R4D310-RA18-01

AC centrifugal fan - RadiCal

backward-curved, single-intake

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Nominal data

Type	**R4D310-RA18-01**
Motor	**M4D068-EC**

Phase		3~	3~
Nominal voltage	VAC	400	400
Wiring		Y	Y
Frequency	Hz	50	60
Method of obtaining data		ml	ml
Valid for approval/standard		CE	CE
Speed (rpm)	min^{-1}	1380	1550
Power consumption	W	145	205
Current draw	A	0.35	0.37
Min. back pressure	Pa	0	0
Min. back pressure	inH2O	0	0
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	55	55
Starting current	A	1.05	1.05

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment
Subject to change

Data according to ErP Directive

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	46.8	42.5
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		66.3	62
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.14
09 Air flow q_v	m^3/h	1205
09 Pressure increase p_{fs}	Pa	198
10 Speed (rpm) n	min^{-1}	1385
11 Specific ratio*		1.00

Data obtained at optimum efficiency level.
The ErP data is determined using a motor-impeller combination in a standardized measurement setup.

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

LU-137590

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Technical description

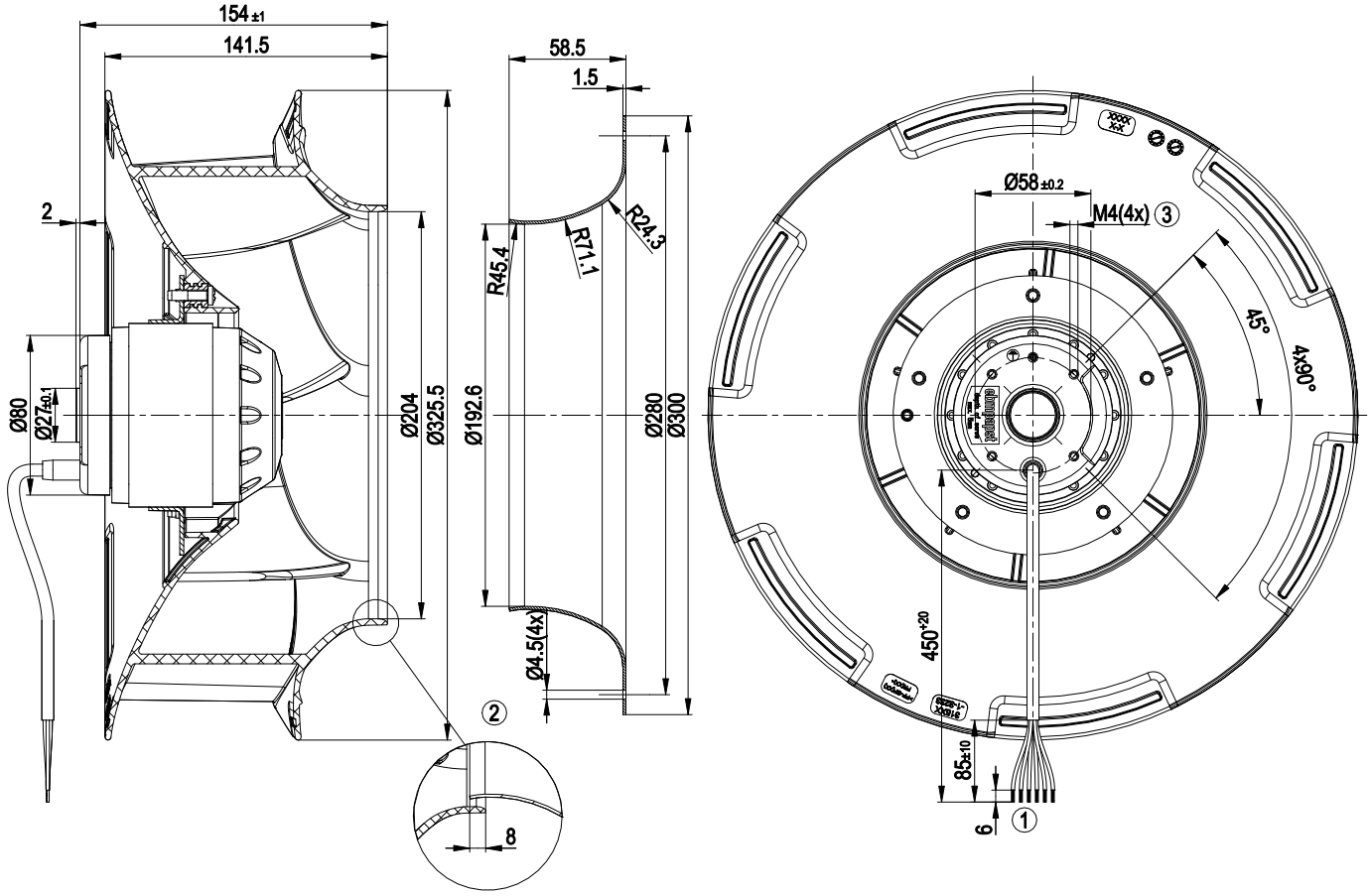
Fan size	310 mm
Rotor surface	Painted black
Impeller material	PP-GF40 plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent as per EN 60034-5
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H0+
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	On rotor side
Mode	S1
Motor bearing	Ball bearing
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	< 0.75 mA
Motor protection	Thermal overload protector (TOP) with basic insulation
With cable	Axial
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE
Approval	EAC; CCC

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Product drawing



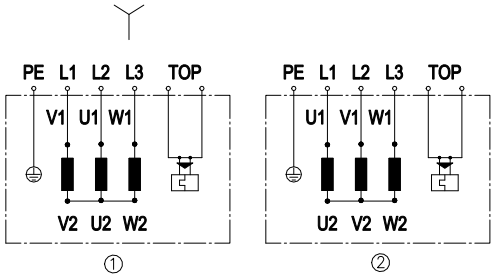
1	Cable PVC 6G 0.5 mm², 6x crimped splices
2	Accessory part: Inlet ring 31000-2-4013, not included in scope of delivery
3	Max. clearance for screw 5 mm

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Connection diagram



Change of rotation direction by reversing two phases

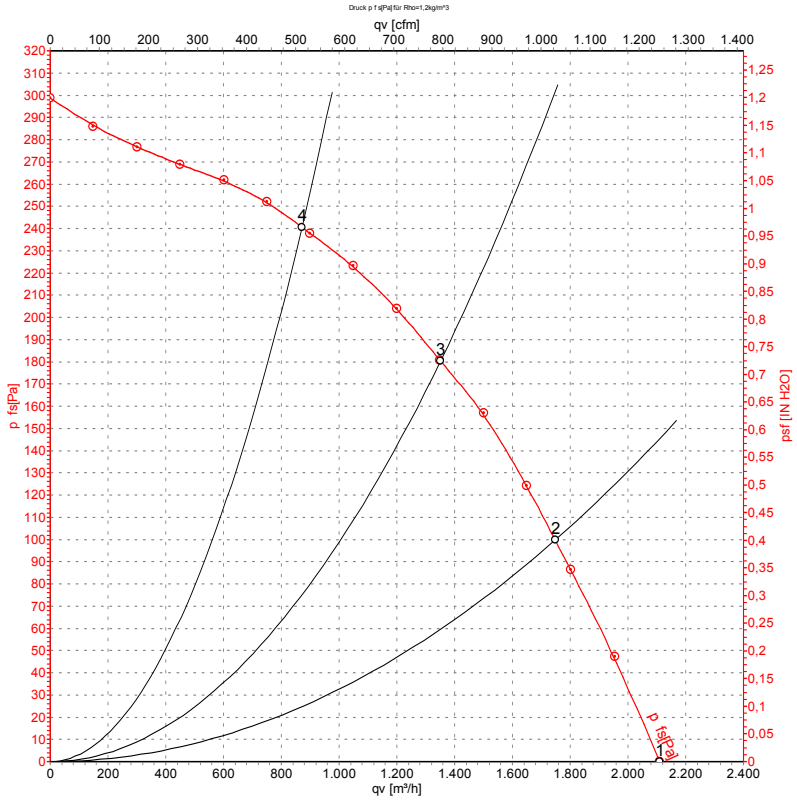
	Three-phase motor
Y	Star connection
1	Counterclockwise operation
L1	= V1 = blue
L2	= U1 = black
L3	= W1 = brown
2	Clockwise operation
L1	= U1 = black
L2	= V1 = blue
L3	= W1 = brown
PE	green/yellow
TOP	2x gray

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Curves: Air performance 50 Hz



Measurement: LU-137590-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	Wired	U	f	n	P_e	I	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	Y	400	50	1425	108	0.32	2110	0	1240	0.00
2	Y	400	50	1395	131	0.33	1750	100	1030	0.40
3	Y	400	50	1380	145	0.35	1350	180	795	0.72
4	Y	400	50	1395	134	0.33	870	240	515	0.96

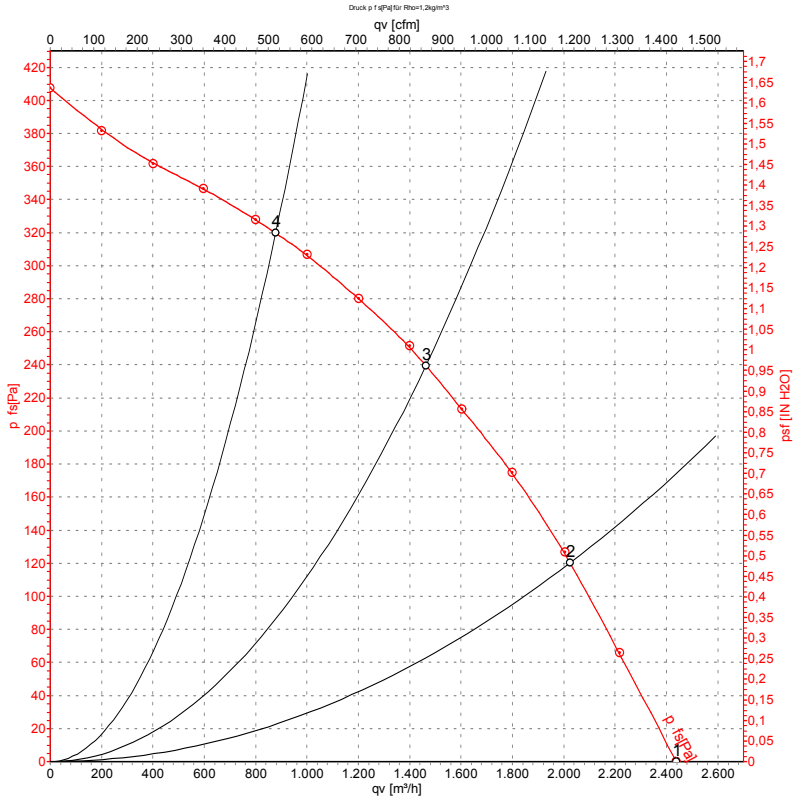
Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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Curves: Air performance 60 Hz



Measurement: LU-137591-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

Measured values

	Wired	U	f	n	P_e	I	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	m^3/h	Pa	cfm	inH2O
1	Y	400	60	1635	148	0.30	2440	0	1435	0.00
2	Y	400	60	1585	184	0.34	2025	120	1190	0.48
3	Y	400	60	1550	205	0.37	1465	240	860	0.96
4	Y	400	60	1585	182	0.34	880	320	515	1.28

Wired = Wiring · U = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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