D4E146-AA59-50

AC centrifugal fan

forward-curved, dual-intake

with housing and mounting bracket

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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**D4E146-AA59-50**
Motor	**M4E068-CF**

Phase		1~	1~
Nominal voltage	VAC	230	230
Frequency	Hz	50	60
Method of obtaining data		fa	fa
Valid for approval/standard		CE	CE
Speed (rpm)	min^{-1}	1000	900
Power consumption	W	100	120
Current draw	A	0.44	0.53
Capacitor	µF	2	2
Capacitor voltage	VDB	450	450
Capacitor standard		S2 (CE)	S2 (CE)
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	50	45

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	5.2 kg
Fan size	146 mm
Rotor surface	Painted black
Impeller material	Sheet steel, painted black
Housing material	Sheet steel, galvanized
Motor suspension	Motor mounted with brackets on one side
Direction of rotation	Counterclockwise, 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
Speed levels	5
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	< 0.75 mA
Motor protection	Thermal overload protector (TOP) internally connected
With cable	Axial
Protection class	I (with customer connection of protective earth)
Conformity with standards	EN 60335-1; CE

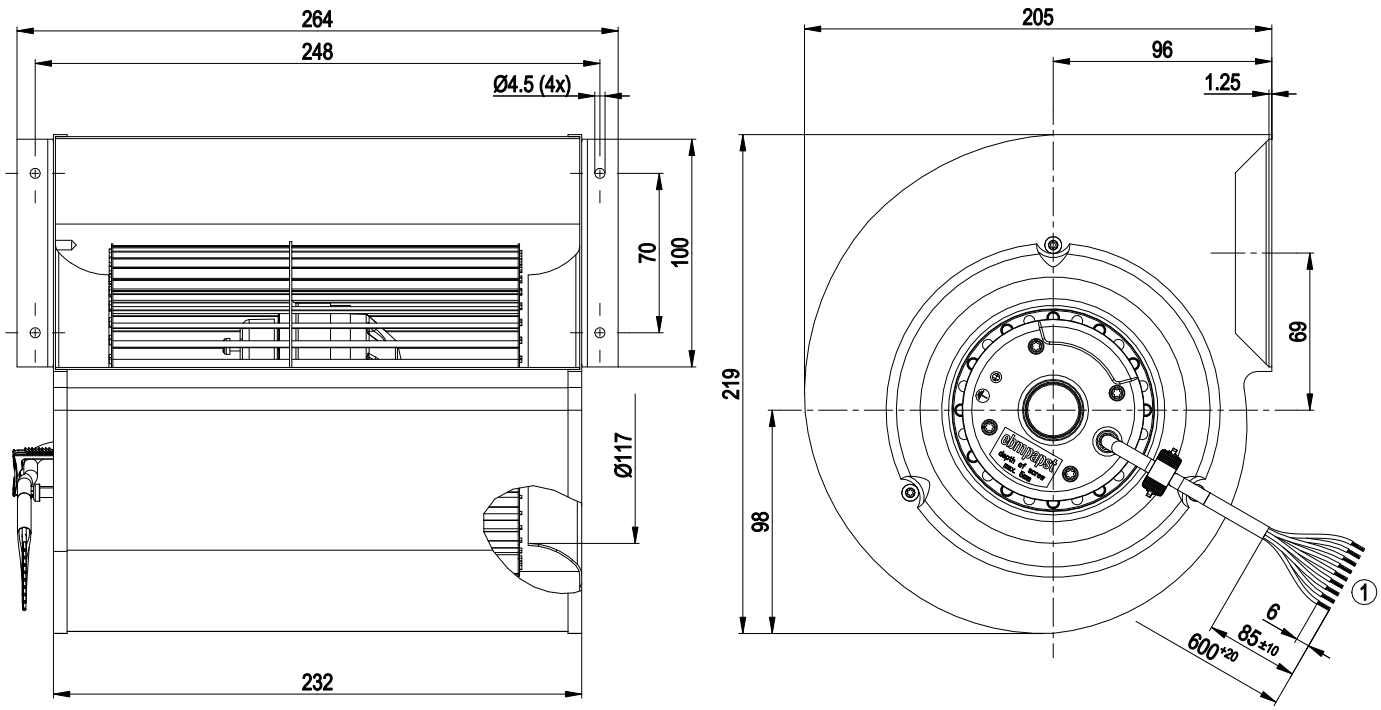
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Product drawing



1	Cable halogen-silicone-free 9G 0.5 mm², 9x crimped splices

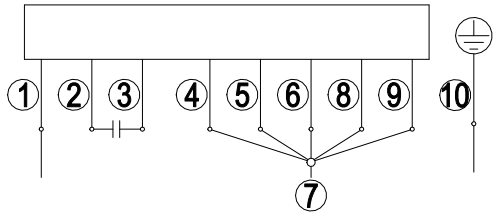
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Connection diagram



Note: High speed (step V); low speed (step I)

1	= N = blue	2	brown	3	yellow
4	Step I white	5	Step II red	6	Step III gray
7	L1	8	Step IV orange	9	Step V black
10	PE				

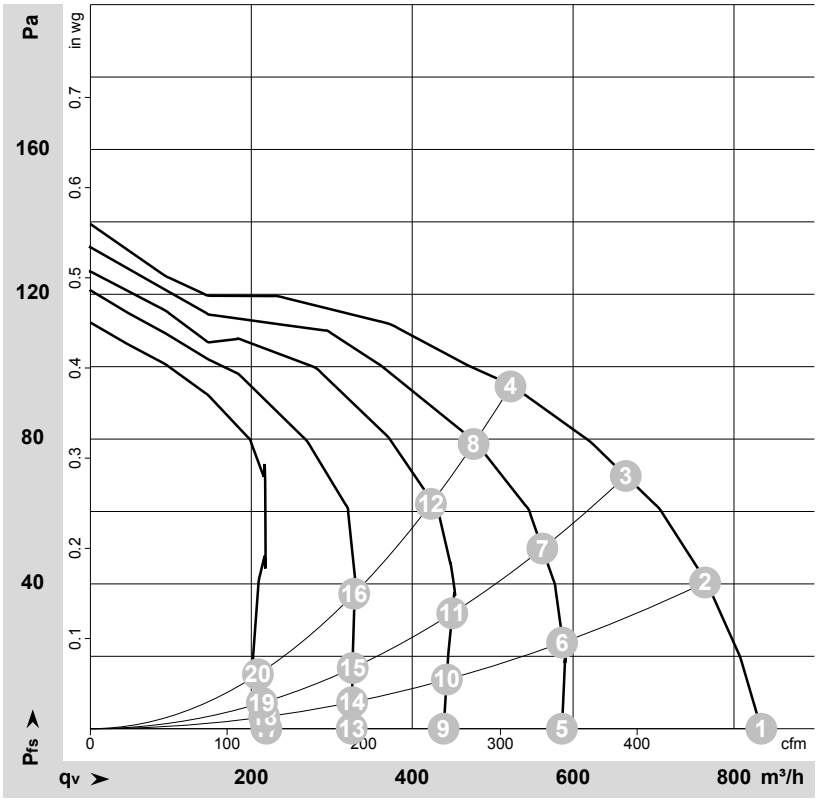
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Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-22217-1
Measurement: LU-22218-1
Measurement: LU-22219-1
Measurement: LU-22220-1
Measurement: LU-22221-1

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

	Stage	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	5	230	50	1000	100	0.44	835	0	490	0.00
2	5	230	50	1175	90	0.40	765	41	450	0.16
3	5	230	50	1260	81	0.36	665	70	390	0.28
4	5	230	50	1335	72	0.32	520	95	305	0.38
5	4	230	50	695	86	0.37	585	0	345	0.00
6	4	230	50	700	86	0.37	585	1	345	0.00
7	4	230	50	1055	73	0.32	560	50	330	0.20
8	4	230	50	1220	63	0.28	475	80	280	0.32
9	3	230	50	565	74	0.32	440	0	260	0.00
10	3	230	50	705	72	0.31	445	14	260	0.06
11	3	230	50	865	68	0.30	450	32	265	0.13
12	3	230	50	1095	60	0.26	425	63	250	0.25
13	2	230	50	420	64	0.28	325	0	190	0.00
14	2	230	50	520	63	0.28	325	8	190	0.03
15	2	230	50	675	61	0.27	325	19	190	0.08
16	2	230	50	810	58	0.26	330	33	195	0.13
17	1	230	50	305	56	0.24	220	0	130	0.00
18	1	230	50	355	55	0.24	215	3	125	0.01
19	1	230	50	415	55	0.24	215	7	125	0.03
20	1	230	50	510	54	0.24	210	12	120	0.05

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

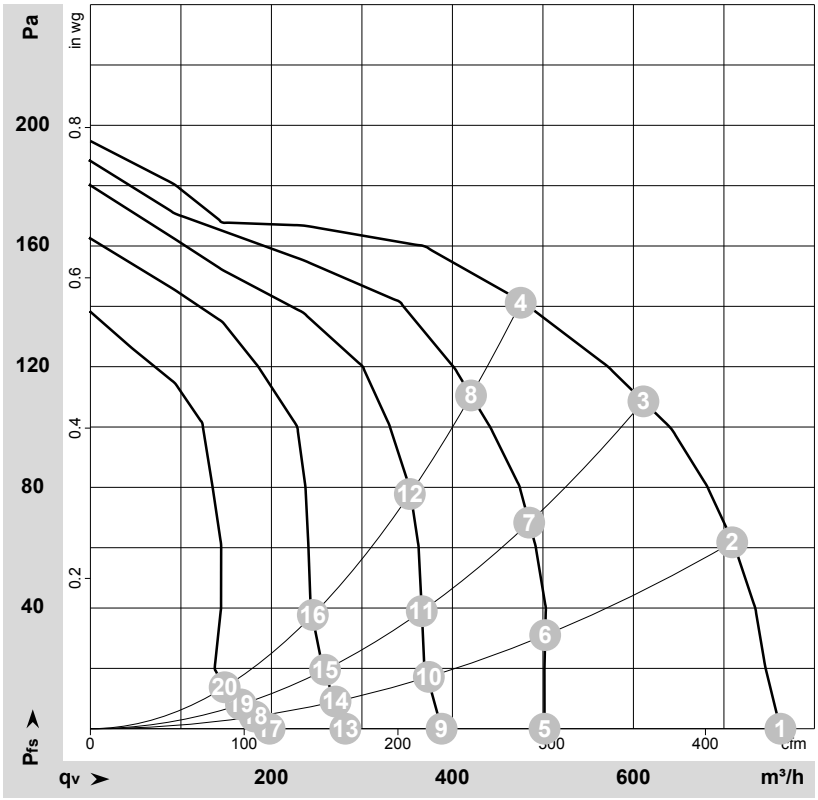
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Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-22222-1
Measurement: LU-22223-1
Measurement: LU-22224-1
Measurement: LU-22225-1
Measurement: LU-22226-1

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

	Stage	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	5	230	60	900	120	0.53	760	0	445	0.00
2	5	230	60	1250	107	0.47	710	62	415	0.25
3	5	230	60	1445	98	0.42	610	109	360	0.44
4	5	230	60	1570	88	0.38	475	142	280	0.57
5	4	230	60	640	86	0.38	500	0	295	0.00
6	4	230	60	895	84	0.37	505	31	295	0.12
7	4	230	60	1155	78	0.35	485	68	285	0.27
8	4	230	60	1400	69	0.32	420	110	250	0.44
9	3	230	60	510	73	0.32	390	0	230	0.00
10	3	230	60	665	72	0.32	375	15	220	0.06
11	3	230	60	890	70	0.31	365	39	215	0.16
12	3	230	60	1190	64	0.30	355	80	210	0.32
13	2	230	60	385	62	0.28	280	0	165	0.00
14	2	230	60	495	61	0.28	270	9	160	0.04
15	2	230	60	615	60	0.27	260	18	150	0.07
16	2	230	60	830	59	0.27	245	36	145	0.14
17	1	230	60	275	52	0.25	200	0	115	0.00
18	1	230	60	350	52	0.25	180	4	105	0.02
19	1	230	60	415	52	0.25	165	8	100	0.03
20	1	230	60	515	51	0.25	150	13	85	0.05

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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