# **This Fan!** *15th edition*

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# This Fan 15th edition
*Index_2023*

# 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.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.


**Wondering where to buy? Scan the QR Code below**

# About ebm-papst
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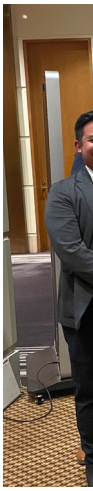

**engineering a better life!**
ebm-papst provides a wide range of high quality and highly efficient air movement systems. Combined with excellent customer service and local engineering support, it is a brand you and your customer can rely on.

Our offices in Melbourne and Auckland as well as our team in Sydney, consist 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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Above: ARBS Awards dinner 2022

Above: ebm-papst A&NZ Team gathering 2023

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**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.

### Design & Development

We can solve any problem from a simple connector change, customised controller development up to any complex aerodynamic engineering challenge. We offer agile local support with global resources through our highly skilled engineering team. We are ideally placed to work with you as your development partner.

### 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, sustainability, save energy or reduce carbon emmissions and maintenance costs. 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.

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

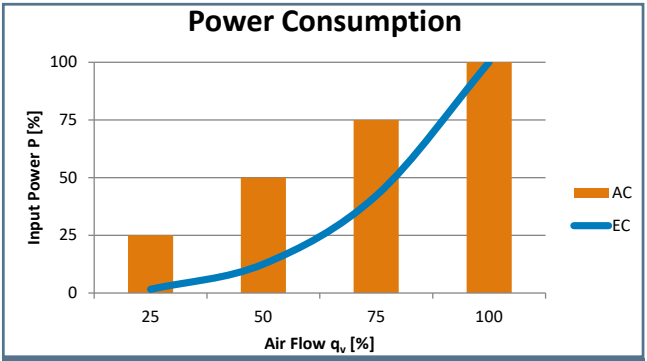
EC fans can lower power consumption by up to 90%.

# EC Technology
## *Upgrade to EC*

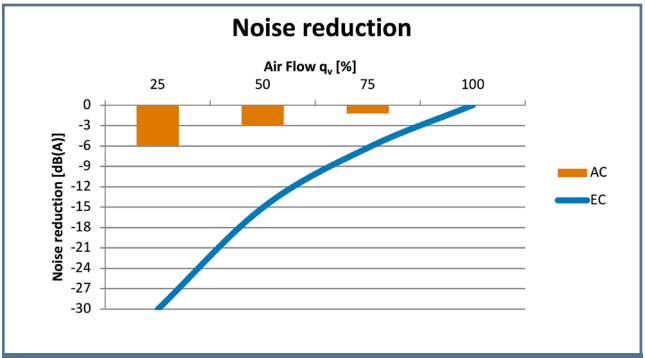


ebm-papst EC technology (EC = electronically commutated) is an environmentally sound and a more cost-effective (in terms of running costs), alternative to AC technology. ebm-papst EC fans and motors give you high-performance, silent speed control and long life expectancy in a product which is the same size as the power hungry AC products it replaces.

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




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.




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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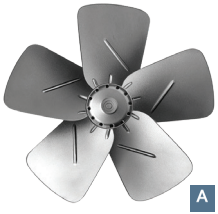
| 1. What does the impeller look like? | |
|---|---|
| Looks like a propeller | Axial **(A, B or C)** |
| Looks like a rotating drum | Centrifugal or radial **(D, E or F)** |

| 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 cetrifugal **(D or F)** |
| Many Blades | Forward curved centrifugal **(E)** |


A


B


C


D


E


F

| 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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| 1 | 2 | 3 | 4 | | | 5 | | | | 6 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | 4 | E | 3 | 0 | 0 | A | S | 7 | 2 | 4 | 4 | C | T | Indicates carton version |

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

**ebm-papst material numbers and type codes are changing. Please scan the QR code for more updated information.**

# 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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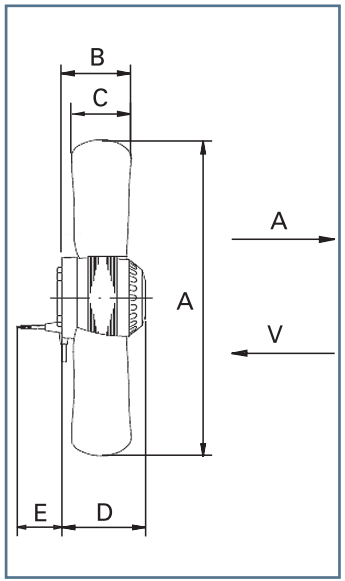


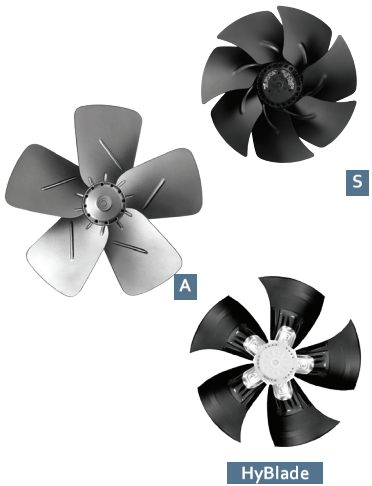


## Dimensions

| Order No. | Type Code | Style | A | B | C | D | E |
|---|---|---|---|---|---|---|---|
| A2E200AK3801-CT0 | VVY0200X2MCS | S | 198 | 61 | 48 | 64 | 450 |
| A2E200AI3801 | VAY0200X2MCS | S | 197 | 57 | 39 | 62 | 450 |
| A4S200AH0401 | VVY0200XRMCS | S | 197 | 54 | 39 | 62 | 450 |
| A4S200AI0401 | VAY0200XRMCS | S | 197 | 55 | 39 | 62 | 450 |
| A2E250AL0601-CT0 | VVY0250X2MES | S | 251 | 52 | 34 | 72 | 450 |
| A2E250AE6502 | VAY0250X2MGS | A | 250 | 66 | 39 | 83 | 450 |
| A4S250AH0201 | VVY0250XRMES | S | 251 | 52 | 34 | 72 | 450 |
| A2E300AP0201 | VVY0300X2NGS | S | 298 | 65 | 38 | 104 | 450 |
| A2E300AC4702 | VAY0300X2MJS | A | 300 | 50 | 20 | 98 | 450 |
| A4D300AT0401 | VVY0300H5MGS | HyBlade | 300 | 81 | 58 | 83 | 450 |
| A4E300AS7201-CT0 | VVY0300H4MES | HyBlade | 300 | 71 | 58 | 73 | 450 |
| A4E300AS7202-CT0 | VAY0300H4MES | HyBlade | 300 | 58 | 51 | 80 | 450 |
| A4E350AA1032-CT0 | VVY0350X4MJZ | A | 353 | 91 | 70 | 102 | 350 |
| A4E350AN0201 | VVY0350H4NGS | HyBlade | 352 | 97 | 87 | 105 | 600 |

JB = Junction Box

| Order No. | Type Code | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V | Hz | $m^3/hr$ | | RPM | W | A | dB(A) | °C | µF/V | kg | | |
| **A2E200AK3801-CT0** | **VVY0200X2MCS** | S | V | 230 | 50 | 930 | FA | 2670 | 60 | 0.3 | 57 | 65 | 1.5/450 | 1.3 | A1 | AC |
| **A2E200AI3801** | **VAY0200X2MCS** | S | A | 230 | 50 | 890 | FA | 2600 | 64 | 0.3 | 65 | 65 | 1.5/450 | 1.3 | A1 | AC |
| **A4S200AH0401** | **VVY0200XRMCS** | S | V | 230 | 50 | 470 | FA | 1370 | 30 | 0.21 | 42 | 75 | – | 1.2 | B | AC |
| **A4S200AI0401** | **VAY0200XRMCS** | S | A | 230 | 50 | 470 | FA | 1370 | 30 | 0.21 | 42 | 75 | – | 1.2 | B | AC |
| **A2E250AL0601-CT0** | **VVY0250X2MES** | S | V | 230 | 50 | 1820 | FA | 2450 | 115 | 0.51 | 69 | 65 | 3.0/400 | 2 | A1 | AC |
| **A2E250AE6502** | **VAY0250X2MGS** | A | A | 230 | 50 | 1610 | FA | 2550 | 115 | 0.51 | 72 | 55 | 4.0/400 | 2.2 | A1 | AC |
| **A4S250AH0201** | **VVY0250XRMES** | S | V | 230 | 50 | 1000 | FA | 1390 | 69 | 0.53 | 54 | 50 | – | 1.7 | B | AC |
| **A2E300AP0201** | **VVY0300X2NGS** | S | V | 230 | 50 | 3140 | FA | 2700 | 230 | 1.1 | 73 | 50 | 8.0/400 | 3.1 | A1 | AC |
| **A2E300AC4702** | **VAY0300X2MJS** | A | A | 230 | 50 | 2440 | FA | 2650 | 140 | 0.62 | 75 | 55 | 5.0/400 | 2.5 | A1 | AC |
| **A4D300AT0401** | **VVY0300H5MGS** | HyBlade | V | 400Y | 50 | 1805 | ML | 1350 | 90 | 0.16 | 55 | 70 | — | 2.1 | C2 | AC |
| **A4E300AS7201-CT0** | **VVY0300H4MES** | HyBlade | V | 230 | 50 | 1800 | ML | 1320 | 72 | 0.32 | 53 | 50 | 2.0/400 | 1.8 | A1 | AC |
| **A4E300AS7202-CT0** | **VAY0300H4MES** | HyBlade | A | 230 | 50 | 1800 | ML | 1320 | 72 | 0.32 | 53 | 50 | 2.0/4.00 | 1.8 | A1 | AC |
| **A4E350AA1032-CT0** | **VVY0350X4MJZ** | A | V | 230 | 50 | 3100 | FA | 1400 | 130 | 0.55 | n/a | 45 | 4.0/400 | 3.1 | A1 | AC |
| **A4E350AN0201** | **VVY0350H4NGS** | HyBlade | V | 230 | 50 | 3300 | ML | 1340 | 165 | 0.73 | 56 | 65 | 4.0/400 | 3.5 | A1 | AC |

FA = Free air at 0Pa  ML = Maximum load

# Axial Fans
*Motorised Impeller*

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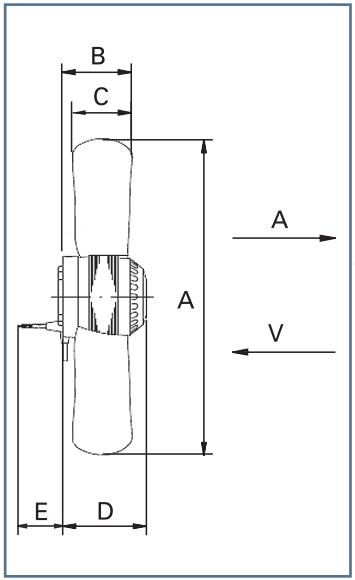


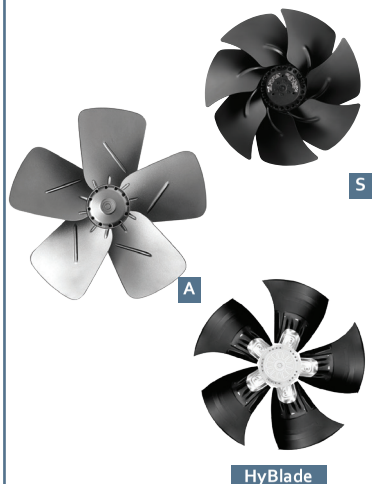


## Dimensions

| Order No. | Type Code | Style | A | B | C | D | E |
|---|---|---|---|---|---|---|---|
| A4D400AP1620 | VVY0400X5NKZ | S | 392 | 94 | 68 | 117 | 2500 |
| A4E400AP0201 | VVY0400X4NKS | S | 392 | 94 | 68 | 117 | 600 |
| A6E400AP1019 | VVY0400X6NGZ | S | 392 | 86 | 88 | 104 | 1250 |
| A4D450AO1401 | VVY0450H5QMS | HyBlade | 446 | 103 | 96 | 148 | JB |
| A4E450AO0909 | VVY0450H4QMZ | HyBlade | 446 | 103 | 96 | 148 | 600 |
| A6E450AJ0811-CT0 | VVY0450H6NKZ | S | 446 | 100 | 93 | 122 | 1500 |
| A6E450AQ0511-CT0 | VVY0450X6NKZ | S | 446 | 96 | 92 | 117 | 1500 |
| A4D500AJ0301 | VVY0500H5RJS | HyBlade | 497 | 108 | 105 | 124 | JB |
| A4E500AM0301 | VVY0500H4RMS | HyBlade | 497 | 108 | 105 | 144 | JB |
| A6E500AJ0305-CT0 | VVY0500H6RJZ | HyBlade | 497 | 108 | 105 | 124 | 1800 |

JB = Junction Box

| Order No. | Type Code | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Hz | $m^3/hr$ | | RPM | W | A | dB(A) | °C | µF/V | kg | | |
| **A4D400AP1620** | **VVY0400X5NKZ** | S | V | 400 Δ/Y* | 50 | 4180 | FA | 1440 | 170 | 0.53 | 67 | 55 | – | 4.3 | F1a / F2a | AC |
| **A4E400AP0201** | **VVY0400X4NKS** | S | V | 230 | 50 | 4235 | FA | 1430 | 160 | 0.73 | 69 | 40 | 6.0/400 | 4.1 | A1 | AC |
| **A6E400AP1019-CT0** | **VVY0400X6NGZ** | S | V | 230 | 50 | 3290 | FA | 940 | 120 | 0.55 | 59 | 55 | 3.0/450 | n/a | A1 | AC |
| **A4D450AO1401** | **VVY0450H5QMS** | HyBlade | V | 400 Δ/Y* | 50 | 7070 | ML | 1360 | 480 | 0.98 | 62 | 65 | – | 7.2 | F1b / F2b | AC |
| **A4E450AO0909** | **VVY0450H4QMZ** | HyBlade | V | 230 | 50 | 7070 | ML | 1310 | 490 | 2.36 | 62 | 65 | 10.0/400 | 7.3 | A2a | AC |
| **A6E450AJ0811-CT0** | **VVY0450H6NKZ** | S | V | 230 | 50 | 4445 | ML | 850 | 160 | 0.7 | n/a | 55 | 4.0/400 | 3.7 | A1 | AC |
| **A6E450AQ0511-CT0** | **VVY0450X6NKZ** | S | V | 230 | 50 | 4475 | FA | 910 | 155 | 0.7 | 62 | 70 | 4.0/450 | 4 | A1 | AC |
| **A4D500AJ0301** | **VVY0500H5RJS** | HyBlade | V | 400 Δ / Y* | 50 | 9030 | ML | 1340 | 710 | 1.4 | 64 | 60 | – | 7.7 | F1b / F2b | AC |
| **A4E500AM0301** | **VVY0500H4RMS** | HyBlade | V | 230 | 50 | 8900 | ML | 1300 | 680 | 3 | 68 | 65 | 12.0/450 | 10.5 | A2a | AC |
| **A6E500AJ0305-CT0** | **VVY0500H6RJZ** | HyBlade | V | 230 | 50 | 6100 | ML | 915 | 270 | 1.18 | 56 | 65 | 8.0/400 | 7.5 | A2a | AC |

FA = Free air at 0Pa  ML = Maximum load
* Nominal Data Shown for Δ Wiring

# Axial Fans
*Square and Round Plate*

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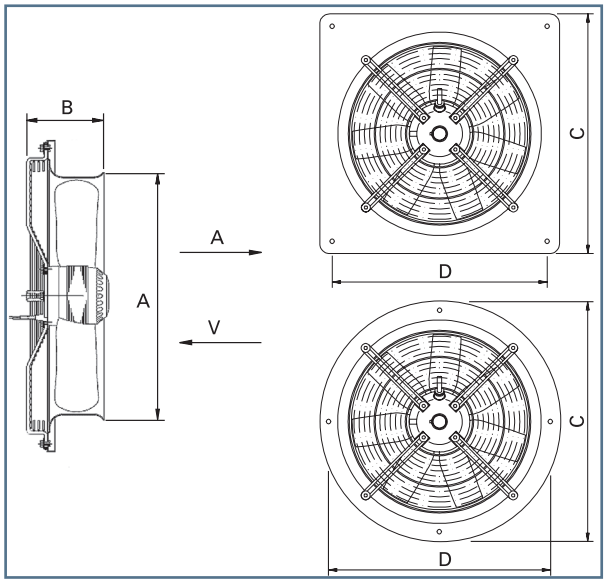


Square Wall Plate

Round Wall Plate

## Round Plate Dimensions

| Order No. | Type Code | A | B | C | D |
|---|---|---|---|---|---|
| W2E200CH3801 | VWR0200X2MCS | 200 | 80 | 280 | 250 |
| W2E200CI3801 | VUR0200X2MCS | 200 | 80 | 280 | 250 |
| W4S200CI0401 | VUR0200XRMCS | 200 | 80 | 280 | 250 |
| W2E250CL0601 | VWR0250X2MES | 257 | 87 | 320 | 295 |
| W2E250CE6502 | VUR0250X2MES | 257 | 85 | 320 | 295 |
| W4S250CI0201 | VUR0250XRMES | 257 | 87 | 320 | 295 |
| W2E300CC4702 | VUR0300X2MJS | 326 | 80 | 397 | 380 |
| W4E300CS72CT-001 | VWR0300H4MES | 326 | 113 | 397 | 380 |
| W4E300CS72CT-002 | VUR0300H4MES | 327 | 113 | 397 | 380 |

## Square Plate Dimensions

| | | | | | |
|---|---|---|---|---|---|
| W2E200DH3801 | VWA0200X2MCS | 200 | 64 | 312 | 260 |
| W2E200DI3801 | VUA0200X2MCS | 200 | 62 | 312 | 260 |
| W4S200DI0401 | VUA0200XRMCS | 200 | 62 | 312 | 260 |
| W2E250DE6502 | VUA0250X2MES | 257 | 83 | 370 | 320 |
| W4S250DI0201 | VUA0250XRMES | 256 | 73 | 370 | 320 |
| W2E300DC4702 | VUA0300X2MJS | 326 | 98 | 430 | 380 |
| W4E300DS72CT-002 | VUA0300H4MES | 327 | 113 | 430 | 380 |

| Order No. | Type Code | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | V | Hz | $m^3/hr$ | | RPM | W | A | dB(A) | °C | µF/V | kg | | |
| W2E200-CH38-01 | VWR0200X2MCS | V | 230 | 50 | 930 | FA | 2600 | 64 | 0.3 | 65 | 65 | 1.5/450 | 2.3 | A1 | AC |
| W2E200-DH38-01 | VWA0200X2MCS | | | | | | | | | | | | | | |
| W2E200-CI38-01 | VUR0200X2MCS | A | 230 | 50 | 890 | FA | 2600 | 64 | 0.3 | 65 | 65 | 1.5/450 | 2.4 | A1 | AC |
| W2E200-DI38-01 | VUA0200X2MCS | | | | | | | | | | | | | | |
| W4S200-CI04-01 | VUR0200XRMCS | A | 230 | 50 | 470 | FA | 1370 | 30 | 0.21 | 42 | 75 | – | 1.2 | B | AC |
| W4S200-DI04-01 | VUA0200XRMCS | | | | | | | | | | | | | | |
| W2E250-CL06-01 | VWR0250X2MES | V | 230 | 50 | 1820 | FA | 2450 | 115 | 0.15 | 69 | 65 | 3.0/400 | 1.9 | A1 | AC |
| W2E250-CE65-02 | VUR0250X2MES | A | 230 | 50 | 1610 | FA | 2550 | 115 | 0.15 | 72 | 55 | 4.0/400 | 2.2 | A1 | AC |
| W2E250-DE65-02 | VUA0250X2MES | | | | | | | | | | | | | | |
| W4S250-CI02-01 | VUR0250XRMES | A | 230 | 50 | 1000 | FA | 1390 | 69 | 0.53 | 54 | 50 | – | 3.1 | B | AC |
| W4S250-DI02-01 | VUA0250XRMES | | | | | | | | | | | | | | |
| W2E300-CC47-02 | VUR0300X2MJS | A | 230 | 50 | 2440 | FA | 2650 | 140 | 0.62 | 75 | 55 | 5.0/400 | 3 | A1 | AC |
| W2E300-DC47-02 | VUA0300X2MJS | | | | | | | | | | | | | | |
| W4E300CS72CT-001 | VWR0300H4MES | V | 230 | 50 | 1800 | ML | 1320 | 72 | 0.32 | 53 | 50 | 2.0/400 | 3.7 | A1 | AC |
| W4E300CS72CT-002 | VUR0300H4MES | A | 230 | 50 | 1800 | ML | 1320 | 72 | 0.32 | 53 | 50 | 2.0/400 | 3.7<br>4 | A1 | AC |
| W4E300DS72CT-002 | VUA0300H4MES | | | | | | | | | | | | | | |

FA = Free air
ML = Maximum load

# Axial Fans
*Large Square Plate*

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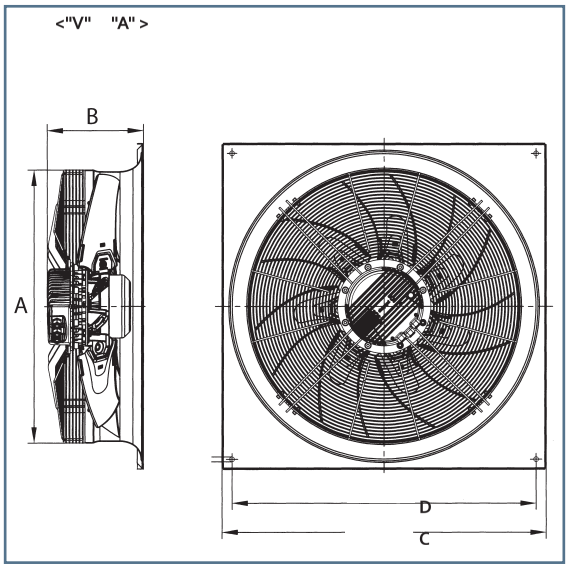


## Dimensions

| Order No. | Type Code | A | B | C | D |
|---|---|---|---|---|---|
| 8317066737 | VWA0500H5RMZ | 542 | 176 | 600 | 560 |
| W3G500GN3307 | VWA0500HTRLZ | 542 | 170 | 600 | 560 |
| W4D630GD0101 | VWA0630H5SQS | 696 | 227 | 805 | 750 |
| W3G630GU3103 | VWA0630HTTPS | 696 | 250 | 805 | 750 |
| 8317078523 | VWA0800B7SNZ | 923 | 336 | 970 | 910 |
| 8317081777 | VWA0800BTTLZ | 923 | 334 | 970 | 910 |
| 8317081776 | VWA0800BTTPZ | 923 | 334 | 970 | 910 |
| 8317078212 | VWA0910BTTLS | 1022 | 338 | 1070 | 1010 |
| 8317077728 | VWA0910BTTPS | 1022 | 338 | 1070 | 1010 |

| Order No. | Type Code | 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 | Approximate Weight | Wiring Diagram | Motor Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V | Hz | $m^3/hr$ | | RPM | W | A | dB(A) | °C | kg | | |
| 8317066737 | VWA0500H5RMZ | HyBlade | V | 400 Δ/Y* | 50 | 9030 | ML | 1340 | 710 | 1.4 | 64 / 58 | 60 | 14 | F1b / F2b | AC |
| W3G500GN3307 | VWA0500HTRLZ | HyBlade | V | 380-480 | 50/60 | 10390 | ML | 1600 | 980 | 1.6 | 68 | 60 | 15.8 | L2 | EC |
| W4D630GD0101 | VWA0630H5SQS | HyBlade | V | 400 Δ/Y* | 50 | 19890 | ML | 1320 | 2630 | 4.78 | 73/67 | 60 | 38.9 | F1b / F2b | AC |
| W3G630GU3103 | VWA0630HTTPS | HyBlade | V | 380-480 | 50/60 | 21190 | ML | 1510 | 3200 | 5 | 78 | 65 | 40 | L5 | EC |
| 8317078523 | VWA0800B7SNZ | AxiBlade | V | 400 Δ/Y* | 50/50 | 23030 | ML | 870 | 1430 | 2.8 | 74/64 | 60 | 44 | F1b / F2b | AC |
| 8317081777 | VWA0800BTTLZ | AxiBlade | V | 380-480 | 50/60 | 25740 | ML | 940 | 1950 | 3.1 | 79 | 60 | 43 | RP6 | EC |
| 8317081776 | VWA0800BTTPZ | AxiBlade | V | 380-480 | 50/60 | 29510 | ML | 1080 | 2900 | 4.4 | 85 | 60 | 47.5 | RP6 | EC |
| 8317078212 | VWA0910BTTLS | AxiBlade | V | 380-480 | 50/60 | 29145 | ML | 850 | 1770 | 2.8 | 79 | 60 | 45 | RP6 | EC |
| 8317077728 | VWA0910BTTPS | AxiBlade | V | 380-480 | 50/60 | 33630 | ML | 980 | 2250 | 3.9 | 75 | 60 | 48 | RP6 | EC |

FA = Free air
ML = Maximum load
*Data shown is for 50Hz Δ/Y
*****
*Nominate Data Shown for Δ Wiring

# Axial Fans
*Basket Grille*

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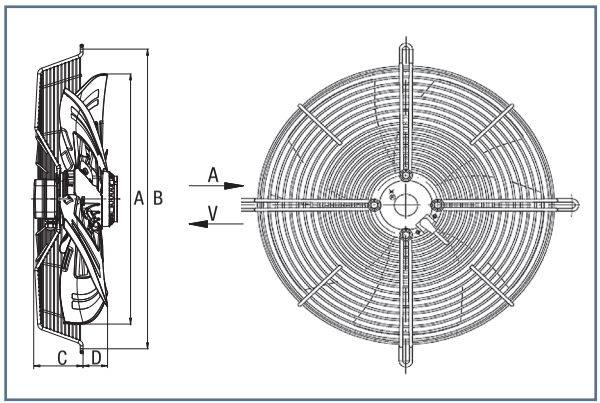


## Dimensions

| Order No. | Type Code | A | B | C | D |
|---|---|---|---|---|---|
| S2D170BA0406 | VMP0170X3MCZ | 170 | 220 | 4 | 63 |
| S4E300AR26CT-002 | VMA0300X4MEZ | 300 | 360 | 100 | 49 |
| S4E300AS72CT-001 | VMA0300H4MES | 300 | 360 | 115 | 23 |
| S4E300AS72A2-CT0 | VNA0300H4MEZ | 300 | 360 | 99.5 | 49.4 |
| S1G300FO0111-CT0 | VMA0300HSLGS | 300 | 360 | 68.5 | 33.8 |
| S3G300AK1365-CT0 | VMA0300HSLEZ | 300 | 360 | 120 | 28 |
| S3G300AK1360-CT0 | VMA0300HSLEZ | 300 | 360 | 126 | 28 |
| S4E350AN02CT-048 | VMA0350H4NGS | 352 | 422 | 122 | 55 |
| S4E350AN02CT-060 | VMA0350H4NGS | 352 | 442 | 111 | 65 |
| S3G350AN01CT-002 | VMA0350HSNES | 352 | 442 | 116 | 56 |
| S3G350AP0160-CT0 | VMA0350HSNGZ | 352 | 422 | 126 | 58 |

| Order No. | Type Code | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V | Hz | $m^3/hr$ | | RPM | W | A | dB(A) | °C | µF/V | kg | | |
| S2D170BA0406 | VMP0170X3MCZ | A | V | 400 Y | 50 | 470 | FA | 2750 | 45 | 0.13 | 64 | 75 | – | 1.4 | C2 | AC |
| S4E300AR26CT-002 | VMA0300X4MEZ | S | V | 230 | 50 | 1935 | FA | 1380 | 70 | 0.32 | 59 | 55 | 2.0/400 | 3.1 | A1 | AC |
| S4E300AS72CT-001 | VMA0300H4MES | HyBlade | V | 230 | 50 | 1800 | ML | 1330 | 70 | 0.31 | 53 | 40 | 2.0/400 | 3 | A1 | AC |
| S4E300AS72A2-CT0 | VNA0300H4MEZ | HyBlade | A | 230 | 50/60 | 1800 | ML | 1320 | 72 | 0.32 | 53 | 50 | 2.0/4.00 | 2.9 | A1 | AC |
| S1G300FO0111-CT0 | VMA0300HSLGS | HyBlade | V | 200-240 | 50/60 | 1550 | ML | 1250 (high speed) | 62 | 0.55 | 56 | 40 | – | 1.6 | ESM | EC |
| S3G300AK1358-CT0 | VMA0300HSLEZ | HyBlade | V | 200-240 | 50/60 | 1975 | ML | 1360 | 60 | 0.53 | 54 | 60 | – | 2.5 | H3 | EC |
| S3G300AK1360-CT0 | VMA0300HSLEZ | S | V | 200-240 | 50/60 | 2265 | ML | 1500 | 85 | 0.8 | 58 | 60 | – | 2.7 | H4 | EC |
| S4E350AN02CT-048 | VMA0350H4NGS | HyBlade | V | 230 | 50 | 3305 | ML | 1340 | 165 | 0.73 | 56 | 40 | 4.0/400 | 5.1 | A1 | AC |
| S4E350AN02CT-060 | VMA0350H4NGS | HyBlade | V | 230 | 50 | 3305 | ML | 1340 | 165 | 0.73 | 56 | 40 | 4.0/400 | 5.1 | A1 | AC |
| S3G350AN01CT-002 | VMA0350HSNES | S | V | 200-240 | 50/60 | 3420 | ML | 1450 | 160 | 1.3 | 57 | 40 | – | 3.7 | H3 | EC |
| S3G350AP0160-CT0 | VMA0350HSNGZ | 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*

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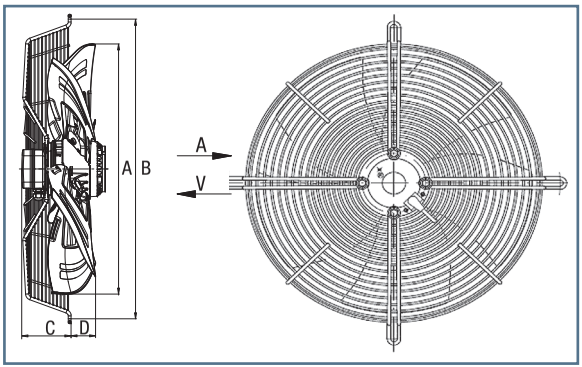


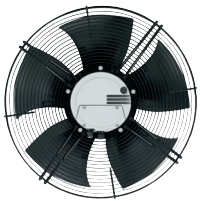

## Dimensions

| Order No. | Type Code | A | B | C | D |
|---|---|---|---|---|---|
| S4E400AP0244-CT0 | VMA0400X4NKZ | 392 | 470 | 117 | 67 |
| S4E450AU0337-CT0 | VMA0450H4QHZ | 445 | 522 | 116 | 57 |
| S4E450BU0335-CT0 | VMA0450H4QHZ | 445 | 522 | 36 | 107 |
| S4D500AM0301-CT0 | VMA0500H5RMS | 497 | 565 | 126 | 84 |
| S4E500AM0301-CT0 | VMA0500H4RMS | 497 | 565 | 126 | 84 |
| 8317077318 | VMA0500HSRHS | 497 | 565 | 108 | 64 |
| S6E560AN0101 | VMA0560H6RMS | 552 | 700 | 102 | 108 |
| S4D630AR0101 | VMA0630H5RNS | 627 | 750 | 101 | |
| S6D630AN0101 | VMA0630H7RMS | 626 | 750 | 124 | 86 |
| S6E630AN0101 | VMA0630H6RMS | 626 | 750 | 124 | 86 |
| S3G630AU2301 | VMA0630HTTPS | 627 | 750 | 178 | 76 |
| S6E710AR0301 | VMA0710H6RNS | 703 | 853 | 155 | 70 |

| Order No. | Type Code | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | V | Hz | $m^3/hr$ | | RPM | W | A | dB(A) | °C | µF/V | kg | | |
| S4E400AP0244-CT0 | VMA0400X4NKZ | S | V | 230 | 50 | 4235 | FA | 1430 | 160 | 0.73 | 67 | 60 | 6.0/400 | 6.1 | A1 | AC |
| S4E450AU0337-CT0 | VMA0450H4QHZ | S | V | 230 | 50 | 5770 | ML | 1300 | 350 | 1.55 | 70 | 55 | 8.0/400 | 7 | A1 | AC |
| S4E450BU0335-CT0 | VMA0450H4QHZ | S | V | 230 | 50 | 5770 | ML | 1300 | 350 | 1.55 | - | 55 | 8.0/450 | 6.3 | A1 | AC |
| S4D500AM0301-CT0 | VMA0500H5RMS | HyBlade | V | 400 Δ /Y* | 50 | 9195 | ML | 1390 | 720 | 1.41 | 65 | 65 | - | 13 | F1b/F2b | AC |
| S4E500AM0301-CT0 | VMA0500H4RMS | HyBlade | V | 230 | 50 | 8905 | ML | 1300 | 680 | 3 | 65 | 65 | 12.0/450 | 13 | A2b | AC |
| 8317077318 | VMA0500HSRHS | HyBlade | V | 200-277 | 50/60 | 9245 | ML | 1420 | 750 | 3.4 | 66 | 60 | - | 10.5 | L1 | EC |
| S6E560AN0101 | VMA0560H6RMS | HyBlade | V | 230 | 50 | 8105 | ML | 920 | 390 | 1.78 | 61 | 75 | 10.0/400 | 14.5 | A2b | AC |
| S4D630AR0101 | VMA0630H5RNS | HyBlade | V | 400 Δ /Y* | 50 | 13835 | ML | 1330 | 1250 | 2.48 | 69 | 55 | - | 16.2 | | |
| S6D630AN0101 | VMA0630H7RMS | HyBlade | V | 400 Δ /Y* | 50 | 11270 | ML | 890 | 600 | 1.2 | 60 | 65 | - | 14 | F1b/F2b | AC |
| S6E630AN0101 | VMA0630H6RMS | HyBlade | V | 230 | 50 | 11020 | ML | 860 | 600 | 2.62 | 61 | 55 | 14.0/400 | 14 | A2b | AC |
| S3G630AU2301 | VMA0630HTTPS | HyBlade | V | 380-480 | 50/60 | 21190 | ML | 1510 | 3200 | 5 | 78 | 65 | - | 32.4 | L5 | EC |
| S6E710AR0301 | VMA0710H6RNS | 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
* Nominal Data Shown for Δ Wiring

# Axial Fans
*Compact Range*

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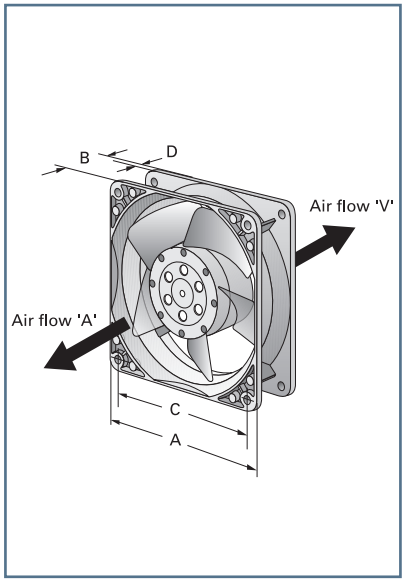


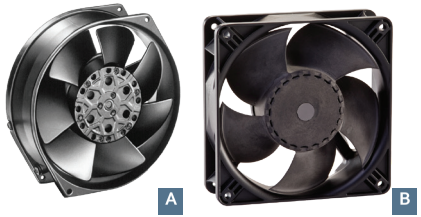



## Dimensions

| Order No. | Type Code | Case Style | A | B | C | D |
|---|---|---|---|---|---|---|
| 8556N-CT0 | VWCF080AQHFS | B | 80 | 38 | 72 | 3 |
| 3956-CT0 | VWCD092AQFGS | B | 92 | 25 | 83 | 4 |
| 4412FM-CT0 | VWCD119FHGKS | B | 119 | 25 | 105 | 4 |
| 9956-CT1 | VWCD119AQFJS | B | 119 | 25 | 105 | 4 |
| 4314-CT0 | VWCE119AJJLS | B | 119 | 32 | 105 | 5 |
| 4184NX-CT1 | VUCF119YJJLS | B | 119 | 38 | 105 | 6 |
| 4650Z-CT1 | VWC0119AQHCS | B | 119 | 38 | 105 | 10 |
| 4650N-CT1 | VUC0119YQHCS | B | 119 | 38 | 105 | 6 |
| 4656Z-CT1 | VWC0119AQHCS | B | 119 | 38 | 105 | 10 |
| 4656N-CT1 | VUC0119YQHCS | B | 119 | 38 | 105 | 6 |
| 8324100005 | VWCF119DSGLS | B | 119 | 38 | 105 | 6 |
| 5958-CT1 | VWCF127AQGLS | B | 127 | 38 | 113 | 7 |
| 7214N | VWEH150XJLPS | A | 150d | 55 | 162d | 6 |
| 6224N | VWEG172XJLPS | C | 172d | 51 | 162d | – |
| W2S130AA0363 | VWEH150XQLPZ | A | 150d | 55 | 162d | 6 |
| W2S130BM0301 | VUEH150XQLPS | A | 150d | 55 | 162d | 6 |
| W1G130AA2511 | VWEH151XSLNZ | A | 150d | 58 | 162 | 10 |
| W2E142BB0101 | VWLF150X2LPS | A | 153d | 38 | 162d | 11 |
| W2E200HK3801 | VWLJ225X2MTS | D | 225 | 80 | 170 | 7 |
| W2E250HL0601 | VWLJ280X2MXS | D | 280 | 80 | 209 | 7 |

| Order No. | Type Code | Airflow Direction | Nominal Voltage V | Frequency Hz | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8556N-CT0 | VWCF080AQHFS | V | 230 | 50 | 50 | 2800 | 12 | 31 | 90 | 0.49 | 310 | AC |
| 3956-CT1 | VWCD092AQFGS | V | 230 | 50 | 59 | 2650 | 11 | 35 | 80 | 0.28 | PIN* | AC |
| 4412FM-CT0 | VWCD119FHGKS | V | 12 | – | 140 | 2400 | 3.2 | 38 | 75 | 0.175 | 310 | DC |
| 9956-CT1 | VWCD119AQFJS | V | 230 | 50 | 117 | 2450 | 14 | 37 | 70 | 0.8 | PIN* | AC |
| 4314-CT0 | VWCE119AJJLS | V | 24 | – | 170 | 2800 | 5 | 45 | 75 | 0.22 | 310 | DC |
| 4184NX-CT1 | VUCF119YJJLS | A | 24 | – | 180 | 3200 | 4.9 | 49 | 70 | 0.39 | PIN* | DC |
| 4650Z-CT1 | VWC0119AQHCS | V | 230 | 50 | 160 | 2650 | 19 | 40 | 50 | 0.54 | PIN* | AC |
| 4650N-CT1 | VUC0119YQHCS | A | 230 | 50 | 160 | 2650 | 19 | 46 | 55 | 0.55 | PIN* | AC |
| 4656Z-CT1 | VWC0119AQHCS | V | 230 | 50 | 160 | 2650 | 19 | 40 | 75 | 0.54 | PIN* | AC |
| 4656N-CT1 | VUC0119YQHCS | A | 230 | 50 | 160 | 2650 | 19 | 47 | 85 | 0.55 | PIN* | AC |
| 8324100005 | VWCF119DSGLS | V | 195-265 | 50/60 | 180 | 3350 | 4.4 | 42 | 75 | 0.25 | PIN* | EC |
| 5958-CT1 | VWCF127AQGLS | V | 230 | 50 | 180 | 2750 | 18 | 44 | 60 | 0.57 | PIN* | AC |
| 7214N | VWEH150XJLPS | V | 24 | – | 360 | 3050 | 12 | 53 | 72 | 0.725 | 365 | DC |
| 6224N | VWEG172XJLPS | V | 24 | – | 410 | 3400 | 18 | 55 | 72 | 0.82 | PIN | DC |
| W2S130AA0363-CT0 | VWEH150XQLPZ | V | 230 | 50 | 340 | 2800 | 45 | 49 | 50 | 1.13 | 1500 | AC |
| W2S130BM0301-CT0 | VUEH150XQLPS | A | 230 | 50 | 385 | 2700 | 47 | 60 | 50 | 1.1 | 330 | AC |
| W1G130AA2511 | VWEH151XSLNZ | V | 230 | 50/60 | 370 | 3200 | 23 | 55 | 70 | 0.8 | 1500 | EC |
| W2E142BB0101 | VWLF150X2LPS | V | 230 | 50 | 320 | 2800 | 27 | 51 | 55 | 0.8 | PIN | AC |
| W2E200HK3801 | VWLJ225X2MTS | V | 230 | 50 | 880 | 2550 | 64 | 58 | 60 | 2.1 | Terminal | AC |
| W2E250HL0601 | VWLJ280X2MXS | V | 230 | 50/60 | 1865 | 2550 | 127 | 69 | 60 | 2.8 | Terminal | AC |

PIN connectors require seperate lead. LZ126 Lead + Plug, included in delivery of -CT1

# Axial Fans
*ESM Fans*

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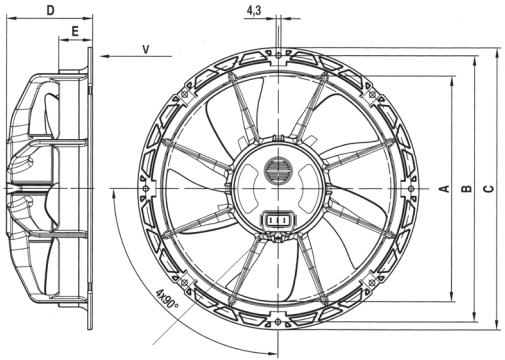


Standard

Truncated

## Dimensions

| Order No. | Type Code | Type | A | B | C | D | E |
|---|---|---|---|---|---|---|---|
| W1G172EC9122-CT1 | VWS0172XSLCZ | standard | 172 | 208 | 222 | 78.5 | 35 |
| W1G200EC9110-CT0 | VWT0200XSLCZ | truncated | 200 | 236 | 250 | 78.5 | 40 |
| W1G200EC9145-CT0 | VWT0200XSLCS | standard | 200 | 236 | 250 | 78.5 | 40 |
| W1G230EB9122-CT2 | VWT0230XSLCZ | truncated | 250 | 266 | 280 | 78.5 | 50 |

| Order No. | Type Code | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | V | Hz | $m^3/hr$ | RPM | W | A | dB(A) | °C | | kg | | |
| W1G172EC9122-CT1 | VWS0172XSLCZ | V | 230 | 50/60 | 525 | 2500 | 22 | 0.18 | 54 | 50 | high–low | 0.8 | ESM | EC |
| W1G200EC9110-CT0 | VWT0200XSLCZ | V | 230 | 50/60 | 750 | 2100 | 31 | 0.24 | 54 | 50 | high–low | 1 | ESM | EC |
| W1G200EC9145-CT0 | VWT0200XSLCS | V | 230 | 50/60 | 750 | 2100 | 31 | 0.24 | 54 | 50 | high–low | 1 | ESM | EC |
| W1G230EB9122-CT2 | VWT0230XSLCZ | 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
## *iQC- and NiQ-Motors*

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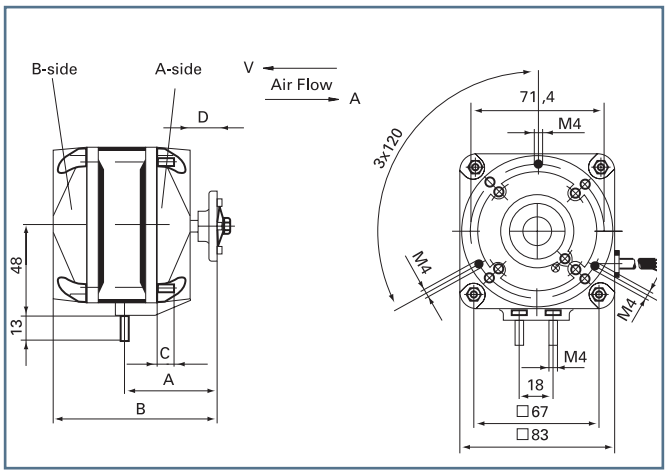
ebm-papst pioneered increasing efficiency in refrigeration systems with the release of its iQ series motor over 10 years ago. With proven application in harsh conditions all over the world in both new and replacement installations, the iQC and NiQ now improve on the tried and tested iQ series motors. The iQC and the NiQ have enhanced the existing advantages by reducing environmental costs.

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

| mm | Airflow @ 0Pa* | iQ-Motor Power Consumption | Q-Motor Power Consumption | SAVE | Airflow @ 0Pa* | iQ-Motor Power Consumption | Q-Motor Power Consumption | SAVE | Airflow @ 0Pa* | iQ-Motor Power Consumption | Q-Motor Power Consumption | SAVE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $m^3/h$ | W | W | % | $m^3/h$ | W | W | % | $m^3/h$ | 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% |
| **172** | 230 | 2.6 | 29 | 91% | 270 | 2.9 | 29 | 90% | 310 | 3.8 | 29 | 87% |
| **200** | 360 | 3.4 | 31 | 89% | 410 | 5.3 | 31 | 83% | 470 | 7.3 | 31 | 76% |
| **230** | 520 | 6 | 36 | 83% | 710 | 13.1 | 36 | 64% | 750 | 16.9 | 36 | 53% |
| **254** | 710 | 11.3 | 58 | 81% | 980 | 23.1 | 58 | 60% | 1010 | 28.4 | 62 | 54% |
| **300** | 1380 | 24.3 | 62 | 61% | | | | | | | | |

*Free airflow with wall ring




Q motor

NiQ motor

iQC motor

## Dimensions

| Order No. | Type Code | A | B | C+D |
|---|---|---|---|---|
| M4Q045BD0138-CT0 | DS045CXRXX0Z | 42 | 76 | 27 |
| M4Q045CA0138-CT0 | DS045DXRXX0Z | 42 | 82 | 25 |
| M4Q045CA0172A01-CT0 | DS045DXRXX0Z | 42 | 82 | 25 |
| M4Q045CA0338A01-CT0 | DS045DXRXX0Z | 42 | 82 | 25 |
| M4Q045CA0375B01-CT0 | DS045DXRXX0Z | 42 | 82 | 25 |
| iQC3612-00-CT0 | DE036CCKXX0Z | 43.5 | 85 | 30.5 |
| M4Q045CF0138-CT0 | DS045EXRXX0Z | 42 | 87 | 25 |
| M4Q045CF0175B01-CT0 | DS045EXRXX0Z | 42 | 87 | 25 |
| M4Q045DA0538-CT0 | DS045FXRXX0Z | 54 | 93 | 25 |
| M4Q045DA0575B01-CT0 | DS045FXRXX0Z | 54 | 93 | 25 |
| M4Q045EA0138-CT0 | DS045HXRXX0Z | 59 | 103 | 26 |
| NiQ3224-00-CT1 | DE032ENKXX0Z | 54 | 92 | 38.5 |
| M4Q045EF0138-CT0 | DS045JXRXX0Z | 79 | 125 | 43 |
| M4Q045EF0175B01-CT0 | DS045JXRXX0Z | 79 | 125 | 43 |

See page 39 for impeller sizes

| Order No. | Type Code | Direction of Rotation | Power Output | Voltage | Frequency | Speed | Power Input | Current | Max. Perm. Amb. Temperature | Approximate Weight | Lead Length | Motor Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | W | V | Hz | RPM | W | A | °C | kg | mm | |
| M4Q045BD0138-CT0 | DS045CXRXX0Z | CCW | 5 | 230 | 50 | 1300 | 29 | 0.19 | 40 | 0.9 | 450 | AC |
| M4Q045CA0138-CT0 | DS045DXRXX0Z | CCW | 7 | 230 | 50 | 1300 | 31 | 0.2 | 40 | 1.1 | 450 | AC |
| M4Q045CA0172A01-CT0 | DS045DXRXX0Z | CCW | 7 | 230 | 50 | 1300 | 31 | 0.2 | 40 | 1.1 | 380 | AC |
| M4Q045CA0338A01-CT0 | DS045DXRXX0Z | CCW | 10 | 230 | 50 | 1300 | 36 | 0.25 | 40 | 1.2 | 450 | AC |
| M4Q045CA0375B01-CT0 | DS045DXRXX0Z | CCW | 10 | 230 | 50 | 1300 | 36 | 0.25 | 40 | 1.2 | 1500 | AC |
| iQC3612-00-CT0* | DE036CCKXX0Z | CCW | ≤15 | 220-240 | 50/60 | 1300/1500 | 23 | - | 50 | 0.5 | 2000 | EC |
| M4Q045CF0138-CT0 | DS045EXRXX0Z | CCW | 16 | 230 | 50 | 1300 | 60 | 0.42 | 40 | 1.3 | 450 | AC |
| M4Q045CF0175B01-CT0 | DS045EXRXX0Z | CCW | 16 | 230 | 50 | 1300 | 60 | 0.42 | 40 | 1.3 | 1500 | AC |
| M4Q045DA0538-CT0 | DS045FXRXX0Z | CCW | 23 | 230 | 50 | 1300 | 86 | 0.62 | 40 | 1.6 | 450 | AC |
| M4Q045DA0575B01-CT0 | DS045FXRXX0Z | CCW | 23 | 230 | 50 | 1300 | 86 | 0.62 | 40 | 1.6 | 1500 | AC |
| M4Q045EA0138-CT0 | DS045HXRXX0Z | CCW | 25 | 230 | 50 | 1300 | 90 | 0.62 | 40 | 2 | 450 | AC |
| NiQ3224-00-CT1 | DE032ENKXX0Z | CCW | 20 | 100-240 | 50/60 | 1300 | 30 | - | 50 | 0.7 | 1500 | EC |
| M4Q045EF0138-CT0 | DS045JXRXX0Z | CCW | 34 | 230 | 50 | 1300 | 110 | 0.75 | 40 | 2.2 | 450 | AC |
| M4Q045EF0175B01-CT0 | DS045JXRXX0Z | CCW | 34 | 230 | 50 | 1300 | 110 | 0.75 | 40 | 2.2 | 1500 | AC |

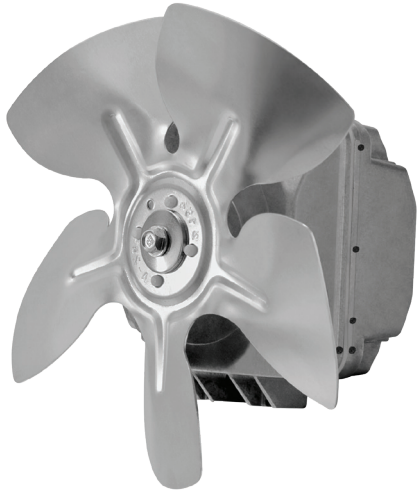
KL = Ball bearing
GK = Sleeve bearing
*Also available with Lyall and AMP plug connector on request

## Recommended Impellers

| Order No. | Type Code | Power Output | 154mm | | | 172mm | | | 200mm | | | 230mm | | | 254mm | | | 300mm | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 22° | 28° | 34° | 22° | 28° | 34° | 22° | 28° | 34° | 22° | 28° | 34° | 22° | 28° | 34° | 22° | 28° | 34° |
| M4Q045BD0138-CT0 | DS045CXRXX0Z | 5 | X | X | X | X | X | X | X | | | | | | | | | | | |
| M4Q045CA0138-CT0 | DS045DXRXX0Z | 7 | | | | | | | X | X | X | X | | | | | | | | |
| M4Q045CA0172A01-CT0 | DS045DXRXX0Z | 7 | | X | X | X | | | X | X | X | X | | | | | | | | |
| M4Q045CA0338A01-CT0 | DS045DXRXX0Z | 10 | | X | X | X | | | | | | X | X | X | X | | | | | |
| M4Q045CA0375B01-CT0 | DS045DXRXX0Z | 10 | | X | X | X | X | X | | | | X | X | X | X | | | | | |
| iQC3612-00-CT0 | DE036CCKXX0Z | ≤15 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | |
| M4Q045CF0138-CT0 | DS045EXRXX0Z | 16 | | | | | | | | | | | | | X | X | | | | |
| M4Q045CF0175B01-CT0 | DS045EXRXX0Z | 16 | | X | X | X | | | | | | | | | X | X | | | | |
| M4Q045DA0538-CT0 | DS045FXRXX0Z | 23 | | X | X | X | X | X | | | | | | | | | | X | X | |
| M4Q045DA0575B01-CT0 | DS045FXRXX0Z | 23 | | X | X | X | | | | | | | | | | | | X | X | |
| M4Q045EA0138-CT0 | DS045HXRXX0Z | 25 | | X | X | X | | | | | | | | | | | | X | X | |
| NiQ3224-00-CT1 | DE032ENKXX0Z | | | | | | | | | | | | | X | X | X | X | X | | |
| M4Q045EF0138-CT0 | DS045JXRXX0Z | 34 | | | | | | | | | | | | | | | | X | X | X |
| M4Q045EF0175B01-CT0 | DS045JXRXX0Z | 34 | | | | | | | | | | | | | | | | X | X | X |

## 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

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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*

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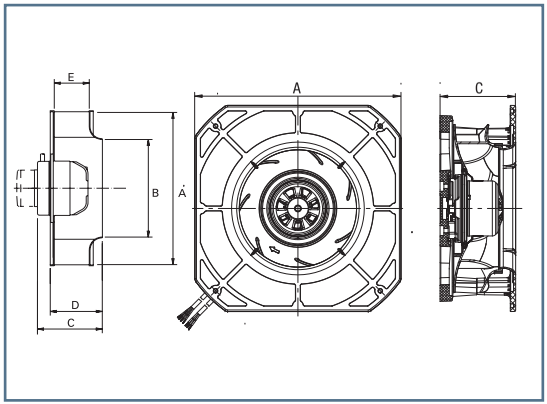



A


B

## Dimensions

| Order No. | Type Code | Type | A | B | C | D |
|---|---|---|---|---|---|---|
| R2S133AE1705-CT0 | VBS0133XQLDS | A | 133 | 93 | 91 | 61 |
| R2E133RA0313-CT0 | VBS0133R2JDZ | A | 133 | 93 | 56 | 59 |
| R1G175AB6359-CT0 | VBS0175XULCZ | A | 175 | 131 | 69 | 62 |
| R2E180CB2809-CT0 | VBS0180X2MCZ | A | 180 | 132 | 55 | 48 |
| R2E190RA2651-CT0 | VBS0190R2MCZ | A | 190 | 132 | 69 | 63 |
| R3G190RB0101-CT0 | VBS0190RSLCS | A | 190 | 133 | 69 | 63 |
| R3G190RC0528-CT0 | VBS0190RSLDZ | A | 190 | 132 | 71 | 63 |
| R3G190RD4503 | VBS0190RSLES | A | 190 | 133 | 91 | 63 |
| K3G190RD4509 | VBH0190RSLEZ | B | 226 | 133 | 102 | 63 |
| R2E220RA3801 | VBS0220R2MCS | A | 220 | 161 | 71 | 63.7 |
| R3G220RC0503-CT0 | VBS0220RSLDS | A | 220 | 161 | 71 | 64 |
| K3G220RD5303 | VBH0220RSLES | B | 270 | 161 | 111 | 64 |
| R2E225RA9209-CT0 | VBS0225R2MGS | A | 225 | 154 | 99 | 88 |
| R3G225RE0703 | VBS0225RSLGS | A | 225 | 154 | 101 | 88 |
| K3G225RE0703 | VBH0225RSLGS | B | 270 | 154 | 131 | 88 |
| R2E250RA5001 | VBS0250R2MJS | A | 250 | 173 | 99 | 85 |
| R4E250RA0105 | VBS0250R4MES | A | 250 | 173 | 93 | 85 |
| R2E280AE5205 | VBS0280X2MJS | A | 281 | 191 | 125 | 82 |
| R4E280AD0805 | VBS0280X4MGS | A | 281 | 191 | 125 | 112 |

| Order No. | Type Code | 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 | $m^3/hr$ | | RPM | W | A | dB(A) | °C | µF/V | kg | | |
| R2S133AE1705-CT0 | VBS0133XQLDS | CW | 230 | 50/60 | 280 | FA | 2780 | 36 | 0.25 | 55 | 65 | – | 0.9 | B | AC |
| R2E133RA0313-CT0 | VBS0133R2JDZ | CW | 230 | 50/60 | 195 | ML | 2700 | 26 | 0.12 | 58 | 60 | 1.5/400 | 0.58 | A1 | AC |
| R1G175AB6359-CT0 | VBS0175XULCZ | CW | 24 | – | 555 | FA | 3100 | 34 | 1.6 | n/a | 40 | – | 0.85 | n/a | EC |
| R2E180CB2809-CT0 | VBS0180X2MCZ | CW | 230 | 50 | 440 | FA | 2550 | 60 | 0.28 | n/a | 55 | 1.5/450 | 1.4 | A1 | AC |
| R2E190RA2651-CT0 | VBS0190R2MCZ | CW | 240 | 50 | 540 | ML | 2400 | 50 | 0.25 | 54 | 60 | 1.5/450 | 1.2 | A1 | AC |
| R3G190RB0101-CT0 | VBS0190RSLCS | CW | 200-240 | 50/60 | 640 | ML | 2710 | 57 | 0.43 | 60 | 60 | – | 1 | H3 | EC |
| R3G190RC0528-CT0 | VBS0190RSLDZ | CW | 200-240 | 50/60 | 695 | ML | 3200 | 83 | 0.75 | 60 | 60 | – | 1.05 | | EC |
| R3G190RD4503 | VBS0190RSLES | CW | 200-240 | 50/60 | 975 | ML | 4120 | 169 | 1.35 | 66 | 60 | – | 1.38 | H4 | EC |
| K3G190RD4509 | VBH0190RSLEZ | CW | 200-240 | 50/60 | 975 | ML | 4120 | 169 | 1.35 | 63 | 60 | – | 2 | H4 | EC |
| R2E220RA3801 | VBS0220R2MCS | CW | 230 | 50/60 | 885 | ML | 2100 | 88 | 0.39 | 52 | 50 | 2.0/450 | 1.3 | A1 | AC |
| R3G220RC0503-CT0 | VBS0220RSLDS | CW | 200-240 | 50/60 | 1015 | ML | 2580 | 85 | 0.7 | n/a | 60 | – | 1.13 | H4 | EC |
| K3G220RD5303 | VBH0220RSLES | CW | 200-240 | 50/60 | 1290 | ML | 3230 | 168 | 1.4 | 66 | 45 | – | 2.1 | H4 | EC |
| R2E225RA9209-CT0 | VBS0225R2MGS | CW | 230 | 50 | 1195 | ML | 2500 | 155 | 0.68 | 63 | 70 | 3.5/450 | 2.3 | A1 | AC |
| R3G225RE0703 | VBS0225RSLGS | CW | 200-240 | 50/60 | 1300 | ML | 2860 | 170 | 1.4 | 60 | 60 | – | 1.75 | H4 | EC |
| K3G225RE0703 | VBH0225RSLGS | CW | 200-240 | 50/60 | 1300 | ML | 2860 | 170 | 1.4 | 60 | 60 | – | 2.5 | H4 | EC |
| R2E250RA5001 | VBS0250R2MJS | CW | 230 | 50 | 1420 | ML | 2500 | 210 | 0.93 | 58 | 70 | 5.0/400 | 2.9 | A1 | AC |
| R4E250RA0105 | VBS0250R4MES | CW | 230 | 50 | 775 | ML | 1350 | 47 | 0.22 | 43 | 55 | 1.5/400 | 1.9 | A1 | AC |
| R2E280AE5205 | VBS0280X2MJS | CW | 230 | 50 | 2110 | FA | 2700 | 225 | 1 | n/a | 40 | 7.0/400 | 3.5 | A1 | AC |
| R4E280AD0805 | VBS0280X4MGS | CW | 230 | 50 | 1425 | FA | 1420 | 78 | 0.35 | n/a | 40 | 2.5/450 | 3.18 | A1 | AC |

FA = Free air
ML = Maximum load

# EC Plug Fans
*In Stock*

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| Order No. | Type Code | Assembly Type | Description | Voltage | Phase | N Level |
|---|---|---|---|---|---|---|
| | | | | V | ~ | |
| K3G250PR04H2 | VBH0250PSPGS | spider mount | RadiPac II | 230V | 1~ | 81.3 |
| K3G250PR17I9 | VBH0250PSPGZ | spider mount | RadiPac II | 230V | 1~ | 79.1 |
| K3G280PR04I2 | VBH0280PSPGS | spider mount | RadiPac II | 230V | 1~ | 79.6 |
| 8317082255 | VBH0355PTRLZ | spider mount | RadiPac II | 400V | 3~ | 70.7 |
| K3G400FV72J1 | VBH0400STRLS | spider mount | RadiCal II | 400V | 3~ | 77.5 |
| 8317077713 | VBH0450PTTLS | spider mount | RadiPac II | 400V | 3~ | 73 |
| 8317080577 | VBH0500STTLS | spider mount | RadiCal II | 400V | 3~ | 76.8 |
| 8317077714 | VBH0500PTTPS | spider mount | RadiPac II | 400V | 3~ | 74.7 |
| K3G500PB3331 | VBH0500PTTPS | spider mount | RadiPac II | 400V | 3~ | 71.7 |
| 8317080555 | VBH0560STTLS | spider mount | RadiCal II | 400V | 3~ | 78.2 |
| 8317077715 | VBH0560PTTPS | spider mount | RadiPac II | 400V | 3~ | 74.1 |
| K3G560PC0431 | VBH0560PTTRS | spider mount | RadiPac II | 400V | 3~ | 73.3 |
| K3G630FB3208 | VBH0630STTPS | spider mount | RadiCal II | 400V | 3~ | 77.5 |
| K3G630PV0401 | VBF0630PTVNS | cube design | RadiPac II | 400V | 3~ | 70.1 |
| K3G710PV0501 | VBF0710PTVQS | cube design | RadiPac II | 400V | 3~ | 71.3 |
| K3G800PV1301 | VBF0800PTVTS | cube design | RadiPac II | 400V | 3~ | 71.9 |
| K3G900AR1001 | VBF0900NTVTS | cube design | RadiPac | 400V | 3~ | 68 |
| | | | | | | |
| D3G160HA0402 | VHD0160XSPGS | blower | 7/7 Tight | 230V | 1~ | 53.2 |
| D3G225IF1102 | VHD0225XSPMS | blower | 9/7 | 230V | 1~ | 58.8 |
| D3G310GG0501 | VCD0310FTRNS | blower | 12/12 | 400V | 3~ | 69.4 |
| D3G355GG0301 | VCD0355FTRNS | blower | 15/15 | 400V | 3~ | 70.6 |

FA = Free air
ML = Maximum load





For a full list of plug fans and product updates, add me to your mailing list!

# Radial Fans
*Forward Curved - Single Inlet*

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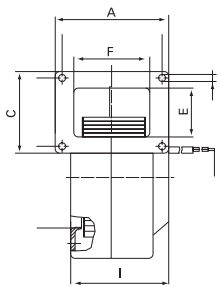


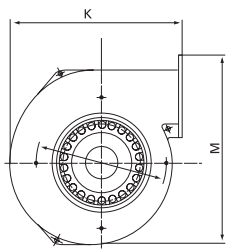


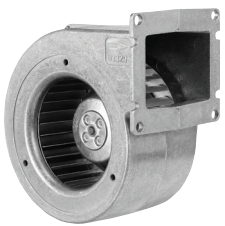

## Dimensions

| Order No. | Type Code | A | C | E | F | I | K | M |
|---|---|---|---|---|---|---|---|---|
| G2E120CR2603-CT0 | VHS0120X2MCZ | 110 | 98 | 67.5 | 77 | 99 | 171 | 180 |
| G2E140AI2801-CT0 | VHS0140X2MGS | 130 | 120 | 92 | 94 | 100 | 227 | 248 |
| G2E160AY4701-CT0 | VHS0160X2MJS | 130 | 120 | 92 | 94 | 100 | 227 | 248 |

| Order No. | Type Code | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | V | Hz | $m^3/hr$ | | RPM | W | A | °C | µF/V | kg | | |
| **G2E120CR2603-CT0** | **VHS0120X2MCZ** | CW | 240 | 50 | 290 | FA | 2200 | 80 | 0.34 | 60 | 2.0/450 | 1.9 | A1 | AC |
| **G2E140AI2801-CT0** | **VHS0140X2MGS** | CW | 230 | 50 | 500 | FA | 2400 | 160 | 0.7 | 70 | 4.0/400 | 3.5 | A1 | AC |
| **G2E160AY4701-CT0** | **VHS0160X2MJS** | 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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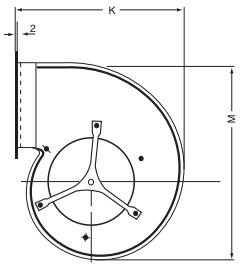
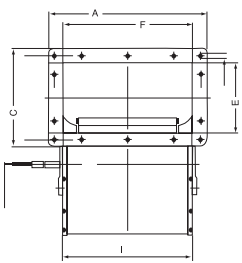



A

B




C

D

## Dimensions

| Order No. | Type Code | Case Style | A | C | E | F | I | K | M |
|---|---|---|---|---|---|---|---|---|---|
| D2E133DM4701-CT0 | VHD0133X2MGS | B | – | – | 104 | 232 | 232 | 203 | 213 |
| D2E133AM8398-CT0 | VHD0133X2MGZ | B | – | – | 71 | 215 | 215 | 171 | 180 |
| D2E146AP4722-CT0 | VHD0146X2MJS | C | 270 | 142 | 102 | 233 | 232 | 205 | 219 |
| D4E146AA0702-CT0 | VHD0146X4MES | B | – | – | 104 | 232 | 232 | 205 | 219 |
| D3G146LV1330-CT2 | VHD0146XSLGS | D | 272 | 116 | 98 | 226 | 244 | 202 | 209 |
| D2E146HS9704-CT2 | VHD0146X2MGZ | A | 173 | 162 | 150 | Round | 194 | 220 | 216 |
| D2E146HT6701-CT2 | VHD0146X2MJS | A | 173 | 162 | 150 | Round | 199 | 223 | 216 |

Type A and D require plug and lead option

| Order No. | Type Code | Nominal Voltage V | Frequency Hz | Airflow at 0Pa $m^3/hr$ | Nominal Data at | Speed RPM | Power Input W | Current Draw A | Sound Pressure Level at 1m dB(A) | Max. Perm. Amb. Temperature °C | Capacitor µF/V | Approximate Weight kg | Wiring Diagram | Motor Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D2E133DM4701-CT0** | **VHD0133X2MGS** | 230 | 50 | 760 | ML | 1650 | 175 | 0.78 | 58 | 40 | 3.0/450 | 3.8 | A1 | AC |
| **D2E133AM8398-CT0** | **VHD0133X2MGZ** | 230 | 50 | 705 | FA | 1500 | 185 | 0.81 | 60 | 35 | 3.0/500 | 3.7 | ebm-5-speed | AC |
| **D2E146AP4722-CT0** | **VHD0146X2MJS** | 230 | 50 | 970 | ML | 2050 | 300 | 1.31 | 63 | 30 | 8.0/400 | 4.4 | A1 | AC |
| **D4E146AA0702-CT0** | **VHD0146X4MES** | 230 | 50 | 835 | FA | 1000 | 100 | 0.44 | 55 | 50 | 2.0/450 | 3.3 | A1 | AC |
| **D3G146LV1330-CT1** | **VHD0146XSLGS** | 200-240 | 50/60 | 1155 | FA | 1550 | 167 | 1.3 | 61 | 60 | – | 2.9 | H6 | EC |
| **D2E146HS9704-CT1** | **VHD0146X2MGZ** | 230 | 50 | 760 | FA | 1350 | 195 | 0.86 | 57 | 45 | 5.0/400 (P2) | 3.4 | ebm-4-speed | AC |
| **D2E146HT6701-CT1** | **VHD0146X2MJS** | 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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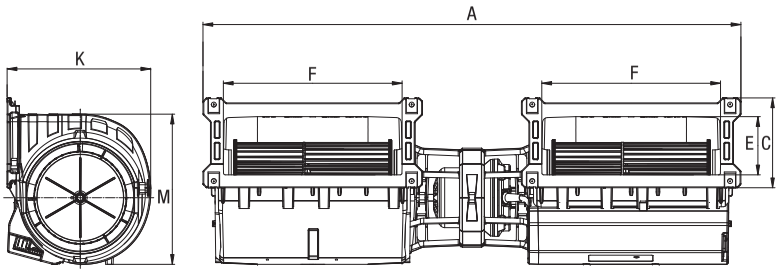
## Dimensions

| Order No. | Type Code | Case Style | A | C | E | F | K | M |
|---|---|---|---|---|---|---|---|---|
| K3G146AD0101-K01 | VHM0146XSNGS | A | 677 | 116 | 98 | 226 | 202 | 209 |



| Order No. | Type Code | Nominal Voltage V | Frequency Hz | Airflow at 0Pa $m^3/hr$ | Nominal Data at | Speed RPM | Power Input W | Current Draw A | Sound Pressure Level at 1m dB(A) | Max. Perm. Amb. Temperature °C | Approximate Weight kg | Wiring Diagram | Motor Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| K3G146AD0101-K01 | VHM0146XSNGS | 200-240 | 50/60 | 2295 | ML | 1400 | 243 | 1.8 | 63 | 40 | 4.2 | H6 | EC |

ML = Maximum load

# Pumps
*Evaporative Cooler*

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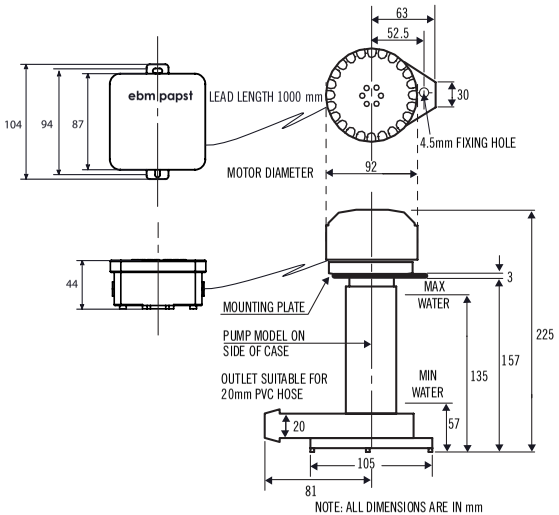


| Part No. | Nominal Voltage V | Frequency Hz | Speed RPM | Power Input W | Flow rate at 1m head L/s | Flow rate at 2 m head L/s | Approximate Weight kg | Motor Type |
|---|---|---|---|---|---|---|---|---|
| **EBM ALPHA-CT0** | 240 | 50 | 2700 | 50 | 32 | 25 | 1.4 | AC |

# High Temperature Applications
*Oven Fans / Heaters*

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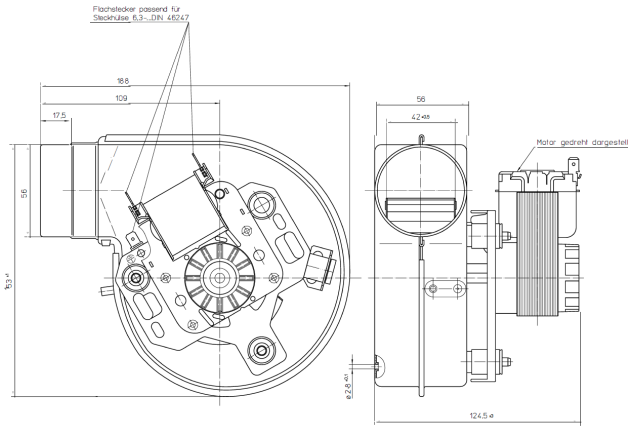
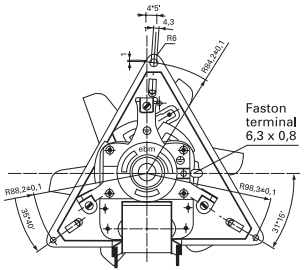
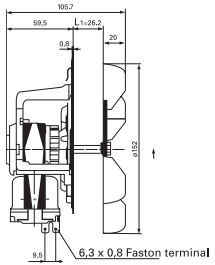



55465.12040




55466.32180

| | | Article Number | Nominal Voltage | Frequency | Airflow at 0Pa | Speed | Power Input | Current Draw | Max. Perm. Amb. Temperature | Approximate Weight | Motor Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Order No. | Type Code | | V | Hz | $m^3/hr$ | RPM | W | A | °C | kg | |
| **55466.32180** | **VBS0152XQJDZ** | R2K150-AC | 230 | 50 | 200 | 2000 | 32 | 0.27 | 120 | 0.9 | AC |
| **55465.12040** | **VHS0097XQJDZ** | G2K097AD0165 | 230 | 50 | 108 | 2520 | 28 | | 90/220 | 3 | AC |

# Control Equipment
*Controllers / Sensors*

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A


B


C


D

E

ebm-papst's 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 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:

- 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
- Potentiometer for easy manual speed control of EC fans

| Part No. | Description | Type | Nominal Voltage V | 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**<br>**ECCN06-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 | – |
| **8324100021** | MODBUS display with speed setting | – | 20 to 48VDC | – |
| **ECCN05-CT0** | 240VAC switch 3 speed controller | – | 20 to 38VDC/24VAC | – |
| **PRESS12-CT0** | Head pressure sensor range 4 to 12.5 bar | A | 10 VDC | Suitable for refrigerant R-134A |
| **PRESS21-CT0** | Head pressure sensor range 10 to 21 bar | A | 10 VDC | Suitable for refrigerant R-407C/R-404A/R-507 |
| **PRESS28-CT0** | Head pressure sensor range 12 to 28 bar | A | 10 VDC | Suitable for refrigerant R-410A |
| **50010-1-0174** | Temperature sensor range +10°C to +45°C | B | 10 VDC | – |
| **50011-1-0174** | Temperature sensor range +30°C to +55°C | B | 10 VDC | – |
| **8324100021** | Modbus Display and Control (MDC) | - | 10-48 VDC | Connect up to 100 fans to monitor fan operation |
| **DPC200-EP4000-001** | Differential air pressure controller range 0 to 4000 Pa | D | 10-30 VDC | Can act as a sensor or stand-alone controller |
| **CLC000AE0401** | 10 kΩ potentiometer with housing | C | 10 VDC | 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 ($P_{fd}$) | Velocity (v) | Dynamic Pressure ($P_{fd}$) | Velocity (v) | Dynamic Pressure ($P_{fd}$) |
|---|---|---|---|---|---|
| m/s | Pa | m/s | Pa | m/s | Pa |
| 1.00 | 0.60 | 5.00 | 15.0 | 9.00 | 49 |
| 1.25 | 0.94 | 5.25 | 16.5 | 9.25 | 51 |
| 1.50 | 1.35 | 5.50 | 18.2 | 9.50 | 54 |
| 1.75 | 1.84 | 5.75 | 19.8 | 9.75 | 57 |
| 2.00 | 2.40 | 6.00 | 21.6 | 10.0 | 60 |
| 2.25 | 3.04 | 6.25 | 23.4 | 12.5 | 94 |
| 2.50 | 3.75 | 6.50 | 25.4 | 15.0 | 135 |
| 2.75 | 4.54 | 6.75 | 27.3 | 17.5 | 184 |
| 3.00 | 5.40 | 7.00 | 29.4 | 20.0 | 240 |
| 3.25 | 6.34 | 7.25 | 32 | 22.5 | 304 |
| 3.50 | 7.35 | 7.50 | 34 | 25.0 | 375 |
| 3.75 | 8.44 | 7.75 | 36 | 27.5 | 454 |
| 4.00 | 9.6 | 8.00 | 38 | 30.0 | 735 |
| 4.25 | 10.8 | 8.25 | 41 | 40.0 | 960 |
| 4.50 | 12.2 | 8.50 | 43 | 45.0 | 1215 |
| 4.75 | 13.5 | 8.75 | 46 | 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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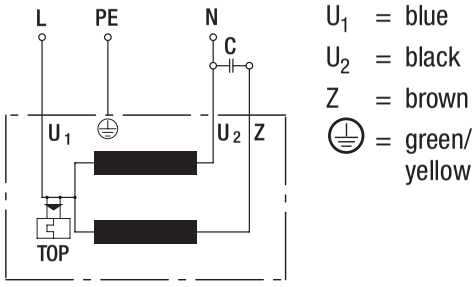
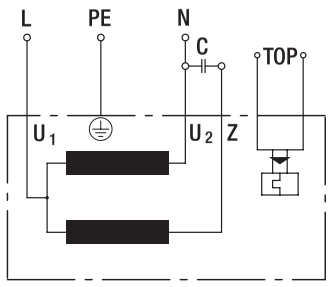
**1 ~ 230 VAC power line**




$U_1$ = blue
$U_2$ = black
Z = brown
⏚ = green/yellow

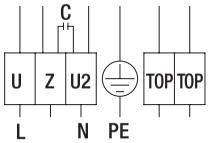
**A1.** Single phase capacitor motor with TOP wired internally




$U_1$ = blue
$U_2$ = black
Z = brown
⏚ = green/yellow

**A2a.** Single phase capacitor motor with connection for external TOP

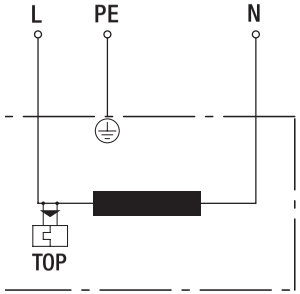
## 1 ~ 230 VAC power line




$U_1$ = blue
$U_2$ = black
Z = brown
⏚ = green/yellow

Fans
with terminal box

**A2b.** Single phase capacitor motor with connection for external TOP




L = blue
N = brown
⏚ = green/yellow

**B.** Shaded pole motor with TOP wired internally

# Wiring Diagrams
## *AC Wiring Connection Diagrams*

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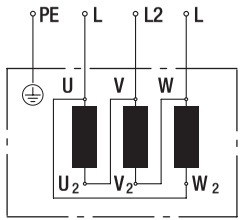
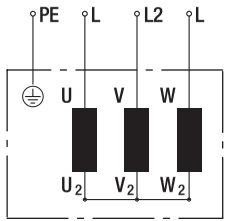
### 1 speed 3 ~ 230 VAC power line




$U_1$ = black
$U_2$ = green
$V_1$ = blue
$V_2$ = white
$W_1$ = brown
$W_2$ = yellow
⏚ = green/yellow

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

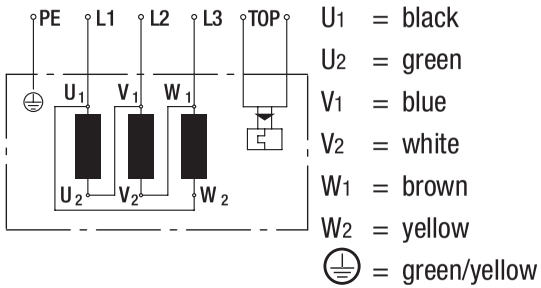
### 1 speed 3 ~ 400 VAC power line




$U_1$ = black
$U_2$ = green
$V_1$ = blue
$V_2$ = white
$W_1$ = brown
$W_2$ = yellow
⏚ = green/yellow

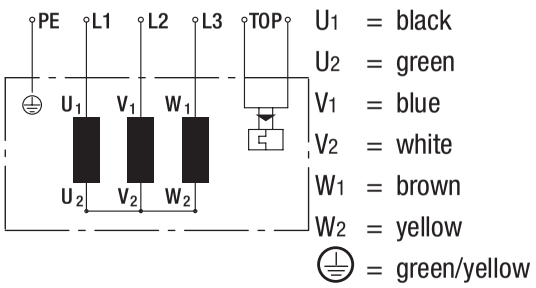
**C2.** Star connection (3 ~ 400 VAC power system) without TOP

## 1 speed 3 ~ 230 VAC power line




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

## 1 speed 3 ~ 400 or 480 VAC power line




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

**Direction of rotation** is reversed by swapping 2 line phases

# Wiring Diagrams
## *AC Wiring Connection Diagrams*

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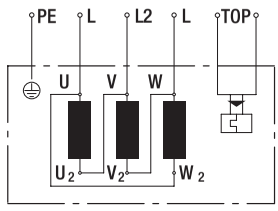
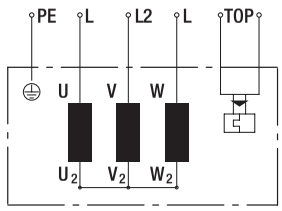
**2 speeds via Δ / λ-switch 3 ~ 400 VAC power line**




$U_1$ = black
$U_2$ = green
$V_1$ = blue
$V_2$ = white
$W_1$ = brown
$W_2$ = yellow
⏚ = green/yellow

**F1a.** Delta Connection (high speed) with TOP

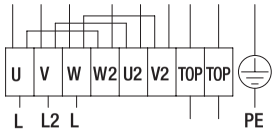



$U_1$ = black
$U_2$ = green
$V_1$ = blue
$V_2$ = white
$W_1$ = brown
$W_2$ = yellow
⏚ = green/yellow

**F2a.** Star connection (low speed) with TOP

**Direction of rotation** is reversed by swapping 2 line phases

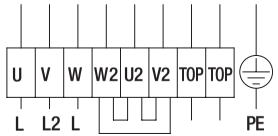
## 2 speeds via Δ / Y-switch 3 ~ 400 VAC power line




$U_1$ = black
$U_2$ = green
$V_1$ = blue
$V_2$ = white
$W_1$ = brown
$W_2$ = yellow
⏚ = green/ yellow

Fans
with terminal box

**F1b.** Delta Connection (high speed) with TOP




$U_1$ = black
$U_2$ = green
$V_1$ = blue
$V_2$ = white
$W_1$ = brown
$W_2$ = yellow
⏚ = green/ yellow

Fans
with terminal box

**F2b.** Star connection (low speed) with TOP

**Direction of rotation** is reversed by swapping 2 line phases

# Wiring Diagrams
*AC Wiring Connection Diagrams*

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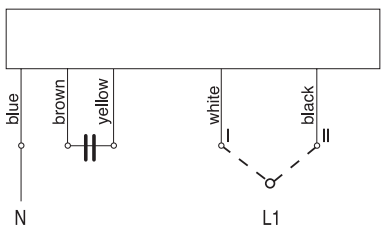
## ebm 2

Single phase 2 speed

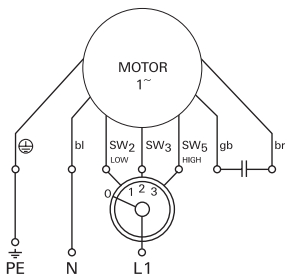



rotation speed: fast (level II)
rotation speed: slow (level I)

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

## ebm 3

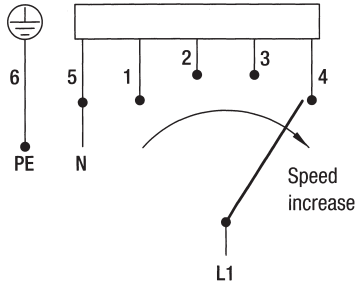
Single phase 3 speed




green/yellow bl blue br brown gb yellow
SW2 black #2 SW3 black #3 SW5 black #5

## ebm 4

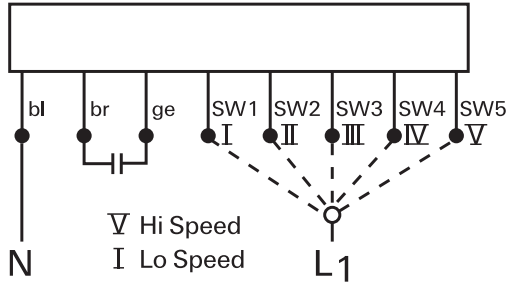
Single phase 4 speed control




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

## ebm 5

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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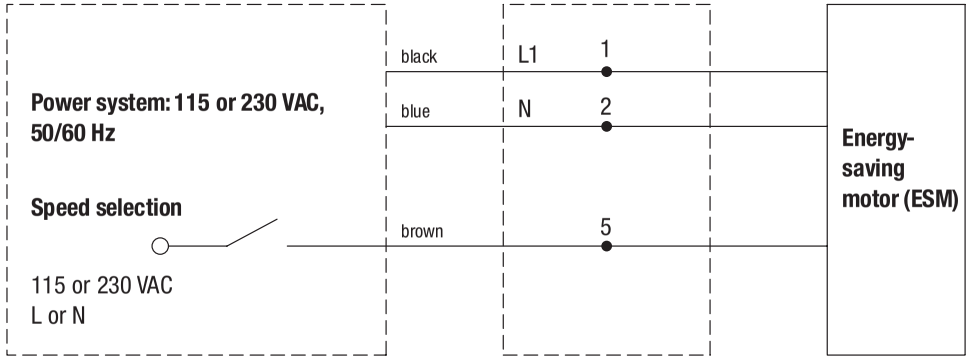
## ESM



# Wiring Diagrams
## *EC Wiring Connection Diagrams*

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| 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 |



Diagram

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# A Space
*for notes*

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# A Space
*for notes*

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# A Space
*for notes*

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