

Y.S. TECH

YEN SUN TECHNOLOGY CORPORATION



2016-2017 PRODUCTS GUIDE COOLING FAN ENGINEERING HANDBOOK

YOUR BEST PARTNER FOR THERMAL SOLUTIONS



DC AXIAL FAN / XTREME SERIES / DC BLOWER / AC AXIAL FAN

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DC Fan

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XYW03628	SERIES	36x28	08	
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About Y.S. TECH



COMPANY MISSION
Environmental Concern
Customer Satisfaction

PHILOSOPHIES
Innovation Quality Efficiency

Established: 1987
C.E.O.: Mr. C. J. Chen
TS 16949 / ISO 9001 / ISO 14001
OHSAS18001 Certified
Capital: US\$10.65 Million
Employees: 1,000
Headquarters Location: Kaohsiung, Taiwan
Business Units:
Electronics Cooling Division
Home Appliance Division



About Y.S. TECH

Yen Sun Technology Corporation was established in 1987, conformity with the business philosophies of **INNOVATION, QUALITY** and **EFFICIENCY**. With over 1000 employees, Yen Sun is a publicly-traded company in Taiwan comprised of two major divisions, including the Electronics Cooling Division and the Home Appliances Division. The manufacturing plants are located in Taiwan and, Dongguan, Shanghai with the worldwide service facilities throughout Asia, America, Australia and the greater part of Europe.

In the past decade, the Electronic Cooling Division has accumulated hundreds of patents all over the world and successfully established a reputation of consistent quality and unique capabilities with its well-known brand name Y.S. TECH. Devoted to innovative technologies and new products, Y.S. TECH continuously improves its R&D and core technologies. The core technologies consist of Advanced Motor Control, Electromechanical simulation, CFD Thermal and Fluid Dynamic Simulation, Psycho-Acoustic Analysis, and Electro-Thermal Analysis. Y.S. TECH has integrated its core technologies to develop a series of DC, AC, EC (AC to DC) cooling fans with RoHS and Reach compliance such as a series of Xtreme high performance fans, along with the *SINTEGICO* long life bearing system that has been approved for Telecom and Automotive applications. Furthermore, utilizing F.M.D. Technology Y.S. TECH has developed the world's slimmest fans measuring only 0.4 centimeters in thickness with applications include the next-generation multi-function handheld devices.

CUSTOMER SATISFACTION is based on excellent production capabilities as well as a consistent level of quality. In such a way, Y.S. TECH's advanced automated production lines, along with our precision equipment, provide a high level quality control. Moreover, Yen Sun utilizes XRF to assist its Environmental Materials Management. This quality system has not only been approved by ISO 14001 and ISO 9001, but has also gained TS 16949 and OHSAS18001 certification, the worldwide automotive and Occupational Health and Safety Advisory Services.

At Y.S. TECH, our long-term vision is to aggressively integrate our business resources, enhance total quality management, innovations, and increase our global logistics capabilities to achieve competitive advantages as a world-class manufacturer to be **YOUR BEST PARTNER OF THERMAL SOLUTIONS**!



FAN MODEL NUMBERING SYSTEM

YW	120	38	012	B	H	-	6	(AXXX)
1	2	3	4	5	6		7	

Explanation

- Product Series**
YW, NYW, HYW: Axial DC Fan
KM: Axial DC Fan
BW: DC Blower
- Dimension**
25: 25mmx25mm
40: 25mmx25mm
50: 50mmx50mm
70: 70mmx70mm
80: 80mmx80mm
97: 97mmx97mm
17: 172mmx150mm
30: 30mmx30mm
45: 45mmx45mm
60: 60mmx60mm
75: 75mmx75mm
92: 92mmx92mm
120: 120mmx120mm
- Thickness**
10: 10mm
20: 20mm
28: 28mm
32: 32mm
38: 38mm
15: 15mm
25: 25mm
30: 30mm
33: 33mm
51: 51mm
- Voltage Type**
05: 5V
24: 24V
12: 12V
48: 48V
- Bearing Type (1 code)**
B: Ball Bearing
L: Sintetico Bearing
S: Sleeve Bearing
- Speed (1 code)**
L: Low Speed
H: High Speed
U: Ultra Speed
M: Medium Speed
S: Extra High Speed
SS: Super Speed

(Suffix): Custom Mods

- Function:**
- 1: Transistor (2 wires)
 - 2: Transistor With FG Signal (3 wires)
 - 2: Alarm high-low IC (3wires)
 - 3: Alarm Low IC (3 wires)
 - 4: Alarm High IC (3 wires)
 - 5: Tachometer IC (3 wires)
 - 6: Auto Reset IC (2 wires)
 - 7: Thermistor IC (2 wires)
 - 8: Thermistor (T) + Tachometer (F) IC
 - 10: Alarm High (R) + Tachometer (F) IC
 - 11: Alarm Low (Q) + Tachometer (F) IC
 - 12: Pulse Width Modulation (PWM) IC
 - 13: Thermistor (T) + Alarm High (R) IC
 - 13: Thermistor IC (T) + VR + Tachometer (F) IC
 - 14: Pulse Width Modulation (PWM) IC, Without FG Signal
 - 15: Alarm High (R) + PWM (B) IC
 - 16: Thermistor IC (T) + VR
 - 18: Thermistor (T) + Alarm High-Low (S) IC
 - 19: PWM (W) + Thermistor IC (T)
 - 20: Vcc With PWM Control, Without FG Signal
 - 21: Vcc With PWM Control, With FG Signal

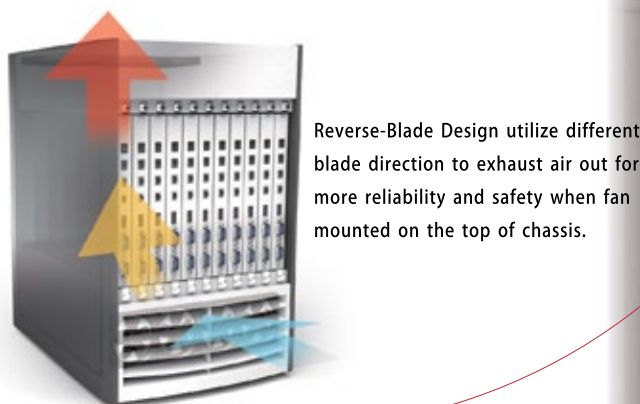
AC Fan Model Numbering System

KT	120	38	115	B	H	(Suffix)
1	2	3	4	5	6	

- Product Type**
KT/KW: AC Fan
- Dimension**
080: 80mmx80mm
180: 180mmx180mm
092: 92mmx92mm
254: 254mm
120: 120mmx120mm
280: 280mmx280mm
172: 172mmx150mm
- Thickness**
25: 25mm
38: 38mm
51: 51mm
65: 65mm
89: 89mm
- Voltage Type**
A1: 110/115VAC
A2: 220/230VAC
- Bearing Type (1 code)**
B: Ball Bearing
S: Sleeve Bearing
- Speed (1 code)**
L: Low Speed
M: Medium Speed
H: High Speed
E: Extreme Speed

Telecommunication Applications

Y.S. TECH has applied our expertise in fan design to produce a line of high output fans well suited for Telecom applications(System Chassis, Fast Ethernet Switch, Service Gateway, VoIP Product, Network Storage System(NAS) and Server system). Serving the Telecom markets of Asia, Europe, and North America we a broad understanding of the needs of our global market. Y.S. TECH's Xtreme Series is a line of fans that have been designed with a unique flow pattern that has overcomes the low pressure boundaries that traditional axial fans have. The stationary and dual rotor products made by Y.S. TECH have high torque motors, more robust bearing systems and internal motor structure that will provide the high end performance and reliability for applications with high impedance. Sound quality is always a concern too and we can offer many options to better manage and achieve those goals



System Chassis Solutions

Advantages

- High operating voltage:
 - Max. operating voltage 75VDC for 48VDC rated.
 - Max. operating voltage 40VDC for 24VDC rated.
- High Vcc input for control signal design by open collector circuit.
 - Multi-Function motor control
 - Thermostat control(NTC)
 - Pulse Width Modulation control(PWM)
 - PWM with NTC hybrid control
 - Customized design by program
- Reversed Blade design for more reliable(To ensure fan running on a right direction and improve life, especially for chassis cooling application.)
- Water/Dust Proof
- Customized Fan-Tray design and CFD analysis service(To reduce consonance, vibration, and reversed electromotive force.)
- High quality and reliability
 - Surge voltage & overload current protection
 - Soft Start up & Hot Swappable support
 - Redundancy protection design
 - Sustained rotating system and mechanical design
- Customized design service for total thermal solutions and analysis



Fast Ethernet Switch



Rack-Mount Ups Systems



1U~13U Network Storage and Server Systems

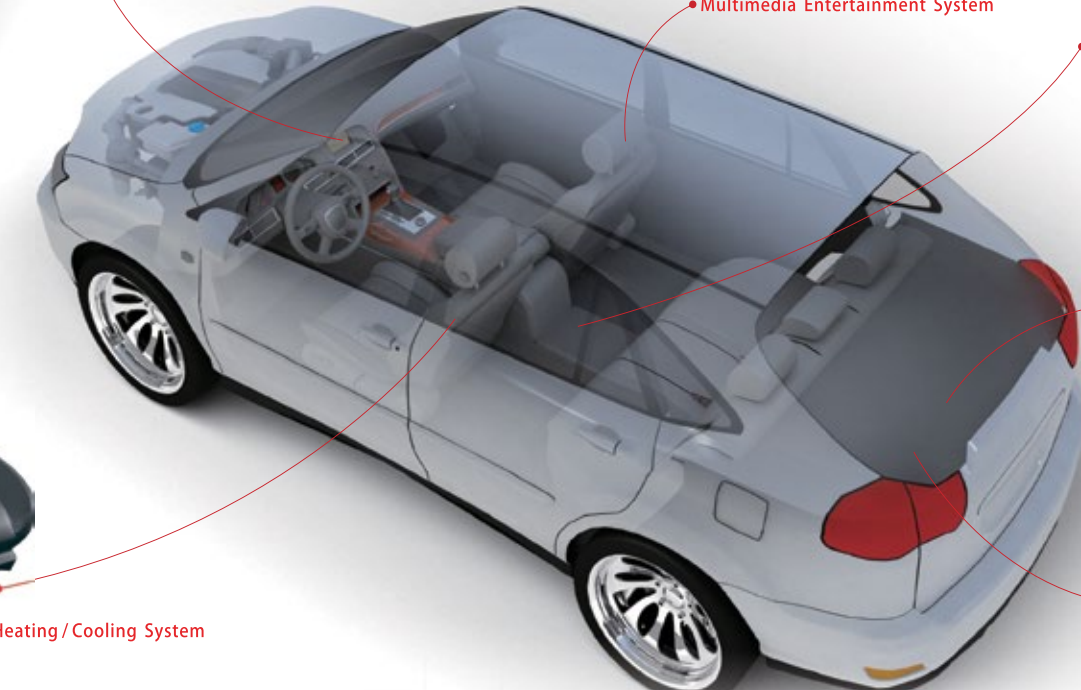


Automotive Applications

Y.S. TECH has many years of experience working in both the North American and European Automotive Markets. Utilizing our core technologies of CFD simulations, Psyco-Acoustic Analysis, Multi-function control system, mechanical expertise, and overall system integration we are able to develop optimal cooling solutions for customers in one of many different applications. Telematics Systems(Navigation, Audio Amplifiers, DVD and Head units), Seat heating and cooling, Hybrid Driving System (Fuel Cell-Gasoline), LED lighting and more are just a few of the applications Y.S. TECH can help solve thermal management problems. Our goal is to provide a cooling system that is unsurpassed in reliability, quality and performance giving the driver & passengers the most comfortable driving experience.



Car Seat Heating / Cooling System



Multimedia Entertainment System



Mobile Refrigeration With Bottle Cooler



Audio Amplifier and DC/AC Inverter



Car Computer System

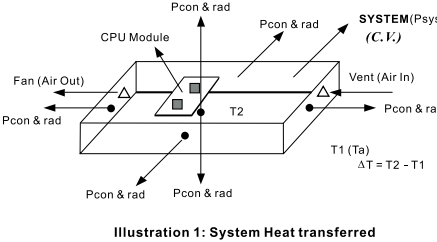
Advantages

- TS16949 CERTIFICATED
- Wide range operating voltage : 4 ~ 16VDC at 12V Rated
- Wide range operating temperature : -40 ~ 90℃
- Multi-Function motor control
 - Thermostat control(NTC)
 - Pulse Width Modulation control(PWM)
 - PWM with NTC hybrid control
 - Redundancy protection design
 - Customized design by program
- High Reliability
 - Over-Voltage Resistance during long term operation : DC 27V / 1 min
 - Thermal Shock : -40 ~ 90℃, 1hr per Temp., Temp. Change in 30 sec.
 - Mechanical Shock : Semi-wave, a= 500m/s2, 6ms, 10 times per direction
 - Vibration Test : 5Hz/0.00919 G2/Hz~ 2000Hz/0.00146 G2/Hz, 25℃/12hrs
- Customized design service for total thermal solutions and analysis

Normally, most users are used to select cooling fan or blower by referring maximum flow rate, maximum static pressure and rotational speed data in product specification. It's not a complete thinking, because the fan is always working inside the system. Y.S. TECH has to highly recommend you to focus on demanded operating point works in fan performance curve profile, do not only refer the maximum point or rotational speed. Meanwhile, a cooling requirement should not only regard flow rate or static pressure, but two key factors of power consumption and acoustic noise. However, these critical factors are trade-off, so how do we select a right fan to meet with thermal solution. We are going to illustrate you some methods how to select a right fan in the following content. And then we will discuss other important technical topics including Life (L10), RoHS and Application Note.

- STEP 1:**
Ask five questions before choosing a fan
Here are five questions of thermal inquiry we need to verify at first. That include:
1.Watt:
How many watts would you need to dissipate?
2.Air Impedance:
What is your system air-impedance?
3.Noise:
What is acoustic noise specification you need?
4.Temperature Gradient:
What is your design of ΔT?
5.Dimension:
What is fan dimension you need?

STEP 2:
Choose a right fan & blower to meet your thermal inquiry
The effects of heat transfer include Conduction, Convection and Radiation. Most heat transfer by conduction and radiation effects that concern about system mechanism. For example, a good chassis or heatsink design is more helpful for thermal solutions. Convection effects contain free convection and forced convection. Cooling fan and blower are the major effect for force convection and always increase entire thermal solutions more efficient. Illustration 1 shows you a normal system of heat dissipation status. P_{condrad} presents heat dissipation on free convection and Radiation transfer. P_{sys} presents total power consumption of system. P_{fan} presents forced convection that need cooling fan or blower to dissipate. ΔT presents Temperature Gradient ΔT = T₂ - T₁. T₂ is the thermal spec of critical parts with margin tolerance. T₁ presents Ambient Temperature.



Then we can estimate Flow Rate inquiry by followed equations

$$P_{fan} = P_{sys} - P_{condrad}$$
$$P_{fan} = C_p \times Q \times \rho \times \Delta T$$
$$Q_{cfm} (CFM) = \frac{P_{fan}}{C_p \times \rho \times \Delta T} = \frac{1.76 \times P_{fan}}{\Delta T_c} = \frac{3.16 \times P_{fan}}{\Delta T_f}$$

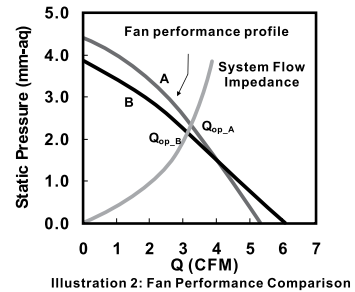
Q_{cfm} : Efficiency Flow Rate
 ρ : Gas Density
 C_p : Specific Heat of Gas
 $Q_{cfm} = 3160 \times KW / \Delta T_f$
 ΔT_f : Allowable temperature rise in degree Fahrenheit
 ΔT_c : Allowable temperature rise in degree Celsius

By incorporating conversion factors, specific heat and density of sea level air we can summarize above equations as Q_{air} that called effective flow rate. Q_{air} ask fan's operating point need to be met. In another words, Fan Operating Point should over or equal to Q_{air}. Fan Operating Point is an intersection point by fan performance curve (flow rate/ static pressure) and system air impedance curve. It's caused by different system or components placement and form factors. Normally, It is measured by static pressure, ΔPi. Its formula may show as below:

$\Delta Pi = kQ^n$
 k : System form factor constant value.
 Q : Flow rate by different impedance
 n : Coefficient of turbulence
 $1 < n < 2$. Laminar Flow, $n = 1$; Turbulence Flow, $n = 2$

Illustration 2 shows two fans performance curve and system air impedance curve.

Even B's maximum flow rate is higher than A's but the Q_{op,A} better than Q_{op,B}. Both Q_{op,A} and Q_{op,B} are Operating Points.



If Q_{op,B} < Q_{air} < Q_{op,A}, Then we can say Fan A is a proper choice for this thermal solution. So that why we emphasize that focus on fan performance profile rather than on maximum flow rate or static pressure or rotational speed.

STEP 3: Choose a solution with Low Noise
As aforementioned, the flow rate, static pressure and acoustic noise are always trade-off. It is very difficult to think over these factors at the same time. Meanwhile, a lot of troubles are caused by improper applications too. For example, fan mounted to chassis improperly may cause vibration and flow disturbance, and then got higher acoustic noise. Here are some key points regarding to low noise design for your reference:

1. A proper system air impedance design
Higher system air impedance needs a higher static pressure fan, but It accompanies with higher noise. Give an enough space to your critical parts and place them at flow path as possible. But it is a tough work to get space for thermal solutions in a slim and light. However, we recommend you to measure you system air impedance and collect enough parameters to know your ΔPi. Normally, most specialized fan manufactures will support you to measure it by Air Chamber.

2. Choose a proper fan that base on Q_{air}.
We have illustrated you a method to figure out a right fan for Q_{air}, and then you should consider about power consumption and acoustic noise. Which one is the first priority? To evaluate these two parameters under the same Q_{air} base is Y.S. TECH's two recommendations.

3. Review a fit mechanism design between fan and application system
Vibration and Flow Disturbance always cause resonance and get higher acoustic noise. A proper fan mounting and flow field design may decrease acoustic noise. For example, mounting with a rubber cap on high-speed fan model will decrease vibration resonance. Review your design to make sure there is enough margin space (over 1.5mm) at flow inlet/outlet side and no any stuff to disturb flow filed.

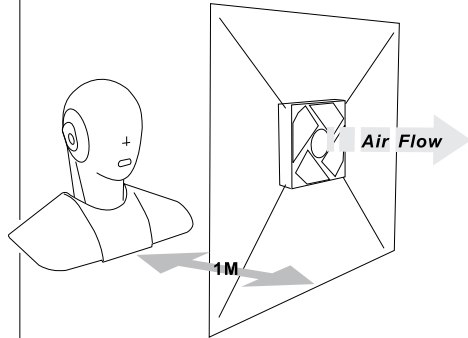
4. Advance fan speed control by your thermal profile
Thermal profile is similar to fan performance profile. Normally, different function will need to dissipate different power consumption. Then we can modulate fan rpm and ask fan working on a proper rpm by different system function. The most popular advanced fan speed controls are PWM control (Pulse Width Modulation), Thermostat control (NTC, thermistor) and both of them.

5. Sound Quality analysis
In cooling fan industry, we are always focused on Sound Pressure only in the past but there is no longer sufficient to us because even though legal regulations have lead to a reduction of noise limits, the tendency of people to feel disturbed by noise is increasing. A sole reduction of noise levels is thus not sufficient to reduce the annoyance due to noise to a degree noticeable by human beings. This is due to the fact that the subjective human aural perception is often disregarded. However, the judgment of a sound event involves a wide range of different parameters forming into the total hearing impression. So we are not only concern about sound pressure but also [Sound Quality] .

The examination methods are based on the idea of correct recording and describing the noise exposure from the acoustic environment in a way that reflects what humans subjectively perceive. In order to record this entire perception, physical aspects as well as psychoacoustic characteristics of hearing and cognitive aspects must be considered. The main focus of psychoacoustics is the subjective aural perception by human beings. The goal is objectively describing this subjective perception. Psychoacoustic measuring methods account for the actual hearing impression, as opposed to conventional measuring methods that only record the sound level in the form of the equivalent continuous sound level. Y.S. TECH introduced the [Sound Quality Analysis System] of HEAD ACOUSTIC in German. Those include an Artificial Head and analysis tool and also the most popular measuring and analysis system in automotive industry. Its parameters are include [SPL, sound pressure level] 、 [Tonality] 、 [Sone] and [Modulation] .

The measuring method and standards are as below:

- 1. ANECHOIC Room Noise Measurement System.
- 2. Digital Head Measurement System, 16-bits version.
- 3. SQlab III, Mobile Multi-channel Analysis System.
- 4. Specifications: ISO 3744, ISO 3745, ISO 7778, CNS 6753, JIS 8346
- 5. Background Noise: < 17dB(A)



Cooling Fan Life Expectancy: L10 and MTTF
Fan reliability can be evaluated in several ways. The data for a life test can be plotted as a cumulative distribution that shows the total fraction of fans failing up to any operating time. Fig. 1 is a sample of cumulative distribution, which was stopped at 8,400 hours after 18 out of 48 fans had failed.

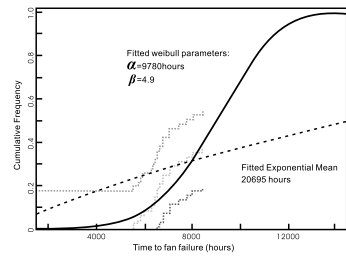


Figure 1 : Sample cumulative distribution function, Weibull vs. Empirical with 95% confidence bands (Reference : IBM Corp. , May 1996, Vol.2, No.2, Electronics Cooling)

Some vendors provide life expectancy data to customers based on the exponential assumption. However, life test data does not support the use of the exponential distribution. Nevertheless the past experimentation fitting has shown that the Weibull distribution provides a good fit to real fan life data. The Cumulative Distribution Function ,F(t) of Weibull distribution is a below:

$F(t) = 1 - e^{-(t/\alpha)^\beta}$
Where t : age
 α : characteristic life (Scale Parameter)
 β : shape parameter

Then Reliability Function is $R(t) = e^{-(t/\alpha)^\beta}$
 $MTTF = \int_0^\infty R(t) dt = \alpha \Gamma(1 + 1/\beta)$ Γ : Gamma Function

Normally, L₁₀ was introduced a life expectancy parameters by fan vendors. That means the tenth percentiles under an assumed life distribution such as the Weibull. Sometimes vendors will also quote the Mean Time To Failure (MTTF) then we need to figure out the correlation between L₁₀ and MTTF by following equations:

$\therefore L_{10}$ Means age t when $F(t) = 0.1$
 $\therefore 0.1 = 1 - e^{-(t/\alpha)^\beta}$
 $L_{10} = \alpha (0.10536)^{1/\beta}$
 $MTTF = 7.46 \times L_{10} \approx 7 \times L_{10}$ (90% Confidence Level)

After we have verified the correlation between L₁₀ and MTTF, we also need to know how long should a sample size be tested to determine with 90% confidence level that L₁₀ greater than or equal to expectancy value at a test temperature without failure ($x = 0$). Here we introduce the Poisson Distribution to estimate.

$P(x, t) = \{ (\lambda t)^x e^{-\lambda t} \} / x!$
 $P(0, t) = \{ (\lambda t)^0 e^{-\lambda t} \} / 0! = e^{-\lambda t}$
 $\therefore R(t) = e^{-(t/\alpha)^\beta}$
 $MTTF = \alpha \Gamma(1 + 1/\beta)$
 $\therefore t = \alpha \{ (Br : c) / n \}^{1/\beta}$
 $t = \{ MTTF / \Gamma(1 + 1/\beta) \} \times \{ (B_{10}) / n \}^{1/\beta}$
where B₁₀ is Poisson Distribution Factor

Normally on the condition of 90% confidence level and 0 failure then B₁₀ = 2.303.
Then we introduce Takes Martin Marietta Model to estimate Life at different environment stress.

$AF = [Va / Vu] \times 2^{(T_a - T_u)/10}$
where
 AF : Acceleration Factor
 Va : Actual Testing Voltage
 Vu : Rating Voltage
 Ta : Actual Testing Temperature
 Tu : Rating Temperature
if $Va = Vu$
then $AF(t) = 2^{(T_a - T_u)/10}$

Then we can define the Required Test Time (t) with zero failure is as below:

$t = \{ MTTF / \Gamma(1 + 1/\beta) \} \times \{ (B_{10}) / n \}^{1/\beta} / 2^{(T_a - T_u)/10}$
where MTTF is an expectancy value

Management Regulations for the Environment-Related Substances Management Standards

SUBSTANCES	Allowable Content (ppm)	
	RoHS	SONY SS259
Cadmium and Cadmium compounds	<100	0
Lead and Lead compounds	<1000	<100
Total concentration of four heavy metals for product package (Concentration of Cadmium for Plastics (including Rubber) has to less than 5 ppm)	<1000	<100
Concentration of lead for PVC cable , connectors , paints , inks , resins	<1000	<100
Concentration of lead for solder	<1000	<1000
Concentration of lead for Steel Alloys	<3500	<3500
Concentration of lead for Aluminum Alloys	<4000	<4000
Concentration of lead for Copper Alloys	<45	<45
Concentration of lead for electrical components with ceramic base (ex. resistor , capacitor ,)	<100	<100
Mercury and Mercury compounds	<1000	0
Hexavalent Chromium compounds	<1000	0
PBB , PBDE ^{RoHS}	<1000	0

Note:
1. For RoHS, Decabromobiphenyl ether (DecaBDE) in polymeric applications is exempted by Commission Decision of 13 Oct. 2005 amending Directive 2002/95/EC notified under document 2005/7/17/EC.
2. PBBEs=PBDEs=Polybrominated Diphenyl Ethers=PBDOs=PBBOs.

Standards for Preconditioning and Measurement I. Pre-conditioning

- Typical pre-conditioning methods are as follows:
1. Incineration under the existence of sulfuric acid.
2. A pressurized acid decomposition method done in a sealed container. (A microwave decomposition method such as EN 13346:2000 and EPA 3052:1996)
3. An acid decomposition method under the existence of sulfuric acid or hydrogen-peroxide water. (e.g. EPA 3050B Rev.2: 1996).
4. A wet decomposition method under the existence of sulfuric acid, nitric acid, or hydrogen-peroxide water. (e.g. BS EN 1122:2001)
5. If precipitates (insoluble matter) are produced, dissolve them totally by taking some means. (e.g. alkali dissolution)
6. US EPA 3540C or 3550 for organic or organic compounds substances.

- II. Measurement methods**
Typical measurement methods are as follows,
1. Inductively Coupled-Plasma-Atomic (Optical) Emission Spectroscopy (ICP-AES, ICP-OES)(e.g. EN ISO 11885:1998)
2. Atomic Absorption Spectroscopy (AAS) (e.g. EN ISO 5961: 1995).
3. Inductively Coupled-Plasma Mass Spectroscopy (ICP-MS)
4. Gas Chromatography Mass Spectroscopy (GC-MS) for organic or organic compounds substances.
5. If a combination of a pre-conditioning method and a measurement method can guarantee that the lower determination limit of cadmium is less than 5 ppm, the combination is also applicable.
6. Any one of the measurement methods above (except AAS) enables you to analyze cadmium and lead simultaneously.

III. Environmental Logo



Environmental Concern & Keep Improving

Cooling Fan and Blower Application Notices Test Conditions and definitions
Test specifications of cooling fan are measured after 5 minutes rotating in an ambient of 25°C/ 65% RH The operating voltage and temperature were defined after fan rotating continually at rated voltage. Starting Voltage was defined on power on/off condition and Rotational Speed was defined on full speed by its rated value. Except for the feature of the Lock Rotor Protection specifically stated, Y.S. Tech highly suggests not to stop the impellers of the working fans such interruption will cause adverse effect. Noise Level is different from abnormal noise. We estimate noise level by equation when noise level is lower than background noise (17dB). L10 of Life test is a deductive value under statistical method and it is different from product warranty.

Handling
Please be cautious when fan is being exercised or handled. Applying pressure to the impeller, handling the fan by lead wire, or dropping the fans to the production platform is resulting in damage.
Fan is to be stored in a dry/cool place. High levels of humidity are harmful to products. If fan was stocked at an ambient temperature under 5°C and over 24 hrs. Please stock fans to an ambient temperature over 20°C and remained over 24 hrs before using. All specifications include abnormal noise have to be measured after 30 minute running.
The correct polarity, Positive (+) and Negative (-), has to be clearly identified before connecting the fan to the power. Be aware of the connection with reverse polarity may lead to damage since no effective protection can be introduced against such errors.
With exception of suitability of some particular designs, any failure and problems regarding safety of the product caused by the introduction of powder, droplets of water or encroachment of insert in the hub are not guaranteed. It is also not well suited for corrosive environments that include liquids, gases, or matters.

After Service
A written request should be submitted to Y.S. Tech prior to approval if abnormality and deviation from specification is required. Meanwhile, send abnormal samples to Y.S. TECH for more detail analysis is necessary.

Other Reminding
Please be cautious. Y.S. Tech is not responsible for any excess resonance, vibration and subsequent noise caused by incorrect mounting of fans. Take necessary precaution handling fans when in operation. Finger guards are recommended to prevent personal injury. To avoid any unstable power, an "over 4.7 μF" capacitor has definitely be connected to fan externally whatever multiple fans are applied in parallel.

ENGINEERING INFORMATION

Conversion Tables and Equations

I. Air Flow Rate

m³/s	m³/min	l/s	l/min	m³/h	ft³/s	CFM
1	6 x 10	1 x 103	6 x 10²	3.6 x 10³	3.531 x 10	2.118 x 10³
1.667 x 10 ⁻³	1	1.667 x 10 ⁻¹	1 x 10 ¹	6 x 10 ⁻¹	5.885 x 10 ⁻¹	3.531 x 10 ⁻¹
1 x 10 ⁻³	6 x 10 ⁻²	1	6 x 10 ⁻¹	3.6	3.531 x 10 ⁻²	2.118
1.667 x 10 ⁻⁶	1 x 10 ⁻⁴	1.667 x 10 ⁻²	1	6 x 10 ⁻³	5.9 x 10 ⁻³	3.54 x 10 ⁻²
2.778 x 10 ⁻⁴	1.667 x 10 ⁻²	2.778 x 10 ⁻¹	1.667 x 10 ¹	1	9.81 x 10 ⁻³	5.886 x 10 ⁻¹
2.832 x 10 ⁻³	1.69833	2.832 x 10 ⁻¹	1.6983 x 10 ¹	1.019 x 10 ¹	1	6 x 10
4.72 x 10 ⁻⁴	2.831 x 10 ⁻²	0.472	2.831 x 10 ⁻¹	1.6983	1.667 x 10 ⁻⁴	1

II. Static Pressure

P _s = N/m²	mm-H ₂ O	inch-H ₂ O	Kgf/cm²	atm	bar	lb/fin²
1	1.019 x 10 ⁻¹	4.017 x 10 ⁻³	1.019 x 10 ⁻²	9.869 x 10 ⁻⁴	1 x 10 ⁻³	1.450 x 10 ⁻³
9.80665	1	3.939 x 10 ⁻²	1 x 10 ⁻¹	9.678 x 10 ⁻³	9.806 x 10 ⁻³	1.442 x 10 ⁻¹
2.49 x 10 ⁻²	25.4	1	2.54 x 10 ⁻³	2.46 x 10 ⁻³	2.49 x 10 ⁻³	3.61 x 10 ⁻²
9.807 x 10 ⁻¹	10 ¹	3.937 x 10 ¹	1	0.9678	0.980665	14.22334
1.0133 x 10 ¹	1.0332 x 10 ¹	4.071 x 10 ¹	1.03323	1	1.01325	14.696
1 x 10 ¹	1.0197 x 10 ¹	4.018 x 10 ¹	1.01972	0.986923	1	14.5038
6.895 x 10 ⁻¹	7.031 x 10 ⁻¹	27.686	7.031 x 10 ⁻²	6.805 x 10 ⁻²	6.895 x 10 ⁻²	1

III. System Allowable Temperature Rise
(ΔT) at P_{fan} v.s. Q_{eff}

Temperature Rise		P_{fan}^1 (Kwh)									
ΔT_a	ΔT_r	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
50	90	18	35	53	70	88	105	123	141	158	176
45	81	20	39	59	78	98	117	137	156	176	195
40	72	22	44	66	88	110	132	154	176	195	220
35	63	25	50	75	100	125	151	176	201	226	251
30	54	29	59	88	117	146	176	205	234	264	293
25	45	35	75	105	141	176	211	246	281	316	351
20	36	44	88	132	176	220	264	308	351	396	439
15	27	59	117	176	234	293	351	410	469	527	586
10	18	88	176	264	351	439	527	615	704	791	879
5	9	176	351	527	704	879	1055	1230	1406	1582	1758

IV. Acoustic Noise

Sound Pressure Level (SPL, dB) = 20 log (P / P₀)

where P₀ = 20 μPa

P₀ : the reference sound pressure of human hearing system

Similarity Algorithm of Acoustic Noise

ii) By Rotational Speed (rpm)

N₂ = N₁ + 50 log (rpm₂ / rpm₁)

where

N₁ = Noise level measured at rpm₁

N₂ = Noise level calculated at rpm₂

i) By Measuring Distance

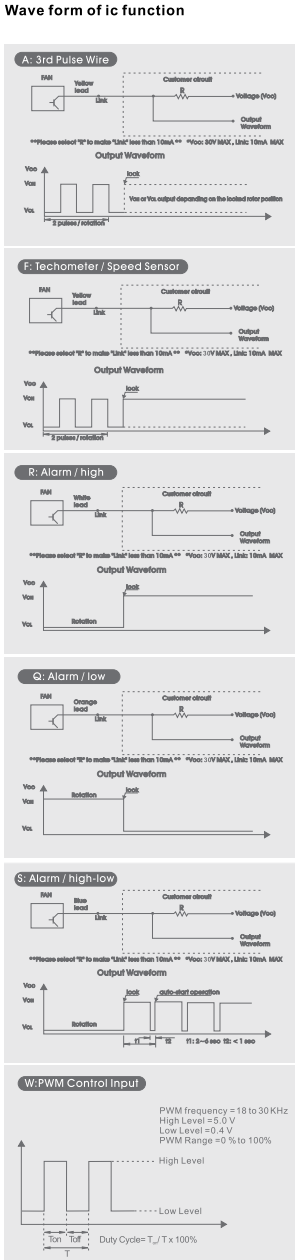
N₂ = N₁ + 20 log (Distance₁ / Distance₂)

where

N₁ = Noise level measured at Distance₁

N₂ = Noise level calculated at Distance₂

According to above equations, it is very clear the acoustic noise level will reduce 6 dB when the distance doubled. Comparatively, the noise level will also increase 6 dB when distance shorten by half.



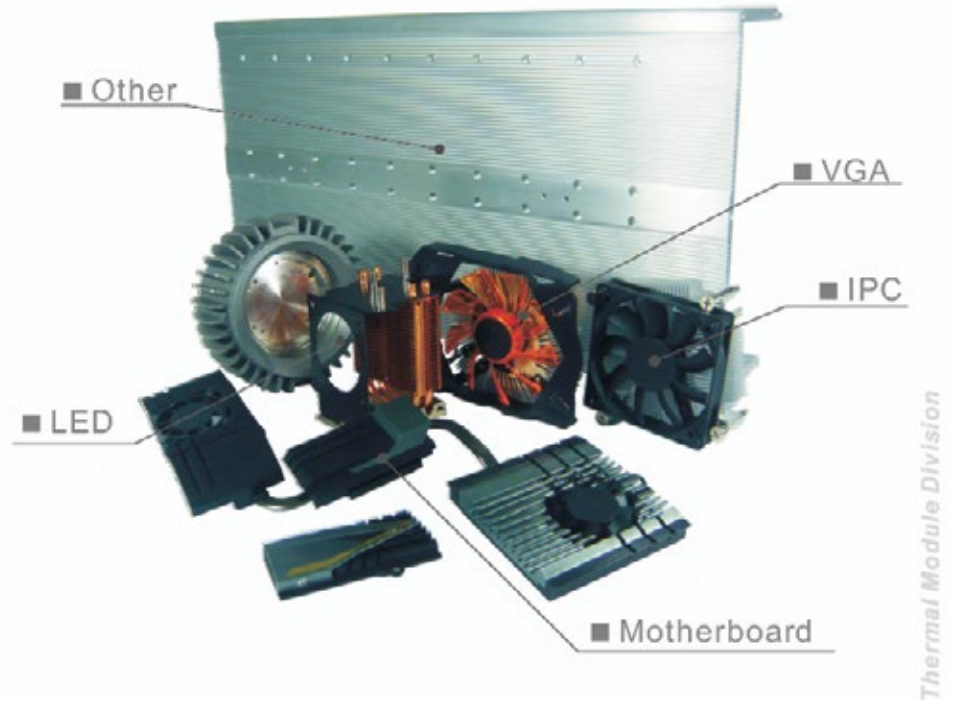
THERMAL MODULE DIVISION Y.S. TECH

Our MISSION: Provide the best thermal solutions & services to meet all the requirements of our valued customers. Be a best total solution provider.

Our STRENGTHS: Total Solutions Provider. Innovation R&D & design capabilities. Efficient production & competitive prices.

Thermal Design Capability

Product Application



Thermal Module Division

NYW02510 SERIES Y.S. TECH

25x25x10mm

- Airflow: 2.0~3.3 CFM
- Static Pressure: 3.7~6.3 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1571 #28 AWG
- Weight: 7.5 g

	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour	dB(A)		
NYW02510005BL 2B	05	4~5.5	7000	2.0	3.7	75	0.38	80000	4	18.0	
NYW02510005BM 2B		4~5.5	8500	2.4	4.5	110	0.55	80000	3	22.5	
NYW02510005BH 2B		4~5.5	10000	2.8	5.3	140	0.70	75000	2	26.0	
NYW02510005BS 2B		4~5.5	12000	3.3	6.3	180	0.90	65000	1	30.0	
NYW02510005LL L	12	4~5.5	7000	2.0	3.7	80	0.40	50000	4	<17.0	
NYW02510005LM L		4~5.5	8500	2.4	4.5	80	0.40	50000	3	19.2	
NYW02510012BL 2B		9~13.2	7000	2.0	3.7	40	0.48	80000	4	18.0	
NYW02510012BM 2B		7~13.2	8500	2.4	4.5	50	0.60	80000	3	22.5	
NYW02510012BH 2B		7~13.2	10000	2.8	5.3	65	0.78	75000	2	26.0	
NYW02510012BS 2B		7~13.2	12000	3.3	6.3	70	0.84	65000	1	30.0	
NYW025100012LL L		9~13.2	7000	2.0	3.7	40	0.48	50000	4	<17.0	
NYW025100012LM L		7~13.2	8500	2.4	4.5	50	0.60	50000	3	19.2	

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

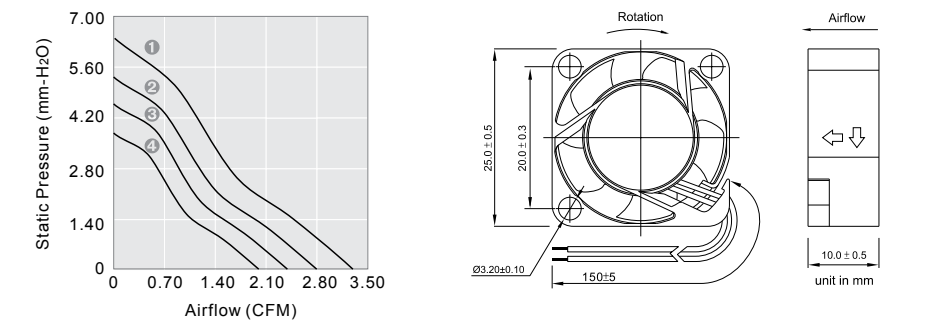
Voltage Available: 05122448

Bearing System Available: 2BLLS

Function Available: 16543278910111412

PERFORMANCE P-Q CURVE

OUTLINE DIMENSIONS



Please refer to Model Numbering System for bearing, function and speed level indication. Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department. Visit Y.S. TECH web site at <http://www.ystechusa.com/> for updated information. Customized Specifications are designed accordingly.

NYW03010 SERIES Y.S. TECH

30x30x10mm

- Airflow: 2.5~4.0 CFM
- Static Pressure: 2.0~5.2 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1571 #28 AWG
- Weight: 9 g

	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour	dB(A)		
NYW03010005BL 2B	05	4~5.5	5800	2.5	2.0	50	0.25	80000	4	<17.0	
NYW03010005BM 2B		4~5.5	6800	3.0	2.7	80	0.40	80000	3	18.0	
NYW03010005BH 2B		4~5.5	7800	3.4	3.3	90	0.45	75000	2	21.5	
NYW03010005BS 2B		4~5.5	10000	4.0	5.2	120	0.60	65000	1	28.0	
NYW03010005LL L	12	4~5.5	6000	2.6	2.0	80	0.40	50000	4	<17.0	
NYW03010005LM L		4~5.5	7000	2.9	2.8	105	0.53	50000	3	20.5	
NYW03010005LH L		4~5.5	8000	3.3	3.6	130	0.65	50000	2	23.2	
NYW03010005LS L		4~5.5	10000	4.0	5.2	190	0.95	50000	1	28.0	
NYW03010012BL 2B		9~13.2	5800	2.5	2.0	35	0.42	80000	4	<17.0	
NYW03010012BM 2B		7~13.2	6800	3.0	2.7	40	0.48	80000	3	18.0	
NYW03010012BH 2B		7~13.2	7800	3.4	3.3	40	0.48	75000	2	21.5	
NYW03010012BS 2B		7~13.2	10000	4.0	5.2	60	0.72	65000	1	28.0	
NYW030100012LL L	12	9~13.2	7000	2.5	2.0	35	0.42	50000	4	<17.0	
NYW030100012LM L		7~13.2	8000	2.9	2.8	50	0.60	50000	3	20.5	
NYW030100012LH L		7~13.2	8000	3.3	3.6	60	0.72	50000	2	23.2	
NYW030100012LS L		7~13.2	10000	4.0	5.2	80	0.96	50000	1	28.0	

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

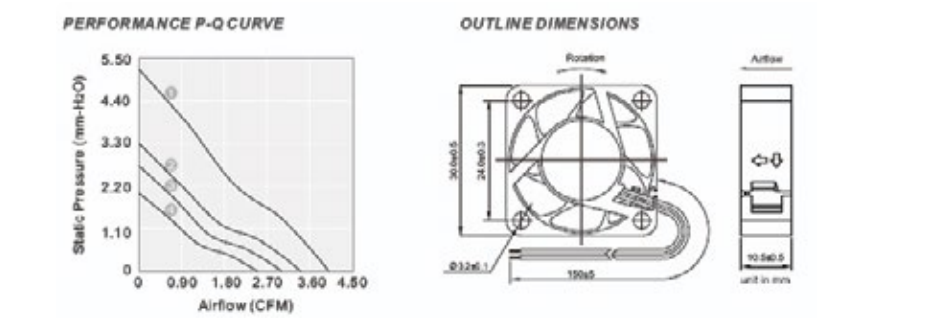
Voltage Available: 05122448

Bearing System Available: 2BLLS

Function Available: 16543278910111412

PERFORMANCE P-Q CURVE

OUTLINE DIMENSIONS



Please refer to Model Numbering System for bearing, function and speed level indication. Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department. Visit Y.S. TECH web site at <http://www.ystechusa.com/> for updated information. Customized Specifications are designed accordingly.

YW04010 SERIES

Y.S. TECH



40x40x10mm

- Airflow: 4.5~9.2 CFM
- Static Pressure: 2.0~6.4 mm-H2O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 15 g

NYW04010 SERIES

Y.S. TECH



40x40x10mm

- Airflow: 5.08~8.71CFM
- Static Pressure: 1.69~5.08 mm-H2O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 13.6 g

YW04015 SERIES

Y.S. TECH



40x40x15mm

- Airflow: 6.1~9.5 CFM
- Static Pressure: 4.6~8.7 mm-H2O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 26 g

NYW04015 SERIES

Y.S. TECH



40x40x15mm

- Airflow: 5.6~14.6 CFM
- Static Pressure: 2.6~14.6 mm-H2O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 26 g

	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.		VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour		dB(A)
YW04010005BL	2B	05	4~5.5	4500	4.5	2.0	90	0.45	80000	5	21.5
YW04010005BM	2B		4~5.5	5500	5.6	2.9	130	0.65	80000	4	26.5
YW04010005BH	2B		4~5.5	6500	6.6	4.1	170	0.85	75000	3	29.0
YW04010005BS	2B		4~5.5	7500	8.1	5.4	250	1.25	65000	2	34.5
YW04010005BSS	2B	12	4~5.5	8000	8.5	6.1	300	1.50	65000	0	36.5
YW04010012BL	2B		7~13.2	4500	4.5	2.0	45	0.54	80000	5	21.5
YW04010012BM	2B		7~13.2	5500	5.3	2.9	65	0.78	80000	4	25.0
YW04010012BH	2B		7~13.2	6500	6.6	4.1	75	0.90	75000	3	29.0
YW04010012BS	2B	24	7~13.2	7500	8.1	5.4	100	1.20	65000	2	34.5
YW04010012BSS	2B		7~13.2	8500	9.2	6.4	120	1.44	65000	1	37.0
YW04010024BL	2B		12~26.4	4500	4.5	2.0	50	1.20	80000	5	21.5
YW04010024BM	2B		12~26.4	5500	5.3	2.9	60	1.44	80000	4	25.0
YW04010024BH	2B		12~26.4	6500	6.6	4.1	70	1.68	75000	3	29.0

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available

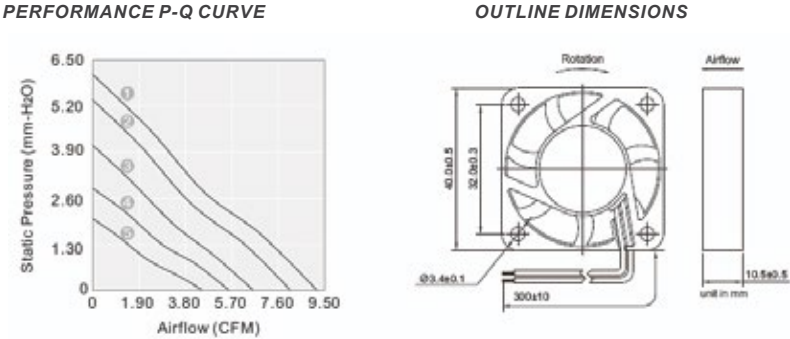
Bearing System Available

Function Available

05122448

2B L S

116543271891011141213



2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available

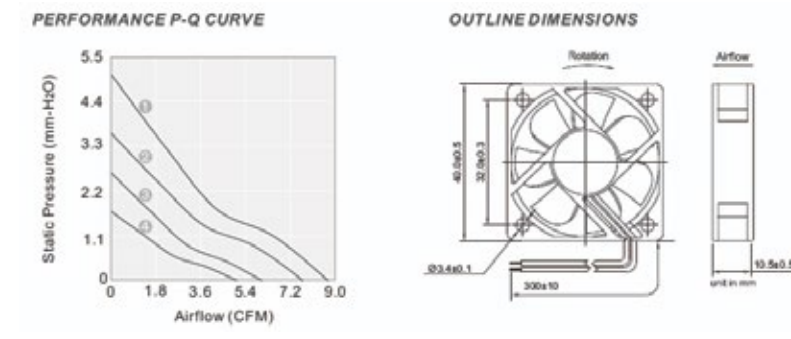
Bearing System Available

Function Available

05122448

2B L S

116543271891011141213



2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available

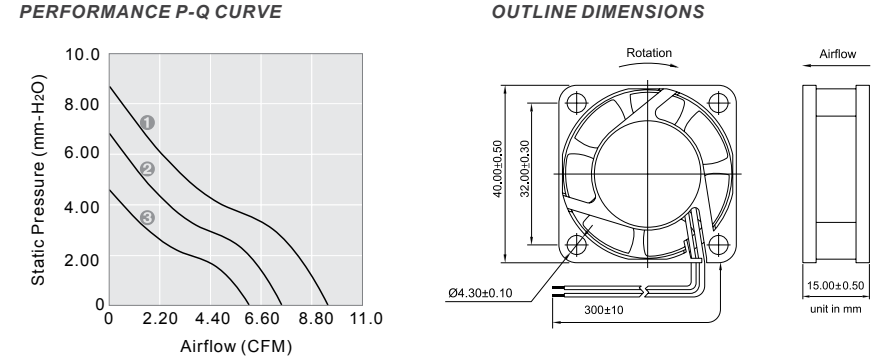
Bearing System Available

Function Available

05122448

2B L S

116543271891011141213



2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available

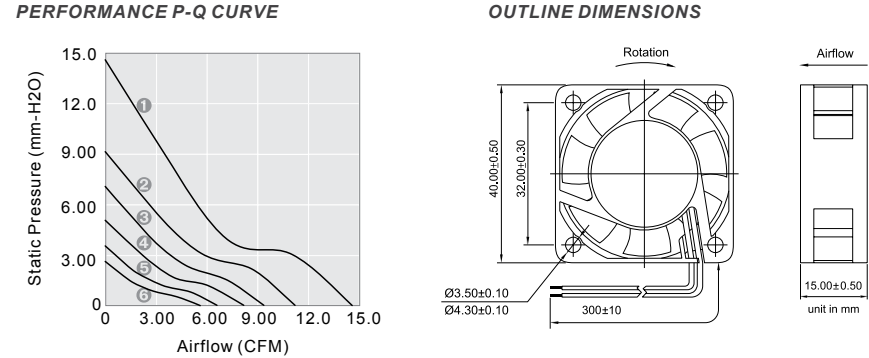
Bearing System Available

Function Available

05122448

2B L S

116543271891011141213



Please refer to *Model Numbering System* for bearing, function and speed level indication.
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HYW04020 SERIES

Y.S. TECH



40x40x20mm

- Airflow: 5.7~12.0 CFM
- Static Pressure: 3.2~11.5 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 24 g

YW04020-N SERIES

Y.S. TECH



40x40x20mm

- Airflow: 5.42~11.36 CFM
- Static Pressure: 2.21~10.12 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1061 #26 AWG
- Weight: 26.9 g

XYW04028-S SERIES

Y.S. TECH



40x40x28mm

- Airflow: 13.3~31.9 CFM
- Static Pressure: 12.9~63.4 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UI1571 #26 AWG
- Weight: 47.1 g

XYW04028-E SERIES

Y.S. TECH



40x40x28mm

- Airflow: 23.61~33.68 CFM
- Static Pressure: 44.66~62.52 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1061 #28 AWG
- Weight: 48.1 g

Model No.	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
HYW04020012LL	L	05	4~5.5	5000	5.7	3.2	250	1.25	50000	5	20.0
HYW04020012LM	L		4~5.5	6300	7.2	5.2	350	1.75	80000	4	25.5
HYW04020012LH	L		4~5.5	7600	9.0	6.4	530	2.65	75000	2	29.5
HYW04020012BL	2B	12	7~13.2	5000	5.7	3.2	70	0.84	80000	5	20.0
HYW04020012BM	2B		7~13.2	6300	7.2	5.2	100	1.20	80000	4	25.5
HYW04020012BH	2B		7~13.2	7600	9.0	6.4	140	1.68	75000	3	29.5
HYW04020012BS	2B	24	7~13.2	8900	10.5	9.2	170	2.04	65000	2	33.5
HYW04020012BU	2B		7~13.2	10000	12.0	11.5	210	2.52	65000	1	37.5
HYW04020024BL	2B		12~26.4	5000	5.7	3.2	40	0.96	80000	5	20.0
HYW04020024BM	2B	24	12~26.4	6300	7.2	5.2	50	1.20	80000	4	25.5
HYW04020024BH	2B		12~26.4	7600	9.0	6.4	70	1.68	75000	3	29.5
HYW04020024BS	2B		12~26.4	8900	10.5	9.2	100	2.40	65000	2	33.5
HYW04020024BU	2B		12~26.4	10000	12.0	11.5	130	3.12	65000	1	37.5

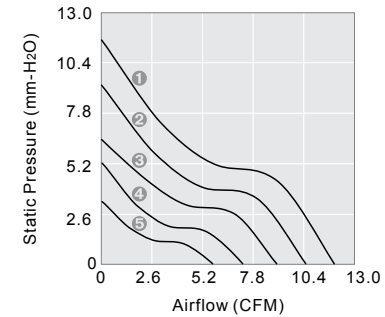
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

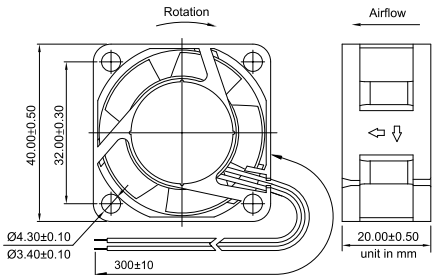
Bearing System Available
2BL S

Function Available
1 6 5 4 3 2 8 9 10 11 14 12 13

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication. Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department. Visit Y.S. TECH web site at <http://www.ystechusa.com/> for updated information. Customized Specifications are designed accordingly.

Model No.	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
YW04020005LL-N	L	5	4~5.5	4500	6.08	2.81	60	0.30	50000	4	<17.0
YW04020005LM-N	L		4~5.5	6000	8.06	5.02	100	0.50	50000	3	22.0
YW04020005LH-N	L		4~5.5	7500	10.04	7.87	170	0.85	50000	2	26.5
YW04020005BS-N	2B	12	7~13.2	8500	11.36	10.12	210	1.05	65000	1	29.5
YW04020012LL-N	L		7~13.2	4000	5.42	2.21	30	0.36	50000	5	< 17.0
YW04020012LM-N	L		7~13.2	4500	6.08	2.81	40	0.48	50000	4	< 17.0
YW04020012LH-N	L	24	7~13.2	6000	8.06	5.02	60	0.72	50000	3	22.0
YW04020012BH-N	2B		7~13.2	7500	10.04	7.87	110	1.32	50000	2	26.5
YW04020024LL-N	L		12~26.4	4500	6.08	2.81	30	0.72	50000	4	<17.0
YW04020024LM-N	L	24	12~26.4	6000	8.06	5.02	45	1.08	50000	3	22.0
YW04020024LH-N	L		12~26.4	7500	10.04	7.87	60	1.44	50000	2	26.5
YW04020024BS-N	2B		12~26.4	8500	11.36	10.12	85	2.04	65000	1	29.5

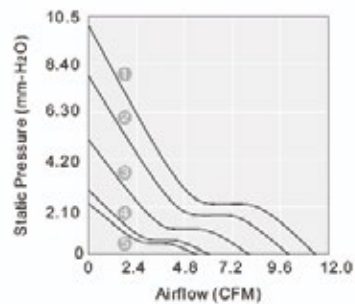
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

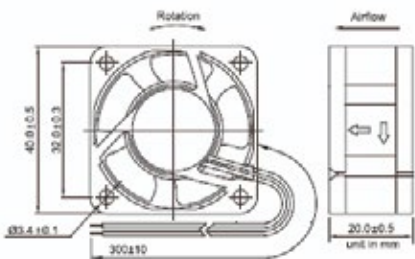
Bearing System Available
2B L S

Function Available
1 6 5 4 3 2 7 8 9 10 11 14 12 13

PERFORMANCE P-Q CURVE

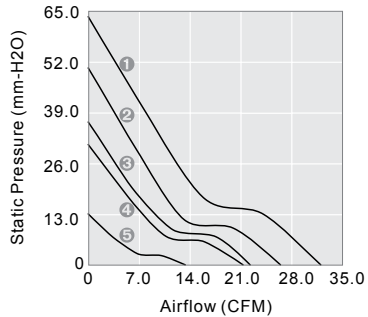


OUTLINE DIMENSIONS

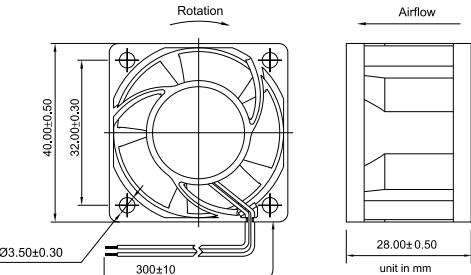


Please refer to *Model Numbering System* for bearing, function and speed level indication. Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department. Visit Y.S. TECH web site at <http://www.ystechusa.com/> for updated information. Customized Specifications are designed accordingly.

PERFORMANCE P-Q CURVE

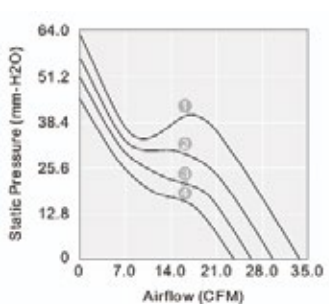


OUTLINE DIMENSIONS

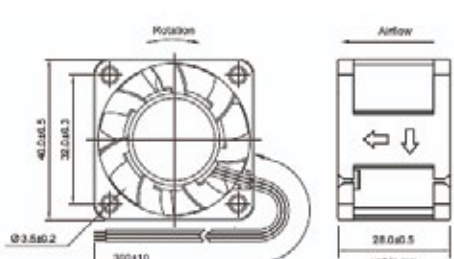


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PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



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XYW04028-P SERIES

Y.S. TECH



40x40x28mm

- Airflow: 10.3~25.9 CFM
- Static Pressure: 7.9~39.0 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #28 AWG
- Weight: 45.1 g

YW04510 SERIES

Y.S. TECH



45x45x10mm

- Airflow: 8.0~10.3 CFM
- Static Pressure: 2.5~4.8 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 17 g

NYW05010 SERIES

Y.S. TECH



50x50x10mm

- Airflow: 8.3~12.9 CFM
- Static Pressure: 1.0~3.0 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 18 g

YW05015 SERIES

Y.S. TECH



50x50x15mm

- Airflow: 12.0~17.1 CFM
- Static Pressure: 2.0~4.4 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 27 g

Model No.	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
XYW040280005BH	2B	05	4~5.5	8000	14.4	14.6	480	2.04	75000	5	37.5
XYW04028012BL	2B		7~13.2	5000	10.3	7.9	90	1.08	80000	7	24.5
XYW04028012BM	2B		7~13.2	7000	13.0	12.0	150	1.80	80000	6	34.5
XYW04028012BH	2B		7~13.2	8000	14.4	14.6	180	2.16	75000	5	37.5
XYW04028012BS	2B	12	7~13.2	9500		18.9	260	3.12	65000	4	41.0
XYW04028012BSE	2B		7~13.2	11000	16.5	26.2	460	5.52	65000	3	47.0
XYW04028012BSS	2B		7~13.2	13000	21.4	31.9	550	6.60	65000	2	49.5
XYW04028012BU	2B		7~13.2	16000	25.9	39.0	750	9.00	65000	1	51.5
XYW04028024BL	2B		12~26.4	5000	10.3	7.9	80	1.92	80000	7	24.5
XYW04028024BM	2B		12~26.4	7000	13.0	12.0	90	2.04	75000	6	34.5
XYW04028024BH	2B		12~26.4	8000	14.4	14.6	160	3.84	75000	5	37.5
XYW04028024BS	2B	24	12~26.4	9500	16.5	18.9	200	4.80	65000	4	41.0
XYW04028024BSE	2B		12~26.4	11000	19.0	26.2	280	6.72	65000	3	47.0
XYW04028024BSS	2B		12~26.4	13000	21.4	31.9	430	10.32	65000	2	49.5

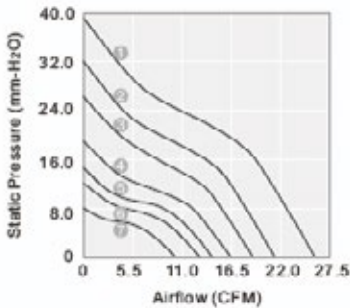
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available05122448

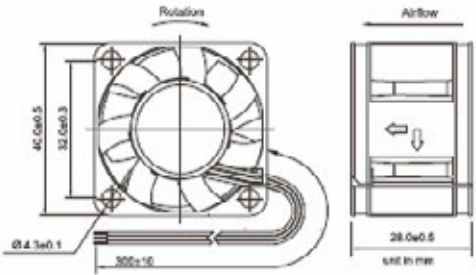
Bearing System Available2B L S

Function Available11654321718191011141213

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department.
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Model No.	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
YW04510005SL	S		4~5.5	4900	7.6	2.5	150	0.75	30000	3	28.5
YW04510005SM	S		4~5.5	5300	8.5	3.0	170	0.85	30000	2	30.5
YW04510005SH	S		4~5.5	6300	10.0	4.0	240	1.20	25000	1	35.5
YW04510005BL	2B	05	4~5.5	5100	8.49	3.1	150	0.75	80000	3	29.0
YW04510005BM	2B		4~5.5	5500	8.7	3.4	170	0.85	80000	2	31.5
YW04510005BH	2B		4~5.5	6500	10.3	4.8	240	1.20	75000	1	37.0
YW04510012SL	S		7~13.2	4900	7.6	2.5	90	1.08	30000	3	28.5
YW04510012SM	S		7~13.2	5300	8.5	3.0	120	1.44	30000	2	30.5
YW04510012SH	S		7~13.2	6300	10.0	4.0	140	1.68	25000	1	35.5
YW04510012BL	2B	12	7~13.2	5100	8.49	3.1	90	1.08	80000	3	29.0
YW04510012BM	2B		7~13.2	5500	8.7	3.4	120	1.44	80000	2	31.5
YW04510012BH	2B		7~13.2	6500	10.3	4.8	140	1.68	75000	1	37.0

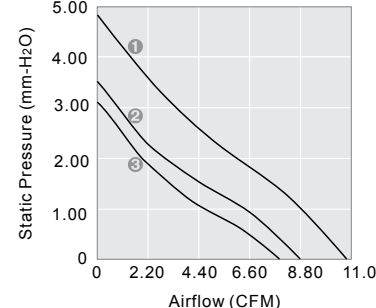
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available05122448

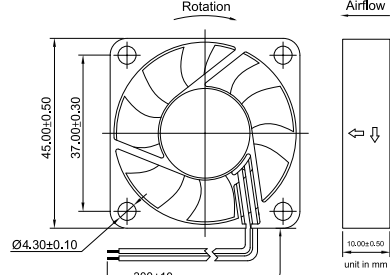
Bearing System Available2B L S

Function Available11654321718191011141213

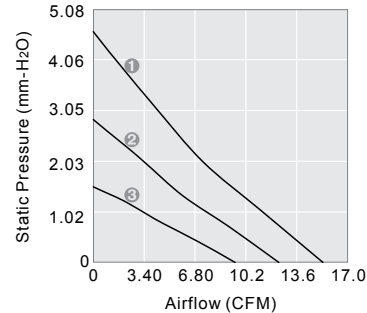
PERFORMANCE P-Q CURVE



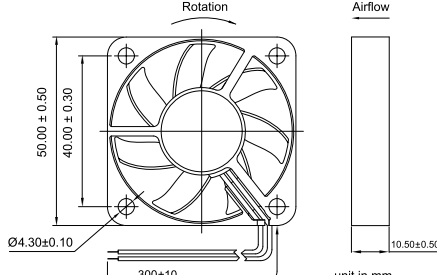
OUTLINE DIMENSIONS



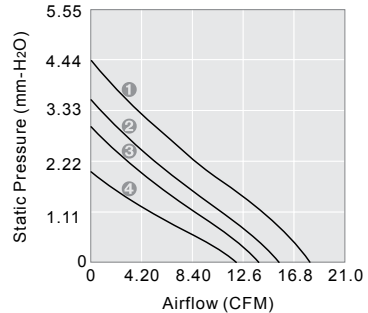
Please refer to *Model Numbering System* for bearing, function and speed level indication.
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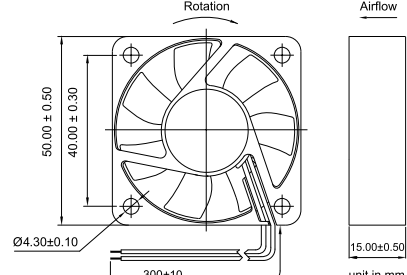
OUTLINE DIMENSIONS



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OUTLINE DIMENSIONS



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YW05020 SERIES

Y.S. TECH



50x50x20mm

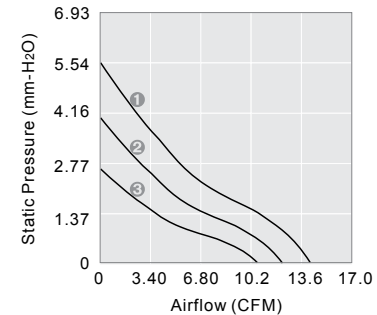
- Airflow: 8.9~14.0 CFM
- Static Pressure: 2.1~5.5 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 36.0 g

Model No.	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
YW05020012SL	S		7~13.2	3500	8.9	2.1	60	0.72	30000	3	22.5
YW05020012SM	S		7~13.2	4300	11.0	4.0	90	1.08	30000	2	25.0
YW05020012SH	S		7~13.2	5300	13.2	4.7	110	1.32	25000	1	30.0
YW05020012LL	L		7~13.2	3500	8.9	2.1	75	0.90	50000	3	22.5
YW05020012LM	L		7~13.2	4300	11.0	4.0	100	1.20	50000	2	25.0
YW05020012LH	L		7~13.2	5300	13.2	4.7	130	1.56	50000	1	30.0
YW05020012BL	2B		7~13.2	3900	10.0	2.5	60	0.72	80000	3	23.5
YW05020012BM	2B		7~13.2	4800	12.2	4.0	90	1.08	80000	2	28.0
YW05020012BH	2B		7~13.2	5600	14.0	5.5	110	1.32	75000	1	32.5

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

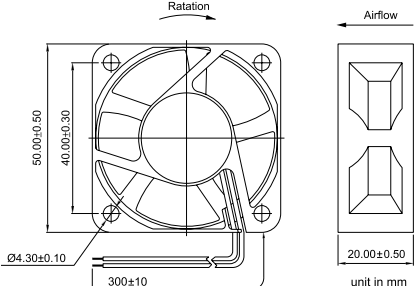
Voltage Available [05|12|24|48] Bearing System Available [2B|L|S] Function Available [1|6|5|4|3|2|7|8|9|10|11|14|12|13]

PERFORMANCE P-Q CURVE



Please refer to *Model Numbering System* for bearing, function and speed level indication. Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department. Visit Y.S. TECH web site at <http://www.ystechusa.com/> for updated information. Customized Specifications are designed accordingly.

OUTLINE DIMENSIONS



YW06010 SERIES

Y.S. TECH



60x60x10mm

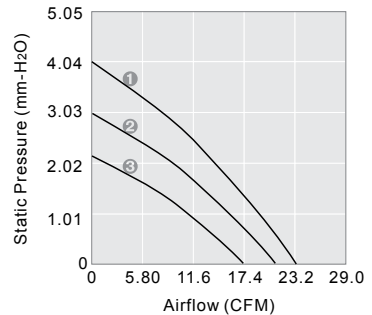
- Airflow: 17.3~23.3 CFM
- Static Pressure: 2.1~4.0 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 26.0 g

Model No.	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
YW06010005BL	2B	05	4~5.5	3800	17.3	2.1	260	1.30	80000	3	33.0
YW06010012BL	2B		7~13.2	3800	17.3	2.1	140	1.68	80000	3	37.5
YW06010012BM	2B		7~13.2	4500	21.0	3.0	170	2.04	80000	2	38.0
YW06010012BH	2B		7~13.2	5200	23.3	4.0	240	2.88	75000	1	41.0
YW06010012LH	L		7~13.2	5200	23.3	4.0	175	2.10	50000	1	41.0
YW06010012SL	S		7~13.2	3800	17.3	2.1	140	1.68	30000	3	37.5
YW06010012SM	S		7~13.2	4500	21.0	3.0	170	2.04	30000	2	38.0
YW06010012SH	S		7~13.2	5200	23.3	4.0	240	2.88	25000	1	41.0

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

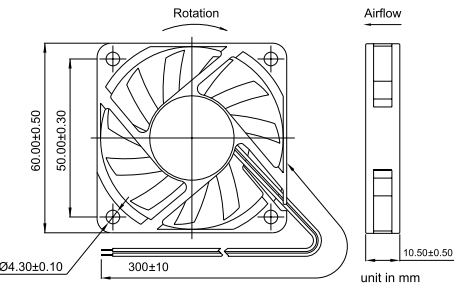
Voltage Available [05|12|24|48] Bearing System Available [2B|L|S] Function Available [1|6|5|4|3|2|7|8|9|10|11|14|12|13]

PERFORMANCE P-Q CURVE



Please refer to *Model Numbering System* for bearing, function and speed level indication. Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department. Visit Y.S. TECH web site at <http://www.ystechusa.com/> for updated information. Customized Specifications are designed accordingly.

OUTLINE DIMENSIONS



NYW06015 SERIES

Y.S. TECH



60x60x15mm

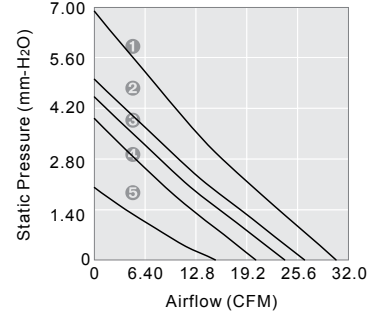
- Airflow: 15.1~30.4 CFM
- Static Pressure: 2.0~6.9 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 26.0 g

Model No.	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
NYW06015005SL	S		4~5.5	3000	14.3	1.7	110	0.55	30000	5	24.0
NYW06015005SM	S		4~5.5	3900	19.8	3.7	210	1.05	30000	4	33.5
NYW06015005SH	S		4~5.5	4700	23.9	4.5	320	1.60	25000	3	38.0
NYW06015012BL	2B		7~13.2	3200	15.2	2.0	100	1.20	80000	5	25.0
NYW06015012BM	2B		7~13.2	4000	20.3	3.9	160	1.92	80000	4	34.0
NYW06015012BH	2B		7~13.2	4700	23.9	4.5	220	2.64	75000	3	38.0
NYW06015012BS	2B		7~13.2	5200	26.4	5.0	270	3.24	65000	2	40.0
NYW06015012BSS	2B		7~13.2	6000	30.4	6.9	400	4.80	65000	1	43.0
NYW06015012SL	S		7~13.2	3000	14.3	1.7	80	0.96	30000	5	24.0
NYW06015012SM	S		7~13.2	3800	19.3	3.5	140	1.68	35000	4	33.0
NYW06015012SH	S		7~13.2	4700	23.9	4.5	220	2.64	25000	3	38.0
NYW06015012SS	S		7~13.2	5000	25.4	4.6	250	3.00	20000	2	39.0
NYW06015024BL	2B		12~26.4	3200	15.2	2.0	70	1.68	80000	5	25.0
NYW06015024BM	2B		12~26.4	4000	20.3	3.9	110	2.64	85000	4	34.0
NYW06015024BH	2B		12~26.4	4700	23.9	4.5	145	3.48	75000	3	38.0
NYW06015024BS	2B		12~26.4	5200	26.4	5.0	180	4.32	65000	2	40.0
NYW06015024SL	S		12~26.4	3000	14.3	1.7	90	2.16	30000	5	24.0
NYW06015024SM	S		12~26.4	3800	19.3	3.5	110	2.64	30000	4	32.8
NYW06015024SH	S		12~26.4	4500	23.6	3.9	120	2.88	25000	3	34.8
NYW06015024SS	S		12~26.4	5000	25.4	4.6	180	4.32	20000	2	39.0

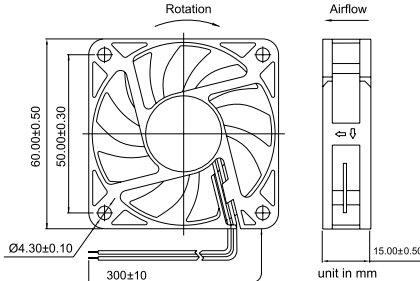
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available [05|12|24|48] Bearing System Available [2B|L|S] Function Available [1|6|5|4|3|2|7|8|9|10|11|14|12|13]

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



YW06020 SERIES

Y.S. TECH



60x60x20mm

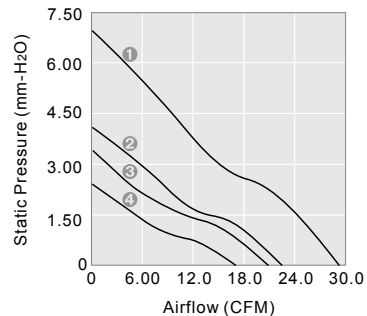
- Airflow: 17.0~29.1 CFM
- Static Pressure: 2.4~7.0 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 44.0 g

Model No.	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
YW06020012BL	2B		7~13.2	3000	17.0	2.4	80	0.96	80000	4	26.0
YW06020012BM	2B		7~13.2	3600	20.0	3.4	110	1.32	80000	3	30.0
YW06020012BH	2B		7~13.2	4200	22.9	4.4	160	1.92	75000	2	35.0
YW06020012BS	2B		7~13.2	5300	29.1	7.0	280	3.36	65000	1	41.0
YW06020012SL	S		7~13.2	2800	15.2	2.0	80	0.96	30000	4	25.0
YW06020012SM	S		7~13.2	3400	18.0	2.7	110	1.32	30000	3	28.0
YW06020012SH	S		7~13.2	4000	21.8	4.0	160	1.92	25000	2	35.0
YW06020012SS	S		7~13.2	5300	29.2	7.0	250	3.00	25000	1	41.0
YW06020024BL	2B		12~26.4	3000	17.0	2.4	40	0.96	80000	4	26.0
YW06020024BM	2B		12~26.4	3600	20.0	3.4	70	1.68	80000	3	30.0
YW06020024BH	2B		12~26.4	4200	22.9	4.4	80	1.92	75000	2	35.0
YW06020024SM	S		12~26.4	3400	18.0	2.7	70	1.68	30000	3	28.0
YW06020024SH	S		12~26.4	4000	21.8	4.0	80	1.92	25000	2	35.0

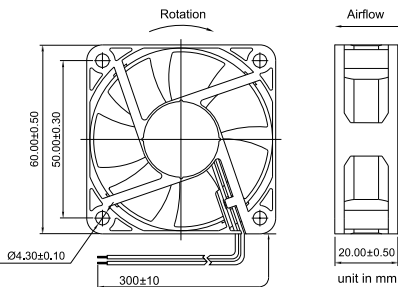
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available [05|12|24|48] Bearing System Available [2B|L|S] Function Available [1|6|5|4|3|2|7|8|9|10|11|14|12|13]

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication. Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department. Visit Y.S. TECH web site at <http://www.ystechusa.com/> for updated information. Customized Specifications are designed accordingly.

NYW06025 SERIES

Y.S. TECH



60x60x25mm

- Airflow: 15.8~40.1 CFM
- Static Pressure: 2.4~14.2 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 56 g

NYW06025-W SERIES

Y.S. TECH



60x60x25mm

- Airflow: 14.4~50.2 CFM
- Static Pressure: 5.0~27.6 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 56 g

XYW06038 SERIES

Y.S. TECH



60x60x38mm

- Airflow: 26.7~45.5 CFM
- Static Pressure: 8.1~22.9 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 115.6 g

HYW07010 SERIES

Y.S. TECH



70x70x10mm

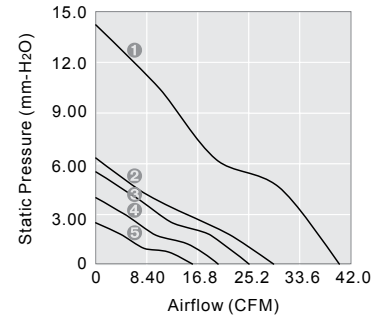
- Airflow: 14.9~31.0 CFM
- Static Pressure: 2.3~4.8 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 35.0 g

Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour	dB(A)	
NYW06025012BL 2B	12	7~13.2	2800	15.8	2.4	80	0.96	80000	5	23.5
NYW06025012BM 2B		7~13.2	3700	20.0	3.8	120	1.44	80000	4	29.5
NYW06025012BH 2B		7~13.2	4300	25.4	5.5	150	1.80	75000	3	34.0
NYW06025012BS 2B		7~13.2	5200	29.3	6.3	210	2.52	65000	2	40.5
NYW06025012BSS 2B	24	7~13.2	6800	40.1	14.2	330	3.96	65000	1	48.0
NYW06025024BL 2B		12~26.4	2800	15.8	2.4	50	1.20	80000	5	23.5
NYW06025024BM 2B		12~26.4	3700	20.0	3.8	70	1.68	80000	4	29.5
NYW06025024BH 2B		12~26.4	4300	25.4	5.5	90	2.16	75000	3	34.0
NYW06025024BS 2B	48	12~26.4	5200	29.3	6.3	110	2.64	65000	2	40.5
NYW06025024BSS 2B		12~26.4	6800	40.1	14.2	210	5.04	65000	1	48.0
NYW06025048BL 2B		24~56.0	2800	15.8	2.4	30	1.44	80000	5	23.5
NYW06025048BM 2B		24~56.0	3700	20.0	3.8	45	2.16	80000	4	29.5
NYW06025048BH 2B		24~56.0	4300	25.4	5.5	50	2.40	75000	3	34.0
NYW06025048BS 2B		24~56.0	5200	29.3	6.3	80	3.84	65000	2	40.5

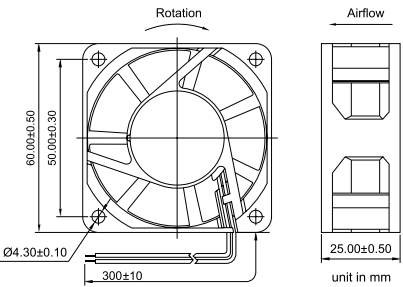
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available 05122448 Bearing System Available 2BLLS Function Available 1165413271891011141213

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



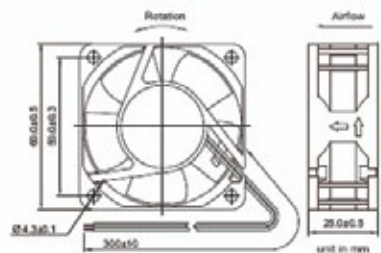
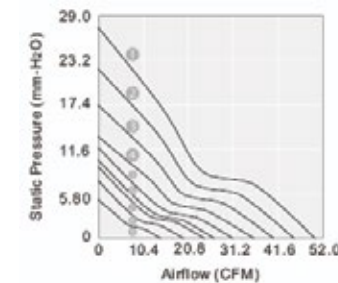
Please refer to *Model Numbering System* for bearing, function and speed level indication. Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department. Visit Y.S. TECH web site at <http://www.ystechusa.com/> for updated information. Customized Specifications are designed accordingly.

Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour	dB(A)	
NYW06025012BL-W 2B	12	7~13.2	3000	14.4	5.0	50	0.60	80000	9	25.0
NYW06025012BM-W 2B		7~13.2	4100	19.7	7.5	80	0.96	80000	8	31.0
NYW06025012BH-W 2B		7~13.2	5100	24.5	9.3	120	1.44	75000	7	36.0
NYW06025012BS-W 2B		7~13.2	5600	26.9	10.2	150	1.80	65000	6	38.1
NYW06025012BSS-W 2B	24	7~13.2	6500	31.2	11.8	190	2.28	65000	5	41.0
NYW06025012BF-W 2B		7~13.2	7500	35.9	13.2	300	3.60	65000	4	44.5
NYW06025012BG-W 2B		7~13.2	8500	40.6	17.4	420	5.04	65000	3	47.0
NYW06025012BJ-W 2B		7~13.2	9500	45.4	22.2	630	7.56	65000	2	49.0
NYW06025012BU-W 2B	48	7~13.2	10500	50.2	27.6	900	10.80	65000	1	51.5
NYW06025024BL-W 2B		12~26.4	3000	14.4	5.0	35	0.84	80000	9	25.0
NYW06025024BM-W 2B		12~26.4	4100	19.7	7.5	55	1.32	80000	8	31.0
NYW06025024BH-W 2B		12~26.4	5100	24.5	9.3	75	1.80	75000	7	36.0
NYW06025024BSS-W 2B	48	12~26.4	6500	31.2	11.8	110	2.64	65000	5	41.0
NYW06025024BU-W 2B		12~26.4	10500	50.2	27.6	410	9.84	65000	1	51.5
NYW06025048BL-W 2B		24~56.0	3000	14.4	5.0	30	1.44	65000	9	25.0
NYW06025048BM-W 2B		24~56.0	4100	19.7	7.5	40	1.92	80000	8	31.0
NYW06025048BH-W 2B		24~56.0	5100	24.5	9.3	55	2.64	80000	7	36.0
NYW06025048BSS-W 2B		24~56.0	6800	32.7	12.4	80	3.84	65000	5	42.0
NYW06025048BU-W 2B		24~56.0	10500	50.2	27.6	240	11.52	65000	1	51.5

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

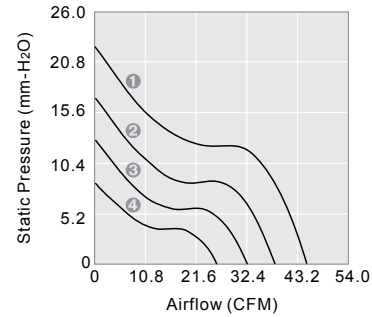
Voltage Available 05122448 Bearing System Available 2BLLS Function Available 1165413271891011141213

PERFORMANCE P-Q CURVE

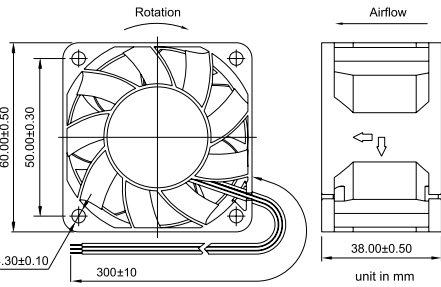


Please refer to *Model Numbering System* for bearing, function and speed level indication. Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department. Visit Y.S. TECH web site at <http://www.ystechusa.com/> for updated information. Customized Specifications are designed accordingly.

PERFORMANCE P-Q CURVE

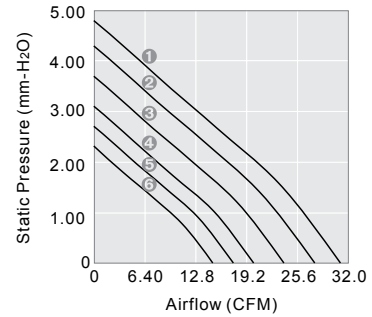


OUTLINE DIMENSIONS

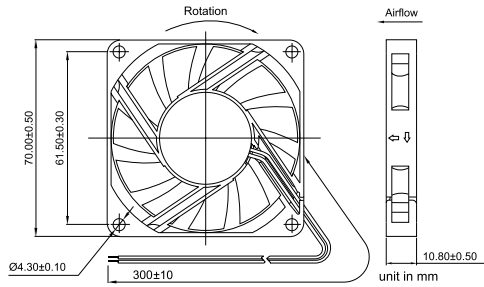


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PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



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EYW08025 SERIES

Y.S. TECH



80x80x25mm

- Airflow: 31.4~54.5 CFM
- Static Pressure: 2.0~5.9 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 88 g

NYW08025 SERIES

Y.S. TECH



80x80x25mm

- Airflow: 26.3~59.6 CFM
- Static Pressure: 2.0~8.8 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 100 g

YW08025 SERIES

Y.S. TECH



80x80x25mm

- Airflow: 27.9~48.5 CFM
- Static Pressure: 1.3~3.8 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 88 g

XYW08032 SERIES

Y.S. TECH



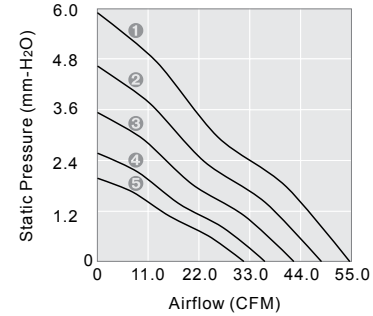
80x80x32mm

- Airflow: 48.6~80.5 CFM
- Static Pressure: 13.5~22.3 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 148.2 g

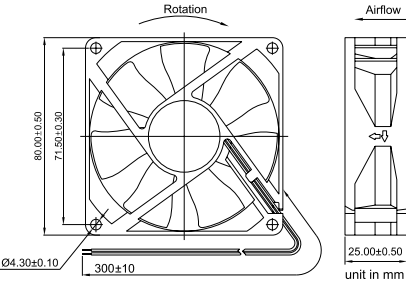
Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour	dB(A)	
EYW08025012BL 2B	12	7~13.2	2000	31.4	2.0	100	1.20	80000	5	26.6
EYW08025012BM 2B		7~13.2	2300	36.2	2.6	130	1.56	80000	4	29.6
EYW08025012BH 2B		7~13.2	2700	42.3	3.5	190	2.28	75000	3	33.1
EYW08025012BS 2B		7~13.2	3100	48.4	4.6	280	3.36	65000	2	36.1
EYW08025012BSS 2B	24	7~13.2	3500	54.5	5.9	300	3.60	65000	1	38.7
EYW08025024BL 2B		12~26.4	2000	31.4	2.0	55	1.32	80000	5	26.6
EYW08025024BM 2B		12~26.4	2300	36.2	2.6	70	1.68	80000	4	29.6
EYW08025024BH 2B		12~26.4	2700	42.3	3.5	90	2.16	75000	3	33.1
EYW08025024BS 2B	48	12~26.4	3100	48.4	4.6	130	3.12	65000	2	36.1
EYW08025024BSS 2B		12~26.4	3500	54.5	5.9	140	3.36	65000	1	38.7
EYW08025048BL 2B		24~56.0	2000	31.4	2.0	40	1.92	80000	5	26.6
EYW08025048BM 2B		24~56.0	2300	36.2	2.6	50	2.40	80000	4	29.6
EYW08025048BH 2B	2B	24~56.0	2700	42.3	3.5	70	3.36	75000	3	33.1
EYW08025048BS 2B		24~56.0	3100	48.4	4.6	90	4.32	65000	2	36.1
EYW08025048BSS 2B	2B	24~56.0	3500	54.5	5.9	110	5.28	65000	1	38.7

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing
Voltage Available 05122448 Bearing System Available 2B L S

PERFORMANCE P-Q CURVE



Function Available 1 6 5 4 3 2 7 8 9 10 11 14 12 13
OUTLINE DIMENSIONS

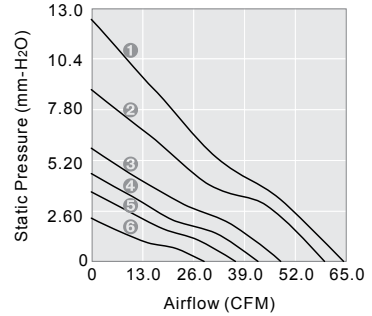


Please refer to *Model Numbering System* for bearing, function and speed level indication.
Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department.
Visit Y.S. TECH web site at <http://www.ystechusa.com/> for updated information. Customized Specifications are designed accordingly

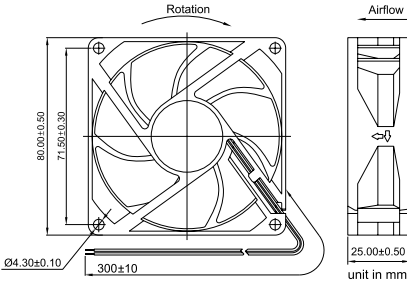
Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour	dB(A)	
NYW08025012SL S	12	7~13.2	2100	26.3	2.0	100	0.96	30000	6	26.0
NYW08025012SM S		7~13.2	2600	32.7	3.1	130	1.56	30000	5	29.5
NYW08025012SH S		7~13.2	3200	40.4	3.9	190	2.40	25000	4	35.5
NYW08025012SS S		7~13.2	3500	46.0	5.2	250	3.00	20000	3	38.5
NYW08025012BL 2B	24	7~13.2	2300	28.8	2.2	80	0.96	80000	6	27.0
NYW08025012BM 2B		7~13.2	2900	36.9	3.6	130	1.56	80000	5	32.0
NYW08025012BH 2B		7~13.2	3400	41.7	4.5	140	1.68	75000	4	37.5
NYW08025012BS 2B		7~13.2	3700	48.5	5.8	250	3.00	65000	3	39.5
NYW08025012BSS 2B	48	7~13.2	4500	59.6	8.8	280	3.36	65000	2	44.0
NYW08025012BU 2B		7~13.2	5500	64.1	12.5	500	6.00	65000	1	48.0
NYW08025024BL 2B		12~26.4	2300	28.8	2.2	60	1.44	80000	6	27.0
NYW08025024BM 2B		12~26.4	2900	36.9	3.6	80	1.92	80000	5	32.0
NYW08025024BH 2B	2B	12~26.4	3400	41.7	4.5	100	2.40	75000	4	37.5
NYW08025024BS 2B		12~26.4	3700	48.5	5.8	110	2.64	65000	3	39.5
NYW08025024BSS 2B	48	12~26.4	4500	59.6	8.8	200	4.80	65000	2	44.0
NYW08025048BM 2B		24~56.0	2900	36.9	3.6	45	2.16	80000	5	32.0
NYW08025048BH 2B		24~56.0	3400	41.7	4.5	80	3.84	75000	4	37.5
NYW08025048BS 2B		24~56.0	3700	48.5	5.9	90	4.08	75000	3	39.5

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing
Voltage Available 05122448 Bearing System Available 2B L S

PERFORMANCE P-Q CURVE



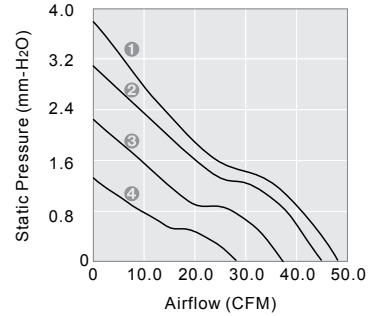
Function Available 1 6 5 4 3 2 7 8 9 10 11 14 12 13
OUTLINE DIMENSIONS



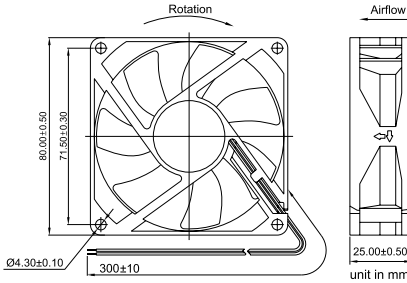
Please refer to *Model Numbering System* for bearing, function and speed level indication.
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2B: 2-ball bearing L: sintetico bearing S: sleeve bearing
Voltage Available 05122448 Bearing System Available 2B L S

PERFORMANCE P-Q CURVE



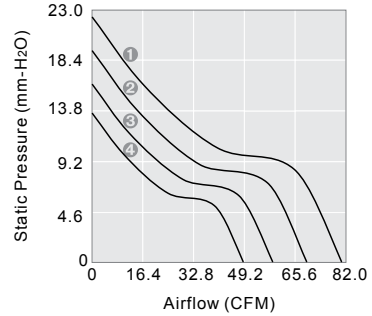
Function Available 1 6 5 4 3 2 7 8 9 10 11 14 12 13
OUTLINE DIMENSIONS



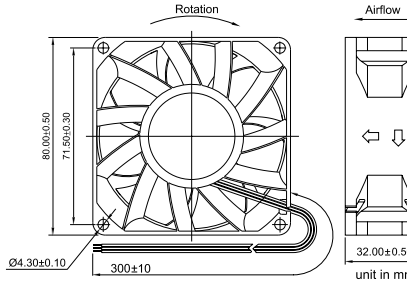
Please refer to *Model Numbering System* for bearing, function and speed level indication.
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2B: 2-ball bearing L: sintetico bearing S: sleeve bearing
Voltage Available 05122448 Bearing System Available 2B L S

PERFORMANCE P-Q CURVE



Function Available 1 6 5 4 3 2 7 8 9 10 11 14 12 13
OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
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XYW08038 SERIES

Y.S. TECH



80x80x38mm

- Airflow: 47.6~132.9 CFM
- Static Pressure: 7.5~45.3 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 172.6 g

Model No.	Bearing	Rated Voltage	Operating Voltage Range		Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
			VDC	VDC		RPM	CFM	mm-H ₂ O	mA	W	Hour	
XYW08038012BL	2B	12	7~13.2		3400	47.6	7.5	240	2.88	80000	6	41.5
XYW08038012BM	2B		7~13.2		4200	58.9	11.2	380	4.56	80000	5	47.0
XYW08038012BH	2B		7~13.2		4900	69.2	15.2	580	9.69	75000	4	51.5
XYW08038012BS	2B		7~13.2		5700	81.2	20.5	800	9.60	65000	3	55.0
XYW08038012BSS	2B		7~13.2		8000	116.0	37.2	2000	24.0	65000	2	62.5
XYW08038012BU	2B	24	7~13.2		9000	132.9	45.3	2700	32.4	60000	1	65.0
XYW08038024BL	2B		12~26.4		3400	47.6	7.5	130	3.12	80000	6	41.5
XYW08038024BM	2B		12~26.4		4200	58.9	11.2	200	4.80	80000	5	47.0
XYW08038024BH	2B		12~26.4		4900	69.2	15.2	280	6.72	75000	2	51.5
XYW08038024BS	2B		12~26.4		5700	81.2	20.5	420	10.08	65000	1	55.0
XYW08038048BL	2B	48	24~56.0		3400	47.6	7.5	80	3.84	80000	5	41.5
XYW08038048BM	2B		24~56.0		4200	58.9	11.2	110	5.28	80000	4	47.0
XYW08038048BH	2B		24~56.0		4900	69.2	15.2	150	7.20	75000	3	51.5
XYW08038048BS	2B		24~56.0		5700	81.2	20.5	200	9.60	65000	2	55.0

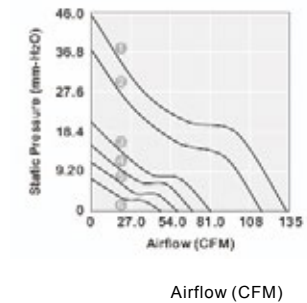
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

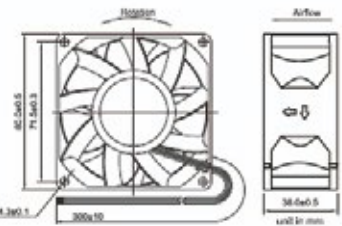
Bearing System Available
2BLLS

Function Available
16543217891011141213

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department.
Visit Y.S. TECH web site at <http://www.ystechusa.com/> for updated information. Customized Specifications are designed accordingly

XYW08038-S SERIES

Y.S. TECH



80x80x38mm

- Airflow: 77.2~153.8 CFM
- Static Pressure: 18.6~62.6 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 185.5 g

Model No.	Bearing	Rated Voltage	Operating Voltage Range		Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
			VDC	VDC		RPM	CFM	mm-H ₂ O	mA	W	Hour	
XYW08038012BL-S	2B	12	7~13.2		6000	77.2	18.6	530	6.36	60000	5	48.4
XYW08038012BM-S	2B		7~13.2		7000	89.8	25.2	750	9.00	60000	4	53.3
XYW08038012BH-S	2B		7~13.2		8500	109.1	34.2	1250	15.00	60000	3	58.8
XYW08038012BS-S	2B		7~13.2		10000	127.6	46.8	1900	22.80	60000	2	62.8
XYW08038012BV-S	2B		7~13.2		12000	153.8	62.6	3100	37.20	60000	1	68.1
XYW08038024BL-S	2B	24	11~28.0		6000	77.2	18.6	340	8.16	60000	5	48.4
XYW08038024BM-S	2B		11~28.0		7000	89.8	25.2	400	9.60	60000	4	53.3
XYW08038024BH-S	2B		11~28.0		8500	109.1	34.2	620	14.88	60000	3	58.8
XYW08038024BS-S	2B		11~28.0		10000	127.6	46.8	1000	24.00	60000	2	62.8
XYW08038024BV-S	2B		11~28.0		12000	153.8	62.6	1550	37.20	60000	1	68.1
XYW08038048BL-S	2B	48	36~56.0		6000	77.2	18.6	200	9.60	60000	5	48.4
XYW08038048BM-S	2B		36~56.0		7000	89.8	25.2	240	11.52	60000	4	53.3
XYW08038048BH-S	2B		36~56.0		8500	109.1	34.2	310	14.88	60000	3	58.8
XYW08038048BS-S	2B		36~56.0		10000	127.6	46.8	440	21.12	60000	2	62.8
XYW08038048BV-S	2B		36~56.0		12000	153.8	62.6	800	38.40	60000	1	68.1

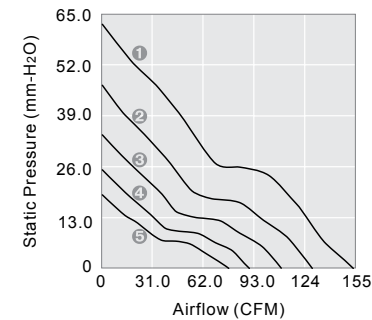
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

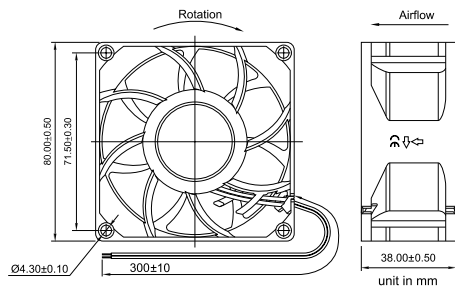
Bearing System Available
2BLLS

Function Available
16543217891011141213

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
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NYW09225 SERIES

Y.S. TECH



92x92x25mm

- Airflow: 45.8~73.4 CFM
- Static Pressure: 3.1~7.2 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 100.0 g

Model No.	Bearing	Rated Voltage	Operating Voltage Range		Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
			VDC	VDC		RPM	CFM	mm-H ₂ O	mA	W	Hour	
NYW09225012SL	S	12	7~13.2		2400	45.8	3.1	150	1.80	30000	5	32.5
NYW09225012SM	S		7~13.2		2800	53.5	4.3	220	2.64	30000	4	38.0
NYW09225012SH	S		7~13.2		3100	58.6	5.2	260	3.12	25000	3	40.0
NYW09225012SS	S		7~13.2		3500	67.3	5.9	340	4.08	20000	2	43.0
NYW09225012SSS	S		7~13.2		3800	73.4	7.3	470	5.64	20000	1	45.5
NYW09225012BL	2B	12	7~13.2		2400	45.8	3.1	150	1.80	80000	5	32.5
NYW09225012BM	2B		7~13.2		2800	53.5	4.3	220	2.64	80000	4	38.0
NYW09225012BH	2B		7~13.2		3100	58.6	5.2	260	3.12	75000	3	40.0
NYW09225012BS	2B		7~13.2		3500	67.3	5.9	340	4.08	65000	2	43.0
NYW09225012BSS	2B		7~13.2		3800	73.4	7.2	470	5.64	65000	1	45.5
NYW09225024BL	2B	24	12~26.4		2400	45.8	3.1	90	2.16	80000	5	32.5
NYW09225024BM	2B		12~26.4		2800	53.5	4.3	120	2.88	80000	4	38.0
NYW09225024BH	2B		12~26.4		3100	58.6	5.2	160	3.84	75000	3	40.0
NYW09225024BS	2B		12~26.4		3500	67.3	5.9	200	4.80	65000	2	43.0
NYW09225024BSS	2B		12~26.4		3800	73.4	7.3	270	6.48	65000	1	45.5
NYW09225048BL	2B	48	24~56.0		2400	45.8	3.1	55	2.64	80000	5	32.5
NYW09225048BM	2B		24~56.0		2800	53.5	4.3	80	3.84	80000	4	38.0
NYW09225048BH	2B		24~56.0		3100	58.6	5.2	100	4.80	75000	3	40.0
NYW09225048BS	2B		24~56.0		3500	67.3	5.9	150	7.20	65000	2	43.0

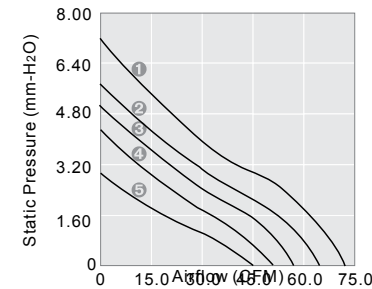
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

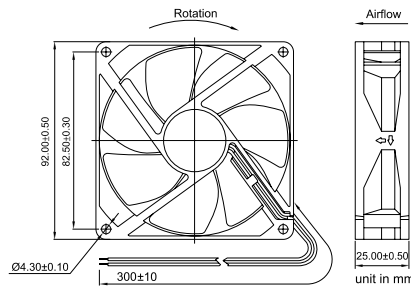
Bearing System Available
2BLLS

Function Available
16543217891011141213

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
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YW09225 SERIES

Y.S. TECH



92x92x25mm

- Airflow: 38.1~75.0 CFM
- Static Pressure: 1.5~4.8 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 100.0 g

	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.		VDC	VDC	RPM	CFM	mm-H2O	mA	W	Hour		dB(A)
YW09225012SL	S	12	7~13.2	1800	38.1	1.5	100	1.20	30000	5	25.0
YW09225012SM	S		7~13.2	2300	48.7	2.2	160	1.92	30000	4	32.0
YW09225012SH	S		7~13.2	2700	61.4	2.7	200	2.40	25000	3	36.5
YW09225012SSS	S		7~13.2	3000	63.1	3.3	260	3.12	20000	2	39.0
YW09225012BL	2B		7~13.2	1900	40.2	1.7	100	1.20	80000	5	25.0
YW09225012BM	2B		7~13.2	2400	50.8	2.4	160	1.92	80000	4	33.0
YW09225012BH	2B		7~13.2	2800	63.7	3.0	230	2.76	75000	3	37.5
YW09225012BS	2B		7~13.2	3100	66.3	3.7	260	3.12	65000	2	40.0
YW09225012BSS	2B		7~13.2	3500	75.0	4.8	360	4.32	65000	1	42.5
YW09225024BL	2B		12~26.4	1900	40.2	1.7	60	1.44	80000	5	25.0
YW09225024BM	2B	24	12~26.4	2400	50.8	2.4	80	1.92	80000	4	33.0
YW09225024BH	2B		12~26.4	2800	63.7	3.0	130	3.12	75000	3	37.5
YW09225024BS	2B		12~26.4	3600	81.9	3.9	190	4.56	65000	1	47.5
YW09225048BL	2B		24~56.0	1900	40.2	1.7	30	1.44	80000	5	25.0
YW09225048BM	2B	48	24~56.0	2400	50.8	2.4	55	2.64	80000	4	33.0
YW09225048BH	2B		24~56.0	2800	63.7	3.0	70	3.36	75000	3	37.5

XYW09225-S SERIES

Y.S. TECH



92x92x25mm

- Airflow: 76.2~109.3 CFM
- Static Pressure: 9.2~16.4 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 117.6 g

	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour	dB(A)		
XYW09225012BL-S	2B	12	7~13.2	3800	76.2	9.2	350	4.20	80000	4	44.0
XYW09225012BM-S	2B		7~13.2	4300	87.8	11.6	450	5.40	80000	3	47.0
XYW09225012BH-S	2B		7~13.2	4800	100.3	15.0	650	7.80	75000	2	49.0
XYW09225012BS-S	2B		7~13.2	5300	109.3	16.4	900	10.8	65000	1	51.0
XYW09225024BL-S	2B	24	12~26.4	3800	76.2	9.2	190	4.56	80000	4	44.0
XYW09225024BM-S	2B		12~26.4	4300	87.8	11.6	260	6.24	80000	3	47.0
XYW09225024BH-S	2B		12~26.4	4800	100.3	15.0	350	8.40	75000	2	49.0
XYW09225024BS-S	2B		12~26.4	5300	109.3	16.4	450	10.8	65000	1	51.0
XYW09225048BL-S	2B	48	24~56.0	3800	76.2	9.2	110	5.28	80000	4	44.0
XYW09225048BM-S	2B		24~56.0	4300	87.8	11.6	130	6.24	80000	3	47.0
XYW09225048BH-S	2B		24~56.0	4800	100.3	15.0	170	8.16	75000	2	49.0
XYW09225048BS-S	2B		24~56.0	5300	109.3	16.4	220	10.6	65000	1	51.0

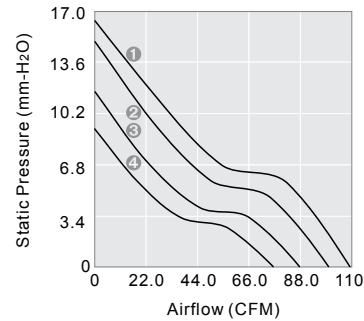
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

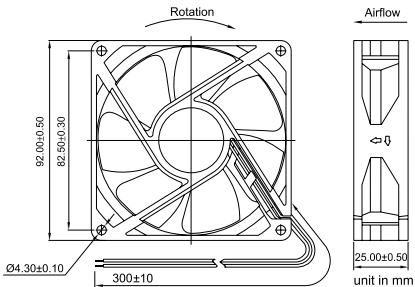
Bearing System Available
2BLLS

Function Available
1654327891011141213

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
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XYW09238-S SERIES

Y.S. TECH



92x92x38mm

- Airflow: 97.1~196.5 CFM
- Static Pressure: 15.2~52.4 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 201.5 g

	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour	dB(A)		
XYW09238012BL-S	2B	12	7~13.2	5000	97.1	15.2	450	5.40	60000	5	50.9
XYW09238012BM-S	2B		7~13.2	6000	118.0	23.4	750	9.00	60000	4	54.3
XYW09238012BH-S	2B		7~13.2	7000	132.2	28.1	1150	13.80	60000	3	57.5
XYW09238012BS-S	2B		7~13.2	8500	162.3	38.2	1900	22.80	60000	2	61.7
XYW09238012BSS-S	2B	12	7~13.2	10000	196.5	52.4	3200	38.40	60000	1	66.3
XYW09238024BL-S	2B		11~28.0	5000	97.1	15.2	260	6.24	60000	5	50.9
XYW09238024BM-S	2B		11~28.0	6000	118.0	23.4	380	9.12	60000	4	54.3
XYW09238024BH-S	2B		11~28.0	7000	132.2	28.1	580	13.92	60000	3	57.5
XYW09238024BS-S	2B		11~28.0	8500	162.3	38.2	1000	24.00	60000	2	61.7
XYW09238024BSS-S	2B	24	11~28.0	10000	196.5	52.4	1600	38.40	60000	1	66.3
XYW09238048BL-S	2B		36~56.0	5000	97.1	15.2	120	7.20	60000	5	50.9
XYW09238048BM-S	2B		36~56.0	6000	118.0	23.4	190	9.60	60000	4	54.3
XYW09238048BH-S	2B		36~56.0	7000	132.2	28.1	290	13.92	60000	3	57.5
XYW09238048BS-S	2B		36~56.0	8500	162.3	38.2	500	24.00	60000	2	61.7
XYW09238048BSS-S	2B	24	36~56.0	10000	196.5	52.4	800	38.40	60000	1	66.3

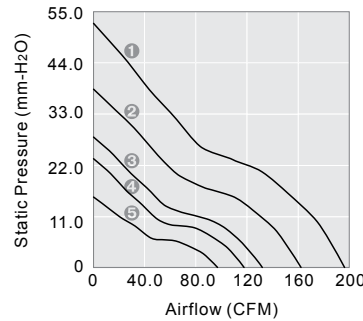
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

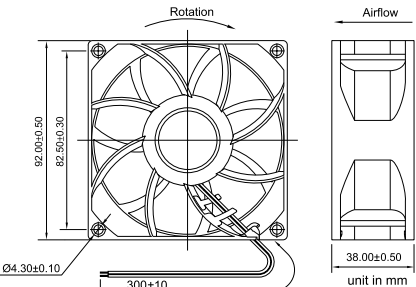
Bearing System Available
2BLLS

Function Available
1654431217891011141213

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



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XYW09238 SERIES

Y.S. TECH



92x92x38mm

- Airflow: 80.5~117.3 CFM
- Static Pressure: 7.8~15.5 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 198.4 g

	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour	dB(A)		
XYW09238012BL	2B	12	7~13.2	3300	80.5	7.8	450	5.40	80000	5	48.0
XYW09238012BM	2B		7~13.2	3800	92.6	10.9	640	9.00	80000	4	51.0
XYW09238012BH	2B		7~13.2	4300	103.8	13.1	950	13.80	75000	3	55.0
XYW09238012BS	2B		7~13.2	4900	117.3	15.5	1700	22.80	65000	2	57.0
XYW09238012BSS	2B	12	7~13.2	7000	168.0	33.1	2800	38.40	65000	1	65.0
XYW09238024BL	2B		12~26.4	3300	80.5	7.8	250	5.52	80000	5	48.0
XYW09238024BM	2B		12~26.4	3800	92.6	10.9	350	9.12	80000	4	51.0
XYW09238024BH	2B		12~26.4	4300	103.8	13.1	470	13.92	75000	3	55.0
XYW09238024BS	2B		12~26.4	4900	117.3	15.5	600	24.00	65000	2	57.0
XYW09238048BL	2B	48	24~56.0	3300	80.5	7.8	130	5.76	80000	5	48.0
XYW09238048BM	2B		24~56.0	3800	92.6	10.9	170	9.12	80000	4	51.0
XYW09238048BH	2B		24~56.0	4300	103.8	13.1	290	13.92	75000	3	55.0
XYW09238048BS	2B		24~56.0	4900	117.3	15.5	290	24.00	65000	2	57.0

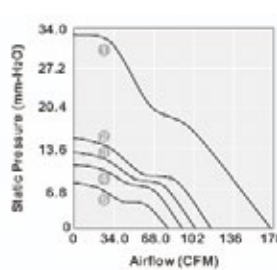
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

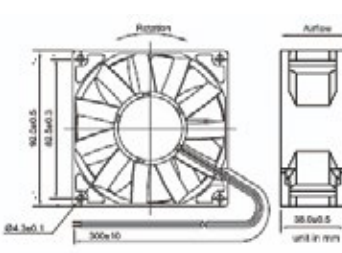
Bearing System Available
2BLLS

Function Available
1654431217891011141213

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
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KM12025 SERIES

Y.S. TECH



120x120x25mm

- Airflow: 61.2 CFM
- Static Pressure: 2.3 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 118 g

	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour	dB(A)		
KM12025012BL	2B	12	7~13.2	2000	61.2	2.3	180	2.16	80000	1	31.5
KM12025012BL(1)	2B		7~13.2	1200	38.4	1.4	70	0.84	80000	2	17.5
KM12025012LL	L		7~13.2	2000	61.2	2.3	65	0.78	50000	2	31.5
KM12025012LL(1)	L		7~13.2	1200	38.4	.78	70	0.78	50000	3	17.5
KM12025012SL	S	12	7~13.2	2000	61.2	2.3	180	2.16	30000	1	31.5
KM12025012SL(1)	S		7~13.2	1200	38.4	1.4	70	0.84	30000	2	17.5
KM12025012SL(0)	S		7~13.2	800	25.6	1.0	40	0.48	30000	3	16.5

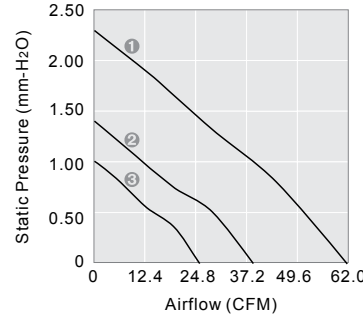
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

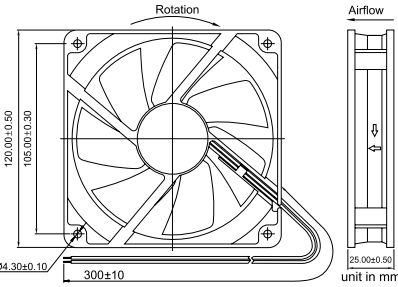
Bearing System Available
2BLLS

Function Available
1654431217891011141213

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
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YV12025 SERIES

Y.S. TECH



120x120x25mm

- Airflow: 73.0~208.4 CFM
- Static Pressure: 2.6~18.0mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #22 AWG
- Weight: 160 g

YV12032 SERIES

Y.S. TECH



120x120x32mm

- Airflow: 87.7~234.3 CFM
- Static Pressure: 4.2~24.4 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #22 AWG
- Weight: 219 g

YV12038 SERIES

Y.S. TECH



120x120x38mm

- Airflow: 89.5~212.6CFM
- Static Pressure: 3.9~19.8 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #22 AWG
- Weight: 220 g

XYW12038-R SERIES

Y.S. TECH



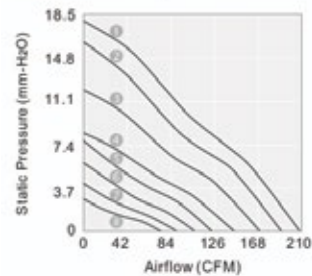
120x120x38mm

- Airflow: 88.0~142.0 CFM
- Static Pressure: 8.4~20.0 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Frame: **Plastic Material UL 94V-0 P.B.T**
- **Lead Wire: UL1007 #22 AWG Weight:**
- **396.8 g**

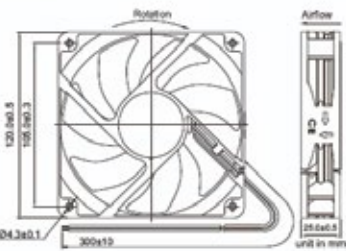
Model No.	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
YV12025012BL	2B	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour	dB(A)	
YV12025012BM	2B	12	7~13.2	1800	73.0	2.6	180	2.16	80000	8	34.0
YV12025012BH	2B		7~13.2	2200	87.8	3.9	290	3.48	80000	7	40.5
YV12025012BS	2B		7~13.2	2600	106.1	5.8	460	5.52	75000	6	44.0
YV12025012BSS	2B		7~13.2	3000	123.1	7.6	570	6.84	65000	5	49.0
YV12025012BD	2B	24	7~13.2	3500	144.6	8.4	650	7.80	65000	4	51.5
YV12025012BD	2B		7~13.2	4100	169.5	12.0	950	11.40	65000	3	55.5
YV12025012BJ	2B		7~13.2	4600	190.2	16.2	1300	15.60	65000	2	57.5
YV12025012BV	2B		7~13.2	5200	208.4	18.0	1900	22.80	60000	1	59.5
YV12025024BL	2B	24	12~26.4	1800	73.0	2.6	180	2.40	80000	8	34.0
YV12025024BM	2B		12~26.4	2200	87.8	3.9	290	3.84	80000	7	40.5
YV12025024BH	2B		12~26.4	2600	106.1	5.8	460	5.52	75000	6	44.0
YV12025024BS	2B		12~26.4	3000	123.1	7.6	570	6.84	65000	5	49.0
YV12025024BSS	2B	48	12~26.4	3500	144.6	8.4	650	7.80	65000	4	51.5
YV12025024BD	2B		12~26.4	4100	169.5	12.0	950	11.40	65000	3	55.5
YV12025024BJ	2B		12~26.4	4600	190.2	16.2	1300	15.60	65000	2	57.5
YV12025024BV	2B		12~26.4	5200	208.4	18.0	1900	22.80	60000	1	59.5
YV12025048BS	2B	48	24~56.0	1800	73.0	7.6	180	6.84	65000	5	49.0
YV12025048BL	2B		24~56.0	2200	87.8	2.6	290	3.84	80000	8	40.5
YV12025048BM	2B		24~56.0	2600	106.1	3.9	460	5.52	80000	6	44.0
YV12025048BH	2B		24~56.0	3000	123.1	5.8	570	6.84	65000	5	49.0
YV12025048BSS	2B	48	24~56.0	3500	144.6	8.4	650	7.80	65000	4	51.5
YV12025048BD	2B		24~56.0	4100	169.5	12.0	950	11.40	65000	3	55.5
YV12025048BJ	2B		24~56.0	4600	190.2	16.2	1300	15.60	65000	2	57.5
YV12025048BV	2B		24~56.0	5200	208.4	18.0	1900	22.80	60000	1	59.5

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing
Voltage Available Bearing System Available Function Available
[05][12][24][48] [2B][L][S] [1][6][5][4][3][2][7][8][9][10][11][14][12][13]

PERFORMANCE P-Q CURVE

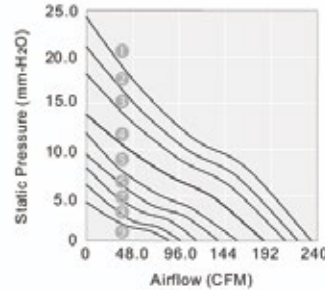


OUTLINE DIMENSIONS

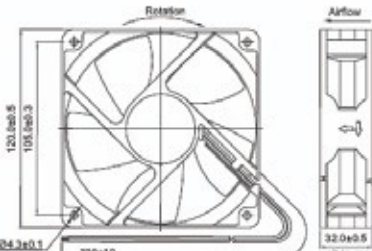


2B: 2-ball bearing L: sintetico bearing S: sleeve bearing
Voltage Available Bearing System Available Function Available
[05][12][24][48] [2B][L][S] [1][6][5][4][3][2][7][8][9][10][11][14][12][13]

PERFORMANCE P-Q CURVE

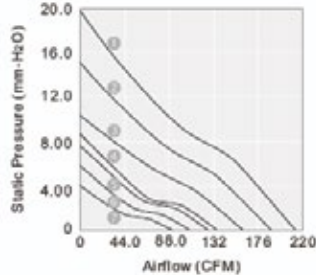


OUTLINE DIMENSIONS

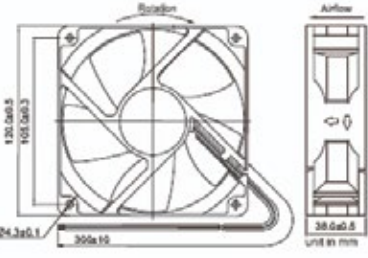


2B: 2-ball bearing L: sintetico bearing S: sleeve bearing
Voltage Available Bearing System Available Function Available
[05][12][24][48] [2B][L][S] [1][6][5][4][3][2][7][8][9][10][11][14][12][13]

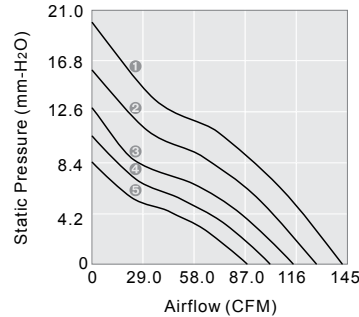
PERFORMANCE P-Q CURVE



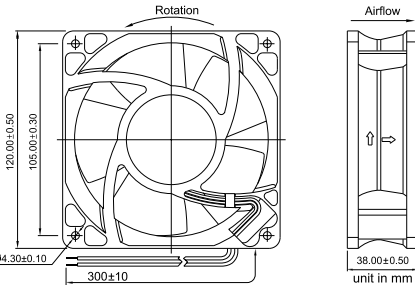
OUTLINE DIMENSIONS



PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



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XYW12038-S SERIES

Y.S. TECH



120x120x38mm

- Airflow: 149.7~282.9 CFM
- Static Pressure: 18.3~42.2 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #24 AWG
- Weight: 252.5 g

XYW12038-P SERIES

Y.S. TECH



120x120x38mm

- Airflow: 194.4~315.3 CFM
- Static Pressure: 31.1~50.5 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #22 AWG
- Weight: 400 g

XYW17251/SERIES

Y.S. TECH



172x150x51mm

- Airflow: 247.5~464.0 CFM
- Static Pressure: 16.7~52.0 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.P.O.
- Frame: Die-Casting Aluminum
- Lead Wire: UL1007 #22 AWG
- Weight: 1080 g

BW05115 SERIES

Y.S. TECH



50x50x15mm

- Airflow: 4.2~6.3 CFM
- Static Pressure: 12.0~26.2 mm-H₂O
- Blade / Housing: Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 28 g

	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour			
XYW12038012BL-S	2B	12	7~13.2	5000	149.7	18.3	600	7.20	60000	5	61.8
XYW12038012BM-S	2B		7~13.2	6000	182.2	26.6	900	10.80	60000	4	63.5
XYW12038012BH-S	2B		7~13.2	7000	203.2	31.1	1150	13.80	60000	3	64.7
XYW12038012BS-S	2B		7~13.2	8500	256.5	39.9	2200	26.40	60000	2	69.1
XYW12038012BSS-S	2B	24	7~13.2	9500	282.9	42.2	3200	38.40	60000	1	71.2
XYW12038024BL-S	2B		11~28.0	5000	149.7	18.3	300	7.20	60000	5	61.8
XYW12038024BM-S	2B		11~28.0	6000	182.2	26.6	450	10.80	60000	4	63.5
XYW12038024BH-S	2B		11~28.0	7000	203.2	31.1	580	13.92	60000	3	64.7
XYW12038024BS-S	2B		11~28.0	8500	256.5	39.9	1100	26.40	60000	2	69.1
XYW12038024BSS-S	2B	48	11~28.0	9500	282.9	42.2	1600	38.40	60000	1	71.2
XYW12038048BL-S	2B		35~56.0	5000	149.7	18.3	170	8.16	60000	5	61.8
XYW12038048BM-S	2B		35~56.0	6000	182.2	26.6	230	11.04	60000	4	63.5
XYW12038048BH-S	2B		35~56.0	7000	203.2	31.1	300	14.40	60000	3	64.7
XYW12038048BS-S	2B		35~56.0	8500	256.5	39.9	600	28.80	60000	2	69.1
XYW12038048BSS-S	2B		35~56.0	9500	282.9	42.2	800	38.40	60000	1	71.2

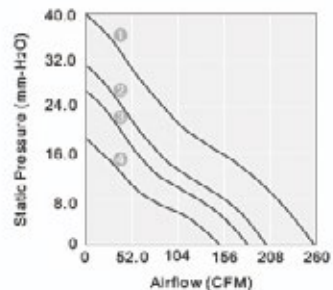
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

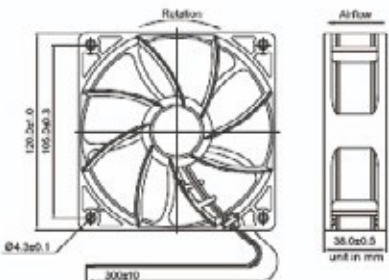
Bearing System Available
2BLLS

Function Available
16543217891011141213

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



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	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour			
XYW12038012BL-P	2B	12	7~13.2	4000	194.4	31.1	1900	22.80	80000	5	64.0
XYW12038012BM-P	2B		7~13.2	4400	213.7	34.2	2300	27.60	80000	4	66.0
XYW12038012BH-P	2B		7~13.2	5100	247.6	39.6	3100	37.20	65000	3	69.5
XYW12038024BL-P	2B		15~30.0	4000	194.4	31.1	850	20.40	80000	5	64.0
XYW12038024BM-P	2B	24	15~30.0	4400	213.7	34.2	1000	24.00	80000	4	66.0
XYW12038024BH-P	2B		15~30.0	5100	247.6	39.6	1600	38.40	65000	3	69.5
XYW12038024BS-P	2B		15~30.0	5800	281.5	45.1	2400	57.60	65000	2	72.5
XYW12038024BSS-P	2B		15~30.0	6500	315.3	50.7	3200	76.80	65000	1	75.0
XYW12038048BL-P	2B	48	35~72.0	4000	194.4	31.1	460	22.08	80000	5	64.0
XYW12038048BM-P	2B		35~72.0	4400	213.7	34.2	550	26.40	80000	4	66.0
XYW12038048BH-P	2B		35~72.0	5100	247.6	39.6	750	36.00	75000	3	69.5
XYW12038048BS-P	2B		35~72.0	5800	281.5	45.1	1100	52.80	65000	2	72.5
XYW12038048BSS-P	2B		35~72.0	6500	315.3	50.5	1550	74.40	65000	1	74.5

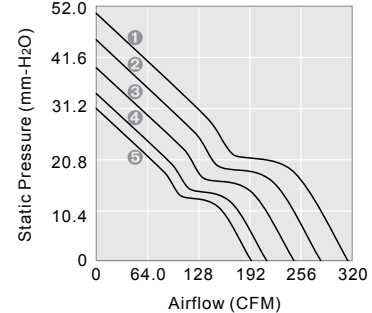
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

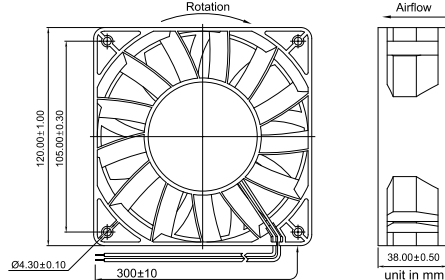
Bearing System Available
2BLLS

Function Available
16543217891011141213

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



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	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour			
XYW17251012BL	2B	12	7~13.2	3000	247.5	16.7	1800	21.60	80000	6	57.2
XYW17251012BM	2B		7~13.2	3500	294.4	23.7	2800	33.60	80000	5	62.1
XYW17251024BL	2B		12~26.4	3000	247.5	16.7	850	20.40	80000	6	57.2
XYW17251024BM	2B		12~26.4	3500	294.4	23.7	1250	30.00	80000	5	62.1
XYW17251024BH	2B	24	12~26.4	4000	335.4	29.8	1850	40.40	75000	4	63.0
XYW17251024BS	2B		12~26.4	4500	379.7	37.1	2700	64.80	65000	3	67.3
XYW17251048BL	2B		24~56.0	3000	247.5	16.7	440	21.12	80000	6	57.2
XYW17251048BM	2B		24~56.0	3500	294.4	23.7	650	31.20	80000	5	62.1
XYW17251048BH	2B	48	24~56.0	4000	335.4	29.8	950	45.60	75000	4	63.0
XYW17251048BS	2B		24~56.0	4500	379.7	37.1	1250	60.00	65000	3	67.3
XYW17251048BSE	2B		24~56.0	5000	419.9	46.3	1650	79.20	65000	2	71.1
XYW17251048BSS	2B		24~56.0	5500	464.0	52.0	2400	115.2	65000	1	73.1

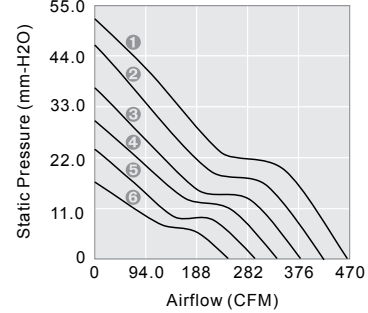
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

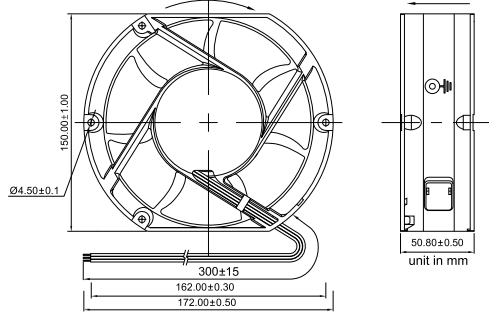
Bearing System Available
2BLLS

Function Available
16543217891011121314

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



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	Bearing	Rated Voltage	Operating Voltage Range	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VDC	VDC	RPM	CFM	mm-H ₂ O	mA	W	Hour			
BW05115005BL	2B	05	4~5.5	4500	3.9	12.0	170	0.85	80000	4	37.5
BW05115005BM	2B		4~5.5	5500	4.7	16.2	350	1.75	80000	3	42.0
BW05115012BL	2B		7~13.2	4500	3.9	12.0	95	1.14	80000	4	37.5
BW05115012BM	2B		7~13.2	5500	4.7	16.2	160	1.92	80000	3	42.0
BW05115012BH	2B	12	7~13.2	6500	5.5	20.9	230	2.76	80000	2	45.5
BW05115012BS	2B		7~13.2	7500	6.3	26.2	290	3.48	75000	1	48.5
BW05115012LL	L		7~13.2	4500	3.9	12.0	100	1.20	65000	4	37.5
BW05115012LM	L		7~13.2	5500	4.7	16.2	150	1.80	50000	3	42.0
BW05115012LH	L	24	7~13.2	6500	5.5	20.9	220	2.64	50000	2	45.5
BW05115012LS	L		7~13.2	7500	6.3	26.2	290	3.48	50000	1	48.5
BW05115024BL	2B		12~26.4	4500	3.9	12.0	60	1.44	80000	4	37.5
BW05115024BM	2B		12~26.4	5500	4.7	16.2	85	2.04	80000	3	42.0
BW05115024BH	2B	24	12~26.4	6500	5.5	20.9	120	2.88	75000	2	45.5
BW05115024BS	2B		12~26.4	7500	6.3	26.2	180	4.32	65000	1	48.5

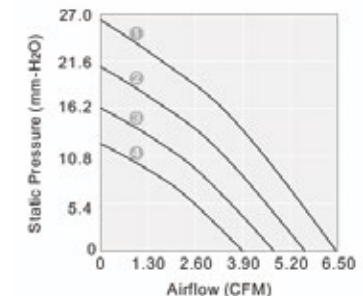
2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available
05122448

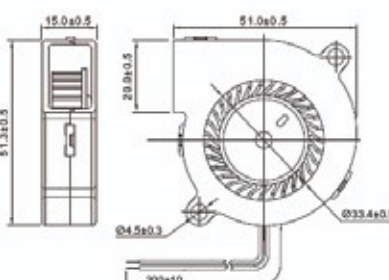
Bearing System Available
2BLLS

Function Available
16543217891011141213

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
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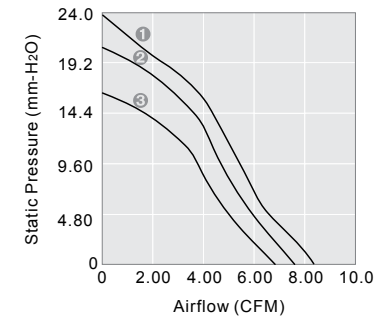
- **Airflow:** 6.7~8.2 CFM
- **Static Pressure:** 17.6~22.0 mm-H₂O
- **Blade / Housing:**
Plastic Material UL 94V-0 P.B.T.
- **Lead Wire:** UL1007 #26 AWG
- **Weight:** 41 g

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

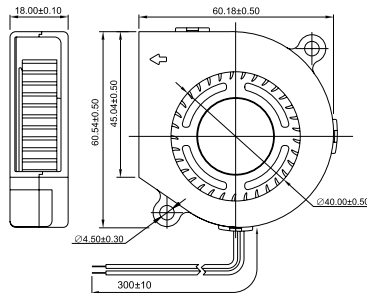
Voltage Available
05 12 24 48

Bearing System Available
2B L S

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



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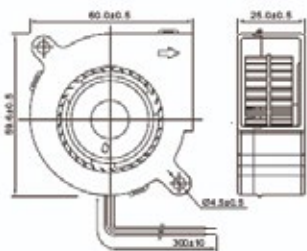
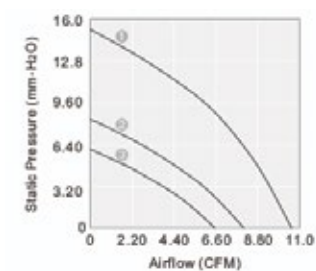
- Airflow: 6.5~10.6 CFM
- Static Pressure: 6.1~15.3 mm-H₂O
- Blade / Housing:
Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 63.6 g

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available Bearing System Available

05 12 24 48 2B L S

PERFORMANCE P-Q CURVE



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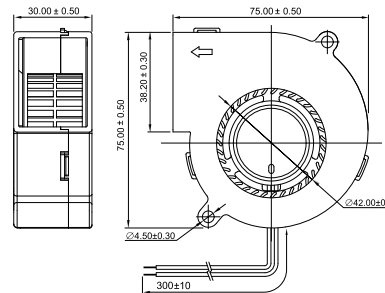
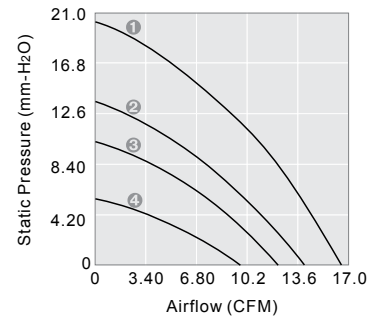
- Airflow: 9.7~16.5 CFM
- Static Pressure: 5.5~20.3 mm-H₂O
- Blade / Housing:
Plastic Material UL 94V-0 P.B.T.
- Lead Wire: UL1007 #26 AWG
- Weight: 88.9 g

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available Bearing System Available

05 12 24 48 2B L S

PERFORMANCE P-Q CURVE



Please refer to *Model Numbering System* for bearing, function and speed level indication.
 Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department.
 Visit Y.S. TECH web site at <http://www.ystechusa.com> for updated information. Customized Specifications are designed accordingly.



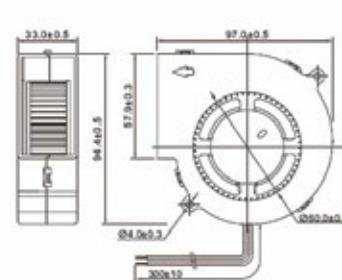
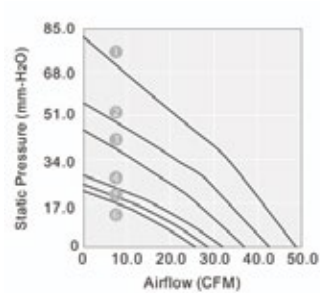
- **Airflow: 25.6~32.4 CFM**
- **Static Pressure: 22.1~28.1 mm-H₂O**
- **Blade / Housing:**
Plastic Material UL 94V-0 P.B.T.
- **Lead Wire: UL1007 #24 AWG**
- **Weight: 156.7 g**

2B: 2-ball bearing L: sintetico bearing S: sleeve bearing

Voltage Available Bearing System Available

05 12 24 48 2B L S

PERFORMANCE P-Q CURVE



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KT09225 SERIES

Y.S. TECH



92x92x25.5mm

- Airflow: 17.3~32.0 CFM
- Static Pressure: 1.39~5.70 mm-H2O
- Blade: Plastic Material UL 94V-0 P.B.T.
- Frame: Die-Cast Aluminum
- Weight: 260 g

KT09238 SERIES

Y.S. TECH



92x92x38.0mm

- Airflow: 34.0~47.0 CFM
- Static Pressure: 2.20~6.00 mm-H2O
- Blade: Plastic Material UL 94V-0 P.B.T.
- Frame: Die-Cast Aluminum
- Weight: 450 g

KT12025 SERIES

Y.S. TECH



120x120x25.5mm

- Airflow: 43.2~67.27 CFM
- Static Pressure: 1.5~6.2 mm-H2O
- Blade: Plastic Material UL 94V-0 P.B.T.
- Frame: Die-Cast Aluminum
- Weight: 390 g

KT12038 SERIES

Y.S. TECH



120x120x38mm

- Airflow: 65.0~108.0 CFM
- Static Pressure: 2.04~8.80 mm-H2O
- Blade: Plastic Material UL 94V-0 P.B.T.
- Frame: Die-Cast Aluminum
- Weight: 550 g

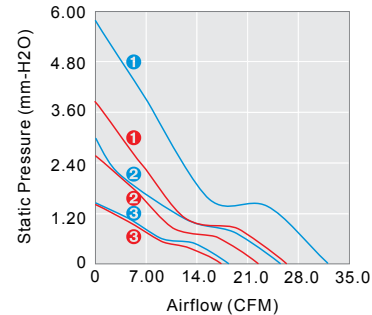
	Bearing	Rated Voltage	Freq	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 40°C L10	P-Q Curve	Noise Level
Model No.	VAC	Hz	RPM	CFM	mm-H2O	A	W	Hour			dB(A)
KT09225115SH S		50/60	2500/3000	26/32	3.80/5.70	0.18/0.16	15.0/13.0	20000	115	115	31.7/39.1
KW09225115SH S		50/60	2500/3000	26/32	3.80/5.70	0.18/0.16	15.0/13.0	20000	115	115	31.7/39.1
KT09225115BL 2B		50/60	1600/1800	17.3/18.3	1.39/1.42	0.07/0.06	7.0/6.0	60000	230	230	26.5/27.0
KW09225115BL 2B		50/60	1600/1800	17.3/18.3	1.39/1.42	0.07/0.06	7.0/6.0	60000	230	230	26.5/27.0
KT09225115BM 2B		50/60	2100/2300	22/25	2.50/2.90	0.09/0.08	10.0/9.0	60000	230	230	28.6/32.0
KW09225115BM 2B		50/60	2100/2300	22/25	2.50/2.90	0.09/0.08	10.0/9.0	60000	230	230	28.6/32.0
KT09225115BH 2B		50/60	2500/3000	26/32	3.80/5.70	0.18/0.16	15.0/13.0	60000	115	115	31.7/39.1
KW09225115BH 2B		50/60	2500/3000	26/32	3.80/5.70	0.18/0.16	15.0/13.0	60000	115	115	31.7/39.1
KT09225220SH S		50/60	2500/3000	26/32	3.80/5.70	0.08/0.07	15.0/13.0	20000	115	115	31.7/39.1
KW09225220SH S		50/60	2500/3000	26/32	3.80/5.70	0.08/0.07	15.0/13.0	20000	115	115	31.7/39.1
KT09225220BL 2B		50/60	1600/1800	17.3/18.3	1.39/1.42	0.05/0.04	7.0/6.0	60000	230	230	26.5/27.0
KW09225220BL 2B		50/60	1600/1800	17.3/18.3	1.39/1.42	0.05/0.04	7.0/6.0	60000	230	230	26.5/27.0
KT09225220BM 2B		50/60	2100/2300	22/25	2.50/2.90	0.09/0.08	10.0/9.0	60000	230	230	28.6/32.0
KW09225220BM 2B		50/60	2100/2300	22/25	2.50/2.90	0.09/0.08	10.0/9.0	60000	230	230	28.6/32.0
KT09225220BH 2B		50/60	2500/3000	26/32	3.80/5.70	0.08/0.07	15.0/13.0	60000	115	115	31.7/39.1
KW09225220BH 2B		50/60	2500/3000	26/32	3.80/5.70	0.08/0.07	15.0/13.0	60000	115	115	31.7/39.1

2B: 2-ball bearing S: sleeve bearing

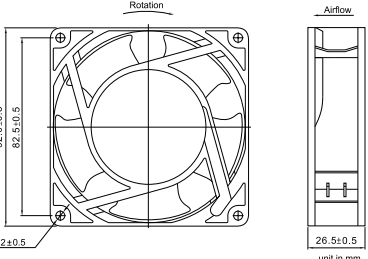
Voltage Available
115 230

Bearing System Available
2B S

PERFORMANCE P-Q CURVE

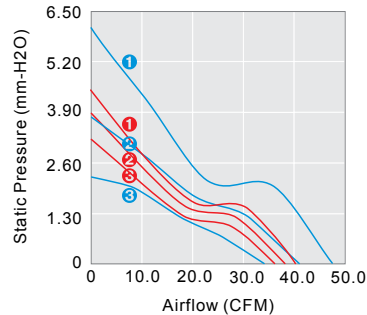


OUTLINE DIMENSIONS

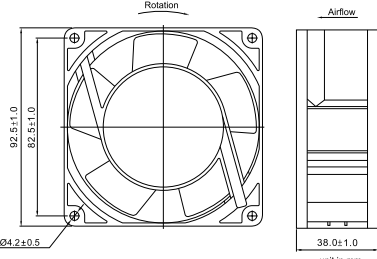


Please refer to *Model Numbering System* for bearing, function and speed level indication.
Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department.
Visit Y.S. TECH web site at <http://www.ystechusa.com/> for updated information. Customized Specifications are designed accordingly.

PERFORMANCE P-Q CURVE

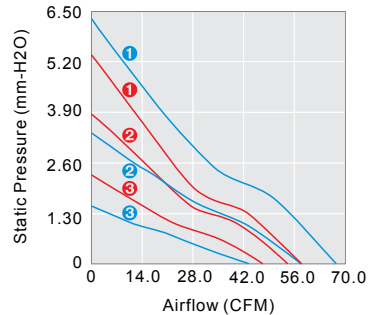


OUTLINE DIMENSIONS

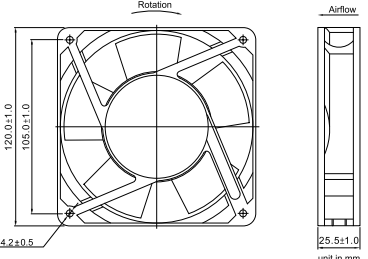


Please refer to *Model Numbering System* for bearing, function and speed level indication.
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PERFORMANCE P-Q CURVE

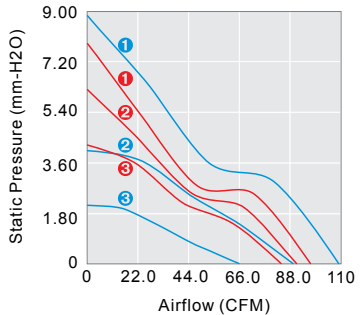


OUTLINE DIMENSIONS

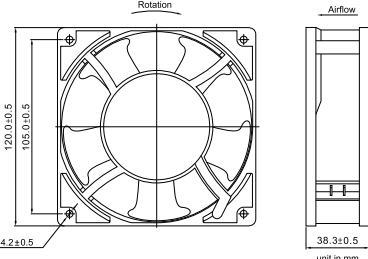


Please refer to *Model Numbering System* for bearing, function and speed level indication.
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PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



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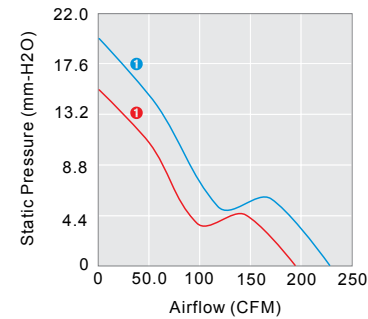
A black and white photograph of a circular fan with five blades, mounted on a metal frame. The fan is shown from a slightly elevated angle. To the right of the fan, the dimensions '172x150x51mm' are printed in a large, bold, sans-serif font. Below the dimensions, a list of specifications is provided in a smaller font, preceded by bullet points. The background is a light gray gradient.

[illegible]

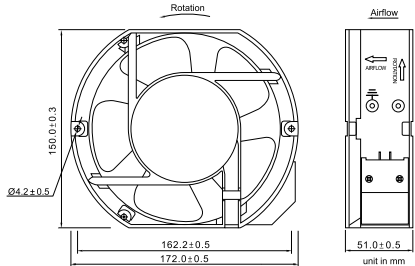
2B: 2-ball bearing S: sleeve bearing

Voltage Available Bearing System Available

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
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KT18065 SERIES

Y.S. TECH



180x180x65mm

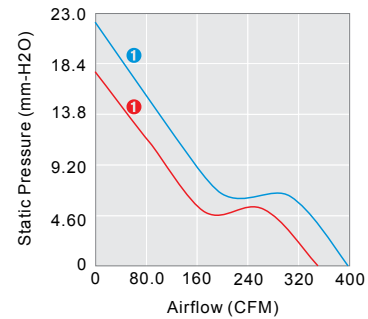
- Airflow: 349.5~397.5 CFM
- Static Pressure: 17.6~22.0 mm-H₂O
- Blade:
Plastic Material UL 94V-0 P.B.T.
- Frame: Die-Cast Aluminum
- Weight: 1800 g

[illegible]

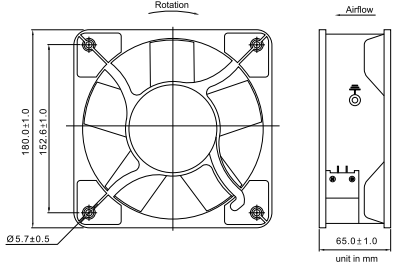
2B: 2-ball bearing S: sleeve bearing

Voltage Available Bearing System Available

PERFORMANCE P-Q CURVE



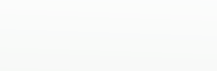
OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
 Specifications are subject to changes without notice. Please refer to the formally issued product specification via contacting Y.S. TECH sales department.
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KT18089 SERIES

Y.S. TECH



176x176x89mm

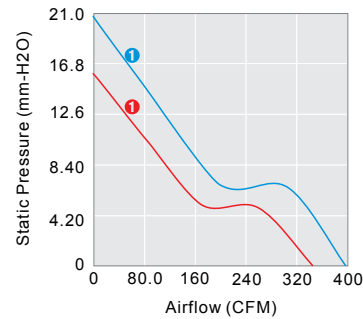
- Airflow: 344.8~397.2 CFM
- Static Pressure: 15.9~20.7 mm-H₂O
- Blade:
Plastic Material UL 94V-0 P.B.T.
- Frame: Die-Cast Aluminum
- Weight: 2000 g

[illegible]

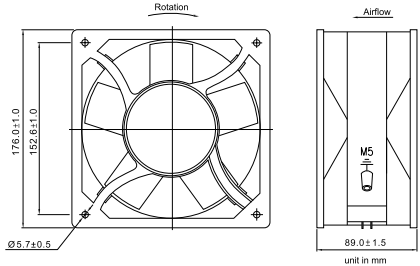
2B: 2-ball bearing S: sleeve bearing

Voltage Available Bearing System Available

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
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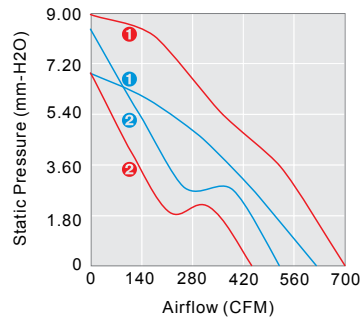
A black circular fan with three blades, mounted on a metal frame. The fan is shown from a front-three-quarter perspective. To the right of the fan, the text 'Ø 254x89mm' is displayed in a large, bold, black font. Below this, a list of specifications is provided in a smaller black font, preceded by bullet points. The background is a light blue gradient with a white curved line at the bottom.

[illegible]

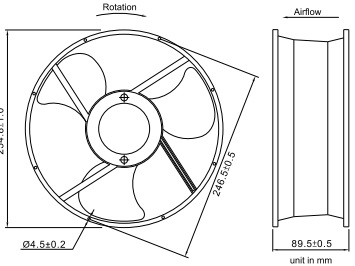
2B: 2-ball bearing S: sleeve bearing

Voltage Available Bearing System Available

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



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KT28090 SERIES

Y.S. TECH



280x280x89mm

- Airflow: 655~1424 CFM
- Static Pressure: 9.65~33.0 mm-H2O
- Blade:
Glass reinforced thermoplastic, UL 94V-0
- Frame:Die-Cast Aluminum
- Weight: 4240 g

	Bearing	Rated Voltage	Freq	Speed	Max. Airflow	Max. Static Pressure	Current	Power Consumption	Life at 65°C L10	P-Q Curve	Noise Level
Model No.	VAC	Hz	RPM	CFM	mm-H ₂ O	A	W	Hour			dB(A)
KT28089115BM	2B	115	50/60	1500/1700	655/ 779	9.65/12.2	0.82/0.67	61/ 60	40000	 	56.2/59.0
KW28090115B M	2B		50/60	1500/1700	655/ 779	9.65/12.2	0.82/0.67	61/ 60	40000	 	56.2/59.0
KT28090115B H	2B		50/60	2800/3200	1321/1424	33.0/23.1	1.65/2.50	185/300	40000	 	67.8/69.3
KW28090115B H	2B		50/60	2800/3200	1321/1424	33.0/23.1	1.65/2.50	185/300	40000	 	67.8/69.3
KT28090220BM	2B	230	50/60	1500/1700	655/ 779	9.65/12.2	0.42/0.35	62/ 65	40000	 	56.2/59.0
KW28090220B M	2B		50/60	1500/1700	655/ 779	9.65/12.2	0.42/0.35	62/ 65	40000	 	56.2/59.0
KT28090220B H	2B		50/60	2800/3200	1321/1424	33.0/23.1	0.75/1.25	185/290	40000	 	67.8/69.3
KW28090220B H	2B		50/60	2800/3200	1321/1424	33.0/23.1	0.75/1.25	185/290	40000	 	67.8/69.3

2B: 2-ball bearing S: sleeve bearing

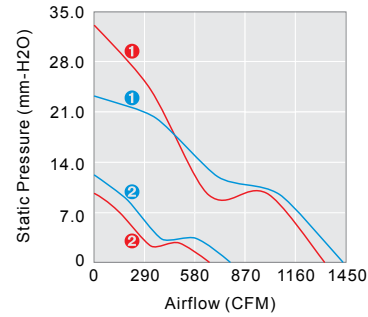
Voltage Available

115 230

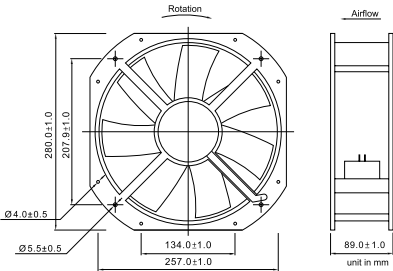
Bearing System Available

2B S

PERFORMANCE P-Q CURVE



OUTLINE DIMENSIONS



Please refer to *Model Numbering System* for bearing, function and speed level indication.
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NOTES:

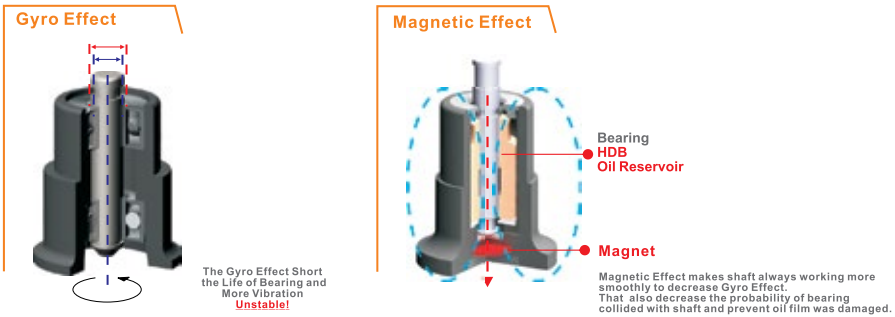
YOUR BEST PARTNER OF THERMAL SOLUTIONS

Y.S. TECH



SINTETICO bearing system makes more reliable & stable

- The particular mechanism for oil leakage prevention makes proper oil film on surface of bearing and shaft to reduced damage when fan start up.
- Dynamic Pressure Field will be constructed when fan are running to sustain shaft rotate with concentricity to prevent bearing will not collided with shaft.
- Magnetic Effect makes shaft always working more smoothly to decrease Gyro Effect. That also decreases the probability of bearing collided with shaft and prevent oil film was damaged.

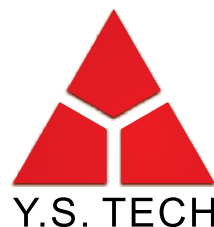


Water IP X7 proof Series



Whole new waterproof package process!

- Lower coil temperature and higher reliability.
- Simple structure and easy to assembly with different bearing system.
- Motor Set package alone. It is easy for 100% inspection of waterproof reliability in process.
- Best application for Solar,Lighting and telecommunication market.
- Customized design for Acid,Alkali and Oil proving.



元山科技工業股份有限公司
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