payments or acceptable Payment Security, Seller shall be entitled to a matching extension of the schedule. If at any time Seller reasonably determines that Buyer's financial condition or payment history does not justify continuation of Seller's performance, Seller shall be entitled to require full or partial payment in advance or otherwise restructure payments, request additional forms of Payment Security, suspend its performance or terminate the Contract.

3. Taxes and Duties

Seller shall be responsible for all corporate taxes measured by net income due to performance of or payment for work under this Contract ("Seller Taxes"). Buyer shall be responsible for all taxes, duties, fees, or other charges of any nature (including, but not limited to, consumption, gross receipts, import, property, sales, stamp, turnover, use, or value-added taxes, and all items of withholding, deficiency, penalty, addition to tax, interest, or assessment related thereto, imposed by any governmental authority on Buyer or Seller or its subcontractors) in relation to the Contract or the performance of or payment for work under the Contract other than Seller Taxes ("Buyer Taxes"). The Contract Price does not include the amount of any Buyer Taxes. If Buyer deducts or withholds Buyer Taxes, Buyer shall pay additional amounts so that Seller receives the full Contract Price without reduction for Buyer Taxes. Buyer shall provide to Seller, within one month of payment, official receipts from the applicable governmental authority for deducted or withheld taxes.

4. Deliveries; Title Transfer; Risk of Loss; Storage

4.1 For shipments that do not involve export, including shipments from one European Union ("EU") country to another EU country, Seller shall deliver Products to Buyer FCA Seller's facility or warehouse (Incoterms 2010). For export shipments, Seller shall deliver Products to Buyer FCA Port of Export (Incoterms 2010). Buyer shall pay all delivery costs and charges or pay Seller's standard shipping charges plus up to twenty-five (25%) percent. Partial deliveries are permitted. Seller may deliver Products in advance of the delivery schedule. Delivery times are approximate and are dependent upon prompt receipt by Seller of all information necessary to proceed with the work without interruption. If Products delivered do not correspond in quantity, type or price to those itemized in the shipping invoice or documentation, Buyer shall notify Seller within ten (10) days after receipt.

4.2 For shipments that do not involve export, title to Products shall pass to Buyer upon delivery in accordance with Section 4.1. For export shipments from a Seller facility or warehouse outside the U.S., title shall pass to Buyer upon delivery in accordance with Section 4.1. For shipments from the U.S. to another country, title shall pass to Buyer immediately after each item departs from the territorial land, seas and overlying airspace of the U.S. The 1982 United Nations Convention of the Law of the Sea shall apply to determine the U.S. territorial seas. For all other shipments, title to Products shall pass to Buyer the earlier of (i) the port of export immediately after Products have been cleared for export or (ii) immediately after each item departs from the territorial land, seas and overlying airspace of the sending country. When Buyer arranges the export or intercommunity shipment, Buyer will provide Seller evidence of exportation or intercommunity shipment acceptable to the relevant tax and custom authorities. Notwithstanding the foregoing, Seller grants only a license, and does not pass title, for any software provided by Seller under this Contract, and title to any leased equipment remains with Seller.

4.3 Risk of loss shall pass to Buyer upon delivery pursuant to Section 4.1, except that for export shipments from the U.S., risk of loss shall transfer to Buyer upon title passage.

4.4 If any Products to be delivered under this Contract or if any Buyer equipment repaired at Seller's facilities cannot be shipped to or received by Buyer when ready due to any cause attributable to Buyer or its other contractors, Seller may ship the Products and equipment to a storage facility, including storage at the place of manufacture or repair, or to an agreed freight forwarder. If Seller places Products or equipment into storage, the following apply: (i) title and risk of loss immediately pass to Buyer, if they have not already passed, and delivery shall be deemed to have occurred; (ii) any amounts otherwise payable to Seller upon delivery or shipment shall be due; (iii) all expenses and charges incurred by Seller related to the storage shall be payable by Buyer upon submission of Seller's invoices; and (iv) when conditions permit and upon payment of all amounts due, Seller shall make Products and repaired equipment available to Buyer for delivery.

4.5 If repair Services are to be performed on Buyer's equipment at Seller's facility, Buyer shall be responsible for, and shall retain risk of loss of, such equipment at all times, except that Seller shall be responsible for damage to the equipment while at Seller's facility to the extent such damage is caused by Seller's negligence.

5. Warranty

5.1 Seller warrants that Products shall be delivered free from defects in material, workmanship and title and that Services shall be performed in a competent, diligent manner in accordance with any mutually agreed specifications.

5.2 The warranty for Products shall expire one (1) year from first use or eighteen (18) months from delivery, whichever occurs first, except that software is warranted for ninety (90) days from delivery. The warranty for Services shall expire one (1) year after performance of the Service, except that software-related Services are warranted for ninety (90) days.

5.3 If Products or Services do not meet the above warranties, Buyer shall promptly notify Seller in writing prior to expiration of the warranty period. Seller shall (i) at its option, repair or replace defective Products and (ii) re-perform defective Services. If despite Seller's reasonable efforts, a non-conforming Product cannot be repaired or replaced, or non-conforming Services cannot be re-performed, Seller shall refund or credit monies paid by Buyer for such non-conforming Products and Services. Warranty repair, replacement or re-performance by Seller shall not extend or renew the applicable warranty period. Buyer shall obtain Seller's agreement on the specifications of any tests it plans to conduct to determine whether a non-conformance exists.

5.4 Buyer shall bear the costs of access for Seller's remedial warranty efforts (including removal and replacement of systems, structures or other parts of Buyer's facility), de-installation, decontamination, re-installation and transportation of defective Products to Seller and back to Buyer.

5.5 The warranties and remedies are conditioned upon (a) proper storage, installation, use, operation, and maintenance of Products, (b) Buyer keeping accurate and complete records of operation and maintenance during the warranty period and providing Seller access to those records, and (c) modification or repair of Products or Services only as authorized by Seller in writing. Failure to meet any such conditions renders the warranty null and void. Seller is not responsible for normal wear and tear.

5.6 This Article 5 provides the exclusive remedies for all claims based on failure of or defect in Products or Services, regardless of when the failure or defect arises, and whether a claim, however described, is based on contract, warranty, indemnity, tort/extra-contractual liability (including negligence), strict liability or otherwise. The warranties provided in this Article 5 are exclusive and are in lieu of all other warranties, conditions and guarantees whether written, oral, implied or statutory. **NO IMPLIED OR STATUTORY WARRANTY, OR WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLIES.**

6. Confidentiality

6.1 Seller and Buyer (as to information disclosed, the "Disclosing Party") may each provide the other party (as to information received, the "Receiving Party") with Confidential Information in connection with this Contract. "Confidential Information" means (a) information that is designated in writing as "confidential" or "proprietary" by Disclosing Party at the time of written disclosure, and (b) information that is orally designated as "confidential" or "proprietary" by Disclosing Party at the time of oral or visual disclosure and is confirmed to be "confidential" or "proprietary" in writing within twenty (20) days after the oral or visual disclosure. In addition, prices for Products and Services shall be considered Seller's Confidential Information.

6.2 Receiving Party agrees: (i) to use the Confidential Information only in connection with the Contract and use of Products and Services, (ii) to take reasonable measures to prevent disclosure of the Confidential Information to third parties, and (iii) not to disclose the Confidential Information to a competitor of Disclosing Party. Notwithstanding these restrictions, (a) Seller may disclose Confidential Information to its affiliates and subcontractors in connection with performance of the Contract, (b) a Receiving Party may disclose Confidential Information to its auditors, (c) Buyer may disclose Confidential Information to lenders as necessary for Buyer to secure or obtain financing needed to perform its obligations under the Contract, and (d) a Receiving Party may disclose Confidential Information to any other third party with the prior written permission of Disclosing Party, and in each case, only so long as the Receiving Party obtains a non-disclosure commitment from any such subcontractors, auditors, lenders or other permitted third party that prohibits disclosure of the Confidential Information and provides further that the Receiving Party remains responsible for any unauthorized use or disclosure of the Confidential Information. Receiving Party shall upon request return to Disclosing Party or destroy all copies of Confidential Information except to the extent that a specific provision of the Contract entitles Receiving Party to retain an item of Confidential Information. Seller may also retain an archive copy of Buyer's Confidential Information.

6.3 The obligations under this Article 6 shall not apply to any portion of the Confidential Information that: (i) is or becomes generally available to the public other than as a result of disclosure by Receiving Party, its representatives or its affiliates; (ii) is or becomes available to Receiving Party on a non-confidential basis from a source other than Disclosing Party when the source is not, to the best of Receiving Party's knowledge, subject to a confidentiality obligation to Disclosing Party; (iii) is independently developed by Receiving Party, its representatives or affiliates, without reference to the Confidential Information; (iv) is required to be disclosed by law or valid legal process provided that the Receiving Party intending to make disclosure in response to such requirements or process shall promptly notify the Disclosing Party in advance of such disclosure and reasonably cooperate in attempts to maintain the confidentiality of the Confidential Information.

6.4 Each Disclosing Party warrants that it has the right to disclose the information that it discloses. Neither Buyer nor Seller shall make any public announcement about the Contract without prior written approval of the other party. As to any individual item of Confidential Information, the restrictions under this Article 6 shall expire five (5) years after the date of disclosure. Article 6 does not supersede any separate confidentiality or nondisclosure agreement signed by the parties.

7. Intellectual Property

7.1 Seller shall defend and indemnify Buyer against any claim by a non-affiliated third party (a "Claim") alleging that Products or Services furnished under this Contract infringe a patent in effect in the U.S., an EU member state or the country of the Site (provided there is a corresponding patent issued by the U.S. or an EU member state), or any copyright or trademark registered in the country of the Site, provided that Buyer (a) promptly notifies Seller in writing of the Claim, (b) makes no admission of liability and does not take any position adverse to Seller, (c) gives Seller sole authority to control defense and settlement of the Claim, and (d) provides Seller with full disclosure and reasonable assistance as required to defend the Claim.

7.2 Section 7.1 shall not apply and Seller shall have no obligation or liability with respect to any Claim based upon (a) Products or Services that have been modified, or revised, (b) the combination of any Products or Services with other products or services when such combination is a basis of the alleged infringement, (c) failure of Buyer to implement any update provided by Seller that would have prevented the Claim, (d) unauthorized use of Products or Services, or (e) Products or Services made or performed to Buyer's specifications.

7.3 Should any Product or Service, or any portion thereof, become the subject of a Claim, Seller may at its option (a) procure for Buyer the right to continue using the Product or Service, or applicable portion thereof, (b) modify or replace it in whole or in part to make it non-infringing, or (c) failing (a) or (b), take back infringing Products or Services and refund the price received by Seller attributable to the infringing Products or Services.

7.4 Article 7 states Seller's exclusive liability for intellectual property infringement by Products and Services.

7.5 Each party shall retain ownership of all Confidential Information and intellectual property it had prior to the Contract. All new intellectual property conceived or created by Seller in the performance of this Contract, whether alone or with any contribution from Buyer, shall be owned exclusively by Seller. Buyer agrees to deliver assignment documentation as necessary to achieve that result.

8. Indemnity

Each of Buyer and Seller (as an "Indemnifying Party") shall indemnify the other party (as an "Indemnified Party") from and against claims brought by a third party, on account of personal injury or damage to the third party's tangible property, to the extent caused by the negligence of the Indemnifying Party in connection with this Contract. In the event the injury or damage is caused by joint or concurrent negligence of Buyer and Seller, the loss or expense shall be borne by each party in proportion to its degree of negligence. For purposes of Seller's indemnity obligation, no part of the Products or Site is considered third party property.

9. Insurance

During the term of the Contract, Seller shall maintain for its protection the following insurance coverage: (i) Worker's Compensation, Employer's Liability and other statutory insurance required by law with respect to work related injuries or disease of employees of Seller in such form(s) and amount(s) as required by applicable laws; (ii) Automobile Liability insurance with a combined single limit of \$2,500,000.00; and (iii) Commercial General Liability or Public Liability insurance for bodily injury and property damage with a combined single limit of \$2,500,000.00. If required in the Contract, Seller shall provide a certificate of insurance reflecting such coverage.

10. Excusable Events

Seller shall not be liable or considered in breach of its obligations under this Contract to the extent that Seller's performance is delayed or prevented, directly or indirectly, by any cause beyond its reasonable control, or by armed conflict, acts or threats of terrorism, epidemics, strikes or other labor disturbances, or acts or omissions of any governmental authority or of the Buyer or Buyer's contractors or suppliers. If an excusable event occurs, the schedule for Seller's performance shall be extended by the amount of time lost by reason of the event plus such additional time as may be needed to overcome the effect of the event. If acts or omissions of the Buyer or its contractors or suppliers cause the delay, Seller shall also be entitled to an equitable price adjustment.

11. Termination and Suspension

11.1 Buyer may terminate the Contract (or the portion affected) for cause if Seller (i) becomes Insolvent/Bankrupt, or (ii) commits a material breach of the Contract which does not otherwise have a specified contractual remedy, provided that: (a) Buyer shall first provide Seller with detailed written notice of the breach and of Buyer's intention to terminate the Contract, and (b) Seller shall have failed, within 30 days after receipt of the notice, to commence and diligently pursue cure of the breach.

11.2 If Buyer terminates the Contract pursuant to Section 11.1, (i) Seller shall reimburse Buyer the difference between that portion of the Contract Price allocable to the terminated scope and the actual amounts reasonably incurred by Buyer to complete that scope, and (ii) Buyer shall pay to Seller (a) the portion of the Contract Price allocable to Products completed, (b) lease fees incurred, and (c) amounts for Services performed before the effective date of termination. The amount due for Services shall be determined in accordance with the milestone schedule (for completed milestones) and rates set forth in the Contract (for work toward milestones not yet achieved and where there is no milestone schedule), as applicable or, where there are no milestones and/or rates in the Contract, at Seller's then-current standard time and material rates.

11.3 Seller may suspend or terminate the Contract (or any affected portion thereof) immediately for cause if Buyer (i) becomes Insolvent/Bankrupt, or (ii) materially breaches the Contract, including, but not limited to, failure or delay in Buyer providing Payment Service, making any payment when due, or fulfilling any payment conditions.

11.4 If the Contract (or any portion thereof) is terminated for any reason other than Seller's default under Section 11.1, Buyer shall pay Seller for all Products completed, lease fees incurred and Services performed before the effective date of termination, plus expenses reasonably incurred by Seller in connection with the termination. The amount due for Services shall be determined in accordance with the milestone schedule (for completed milestones) and rates set forth in the Contract (for work toward milestones not yet achieved and where there is no milestone schedule), as applicable or, where there are no milestones and/or rates in the Contract, at Seller's then-current standard time and material rates. In addition, Buyer shall pay Seller a cancellation charge equal to 80% of the Contract Price applicable to uncompleted made-to-order Products and 15% of the Contract Price applicable to all other uncompleted Products.

11.5 Either Buyer or Seller may terminate the Contract (or the portion affected) upon twenty (20) days advance notice if there is an excusable event (as described in Article 10) lasting longer than one hundred and twenty (120) days. In such case, Buyer shall pay to Seller amounts payable under Section 11.4, excluding the cancellation charge for uncompleted Products.

11.6 Buyer shall pay all reasonable expenses incurred by Seller in connection with a suspension, including, but not limited to, expenses for repossession, fee collection, demobilization/remobilization, and costs of storage during suspension. The schedule for Seller's obligations shall be extended for a period of time reasonably necessary to overcome the effects of any suspension.

12. Compliance with Laws, Codes and Standards

12.1 Seller shall comply with laws applicable to the manufacture of Products and its performance of Services. Buyer shall comply with laws applicable to the application, operation, use and disposal of the Products and Services.

12.2 Seller's obligations are conditioned upon Buyer's compliance with all U.S. and other applicable trade control laws and regulations. Buyer shall not trans-ship, re-export, divert or direct Products other than in and to the ultimate country of destination declared by Buyer and specified as the country of ultimate destination on Seller's invoice.

12.3 Notwithstanding any other provision, Buyer shall timely obtain, effectuate and maintain in force any required permit, license, exemption, filing, registration and other authorization, including, but not limited to, building and environmental permits, import licenses, environmental impact assessments, and foreign exchange authorizations, required for the lawful performance of Services at the Site or fulfillment of Buyer's obligations, except that Seller shall obtain any license or registration necessary for Seller to generally conduct business and visas or work permits, if any, necessary for Seller's personnel. Buyer shall provide reasonable assistance to Seller in obtaining such visas and work permits.

13. Environmental, Health and Safety Matters

13.1 Buyer shall maintain safe working conditions at the Site, including, without limitation, implementing appropriate procedures regarding Hazardous Materials, confined space entry, and energization and de-energization of power systems (electrical, mechanical and hydraulic) using safe and effective lock-out-tag-out ("LOTO") procedures including physical LOTO or a mutually agreed upon alternative method.

13.2 Buyer shall timely advise Seller in writing of all applicable Site-specific health, safety, security and environmental requirements and procedures. Without limiting Buyer's responsibilities under Article 13, Seller has the right but not the obligation to, from time to time, review and inspect applicable health, safety, security and environmental documentation, procedures and conditions at the Site.

13.3 If, in Seller's reasonable opinion, the health, safety, or security of personnel or the Site is, or is apt to be, imperiled by security risks, terrorist acts or threats, the presence of or threat of exposure to Hazardous Materials, or unsafe working conditions, Seller may, in addition to other rights or remedies available to it, evacuate some or all of its personnel from Site, suspend performance of all or any part of the Contract, and/or remotely perform or supervise work. Any such occurrence shall be considered an excusable event. Buyer shall reasonably assist in any such evacuation.

13.4 Operation of Buyer's equipment is the responsibility of Buyer. Buyer shall not require or permit Seller's personnel to operate Buyer's equipment at Site.

13.5 Buyer will make its Site medical facilities and resources available to Seller's personnel who need medical attention.

13.6 Seller has no responsibility or liability for the pre-existing condition of Buyer's equipment or the Site. Prior to Seller starting any work at Site, Buyer will provide documentation that identifies the presence and condition of any Hazardous Materials existing in or about Buyer's equipment or the Site that Seller may encounter while performing under this Contract. Buyer shall disclose to Seller industrial hygiene and environmental monitoring data regarding conditions that may affect Seller's work or personnel at the Site. Buyer shall keep Seller informed of changes in any such conditions.

13.7 Seller shall notify Buyer if Seller becomes aware of: (i) conditions at the Site differing materially from those disclosed by Buyer, or (ii) previously unknown physical conditions at Site differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract. If any such conditions cause an increase in Seller's cost of, or the time required for, performance of any part of the work under the Contract, an equitable adjustment in price and schedule shall be made.

13.8 If Seller encounters Hazardous Materials in Buyer's equipment or at the Site that require special handling or disposal, Seller is not obligated to continue work affected by the hazardous conditions. In such an event, Buyer shall eliminate the hazardous conditions in accordance with applicable laws and regulations so that Seller's work under the Contract may safely proceed, and Seller shall be entitled to an equitable adjustment of the price and schedule to compensate for any increase in Seller's cost of, or time required for, performance of any part of the work. Buyer shall properly store, transport and dispose of all Hazardous Materials introduced, produced or generated in the course of Seller's work at the Site.

13.9 Buyer shall indemnify Seller for any and all claims, damages, losses, and expenses arising out of or relating to any Hazardous Materials which are or were (i) present in or about Buyer's equipment or the Site prior to the commencement of Seller's work, (ii) improperly handled or disposed of by Buyer or Buyer's employees, agents, contractors or subcontractors, or (iii) brought, generated, produced or released on Site by parties other than Seller.

14. Changes

14.1 Each party may at any time propose changes in the schedule or scope of Products or Services. Seller is not obligated to proceed with any change until both parties agree upon such change in writing. The written change documentation will describe the changes in scope and schedule, and the resulting changes in price and other provisions, as agreed.

14.2 The scope, Contract Price, schedule, and other provisions will be equitably adjusted to reflect additional costs or obligations incurred by Seller resulting from a change, after Seller's proposal date, in Buyer's Site-specific requirements or procedures, or in industry specifications, codes, standards, applicable laws or regulations. However, no adjustment will be made on account of a general change in Seller's manufacturing or repair facilities resulting from a change in laws or regulations applicable to such facilities. Unless otherwise agreed by the parties, pricing for additional work arising from such changes shall be at Seller's time and material rates.

14.3 It shall be acceptable and not considered a change if Seller delivers a Product that bears a different, superseding or new part or version number compared to the part or version number listed in the Contract.

15. Limitations of Liability

15.1 The total liability of Seller for all claims of any kind arising from or related to the formation, performance or breach of this Contract, or any Products or Services, shall not exceed the (i) Contract Price, or (ii) if Buyer places multiple order(s) under the Contract, the price of each particular order for all claims arising from or related to that order and ten thousand US dollars (US \$10,000) for all claims not part of any particular order.

15.2 Seller shall not be liable for loss of profit or revenues, loss of use of equipment or systems, interruption of business, cost of replacement power, cost of capital, downtime costs, increased operating costs, any special, consequential, incidental, indirect, or punitive damages, or claims of Buyer's customers for any of the foregoing types of damages.

15.3 All Seller liability shall end upon expiration of the applicable warranty period, provided that Buyer may continue to enforce a claim for which it has given notice prior to that date by commencing an action or arbitration, as applicable under this Contract, before expiration of any statute of limitations or other legal time limitation but in no event later than one year after expiration of such warranty period.

15.4 Seller shall not be liable for advice or assistance that is not required for the work scope under this Contract.

15.5 If Buyer is supplying Products or Services to a third party, or using Products or Services at a facility owned by a third party, Buyer shall either (i) indemnify and defend Seller from and against any and all claims by, and liability to, any such third party in excess of the limitations set forth in this Article 15, or (ii) require that the third party agree, for the benefit of and enforceable by Seller, to be bound by all the limitations included in this Article 15.

15.6 For purposes of this Article 15, the term "Seller" means Seller, its affiliates, subcontractors and suppliers of any tier, and their respective employees. The limitations in this Article 15 shall apply regardless of whether a claim is based in contract, warranty, indemnity, tort/extra-contractual liability (including negligence), strict liability or otherwise, and shall prevail over any conflicting terms, except to the extent that such terms further restrict Seller's liability.

16. Governing Law and Dispute Resolution

16.1 This Contract shall be governed by and construed in accordance with the laws of (i) the State of New York if Buyer's place of business is in the U.S. or (ii) England if the Buyer's place of business is outside the U.S., in either case without giving effect to any choice of law rules that would cause the application of laws of any other jurisdiction (the "Governing Law"). If the Contract includes the sale of Products and the Buyer is outside the Seller's country, the United Nations Convention on Contracts for the International Sale of Goods shall apply.

16.2 All disputes arising in connection with this Contract, including any question regarding its existence or validity, shall be resolved in accordance with this Article 16. If a dispute is not resolved by negotiations, either party may, by giving written notice, refer the dispute to a meeting of appropriate higher management, to be held within twenty (20) business days after the giving of notice. If the dispute is not resolved within thirty (30) business days after the giving of notice, or such later date as may be mutually agreed, either party may commence arbitration or court proceedings, depending upon the location of the Buyer, in accordance with the following:

(a) if the Buyer's pertinent place of business is in the U.S., legal action shall be commenced in federal court with jurisdiction applicable to, or state court located in, either Cobb County, Georgia or the location of Buyer's principal place of business; or (b) if the Buyer's pertinent place of business is outside the U.S., the dispute shall be submitted to and finally resolved by arbitration under the Rules of Arbitration of the International Chamber of Commerce ("ICC"). The number of arbitrators shall be one, selected in accordance with the ICC Rules, unless the amount in dispute exceeds the equivalent of U.S. \$5,000,000, in which event it shall be three. When three arbitrators are involved, each party shall appoint one arbitrator, and those two shall appoint the third within thirty (30) days, who shall be the Chairman. The seat, or legal place, of arbitration, shall be London, England. The arbitration shall be conducted in English. In reaching their decision, the arbitrators shall give full force and effect to the intent of the parties as expressed in the Contract, and if a solution is not found in the Contract, shall apply the governing law of the Contract. The decision of the arbitrator(s) shall be final and binding upon both parties, and neither party shall seek recourse to a law court or other authority to appeal for revisions of the decision.

16.3 Notwithstanding the foregoing, each party shall have the right at any time, at its option and where legally available, to immediately commence an action or proceeding in a court of competent jurisdiction, subject to the terms of this Contract, to seek a restraining order, injunction, or similar order to enforce the confidentiality provisions set forth in Article 9 and/or the nuclear use restrictions set forth in Section 19.1, or to seek interim or conservatory measures. Monetary damages shall only be available in accordance with Section 16.2.

17. Inspection and Factory Tests

Seller will apply its normal quality control procedures in manufacturing Products. Seller shall attempt to accommodate requests by Buyer to witness Seller's factory tests of Products, subject to appropriate access restrictions, if such witnessing can be arranged without delaying the work.

18. Software, Leased Equipment, Remote Diagnostic Services, PCB Services

If Seller provides any software to Buyer, the Software License Addendum shall apply. If Seller leases any of Seller's equipment or provides related Services to Buyer, including placing Seller's equipment at Buyer's site to provide remote Services, the Lease Addendum shall apply. If Seller provides remote diagnostic services to Buyer, the Remote Diagnostic Services Addendum shall apply. If Seller provides PCB Services to Buyer, the PCB Services Addendum shall apply. If there is any conflict between these Terms and Conditions for the Sale of Products and Services, Form ES 104 and the terms of any addendum incorporated pursuant to this Article 18, the terms of the addendum shall take precedence with respect to the applicable scope.

19. General Clauses

19.1 Products and Services sold by Seller are not intended for use in connection with any nuclear facility or activity, and Buyer warrants that it shall not use or permit others to use Products or Services for such purposes, without the advance written consent of Seller. If, in breach of this, any such use occurs, Seller (and its parent, affiliates, suppliers and subcontractors) disclaims all liability for any nuclear or other damage, injury or contamination, and, in addition to any other rights of Seller, Buyer shall indemnify and hold Seller (and its parent, affiliates, suppliers and subcontractors) harmless against all such liability. Consent of Seller to any such use, if any, will be conditioned upon additional terms and conditions that Seller determines to be acceptable for protection against nuclear liability.

19.2 Seller may assign or novate its rights and obligations under the Contract, in whole or in part, to any of its affiliates or may assign any of its accounts receivable under this Contract to any party without Buyer's consent. Buyer agrees to execute any documents that may be necessary to complete Seller's assignment or novation. Seller may subcontract portions of the work, so long as Seller remains responsible for it. The delegation or assignment by Buyer of any or all of its rights or obligations under the Contract without Seller's prior written consent (which consent shall not be unreasonably withheld) shall be void.

19.3 Buyer shall notify Seller immediately upon any change in ownership of more than fifty percent (50%) of Buyer's voting rights or of any controlling interest in Buyer. If Buyer fails to do so or Seller objects to the change, Seller may (a) terminate the Contract, (b) require Buyer to provide adequate assurance of performance (including but not limited to payment), and/or (c) put in place special controls regarding Seller's Confidential Information.

19.4 If any Contract provision is found to be void or unenforceable, the remainder of the Contract shall not be affected. The parties will endeavor to replace any such void or unenforceable provision with a new provision that achieves substantially the same practical and economic effect and is valid and enforceable.

19.5 The following Articles shall survive termination or cancellation of the Contract: 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 18, 19 and 20.

19.6 The Contract represents the entire agreement between the parties. No oral or written representation or warranty not contained in this Contract shall be binding on either party. Buyer's and Seller's rights, remedies and obligations arising from or related to Products and Services sold under this Contract are limited to the rights, remedies and obligations stated in this Contract. No modification, amendment, rescission or waiver shall be binding on either party unless agreed in writing.

19.7 Except as provided in Article 15 (Limitations of Liability) and in Section 19.1 (no nuclear use), this Contract is only for the benefit of the parties, and no third party shall have a right to enforce any provision of this Contract, whether under the English Contracts (Rights of Third Parties) Act of 1999 or otherwise.

19.8 This Contract may be signed in multiple counterparts that together shall constitute one agreement.

20. US Government Contracts

20.1 This Article 20 applies only if the Contract is for the direct or indirect sale to any agency of the U.S. government and/or is funded in whole or in part by any agency of the U.S. government.

20.2 Buyer agrees that all Products and Services provided by Seller meet the definition of "commercial-off-the-shelf" ("COTS") or "commercial item" as those terms are defined in Federal Acquisition Regulation ("FAR") 2.101. To the extent the Buy American Act, Trade Agreements Act, or other domestic preference requirements are applicable to this Contract, the country of origin of Products is unknown unless otherwise specifically stated by Seller in this Contract. Buyer agrees any Services offered by Seller are exempt from the Service Contract Act of 1965 (FAR 52.222-41). Buyer represents and agrees that this Contract is not funded in whole or in part by American Recovery Reinvestment Act funds unless otherwise specifically stated in the Contract. The version of any applicable FAR clause listed in this Article 20 shall be the one in effect on the effective date of this Contract.

20.3 If Buyer is an agency of the U.S. Government, then as permitted by FAR 12.302, Buyer agrees that all paragraphs of FAR 52.212-4 (except those listed in 12.302(b)) are replaced with these Terms and Conditions. Buyer further agrees the subparagraphs of FAR 52.212-5 apply only to the extent applicable for sale of COTS and/or commercial items and as appropriate for the Contract Price.

20.4 If Buyer is procuring the Products or Services as a contractor, or subcontractor at any tier, on behalf of any agency of the U.S. Government, then Buyer agrees that FAR 52.212-5(e) or 52.244-6 (whichever is applicable) applies only to the extent applicable for sale of COTS and/or commercial items and as appropriate for the Contract Price.

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