

*This Fan!*

9th Edition



AIR CONDITIONING • AUTOMOTIVE • ELECTRONICS • MECHANICAL SERVICES • REFRIGERATION • TELECOMMUNICATIONS

[www.ebmpapst.com.au](http://www.ebmpapst.com.au)

**ebmpapst**

# This Fan!

**ebmpapst**

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

## **Local Product**

ebm-papst stocks many thousands of different fans and motors in Australia and New Zealand for the local market, this catalogue covers the products typically used in Australian and New Zealand.

## **Imported Product**

There are however overseas manufacturers products imported into Australia & 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 many products operate on unusual power supply, when replacing components of imported product it is very important to check operating voltage and frequency, also airflow direction.

## **Product Identification**

Identification information is on all fans when leaving the factory; correct identification will make replacement an easy exercise - See pages 2 to 9 for more identification information.

## **Warranty**

All ebm-papst products 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 1800 764 440 in Australia or (09) 837 1884 New Zealand or check our web site [www.ebmpapst.com.au](http://www.ebmpapst.com.au)

## **Disclaimer**

Whilst every care has been taken in compilation of this catalogue ebm-papst Australia Pty Ltd take no responsibility for any errors or inaccuracies.

## **Sound Data**

For the purpose of this catalogue, all sound data has been corrected to approximate sound pressure (dBA) at 1 metre measured on the inlet side of the fan with zero Pa.

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**ebmpapst**



EMC Suppliers  
Code CNumber N3746



Quality  
Endorsed  
Company  
AS/NZS ISO 9001:2000  
CERTN:QEC23062

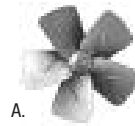
Check out our web site for up to date info [www.ebmpapst.com.au](http://www.ebmpapst.com.au)

# What fan is that? (Helpful hints for fan identification)



## 1. What style of impeller does it have?

Looks like a propeller	Axial <b>(A)</b>
Looks like a rotating drum	Centrifugal or radial
Blades look like a venetian blind	Forward curve <b>(B)</b>
Blades look like they are running backwards	Backward curve <b>(C)</b>



A.



B.



C.

## 2. What is the diameter?

### Axial

Up to 1000mm

### Radial

Up to 630mm

## 3. How many blades?

### Axial

Straight blades (typically 5)

'A' Blades **(D)**

Sickle shaped blades (5, 7 or 9)

'S' Blades **(E)**

Plastic blades (3, 4, 5, 7)

'K' Blades **(F)**

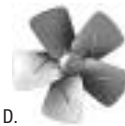
### Radial

8-12 Blades

A backward curve centrifugal **(N)**

More than 12 Blades

Forward curve centrifugal **(O)**



D.



E.



F.



N.



O.



O.

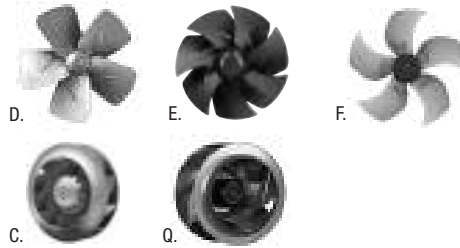
#### 4. What type of blade material?

##### Axial

Die cast alloy	'S' Blade (Bolted Fastening) (F)
Welded sheet steel	(D), (E)

##### Radial

Plastic	(C)
Aluminium sheet	(Q)



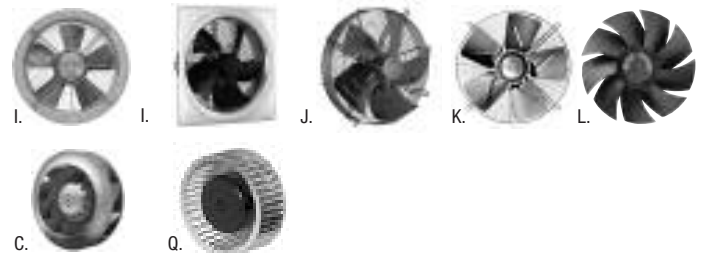
#### 5. What mounting style or housing?

##### Axial

Wall plate square or round?	(I)
Basket grille?	(J)
Flat grille?	(K)
No mounting?	(L)

##### Radial

No Housing	(commonly) backward curve
	R6 (C)
No Housing	(Q) R Series Forward Curve



Photos and drawings may not be a correct representation of all products.

3

Wiring Diagrams / Connection Diagrams / Velocity Pressure / Hook's Law / Refrigerant Pressure - Temperature / Oven Fan / Pumps (Evaporative Cooler) / Forward Curved Radial / Backward Curved Radial / "O" Motor / ESM Motor & Fan / Axial Compact / Basket Grille Axial / Square & Round Plate Axials / Axial Fan / Part Number Locations / edm-papst Part No.s / What fan is that?

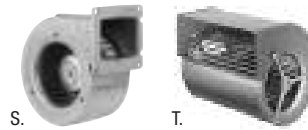
# What fan is that? (Helpful hints for fan identification)

## 5. What mounting style or housing? (continued)

### Radial

<b>Snail shell housing 1 inlet</b>	<b>(SWSI)</b>
	(S)

<b>Snail shell with 2 inlets</b>	<b>(DWDI)</b>
	(T)



## 6. AC or EC motor (EC has electronics built into the back of the motor)

AC	<b>W</b>
EC	<b>X</b>



## 7. Which way does the air flow?

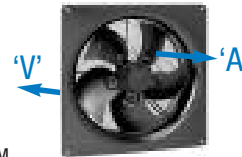
### Axial

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

Blow in your face?	Airflow 'A'
Blow away from your face?	Airflow 'V' (out over mounting brackets) <b>(M)</b>

### Radial

Not really applicable
-----------------------



M.

## 8. What is the power supply?

Single Phase (230V), Three Phase (400V) or DC	
Don't count the leads, this is not an indication.	
If a capacitor is present	Single phase

(Other Voltage may apply if from imported equipment)

## 9. What speed? (most customers may not know this if the label has worn off)

~2800rpm	2 pole
~1440rpm	4 pole
~960rpm	6 pole
~720rpm	8 pole

(EC Products speed is not relative to Poles - See Motor Name Plate)

## 10. What colour?

Either black or unpainted
---------------------------

## 11. What has it come off?

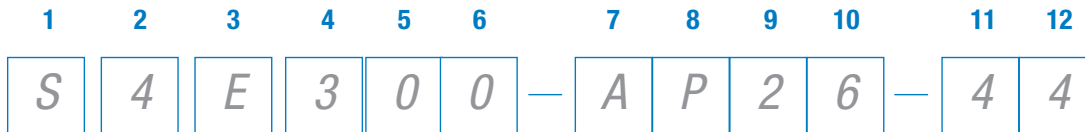
Imported equipment	We can only offer the closest alternative
Local equipment	Which brand?
	We may be able to work out what the model is.

5

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Wiring Diagrams / Connection Diagrams / Velocity Pressure / Pitot's Law / Refrigerant Pressure - Temperature / Oven Fan / Pumps (Evaporative Cooler) / Forward Curved Radial / Backward Curved Radial / "O" Motor / ESM Motor & Fan / Axial / Compact / Basket Grille Axial / Square & Round Plate Axial / Axial Fan / Part Number Locations / Part No.s / Part No.s / What fan is that?

# ebm-papst Axial Part No.



<sup>1</sup>  axial fan - 'A' bare fan & motor, 'S' with wire grille flat or basket, 'W' with square or round wall plate

<sup>2</sup>  number of poles (speed), 2, 4, 6, or 8 (in the case of D.C. or 7, 3 core E.C. products it is not representative of speed)

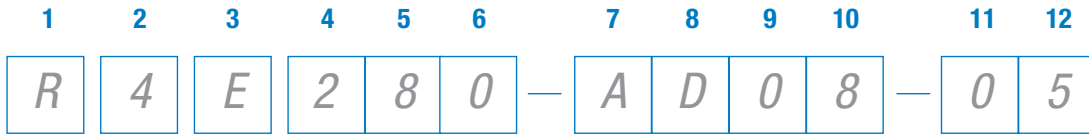
<sup>3</sup>  power supply (S = shaded pole, D = 3 phase, E = 1 phase, G = E.C. 1+3 phase, Q = square shaded pole)

<sup>4</sup>  <sup>5</sup>  <sup>6</sup>  fan size (mm)

<sup>7</sup>  <sup>8</sup>  <sup>9</sup>  <sup>10</sup>  <sup>11</sup>  <sup>12</sup>  fan & motor configuration



# ebm-papst Radial/Centrifugal Part No.



- 1  'R' bare fan & motor, 'G' forward curved (SWSI) with housing, 'D' forward curved (DWDI) with housing
- 2  number of poles (speed), 2, 4, 6, or 8 (in the case of D.C. or 7, 3 core E.C. products it is not representative of speed)
- 3  power supply (S = shaded pole, D = 3 phase, E = 1 phase, G = D.C. and E.C. 1+3 phase, Q = square shaded pole)

4  5  6  fan size (mm)

7  8  9  10  11  12  fan & motor configuration

- 7**
- ESM Motor & Fan
- Axial Compact
- Basket Grille Axial
- Square & Round Plate Axial
- Axial Fan
- Part Number Locations
- ebm-papst Part No.s
- What fan is that?

Wiring Connection Diagrams

Velocity Pressure /Hooke's Law

Refrigerant Pressure - Temperature

Oven Fan

Pumps (Evaporative Cooler)

Forward Curved Radial

Backward Curved Radial

"O" Motor

ESM Motor & Fan

Axial Compact

Basket Grille Axial

Square & Round Plate Axial

Axial Fan

Part Number Locations

ebm-papst Part No.s

What fan is that?

Part Number Locations Typical Location of Part Numbers



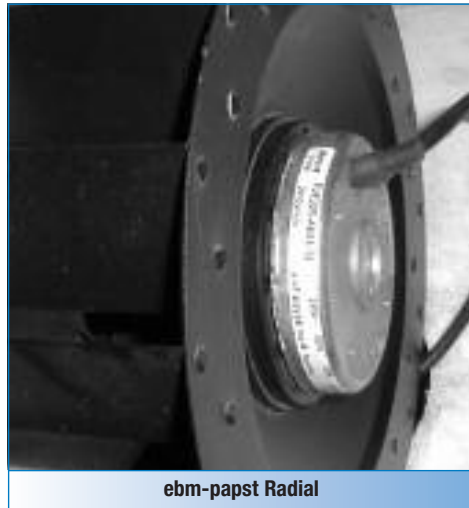
ebm-papst Axial



ebm-papst Forward Curve



**ebm-papst Q motor**



**ebm-papst Radial**



**ebm-papst Compact**

**9**

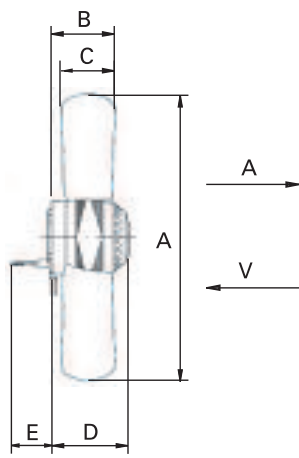
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- Wiring Diagrams
- Velocity Pressure /Hooke's Law
- Refrigerant Pressure - Temperature
- Oven Fan
- Pumps (Evaporative Cooler)
- Forward Curved Radial
- Backward Curved Radial
- "O" Motor
- ESM Motor & Fan
- Axial Compact
- Basket Grille Axial
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- Part Number Locations
- ebm-papst Part No.s
- What fan is that?

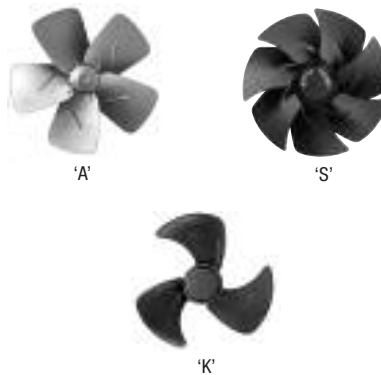
# Axial Fan

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Air flow 'V' always discharges over the mounting brackets



MAY HAVE LEAD OR TERMINAL BOX



## Dimensions

	A	B	C	D	E
A2D300-AD02-02	300	101	30	101	450
A2E200-AK38-01	197	61	39	62	450
A2E200-AI38-01	197	62	35	62	450
A2E250-AE65-02	250	66	39	83	450
A2E250-AL06-01	251	52	34	72	450
A2E300-AC47-02	300	50	20	98	450
A2E300-AP02-01	298	68	38	104	450
A4E250-AH02-11	251	48	34	62	450
A4E300-AA03-41	300	76	56	83	350
A4E300-AB03-22	300	76	56	83	450
A4E300-AB03-23	300	76	56	83	450
A4E300-AP26-01LL	300	73	60	73	450
A4E300-AP26-02	300	73	60	73	450
A4E350-AA06-02	353	91	70	102	450
A4E350-AA10-32	353	91	70	102	350
A4E350-AP06-01	350	102	92	104	600
A4E400-AP02-01	392	94	68	117	600
A4E450-AP01-17	446	110	75	129	1000
A4S200-AA02-02	195	53	33	73	450
A4S200-AH04-01	197	56	39	62	450
A4S250-AH02-01	251	52	34	72	450
A4S250-AI02-01	251	57	34	72	450

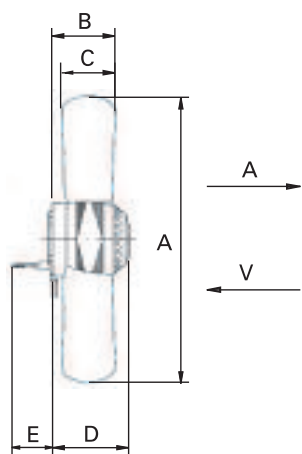
Part No.	Air Flow Direction	Voltage (V)	Frequency	Air Volume (m <sup>3</sup> /Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (F)	Noise Level (dBA@1M) see inside cover	Max. Air Temperature (C)	Approx Weight (Kg)	Wiring Diagram
A2D300-AD02-02	A	230/400	50/60	2760	2650	180	.31	-	76	60	2.7	2B
A2E200-AK38-01	V	230	50	910	2650	60	.28	1.5	70	70	1.4	1A
A2E200-AI38-01	A	230	50	890	2600	64	.30	1.5	65	70	1.4	1A
A2E250-AE65-02	A	230	50	1610	2550	115	.51	4	72	55	2.2	1A
A2E250-AL06-01	V	230	50	1820	2450	115	.51	3	69	65	1.9	1A
A2E300-AC47-02	A	230	50	2440	2650	140	.62	5	75	55	2.5	1A
A2E300-AP02-01	V	230	50	3410	2700	230	1.1	8	73	50	3	1A
A4E250-AH02-11	V	230	50	1010	1400	42	.19	1.5	54	55	1.9	1A
A4E300-AA03-41	V	230	50	1650	1350	70	.30	2	65	40	2.3	1A
A4E300-AB03-22	V	240	50	1510	1250	75	.32	1.5	62	70	2.3	1A
A4E300-AB03-23	A	240	50	1510	1250	75	.32	1.5	62	70	2.3	1A
A4E300-AP26-01LL	V	230	50	1740	1400	68	.30	2	59	60	1.9	1A
A4E300-AP26-02	A	230	50	1740	1400	68	.30	2	59	60	1.9	1A
A4E350-AA06-02	A	230	50	2850	1390	140	.62	5	68	60	3.1	1A
A4E350-AA10-32	V	230	50	2940	1400	130	.58	4	68	55	3.1	1A
A4E350-AP06-01	V	230	50	3110	1400	130	.58	4	64	65	3.6	1A
A4E400-AP02-01	V	230	50	4235	1430	160	.73	6	69	40	4.2	1A
A4E450-AP01-17	V	230	50	5700	1400	245	1.1	8	73	40	5.0	1A
A4S200-AA02-02	A	230	50	375	1380	40	.30	-	52	50	1.2	1C
A4S200-AH04-01	V	230	50	470	1370	30	.21	-	42	75	1.2	1C
A4S250-AH02-01	V	230	50	1000	1390	69	.53	-	54	50	1.7	1C
A4S250-AI02-01	A	230	50	1000	1390	69	.53	-	54	50	1.7	1C

Wiring Connection Diagrams / Velocity Pressure / Hook's Law / Refrigerant Pressure - Temperature / Oven Fan / Pumps (Evaporative Cooler) / Forward Curved Radial / Backward Curved Radial / "C" Motor / ESM Motor & Fan / Axial / Compact / Axial / Basket / Grille Axial / Square & Round / Plate Axial / Axial Fan / Part Number Locations / Part Number / edm-papst Part No.s / What fan is that?

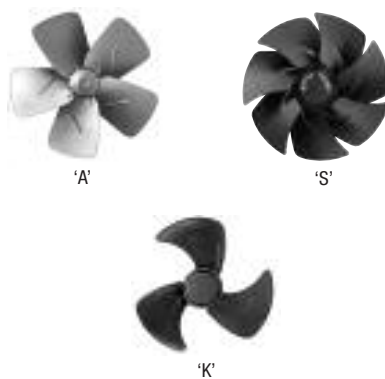
# Axial Fan

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Air flow 'V' always discharges over the mounting brackets



MAY HAVE LEAD OR TERMINAL BOX

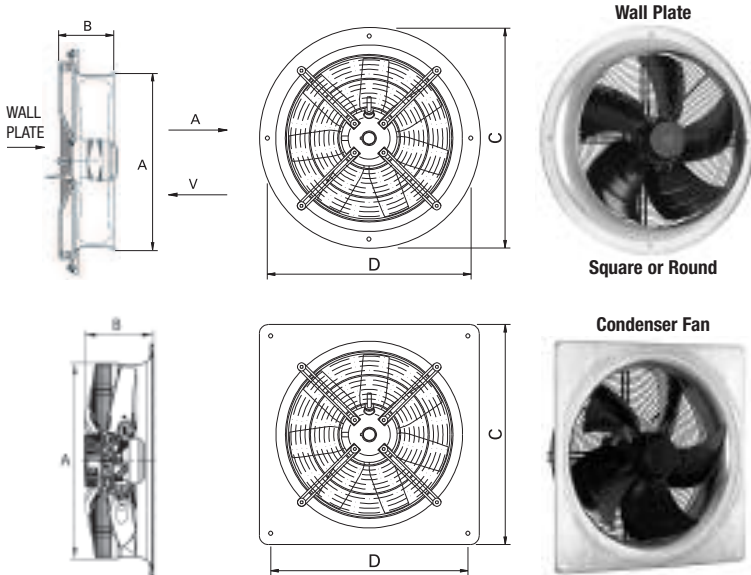


## Dimensions

	A	B	C	D	E
A6E400-AP10-12	392	85	90	117	1250
A6E450-AN08-11	446	100	92	122	1500
A6E450-AQ05-11	446	96	92	117	1500
A6E500-BB05-09	497	103	95	128	1800

Part No.	Air Flow Direction	Voltage (V)	Frequency	Air Volume (m <sup>3</sup> /Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (F)	Noise Level (dBA@1M) see inside cover	Min. Static Pressure (Pa)	Max. Air Temperature (Pa)	Approx Weight (Kg)	Wiring Diagram
A6E400-AP10-12	V	230	50	3290	940	120	.55	3	59	-	40	4	1A
A6E450-AN08-11	V	230	50	4415	900	145	.64	4	61	-	55	5	1A
A6E450-AQ05-11	V	230	50	4475	910	155	.70	4	62	-	70	5	1A
A6E500-BB05-09	V	230	50	5900	890	190	.84	6	65	-	70	9	1A

# Square & Round Plate Axials



Wall Plate

Square or Round

Condenser Fan

## Square Plates

Dimensions	A	B	C	D
W2E200-DI38-01	200	55	312	260
W4S200-DA02-02	200	55	312	260
W2E250 DE65.02	256	55	370	320
W2E300 DC47.02	306	80	430	380
W4E300 DB03.23	306	80	430	380
W4S250 DI02.01	256	63	370	320

## Round Plates

Dimensions	A	B	C	D
W2E200-CI38-01	200	80	280	250
W4S200-CA02-02	200	80	280	250
W2E250 CE65.02	254	80	320	295
W2E250 CL06.01	254	80	320	295
W2E300 CC47.02	306	80	397	380
W4E300 CB03.23	306	80	397	380
W4E300 CA03.41	306	80	397	380
W4E250 CI02.01	256	63	320	295

## Condenser Fans

Dimensions	A	B	C	D
W4E500 GY09-25	535	173	600	560
W4E500 GD03-05	535	173	600	560
W4D500 GD03-05	535	147	600	560
W4D500 GY14-40	535	147	600	560
W4D630 GJ01-01	696	214	805	750
W4D630 GK01-01	696	214	805	750
W6D710 GN01-01	772	242	810	850
W6D800 GJ01-01	857	259	970	910
W8D800 GJ01-01	857	259	970	910

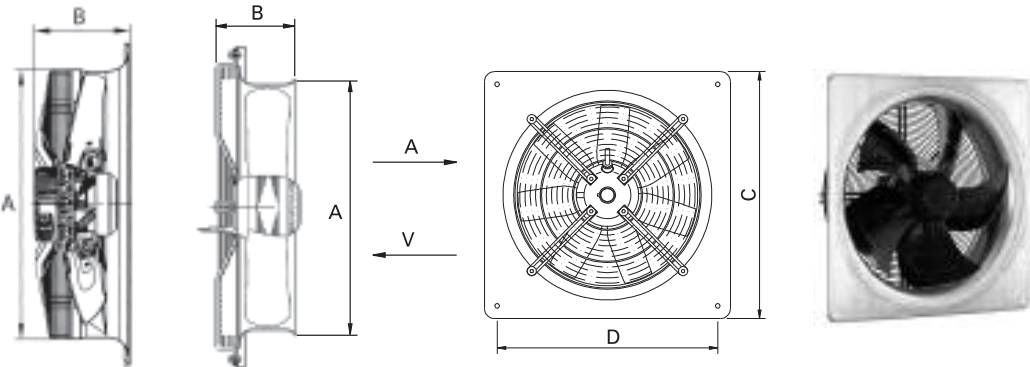


Square Plate	Round Plate	Air Flow Direction	Voltage (V)	Frequency	Air Volume (m³/Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (µF)	Noise Level (dBA@1M) see inside cover	Max. Air Temperature (°C)	Approx Weight (Kg)	Lead Length	Wiring Diagram
W2E200 DI38-01	W2E200 CI38-01	A	230	50	890	2600	64	0.30	1.5	65	70	1.9	450	1a
W4S200 DA02-02	W4S200-CA02-02	A	230	50	375	1380	40	0.30	-	52	50	1.2	450	1c
W2E250 DE65.02	W2E250 CE65.02	A	230	50	1610	2550	115	0.51	4	72	55	2.7	450	1a
	W2E250 CL06.01	V	230	50	1820	2450	115	0.51	3	69	65	2.7	450	1a
W2E300 DC47.02	W2E300 CC47.02	A	230	50	2440	2650	140	0.62	5	75	55	3	450	1a
W4E300 DB03.23	W4E300 CB03.23	A	240	50	1510	1250	75	0.32	1.5	62	70	3	450	1a
	W4E300 CA03.41	V	230	50	1650	1350	70	0.30	2	65	40	2.3	JB	1a
W4S250-DI02-01	W4S250-CI02-01	A	230	50	1000	1390	69	0.53		54	50	1.7	450	1c

#### Condenser Fans

W4E500 GY09-25	V	230	50	9700	1270	640	3.00	10	70	70	16	JB	1b
W4E500 GD03-05	V	230	50	9700	1270	760	3.30	14	71	60	13.5	JB	1b
W4D500 GD03-05	V	400/400	50	9900	1330	830	1.65	-	70	60	13.5	JB	5a/5b
W4D500 GY14-40	V	400/400	50	8500	1350	730	1.35	-	71	55	14	JB	5a/5b
W4D630 GJ01-01	V	400/400	50	21000	1340	2680	5.60	-	75	60	41.0	JB	5a/5b
W4D630 GK01-01	V	400/400	50	18100	1350	2222	5.00	-	75	80	37.0	JB	5a/5b
W6D710 GN01-01	V	400/400	50	16000	915	1.05	2.50	-	69	60	39.0	JB	5a/5b
W6D800 GJ01-01	V	400/400	50	25500	895	2000	4.20	-	69	70	46.0	JB	5a/5b
W8D800 GJ01-01	V	400/400	50	18700	675	950	2.50	-	63	60	46.0	JB	5a/5b

# Square Plate Axials EC



Dimensions	A	B	C	D
W3G400-CA22-71	420	152	504	528
W3G500-DE33-21	517	164	600	560
W3G650-DB02-03	677	250	805	750
W3G710-CB06-03	732	280	850	810
W3G710-CC08-03	732	280	850	810
W3G800-CB01-03	815	290	970	910
W3G800-CH03-03	815	290	970	910

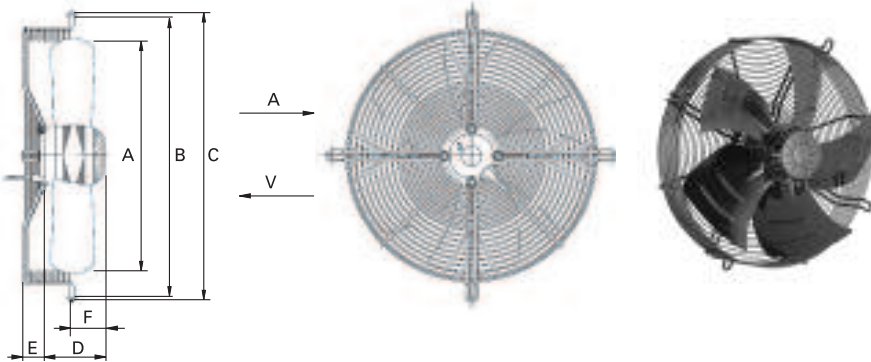
Note W3G400-CA22-71 is a Ring Plate

Part No.	Lead Length	Air Flow Direction	Voltage (V)	Frequency	Air Volume (m <sup>3</sup> /Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (F)	Noise Level (dBA@1M) see inside cover	Max. Air Temperature (C)	Approx Weight (Kg)
W3G400-CA22-71	600	V	230	50	5700	1690	390	2.5	-	75	60	6.5
W3G500-DE33-21	JB	V	380/480	50/60	10500	1430	1000	2.2	-	74	60	16.2
W3G650-DB02-03	JB	V	380/480	50/60	20000	1350	2800	4.6	-	78	60	45
W3G710-CB06-03	JB	V	380/480	50/60	24000	1230	2600	4.5	-	75	60	45
W3G710-CC08-03	JB	V	380/480	50/60	20000	1040	1600	2.9	-	76	60	41
W3G800-CB01-03	JB	V	380/480	50/60	24000	1030	2200	3.7	-	78	60	49
W3G800-CH03-03	JB	V	380/480	50/60	25000	960	1555	2.4	-	66	60	47

Wiring Connection Diagrams / Velocity Pressure / Hook's Law / Refrigerant Pressure - Temperature / Oven Fan / Pumps (Evaporative Cooler) / Forward Curved Radial / Backward Curved Radial / "O" Motor / ESM Motor & Fan / Axial / Compact / Basket / Grille Axial / Square & Round Plate Axial / Axial Fan / Part Number Locations / Part Number / Part No.s / What fan is that?

# Basket Grille Axial

ebmpapst



SHAPE OF BASKET GRILLE VARIES

## Dimensions

	A	B	C	D	E	F
S2D-170 BA04-06 (Flat Grille)	170	220	232	62	62	
S2E300 AP02-30	298	360		104		
S4E300 AB03-43	300	370		72.5	66	27
S4E300 AP26-38-CTN	300	360		73	66	27
S4E300 AP26-44-CTN	300	360		73	66	27
S4E350 AP06-48-CTN	352	422		102	30	54
S4E350 AP06-60-CTN	352	442		102	30	54
S4E400 AP02-44	392	470		117	10	
S4E450 AU03-37-CTN	445	522			74.5	
S4E500 AY09-01	497	565		147		88
S6D630 AE01-01	627	655	670	112	71	
S6E630 AE01-01	627	655	670	112	71	92

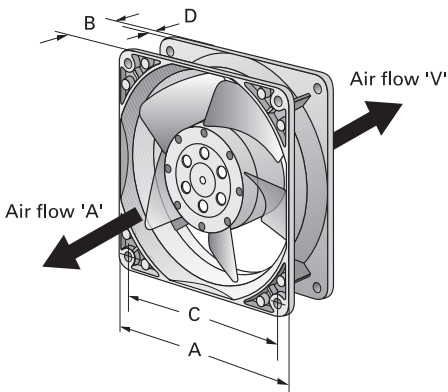
Part No.	Air Flow Direction	Voltage (V)	Frequency	Air Volume (m <sup>3</sup> /hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (F)	Noise Level (dBA@1M) see inside cover	Max. Air Temperature (C)	Approx Weight (Kg)	Colour	Wiring Diagram
S2D170 BA04-06		V	400	50/60	430	2650	40	.11	-	59	75		2b
S2E300 AP02-30		V	230	50/60	3410	2700	230	1.1	8	73	50	4	1a
S4E300 AB03-43		A	240	50	1610	1250	75	.32	1.5	63	60	3.1	1a
S4E300 AP26-38-CTN		V	230	50	1885	1390	73	.32	2	59	60	3.1	1a
S4E300 AP26-44-CTN		V	230	50	1885	1390	73	.32	2	59	60	3.1	1a
S4E350 AP06-48-CTN		V	230	50	3110	1400	130	.58	4	64	60	3.8	1a
S4E350 AP06-60-CTN		V	230	50	3110	1400	130	.58	4	64	60	3.8	1a
S4E400 AP02-44-CTN		V	230	50	4235	1430	160	.73	6	69	40	4.8	1a
S4E450 AU03-37-CTN		V	230	50	5700	1300	350	1.55	8	70	45	8.4	1a
S4E500 AY09-01		V	230	50	8200	1270	640	3.00	10	70	70	9.8	1a
S6D630 AE01-01		V	400/400	50	11200	895	595	1.25		68	75	14.5	5a/5b
S6E630 AE01-01		V	230	50	11200	870	560	2.5	12	68	55	14.5	1a

Wiring Connection Diagrams / Hook's Law Velocity Pressure - Temperature Refrigerant Pressure - Temperature Oven Fan Pumps (Evaporative Cooler) Forward Curved Radial Backward Curved Radial "C" Motor ESM Motor & Fan Axial Compact Basket Grille Axial Square & Round Plate Axial Axial Fan Part Number Locations Part Number Locations Part No.s What fan is that? What fan is that?

# Compact Axial



Air flow 'V' always discharges over the mounting brackets



'A'



'B'



'C'

## Dimensions

	CASE STYLE	A	B	C	D
<b>COMPACTS</b>					
4184 NX	B	119	38	105	6
'4212	B	119	38	105	6
'4318	B	119	32	105	5
4606Z 855	B	119	38	105	6
4650ZW 976	B	119	38	105	6
4656N	B	119	38	105	6
4656Z 877	B	119	38	105	6
'5958	B	127	38	113	7
6224N	C	172d	51	162d	4.5
'8314	B	80	32	72	5
8556N	B	80	38	72	3
'9956	B	119	25	105	4
W2S130-AA03-63	A	150d	55	162d	6
W2S130-BM03-01	A	172d	55	162d	6
W2S130-BM15-01	A	172d	55	162d	6

Part No.	Air Flow Direction	Voltage (V)	Frequency	Air Volume (m <sup>3</sup> /hr)	Speed (RPM)	Power Input (W)	Noise Level (dBA@1M) see inside cover	Max. Air Temperature (C)	Approx Weight (Kg)	Wiring Diagram
<b>COMPACTS</b>										
4184 NX		A	24		180	3200	4.5	49	75	0.39
'4212		V	12		165	3050	4.3	45	75	0.29
'4318		V	48		170	2800	5.0	45	75	0.22
4606Z 855		V	115	60	180	3100	18.0	45	85	0.54 1c
4650ZW 976		V	230	50	160	2650	19.0	40	50	0.54 1c
4656N		A	230	50	160	2650	19.0	47	85	0.55 1c
4656Z 877		V	230	50	160	2650	19.0	40	75	0.54 1c
'5958		V	230	50	180	2750	18.0	44	60	0.57 1c
6224N		V	24		410	3400	18.0	55	72	0.82
'8314		V	24		54	3300	2.5	36	75	0.17
8556N		V	230	50	50	2800	12.0	31	90	0.49 1c
'9956		V	230	50	117	2450	14.0	37	70	0.80 1c
W2S130-AA03-63		V	230	50	325	2800	45	49	50	1.1 1c
W2S130-BM03-01		A	230	50	380	2700	47	60	50	1.1 1c
W2S130-BM15-01		A	115	60	380	2700	47	60	50	1.1 1c

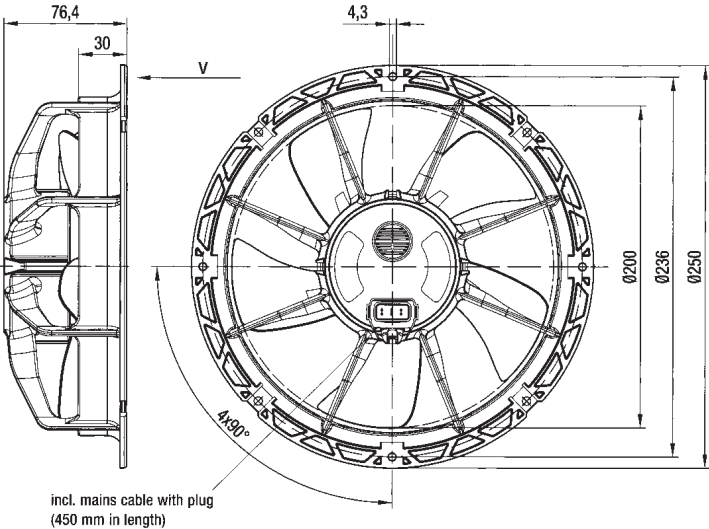
LZ126 Lead + Plug 1000 mm

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Photos and drawings may not be a correct representation of all products.

- Wiring Connection Diagrams
- Velocity Pressure / Pitot's Law
- Refrigerant Pressure - Temperature
- Oven Fan
- Pumps (Evaporative Cooler)
- Forward Curved Radial
- Backward Curved Radial
- "C" Motor
- ESM Motor & Fan
- Axial Compact
- Basket Grille Axial
- Square & Round Plate Axial
- Axial Fan
- Part Number Locations
- edm-papst Part No.s
- What fan is that?

# ESM Motor & Fan





Part No.	Air Flow Direction	Voltage (V)	Frequency	Air Volume (m <sup>3</sup> /Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (F)	Noise Level (dBA@1M) see inside cover	Max. Air Temperature (C)	Approx Weight (Kg)	Colour
W1G200-EA91-22	V	230	1	800	2200	27	0.21	-	56	50	1.0	BLACK
BOTH SPEEDS OF ESM FAN ARE PROGRAMMABLE												

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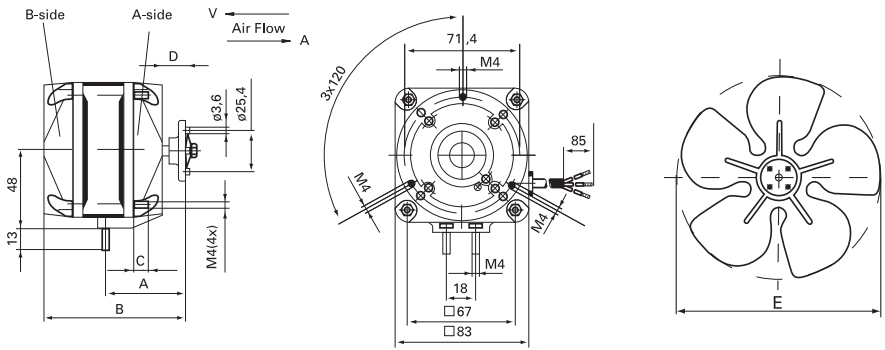
**ESM Motor & Fan**

Photos and drawings may not be a correct representation of all products.

- Wiring Connection Diagrams
- Velocity Pressure /Hooke's Law
- Refrigerant Pressure - Temperature
- Oven Fan
- Pumps (Evaporative Cooler)
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# “Q” Motor

ebmpapst



Multiple Fastening Locations

## Dimensions

	A	B	C	D	E	
M4Q045 BD01-29/B01	42	76	12	15	154	200
M4Q045-BD01-38	42	76	12	15	154	200
M4Q045 CA01-38	42	82	10	15	200	230
M4Q045 CA03-38	42	82	10	15	230	254
M4Q045 CF01-38	42	87	10	15	254	
M4Q045 DA05-38	54	93	10	15	300	
M4Q045 EA01-38	59	103	10	16	300	
M4Q045 EF01-38	79	125	10	33	300	



Part No.	Power Output (W)	Air Flow Direction	Voltage (V)	Phase	Air Volume (m <sup>3</sup> /hr)	Speed (RPM)	Power Input (W)	Current (A)	Bearing	Noise Level (dBA@1M) see inside cover	Min. Static Pressure (Pa)	Max. Air Temperature (°C)	Approx Weight (kg)	Lead Length	Wiring Diagram
M4Q045-BD01-38	5		230			1300	29	.19					.9		ebm4
M4Q045 CA01-38	7		230			1300	31	.20					1.1		ebm4
M4Q045 CA03-38	10		230			1300	36	.25					1.2		ebm4
M4Q045 CF01-38	16		230			1300	60	.42					1.3		ebm4
M4Q045 DA05-38	23		230			1300	86	.62					1.6		ebm4
M4Q045 EA01-38	25		230			1300	90	.62					2.0		ebm4
M4Q045 EF01-38	34		230			1300	110	.75					2.2		ebm4

MOUNTING SCREWS TO SUIT  
"Q" Motor ARE AVAILABLE

Recommended "A" Flow Impellers						
Diameter →	154	172	200	230	254	300
M4Q045-BD01-38	73763	73766	73768			
M4Q045-CA01-38			73769	73770		
M4Q045-CA03-38				73771	73773	
M4Q045-CF01-38					73774	
M4Q045-DA05-38						73776
M4Q045-EA01-38	(All Impeller part numbers end -----2-3634)					73776
M4Q045-EF01-38						73777

Recommended "V" Flow Impellers						
Diameter →	154	172	200	230	254	300
	73803	73806	73808			
			73809	73810		
				73811	73813	
					73814	
						73816
	(All Impeller part numbers end -----2-3634)					73816
						73817

Motor Cross Reference Guide					
Elco	Olmo	Radlon	Fasco	Betts	Brinsmead
N5-13	1703.571	RM_6			
N7-20	1755.571	RM_7			
N10-20	1810.57	RM_10	5-268-505-099	50D501-61-C	
N16-30	1945.57	RM_11,&RM_16	52868-509-039		BLS 13- A
N20-40		RM_20		50D502-61C	BLS 20- A
N25-40	2102.57	RM_22			
N34-45	1990.75		52868-513-081		

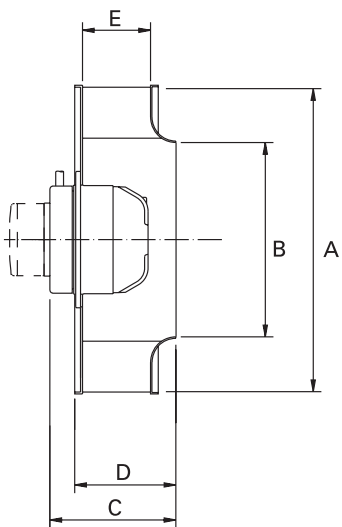
Photos and drawings may not be a correct representation of all products.

Not suitable for shaft side mounting of Brinsmead, Fasco or Betts motors. This cross reference is indicative only. User should satisfy themselves of the suitability for replacement.

- Wiring Connection Diagrams
- Velocity / Hook's Law
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- Backward Curved Radial
- "Q" Motor
- ESM Motor & Fan
- Axial Compact
- Basket Grille Axial
- Square & Round Plate Axial
- Axial Fan
- Part Number Locations
- ebm-part Part No.s
- What fan is that?

# Backward Curved Radial

**ebmpapst**



## Dimensions

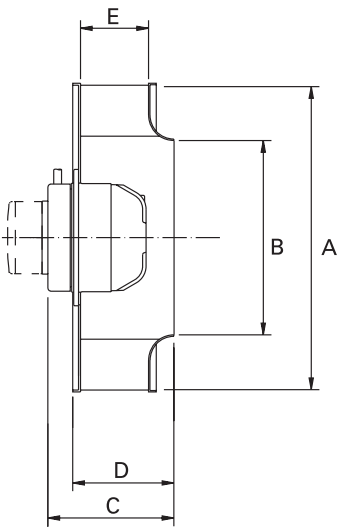
	A	B	C	D	E
R2E180 CB28-09	180	131	73	67	29
R2E190 A026-37	190	131	68.5	62.5	45
R2E190 A062-39	190	131	68.5	62.5	45
R2E220 AA52-72	220	159	73	63	45
R2E225 AT51-05	225	153	69	63.3	380
R2E225 BD92-09	225	153	99	89.3	63
R2E250 AS47-05	250	172	99	84.3	56
R2E280 AE52-05	280	191	125	81.6	50
R2S133 AE17-05	133	92.8	91	60.6	41
R4D310-AG16-09-LT	317	199	154	134	101
R4D355-AE03-10	355	237	190	173	126
R4E250 AH01-05	250	172	99	84.3	56
R4E280 AD08-05	280	191	125	112	80
R4E310 AF12-09	318	203	159	132	101
R4E355-A003-09	360	250	190	136	
R4E355-AP03-09	365	237	190		141
R4S225 AB04-12	225	168	99	90	70
R6E355-AC16-05	360	237	190	173	126
R6E400-AA04-05	404	268	162	142	91
R4D400-AD22-09	404	265	218	188	140
R4E400-AN09-06	404	265	218	188	140
R4D500-AT01-05	505	355	245	233	175
R4D560-AQ01-05	565	398	234	258	195

Part No.	Air Flow Direction	Voltage (V)	Frequency	Air Volume (m³/Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (µF)	Noise Level (dBA@1M) see inside cover	Min. Static Pressure (Pa)	Max. Air Temperature (Pa)	Approx. Weight (Kg)	Wiring Diagram	Lead	
R2E180 CB28-09		CW	230	50	440	2550	60	0.28	1.5	62		40	1.35	2000	1a
R2E190 A026-37		CW	230	50/60	570	2500	58	0.26	2	62		50	1.2	450	1a
R2E190 A062-39		CW	230	50/60	570	2500	58	0.26	2	62		50	1.2	450	ebm5
R2E220 AA52-72		CW	240	50	860	2600	85	0.38	2.5	72		65	2.5	450	1a
R2E225 AT51-05		CW	230	50/60	850	2650	105	0.46	3	70		60	2.1	450	1a
R2E225 BD92-09		CW	230	50/60	1200	2650	135	0.6	4	69		60	2.1	450	1a
R2E250 AS47-05		CW	230	50/60	1450	2600	155	0.70	5	75		70	3.1	450	1a
R2E280 AE52-05		CW	230	50	2110	2700	225	1.00	7	76		40	3.0	450	1a
R2S133 AE17-05		CW	230	50/60	280	2780	36	0.25	-	55		40	0.9	300	1c
R4D310-AG16-09-LT		CW	400/400	50	2050	1420	120	0.35	-	64		50	3.9	600	5a/5b
R4D355-AE03-10		CW	400/400	50	2810	1400	190	0.51	-	66		50	4.7	100	5a/5b
R4E250 AH01-05		CW	230	50/60	810	1400	43	0.20	1.5	61		70	2.2	450	1a
R4E280 AD08-05		CW	230	50/60	1435	1420	78	0.35	2.5	62		40	2.8	450	1a
R4E310 AF12-09		CW	230	50	1815	1430	105	0.47	4	67		65	3.5	450	1a
R4E355-A003-09		CW	230	50	2860	1370	290	1.28	8	67		55	4.7	600	1a
R4E355-AP03-09		CW	230	50	2800	1360	290	1.28	8	67		55	4.7	600	1a
R4S225 AB04-12		CW	230	50	650	1300	70	0.44	-	60		50	1.8	600	1c
R6E355-AC16-05		CW	230	50/60	1870	880	70	0.32	2	55		65	4.1	450	1a
R6E400-AA04-05		CW	230	50/60	2225	910	117	0.52	3	62		55	5.2	450	1a
R4D400-AD22-09		CW	400/400	50/60	4010	1415	515	1.41	-	63	-	60	8.7	JB	5a/5b
R4E400-AN09-06		CW	230	50/60	3900	1370	480	2.1	10	68	-	70	8.7	600	1a
R4D500-AT01-05		CW	400/400	50	8200	1375	1430	5.2	-	71	-	80	26	1000	5a/5b
R4D560-AQ01-05		CW	400/400	50	11700	1365	2380	8.66	-	72	-	60	28	1000	5a/5b

- Wiring Connection Diagrams
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- Square & Round Plate Axial
- Axial Fan
- Part Number Locations
- ebm-papst Part No.s
- What fan is that?

# Backward Curved Radial EC

ebmpapst



## Dimensions

	A	B	C	D	E
R3G190-AB07-02	190	131	95	62.8	44.6
R3G220-AD11-02	220	159	97	71	44
R3G250-AK41-71	252	172	154	84.3	56
R3G280-AF35-71	281	191	173.7	112	80
R3G310-AI39-71	318	220	198	139	101
R3G355-AM29-71	360	250	206	146.5	96
R3G400-AD32-71	404	268	205	141	90
R3G450-AT09-03	485	300	326	209	140
R3G500-AG06-03	505	355	319	233	175
R3G560-AG07-03	565	398	344	258	195
R3G630-AB06-03	635	447	376	290	220

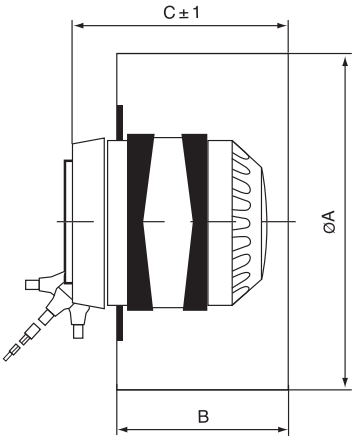
Part No.	Air Flow Direction	Voltage (V)	Frequency	Air Volume (m <sup>3</sup> /hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (F)	Noise Level (dBA@1M) see inside cover	Max. Air Temperature (C)	Approx. Weight (Kg)	Lead	Wiring Diagram
R3G190-AB07-02	CW	230	50/60	745	3320	71	0.50	-	72	60	1.3	450	EC-55
R3G220-AD11-02	CW	230	50/60	960	2700	62	0.50	-	69	60	1.4	450	EC-55
R3G250-AK41-71	CW	200-277	50/60	2100	3580	485	3.00	-	80	60	4.5	600	-
R3G280-AF35-71	CW	200-277	50/60	2800	2760	425	2.60	-	80	60	5.0	600	-
R3G310-AI39-71	CW	200-277	50/60	3500	2320	500	3.00	-	75	60	4.5	600	-
R3G355-AM29-71	CW	200-277	50/60	3600	1940	435	2.60	-	76	60	5.7	600	-
R3G400-AD32-71	CW	200-277	50/60	3400	1520	390	2.50	-	73	60	6.1	600	-
R3G450-AT09-03	CW	380-480	50/60	9600	2165	2590	5.10	-	83	50	21	JB	EC-112/150
R3G500-AG06-03	CW	380-480	50/60	10900	1700	2700	4.30	-	82	60	22.0	JB	EC-112/150
R3G560-AG07-03	CW	380-480	50/60	1200	1350	2300	3.60	-	78	60	23.5	JB	EC-112/150
R3G630-AB06-03	CW	380-480	50/60	16000	1200	2900	4.60	-	79	50	28.5	JB	EC-112/150

Wiring Connection Diagrams / Velocity Pressure / Hook's Law / Refrigerant Pressure - Temperature / Oven Fan / Pumps (Evaporative Cooler) / Forward Curved Radial / Backward Curved Radial / "O" Motor / ESM Motor & Fan / Axial / Compact / Basket Grille Axial / Square & Round Plate Axial / Axial Fan / Part Number Locations / edm-part Part No.s / What fan is that?

# Forward Curved Radial



Dimensions	A	B	C
R4E200-AA19-13	202	102	62.5





Part No.	Air Flow Direction	Voltage (V)	Frequency	Air Volume (m <sup>3</sup> /Hz)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (F)	Noise Level (dBA@1M) see inside cover	Min. Static Pressure (Pa)	Max. Air Temperature (C)	Approx Weight (Kg)	Colour	Wiring Diagram
R4E200-AA19-13		cw	240	50	273	900	45	0.19	1	51		40	3.7	1a

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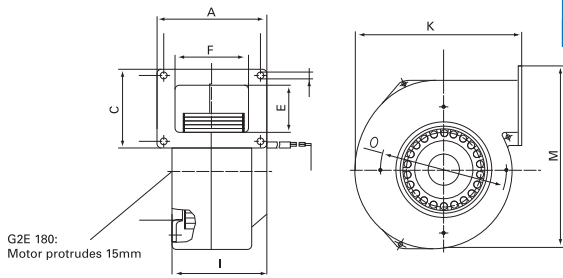
- Wiring Connection Diagrams
- Velocity Pressure / Pitot's Law
- Refrigerant Pressure - Temperature
- Oven Fan
- Pumps (Evaporative Cooler)
- Forward Curved Radial
- Backward Curved Radial
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- ESM Motor & Fan
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- Basket Grille Axial
- Square & Round Plate Axial
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- Part Number
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# Forward Curved Radial

ebmpapst

## Dimensions

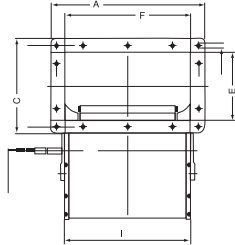
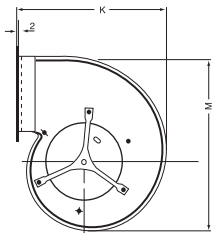
	A	C	E	F	I	K	M
G2E120-CR26-03	110	98	67	77	99	171	180
G2E140-AI28-01	130	120	92	94	100	227	248
G2E146-DW07-01	130	120	92	94	100	227	248
G2E160-AY47-01	130	120	92	94	100	227	248
G4E180-GS11-01	183	278	224	129	155	296	332



Part No.	Air Flow Direction	Voltage (V)	Frequency	Air Volume (m <sup>3</sup> /Hz)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (F)	Noise Level (dBA@1M) see inside cover	Max. Air Temperature (C)	Approx Weight (Kg)	Lead Length	Wiring Diagram	
G2E120-CR26-03		cw	230	50	275	2200	83	0.37	2	64	70	1.9	450	1a
G2E140-AI28-01		CW	230	50/60	485	2400	160	0.70	4	72	70	2.6	450	1a
G2E146-DW07-01		CW	230	50/60	470	1550	140	0.62	3	60	50	2.6	450	1a
G2E160-AY47-01		CW	230	50/60	600	2100	240	1.05	6	72	50	3.9	450	1a
G4E180-GS11-01		CW	230	50/60	100	1130	180	0.80	4	66	45	6.4	600	1a

# Forward Curved Radial

ebmpapst



## Dimensions

	A	C	E	F	I	K	M
D2E133-DM47-01	270	142	102	232	232	204	213
D2E133-AM83-88	215	70	66	212	222	170	170
D2E146-AP47-22	270	142	102	232	232	206	219
D2E146-HS97-01	178	163	149	ROUND	195	220	216
D2E146-HT67-01	178	163	149	ROUND	199	220	216
D2E146-HR93-01	178	163	149	ROUND	195	220	216
D4E146-AA07-02	270	142	102	232	232	206	219
D4E225-CC01-21	341	304	250	287	287	327	370



'A'



'B'

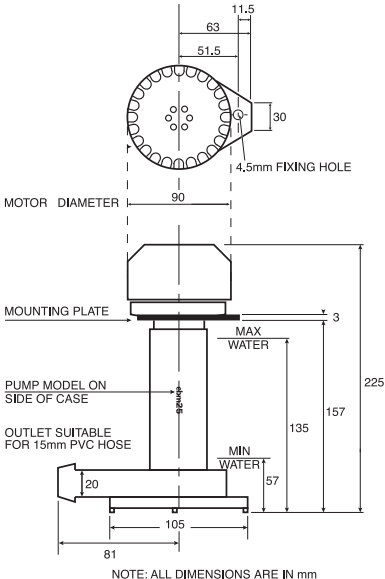


'C'

Part No.	Identity Case Style	Voltage (V)	Phase	Air Volume (m <sup>3</sup> /Hz)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (F)	Noise Level (dBA@1M) see inside cover	Max. Air Temperature (C)	Approx Weight (Kg)	Lead Length	Wiring Diagram	
D2E133-DM47-01		B	230	50/60	810	1150	190	0.84	3	56	40	4.4	300	1a
D2E133-AM83-88		B	230	50	600	1500	185	0.81	3	60	40	3.5	550	ebm6
D2E146-AP47-22		C	230	50/60	970	2050	300	1.31	8	63	40	4.2	350	1a
D2E146-HS97-01		A	230	50/60	755	1350	195	0.86	5	57	55	3.5		ebm7
D2E146-HT67-01		A	230	50/60	1060	1850	355	1.55	8	66	50	3.6		ebm7
D2E146-HR93-01		A	230	50/60	630	1100	150	0.66	4	51	50	3.0		ebm7
D4E146-AA07-02		B	230	50/60	835	1000	100	0.44	2	55	60	3.5		1a
D4E225-CC01-21		C	230	50/60	2650	1150	650	2.84	25	65	40	12.4		1a

\* D2E133-AM83-98 (As -88 but with grille).

# Pumps (Evaporative Cooler)



Part No.	Air Flow Direction	Voltage (V)	Nominal Flow (L/min)	Phase	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (F)	Noise Level (dBA@1M) see inside cover	Min. Static Pressure (Pa)	Max. Air Temperature (C)	Approx Weight (Kg)	Colour	Wiring Diagram
EBM40 JB		230	35	1	2700	16		1						1a

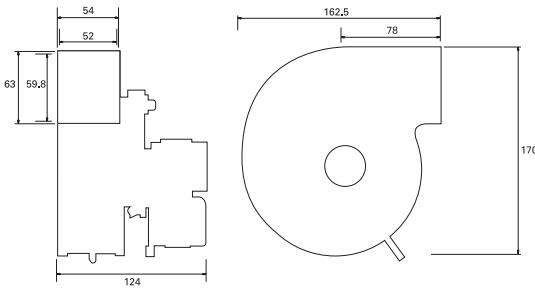
**37**

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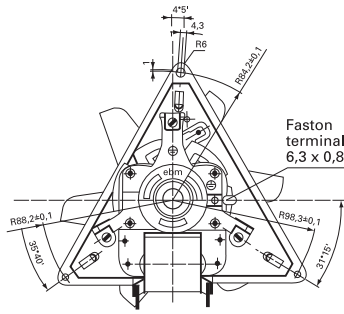
- Wiring Connection Diagrams
- Velocity Pressure / Pitot's Law
- Refrigerant Pressure - Temperature
- Oven Fan
- Pumps (Evaporative Cooler)
- Forward Curved Radial
- Backward Curved Radial
- "O" Motor
- ESM Motor & Fan
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- Basket Grille Axial
- Square & Round Plate Axial
- Axial Fan
- Part Number Locations
- Part Number Locations
- Part No.s
- What fan is that?

# Oven Fan

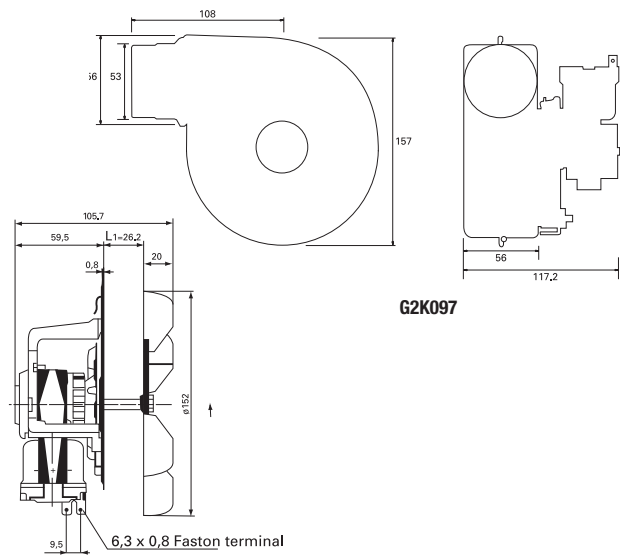
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**RLA108**



**R2K150**



**G2K097**



Part No.	Article No.	Voltage (V)	Phase	Air Volume (m³/Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (F)	Noise Level (dBA@1M) see inside cover	Min. Static Pressure (Pa)	Max. Air Temperature (Pa)	Approx Weight (Kg)	Colour	Wiring Diagram
R2K150-AC03-25	55466.32180	230	50	200	2000	32	0.27	-				120	0.9	
RLA108/0034A76	55461.21760	230	50	100	1800	32	0.27		49			105/150	1.5	
G2K097-AD01-65	55465.12040	230	50	150	1750	60	0.53			53		90/220	3	

\* RLA108/0034A76 replaces G2K108-AA01-45 & 46.

Wiring Connection Diagrams / Velocity Pressure / Velocity / Hook's Law / Refrigerant Pressure - Temperature / Oven Fan / Pumps (Evaporative Cooler) / Forward Curved Radial / Backward Curved Radial / "O" Motor / ESM Motor & Fan / Axial / Compact / Basket Grille Axial / Square & Round Plate Axial / Axial Fan / Part Number Locations / Part Number / Part No.s / edm-papst / What fan is that?

# Refrigerant Pressure-Temperature Chart



°C	R134a	R744	R723	R290	R600	R600a	R404A	R123	R1270	R717
					Pressure (gauge) kPa					
-60	-85	-	-	-	-	-	53	-100	-	-79
-55	-80	-	-	-	-	-	-38	-100	-	-73
-50	-72	581	-52	-31	-92	-	-19	-99	10	-61
-45	-62	730	-33	-12	-88	-79	4	-99	13	-47
-40	-50	-	-	-	-	-	31	-98	-	-30
-35	-35	1100	11	36	-79	-63	64	-96	73	-8
-30	-17	1325	40	66	-73	-54	103	-94	111	18
-25	5	1580	79	102	-65	-43	148	-92	155	50
-20	31	1866	120	143	-56	-28	200	-89	205	89
-18	44	1990	142	161	-52	-22	224	-87	227	106
-16	56	2119	165	180	-47	-15	248	-86	250	125
-14	70	2255	187	200	-42	-8	274	-84	275	145
-12	84	2396	210	221	-37	0	302	-83	300	167
-10	100	2544	234	244	-32	8	331	-81	327	190
-8	116	2698	263	267	-26	16	261	-78	356	214
-6	133	2858	294	292	-19	25	393	-77	386	240
-5	142	2942	310	304	-16	30	410	-75	400	254
-4	152	3025	325	318	-13	35	427	-74	417	268
-3	161	3111	340	330	-9	40	445	-73	432	283
-2	172	3199	356	345	-5	46	463	-71	450	298

°C	R134a	R744	R723	R290	R600	R600a	R404A	R123	R1270	R717
Pressure (gauge) kPa										
-1	181	3288	370	359	-2	50	481	-70	466	313
0	192	3380	387	373	2	56	500	-69	484	329
1	202	3473	406	386	6	62	519	-67	501	345
2	214	3568	427	403	10	68	539	-66	519	362
3	225	3665	446	417	14	74	559	-64	537	379
4	237	3763	467	434	19	80	580	-62	556	397
5	249	3864	487	450	23	86	601	-60	576	415
6	261	3966	507	466	28	93	623	-58	595	434
8	287	4177	547	500	37	106	658	-54	636	474
10	314	4396	588	535	48	121	715	-51	678	515
12	342	4623	639	572	58	135	776	-46	722	559
14	372	4859	691	610	69	151	828	-41	766	605
16	404	5103	743	650	81	168	881	-36	815	653
18	437	5357	795	692	94	185	938	-31	865	704
20	471	5620	847	735	107	203	996	-26	916	758
25	565	6325	1009	850	142	261	1154	-10	1053	904
30	670	7104	1173	977	183	307	1327	8	1204	1070
35	787	-	1374	1116	228	367	1518	29	1370	1250
40	916	-	1575	1268	278	435	1728	53	1547	1460
45	1060	-	1819	1432	334	508	1957	80	1741	1680
50	1218	-	-	-	395	590	2207	111	1953	1930
55	1391	-	-	1611	-	-	2479	146	-	2210
60	1581	-	-	-	-	-	2774	185	-	2510
65	1789	-	-	-	-	-	3093	228	-	-
70	2016	-	-	-	-	-	-	276	-	-

Wiring Connection Diagrams / Velocity Pressure / Pitot's Law / Refrigerant Temperature / Oven Fan / Coolers (Evaporative / Purges) / Forward Curved Radial / Backward Curved Radial / "O" Motor / Motor & Fan / ESM / Axial / Compact / Axial / BackKey / Grille Axial / Square & Round Plate Axial / Axial Fan / Number Locations / Part No.s / edm-raust Part No.s / 41 What fan is that?

## Velocity Pressure - Air ( $P_V$ )

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Velocity (m/s)	Velocity pressure (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 (m/s)	Velocity pressure (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 (m/s)	Velocity pressure (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

$$P_V = V^2 \times 0.6 @ 20^\circ\text{C}$$

# Hooke's Law for fans

**Speed variation at constant fan size and constant density:**

$$V_2 = V_1 \times \frac{n_2}{n_1}$$

The volume flow changes proportional to the speed

$$P_2 = P_1 \times \left(\frac{n_2}{n_1}\right)^2$$

All pressures (static, dynamic, total) Change proportionately to the square of the speed

$$W_2 = W_1 \times \left(\frac{n_2}{n_1}\right)^3$$

The power requirement at the shaft changes proportionately to the third power of the speed

**Change in density at constant speed (or change of the Kelvin temperature at a constant flow medium)**

$$V = \text{Const}$$

The volume flow is not affected

$$P_2 = P_1 \times \frac{Q_2}{Q_1} = \frac{T_2}{T_1}$$

The pressures (static, dynamic, and total) change proportionately to the density

$$W_2 = W_1 \times \frac{Q_2}{Q_1} = \frac{T_2}{T_1}$$

The power requirement at the shaft changes proportionately to the density

**Change in wheel diameter of geometrically similar wheels at constant speed**

$$V_2 = \left(\frac{D_2}{D_1}\right)^3 \times V_1$$

The volume flow changes proportionately to the third power of the wheel diameter

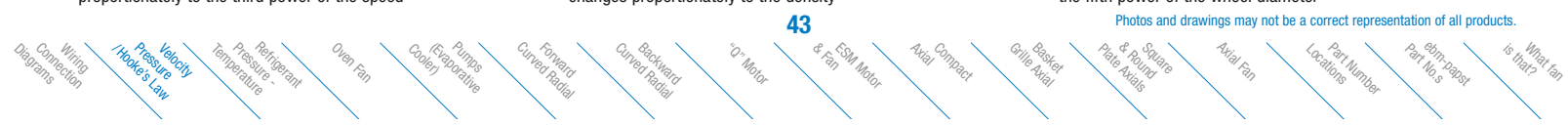
$$P_2 = P_1 \times \left(\frac{D_2}{D_1}\right)^2$$

The pressure (static Dynamic, total) change proportionately to the square of the wheel diameter

$$W_2 = W_1 \times \left(\frac{D_2}{D_1}\right)^5$$

The power requirement at the shaft changes proportionately to the fifth power of the wheel diameter

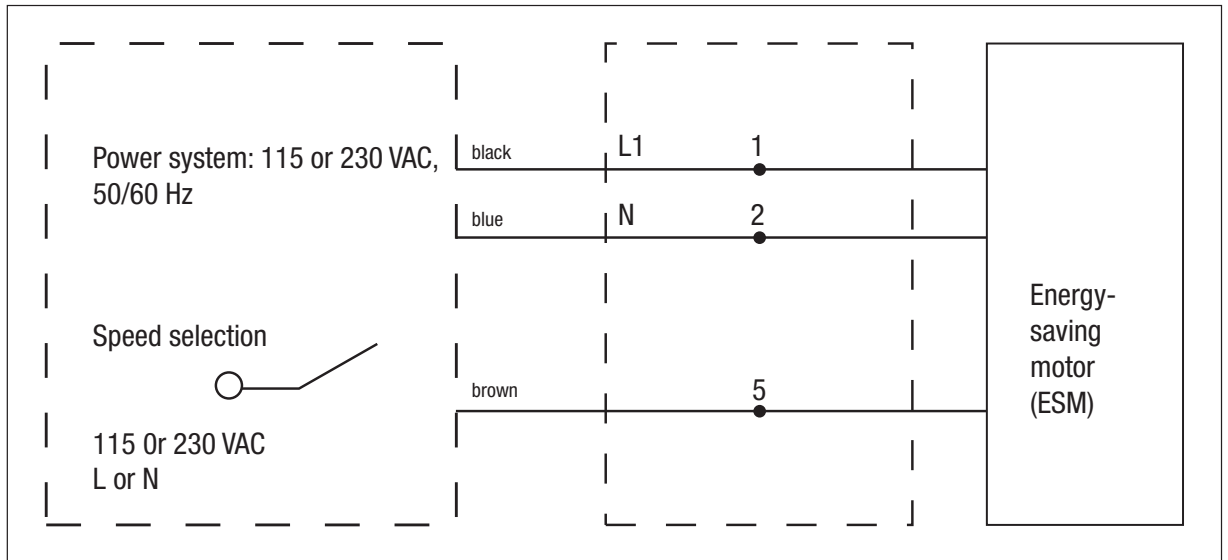
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**ESM Motors Frame  
Size 055**

W1G200 – \*\*

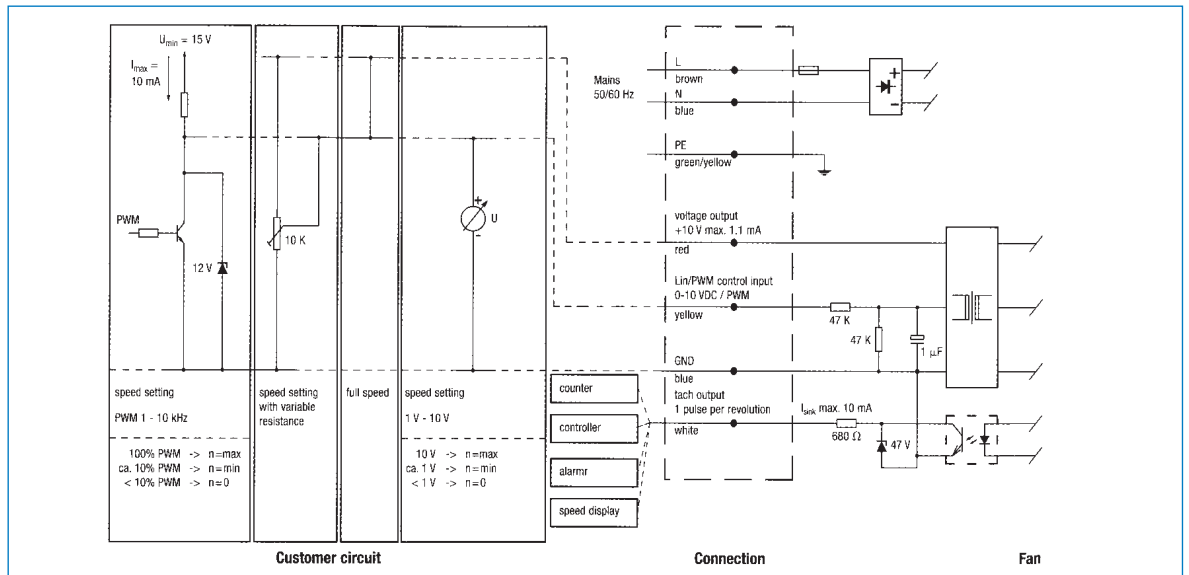
M1G200 – \*\*



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# EC Motors Frame Size 055/074

Line-Fed



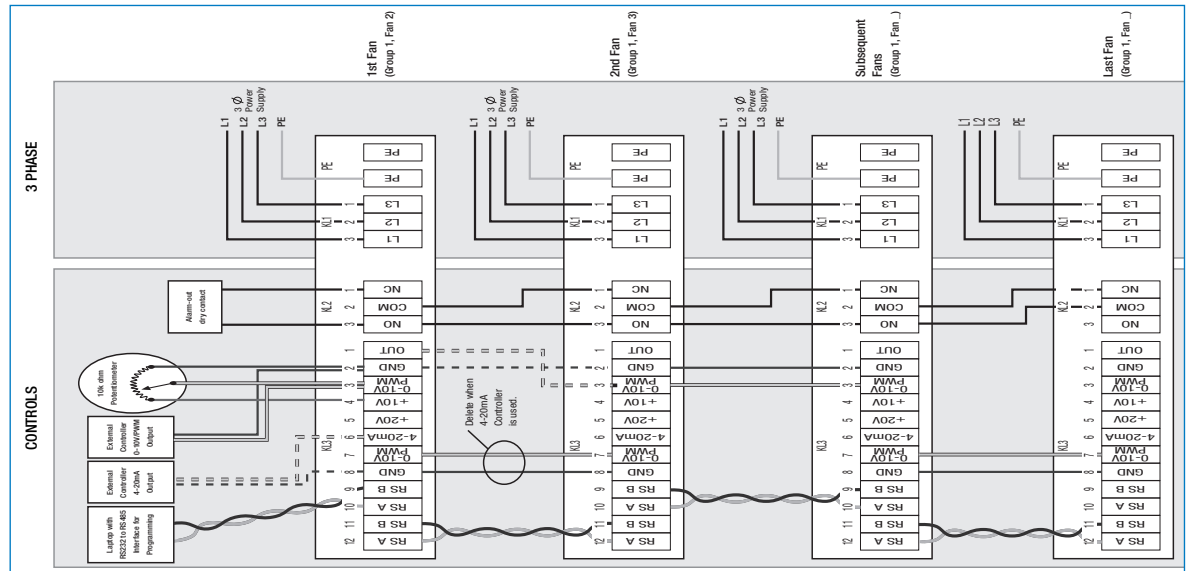
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- Wiring Connection Diagrams
- Velocity / Hook's Law
- Pressure - Refrigerant Temperature
- Oven Fan
- Pumps (Evaporative Cooler)
- Forward Curved Radial
- Backward Curved Radial
- "O" Motor
- ESM Motor & Fan
- Axial Compact
- Grille Axial
- Basket & Round Plate Axial
- Square & Round Plate Axial
- Axial Fan
- Part Number Locations
- edm-papst Part No.s
- What fan is that?

**EC Motors Frame Size 112 & 150**

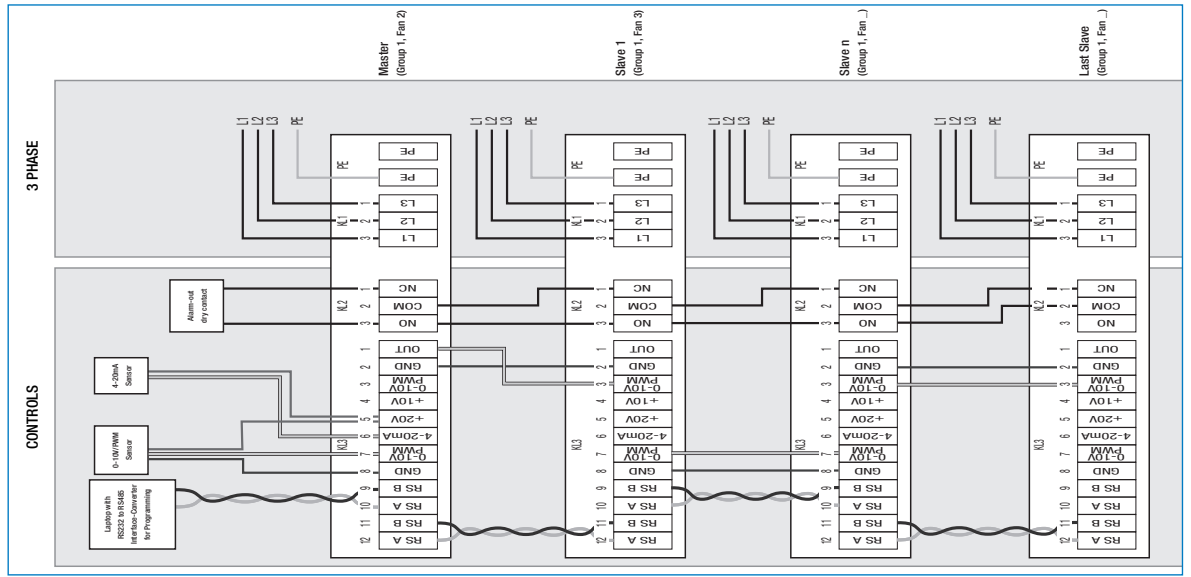
**External Controller or Potentiometer**





# EC Motors Frame Size 112 & 150

## External Sensor



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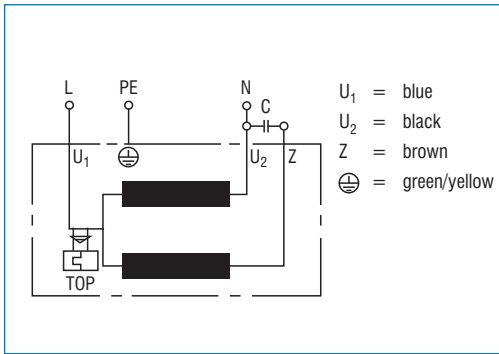
- Wiring Connection Diagrams
- Velocity / Hook's Law
- Pressure - Temperature
- Oven Fan
- Pumps (Evaporative Cooler)
- Forward Curved Radial
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- "0" Motor
- ESM Motor & Fan
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- Basket Grille Axial
- Square & Round Plate Axial
- Axial Fan
- Part Number Locations
- edm-papst Part No.s
- What fan is that?

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

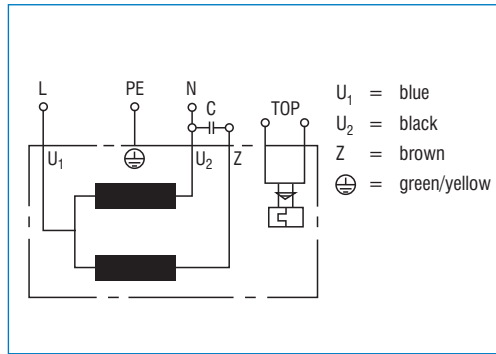
**Notes**

- 1 BE CAREFUL - always check the data on the motor, if in doubt ask “Product Support”
- 2 \*Most single speed 3 phase motors must be connected in “Y” star. Motor will fail if connected in Delta
- 3 3 phase - change direction of rotation by changing any 2 phases
- 4 All connection leads brought out by ebm-papst are “internal leads” as defined by EN 60335-1
- 5 “PE” = Earth

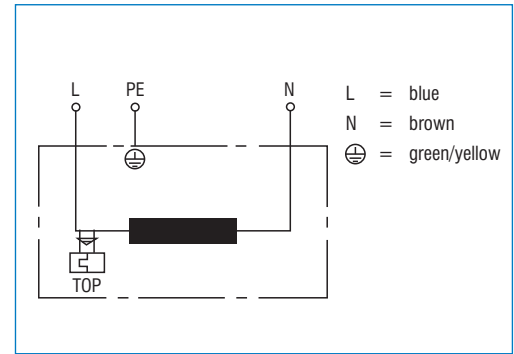
## Fans on 1~230 VAC power line



**1a)** Single-phase capacitor motor with TOP wired internally

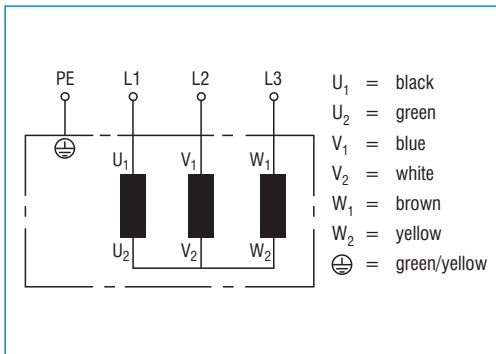


**1b)** Single-phase capacitor motor with TOP brought out

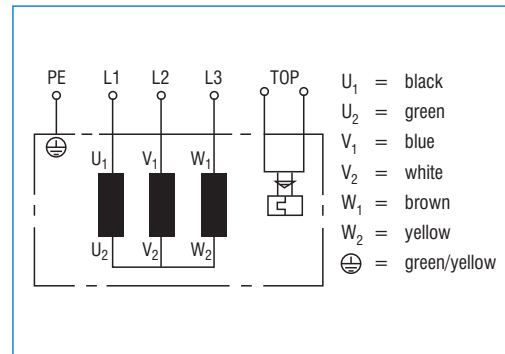


**1c)** Shaded pole motor with TOP wired internally

**Fans, 1 speed on 3~ 400 VAC line**

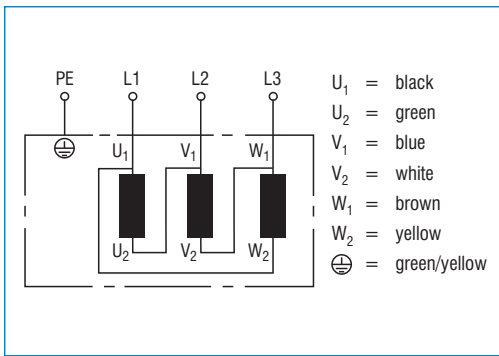


**2b)** Star connection (3~ 400 VAC power line)

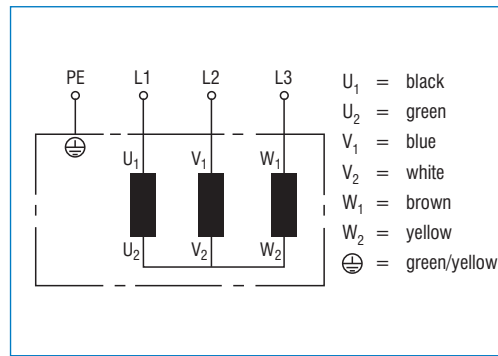


**3b)** Star connection (3~ 400 VAC power line) with TOP

Fans, 2 speeds via  $\Delta$ / $Y$ -switch on 3~ 400 VAC line

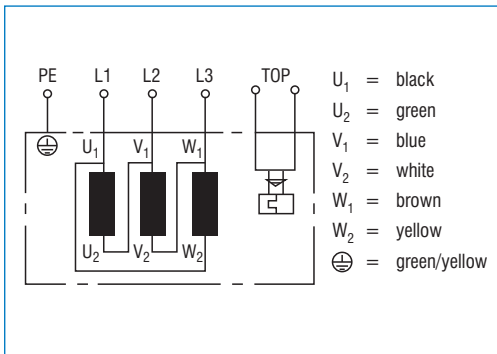


4a) Delta connection (high speed)

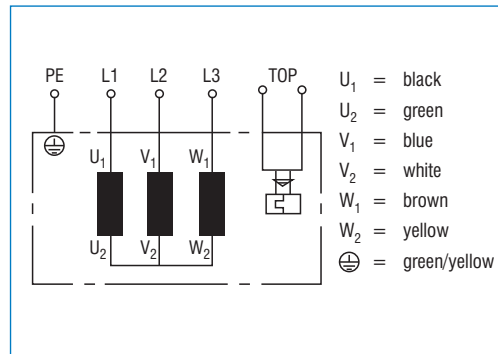


4b) Star connection (low speed)

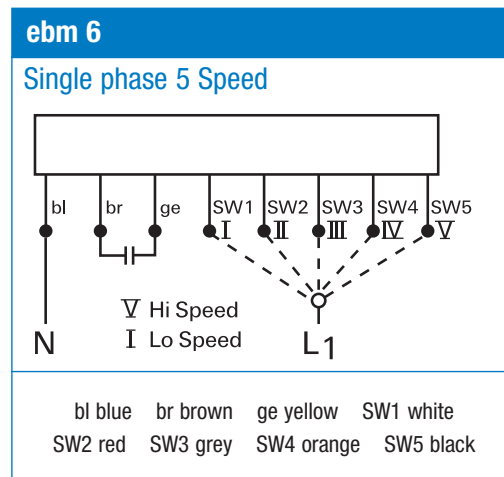
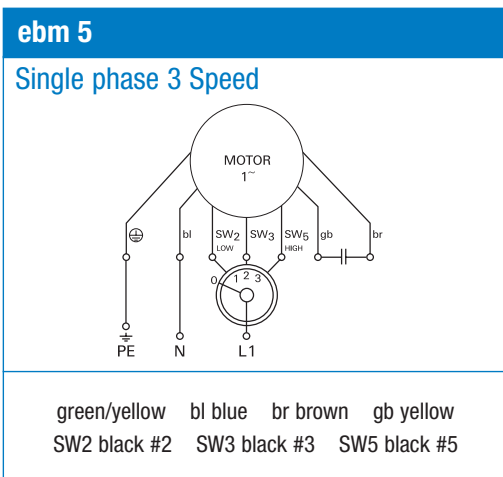
Fans, 2 speeds via  $\Delta$ /Y-switch on 3~ 400 VAC line

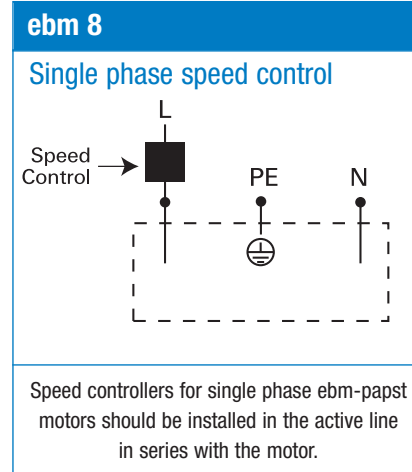
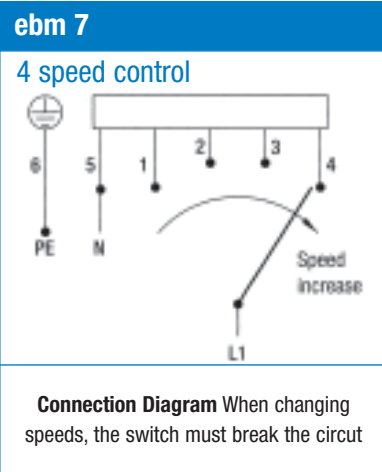


5a) Delta connection (high speed) with TOP



5b) Star connection (low speed) with TOP







Wing Connection Diagrams  
Velocity Pressure / Pitot's Law  
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"O" Motor  
**55** ESM Motor & Fan  
Axial Compact  
Basket Grille Axial  
Square & Round Plate Axial  
Axial Fan  
Part Number Locations  
edm-part Part No.s  
What fan is that?



**ebm-papst**  
**Australia Pty Ltd**

OCTOBER 2008

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