Customer No.:	027020100047
AVC Model:	DA08025B48SP057

Rev. C

SPECIFICATION FOR APPROVAL

1. SCOPE:

THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE DC BRUSHLESS FAN.

2. CHARACTERS:

(AT Ta=25°C)

	ITEM	SPEC.
2-1.	RATED VOLTAGE	48 VDC
2-2.	OPERATION VOLTAGE	28.0 ~ 72.0 VDC
2-3.	RATED CURRENT (IN FREE AIR)	0.14 (0.21 MAX.) A (AVERAGE)
2-4.	CURRENT ON LABEL	0.21 A
2-5.	RATED POWER (IN FREE AIR)	6.72 (10.08 MAX.) W
2-6.	SPEED (IN FREE AIR)	6000±10% R.P.M
2-7.	SPEED CONTROL TYPE	PWM CONTROLLER
2-8.	SIGNAL OUTPUT	FREQUENCY GENERATOR (FG)
2-9.	MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	2.067 (1.860 MIN.) M^3/MIN 73.00 (65.70 MIN.) CFM
2-10.	MAX. AIR PRESSURE (AT ZERO FLOW)	14.82 (12.00 MIN.) mm-H_2O 0.583 (0.472 MIN.) inch-H_2O
2-11.	ACOUSTICAL NOISE	52.0 (55.0 MAX.) dB-A

JIANCE 健策
0755-23706799
微信扫码 咨询工程师

Customer No.: 027020100047
AVC Model: DA08025B48SP057

2-12. INSULATION RESISTANCE —— 10 MEGA OHM MIN. AT 500 VDC
(BETWEEN MOTOR AND (+) TERMINAL)

2-13. DIELECTRIC STRENGTH ——— 5 mA MAX. AT 500 VAC 50Hz ONE MINUTE,
(BETWEEN FRAME AND (+) TERMINAL)

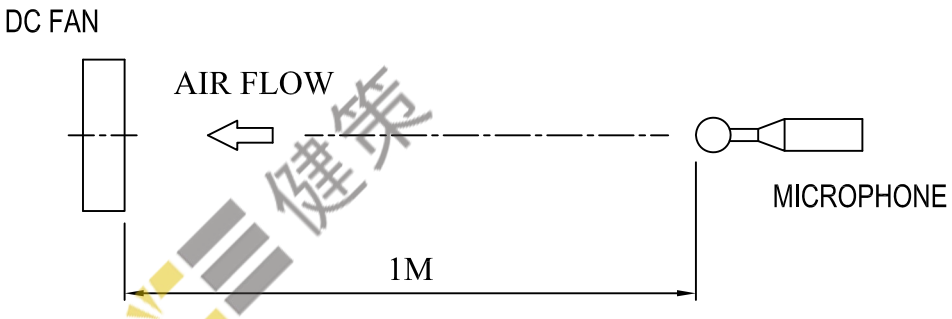
2-14. LIFE EXPECTANCE ———— 70,000 HOURS AT 40°C ROOM, HUMIDITY 15%~ 65%RH

2-15. INSULATION CLASS ———— UL: CLASS A

NOTE:

A. THE VALUES WRITTEN IN PARENTHESIS, ( ), ARE LIMITED SPEC.

B. ACOUSTICAL NOISE MEASURING CONDITION:



NOISE IS MEASURED AT RATED VOLTAGE IN FREE AIR IN ACOUSTICAL CHAMBER WITH LARSON DAVIS TYPE 824S SOUND LEVEL METER.

C. THE AIR FLOW AND AIR PRESSURE MEASURED AT RATED VOLTAGE IN DOUBLE CHAMBER IS MEASURED ACCORDING TO AMCA STANDARD 210-85.

JIANCE 健策
0755—23706799
微信扫码
咨询工程师

Customer No.: 027020100047
AVC Model: DA08025B48SP057

3. MECHANICAL

3-1. DIMENSION ——— SEE DIMENSION DRAWING

3-2. FRAME ——— THERMOPLASTIC OF UL 94V-0

3-3. FAN BLADE ——— THERMOPLASTIC OF UL 94V-0

3-4. BEARING SYSTEM ——— TWO BALL BEARINGS

3-5. WEIGHT ——— 108 g

4. ENVIRONMENTAL

4-1. OPERATING TEMPERATURE ——— -10 TO +70 °C

4-2. STORAGE TEMPERATURE ——— -40 TO +75 °C

4-3. OPERATING HUMIDITY ——— 5 TO 90 % RH

4-4. STORAGE HUMIDITY ——— 5 TO 95 % RH

4-5. DROP TEST ———
IN MINIMUM PACKAGING CONDITION FAN WITHSTAND EACH ONE DROP OF THREE FACES FROM 30cm DISTANCE HEIGHT ONTO 10mm THICKNESS OF WOODEN BOARD

4-6. VIBRATION TEST ———
SINEWAVE
DISPLACEMENT AMPLITUDE: 0.75 mm (EQUIVALENT 10G)
FREQUENCY RANGE: 10Hz - 55 Hz / 30 SEC. 55Hz - 10 Hz / 30 SEC.
LINEAR SCANNING 120 CYCLE
ENDURANCE TIMER PER AXIS: 2 HOURS
ORIENTATION: X,Y,Z

4-7. SHOCK TEST ———
APPLY PEAK ACCELERATION 50 G AND KEEP DURATION OF THE PULSES FOR 11mS (HALF SINE WAVE)

4-8. RoHS COMPLIANCE ——— SEE RoHS STANDARD

4-9. IP22 ——— SEE PAGE 8

5. PROTECTION

5-1. LOCKED ROTOR PROTECTION ———
IMPEDANCE OF MOTOR WINDING PROTECTS MOTOR FROM DAMAGE IN 72 HOURS OF LOCKED ROTOR CONDITION AT THE RATED VOLTAGE

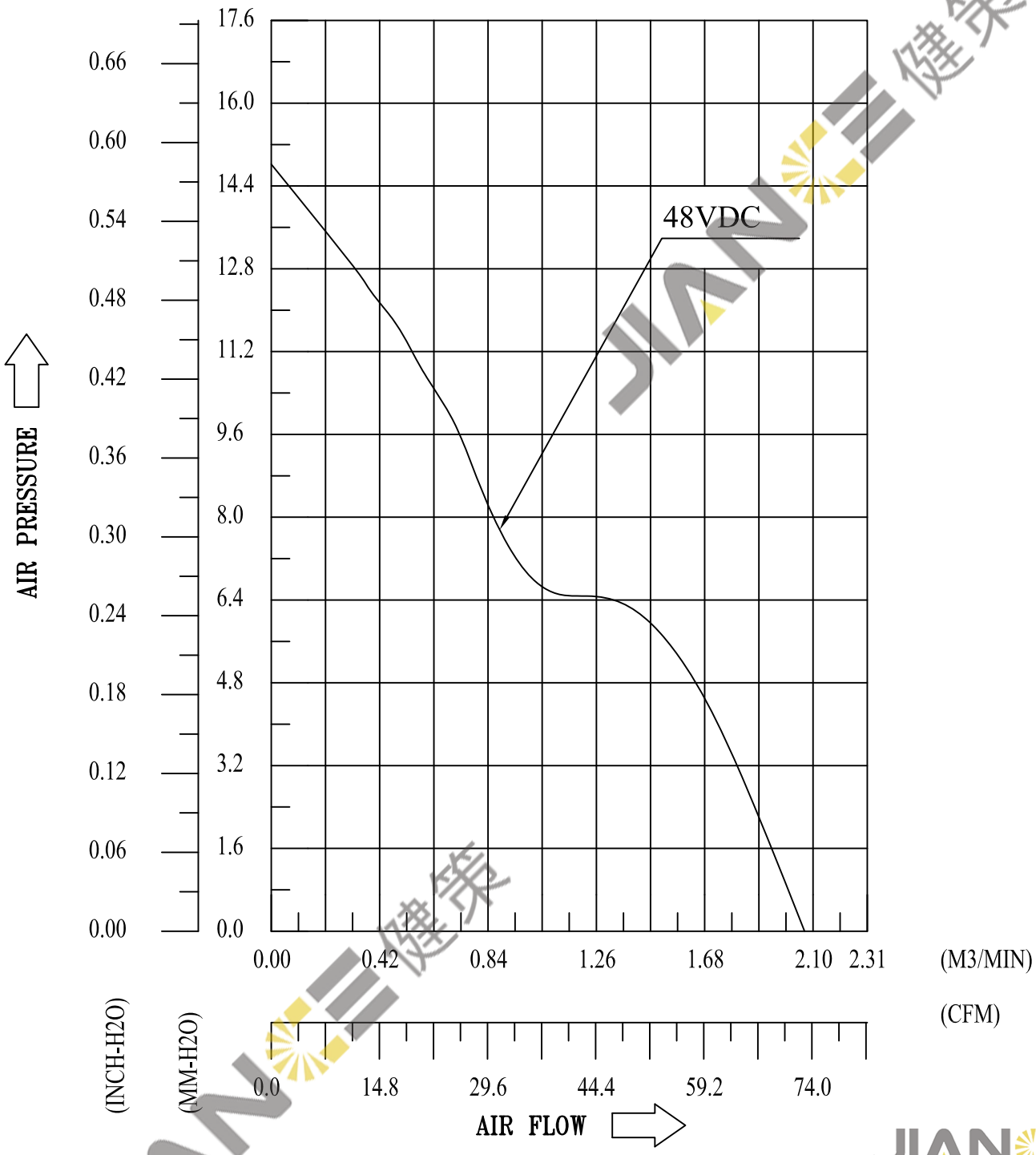
5-2. POLARITY PROTECTION ———
BE CAPABLE OF WITHSTANDING IF REVERSE CONNECTION FOR POSITIVE AND NEGATIVE LEADS

5-3. HOT SWAP PROTECTION
THIS FAN HAS NO HOT SWAP FUNCTION

JANCE 健策
0755—23706799
微信扫码 咨询工程师

Customer No.:027020100047
AVC Model: DA08025B48SP057

6. P & Q CURVE



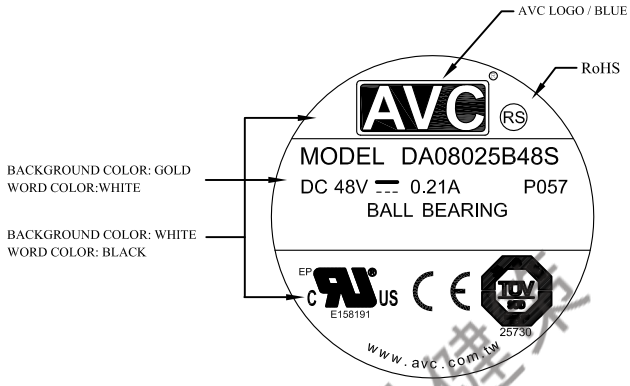
* TEST CONDITION:

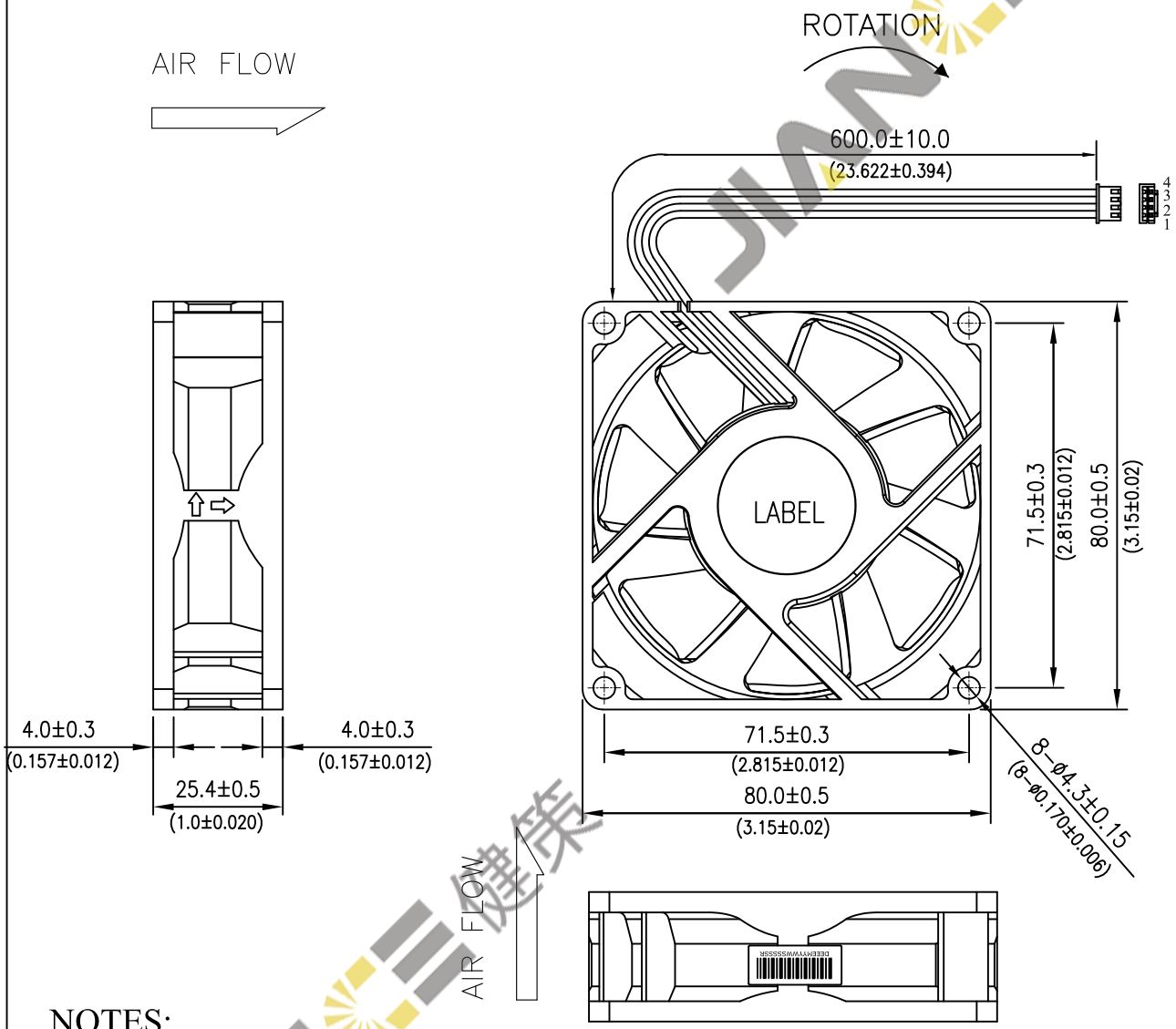
INPUT VOLTAGE ——— OPERATION VOLTAGE
TEMPERATURE ——— ROOM TEMPERATURE
HUMIDITY ——— 65%RH

JIANCE 健策
0755—23706799
微信扫码
咨询工程师

Customer No.:	027020100047
AVC Model:	DA08025B48SP057

7. DIMENSION DRAWING





NOTES:

1. LEAD WIRES: PVC WIRES UL1061 AWG#24
   PIN 1 : RED WIRE ..... (+)
   PIN 2 : YELLOW WIRE ..... (PWM)
   PIN 3 : BLUE WIRE ..... (FG)
   PIN 4 : BLACK WIRE ..... (-)
2. CONNECTOR
   HOUSING : HST H2500J-04 OR JST XHP-4
   TERMINAL : HST T2500J OR JST SXH-001T-P0.6

UNIT: mm / (INCH)

JIANCE 健策
0755—23706799
微信扫码
咨询工程师

Customer No.: 027020100047
AVC Model: DA08025B48SP057

8. SPEED CONTROL FUNCTION

8-1. PWM SIGNAL DESCRIPTION :

1. CONTROL SIGNAL: PWM CONTROL
2. THE RANGE OF SIGNAL VOLTAGE: LOW LEVEL VOLTAGE: MIN.>-0.8V, MAX. <0.8V
   HIGH LEVEL VOLTAGE: MIN. >2.8V , MAX.<20V
3. THE FREQUENCY OF PWM SIGNAL SHALL BE ABLE TO ACCEPT A 20HZ~100KHZ
4. INPUT IMPEDANCE : 20K OHM MIN.

8-2. FAN SPEED CONTROL DESCRIPTION

1. FAN INPUT VOLTAGE (POSITIVE) : 48VDC
2. PWM FREQUENCY : 100HZ
3. THE FAN SPEED WILL SPIN AT MAXIMUM WHEN THE DUTY CYCLE IS 100%.
4. THE FAN SPEED WILL STOP WHEN THE DUTY CYCLE IS 0%.
5. THE FAN SPEED WILL SPIN AT 0~6000 RPM WHEN THE DUTY CYCLE IS 0~100%.
6. THE FAN SPEED WILL SPIN AT MAXIMUM WHEN THE LEAD WIRE OF PWM SIGNAL DISCONNECTED.
7. THE FAN WILL BE ABLE TO START WHEN THE DUTY CYCLE IS 10% .
8. THE FAN WILL BE ABLE TO START WHEN THE DUTY CYCLE IS 30% AT 30HZ.

8-3. PWM DUTY CYCLE VS. RPM (AT Ta=25°C)

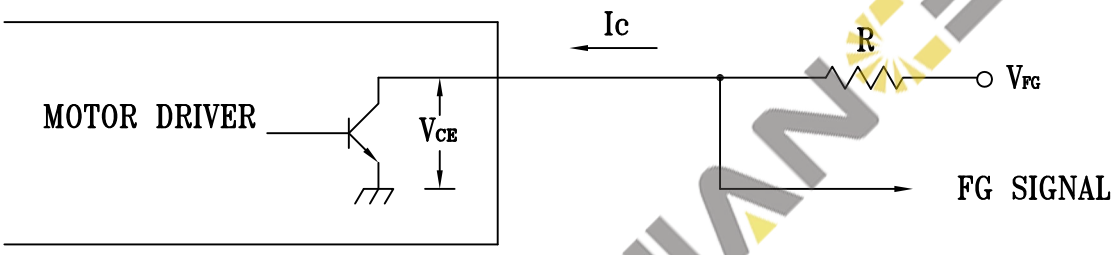
DUTY CYCLE (%)	R.P.M (REF.)	TYPICAL CURRENT(A)
0	0	0.01
50	3000±10%	0.04
100	6000±10%	0.14

JIANCE 健策
0755—23706799
微信扫码
咨询工程师

Customer No.: 027020100047
AVC Model: DA08025B48SP057

9. FREQUENCY GENERATOR (FG) SIGNAL

9-1. SCHEMATIC:



CAUTION:

THE LEAD WIRE OF FG SIGNAL CAN NOT TOUCH
THE LEAD WIRE OF POSITIVE OR NEGATIVE.

9-2. SIGNAL SPECIFICATION:

OUTPUT TYPE: OPEN COLLECTOR

V_{FG} MAXIMUM VOLTAGE = 72V

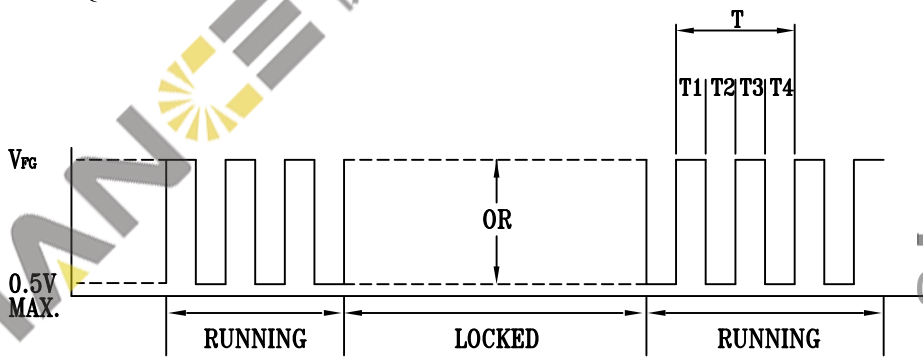
V_{FG} MINIMUM VOLTAGE = 2.8V

I_C MAXIMUM CURRENT =5mA

LOW LEVEL VOLTAGE = 0.5V MAX.

$R \geq V_{FG} / I_C$

9-3. FREQUENCY GENERATOR WAVEFORM:



T=T1+T2+T3+T4=60/N (Sec) N: SPEED (RPM)

JIANCE 健策
0755—23706799
微信扫码
咨询工程师

Customer No.:027020100047
AVC Model: DA08025B48SP057

A. DUSTPROOF TEST

THE OBJECT PROBE WITH THE DIAMETER IS 12.5 +0.2/-0.0 MM IS PUSHED AGAINST ANY OPENINGS OF THE ENCLOSURE WITH THE FORCE IS 30N±10%.
THE PROTECTION IS SATISFACTORY IF THE PROBE DOES NOT PASS THROUGH ANY OPENING
FOLLOW IEC 60529 IP2X.

B. WATERPROOF TEST

TEMPERATURE RANGE : 15℃ TO 35℃ AND DURATION OF TEST : 2.5 MINUTE FOR EACH POSITION OF TILT ENLOSURE IN 4 FIXED POSITIONS OF 15° TILT ,
WATER FLOW RATE:3~3.5 mm/min ,
FOLLOW IEC 60529 IPX2

JIANCE 健策
0755—23706799
微信扫码
咨询工程师

FAN INSTALLATION INSTRUCTIONS:

1. In case of using bolt-nut fasteners, the flatness of chassis mating surfaces should be kept below 0.1mm.

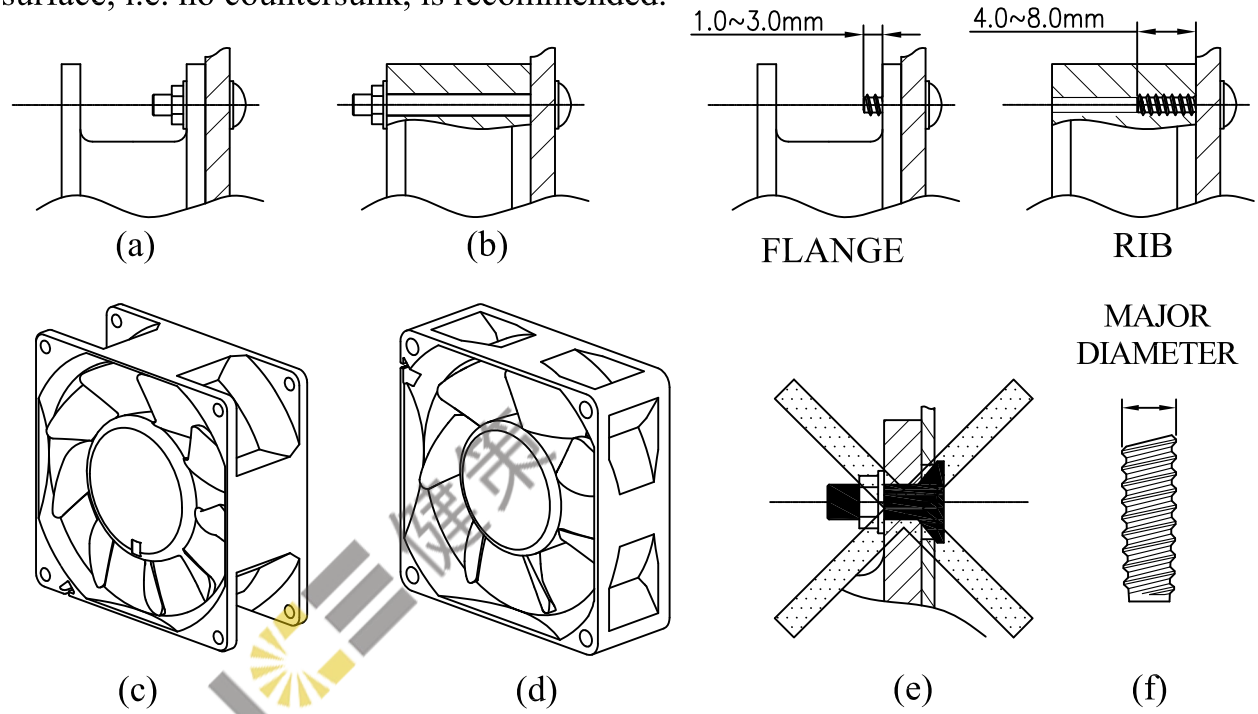
2. How to fasten the frames of different types:

   A. Flange type : Screw the bolt and nut together from the inlet or outlet.
   The torque should not exceed 4.3 kgf-cm [figure(a)]

   B. Rib type : Screw the bolt through the rib.
   The torque should not exceed 7.0 kgf-cm [figure(b)]

3. In case of using self-tapping screws, appropriate screws according to JIS B 1122 Type 2 should be used. The dimensional details of the self-tapping screws recommended are shown in Table(a). Each fastener hole should only be tightened once or slippage may occur. In addition, the torque to be applied to the self-tapping screws must not exceed the values stated in Table(a).

4. The countersunk part of fastener head should not interfere with the frame or there would be a risk of breakage [figure(e)]. Fastener head with flat inner surface, i.e. no countersunk, is recommended.



MOUNTING HOLE DIAMETER	SCREW SPEC.	MAJOR DIAMETER [Fig.(f)]		MOUNTING HOLE THICKNESS(mm)		**RECOMMENDED MAX. TORQUE (kgf-cm)	
		MAXIMUM	MINIMUM	FLANGE TYPE FRAME	RIB TYPE FRAME	FLANGE TYPE FRAME	RIB TYPE FRAME
ø2.5	ST3.0 X 1.35	3.0	2.89				7.0
ø3.5	ST4.0 X 1.41	4.0	3.85	5.0	9.0(min)	4.3	7.0
*ø4.3	ST4.8 X 1.59	4.8	4.65	4.0	9.0(min)	4.8	7.0
				6.0	9.0(min)	5.5	7.0
ø4.5	ST5.0 X 1.59	5.0	4.85	5.0	9.0(min)	5.0	7.0

* Non JIS B 1122 spec.
** A lower torque than the recommended value should be used if slippage is observed.

TABLE (a)

JIANCE 健策
0755-23706799
微信扫码 咨询工程师

Description:

1. If the products are applied outside the parameters set in the specification, AVC is not responsible for the performance of the products.
2. Should customers request deviation from specification, they must first submit written request to AVC for approval.
3. Please use proper care when handling fans. Improper handling of the impeller, lead wires, or drop to the floor may lead to damage.
4. AVC will not guarantee that the products will be safe to use if there are problems caused by powder, water, and corrosive fluids.
5. Please double check on the correct polarity before connecting the fan to the power source.
6. Fans must not be stored in a high humidity environment. They should be stored according to the specified storage temperature limits. Fans must be tested again for performance before shipment if the fans are stored for more than 6 months.
7. Incorrect setting up of fans will very likely lead to excess vibration and acoustic noise.
8. During fan testing, we must take precautions against personal injury . Suitable fan guards must be fitted to the fans if needed.
9. Unless stated in specification, all fan performance tests are to be carried out at relative temperature and humidity conditions at 25℃, 65%.
10. When using multiple fans in parallel, please make sure to connect capacitor at least 4.7uF to avoid any unstable power.

JIANCE 健策
0755—23706799
微信扫码
咨询工程师

RoHS STANDARD

HAZARDOUS SUBSTANCES		ALLOWABLE CONTENT (wt%)	REMARK
HEAVY METALS	CADMIUM (Cd) AND ITS COMPOUNDS	< 0.01 wt% (< 100 ppm)	DIRECTIVE 2011/65/EU
	LEAD (Pb) AND ITS COMPOUNDS	< 0.1 wt% (< 1000 ppm)	DIRECTIVE 2011/65/EU
	MERCURY (Hg) AND ITS COMPOUNDS	< 0.1 wt% (< 1000 ppm)	DIRECTIVE 2011/65/EU
	HEXAVALENT CHROMIUM (CHROMIUM VI) (Cr^{6+}) AND ITS COMPOUNDS	< 0.1 wt% (< 1000 ppm)	DIRECTIVE 2011/65/EU
BROMINATED FLAME RETARDANTS	POLYBROMINATED BIPHENYLS (PBBs)	< 0.1 wt% (< 1000 ppm)	DIRECTIVE 2011/65/EU
	POLYBROMINATED DIPHENYL ETHERS (PBDEs)	< 0.1 wt% (< 1000 ppm)	DIRECTIVE 2011/65/EU

JIANCE 健策
0755—23706799
微信扫码
咨询工程师