R4D450-AH03-01

AC centrifugal fan

backward curved

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ErP2015 EXCEEDS THE NORM

Nominal data

Type	**R4D450-AH03-01**
Motor	**M4D110-IA**

Phase		3~	3~	3~	3~	3~	3~
Nominal voltage	VAC	230	230	277	400	400	480
Connection		Δ	Δ	Δ	Y	Y	Y
Frequency	Hz	50	60	60	50	60	60
Type of data definition		ml	ml	ml	ml	ml	ml
Valid for approval / standard		CE	CE	CE	CE	CE	CE
Speed	min^{-1}	1405	1600	1660	1405	1600	1660
Power input	W	810	1210	1320	810	1210	1320
Current draw	A	3.8	4.11	4.25	2.2	2.37	2.46
Min. back pressure	Pa	0	0	0	0	0	0
Max. ambient temperature	°C	80	65	65	80	65	65

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}		50.5	46.5	50.5
Efficiency grade N		62	58	62
Power input P_e	kW	0.8		
Air flow q_v	m^3/h	3505		
Pressure increase p_{fs}	Pa	411		
Speed n	min^{-1}	1410		

Data established at point of optimum efficiency

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Technical features

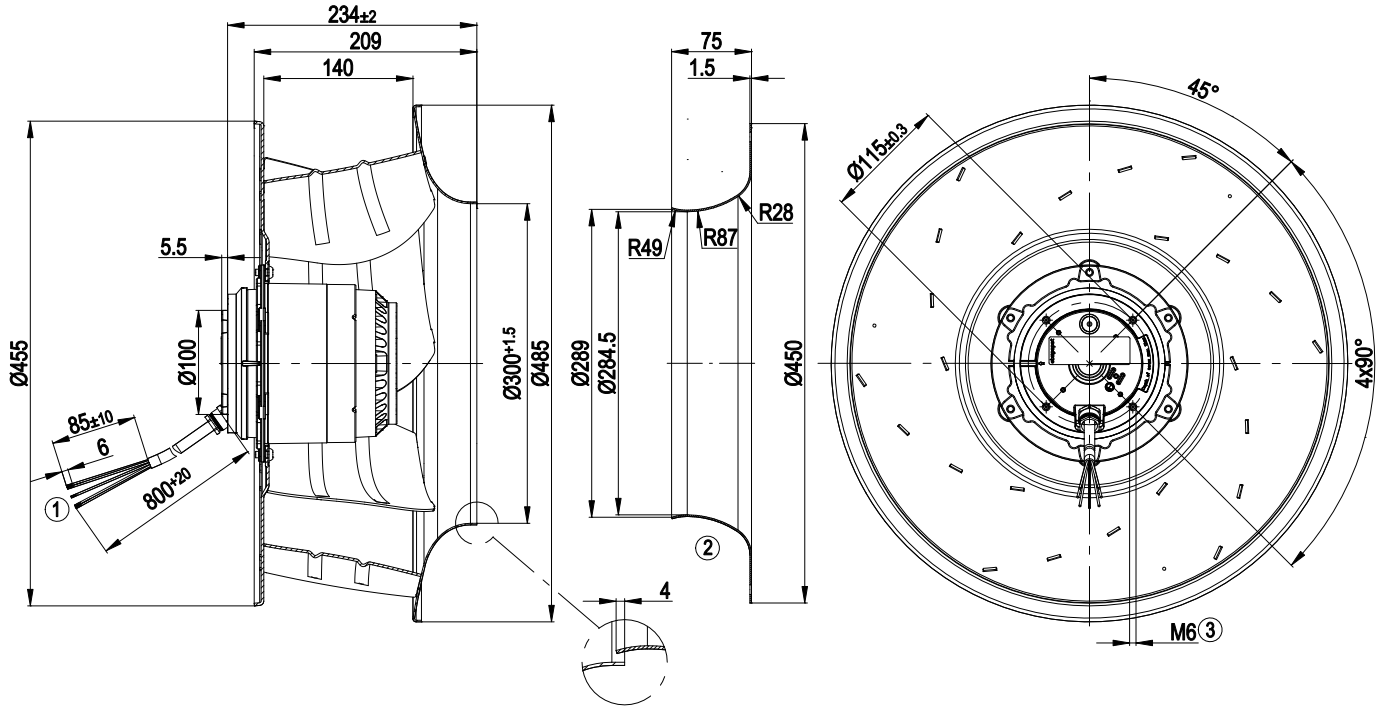
Mass	14.5 kg
Size	450 mm
Material of impeller	Aluminium sheet
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 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
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 61800-5-1; CE
Approval	GOST; VDE; UL 1004-1; CSA C22.2 Nr.100

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Product drawing



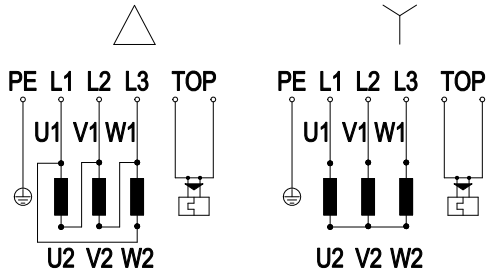
1	Connection line silicone, 9x crimped core-end sleeves
2	Accessory part: Inlet nozzle 63045-2-4013, not included in the standard scope of delivery. Other inlet nozzles on request.
3	Screw depth max. 12 mm

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Connection screen



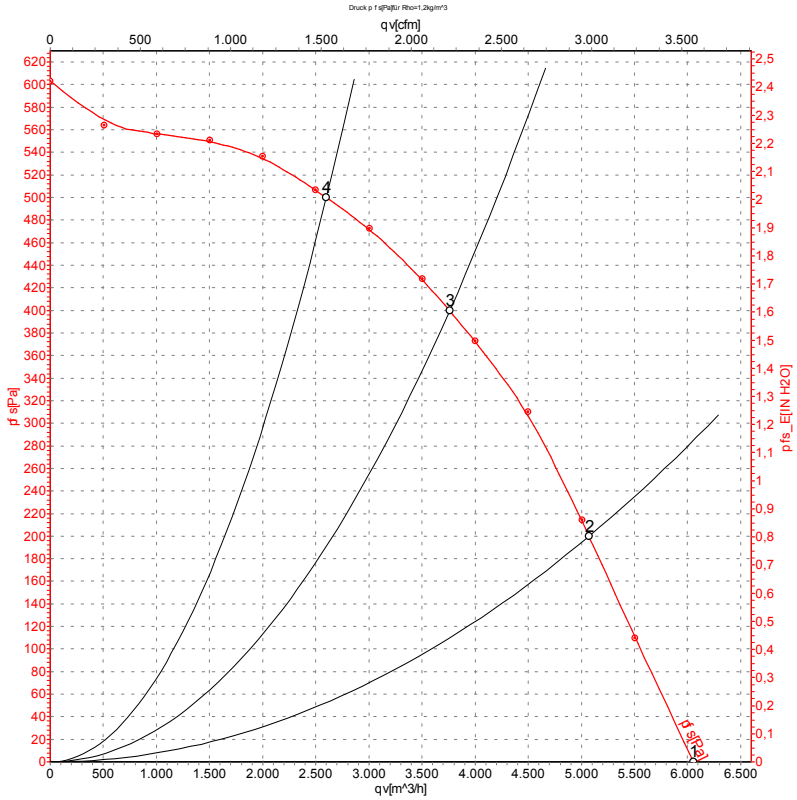
Δ	Delta connection	Y	Star connection	L1	black
L2	blue	L3	brown	U1	black
V1	blue	W1	brown	U2	green
V2	white	W2	yellow	TOP	2xgrey
PE	green/yellow				

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Charts: Air flow 50 Hz



Measurement: LU-101919

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	LpA_{in}	LwA_{in}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	Y	400	50	1435	633	1.86	72	80	6055	0
2	Y	400	50	1415	749	1.93	68	76	5070	200
3	Y	400	50	1405	810	2.20	64	72	3760	400
4	Y	400	50	1415	758	1.94	67	75	2600	500

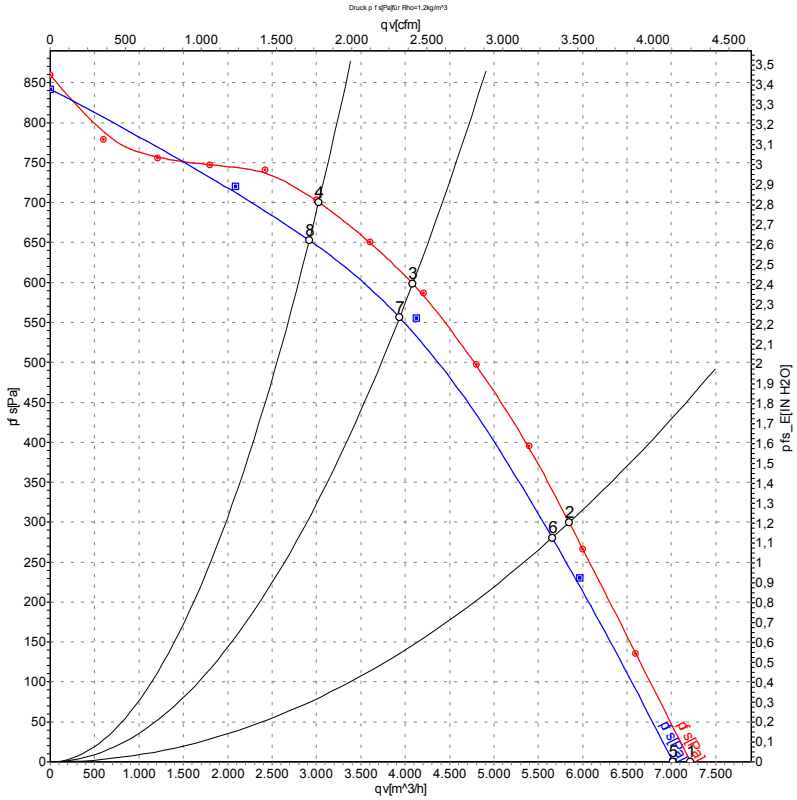
Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side
qv = Air flow · p_{fs} = Pressure increase

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Charts: Air flow 60 Hz



Measurement: LU-101921
Measurement: LU-103396

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	LpA_{in}	LwA_{in}	qv	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa
1	Y	480	60	1700	1024	2.05	77	84	7215	0
2	Y	480	60	1675	1225	2.21	73	81	5845	300
3	Y	480	60	1660	1320	2.46	69	76	4085	600
4	Y	480	60	1675	1231	2.21	71	79	3025	700
5	Y	400	60	1660	956	1.86	76	84	7020	0
6	Y	400	60	1625	1127	2.09	71	79	5655	285
7	Y	400	60	1600	1210	2.37	68	76	3935	571
8	Y	400	60	1630	1103	2.07	71	79	2920	653

Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · LpA_{in} = Sound pressure level inlet side · LwA_{in} = Sound power level inlet side
qv = Air flow · p_{fs} = Pressure increase

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