R4D400-AD22-11

AC centrifugal fan

backward curved, single inlet

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ErP2013 EXCEEDS THE NORM

Nominal data

Type	**R4D400-AD22-11**
Motor	**M4D094-HA**

Phase		3~	3~	3~	3~
Nominal voltage	VAC	400	400	400	400
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}	1415	1235	1610	1220
Power input	W	515	385	750	515
Current draw	A	1.41	0.7	1.44	0.93
Min. back pressure	Pa	0	0	0	0
Min. ambient temperature	°C	-40	-40	-40	-40
Max. ambient temperature	°C	60	80	60	40
Starting current	A	5	1.7	4.7	1.6

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}		44.9	44.4	48.4
Efficiency grade N		58.5	58	62
Power input P_e	kW	0.51		
Air flow q_v	m^3/h	2405		
Pressure increase p_{fs}	Pa	347		
Speed n	min^{-1}	1410		

Data established at point of optimum efficiency

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Technical features

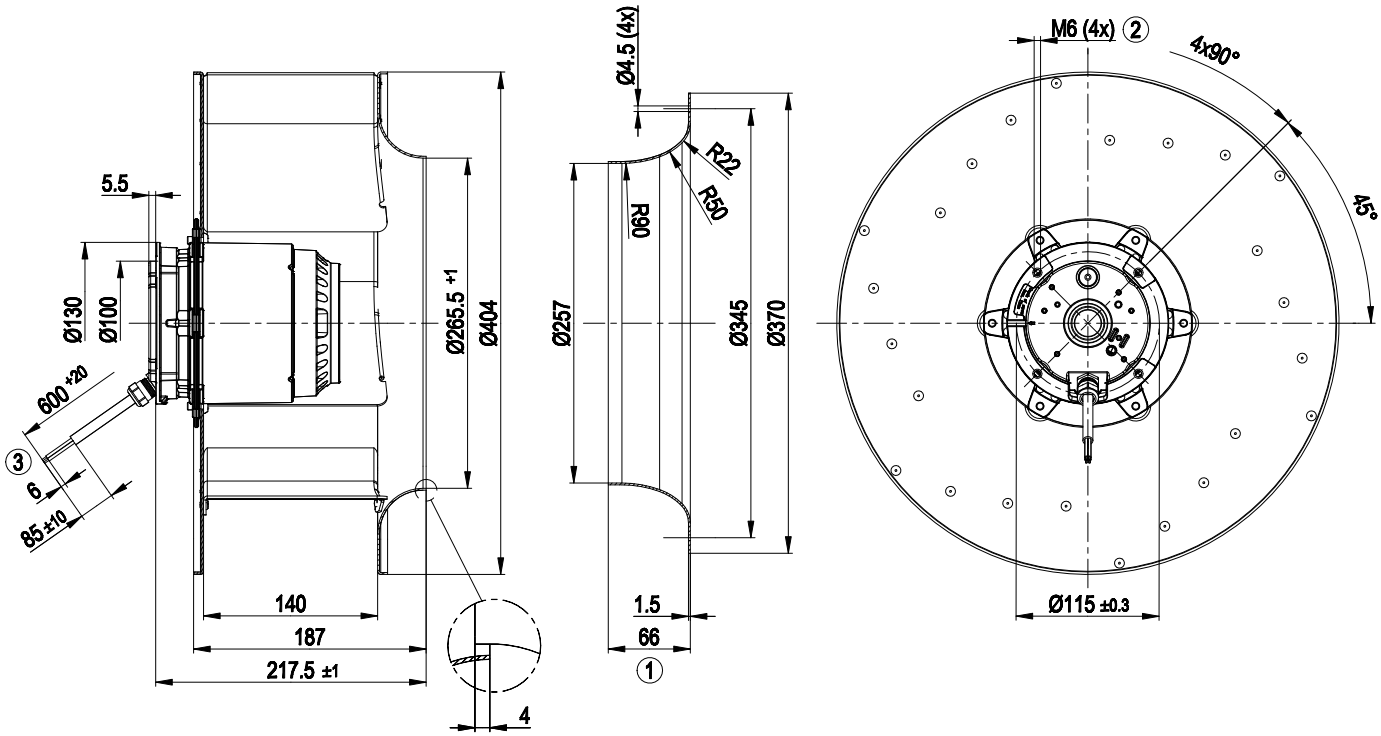
Mass	8.8 kg
Size	400 mm
Surface of rotor	Coated in black
Material of impeller	Aluminium sheet
Number of blades	6
Direction of rotation	Clockwise, seen on rotor
Type of protection	IP 54
Insulation class	"F"
Humidity class	F3-1
Max. permissible ambient motor temp. (transp./ storage)	+80 °C
Min. permissible ambient motor temp. (transp./storage)	-40 °C
Mounting position	Any
Condensate discharge holes	None
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 60034-1 (2004); CE

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Product drawing



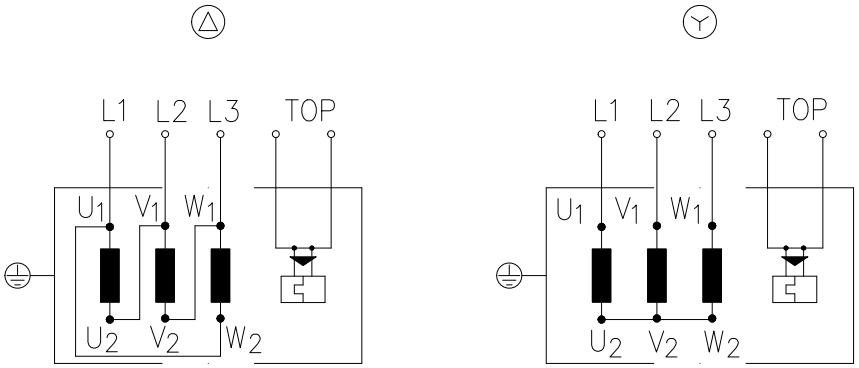
1	Accessory part: Inlet nozzle 54476-2-4013, not included in the standard scope of delivery
2	Depth of screw max. 12 mm
3	Connection line silicone 6G 0.5 mm², 6x brass lead tips crimped

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Connection screen



Changing the direction of rotation by reversing the two phases

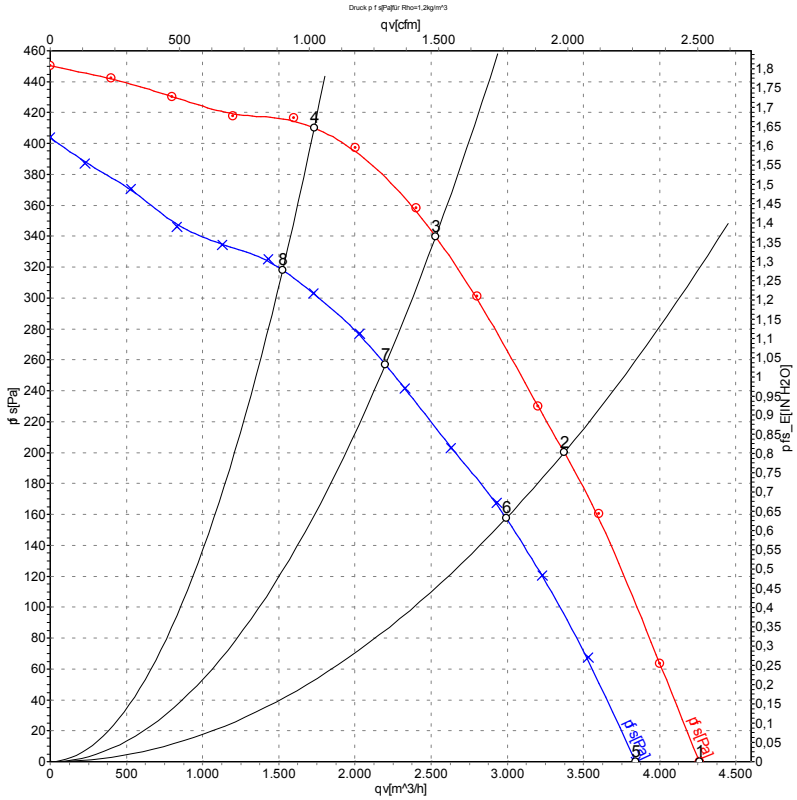
Δ	Delta connection	Y	Star connection	L1	= U1 = black
L2	= V1 = blue	L3	= W1 = brown	W2	yellow
U2	green	V2	white	TOP	2 x grey
PE	green / yellow				

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Charts: Air flow 50 Hz Δ



Measurement: LU-104783
Measurement: LU-104595

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	1425	445	1.20	4260	0
2	Δ	400	50	1415	477	1.23	3375	200
3	Δ	400	50	1415	515	1.41	2530	340
4	Δ	400	50	1420	476	1.21	1730	410
5	Y	400	50	1275	343	0.61	3845	0
6	Y	400	50	1240	380	0.67	2990	158
7	Y	400	50	1235	385	0.70	2200	257
8	Y	400	50	1245	364	0.64	1525	318

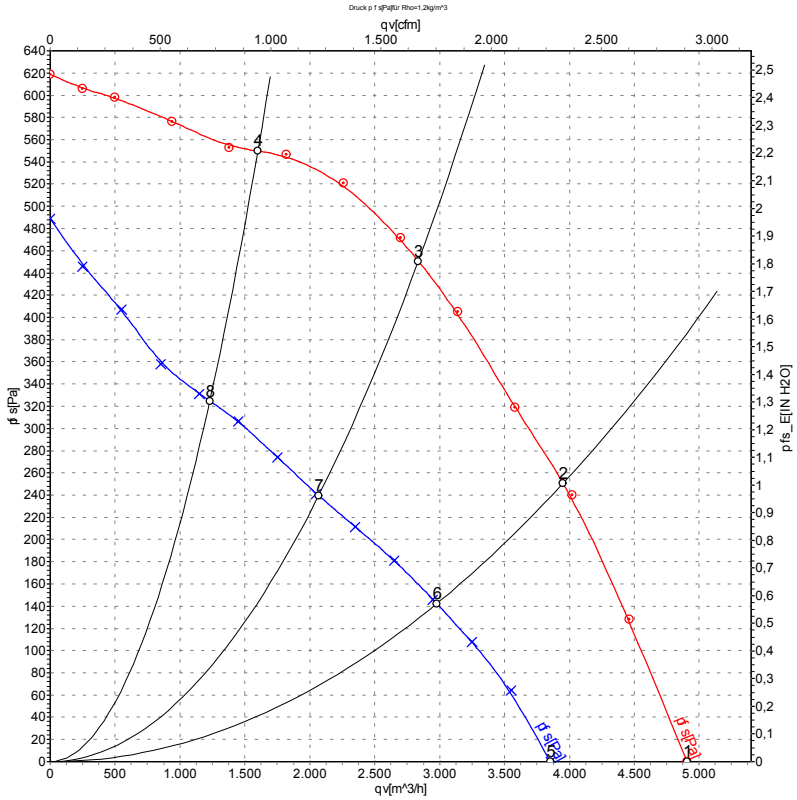
Conn. = Connection · U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · qv = Air flow · p_{fs} = Pressure increase

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Charts: Air flow 60 Hz Δ



Measurement: LU-104787
Measurement: LU-104598

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	60	1370	650	1.22	4905	0
2	Δ	400	60	1625	715	1.30	3950	250
3	Δ	400	60	1610	750	1.44	2835	450
4	Δ	400	60	1640	654	1.20	1600	550
5	Y	400	60	1275	480	0.86	3850	0
6	Y	400	60	1220	501	0.89	2980	142
7	Y	400	60	1220	515	0.93	2070	239
8	Y	400	60	1260	473	0.83	1230	325

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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