R3G310-AN46-46

EC centrifugal fan

backward-curved, single-intake

for rail applications

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Nominal data

Type	**R3G310-AN46-46**	
Motor	**M3G084-FA**	
Nominal voltage	VDC	110
Nominal voltage range	VDC	77 .. 138
Method of obtaining data		fa
External electronics		CHG090AA0712
Speed (rpm)	min^{-1}	2960
Power consumption	W	600
Current draw	A	5.5
Min. ambient temperature	°C	-40
Max. ambient temperature	°C	55

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	5 kg
Size	310 mm
Motor size	84
Rotor surface	Painted black
Impeller material	Sheet aluminum
Number of blades	6
Direction of rotation	Clockwise, viewed toward rotor
Degree of protection	IP42
Insulation class	"B"
Moisture (F) / Environmental (H) protection class	H3
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; rotor on bottom on request
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Motor protection	Electronic motor protection
With cable	Lateral
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 45545-2 + A1:2015; CE
Approval	EAC
Comment	Not CL2 welded; prerequisite for operation is a Class 1 vehicle electrical system architecture according to EN 50533

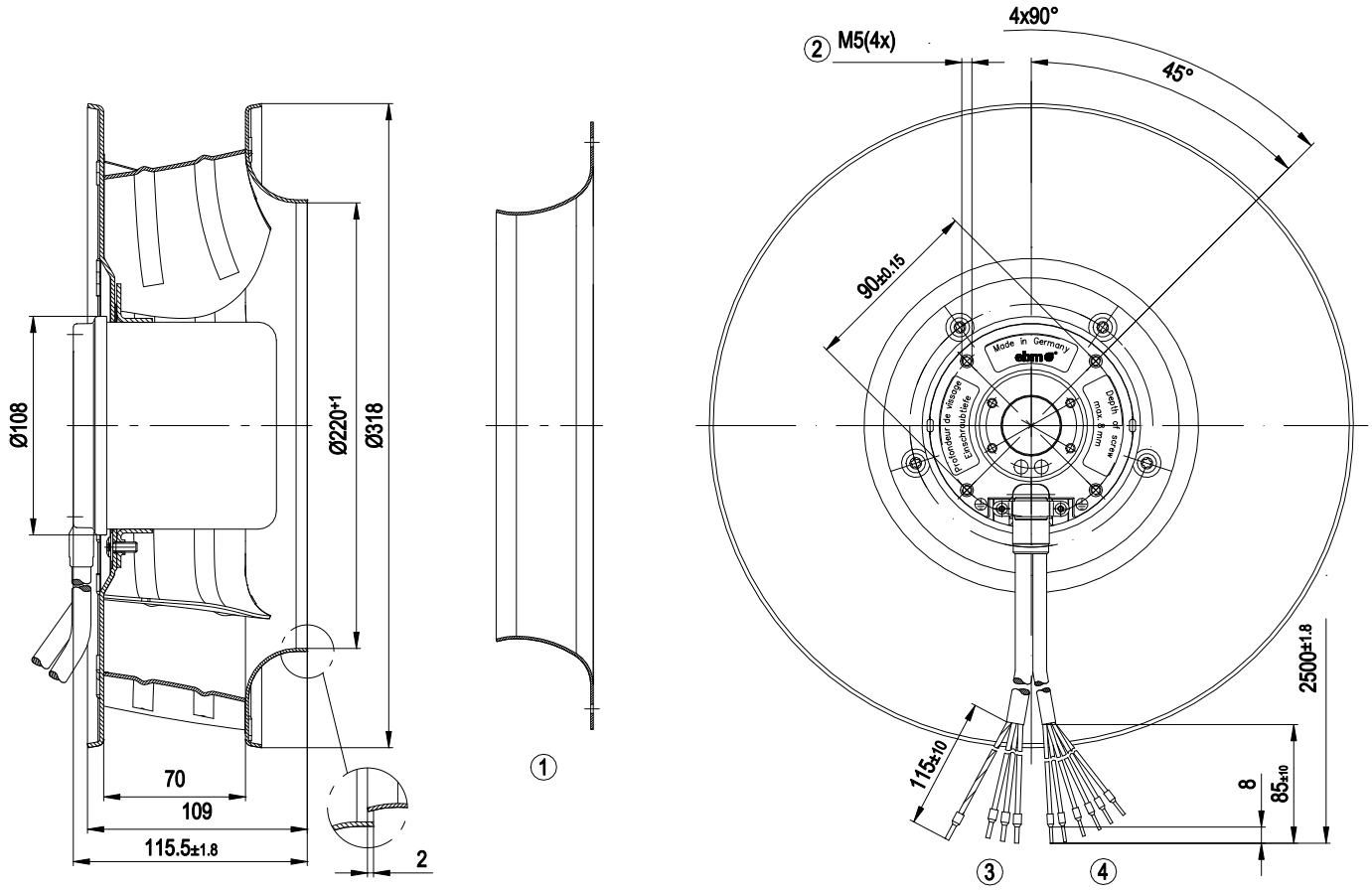
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Product drawing



1	Accessory part: inlet ring 31050-2-4013 not included in scope of delivery
2	Max. clearance for screw 8 mm
3	Cable, halogen-free, railway application EN 45545, 4G 1.5 mm²
	4x wire-end ferrule
4	Cable, halogen-free, railway application EN 45545, 6x 0.5 mm²
	6x wire-end ferrule
5	Accessory part: external electronics CHG090-AA07-12, not included in scope of delivery (not illustrated)

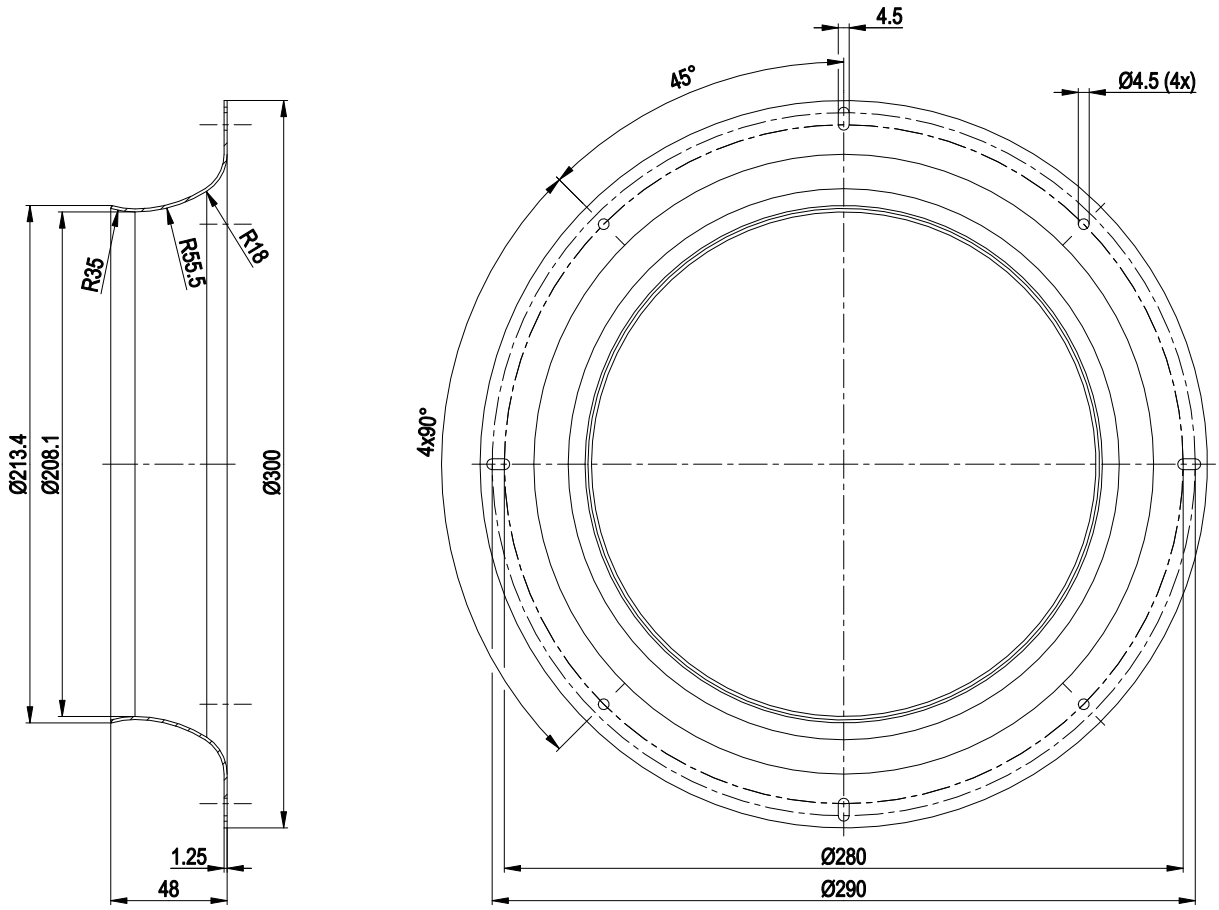
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Accessory part



inlet ring 31050-2-4013 not included in scope of delivery

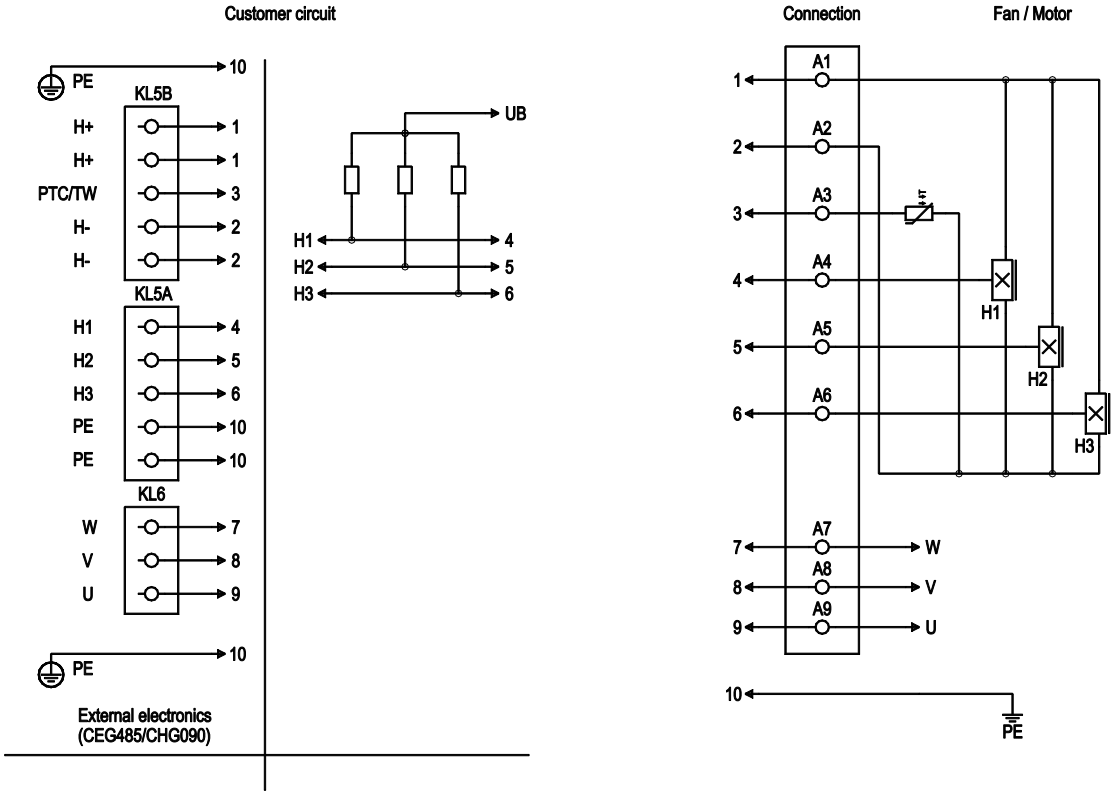
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Connection diagram



No.	Conn.	Designation	Function/assignment
KL5A	4	A4	Hall 1 (orange) collector open, R to UB 4.5-24 V
KL5A	5	A5	Hall 2 (brown) collector open, R to UB 4.5-24 V
KL5A	6	A6	Hall 3 (yellow) collector open, R to UB 4.5-24 V
KL5B	1	A1	+ (red)
KL5B	2	A2	- (blue)
KL5B	3	A3	PTC (black)
KL6	7	A7	W (brown)
KL6	8	A8	V (blue)
KL6	9	A9	U (black)
-	10	-	PE (green/yellow) - 1x

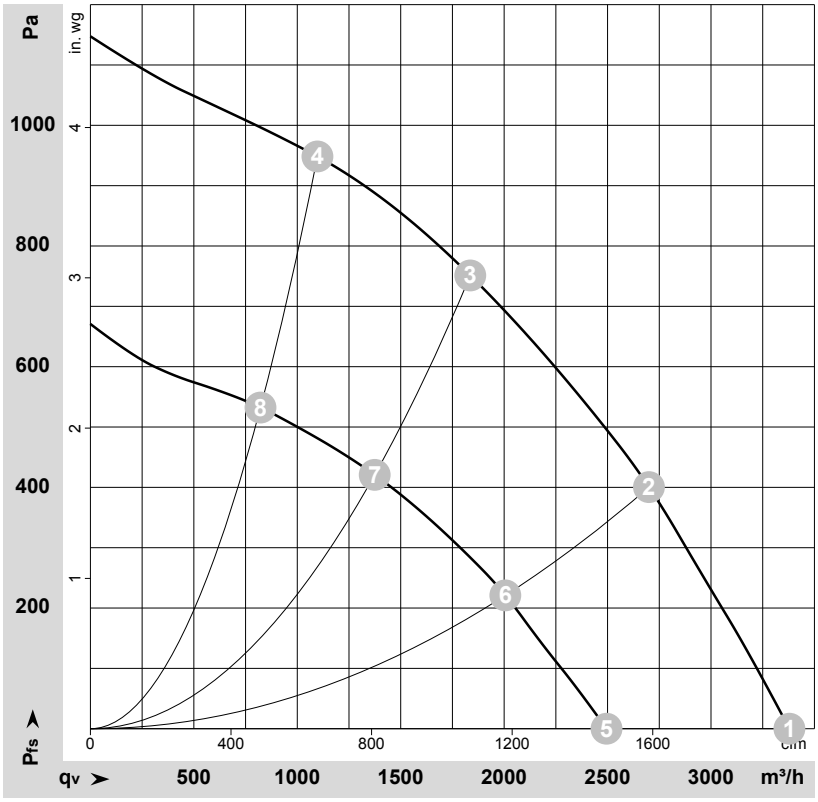
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Curves: Air performance



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-185882-1
Measurement: LU-185904-1

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

	U	n	P_{ed}	I	LpA_{in}	LwA_{in}	q_V	p_{fs}	q_V	p_{fs}
	V	min^{-1}	W	A	dB(A)	dB(A)	m^3/h	Pa	cfm	in. wg
1	110	2960	600	5.50	83	91	3380	0	1990	0.00
2	110	2840	681	6.19	77	84	2700	400	1590	1.61
3	110	2810	715	6.50	74	81	1835	750	1080	3.01
4	110	2860	661	6.00	75	83	1100	950	645	3.81
5	77	2160	248	3.22			2495	0	1470	0.00
6	77	2115	285	3.70			2005	223	1180	0.90
7	77	2100	302	3.92			1375	421	810	1.69
8	77	2125	278	3.60			820	533	485	2.14

U = Voltage · n = Speed (rpm) · P_{ed} = 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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