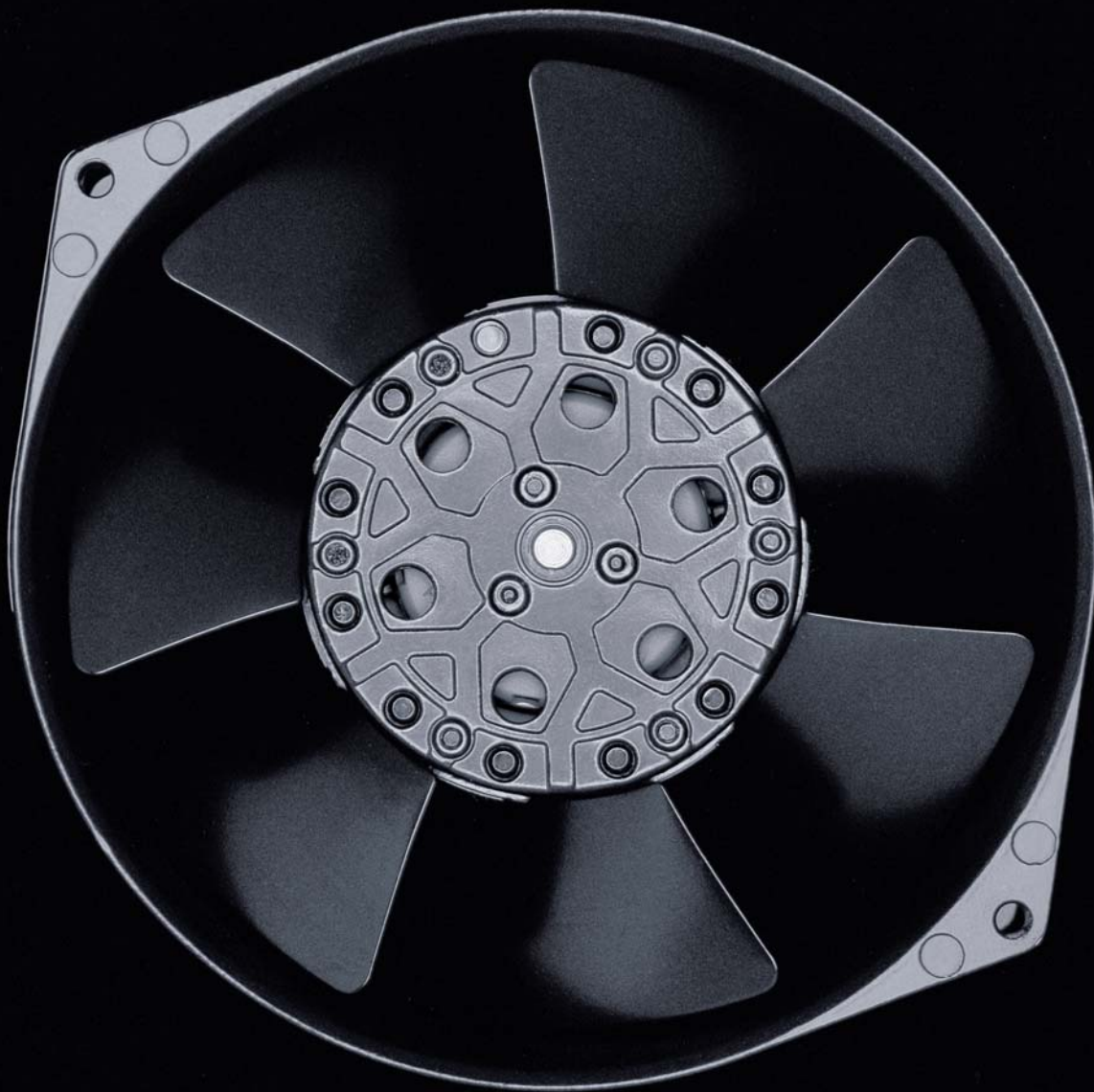


AC Fans

AC Fans Overview	117
AC Axial Fans	118
AC Radial Fans	138



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	Air Flow											Page											
			10	20	30	40	50	60	70	80	90	100	200		300	400	500	600	700	800	900	1000	2000	3000	
□ 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		VDE, UL, CSA	Sinter Sleeve Bearings/ Ball Bearings	Sensor	Humidity protection IP >= IP54	Salt fog protection	Page
	Series	mm						
	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.

