# SPECIFICATION

## MODEL
## K-DC12038-A24-12

MODEL:K-DC12038-A24-12

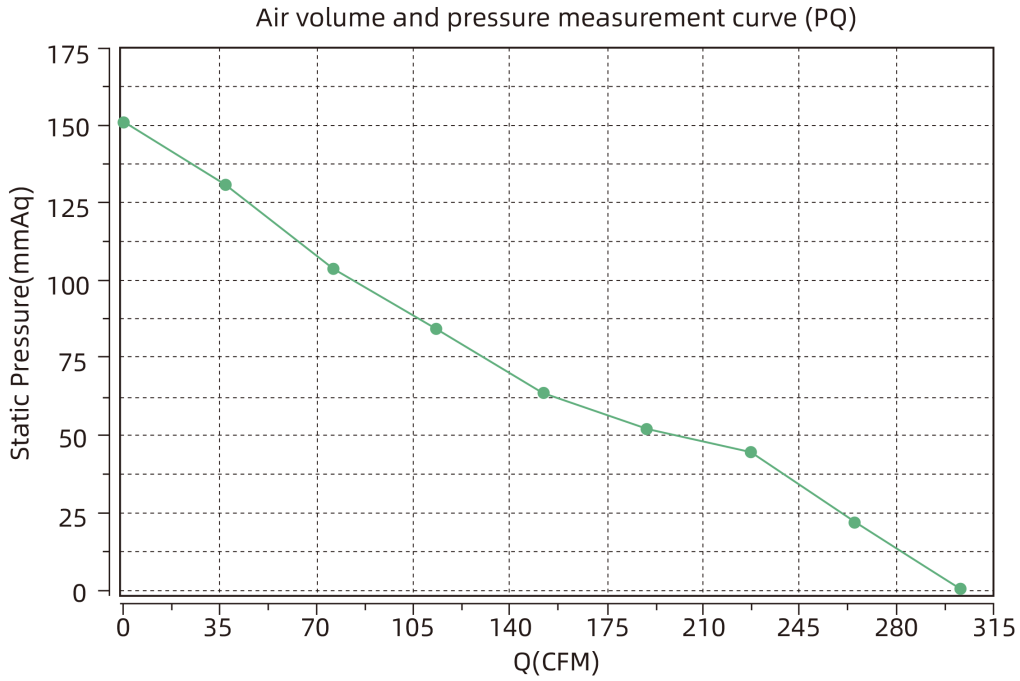
## 1、General Specification

| | Item | Description | Condition |
|---|---|---|---|
| 1-1 | Dimension | 120*120*38mm | |
| 1-2 | Bearing Type | Two Ball Bearing | |
| 1-3 | Rated Voltage | DC 24V | |
| 1-4 | Operating Frequency | | |
| 1-5 | Operating Voltage | DC 15-27V | |
| 1-6 | Start-up Voltage | ≧ 15V | |
| 1-7 | Rated Current | 4.85(Max:1.20)A | A.At Rated Voltage<br>B.25℃<br>C.65%RH<br>D.Measured after 5minutes |
| 1-8 | Rated Power | 116.4 W | |
| 1-9 | Rated Speed | 12000rpm/min±10% | |
| 1-10 | Max. Air Flow | 308.6( Min:293.2)CFM | A. PQ Measurement Apparatus<br>B. Standard: AMCA<br>C. Rated Voltage<br>D. Rated Current |
| | | 8.73( Min:8.30m3/min ) | |
| 1-11 | Max.Static Pressure | 153.7( Min:146.1)mm-H2O | |
| | | 6.05(Min:5.75)inch-H2O | |
| 1-12 | Noise level | 75.0(Max:78.0)dBA | A. Rated Voltage<br>B. Mute Room<br>C. Distance:1M<br>D. Background Noise |
| 1-13 | Life Expectance | 70000hrs at 25℃ | Failure Criteria:<br>A.Speed Under15% of original value<br>B. The current exceeds 15% of the original value |
| 1-14 | Pole | 4 Poles | |
| 1-15 | Rating Direction | Anticlockwise | |
| 1-16 | Other Features | Tachometer Output | ☑FG |
| | | Lock Rotor Alarm | ☐RD |
| | | LD Rotor | ☐LD |
| | | Auto start | ☑AS |
| | | Soft Start | ☑SS |
| | | Speed Control Mode | ☑PWM<br>☐VC<br>☐TC |
| | | Waterproof level | ☑IP22 |

## 2、P-Q Characteristic curve test

| Test conditions and methods | | |
|---|---|---|
| Testing Method | | Constant Voltage |
| Barometric Pressure：752.4 mmHg | | At Rated Voltage |
| Relative Humidity：66.825% | | (Temperature)：25℃ |
| Test data | Max Ps :153.7mmAq | Max Flow Rate :308.6CFM |

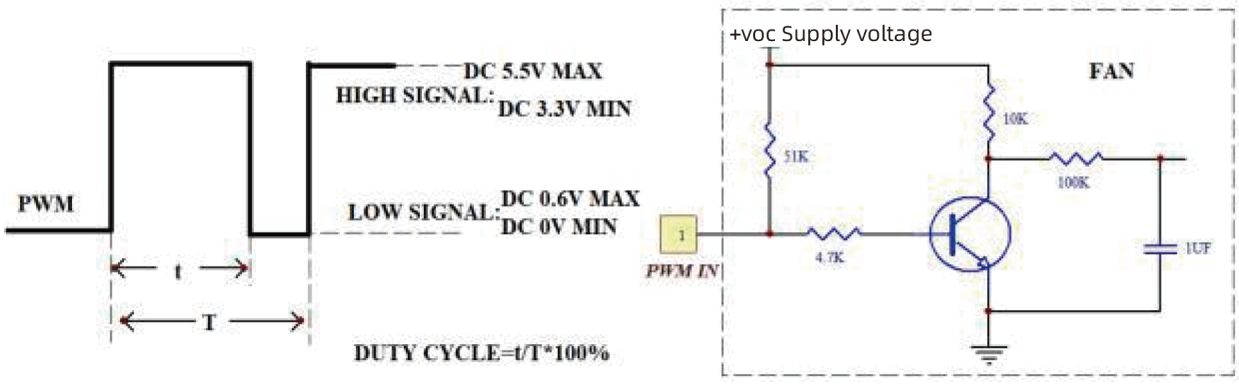
P-Q Curve




## 3、PWM Vs RPM Curve

6- 1.Curves Instructions)：PWM=25KHZ 0% 0 RPM100% 12000±10%RPM

6-2.PWM CONTROLR SIGNAL：




6-3.The Input PWM frequency range: 300hz-30Khz

## 4、FREQUENCY GENERATOR(FG)SIGNAL

FG：When fan is running, the switch of rotor N, S can make exchange of high and low level. And speed faster, the frequency of level exchange faster.So we can sense fan's rotation speed via the signal of variational frequency.

7.1. FG OUTPUT CIRCUIT---OPEN COLLECT MODE

7.2 SPECIFICATION：VFG= 30Vmax Rext (min) =VFG/Imax Imax=5mA Vce=0.5Vmax

7.3. RPM=F* 120/4=30*F

7.4. FREQUENCY GENERATOR WAVEFORM：