

AC Fans

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Technical Informations

Program

The renowned ebm-papst AC fans are used when DC voltage is not available. The AC range of fans is based on experience gained from decades of development activity, millions of units in series production and competence in innovation of a world-wide technological leader.

A wide range of fans for AC operation are presented in this catalogue. In addition to complete equipment fans, you will also find fans without external housing, providing a particularly economical advantage when the air duct can be integrated in the respective appliance.

Variety of sizes

AC fans are available in a variety of sizes with either air exhaust or air intake over struts. Silent running models with sleeve bearings or for extreme ambient conditions; Fans with ball bearings are available pin connection or free-hanging leads.

Shaded-pole or capacitor motors

Fan drive by shaded-pole or capacitor motors most of which incorporate the world-famous ebm-papst external rotor principle: The fan blades are directly attached to the external rotor of the external rotor motor thus combining both high performance and profitability.

Flat built AC fans

ebm-papst also has particularly flat built AC fans with internal rotor motor. Their advantage being, quick start to full speed. A plastic impeller and the both smaller and lighter internal rotor motor lead to a lower moment of inertia.

Bearings

AC fans with sleeve bearings are powered by Class E insulated motors. Fans with ball bearings are equipped with Class B, E or F insulated motors.

Protection class

All ebm-papst fans conform to the requirements of IP 20. Fans conforming to IP 54 and special types of protection class are also available.

AC voltage

The line of AC fans for Euro voltage according to IEC 38 (230 V + 6 %, -10 %) is basically also available for 115 V.

Frequencies

AC fans can be operated at frequencies of 50 Hz or 60 Hz. However, their technical data then changes accordingly.

Capacitor

Fans driven by capacitor external motors provide particularly high operating efficiency. Generally, the required phase-shift capacitor is already integrated in the fan housing.

Overloading

Almost all AC fans are protected against overloading (e.g. due to blocked rotor) the drive motors are either impedance protected (marked "Impedance protected", and/or "Z.P.") or are equipped with a thermal switch (marked "Thermally protected" or "Th.P."). The model designation of these fans ends with "S".

Axial- and Radial Fans for AC Operation

Overview Air Flow

Dimension	Series	Air Flow	10	20	30	40	50	60	70	80	90	100	200	300	400	500	600	700	800	900	1000	2000	3000	Page		
mm		m ³ /h																								
□ 80 x 38	8000 A	29...57																								118
□ 80 x 38	8000 N	30...61																								119
∅ 76 x 37	8000 TA	23...45																								120
∅ 76 x 37	8000 TV	24...47																								121
□ 92 x 25	3900	31...70																								122
□ 92 x 38	3000	49...89																								123
□ 119 x 25	9900	84...135																								124
□ 119 x 38	4000 N	80...180																								125
□ 119 x 38	4000 Z	100...180																								126
∅ 113 x 37	4600 TA	138...147																								127
∅ 108 x 37	4600 TZ	125...140																								128
□ 127 x 38	5900	150...206																								129
□ 135 x 38	5600	235...270																								130
150 x 172 x 38	7000	330...390																								131
∅ 150 x 55	7800	325...380																								132
∅ 150 x 55	7400	390...445																								133
∅ 172 x 51	6000	375...500																								134
∅ 225 x 80	W**200	450...1030																								135
∅ 232 x 80	W2*208	815...925																								136
□ 280 x 80	W2E 250	1865																								137
□ 121 x 37	RL 90	40...42																								138
□ 135 x 38	RG 90	47...54																								139
□ 180 x 40	RG 125	86...94																								140
□ 220 x 56	RG 160	202...223																								141
∅ 138 x 40	RER 125	104...115																								142
∅ 176 x 54	RER 160	234...274																								143

Overview of technically feasible designs

Dimension	Axial-/Radial Fans		OPTIONAL				P.
	Series	mm	VDE, UL, CSA	Sinter Sleeve Bearings/ Ball Bearings	Sensor	Humidity protection IP >= IP54	
8000 A	80 x 80 x 38	yes	□/■	-	• • • •	118	
8000 N	80 x 80 x 38	yes	□/■	-	• • • •	119	
8000 TA	76 ∅ x 37	yes	□/■	-	• • • •	120	
8000 TV	76 ∅ x 37	yes	□/■	-	• • • •	121	
3900	92 x 92 x 25	yes	□/■	-	• - - -	122	
3000	92 x 92 x 38	yes	□/■	-	• • • •	123	
9900	119 x 119 x 25	yes	□/■	-	• - - -	124	
4000 N	119 x 119 x 38	yes	□/■	•	• • • •	125	
4000 Z	119 x 119 x 38	yes	□/■	•	• • • •	126	
4600 TA	113 ∅ x 37	yes	□/■	-	• • • •	127	
4600 TZ	108 ∅ x 37	yes	□/■	-	• • • •	128	
5900	127 x 127 x 38	yes	□/■	-	• - - -	129	
5600	135 x 135 x 38	yes	■	-	• • • •	130	
7000	150 x 172 x 38	yes	■	-	- - - -	131	
7800	150 ∅ x 55	yes	■	•	- - - -	132	
7400	150 ∅ x 55	yes	■	-	- - - -	133	
6000	172 ∅ x 51	yes	■	-	- - - -	134	
RL 90	121 x 121 x 37	yes	□/■	-	• • • •	138	
RG 90	135 x 135 x 38	yes	□/■	-	• • • •	139	
RG 125	180 x 180 x 40	yes	■	-	• • • •	140	
RG 160	220 x 220 x 56	yes	■	-	• • • •	141	
RER 125	138 ∅ x 40	yes	■	-	• • • •	142	
RER 160	176 ∅ x 54	yes	■	-	• • • •	143	

• available - unavailably □ Sleeve-Bearings ■ Ball Bearings

Information Pictograms

On the pages of the catalogue and on the following overview pages, the pictograms illustrated below provide information about technically possible special versions in the fan line presented.

Please note that these special versions are not possible for all voltages and speeds, and not in all combinations.

The special versions are designed for specific customers and projects and are not usually available off the shelf.



Speed Signal

The fan uses a separate wire to output information about its speed, and thus about the speed of the rotor. For technical details, please refer to page 90.



Protection against moisture

Protection for the fan's electronics against moisture and condensation. For details, please refer to page 102.



IP 54

Protection of motor and PCB board against splashed water and humidity. For details, please refer to page 102.



Protection against salt spray fog

Protection of fan against the damaging effects of salt spray fog. For details, please refer to page 102.

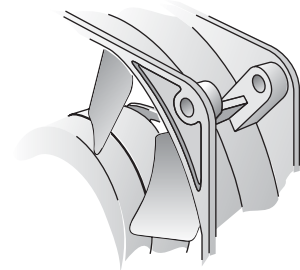
AC Axial Fans

Series 8000 A 80 x 80 x 38 mm

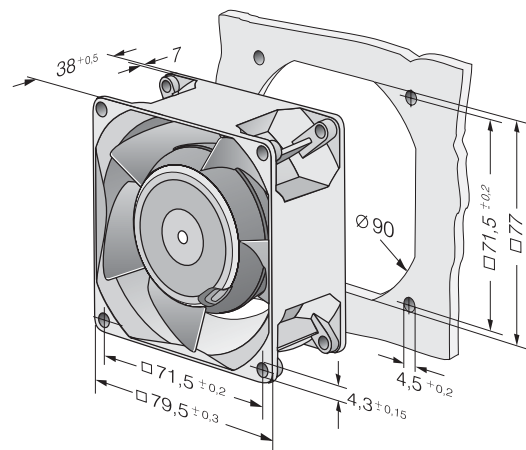
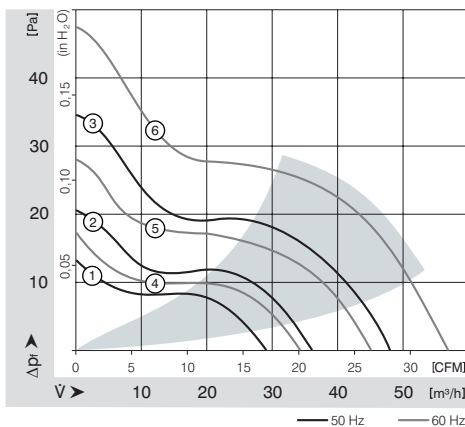


- AC fans with external rotor shaded-pole motor. Impedance protected against overloading.
- Metal fan housing and impeller.
- Air intake over struts. Rotational direction CW looking at rotor.
- Electrical connection via 2 flat pins 2.8 x 0.5 mm.
- Fan housing with ground lug and screw M4 x 8 (TORX).
- Mass: 490 g.
- Also available with electrical connection via leads.
- Also available with air-exhaust over struts and of rotation cw.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise		Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀		Curve
	m ³ /h	CFM			V	Hz					dB(A)	Bel	
8880 A	29	17.1	230	50	26	4.1	□	9.0	1 750	-10...+80	60 000 / 25 000		1
8850 A	36	21.2	230	50	31	4.6	□	12.5	2 150	-10...+70	52 500 / 25 000		2
8550 A	48	28.3	230	50	36	5.0	□	12.0	2 700	-10...+70	52 500 / 25 000		3
8556 A	48	28.3	230	50	37	5.1	■	12.0	2 800	-40...+90	52 500 / 15 000		3
8830 A	34	20.0	115	60	29	4.3	□	8.0	1 950	-10...+80	62 500 / 25 000		4
8800 A	45	26.5	115	60	34	4.8	□	11.0	2 500	-10...+70	55 000 / 27 500		5
8500 A	57	33.5	115	60	41	5.5	□	11.0	3 200	-10...+75	55 000 / 25 000		6
8506 A	57	33.5	115	60	42	5.7	■	11.0	3 300	-40...+95	55 000 / 15 000		6



Series 8000 A with mounting bosses



AC Axial Fans

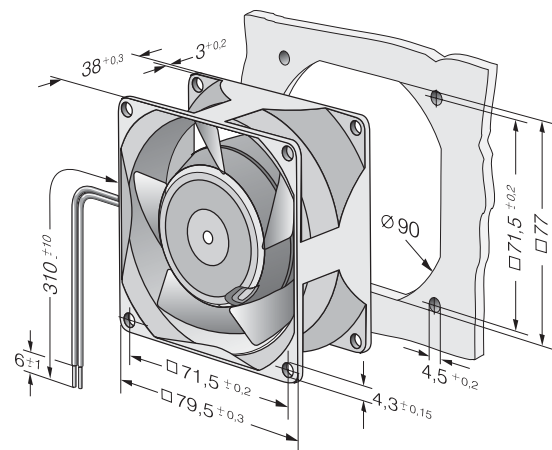
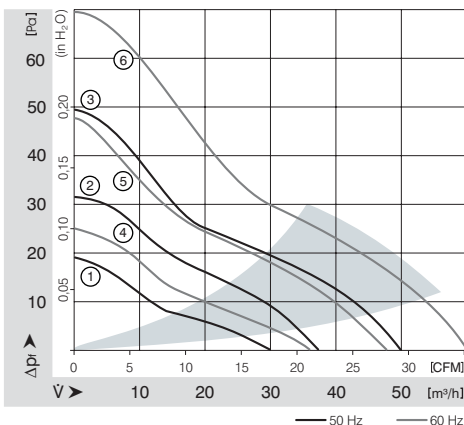
Series 8000 N 80 x 80 x 38 mm



- AC fans with external rotor shaded-pole motor. Impedance protected against overloading.
- Metal fan housing and impeller.
- Air exhaust over struts. Rotational direction CW looking at rotor.
- Electrical connection via 2 leads. Stripped and tinned ends.
- Fan housing with ground lug for screw M4 x 8 (TORX).
- Mass: 490 g.

Nominal Data		Air Flow	Air Flow	Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀	Curve
Type		m ³ /h	CFM	V	Hz	dB(A)	Bel	Watt	min ⁻¹	°C	Hours	Hours
8880 N		30	17.7	230	50	18	3.3	9.0	1 750	-10...+80	60 000 / 25 000	1
8850 N		37	21.8	230	50	24	3.9	12.5	2 150	-10...+70	52 500 / 25 000	2
8550 N		50	29.4	230	50	30	4.4	12.0	2 700	-10...+70	52 500 / 25 000	3
8556 N		50	29.4	230	50	31	4.5	12.0	2 800	-40...+90	52 500 / 15 000	3
8830 N		36	21.2	115	60	21	3.7	8.0	1 950	-10...+80	62 500 / 25 000	4
8800 N		47	27.7	115	60	28	4.3	11.0	2 500	-10...+70	55 000 / 27 500	5
8500 N		61	35.9	115	60	34	4.8	11.0	3 200	-10...+75	55 000 / 25 000	6
8506 N		61	35.9	115	60	35	5.0	11.0	3 300	-40...+95	55 000 / 15 000	6

Fan Type				Lead Wires	
8830 N	8800 N	8550 N	8500 N	310 mm long	AWG 18, TR 64
8880 N				310 mm long	AWG 18, TR 64
8556 N	8506 N			310 mm long	AWG 22
8850 N				440 mm long	AWG 18, TR 64



AC Axial Fans

Series 8000 TA 76 Ø x 37 mm

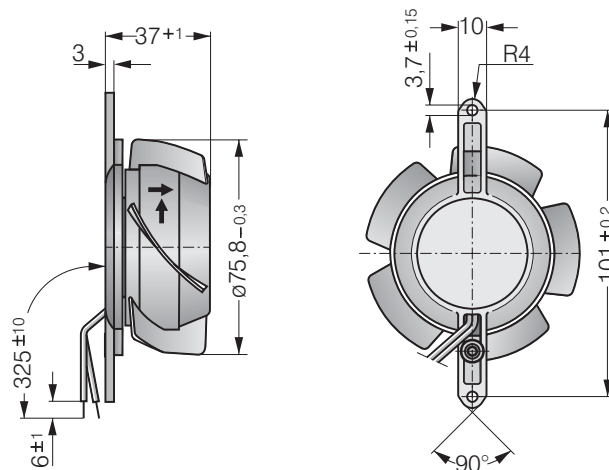


- AC fans with external rotor shaded-pole motor. Impedance protected against overloading.
- Impeller and mounting bracket of metal.
- Air intake over mounting bracket. Rotational direction CW looking at rotor.
- Electrical connection via 2 leads. Stripped and tinned ends.
- Mass: 370 g.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀		Curve
	m ³ /h	CFM								Hours	Hours	
8880 TA	23	13.5	230	50	15	■	9.0	1 650	-10...+80	60 000 / 25 000		-
8850 TA	30	17.7	230	50	19	■	12.0	2 100	-10...+70	52 500 / 25 000		-
8550 TA	38	22.4	230	50	25	■	12.0	2 650	-10...+70	52 500 / 25 000		-
8556 TA	38	22.4	230	50	26	■	12.0	2 750	-40...+90	52 500 / 15 000		-
8830 TA	26	15.3	115	60	18	■	8.0	1 850	-10...+80	62 500 / 25 000		-
8800 TA	34	20.0	115	60	23	■	11.0	2 450	-10...+70	55 000 / 27 500		-
8500 TA	45	26.5	115	60	30	■	11.0	3 150	-10...+75	55 000 / 25 000		-
8506 TA	45	26.5	115	60	31	■	11.0	3 250	-40...+95	55 000 / 15 000		-

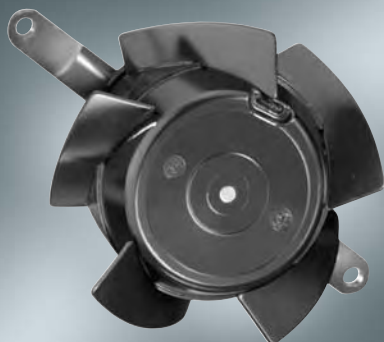
The air flow and noise level of fans without external housing depends on the installation conditions. The stated air flow and noise has been measured with an orifice 76.5 mm Ø at a distance of approx. 17 mm from the mounting bracket. Under exceptionally favourable mounting conditions, the air flow of fan series 8000 A is achievable. The noise in the optimal operating range can only be measured for these fans in a specific application.

Fan Type				Lead Wires	
8880 TA	8850 TA	8830 TA	8800 TA	325 mm long	AWG 18, TR 64
8550 TA	8500 TA			325 mm long	AWG 18, TR 64
8556 TA	8506 TA			325 mm long	AWG 18



AC Axial Fans

Series 8000 TV 76 Ø x 37 mm

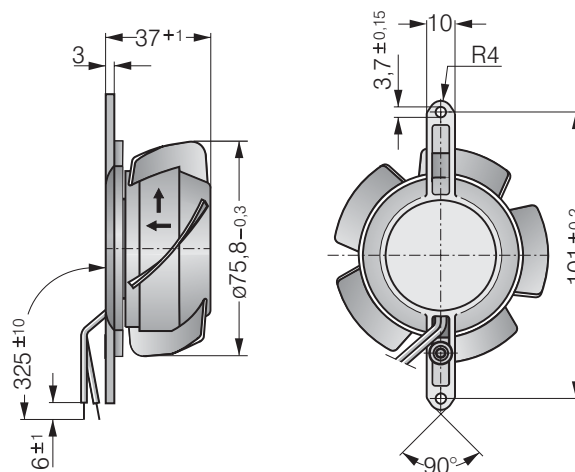


- AC fans with external rotor shaded-pole motor. Impedance protected against overloading.
- Impeller and mounting bracket of metal.
- Air exhaust over struts. Rotational direction CW looking at rotor.
- Electrical connection via 2 leads. Stripped and tinned ends.
- Mass: 370 g.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀ at 40 °C		Curve
	m ³ /h	CFM								V	Hz	
8880 TV	24	14.1	230	50	15	□	9.0	1 650	-10...+80	60 000 / 25 000		-
8850 TV	31	18.2	230	50	20	□	12.0	2 100	-10...+70	52 500 / 25 000		-
8550 TV	40	23.5	230	50	27	□	12.0	2 650	-10...+70	52 500 / 25 000		-
8556 TV	40	23.5	230	50	28	■	12.0	2 750	-40...+90	52 500 / 15 000		-
8830 TV	27	15.9	115	60	18	□	8.0	1 850	-10...+80	62 500 / 25 000		-
8800 TV	36	21.2	115	60	24	□	11.0	2 450	-10...+70	55 000 / 27 500		-
8500 TV	47	27.7	115	60	32	□	11.0	3 150	-10...+75	55 000 / 25 000		-
8506 TV	47	27.7	115	60	33	■	11.0	3 250	-40...+95	55 000 / 15 000		-

The air flow and noise level of fans without external housing depends on the installation conditions. The stated air flow and noise has been measured with an orifice 76.5 mm Ø at a distance of approx. 17 mm from the mounting bracket. Under exceptionally favourable mounting conditions, the air flow of fan series 8000 N is achievable. The noise in the optimal operating range can only be measured for these fans in a specific application.

Fan Type				Lead Wires	
8880 TV	8850 TV	8830 TV	8800 TV	325 mm long	AWG 18, TR 64
8550 TV	8500 TV			325 mm long	AWG 18, TR 64
8556 TV	8506 TV			325 mm long	AWG 18



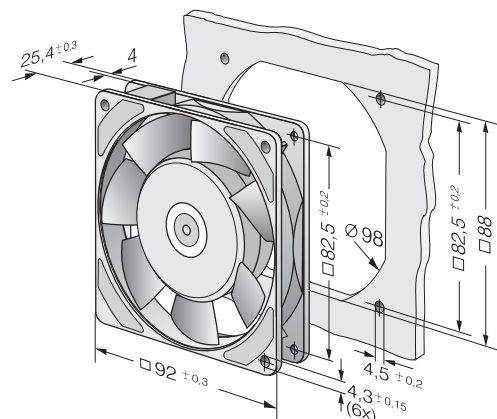
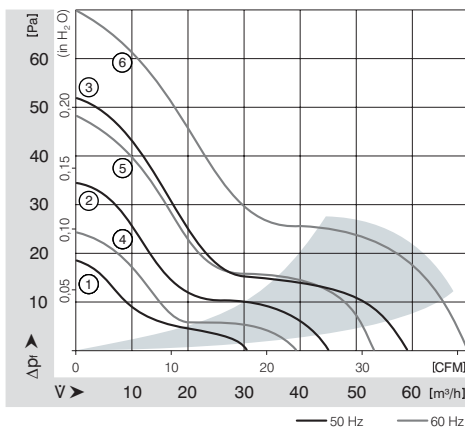
AC Axial Fans

Series 3900 92 x 92 x 25 mm



- AC fans with internal rotor shaded-pole motor. Impedance protected against overloading.
- Metal fan housing, impeller of mineral-reinforced plastic PA.
- Air exhaust over struts. Rotational direction CCW looking at rotor.
- Electrical connection via 2 flat pins 2.8 x 0.5 mm.
- Fan housing with ground lug for screw M4.
- Mass: 280 g.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise		Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀		Curve
	m ³ /h	CFM			V	Hz					dB(A)	Bel	
3950 L	31	18.2	230	50	24	3.8	□	6.0	1 550	-10...+80	70 000 / 27 500		1
3956 L	31	18.2	230	50	24	3.8	■	6.0	1 550	-40...+80	70 000 / 27 500		1
3950 M	45	26.5	230	50	29	4.2	□	6.0	2 150	-10...+80	70 000 / 27 500		2
3956 M	45	26.5	230	50	29	4.2	■	6.0	2 150	-40...+80	70 000 / 27 500		2
3950	59	34.7	230	50	35	4.7	□	11.0	2 650	-20...+80	55 000 / 20 000		3
3956	59	34.7	230	50	35	4.7	■	11.0	2 650	-40...+80	55 000 / 20 000		3
3900 L	39	23.0	115	60	27	4.0	□	5.0	1 850	-10...+80	70 000 / 27 500		4
3906 L	39	23.0	115	60	27	4.0	■	5.0	1 850	-40...+80	70 000 / 27 500		4
3900 M	53	31.2	115	60	34	4.6	□	5.0	2 600	-10...+80	70 000 / 27 500		5
3906 M	53	31.2	115	60	34	4.6	■	5.0	2 600	-40...+80	70 000 / 27 500		5
3900	70	41.2	115	60	40	5.1	□	9.0	3 150	-20...+80	60 000 / 22 500		6
3906	70	41.2	115	60	40	5.1	■	9.0	3 150	-40...+80	60 000 / 22 500		6



AC Axial Fans

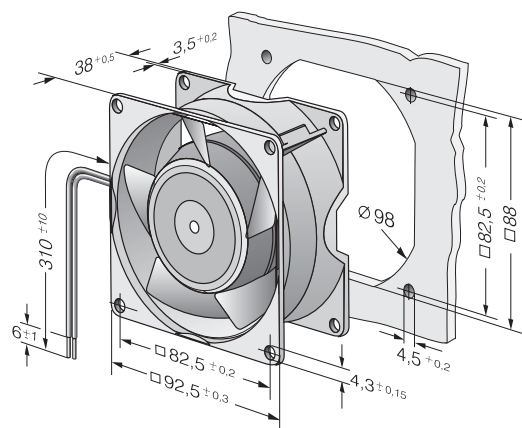
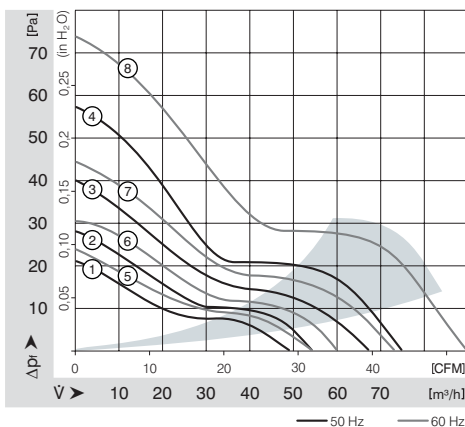
Series 3000 92 x 92 x 38 mm



- AC fans with external rotor shaded-pole motor. Impedance protected against overloading.
- Metal fan housing and impeller.
- Air exhaust over struts. Rotational direction CW looking at rotor.
- Electrical connection via 2 leads. Stripped and tinned ends.
- Fan housing with ground lug and screw M4 x 8 (TORX).
- Mass: 420 g.

Nominal Data		Air Flow	Air Flow	Nominal Voltage	Frequency	Noise		Sinter-Sleeve Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀	Curve
Type		m ³ /h	CFM	V	Hz	dB(A)	Bel	□/■	Watt	min ⁻¹	°C	Hours	Hours
3850		49	28.8	230	50	24	3.7	□	9.0	1 750	-10...+75	60 000 / 27 500	1
3856		54	31.8	230	50	26	3.9	■	9.0	1 950	-40...+90	60 000 / 20 000	2
3550		67	39.4	230	50	32	4.4	□	9.0	2 300	-10...+80	60 000 / 25 000	3
3556		67	39.4	230	50	33	4.5	■	9.0	2 400	-40...+90	60 000 / 20 000	3
3650		75	44.1	230	50	36	4.8	□	12.0	2 650	-10...+55	52 500 / 37 500	4
3656		75	44.1	230	50	37	4.9	■	12.0	2 700	-40...+75	52 500 / 22 500	4
3800		54	31.8	115	60	26	3.9	□	8.0	1 900	-10...+80	62 500 / 25 000	5
3806		60	35.3	115	60	29	4.2	■	8.0	2 150	-40...+95	62 500 / 17 500	6
3500		73	43.0	115	60	35	4.6	□	8.0	2 500	-10...+80	62 500 / 25 000	7
3506		73	43.0	115	60	36	4.7	■	8.0	2 600	-40...+95	62 500 / 17 500	7
3600		89	52.4	115	60	41	5.1	□	11.0	3 100	-10...+65	55 000 / 30 000	8
3606		89	52.4	115	60	42	5.2	■	11.0	3 200	-40...+75	55 000 / 25 000	8

Fan Type	Lead Wires	
With Sleeve bearings	310 mm long	AWG 18, TR 64
With Ball bearings	310 mm long	AWG 18



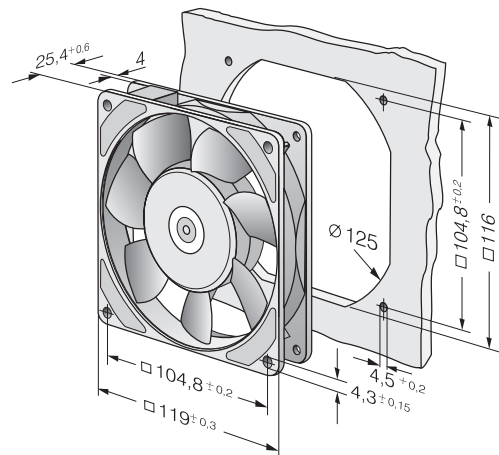
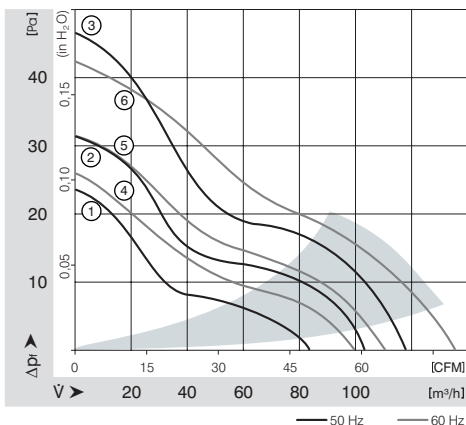
AC Axial Fans

Series 9900 119 x 119 x 25 mm



- AC fans with external rotor shaded-pole motor. Protected against overloading by thermal cutout.
- Metal fan housing and impeller.
- Air exhaust over struts. Rotational direction CCW looking at rotor.
- Electrical connection via 2 flat pins 2.8 x 0.5 mm.
- Fan housing with ground lug and screw M4 x 8 (TORX).
- Mass: 800 g.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise		Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀		Curve
	m ³ /h	CFM			V	Hz					dB(A)	Bel	
9956 L	84	49.4	230	50	29	4.4	■	9.5	1 850	-40...+80	57 500 / 22 500		1
9956 M	104	61.2	230	50	35	4.7	■	10.0	2 250	-40...+80	57 500 / 22 500		2
9950	117	68.9	230	50	37	5.0	□	14.0	2 450	-20...+70	47 500 / 22 500		3
9956	117	68.9	230	50	37	5.0	■	14.0	2 450	-40...+70	47 500 / 22 500		3
9906 L	100	58.9	115	60	34	4.6	■	8.0	2 100	-40...+80	62 500 / 25 000		4
9906 M	111	65.3	115	60	37	5.0	■	8.0	2 450	-40...+80	62 500 / 25 000		5
9900	135	79.5	115	60	42	5.4	□	12.0	2 850	-20...+70	52 500 / 25 000		6
9906	135	79.5	115	60	42	5.4	■	12.0	2 850	-40...+70	52 500 / 25 000		6



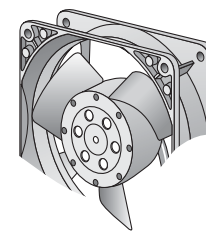
AC Axial Fans

Series 4000 N 119 x 119 x 38 mm

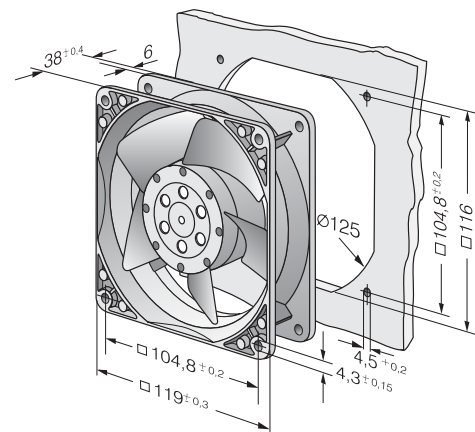
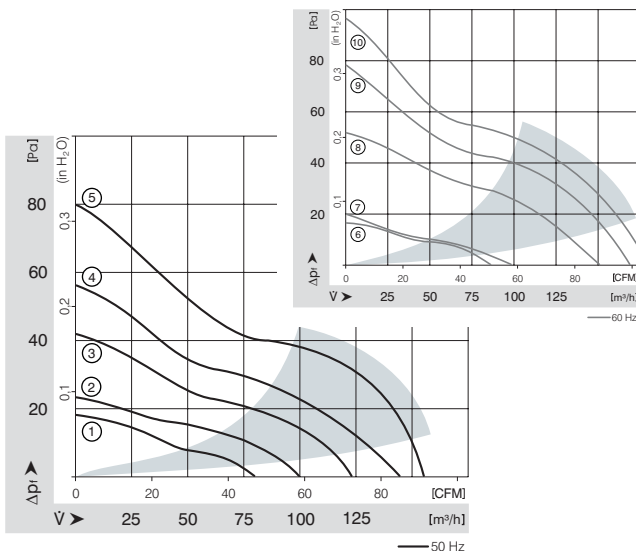


- AC fans with external rotor shaded-pole motor. Impedance protected against overloading.
- Metal fan housing and impeller
- Air intake over struts. Rotational direction CW looking at rotor. Types 4890 N and 4840 N air exhaust over struts.
- Electrical connection via 2 flat pins 3.0 x 0.5 mm.
- Also available: Models with mounting bosses and single leads.
- Fan housing with ground lug for screw M 4 and UNC.
- Mass: 550 g.

Nominal Data		Air Flow	Air Flow	Nominal Voltage	Frequency	Noise		Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀ at 40 °C	at T _{max}	Curve
Type		m ³ /h	CFM	V	Hz	dB(A)	Bel	□/■	Watt	min ⁻¹	°C	Hours	Hours	
4890 N		80	47.1	230	50	25	4.0	□	11.0	1 550	-10...+70	55 000 / 27 500		1
4850 N*		100	58.9	230	50	32	4.4	□	10.0	1 800	-10...+70	57 500 / 27 500		2
4580 N*		123	72.4	230	50	41	5.2	□	18.0	2 350	-10...+55	40 000 / 27 500		3
4550 N*		145	85.3	230	50	44	5.4	□	16.5	2 550	-10...+55	42 500 / 30 000		4
4650 N		160	94.2	230	50	46	5.4	□	19.0	2 650	-10...+55	37 500 / 27 500		5
4656 N		160	94.2	230	50	47	5.5	■	19.0	2 650	-40...+85	37 500 / 15 000		5
4840 N		85	50.0	115	60	26	4.1	□	10.0	1 650	-10...+75	57 500 / 25 000		6
4800 N*		97	57.1	115	60	32	4.3	□	9.0	1 750	-10...+75	60 000 / 27 500		7
4530 N*		151	88.9	115	60	45	5.4	□	16.0	2 700	-10...+65	42 500 / 25 000		8
4500 N*		169	99.5	115	60	48	5.7	□	15.0	3 000	-10...+65	47 500 / 25 000		9
4600 N		180	105.9	115	60	50	5.7	□	18.0	3 100	-10...+60	40 000 / 25 000		10
4606 N		180	105.9	115	60	51	5.8	■	18.0	3 100	-40...+90	40 000 / 15 000		10



* Fan with 3 blades.



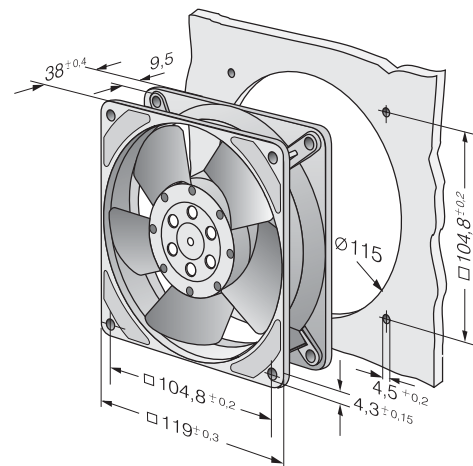
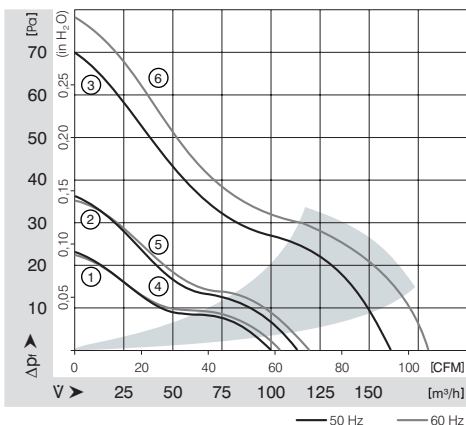
AC Axial Fans

Series 4000 Z 119 x 119 x 38 mm



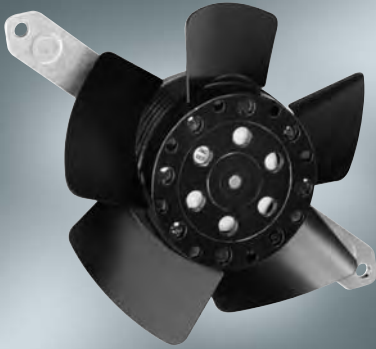
- AC fans with external rotor shaded-pole motor. Impedance protected against overloading.
- Metal fan housing and impeller.
- Air exhaust over struts. Rotational direction CW looking at rotor.
- Electrical connection via 2 flat pins 2.8 x 0.5 mm.
- Also available: Models with mounting bosses and single leads.
- Fan housing with ground lug and screw M4 x 8 (TORX).
- Mass: 540 g.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise		Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀		Curve
	m ³ /h	CFM			V	Hz					dB(A)	Bel	
4850 Z	100	58.9	230	50	26	4.0	□	13.0	1 700	-10...+65	50 000 / 27 500		1
4856 Z	100	58.9	230	50	26	4.0	■	13.0	1 700	-40...+75	50 000 / 20 000		1
4580 Z	115	67.7	230	50	30	4.3	□	13.0	1 900	-10...+65	50 000 / 27 500		2
4586 Z	115	67.7	230	50	30	4.3	■	13.0	1 900	-40...+75	50 000 / 20 000		2
4650 Z	160	94.2	230	50	40	5.3	□	19.0	2 650	-10...+50	37 500 / 30 000		3
4656 Z	160	94.2	230	50	40	5.3	■	19.0	2 650	-40...+75	37 500 / 17 500		3
4800 Z	105	61.6	115	60	28	4.1	□	12.0	1 800	-10...+70	52 500 / 25 000		4
4806 Z	105	61.6	115	60	28	4.1	■	12.0	1 800	-40...+75	52 500 / 17 500		4
4530 Z	120	70.6	115	60	32	4.4	□	12.0	2 000	-10...+70	52 500 / 25 000		5
4536 Z	120	70.6	115	60	32	4.4	■	12.0	2 000	-40...+75	52 500 / 17 500		5
4600 Z	180	105.9	115	60	45	5.6	□	18.0	3 100	-10...+60	40 000 / 25 000		6
4606 Z	180	105.9	115	60	45	5.6	■	18.0	3 100	-40...+85	40 000 / 15 000		6



AC Axial Fans

Series 4600 TA 113 Ø x 37 mm

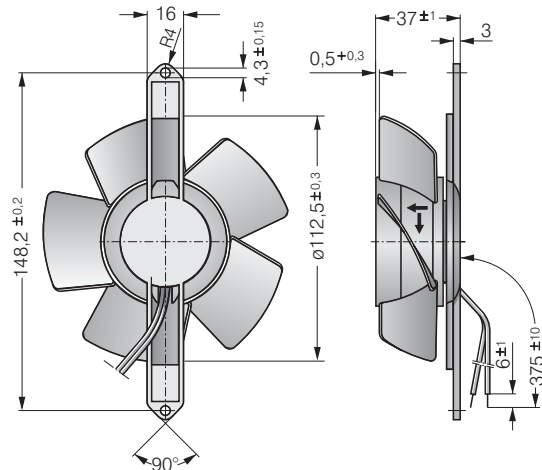


- AC fans with external rotor shaded-pole motor. Impedance protected against overloading.
- Impeller and mounting bracket of metal.
- Air intake over mounting bracket. Rotational direction CW looking at rotor.
- Electrical connection via 2 leads. Stripped and tinned ends.
- Mass: 430 g.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀		Curve
	m ³ /h	CFM								Hours	Hours	
4650 TA	138	81.2	230	50	41	□	19.0	2 550	-10...+45	37 500 / 32 500	-	
4656 TA	138	81.2	230	50	42	■	19.0	2 550	-40...+75	37 500 / 17 500	-	
4600 TA	147	86.5	115	60	43	□	18.0	2 900	-10...+50	40 000 / 32 500	-	
4606 TA	147	86.5	115	60	44	■	18.0	2 900	-40...+80	40 000 / 17 500	-	

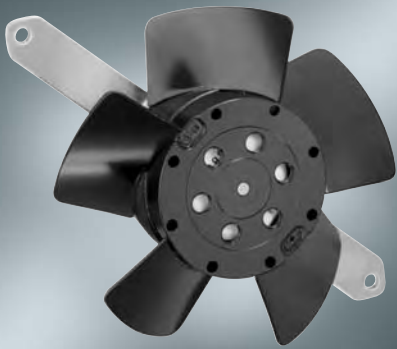
The air flow and noise level of fans without external housing depends on the installation conditions. The stated air flow and noise has been measured with an orifice 109 mm Ø at a distance of approx. 17 mm from the mounting bracket. Under exceptionally favourable mounting conditions, the air flow of fan series 4600 N is achievable. The noise in the optimal operating range can only be measured for these fans in a specific application.

Fan Type	Lead Wires
4650 TA	4600 TA
4656 TA	4606 TA
	AWG 22, TR 32
	AWG 18



AC Axial Fans

Series 4600 TZ 108 Ø x 37 mm

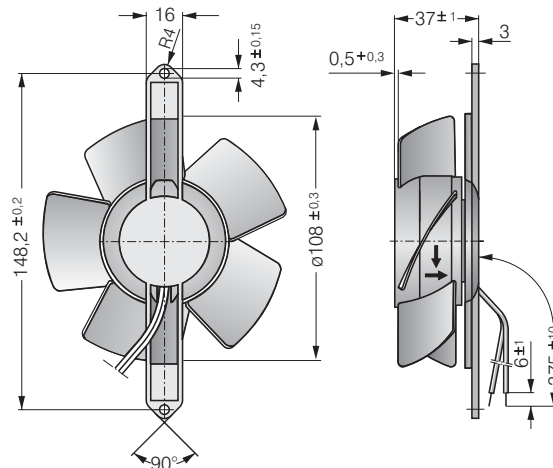


- AC fans with external rotor shaded-pole motor. Impedance protected against overloading.
- Impeller and mounting bracket of metal.
- Air exhaust over struts. Rotational direction CW looking at rotor.
- Electrical connection via 2 leads. Stripped and tinned ends.
- Mass: 430 g.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀		Curve
	m ³ /h	CFM								V	Hz	
4650 TZ	125	73.6	230	50	42	□	19.0	2 600	-10...+50	37 500 / 37 500		-
4656 TZ	125	73.6	230	50	42	■	19.0	2 600	-40...+65	37 500 / 20 000		-
4600 TZ	140	82.4	115	60	45	□	18.0	2 950	-10...+50	40 000 / 32 500		-
4606 TZ	140	82.4	115	60	45	■	18.0	2 950	-40...+75	40 000 / 17 500		-

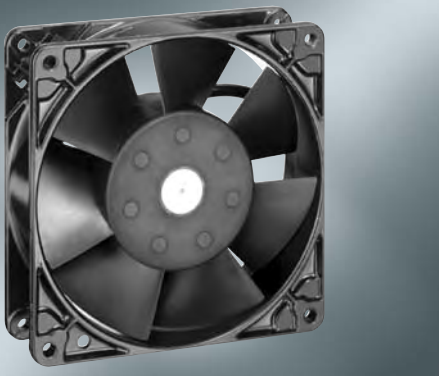
The air flow and noise level of fans without external housing depends on the installation conditions. The stated air flow and noise has been measured with an orifice 109 mm Ø at a distance of approx. 17 mm from the mounting bracket. Under exceptionally favourable mounting conditions, the air flow of fan series 4000 Z is achievable. The noise in the optimal operating range can only be measured for these fans in a specific application.

Fan Type	Lead Wires
4650 TZ	4600 TZ AWG 22, TR 32
4656 TZ	4606 TZ AWG 18



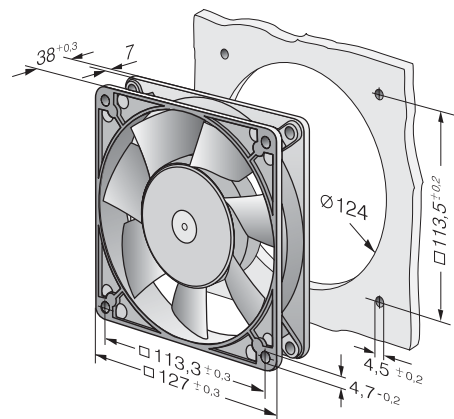
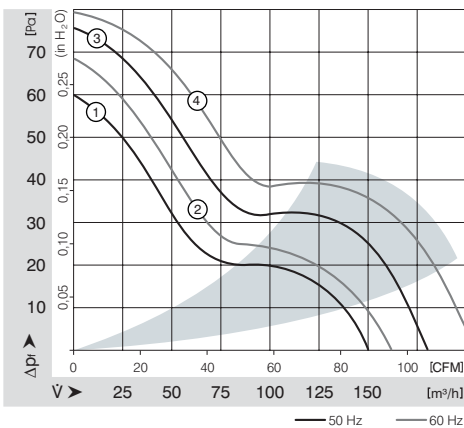
AC Axial Fans

Series 5900 127 x 127 x 38 mm



- AC fans with internal rotor shaded-pole motor. Impedance protected against overloading.
- Metal fan housing and impeller of fibreglass reinforced plastic PA.
- Air exhaust over struts. Rotational direction CCW looking at rotor.
- Electrical connection via 2 flat pins 2.8 x 0.8 mm.
- Fan housing with ground lug and screw M4 x 6.
- Mass: 570 g.

Nominal Data		Air Flow	Air Flow	Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀	Curve
Type	m ³ /h	CFM	V	Hz	dB(A)	Bel	□/■	Watt	min ⁻¹	°C	Hours	Hours
5988	150	88.3	230	50	37	4.9	■	13.0	2 250	-30...+55	35 000 / 20 000	1
5950	180	105.9	230	50	43	5.4	□	18.0	2 700	-20...+50	40 000 / 32 500	3
5958	180	105.9	230	50	44	5.5	■	18.0	2 750	-30...+60	40 000 / 25 000	3
5938	162	95.3	115	60	40	4.9	■	12.0	2 500	-30...+55	35 000 / 20 000	2
5900	206	121.2	115	60	46	5.7	□	17.0	3 050	-20...+55	42 500 / 30 000	4
5908	206	121.2	115	60	47	5.8	■	17.0	3 100	-30...+75	42 500 / 20 000	4



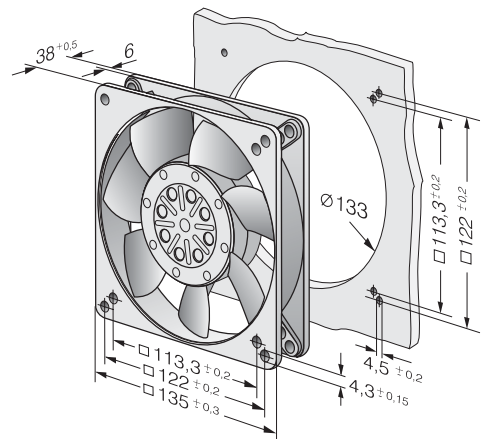
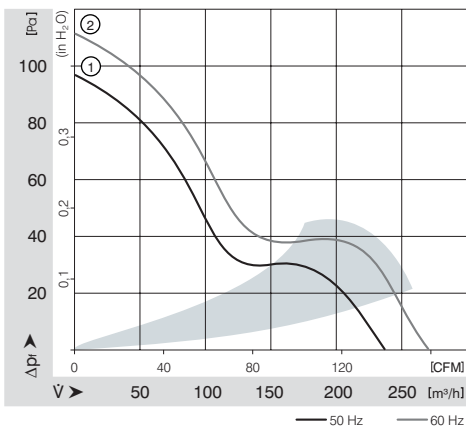
AC Axial Fans

Series 5600 135 x 135 x 38 mm



- AC fans with external rotor shaded-pole motor.
Protected against overloading by thermal cutout.
- Metal fan housing and impeller.
- Air exhaust over struts. Rotational direction CCW looking at rotor.
- Electrical connection via 2 flat pins 2.8 x 0.5 mm.
- Fan housing with ground lug and screw M4 x 8 (TORX).
- Mass: 800 g.

Nominal Data		Air Flow	Air Flow	Nominal Voltage	Frequency	Noise		Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀ at 40 °C	at T _{max}	Curve
Type		m ³ /h	CFM	V	Hz	dB(A)	Bel	□ / ■	Watt	min ⁻¹	°C	Hours	Hours	
5656 S		235	138.3	230	50	46	5.9	■	30.0	2 700	-35...+70	45 000 / 20 000		1
5606 S		270	158.9	115	60	50	6.2	■	26.0	3 100	-35...+80	47 500 / 20 000		2



AC Axial Fans

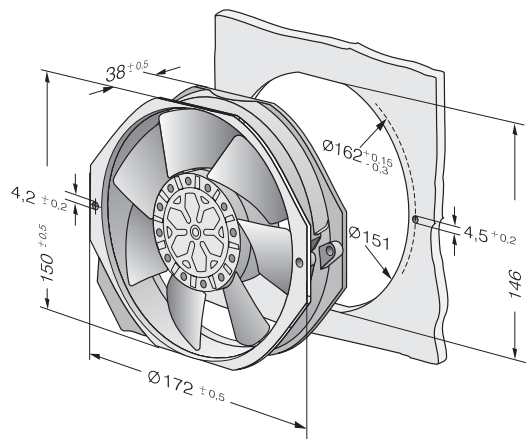
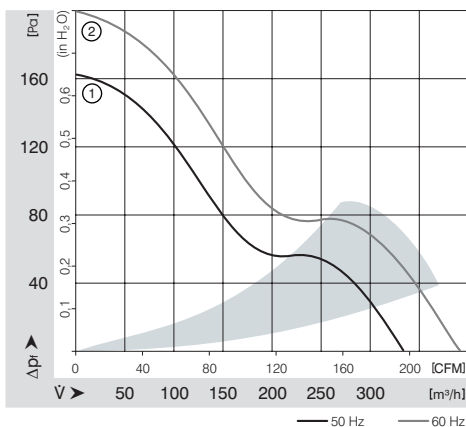
Series 7000 150 x 172 x 38 mm



- AC fans with external rotor capacitor motor. Protected against overloading by integrated thermal cutout.
- Metal fan housing and impeller.
- Air exhaust over struts. Rotational direction CCW looking at rotor.
- Electrical connection via 2 flat pins 2.8 x 0.5 mm.
- Fan housing with ground lug and screw M4 x 6.
- Mass: 900 g.

Nominal Data		Air Flow	Air Flow	Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀	Curve
Type		m ³ /h	CFM	V	Hz	dB(A)	Bel	Watt	min ⁻¹	°C	Hours at 40 °C	Hours at T _{max}
7056 ES		330	194.2	230	50	52	6.4	29.0	2 800	-30...+65	60 000 / 32 000	1
7006 ES		390	229.5	115	60	57	6.8	24.0	3 300	-30...+80	55 000 / 18 000	2

Minimum ambient temperature -15 °C, admissible for a short time at -30 °C; without reaching dew point.



AC Axial Fans

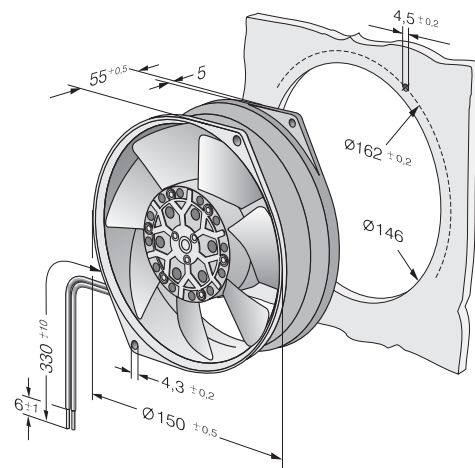
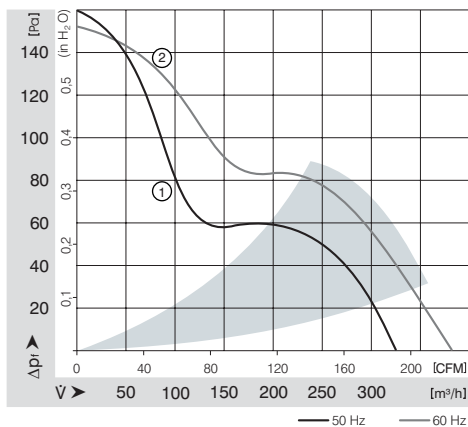
Series 7800 150 Ø x 55 mm



- AC fans with external rotor shaded-pole motor. Protected against overloading by integrated thermal cutout.
- Metal fan housing and impeller.
- Air exhaust over struts. Rotational direction CCW looking at rotor.
- Electrical connection via 2 leads. Stripped and tinned ends.
- Fan housing with ground lug and screw M4 x 6.
- Mass: 1000 g.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise		Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀		Curve
	m ³ /h	CFM			V	Hz					dB(A)	Bel	
7855 ES	325	191.3	230	50	48	6.0	■	45.0	2 800	-30...+50	40 000 / 21 000		1
7856 ES	325	191.3	230	50	48	6.0	■	45.0	2 800	-30...+70	40 000 / 12 000		1
7805 ES	380	223.7	115	60	52	6.4	■	38.0	3 250	-30...+75	40 000 / 19 000		2
7806 ES	380	223.7	115	60	52	6.4	■	38.0	3 250	-30...+90	40 000 / 12 500		2

Minimum ambient temperature -15 °C, admissible for a short time at -30 °C; without reaching dew point.



AC Axial Fans

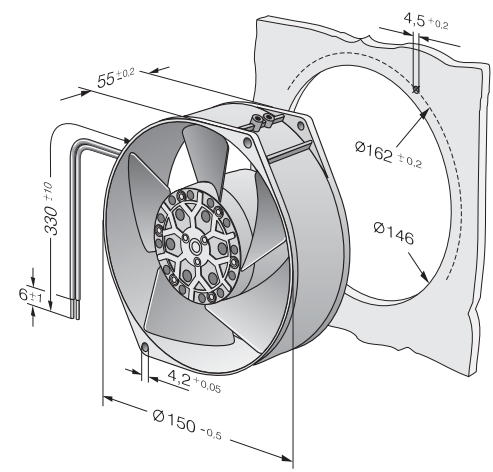
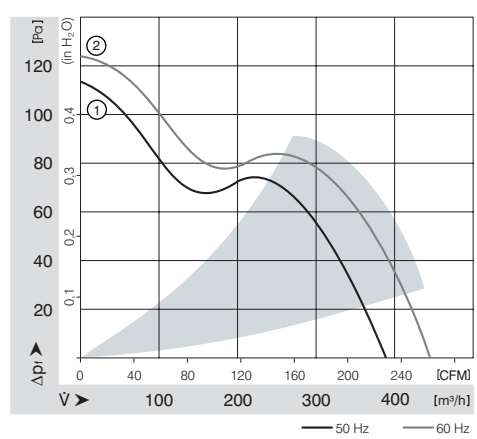
Series 7400 150 Ø x 55 mm



- AC fans with external rotor shaded-pole motor. Protected against overloading by integrated thermal cutout.
- Metal fan housing and impeller.
- Air intake over struts. Rotational direction CCW looking at rotor.
- Electrical connection via 2 leads. Stripped and tinned ends.
- Fan housing with ground lug and screw M4 x 6.
- Mass: 1000 g.

Nominal Data		Air Flow	Air Flow	Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀	Curve
Type		m ³ /h	CFM	V	Hz	dB(A)	Bel	Watt	min ⁻¹	°C	Hours at 40 °C	Hours at T _{max}
7450 ES		390	229.5	230	50	58	6.8	47.0	2 700	-30...+60	40 000 / 18 000	1
7400 ES		445	261.9	115	60	60	6.9	46.0	3 050	-30...+80	38 000 / 15 000	2

Minimum ambient temperature -15 °C, admissible for a short time at -30 °C; without reaching dew point.



AC Axial Fans

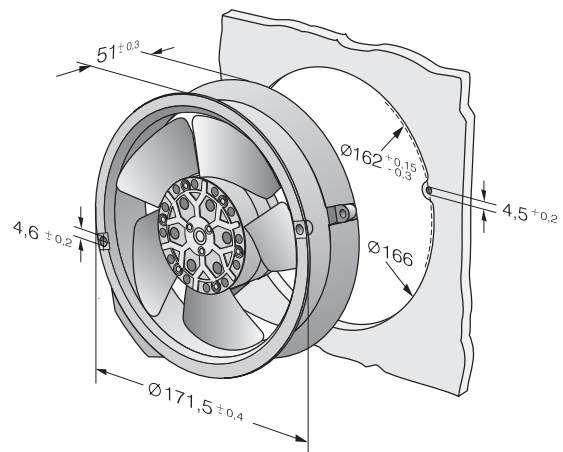
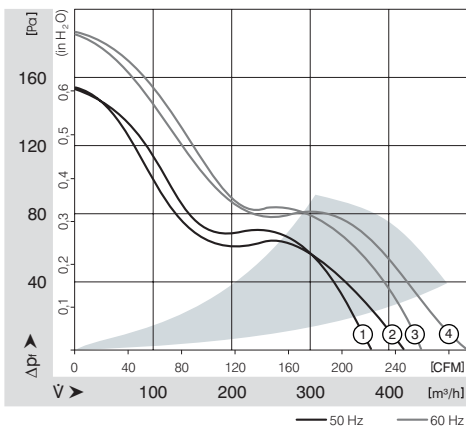
Series 6000 172 Ø x 51 mm



- AC fans with external rotor capacitor motor. Protected against overloading by integrated thermal cutout.
- Metal fan housing and impeller.
- Air exhaust over struts. Rotational direction CCW looking at rotor.
- Electrical connection via 2 flat pins 2.8 x 0.5 mm.
- Fan housing with ground lug and screw M4 x 6.
- Mass: 1000 g.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise		Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀		Curve
	m ³ /h	CFM			V	Hz					dB(A)	Bel	
6058 ES	375	220.7	230	50	54	5.9	■	24.0	2 800	-30...+70	48 000 / 32 000		1
6078 ES	420	247.2	230	50	54	6.3	■	26.0	2 800	-30...+75	37 500 / 20 000		2
6008 ES	440	259.0	115	60	58	6.4	■	26.0	3 300	-30...+70	42 000 / 28 000		3
6028 ES	500	284.3	115	60	58	6.7	■	29.0	3 300	-30...+75	40 000 / 20 000		4

Minimum ambient temperature -15 °C, admissible for a short time at -30 °C; without reaching dew point.



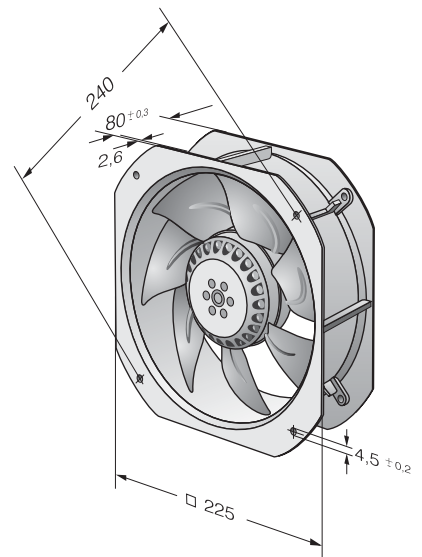
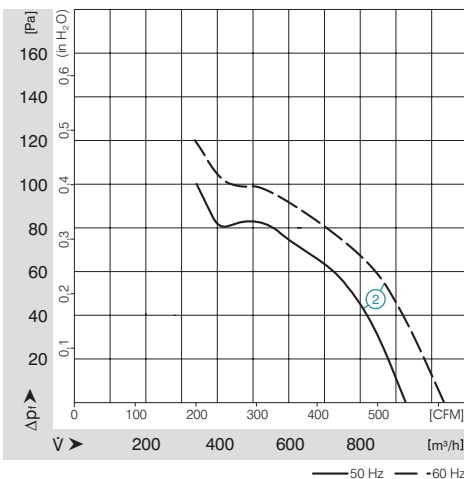
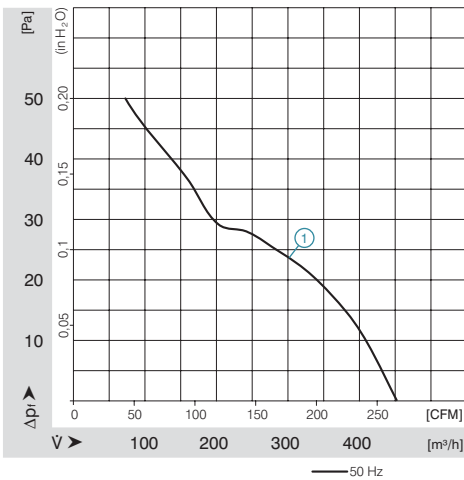
AC Axial Fans

W** 200 Ø 225 x 225 x 80 mm



- External-single-phase motor.*
- External-current motor.**
- Motor protection: TOP wired internally.
- Material: Wall ring die-cast aluminium, seven blades sheet steel. Blades and rotor coated in black.
- Direction of air flow "V", exhaustover struts. Direction of rotation: counter-clockwise, seen on rotor.
- Electrical connection: Terminal strips (operating capacitor connected).
- Continuous operation (S1).
- Insulation class: "F"
- Mass: 2000 g.

Nominal Data		Air Flow	Air Flow	Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings	Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀ at 40 °C	at T _{max}	Curve
Type		m ³ /h	CFM	V	Hz	dB(A)	□ / ■		Watt	min ⁻¹	°C	Hours	Hours	
W2E200-HK86-01*		1030	606.2	115	60	61	4.1	■	80.0	2 800	-25...+65	60 000 / 58 000		2
W2E200-HK38-01*		925	544.4	230	50	59	4.6	■	64.0	2 550	-25...+60	63 000 / 60 000		2
W4S200-HK04-01**		450	264.9	230	50	40	5.0	■	30.0	1 370	-25...+70	85 000 / 80 000		1



AC Diagonal Fans

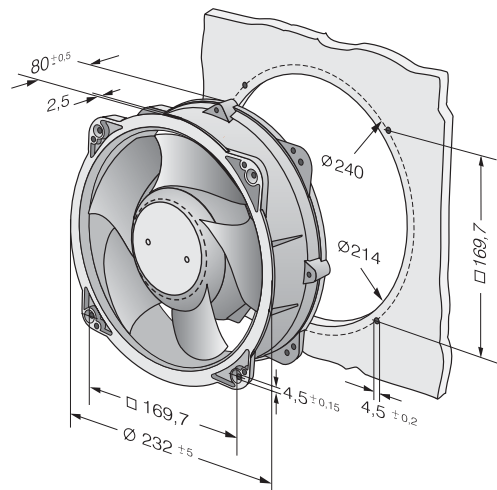
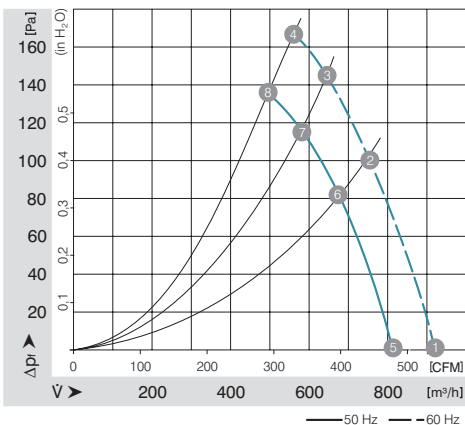
W2*208 Ø 232 x 80 mm



- External-single-phase motor.*
- External-current motor.**
- Material: wall ring die-cast aluminium, five blades plastic PA. Rotor coated in black.
- Motor protection: Without TOP**; TOP wired internally*.
- Direction of air flow "V", exhaustover struts. Direction of rotation: counter-clockwise, seen on rotor.
- Electrical connection: Terminal strips (operating capacitor connected).
- Continuous operation (S1).
- Insulation class: "F"
- Mass: 2800 g.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀		Curve
	m ³ /h	CFM								at 40 °C	at T _{max}	
Type	m ³ /h	CFM	V	Hz	dB(A)	□/■	Watt	min ⁻¹	°C	Hours	Hours	
W2E 208-BA86-01*	925	544.4	115	60	70	■	87.0	3 100	-25...+72	57 000 / 54 000		1
W2E 208-BA20-01*	815	479.7	230	50	68	■	67.0	2 750	-25...+72	61 000 / 58 000		1
W2D 208-BA02-01**	820	482.6	400 Y	50	67	■	60.0	2 740	-25...+70	61 000 / 58 000		1
	920	541.5		60	70		80.0	3 090		57 000 / 54 000		

Model	Frequency	Curve	Speed (min ⁻¹)	Flow (m ³ /h)	Flow (CFM)	Noise (dB(A))
W2D 208-BA	50	1	3090	80	70	
		2	2990	93	69	
		3	2960	96	69	
	60	4	2990	92	70	
		5	2740	60	67	
		6	2690	69	67	
W2E 208-BA	50	1	3100	87	70	
		2	2990	100	70	
		3	2960	102	69	
	60	4	3020	97	70	
		5	2750	67	68	
		6	2690	74	67	
	7	2680	75	66		
	8	2700	72	68		



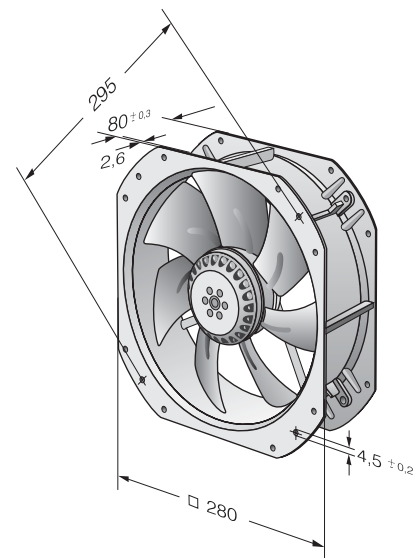
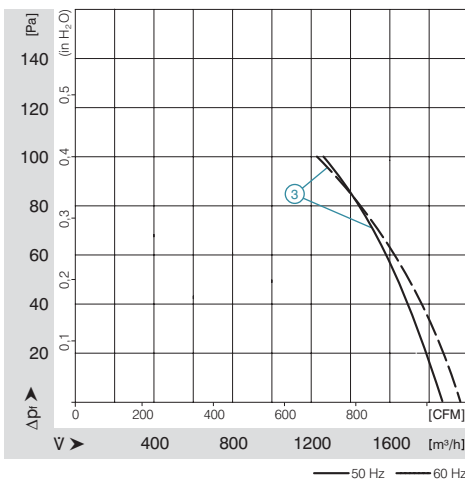
AC Axial Fans

W2E 250 280 x 280 x 80 mm



- External single-phase motor.
- Motor protection: TOP wired internally.
- Material: Wall ring die-cast aluminium, seven blades sheet steel. Blades and rotor coated in black.
- Direction of air flow "V", exhaustover struts. Direction of rotation: counter-clockwise, seen on rotor.
- Electrical connection: Terminal strips (operating capacitor connected).
- Continuous operation (S1).
- Insulation class: "F"
- Mass: 2000 g.

Nominal Data		Air Flow	Air Flow	Nominal Voltage	Frequency	Noise		Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀ at 40 °C	at T _{max}	Curve
Type		m ³ /h	CFM	V	Hz	dB(A)	Bel	□ / ■	Watt	min ⁻¹	°C	Hours	Hours	
W2E 250-HL06-01		1865	1077.1	230	50	69	4.1	■	127.0	2 550	-15...+60	63 000 / 70 000		3



AC Radial Fans

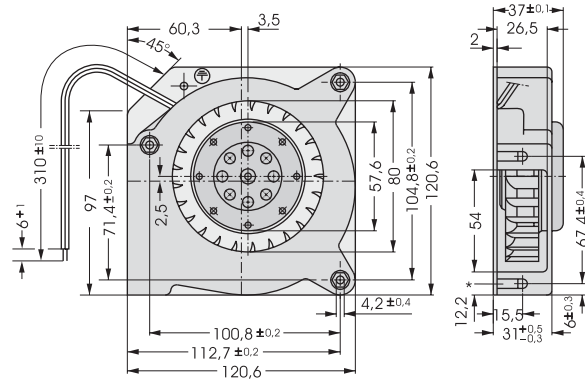
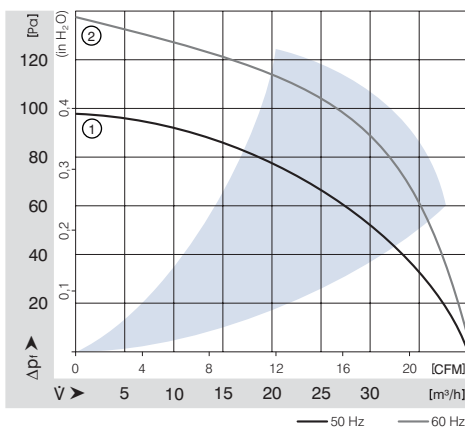
Series RL 90 121 x 121 x 37 mm



- AC radial blower with external rotor shaded-pole motor. Impedance protected against overloading.
- Spiral housing and blower wheel of fibreglass-reinforced plastic. Housing base of galvanised steel plate.
- Air exhaust radial, through housing port. Rotational direction CW looking at rotor.
- Electrical connection via 2 leads. Stripped and tinned ends.
- Mass: 680 g.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀		Curve
	m ³ /h	CFM								Hours	Hours	
RL 90-18/50	40	23.5	230	50	5.6	□ / ■	20.0	2 450	-10...+50	37 500 / 30 000	1	
RL 90-18/56	40	23.5	230	50	5.6	■	20.0	2 450	-30...+70	37 500 / 20 000	1	
RL 90-18/00	42	24.7	115	60	6.0	□	19.5	2 550	-10...+60	37 500 / 25 000	2	
RL 90-18/06	42	24.7	115	60	6.0	■	19.5	2 550	-30...+85	37 500 / 15 000	2	

Fan Type		Lead Wires
RL 90-18/50	RL 90-18/00	AWG 18, TR 32
RL 90-18/56	RL 90-18/06	AWG 22



*Speed nut M4 or 8-32UNC. Screw-in depth max, 12.5 min 9.0

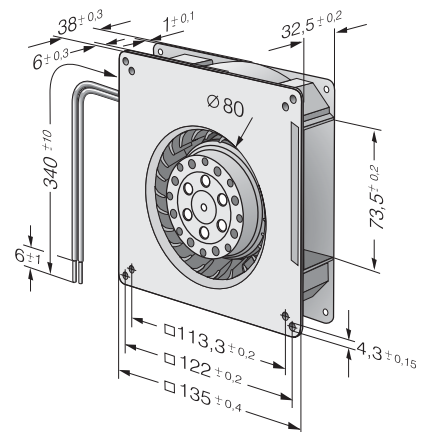
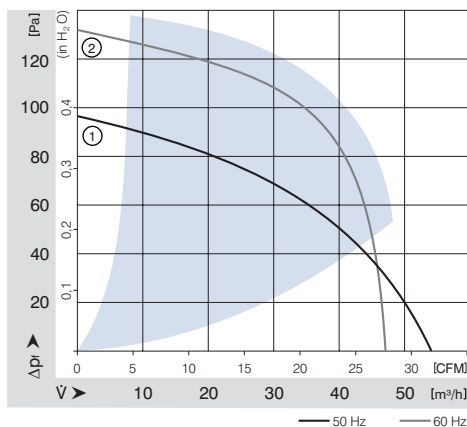
AC Radial Fans

Series RG 90 135 x 135 x 38 mm



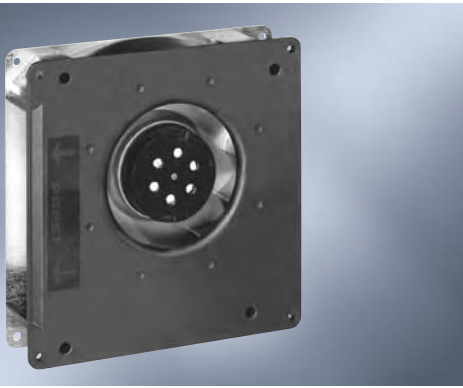
- AC radial blower with external rotor shaded-pole motor. Impedance protected against overloading.
- Spiral housing and blower wheel of fibreglass-reinforced plastic. Housing base of galvanised steel plate.
- Air exhaust radial, through housing port. Rotational direction CW looking at rotor.
- Electrical connection via 2 leads AWG 22. Stripped and tinned ends.
- Mass: 560 g.

Nominal Data		Air Flow	Air Flow	Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀ at 40 °C	at T _{max}	Curve
Type		m ³ /h	CFM	V	Hz	Bel	□/■	Watt	min ⁻¹	°C	Hours	Hours	
RG 90-18/50		54	31.8	230	50	5.8	□	22.0	2 200	-30...+60	35 000 / 20 000		1
RG 90-18/56		54	31.8	230	50	5.8	■	22.0	2 200	-30...+60	35 000 / 20 000		1
RG 90-18/00		47	27.7	115	60	6.2	□	22.0	1 900	-30...+65	35 000 / 20 000		2
RG 90-18/06		47	27.7	115	60	6.2	■	22.0	1 900	-30...+65	35 000 / 20 000		2



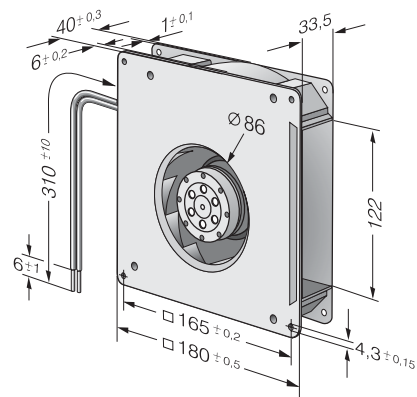
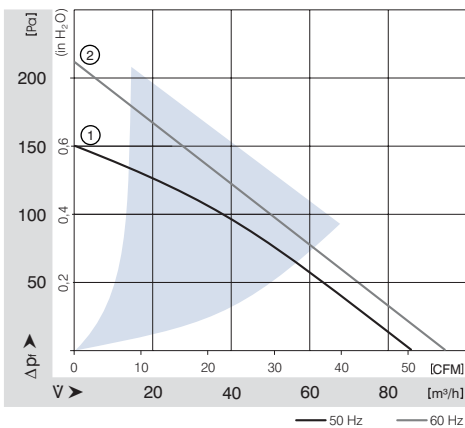
AC Radial Fans

Series RG 125 180 x 180 x 40 mm



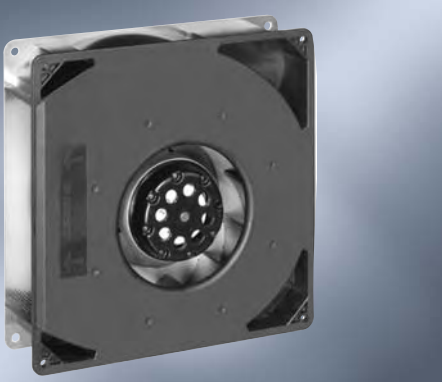
- AC radial blower with external rotor shaded-pole motor. Impedance protected against overloading.
- Spiral housing and blower wheel of fibreglass-reinforced plastic. Housing base of galvanised steel plate.
- Air exhaust radial, through housing port. Rotational direction CW looking at rotor.
- Electrical connection via 2 leads AWG 22. Stripped and tinned ends.
- Mass: 850 g.

Nominal Data		Air Flow	Air Flow	Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀ at 40 °C	at T _{max}	Curve
Type		m ³ /h	CFM	V	Hz	Bel	□ / ■	Watt	min ⁻¹	°C	Hours	Hours	
RG 125-19/56		86	50.6	230	50	5.8	■	20.0	2 550	-30...+70	37 500 / 20 000		1
RG 125-19/06		94	55.3	115	60	6.0	■	19.0	2 750	-30...+80	40 000 / 15 000		2



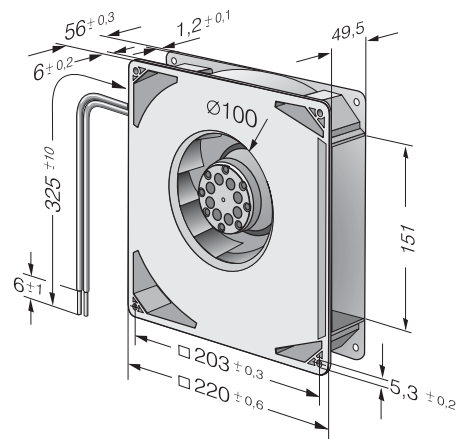
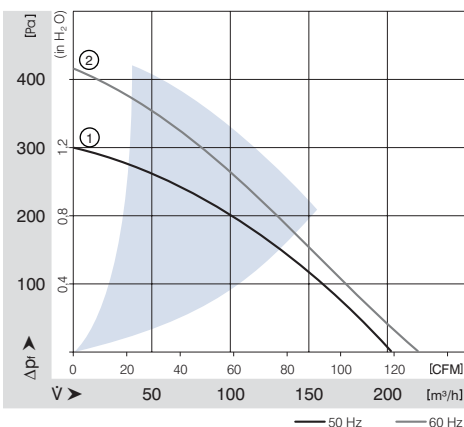
AC Radial Fans

Series RG 160 220 x 220 x 56 mm



- AC radial blower with external rotor shaded-pole motor. Thermal contactor as protection against thermal overloading.
- Spiral housing and blower wheel of fibreglass-reinforced plastic. Housing base of galvanised steel plate.
- Air exhaust radial, through housing port. Rotational direction CCW looking at rotor.
- Electrical connection via leads AWG 18. Stripped and tinned ends.
- Mass: 1.7 kg.

Nominal Data		Air Flow	Air Flow	Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀ at 40 °C	at T _{max}	Curve
Type		m ³ /h	CFM	V	Hz	Bel	□/■	Watt	min ⁻¹	°C	Hours	Hours	
RG 160-28/56S		202	118.9	230	50	6.6	■	47.0	2 750	-30...+70	30 000 / 15 000		1
RG 160-28/06S		223	131.3	115	60	6.9	■	50.0	3 050	-30...+80	27 500 / 12 500		2



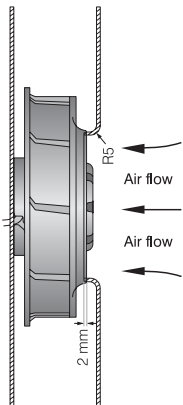
AC Radial Fans

Series RER 125 138 Ø x 40 mm



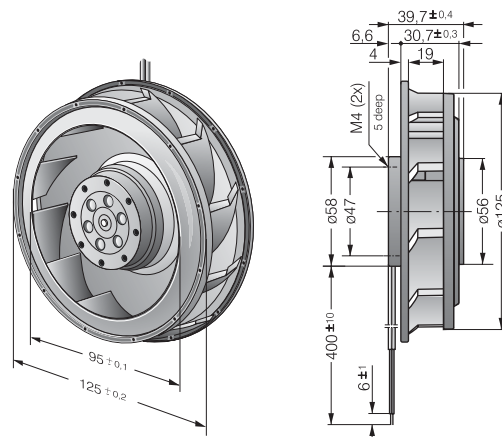
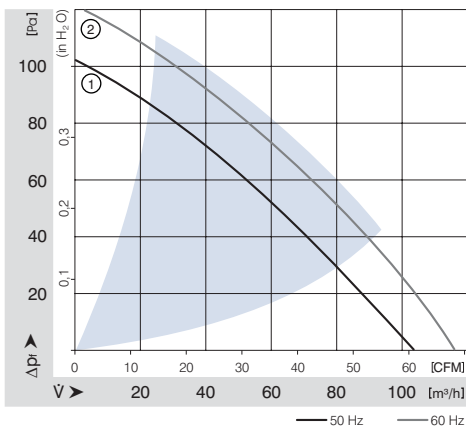
- AC radial blower with external rotor shaded-pole motor. Impedance protected against overloading.
- Blower wheel of fibreglass-reinforced plastic, with steel plate reinforced.
- Air exhaust radial. Rotational direction CW looking at rotor.
- Electrical connection via leads AWG 22. Stripped and tinned ends.
- Mass: 500 g.

Nominal Data	Air Flow	Air Flow	Nominal Voltage	Frequency	Noise	Sirtec-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀ at 40 °C	at T _{max}	Curve
Type	m ³ /h	CFM	V	Hz	Bel	□ / ■	Watt	min ⁻¹	°C	Hours	Hours	
RER 125-19/56	104	61.2	230	50	6.2	■	19.0	2 600	-30...+60	37 500 / 22 500		1
RER 125-19/06	115	67.7	115	60	6.5	■	18.0	2 850	-30...+70	40 000 / 20 000		2



The air flow and noise level of fans without external housing depend on the installation conditions. The stated air flow and noise levels have been measured under the following conditions:

Centrifugal fan mounted on a base plate 220 x 220 mm. Cover plate 220 x 220 mm with an air-inlet of Ø 86 mm, concentric to the blower wheel.



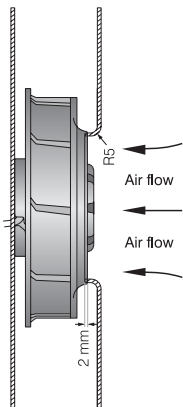
AC Radial Fans

Series RER 160 176 Ø x 54 mm



- AC radial blower with external rotor shaded-pole motor. Impedance protected against overloading.
- Blower wheel of fibreglass-reinforced plastic, with steel plate reinforced.
- Air exhaust radial. Rotational direction CCW looking at rotor.
- Electrical connection via leads AWG 18. Stripped and tinned ends.
- Mass: 1000 g.

Nominal Data	Air Flow		Nominal Voltage	Frequency	Noise	Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L ₁₀		Curve
	m ³ /h	CFM								Hours	at T _{max}	
Type	m ³ /h	CFM	V	Hz	Bel	□/■	Watt	min ⁻¹	°C	Hours	Hours	
RER 160-28/56S	234	137.7	230	50	6.6	■	45.0	2 800	-30...+60	30 000	20 000	1
RER 160-28/06S	274	161.3	115	60	6.8	■	46.0	3 250	-30...+70	30 000	15 000	2



The air flow and noise level of fans without external housing depend on the installation conditions. The stated air flow and noise levels have been measured under the following conditions:
Centrifugal fan mounted on a base plate 260 x 260 mm. Cover plate 260 x 260 mm with an air-inlet of Ø 100 mm, concentric to the blower wheel.

