

# PERFORMANCE SPECIFICATION

PRODUCT TITLE: DC BRUSHLESS FAN

MODEL NO: DC 12038

**1? SCOPE:**

THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE DC BRUSHLESS AXIAL FLOW FAN. THE FAN MOTOR IS WITH TWO PHASES AND FOUR POLES.

**2? ELECTRICAL CHARACTERISTICS:**

ALL MEASUREMENTS PERFORMED AT 20~30? ROOM TEMPERATURE & 50~70% R.H. UNLESS OTHERWISE SPECIFIED.

ITEM	DESCRIPTION	UNIT	SYMBOL	SPEC.	CONDITION
1	RATED VOLTAGE	VOLTS	V	12	
2	OPERATION VOLTAGE	VOLTS	V	10.2~ 13.8	
3	INPUT CURRENT	AMP	A	0.32 MAX	AT RATED VOLTAGE
4	INPUT POWER	WATTS	W	3.84 MAX	AT RATED VOLTAGE
5	ROTATION SPEED	RPM	RPM	3000 ±10%	AT RATED VOLTAGE FREE AIR
6	ACOUSTICAL NOISE (AVG)	dB(A)	dB(A)	46 ±10%	DETAILS SEE ATTACHED PAGE.
7	MAX. AIR -FLOW	CFM	Q	85 ±10%	TWO-CHAMBER METHODS DETAILS SEE ATTACHED PAGE.
8	MAX. AIR -PRESSURE	mmH <sub>2</sub> O	P	5.85 ±10%	TWO-CHAMBER METHODS DETAILS SEE ATTACHED PAGE.
9	STARTING VOLTAGE	VOLTS	V	7	AT RATED VOLTAGE
10	INSULATION RESISTANCE	MEG. OHM	MO	10MO MIN. AT 500V DC	BETWEEN FRAME AND (+) LEADWIRE.
11	DIELECTRIC STRENGTH	MILLI-AMP	mA	5mA MAX. AT 500V AC 60Hz. FOR 1 MINUTE	BETWEEN FRAME AND (+) LEADWIRE.

ITEM	DESCRIPTION	SPEC.	
12	ROTATION	CW VIEW FROM NAME PLAT E SIDE	
13	AIR-FLOW DIRECTION	AIR INTAKE OVER THE STRUTS	
14	INSULATION RANK	UL: CLASS A (PENDING)	
15	LIFE EXPECTANCY	50000 HOURS CONTINUOUS	?

? LIFE IS DEFINED AS THE TIME MOTOR SPEED DECREASED MORE THAN 30% COMPARED WITH INITIAL VALUE.

### 3? MECHANICAL

- 3-1. DIMENSIONS ..... SEE SECTION 8
- 3-2. FRAME..... METAL CONSTRUCTION WITH ALUMINUM DIE-CASTING.
- 3-3. IMPELLER ..... PLASTIC PBT MATERIAL PEINFORCED WITH FIBREGLASS.
- 3-4. COATING ..... CED ( CATHONIC ELECTRODEPOSITION COATING WITH EPOXY ) COATING ON METAL SURFACE BE CAPABLE OF IMPACT RESISTANT AND ABRASION RESISTANT.
- 3-5. BEARING SYSTEM ..... BALL BEARING.
- 3-6. WEIGHT..... 350 GRAMS
- 3-7. LEAD WIRE..... 1007 AWG # 24  
+POSITIVE .....RED  
-NEGATIVE .....BLACK

### 4? ENVIRONMENTAL:

- 4-1. OPERATING TEMPERATURE----- -10 TO +70?
- 4-2. STORAGE TEMPERATURE----- -40 TO +75?
- 4-3. DROP TEST  
IN MINIMUM PACKAGING CONDITION FAN WITHSTANDS EACH ONE DROP OF THREE FACES FROM 30CM DISTANCE HEIGHT ONTO 10mm THICKNESS OF WOODEN BOARD.

4-4. VIBRATION TEST

FREQUENCY: 10- 55Hz      AMPLITUDE: 4MM

X , Y , Z    DIRECTION EACH FOR 1 HR.

4-5. SHOCK TEST

APPLY PEAK ACCELERATION 50g AND KEEP DURATION OF THE PULSE FOR 11ms ( HALF SINE WAVE ) .

5? PROTECTION:

5-1. POLARITY PROTECTION

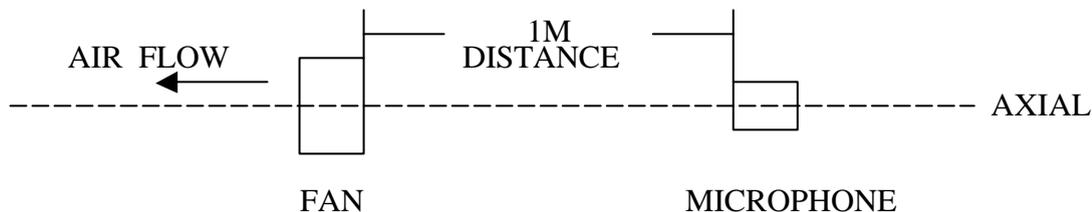
BUILT-IN ELECTRONIC CIRCUIT PROTECTS THE FAN AGAINST REVERSE CONNECTION OF POSITIVE AND REVERSE LEADS.

5-2. LOCKED ROTOR PROTECTION

THE CURRENT SHUT-DOWN CHARACTER PROVIDE A MINIMUM 72Hrs SAFETY PROTECTION FOR FAN MOTOR WHILE LOCKED ROTOR OCCURED.

6? ACOUSTICAL NOISE:

6-1. MEASUREMENT SET-UP



6-2. MEASUREMENT PERFORMED IN ANECHOIC TEST CHAMBER UNDER FREE AIR CONDITION.

6-3. CHAMBER BACKGROUND NOISE 17dB MAX.

6-4. READING TAKEN FROM SPECTRUM ANALYZER.

6-5. NOISE DISTRIBUTION CURVE SEE ATTACHED PAGE.

7? STATICS PRESSURE VS AIR FLOW CURVE:

MEASURED PER TWO CHAMBER METHOD.