

Headline

The headline indicates which technology (AC or EC), which design (centrifugal, axial, etc.), and which line (e.g. S-Range) the product belongs to. Impeller diameter or other features are also indicated.

Part designation / Type

R 2 E 190 -A0 26 -05

1 2 3 4 5 6 7

This key designates and identifies all ebm-papst products and serves as part number:

1) Type

- A - axial fan
- S - axial fan with guard grille
- W - axial fan with wall ring
- V - axial combination
- R - centrifugal fan, single inlet
- G - centrifugal blower, single inlet (with scroll housing)
- B - centrifugal fan, dual inlet
- D - centrifugal blower, dual inlet (with scroll housing)
- K - centrifugal combination
- M - motor
- P - pumps

2) Number of poles (AC) / number of cores (EC)

2-, 4-, 6-, 8- and 12-pole (Z = 12) / 1- and 3-core

3) Motor type


- D - 3-phase motor
- E - single-phase motor with operating capacitor
- G - EC motor
- S - shaded-pole motor
- Q - square shaded-pole motors

4) Impeller diameter in mm

5) Key for mechanical design

6) Key for electrical design

7) Key for mechanical variants

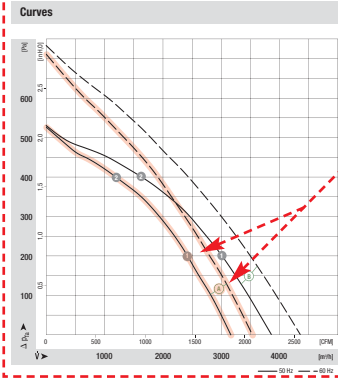


AC centrifugal fans
backward curved, 3-D, Ø 400


- **Material:** Impeller: Sheet aluminium, joined by tabs
Rotor: Coated in black
- **Number of blades:** 6
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** "F"
- **Mounting position:** Any
- **Condensate discharges:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Frequency	Speed/rpm ⁽¹⁾	Max. power input (W)	Max. current (A)	Capacitor	Perm. amb. temp.	Elect. connection
Type	Motor		VAC	Hz	rpm	W	A	µF/VDB	°C	p. 536 f.
R4E 400	M4E 094-FA	⊕	1-230	50	1355	375	1.75	8.0/400	-40 to +60	A2a)
R4E 400	M4E 094-HA	⊖	1-230	60	1480	540	2.40	8.0/400	-40 to +50	A2a)
			1-230	50	1370	480	2.40	10.0/450	-40 to +30	
			1-230	60	1460	700	3.15	10.0/450	-40 to +35	

subject to alterations (1) Nominal data in operating point with maximum load



n (rpm)	P ₁ [W]	I [A]	Lp _A [dB(A)]
⊕ 1350	370	1.75	64
⊖ 1380	331	1.58	65
⊕ 1370	469	2.37	66
⊖ 1390	430	2.17	66

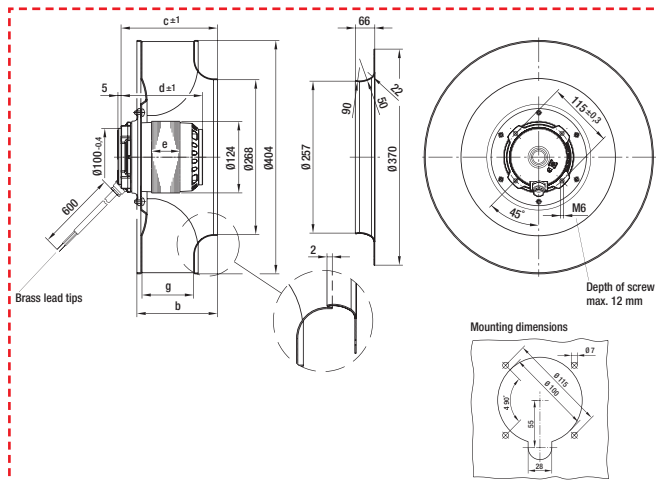


What a product page is made up of (reduced scale - 50%)

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- Motor protection: Design with thermal overload protector
- Cable exit: Diagonal
- Protection class: I (acc. to EN 61800-5-1)
- Product conforming to standard: CE

Centrifugal fan	Dimensions						Inlet nozzle (long)
	kg	b	c	d	e	g	
RAE 400-AR05 -06	7.1	141.0	172.0	128.0	50.0	90.0	54476-2-4013
RAE 400-AP17 -06	8.8	164.0	193.0	148.0	70.0	113.0	54476-2-4013



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Inlet nozzle p. 550 Guard grille p. 553 Capacitor p. 560 f. Elect. connections p. 566 f.

57

Product description

Depending on the product, information is provided here on the following: material, number of blades, direction of air flow, direction of rotation, system of protection, insulation class, mounting position, condensate discharge holes, mode of operation, design, bearing, technical equipment, EMC, leakage current, motor protection, electrical connection, cable exit, protection class, capacitor, product conforming to standards, approvals and options.

Nominal data

AC products (up to motor size 074) and EC products (DC-fed):
Free-blowing or at minimal backpressure
AC products (from motor size 094) and EC products (AC-fed):
In operating point at maximum load

Graphic rendition of products

All drawings represent the design principle and are not to scale. Dimensions are either given in the product drawing or, with varying dimensions, in the table of dimensions given above the drawing.

Indication of relevant accessories and additional information

The pages indicated at the bottom refer to the accessories, e.g. inlet nozzles, guard grilles, wall rings, etc. for this particular product, as well as additional information (e. g. the connection diagram).

Curves and operating points

The diagram gives air performance curves pertaining to the product. Refer to the operating point table to the right for information on speed, power consumption, current draw, sound level or sound pressure level and overall efficiency of the impeller.

AC axial fans

S series, Ø 250



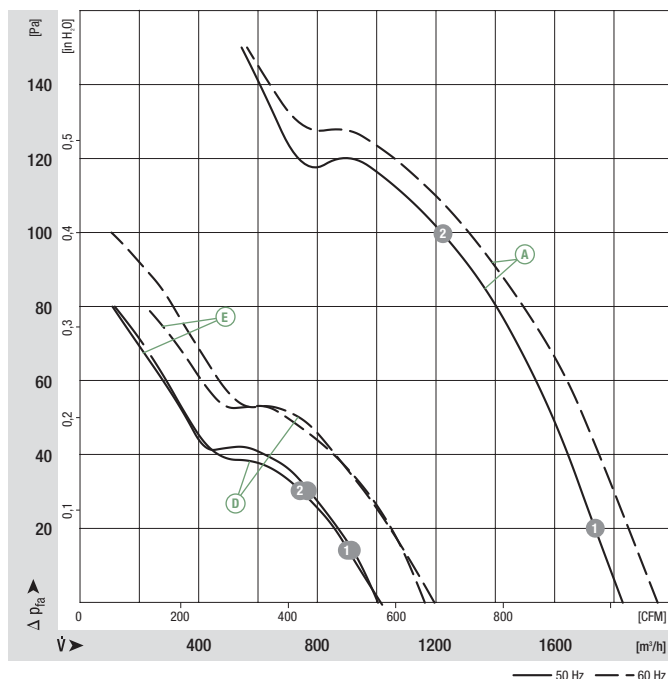
- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Sheet steel, coated in black
Rotor: Coated in black
- **Number of blades:** 7
- **Direction of rotation:** Counter-clockwise, seen on rotor
- **Type of protection:** IP 44
- **Insulation class:** "B"
- **Mounting position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensate discharges:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Sound pressure level	Max. operative range	Perm. amb. temp.	Mass without attachments	Electr. connection
Type	Motor	VAC	Hz	m³/h	rpm	W	A	µF/VDB	dB(A)	Pa	°C	kg	p. 416 f.	
*2D 250 ⁽¹⁾	M2D 068-CF	Ⓐ 3~ 230/400	50	1830	2500	100	0.34/0.20	—	69	150	-25 to +65	2.1	C1)/C2)	
		Ⓐ 3~ 230/400	60	1950	2650	140	0.40/0.23	—	70	150	-25 to +45			
*2E 250	M2E 068-CF	Ⓑ 1~ 230	50	1820	2450	115	0.51	3.0/400	69	120	-25 to +65	1.9	A1)	
		Ⓑ 1~ 230	60	1970	2600	150	0.66	3.0/400	71	85	-25 to +50			
*4D 250 ⁽¹⁾	M4D 068-CF	Ⓒ 3~ 230/400	50	1010	1400	25	0.12/0.07	—	54	70	-25 to +85	1.9	C1)/C2)	
		Ⓒ 3~ 230/400	60	1140	1580	32	0.12/0.07	—	57	70	-25 to +80			
*4E 250	M4E 068-BF	Ⓓ 1~ 230	50	1010	1400	42	0.19	1.5/400	54	80	-25 to +55	1.9	A1)	
		Ⓓ 1~ 230	60	1200	1630	45	0.20	1.5/400	58	100	-25 to +70			
*4S 250	M4S 068-CF	Ⓔ 1~ 230	50	1000	1390	69	0.53	—	54	80	-25 to +50	1.7	B)	
		Ⓔ 1~ 230	60	1160	1600	63	0.45	—	58	80	-25 to +65			

subject to alterations

(1) 230 VAC Δ / 400 VAC Y

Curves



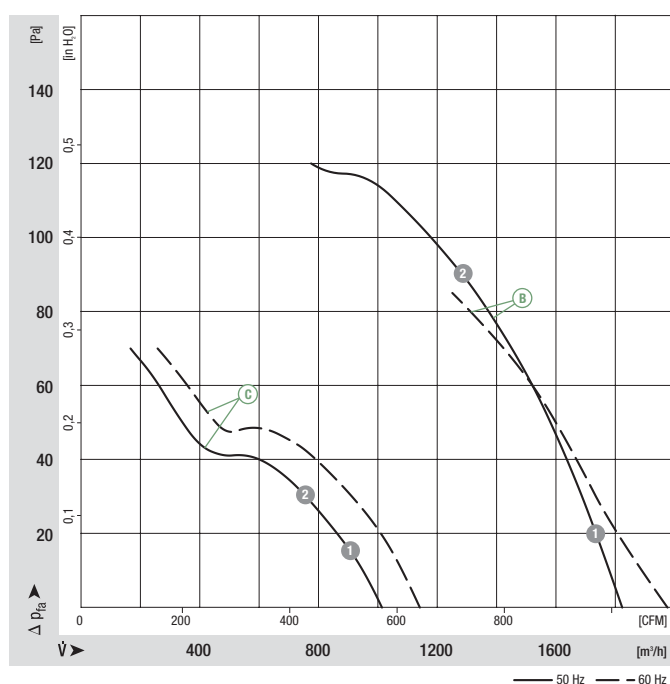
	n [rpm]	P ₁ [W]	I [A]
Ⓐ 1	2455	106	0.34/0.20
Ⓐ 2	2310	125	0.38/0.22
Ⓓ 1	1370	43	0.20
Ⓓ 2	1360	45	0.20
Ⓔ 1	1370	71	0.53
Ⓔ 2	1360	73	0.53

- **Motor protection:** (A) (C) Without TOP, (B) (D) (E) TOP wired internally
- **Cable exit:** (A) (C) (E) Lateral, (B) (D) variable
- **Protection class:** I
- **Product conforming to standards:** EN 60335-1, (B) (D) (E) also CE
- **Approvals:** (A) (B) (D) CCC; (D) also GOST

Direction of air flow				
	< "V"/"A" > Without attachments	< "V"/"A" > With full round nozzle ⁽¹⁾	< "V"/"A" > With guard grille for full nozzle	< "V"/"A" > With guard grille for short nozzle
"V" "A"	A2D 250-AH02 -01 A2D 250-AI02 -01	W2D 250-CH02 -01 W2D 250-CI02 -01	S2D 250-BH02 -01 S2D 250-BI02 -01	S2D 250-AH02 -01 S2D 250-AI02 -01
"V" "A"	A2E 250-AL06 -01 A2E 250-AM06 -01	W2E 250-CL06 -01 W2E 250-CM06 -01	S2E 250-BL06 -01 S2E 250-BM06 -01	S2E 250-AL06 -01 S2E 250-AM06 -01
"V" "A"	A4D 250-AH22 -01 A4D 250-AI22 -01	W4D 250-CH22 -01 W4D 250-CI22 -01	S4D 250-BH22 -01 S4D 250-BI22 -01	S4D 250-AH22 -01 S4D 250-AI22 -01
"V" "A"	A4E 250-AH02 -01 A4E 250-AI02 -01	W4E 250-CH02 -01 W4E 250-CI02 -01	S4E 250-BH02 -01 S4E 250-BI02 -01	S4E 250-AH02 -01 S4E 250-AI02 -01
"V" "A"	A4S 250-AH02 -01 A4S 250-AI02 -01	W4S 250-CH02 -01 W4S 250-CI02 -01	S4S 250-BH02 -01 S4S 250-BI02 -01	S4S 250-AH02 -01 S4S 250-AI02 -01

(1) Increased noise levels in "V" direction of air flow

Curves



	n [rpm]	P ₁ [W]	I [A]
(B) 1	2455	116	0.51
(B) 2	2290	132	0.57
(C) 1	1375	27	0.12/0.07
(C) 2	1350	30	0.12/0.07