

Customer			
Description	C FAN		
Part No.		REV	
Delta Model No. B	FB0712HD	_REV00	
Sample Issue No			
Sample Issue Date_	APR.30 2014		
PLEASE SEND ON AFTER YOU SIGN ARRANGMENT.			_
APPROVED BY:			_
DATE :			_

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TAOYUAN PLANT
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# 

DC FAN	
	REV:
BFB0712HD	
00	Issue NO:
::	Quantity:
	BFB0712HD

#### 1. SCOPE:

THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE DC BRUSHLESS BLOWER. THE BLOWER MOTOR IS WITH SINGLE PHASES AND FOUR POLES.

### 2. CHARACTERS:

ITEM	DESCRIPTION
RATED VOLTAGE	12 VDC
OPERATION VOLTAGE	7.0 - 13.8 VDC
INPUT CURRENT	0.31 (MAX. 0.37) A
INPUT POWER	3.72 (MAX. 4.44) W
SPEED	4000 R.P.M. (REF.)
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	0.231 (MIN. 0.208 ) M <sup>3</sup> /MIN. 8.158 (MIN. 6.608 ) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	26.265 (MIN. 21.275 ) mmH <sub>2</sub> 0 1.034 (MIN. 0.838 ) inchH <sub>2</sub> 0
ACOUSTICAL NOISE (AVG.)	42.0 (MAX. 46.0) dB-A
INSULATION TYPE	UL: CLASS A

(continued)

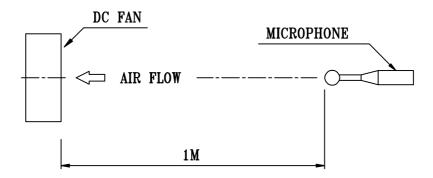
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PART NO:	
DELTA MODEL:	BFB0712HD

INSULATION STRENGTH	10 MEG OHM MIN. AT 500 VDC (BETWEEN FRAME AND (+) TERMINAL)
DIELECTRIC STRENGTH	5 ma MAX. AT 500 VAC 50/60 Hz ONE MINUTE, (BETWEEN FRAME AND (+) TERMINAL)
EXTERNAL COVER	OPEN TYPE
LIFE EXPECTANCE	50,000 HOURS CONTINOUS OPERATION AT 40 °C WITH 15 ~ 65 %RH.
ROTATION	CLOCKWISE VIEW FROM NAME PLATE SIDE
OVER CURRENT SHUT DOWN	THE CURRENT WILL SHUT DOWN WHEN LOCKING ROTOR
INSULATION TYPE	UL: CLASS A
LEAD WIRE	UL 1061 -F- AWG #26 BLACK WIRE NEGATIVE(-) RED WIRE POSITIVE(+)

NOTES: 1. ALL READINGS ARE MEASURED AFTER STABLY WARMING UP THROUGH 10 MINUTES.

- 2. STANDARD AIR PROPERTY IS AIR AT (Td) 25°C TEMPERATURE, (RH) 65% RELATIVE HUMIDITY, AND (Pb) 760 mmHg BAROMETRIC PRESSURE.
- 3. THE VALUES WRITTEN IN PARENS, ( ), ARE LIMITED SPEC.
- 4. ACOUSTICAL NOISE MEASURING CONDITION:



NOISE IS MEASURED AT RATED VOLTAGE IN FREE AIR IN ANECHOIC CHAMBER WITH B & K SOUND LEVEL METER WITH MICROPHONE AT A DISTANCE OF ONE METER FROM THE FAN INTAKE.

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PART						
DELTA		BFB0712HD				
3. ME	CHANICAL:					
3-1	. DIMENSION	· · · · · · · · · · · · · · · · · · ·		SEE DIMEN	ISIONS D	RAWING
3-2	2. FRAME – –			PLA	STIC UL	: 94V-0
3-3	B. IMPELLER			PLA	STIC UL	: 94V-0
3-4	I. BEARING S	SYSTEM		——— <b>TW</b> O	BALL BI	EARINGS
3-5	5. WEIGHT –				<b> 58</b>	GRAMS
4. EN	VIRONMENTAI	<b>.</b> :				
4-1	l. OPERATING	TEMPERATURE - —		10 TO	+70 DE	GREE C
4-2	2. STORAGE	TEMPERATURE — — –		<b>— -40 ТО</b>	+75 DE	GREE C
4-3	B. OPERATING	HUMIDITY ———			5 TO 9	0 % RH
4-4	1. STORAGE 1	HUMIDITY			5 TO 9	5 % RH
5. PR	OTECTION:					
5-1	1. LOCKED RO	OTOR PROTECTION				
		E OF MOTOR WINDING LOCKED ROTOR CONI				N 96
5-2	2. POLARITY	PROTECTION				
	BE CAPABI	LE OF WITHSTANDING	IF REVERSE	CONNECTIO	N FOR P	OSITIVE

# 6. RE OZONE DEPLETING SUBSTANCES:

AND NEGATIVE LEADS.

 $6\!-\!1.$  NO CONTAINING PBBs, PBB0s, CFCs, PBBEs, PBDPEs AND HCFCs.

## 7. PRODUCTION LOCATION

7-1. PRODUCTS WILL BE PRODUCED IN CHINA OR THAILAND OR TAIWAN.

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PART NO:
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DELTA MODEL:

### 8. BASIC RELIABILITY REQUIREMENT:

8-1.	THERMAL	LOW TEMPERATURE: -40°C
	CYCLING	HIGH TEMPERATURE: +80°C
		SOAK TIME: 30 MINUTES

TRANSITION TIME < 5 MINUTES

DUTY CYCLES: 5

8-2. HUMIDITY TEMPERATURE: +25°C ~ +65°C HUMIDITY: 90-98% RH @ +65°C FOR 4 HOURS/CYCLE

POWER: NON-OPERATING TEST TIME: 168 HOURS

8-3. VIBRATION TEMPERATURE: +25°C

ORIENTATION: X, Y, Z POWER: NON-OPERATING

VIBRATION LEVEL: OVERALL gRMS=3.2

FREQUENCY(Hz)	$PSD(G^2/Hz)$
10	0.040
20	0.100
40	0.100
800	0.002
1000	0.002

TEST TIME: 2 HOURS ON EACH ORIENTATION

8-4. MECHANICAL TEMPERATURE: +20°C

SHOCK ORIENTATION: X, Y, Z
POWER: NON-OPERATING

POWER: NON-OPERATING ACCELERATION: 20 G MIN.

PULSE: 11 ms HALF-SINE WAVE NUMBER OF SHOCKS: 5 SHOCKS

FOR EACH DIRECTION

8-5. LIFE TEMPERATURE: MAX, OPERATING TEMPERATURE

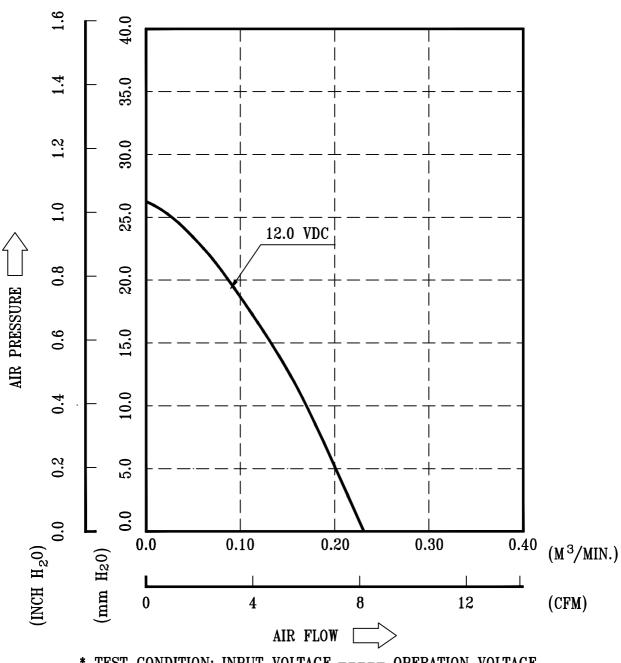
POWER: OPERATING

DURATION: 1000 HOURS MIN.

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# 9. P & Q CURVE:



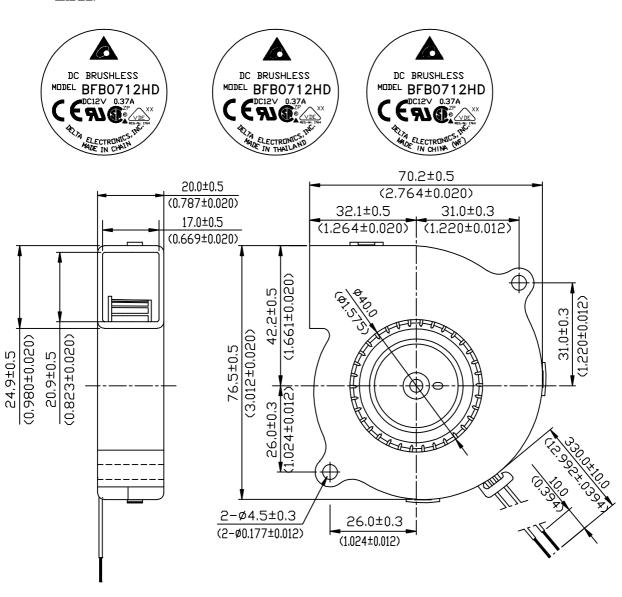
\* TEST CONDITION: INPUT VOLTAGE ---- OPERATION VOLTAGE TEMPERATURE ---- ROOM TEMPERATURE HUMIDITY ----- 65%RH

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#### 10. DIMENSION DRAWING:

LABEL:



UL 1061 -F- AWG #26 BLACK WIRE NEGATIVE(-) RED WIRE POSITIVE(+)

DIMENSION UNIT: mm

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# **Application Notice**

- 1. Delta will not guarantee the performance of the products if the application condition falls outside the parameters set forth in the specification.
- 2. A written request should be submitted to Delta prior to approval if deviation from this specification is required.
- 3. Please exercise caution when handling fans. Damage may be caused when pressure is applied to the impeller, if the fans are handled by the lead wires, or if the fan was hard-dropped to the production floor.
- 4. Except as pertains to some special designs, there is no guarantee that the products will be free from any such safety problems or failures as caused by the introduction of powder, droplets of water or encroachment of insect into the hub.
- 5. The above-mentioned conditions are representative of some unique examples and viewed as the first point of reference prior to all other information.
- 6. It is very important to establish the correct polarity before connecting the fan to the power source. Positive (+) and Negative (-). Damage may be caused to the fans if connection is with reverse polarity, if there is no foolproof method to protect against such error specifically mentioned in this spec.
- 7. Delta fans without special protection are not suitable where any corrosive fluids are introduced to their environment.
- 8. Please ensure all fans are stored according to the storage temperature limits specified. Do not store fans in a high humidity environment. We highly recommend performance testing is conducted before shipping, if the fans have been stored over 6 months.
- 9. Not all fans are provided with the Lock Rotor Protection feature. If you impair the rotation of the impeller for the fans that do not have this function, the performance of those fans will lead to failure.
- 10. Please be cautious when mounting the fan. Incorrect mounting of fans may cause excess resonance, vibration and subsequent noise.
- 11. It is important to consider safety when testing the fans. A suitable fan guard should be fitted to the fan to guard against any potential for personal injury.
- 12. Except where specifically stated, all tests are carried out at room (ambient) temperature and relative humidity conditions of 25°C, 65% RH. The test value is only for fan performance itself.
- 13. Be certain to connect an " $4.7\mu F$  or greater" capacitor to the fan externally when the application calls for using multiple fans in parallel, to avoid any unstable power.

Doc. No: FMBG-ES Form 001 Rev. 0001 Date: June 24, 2009