

ebm **papst**

CREATING
AIR
MOVEMENT
FOR
INNOVATION



Introduction

Axial Fans

Motors

Radial Fans

Pumps

High Temperature Application

Control Equipment

Technical Information

Wiring Diagrams

This Fan 14th edition

Index_2019

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This Fan

ebm-papst, a certified company

This is a short form catalogue directed at the replacement market, and therefore is intentionally brief.

Local Product

ebm-papst stocks a large variety of different fans and motors in Australia and New Zealand for the local market. This catalogue covers the products typically used in Australia and New Zealand.

Imported Products

There are overseas manufacturers' products imported into Australia and New Zealand using our fans and motors, which we may not stock locally. Usually a locally stocked fan or motor will satisfactorily replace the original. As we have products for a wide range of different power supplies, when replacing components of imported product it is very important to check operating voltage and frequency as well as air flow direction.

Product Identification

Identification labels are placed on all fans before leaving the factory; correct identification makes replacement an easy exercise – see page 15 to 17 for more identification information.

Warranty

All ebm-papst labelled products sold in AU & NZ carry 2 years warranty from date of purchase, subject to correct use and application. Specific warranty details are available on request.

Availability

To locate your nearest wholesaler contact ebm-papst on (03) 9360 6400 in Australia or (09) 525 0245 in New Zealand or check our website www.ebmpapst.com.au or www.ebmpapst.co.nz.

Sound Data

The suction-side sound power levels $L_w(A)$ and sound pressure levels at 1m $L_p(A)$ provided in this publication are measured as per ISO 13347. The acoustic values given are only valid under the measurement conditions and will vary depending on the installation situation.

Disclaimer

Whilst every care has been taken in compilation of this catalogue, ebm-papst A&NZ Pty Ltd takes no responsibility for any errors or inaccuracies.

For more information please contact your ebm-papst representative.



Quality
ISO 9001



Environment
ISO 14001



In this catalogue, we have identified all high efficiency EC products with green text and  logo.

EC fans can lower power consumption by up to 90%.

About ebm-papst

The engineer's choice

The engineers choice!

ebm-papst provides a wide range of high quality and highly efficient air movement systems. Combined with excellent customer service and local engineering support, it is a brand you and your customer can rely on.

Our offices in Melbourne, Sydney and Auckland consist of a team of qualified engineers, developers, logistics and other highly qualified professionals, accounting for more than 100 years of combined fan engineering experience.

Specialising in aerodynamics, motor technology and controls allows us to offer the best air-movement solution for your application.



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Introduction



Above: AIRAH Awards Night 2018 – Winner 'Excellence in Diversity and Inclusion'



Above: ebm-papst A&NZ Team gathering 2019

Experience ebm-papst A&NZ:

Excellent Sales Team

Our sales representatives are engineers with excellent product knowledge, who work in close collaboration with you to select the most suitable fan product. We aim to not just be a fan supplier, but be your development partner.

Development and Engineering

Our recently launched Centre of Excellence allows our project and design engineers to develop local fan products and accessories to provide an innovative solution to your air-movement requirement. We aim to maximise the performance of our products in your application and offer free testing on our local air performance test rig.

Technical Support

Our sales team is supported by highly qualified local engineers. If you need support on site, we aim to be there within 24 hours.

Logistics

We work closely with your supply team to ensure adequate stock availability and delivery when you need it.

EC Upgrades

Together with our partners we can find an upgrade solution for your existing system. We upgrade your HVAC-R installation to boost performance, save energy or reduce maintenance cost. In most cases, there is no need to invest in new capital equipment to benefit from innovative fan technologies: Simply switch to Green Intelligence EC fans.

EC Technology

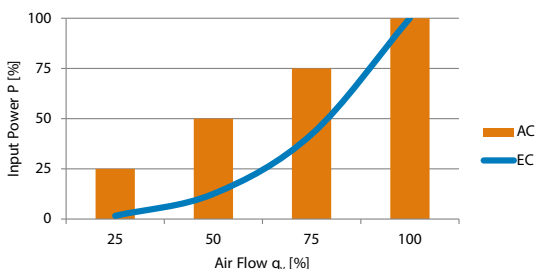
Upgrade to EC

ebm-papst EC technology (EC = electronically commutated) is an environmentally sound and a more cost-effective alternative to AC technology. ebm-papst EC fans and motors give you high-performance, silent

speed control and long life expectancy in a product which is the same size as the power hungry AC products it replaces.

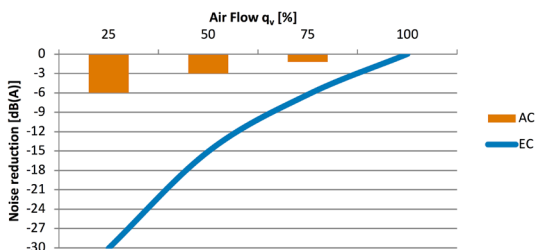
More information and case studies are available on ECupgrades.com.au.

Power Consumption



Low energy consumption: The bars show the power input of fans that are activated incrementally as needed. The air performance is reduced by 50% if 50% of the fans are shut off. The blue line shows the power input with continuous speed adjustment. If all EC fans are reduced to 50% of their maximum speed, the power is reduced by 87.5%, compared to 50% reduction when half of the AC fans are turned off.

Noise reduction



Lower noise: While shutting off half of the fans (one-half of the air flow) decreases the noise level by only about 3 dB. When reducing the speed of all fans to 50% of the maximum speed, the noise is reduced by 15dB(A).

Fan Identification

Helpful hints for fan identification

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1. What does the impeller look like?

Looks like a propeller	Axial (A, B or C)
Looks like a rotating drum	Centrifugal or radial (D, E or F)

2. What is the diameter of the impeller?

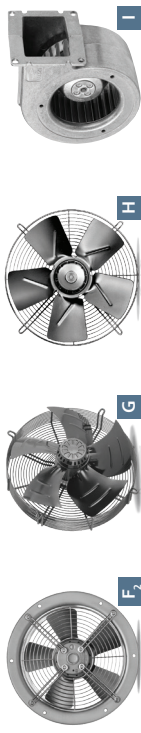
Axial	
Up to 1600mm	
Radial	
Up to 1250mm	

3. What do the blades look like?

Axial	
Straight blades (typically 5 blades)	'A' Blades (A)
Sickle shaped blades (5, 7 or 9 blades)	'S' Blades (B)
HyBlade (3 or 5 blades, plastic)	HyBlade (C)
Radial	
Few blades	Backward curved centrifugal (D or F)
Many Blades	Forward curved centrifugal (E)



4. What is the material of the blades?		
Axial		
Die-cast alloy	'S' Blade (bolted fastening) (A)	
Welded sheet steel	(B ₁ or B ₂)	
HyBlade (composite plastic)	(C)	
Radial		
Plastic	(D, K or L)	
Aluminum	(E, I or J)	
5. What is the mounting Style or Housing?		
Axial		
Wall plate square or round	(F ₁ or F ₂)	
Basket grille	(G)	
Flat grille	(H)	
No mounting	(A, B or C)	
Radial		
No housing	(Commonly) backward curved (D or E)	
Housing	(Commonly) forward curved (I, J, K or L)	
Scroll housing 1 inlet	(I)	
Scroll housing 2 inlets	(J, K or L)	



What fan is that?

Helpful hints for fan identification

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6. Is it an AC or EC Motor (EC has electronics built into the back of the motor)?

AC (A)

EC (B)

7. Which way does the air flow?

Axial

When looking at rotor (spinning part) does the air:

Blow towards you?

Airflow 'A'

Blow away from you?

Airflow 'V' (out over mounting brackets)

Radial

At 90° angle to the motor



A



B

8. What is the power supply (Lead count is not an indication)	
Single-phase (230V), three-phase (400V) or DC	
If a capacitor is present	Single-phase
Other voltage may apply if from imported equipment	
9. Is the equipment manufactured locally or overseas	
Imported equipment	We can only offer the closest alternative
Local equipment	We may be able to find the model depending on the brand
10. What is the fan speed? (Customers may not know this if the label has worn off)	
~2800rpm	2 pole
~1440rpm	4 pole
~960rpm	6 pole
~720rpm	8 pole
Not applicable to EC motors	

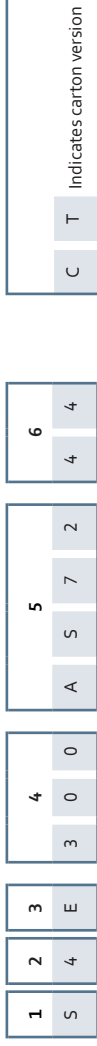
11. What is the application?
To better understand your needs, and to propose a suitable replacement, the more you know and can tell us about the application, the better we can help you.
Examples of typical applications:
Evaporator: cool room, freezer room, display cabinet
Condenser: rooftop, bottle cooler
Air conditioning: air handling unit (AHU), fan coil unit, supply/return air fans
Ventilation: exhaust, inline
High temperature application: oven, heater

Ebm-papst Axial and Radial/Centrifugal

Part number system

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	Axial fans	Radial/Centrifugal
1	A = Bare fan and motor S = With grille W = With wall plate M = Motor	R = Bare fan and motor D = Forward curved (double inlet) with housing G = Forward curved (single inlet) with housing K = Centrifugal assembly
2	2, 4, 6 or 8 = Number of poles (speed) 1 or 3 = 1 or 3 core EC products, it is not representative of speed	
3	D = Three-phase motor E = Single-phase motor G = EC motor S = Shaded pole motor Q = Square motor	
4	Impeller diameter	
5 6	Fan and motor configuration	

Part Number / Label Location

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AC axial – label



AC axial – print



Axial wall plate



AC double inlet

Part Number/Label Locations

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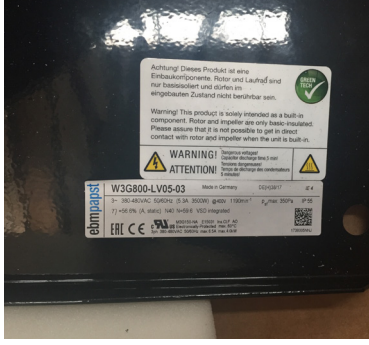
Compact fan



EC axial



EC axial wallplate – motor



EC axial wallplate – plate



EC double inlet



Radial cube design



Q-motor



EC spider mount

Axial Fans

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As the name suggests, Axial fans move air in an axial direction. Looking at the rotor, they can either push air away from you (V-flow) or towards you (A-flow).

Axial fans are typically used for high air volume, low pressure applications. With this fan type it is recommended to use a housing with full inlet nozzle as it provides the best aerodynamic performance. Not using a housing with full inlet nozzle can result in performance losses of 10-15%, a reduction in efficiency and an increase in noise.

Axial Fans

Motorised Impeller

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Dimensions

Part No.	Style	A	B	C	D	E
A2E200AK3801	S	198	61	48	64	450
A2E200AI3801	S	197	57	39	62	450
A4S200AH0401	S	197	54	39	62	450
A4S200AI0401	S	197	55	39	62	450
A2E250AL0601	S	251	52	34	72	450
A2E250AE6502	A	250	66	39	83	450
A4S250AH0201	S	251	52	34	72	450
A2E300AC4702	A	300	50	20	98	450
A4E300AS7201-CT0	HyBlade	300	71	58	73	450
A4E300AS7202-CT0	HyBlade	300	58	51	80	450
A4E350AA1032-CT0	A	353	91	70	102	350
A4E350AN0201	HyBlade	352	97	87	105	600
A4D400AP1620	S	392	94	68	117	2500
A6E400AP1012-CT0	S	392	86	88	104	1250
A4D450AO1401	HyBlade	446	103	96	148	JB
A4E450AO0909	HyBlade	446	103	96	148	600
A6E450AJ0811-CT0	S	446	100	93	122	1500
A6E450AQ0511-CT0	S	446	96	92	117	1500
A4D500AJ0301	HyBlade	497	108	105	124	JB
A6E500AJ0305-CT0	HyBlade	497	108	105	124	1800

JB = Junction Box



Part No.	Airflow Direction		Nominal Voltage		Frequency		Airflow at 0Pa		Nominal Data at		Speed		Power Input		Current Draw		Sound Pressure Level at 1m		Max. Perm. Amb. Temperature		Capacitor		Approximate Weight		Wiring Diagram		Motor Type																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	Style	V	Hz	m³/hr	FA	RPM	W	A	dB(A)	°C	µF/V	kg	A	dB(A)	°C	µF/V	kg	A1	A1	B	B	A1	A1	A1	A1	A1		A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1	A1

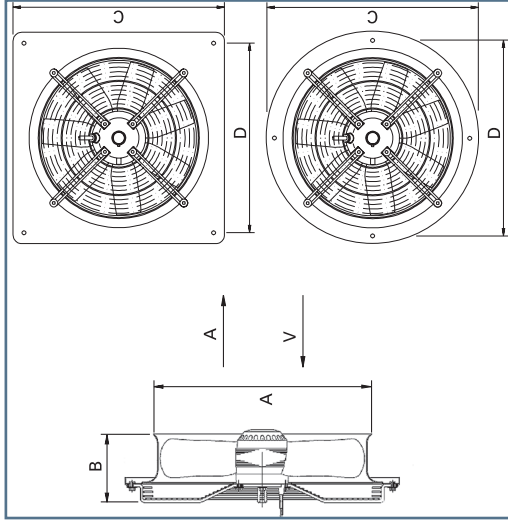
FA = Free air at 0Pa ML = Maximum load

Axial Fans

Axial Fans Square and Round Plate

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Round Wall Plate



Square Wall Plate

Round Plate Dimensions

Part No.	A	B	C	D
W2E200CH3801	200	80	280	250
W2E200CI3801	200	80	280	250
W4S200CI0401	200	80	280	250
W2E250CL0601	257	87	320	295
W2E250CE6502	257	85	320	295
W4S250CI0201	257	87	320	295
W2E300CC4702	326	80	397	380
W4E300CS72CT-001	326	113	397	380
W4E300CS72CT-002	327	113	397	380

Square Plate Dimensions

W2E200DH3801	200	64	312	260
W2E200DI3801	200	62	312	260
W4S200DI0401	200	62	312	260
W2E250DE6502	257	83	370	320
W4S250DI0201	256	73	370	320
W2E300DC4702	326	98	430	380
W4E300DS72CT-002	327	113	430	380

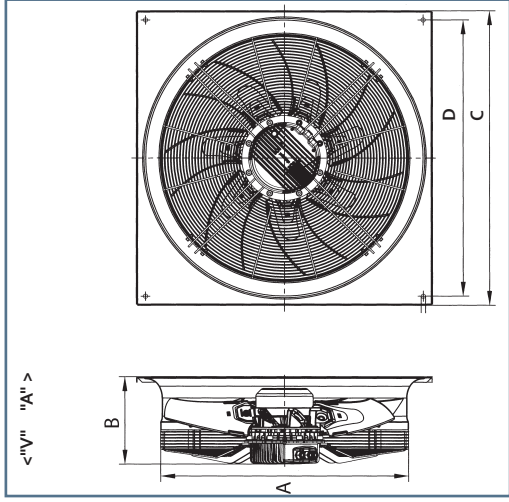
Round Plate		Square Plate		Airflow Direction		Nominal Voltage		Frequency		Airflow at 0Pa		Nominal Data at		Speed		Power Input		Current Draw		Sound Pressure Level at 1m		Max. Perm. Amb. Temperature		Capacitor		Approximate Weight		Wiring Diagram		Motor Type	
Part No.		Part No.				V		Hz		m³/hr				RPM		W		A		dB(A)		°C		µF/V		kg					
W2E200CH3801		W2E200DH3801		V		230		50		930		FA		2600		64		0.3		65		65		1.5/450		2.3		A1		AC	
W2E200CI3801		W2E200DI3801		A		230		50		890		FA		2600		64		0.3		65		65		1.5/450		2.4		A1		AC	
W4S200CI0401		W4S200DI0401		A		230		50		470		FA		1370		30		0.21		42		75		–		1.2		B		AC	
W2E250CL0601				V		230		50		1820		FA		2450		115		0.51		69		65		3.0/400		1.9		A1		AC	
W2E250CE6502		W2E250DE6502		A		230		50		1610		FA		2550		115		0.51		72		55		4.0/400		4.1		A1		AC	
W4S250CI0201		W4S250DI0201		A		230		50		1000		FA		1390		69		0.53		54		50		–		3.1		B		AC	
W2E300CC4702		W2E300DC4702		A		230		50		2440		FA		2650		140		0.62		75		55		5.0/400		4.7		A1		AC	
W4E300CS72CT-001				V		230		50		1800		ML		1320		72		0.32		53		50		2.0/400		3.7		A1		AC	
W4E300CS72CT-002		W4E300DS72CT-002		A		230		50		1800		ML		1320		72		0.32		53		50		2.0/4.00		4		A1		AC	

FA = Free air
ML = Maximum load

Axial Fans Large Square Plate

ebm

the engineer's choice



Dimensions

Part No.	A	B	C	D
W4D500GJ0311	542	176	600	560
W3G500GN3307	542	170	600	560
W3G500GM5694	542	170	656	615
W4D630GD0101	696	227	805	750
W3G630GU2301	696	250	805	750
W6D800KG1301	923	336	970	910
W8D800KG0101	923	336	970	910
W3G800KS3903	923	334	970	910
W3G800KU2103	923	334	970	910
W3G910KS3503	1022	338	1070	1010
W3G910KU2503	1022	338	1070	1010



Part No.	Airflow Direction	Nominal Voltage	Frequency	Airflow at 0Pa	Nominal Data at	Speed	Power Input	Current Draw	Sound Pressure Level at 1m	Max. Perm. Amb. Temperature	Approximate Weight	Wiring Diagram	Motor Type
	Style	V	Hz	m ³ /hr		RPM	W	A	dB(A)	°C	kg		
W4D500GJ0311	HyBlade	V	400 Δ /400Y	50	9030/7670	ML	1340/1060	710/480	1.4/0.8	64 / 58	60	F1b / F2b	AC
✓ W3G500GN3307	HyBlade	V	380-480	50/60	10390	ML	1600	980	1.6	68	60	L2	EC
✓ W3G500GM5694	HyBlade	V	200-277	50/60	9245	ML	1420	750	3.4	66	60	L7	EC
W4D630GD0101	HyBlade	V	400 Δ /400Y	50	19890 /16680	ML	1320/1050	2630/1750	4.78/2.95	73/67	60	F1b / F2b	AC
✓ W3G630GU2301	HyBlade	V	380-480	50/60	21190	ML	1510	3200	5	78	65	L5	EC
W6D800KG1301*	AxiBlade	V	400 Δ /400Y	50/50	23030/19070	ML	870/650	1430/840	2.8/1.6	74/64	60/60	F1b / F2b	AC
W8D800KG0101*	AxiBlade	V	400 Δ /400Y	50/60	17890/15590	ML	680/540	730/460	2.0/0.96	65/58	60/60	F1b / F2b	AC
✓ W3G800KS3903	AxiBlade	V	380-480	50/60	25740	ML	940	1950	3.1	79	60	RP6	EC
✓ W3G800KU2103	AxiBlade	V	380-480	50/60	29510	ML	1080	2900	4.4	85	60	RP6	EC
✓ W3G910KS3503	AxiBlade	V	380-480	50/60	29145	ML	850	1770	2.8	79	60	RP6	EC
✓ W3G910KU2503	AxiBlade	V	380-480	50/60	33630	ML	980	2250	3.9	75	60	RP6	EC

FA = Free air

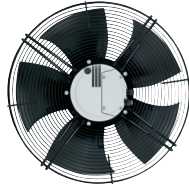
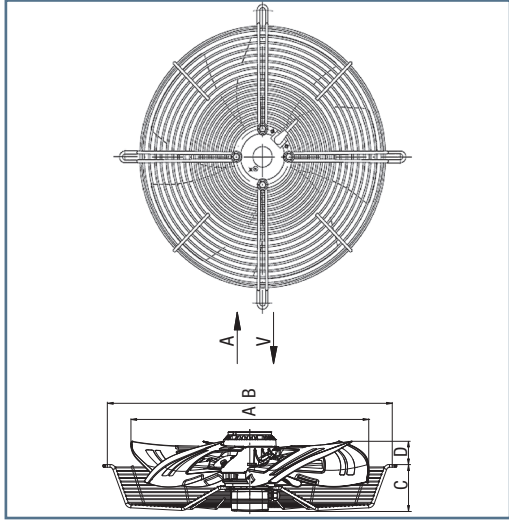
ML = Maximum load

*Data shown is for 50Hz Δ/Y

Axial Fans Basket Grille

ebm
papst

the engineer's choice



Dimensions

Part No.	A	B	C	D
S2D170BA0406	170	220	4	63
S4E300AR26CT-002	300	360	100	49
S4E300AS72CT-001	300	360	115	23
S4E300AS72A2-CT0	300	360	99.5	49.4
S1G300FO0111-CT0	300	360	68.5	33.8
S3G300AK1358-CT0	300	360	116	28
S3G300AK1360-CT0	300	360	126	28
S4E350AN02CT-048	352	422	122	55
S4E350AN02CT-060	352	442	111	65
S3G350AN01CT-002	352	442	116	56
S3G350AP0160-CT0	352	422	126	58



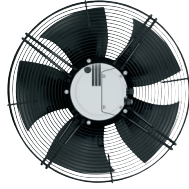
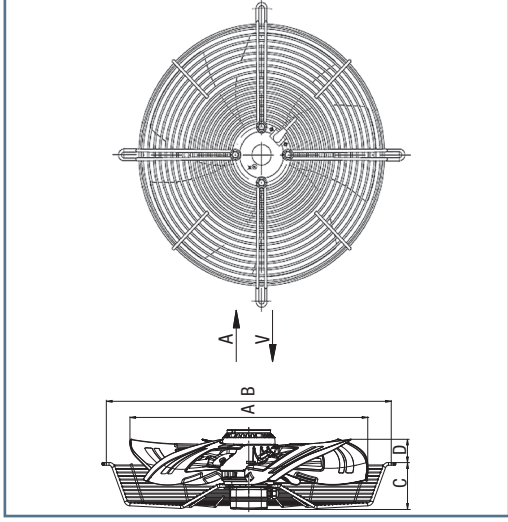
Part No.	Style	Airflow Direction	Nominal Voltage	Frequency	Airflow at 0Pa	Nominal Data at	Speed	Power Input	Current Draw	Sound Pressure Level at 1m	Max. Perm. Amb. Temperature	Capacitor	Approximate Weight	Wiring Diagram	Motor Type
S2D170BA0406	A	V	400Y	50	470	FA	2750	45	0.13	64	75	—	1.4	C2	AC
S4E300AR26CT-002	S	V	230	50	1935	FA	1380	70	0.32	59	55	2.0/400	3.1	A1	AC
S4E300AS72CT-001	HyBlade	V	230	50	1800	ML	1330	70	0.31	53	40	2.0/400	3	A1	AC
S4E300AS72A2-CT0	HyBlade	A	230	50/60	1800	ML	1320	72	0.32	53	50	2.0/4.00	2.9	A1	AC
S1G300FO111-CT0	HyBlade	V	200-240	50/60	1550	ML	1250 (high speed)	62	0.55	56	40	—	1.6	ESM	EC
S3G300AK1358-CT0	HyBlade	V	200-240	50/60	1975	ML	1360	60	0.53	54	60	—	2.5	H3	EC
S3G300AK1360-CT0	S	V	200-240	50/60	2265	ML	1500	85	0.8	58	60	—	2.7	H4	EC
S4E350AN02CT-048	HyBlade	V	230	50	3305	ML	1340	165	0.73	56	40	4.0/400	5.1	A1	AC
S4E350AN02CT-060	HyBlade	V	230	50	3305	ML	1340	165	0.73	56	40	4.0/400	5.1	A1	AC
S3G350AN01CT-002	S	V	200-240	50/60	3420	ML	1450	160	1.3	57	40	—	3.7	H3	EC
S3G350AP0160-CT0	S	V	200-240	50/60	3925	ML	1475	165	1.35	57	60	—	4.3	H4	EC

FA = Free air
ML = Maximum load

Axial Fans Basket Grille

ebm
papst

the engineer's choice



Dimensions

Part No.	A	B	C	D
S4E400AP0244-CT0	392	470	117	67
S4E450AU0337-CT0	445	522	116	57
S4E450BU0335-CT0	445	522	36	107
S4D500AM0301-CT0	497	565	126	84
S4E500AM0301-CT0	497	565	126	84
S3G500AM56CT-001	497	565	108	64
S6E560AN0101	552	700	102	108
S6D630AN0101	626	750	124	86
S6E630AN0101	626	750	124	86
S3G630AU2301	627	750	178	76
S6E710AR0301	703	853	155	70

Part No.	Style	Airflow Direction	Nominal Voltage	Frequency	Airflow at 0Pa	Nominal Data at	Speed	Power Input	Current Draw	Sound Pressure Level at 1m	Max. Perm. Amb. Temperature	Capacitor	Approximate Weight	Wiring Diagram	Motor Type
S4E400AP0244-CT0	S	V	230	50	4235	FA	1430	160	0.73	67	60	6.0/400	6.1	A1	AC
S4E450AU0337-CT0	S	V	230	50	5770	ML	1300	350	1.55	70	55	8.0/400	7	A1	AC
S4E450BU0335-CT0	S	V	230	50	5770	ML	1300	350	1.55	-	55	8.0/450	6.3	A1	AC
S4D500AM0301-CT0	HyBlade	V	400Δ /400Y	50	9195/8255	ML	1390/1180	720/550	1.41/0.9	65/62	65	-	13	F1b/F2b	AC
S4E500AM0301-CT0	HyBlade	V	230	50	8905	ML	1300	680	3	65	65	12.0/450	13	A2b	AC
✓ S3G500AM56CT-001	HyBlade	V	200-277	50/60	9245	ML	1420	750	3.4	66	60	-	10.5	L1	EC
S6E560AN0101	HyBlade	V	230	50	8105	ML	920	390	1.78	61	75	10.0/400	14.5	A2b	AC
S6D630AN0101	HyBlade	V	400Δ /400Y	50	11270/9620	ML	890/690	600/400	1.2/0.68	60/55	65	-	14	F1b/F2b	AC
S6E630AN0101	HyBlade	V	230	50	11020	ML	860	600	2.62	61	55	14.0/400	14	A2b	AC
✓ S3G630AU2301	HyBlade	V	380-480	50/60	21190	ML	1510	3200	5	78	65	-	32.4	L5	EC
S6E710AR0301	HyBlade	V	230	50	11700	ML	900	630	2.79	70	65	14.0/450	19.3	A2b	AC

FA = Free air
ML = Maximum load

Axial Fans Compact Range

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Dimensions

Part No.	Case Style	A	B	C	D
8314	B	80	32	72	5
8556N	B	80	38	72	3
3956	B	92	25	83	4
4412FM-CT0	B	119	25	105	4
9956-CT1	B	119	25	105	4
4314-CT0	B	119	32	105	5
4184NX-CT1	B	119	38	105	6
4650Z-CT1	B	119	38	105	10
4650N-CT1	B	119	38	105	6
4656Z-CT1	B	119	38	105	10
4656N-CT1	B	119	38	105	6
ACI4420HHR-CT1	B	119	38	105	6
5958	B	127	38	113	7
7214N	A	150d	55	162d	6
6224N	C	172d	51	162d	–
W2S130AA0363	A	150d	55	162d	6
W2S130BM0301	A	150d	55	162d	6
W1G130AA2511	A	150d	58	162	10
W2E142BB0101	A	153d	38	162d	11
W2E200HK3801	D	225	80	170	7



A



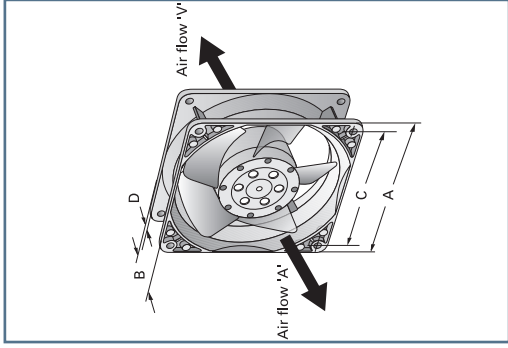
B



C



D



	Part No.	Airflow Direction	Nominal Voltage	Frequency	Airflow at 0Pa m ³ /hr	Speed RPM	Power Input W	Sound Pressure Level at 1m dB(A)	Max. Perm. Amb. Temperature °C	Approximate Weight kg	Lead	Motor Type
✓	8314	V	24	–	54	3300	2.7	36	75	0.17	310	DC
	8556N	V	230	50	50	2800	12	31	90	0.49	310	AC
	3956	V	230	50	59	2650	11	35	80	0.28	PIN	AC
✓	4412FM-CT0	V	12	–	140	2400	3.2	38	75	0.175	310	DC
	9956-CT1	V	230	50	117	2450	14	37	70	0.8	PIN	AC
✓	4314-CT0	V	24	–	170	2800	5	45	75	0.22	310	DC
✓	4184NX-CT1	A	24	–	180	3200	4.9	49	70	0.39	PIN	DC
	4650Z-CT1	V	230	50	160	2650	19	40	50	0.54	PIN	AC
	4650N-CT1	A	230	50	160	2650	19	46	55	0.55	PIN	AC
	4656Z-CT1	V	230	50	160	2650	19	40	75	0.54	PIN	AC
	4656N-CT1	A	230	50	160	2650	19	47	85	0.55	PIN	AC
✓	ACi4420HHR-CT1	V	195-265	50/60	180	3350	4.4	42	75	0.25	PIN	EC
	5958	V	230	50	180	2750	18	44	60	0.57	PIN	AC
✓	7214N	V	24	–	360	3050	12	53	72	0.725	365	DC
✓	6224N	V	24	–	410	3400	18	55	72	0.82	PIN	DC
	W25130AA0363	V	230	50	340	2800	45	49	50	1.13	1500	AC
	W25130BM0301	A	230	50	385	2700	47	60	50	1.1	330	AC
✓	W1G130AA2511	V	230	50/60	370	3200	23	55	70	0.8	1500	EC
	W2E142BB0101	V	230	50	320	2800	27	51	55	0.8	PIN	AC
	W2E200HK3801	V	230	50	880	2550	64	58	60	2.1	Terminal	AC

PIN connectors require separate lead. LZ126 Lead + Plug 1000mm

Axial Fans

Axial Fans ESM Fans

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Dimensions

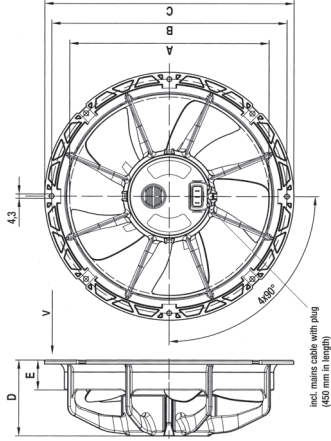
Part No.	Type	A	B	C	D	E
✓ W1G172EC9101-CT0	standard	172	208	222	78.5	35
✓ W1G200EC9110-CT0	truncated	200	236	250	78.5	40
✓ W1G200EC9145-CT0	standard	200	236	250	78.5	40
✓ W1G230EB9122-CT2	truncated	250	266	280	78.5	50



Standard



Truncated



Part No.	Airflow Direction	Nominal Voltage	Frequency	Airflow at 0Pa	Speed	Power Input	Current Draw	Sound Pressure Level at 1m	Max. Perm. Amb. Temperature	Speed Step	Approximate Weight	Wiring Diagram	Motor Type
✓ W1G172EC9101-CT0	V	230	50/60	525	2500	22	0.18	54	50	high-low	0.8	ESM	EC
✓ W1G200EC9110-CT0	V	230	50/60	750	2100	31	0.24	54	50	high-low	1	ESM	EC
✓ W1G200EC9145-CT0	V	230	50/60	750	2100	31	0.24	54	50	high-low	1	ESM	EC
✓ W1G230EB9122-CT2	V	230	50/60	1060	1600	32	0.3	n/a	50	high-low	1	ESM	EC

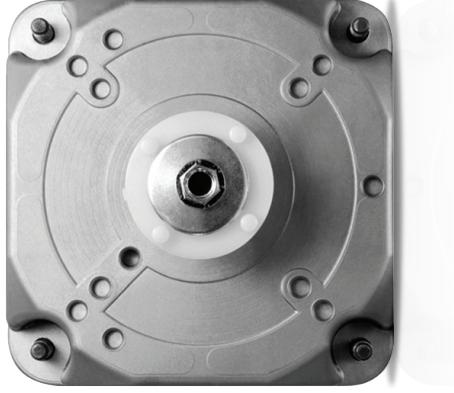
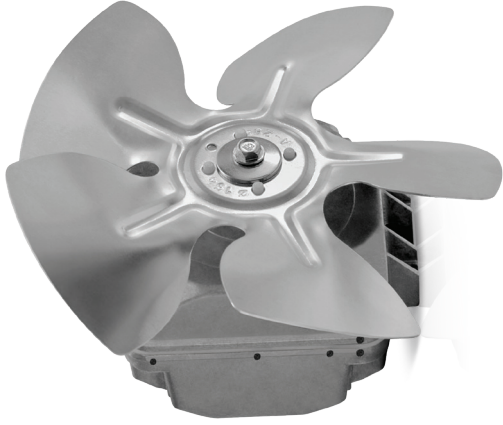
ebm-papst energy-saving motors (ESM fans) have 2 programmable speeds with a motor and electronics system that is robust, maintenance-free and durable. ESM fans are designed for refrigeration applications, especially for display cases and bottle cooler evaporators.

Motors

iQ- and Q-Motors

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the engineer's choice



The iQ-motor has been designed as a high efficiency replacement for the existing Q-motors currently used in many different applications. With up to 93% power savings there is an iQ-motor suitable for almost all replacement applications.

One iQ-motor part number can replace several Q-motor part numbers.

The iQ3612 and iQ3612 can replace all 5W, 7W and 10W Q-motors.

The iQ3620 can replace all 16W and 18W Q-motors as well as 23W, 25W and 34W Q-motors up to a certain impeller size. For details, refer to page 38.

Technical Data
Typical iQ-motor
combined with different
axial impellers (speed
1,300 RPM)

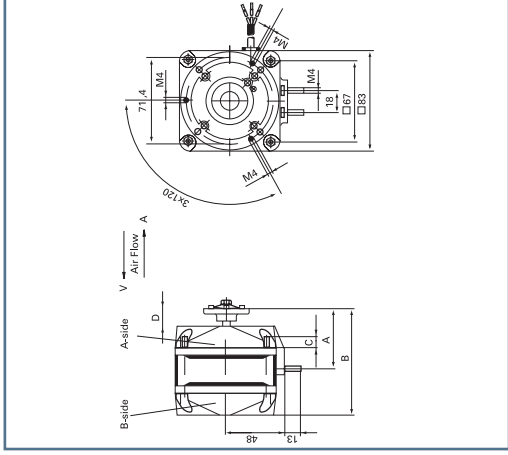
mm	Airflow @ 0Pa*			SAVE			Airflow @ 0Pa*			SAVE			Airflow @ 0Pa*			iQ-Motor Power Consumption			iQ-Motor Power Consumption			SAVE			Airflow @ 0Pa*			iQ-Motor Power Consumption			iQ-Motor Power Consumption			SAVE		
	m³/h	W	W	%			m³/h	W	W	%			m³/h	W	W	%			m³/h	W	W	%			m³/h	W	W	%			m³/h	W	W	%		
Impeller diameter	Blade pitch 22 degrees						Blade pitch 28 degrees						Blade pitch 34 degrees																							
154	170	2	29	93%			190	2.8	29	90%			220	3.3	29	89%			220	3.3	29	89%			220	3.3	29	89%			220	3.3	29	89%		
172	230	2.6	29	91%			270	2.9	29	90%			310	3.8	29	87%			310	3.8	29	87%			310	3.8	29	87%			310	3.8	29	87%		
200	360	3.4	31	89%			410	5.3	31	83%			470	7.3	31	76%			470	7.3	31	76%			470	7.3	31	76%			470	7.3	31	76%		
230	520	6	36	83%			710	13.1	36	64%			750	16.9	36	53%			750	16.9	36	53%			750	16.9	36	53%			750	16.9	36	53%		
254	710	11.3	58	81%			980	23.1	58	60%			1010	28.4	62	54%			1010	28.4	62	54%			1010	28.4	62	54%			1010	28.4	62	54%		
300	1380	24.3	62	61%																																

*Free airflow with wall ring

Motors iQ- and Q-Motors

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Q motor



iQ motor



iOC motor

Dimensions

Part No.	A	B	C+D
M4Q045BD0138-CT0	42	76	27
M4Q045CA0138-CT0	42	82	25
M4Q045CA0172A01-CT0	42	82	25
M4Q045CA0338A01-CT0	42	82	25
M4Q045CA0375B01-CT0	42	82	25
iQ3612-00-CT0	43.5	82	27
iOC3612-00-CT0	43.5	85	30.5
M4Q045CF0138-CT0	42	87	25
M4Q045CF0175B01-CT0	42	87	25
M4Q045DA0538-CT0	54	93	25
M4Q045DA0575B01-CT0	54	93	25
M4Q045EA0138-CT0	59	103	26
iQ3620-01-CT0	43.5	82	27
M4Q045EF0138-CT0	79	125	43
M4Q045EF0175B01-CT0	79	125	43

See page 39 for impeller sizes

Part No.	Direction of Rotation	Power Output		Voltage		Frequency		Speed		Power Input		Current		Bearing		Max. Perm. Amb. Temperature		Approximate Weight		Lead Length		Motor Type
		W		V		Hz		RPM		W		A				°C		kg		mm		
M4Q045BD0138-CT0	CCW	5		230		50		1300		29		0.19		GK		40		0.9		450		AC
M4Q045CA0138-CT0	CCW	7		230		50		1300		31		0.2		GK		40		1.1		450		AC
M4Q045CA0172A01-CT0	CCW	7		230		50		1300		31		0.2		GK		40		1.1		380		AC
M4Q045CA0338A01-CT0	CCW	10		230		50		1300		36		0.25		GK		40		1.2		450		AC
M4Q045CA0375B01-CT0	CCW	10		230		50		1300		36		0.25		GK		40		1.2		1500		AC
✓ iQ3612-00-CT0*	CCW	≤15		220-240		50/60		1300		23		≤0.2		KL		50		0.6		1500		EC
✓ iQ3612-00-CT0*	CCW	≤15		220-240		50/60		1300/1500		20/22		0.18/0.19		KK		50		0.5		2000		EC
M4Q045CF0138-CT0	CCW	16		230		50		1300		60		0.42		GK		40		1.3		450		AC
M4Q045CF0175B01-CT0	CCW	16		230		50		1300		60		0.42		GK		40		1.3		1500		AC
M4Q045DA0538-CT0	CCW	23		230		50		1300		86		0.62		KL		40		1.6		450		AC
M4Q045DA0575B01-CT0	CCW	23		230		50		1300		86		0.62		KL		40		1.6		1500		AC
M4Q045EA0138-CT0	CCW	25		230		50		1300		90		0.62		KL		40		2		450		AC
✓ iQ3620-01-CT0	CCW	≤25		220-240		50/60		1300		32		≤0.22		KL		50		0.8		1500		EC
M4Q045EF0138-CT0	CCW	34		230		50		1300		110		0.75		KL		40		2.2		450		AC
M4Q045EF0175B01-CT0	CCW	34		230		50		1300		110		0.75		GK		40		2.2		1500		AC

KL = Ball bearing

GK = Sleeve bearing

*Also available with Lyall and AMP plug connector on request

Motors

Motors

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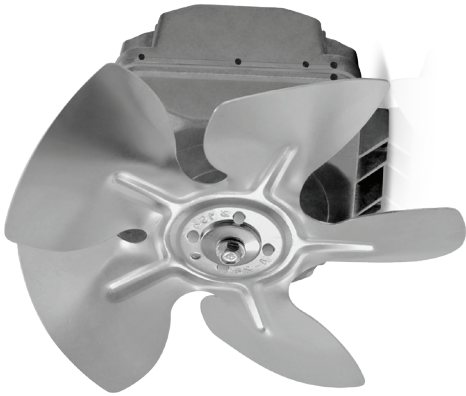
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Recommended Impellers

[illegible]

Impeller Part Number

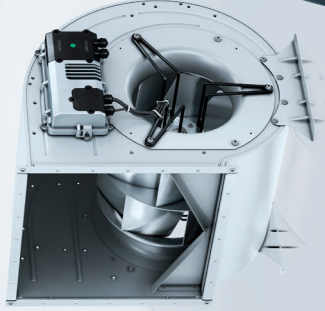
Part No. 'V' Flow	Part No. 'A' Flow	Size & Blade Angle
73801-2-3634	73761-2-3634	154mm 22° ± 1°30'
73802-2-3634	73762-2-3634	154mm 28° ± 1°30'
73803-2-3634	73763-2-3634	154mm 34° ± 1°30'
73804-2-3634	73764-2-3634	172mm 22° ± 1°30'
73805-2-3634	73765-2-3634	172mm 28° ± 1°30'
73806-2-3634	73766-2-3634	172mm 34° ± 1°30'
73807-2-3634	73767-2-3634	200mm 22° ± 1°30'
73808-2-3634	73768-2-3634	200mm 28° ± 1°30'
73809-2-3634	73769-2-3634	200mm 34° ± 1°30'
73810-2-3634	73770-2-3634	230mm 22° ± 1°30'
73811-2-3634	73771-2-3634	230mm 28° ± 1°30'
73812-2-3634	73772-2-3634	230mm 34° ± 1°30'
73813-2-3634	73773-2-3634	254mm 22° ± 1°30'
73814-2-3634	73774-2-3634	254mm 28° ± 1°30'
73815-2-3634	73775-2-3634	254mm 34° ± 1°30'
73816-2-3634	73776-2-3634	300mm 22° ± 1°30'
73817-2-3634	73777-2-3634	300mm 28° ± 1°30'
73818-2-3634	73778-2-3634	300mm 34° ± 1°30'



Radial Fans

ebm**papst**

the engineer's choice





The air intake of a radial fan runs in parallel with the shaft. The air flow is then diverted by 90° in the impeller and discharged in a centrifugal direction.

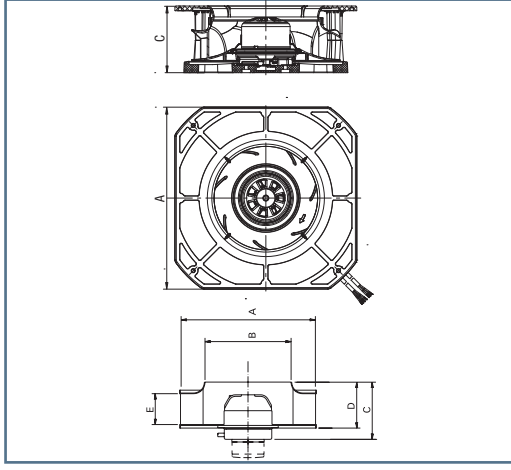
Backward curved fans have a free-running impeller and do not need a scroll housing. Backward curved fans are typically used for applications with medium air volume and medium to high back pressure. It is always recommended to use backward curved fans with inlet rings.

In contrast to backward curved fans, forward curved fans must have a scroll housing for optimum air flow. The housing can either have single inlet, meaning air intake only from one side, or double inlet, with air intake from 2 sides. Due to the requirement of a housing and air direction, forward curved fans are often also called forward curved blowers.

Radial Fans Backward Curved

ebm

the engineer's choice



Dimensions

Part No.	Type	A	B	C	D
R2S133AE1705-CT0	A	133	93	91	61
R1G175AB6359-CT0	A	175	131	69	62
R2E180CB2809-CT0	A	180	132	55	48
R2E190RA2651-CT0	A	190	132	69	63
R3G190RB0101-CT0	A	190	133	69	63
R3G190RD4503	A	190	133	91	63
K3G190RD4509	B	226	133	102	63
R2E220RA3801-CT0	A	220	161	71	63.7
R3G220RC0503-CT0	A	220	161	71	64
K3G220RD5303	B	270	161	111	64
R2E225RA9209-CT0	A	225	154	99	88
R3G225RE0703	A	225	154	101	88
K3G225RE0703	B	270	154	131	88
R2E250RA5001	A	250	173	99	85
R4E250RA0105	A	250	173	93	85
R2E280AE5205	A	281	191	125	82
R4E280AD0805	A	281	191	125	112
R3G280RR03H1	A	294	188	190	127



A



B

Part No.	Direction of Rotation	Nominal Voltage	Frequency	Airflow at 0Pa	Nominal Data at	Speed	Power Input	Current Draw	Sound Pressure Level at 1m	Max. Perm. Amb. Temperature	Capacitor	Approximate Weight	Wiring Diagram	Motor Type
V	Hz	m³/hr	FA	RPM	W	A	dB(A)	°C	µF/V	kg				
R2S133AE1705-CT0	CW	230	50	280	FA	2780	36	0.25	55	40	-	0.9	B	AC
R1G175AB6359-CT0	CW	24	-	555	FA	3100	34	1.6	n/a	60	-	0.85	n/a	EC
R2E180CB2809-CT0	CW	230	50	440	FA	2550	60	0.28	n/a	40	1.5/450	1.4	A1	AC
R2E190RA2651-CT0	CW	240	50	540	ML	2400	50	0.25	54	55	1.5/450	1.2	A1	AC
R3G190RB0101-CT0	CW	200-240	50/60	640	ML	2710	57	0.43	60	60	-	1	H3	EC
R3G190RD4503	CW	200-240	50/60	975	ML	4120	169	1.35	66	60	-	1.38	H4	EC
K3G190RD4509	CW	200-240	50/60	975	ML	4120	169	1.35	63	60	-	2	H4	EC
R2E220RA3801-CT0	CW	230	50/60	885	ML	2100	88	0.39	52	50	2.0/450	1.3	A1	AC
R3G220RC0503-CT0	CW	200-240	50/60	1015	ML	2580	85	0.7	n/a	60	-	1.13	H4	EC
K3G220RD5303	CW	200-240	50/60	1290	ML	3230	168	1.4	66	45	-	2.1	H4	EC
R2E225RA9209-CT0	CW	230	50	1195	ML	2500	155	0.68	63	70	3.5/450	2.3	A1	AC
R3G225RE0703	CW	200-240	50/60	1300	ML	2860	170	1.4	60	60	-	1.75	H4	EC
K3G225RE0703	CW	200-240	50/60	1300	ML	2860	170	1.4	60	60	-	2.5	H4	EC
R2E250RA5001	CW	230	50	1420	ML	2500	210	0.93	58	70	5.0/400	2.9	A1	AC
R4E250RA0105	CW	230	50	775	ML	1350	47	0.22	43	55	1.5/400	1.9	A1	AC
R2E280AE5205	CW	230	50	2110	FA	2700	225	1	n/a	40	7.0/400	3.5	A1	AC
R4E280AD0805	CW	230	50	1425	FA	1420	78	0.35	n/a	40	2.5/450	3.18	A1	AC
R3G280RR03H1	CW	200-277	50/60	3415	ML	2700	500	2.2	66	60	-	5	P5	EC

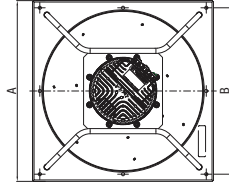
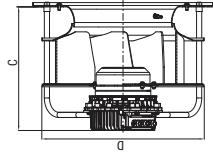
FA = Free air

ML = Maximum load

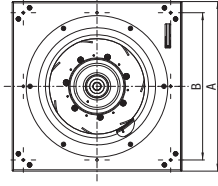
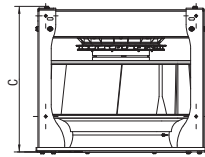
Radial Fans Backward Curved

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Cube design (C)



Spider mount (K)

Dimensions

Part No.	Type	A	B	C	D
✓ K3G250PR04H2	K	400	350	235	298
✓ K3G250PR1719	K	400	350	251	270
✓ K3G280PR0412	K	400	350	259	294
✓ K3G310AZ8802	K	500	450	328	360
✓ K3G355PH4932	K	500	450	398	405
✓ K3G400PI9202	K	500	450	446	455
✓ K3G450PA23B1	K	630	580	477	530
✓ K3G450PA3103	K	630	580	440	530
✓ K3G500PA2371	K	630	580	508	585
✓ K3G500PB2403	K	630	580	471	585
✓ K3G500PB3331	K	630	580	587	585
✓ K3G560RB3175	K	800	750	415	570
✓ K3G560PC0431	K	800	750	658	655
✓ K3G630RB3271	K	800	750	463	660
✓ K3G630PV0401	C	760	666	664	716
✓ K3G710PV0501	C	960	880	749	806
✓ K3G800PV1301	C	960	880	858	909
✓ K3G900AR1001	C	1180	950	748	n/a

Part No.	Direction of Rotation		Nominal Voltage		Frequency		Airflow at 0Pa		Nominal Data at		Speed		Power Input		Current Draw		Sound Pressure Level at 1m	Max. Perm. Amb. Temperature	Cable Glands	Anti-Vibration Mount	Approximate Weight	Wiring Diagram	Motor Type
	V	Hz	m³/hr	RPM	W	A	dB(A)	°C	kg														
✓ K3G250PR04H2	CW	200-277	50/60	2990	ML	3080	500	2.3	66	40	-	No	No	8.8	P5 (RP3)	EC							
✓ K3G250PR1719	CW	200-277	50/60	3435	ML	3450	750	3.3	73	40	-	No	No	9.5	P5 (RP3)	EC							
✓ K3G280PR0412	CW	200-277	50/60	4000	ML	3000	750	3.3	69	45	-	No	No	9.1	P5 (RP3)	EC							
✓ K3G310AZ8802	CW	380-480	50/60	6230	ML	4100	3240	4.9	84	40	CFK001	No	No	25	M3 (RP1)	EC							
✓ K3G355PH4932	CW	380-480	50/60	7230	ML	2870	1900	3.0	73	55	CFK001	No	No	25	M3 (RP1)	EC							
✓ K3G400PI9202	CW	380-480	50/60	10020	ML	2450	2500	3.8	74	40	CFK001	No	No	26	M3 (RP1)	EC							
✓ K3G450PA23B1	CW	380-480	50/60	12265	ML	2140	2900	4.5	74	60	CFK001	No	No	37	M5 (RP2)	EC							
✓ K3G450PA3103	CW	380-480	50/60	14000	ML	2480	4500	6.8	78	40	-	No	No	33.2	RP6	EC							
✓ K3G500PA2371	CW	380-480	50/60	15200	ML	1910	3450	5.3	76	40	CFK001	No	No	38.7	M5 (RP2)	EC							
✓ K3G500PB2403	CW	380-480	50/60	15935	ML	2000	4200	6.4	79	45	-	No	No	43.3	RP6	EC							
✓ K3G500PB3331	CW	380-480	50/60	18160	ML	2250	5700	9.0	80	40	CFK002	No	No	45.5	M3 (RP1)	EC							
✓ K3G560RB3175	CW	380-480	50/60	14335	ML	1650	2900	4.43	69	55	CFK001	No	No	42.6	M5 (RP2)	EC							
✓ K3G560PB33103	CW	380-480	50/60	19300	ML	1700	4400	6.6	75	40	-	No	No	53.3	RP6	EC							
✓ K3G560PC0431	CW	380-480	50/60	21265	ML	1760	5000	7.7	77	40	CFK002	No	No	68	M3 (RP1)	EC							
✓ K3G630RB3271	CW	380-480	50/60	16845	ML	1300	2800	4.2	70	55	CFK001	No	No	55	M5 (RP2)	EC							
✓ K3G630PV0401	CW	380-480	50/60	25220	ML	1750	7060	10.8	78	40	CFK002	Yes	Yes	97.3	M3 (RP1)	EC							
✓ K3G710PV0501	CW	380-480	50/60	30565	ML	1430	7050	10.7	76	40	CFK002	Yes	Yes	128.7	M3 (RP1)	EC							
✓ K3G800PV1301	CW	380-480	50/60	37840	ML	1215	7950	12.1	76	40	CFK002	Yes	Yes	148.3	M3 (RP1)	EC							
✓ K3G900AR1001	CW	380-480	50/60	39435	ML	860	7520	11.5	73	40	CFK002	Yes	Yes	222	M3 (RP1)	EC							

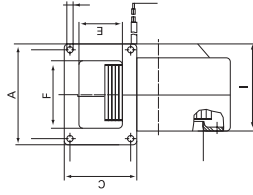
FA = Free air
ML = Maximum load

Radial Fans

Radial Fans Forward Curved - Single Inlet

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Dimensions

Part No.	A	C	E	F	I	K	M
G2E120CR2603	110	98	67.5	77	99	171	180
G2E140AI2801	130	120	92	94	100	227	248
G2E160AY4701	130	120	92	94	100	227	248

Part No.	Direction of Rotation	Nominal Voltage	Frequency	Airflow at 0Pa	Nominal Data at	Speed	Power Input	Current Draw	Max. Perm. Amb. Temperature	Capacitor	Approximate Weight	Wiring Diagram	Motor Type
G2E120CR2603	CW	240	50	290	FA	2200	80	0.34	60	2.0/450	1.9	A1	AC
G2E140A12801	CW	230	50	500	FA	2400	160	0.7	70	4.0/400	3.5	A1	AC
G2E160AY4701	CW	230	50	590	FA	2100	240	1.05	50	6.0/400	4	A1	AC

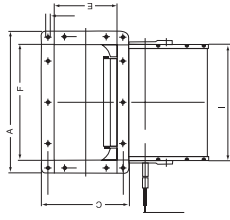
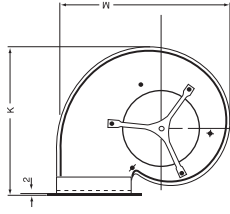
FA = Free air
ML = Maximum load

Radial Fans

Forward Curved - Double Inlet

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the engineer's choice



A



B



C



D

Dimensions

Part No.	Case Style	A	C	E	F	I	K	M
D2E133DM4701-CT0	B	-	-	104	232	232	203	213
D2E133AM8398-CT0	B	-	-	71	215	215	171	180
D2E146AP4722-CT0	C	270	142	102	233	232	205	219
D4E146AA0702-CT0	B	-	-	104	232	232	205	219
D3G146LV1330-CT2	D	272	116	98	226	244	202	209
D2E146HS9704-CT2	A	173	162	150	Round	194	220	216
D2E146HT6701-CT2	A	173	162	150	Round	199	223	216



Type A and D require plug and lead option

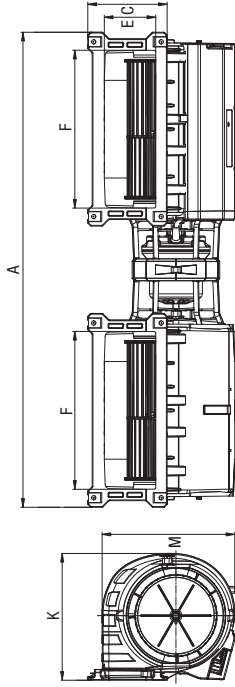
Part No.	Nominal Voltage		Frequency		Airflow at 0Pa		Nominal Data at		Speed		Power Input		Current Draw		Sound Pressure Level at 1m		Max. Perm. Amb. Temperature		Capacitor		Approximate Weight		Wiring Diagram		Motor Type	
	V	Hz	m³/hr		RPM	W	A	dB(A)	°C	µF/V	kg															
D2E133DM4701-CT0	230	50	760	ML	1650	175	0.78	58	40	3.0/450	3.8	A1	AC													
D2E133AM8398-CT0	230	50	705	FA	1500	185	0.81	60	35	3.0/500	3.7	ebm-5-speed	AC													
D2E146AP4722-CT0	230	50	970	ML	2050	300	1.31	63	30	8.0/400	4.4	A1	AC													
D4E146AA0702-CT0	230	50	835	FA	1000	100	0.44	55	50	2.0/450	3.3	A1	AC													
D3G146LV1330-CT1	200-240	50/60	1155	FA	1550	167	1.3	61	60	-	2.9	H6	EC													
D2E146HS9704-CT1	230	50	760	FA	1350	195	0.86	57	45	5.0/400 (P2)	3.4	ebm-4-speed	AC													
D2E146HT6701-CT1	230	50	1060	ML	1850	355	1.55	66	55	8.0/450 (P2)	3.44	ebm-4-speed	AC													

FA = Free air
ML = Maximum load

Radial Fans Forward Curved - Fan Coil Unit

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Dimensions

Part No.	Case Style	A	C	E	F	K	M
✓ K3G146AD0101	A	677	116	98	226	202	209

✓	Part No.										
	K3G146AD0101	Nominal Voltage	V	200-240	Hz	50/60	Airflow at 0Pa	m³/hr	2295	Nominal Data at	ML
		Speed	RPM	1400	Power Input	W	243	Current Draw	A	1.8	Sound Pressure Level at 1m
											dB(A)
											63
											°C
											40
											Max. Perm. Amb. Temperature
											kg
											4.2
											Approximate Weight
											H6
											Wiring Diagram
											Motor Type
											EC

ML = Maximum load

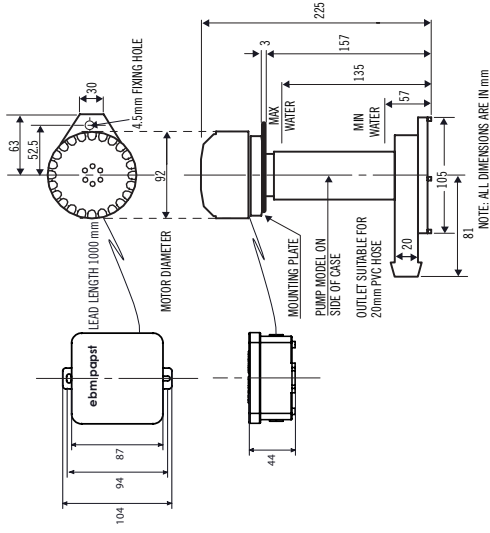
Radial Fans



Pumps Evaporative Cooler

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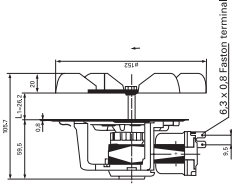
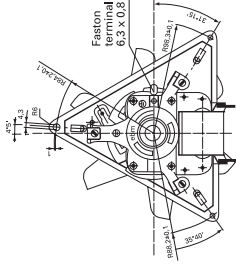


Part No.	Nominal Voltage	Frequency	Speed	Power Input	Flow rate at 1m head	Flow rate at 2 m head	Approximate Weight	Motor Type
EBM ALPHA-CT0	V 240	Hz 50	RPM 2700	W 50	L/s 32	L/s 25	kg 1.4	AC

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Part No.	Article Number	Nominal Voltage	Frequency	Airflow at 0Pa	Speed	Power Input	Current Draw	Max. Perm. Amb. Temperature	Approximate Weight	Motor Type
R2K150AC0325		230	50	200	2000	32	0.27	120	0.9	AC
RLA108/0034A76*		230	50	162	2520	54	n/a	105/150	1.5	AC
RLA97/4200-3030LH		230	50	108	2520	28	n/a	90/220	3	AC

Fa = Free air
ML = Maximum lead
*RLA108/0034A76 replaces G2K 108AA0145 & 46

Control Equipment Controllers / Sensors

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A



B



C

ebm-papst's GreenTech EC technology offers all-inclusive air movement from one supplier. Our EC products come with everything you need: PID control amplifier, interference suppression filter, power filter, motor protection and a power supply for external sensors. That's how easy it is with "Plug & Play".

Bringing our systems approach to the next level, we now introduce our connECtor range. The connECtor range makes the best use of already existing features of our GreenTech EC products and is perfectly-suited for industries like refrigeration, ventilation, air conditioning, information technology, data centres, agriculture and more. The connECtor range helps monitor, control and measure your fan system. Our always expanding connECtor range currently includes the following products:



D



E

- EC Fan Display for easy monitoring
- EC Fan Gateway for monitoring and incorporation in BACnet Building Management System (BMS)
- Data Center Fan Controller Kit for complete pressure control
- Differential pressure controller for pressure measurement or closed loop pressure control
- Temperature Sensor for easy temperature control
- Head Pressure Controller for refrigeration systems

Part No.	Description	Type	Nominal Voltage	Comment
 ECCN01-CT0	Data centre controller with 0-50Pa pressure sensors	E	20 to 38VDC/24VAC	Application guide available via QR code on the controller
 ECCN01-CT1	Data centre controller with potentiometer	E	20 to 38VDC/24VAC	Application guide available via QR code on the controller
 ECCN02-CT0	BACnet Gateway Generation II	E	24VDC/24VAC	Connect and control Modbus capable fans to BACnet BMS via High Level Interface
 ECCN03-CT0	Fan condition monitor and Auto addressing	–	20 to 38VDC/24VAC	–
 ECCN04-CT0	MODBUS display with speed setting	–	20 to 38VDC/24VAC	–
 ECCN05-CT0	240VAC switch 3 speed controller	–	20 to 38VDC/24VAC	–
 PRESS12-CT0	Head pressure sensor range 4 to 12.5 bar	A	10VDC	Suitable for refrigerant R-134A
 PRESS21-CT0	Head pressure sensor range 10 to 21 bar	A	10VDC	Suitable for refrigerant R-407C/R-404A/R-507
 PRESS28-CT0	Head pressure sensor range 12 to 28 bar	A	10VDC	Suitable for refrigerant R-410A
 50010-1-0174	Temperature sensor range +10°C to +45°C	B	10VDC	–
 50011-1-0174	Temperature sensor range +30°C to +55°C	B	10VDC	–
 DPC200-EP 500-001	Differential air pressure controller range 0 to 500 Pa	D	10-30VDC	Can act as a sensor or stand-alone controller
 DPC200-EP 4000-001	Differential air pressure controller range 0 to 4000 Pa	D	10-30VDC	Can act as a sensor or stand-alone controller
 CLC000AE0401	10 kΩ potentiometer with housing	C	10VDC	Use for manual adjustment of speed

Technical Information

Dynamic Pressure - Air velocity chart at 20°C ambient temperature

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Velocity (v)		Dynamic Pressure (P _{rd})	
m/s		Pa	
1.00		0.60	
1.25		0.94	
1.50		1.35	
1.75		1.84	
2.00		2.40	
2.25		3.04	
2.50		3.75	
2.75		4.54	
3.00		5.40	
3.25		6.34	
3.50		7.35	
3.75		8.44	
4.00		9.6	
4.25		10.8	
4.50		12.2	
4.75		13.5	

Velocity (v)		Dynamic Pressure (P _{rd})	
m/s		Pa	
5.00		15.0	
5.25		16.5	
5.50		18.2	
5.75		19.8	
6.00		21.6	
6.25		23.4	
6.50		25.4	
6.75		27.3	
7.00		29.4	
7.25		32	
7.50		34	
7.75		36	
8.00		38	
8.25		41	
8.50		43	
8.75		46	

Velocity (v)		Dynamic Pressure (P _{rd})	
m/s		Pa	
9.00		49	
9.25		51	
9.50		54	
9.75		57	
10.0		60	
12.5		94	
15.0		135	
17.5		184	
20.0		240	
22.5		304	
25.0		375	
27.5		454	
30.0		735	
40.0		960	
45.0		1215	
50.0		1500	

Technical Information

Hooke's Law for Fans

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The air volume q_v changes proportionally to the speed n :

$$q_{v2} = q_{v1} \left(\frac{n_2}{n_1} \right)$$

The static pressure p_{fs} changes proportionally to the square of the speed n :

$$p_{fs2} = p_{fs1} \left(\frac{n_2}{n_1} \right)^2$$

The input power P changes proportionally to the third power of the speed n :

$$P_2 = P_1 \left(\frac{n_2}{n_1} \right)^3$$

Technical Information

Humidity Classes

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H0 (dry)

- No water action, no condensation
- Maximum relative humidity (%): ≤ 95
- Corrosion requirements: No
- Example application: Condensing technology

H1 (moist)

- Water action from condensation
- Maximum relative humidity (%): 100
- Corrosion requirements: Yes
- Example application: Refrigerated display case at a supermarket

H2 (wet)

- Direct water exposure such as rain, snow and ice
- Maximum relative humidity (%): 100
- Corrosion requirements: Yes
- Example application: Outdoor condenser without rain protection

Wiring Diagrams

AC Wiring Connection Diagrams

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The following information applies generally, but not exhaustively, to the majority of AC products sold in Australia & New Zealand.

Notes

1. BE CAREFUL – always check the data on the motor, if in doubt ask an ebm-papst A&NZ representative
2. 3 phase – change direction of rotation by changing any 2 phases (applies for AC motors only, not EC)
3. All connection leads brought out by ebm-papst are 'internal leads' as defined by EN 60335-1
4. 'PE' = Earth

Please check our website www.ebmpapst.com.au or catalogue for complete wiring information.

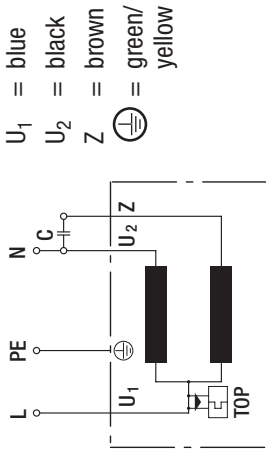
Wiring Diagrams

AC Wiring Connection Diagrams

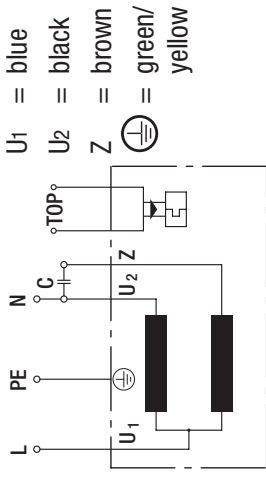
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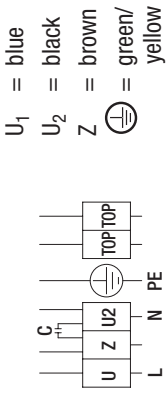
1 ~ 230VAC power line



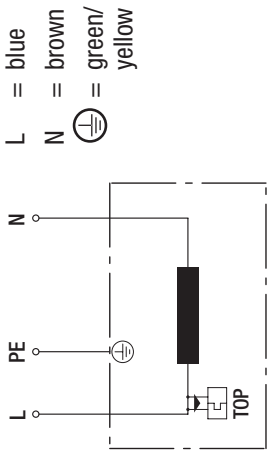
A1. Single phase capacitor motor with TOP wired internally



A2a. Single phase capacitor motor with connection for external TOP



Fans
with terminal box



A2b. Single phase capacitor motor with connection for external TOP

B. Shaded pole motor with TOP wired internally

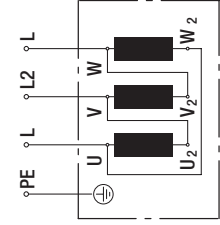
Wiring Diagrams

AC Wiring Connection Diagrams

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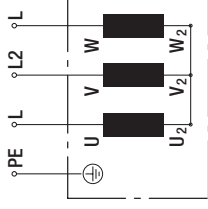
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1 speed 3 ~ 230 VAC power line



U₁ = black
U₂ = green
V₁ = blue
V₂ = white
W₁ = brown
W₂ = yellow
⊕ = green/
yellow

1 speed 3 ~ 400 VAC power line



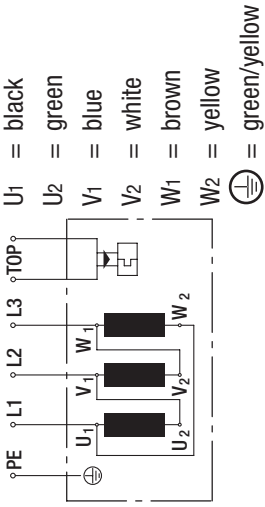
U₁ = black
U₂ = green
V₁ = blue
V₂ = white
W₁ = brown
W₂ = yellow
⊕ = green/
yellow

C1. Delta Connection (3 ~ 230 VAC power system) without TOP

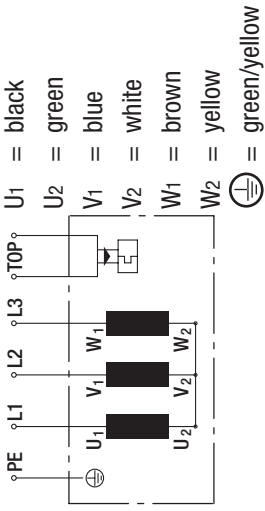
C2. Star connection (3 ~ 400 VAC power system) without TOP

1 speed 3 ~ 230 VAC power line

1 speed 3 ~ 400 or 480 VAC power line



D1. Delta Connection (3 ~ 230 VAC power line) with TOP



D2. Star connection (3 ~ 400 or 480 VAC power line) with TOP

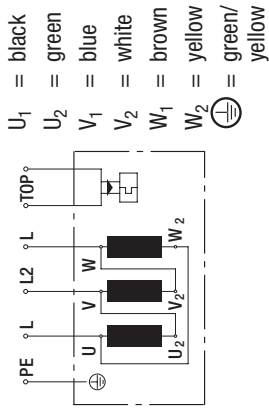
Wiring Diagrams

AC Wiring Connection Diagrams

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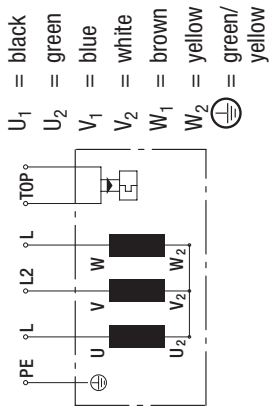
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2 speeds via Δ / λ -switch 3 ~ 400 VAC power line



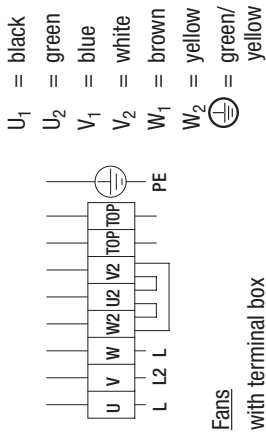
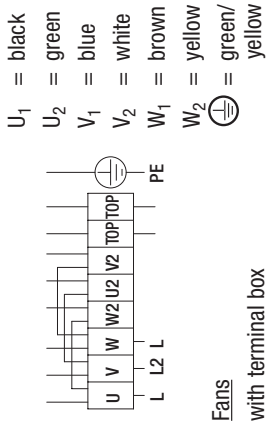
F1a. Delta Connection (high speed) with TOP

Direction of rotation is reversed by swapping 2 line phases



F2a. Star connection (low speed) with TOP

2 speeds via Δ /Y-switch 3 ~ 400VAC power line



FLb. Delta Connection (high speed) with TOP

F2b. Star connection (low speed) with TOP

Wiring Diagrams

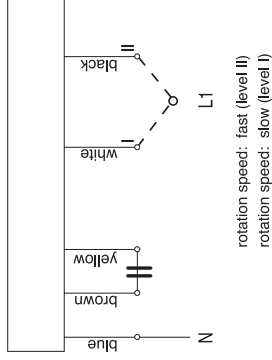
AC Wiring Connection Diagrams

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ebm 2

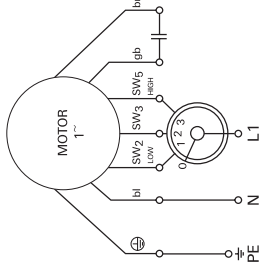
Single phase 2 speed



Rotation speed fast (level II)
Rotation speed slow (level I)

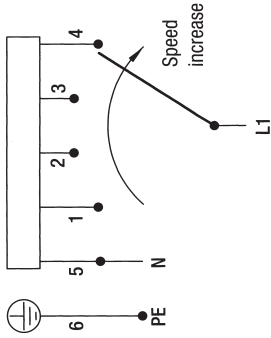
ebm 3

Single phase 3 speed



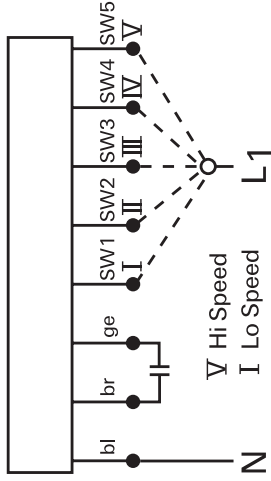
Rotation speed fast (level II)
Rotation speed slow (level I)

Single phase 4 speed control



Connection Diagram When changing speeds, the switch must break the circuit

Single phase 5 speed



bl blue br brown ge yellow SW1 white
SW2 red SW3 grey SW4 orange SW5 black

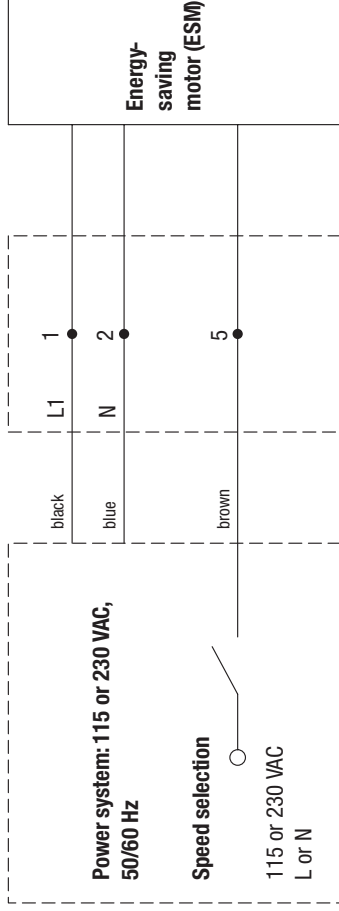
Wiring Diagrams

AC Wiring Connection Diagrams

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Wiring Diagrams

EC Wiring Connection Diagrams

Wiring Type	Power Supply	Description	Alarm Relay	Bus Interface
H3	1~ 230V 50/60Hz	Two speed selectable	No	No
H4	1~ 230V 50/60Hz	0-10V speed control	No	No
K1	1~ 230V 50/60Hz	0-10V speed control	Yes	No
L1	1~ 230V 50/60Hz	EC Gen I control interface	Yes	ebmBUS
L2	3~ 400V 50/60Hz	EC Gen I control interface	Yes	ebmBUS
L5	3~ 400V 50/60Hz	EC Gen II control interface	Yes	MODBUS
L6	3~ 400V 50/60Hz	EC Gen I control interface	Yes	MODBUS
L7	1~ 230V 50/60Hz	EC Gen I control interface	Yes	MODBUS
RP1 (previously M3)	3~ 400V 50/60Hz	EC Gen II control interface	Yes	MODBUS
RP2 (previously M5)	3~ 400V 50/60Hz	EC Gen II control interface	Yes	MODBUS
RP3 (previously P5)	1~ 230V 50/60Hz	EC Gen II control interface	Yes	MODBUS
RP6	3~ 400V 50/60Hz	EC Gen III control interface	Yes	MODBUS

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