R4D450-AK03-09

AC centrifugal fan

backward curved, single inlet



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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R4D450-AK03-09**
Motor	**M4D110-GF**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	480	480
Connection		Δ	Y	Δ	Y
Frequency	Hz	50	50	60	60
Type of data definition		ml	ml	ml	ml
Valid for approval / standard		CE	CE	CE	CE
Speed	min^{-1}	1350	1090	1580	1205
Power input	W	730	510	1180	770
Current draw	A	1.48	0.88	1.8	1.17
Min. back pressure	Pa	0	0	0	0
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	80	80	55	55
Starting current	A	6.5		7.5	

ml = max. load · me = max. efficiency · fa = running at free air · cs = customer specs · cu = customer unit
Subject to alterations

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	No
Specific ratio*	1.00

* Specific ratio = 1 + p_{fs} / 100 000 Pa

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}		51.1	46	50
Efficiency grade N		63.1	58	62
Power input P_e	kW	0.72		
Air flow q_v	m^3/h	3810		
Pressure increase p_{fs}	Pa	350		
Speed n	min^{-1}	1350		

Data established at point of optimum efficiency

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Technical features

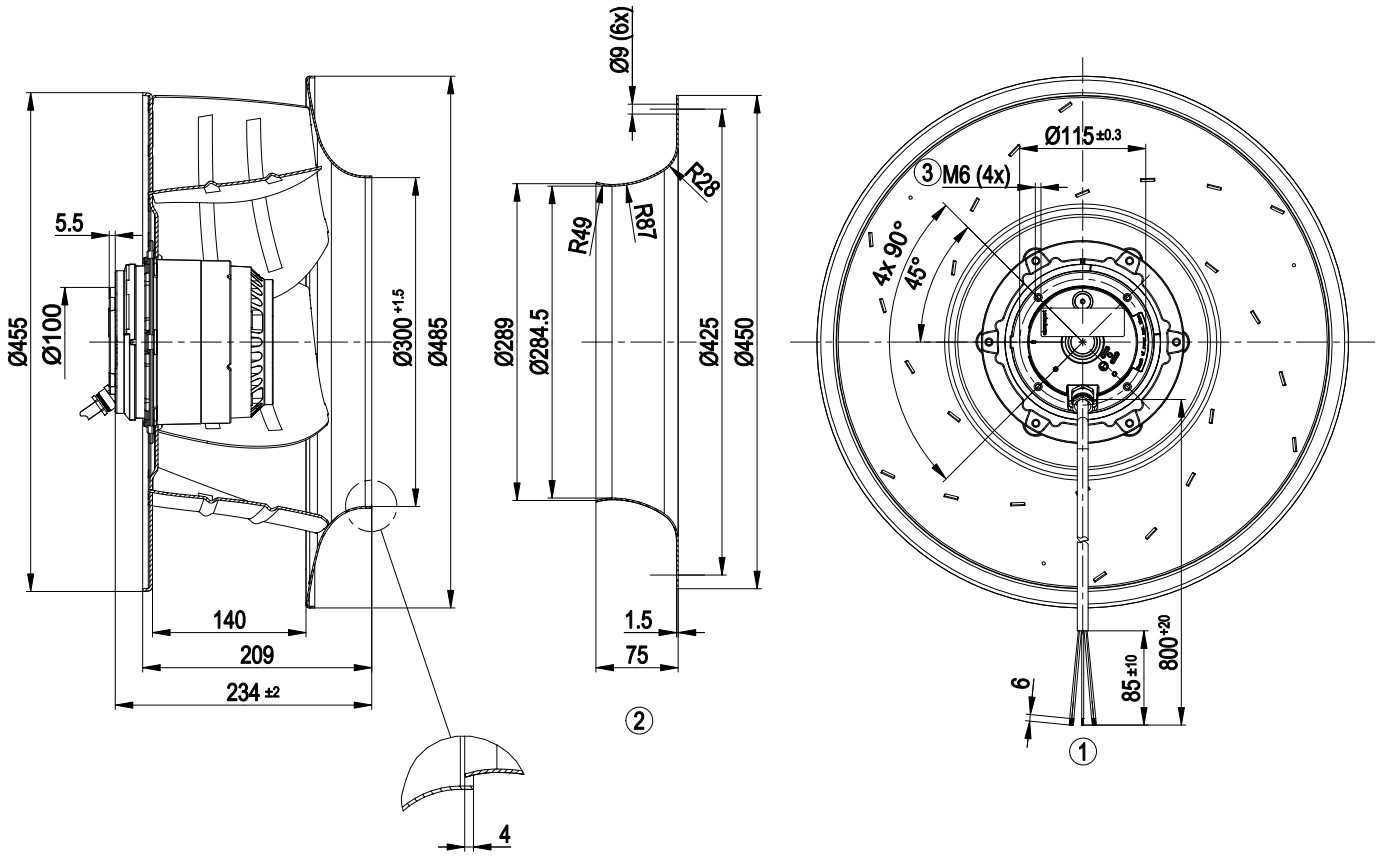
Mass	12.1 kg
Size	450 mm
Surface of rotor	Coated in black
Material of impeller	Aluminium sheet
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensate discharge holes	Rotor-side
Operation mode	S1
Motor bearing	Ball bearing
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	<= 3.5 mA
Motor protection	Thermal overload protector (TOP) brought out
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	VDE

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Product drawing



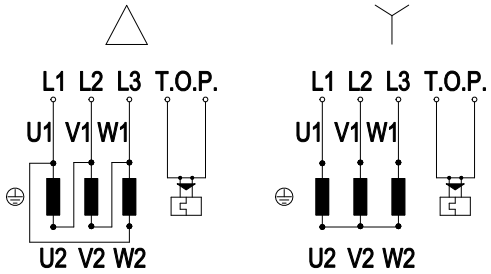
1	Connection line XLPE / XLPO 9G 0.75 mm², 9x brass lead tips crimped
2	Accessory part: inlet nozzle 63045-2-4013 not included in the standard scope of delivery; other inlet nozzles on request
3	Depth of screw max. 12 mm

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Connection screen



Note: Direction of rotation changes when two phases are reversed

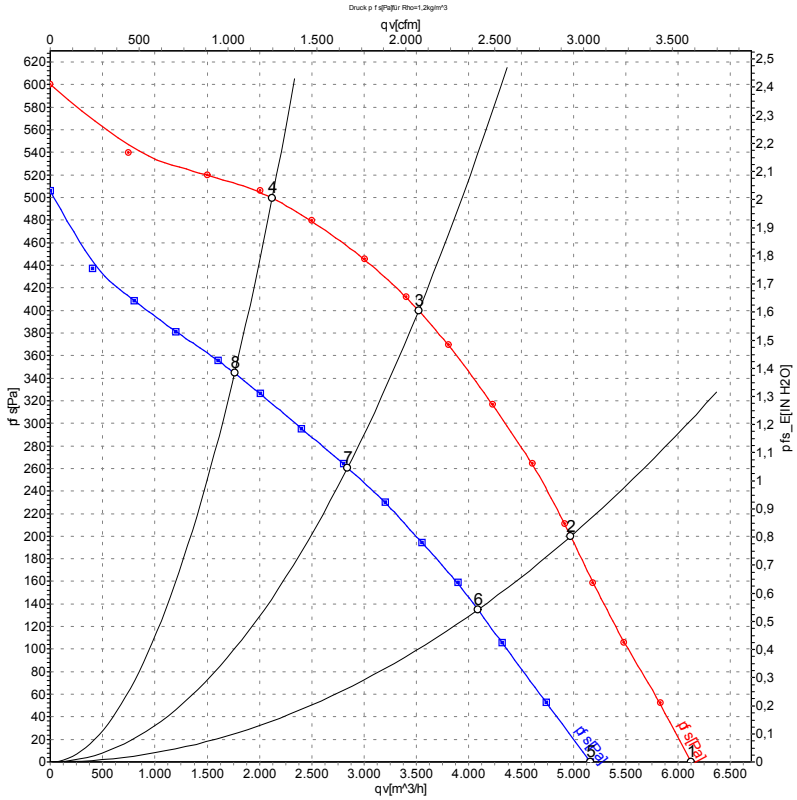
Δ	Delta-connection	Y	Star connection	L1	black
L2	blue	L3	brown	U1	black
V1	blue	W1	brown	U2	green
V2	white	W2	yellow	TOP	grey

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Charts: Air flow 50 Hz Δ



Measurement: LU-72617
Measurement: LU-72618

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	Conn.	U	f	n	P_e	I	qv	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa
1	Δ	400	50	1390	564	1.27	6120	0
2	Δ	400	50	1365	678	1.40	4975	200
3	Δ	400	50	1350	730	1.48	3520	400
4	Δ	400	50	1370	648	1.36	2120	500
5	Y	400	50	1185	426	0.72	5160	0
6	Y	400	50	1120	483	0.82	4085	135
7	Y	400	50	1090	510	0.88	2840	261
8	Y	400	50	1135	469	0.79	1760	344

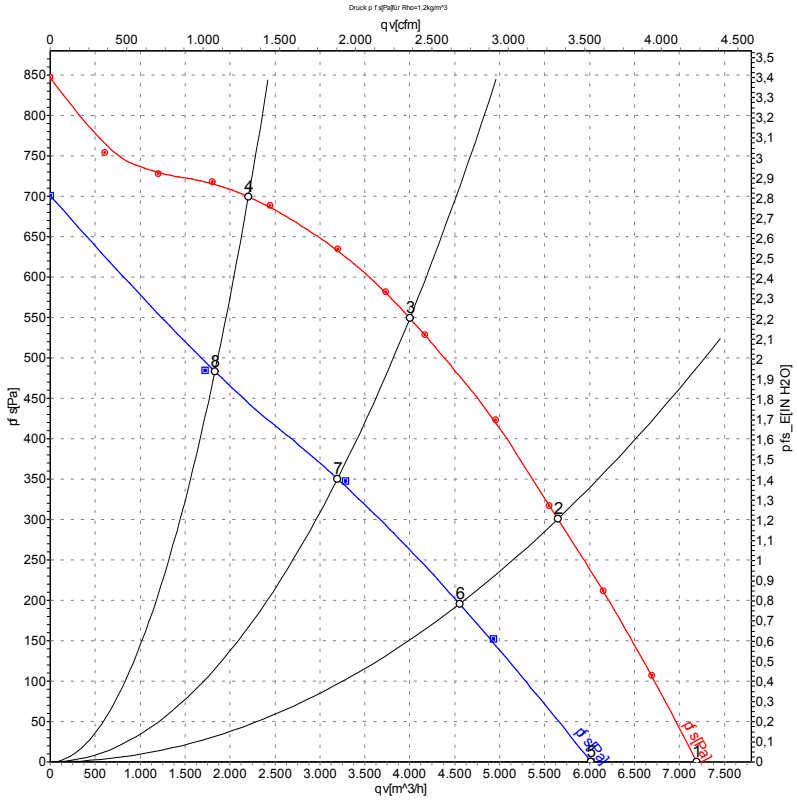
Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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Charts: Air flow 60 Hz Δ



Measurement: LU-72619
Measurement: LU-121125

Air performance measured as per ISO 5801 Installation category A. For detailed information on the measuring set-up, please contact ebm-papst. Suction-side noise levels: LwA measured as per ISO 13347 / LpA measured with 1m distance to fan axis. The values given are valid under the measuring conditions mentioned above and may vary according to the actual installation situation. With any deviation from the standard set-up, the specific values have to be checked and reviewed with the unit installed.

Measured values

	Conn.	U	f	n	P_e	I	qv	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa
1	Δ	480	60	1635	918	1.49	7195	0
2	Δ	480	60	1595	1119	1.71	5645	300
3	Δ	480	60	1580	1180	1.80	4000	550
4	Δ	480	60	1615	1018	1.59	2205	700
5	Y	480	60	1370	660	0.92	6015	0
6	Y	480	60	1290	735	1.05	4555	197
7	Y	480	60	1205	770	1.17	3195	355
8	Y	480	60	1320	702	1.00	1830	475

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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