

■ Catalog Information Guide

The descriptions of the AC and DC fans and blowers appear on the product pages as shown below. Contact us if clarification or further information is desired.

Axial

DC fans

Centrifugal

Silent

AC fans

Centrifugal

Option

Lineup of standard products and basic characteristics.

Fan/blower noise in free air state. (Static pressure 0 Pa)
(This value is sometimes considerably higher when the fan or blower is installed in your equipment. See pages G-8 to G-10)

Operable voltage range.
(PQ characteristics vary depending on the operating voltage. See page G-7)

Startup current value.
(Use to select the power source)

Current value in free air state.
(The current at the operating point will be an increment of 20 % or less of the rating with fans and will be below the rating with blowers. See page G-13)

Important notes regarding the basic characteristics.
List of products which do not meet the standard life.

Flange shape.
(Select ribbed specification when screws are used)

External dimensions, lead wire specifications.

Mounting hole dimensions as examples for fan mounting.
(Recommended shapes to maximize fan performance characteristics)

Customizing, safety standards.

Product photo, maximum performance, weight.

List of model codes.
(Product codes for which orders are accepted)

Materials used, carton specification.

PQ characteristics chart.
(Drawing an estimated ventilating resistance curve will determine the airflow at the operating point)

Wiring connection to the power source. (See page G-15 for the wiring connection to the sensors)

List of fans and blowers with sensors.

Brushless DC Fans & Blowers
KUDC Series □92 × 25 mm

DC Axial Fans
KUDC

□92 (3.6") × 25 (1.0")
Max. airflow: 1.8 m³/min
Max. static pressure: 70 Pa
Mass: 100 g

For model code

- KUDC12B4
- KUDC12B4P
- KUDC12B4S
- KUDC12B4V
- KUDC12D4
- KUDC12D4S
- KUDC12D4V
- KUDC12H7
- KUDC12H7P
- KUDC12H7S
- KUDC12H7V
- KUDC12U7
- KUDC12U7P
- KUDC12U7S
- KUDC12U7V
- KUDC12U7VP
- KUDC12U7VS
- KUDC12Z7
- KUDC12Z7P
- KUDC12Z7S
- KUDC12Z7V
- KUDC12Z7VP
- KUDC12Z7VS
- KUDC24B4
- KUDC24B4P
- KUDC24B4S
- KUDC24B4V
- KUDC24D4
- KUDC24D4S
- KUDC24D4V
- KUDC24H7
- KUDC24H7P
- KUDC24H7S
- KUDC24H7V
- KUDC24H7VS
- KUDC24U7
- KUDC24U7V
- KUDC24Z7
- KUDC24Z7P
- KUDC24Z7S
- KUDC24Z7V
- KUDC24Z7VP
- KUDC24Z7VS
- KUDC48B4
- KUDC48B4P
- KUDC48B4S
- KUDC48B4VS
- KUDC48Z7
- KUDC48Z7P

Standard specification (Lead wire type)

Max. airflow m ³ /min	CFM	Max. static pressure Pa	Max. static pressure inH ₂ O	Noise dB	Speed r/min	Input W	Voltage spec. Rated	Voltage spec. Usable	Current mA	Model code	Operating temp. range °C	
1.8	64	70	0.28	41.5	3450	4.2	12	7.2-13.8	350	880	KUDC12U7	-20 ~ +60
							24	12-27.6	200	600	KUDC24U7	
							12	7.2-13.8	270	600	KUDC12H7	
1.66	59	60	0.24	39	3200	3.2	12	7.2-13.8	150	350	KUDC12H7	-20 ~ +70
							24	12-27.6	150	350	KUDC24H7	
							12	7.2-13.8	250	550	KUDC12Z7	
1.55	55	52	0.21	37	2950	3.3	24	12-27.6	140	320	KUDC24Z7	-20 ~ +70
							12	7.2-13.8	140	320	KUDC12Z7	
							48	24-55.2	70	150	KUDC48Z7	
1.4	49	43	0.17	34	2750	2.9	24	12-27.6	130	240	KUDC24B4	-20 ~ +70
							12	7.2-13.8	130	240	KUDC12B4	
							48	24-55.2	60	130	KUDC48B4	
35	24	0.10	0.26	1950	1.4	1.3	24	14.4-27.6	60	110	KUDC24D4	-20 ~ +70
							12	7.2-13.8	110	240	KUDC12D4	
							48	24-55.2	60	110	KUDC48D4	

General specification

Materials used: Venturi: ABS and PBT synthetic resins
Propeller: ABS and PBT synthetic resins
Bearing: Both side shielded ball bearing

Motor: Brushless DC motor, Protection type: Current shut off by detecting lock state, automatically reset

Common elec. spec: See pages G-11 and 12.
Standard crate: 70 to a crate of (450 x 380 x 300) mm, mass 7 kg

Standard airflow and static pressure characteristics (At rated voltage)
(By double chamber method)

Wiring connection diagram

axial fan with sensor

Rated vol.	Model code	Model code	Model code	Model code
12V	KUDC12D4S	KUDC12B4S	KUDC12Z7S	KUDC12H7S
	KUDC12D4V	KUDC12B4V	KUDC12Z7V	KUDC12H7V
	KUDC12D4VP	KUDC12B4VP	KUDC12Z7VP	KUDC12H7VP
	KUDC12D4VS	KUDC12B4VS	KUDC12Z7VS	KUDC12H7VS
24V	KUDC24D4S	KUDC24B4S	KUDC24Z7S	KUDC24H7S
	KUDC24D4V	KUDC24B4V	KUDC24Z7V	KUDC24H7V
	KUDC24D4VP	KUDC24B4VP	KUDC24Z7VP	KUDC24H7VP
	KUDC24D4VS	KUDC24B4VS	KUDC24Z7VS	KUDC24H7VS
48V	KUDC48D4S	KUDC48B4S	KUDC48Z7S	KUDC48H7S
	KUDC48D4V	KUDC48B4V	KUDC48Z7V	KUDC48H7V
	KUDC48D4VP	KUDC48B4VP	KUDC48Z7VP	KUDC48H7VP
	KUDC48D4VS	KUDC48B4VS	KUDC48Z7VS	KUDC48H7VS

External dimensions in mm (inches)

Lead wire type: Lead wire spec. AWG24 UL1007 or UL3266
Color: (R) Red (B) Black (K) Blue (G) Green

Mounting hole dimensions in mm (inches)
[example]

Options (sold separately): Guard P12UL guard, Filter FS1 filter, Spacer: Flange spacer P12DC

Notes:
● Japan Servo will gladly respond to customizing requirements, including connector processing to lead wire terminals, models with a sensor other than those models listed above and variable-speed specification. Contact Japan Servo during the product planning/development stage.
● The listed products are registered in the following overseas standards files: UL: 5448B5; CSA: LR6050; TUV: R445159.
● A further electronic catalog of Japan Servo Co. that will be forwarded upon request, and the "web3-CAD site (http://www.web3cad.co.jp)" contain 3D data.

High customer satisfaction achieved thanks to our quiet and energy efficient products with unsurpassed reliability and customizability.

Focusing on product development for computer related equipment, the compact axial fans from us are the result of technological innovations that minimize noise to the greatest possible extent.

Our company's product designs incorporate several industry firsts, including specially molded 3-dimensional blades, and GentleTyphoon fans with a unique blade shape. Market requirements are always researched and catered to in advance; meaning customers always receive products that perform well ahead of market rivals.

● Versatile lineups of axial fans and centrifugal blowers Fans for high static pressure applications are also supplied as standard products.

The aerodynamic characteristics required for fan motors differ depending on the equipment in which they are installed, but may roughly be grouped into airflow focus and pressure focus types respectively. The axial fans and centrifugal blowers (also called "centrifugal fans" and "sirocco fans"), as fan motors of our company, fall into both the former and latter categories. Recently, our company has also developed pressure focus type axial fans, suitable for use in high static pressure regions, in response to diverse customer requirements.

As its name implies, an axial fan generates airflow in the motor axial direction. Airflow can be generated cylindrically by the propeller from the entire diameter of the fan, allowing considerable airflow generation. The axial fan sucks in air and pushes it out through the propeller blades, without large pressure (static pressure) output.

The centrifugal blower, on the other hand, recovers the airflow released by the impeller blades in a centrifugal direction from the motor shaft center via the scroll casing (also called a "housing" or "frame") and discharges it unidirectionally. This system effectively converts a centrifugal force into pressure, increasing the pressure (static pressure) to blow the air. However, only a limited airflow passes through the impeller, preventing a large airflow from being obtained.

Our company refers to the former as fans and the latter as blowers, to easily distinguish the differences between the two types.

In addition to these two types, our company has recently released axial fans with features resembling those of the blower (high static pressure region fans, e.g. the G1751M series). These fans are attracting the attention of the IT industry and are highly rated as quiet products, capable of saving energy with high-impedance equipment, with which conventional axial fans have not been efficient.

● Our ceaseless quest to reduce noise

Our company continues to introduce a never ending series of quiet products to the market. People know to talk to us if low noise is a priority, and that reputation has grown over many years. Day and night, our company is active in the research and development of low noise technology. Our company also swiftly introduced computational fluid dynamics (CFD) to deliver quiet fans and blowers that customers can use without worrying about designing noise reduction measures into their application.

● Versatile lineup of energy saving products

The power consumption of fans may be problematic with some high airflow products and with large fans and blowers. When several units are used, a high capacity power source must be installed. Our company markets a large variety of high-efficiency fan motors that can reduce the power capacity required for such machines.

● Only highly reliable products are delivered to customers

With product liability in mind, it is the logical responsibility of manufacturers to supply highly reliable products that can be used by customers without any product safety worries. Products with new designs are only supplied to the market after their viability has been verified by subjecting them to various reliability tests and proving that they are problem-free. Moreover, only high-reliability parts are used in the drive circuits of DC fans and blowers. Our company develops and designs products by specifying the strictest derating level in the industry.

● Customized and semi-customized product specifications

Products are supplied in optimum customized form for bulk purchases. Our company is capable of swiftly accomplishing optimum designs by fully exploiting CFD technology. Our company will propose optimum semi-customized fans and blowers by combining its large variety of customized parts. Let our company devise a suitable solution to meet your requirements.

● All our company catalog products conform to the EU RoHS Directive

All our products conform to the EU RoHS Directive by restricting the contents of six specified hazardous substances (lead, mercury, cadmium, hexavalent chromium, PBD and PBDE) to below tolerable values. (All products produced from the beginning of January 2006 meet the RoHS Directive. Certain standard inventory products may include those produced in and before December 2005. Please specify in your purchase orders that only RoHS-compliant products should be shipped.)

Our company is also active in reducing another 18 hazardous substances.

● AC and DC fans

One of the prominent advantages of AC fans is the fact that they can be directly connected to an AC power supply. The DC fan boasts high motor efficiency and is power-saving, as well as generating less heat, allowing the weight of the motor and venturi case to be reduced.

AC fans and blowers use AC induction motors and are suitable for constant speed operation. DC fans and blowers, meanwhile, use DC brushless motors and can have highly variable airflow. By varying the voltage supply, the speed is also easily adjustable. Standard DC fans and blowers regulated by variable-speed control are also available. See pages G-51 for further details.

[Principal applications]

- Computers and peripheral terminal equipment ● Servers
- Personal computers ● Copiers ● Audio equipment
- Broadcasting equipment ● Communication equipment
- Industrial equipment ● Medical equipment ● Game machines

Fans



Fan Characteristics

- Large airflow
- Linear intake and outlet
- Suitable for equipment with small ventilation resistance

Blowers



Blower Features

- High static pressure
- Right angle intake and outlet
- Suitable for equipment requiring local cooling and with large ventilation resistance.

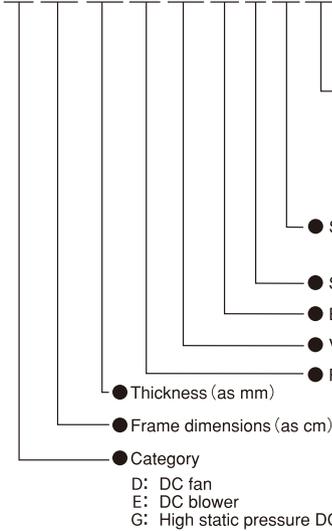
Selection from external dimensions and max. airflow

AC/DC	External Dimensions mm(inch)	Series	Page in Catalog	Max. airflow (m ³ / min)													
				1	2	3	4	5	6	7	8	9	10	11	12	13	14
DC	□60×25 (□2.4"×1.0")	TUDC	G-17	■													
DC	□80×25 (□3.2"×1.0")	PUDC	G-18		■												
DC	□92×25 (□3.6"×1.0")	D0925C (GentleTyphoon)	G-20			■											
DC	□92×32 (□3.6"×1.3")	KLDC	G-21				■										
DC	□92×38 (□3.6"×1.5")	G0938B	G-34					■									
DC	□120×25 (□4.7"×1.0")	D1225C (GentleTyphoon) <small>(for low speed applications)</small>	G-23			■											
DC	□120×25 (□4.7"×1.0")	D1225C (GentleTyphoon) <small>(for High speed applications)</small>	G-23				■										
DC	□120×38 (□4.7"×1.5")	CNDC	G-24					■									
DC	□120×38 (□4.7"×1.5")	D1238B	G-26						■								
DC	□120×38 (□4.7"×1.5")	G1238B (G series)	G-35							■							
DC	□127×38 (□5.0"×1.5")	D1338B	G-27								■						
DC	φ172×150×51 (φ6.8"×6.0"×2.0")	D1751M	G-29									■					
DC	φ172×51 (φ6.8"×2.0")	D1751S	G-30											■			
DC	φ172×150×51 (φ6.8"×6.0"×2.0")	G1751M	G-36													■	
AC	φ172[×150]×51 (φ6.8"[×6.0"]×2.0")	MA	G-60														■
AC	φ172×51 (φ6.8"×2.0")	PA	G-61														■

■ Model code for DC fans and blowers (15-digit code)

■ Manufacturing lot No.

D 12 38 B 24 B 5 A Z - 00



- Customized code
 - 00: Standard type
 - A 01: Standard type (Model change product)
 - 04: 4P Terminal type
- Rotation sensor
 - S: Lock detection type
 - Q: Speed detection type
 - R: Speed detection type (Output reversion type)
 - P: Pulse output type
 - Z: No sensor (Standard type)
- Special code
 - A: Standard type
 - C: Higher moisture resistance
 - Y,Z: Variable speed
- Speed 1.2 ~ 9.A.B.C: Low ↔ High
- Bearings B: Ball bearing
- Voltage: 05: DC5 V 12: DC12 V 24: DC24 V 48: DC48 V
- Frame type
 - B: Square metal venturi
 - C: Square resin venturi with ribs
 - D: Square resin venturi without ribs
 - E: Black painted type B
 - S: Round metal venturi
 - T: Round plastic venturi

9 A 25

- Date manufactured
- Month manufactured: A ~ L = January ~ December
- Year manufactured (Last digit of year)

