



P12 Double Parallel Connected Coil Performance Specification						
General and 6 Lead Motor Specifications	UNITS	Dash #	2	4	6	8
Force Constant	lb _f /A		0.9	1.8	2.7	3.7
	N/A		4.1	8.1	12.2	16.3
Max Operating Temperature	°C		130	130	130	130
Maximum Temp. Rise	°C		105	105	105	105
Coil Resistance (6 lead @ 25°C)	Ω		1.1	2.2	3.3	4.3
Coil Resistance (6 lead @ Max. °C)	Ω		1.5	3.1	4.6	6.1
Inductance @ 1kHz	mH		0.2	0.4	0.6	0.8
Thermal Resistance, (bracket top mount)	°C/W		0.75	0.38	0.25	0.19
Continuous Power, top mount (Max. °C)	W		140	280	420	560
Thermal Resistance, side mount (SP23, 1" hole spacing)	°C/W		0.84	0.42	0.28	0.21
Continuous Power, using side mount (Max. °C)	W		124	249	373	498
Continuous Power, top mount to plate**(Max. °C)	W		67.2	113.6	157.9	201.6
Motor Constant	lb _f /sqrt(W)		0.91	1.28	1.57	1.81
	N/sqrt(W)		4.03	5.69	6.97	8.05
Peak Power (Max. °C, 10% Duty)	W		1400	2800	4200	5600
Back EMF Constant	V/inch/s		0.10	0.21	0.31	0.41
	V/m/s		4.1	8.1	12.2	16.3
Electrical Time Constant (@ 25°C)	ms		0.19	0.19	0.19	0.19
(@ 130°C)	ms		0.13	0.13	0.13	0.13
Maximum Line to Line Voltage	Vrms		500	500	500	500
Coil Weight	Pounds		0.17	0.34	0.51	0.68
	Kilograms		0.08	0.15	0.23	0.31
Coil length (inside magnet track without HED)	inch		4.81	7.21	9.61	19.21
HED increases coil length by 1.48 inch (37.6mm)	mm		122.2	122.2	183.1	244.1
Coil bracket length (without HED option)	inch		6.01	10.81	15.61	20.41
HED increases bracket length by .28inch, (7.1mm)	mm		152.7	274.6	396.5	518.4
Standard Cable Peak Current Limit	A		17.0	17.0	17.0	17.0
Delta Connected Specifications	UNITS	Dash #	2	4	6	8
Force Constant	lb _f /A		0.9	1.8	2.7	3.7
	N/A		4.1	8.1	12.2	16.3
Phase Resistance (Δ @ 25°C)	Ω		0.72	1.45	2.17	2.90
Phase Resistance (Δ @ Max. °C)	Ω		1.02	2.05	3.07	4.09
Inductance @ 1kHz	mH		0.1	0.3	0.4	0.5
Continuous Force	lb _f		10.7	21.4	32.1	42.8
	N		47.6	95.3	142.9	190.5
Continuous Current	A		11.70	11.70	11.70	11.70
Peak Force*	lb _f		16	31	47	62
	N		69	138	208	277
Peak Current*	A		17.0	17.0	17.0	17.0
Continuous Force, aluminum plate heat sink** (see below)	lb _f		7.4	13.6	19.7	25.7
	N		33.0	60.7	87.6	114.3
Back EMF Constant	V/inch/s		0.1	0.2	0.3	0.4
	V/m/s		4.1	8.1	12.2	16.3
WYE connected Specifications	UNITS	Dash #	2	4	6	8
Force Constant	lb _f /A		1.6	3.2	4.8	6.3
	N/A		7.1	14.1	21.2	28.2
Phase Resistance (Ψ @ 25°C)	Ω		2.17	4.34	6.52	8.69
Phase Resistance (Ψ @ Max. °C)	Ω		3.07	6.14	9.21	12.28
Inductance @ 1kHz	mH		0.3	0.7	1.0	1.4
Continuous Force	lb _f		10.7	21.4	32.1	42.8
	N		47.6	95.3	142.9	190.5
Continuous Current	A		6.75	6.75	6.75	6.75
Peak Force*	lb _f		27	54	81	108
	N		120	240	360	480
Peak Current*	A		17.00	17.00	17.00	17.00
Continuous Force, aluminum plate heat sink** (see below)	lb _f		7.4	13.6	19.7	25.7
	N		33.0	60.7	87.6	114.3

Back EMF Constant	V/inch/s V/m/s	0.2 7.1	0.4 14.1	0.5 21.2	0.7 28.2
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* Notes:

Specifications based on heat sink maintained within 10°C of ambient temperature at motor bracket interface.
Dash 5 and larger coils may be constructed in multiple segments. Contact factory for availability.
On time of "Peak Power" (duration) less than 10 seconds.
Back EMF plus IR drop must not exceed "Maximum Terminal Voltage" listed.
Electrical cycle length is 1.2 inch (30.5mm).
Resistance Specifications do not include the cable resistance.
Custom cable required for peak current exceeding 17 ampere.
Cable adds 0.22Ω/m to 6-lead resistance, 0.146Ω/m to Delta resistance and 0.44Ω/m to WYE resistance.
** Heat Sink is a 12" wide, 1/2" thick aluminum plate, extending 2" beyond each end of the coil bracket, in 258C free air.
Shaded columns represent "Special" models
Magnet Track weight is 2.95kg/m (2 pounds/foot).



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P12 Parallel Connected Coil Performance Specification						
General and 6 Lead Motor Specifications	UNITS	Dash #	1	2	3	4
Force Constant	lb _f /A		0.9	1.8	2.7	3.7
	N/A		4.1	8.15	12.2	16.3
Max Operating Temperature	°C		130	130	130	130
Maximum Temp. Rise	°C		105	105	105	105
Coil Resistance (6 lead @ 25°C)	Ω		2.2	4.3	6.5	8.7
Coil Resistance (6 lead @ Max. °C)	Ω		3.1	6.1	9.2	12.3
Inductance @ 1kHz	mH		0.4	0.8	1.2	1.6
Thermal Resistance (Bracket Top Mount)	°C/W		1.50	0.75	0.50	0.38
Continuous Power Top Mount (Max. °C)	W		70	140	210	280
Thermal Resistance, side mount (SP23, 1" hole spacing)	°C/W		1.69	0.84	0.56	0.42
Continuous Power using Side Mount (Max. °C)	W		62	124	187	249
Continuous Power, top mount to plate**(Max. °C)	W		40.9	67.2	90.9	113.6
Motor Constant	lb _f /sqrt(W)		0.64	0.91	1.11	1.28
	N/sqrt(W)		2.85	4.03	4.93	5.69
Peak Power (Max. °C, 10% Duty)	W		700	1400	2100	2800
Back EMF Constant	V/inch/s		0.10	0.21	0.31	0.41
	V/m/s		4.1	8.1	12.2	16.3
Electrical Time Constant (@ 25°C)	ms		0.19	0.19	0.19	0.19
(@ 130°C)	ms		0.13	0.13	0.13	0.13
Maximum Line to Line Voltage	Vrms		500	500	500	500
Coil Weight	Pounds		0.17	0.34	0.51	0.68
	Kilograms		0.08	0.15	0.23	0.31
Coil length (inside magnet track without HED)	inch		2.41	4.81	7.21	9.61
HED increases coil length by 1.48 inch (37.6mm)	mm		61.2	122.2	183.1	244.1
Coil bracket length (without HED option)	inch		3.61	6.01	8.41	10.81
HED increases bracket length by .28inch, (7.1mm)	mm		91.7	152.7	213.6	274.6
Standard Cable Peak Current Limit	A		17.0	17.0	17.0	17.0
Delta Connected Specifications	UNITS	Dash #	1	2	3	4
Force Constant	lb _f /A		0.9	1.8	2.7	3.7
	N/A		4.1	8.1	12.2	16.3
Phase Resistance (Δ @ 25°C)	Ω		1.45	2.90	4.34	5.79
Phase Resistance (Δ @ Max. °C)	Ω		2.05	4.09	6.14	8.19
Inductance @ 1kHz	mH		0.3	0.5	0.8	1.1
Continuous Force	lb _f		5.4	10.7	16.1	21.4
	N		23.8	47.6	71.4	95.3
Continuous Current	A		5.85	5.85	5.85	5.85
Peak Force*	lb _f		16	31	47	62
	N		69	138	208	277
Peak Current*	A		17.0	17.0	17.0	17.0
Continuous Force, aluminum plate heat sink** (see below)	lb _f		4.1	7.4	10.6	13.6
	N		18.2	33.0	47.0	60.7
Back EMF Constant	V/inch/s		0.1	0.2	0.3	0.4
	V/m/s		4.1	8.1	12.2	16.3
WYE connected Specifications	UNITS	Dash #	1	2	3	4
Force Constant	lb _f /A		1.6	3.2	4.8	6.3
	N/A		7.1	14.1	21.2	28.2
Phase Resistance (Ψ @ 25°C)	Ω		4.34	8.69	13.03	17.37
Phase Resistance (Ψ @ Max. °C)	Ω		6.14	12.28	18.42	24.56
Inductance @ 1kHz	mH		0.7	1.4	2.1	2.8
Continuous Force	lb _f		5.4	10.7	16.1	21.4
	N		23.8	47.6	71.4	95.3
Continuous Current	A		3.38	3.38	3.38	3.38
Peak Force*	lb _f		17	34	51	68
	N		75	151	226	301
Peak Current*	A		10.68	10.68	10.68	10.68
Continuous Force, aluminum plate heat sink** (see below)	lb _f		4.1	7.4	10.6	13.6
	N		18.2	33.0	47.0	60.7
Back EMF Constant	V/inch/s		0.2	0.4	0.5	0.7
	V/m/s		7.1	14.1	21.2	28.2
* Notes:						
Specifications based on heat sink maintained within 10°C of ambient temperature at motor bracket interface.						
Dash 5 and larger coils may be constructed in multiple segments. Contact factory for availability.						
On time of "Peak Power" (duration) less than 10 seconds.						
Back EMF plus IR drop must not exceed "Maximum Terminal Voltage" listed.						
Electrical cycle length is 1.2 inch (30.5mm).						
Resistance Specifications do not include the cable resistance.						
Custom cable required for peak current exceeding 17 ampere.						
Cable adds 0.22Ω/m to 6-lead resistance, 0.146Ω/m to Delta resistance and 0.44Ω/m to WYE resistance.						
** Heat Sink is a 12" wide, 1/2" thick aluminum plate, extending 2" beyond each end of the coil bracket, in 25°C free air.						
Magnet Track weight is 2.95kg/m (2 pounds/foot).						



P12 Series Connected Coil Performance Specification

General and 6 Lead Motor Specifications		UNITS	Dash #	0.5	1	2	3	4
Force Constant	lb _f /A			0.9	1.8	3.7	5.5	7.3
	N/A			4.1	8.1	16.3	24.4	32.6
Max Operating Temperature	°C			130	130	130	130	130
Maximum Temp. Rise	°C			105	105	105	105	105
Coil Resistance (6 lead @ 25°C)	Ω			4.3	8.7	17.4	26.1	34.7
Coil Resistance (6 lead @ Max. °C)	Ω			6.1	12.3	24.6	36.8	49.1
Inductance @ 1kHz	mH			0.8	1.6	3.2	4.8	6.4
Thermal Resistance (Bracket Top Mount)	°C/W			3.00	1.50	0.75	0.50	0.38
Continuous Power top mount (Max. °C)*	W			35	70	140	210	280
Thermal Resistance, side mount (SP23, 1" hole spacing)	°C/W			3.38	1.69	0.84	0.56	0.42
Continuous Power using Side Mount (Max. °C)	W			31	62	124	187	249
Continuous Power, top mount to plate**(Max. °C)	W			24.6	40.9	67.2	90.9	113.6
Motor Constant	lb _f /sqrt(W)			0.5	0.6	0.9	1.1	1.3
	N/sqrt(W)			2.01	2.85	4.03	4.93	5.69
Peak Power (Max. °C, 10% Duty)	W			350	700	1400	2100	2800
Back EMF Constant	V/inch/s			0.10	0.21	0.41	0.62	0.83
	V/m/s			4.1	8.1	16.3	24.4	32.6
Electrical Time Constant (@ 25°C)	ms			0.19	0.19	0.19	0.19	0.19
(@ 130°C)	ms			0.13	0.13	0.13	0.13	0.13
Maximum Line to Line Voltage	Vrms			500	500	500	500	500
Coil Weight (HED adds 15g,[.033lb])	Pounds			0.08	0.17	0.34	0.51	0.68
	Kilograms			0.04	0.08	0.15	0.23	0.31
Coil length (inside magnet track without HED)	inch			1.21	2.41	4.81	7.21	9.61
HED increases coil length by 1.48 inch (37.6mm)	mm			30.7	61.2	122.2	183.1	244.1
Coil bracket length (without HED option)	inch			2.41	3.61	6.01	8.41	10.81
HED increases bracket length by .28inch, (7.1mm)	mm			61.2	91.7	152.7	213.6	274.6
Standard Cable Peak Current Limit	A			17.0	17.0	17.0	17.0	17.0
Delta Connected Specifications		UNITS	Dash #	0.5	1	2	3	4
Force Constant	lb _f /A			0.9	1.8	3.7	5.5	7.3
	N/A			4.1	8.1	16.3	24.4	32.6
Phase Resistance (Δ @ 25°C)	Ω			2.9	5.8	11.6	17.4	23.2
Phase Resistance (Δ @ Max. °C)	Ω			4.1	8.2	16.4	24.6	32.8
Inductance @ 1kHz	mH			0.5	1.1	2.1	3.2	4.3
Continuous Force	lb _f			2.7	5.4	10.7	16.1	21.4
	N			11.9	23.8	47.6	71.4	95.3
Continuous Current	A			2.92	2.92	2.92	2.92	2.92
Peak Force*	lb _f			8	17	34	51	68
	N			38	75	151	226	301
Peak Current*	A			9.2	9.2	9.2	9.2	9.2
Continuous Force, aluminum plate heat sink** (see below)	lb _f			2.2	4.1	7.4	10.6	13.6
	N			10.0	18.2	33.0	47.0	60.7
Back EMF Constant	V/inch/s			0.1	0.2	0.4	0.6	0.8
	V/m/s			4.1	8.1	16.3	24.4	32.6
WYE connected Specifications		UNITS	Dash #	0.5	1	2	3	4
Force Constant	lb _f /A			1.6	3.2	6.3	9.5	12.7
	N/A			7.1	14.1	28.2	42.3	56.4
Phase Resistance (Ψ @ 25°C)	Ω			8.7	17.4	34.7	52.1	69.5
Phase Resistance (Ψ @ Max. °C)	Ω			12.3	24.6	49.1	73.7	98.3
Inductance @ 1kHz	mH			1.6	3.2	6.4	9.6	12.9
Continuous Force	lb _f			2.7	5.4	10.7	16.1	21.4
	N			11.9	23.8	47.6	71.4	95.3
Continuous Current	A			1.69	1.69	1.69	1.69	1.69
Peak Force*	lb _f			8	17	34	51	68
	N			38	75	151	226	301
Peak Current*	A			5.34	5.34	5.34	5.34	5.34
Continuous Force, aluminum plate heat sink** (see below)	lb _f			2.2	4.1	7.4	10.6	13.6
	N			10.0	18.2	33.0	47.0	60.7
Back EMF Constant	V/inch/s			0.2	0.4	0.7	1.1	1.4
	V/m/s			7.1	14.1	28.2	42.3	56.4
* Notes:								
Specifications based on heat sink maintained within 10°C of ambient temperature at motor bracket interface.								
Dash 5 and larger coils may be constructed in multiple segments. Contact factory for availability.								
On time of "Peak Power" (duration) less than 10 seconds.								
Back EMF plus IR drop must not exceed "Maximum Terminal Voltage" listed.								
Electrical cycle length is 1.2 inch (30.5mm).								
Resistance Specifications do not include the cable resistance.								
Custom cable required for peak current exceeding 17 ampere.								
Cable adds 0.22Ω/m to 6-lead resistance, 0.146Ω/m to Delta resistance and 0.44Ω/m to WYE resistance.								
** Heat Sink is a 12" wide, 1/2" thick aluminum plate, extending 2" beyond each end of the coil bracket, in 258C free air.								
Magnet Track weight is 2.95kg/m (2 pounds/foot).								



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P15 Double Parallel Connected Coil Performance Specification						
General and 6 Lead Motor Specifications	UNITS	Dash #	2	4	6	8
Force Constant	lb _f /A		1.7	3.4	5.1	6.8
	N/A		7.5	15.1	22.6	30.1
Max Operating Temperature	°C		130	130	130	130
Maximum Temp. Rise	°C		105	105	105	105
Coil Resistance (6 lead @ 25°C)	Ω		1.6	3.1	4.7	6.2
Coil Resistance (6 lead @ Max. °C)	Ω		2.2	4.4	6.6	8.8
Inductance @ 1kHz	mH		0.4	0.8	1.2	1.6
Thermal Resistance (Bracket Top Mount)	°C/W		0.85	0.42	0.28	0.21
Continuous Power Top Mount (Max. °C)	W		124	248	372	496
Thermal Resistance, side mount (SP23, 1" hole spacing)	°C/W		1.19	0.59	0.40	0.30
Continuous Power using Side Mount (Max. °C)	W		89	177	266	354
Continuous Power, top mount to plate**(Max. °C)	W		63.3	108.0	150.6	192.7
Motor Constant	lb _f /sqrt(W)		1.40	1.98	2.42	2.79
	N/sqrt(W)		6.21	8.79	10.76	12.43
Peak Power (Max. °C, 10% Duty)	W		1240	2481	3721	4962
Back EMF Constant	V/inch/s		0.19	0.38	0.57	0.76
	V/m/s		7.5	15.1	22.6	30.1
Electrical Time Constant (@ 25°C)	ms		0.26	0.26	0.26	0.26
(@ 130°C)	ms		0.18	0.18	0.18	0.18
Maximum Line to Line Voltage	Vrms		500	500	500	500
Coil Weight	Pounds		0.31	0.62	0.93	1.24
	Kilograms		0.14	0.28	0.42	0.56
Coil length (inside magnet track without HED)	inch		4.81	9.61	14.41	19.21
HED increases coil length by 1.48 inch (37.6mm)	mm		122.2	244.1	366.0	487.9
Coil bracket length (without HED option)	inch		6.01	10.81	15.61	20.41
HED increases bracket length by .28inch, (7.1mm)	mm		152.7	274.6	396.5	518.4
Delta Connected Specifications	UNITS	Dash #	2	4	6	8
Force Constant	lb _f /A		1.7	3.4	5.1	6.8
	N/A		7.5	15.1	22.6	30.1
Phase Resistance (Δ @ 25°C)	Ω		1.04	2.08	3.12	4.16
Phase Resistance (Δ @ Max. °C)	Ω		1.47	2.94	4.41	5.88
Inductance @ 1kHz	mH		0.3	0.5	0.8	1.1
Continuous Force	lb _f		15.6	31.1	46.7	62.2
	N		69.2	138.4	207.6	276.8
Continuous Current	A		9.19	9.19	9.19	9.19
Peak Force*	lb _f		49	98	148	197
	N		219	438	656	875
Peak Current*	A		29.1	29.1	29.1	29.1
Continuous Force, aluminum plate heat sink** (see below)	lbf		11.1	20.5	29.7	38.8
	N		49.4	91.3	132.1	172.5
Back EMF Constant	V/inch/s		0.2	0.4	0.6	0.8
	V/m/s		7.5	15.1	22.6	30.1
WYE connected Specifications	UNITS	Dash #	2	4	6	8
Force Constant	lb _f /A		2.9	5.9	8.8	11.7
	N/A		13.0	26.1	39.1	52.2
Phase Resistance (Ψ @ 25°C)	Ω		3.12	6.24	9.35	12.47
Phase Resistance (Ψ @ Max. °C)	Ω		4.41	8.82	13.22	17.63
Inductance @ 1kHz	mH		0.7	1.4	2.1	2.8
Continuous Force	lb _f		15.6	31.1	46.7	62.2
	N		69.2	138.4	207.6	276.8
Continuous Current	A		5.30	5.30	5.30	5.30
Peak Force*	lb _f		49	98	148	197
	N		219	438	656	875
Peak Current*	A		16.78	16.78	16.78	16.78
Continuous Force, aluminum plate heat sink** (see below)	lbf		11.1	20.5	29.7	38.8
	N		49.4	91.3	132.1	172.5
Back EMF Constant	V/inch/s		0.3	0.7	1.0	1.3
	V/m/s		13.0	26.1	39.1	52.2
* Notes:						
Specifications based on heat sink maintained within 10°C of ambient temperature at motor bracket interface.						
Dash 6 and larger coils may be constructed in multiple segments. Contact factory for availability.						
On time of "Peak Power" (duration) less than 10 seconds.						
Back EMF plus IR drop must not exceed "Maximum Terminal Voltage" listed.						
Electrical cycle length is 1.2 inch (30.5mm).						
Resistance Specifications do not include the cable resistance.						
Custom cable required for peak current exceeding 17 ampere.						
Cable adds 0.22Ω/m to 6-lead resistance, 0.146Ω/m to Delta resistance and 0.44Ω/m to WYE resistance.						
** Heat Sink is a 12" wide, 1/2" thick aluminum plate, extending 2" beyond each end of the coil bracket, in 25°C free air.						
Shaded columns are "Special" models.						
Magnet Track weight is 4.2kg/m (2.8 pounds/foot).						



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P15 Parallel Connected Coil Performance Specification

General and 6 Lead Motor Specifications	UNITS	Dash #	1	2	3	4	5	6
Force Constant	lb _f /A		1.7	3.4	5.1	6.8	8.5	10.2
	N/A		7.5	15.1	22.6	30.1	37.7	45.2
Max Operating Temperature	°C		130	130	130	130	130	130
Maximum Temp. Rise	°C		105	105	105	105	105	105
Coil Resistance (6 lead @ 25°C)	Ω		3.1	6.2	9.4	12.5	15.6	18.7
Coil Resistance (6 lead @ Max. °C)	Ω		4.4	8.8	13.2	17.6	22.0	26.4
Inductance @ 1kHz	mH		0.8	1.6	2.4	3.2	4.0	4.8
Thermal Resistance (Bracket Top Mount)	°C/W		1.69	0.85	0.56	0.42	0.34	0.28
Continuous Power Top Mount (Max. °C)	W		62	124	186	248	310	372
Thermal Resistance, side mount (SP23, 1" hole spacing)	°C/W		2.37	1.19	0.79	0.59	0.47	0.40
Continuous Power using Side Mount (Max. °C)	W		44	89	133	177	222	266
Continuous Power, top mount to plate**(Max. °C)	W		38.0	63.3	86.1	108.0	129.4	150.6
Motor Constant	lb _f /sqrt(W)		0.99	1.40	1.71	1.98	2.21	2.42
	N/sqrt(W)		4.39	6.21	7.61	8.79	9.82	10.76
Peak Power (Max. °C, 10% Duty)	W		620	1240	1861	2481	3101	3721
Back EMF Constant	V/inch/s		0.19	0.38	0.57	0.76	0.96	1.15
	V/m/s		7.5	15.1	22.6	30.1	37.7	45.2
Electrical Time Constant (@ 25°C)	ms		0.26	0.26	0.26	0.26	0.26	0.26
(@ 130°C)	ms		0.18	0.18	0.18	0.18	0.18	0.18
Maximum Line to Line Voltage	Vrms		500	500	500	500	500	500
Coil Weight	Pounds		0.31	0.62	0.93	1.24	1.55	1.86
	Kilograms		0.14	0.28	0.42	0.56	0.70	0.85
Coil length (inside magnet track without HED)	inch		2.41	4.81	7.21	9.61	12.01	14.41
HED increases coil length by 1.48 inch (37.6mm)	mm		61.2	122.2	183.1	244.1	305.1	366.0
Coil bracket length (without HED option)	inch		3.61	6.01	8.41	10.81	13.21	15.61
HED increases bracket length by .28inch, (7.1mm)	mm		91.7	152.7	213.6	274.6	335.5	396.5
Delta Connected Specifications	UNITS	Dash #	1	2	3	4	5	6
Force Constant	lb _f /A		1.7	3.4	5.1	6.8	8.5	10.2
	N/A		7.5	15.1	22.6	30.1	37.7	45.2
Phase Resistance (Δ @ 25°C)	Ω		2.08	4.16	6.24	8.32	10.39	12.47
Phase Resistance (Δ @ Max. °C)	Ω		2.94	5.88	8.82	11.76	14.69	17.63
Inductance @ 1kHz	mH		0.5	1.1	1.6	2.1	2.6	3.2
Continuous Force	lb _f		7.8	15.6	23.3	31.1	38.9	46.7
	N		34.6	69.2	103.8	138.4	173.0	207.6
Continuous Current	A		4.59	4.59	4.59	4.59	4.59	4.59
Peak Force*	lb _f		25	49	74	98	123	148
	N		109	219	328	438	547	656
Peak Current*	A		14.5	14.5	14.5	14.5	14.5	14.5
Continuous Force, aluminum plate heat sink** (see below)	lbf		6.1	11.1	15.9	20.5	25.1	29.7
	N		27.1	49.4	70.6	91.3	111.8	132.1
Back EMF Constant	V/inch/s		0.2	0.4	0.6	0.8	1.0	1.1
	V/m/s		7.5	15.1	22.6	30.1	37.7	45.2
WYE connected Specifications	UNITS	Dash #	1	2	3	4	5	6
Force Constant	lb _f /A		2.9	5.9	8.8	11.7	14.7	17.6
	N/A		13.0	26.1	39.1	52.2	65.2	78.3
Phase Resistance (Ψ @ 25°C)	Ω		6.24	12.47	18.71	24.95	31.18	37.42
Phase Resistance (Ψ @ Max. °C)	Ω		8.82	17.63	26.45	35.27	44.08	52.90
Inductance @ 1kHz	mH		1.4	2.8	4.1	5.5	6.9	8.3
Continuous Force	lb _f		7.8	15.6	23.3	31.1	38.9	46.7
	N		34.6	69.2	103.8	138.4	173.0	207.6
Continuous Current	A		2.65	2.65	2.65	2.65	2.65	2.65
Peak Force*	lb _f		25	49	74	98	123	148
	N		109	219	328	438	547	656
Peak Current*	A		8.39	8.39	8.39	8.39	8.39	8.39
Continuous Force, aluminum plate heat sink** (see below)	lbf		6.1	11.1	15.9	20.5	25.1	29.7
	N		27.1	49.4	70.6	91.3	111.8	132.1
Back EMF Constant	V/inch/s		0.3	0.7	1.0	1.3	1.7	2.0
	V/m/s		13.0	26.1	39.1	52.2	65.2	78.3

* Notes:

- Specifications based on heat sink maintained within 10°C of ambient temperature at motor bracket interface.
- Dash 6 and larger coils may be constructed in multiple segments. Contact factory for availability.
- On time of "Peak Power" (duration) less than 10 seconds.
- Back EMF plus IR drop must not exceed "Maximum Terminal Voltage" listed.
- Electrical cycle length is 1.2 inch (30.5mm).
- Resistance Specifications do not include the cable resistance.
- Custom cable required for peak current exceeding 17 ampere.
- Cable adds 0.22Ω/m to 6-lead resistance, 0.146Ω/m to Delta resistance and 0.44Ω/m to WYE resistance.
- ** Heat Sink is a 12" wide, 1/2" thick aluminum plate, extending 2" beyond each end of the coil bracket, in 25°C free air.
- Magnet Track weight is 4.2kg/m (2.8 pounds/foot).
- Shaded column indicates "Special" model.

P15 Series Connected Coil Performance Specification

General and 6 Lead Motor Specifications	UNITS	Dash #	0.5	1	2	3	4	5	6
Force Constant	lb _f /A		1.7	3.4	6.8	10.2	13.5	16.9	20.3
	N/A		7.5	15.1	30.1	45.2	60.3	75.3	90.4
Max Operating Temperature	°C		130	130	130	130	130	130	130
Maximum Temp. Rise	°C		105	105	105	105	105	105	105
Coil Resistance (6 lead @ 25°C)	Ω		6.2	12.5	24.9	37.4	49.9	62.4	74.8
Coil Resistance (6 lead @ Max. °C)	Ω		8.8	17.6	35.3	52.9	70.5	88.2	105.8
Inductance @ 1kHz	mH		1.6	3.2	6.4	9.5	12.7	15.9	19.1
Thermal Resistance (Bracket Top Mount)	°C/W		3.39	1.69	0.85	0.56	0.42	0.34	0.34
Continuous Power Top Mount (Max. °C)	W		31	62	124	186	248	310	310
Thermal Resistance, side mount (SP23, 1" hole spacing)	°C/W		4.74	2.37	1.19	0.79	0.59	0.47	0.47
Continuous Power using Side Mount (Max. °C)	W		22	44	89	133	177	222	222
Continuous Power, top mount to plate**(Max. °C)	W		22.6	38.0	63.3	86.1	108.0	129.4	139.4
Motor Constant	lb _f /sqrt(W)		0.7	1.0	1.4	1.7	2.0	2.2	2.7
	N/sqrt(W)		3.11	4.39	6.21	7.61	8.79	9.82	11.79
Peak Power (Max. °C, 10% Duty)	W		310	620	1240	1861	2481	3101	3101
Back EMF Constant	V/inch/s		0.19	0.38	0.76	1.15	1.53	1.91	2.29
	V/m/s		7.5	15.1	30.1	45.2	60.3	75.3	90.4
Electrical Time Constant (@ 25°C)	ms		0.26	0.26	0.26	0.26	0.26	0.26	0.26
(@ 130°C)	ms		0.18	0.18	0.18	0.18	0.18	0.18	0.18
Maximum Line to Line Voltage	Vrms		500	500	500	500	500	500	500
Coil Weight (HED adds 15g,[.033lb])	Pounds		0.15	0.31	0.62	0.93	1.24	1.55	1.87
	Kilograms		0.07	0.14	0.28	0.42	0.56	0.70	0.85
Coil length (inside magnet track without HED)	inch		1.21	2.41	4.81	7.21	9.61	12.01	14.41
HED increases coil length by 1.48 inch (37.6mm)	mm		30.7	61.2	122.2	183.1	244.1	305.1	366.0
Coil bracket length (without HED option)	inch		2.41	3.61	6.01	8.41	10.81	13.21	15.61
HED increases bracket length by .28inch, (7.1mm)	mm		61.2	91.7	152.7	213.6	274.6	335.5	396.5
Delta Connected Specifications	UNITS	Dash #	0.5	1	2	3	4	5	6
Force Constant	lb _f /A		1.7	3.4	6.8	10.2	13.5	16.9	20.3
	N/A		7.5	15.1	30.1	45.2	60.3	75.3	90.4
Phase Resistance (Δ @ 25°C)	Ω		4.2	8.3	16.6	24.9	33.3	41.6	49.9
Phase Resistance (Δ @ Max. °C)	Ω		5.9	11.8	23.5	35.3	47.0	58.8	70.5
Inductance @ 1kHz	mH		1.1	2.1	4.2	6.4	8.5	10.6	12.7
Continuous Force	lb _f		3.9	7.8	15.6	23.3	31.1	38.9	46.7
	N		17.3	34.6	69.2	103.8	138.4	173.0	207.6
Continuous Current	A		2.30	2.30	2.30	2.30	2.30	2.30	2.30
Peak Force*	lb _f		12	25	49	74	98	123	135
	N		55	109	219	328	438	547	599
Peak Current*	A		7.3	7.3	7.3	7.3	7.3	7.3	6.6
Continuous Force, aluminum plate heat sink** (see below)	lbf		3.3	6.1	11.1	15.9	20.5	25.1	28.6
	N		14.8	27.1	49.4	70.6	91.3	111.8	127.0
Back EMF Constant	V/inch/s		0.2	0.4	0.8	1.1	1.5	1.9	2.3
	V/m/s		7.5	15.1	30.1	45.2	60.3	75.3	90.4
WYE connected Specifications	UNITS	Dash #	0.5	1	2	3	4	5	6
Force Constant	lb _f /A		2.9	5.9	11.7	17.6	23.5	29.3	35.2
	N/A		13.0	26.1	52.2	78.3	104.4	130.4	156.5
Phase Resistance (Ψ @ 25°C)	Ω		12.5	24.9	49.9	74.8	99.8	124.7	149.7
Phase Resistance (Ψ @ Max. °C)	Ω		17.6	35.3	70.5	105.8	141.1	176.3	211.6
Inductance @ 1kHz	mH		3.2	6.4	12.7	19.1	25.5	31.8	38.2
Continuous Force	lb _f		3.9	7.8	15.6	23.3	31.1	38.9	42.6
	N		17.3	34.6	69.2	103.8	138.4	173.0	189.5
Continuous Current	A		1.33	1.33	1.33	1.33	1.33	1.33	1.21
Peak Force*	lb _f		12	25	49	74	98	123	135
	N		55	109	219	328	438	547	599
Peak Current*	A		4.19	4.19	4.19	4.19	4.19	4.19	3.83
Continuous Force, aluminum plate heat sink** (see below)	lbf		3.3	6.1	11.1	15.9	20.5	25.1	28.6
	N		14.8	27.1	49.4	70.6	91.3	111.8	127.0
Back EMF Constant	V/inch/s		0.3	0.7	1.3	2.0	2.6	3.3	4.0
	V/m/s		13.0	26.1	52.2	78.3	104.4	130.4	156.5

* Notes:

- Specifications based on heat sink maintained within 10°C of ambient temperature at motor bracket interface.
- Dash 6 and larger coils may be constructed in multiple segments. Contact factory for availability.
- On time of "Peak Power" (duration) less than 10 seconds.
- Back EMF plus IR drop must not exceed "Maximum Terminal Voltage" listed.
- Electrical cycle length is 1.2 inch (30.5mm).
- Resistance Specifications do not include the cable resistance.
- Custom cable required for peak current exceeding 17 ampere.
- Cable adds 0.22Ω/m to 6-lead resistance, 0.146Ω/m to Delta resistance and 0.44Ω/m to WYE resistance.
- ** Heat Sink is a 12" wide, 1/2" thick aluminum plate, extending 2" beyond each end of the coil bracket, in 25°C free air.
- Shaded column indicates "Special" models.
- Magnet Track weight is 4.2kg/m (2.8 pounds/foot).



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P16 Double Parallel Connected Coil Performance Specification						
General and 6 Lead Motor Specifications	UNITS	Dash #	2	4	6	8
Force Constant	lb _f /A		1.5	3.0	4.5	6.0
	N/A		6.7	13.4	20.1	26.7
Max Operating Temperature	°C		130	130	130	130
Maximum Temp. Rise	°C		105	105	105	105
Coil Resistance (6 lead @ 25°C)	Ω		1.1	2.1	3.2	4.3
Coil Resistance (6 lead @ Max. °C)	Ω		1.5	3.0	4.5	6.0
Inductance @ 1kHz	mH		0.2	0.4	0.6	0.8
Thermal Resistance (Bracket Top Mount)	°C/W		0.60	0.30	0.20	0.15
Continuous Power Top Mount (Max. °C)	W		175	350	525	700
Thermal Resistance, side mount (SP23, 1" hole spacing)	°C/W		0.68	0.34	0.23	0.17
Continuous Power using Side Mount (Max. °C)	W		156	311	467	622
Continuous Power, top mount to plate**(Max. °C)	W		74.3	123.6	170.8	217.2
Motor Constant	lb _f /sqrt(W)		1.50	2.12	2.59	3.00
	N/sqrt(W)		6.66	9.42	11.54	13.32
Peak Power (Max. °C, 10% Duty)	W		1750	3500	5250	7000
Back EMF Constant	V/inch/s		0.17	0.34	0.51	0.68
	V/m/s		6.7	13.4	20.1	26.7
Electrical Time Constant (@ 25°C)	ms		0.19	0.19	0.19	0.19
(@ 130°C)	ms		0.14	0.14	0.14	0.14
Maximum Line to Line Voltage	Vrms		500	500	500	500
Coil Weight	Pounds		0.20	0.40	0.60	0.80
	Kilograms		0.44	0.88	1.32	1.76
Coil length (inside magnet track without HED)	inch		4.81	9.61	14.41	19.21
HED increases coil length by 1.48 inch (37.6mm)	mm		122.2	244.1	366.0	487.9
Coil bracket length (without HED option)	inch		6.01	10.81	15.61	20.41
HED increases bracket length by .28inch, (7.1mm)	mm		152.7	274.6	396.5	518.4
Delta Connected Specifications	UNITS	Dash #	2	4	6	8
Force Constant	lb _f /A		1.5	3.0	4.5	6.0
	N/A		6.7	13.4	20.1	26.7
Phase Resistance (Δ @ 25°C)	Ω		0.71	1.43	2.14	2.85
Phase Resistance (Δ @ Max. °C)	Ω		1.01	2.01	3.02	4.03
Inductance @ 1kHz	mH		0.1	0.3	0.4	0.6
Continuous Force	lb _f		19.8	39.6	59.4	79.2
	N		88.1	176.2	264.4	352.5
Continuous Current	A		13.18	13.18	13.18	13.18
Peak Force*	lb _f		63	125	188	251
	N		279	557	836	1115
Peak Current*	A		41.7	41.7	41.7	41.7
Continuous Force, aluminum plate heat sink** (see below)	lb _f		12.9	23.5	33.9	44.1
	N		57.4	104.7	150.8	196.4
Back EMF Constant	V/inch/s		0.2	0.3	0.5	0.7
	V/m/s		6.7	13.4	20.1	26.7
WYE connected Specifications	UNITS	Dash #	2	4	6	8
Force Constant	lb _f /A		2.6	5.2	7.8	10.4
	N/A		11.6	23.2	34.7	46.3
Phase Resistance (Ψ @ 25°C)	Ω		2.14	4.28	6.41	8.55
Phase Resistance (Ψ @ Max. °C)	Ω		3.02	6.04	9.07	12.09
Inductance @ 1kHz	mH		0.4	0.7	1.1	1.4
Continuous Force	lb _f		19.8	39.6	59.4	79.2
	N		88.1	176.2	264.4	352.5
Continuous Current	A		7.61	7.61	7.61	7.61
Peak Force*	lb _f		63	125	188	251
	N		279	557	836	1115
Peak Current*	A		24.06	24.06	24.06	24.06
Continuous Force, aluminum plate heat sink** (see below)	lb _f		12.9	23.5	33.9	44.1
	N		57.4	104.7	150.8	196.4
Back EMF Constant	V/inch/s		0.3	0.6	0.9	1.2
	V/m/s		11.6	23.2	34.7	46.3
* Notes:						
Specifications based on heat sink maintained within 10°C of ambient temperature at motor bracket interface.						
Dash 4 and larger coils may be constructed in multiple segments. Contact factory for availability.						
On time of "Peak Power" (duration) less than 10 seconds.						
Back EMF plus IR drop must not exceed "Maximum Terminal Voltage" listed.						
Electrical cycle length is 1.2 inch (30.5mm).						
Resistance Specifications do not include the cable resistance.						
Custom cable required for peak current exceeding 17 ampere.						
Cable adds 0.22Ω/m to 6-lead resistance, 0.146Ω/m to Delta resistance and 0.44Ω/m to WYE resistance.						
** Heat Sink is a 12" wide, 1/2" thick aluminum plate, extending 2" beyond each end of the coil bracket, in 258C free air.						
Shaded columns represent "Special" models.						
Magnet Track weight is 4kg/m (2.7 pounds/foot).						



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P16 Parallel Connected Coil Performance Specification

General and 6 Lead Motor Specifications	UNITS	Dash #	1	2	3	4
Force Constant	lb _f /A		1.5	3.0	4.5	6.0
	N/A		6.7	13.4	20.1	26.7
Max Operating Temperature	°C		130	130	130	130
Maximum Temp. Rise	°C		105	105	105	105
Coil Resistance (6 lead @ 25°C)	Ω		2.1	4.3	6.4	8.6
Coil Resistance (6 lead @ Max. °C)	Ω		3.0	6.0	9.1	12.1
Inductance @ 1kHz	mH		0.4	0.8	1.2	1.7
Thermal Resistance (Bracket Top Mount)	°C/W		1.20	0.60	0.40	0.30
Continuous Power Top Mount (Max. °C)	W		88	175	263	350
Thermal Resistance, side mount (SP23, 1" hole spacing)	°C/W		1.35	0.68	0.45	0.34
Continuous Power using Side Mount (Max. °C)	W		1	156	233	311
Continuous Power, top mount to plate**(Max. °C)	W		46.3	74.3	99.5	123.6
Motor Constant	lb _f /sqrt(W)		1.1	1.5	1.8	2.1
	N/sqrt(W)		4.71	6.66	8.16	9.42
Peak Power (Max. °C, 10% Duty)	W		875	1750	2625	3500
Back EMF Constant	V/inch/s		0.17	0.34	0.51	0.68
	V/m/s		6.7	13.4	20.1	26.7
Electrical Time Constant (@ 25°C)	ms		0.19	0.19	0.19	0.19
	ms		0.14	0.14	0.14	0.14
Maximum Line to Line Voltage	Vrms		500	500	500	500
Coil Weight	Pounds		0.20	0.40	0.60	0.80
	Kilograms		0.09	0.18	0.27	0.36
Coil length (inside magnet track without HED)	inch		2.41	4.81	7.21	9.61
HED increases coil length by 1.48 inch (37.6mm)	mm		61.2	122.2	183.1	244.1
Coil bracket length (without HED option)	inch		3.61	6.01	8.41	10.81
HED increases bracket length by .28inch, (7.1mm)	mm		91.7	152.7	213.6	274.6
Delta Connected Specifications	UNITS	Dash #	1	2	3	4
Force Constant	lb _f /A		1.5	3.0	4.5	6.0
	N/A		6.7	13.4	20.1	26.7
Phase Resistance (Δ @ 25°C)	Ω		1.43	2.85	4.28	5.70
Phase Resistance (Δ @ Max. °C)	Ω		2.01	4.03	6.04	8.06
Inductance @ 1kHz	mH		0.3	0.6	0.8	1.1
Continuous Force	lb _f		9.9	19.8	29.7	39.6
	N		44.1	88.1	132.2	176.2
Continuous Current	A		6.59	6.59	6.59	6.59
Peak Force*	lb _f		31	63	94	125
	N		139	279	418	557
Peak Current*	A		20.8	20.8	20.8	20.8
Continuous Force, aluminum plate heat sink** (see below)	lb _f		7.2	12.9	18.3	23.5
	N		32.0	57.4	81.4	104.7
Back EMF Constant	V/inch/s		0.2	0.3	0.5	0.7
	V/m/s		6.7	13.4	20.1	26.7
WYE connected Specifications	UNITS	Dash #	1	2	3	4
Force Constant	lb _f /A		2.6	5.2	7.8	10.4
	N/A		11.6	23.2	34.7	46.3
Phase Resistance (Ψ @ 25°C)	Ω		4.28	8.55	12.83	17.10
Phase Resistance (Ψ @ Max. °C)	Ω		6.04	12.09	18.13	24.18
Inductance @ 1kHz	mH		0.8	1.7	2.5	3.3
Continuous Force	lb _f		9.9	19.8	29.7	39.6
	N		44.1	88.1	132.2	176.2
Continuous Current	A		3.80	3.80	3.80	3.80
Peak Force*	lb _f		31	63	94	125
	N		139	279	418	557
Peak Current*	A		12.03	12.03	12.03	12.03
Continuous Force, aluminum plate heat sink** (see below)	lb _f		7.2	12.9	18.3	23.5
	N		32.0	57.4	81.4	104.7
Back EMF Constant	V/inch/s		0.3	0.6	0.9	1.2
	V/m/s		11.6	23.2	34.7	46.3
* Notes:						
Specifications based on heat sink maintained within 10°C of ambient temperature at motor bracket interface.						
Dash 4 and larger coils may be constructed in multiple segments. Contact factory for availability.						
On time of "Peak Power" (duration) less than 10 seconds.						
Back EMF plus IR drop must not exceed "Maximum Terminal Voltage" listed.						
Electrical cycle length is 1.2 inch (30.5mm).						
Resistance Specifications do not include the cable resistance.						
Custom cable required for peak current exceeding 17 ampere.						
Cable adds 0.22Ω/m to 6-lead resistance, 0.146Ω/m to Delta resistance and 0.44Ω/m to WYE resistance.						
** Heat Sink is a 12" wide, 1/2" thick aluminum plate, extending 2" beyond each end of the coil bracket, in 258C free air.						
Magnet Track weight is 4kg/m (2.7 pounds/foot).						

P16 Series Connected Coil Performance Specification

General and 6 Lead Motor Specifications	UNITS	Dash #	0.5	1	2	3	4
Force Constant	lb _f /A		1.5	3.0	6.0	9.0	12.0
	N/A		6.7	13.4	26.7	40.1	53.5
Max Operating Temperature	°C		130	130	130	130	130
Maximum Temp. Rise	°C		105	105	105	105	105
Coil Resistance (6 lead @ 25°C)	Ω		4.3	8.6	17.1	25.7	34.2
Coil Resistance (6 lead @ Max. °C)	Ω		6.0	12.1	24.2	36.3	48.4
Inductance @ 1kHz	mH		0.8	1.7	3.3	5.0	6.7
Thermal Resistance (Bracket Top Mount)	°C/W		2.40	1.20	0.60	0.40	0.30
Continuous Power Top Mount (Max. °C)	W		44	88	175	263	350
Thermal Resistance, side mount (SP23, 1" hole spacing)	°C/W		2.70	1.35	0.68	0.45	0.34
Continuous Power using Side Mount (Max. °C)	W		39	78	156	233	311
Continuous Power, top mount to plate**(Max. °C)	W		28.6	46.3	74.3	99.5	123.6
Motor Constant	lb _f /sqrt(W)		0.7	1.1	1.5	1.8	2.1
	N/sqrt(W)		3.33	4.71	6.66	8.16	9.42
Peak Power (Max. °C, 10% Duty)	W		438	875	1750	2625	3500
Back EMF Constant	V/inch/s		0.17	0.34	0.68	1.02	1.36
	V/m/s		6.7	13.4	26.7	40.1	53.5
Electrical Time Constant (@ 25°C)	ms		0.19	0.19	0.19	0.19	0.19
(@ 130°C)	ms		0.14	0.14	0.14	0.14	0.14
Maximum Line to Line Voltage	Vrms		500	500	500	500	500
Coil Weight	Pounds		0.10	0.20	0.40	0.60	0.80
	Kilograms		0.05	0.09	0.18	0.27	0.36
Coil length (inside magnet track without HED)	inch		1.21	2.41	4.81	7.21	9.61
HED increases coil length by 1.48 inch (37.6mm)	mm		30.7	61.2	122.2	183.1	244.1
Coil bracket length (without HED option)	inch		2.41	3.61	6.01	8.41	10.81
HED increases bracket length by .28inch, (7.1mm)	mm		61.2	91.7	152.7	213.6	274.6
Delta Connected Specifications	UNITS	Dash #	0.5	1	2	3	4
Force Constant	lb _f /A		1.5	3.0	6.0	9.0	12.0
	N/A		6.7	13.4	26.7	40.1	53.5
Phase Resistance (Δ @ 25°C)	Ω		2.85	5.70	11.40	17.10	22.80
Phase Resistance (Δ @ Max. °C)	Ω		4.03	8.06	16.12	24.18	32.23
Inductance @ 1kHz	mH		0.6	1.1	2.2	3.3	4.4
Continuous Force	lb _f		5.0	9.9	19.8	29.7	39.6
	N		22.0	44.1	88.1	132.2	176.2
Continuous Current	A		3.30	3.30	3.30	3.30	3.30
Peak Force*	lb _f		16	31	63	94	125
	N		70	139	279	418	557
Peak Current*	A		10.42	10.42	10.42	10.42	10.42
Continuous Force, aluminum plate heat sink** (see below)	lb _f		4.0	7.2	12.9	18.3	23.5
	N		17.8	32.0	57.4	81.4	104.7
Back EMF Constant	V/inch/s		0.2	0.3	0.7	1.0	1.4
	V/m/s		6.7	13.4	26.7	40.1	53.5
WYE connected Specifications	UNITS	Dash #	0.5	1	2	3	4
Force Constant	lb _f /A		2.6	5.2	10.4	15.6	20.8
	N/A		11.6	23.2	46.3	69.5	92.6
Phase Resistance (Ψ @ 25°C)	Ω		8.55	17.10	34.20	51.30	68.40
Phase Resistance (Ψ @ Max. °C)	Ω		12.09	24.18	48.35	72.53	96.70
Inductance @ 1kHz	mH		1.7	3.3	6.7	10.0	13.3
Continuous Force	lb _f		5.0	9.9	19.8	29.7	39.6
	N		22.0	44.1	88.1	132.2	176.2
Continuous Current	A		1.90	1.90	1.90	1.90	1.90
Peak Force*	lb _f		16	31	63	94	125
	N		70	139	279	418	557
Peak Current*	A		6.02	6.02	6.02	6.02	6.02
Continuous Force, aluminum plate heat sink** (see below)	lb _f		4.0	7.2	12.9	18.3	23.5
	N		17.8	32.0	57.4	81.4	104.74
Back EMF Constant	V/inch/s		0.3	0.6	1.2	1.8	2.4
	V/m/s		11.6	23.2	46.3	69.5	92.6

*** Notes:**

Specifications based on heat sink maintained within 10°C of ambient temperature at motor bracket interface.

Dash 4 and larger coils may be constructed in multiple segments. Contact factory for availability.

On time of "Peak Power" (duration) less than 10 seconds.

Back EMF plus IR drop must not exceed "Maximum Terminal Voltage" listed.

Electrical cycle length is 1.2 inch (30.5mm).

Resistance Specifications do not include the cable resistance.

Custom cable required for peak current exceeding 17 ampere.

Cable adds 0.22Ω/m to 6-lead resistance, 0.146Ω/m to Delta resistance and 0.44Ω/m to WYE resistance.

** Heat Sink is a 12" wide, 1/2" thick aluminum plate, extending 2" beyond each end of the coil bracket, in 258C free air.

Magnet Track weight is 4kg/m (2.7 pounds/foot).



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P20 Double Parallel Connected Coil Performance Specification						
General and 6 Lead Motor Specifications	UNITS	Dash #	2	4	6	8 10
Force Constant	lb _f /A		2.1	4.1	6.2	8.2 10.3
	N/A		9.1	18.3	27.4	36.6 45.7
Max Operating Temperature	°C		130	130	130	130 130
Maximum Temp. Rise	°C		105	105	105	105 105
Coil Resistance (6 lead @ 25°C)	Ω		0.73	1.45	2.18	2.91 3.64
Coil Resistance (6 lead @ Max. °C)	Ω		1.03	2.06	3.09	4.11 5.14
Inductance @ 1kHz	mH		0.2	0.5	0.7	0.9 1.1
Thermal Resistance (Bracket Top Mount)	°C/W		0.64	0.32	0.21	0.16 0.13
Continuous Power Top Mount (Max. °C)	W		164	327	491	655 819
Thermal Resistance, side mount (SP23, 1" hole spacing)	°C/W		0.90	0.45	0.30	0.23 0.18
Continuous Power using Side Mount (Max. °C)	W		117	233	350	467 583
Continuous Power, top mount to plate**(Max. °C)	W		70.6	118.6	164.7	210.3 255.7
Motor Constant	lb _f /sqrt(W)		2.5	3.5	4.3	5.0 5.6
	N/sqrt(W)		11.04	15.62	19.13	22.09 24.69
Peak Power (Max. °C, 10% Duty)	W		1637	3274	4911	6548 8185
Back EMF Constant	V/inch/s		0.23	0.46	0.70	0.93 1.16
	V/m/s		9.1	18.3	27.4	36.6 45.7
Electrical Time Constant (@ 25°C)	ms		0.31	0.31	0.31	0.31 0.31
(@ 130°C)	ms		0.22	0.22	0.22	0.22 0.22
Maximum Line to Line Voltage	V _{rms}		500	500	500	500 500
Coil Weight (HED adds 15g.[.033lb])	Pounds		0.9	1.7	2.6	3.4 4.3
	Kilograms		0.39	0.78	1.16	1.55 1.95
Coil length (inside magnet track without HED)	inch		4.81	9.61	14.41	19.21 24.01
HED increases coil length by 1.49 inch (37.8mm)	mm		122.2	244.1	366.0	487.9 609.9
Coil bracket length (without HED option)	inch		5.61	10.41	15.21	20.01 24.81
HED increases bracket length by 1.49inch, (37.8mm)	mm		142.5	264.4	386.3	508.3 630.2
Delta Connected Specifications	UNITS	Dash #	2	4	6	8 10
Force Constant	lb _f /A		2.1	4.1	6.2	8.2 10.3
	N/A		9.1	18.3	27.4	36.6 45.7
Phase Resistance (Δ @ 25°C)	Ω		0.5	1.0	1.5	1.9 2.4
Phase Resistance (Δ @ Max. °C)	Ω		0.7	1.4	2.1	2.7 3.4
Inductance @ 1kHz	mH		0.2	0.3	0.5	0.6 0.8
Continuous Force	lb _f		31.8	63.5	95.3	127.1 158.8
	N		141.3	282.6	423.9	565.2 706.5
Continuous Current	A		15.5	15.5	15.5	15.5 15.5
Peak Force*	lb _f		100	201	301	402 502
	N		447	894	1340	1787 2234
Peak Current*	A		48.9	48.9	48.9	48.9 48.9
Continuous Force, aluminum plate heat sink** (see below)	lb _f		20.9	38.2	55.2	72.0 88.8
	N		92.8	170.1	245.5	320.3 394.8
Back EMF Constant	V/inch/s		0.2	0.5	0.7	0.9 1.2
	V/m/s		9.1	18.3	27.4	36.6 45.7
WYE connected Specifications	UNITS	Dash #	2	4	6	8 10
Force Constant	lb _f /A		3.6	7.1	10.7	14.2 17.8
	N/A		15.8	31.7	47.5	63.3 79.2
Phase Resistance (Ψ @ 25°C)	Ω		1.5	2.9	4.4	5.8 7.3
Phase Resistance (Ψ @ Max. °C)	Ω		2.1	4.1	6.2	8.2 10.3
Inductance @ 1kHz	mH		0.5	0.9	1.4	1.8 2.3
Continuous Force	lb _f		31.8	63.5	95.3	127.1 158.8
	N		141.3	282.6	423.9	565.2 706.5
Continuous Current*	A		8.92	8.92	8.92	8.92 8.92
Peak Force*	lb _f		100	201	301	402 502
	N		447	894	1340	1787 2234
Peak Current*	A		28.21	28.21	28.21	28.21 28.21
Continuous Force, aluminum plate heat sink** (see below)	lb _f		20.9	38.2	55.2	72.0 88.8
	N		92.8	170.1	245.5	320.3 394.8
Back EMF Constant	V/inch/s		0.4	0.8	1.2	1.6 2.0
	V/m/s		15.8	31.7	47.5	63.3 79.2
* Notes:						
Specifications based on heat sink maintained within 10°C of ambient temperature at motor bracket interface.						
Dash 6 and larger coils may be constructed in multiple segments. Contact factory for availability.						
On time of "Peak Power" (duration) less than 10 seconds.						
Back EMF plus IR drop must not exceed "Maximum Terminal Voltage" listed.						
Electrical cycle length is 2.4 inch (61mm).						
Resistance Specifications do not include the cable resistance.						
Custom cable required for peak current exceeding 17 ampere.						
Cable adds 0.22Ω/m to 6-lead resistance, 0.146Ω/m to Delta resistance and 0.44Ω/m to WYE resistance.						
** Heat Sink is a 12" wide, 1/2" thick aluminum plate, extending 2" beyond each end of the coil bracket, in 258C free air.						
Shaded columns are "Special" models.						
Magnet Track weight is 13kg/m (9.0 pounds/foot).						



P20 Parallel Connected Coil Performance Specification

General and 6 Lead Motor Specifications	UNITS	Dash #	1	2	3	4	5	6
Force Constant	lb _f /A		2.1	4.1	6.2	8.2	10.3	12.3
	N/A		9.1	18.3	27.4	36.6	45.7	54.9
Max Operating Temperature	°C		130	130	130	130	130	130
Maximum Temp. Rise	°C		105	105	105	105	105	105
Coil Resistance (6 lead @ 25°C)	Ω		1.45	2.91	4.36	5.82	7.27	8.73
Coil Resistance (6 lead @ Max. °C)	Ω		2.06	4.11	6.17	8.23	10.28	12.34
Inductance @ 1kHz	mH		0.5	0.9	1.4	1.8	2.3	2.7
Thermal Resistance (Bracket Top Mount)	°C/W		1.28	0.64	0.43	0.32	0.26	0.21
Continuous Power Top Mount (Max. °C)	W		82	164	246	327	409	491
Thermal Resistance, side mount (SP23, 1" hole spacing)	°C/W		1.80	0.90	0.60	0.45	0.36	0.30
Continuous Power using Side Mount (Max. °C)	W		58	117	175	233	292	350
Continuous Power, top mount to plate**(Max. °C)	W		43.5	70.6	95.0	118.6	141.8	164.7
Motor Constant	lb _f /sqrt(W)		1.8	2.5	3.0	3.5	3.9	4.3
	N/sqrt(W)		7.81	11.04	13.52	15.62	17.46	19.13
Peak Power (Max. °C, 10% Duty)	W		819	1637	2456	3274	4093	4911
Back EMF Constant	V/inch/s		0.23	0.46	0.70	0.93	1.16	1.39
	V/m/s		9.1	18.3	27.4	36.6	45.7	54.9
Electrical Time Constant (@ 25°C)	ms		0.31	0.31	0.31	0.31	0.31	0.31
(@ 130°C)	ms		0.22	0.22	0.22	0.22	0.22	0.22
Maximum Line to Line Voltage	Vrms		500	500	500	500	500	500
Coil Weight (HED adds 15g.[.033lb])	Pounds		0.4	0.9	1.3	1.7	2.1	2.6
	Kilograms		0.19	0.39	0.58	0.78	0.97	1.16
Coil length (inside magnet track without HED)	inch		2.41	4.81	7.21	9.61	12.01	14.41
HED increases coil length by 1.49 inch (37.8mm)	mm		61.2	122.2	183.1	244.1	305.1	366.0
Coil bracket length (without HED option)	inch		3.21	5.61	8.01	10.41	12.81	15.21
HED increases bracket length by 1.49inch, (37.8mm)	mm		81.5	142.5	203.5	264.4	325.4	386.3
Delta Connected Specifications	UNITS	Dash #	1	2	3	4	5	6
Force Constant	lb _f /A		2.1	4.1	6.2	8.2	10.3	12.3
	N/A		9.1	18.3	27.4	36.6	45.7	54.9
Phase Resistance (Δ @ 25°C)	Ω		1.0	1.9	2.9	3.9	4.8	5.8
Phase Resistance (Δ @ Max. °C)	Ω		1.4	2.7	4.1	5.5	6.9	8.2
Inductance @ 1kHz	mH		0.3	0.6	0.9	1.2	1.5	1.8
Continuous Force	lb _f		15.9	31.8	47.6	63.5	79.4	95.3
	N		70.6	141.3	211.9	282.6	353.2	423.9
Continuous Current	A		7.7	7.7	7.7	7.7	7.7	7.7
Peak Force*	lb _f		50	100	151	201	251	301
	N		223	447	670	894	1117	1340
Peak Current*	A		24.4	24.4	24.4	24.4	24.4	24.4
Continuous Force, aluminum plate heat sink** (see below)	lb _f		11.6	20.9	29.6	38.2	46.7	55.2
	N		51.5	92.8	131.8	170.1	207.9	245.5
Back EMF Constant	V/inch/s		0.2	0.5	0.7	0.9	1.2	1.4
	V/m/s		9.1	18.3	27.4	36.6	45.7	54.9
WYE connected Specifications	UNITS	Dash #	1	2	3	4	5	6
Force Constant	lb _f /A		3.6	7.1	10.7	14.2	17.8	21.4
	N/A		15.8	31.7	47.5	63.3	79.2	95.0
Phase Resistance (Ψ @ 25°C)	Ω		2.9	5.8	8.7	11.6	14.5	17.5
Phase Resistance (Ψ @ Max. °C)	Ω		4.1	8.2	12.3	16.5	20.6	24.7
Inductance @ 1kHz	mH		0.9	1.8	2.7	3.6	4.5	5.4
Continuous Force	lb _f		15.9	31.8	47.6	63.5	79.4	95.3
	N		70.6	141.3	211.9	282.6	353.2	423.9
Continuous Current	A		4.46	4.46	4.46	4.46	4.46	4.46
Peak Force*	lb _f		50	100	151	201	251	301
	N		223	447	670	894	1117	1340
Peak Current*	A		14.11	14.11	14.11	14.11	14.11	14.11
Continuous Force, aluminum plate heat sink** (see below)	lb _f		11.6	20.9	29.6	38.2	46.7	55.2
	N		51.5	92.8	131.8	170.1	207.9	245.5
Back EMF Constant	V/inch/s		0.4	0.8	1.2	1.6	2.0	2.4
	V/m/s		15.8	31.7	47.5	63.3	79.2	95.0
* Notes:								
Specifications based on heat sink maintained within 10°C of ambient temperature at motor bracket interface.								
Dash 6 and larger coils may be constructed in multiple segments. Contact factory for availability.								
On time of "Peak Power" (duration) less than 10 seconds.								
Back EMF plus IR drop must not exceed "Maximum Terminal Voltage" listed.								
Electrical cycle length is 2.4 inch (61mm).								
Resistance Specifications do not include the cable resistance.								
Custom cable required for peak current exceeding 17 ampere.								
Cable adds 0.22Ω/m to 6-lead resistance, 0.146Ω/m to Delta resistance and 0.44Ω/m to WYE resistance.								
** Heat Sink is a 12" wide, 1/2" thick aluminum plate, extending 2" beyond each end of the coil bracket, in 258C free air.								
Magnet Track weight is 13kg/m (9.0 pounds/foot).								



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P20 Series Connected Coil Performance Specification

General and 6 Lead Motor Specifications		UNITS	Dash #	1	2	3	4	5	6
Force Constant	lb _f /A			4.1	8.2	12.3	16.4	20.6	24.7
	N/A			18.3	36.6	54.9	73.1	91.4	109.7
Max Operating Temperature	°C			130	130	130	130	130	130
Maximum Temp. Rise	°C			105	105	105	105	105	105
Coil Resistance (6 lead @ 25°C)	Ω			5.82	11.64	17.46	23.28	29.10	34.92
Coil Resistance (6 lead @ Max. °C)	Ω			8.23	16.45	24.68	32.91	41.14	49.36
Inductance @ 1kHz	mH			1.8	3.6	5.4	7.2	9.0	10.8
Thermal Resistance (Bracket Top Mount)	°C/W			1.28	0.64	0.43	0.32	0.26	0.21
Continuous Power Top Mount (Max. °C)	W			82	164	246	327	409	491
Thermal Resistance, side mount (SP23, 1" hole spacing)	°C/W			1.80	0.90	0.60	0.45	0.36	0.30
Continuous Power using Side Mount (Max. °C)	W			58	117	175	233	292	350
Continuous Power, top mount to plate**(Max. °C)	W			43.5	70.6	95.0	118.6	141.8	164.7
Motor Constant	lb _f /sqrt(W)			1.8	2.5	3.0	3.5	3.9	4.3
	N/sqrt(W)			7.81	11.04	13.52	15.62	17.46	19.13
Peak Power (Max. °C, 10% Duty)	W			819	1637	2456	3274	4093	4911
Back EMF Constant	V/inch/s			0.46	0.93	1.39	1.86	2.32	2.78
	V/m/s			18.3	36.6	54.9	73.1	91.4	109.7
Electrical Time Constant (@ 25°C)	ms			0.31	0.31	0.31	0.31	0.31	0.31
(@ 130°C)	ms			0.22	0.22	0.22	0.22	0.22	0.22
Maximum Line to Line Voltage	V _{rms}			500	500	500	500	500	500
Coil Weight (HED adds 15g.[.033lb])	Pounds			0.4	0.9	1.3	1.7	2.1	2.6
	Kilograms			0.19	0.39	0.58	0.78	0.97	1.16
Coil length (inside magnet track without HED)	inch			2.41	4.81	7.21	9.61	12.01	14.41
HED increases coil length by 1.49 inch (37.8mm)	mm			61.2	122.2	183.1	244.1	305.1	366.0
Coil bracket length (without HED option)	inch			3.21	5.61	8.01	10.41	12.81	15.21
HED increases bracket length by 1.49inch, (37.8mm)	mm			81.5	142.5	203.5	264.4	325.4	386.3
Delta Connected Specifications		UNITS	Dash #	1	2	3	4	5	6
Force Constant	lb _f /A			4.1	8.2	12.3	16.4	20.6	24.7
	N/A			18.3	36.6	54.9	73.1	91.4	109.7
Phase Resistance (Δ @ 25°C)	Ω			3.9	7.8	11.6	15.5	19.4	23.3
Phase Resistance (Δ @ Max. °C)	Ω			5.5	11.0	16.5	21.9	27.4	32.9
Inductance @ 1kHz	mH			1.2	2.4	3.6	4.8	6.0	7.2
Continuous Force	lb _f			15.9	31.8	47.6	63.5	79.4	95.3
	N			70.6	141.3	211.9	282.6	353.2	423.9
Continuous Current	A			3.9	3.9	3.9	3.9	3.9	3.9
Peak Force*	lb _f			50	100	151	201	251	301
	N			223	447	670	894	1117	1340
Peak Current*	A			12.2	12.2	12.2	12.2	12.2	12.2
Continuous Force, aluminum plate heat sink** (see below)	lb _f			11.6	20.9	29.6	38.2	46.7	55.2
	N			51.5	92.8	131.8	170.1	207.9	245.5
Back EMF Constant	V/inch/s			0.5	0.9	1.4	1.9	2.3	2.8
	V/m/s			18.3	36.6	54.9	73.1	91.4	109.7
WYE connected Specifications		UNITS	Dash #	1	2	3	4	5	6
Force Constant	lb _f /A			7.1	14.2	21.4	28.5	35.6	42.7
	N/A			31.7	63.3	95.0	126.7	158.4	190.0
Phase Resistance (Y @ 25°C)	Ω			11.6	23.3	34.9	46.6	58.2	69.8
Phase Resistance (Y @ Max. °C)	Ω			16.5	32.9	49.4	65.8	82.3	98.7
Inductance @ 1kHz	mH			3.6	7.2	10.8	14.4	18.1	21.7
Continuous Force	lb _f			15.9	31.8	47.6	63.5	79.4	95.3
	N			70.6	141.3	211.9	282.6	353.2	423.9
Continuous Current	A			2.23	2.23	2.23	2.23	2.23	2.23
Peak Force*	lb _f			50	100	151	201	251	301
	N			223	447	670	894	1117	1340
Peak Current*	A			7.05	7.05	7.05	7.05	7.05	7.05
Continuous Force, aluminum plate heat sink** (see below)	lb _f			11.6	20.9	29.6	38.2	46.7	55.2
	N			51.5	92.8	131.8	170.1	207.9	245.5
Back EMF Constant	V/inch/s			0.8	1.6	2.4	3.2	4.0	4.8
	V/m/s			31.7	63.3	95.0	126.7	158.4	190.0

* Notes:

Specifications based on heat sink maintained within 10°C of ambient temperature at motor bracket interface.
 Dash 6 and larger coils may be constructed in multiple segments. Contact factory for availability.
 On time of "Peak Power" (duration) less than 10 seconds.
 Back EMF plus IR drop must not exceed "Maximum Terminal Voltage" listed.
 Electrical cycle length is 2.4 inch (61mm).
 Resistance Specifications do not include the cable resistance.
 Custom cable required for peak current exceeding 17 ampere.
 Cable adds 0.22Ω/m to 6-lead resistance, 0.146Ω/m to Delta resistance and 0.44Ω/m to WYE resistance.
 ** Heat Sink is a 12" wide, 1/2" thick aluminum plate, extending 2" beyond each end of the coil bracket, in 258C free air.
 Magnet Track weight is 13kg/m (9.0 pounds/foot).