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PBM MOTOR AND FAN(SUZHOU) CO.,LTD



Axial Fan



Backward & Forward Curved Centrifugal Fan



Blower

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About us



Company Profile

PBM is a China mainland EC(Electronically Commutated) brushless motor manufacturing and technology consulting company offering an extensive range of EC motors, fans and intelligent ventilation solutions for air-moving precisely and constantly with maintenance-free throughout the life cycle of products in last decades.

R&D and Technical Support

Our R&D and technical support team commits to combine interactively external motor technology, integrated electronic control circuit and aerodynamic design of fan impeller that satisfied customers' requirements in different applications by innovative fan solutions, with leading experiment equipment, meters, tools in laboratory for motor reliability and fan air performance testing. We are pursuing extremely compact brushless permanent magnet synchronous external rotor motor to drive various impeller types and sizes: diagonal axial, backward and forward curved centrifugal, radial, single inlet and dual inlet blower, tangential, cross flow, from minimum 30mm to 560mm diameter with airflow maximum to 12,000CMH cubic meter per hour (equal to approx. 7,000CFM cubic feet per minutes). Maximum motor input power goes to 1.5KW (equal to 2 horsepower) at rotor diameter 138mm.

Production and Quality Control

Economical efficient supply chain guarantees our manufacturing team and quality management team could constantly offer stable products within promised competitive lead time. We continuously invest on semi-automatic or automatic motor and fan assembly lines, equipment, fixtures and jigs to enhance our cost advantage production capability. Not only adopted in ISO9001 Quality Management System ISO 14000 Environment Management System and ISO 45001 Occupational Health and Safety Management system, but also adopted in a long-term Eco-friendly and People-oriented sustainable development of company for last 10 years.

Marketing and Sales

Hundreds of worldwide ventilation, refrigeration, air purification, home appliance, companies from more than fifty countries are adopting PBM EC green-tech motorized fans in their product units and systems that were protecting natural environment and indoor environment of our home to be sustainable green and clean. Our agent and distributor network and online service team covered popular EC fan markets to ensure prompt technical support.

Vision and Mission

Focus on EC fan only and protect our world with intelligent energy efficient motor and fan solutions are our goal in an attempt to make tomorrow a greener & healthier world.

EC Fans' Technical Features Overview

Intelligent EC Fan Technology Introduction

PBM series EC (Electronically Commuted) Fans combine interactively external motor technology, integrated electronic control circuit and aerodynamic design of fan impeller that satisfied customers' requirements in different applications and industries by innovative air-moving solutions.

We are pursuing Ultra-low Energy Consumption fans by extremely compact brushless permanent magnet synchronous external rotor motor to drive various of aerodynamic optimized impeller and scroll-housing types and sizes: diagonal axial, backward and forward curved centrifugal, radial, single inlet and dual inlet blower, tangential, cross flow.

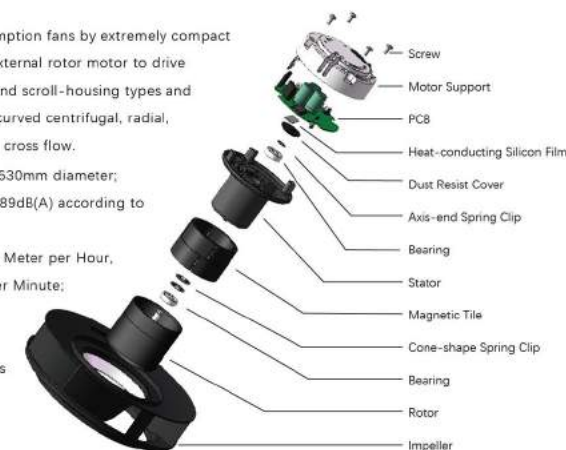
Impeller Sizes: From minimum 30mm to 630mm diameter;

Sound Level: From 31dB(A) to maximum 89dB(A) according to different rotation speed;

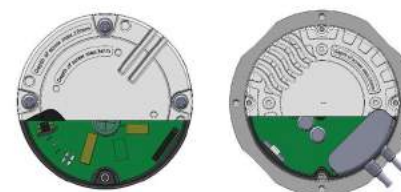
Air Flow: Maximum to 16,300CMH, Cubic Meter per Hour, equal to approx. 9,593CFM, Cubic Feet per Minute;

Air Pressure: Maxim 1,700Pa, equal to 173.5mm H₂O and to 6.82 inH₂O;

Power: Maximum motor input power goes to 3.1KW (equal to 4.2hp, horsepower) at motor diameter 138mm.



Eco-friendly EC Motor Technology Introduction



EC=Electronically Commutated
EC brushless permanent magnet synchronous external rotor motor compact with integrated electronic controller built-in for fan applications.

- Variable speed setting by 0~10V DC or PWM signal input;
- AC(1~ or 3~phase) public power grid supply connects to motor directly without transformer, voltage stabilizer with silicon rectifier; no surge current by soft-start and PFC circuit integrated;
- Motor efficiency goes up to Maximum 91% for energy-saving and emissions-reducing;
- Low noise by sine wave 3-core brushless commutation motor design with oblique magnetization;
- Always rotation in the correct direction;
- Operating at either 50Hz and 60Hz; 184~270 VAC 1~;
- Operating at a wide voltage range; 304~456 VAC 3~;
- Operating temperature rise is much cooler in electric motors for longer lifespan.

Part Number System

P B 3 N 225 B 48 H

H :Number of Derivative Products A/B/C.....

12 :12 VDC

24 :24 VDC

48 :48 VDC

80 :80 VDC

110:110 VDC

310:310 VDC

1A :115 VAC

2A :230 VAC

4A :380 VAC

1E :92~138 VAC-EC

2E :184~270 VAC-EC

4E :304~456 VAC-EC

Input Voltage

Bearing Type

B :Ball Bearing

S :Sleeve Bearing

Dimension

225:Impeller Diameter in mm

Motor Type

K :1 phase Motor with Capacitor

N :EC Brushless Motor

R :Shaded Pole Motor

Number of Poles(AC)

EC :1-core and 3-core

Number of Cores(EC)

AC :2, 4, 6, 8 and 12pole

Fan Type

B :Backward Curved Fan

K :Centrifugal Fans with Support Bracket

F :Forward Curved Fan

D :Dual Inlet Centrifugal Blower

S :Single Inlet Centrifugal Blower

C :Cross Flow Fan

A :Compact Axial Fan

W :Axial Fan with Wall Ring

G :Axial Fan with Guard Grille

M :Motor

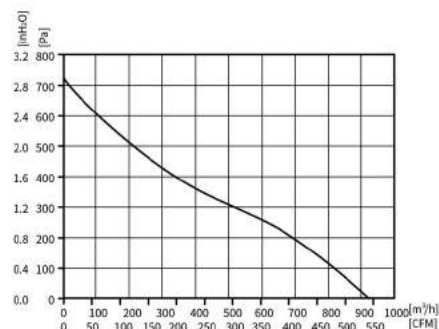
P :PBM Motor and Fan



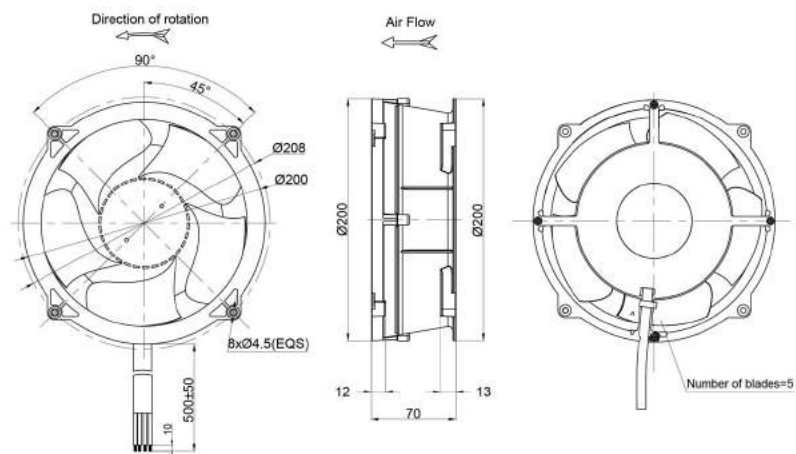
EC-DC Series



DC Axial Fan Ø180x70mm

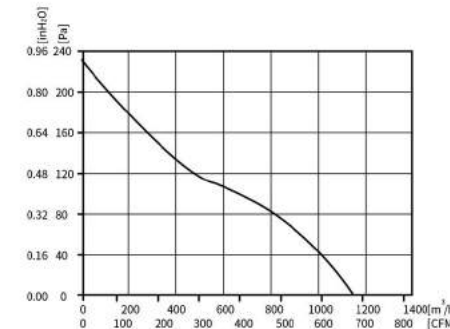


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	1.8KG	D2

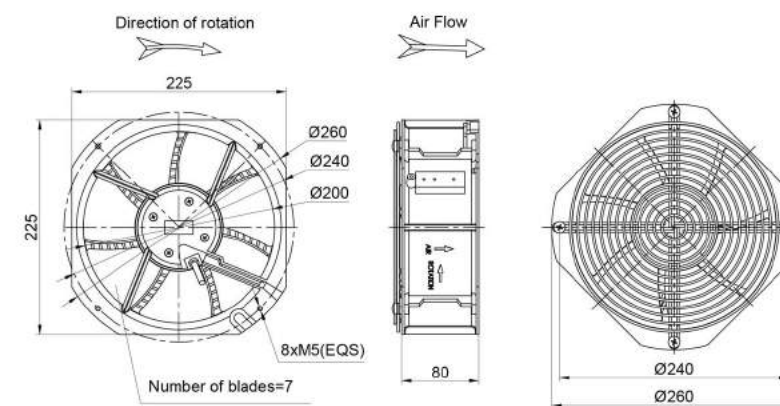


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PA3N180B24H	BE92DC	BALL	24	16~28	4.2	100.8	4500	925	709	68
PA3N180B48H	BE92DC	BALL	48	36~57	2.1	100.8	4500	925	709	68

DC Axial Fan Ø200x80mm

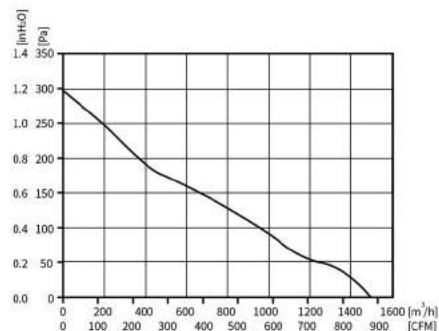


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	2.4KG	D2

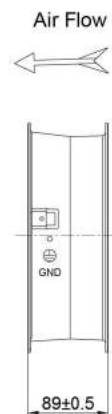
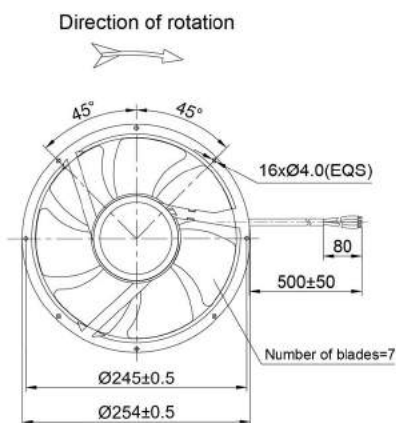


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PA3N200B24H	BE92DC	BALL	24	16~28	1.8	43.2	2750	1150	236	60
PA3N200B48H	BE92DC	BALL	48	36~57	0.9	43.2	2750	1150	236	60

DC Axial Fan Ø215x89mm

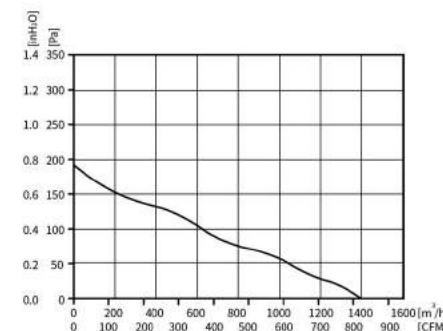


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	2.1KG	D2

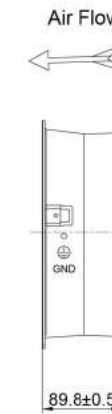
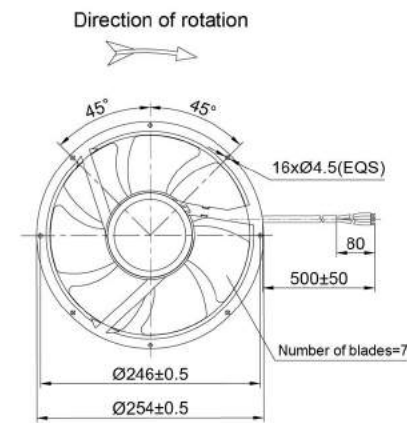


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PA3N215B24U	BE92DC	BALL	24	16~28	1.9	91	3100	1512	294	69
PA3N215B48U	BE92DC	BALL	48	36~57	0.95	91	3100	1512	294	69

DC Axial Fan Ø215x89.8mm

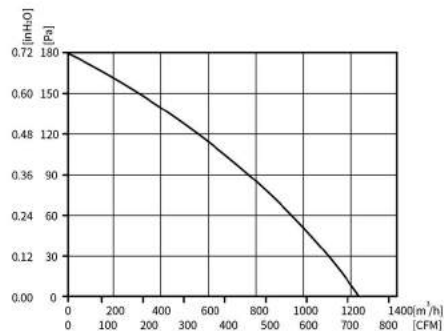


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	2.1KG	D1

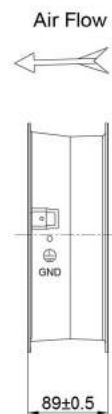
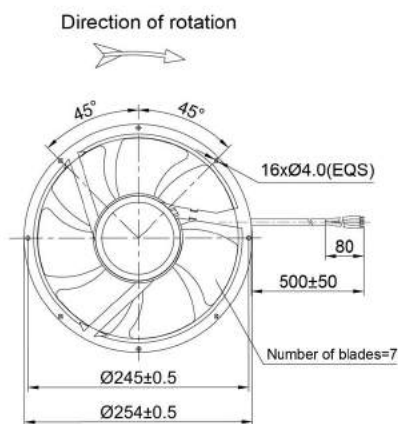


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PA3N215B24H	BE72DC	BALL	24	16~28	1.5	72	2500	1410	190	65
PA3N215B48H	BE72DC	BALL	48	36~57	0.75	72	2500	1410	190	65

DC Axial Fan Ø215x89mm

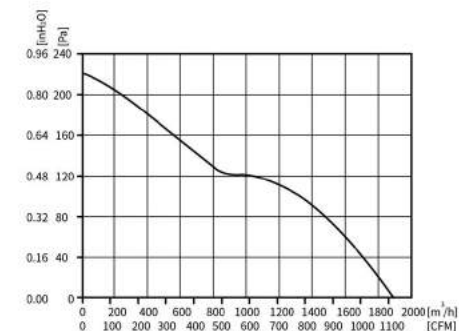


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	2.8KG	D2

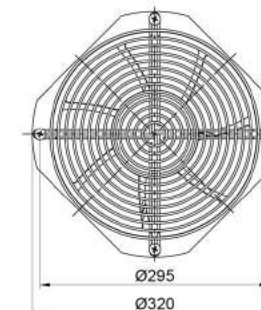
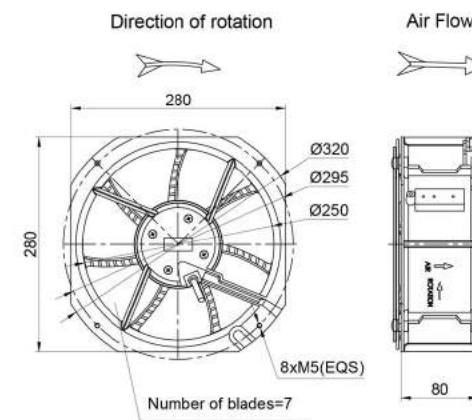


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PA3N215B24M	BE92DC	BALL	24	16~28	2.6	62.4	2000	1230	180	62
PA3N215B48M	BE92DC	BALL	48	36~57	1.3	62.4	2000	1230	180	62

DC Axial Fan Ø250x80mm

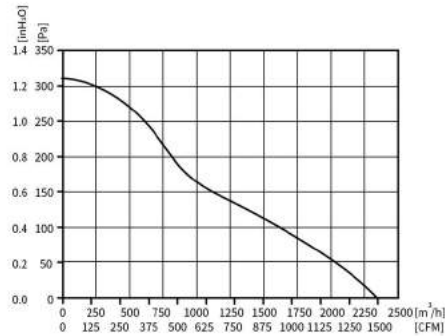


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	2.5KG	D2



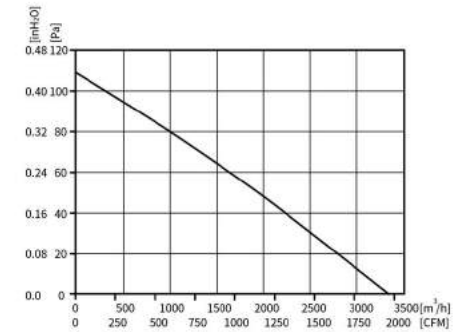
Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PA3N250B24H	BE92DC	BALL	24	16~28	4.8	115.2	2750	1900	220	69
PA3N250B48H	BE92DC	BALL	48	36~57	2.4	115.2	2750	1900	220	69

DC Axial Fan Ø300x90mm

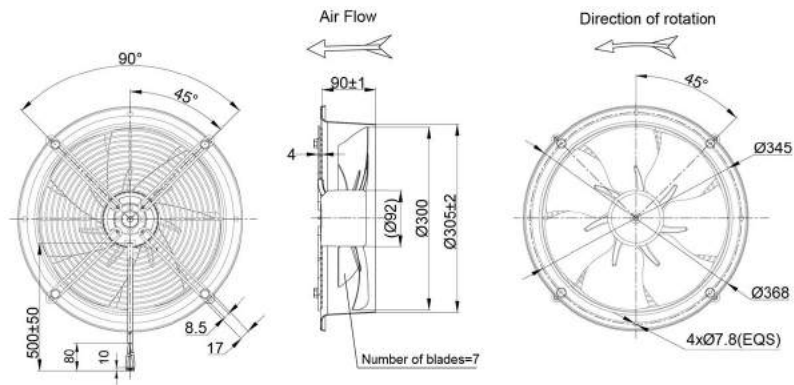


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	3.5KG	D2

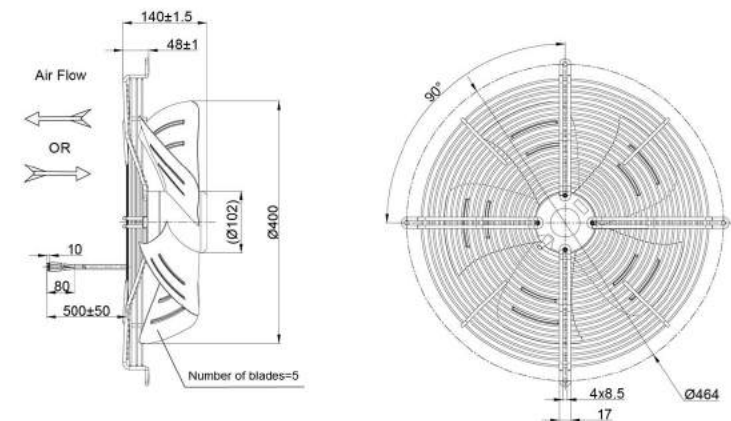
DC Axial Fan Ø400x140mm



Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	5.1KG	D3

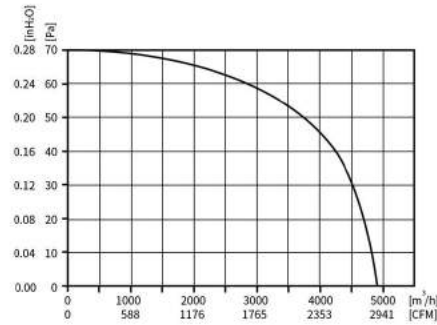


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PW3N300B24H	BE92DC	BALL	24	16~28	6.5	156	2200	2330	316	65
PW3N300B48H	BE92DC	BALL	48	36~57	3.25	156	2200	2330	316	65

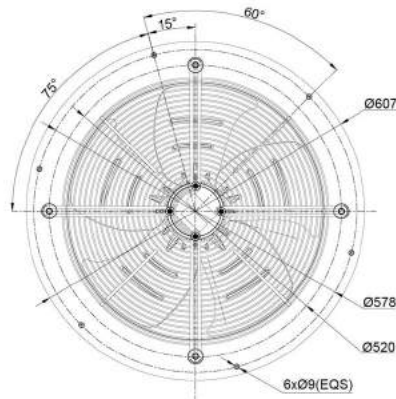
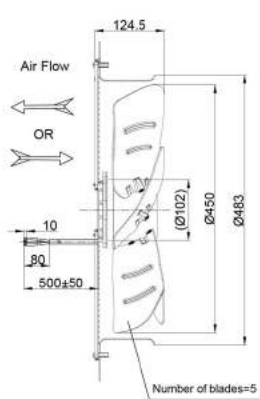


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PG3N400B24M	BE102DC	BALL	24	16~28	6.4	153.6	1100	3363	108	58
PG3N400B48M	BE102DC	BALL	48	36~57	3.2	153.6	1100	3363	108	58

DC Axial Fan Ø450x124.5mm

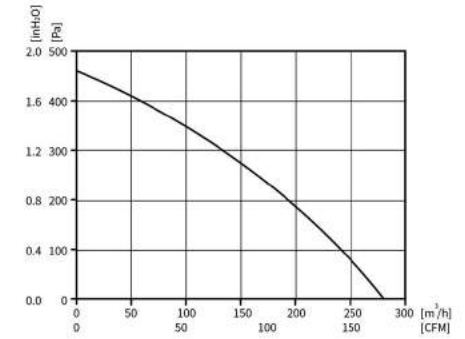


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	6.3KG	D3

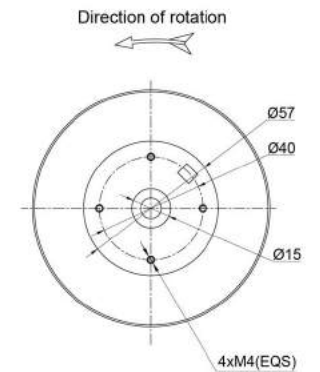
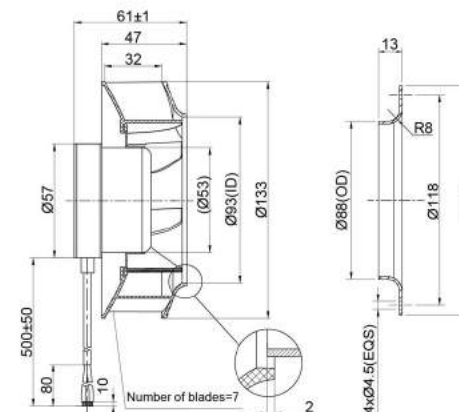


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PG3N450B24M	BE102DC	BALL	24	16~28	6.6	160	1050	4800	70	60
PG3N450B48M	BE102DC	BALL	48	36~57	3.3	160	1050	4800	70	60

DC Centrifugal Fan Backward Curved Ø133x61mm

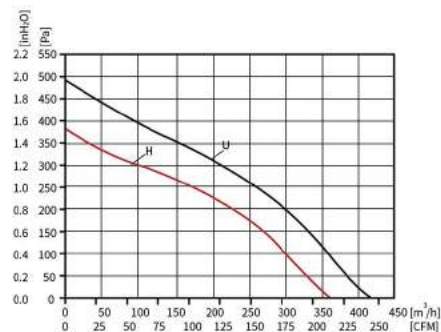


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	0.51KG	D1

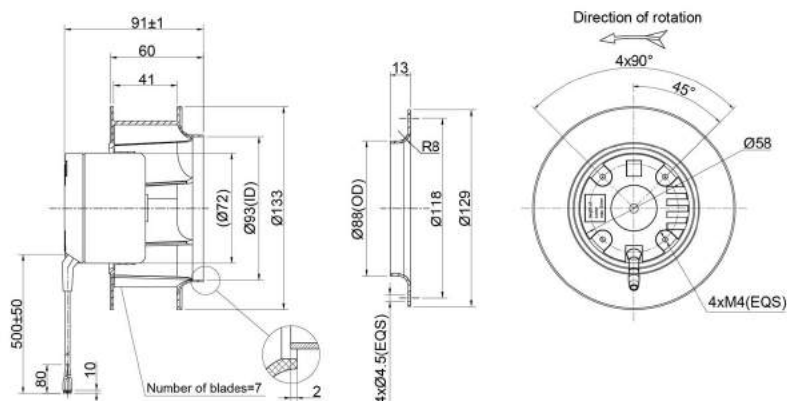


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N133B24M	BE53DC	BALL	24	16~28	1.5	36	4100	276	462	67
PB3N133B48M	BE53DC	BALL	48	36~57	0.75	36	4100	276	462	67

DC Centrifugal Fan Backward Curved Ø133x91mm

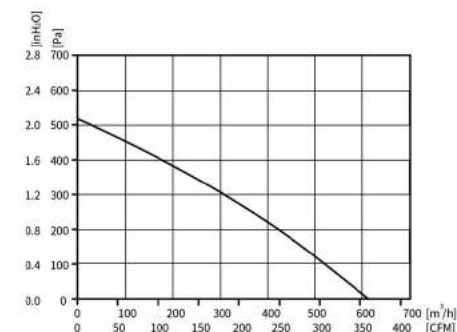


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	0.75KG	D1

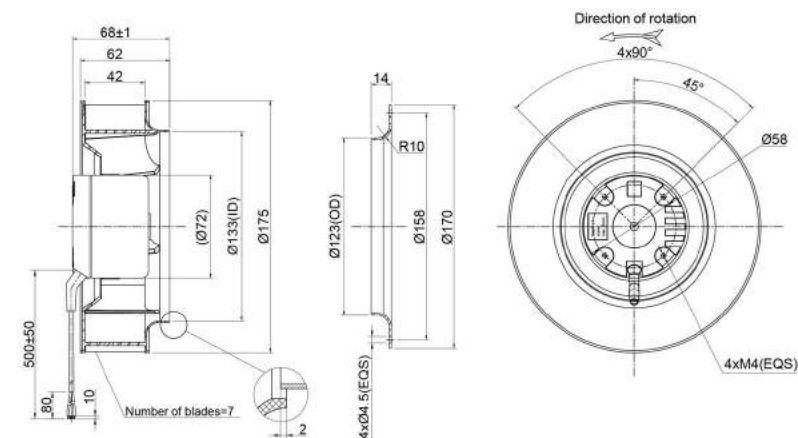


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N133B24U	BE72DC	BALL	24	16~28	1.7	40.8	4450	409	492	74
PB3N133B48U	BE72DC	BALL	48	36~57	0.85	40.8	4450	409	492	74
PB3N133B24H	BE72DC	BALL	24	16~28	1.4	33.6	3900	360	382	63
PB3N133B48H	BE72DC	BALL	48	36~57	0.7	33.6	3900	360	382	63

DC Centrifugal Fan Backward Curved Ø175x68mm

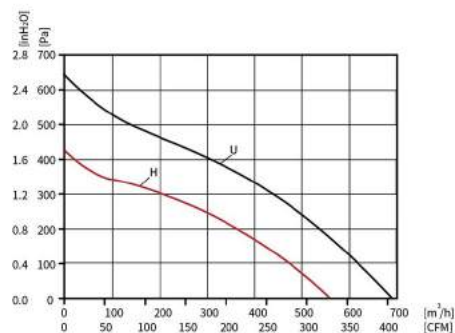


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	0.75KG	D1

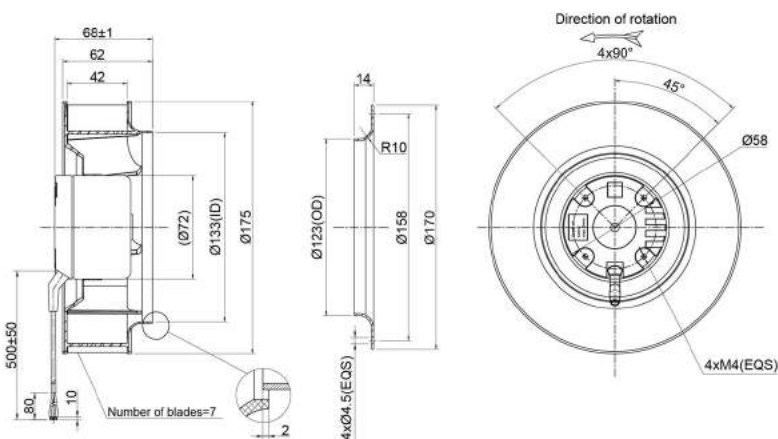


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N175B12H	BE72DC	BALL	12	9~15	3.7	44	3300	610	512	68

DC Centrifugal Fan Backward Curved Ø175x68mm

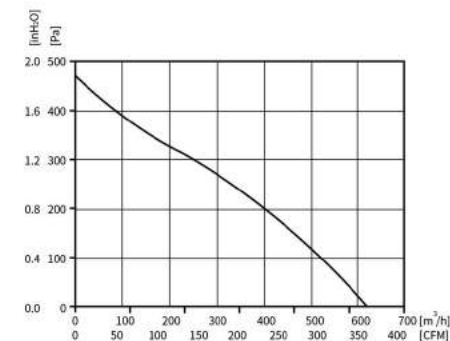


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	0.75KG	D1

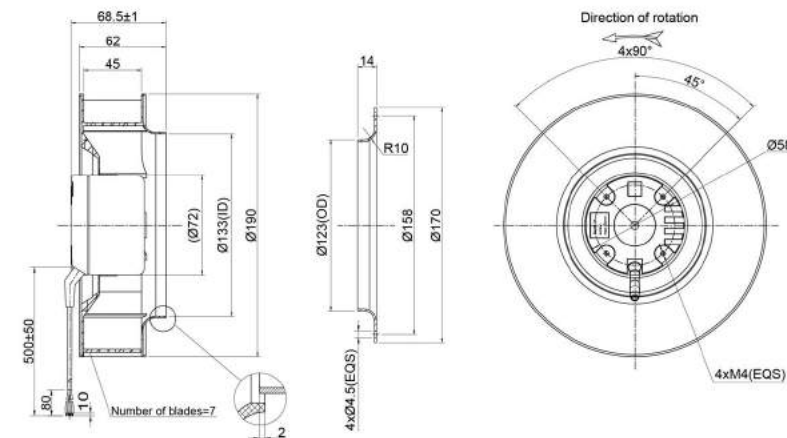


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N175B24U	BE72DC	BALL	24	16~28	3	72	3900	695	637	72
PB3N175B48U	BE72DC	BALL	48	36~57	1.5	72	3900	695	637	72
PB3N175B24H	BE72DC	BALL	24	16~28	1.6	38.4	3100	565	402	65
PB3N175B48H	BE72DC	BALL	48	36~57	0.8	38.4	3100	565	402	65

DC Centrifugal Fan Backward Curved Ø190x69mm

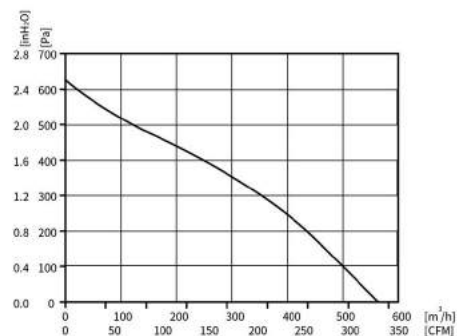
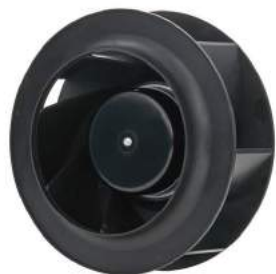


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	0.97KG	D1

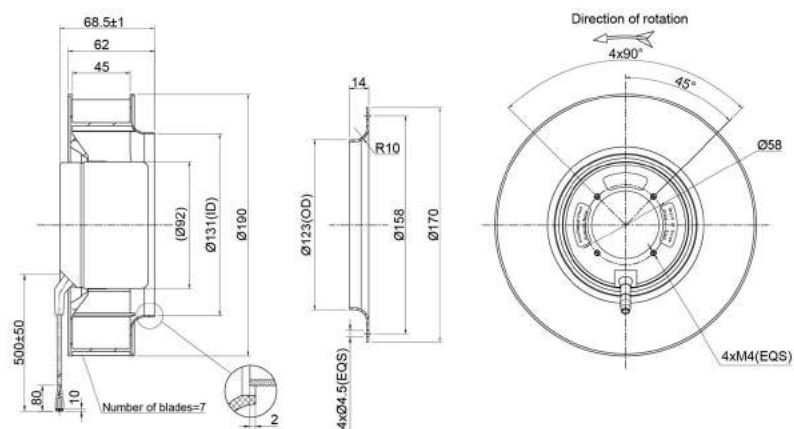


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N190B24M	BE72DC	BALL	24	16~28	2.4	57.6	2950	620	473	68
PB3N190B48M	BE72DC	BALL	48	36~57	1.2	57.6	2950	620	473	68

DC Centrifugal Fan Backward Curved Ø190x69mm

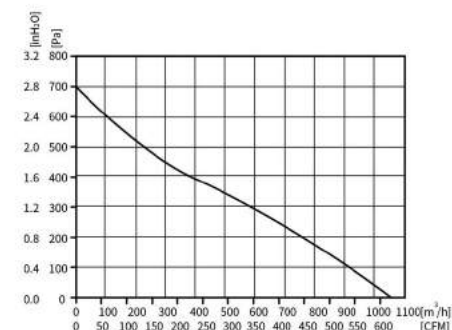


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	1.4KG	D2

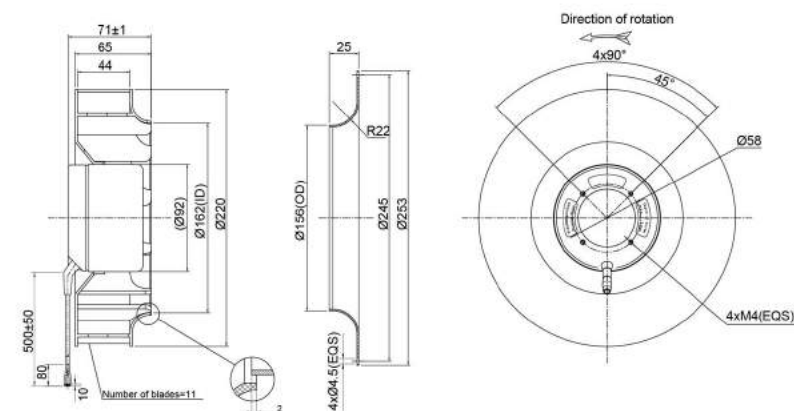


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N190B24H	BE92DC	BALL	24	16-28	3.4	81.6	3300	560	627	68
PB3N190B48H	BE92DC	BALL	48	36-57	1.7	81.6	3300	560	627	68

DC Centrifugal Fan Backward Curved Ø220x71mm

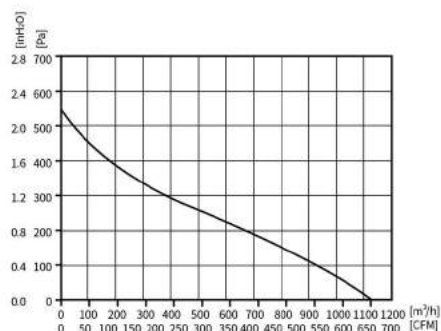


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	1.65KG	D2

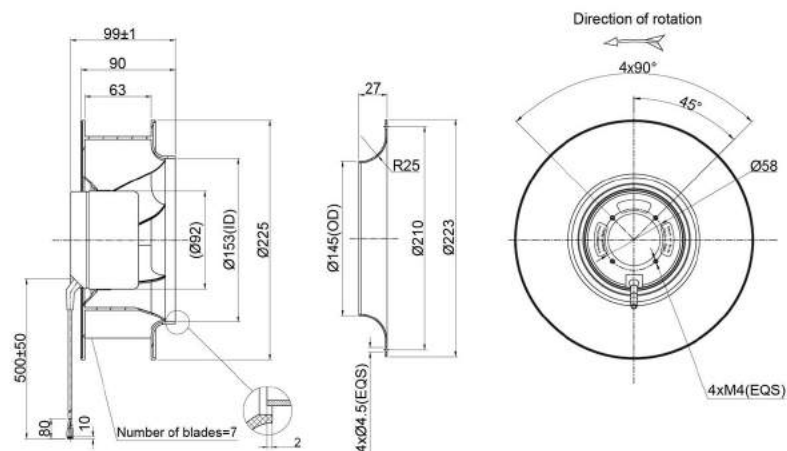


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N220B24H	BE92DC	BALL	24	16-28	4.8	115.2	3150	1055	699	76
PB3N220B48H	BE92DC	BALL	48	36-57	2.4	115.2	3150	1055	699	76

DC Centrifugal Fan Backward Curved Ø225x99mm

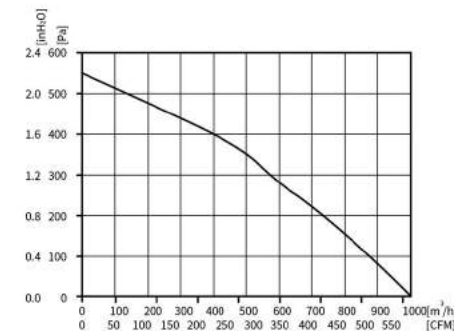


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C~+60°C	1.75KG	D2

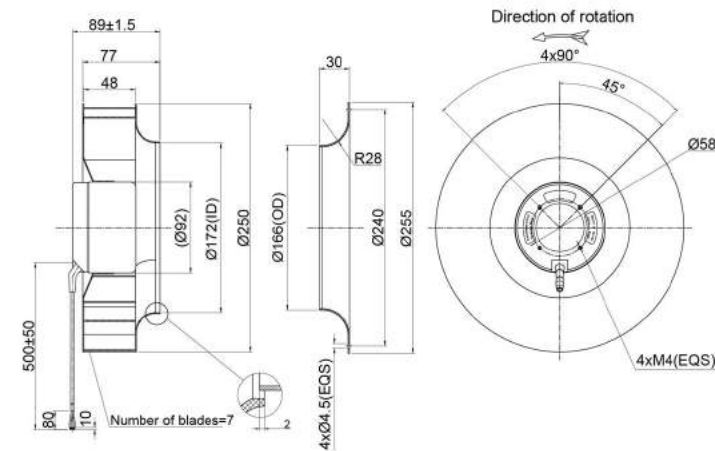


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N225B24H	BE92DC	BALL	24	16-28	4.0	96	2600	1125	540	72
PB3N225B48H	BE92DC	BALL	48	36-57	2.0	96	2600	1125	540	72

DC Centrifugal Fan Backward Curved Ø250x89mm

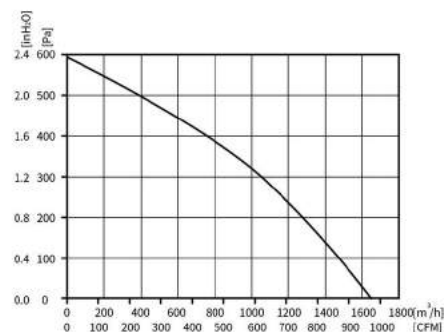


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C~+60°C	2.4KG	D2

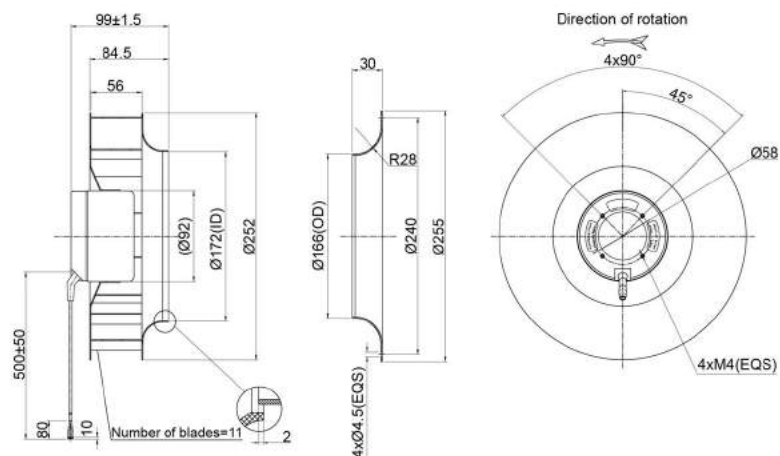


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N250B24H	BE92DC	BALL	24	16-28	5.0	120	2650	1000	550	73
PB3N250B48H	BE92DC	BALL	48	36-57	2.5	120	2650	1000	550	73

DC Centrifugal Fan Backward Curved Ø250x99mm

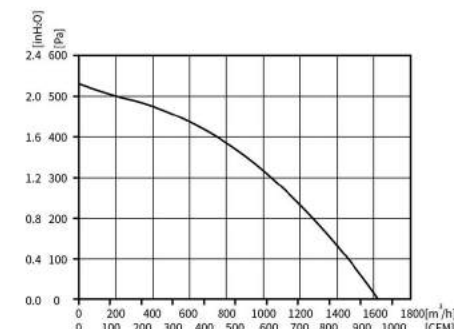
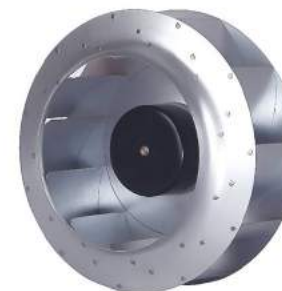


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	2.13KG	D2

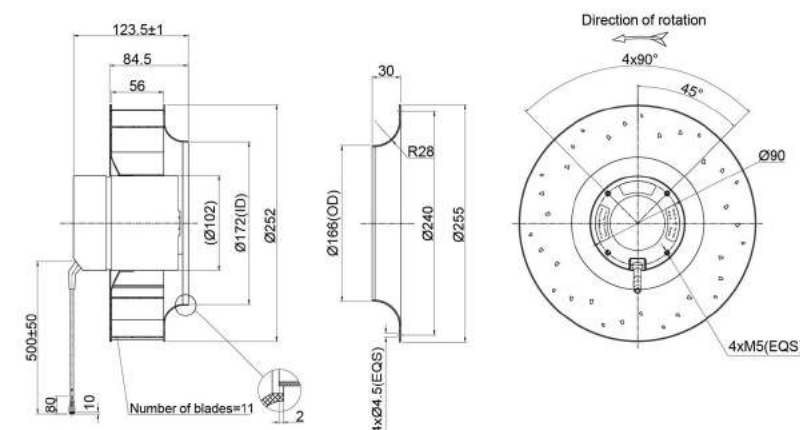


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N250B24M	BE92DC	BALL	24	16~28	6.4	153.6	2630	1650	595	72
PB3N250B48M	BE92DC	BALL	48	36~57	3.2	153.6	2630	1650	595	72

DC Centrifugal Fan Backward Curved Ø250x123.5mm

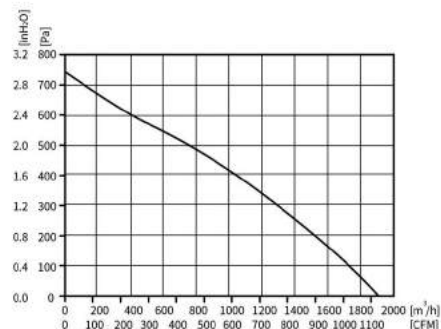
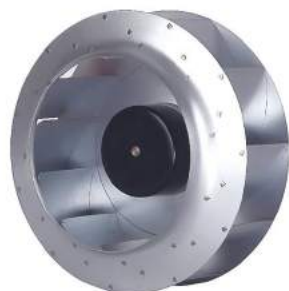


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	3.3KG	D2

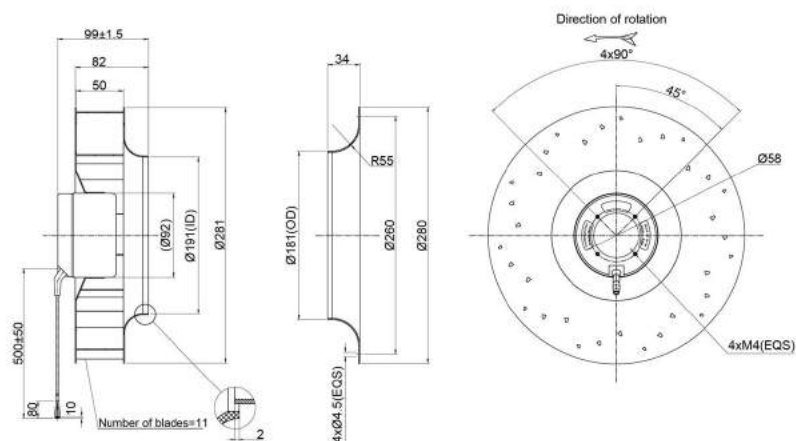


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N250B24L	BE102DC	BALL	24	16~28	5.6	134.4	2600	1640	530	72
PB3N250B48L	BE102DC	BALL	48	36~57	2.8	134.4	2600	1640	530	72

DC Centrifugal Fan Backward Curved Ø280x99mm

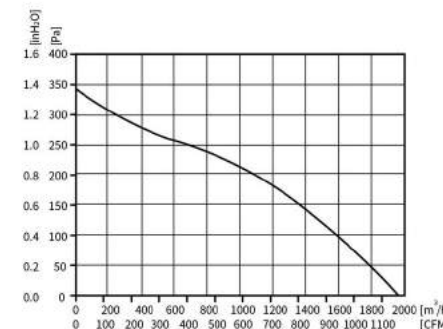
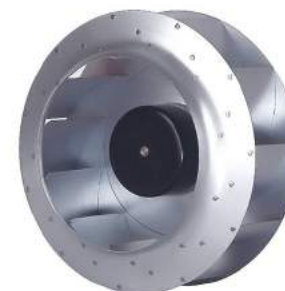


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	2.7KG	D2

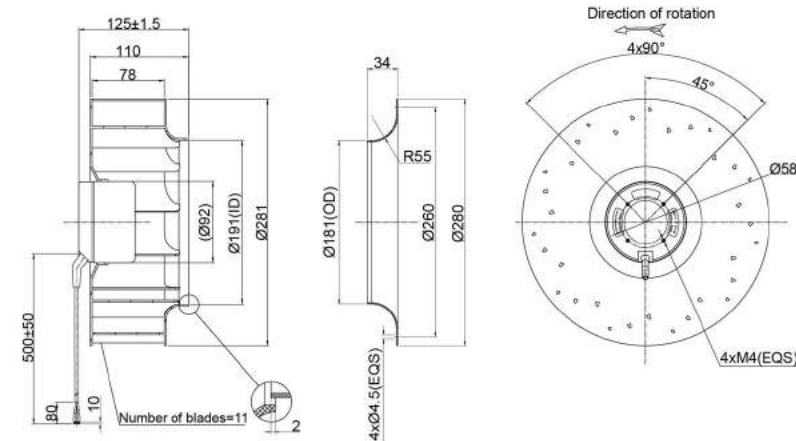


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N280B24M	BE92DC	BALL	24	16~28	9.6	230.4	2600	1930	740	74
PB3N280B48M	BE92DC	BALL	48	36~57	4.8	230.4	2600	1930	740	74

DC Centrifugal Fan Backward Curved Ø280x125mm

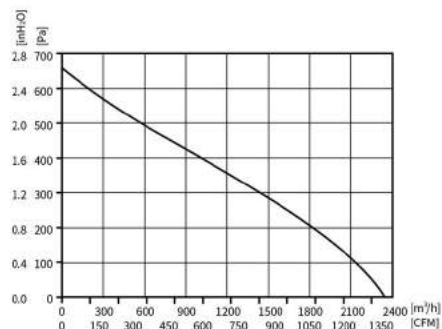
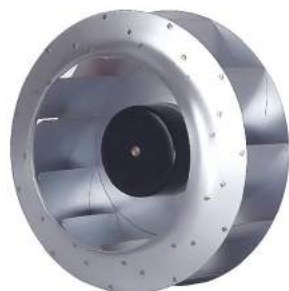


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	2.9KG	D2

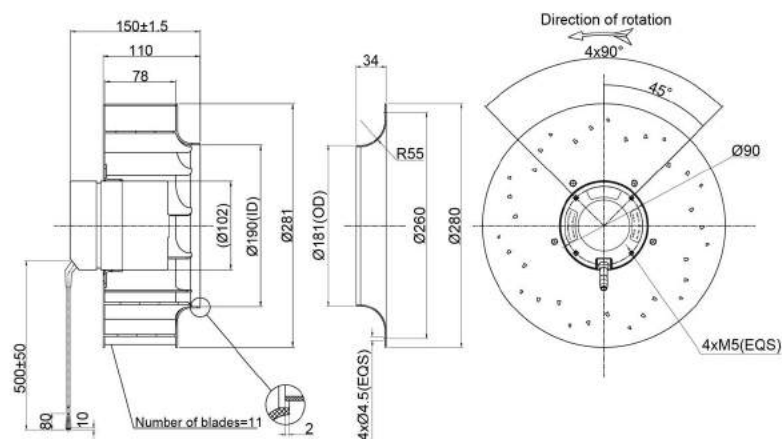


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N280B24L	BE92DC	BALL	24	16~28	4.8	115.2	1800	1960	347	71
PB3N280B48L	BE92DC	BALL	48	36~57	2.4	115.2	1800	1960	347	71

DC Centrifugal Fan Backward Curved Ø280x150mm

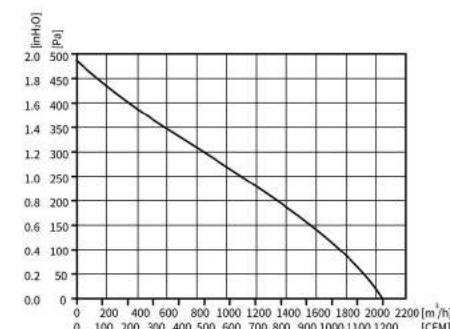


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	3.7KG	D3

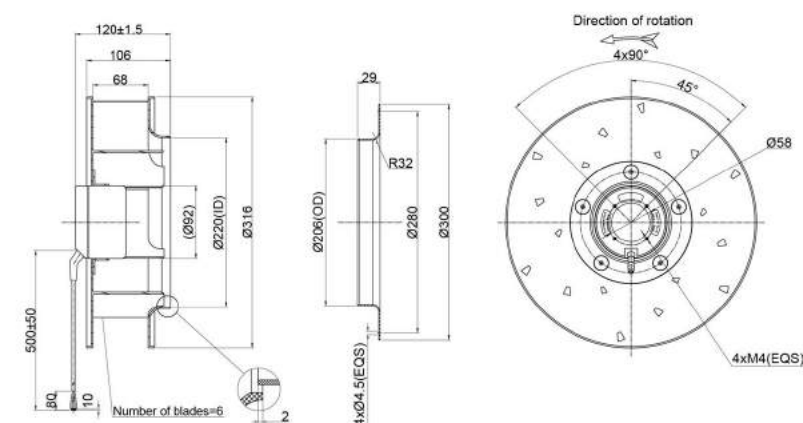


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N280B48H	BE102DC	BALL	48	36~57	4.5	216	2200	2300	650	72

DC Centrifugal Fan Backward Curved Ø310x120mm

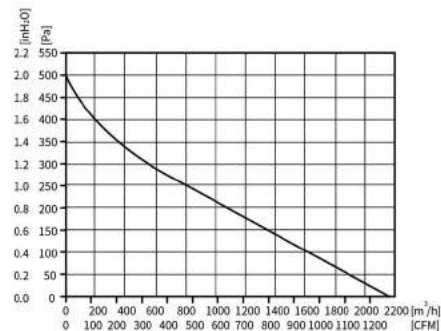


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	2.9KG	D2

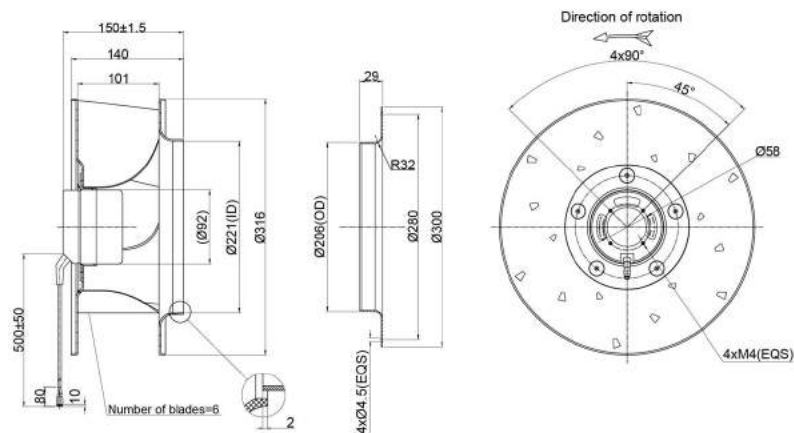


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N310B24M	BE92DC	BALL	24	16~28	5.6	134.4	1750	2050	490	67
PB3N310B48M	BE92DC	BALL	48	36~57	2.8	134.4	1750	2050	490	67

DC Centrifugal Fan Backward Curved Ø310x150mm

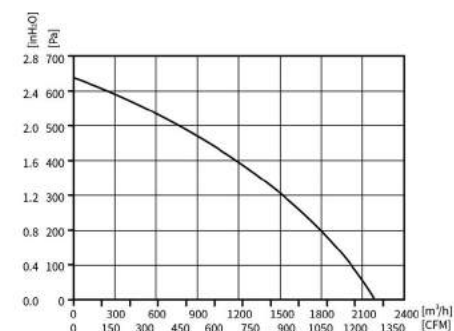


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	3.1KG	D2

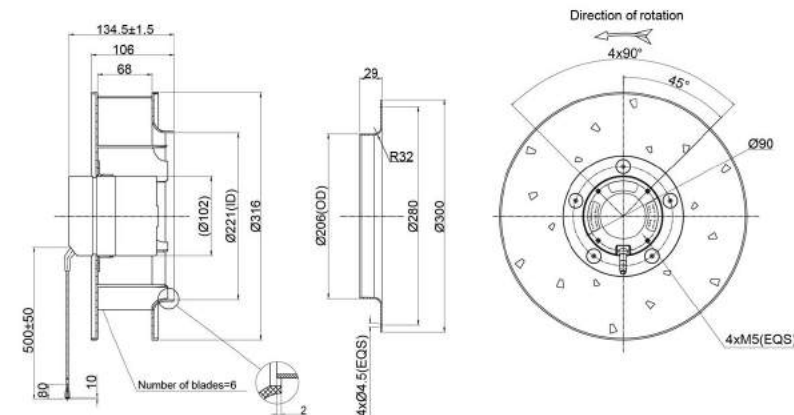


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N310B24L	BE92DC	BALL	24	16-28	5.2	124.8	1600	2175	502	64
PB3N310B48L	BE92DC	BALL	48	36-57	2.6	124.8	1600	2175	502	64

DC Centrifugal Fan Backward Curved Ø310x134.5mm

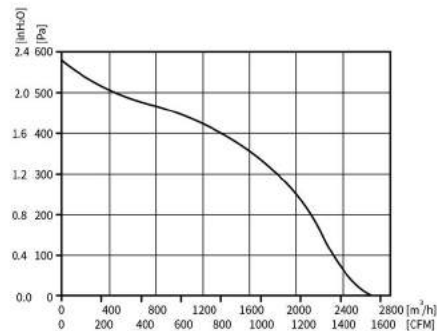


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	3.85KG	D2

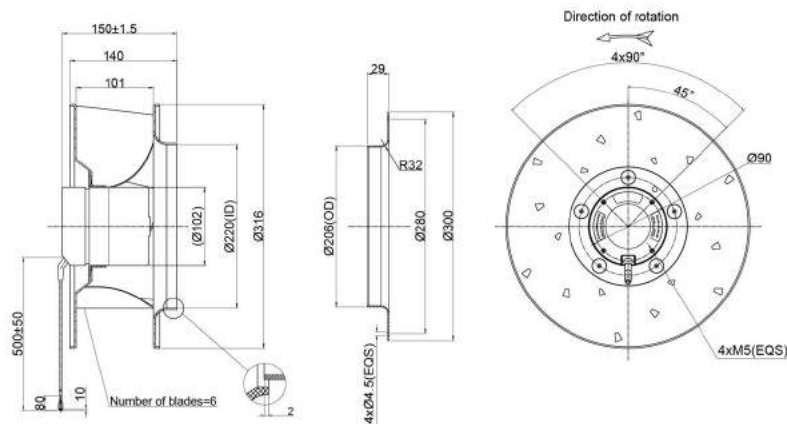


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N310B24U	BE102DC	BALL	24	16-28	6.8	163	2060	2200	640	71
PB3N310B48U	BE102DC	BALL	48	36-57	3.4	163	2060	2200	640	71

DC Centrifugal Fan Backward Curved Ø310x150mm

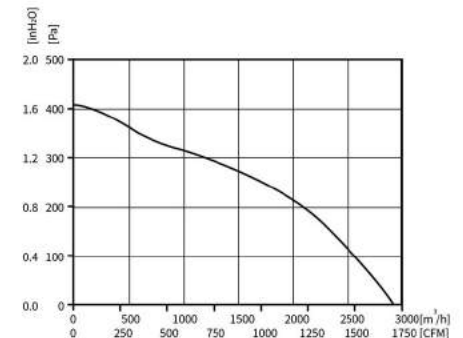


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	3.95KG	D3

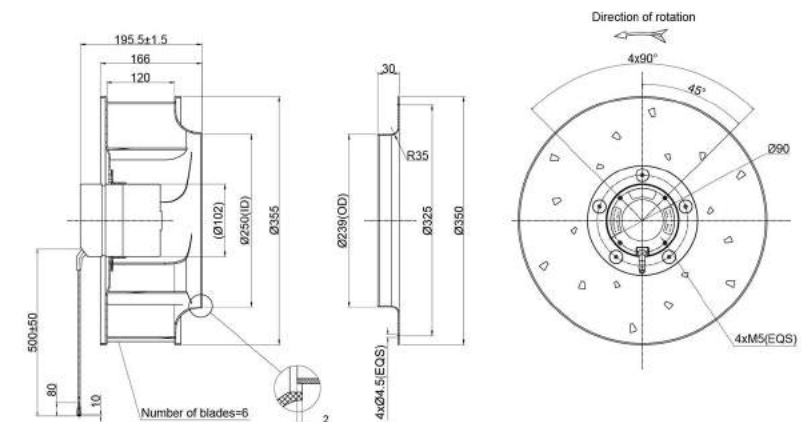


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N310B24H	BE102DC	BALL	24	16~28	8.8	211.2	1930	2620	578	69
PB3N310B48H	BE102DC	BALL	48	36~57	4.4	211.2	1930	2620	578	69

DC Centrifugal Fan Backward Curved Ø355x195.5mm

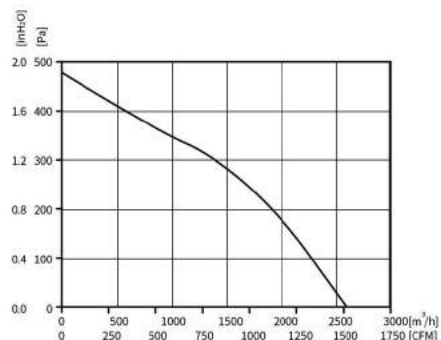


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	5.4KG	D3

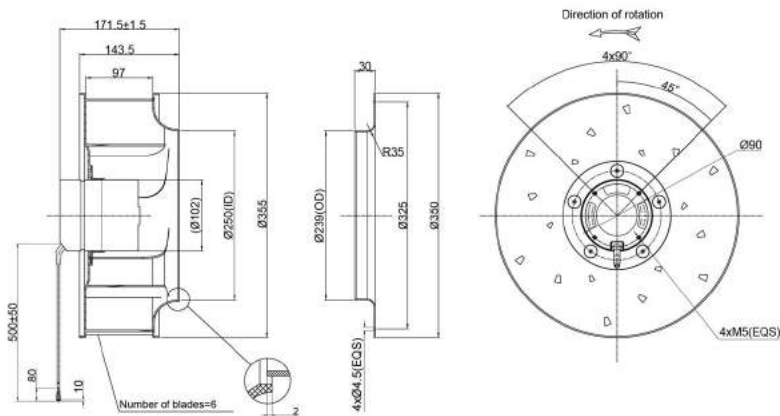


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N355B24M	BE102DC	BALL	24	16~28	7.24	174	1440	2890	406	66
PB3N355B48M	BE102DC	BALL	48	36~57	3.62	174	1440	2890	406	66

DC Centrifugal Fan Backward Curved Ø355x171.5mm

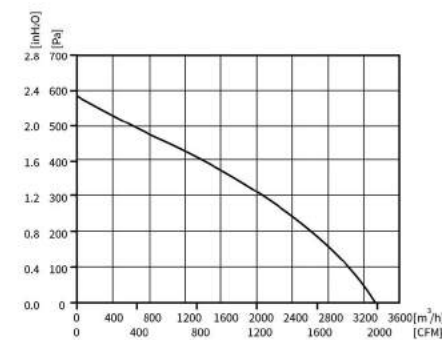


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C~+60°C	4.6KG	D3

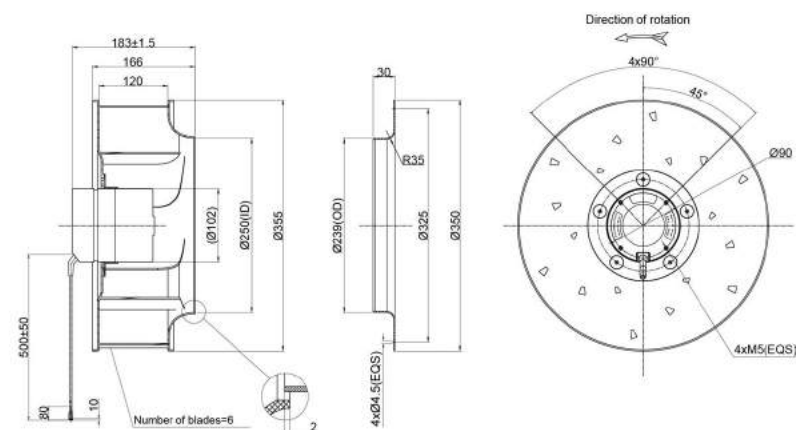


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N355B24H	BE102DC	BALL	24	16-28	6.8	163	1580	2600	487	69
PB3N355B48H	BE102DC	BALL	48	36-57	3.4	163	1580	2600	487	69

DC Centrifugal Fan Backward Curved Ø355x183mm

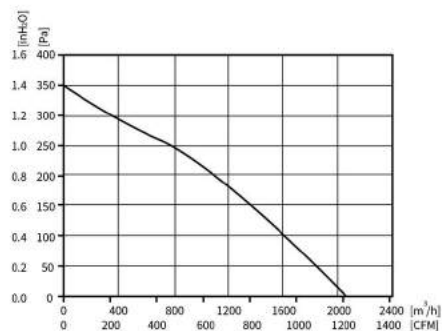


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C~+60°C	5.1KG	D3

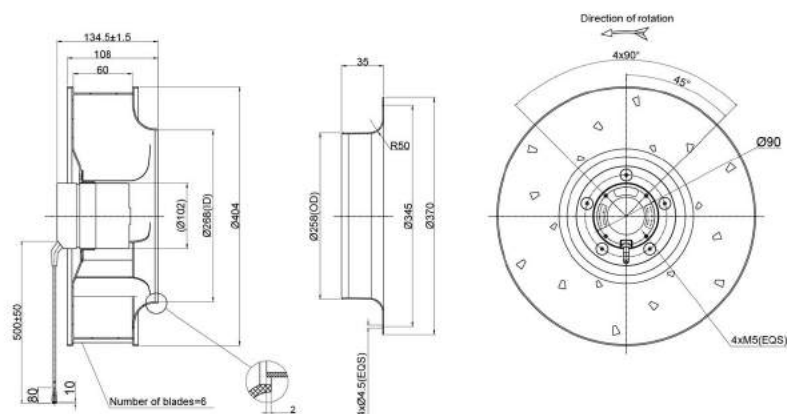


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N355B48U	BE102DC	BALL	48	36-57	3.55	340.8	1770	3357	584	71

DC Centrifugal Fan Backward Curved Ø400x134.5mm

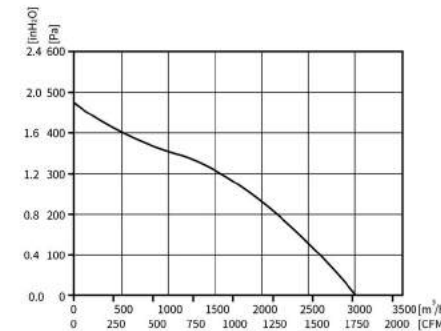


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	4.6KG	D3

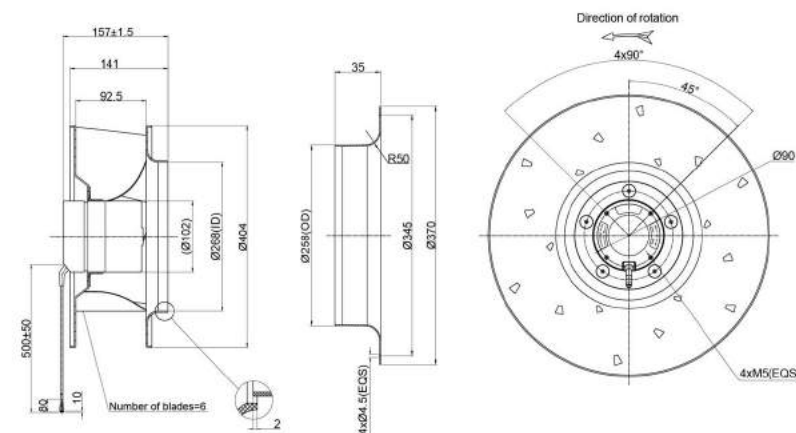


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N400B24M	BE102DC	BALL	24	16-28	3.1	74	1280	2080	346	60
PB3N400B48M	BE102DC	BALL	48	36-57	1.55	74	1280	2080	346	60

DC Centrifugal Fan Backward Curved Ø400x157mm

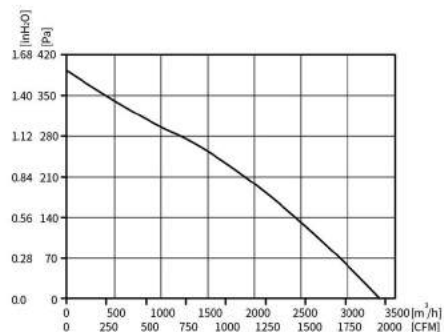


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	4.9KG	D3

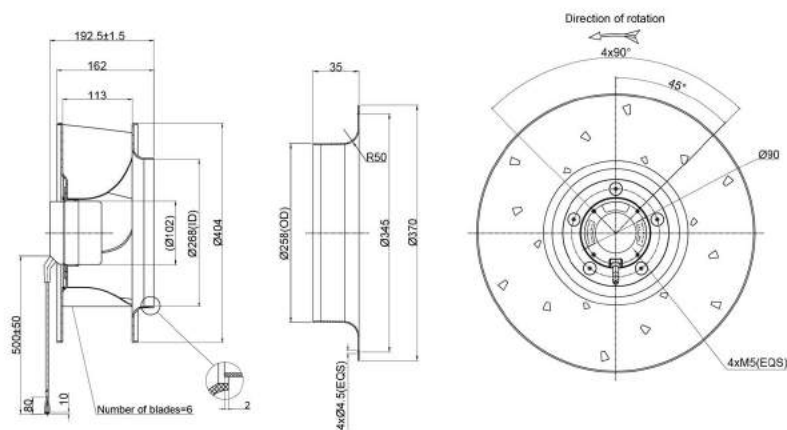


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N400B24H	BE102DC	BALL	24	16-28	8.4	202	1290	3000	473	65
PB3N400B48H	BE102DC	BALL	48	36-57	4.2	202	1290	3000	473	65

DC Centrifugal Fan Backward Curved Ø400x192.5mm

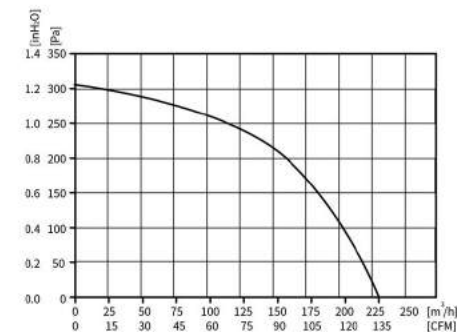


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C~+60°C	5.3KG	D3

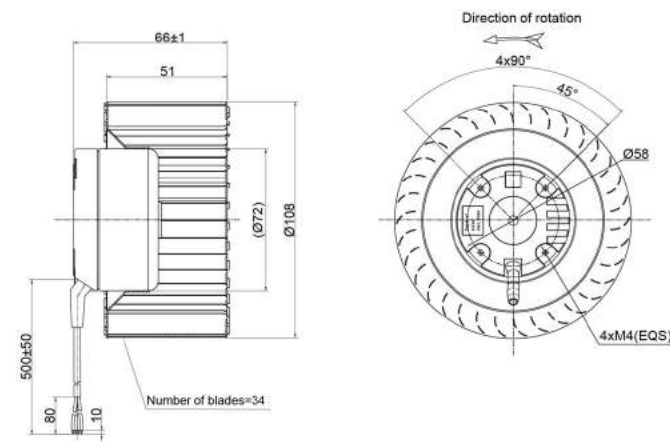


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PB3N400B24L	BE102DC	BALL	24	16-28	7.78	187	1190	3300	382	63
PB3N400B48L	BE102DC	BALL	48	36-57	3.89	187	1190	3300	382	63

DC Centrifugal Fan Forward Curved Ø108x66mm

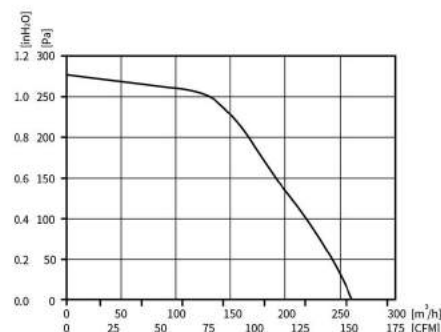


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C~+60°C	0.7KG	D1

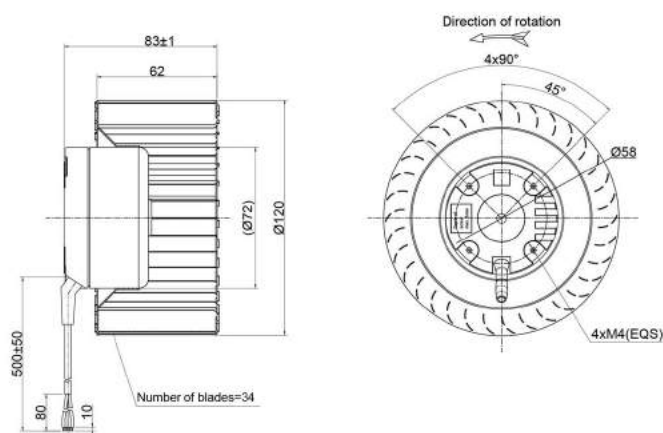


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PF3N108B24H	BE72DC	BALL	24	16-28	2.0	48	2730	230	304	65
PF3N108B48H	BE72DC	BALL	48	36-57	1.0	48	2730	230	304	65

DC Centrifugal Fan Forward Curved Ø120x83mm

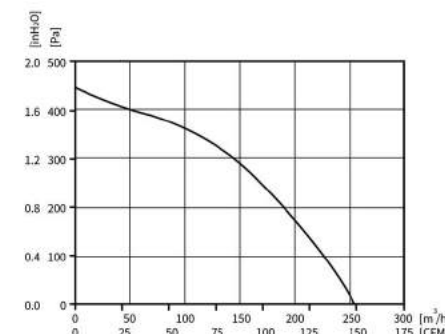


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	0.8KG	D1

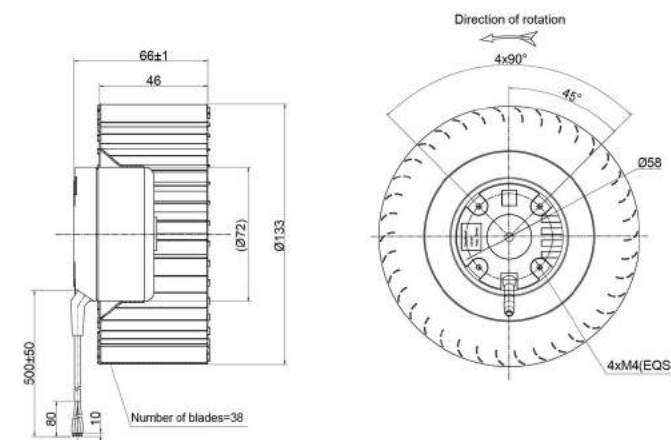


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PF3N120B24M	BE72DC	BALL	24	16~28	2.0	40	2290	260	276	62
PF3N120B48M	BE72DC	BALL	48	36~57	1.0	40	2290	260	276	62

DC Centrifugal Fan Forward Curved Ø133x66mm

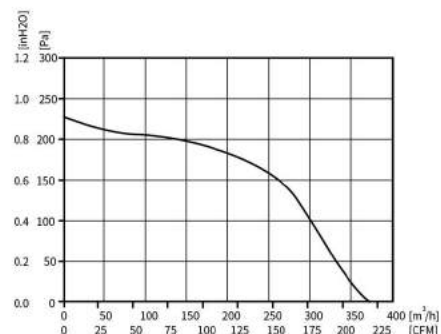


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	0.9KG	D1

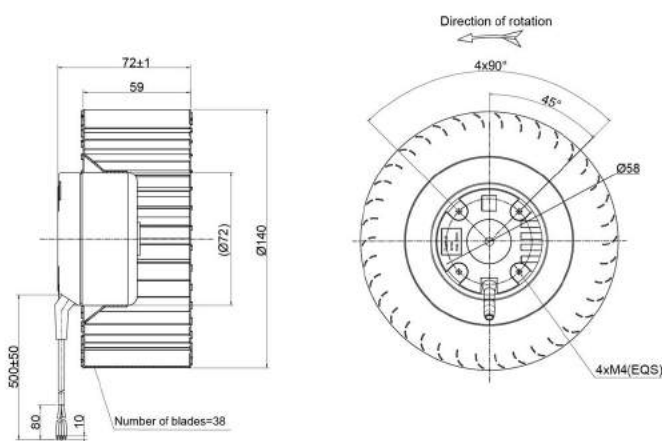


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PF3N133B24M	BE72DC	BALL	24	16~28	2.4	57.6	2800	255	445	64
PF3N133B48M	BE72DC	BALL	48	36~57	1.2	57.6	2800	255	445	64

DC Centrifugal Fan Forward Curved Ø140x72mm

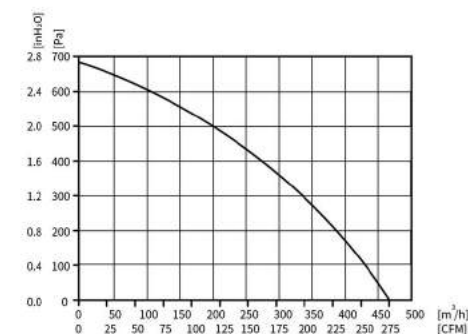


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	1.0KG	D1

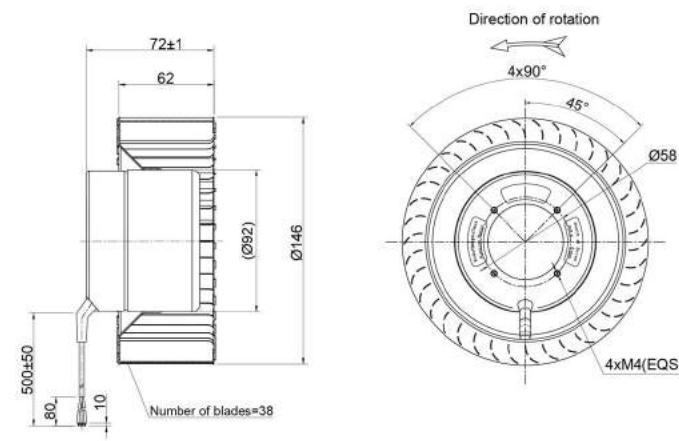


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PF3N140B24M	BE72DC	BALL	24	16-28	2.0	49	1410	370	227	63
PF3N140B48M	BE72DC	BALL	48	36-57	1.0	49	1410	370	227	63

DC Centrifugal Fan Forward Curved Ø146x72mm

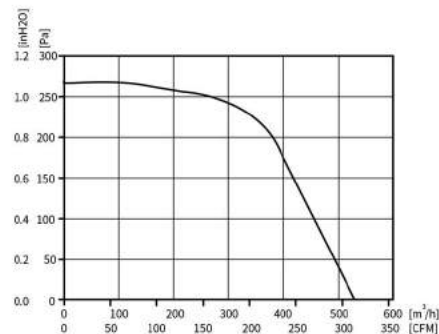


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	1.4KG	D2

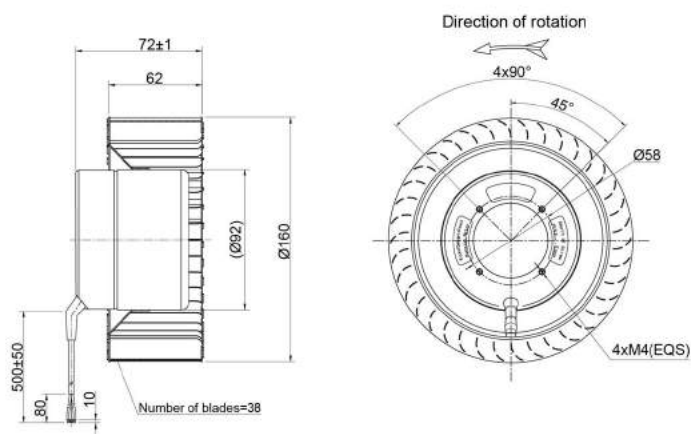


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PF3N146B24M	BE92DC	BALL	24	16-28	5.0	100	2200	470	684	68
PF3N146B48M	BE92DC	BALL	48	36-57	2.5	100	2200	470	684	68

DC Centrifugal Fan Forward Curved Ø160x72mm

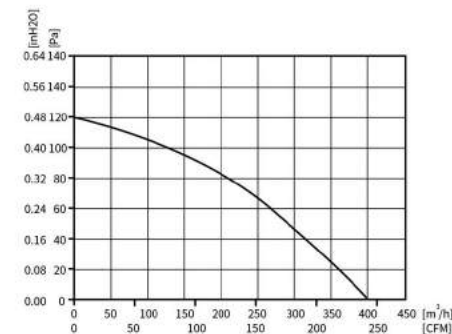


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	1.6KG	D2

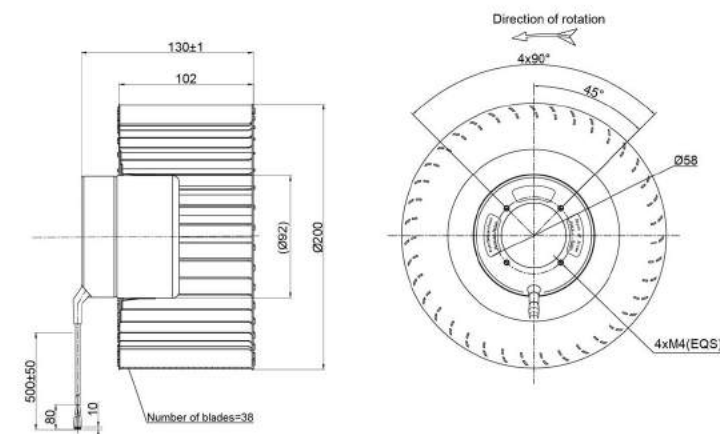


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PF3N160B24M	BE92DC	BALL	24	16-28	3.9	94	1730	530	267	67
PF3N160B48M	BE92DC	BALL	48	36-57	1.9	94	1730	530	267	67

DC Centrifugal Fan Forward Curved Ø200x130mm

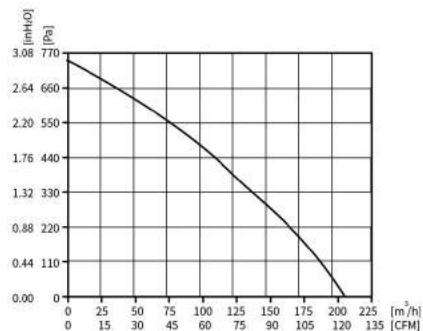


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	1.6KG	D2

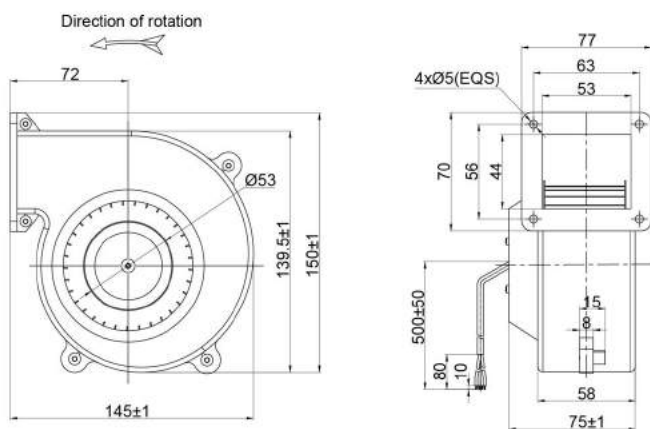


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PF3N200B24X	BE92DC	BALL	24	16-28	2.2	52.8	1100	400	120	45
PF3N200B48X	BE92DC	BALL	48	36-57	1.1	52.8	1100	400	120	45

DC Blower Single Inlet Ø97mm

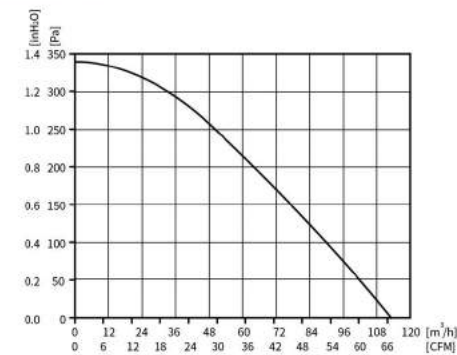


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	0.84KG	D1

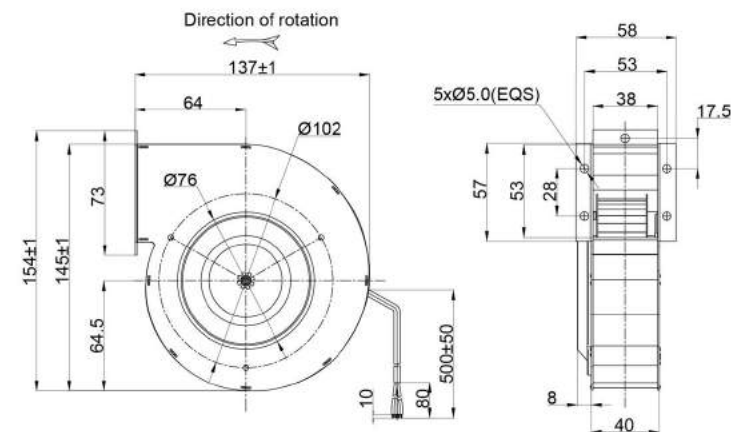


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PS3N097B24M	BE53DC	BALL	24	16-28	3.2	76.8	3650	210	740	67
PS3N097B48M	BE53DC	BALL	48	36-57	1.6	76.8	3650	210	740	67

DC Blower Single Inlet Ø100mm

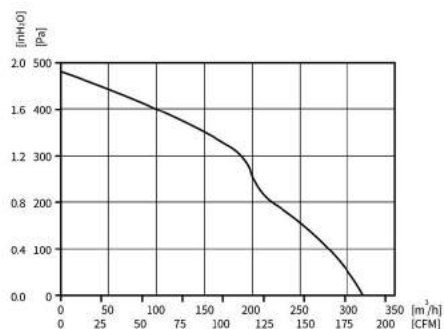


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	0.66KG	D1

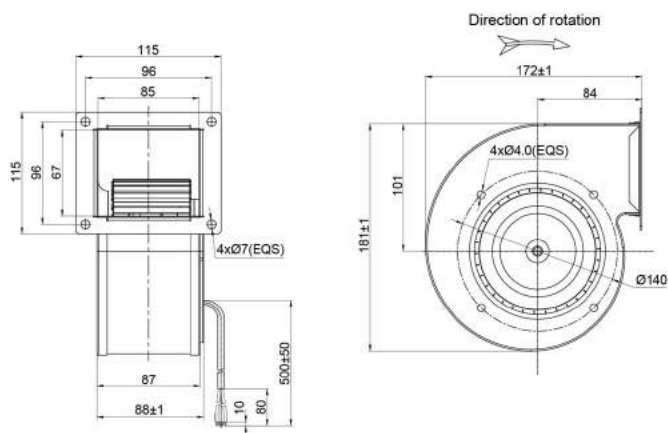


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PS3N100B24M	BE53DC	BALL	24	16-28	1	24	2800	113.4	338	56
PS3N100B48M	BE53DC	BALL	48	36-57	0.5	24	2800	113.4	338	56

DC Blower Single Inlet Ø120mm

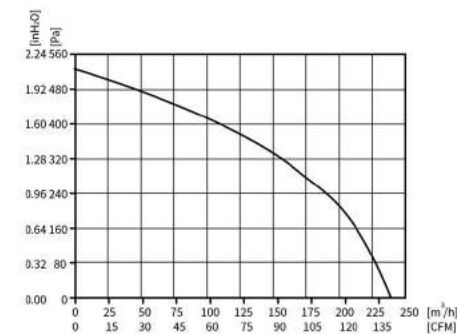


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	1.46KG	D1

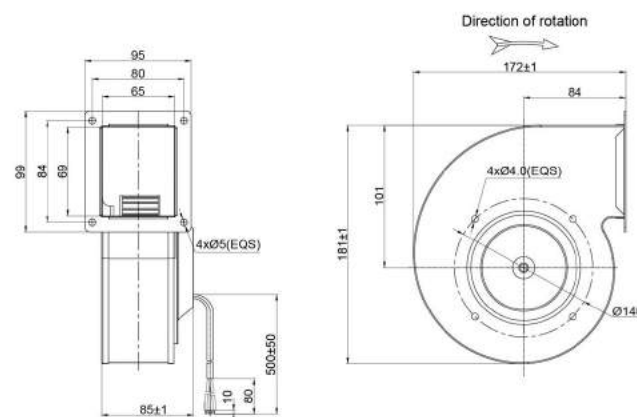


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PS3N120B24M	BE72DC	BALL	24	16~28	3.0	72	2800	317	471	58
PS3N120B48M	BE72DC	BALL	48	36~57	1.5	72	2800	317	471	58

DC Blower Single Inlet Ø133mm

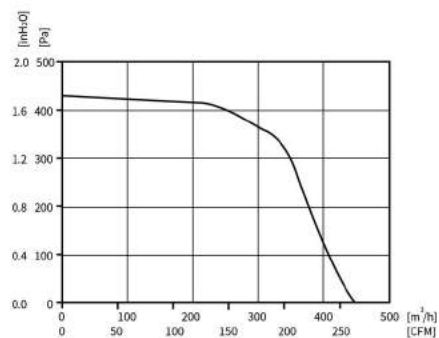


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	1.5KG	D1

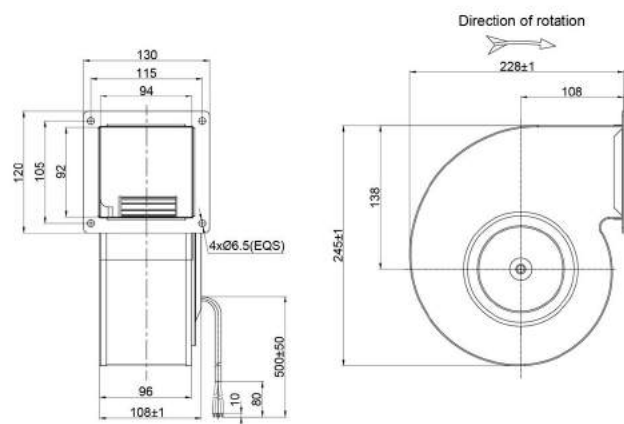


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PS3N133B24M	BE72DC	BALL	24	16~28	2.5	60	2200	238	525	65
PS3N133B48M	BE72DC	BALL	48	36~57	1.25	60	2200	238	525	65

DC Blower Single Inlet Ø140mm

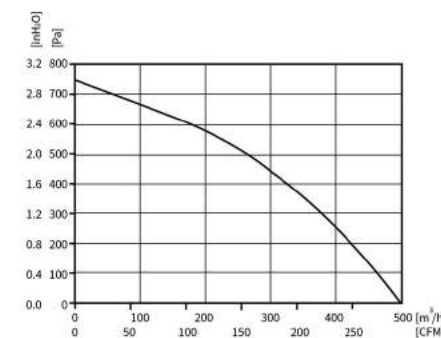


Motor Type: DC BRUSHLESS EXTERNAL ROTOR MOTOR	Speed Control: 0~10VDC/PWM	Protection Type: IP44	Insulation Class: B	Operating Temperature: -25°C~+60°C	Weight: 2.3KG	Wiring Mode: D1
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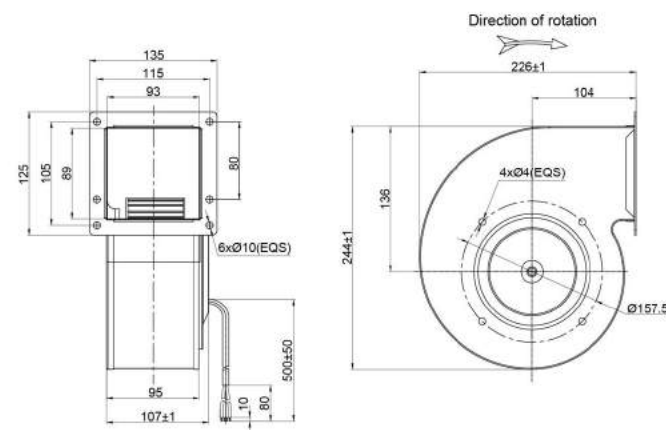


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PS3N140B24M	BE72DC	BALL	24	16~28	3.3	80	1800	450	420	65
PS3N140B48M	BE72DC	BALL	48	36~57	1.67	80	1800	450	420	65

DC Blower Single Inlet Ø150mm

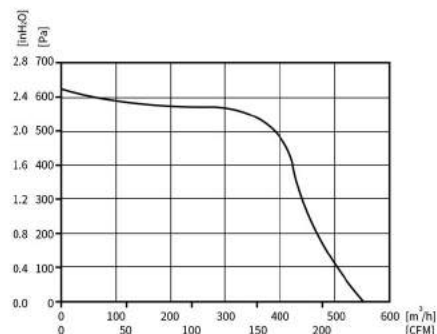


Motor Type: DC BRUSHLESS EXTERNAL ROTOR MOTOR	Speed Control: 0~10VDC/PWM	Protection Type: IP44	Insulation Class: B	Operating Temperature: -25°C~+60°C	Weight: 2.5KG	Wiring Mode: D2
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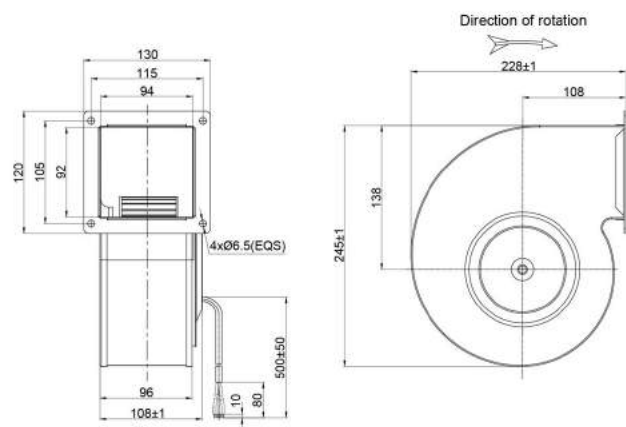


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PS3N150B24M	BE92DC	BALL	24	16~28	4.6	105	2400	500	750	68
PS3N150B48M	BE92DC	BALL	48	36~57	2.3	105	2400	500	750	68

DC Blower Single Inlet Ø160mm

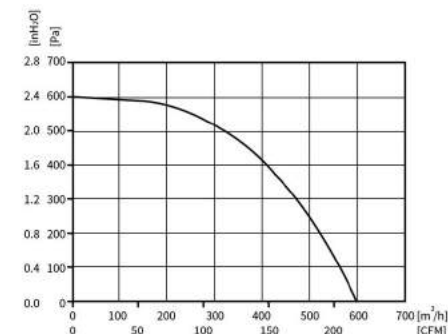


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	2.8KG	D2

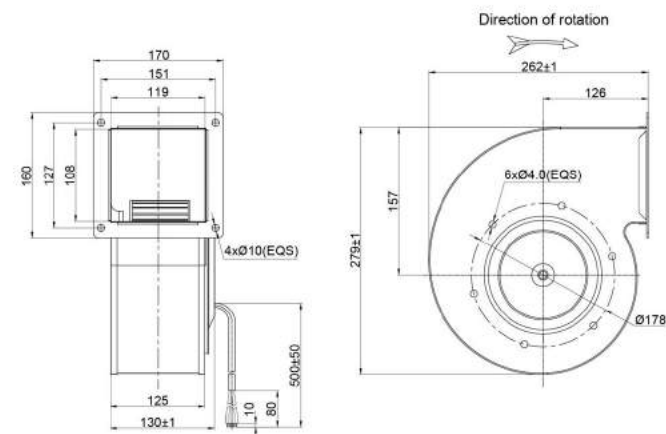


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PS3N160B24M	BE92DC	BALL	24	16-28	4.4	105	1950	550	620	62
PS3N160B48M	BE92DC	BALL	48	36-57	2.2	105	1950	550	620	62

DC Blower Single Inlet Ø180mm



Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0-10VDC/PWM	IP44	B	-25°C ~ +60°C	5.6KG	D2

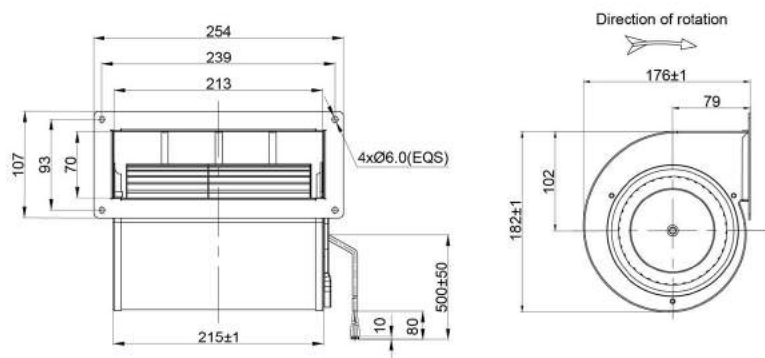


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PS3N180B24M	BE92DC	BALL	24	16-28	3.8	90	1250	600	600	67
PS3N180B48M	BE92DC	BALL	48	36-57	1.9	90	1250	600	600	67

DC Blower Dual Inlet Ø133x190mm

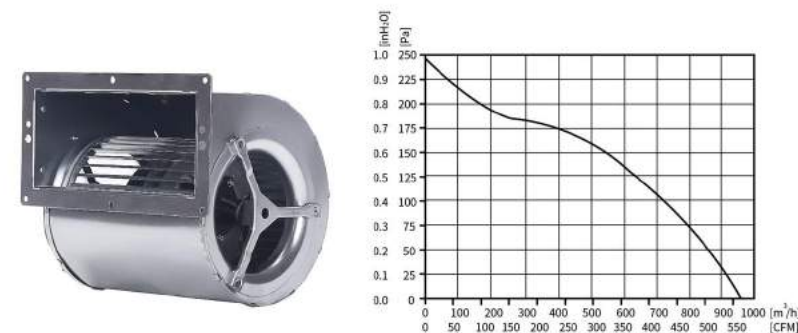


Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	3KG	D2

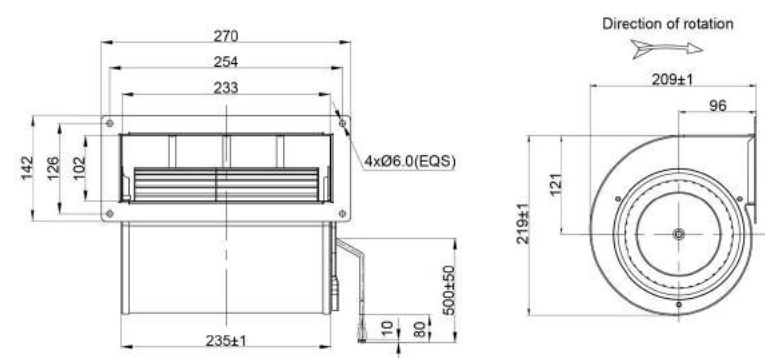


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PD3N133B24U	BE92DC	BALL	24	16~28	6.4	153.6	1780	750	488	62
PD3N133B48U	BE92DC	BALL	48	36~57	3.2	153.6	1780	750	488	62

DC Blower Dual Inlet Ø146x190mm



Motor Type	Speed Control	Protection Type	Insulation Class	Operating Temperature	Weight	Wiring Mode
DC BRUSHLESS EXTERNAL ROTOR MOTOR	0~10VDC/PWM	IP44	B	-25°C~+60°C	4.5KG	D2

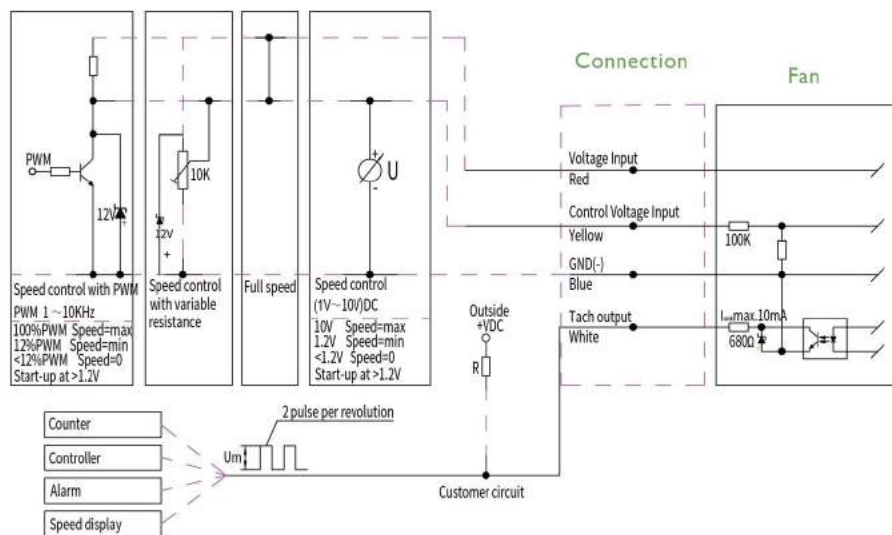


Model	Motor	Bearing System	Rated Voltage	Operating Voltage	Rated Current	Rated Power	Rated Speed	Air Flow	Air Pressure	Sound Level
Part No.	Type	B/S	VDC	VDC	A	W	RPM	M³/H	Pa	dB(A)
PD3N146B24H	BE92DC	BALL	24	16~28	6.0	144	1580	960	248	61
PD3N146B48H	BE92DC	BALL	48	36~57	3.0	144	1580	960	248	61

Wiring Diagram

IP44 D1-DC Motor 72(Nominal voltage 12/24/48/85/110/310VDC)

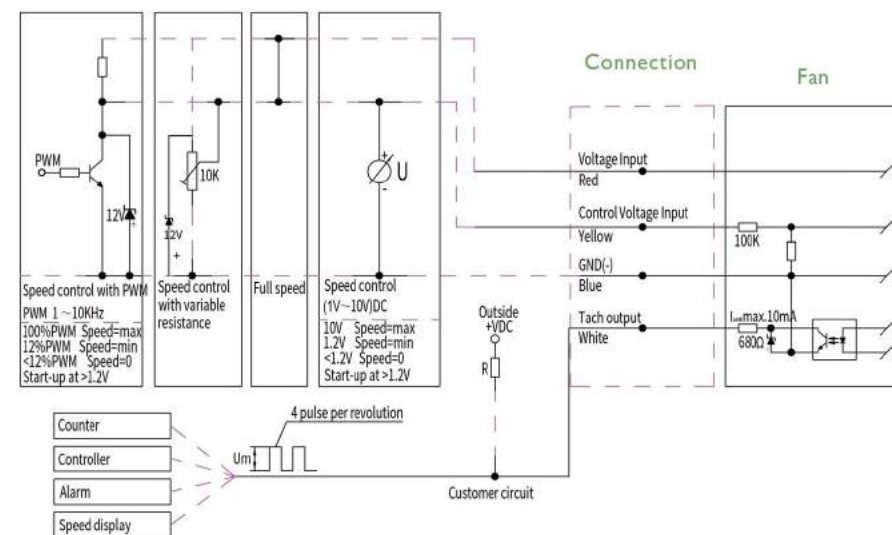
Customer Circuit



Wiring Diagram

IP44 D2-DC Motor 92(Nominal voltage 12/24/48/85/110/310VDC)

Customer Circuit



Red= +
Yellow= 0-10VDC/PWM
White= FG
Blue= GND

Signal	Color	Assignment/Function
+	Red	Voltage Input
0-10VDC/PWM	Yellow	Control Input
Tach output	White	Tach output:2 puls per revolution
GND	Blue	GND

Red= +
Yellow= 0-10VDC/PWM
White= FG
Blue= GND

Signal	Color	Assignment/Function
+	Red	Voltage Input
0-10VDC/PWM	Yellow	Control Input
Tach output	White	Tach output:4 puls per revolution
GND	Blue	GND

IP44 D3-DC Motor 102(Nominal voltage 12/24/48/85/110/310VDC)

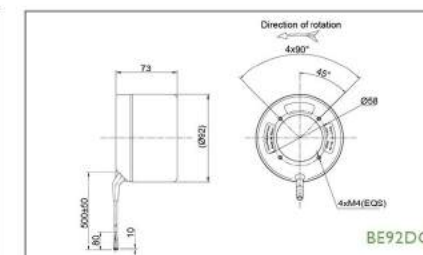
Red= +

Yellow= 0-10VDC/PWM

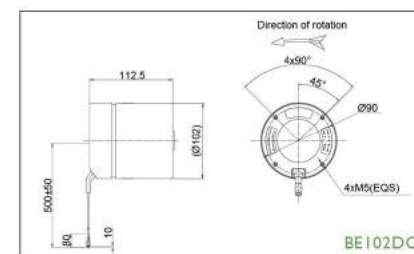
White= FG

Blue= GND

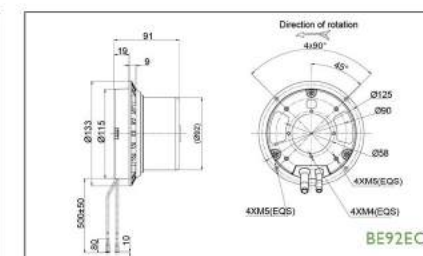
Signal	Color	Assignment/Function
+	Red	Voltage Input
10VDC/PWM	Yellow	Control Input
Tach output	White	Tach output:3 puls per revolution
GND	Blue	GND

[illegible]

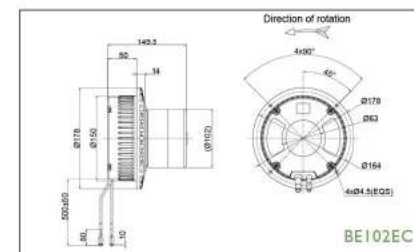
Motor	BE72DC120W	BE92DC230W	BE102DC480W
Voltage	48V	48V	48V
Current	2.5A	4.8A	10A
Power	120W	230W	480W
Speed	400~4450RPM	400~3300RPM	400~2200RPM
Operating Temperature	-25°C ~ +60°C	-25°C ~ +60°C	-25°C ~ +60°C
Wiring	24	26	26



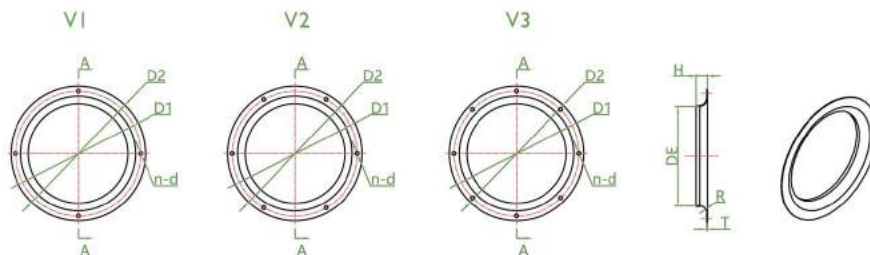
Technical drawing of the BE72EC motor. The side view (left) shows a motor with a total length of 85 mm, a main body diameter of $\varnothing 115$ mm, and a base diameter of $\varnothing 72$ mm. The base has a height of 10 mm and a mounting flange with a diameter of $\varnothing 105$ mm. The front view (right) shows the motor's circular face with a 4x90° mounting pattern and two 4xM4(EQS) mounting holes. The motor is labeled BE72EC.



Motor	BE72EC120W	BE92EC230W	BE102EC600W
Voltage	230V	230V	230V
Frequency	50Hz	50Hz	50Hz
Current	1.0A	1.7A	4.3A
Power	120W	230W	600W
Speed	400~4480RPM	400~3600RPM	400~3550RPM
Operating Temperature	-25℃~+60℃	-25℃~+60℃	-25℃~+60℃
Wiring	F1	F2	F3



Inlet Rings



Inlet Rings for Backward Curved Centrifugal Fans

Part Number	Size	Vers.	DE	D1	D2	H	T	n-d
PB3N133Bxx	133	V1	Ø88	Ø118	Ø129	13	1.5	4xØ4.5
PB3N175Bxx	175	V1	Ø123	Ø158	Ø170	14	1.5	4xØ4.5
PB3N190Bxx	190	V1	Ø123	Ø158	Ø170	14	1.5	4xØ4.5
PB3N220Bxx	220	V1	Ø156	Ø245	Ø253	25	1.5	4xØ4.5
PB3N225Bxx	225	V1	Ø145	Ø210	Ø223	27	1.5	4xØ4.5
PB3N250Bxx	250	V1	Ø166	Ø240	Ø255	30	1.5	4xØ4.5
PB3N280Bxx	280	V1	Ø181	Ø260	Ø280	34	1.5	4xØ4.5
PB3N280Bxx	280	V2	Ø183	Ø286	Ø307	53.5	1.5	6xØ4.5
PB3N310Bxx	310	V1	Ø206	Ø280	Ø300	30	1.5	4xØ4.5
PB3N310Bxx	310	V3	Ø206	Ø320	Ø348	60.5	1.5	8xØ4.5
PB3N355Bxx	355	V1	Ø240	Ø325	Ø350	30	1.5	4xØ4.5
PB3N355Bxx	355	V2	Ø239	Ø325	Ø350	30	1.5	6xØ4.5
PB3N400Bxx	400	V2	Ø258	Ø345	Ø369	35	1.5	6xØ4.5
PB3N400Bxx	400	V3	Ø260	Ø395	Ø422	77.5	1.5	8xØ11
PB3N450Bxx	450	V2	Ø303	Ø420	Ø450	74.5	1.5	6xØ11
PB3N450Bxx	450	V3	Ø293	Ø438	Ø464	83	1.5	8xØ11
PB3N500Bxx	500	V3	Ø324	Ø490	Ø519	99	1.5	8xØ11
PB3N560Bxx	560	V3	Ø369	Ø540	Ø564	106.5	1.5	8xØ11
PB3N630Bxx	630	V3	Ø412	Ø610	Ø640	115.5	1.5	8xØ11

Fan Controller



1. Product Introduction

The fan controller is an external Modbus controller, which can realize single control and multiple centralized control. The controller has a built-in Mod-bus communication protocol to control the operation of the fan through the group control system. It is mostly used in FFU group control occasions.

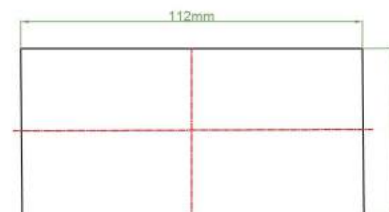
2. The Main Function

The controller controls the fan speed through speed feedback, and uses the principle of speed closed-loop control to control the fan operation. Its main functions are:

- Control the start and stop and speed regulation of each fan through the host;
- Remote centralized control and fault diagnosis can be realized;
- Each control unit module has a settable ID address;
- The current speed and current ID number can be displayed;
- With alarm function.

3. Product Dimensions and Installation Requirements

The controller is powered by the fan without external power supply; the controller is equipped with 2P and 4P quick connect terminals for connection, making the connection simpler and more convenient. The product is designed as a panel installation method, which is convenient for installation and construction. See the figure below for the opening size: 112mm x 57mm



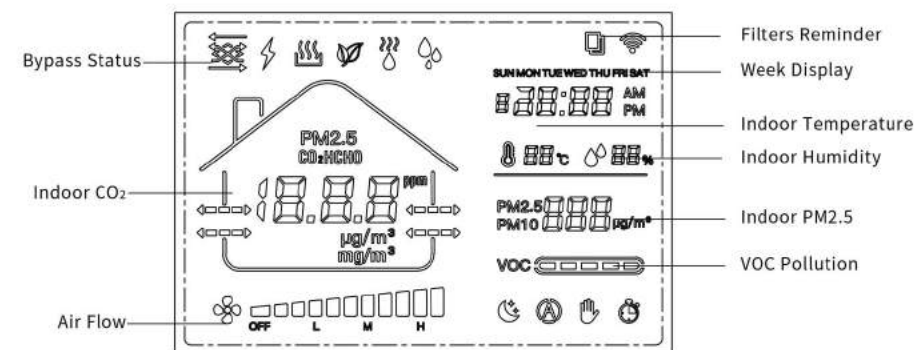
4. Product Application Areas

This product is mainly used in the field of FFU, which can make ordinary EC fans realize group control function, and can effectively solve the problem of group control of ordinary fans.

PS2 intelligent multi-functional touch screen controller

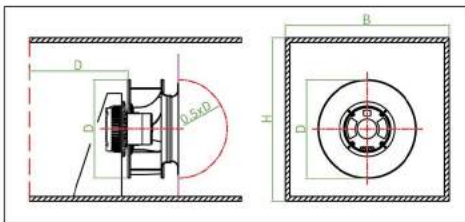
1. General description

PS2-PM2.5/CO₂ controller adopts touch technology, which is flexible and convenient. There are sensors which can monitor the indoor temperature, humidity, PM2.5 and CO₂ concentration detection function. The output signal of controller can directly control the starting and RPM of the fresh air. It can be widely used in residential, commercial and industrial conditions, and effectively improve the air quality, create a healthy, comfortable, efficient, environmental protection and energy-saving living environment.



Effects of installation space

When mounting our product in a rectangular box, air performance might be reduced.



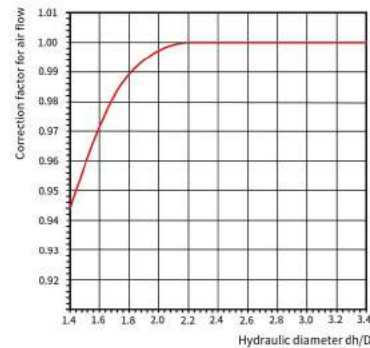
dh = Hydraulic diameter

Formula: $dh = 2 \times B \times H / (B + H)$

B = Width of box

H = Height of box

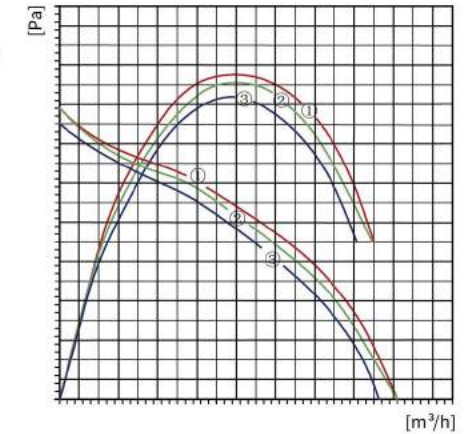
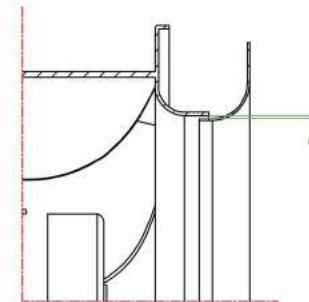
D = Outer diameter of the fan



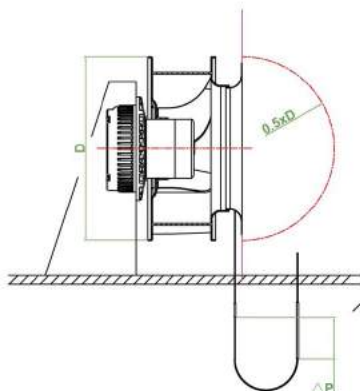
Effects of centrifugal air gap change

The centrifugal air gap between the inlet ring and the impeller cover affects centrifugal fan air flow and operation efficiency. Changes in the size of the inlet ring air gap affects the following curve:

①: $s/D = 0.4\%$ ②: $s/D = 1.0\%$ ③: $s/D = 1.4\%$



Defining air flow rate for inlet rings with pressure relief



The differential pressure approach compares the static pressure before the inlet nozzle with the static pressure inside the inlet nozzle. Air flow can be calculated on the basis of the differential pressure (difference in pressure of the static pressures) in keeping with the following equation:

$$qv = k \cdot \sqrt{\Delta p} \quad qv \text{ in } [m^3/h] \text{ and } \Delta p \text{ in } [Pa]$$

If constant air flow is to be controlled, then the nozzle pressure has to be kept constant:

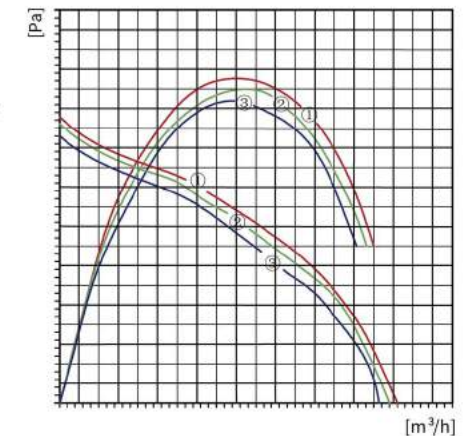
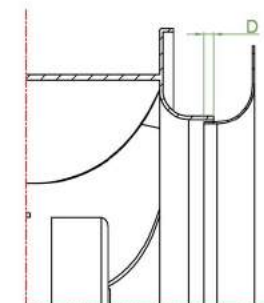
$$\Delta p = qv^2 : k^2$$

k takes into account the specific nozzle characteristics. Differences in static pressure are measured in 1/4 measuring point(s) along the circumference of the inlet nozzle. Connection on the customer side is accomplished via a pre-mounted T tube connector. This tube connector is suited for pneumatic hoses with an internal diameter of 4 mm.

Effects of overlapping dimension

The axial overlap between the inlet ring and the impeller cover affects centrifugal fan air flow and operation efficiency. Overlap changes affect the following curve:

①: $x/D = 0.6\%$ ②: $x/D = 0\%$ ③: $x/D = -0.8\%$



Precision Noise Measuring

Measurement conditions for air and noise measurement

PBM products are measured under the following conditions:

- Axial and diagonal fans in direction of rotation "V" in full nozzle and without guard grille
- Backward curved centrifugal fans, free-running and with inlet nozzle
- Forward curved single and dual inlet centrifugal fans with housing

Noise measurements

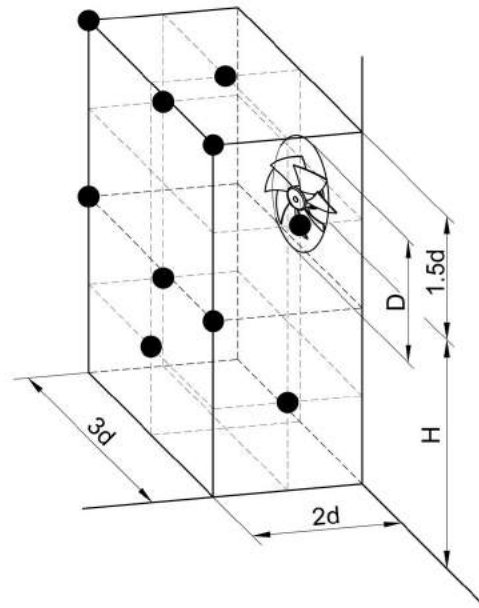
All noise measurements are carried out in low-reflective test rooms with reverberant floor. Thus the PBM acoustic test chambers meet the requirements of precision class 1 according to DIN EN ISO 3745. For noise measurement, the fans being tested are placed in a reverberant wall and operated at nominal voltage (for AC, also at nominal frequency) without additional attachments such as the guard grille.

Sound pressure level and sound level

All acoustic values are established according to ISO 13347, DIN 45635 and ISO 3744/3745 to accuracy class 2 and given in A-rated form. When the sound pressure level (L_p) is measured, the microphone is on the intake side of the fan being tested, usually at a distance of 1 m on the fan axis.

To measure the sound power level (L_w), 10 microphones are distributed over an enveloping surface on the intake side of the fan being tested (see graphic). The sound power level measured can be roughly calculated from the sound pressure level by adding 7 dB.

Measuring configuration as per ISO 13347-3 respectively DIN 45635-38:10 measuring points

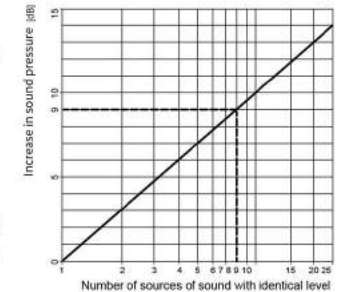


$d \geq D$
 $H = 1.5d \dots 4.5d$
 Measurement area $S = 6d^2 + 7d(H + 1.5d)$

Combined level of multiple same-level sound sources

Adding 2 noise sources with the same level results in a level increase of approx. 3 dB. The noise characteristics of multiple identical fans can be determined in advance based on the noise values specified in the data sheet. This is shown in the diagram opposite.

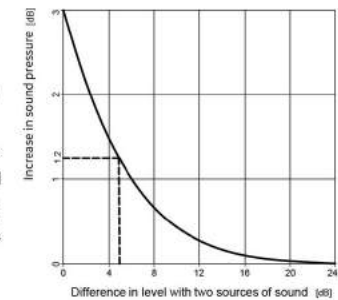
Example: 9 PCS PG3N400B2EH axial fans are on a condenser. According to the data sheet, the sound pressure level of a fan is approximately 67 dB(A). The level increase measured from the diagram is 9 dB. Thus the overall sound level of the installation can be expected to be 76 dB(A).



Combined level of two different-level sound sources

The acoustic performance of two different fans can be predetermined based on the sound levels given in the data sheet. This is shown in the diagram opposite.

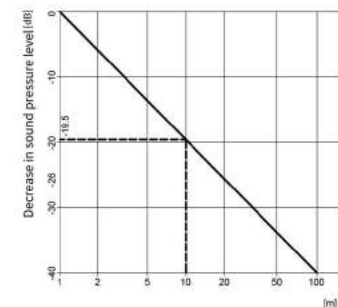
Example: There is an axial fan PG3N400B2EH with a sound pressure level of 67 dB(A) at the operating point and an axial fan PG3N300B2EM with 72 dB(A) in a ventilation unit. The level difference is 5 dB. The level increase can now be read in the diagram as approx. 1.2 dB. This means that the overall sound level of the unit can be expected to be 73.2 dB(A).



Distance laws

Sound power level is independent from distance to the sound source. In contrast to this, sound pressure level decreases the further away the noise source is. The adjacent diagram shows the decrease in level under far sound field conditions. Far sound field conditions apply whenever the distance between microphone and fan is big when compared to fan diameter and wavelength to be considered. For more information on far sound field, please consult the relevant literature on this complex topic. Per doubling of distance, the level in the far sound field decreases by 6 dB. In the near field of the fan, other correlations apply and the decrease in levels can be considerably smaller. The following example only applies to far sound field conditions and can vary strongly depending on the installation effects.

Example: An axial fan PG3N400B2EH, a sound pressure level of 67 dB(A) was measured at a distance of 1 m. According to the adjacent diagram, at a distance of 10 m we would get a reduction by 19.5 dB, i.e. a sound pressure level of 47.5 dB(A).



How to Choose Fans Correctly

All need to use is the electrical machinery and electronic products project engineer which the ventilator radiates, a specific system that radiates the needed amount of air flow is a must, the amount of air flow is decided by the understanding system power consumption and the ability of carrying off the enough quantity of heat. Try to prevent the system superheat situation. The fact demonstrated that the system service life can be reduced as a result of the cooling system insufficiency, therefore project engineer also should understand system sales volume and price, possibly because the system service life symbol user did not anticipate drops. If you'd like to choose the correct well ventilated module, the following goals need to be considered:

- Best air transport efficiency
- Smallest suitable size
- Lowest noise
- Smallest power consumption
- Biggest margin of safety and service life
- Reasonable total cost

So following three steps to correctly choose radiation fan or the drum ventilator, help you achieve the above goals:

Total cooling demand, first must understand three key aspects by obtaining the cooling demand the quantity of heat that must be transformed(temperature DT). Counterbalance transformation quantity of heat wattage(W). The detachment quantity of heat needs amount of wind(CFM).

The total cooling demand regarding of system operating effectively is really important. The effective system operation must provide the Ideal operation condition, enables in all systems the module to display the biggest function and the longest service life.

The following available ways are generally used when choosing the ventilator motor:

- Figures out quantity of heat which the equipment interior produces
- Decided the equipment interior can permit temperature rise scope
- Amount of air flow needs which from the equation computation
- If the known system equipment interior heat dissipating capacity and the permission total temperature rise quantity, may obtain the amount of wind which is for the cooling equipment needs.

Following into basic hot transformation equation:

$$H = C_p \times W \times \Delta T$$

in which: H = Hot transformation quantity

C_p = Air specific heat

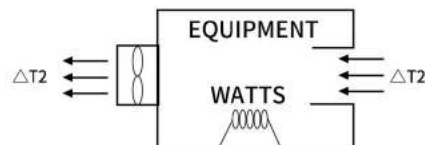
ΔT = In the equipment rises temperature

W = Air flow weight

We know ($W = CFM \times D$) in which D = is mad the density after the substitution, We obtain,Conversion factors

With the substitution sea level air specific heat and the density, may obtain following radiation equation:

$$CFM = 3160 \times KW / \Delta T$$



Eg(a): The equipment Internal consumption electric power is 500W, the temperature difference is 20 degrees Fahrenheit, please see the computed result below:

$$Q = \frac{3.16 \times 500(W)}{20} = 79CFM \quad \text{or} \quad Q = \frac{0.09 \times 500(W)}{20} = 2.25m^3/Min$$

(b) The equipment internal consumption electric power is 500W, the temperature difference is 10 degrees centigrade:

$$Q = \frac{1.76 \times 500(W)}{20} = 88CFM \quad \text{or} \quad Q = \frac{0.05 \times 500(W)}{20} = 2.5m^3/Min$$

Amount of Wind Conversion Table

CMS	CMM	L/s	L/min	CMH	CFS	CFM
m ³ /s	m ³ /min	L/s	L/min	m ³ /h	ft ³ /s	ft ³ /min
1	60	1x10 ³	6x10 ⁴	3.6x10 ³	35.30	2.118x10 ³
0.0167	1	460	1x10 ³	60	0.5885	35.30
0.001	0.06	1	60	3.60	0.0353	2.12
1.67x10 ⁻⁵	0.001	0.0167	1	0.06	5.88x10 ⁻⁴	0.0353
2.77x10 ⁻⁴	0.0167	0.277	16.7	1	9.81x10 ⁻³	0.5885
0.0283	1.698	460	1.69x10 ³	101.9	1	60
4.7x10 ⁻⁴	0.0283	0.47	28.3	1.698	0.0167	1

Static pressure conversion table

Pa	Bar	Torr	kgf/cm ²	mmH ₂ O	inHg	psi
N/m ²	Bar	mmHg	kgf/cm ²	mmH ₂ O	inHg	lb/in ²
1	1x10 ⁻⁵	7.501x10 ⁻³	1.02x10 ⁻⁵	0.1021	2.953x10 ⁻⁴	1.45x10 ⁻⁴
1x10 ⁵	1	750.10	1.02	1.02x10 ⁴	29.53	14.50
133.30	1.33x10 ⁻³	1	1.359x10 ⁻³	13.61	0.03937	0.01934
9.807x10 ⁴	0.9807	735.5	1	1.001x10 ⁴	28.96	14.22
9.807	9.807x10 ⁻⁵	0.07348	9.96x10 ⁻⁵	1	2.89x10 ⁻³	1.42x10 ⁻³
3.386x10 ³	0.03386	25.4	0.03453	345.6	1	0.4912
6.895x10 ³	1.013	760	1.033	1.034x10 ⁴	29.92	14.7

The following available ways are generally used when choosing the ventilator motor:

- Figures out quantity of heat which the equipment interior produces
- Decided the equipment interior can permit temperature rise scope
- Amount of air flow needs which from the equation computation
- If the known system equipment interior heat dissipating capacity and the permission total temperature rise quantity, may obtain the amount of air flow which is for the cooling equipment needs.

Fan Selection Guide



In order to provide you with more considerate fan selection and technical solution services, please provide your demand information in the following table as much as possible:

Note: The Red * marked is required.		Date	
Project Name		* Client Name	
* Applied to Which Products or Industries		Special Working Conditions to be Reminded	
Fan Mounting Space Size (LxWxH)	mm	Motor Type	
* Blade Type and Materials		* Impeller Size (LxWxH)	mm

Is it possible to provide 《Fan Technical Requirements List 》 or replaced fan specification or replaced fan brand & model number?

Fan's Key Technical Requirements	Key Parameters	P/Q	Replaced Fan Brand	Replaced Fan Model Number	Photo of Replaced Fan Name Plate

Key Technical Parameter Information For Fan Selection

* Rated Voltage (V)		Max. Current (A)	Frequency (HZ)
Rated Power(W)		Motor Output Power (W)	Bearing Type
* Max. Airflow (M ³ /H)		* Max. Air Pressure (Pa)	* Speed (RPM)
Operation Point's Air Flow & Air Pressure		Max. Operating Temperature (°C)	Rotation or Air Flow Direction
* Expected Sound Level (dBA)		Water and Dust Protection Class (IPXX)	Isulation Class
Motor Operating Protections		Speed Control Type	Certificates
Operating Voltage Range (V)		Wire Length and Connector Requirements	Wiring Mode
Fan Efficiency (η)		Motor Efficiency (η)	Fan Operation Control

Key Commercial Requirements

Total Quantity Demand		Quantity and Date for the First Order	
Quantity of Sample		Sample Demand Time	
Packing Demand		Type of Shipping	
* Recipient's Name and Mobile Number		* Detail Receiving Address	

Client's Other Requirements:

Such as: non-standard fan size (mm), special installation requirements, special working and operating environment, etc

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