

	Page No.
What fan is that?	2
ebm-papst Part No.s	6
Part Number Locations	8
Axial Fan	10
Square & Round Plate Axials	12
Square Plate Axials EC	14
Basket Grille Axial	16
Compact Axial	20
ESM Motor & Fan	26

	Page No.
“Q” Motor & “iQ” Motor	28
Backward Curved Radial	32
Forward Curved Radial	34
Pumps (Evaporative Cooler)	38
Oven Fan	40
Refrigerant Pressure - Temperature Chart	42
Velocity Pressure - Air (P _V) Chart	44
Fan Laws	45
Wiring Connection Diagrams	46

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

1. What style of impeller does it have?

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



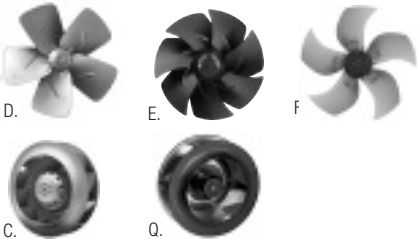
4. What type of blade material?

Axial

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

Radial

Plastic	(C)
Aluminium sheet	(Q)



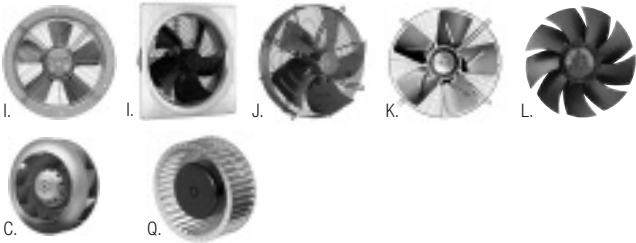
5. What mounting style or housing?

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

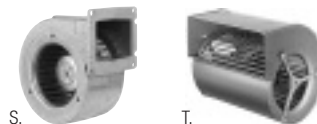


What fan is that? (Helpful hints for fan identification)

5. What mounting style or housing? (continued)

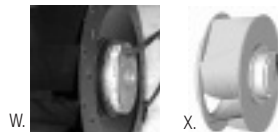
Radial

Snail shell housing 1 inlet	SISW
Snail shell with 2 inlets	DIDW



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

AC	W
EC	X



7. Which way does the air flow?

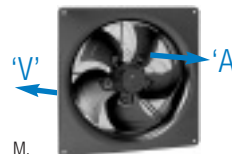
Axial

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) (M)

Radial

Not really applicable



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.



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

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 = E.C. 1+3 phase, Q = square shaded pole)

4

5

E

fan size (mm)

7

8

9

10

11

12

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



ebm-papst Axial



ebm-papst Forward Curve



ebm-papst Q motor

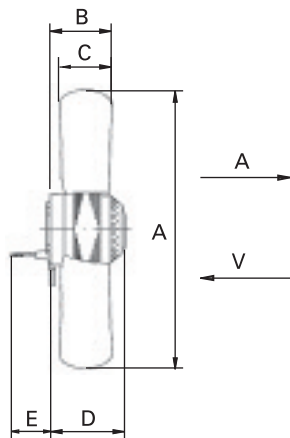


ebm-papst Radial



ebm-papst Compact

Air flow 'V' always discharges over the mounting brackets



MAY HAVE LEAD OR TERMINAL BOX



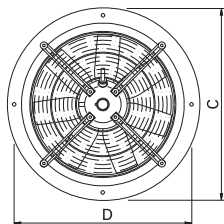
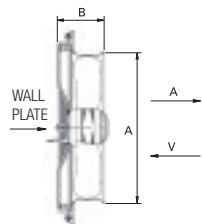
Dimensions

	A	B	C	D	E
A2E200-AF02-01	195	54	33	73	450
A2E200-AF02-02	195	54	33	73	450
A2E250-AE65-01	250	66	39	83	450
A2E250-AE65-02	250	66	39	83	450
A2E300-AC47-01	300	50	20	98	450
A2E300-AC47-02	300	50	20	98	450
A4S200-AA02-01	195	53	33	73	450
A4S200-AA02-02	195	53	33	73	450
A4S250-AA02-45	250	52	39	73	450
A4S250-AA02-58	250	52	39	73	450
A4S300-AA02-21	300	50	30	83	450
A4S300-AA02-22	300	50	30	83	450

Part No.	Air flow direction	Voltage (V)	Phase	Air Volume (m ³ /Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (μF)	Noise Level (dBA@1M)	Max. Air Temperature (°C)	Approx Weight (Kg)	Colour	Wiring Diagram
A2E200-AF02-01	V	230	1	740	2740	53	0.24	1.5	65	75	1.7	BLACK	1a
A2E200-AF02-02	A	230	1	740	2740	53	0.24	1.5	65	75	1.7	BLACK	1a
A2E250-AE65-01	V	230	1	1610	2550	115	0.51	4	72	55	2.2	BLACK	1a
A2E250-AE65-02	A	230	1	1610	2550	115	0.51	4	72	55	2.2	BLACK	1a
A2E300-AC47-01	V	230	1	2440	2650	140	0.62	5	75	55	2.5	BLACK	1a
A2E300-AC47-02	A	230	1	2440	2650	140	0.6	5	75	55	2.5	BLACK	1a
A4S200-AA02-01	V	230	1	375	1380	40	0.3		52	50	1.2	BLACK	1c
A4S200-AA02-02	A	230	1	375	1380	40	0.3		52	50	1.2	BLACK	1c
A4S250-AA02-45	A	230	1	870	1400	72	0.53		58	40	1.7	BLACK	1c
A4S250-AA02-58	V	230	1	870	1400	72	0.53		58	40	1.7	BLACK	1c
A4S300-AA02-21	A	230	1	1440	1380	94	0.67		62	30	2.1	BLACK	1c
A4S300-AA02-22	V	230	1	1440	1380	94	0.67		62	30	2.1	BLACK	1c

Square & Round Plate Axials

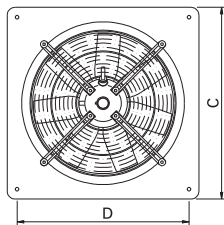
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Wall Plate



Square or Round



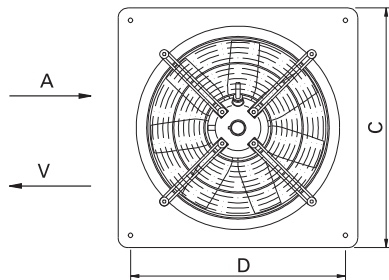
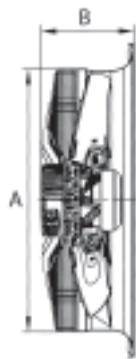
Square Plates Dimensions

	A	B	C	D
W2E250-DB05	257	95	370	320
W2E300-DA01	328	90	430	380
W4S200-DA02	203	90	312	260
W4S250-DA02	257	95	370	320
W4S300-DA02	328	90	430	380

Round Plates Dimensions

	A	B	C	D
W2E250-CB05	257	95	370	320
W2E300-CA01	328	90	430	380
W4S200-CA02	203	90	312	260
W4S250-CA02	257	95	370	320
W4S300-CA02	328	90	430	380

Square Plate	Round Plate													
		Air Flow Direction	Voltage (V)	Phase	Air Volume (m³/Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (µF)	Noise Level (dBA@1M)	Max. Air Temperature (C)	Approx Weight (Kg)	Colour	Wiring Diagram
	W2E200-CA01-01	V	230	1	740	2740	53	0.24	1.5	65	75	1.7	BLACK	1a
	W2E200-CA01-02	A	230	1	740	2740	53	0.24	1.5	65	75	1.7	BLACK	1a
W2E250-DB05-01	W2E250-CB05-01	V	230	1	1610	2550	115	0.51	4	72	55	2.2	BLACK	1a
W2E250-DB05-02	W2E250-CB05-02	A	230	1	1610	2550	115	0.51	4	72	55	2.2	BLACK	1a
W2E300-DA01-01	W2E300-CA01-01	V	230	1	2440	2650	140	0.62	5	75	55	2.5	BLACK	1a
W2E300-DA01-02	W2E300-CA0102	A	230	1	2440	2650	140	0.6	5	75	55	2.5	BLACK	1a
	W4S200-CA02-01	V	230	1	375	1380	40	0.3		52	50	1.2	BLACK	1c
	W4S200-CA02-02	A	230	1	375	1380	40	0.3		52	50	1.2	BLACK	1c
W4S250-DA02-01	W4S250-CA02-01	A	230	1	870	1400	72	0.53		58	40	1.7	BLACK	1c
W4S250-DA02-02	W4S250-CA02-02	V	230	1	870	1400	72	0.53		58	40	1.7	BLACK	1c
W4S300-DA02-01	W4S300-CA02-01	A	230	1	1440	1380	94	0.67		62	30	2.1	BLACK	1c
W4S300-DA02-02	W4S300-CA02-02	V	230	1	1440	1380	94	0.67		62	30	2.1	BLACK	1c



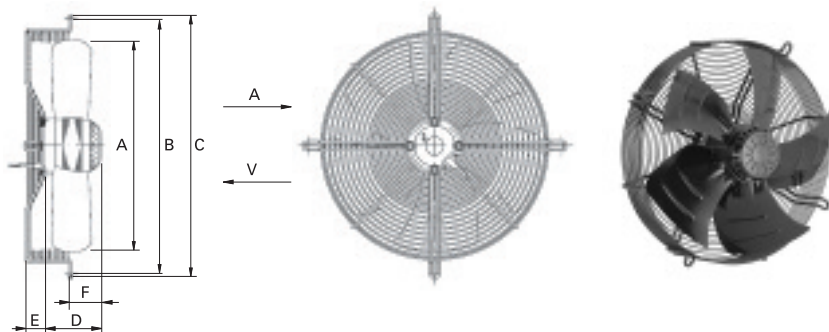
Square Plates
Dimensions

	A	B	C	D
W3G500-CE33-21	517	164	615	655
W3G800-GU25-01	815	290	970	910

Part No.	Air flow direction	Voltage (V)	Phase	Air Volume (m ³ /Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (μF)	Noise Level (dBA@1M)	Max. Air Temperature (°C)	Approx. Weight (Kg)	Colour	Wiring Diagram
W3G500-CE33-01	V	380/480	3	11,000	1450	1.04	1.7		77	60	16.2	BLACK	46 & 47
W3G800-GU25-01	V	380/480	3	25,500	1020	2.56	3.7		77	60	48.5	BLACK	46 & 47

Basket Grille Axial 230 Volts

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SHAPE OF BASKET GRILLE VARIES

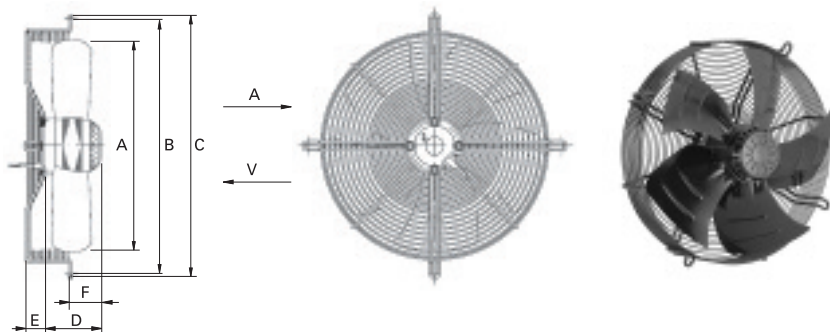
Dimensions

	A	B	C	D	E	F
S4S250-AA02-14	250	300		73		20
S4S250-AA02-45	250	300		73		20
S4S300-AA02-07	300	360		83		48
S4S300-AA02-08	300	360		83		48
S4E300-AP26-37	300	360		73		27
S4E315-AC08-05	315	375		131		21
S4E350-AP06-90	350	422		134	30	54
S4E350-AP06-66	350	422		134	30	54
S4E400-AP02-43	400	470		127	30	47
S4E400-AP02-69	400	470		127	30	47
S4E450-AP01-11	450	522		159	30	79
S4E500-AM03-01	497	565		148	64	152
S4E500-AY090-02	497	565		148	64	152
S6E500-AX05-01	497	565		128	64	132
S6E630-AN01-01	627	750		144	64	60

Part No.	Air flow direction	Voltage (V)	Phase	Air Volume (m ³ /Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (μF)	Noise Level (dBA@1M)	Max. Air Temperature (°C)	Approx Weight (Kg)	Colour	Wiring Diagram
S4S250-AA02-14	A	230	1	870	1400	72	0.53		58	40	1.9	BLACK	1c
S4S250-AA02-45	V	230	1	870	1400	72	0.53		58	40	1.9	BLACK	1c
S4S300-AA02-02	A	230	1	1440	1380	94	0.67		62	45	2.3	BLACK	1c
S4S300AA02-07	V	230	1	1440	1380	94	0.67		62	45	2.3	BLACK	1c
S4E300-AP26-37	V	230	1	1870	1340	80	0.36	INCL	59	45	3.1	BLACK	1a
S4E315-AC08-05	V	230	1	1950	1400	120	0.53	INCL	67	60	3.8	BLACK	1a
S4E350-AP06-90	V	230	1	3110	1400	130	0.58	INCL	64	60	3.8	BLACK	1a
S4E350-AP06-66	A	230	1	3110	1400	130	0.58	INCL	64	60	3.8	BLACK	1a
S4E400-AP02-43	V	230	1	4235	1430	160	0.73	INCL	69	60	4.4	BLACK	1a
S4E400-AP02-69	A	230	1	4235	1430	160	0.73	INCL	69	60	4.4	BLACK	1b
S4E450-AP01-11	V	230	1	6960	1380	435	2.25	INCL	70	70	2.25	BLACK	1b
S4E500-AM03-01	V	230	1	8700	1300	680	3	INCL	72	65	10.5	BLACK	1b
S4E500-AY09-02	A	230	1	8200	1270	640	3	INCL	70	65	10.5	BLACK	1b
S6E500-AX05-01	V	230	1	6050	885	335	1.65	INCL	64	65	9	BLACK	1b
S6E630-AN01-01	V	230	1	12000	860	600	2.62	INCL	68	55	17.7	BLACK	1b

Basket Grille Axial 400 Volts

ebm

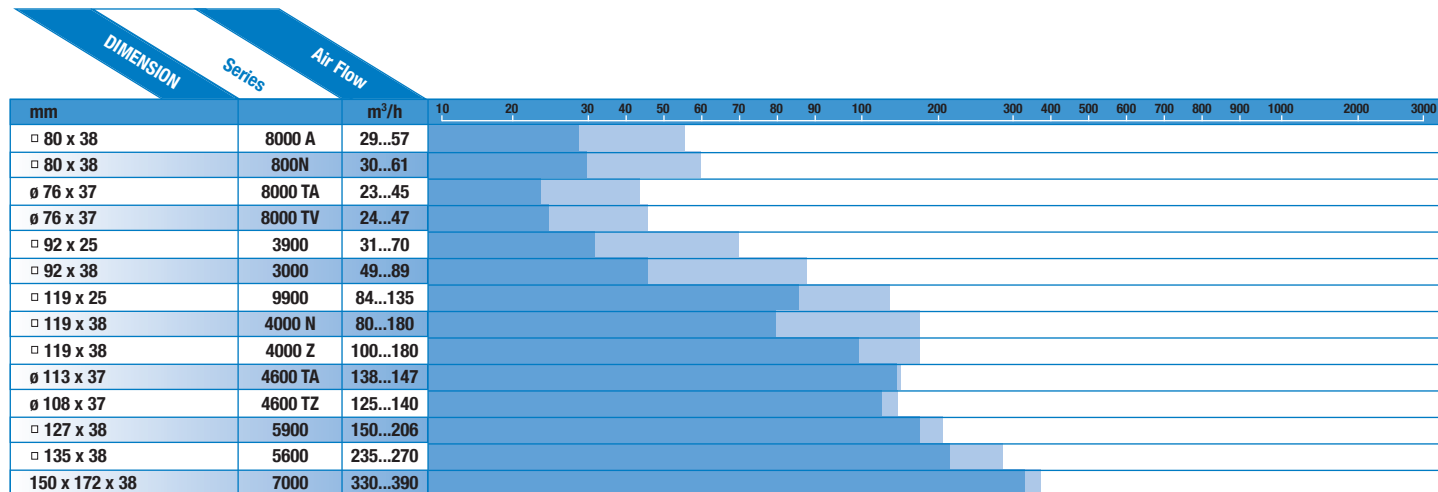


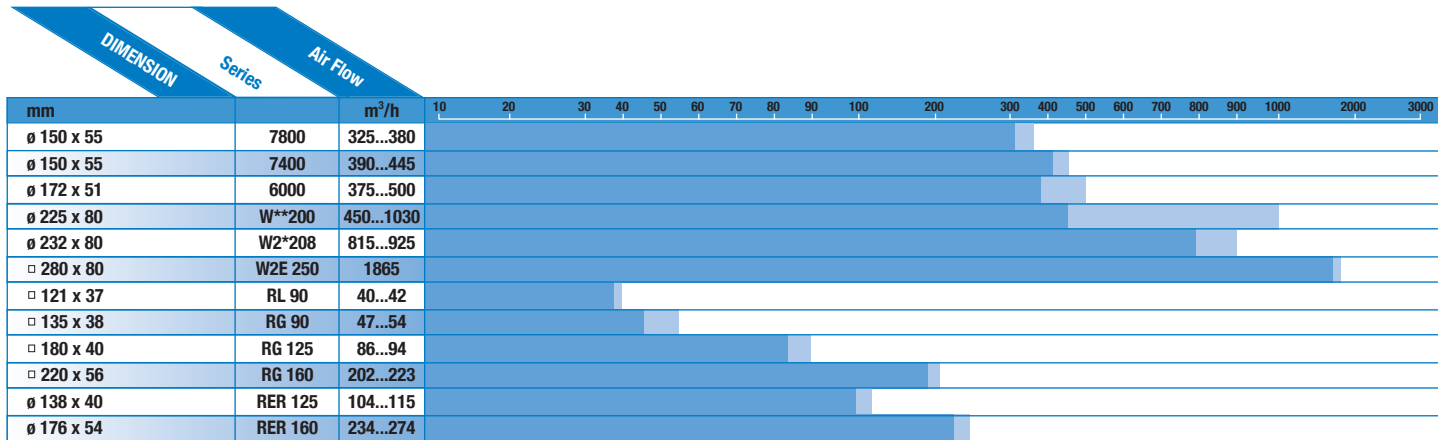
SHAPE OF BASKET GRILLE VARIES

Dimensions

	A	B	C	D	E	F
S4D350-AP08-54	350	442		134	26	54
S4D350-AP08-56	350	442		134	26	54
S4D400-AP12-38	400	502		127	46	47
S4D400-AP12-66	400	502		127	46	47
S4D450-AV06-23	450	552		159	26	89
S4D500-AM03-01	497	565		144	64	84
S4D500-AJ 03-02	497	565		144	64	84
S6D500-AG03-01	497	565		124	64	64
S6D500-AH03-02	497	565		124	64	64
S4D630-AD01-01	627	750		201	76	135
S6D630-AD01-01	627	750		144	65	86

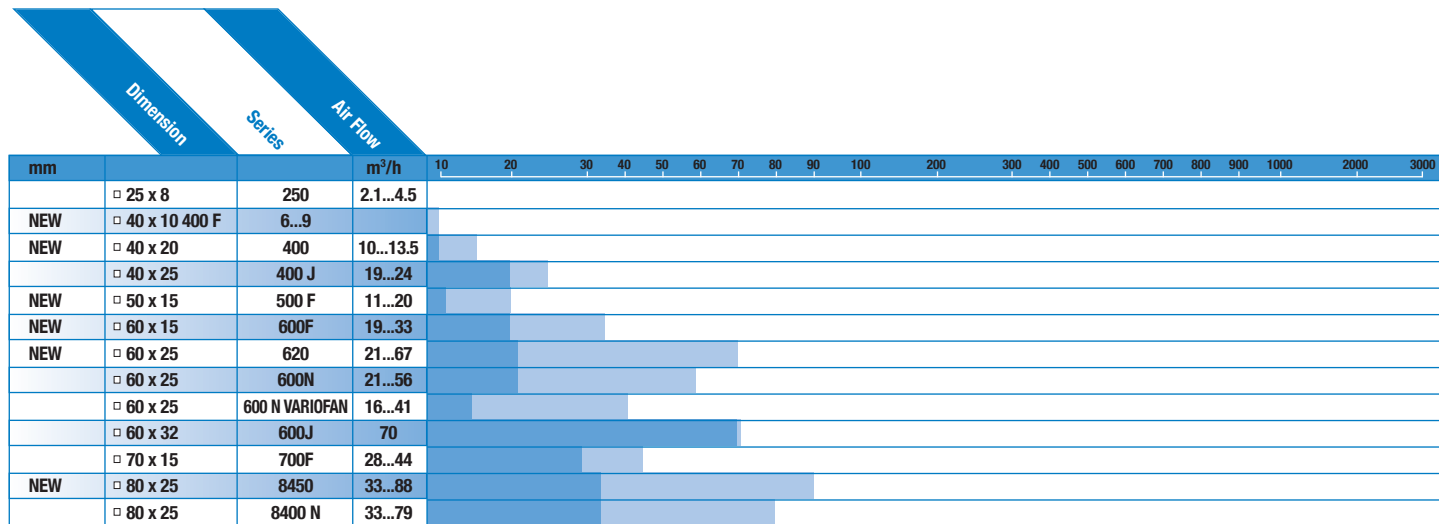
Part No.	Air flow direction	Voltage (V)	Phase	Air Volume (m³/Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (µF)	Noise Level (dBA@1M)	Max. Air Temperature (C)	Approx Weight (Kg)	Colour	Wiring Diagram
S4D350-AP05-54	V	400	3	3140	1420	115	0.31		54	60	3.8	BLACK	2b
S4D350-AP08-56	A	400	3	3140	1420	115	0.31		54	60	3.8	BLACK	2b
S4D400-AP12-38	V	400	3	4000	1450	135	0.44		68	60	4.4	BLACK	2b
S4D400-AP12-66	A	400	3	4000	1450	135	0.44		68	60	4.4	BLACK	2b
S4D450-AV06-23	V	400	3	5440	1380	200	0.48		72	55	5.2	BLACK	3b
S4D500-AM03-01	V	400	3	9100	1390	720	1.41		72	65	13.8	BLACK	5a & 5b
S4D500-AJ03-02	A	400	3	9000	1340	1340	1.4		72	60	11.8	BLACK	5a & 5b
S6D500-AG03-01	V	400	3	7100	920	320	0.75		71	75	13.3	BLACK	5a & 5b
S6D500-AH03-01	A	400	3	6000	945	290	0.74		72	80	13.3	BLACK	5a & 5b
S4D630-AD01-01	V	400	3	20000	1340	2530	4.95		81	60	28.2	BLACK	5a & 5b
S6D630-AD01-01	V	400	3	7300	860	710	1.34		69	65	15.7	BLACK	5a & 5b





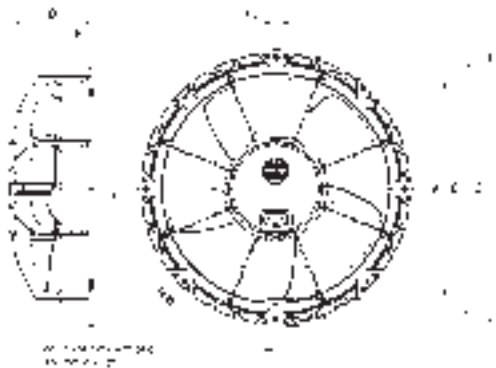
Axial Fans for DC Operation

ebmpapst



mm			m ³ /h	10	20	30	40	50	60	70	80	90	100	200	300	400	500	600	700	800	900	1000	2000	3000
	□ 80 x 25	8400 n VARIOFAN	20...58																					
	□ 80 x 32	8300	32...80																					
NEW	□ 80 x 38	8200 J	132...222																					
	□ 92 x 25	3400 N	61...102																					
	□ 92 x 25	3400 N VARIOFAN	44...84																					
	□ 92 x 32	3300	56...107																					
NEW	□ 92 x 38	3200 J	130...280																					
	□ 119 x 25	4400 F	94...170																					
	□ 119 x 25	4400 FN	200...225																					
	□ 119 x 32	4300 N	93...198																					
	□ 119 x 32	4300	95...204																					
	□ 119 x 32	4300 VARIOFAN	61...170																					
NEW	□ 119 x 38	4400	150...285																					
	□ 119 x 38	4200	86...184																					
	□ 119 x 38	4100 N	160...237																					
	□ 119 x 38	4100 NHH-H6	260...440																					
NEW	□ 119 x 38	4100 NH7-8	500...570																					
	□ 119 xx 38	DV 4100	275																					
	□ 127 x 38	5200 N	187...338																					
NEW	□ 127 x 38	DV 5200	270...324																					

mm			m³/h	10	20	30	40	50	60	70	80	90	100	200	300	400	500	600	700	800	900	1000	2000	3000
	□ 135 x 38	5100 N	122...250																					
NEW	□ 140 x 51	5300	410...670																					
	ø 150 x 38	7100 N	360...420																					
	ø 150 x 55	7200 N	360																					
NEW	ø 172 x 51	6300	600...950																					
	ø 172 x 51	6200 N	205...480																					
	ø 172 x 51	6200 NDT	90...600																					
	ø 172 x 51	DV 6200	540																					
NEW	ø 172 x 51	DV 6200 TD	100...700																					
	172x150x51	6400	205...480																					
	172x150x51	6400 TD	90...900																					
	172x160x51	DV 6400	530																					
	172x160x51	DV 6400 TD	100...680																					
	ø 200 x 70	W1G 180	900...925																					
	□ 225 x 80	W1G 200	1005...1090																					
	ø 232 x 80	W1G 208	1050																					
	□ 280 x 80	W1G 250	1920																					



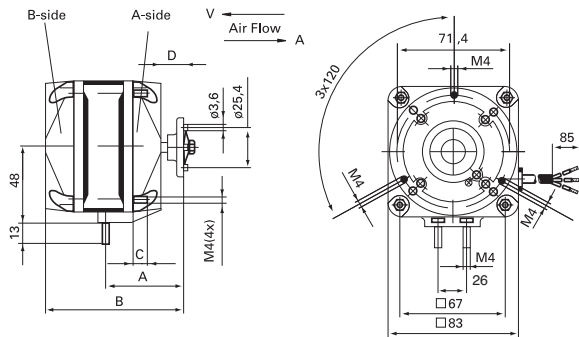
Dimensions

	A	B	C	D	E
WIG172-EC91-01	172	208	222	78.5	35
WIG200-EA91-50	200	236	250	78.5	40
WIG230-EB89-11	230	266	280	78.5	50

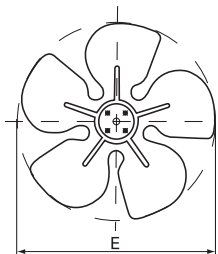
Part No.	Air flow direction	Voltage (V)	Phase	Air Volume (m³/Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (µF)	Noise Level (dBA@1M)	Max. Air Temperature (C)	Approx Weight (Kg)	Colour	Wiring Diagram	
W1G172-EC91-01		V	230	1	530	2500	22	0.18		62	50	0.95	BLACK	esm page 44
W1G200-EA91-50		V	230	1	790	2100	31	0.24		62	50	1	BLACK	esm page 44
W1G230-EB89-11		V	230	1	970	1500	26	0.2		58	50	1.25	BLACK	esm page 44

“Q” Motor

ebmpapst



Multiple Fastening Locations



Dimensions

Dimensions	A	B	C	D	E		
M4Q045 BD01-01	42	76	12	15	154	172	200
M4Q045 CA01-01	42	82	10	15	200	230	
M4Q045 CA03-22	42	82	10	15	230	254	
M4Q045 CF01-25	42	87	10	15	254		
M4Q045 DA05-63	54	93	10	15	300		
M4Q045 EA01-14	59	103	10	16	300		
M4Q045 EF01-21	79	125	10	33	300		



Part No.	Power Output (W)	Air Flow Direction	Voltage (V)	Phase	Air Volume (m³/Hr)	Speed (RPM)	Power Input (W)	Current (A)	Noise Level (dBA@1M) Bearing	Min. Static Pressure (Pa)	Max. Air Temperature (Pa)	Approx. Weight (Kg)	Lead Length	Wiring Diagram
M4Q045 BD01-01	5		230			1300	29	.19				.9		6A
M4Q045 CA01-01	7		230			1300	31	.20				1.1		6A
M4Q045 CA03-22	10		230			1300	36	.25	MOUNTING SCREWS TO SUIT "Q" Motor ARE AVAILABLE			1.2		6A
M4Q045 CF01-25	16		230			1300	60	.42				1.3		6A
M4Q045 DA05-63	23		230			1300	86	.62				1.6		6A
M4Q045 EA01-14	25		230			1300	90	.62				2.0		6A
M4Q045 EF01-21	34		230			1300	110	.75				2.2		6A

Recommended "A" Flow Impellers						
Diameter →	154	172	200	230	254	300
M4Q045-BD01-01	73763	73766	73768			
M4Q045-CA01-01			73769	73770		
M4Q045-CA03-22				73771	73773	
M4Q045-CF01-25					73774	
M4Q045-DA05-63	(All Impeller part numbers end -----2-3634)					73776
M4Q045-EA01-14						73776
M4Q045-EF01-21						73777

Recommended "V" Flow Impellers					
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				
N5-13	1703.571				
N7-20	1755.571				
N10-20	1810.57				
N16-30	1945.57				
N20-40					
N25-40	2102.57				
N34-45	1990.75				

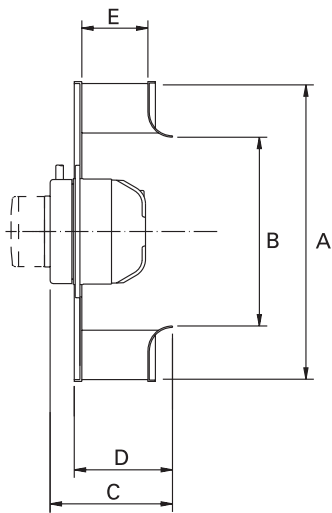
Dimensions	A	B	C	D	E	E	E	E	E	E
i Q 3612	43.5	82	10	15	154	172	200	230	254	
i Q 3620	51.5	90	10	15	154	172	200	230	254	300



Recommended "A" Flow Impellers						
i Q 3612	73763	73766	73768			
i Q 3612			73769	73770		
i Q 3612				73771	73773	
i Q 3612					73774	
i Q 3620						73776
(All Impeller part numbers end -2-3634)						

Recommended "V" Flow Impellers						
73803	73806	73808				
		73809	73810			
			73811	73813		
				73814		
						73816
(All Impeller part numbers end -2-3634)						

Part No.	Air flow direction	Voltage (V)	Phase	Air Volume (m³/Hr)	Speed (RPM)	Output Capacity Watts	Current (A)	Capacitor (µF)	Noise Level (dBA@1M)	Max. Air Temperature (°C)	Approx Weight (Kg)	Colour	Wiring Diagram
i Q 3612		230	1		1300	10					50	0.6	
i Q 3620		230	1		1300	20					50	0.8	

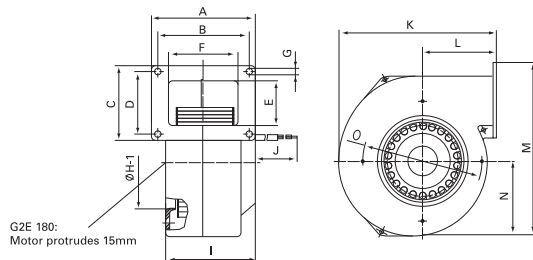


Dimensions

	A	B	C	D	E
R2S133-AE17-43	133	92.8	91	60.6	41
R4E190-AB23-09	190	134	78	63	50
R2E190-AQ26-05	190	133	80	65	50
R2E220-AA40-05	220	159	71	63	44
R2E225-BA92-09	225	153	99	89	63
R2E250-AC09-05	250	190	130	85	55
R2E280-AE5223	280	190	120	185	50
R4D500-AT03-01	505	355	245	233	175
R4D560-AQ03-01	565	355	274	258	195
R4D630-AQ03-01	635	447	305	290	220

Part No.	Air flow direction	Voltage (V)	Phase	Air Volume (m³/Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (µF)	Noise Level (dBA@1M)	Max. Air Temperature (C)	Approx Weight (Kg)	LEAD	Wiring Diagram
R2S133-AE17-43	CW	230	1	280	2780	36	0.25		55	40	0.9	450	6a
R4E190-AB23-09	CW	230	1	230	1410	27	0.12	1	46	40	0.8	450	1a
R2E190-AQ26-05	CW	230	1	570	2500	58	0.26	2	62	40	1.2	450	1a
R2E220-AA40-05	CW	230	1	860	2600	85	0.38	3	73	40	1.3	450	1a
R2E225-BD92-09	CW	230	1	1200	2650	135	0.6	4	69	60	2.1	450	1a
R2E250-AC09-05	CW	230	1	1590	2600	255	1.17	8	78	60	2.6	450	1a
R2E280-AE52-23	CW	230	1	2140	2700	225	1	7	76	60	3	450	1a
R4D500-AT03-01	CW	380	3	8200	1375	1430	5,2		71	80	26	1000	5a & 5b
R4D560-AQ03-01	CW	380	3	11400	1365	2380	8.66		84	60	28	1000	5a & 5b
R4D630-AQ03-01	CW	380	3	17000	1300	4250	13		86	60	29	1000	5a & 5b

Forward Curved Radial

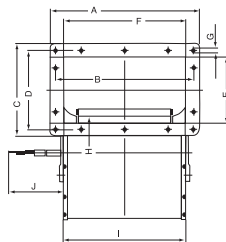
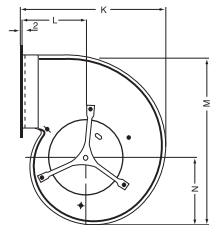


Dimensions

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
G2E085-AA01-01	76	66	68	58	42	56	5.5	82	80	300	117	60	127	54
G2E108-AA01-01	115	97	83	66	50	76	8	87	82	300	159	79	183	71
G2E120-AR77-52	115	100	83	68	50	76	7	100	98	450	178	82	194	86
G2E140-AI28-01	130	115	120	105	92	94	6.3	118	100	450	226	103	261	107
G2E140-AG02-05	130	115	120	105	92	94	6.3	118	209		226	103	261	107
G2E160-AY47-01	130	115	120	105	92	94	7	130	105	450	226	103	261	107
G2E180-EH01-01	125	110	140	120	110	86	7	150	105	450	261	120	284	123
G4E180-CD03-01	183	163	278	258	224	129	7	150	147	600	314	123	342	136
G4E200-CL03-01	196	176	304	284	180	142	7	175	160	600	327	146	396	151
G4E225-CI01-01	196	176	304	284	250	142	7	194	201		327	158	396	151
G4E250-CN01-01	227	205	313	285	262	176	7	200	242		387	194	417	173
G4D200-CL12-01	196	176	304	284	180	142	7	175	160	600	327	146	396	157
G4D225-CI04-01	196	176	304	284	250	142	7	194	202		327	158	396	157
G4D250-CA02-01	227	205	313	285	285	262	7	200	242		387	194	417	173

Part No.	Air flow direction	Voltage (V)	Phase	Air Volume (m³/Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (µF)	Noise Level (dBA@1M)	Max. Air Temperature (°C)	Approx Weight (Kg)	Colour	Wiring Diagram
G2E085-AA01-01		230	1	80	2350	32	0.15	1	53	60	0.9		1a
G2E108-AA01-01		230	1	155	1650	41	0.19	1.5	54	55	1.3		1a
G2E120-AR77-52		230	1	255	2350	80	0.35	2	61	55	1.8		1a
G2E140-AI28-01		230	1	485	2400	160	0.7	7	72	70	2.6		1a
G2E140-AG02-05 #		230	1	550	1950	195	0,9	4	62	200	4		1a
G2E160-AY47-01		230	1	595	2150	250	1.15	6	72	40	4		1a
G2E180-EH03-01		230	1	700	2000	375	1.65	8	72	40	5.6		1a
G4E180-CD03-01		230	1	1005	1300	195	0.9	6	60	45	6.5		1a
G4E200-CL03-01		230	1	1540	1240	330	1.45	8	70	50	7.8		1a
G4E225-CI01-01		230	1	1710	1230	480	2.27	6	74	55	9,8		1a
G4E250-CN01-01		230	1	2260	1140	740	3.51	10	75	40	13.1		1a
G4D200-CL12-01		400	3	1665	1300	360	0.66		71	45	7		2b
G4D225-CI04-01		400	3	1850	2550	490	0.89		75	70	9.7		2b
G4D250-CA02-01		400	3	2550	1290	790	1.39		78	40	13.5		2b

External Motor / High Temperature



Dimensions

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
D2E133-AM47-01	254	238	108	92	69	212	5.5	112	215	300	172	88	180	79
D2E133-DM47-01	270	254	142	126	102	230	5.5	112	232	300	204	97	213	98
D2E146-AP43-22	270	254	142	126	102	230	5.5	117	232	350	206	97	217	98
D4E180-CA02-02	309	289	278	258	224	255	7	149	255	600	296	133	359	136
D4E200-CA02-02	341	321	304	284	250	287	7	167	287	600	327	146	396	151
D4E225-CC01-02	341	321	304	284	250	287	7		287	600	327	158	396	151
D4E225-DH01-01	387	367	304	284	250	333	7		333	600	327	158	396	151
D4E250-CA0101	349	328	313	285	262	298	7		298	600	387	194	417	173
D4D225-GH02-01	387	367	304	284	250	333	7		333	600	327	158	396	151
D4D250-CA02-01	349	328	313	285	262	298	7		298	600	387	194	417	173



'A'



'B'

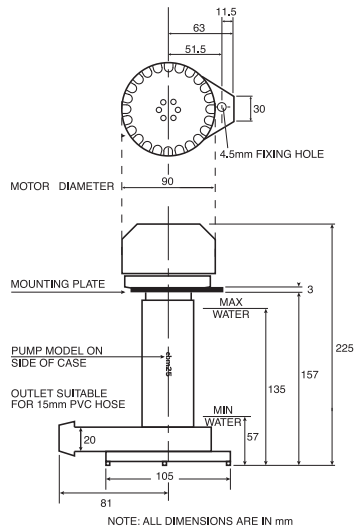


'C'

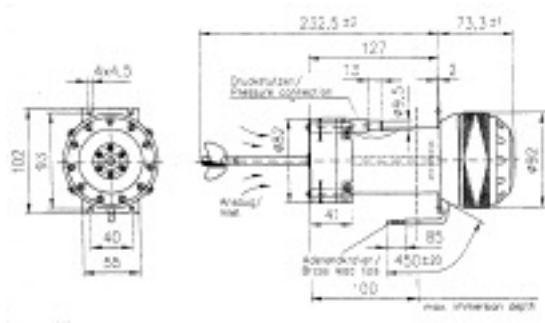
Part No.	Air flow direction	Voltage (V)	Phase	Air Volume (m³/Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (µF)	Noise Level (dBA@1M)	Max. Air Temperature (C)	Approx Weight (Kg)	Colour	Wiring Diagram
D2E133-AM47-01		230	1	685	1500	190	0.84	3	59	45	3.5		1a
D2E133-DM47-01		230	1	810	1150	190	0.84	3	56	40	4.4		1a
D2E146-AP43-22		230	1	935	1650	245	1.08	6	60	40	4.2		1a
D4E180-CA02-02		230	1	2110	1250	380	1.68	10	64	60	10.8		1a
D4E200-CA02-02		230	1	2380	1100	490	2.15	10	60	40	11.9		1a
D4E225-CC01-02		230	1	2650	1150	650	2.84	25	65	40	12.4		1a
D4E225-DH01-01		230	1	3700	1230	1060	5.38	10	72	55	16.7		1a
D4E250-CA01-01		230	1	3770	1200	1250	6	14	74	40	16.3		1a
D4D225-GH02-01		400	3	4400	1230	1140	2.1		74	55	16.7		3b
D4D250-CA02-01		400	3	4040	1200	1240	6		75	40	16.3		3b

Pumps (Evaporative Cooler)

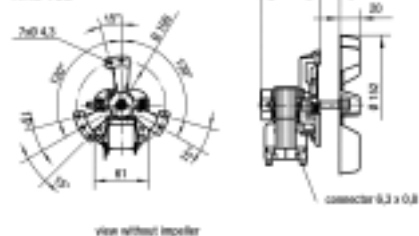
ebm



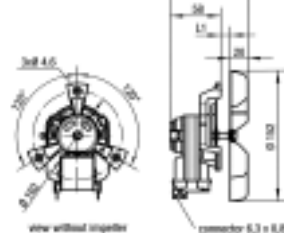
Part No.	Air flow direction	Voltage (V)	Phase	Nominal Flow	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (μ F)	Noise Level (dBA@1M)	Max. Air Temperature (°C)	Approx. Weight (Kg)
P2E 076 AC 06-01		230	1	1030	2570	98	0.41	2			2.0
EVA PUMP		230	1		2700	60	0.25	1,5			



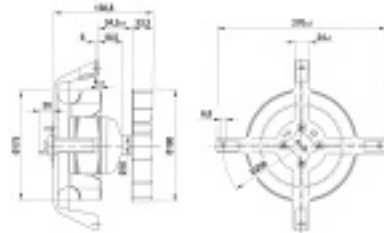
RRL 152



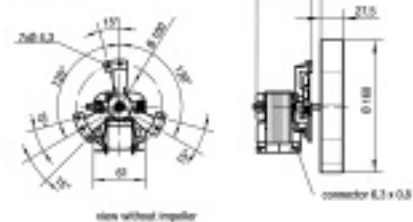
R2A150AC



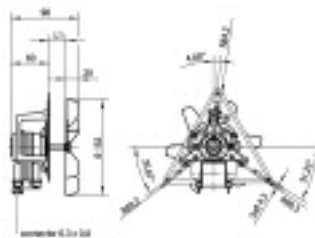
RZE 100



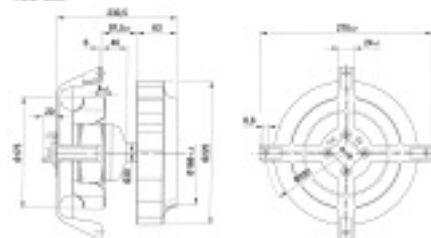
RRL 160



R2K150



R2D 225



Part No.	Air flow direction	Voltage (V)	Phase	Air Volume (m³/Hr)	Speed (RPM)	Power Input (W)	Current (A)	Capacitor (µF)	Noise Level (dBA@1M)	Max. Air Temperature (C)	Approx. Weight (Kg)	LEAD	Wiring Diagram
RRL152/002B90		230	1	200	2200	45					1		
RRL160/0026A63		230	1	210	1600	37					1.4		
R2A150-AC05-01		230	1	170	1800	32					1		
R2K150-AC01-25		230	1	200	2000	32					1		
R2E180-AH05-06		230	1	480	2600	115	3.1				3.1		
R2E225-AG01-09		230	1	1265	2700	165	4				4		

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	256	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	558	-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	-	-

Velocity Pressure - Air (P_v)

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

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

Fan Laws

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

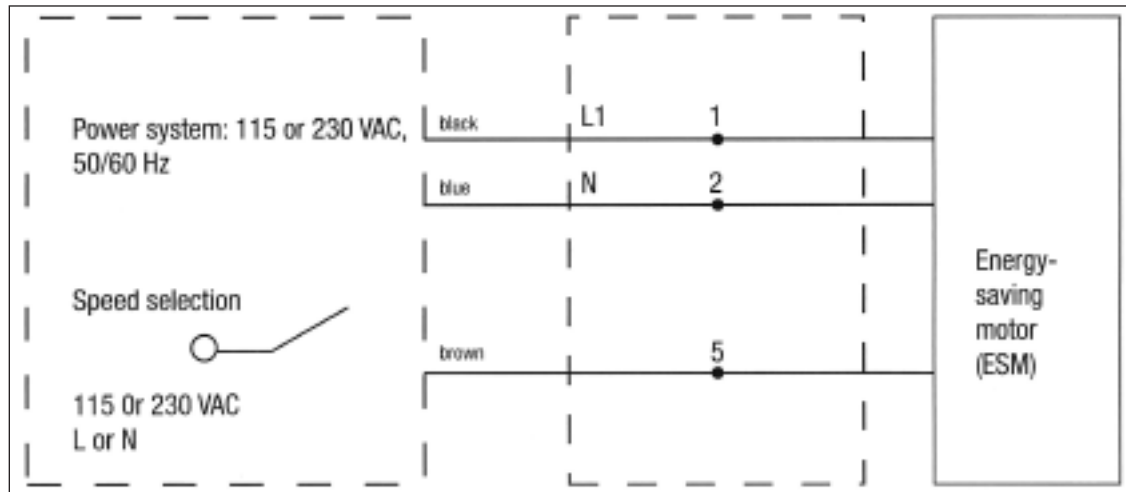
EC Motors Frame Size 055

W1G172

W1G200

W1G230

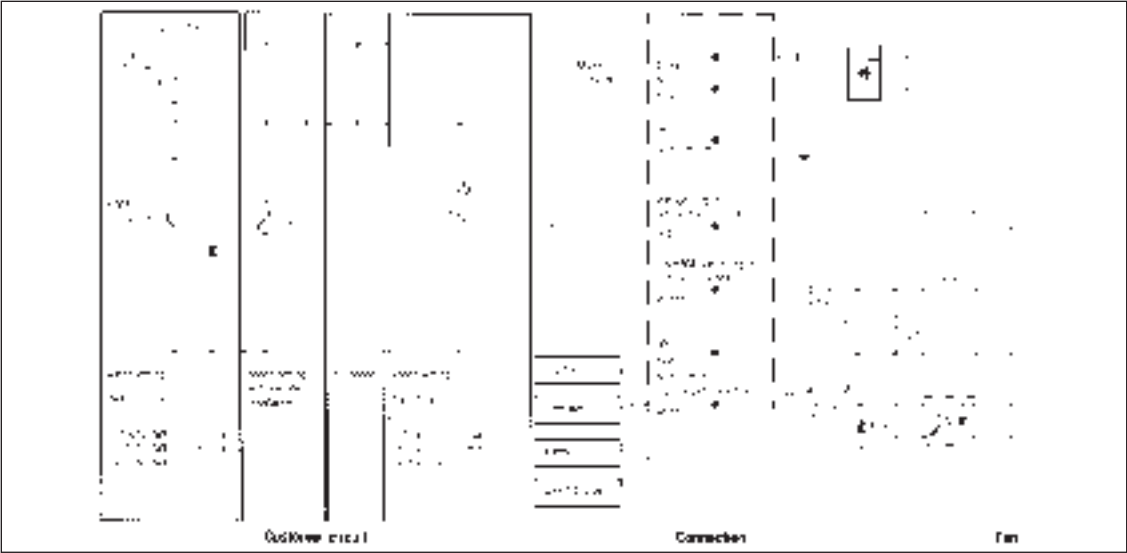
S1G300



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

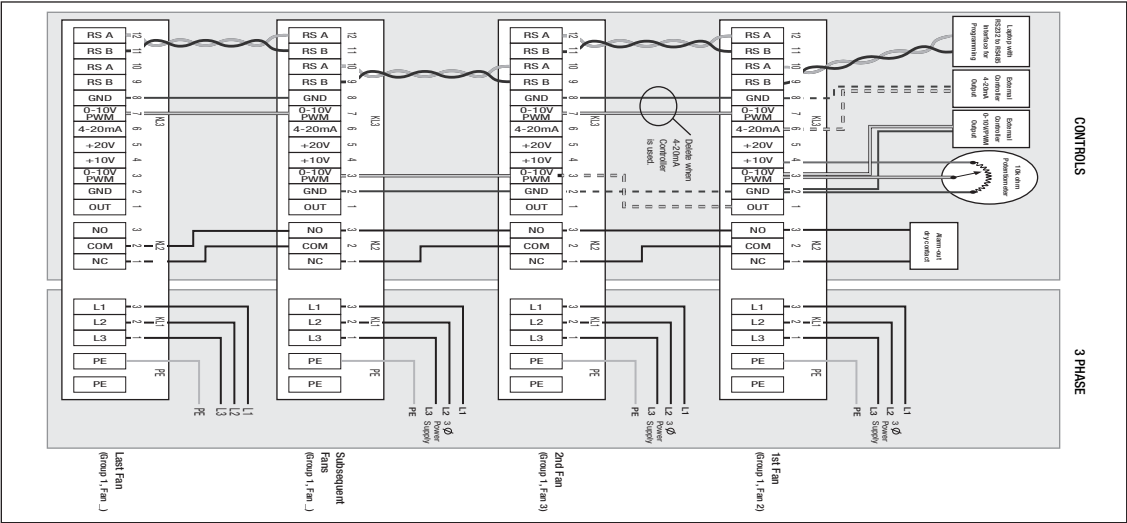
EC Motors Frame
Size 055/074

Line-Fed



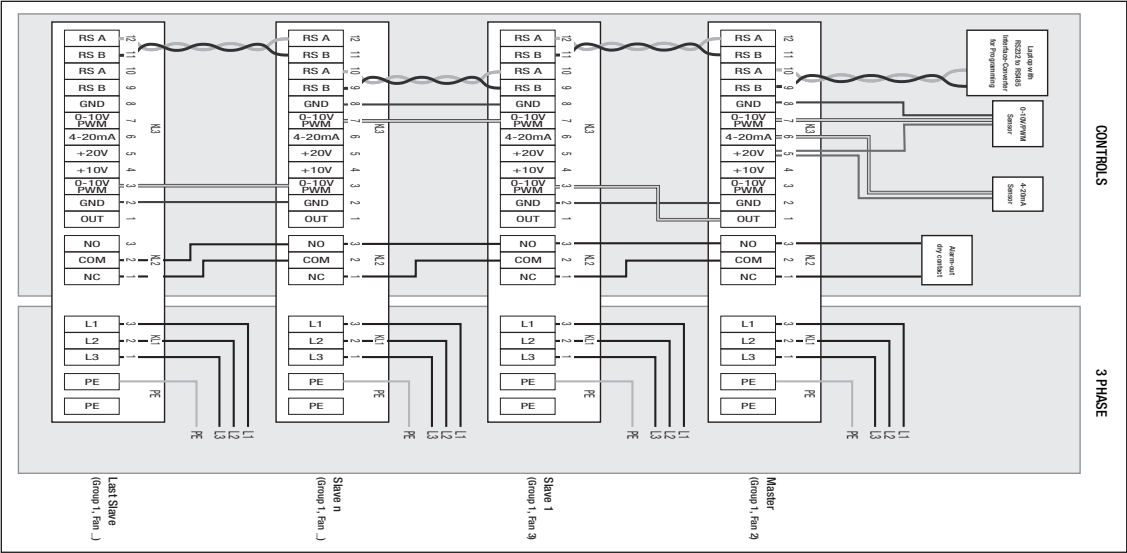
EC Motors Frame
Size 112 & 150

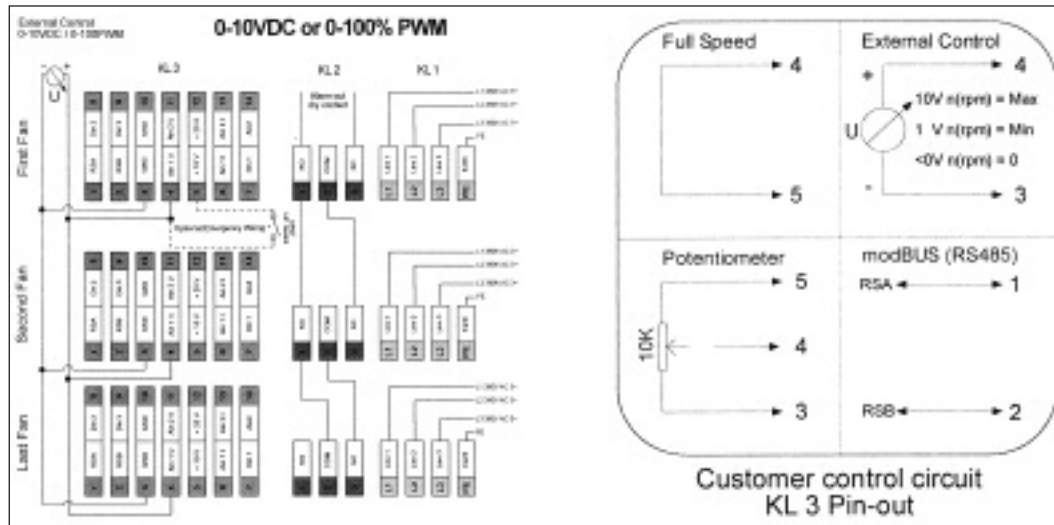
External Controller
or Potentiometer



EC Motors Frame
Size 112 & 150

External Sensor

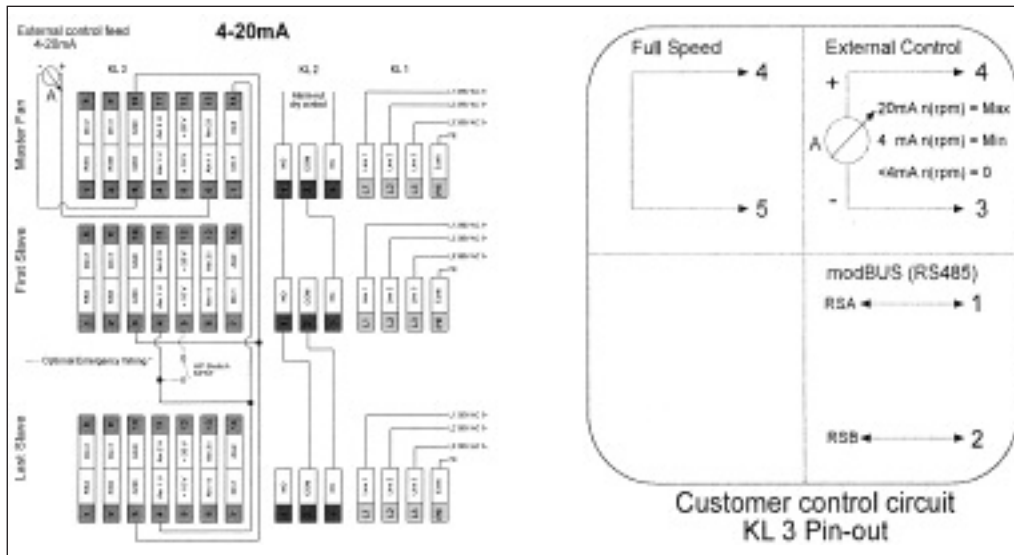




*** For emergency operation**

Only if external control feed fails. Please use +10V from first fan and wire as per diagram via the alarm out contact on an SPST auto reset HP-switch. All fans will subsequently be controlled via the switch on a on (100% rpm) or off (0 rpm) basis.

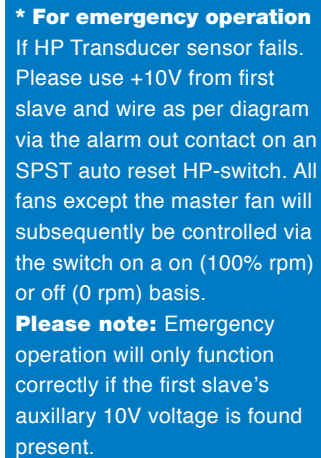
Please note: Emergency operation will only function correctly if the first fan's auxiliary 10V voltage is found present.



* For emergency operation

If external controller feed fails. Please use +10V from first slave and wire as per diagram via the alarm out contact on an SPST auto reset HP-switch. All fans except the master fan will subsequently be controlled via the switch on a on (100% rpm) or off (0 rpm) basis.

Please note: Emergency operation will only function correctly if the first slave's auxillary 10V voltage is found present.



Prerequisites for fan closed loop programming:

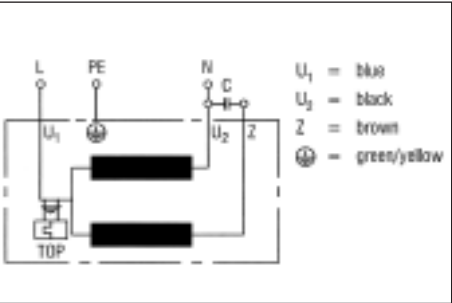
- Notebook or desktop computer with serial communication port or/and Bluetooth capability. Alternatively you could use one of the approved personal digital assistants or PDA's with Bluetooth capability. For a full compatibility list please visit www.ebmpapst.com/downloads.
- RS485 - RS232 converter Article Number:
21495-2-0174 available for port powered interface converting between fan and computer host.
- Alternatively you may use the ebm-papst Bluetooth Module Article Number:
21501-1-0174 for a wireless connection between fan and computer host.
- Programming software "EC-Control PC-Software" Article Number: 25714-2-0199 available as free issue. For PDA option please use Fan Control Handheld Software Article Number 25713-2-0199

The following information applies generally, but not exhaustively, to the majority of A.C. products sold in South Africa.

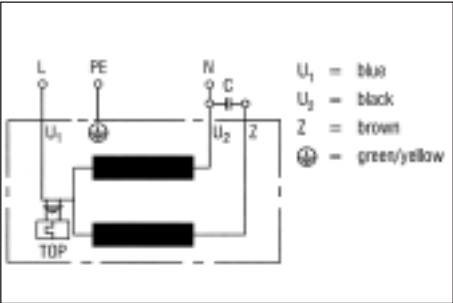
Notes

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

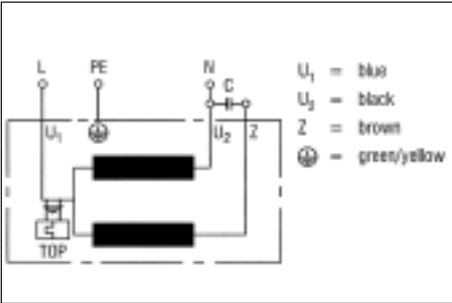
Fans on 1 ~ 230 VAC power line



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

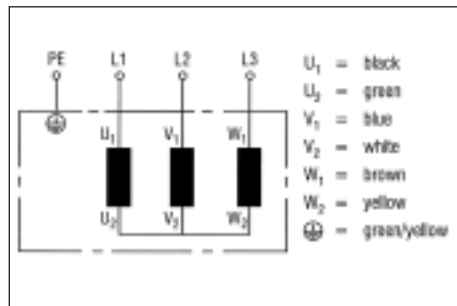


1b) Single-phase capacitor motor with TOP brought out

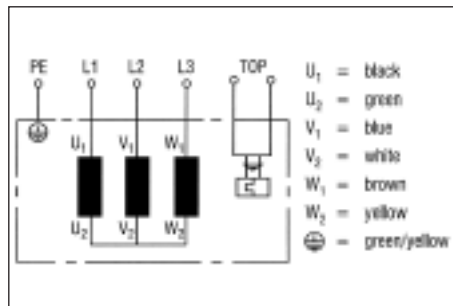


1c) Shaded pole motor with TOP wired internally

Fans, 1 speed on 3 ~ 400 VAC line

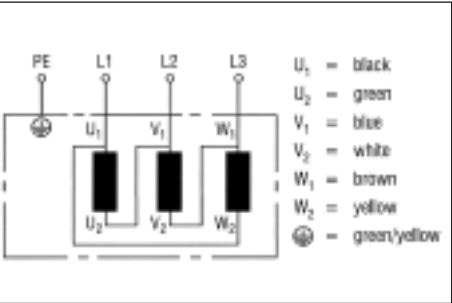


2b) Star connection (3 ~ 400 VAC power line)

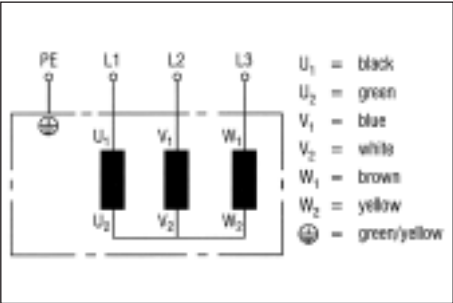


3b) Star connection (3 ~ 400 VAC power line) with TOP

Fans, 2 speeds via ▲/Y-switch on 3 ~ 400 VAC line

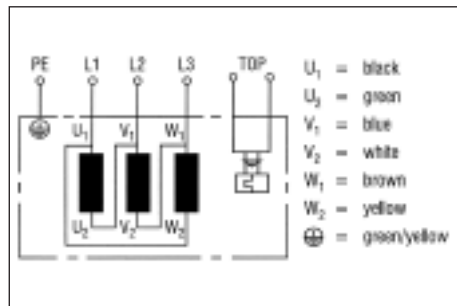


4a) Delta connection (high speed)

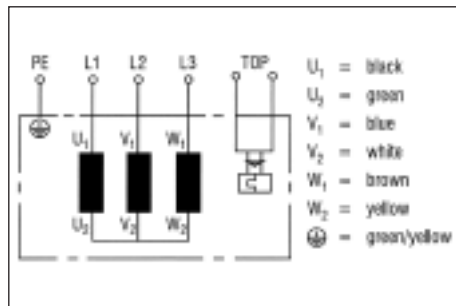


4b) Star connection (low speed)

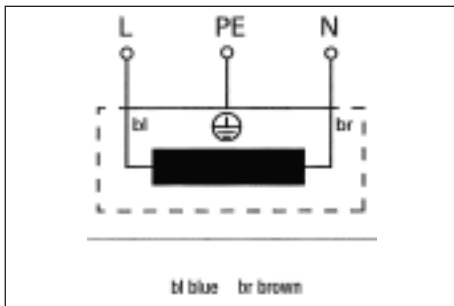
Fans, 2 speeds via ▲/Y-switch on 3 ~ 400 VAC line



5a) Delta connection (high speed) with TOP



5b) Star connection (low speed) with TOP



6a) Single phase shaded pole

