AC centrifugal module - RadiCal

backward-curved, single-intake

with support structure, for rail applications

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Nominal data

Type	**K2D250-RC10-09**			
Motor	**M2D074-EI**			
Phase		3~	3~	3~
Nominal voltage	VAC	400	400	480
Wiring		Δ	Δ	Δ
Frequency	Hz	50	60	60
Method of obtaining data		ml	ml	ml
Valid for approval/standard		CE	CE	CE
Speed (rpm)	min^{-1}	2700	2950	3150
Power consumption	W	215	325	355
Current draw	A	0.36	0.51	0.48
Min. back pressure	Pa	0	0	0
Min. back pressure	in. wg	0	0	0
Min. ambient temperature	°C	-40	-40	-40
Max. ambient temperature	°C	80	70	75
Starting current	A	1.6	1.5	1.7

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

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Technical description

Weight	6.86 kg
Size	250 mm
Motor size	74
Rotor surface	Painted black
Impeller material	PA plastic, sheet-metal plate painted black
Support structure material	Sheet steel, galvanized
Number of blades	7
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP44
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 top
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing; (sealed)
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	< 0.75 mA
Motor protection	Thermal switch auto reset, lead out, with basic insulation
With cable	Variable
Protection class assignment	I; If a protective earth is connected. The built-in component has several local protection class assignments. The final protection class is determined by the intended installation.
Conformity with standards	EN 15085-1, CPC3; EN 45545-2, HL3; EN 50155; EN 61373, Cat. 1B
Comment on CE	Ecodesign Directive 2009/125/EC + Fan Regulation (EC) No. 327/2011 does not apply, as use only in means of transport for transporting persons or goods.

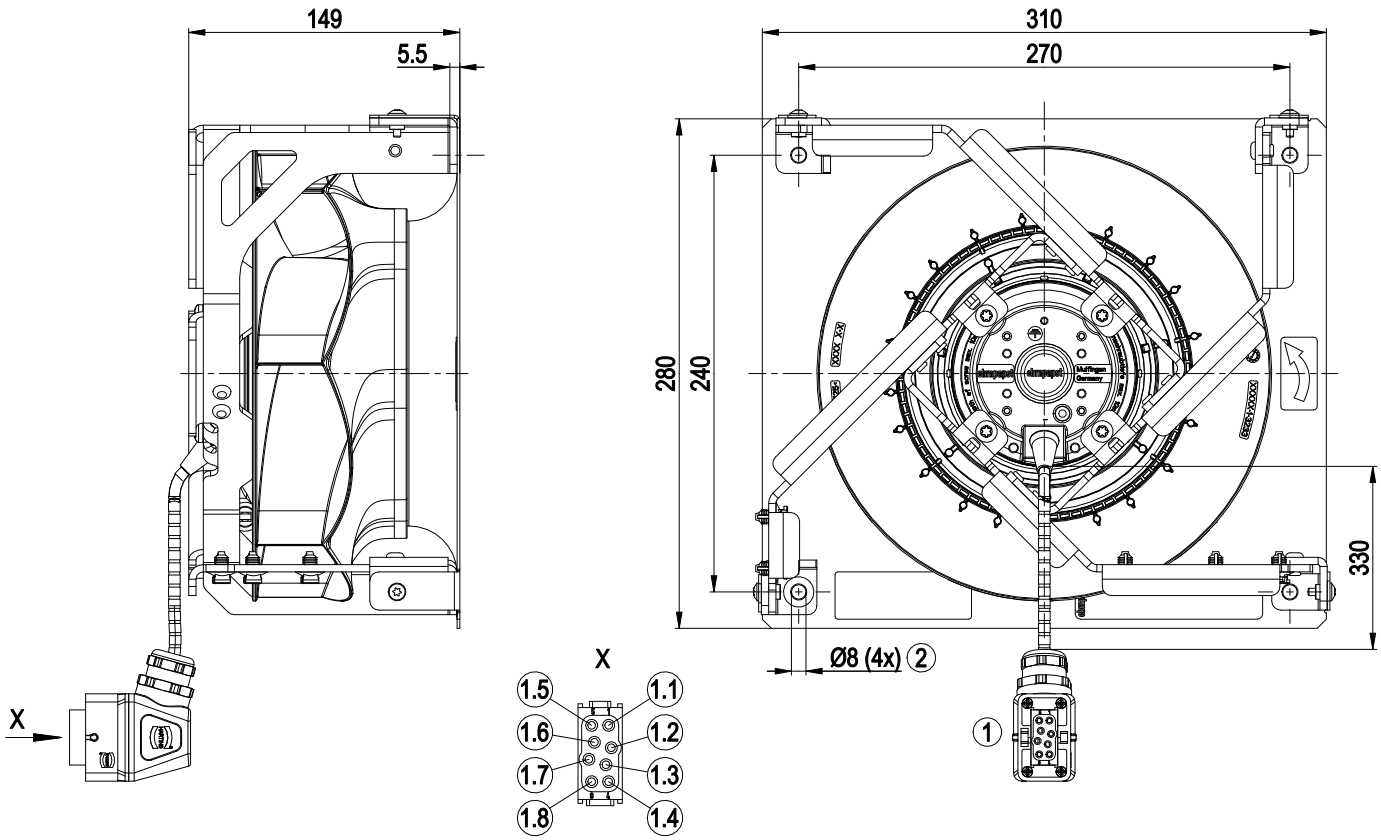
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Product drawing



1	Cable, halogen-free, railway application EN 45545, 6G 0.5 mm²
	Connector housing Harting 19 14 001 0501, connector housing Harting 09 14 001 0311, pin insert Harting 09 14 008 3001, 5x plug pin Harting 09 33 000 6121
1.1	U
1.2	V
1.3	Not used / no function
1.4	TW
1.5	W
1.6	Not used / no function
1.7	Not used / no function
1.8	TW
	PE, connector housing 09 14 001 0311 Harting
2	Max. clearance for screw 6 mm

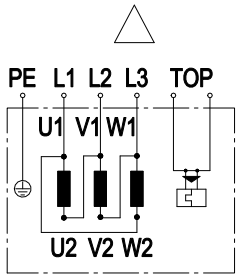
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Connection diagram



Note: Change of rotation direction by reversing two phases

Δ	Delta connection	L1	= U1 = black	L2	= V1 = blue
L3	= W1 = brown	TOP	2x gray	PE	green/yellow

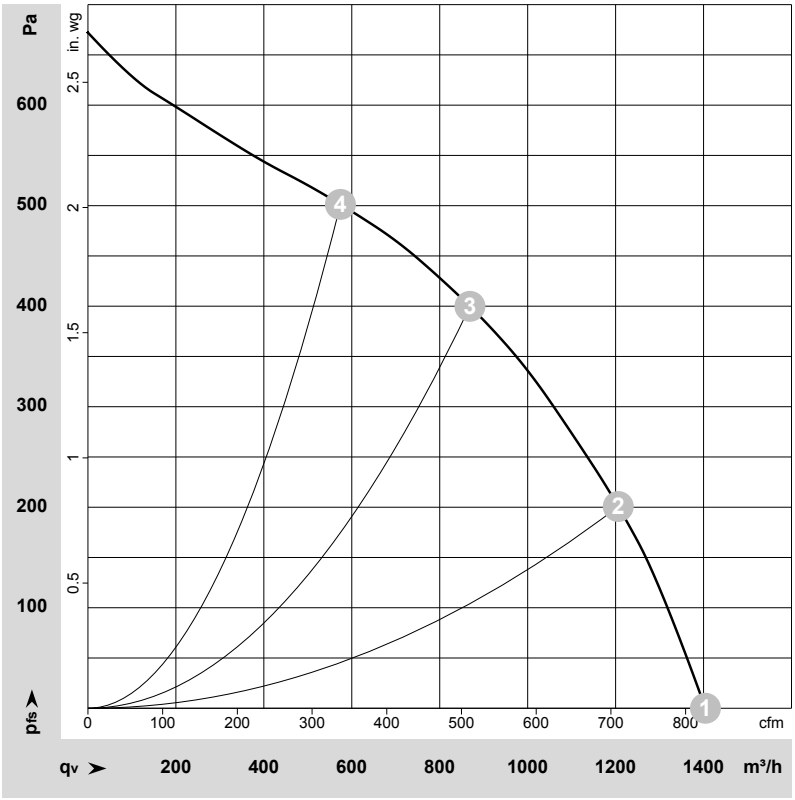
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-192096-1
Date: 2018-03-20
Nozzle: 25011-2-2911

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	Δ	400	50	2755	174	0.31	71	78	1405	0	825	0.00
2	Δ	400	50	2730	192	0.33	66	74	1205	200	710	0.80
3	Δ	400	50	2700	215	0.36	62	70	870	400	510	1.61
4	Δ	400	50	2720	199	0.34	64	73	575	500	340	2.01

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

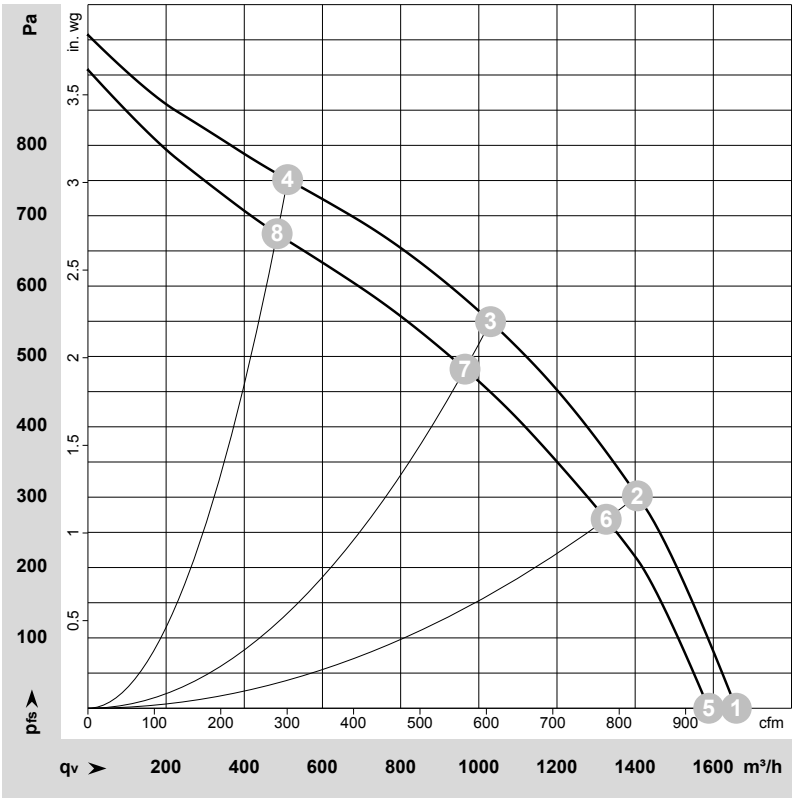
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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-192100-1
Date: 2018-03-21
Nozzle: 25011-2-2911

Measurement: LU-192098-1
Date: 2018-03-21
Nozzle: 25011-2-2911

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	Δ	480	60	3245	286	0.40	1660	0	975	0.00
2	Δ	480	60	3195	324	0.44	1405	300	830	1.20
3	Δ	480	60	3150	355	0.48	1030	550	605	2.21
4	Δ	480	60	3220	305	0.42	510	750	300	3.01
5	Δ	400	60	3095	266	0.43	1590	0	935	0.00
6	Δ	400	60	3020	297	0.47	1325	269	780	1.08
7	Δ	400	60	2950	325	0.51	965	482	570	1.94
8	Δ	400	60	3045	284	0.45	485	674	285	2.71

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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