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REVISION HISTORY

REV	ECO#	ZONE	DESCRIPTION	BY	DATE	APPROVED
A	-	-	INITIAL RELEASE	JAW	4/19/2004	DJC
B	170	-	CHANGES PER ECO# 170	JAW	1/13/2005	DJC

Series Connected Coils

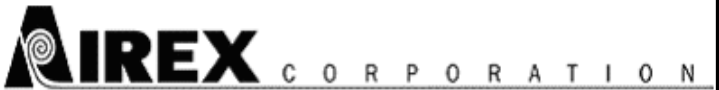
6 Lead Motor Specifications		UNITS	Dash #	1	2	3	4
Force Constant		LBS/AMP		1.9	3.8	5.7	7.5
		N/AMP		8.4	16.8	25.2	33.5
Weight		Pounds		0.19	0.38	0.58	0.77
		KiloGrams		0.09	0.17	0.26	0.35
Max Operating Temperature		°C		125	125	125	125
Maximum Temp. Rise		°C		105	105	105	105
Coil Resistance (6 lead @ 25 °C)		OHMS		8.70	17.40	26.10	34.80
Coil Resistance (6 lead @ Max. °C)		OHMS		12.05	24.10	36.16	48.21
Inductance @ 1kHz		mH		1.9	3.8	5.6	7.5
Continous Power (Max. °C)		WATTS		81	163	244	325
Thermal Resistance		°C/W		1.60	0.80	0.53	0.40
Motor Constant		Lbs/sqrt(W)		0.7	0.9	1.2	1.3
		N/Sqrt(W)		2.96	4.18	5.12	5.92
Peak Power (Max. °C, 10% Duty)		WATTS		813	1625	2438	3251
Back EMF Constant		V/IPS		0.22	0.43	0.65	0.86
		V/M/S		8.4	16.8	25.2	33.5
Electrical Time Constant (D @ 25 °C)		mSec		0.22	0.22	0.22	0.22
Delta Connected Specifications		UNITS	Dash #	1	2	3	4
Force Constant		LBS/AMP		1.9	3.8	5.7	7.5
		N/AMP		8.4	16.8	25.2	33.5
Phase Resistance (D @ 25 °C)		OHMS		5.80	11.60	17.40	23.20
Phase Resistance (D @ Max. °C)		OHMS		8.04	16.07	24.11	32.14
Inductance @ 1kHz		mH		1.3	2.5	3.8	5.0
Continuous Force		LBS		6.0	12.0	18.0	24.0
		N		26.7	53.3	80.0	106.7
Continuous Current		AMPS		3.18	3.18	3.18	3.18
Continous Power (Max. °C)		WATTS		81	163	244	325
Peak Force*		LBS		19	38	57	76
		N		84	169	253	337
Peak Current*		AMPS		10.06	10.06	10.06	10.06
Peak Power (Max. °C, 10% Duty)		WATTS		813	1625	2438	3251
Back EMF Constant		V/IPS		0.2	0.4	0.6	0.9
		V/M/S		8.4	16.8	25.2	33.5
Electrical Time Constant (D @ 25 °C)		mSec		0.22	0.22	0.22	0.22
WYE connected Specifications		UNITS	Dash #	1	2	3	4
Force Constant		LBS/AMP		3.3	6.5	9.8	13.1
		N/AMP		14.5	29.1	43.6	58.1
Phase Resistance (Y @ 25 °C)		OHMS		17.40	34.80	52.20	69.60
Phase Resistance (Y @ Max. °C)		OHMS		24.10	48.21	72.31	96.42
Inductance @ 1kHz		mH		3.8	7.5	11.3	15.1
Continuous Force		LBS		6.0	12.0	18.0	24.0
		N		26.7	53.3	80.0	106.7
Continuous Current		AMPS		1.84	1.84	1.84	1.84
Continous Power (Max. °C)		WATTS		81	163	244	325
Peak Force*		LBS		19	38	57	76
		N		84	169	253	337
Peak Current*		AMPS		5.81	5.81	5.81	5.81
Peak Power (Max. °C, 10% Duty)		WATTS		813	1625	2438	3251
Back EMF Constant		V/IPS		0.4	0.7	1.1	1.5
		V/M/S		14.5	29.1	43.6	58.1
Electrical Time Constant (D @ 25 °C)		mSec		0.22	0.22	0.22	0.22

Parallel Connected Coils

6 Lead Motor Specifications		UNITS	Dash #	1	2	3	4
Force Constant		LBS/AMP		0.9	1.9	2.8	3.8
		N/AMP		4.2	8.4	12.6	16.8
Weight		Pounds		0.10	0.30	0.50	0.70
		KiloGrams		0.05	0.14	0.23	0.32
Max Operating Temperature		°C		125	125	125	125
Maximum Temp. Rise		°C		105	105	105	105
Coil Resistance (6 lead @ 25 °C)		OHMS		2.13	4.27	6.40	8.53
Coil Resistance (6 lead @ Max. °C)		OHMS		3.31	6.61	9.92	13.23
Inductance @ 1kHz		mH		0.5	0.9	1.4	1.9
Continous Power (Max. °C)		WATTS		89	178	268	357
Thermal Resistance		°C/W		1.46	0.73	0.49	0.36
Motor Constant		Lbs/sqrt(W)		0.6	0.9	1.1	1.3
		N/Sqrt(W)		2.82	3.99	4.89	5.65
Peak Power (Max. °C at 10% duty cycle)		WATTS		892	1783	2675	3567
Back EMF Constant		V/IPS		0.1	0.2	0.3	0.4
		V/M/S		4.2	8.4	12.6	16.8
Electrical Time Constant (D @ 25 °C)		mSec		0.22	0.22	0.22	0.22
Delta Connected Specifications		UNITS	Dash #	1	2	3	4
Force Constant		LBS/AMP		0.9	1.9	2.8	3.8
		N/AMP		4.2	8.4	12.6	16.8
Phase Resistance (D @ 25 °C)		OHMS		1.42	2.84	4.27	5.69
Phase Resistance (D @ Max. °C)		OHMS		2.20	4.41	6.61	8.82
Inductance @ 1kHz		mH		0.3	0.6	0.9	1.3
Continuous Force		LBS		6.0	12.0	18.0	24.0
		N		26.7	53.3	80.0	106.7
Continuous Current		AMPS		6.36	6.36	6.36	6.36
Continous Power (Max. °C)		WATTS		89	178	268	357
Peak Force		LBS		19	38	57	76
		N		84	169	253	337
Peak Current		AMPS		20.11	20.11	20.11	20.11
Peak Power (Max. °C)		WATTS		892	1783	2675	3567
Back EMF Constant		V/IPS		0.1	0.2	0.3	0.4
		V/M/S		4.2	8.4	12.6	16.8
Electrical Time Constant (D @ 25 °C)		mSec		0.22	0.22	0.22	0.22
WYE connected Specifications		UNITS	Dash #	1	2	3	4
Force Constant		LBS/AMP		1.6	3.3	4.9	6.5
		N/AMP		7.3	14.5	21.8	29.1
Phase Resistance (Y @ 25 °C)		OHMS		4.27	8.53	12.80	17.06
Phase Resistance (Y @ Max. °C)		OHMS		6.61	13.23	19.84	26.45
Inductance @ 1kHz		mH		0.9	1.9	2.8	3.8
Continuous Force		LBS		6.0	12.0	18.0	24.0
		N		26.7	53.3	80.0	106.7
Continuous Current		AMPS		3.67	3.67	3.67	3.67
Continous Power (Max. °C)		WATTS		89	178	268	357
Peak Force		LBS		19	38	57	76
		N		84	169	253	337
Peak Current		AMPS		11.61	11.61	11.61	11.61
Peak Power (Max. °C)		WATTS		892	1783	2675	3567
Back EMF Constant		V/IPS		0.2	0.4	0.6	0.7
		V/M/S		7.3	14.5	21.8	29.1
Electrical Time Constant (D @ 25 °C)		mSec		0.22	0.22	0.22	0.22

NOTES:

- SPECIFICATIONS BASED ON HEATSINK MAINTAINED WITHIN 10°C OF AMBIANT TEMPERATURE AT MOTOR BRACKET INTERFACE
- ON TIME OF "PEAK POWER" (DURATION) LESS THAN 10 SECONDS.
- SPECIFICATIONS BASED ON DOUBLE SIDED MAGNET TRACK.

UNLESS OTHERWISE SPECIFIED: - DIMENSIONS ARE IN mm [INCHES] - TOLERANCES ON: X.XX ± 0.25mm [± 0.01inches] X.XXX ± 0.125mm [± 0.005inches] X/X ± N/A [± 1/32inches] ANGLES ± 0°30' DRAWING CONFORMS TO ANSI Y14.5	DRAWN	DATE	 Precision Electromagnetic Component Design and Manufacturing www.airex.com
	John W	4/12/2004	
	CHECKED	DATE	
	JAW	1/13/2005	
	APPROVED	DATE	
	DJC	1/13/2005	
	RELEASED	DATE	
	JAW	1/13/2005	
	SCALE	SHEET	TITLE
	NTS	1 OF 1	P12 SERIES MOTOR PERFORMANCE DATA
	MATERIAL	SIZE	PART NO
		B	11047
	FINISH		REV
	NEXT LEVEL ASSEMBLY		B

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