R4D310-FA06-01

AC centrifugal fan - RadiCal

backward-curved, single-intake

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**R4D310-FA06-01**
Motor	**M4D068-EC**

Phase		3~	3~
Nominal voltage	VAC	400	400
Wiring		Y	Y
Frequency	Hz	50	60
Method of obtaining data		ml	fa
Valid for approval/standard		CE	CE
Speed (rpm)	min^{-1}	1400	1580
Power consumption	W	130	180
Current draw	A	0.37	0.35
Min. back pressure	Pa	0	0
Min. back pressure	in. wg	0	0
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	50	60
Starting current	A	1.3	1.2

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

Data according to Commission Regulation (EU) 327/2011 (EN 17166)

		Actual	Req. 2015
01 Overall efficiency η_{es}	%	47.5	42.1
02 Measurement category		A	
03 Efficiency category		Static	
04 Efficiency grade N		67.4	62
05 Variable speed drive		No	

09 Power consumption P_e	kW	0.12
09 Air flow q_v	m^3/h	1405
09 Pressure increase p_{fs}	Pa	157
10 Speed (rpm) n	min^{-1}	1405
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

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Technical description

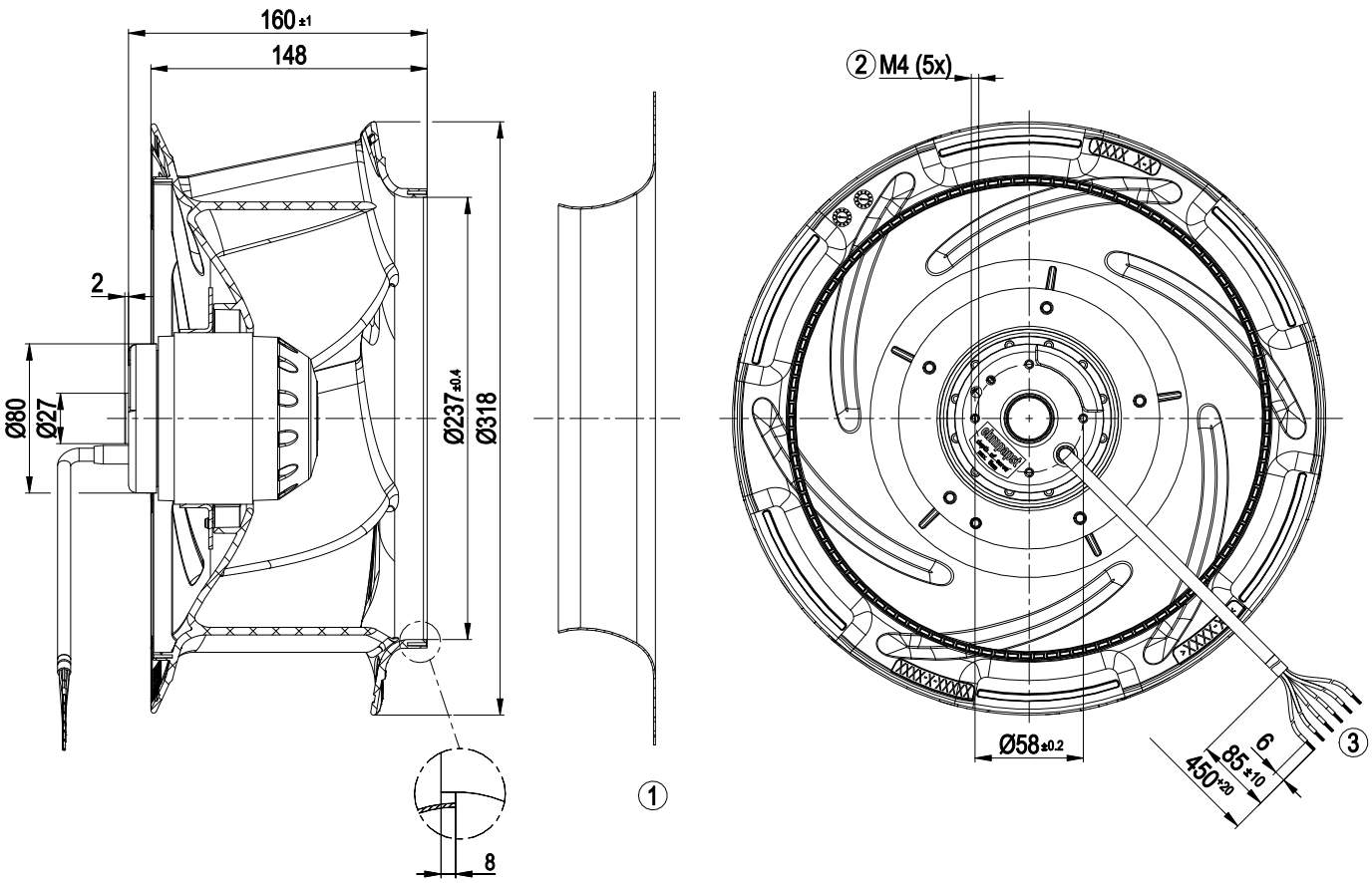
Weight	3.5 kg
Size	310 mm
Motor size	68
Rotor surface	Painted black
Impeller material	PP plastic
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent as per EN 60034-5
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H1
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)	<= 3.5 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

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Product drawing



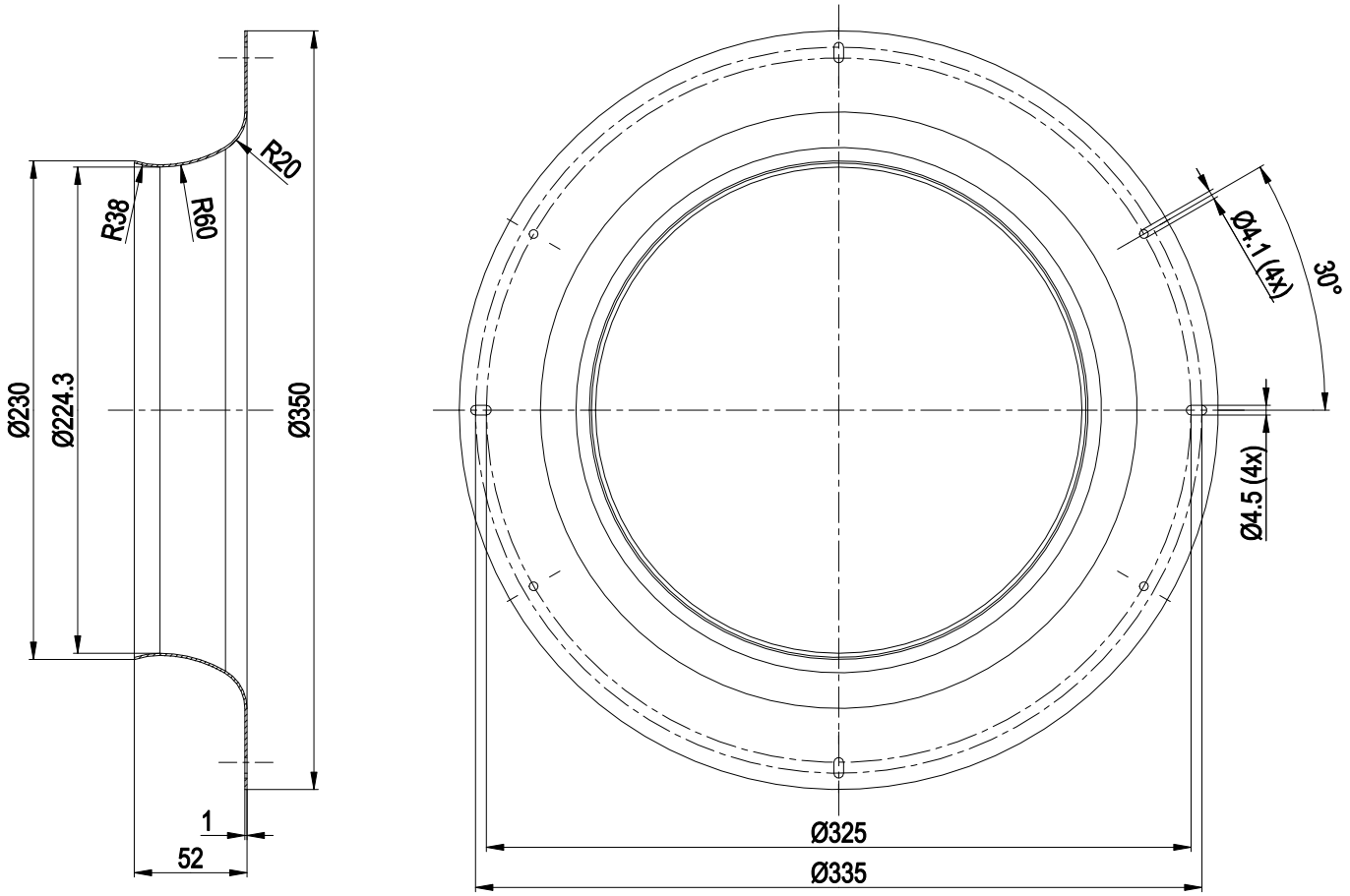
1	Accessory part: Inlet ring 31550-2-4013 not included in scope of delivery
2	Max. clearance for screw 5 mm
3	Cable silicone 6G 0.5 mm²
	6x splice

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Accessory part



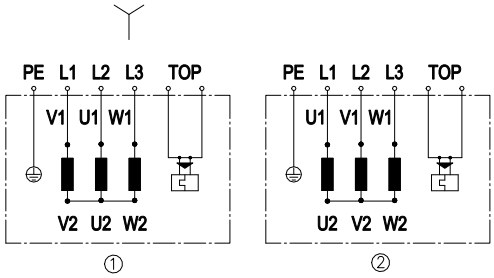
Inlet ring 31550-2-4013

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Connection diagram



Change of rotation direction by reversing two phases

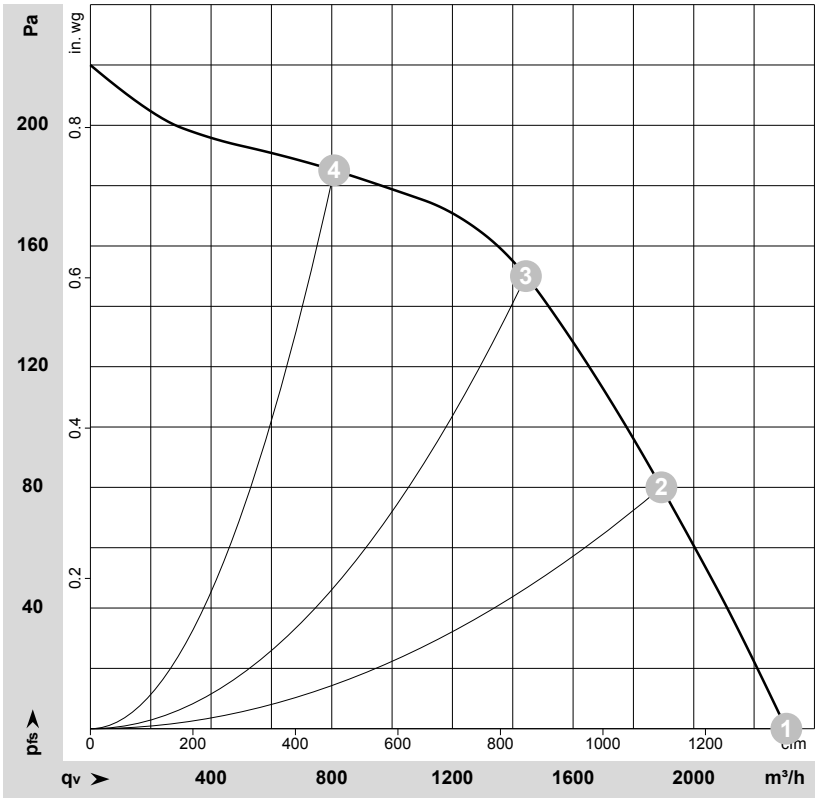
	Three-phase motor
Y	Star connection
1	Counterclockwise operation
L1	= V1 = blue
L2	= U1 = black
L3	= W1 = brown
2	Clockwise operation
L1	= U1 = black
L2	= V1 = blue
L3	= W1 = brown
PE	green/yellow
TOP	(implemented thermal overload protector) 2x gray

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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-192563-1

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	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
		V	Hz	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	Y	400	50	1435	100	0.37	59	68	2305	0	1360	0.00
2	Y	400	50	1415	119	0.37	55	63	1895	80	1115	0.32
3	Y	400	50	1400	130	0.37	52	61	1445	150	850	0.60
4	Y	400	50	1415	117	0.37	53	62	810	185	475	0.74

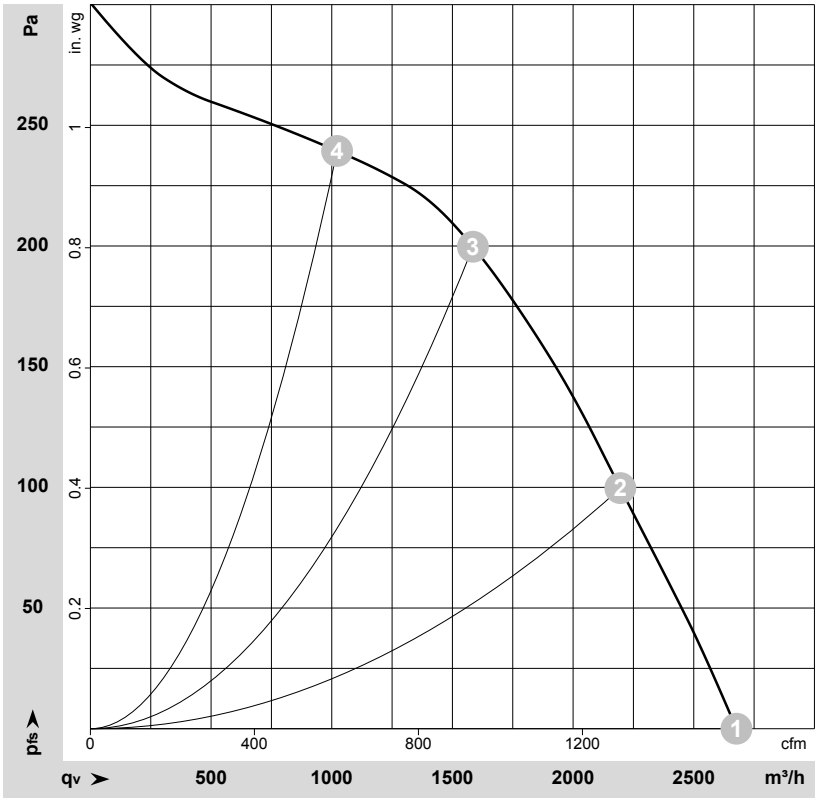
Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · LpA_{in} = Sound pressure level intake side · LwA_{in} = Sound power level intake side
q_V = Air flow · p_{fs} = Pressure increase

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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-192640-1

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	in. wg
1	Y	400	60	1665	129	0.30	2675	0	1575	0.00
2	Y	400	60	1615	160	0.33	2195	100	1295	0.40
3	Y	400	60	1580	180	0.35	1585	200	935	0.80
4	Y	400	60	1615	161	0.34	1020	240	600	0.96

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

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