

FLIGHT™ II 80 SERIES

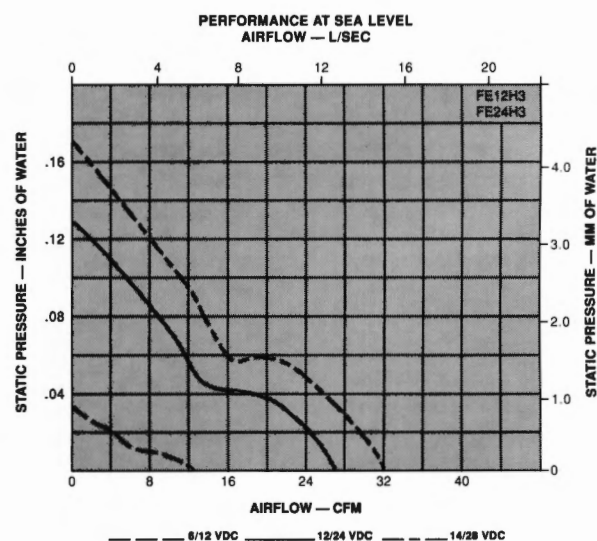
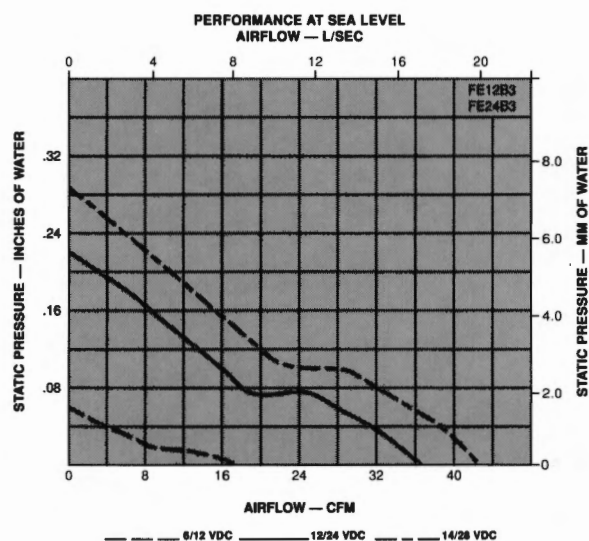
BRUSHLESS DC FAN

FEATURES

- Size - 3.15" square x 1.00" deep (80.0mm x 25.4mm)
- 20 to 37 CFM (10 to 18 L/Sec.)
- 12 and 24 VDC (Nominal)
- Low noise level
- Operating temperature range: -10°C to +70°C
- Weight - 4.6 oz. (.13Kg)
- UL Yellow Card Recognized — File No. E31293
- CSA Certified — File No. L52898



PERFORMANCE

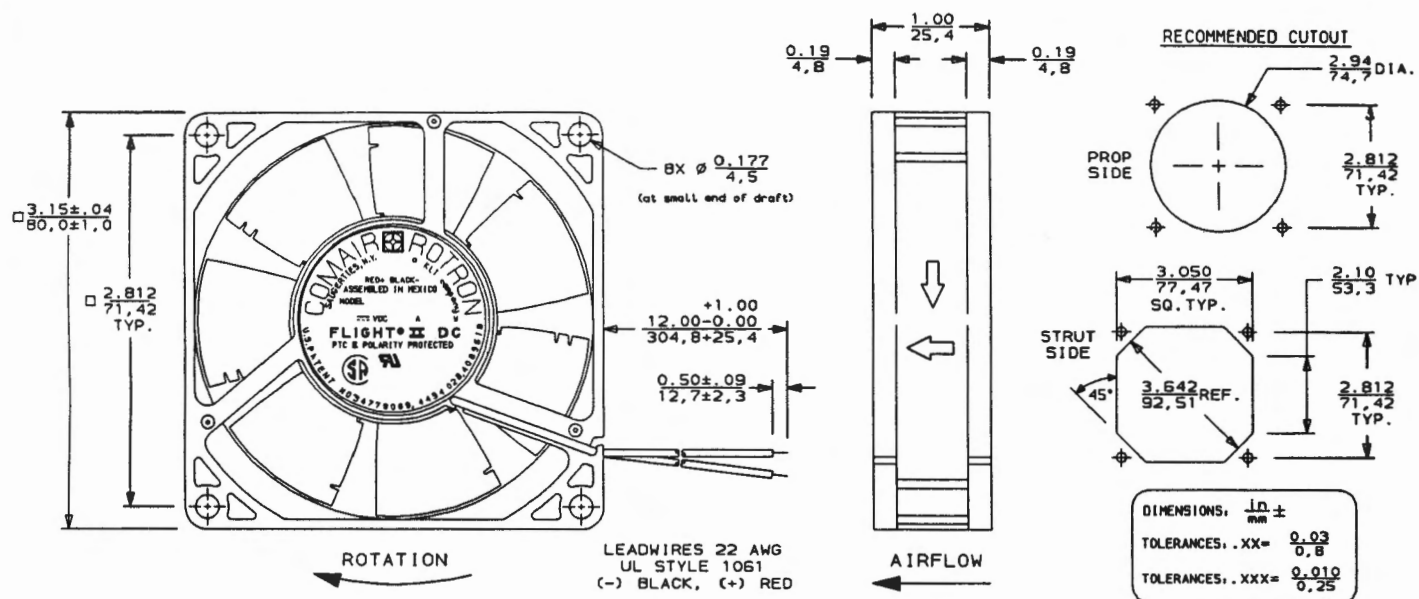


SPECIFICATIONS

Model No.	Part No.	Bearing	Nominal VDC	Range VDC	Watts	Running Current mA	Locked Rotor mA	RPM	CFM	L/Sec.	dBA
* FE12B3	031162	Ball	12	6-14	1.9	160	500	3600	37	18	36.2
* FE24B3	031163	Ball	24	12-28	2.2	90	280	3600	37	18	36.2
* FE12H3	031164	Ball	12	6-14	1.1	90	290	2700	27	13	28.9
* FE24H3	031165	Ball	24	12-28	1.4	60	165	2700	27	13	28.9

* Distributor Item.

All figures are nominal free delivery values at sea level.



Specifications subject to change without notice.

MOTOR

Brushless electronic commutation provided by dependable solid state circuitry.
High chromium stainless steel ball bearings.
100% dielectric tested at 600 VAC/1 sec./500 microamps maximum leakage.
Electronic locked rotor protection.
Polarity protected.

CONSTRUCTION

Venturi - PPS (Plastic), black, glass and mineral filled, UL94V-0.
Propeller - PBT (Plastic), black, reinforced, UL94V-0.

EMI

Designed to meet EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A or B radiated and conducted emissions.

Designed to meet EMI standards per VDE Specification 0871/6.78 for category A and B requirements.

OPTIONS

Capable of furnishing Harness assemblies. See page 106.

Tachometer output—see page 60—square wave equal to two pulses per revolution.

6-32 threaded inserts

ACOUSTIC RATINGS (for definitions see page 5)

Models	VOLTAGE	AIR FLOW		STATIC PRESSURE		PER INCE ANSI S12.11-1987			FREELY SUSPENDED @ 1 METER
		CFM	L/Sec	"w.g.	mm H ₂ O	PSIL dB	SPL dBA @ 3'	NEPL Bels 'A'	
FE_B3	NOMINAL	37	17.5	0	0	39.3	46.2	5.62	36.2
		28.1	13.3	0.08	1.52	37.2	44.8	5.48	
FE_H3	NOMINAL	27	12.7	0	0	27.6	36.3	4.63	28.9
		21.6	10.2	0.032	0.81	27.6	35.9	4.59	

LIFE EXPECTANCY

The Flight Series fan is designed for continuous duty life of 60,000 hours at 25°C. Brushless electronic commutation provided by dependable solid state circuitry. High efficiency brushless DC motor provides for lower internal temperature rise than conventional AC motors.

SPRINT® DC

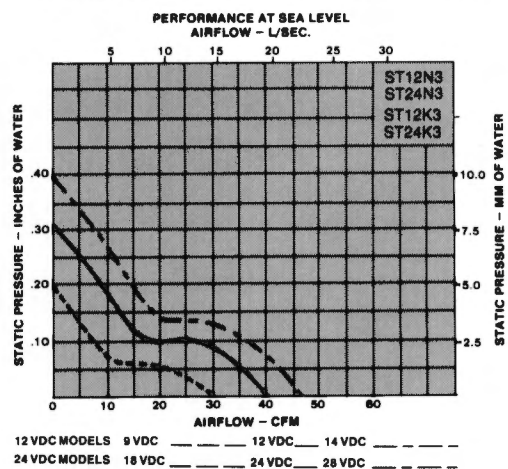
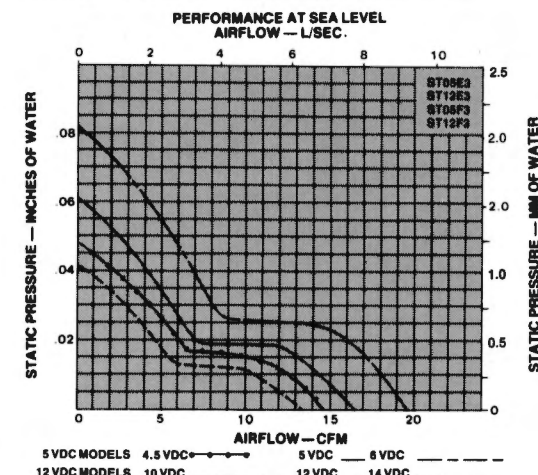
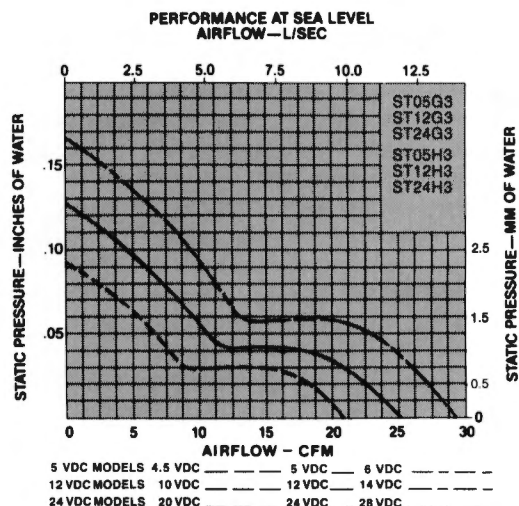
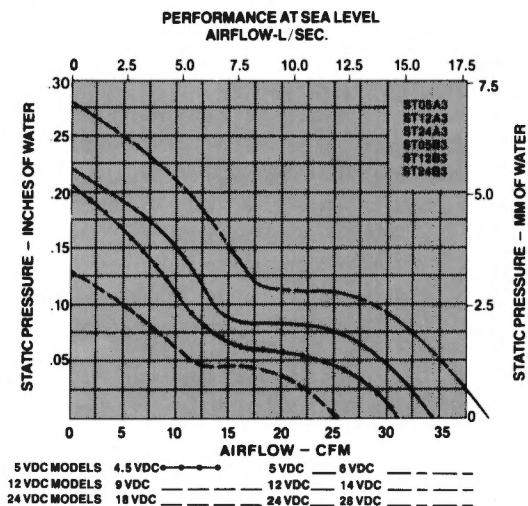
BRUSHLESS DC FAN

FEATURES

- Size - 3.15" square x 1.25" deep (80.0 mm x 32.0 mm)
- 12 to 45 CFM (8 to 21 L/Sec.)
- 5, 12 or 24 VDC (Nominal)
- High reliability ball or sleeve bearings
- Low noise level
- Operating temperature range: -10°C to +70°C
- Weight - 6.3 oz. (.18 Kg)
- UL Yellow Card Recognized - File No. E31293
- CSA Certified - File No. LR52898
- TUV Approved to IEC 950, VDE 0730, License R97229



PERFORMANCE



SPECIFICATIONS

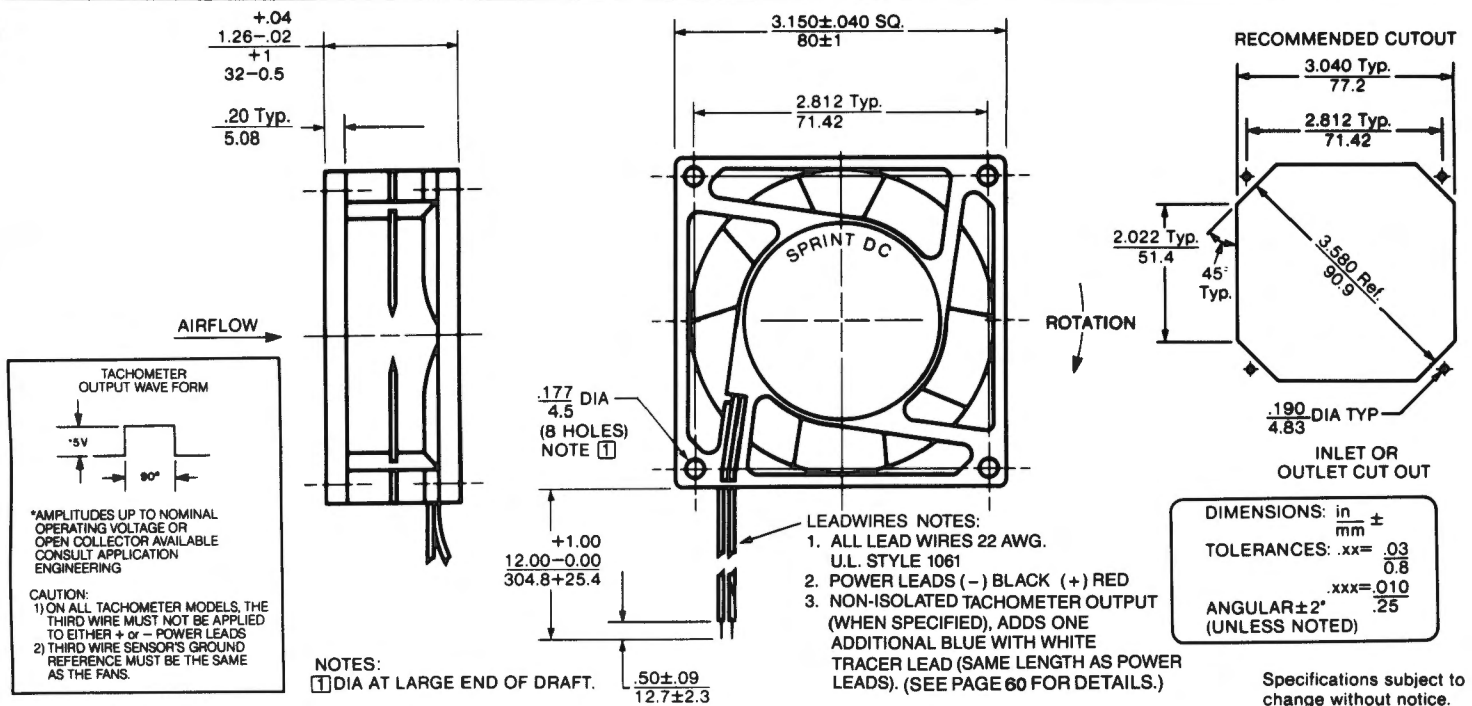
SLEEVE BEARINGS

BALL BEARINGS

Model No.	Part No.	Model No.	Part No.	Nominal VDC	Range VDC	Watts	Running Current mA	Locked Rotor mA	Inrush Current mA	RPM	CFM	L/Sec.
ST12N3	032195	ST12K3	030613	12	6-14	5.0	420	960	960	4200	40	19
ST24N3	032247	ST24K3	030614	24	12-28	5.3	220	480	480	4200	40	19
ST05A3	030826	ST05B3	030829	5	4.5-6.0	2.9	575	2100	2100	3400	33	16
*ST12A3	032107	*ST12B3	030615	12	6-14	3.4	280	700	700	3400	33	16
*ST24A3	032127	*ST24B3	030616	24	12-28	3.3	140	400	400	3400	33	16
ST05G3	030827	ST05H3	030830	5	4.5-6.0	1.8	350	1050	1050	2500	24	11
*ST12G3	032126	ST12H3	030617	12	6-14	1.4	120	400	400	2500	24	11
*ST24G3	032128	ST24H3	030618	24	12-28	1.9	80	200	200	2450	24	11
ST05E3	030828	ST05F3	030831	5	4.5-6.0	1.0	200	520	520	1700	16	8
*ST12E3	032162	ST12F3	030676	12	6-14	.8	70	200	200	1700	16	8

*Distributor item

All figures are nominal delivery values at sea level



MOTOR

Brushless electronic commutation provided by dependable solid state circuitry.

Sintered bronze sleeve or stainless steel ball bearings.

100% dielectric tested at 600 VAC/1 sec./500 microamps maximum leakage.

Electronic locked rotor protection (P.T.C.) or impedance protected.

Automatic restart capability.

Polarity protected.

ACOUSTIC RATINGS (for definitions see page 5)

Models	VOLTAGE	AIR FLOW		STATIC PRESSURE		PER INCE ANSI S12.11-1987			FREELY SUSPENDED @ 1 METER
		CFM	L/Sec	"w.g.	mm H ₂ O	PSIL dB	SPL dBA @ 3'	NEPL Bels 'A'	
ST05A3 ST12A3 ST24A3 ST05B3 ST12B3 ST24B3	NOMINAL	33	18.5	0	0	39.2	44.7	5.47	40.9
		26.6	12.6	0.079	2.01	37.5	43.1	5.31	
ST05G3 ST12G3 ST24G3 ST05H3 ST12H3 ST24H3	NOMINAL	24	11.1	0	0	30.8	38.1	4.61	35.5
		18.5	8.7	0.033	0.84	30.2	35.6	4.56	
ST05E3 ST12E3 ST05F3 ST12F3	NOMINAL	16	7.6	0	0	21.9	28.2	3.82	27.3
		12.6	5.9	0.17	4.32	18.4	25.9	3.59	
ST12N3 ST24N3 ST12K3 ST24K3	NOMINAL	40	19.3	0	0	42.3	48.0	5.80	44.2
		29.3	13.8	0.090	2.29	40.7	46.3	5.63	

CONSTRUCTION

Venturi - Glass filled nylon, black, meeting UL94V-0 flammability rating.

Propeller - Injection molded polypropylene, black, meeting UL940V-0 flammability rating.

EMI

Meets EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A or B radiated and conducted emission.

Meets EMI standards per VDE Specification 0871/6.78 for category A and B requirements.

OPTIONS

Capable of furnishing:

Tachometer output - square wave output equal to two pulses per revolution. Various amplitudes available. See page 60.

Harness assemblies. See page 106.

6-32 Threaded inserts

ThermaPro-V: See pages 44 and 45

Thermal Speed Control

Programmable

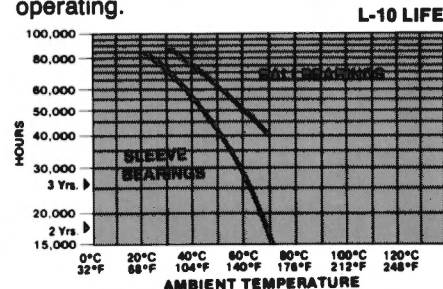
Voltage Regulated

48 VDC models available in ThermaPro-V. See page 46.

Go/No-Go Fan Performance Sensor. See page 58.

LIFE EXPECTANCY

The curve represents the continuous duty life of Sprint DC fans at a given temperature, after which 90% of the units will still be operating.



EXAMPLE: When a ball bearing unit is run at 40°C ambient, 90% of the units will still be running after 78,000 hrs. continuous duty.

SPRITE® DC

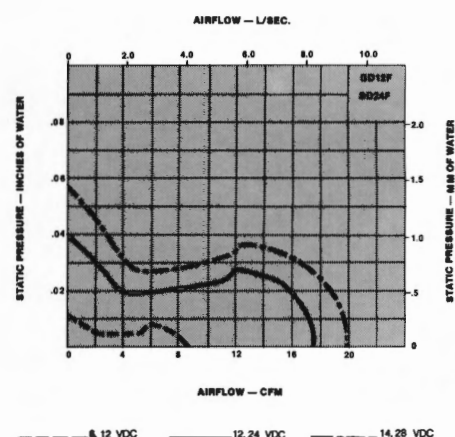
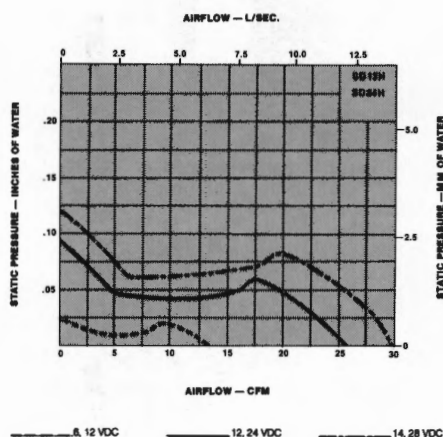
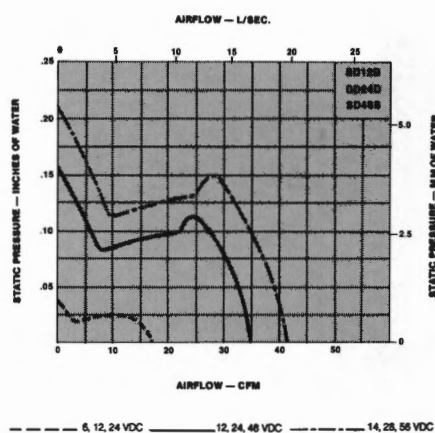
BRUSHLESS DC FAN

FEATURES

- Size - 3.14" square x 1.645" deep (79.8mm x 41.8mm)
- 17 to 35 CFM (8.0 to 16.5 L/Sec.)
- 12, 24 and 48 VDC (Nominal)
- Low noise level
- Operating temperature range: -10° C to +70°C
- Weight - 18 oz. (.51 Kg)
- UL Yellow Card Recognized—File No. E31293
- CSA Certified—File No. LR52898
- TUV Approved to IEC 950, VDE 730; License R9071193



PERFORMANCE

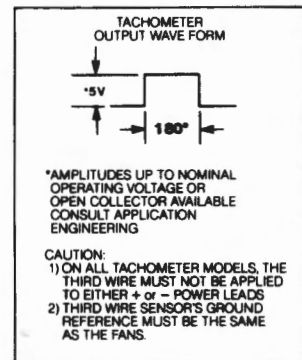
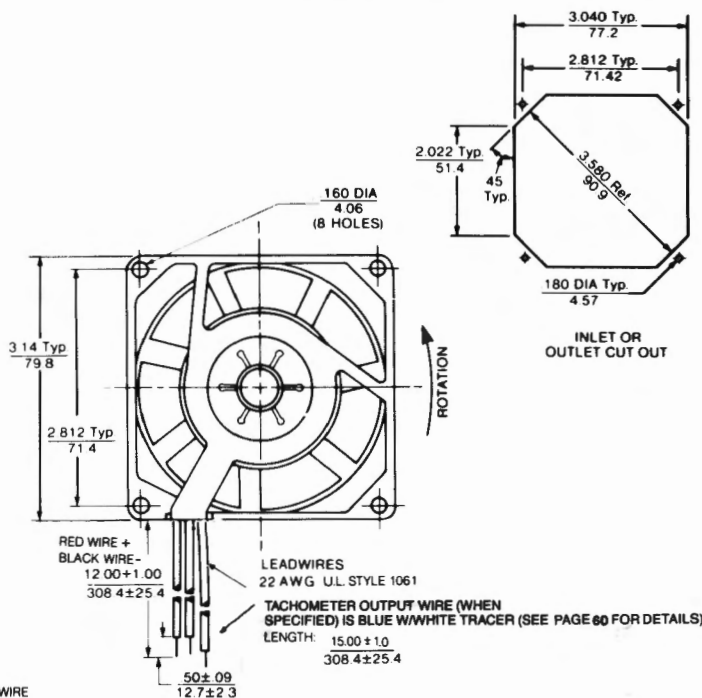
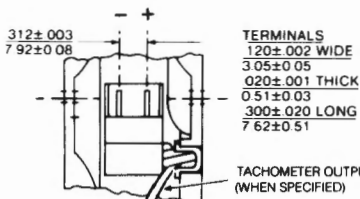
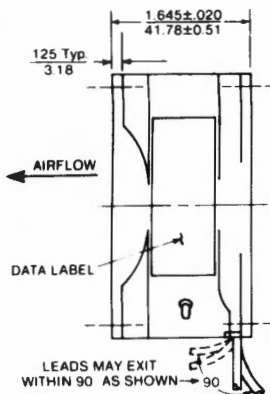


SPECIFICATIONS

LEADWIRES		TERMINAL		Bearing	Nominal Range		Watts	Running Current mA	Locked Rotor mA	Inrush Current mA	RPM	CFM	L/Sec.
Model No.	Part No.	Model No.	Part No.		VDC	VDC							
*SD12B1	028933	*SD12B2	032001	Ball	12	6-14	3.1	260	1000	1000	3500	35	16.5
†SD12B5	030767	†SD12B9	030753	Ball	12	6-14	3.1	260	1000	1000	3500	35	16.5
*SD24B1	028934	*SD24B2	032002	Ball	24	12-28	3.1	130	500	500	3500	35	16.5
†SD24B5	030768	†SD24B9	030754	Ball	24	12-28	3.1	130	500	500	3500	35	16.5
*SD48B1	028935	*SD48B2	032003	Ball	48	24-56	3.1	65	250	250	3500	35	16.5
†SD48B5	030769	†SD48B9	030755	Ball	48	24-56	3.1	65	250	250	3500	35	16.5
SD12H1	030745	SD12H2	030756	Ball	12	6-14	2.0	160	660	660	2600	26	12.3
†SD12H5	030746	†SD12H9	030757	Ball	12	6-14	2.0	160	660	660	2600	26	12.3
SD24H1	030747	SD24H2	030758	Ball	24	12-28	2.0	80	300	300	2600	26	12.3
†SD24H5	030748	†SD24H9	030759	Ball	24	12-28	2.0	80	300	300	2600	26	12.3
SD12F1	030749	SD12F2	030760	Ball	12	6-14	1.0	80	250	250	1700	17	8.3
†SD12F5	030750	†SD12F9	030761	Ball	12	6-14	1.0	80	250	250	1700	17	8.3
SD24F1	030751	SD24F2	030762	Ball	24	12-28	1.0	40	150	150	1700	17	8.3
†SD24F5	030752	†SD24F9	030763	Ball	24	12-28	1.0	40	150	150	1700	17	8.3

*Distributor Item

All figures are nominal delivery values at sea level
 † Tachometer Output Models (see page 60 for description)



DIMENSIONS: in ±
mm ±

TOLERANCES: .xx = .03
0.8

xxx = .010
(UNLESS NOTED) .25

Specifications subject to change without notice.

MOTOR

Brushless electronic commutation provided by dependable solid state circuitry.
Stainless steel ball bearings.
100% dielectric tested at 600 VAC/1 sec./500 microamps maximum leakage.
Electronic locked rotor protection. (P.T.C.) SD_B_versions
Impedance protected SD_H_and SD-F-versions
Automatic restart capability
Polarity protected.
Power transistors heat sunk to metal housing.
Stainless steel shaft.

CONSTRUCTION

Venturi - one piece die-cast zinc alloy, painted black.
Propeller - flame retardant polypropylene, black, meets UL94V-0 flammability rating

EMI

Per MIL STD 461, meets EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A and B radiated and conducted emission, meets EMI standards per VDE Specification 0871/6.78 for category A and B requirements.

OPTIONS

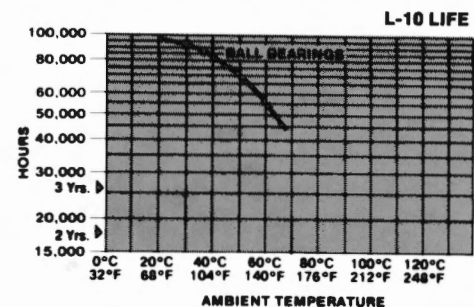
Capable of furnishing:
Reverse flow
Sleeve or ball bearing models
Choice of leadwires or terminal block
Tachometer Output - see page 60 - square wave output equal to one pulse per revolution. Two pulses available as "special" only.
Harness assemblies - see page 106
Fan Performance Sensor - see page 58

ACOUSTIC RATINGS (for definitions see page 5)

Models	VOLTAGE	AIR FLOW		STATIC PRESSURE		PER INCE ANSI S12.11-1987			FREELY SUSPENDED @ 1 METER
		CFM	L/Sec	"w.g.	mm H ₂ O	PSIL dB	SPL dBA @ 3'	NEPL Bels 'A'	
SD12B SD24B SD48B	NOMINAL	35	16.5	0	0	43.4	48.3	5.83	47.6
		30	14.2	0.08	2.03	51.2	46.5	5.65	
SD12H SD24H	NOMINAL	28	12.3	0	0	32.6	39.2	4.92	39.5
		23	10.9	0.04	1.02	31.3	38.8	4.88	
SD12F SD24F	NOMINAL	17	8.0	0	0	23.2	30.3	4.03	29.8
		14	6.6	0.02	0.51	19.8	27.0	3.70	

LIFE EXPECTANCY

The curve represents the continuous duty life of Sprite DC fans at a given temperature, after which 90% of the units will still be operating.



Example: When run at 40°C ambient, 90% of ball bearing units will still be running after 83,000 hours continuous duty.

FLIGHT™ II 90 SERIES

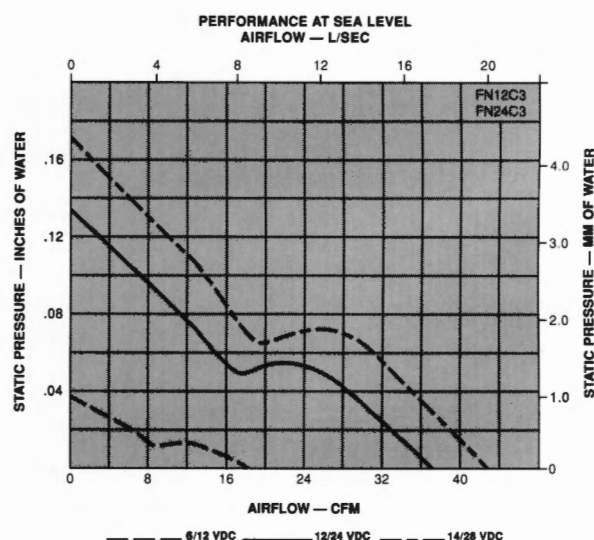
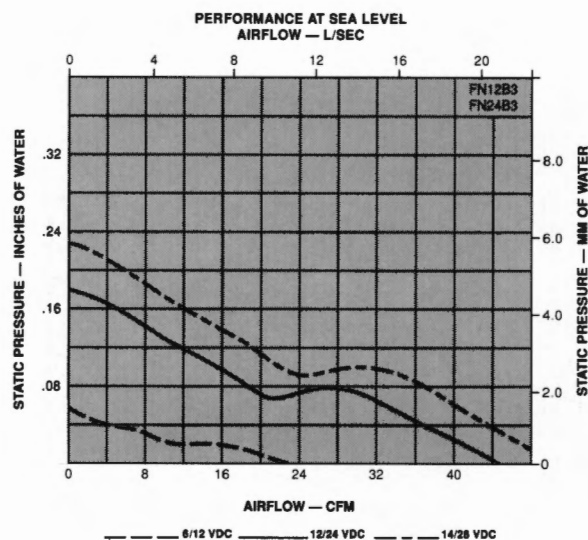
BRUSHLESS DC FAN

FEATURES

- Size - 3.62" square x 1.00" deep (92 mm x 25.4 mm)
- 25 to 45 CFM (12 to 22 L/Sec.)
- 12 and 24 VDC (Nominal)
- Low noise level
- Operating temperature range: -10°C to +70°C
- Weight - 5.2 oz. (.15 Kg)
- UL Yellow Card Recognized — File No. E31293
- CSA Certified — File No. L52898



PERFORMANCE

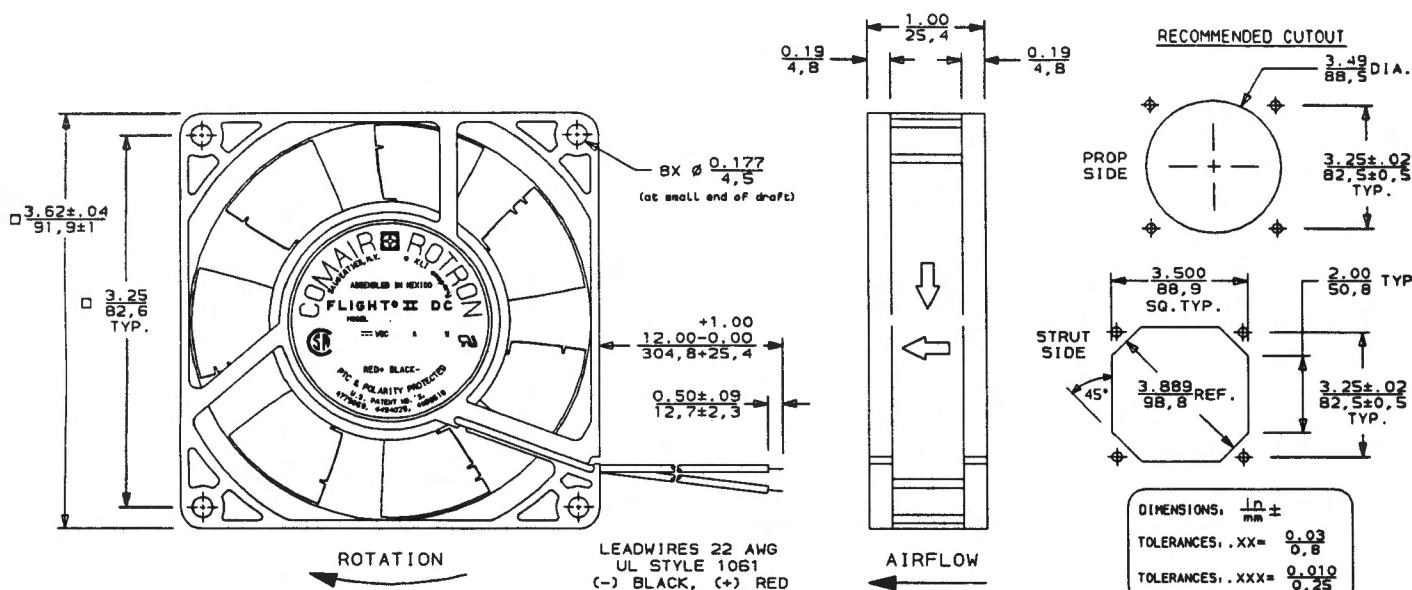


SPECIFICATIONS

Model No.	Part No.	Bearing	Nominal VDC	Range VDC	Watts	Running Current mA	Locked Rotor mA	RPM	CFM	L/Sec.	dBa
* FN12B3	031168	Ball	12	6-14	2.6	220	440	2800	45	21	38.1
* FN24B3	031169	Ball	24	12-28	2.6	110	250	2800	45	21	38.1
* FN12C3	031170	Ball	12	6-14	1.6	130	270	2350	37	18	34.3
* FN24C3	031171	Ball	24	12-28	1.7	70	165	2350	37	18	34.3

* Distributor Item.

All figures are nominal free delivery values at sea level.



Specifications subject to change without notice.

MOTOR

Brushless electronic commutation provided by dependable solid state circuitry.
High chromium stainless steel ball bearings.
100% dielectric tested at 600 VAC/1 sec./500 microamps maximum leakage.
Electronic locked rotor protection.
Polarity protected.

CONSTRUCTION

Venturi - PPS (Plastic), black, glass and mineral filled, UL94V-0.
Propeller - PBT (Plastic), black, reinforced, UL94V-0.

EMI

Designed to meet EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A or B radiated and conducted emissions.
Designed to meet EMI standards per VDE Specification 0871/6.78 for category A and B requirements.

OPTIONS

Capable of furnishing Harness assemblies. See page 106.
Tachometer output—see page 60—square wave equal to two pulses per revolution.

6-32 threaded inserts

ACOUSTIC RATINGS (for definitions see page 5)

Models	VOLTAGE		AIR FLOW		STATIC PRESSURE		PER INCE ANSI S12.11-1987			FREELY SUSPENDED @ 1 METER
	DC	CFM	L/Sec	"w.g.	mm H ₂ O	PSIL dB	SPL dBA @ 3'	NEPL Bels 'A'		
FN12B3	NOMINAL	45	21.2	0	0	37.9	44.8	5.48		38.1
FN24B3		35.4	16.7	0.055	1.40	34.1	42.0	5.20		
FN12C3	NOMINAL	37	17.5	0	0	32.7	43.1	5.31		34.3
FN24C3		30.3	14.3	0.03	0.76	30.6	37.7	4.77		

LIFE EXPECTANCY

The Flight Series fan is designed for continuous duty life of 60,000 hours at 25°C. Brushless electronic commutation provided by dependable solid state circuitry. High efficiency brushless DC motor provides for lower internal temperature rise than conventional AC motors.

FLIGHT™ II 120 SERIES

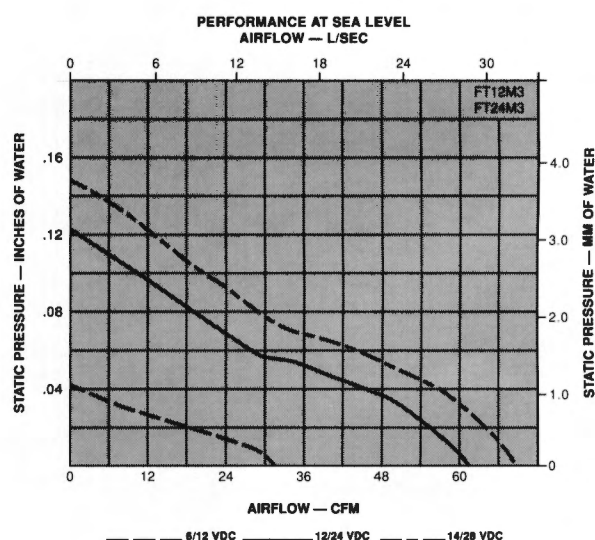
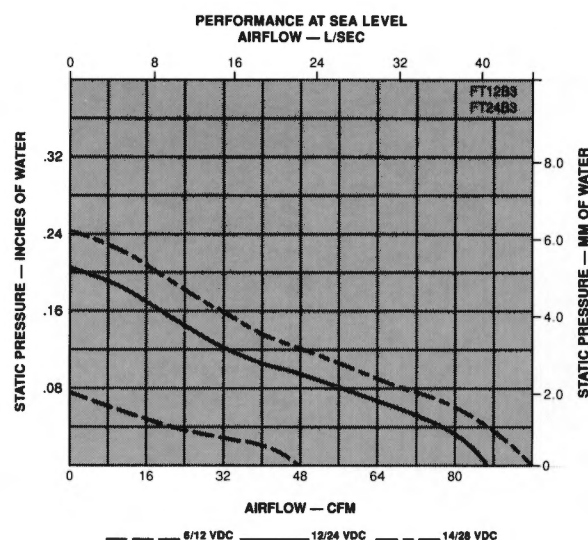
BRUSHLESS DC FAN

FEATURES

- Size - 4.73" square x 1.00" deep (120.0mm x 25.4mm)
- 50 to 86 CFM (24 to 42 L/Sec.)
- 12 and 24 VDC (Nominal)
- Low noise level
- Operating temperature range: -10°C to +70°C
- Weight - 7.0 oz. (.20 Kg)
- UL Yellow Card Recognized — File No. E31293
- CSA Certified — File No. L52898



PERFORMANCE

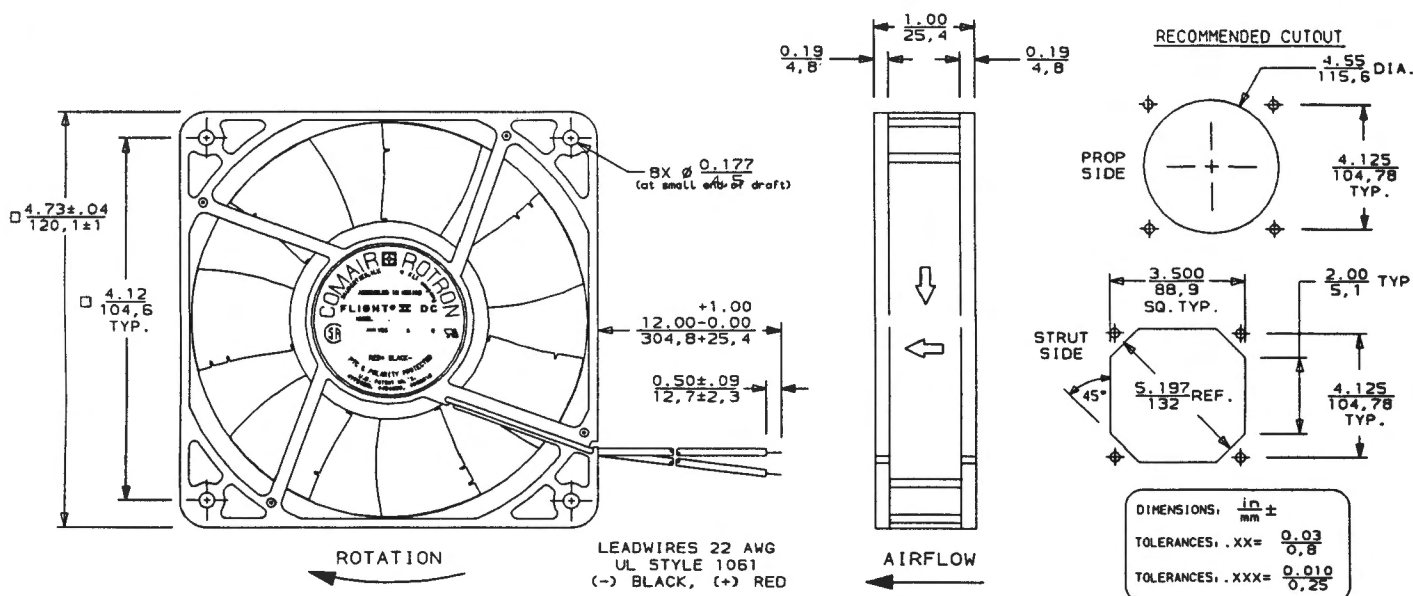


SPECIFICATIONS

Model No.	Part No.	Bearing	Nominal VDC	Range VDC	Watts	Running Current mA	Locked Rotor mA	RPM	CFM	L/Sec.	dBA
* FT12B3	031174	Ball	12	6-14	4.3	360	700	2950	86	41	42.9
* FT24B3	031175	Ball	24	12-28	4.3	180	375	2950	86	41	42.9
* FT12M3	031176	Ball	12	6-14	1.6	130	275	2000	61	29	34.3
* FT24M3	031177	Ball	24	12-28	1.9	80	160	2000	61	29	34.3

* Distributor Item.

All figures are nominal free delivery values at sea level.



Specifications subject to change without notice.

MOTOR

Brushless electronic commutation provided by dependable solid state circuitry.

High chromium stainless steel ball bearings.

100% dielectric tested at 600 VAC/1 sec./500 microamps maximum leakage.

Electronic locked rotor protection.

Polarity protected.

CONSTRUCTION

Venturi - PPS (Plastic), black, glass and mineral filled, UL94V-0.

Propeller - PBT (Plastic), black, reinforced, UL94V-0.

EMI

Designed to meet EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A or B radiated and conducted emissions.

Designed to meet EMI standards per VDE Specification 0871/6.78 for category A and B requirements.

OPTIONS

Capable of furnishing Harness assemblies. See page 106.

Tachometer output—see page 60—square wave equal to two pulses per revolution.

6-32 threaded inserts

ACOUSTIC RATINGS (for definitions see page 5)

Models	VOLTAGE		AIR FLOW		STATIC PRESSURE		PER INCE ANSI S12.11-1997			FREELY SUSPENDED @ 1 METER
	DC		CFM	L/Sec	"w.g.	mm H ₂ O	PSIL dB	SPL dBA @ 3'	NEPL Bate 'A'	dBA
FT12B3	NOMINAL		86	40.6	0	0	42.4	49.2	5.92	42.9
FT24B3			62.2	29.4	0.098	2.49	37.1	43.8	5.38	
FT12M3	NOMINAL		80	28.3	0	0	33.8	41.0	5.10	34.3
FT24M3			47	22.2	0.036	0.91	30.5	36.1	4.61	

LIFE EXPECTANCY

The Flight Series fan is designed for continuous duty life of 60,000 hours at 25°C. Brushless electronic commutation provided by dependable solid state circuitry. High efficiency brushless DC motor provides for lower internal temperature rise than conventional AC motors.

MUFFIN® DC

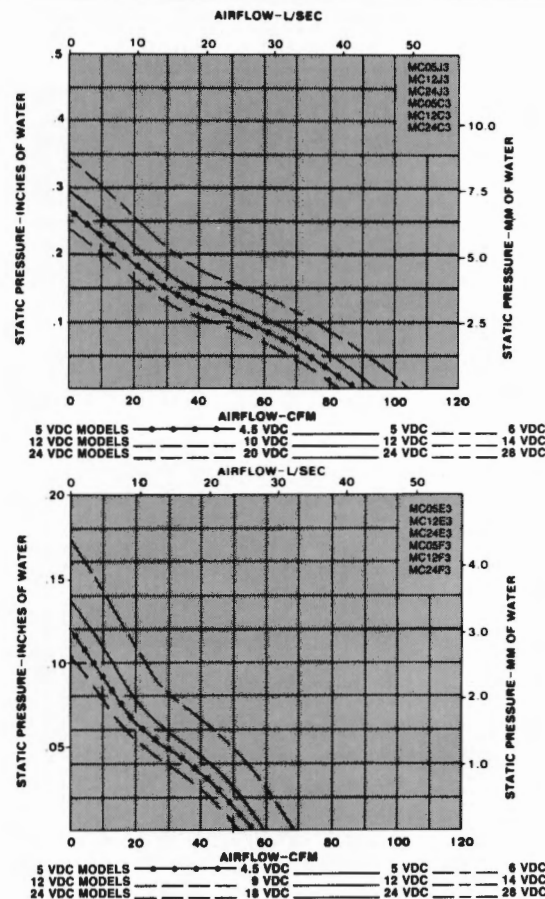
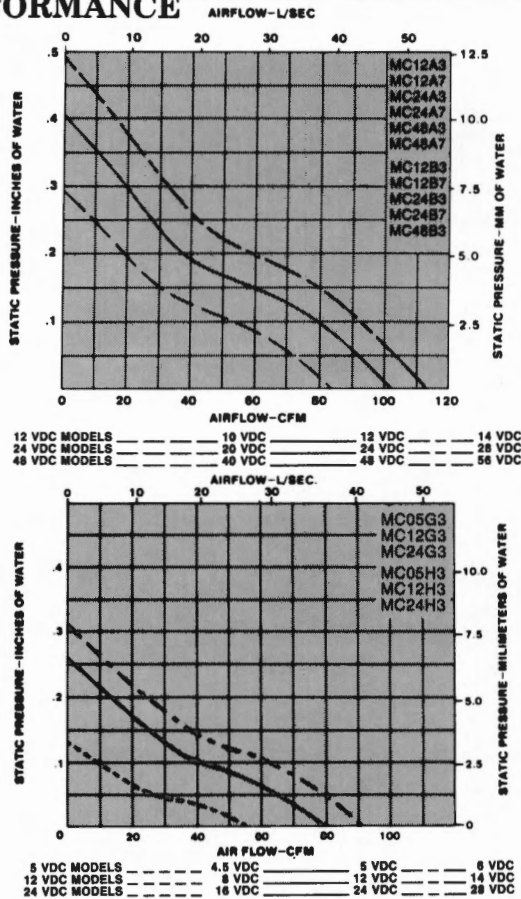
BRUSHLESS DC FAN

FEATURES

- Size - 4.73" square x 1.26" deep (120 mm x 32 mm)
- 50 to 112 CFM (24 to 48.1 L/Sec.)
- 5, 12, 24 or 48 VDC (Nominal)
- High reliability ball or sleeve bearing
- Low noise level
- Operating temperature range: -10° to +70°C
- Weight - 8.5 oz. (.24 Kg)
- UL Yellow Card Recognized - File No. E31293
- CSA Certified - File No. LR52898
- TUV Approved to IEC 950, VDE 0730, License R97229



PERFORMANCE



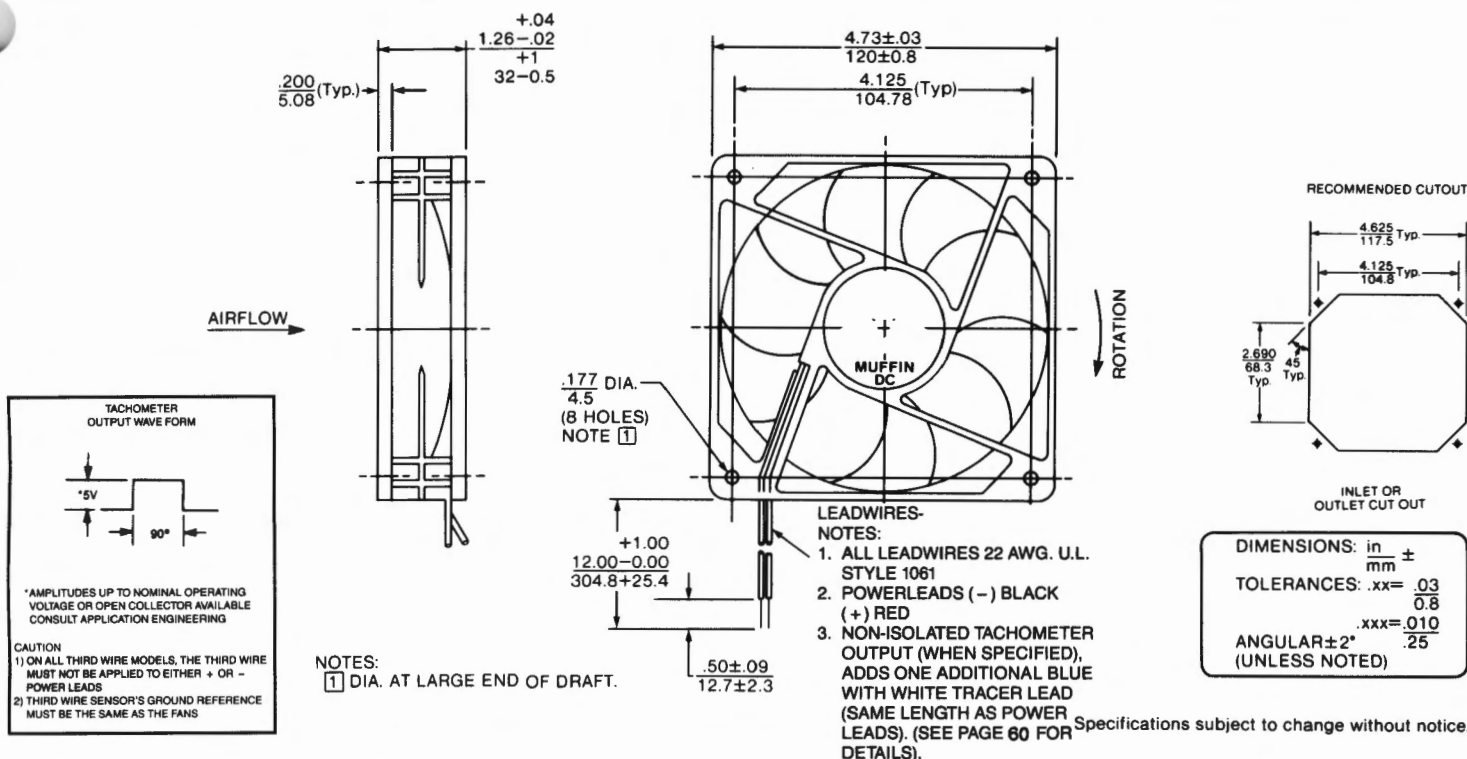
SPECIFICATIONS

SLEEVE BEARINGS				BALL BEARINGS								
Model No.	Part No.	Model No.	Part No.	Nominal VDC	Range VDC	Watts	Running Current mA	Locked Rotor mA	Inrush Current mA	RPM	CFM	L/Sec.
*MC12A3	032207	*MC12B3	032489	12	6-14	7.9	660	1300	1300	3700	102	48
†MC12A7	032228	†MC12B7	030598	12	6-14	7.9	660	1300	1300	3700	102	48
*MC24A3	032208	*MC24B3	030572	24	12-28	6.7	280	700	700	3700	102	48
†MC24A7	032244	†MC24B7	030599	24	12-28	6.7	280	700	700	3700	102	48
MC48A3	032242	*MC48B3	030573	48	22-56	9.6	200	350	350	3700	102	48
*MC05J3	030832	MC05C3	030835	5	4.5-6.0	5.0	1000	2300	2300	3250	91	43
*MC12J3	032167	MC12C3	030574	12	6-14	6.6	550	1030	1030	3250	91	43
MC24J3	032168	*MC24C3	030575	24	12-28	5.5	230	550	550	3250	91	43
MC05G3	030833	MC05H3	030836	5	4.5-6.0	3.8	750	1800	1800	2850	80	38
*MC12G3	032141	MC12H3	030576	12	6-14	3.8	320	640	640	2850	80	38
MC24G3	032143	*MC24H3	030577	24	12-28	4.0	170	430	430	2850	80	38
MC05E3	030834	MC05F3	030837	5	4.5-6.0	1.8	350	350	950	2150	58	27
*MC12E3	032140	*MC12F3	030578	12	6-14	2.2	180	400	400	2150	58	27
*MC24E3	032142	*MC24F3	030579	24	12-28	2.1	85	200	200	2150	58	27

*Distributor Item

All figures are nominal delivery values at sea level

† Tachometer output models (see page 60 for description)



MOTOR

Brushless electronic commutation provided by dependable solid state circuitry.
Sintered bronze sleeve or stainless steel ball bearings.
100% dielectric tested at 600 VAC/1 sec./500 microamps maximum leakage.
Electronic locked rotor protection (P.T.C.) or impedance protection.
Automatic restart capability.
Polarity protected.

CONSTRUCTION

Venturi-Glass filled nylon, black, meeting UL94V-0 flammability rating.
Propeller - Injection molded polypropylene, black, meeting UL94V-0 flammability rating.

ACOUSTIC RATINGS (for definitions see page 5)

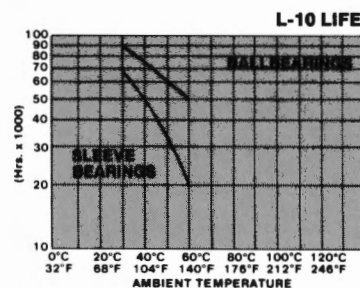
Models	DC	AIR FLOW		STATIC PRESSURE		PER INCE ANSI S12.11-1987			FREELY SUSPENDED @ 1 METER
		CFM	L/Sec	"w.g.	mm H ₂ O	PSIL dB	SPL dBA @ 3'	NEPL Sels 'A'	
MC12A3 MC24A3 MC48A3 MC12B3 MC24B3 MC48B3	NOMINAL	102	47.8	0	0	45.8	51.8	6.18	47.8
		75	35.4	0.100	2.54	45.1	50.6	6.06	
MC05J3 MC12J3 MC24J3 MC05C3 MC12C3 MC24C3	NOMINAL	91	43.6	0	0	44.2	51.1	6.11	46.4
		58.3	27.5	0.111	2.82	40.7	48.0	5.80	
MC05G3 MC12G3 MC24G3 MC05H3 MC12H3 MC24H3	NOMINAL	80	38.1	0	0	42.7	48.5	5.85	41.9
		41.9	19.8	0.102	2.59	32.2	45.1	5.51	
MC05E3 MC12E3 MC24E3 MC05F3 MC12F3 MC24F3	NOMINAL	58	29.7	0	0	35.1	41.7	5.17	39.7
		43	20.3	0.500	12.70	33.1	39.6	4.96	

OPTIONS

Go/No-Go Fan Performance Sensor. See page 58.
Tachometer output — square wave output equal to two pulses per revolution. Various amplitudes available. See page 60 for details.
Harness assemblies — See page 106
6-32 Threaded inserts
ThermaPro-V: See pages 44 and 45
Thermal Speed Control
Programmable
Voltage Regulated

LIFE EXPECTANCY

The curve represents the continuous duty life of Muffin DC fans at a given temperature, after which 90% of the units will still be operating.



EXAMPLE: When a ball bearing unit is run at 40°C ambient, 90% of the units will still be running after 78,000 hrs. continuous duty.

WHISPER® XL DC

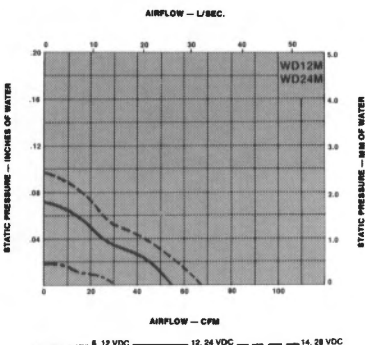
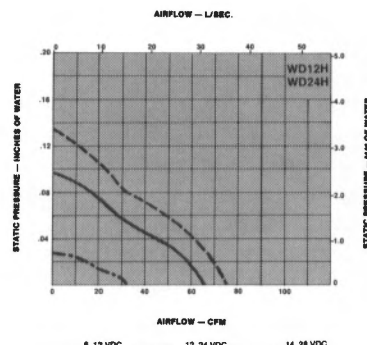
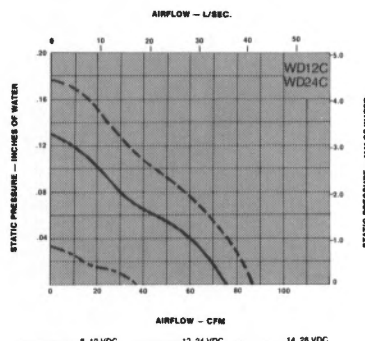
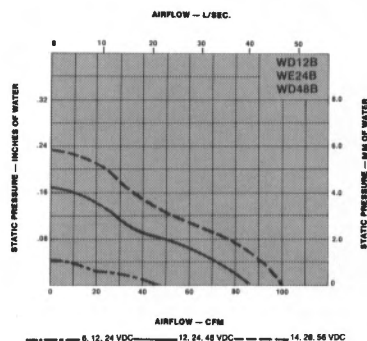
TUBEAXIAL FAN

FEATURES

- Size - 4.69" square x 1.54" deep (119.1 mm x 39.1 mm)
- 55 to 85 CFM (26.0 to 40.1 L/Sec.)
- 12, 24 and 48 VDC (Nominal)
- Feathered Edge™ for lower noise
- Operating Temperature range: -10°C to +70°C
- Weight - 21.5 oz (.61 Kg)
- UL Yellow Card Recognized—File No. E31293
- CSA certified—File No. LR52898
- TUV Approved to IEC 950, VDE 730; License R9071193



PERFORMANCE

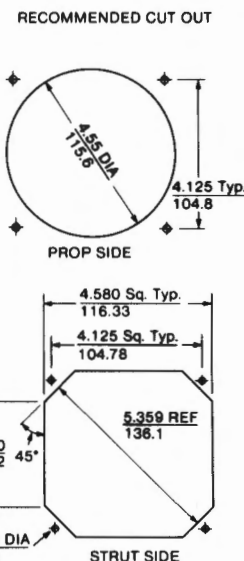
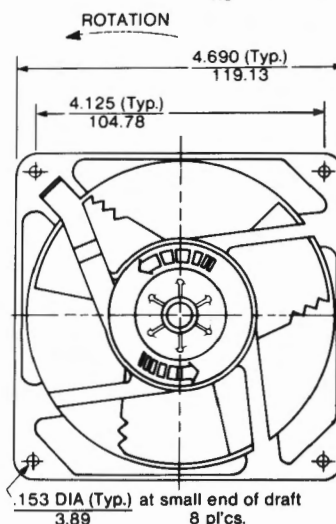
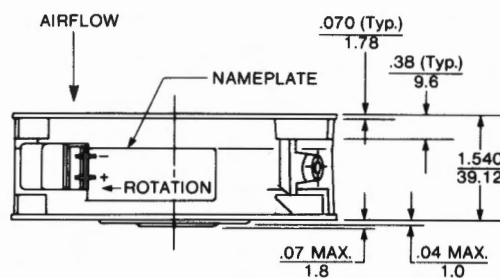
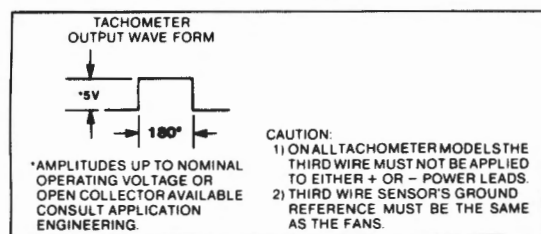
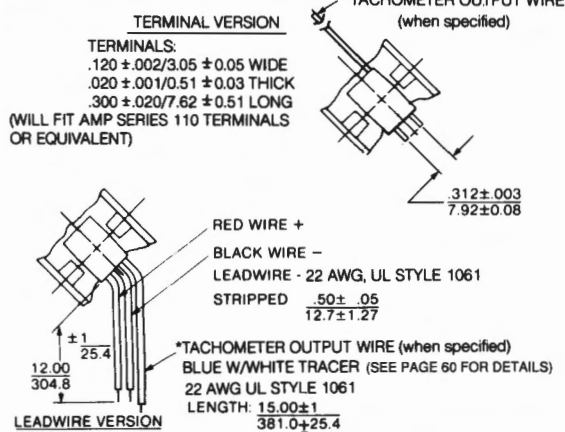


SPECIFICATIONS

LEADWIRES		TERMINAL		Bearing	Nominal Range		Watts	Running	Locked	Inrush	RPM	CFM	L/Sec.
Model No.	Part No.	Model No.	Part No.		VDC	VDC		Current	Rotor	Current			
WD12B3	030709	WD12B4	030727	Ball	12	6-14	3.4	280	750	750	2525	85	40.1
†WD12B7	030710	†WD12B8	030728	Ball	12	6-14	3.4	280	750	750	2525	85	40.1
WD24B3	030711	WD24B4	030729	Ball	24	12-28	3.4	140	310	310	2525	85	40.1
†WD24B7	030712	†WD24B8	030730	Ball	24	12-28	3.4	140	310	310	2525	85	40.1
WD48B3	030713	WD48B4	030731	Ball	48	24-56	3.4	70	160	160	2525	85	40.1
†WD48B7	030714	†WD48B8	030732	Ball	48	24-56	3.4	70	160	160	2525	85	40.1
*WD12C3	030715	WD12C4	030733	Ball	12	6-14	2.4	200	660	660	2230	75	35.4
†WD12C7	030716	†WD12C8	030734	Ball	12	6-14	2.4	200	660	660	2230	75	35.4
*WD24C3	030717	WD24C4	030735	Ball	24	12-28	2.4	100	310	310	2230	75	35.4
†WD24C7	030718	†WD24C8	030736	Ball	24	12-28	2.4	100	310	310	2230	75	35.4
WD12H3	030719	WD12H4	030737	Ball	12	6-14	1.8	150	450	450	1930	65	30.1
†WD12H7	030720	†WD12H8	030738	Ball	12	6-14	1.8	150	450	450	1930	65	30.1
WD24H3	030721	WD24H4	030739	Ball	24	12-28	1.7	67	183	183	1930	65	30.1
†WD24H7	030722	†WD24H8	030740	Ball	24	12-28	1.7	67	183	183	1930	65	30.1
*WD12M3	030723	WD12M4	030741	Ball	12	6-14	1.2	100	330	330	1635	55	26.0
†WD12M7	030724	†WD12M8	030742	Ball	12	6-14	1.2	100	330	330	1635	55	26.0
*WD24M3	030725	WD24M4	030743	Ball	24	12-28	1.2	52	135	135	1635	55	26.0
†WD24M7	030726	†WD24M8	030744	Ball	24	12-28	1.2	52	135	135	1635	55	26.0

*Distributor Item

All figures are nominal delivery values at sea level
†Tachometer Output Models (see page 60 for description)



DIMENSIONS: in ±
 mm
 TOLERANCES: .xx = .03
 .08
 .xxx = .010
 .25
 ANGULAR ± 2°
 (UNLESS NOTED)

Specifications subject to change without notice.

MOTOR

Brushless electronic commutation provided by dependable solid state circuitry.
 Stainless steel ball bearings.
 100% dielectric tested at 600 VAC/1 sec./500 microamps maximum leakage.
 Electronic locked rotor protection. (P.T.C.) WD_B_versions
 Impedance protected WD_C_, WD_H_ and WD_M_versions
 Automatic restart capability.
 Polarity protected.
 Power transistors heat sunk to metal housing.
 Stainless steel shaft.

CONSTRUCTION

Venturi - one piece die-cast zinc alloy, painted black.
 Propeller - flame retardant polypropylene,
 Meets UL 94V-O flammability rating.

EMI

Per MIL STD 461, meets EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A and B radiated and conducted emission, meets EMI standards per VDE Specification 0871/6.78 for category A and B requirements.

OPTIONS

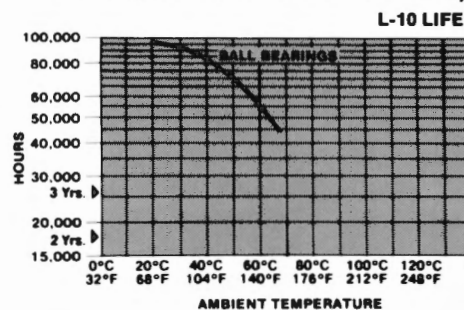
Capable of furnishing:
 Reverse flow.
 Sleeve or ball bearing models.
 Choice of leadwires or terminal block.
 Tachometer output see page 60 - square wave output equal to one pulse per revolution. Two pulses available as "special" only.
 Harness assemblies. See page 106.
 Fan Performance Sensor see page 58.

ACOUSTIC RATINGS (for definitions see page 5)

Models	DC	AIR FLOW		STATIC PRESSURE		PER INCE ANSI S12.11-1987			FREELY SUSPENDED @ 1 METER
		CFM	L/Sec	"w.g.	mm H ₂ O	PSIL dB	SPL dBA @ 3'	NEPL Bels 'A'	
WD12B	NOMINAL	85	40.1	0	0	39.8	45.2	5.52	41.4
WD24B		59	27.8	0.06	1.52	38.8	44.2	5.42	
WD48B	NOMINAL	75	35.4	0	0	37.9	43.4	5.34	39.4
WD12C		44	20.8	0.06	1.52	34.3	39.8	4.98	
WD24C	NOMINAL	65	30.7	0	0	33.6	39.3	4.93	34.9
WD12H		32	15.1	0.05	1.27	30.2	36.1	4.61	
WD24H	NOMINAL	55	26.0	0	0	29.4	35.6	4.56	30.3
WD12M		36	17.0	0.036	0.91	25.6	32.5	4.26	
WD24M									

LIFE EXPECTANCY

The curve represents the continuous duty life of Whisper XL DC fans at a given temperature, after which 90% of the units will still be operating.



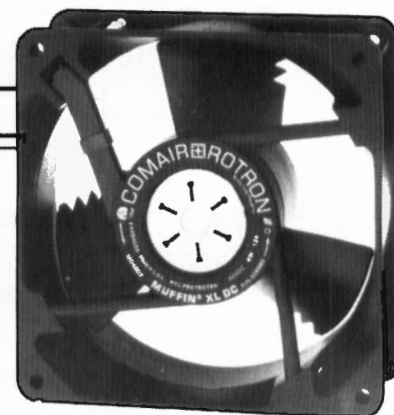
Example: When run at 40°C ambient, 90% of Whisper XL DC ball bearing units will still be running after 83,000 hours continuous duty.

MUFFIN® XL DC

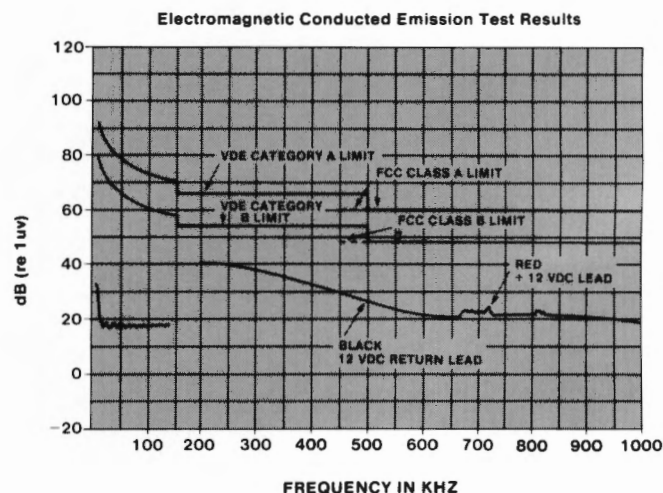
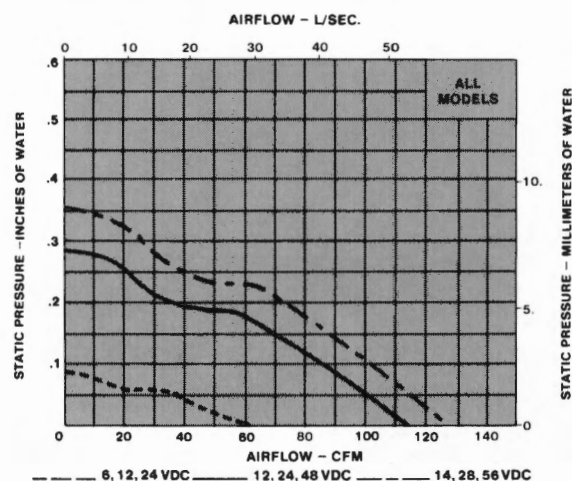
BRUSHLESS DC FAN

FEATURES

- Size - 4.69" square x 1.54" deep (119.1 mm x 39.1 mm)
- 40 to 120 CFM (18.9 to 56.6 L/Sec.)
- 12, 24 and 48 VDC (Nominal)
- Feathered Edge™ for lower noise
- Operating Temperature range: -10°C to +70°C
- Weight - 21.5 oz (.61 Kg)
- UL Yellow Card Recognized - File No. E31293
- CSA Certified - File No. LR52898
- TUV Approved to IEC 950, VDE 730; License R9071193



PERFORMANCE

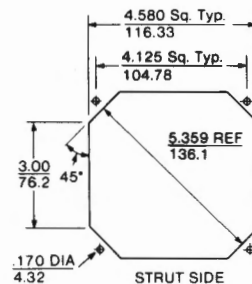
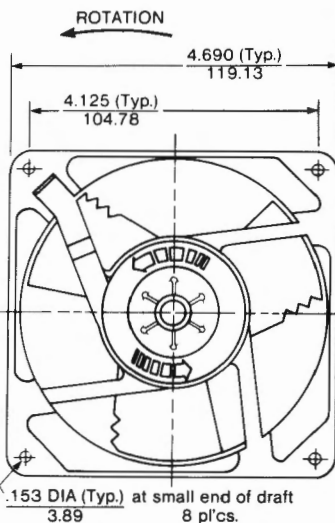
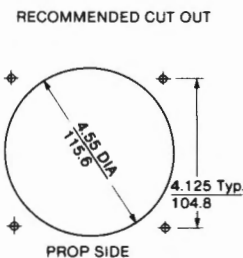
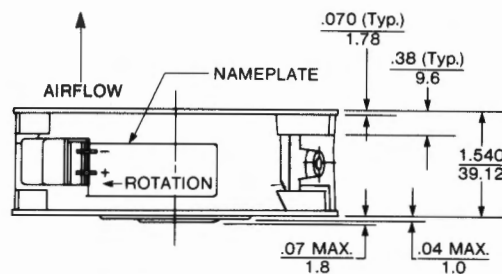
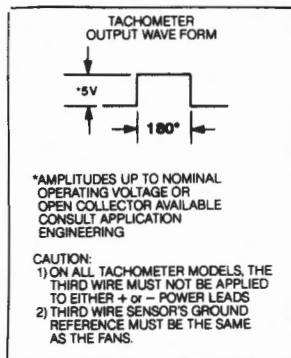
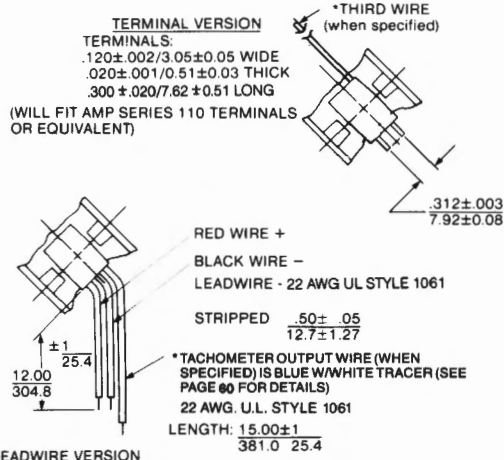


SPECIFICATIONS

LEADWIRES		TERMINAL		Bearing	Nominal VDC	Range VDC	Watts	Running Current mA	Locked Rotor mA	Inrush Current mA	RPM	CFM	L/Sec.
Model No.	Part No.	Model No.	Part No.										
*MD12B1	028865	*MD12B2	028868	Ball	12	6-14	6	500	1500	1500	3100	110	51.9
†MD12B5	028885	†MD12B9	028888	Ball	12	6-14	6	500	1500	1500	3100	110	51.9
*MD24B1	028866	*MD24B2	028869	Ball	24	12-28	6	250	750	750	3100	110	51.9
†MD24B5	028886	†MD24B9	028889	Ball	24	12-28	6	250	750	750	3100	110	51.9
*MD48B1	028867	*MD48B2	028870	Ball	48	24-56	6	125	400	400	3100	110	51.9
†MD48B5	028887	†MD48B9	028890	Ball	48	24-56	6	125	400	400	3100	110	51.9

* Distributor Item.

All figures are nominal delivery values at sea level
 † Tachometer Output Models (see page 60 for description)



DIMENSIONS:	in mm	±
TOLERANCES:	.xx=	.03 0.8
	.xxx=	.010 .25
ANGULAR±2°		(UNLESS NOTED)

Specifications subject to change without notice.

MOTOR

Brushless electronic commutation provided by dependable solid state circuitry.

Stainless steel ball bearings.

100% dielectric tested at 600 VAC/1 sec./500 microamps maximum leakage.

Electronic locked rotor protection (P.T.C.).

Automatic restart capability.

Polarity protected.

Stainless steel shaft.

CONSTRUCTION

Venturi - one piece die-cast zinc alloy, painted black.

Propeller - flame retardant polypropylene, black.

Meets UL 94V-O flammability rating.

EMI

Per MIL STD 461, meets EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A and B radiated and conducted emission, meets EMI standards per VDE Specification 0871/6.78 for category A and B requirements.

OPTIONS

Capable of furnishing:

Reverse flow.

Sleeve or ball bearing models.

Choice of leadwires or terminal block.

Tachometer output see page 60 - square wave output equal to one pulse per revolution. Two pulses available as "special" only.

Harness assemblies. See page 106.

Fan Performance Sensor see page 58.

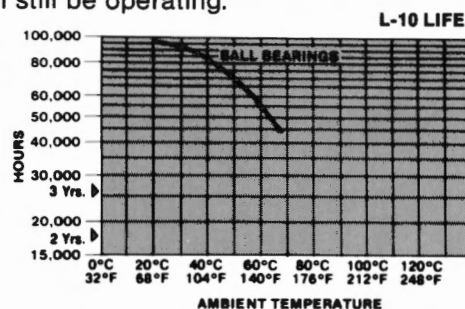
ACOUSTIC RATINGS

(for definitions see page 5)

Models	VOLTAGE	AIR FLOW		STATIC PRESSURE		PER INCE ANSI S12.11-1987			FREELY SUSPENDED @ 1 METER
	DC	CFM	L/Sec	"w.g.	mm H ₂ O	PSIL dB	SPL dBA @ 3'	NEPL Bels 'A'	dBA
ALL	NOMINAL	110	51.9	0	0	50.6	57.0	6.70	50.0
		68.5	32.3	0.13	3.30	45.3	50.6	6.08	

LIFE EXPECTANCY

The curve represents the continuous duty life of Muffin XL DC fans at a given temperature, after which 90% of the units will still be operating.



Example: When run at 40°C ambient, 90% of Muffin XL DC bearing units will still be running after 83,000 hours continuous duty.

GALAXY® DC

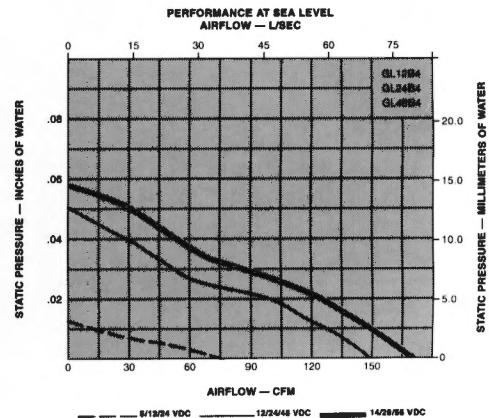
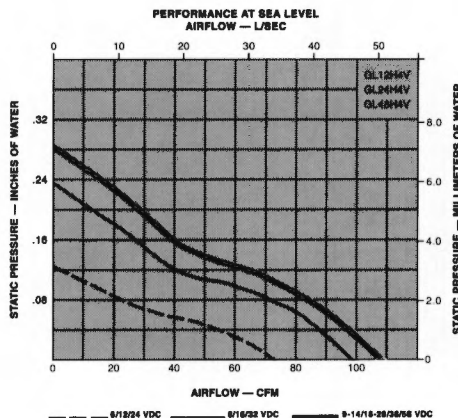
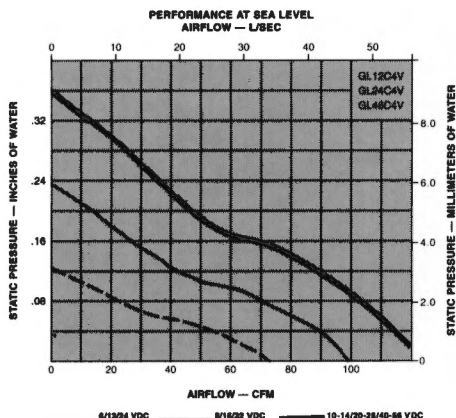
TUBEAXIAL FAN

FEATURES

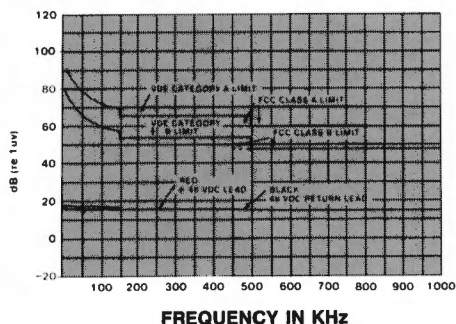
- ☐ Size - 5.0" square x 1.5" deep (127 mm x 38.1 mm)
- ☐ 90 to 165 CFM (42 to 77.9 L/Sec.)
- ☐ 12,24,48 VDC (Nominal)
- ☐ Feathered Edge™ for lower noise
- ☐ Operating temperature range: -10°C to +70°C
- ☐ Weight: 1 lb. 6 oz. (.62 Kg)
- ☐ High reliability ball bearings
- ☐ Available with ThermaPro-V
- ☐ UL Yellow Card Recognized—File No. E31293
- ☐ CSA Certified—File No. LR52898
- ☐ TUV approval pending



PERFORMANCE



ELECTROMAGNETIC CONDUCTED EMISSION TEST RESULTS



SPECIFICATIONS

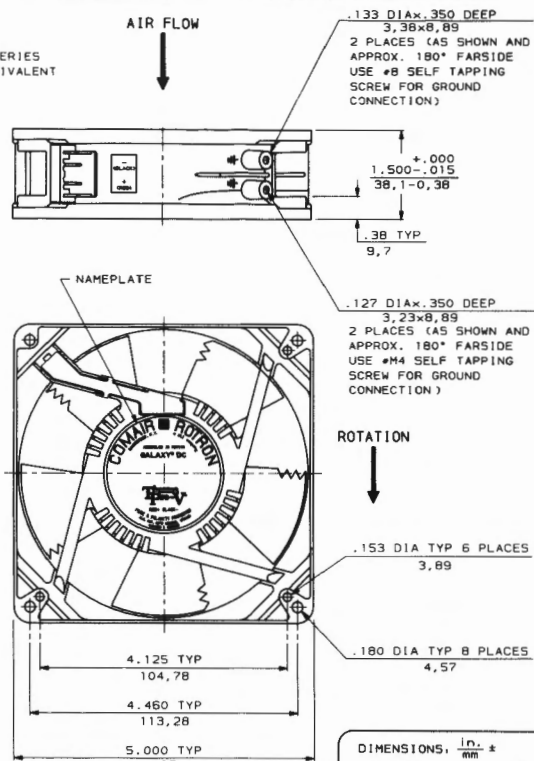
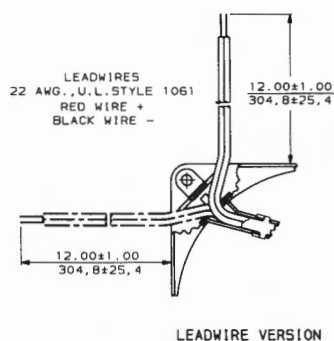
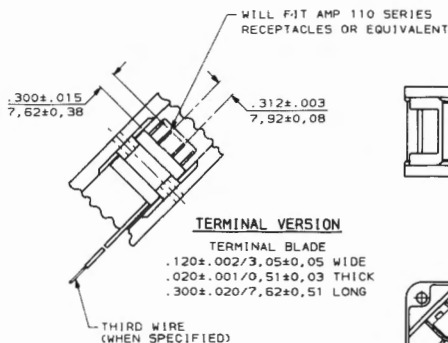
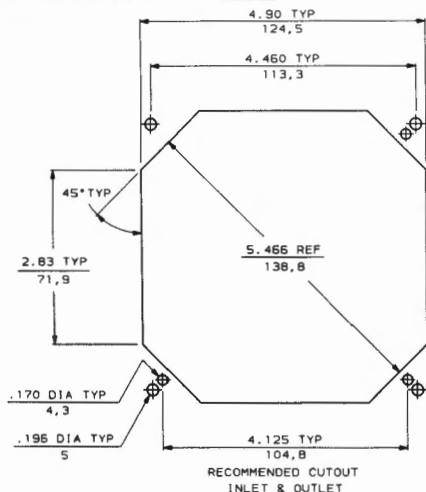
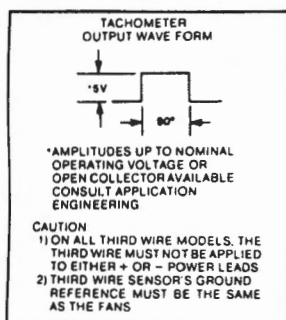
Terminal Version

Model No.	Part No.	Bearing	Nominal VDC	Range VDC	Watts	Running Current mA	Locked Rotor mA	RPM	CFM	L/Sec.
GL12B4	031074	Ball	12	6-14	15	1250	2600	3250	150	71
GL24B4	031075	Ball	24	12-28	15	625	1150	3250	150	71
GL48B4	031076	Ball	48	24-56	15	310	775	3250	150	71
*GL12C4V	031077	Ball	12	11-14	10	850	2500	2700	125	59
*GL24C4V	031078	Ball	24	20-28	10	420	1000	2700	125	59
*GL48C4V	031079	Ball	48	38-56	10	210	770	2700	125	59
*GL12H4V	031080	Ball	12	10-14	9	750	2700	2400	110	52
*GL24H4V	031081	Ball	24	18-28	9	360	1000	2400	110	52
*GL48H4V	031082	Ball	48	35-56	9	180	715	2400	110	52

All figures are nominal free delivery values at sea level.

* ThermaPro-V voltaged regulated
See catalog pg. 44 for description

* Distributor Item.



Specifications subject to change without notice.

MOTOR

Brushless electronic commutation provided by dependable solid state circuitry.
Stainless steel ball bearings.
100% dielectric tested at 600 VAC/1 sec./500 microamps maximum leakage.
Electronic locked rotor protection.
Polarity protected.
Power transistor heat sunk to metal housing.

CONSTRUCTION

Venturi — die-cast zinc alloy, painted black.
Propeller — polycarbonate, black, meeting UL94V-0 flammability rating.

EMI

Per MIL STD 461 meets EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A and B radiated and conducted emissions, meets EMI standards per VDE Specification 0871/6.78 for category A and B requirements.

OPTIONS

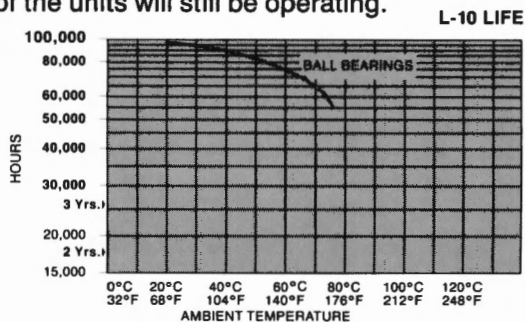
Capable of furnishing:
Thermal speed control, programmability (See pages 44 and 45) Isolated tachometer output — square wave output equal to two pulses per revolution.
Harness assemblies. See page 106.
Leadwire version.

ACOUSTIC RATINGS (for definitions see page 5)

	VOLTAGE	AIR FLOW		STATIC PRESSURE		PER INCE ANSI S12.11-1987			FREELY SUSPENDED @ 1 METER
Models	DC	CFM	L/Sec	"w.g.	mm H ₂ O	PSIL dBA @ 3'	SPL dBA @ 3'	NEPL Beis 'A'	dBA
GL12B4	NOMINAL	150	48.2	0	0	50.6	58.4	6.84	53.6
GL24B4		102.2	59.0	0.183	4.65	49.0	55.4	6.54	
GL48B4	NOMINAL	125	34.6	0	0	45.7	51.9	6.19	48.2
GL12C4		73.3	51.9	0.149	3.78	44.7	50.5	6.05	
GL24C4	NOMINAL	110	33.5	0	0	44.2	50.7	6.07	45.8
GL48C4		70.9	ERR	0.111	2.82	42.2	48.2	5.82	

LIFE EXPECTANCY

The curve represents the continuous duty life of Galaxy DC tubeaxial fans at a given temperature, after which 90% of the units will still be operating.



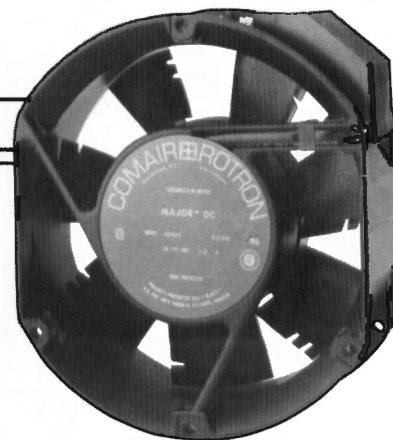
EXAMPLE: When run at 50°C ambient, 90% of the Galaxy DC units will still be running after 82,500 hours continuous duty.

MAJOR® DC (QUIET)

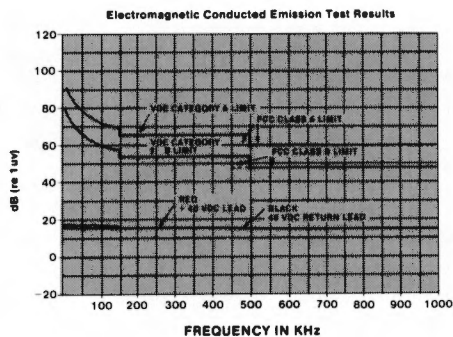
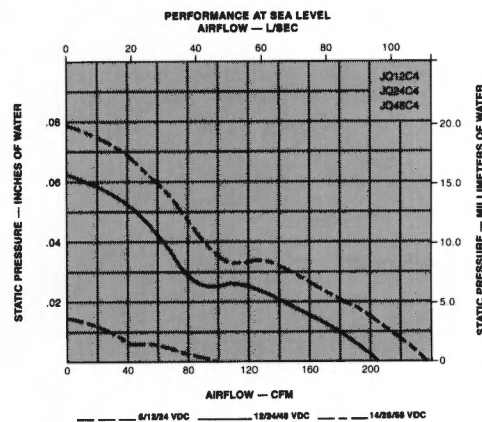
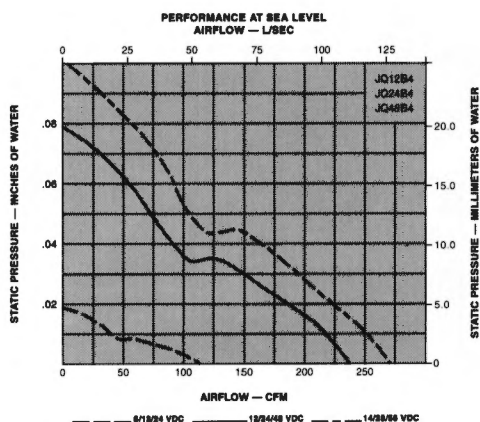
BRUSHLESS DC FAN

FEATURES

- Size - 6.75" x 5.92" x 2.00" deep (171.5 mm x 150.4 x 50.8 mm)
- 100 to 260 CFM (47.2 to 123 L/Sec.)
- 12, 24 and 48 VDC (Nominal)
- Feathered Edge™ for lower noise
- Operating temperature range: -10°C to +70°C
- Weight - 1.84 lbs. (.84 Kg)
- UL Yellow Card Recognized - File No. E31293
- CSA Certified - File No. LR52898
- TUV approved to IEC 950, VDE 0730, Licenses R97152 and R97188



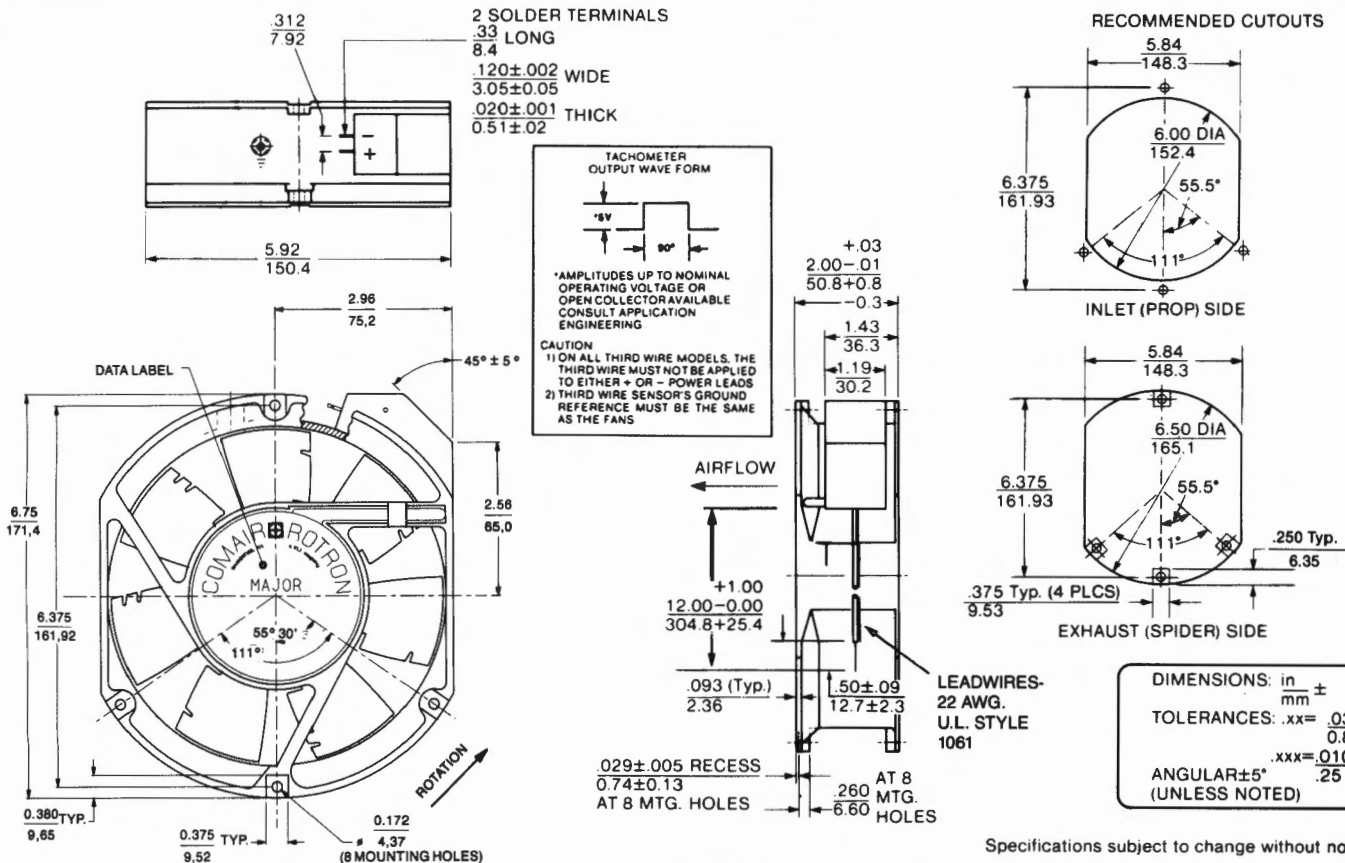
PERFORMANCE



SPECIFICATIONS

Model No.	Part No.	Bearing	Nominal VDC	Range VDC	Watts	Running Current mA	Locked Rotor mA	RPM	CFM	L/Sec.
JQ12B4	031089	Ball	12	9-14	26.3	2200	3500	3500	235	111
JQ24B4	031090	Ball	24	12-28	20.3	850	1500	3500	235	111
* JQ48B4	031091	Ball	48	24-56	20.1	420	700	3500	235	111
* JQ12C4	031092	Ball	12	9-14	14.6	1215	2700	3000	200	95
* JQ24C4	031093	Ball	24	12-28	15.7	660	1500	3150	210	99
JQ48C4	031094	Ball	48	24-56	13.7	290	700	3150	210	99

All figures are nominal free delivery values at sea level.



MOTOR

Brushless electronic commutation provided by dependable solid state circuitry.
 Stainless steel ball bearings.
 100% dielectric tested at 600 VAC/1 sec./500 microamps maximum leakage.
 Electronic locked rotor protection. (Current limited)
 Automatic restart capability.
 Polarity protected.
 Power transistor heat sunk to metal housing.

CONSTRUCTION

Venturi - single piece, die-cast aluminum, painted black.
 Propeller and Terminal Cover - polycarbonate, black, meeting UL94V-0 flammability rating.

EMI

Per MIL STD 461 meets EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A and B radiated and conducted emissions, meets EMI standards per VDE Specification 0871/6.78 for category A and B requirements.

OPTIONS

Capable of furnishing:
 Terminal or leadwire versions.
 Thermal speed control. See pages 44 and 45.
 Isolated Tachometer output - square wave output equal to two pulses per revolution. See page 60.
 Various Fan Performance Sensor (FPS) options. See page 58.

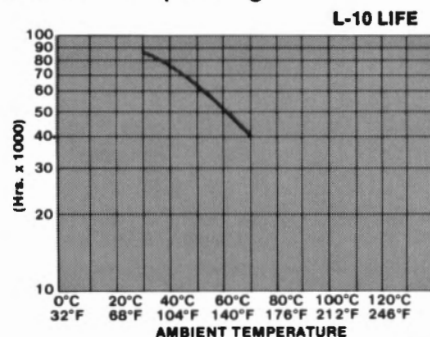
Harness assemblies. See page 106.

ACOUSTIC RATINGS (for definitions see page 5)

Models	VOLTAGE	AIR FLOW		STATIC PRESSURE		PER INCE ANSI S12.11-1987			FREELY SUSPENDED @ 1 METER
		CFM	L/Sec	"w.g.	mm H ₂ O	PSIL dB	SPL dBA @ 3'	NEPL Belo 'A'	
JQ12B4	NOMINAL	235	110.9	0	0	53.4	58.7	6.87	54.3
JQ24B4		156	73.6	0.245	6.22	49.8	54.9	6.49	
JQ48B4									
JQ12C4	NOMINAL	210	99.1	0	0	45.9	52.1	6.21	49.0
JQ24C4		118.2	55.8	0.185	4.70	44.2	49.4	5.94	
JQ48C4									

LIFE EXPECTANCY

The curve represents the continuous duty life of Major DC (Quiet) fans at a given temperature, after which 90% of the units will still be operating.



EXAMPLE: When run at 50°C ambient, 90% of the Major DC (Quiet) units will still be running after 62,000 hours continuous duty.

PATRIOT® DC (QUIET)

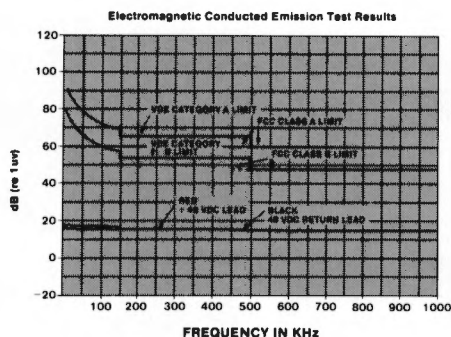
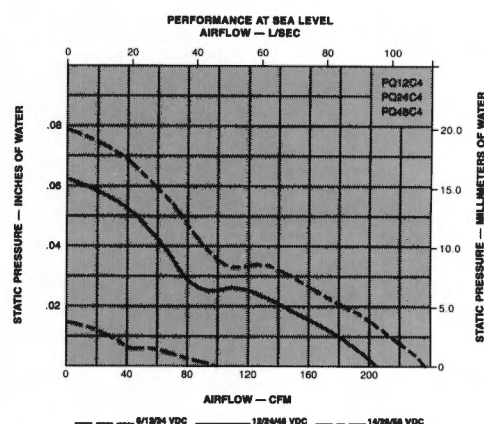
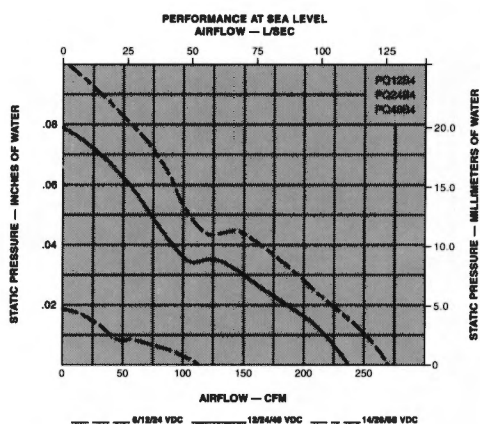
BRUSHLESS DC FAN

FEATURES

- ☐ Size - 6.75" x 2.00" deep (171.5 mm x 50.8 mm)
- ☐ 100 to 260 CFM (47.2 to 123 L/Sec.)
- ☐ 12, 24 and 48 VDC (Nominal)
- ☐ Feathered Edge™ for lower noise
- ☐ Operating temperature range: -10°C to +70°C
- ☐ Weight - 1.84 lbs. (.84 Kg)
- ☐ UL Yellow Card Recognized - File No. E31293
- ☐ CSA Certified - File No. LR52898
- ☐ TUV approved to IEC 950, VDE 0730, Licenses R97152 and R97188



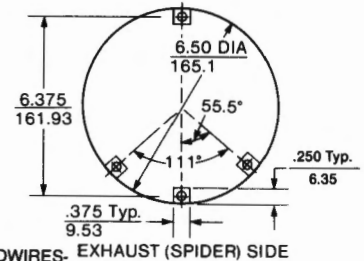
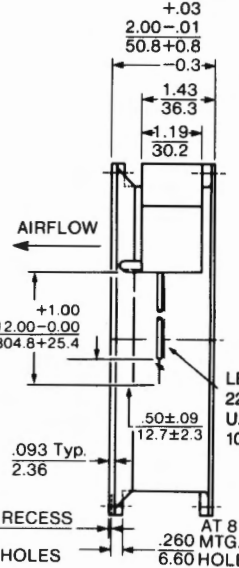
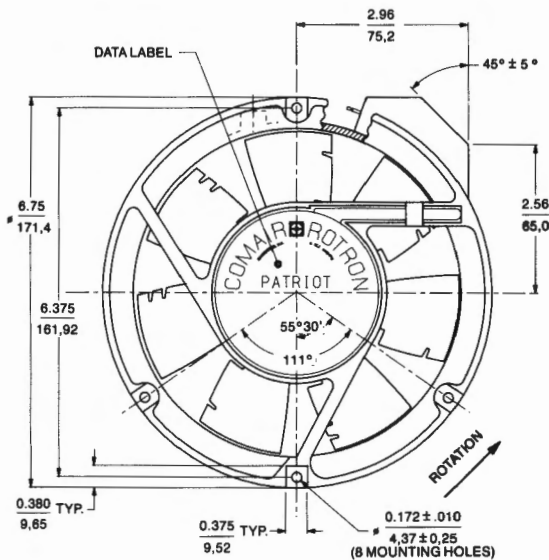
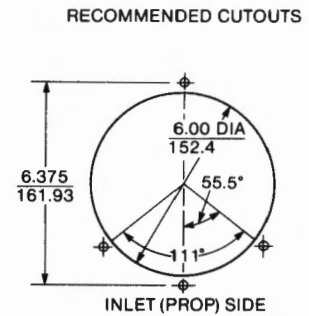
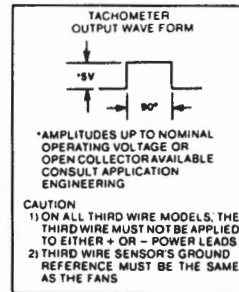
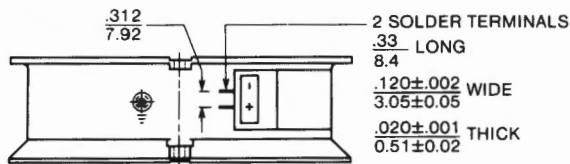
PERFORMANCE



SPECIFICATIONS

Model No.	Part No.	Bearing	Nominal VDC	Range VDC	Watts	Running Current mA	Locked Rotor mA	RPM	CFM	L/Sec.
PQ12B4	031083	Ball	12	9-14	26.3	2200	3500	3500	235	111
* PQ24B4	031084	Ball	24	12-28	20.3	850	1500	3500	235	111
* PQ48B4	031085	Ball	48	24-56	20.1	420	700	3500	235	111
* PQ12C4	031086	Ball	12	9-14	14.6	1215	2700	3000	200	95
* PQ24C4	031087	Ball	24	12-28	15.7	660	1500	3150	210	99
* PQ48C4	031088	Ball	48	24-56	13.7	290	700	3150	210	99

All figures are nominal free delivery values at sea level.



DIMENSIONS: in ±
mm
TOLERANCES: .xx= .03
0.8
.xxx=.010
ANGULAR±5°
(UNLESS NOTED)

Specifications subject to change without notice.

MOTOR

Brushless electronic commutation provided by dependable solid state circuitry.
Stainless steel ball bearings.
100% dielectric tested at 600 VAC/1 sec./500 microamps maximum leakage.
Electronic locked rotor protection. (Current limited).
Automatic restart capability.
Polarity protected.

CONSTRUCTION

Venturi - single piece, die-cast aluminum, painted black.
Propeller and Terminal Cover - polycarbonate, black, meeting UL94V-0 flammability rating.

EMI

Per MIL STD 461 meets EMI standards per FCC Part 15, Subpart J of Docket 20780, Class A and B radiated and conducted emissions, meets EMI standards per VDE Specification 0871/6.78 for category A and B requirements.

OPTIONS

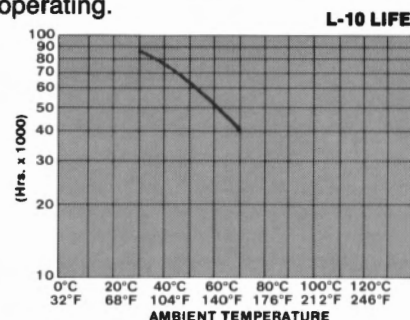
Capable of furnishing:
Terminal or leadwire versions.
Thermal speed control. See pages 44 and 45.
Isolated Tachometer output - square wave output equal to two pulses per revolution. See page 60.
Various Fan Performance Sensor (FPS) options. See page 58.
Harness assemblies. See page 106.

ACOUSTIC RATINGS (for definitions see page 5)

	VOLTAGE	AIR FLOW		STATIC PRESSURE		PER INCE ANSI S12.11-1987			FREELY SUSPENDED @ 1 METER
Models	DC	CFM	L/Sec	"w.g.	mm H ₂ O	PSIL dB	SPL dBA @ 3'	NEPL Bels 'A'	dBA
PQ12B4	NOMINAL	235	110.9	0	0	49.2	57.4	6.47	51.2
PQ24B4		161.1	76.0	0.251	6.38	48.8	52.0	6.20	
PQ48B4									
PQ12C4	NOMINAL	210	99.1	0	0	45.9	51.8	6.16	49.8
PQ24C4		143	67.5	0.18	4.83	43.2	49.2	5.92	
PQ48C4									

LIFE EXPECTANCY

The curve represents the continuous duty life of Patriot DC (Quiet) fans at a given temperature, after which 90% of the units will still be operating.



EXAMPLE: When run at 50°C ambient, 90% of the Patriot DC (Quiet) units will still be running after 62,000 hours continuous duty.