CUI DEVICES

date 10/15/2021

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SERIES: CFM-80BF **DESCRIPTION:** DC AXIAL FAN

FEATURES

- dual ball bearing system
- 80 x 80 mm frame
- multiple speed options
- tachometer signal available



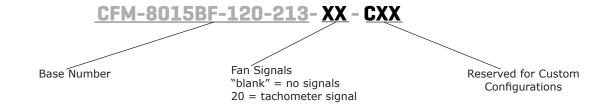


MODEL		put Itage	input current¹	input power¹	rated speed ¹	airflow ²	static pressure³	noise4
	rated (Vdc)	range (Vdc)	max (A)	max (W)	typ (RPM±10%)	(CFM)	(inch H ₂ O)	typ (dBA)
CFM-8015BF-120-213	12	10.8~13.2	0.09	1.08	2,0005	23.23	0.04	21.3
CFM-8015BF-130-301	12	10.8~13.2	0.26	3.12	3,000⁵	34.85	0.10	30.1
CFM-8015BF-140-363	12	10.8~13.2	0.45	5.40	4,000	46.47	0.18	36.3
CFM-8015BF-220-213	24	21.6~26.4	0.06	1.44	2,0005	23.23	0.04	21.3
CFM-8015BF-230-301	24	21.6~26.4	0.21	5.04	3,000⁵	34.85	0.10	30.1
CFM-8015BF-240-363	24	21.6~26.4	0.21	5.04	4,000	46.47	0.18	36.3
CFM-8020BF-125-273	12	10.8~13.2	0.08	0.96	2,500⁵	24.52	0.07	27.4
CFM-8020BF-135-346	12	10.8~13.2	0.15	1.80	3,500	34.33	0.14	34.7
CFM-8020BF-145-401	12	10.8~13.2	0.30	3.60	4,500	44.14	0.24	40.2
CFM-8020BF-155-444	12	10.8~13.2	0.45	5.40	5,500	53.94	0.35	44.5
CFM-8020BF-225-273	24	21.6~26.4	0.05	1.20	2,500⁵	24.52	0.07	27.4
CFM-8020BF-235-346	24	21.6~26.4	0.09	2.16	3,500	34.33	0.14	34.0
CFM-8020BF-245-401	24	21.6~26.4	0.18	4.32	4,500	44.14	0.24	40.2
CFM-8020BF-255-444	24	21.6~26.4	0.27	6.48	5,500	53.94	0.35	44.5

Notes:

- 1. At rated voltage, after 3 minutes.
- 2. At rated voltage, room temperature, 65% humidity, 0 inch H₂0 static pressure.
- 3. At rated voltage, 0 CFM airflow.
 4. Measured in an anechoic chamber as per ISO3745/GB4214-84 at rated voltage, with background noise 20±2 dBA at 1 m from the fan intake.
- 5. Typical rated speed is measured as RPM±350 at rated voltage.
- 6. All specifications are measured at 25°C, 65% relative humidity unless otherwise specified.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
operating input voltage ⁷	12 Vdc input models 24 Vdc input models	10.8 21.6	12 24	13.2 26.4	Vdc Vdc
starting voltage	12 Vdc input models 24 Vdc input models (CFM-8020BF-225-273 & CFM-8020BF-235-346: 12 Vdc)		7 14		Vdc Vdc

Note: 7. See Model section on page 1 for specific input voltage ranges.

PERFORMANCE⁸

parameter	conditions/description	min	typ	max	units
rated speed	at rated voltage, 25°C, after 3 minutes	2,000		5,500	RPM
air flow	at 0 inch H ₂ O, see performance curves	23.23		53.94	CFM
static pressure at 0 CFM, see performance curves		0.04		0.35	inch H ₂ O
noise	at 1 m, rated speed	21.3		44.5	dBA

Note: 8. See Model section on page 1 for specific values.

PROTECTIONS / FEATURES⁹

parameter	conditions/description	min	typ	max	units
auto restart	on all models				
polarity protection	on all models				
tachometer signal	available on "20" models				

Notes: 9. See Application Notes for details.

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
insulation resistance	at 500 Vdc between frame and positive terminal	10			MΩ
dielectric strength	at 500 Vac, 60 Hz, 1 minute between housing and positive terminal			5	mA
safety approvals UL/cUL 507, TUV (EN/IEC 62368-1:2020+A11)					
EMI/EMC EN 55032:2015, EN 55035:2017					
life expectancy at 40°C, 65% RH, 90% confidence level			70,000		hours
RoHS	yes				

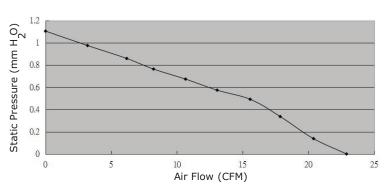
ENVIRONMENTAL

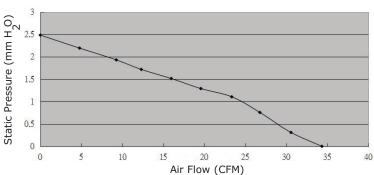
parameter	conditions/description	min	typ	max	units
operating temperature		-10		70	°C
storage temperature		-40		75	°C
operating humidity	non-condensing	35		85	%
storage humidity	non-condensing	35		85	%

PERFORMANCE CURVES

CFM-8015BF-120-213

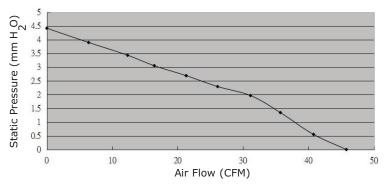
CFM-8015BF-130-301

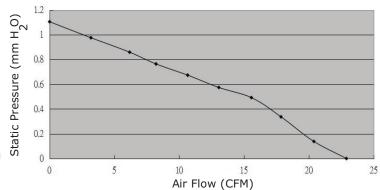




CFM-8015BF-140-363

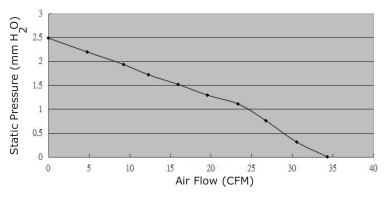
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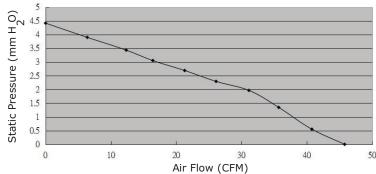




CFM-8015BF-230-301

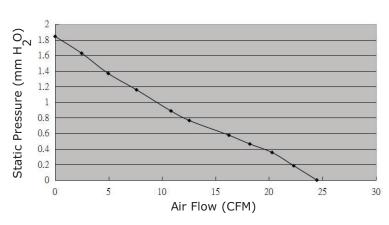
CFM-8015BF-240-363



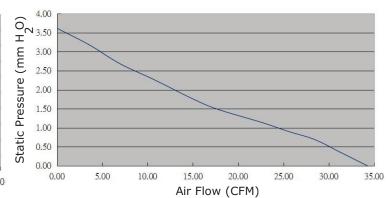


PERFORMANCE CURVES (CONTINUED)

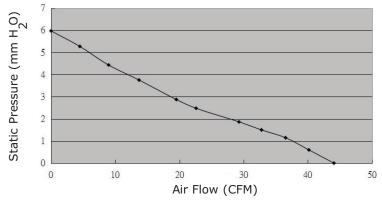
CFM-8020BF-125-273



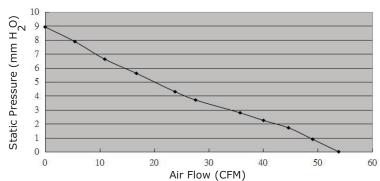
CFM-8020BF-135-346



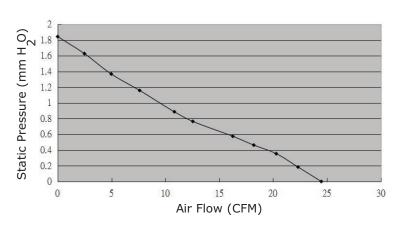
CFM-8020BF-145-401



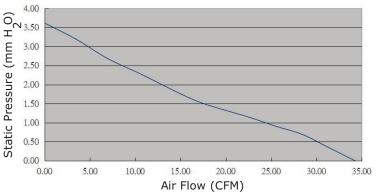
CFM-8020BF-155-444



CFM-8020BF-225-273



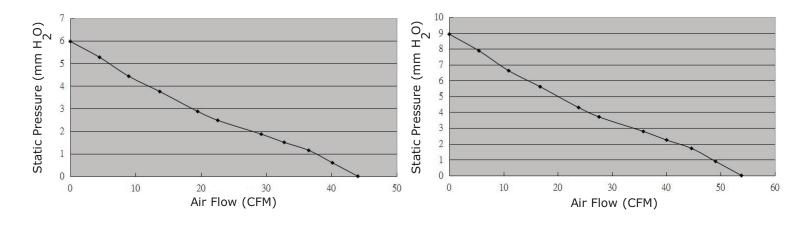
CFM-8020BF-235-346



PERFORMANCE CURVES (CONTINUED)

CFM-8020BF-245-401

CFM-8020BF-255-444



Additional Resources: Product Page

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MECHANICAL

parameter	conditions/description	min	typ	max	units
motor 4 pole DC brushless					
bearing system	ing system dual ball bearing				
direction of rotation	counter-clockwise viewed from front of fan blade				
dimensions CFM-8015BF models: 80 x 80 x 15.4 CFM-8020BF models: 80 x 80 x 20.0					mm mm
material	PBT (UL94V-0)				
weight	CFM-8015BF models: weight varies by model CFM-8020BF models: weight varies by model	50.8 55.1		55.1 61.0	g g

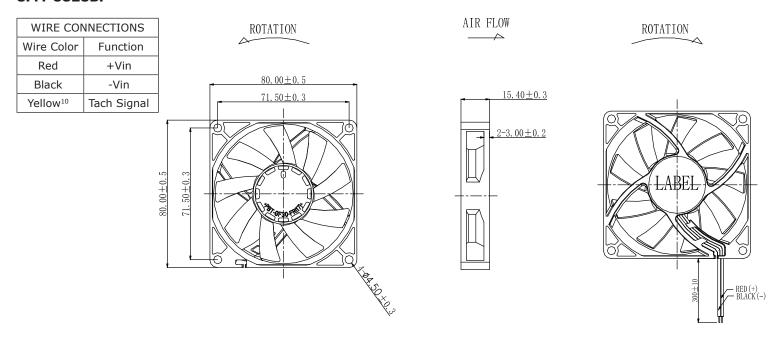
MECHANICAL DRAWING

units: mm

wire: UL 1007, 26 AWG

MOUNTING SCREW (Pan Head)							
Screw Type	Size	Standard	Torque				
Machine Screw	M4	JIS B1111-1974	7.5 kgf-cm				
Self-tapping Screw	M5	JIS B1122 Type 2	7.5 kgf-cm				

CFM-8015BF



Notes: 10. Wires only present on versions with output signals.

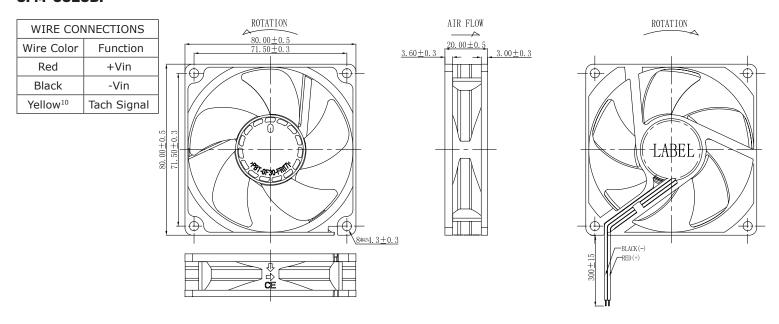
MECHANICAL DRAWING (CONTINUED)

units: mm

wire: UL 1007, 24 AWG

MOUNTING SCREW (Pan Head)							
Screw Type	Size	Standard	Torque				
Machine Screw	M4	JIS B1111-1974	4.5 kgf-cm				
Self-tapping Screw	M4.8	JIS B1122 Type 2	5.5 kgf-cm				

CFM-8020BF



Notes: 10. Wires only present on versions with output signals.

Auto Restart Protection

When the fan motor is locked by an external force, the device will temporarily turn off electrical power to the motor and restart automatically when the locked rotor condition is released.

Polarity Protection

Able to withstand 10 minutes of reverse polarity connection between the positive and negative wires without causing damage.

Tachometer Signal (Yellow Wire)

The tachometer signal is for detecting the rotational speed of the fan motor. The output will be a square wave when fan is operating and VFG or VCE depending on the locked rotor position when fan motor is locked (See Figures $1\sim2$ below).

Figure 1: Tachometer Output Circuit

