R4D310-AP20-01

AC centrifugal fan

backward curved, single inlet



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ErP2013 EXCEEDS THE NORM

Nominal data

Type	**R4D310-AP20-01**
Motor	**M4D074-DF**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	230	230	400	400
Connection		Δ	Δ	Y	Y
Frequency	Hz	50	60	50	60
Type of data definition		fa	fa	fa	fa
Valid for approval / standard		CE	CE	CE	CE
Speed	min^{-1}	1420	1640	1420	1640
Power input	W	115	160	115	160
Current draw	A	0.59	0.54	0.34	0.31
Min. ambient temperature	°C	-25	-25	-25	-25
Max. ambient temperature	°C	55	50	55	50
Starting current	A	0.95	0.9	0.95	0.9

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}		40	38.8	42.8
Efficiency grade N		59.2	58	62
Power input P_e	kW	0.15		
Air flow q_v	m^3/h	1260		
Pressure increase p_{fs}	Pa	176		
Speed n	min^{-1}	1390		

Data definition with optimum efficiency.

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Technical features

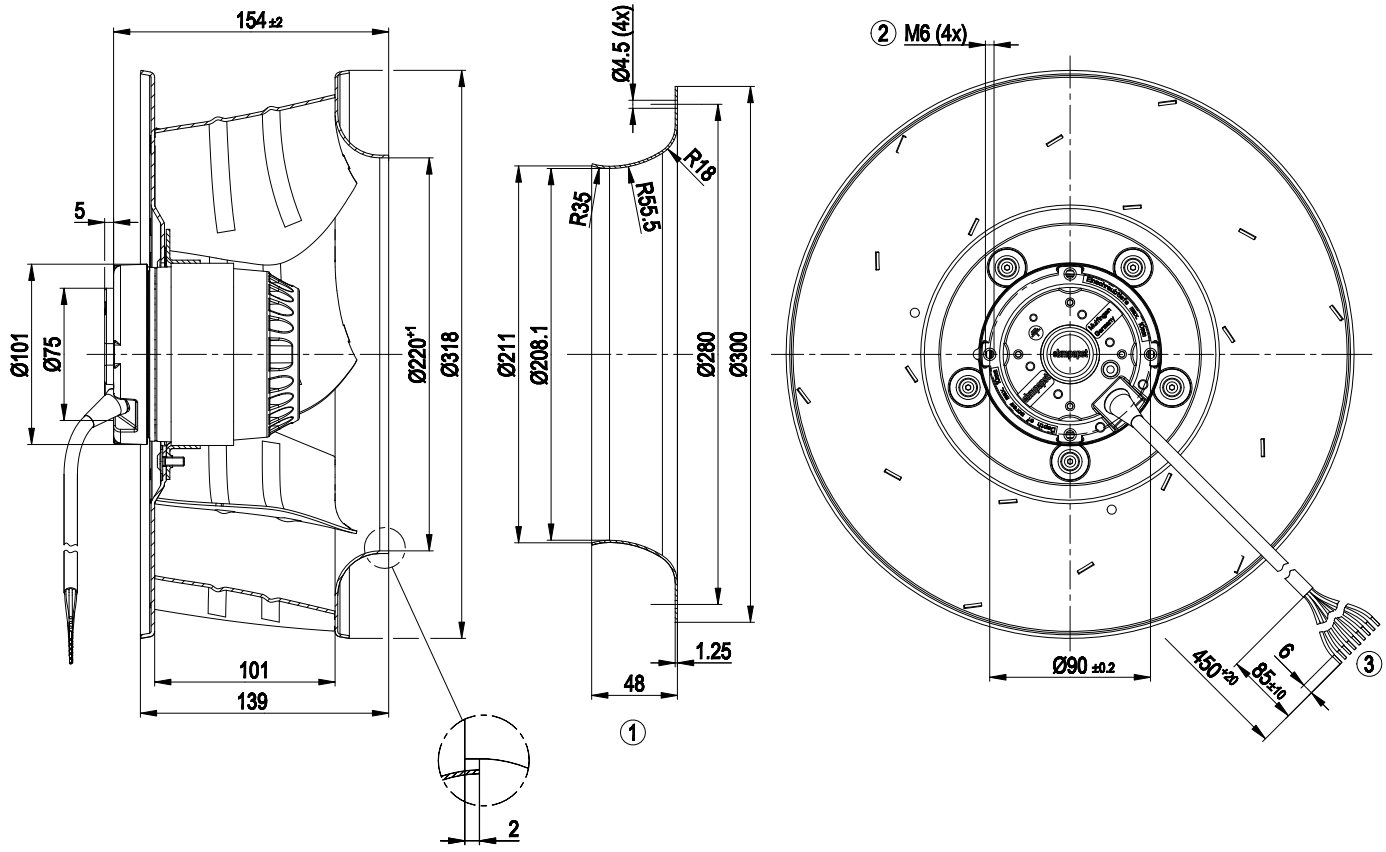
Mass	3.9 kg
Size	310 mm
Surface of rotor	Coated in black
Material of impeller	Aluminum sheet
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 44; Depending on installation and position as per EN 60034-5
Insulation class	"B"
Humidity class	F1-2
Max. permissible ambient 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)	< 0.75 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 60335-1; CE
Approval	CCC

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Product drawing



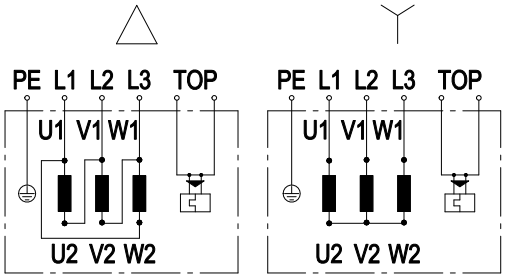
1	Accessory part: inlet nozzle 31050-2-4013 not included in the standard scope of delivery; other inlet nozzles on request
2	Depth of screw max. 10 mm
3	Connection line PVC AWG20, 9x brass lead tips crimped

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Connection screen



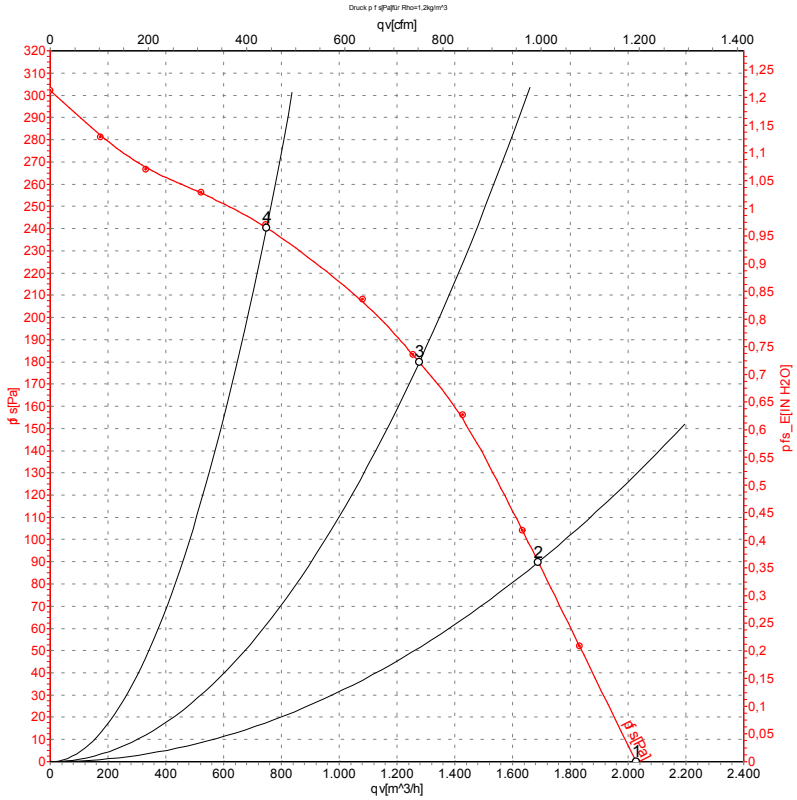
Δ	Delta connection	Y	Star connection	L1	black
L2	blue	L3	brown	U1	black
V1	blue	W1	brown	U2	green
V2	white	W2	yellow	TOP	2xgrey
PE	green/yellow				

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Charts: Air flow 50 Hz



Measurement: LU-54420

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

	U	f	n	P_e	I	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	400	50	1420	115	0.34	2030	0
2	400	50	1405	137	0.34	1690	90
3	400	50	1390	153	0.34	1275	180
4	400	50	1405	140	0.33	750	240

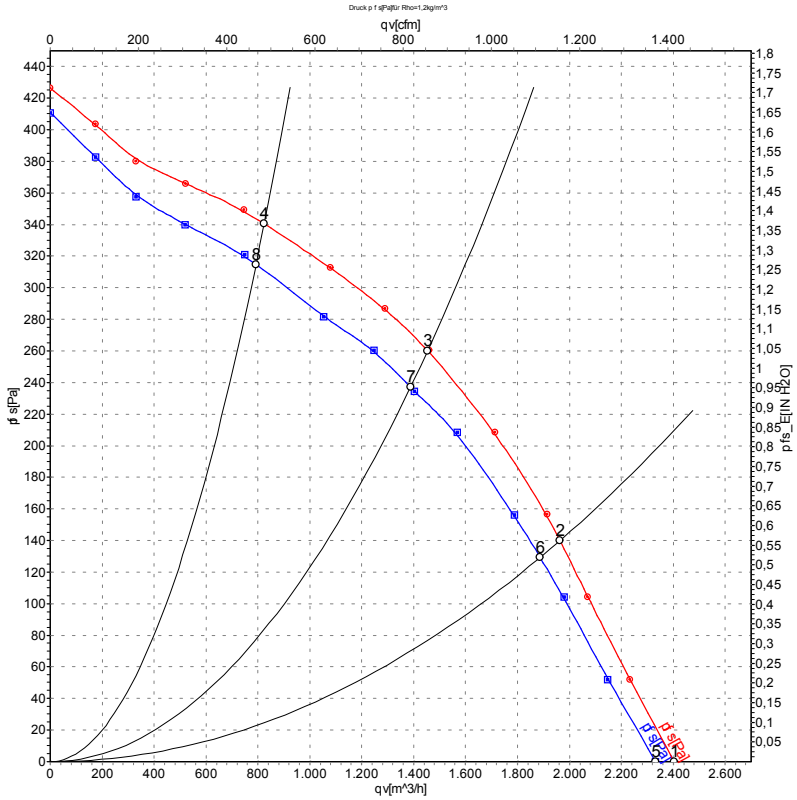
U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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Charts: Air flow 60 Hz



Measurement: LU-54422
Measurement: LU-54421

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

	U	f	n	P_e	I	qv	p_{fs}
	V	Hz	min^{-1}	W	A	m^3/h	Pa
1	480	60	1680	178	0.37	2405	0
2	480	60	1655	219	0.37	1965	140
3	480	60	1635	243	0.39	1455	260
4	480	60	1660	215	0.37	825	340
5	400	60	1640	160	0.31	2330	0
6	400	60	1590	198	0.35	1885	129
7	400	60	1560	220	0.38	1390	237
8	400	60	1595	194	0.35	790	316

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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