D4E146-LV01-09

AC centrifugal fan

forward-curved, dual-intake

with housing (flange)



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Nominal data

Type	**D4E146-LV01-09**
Motor	**M4E068-CF**

Phase		1~	1~
Nominal voltage	VAC	230	230
Frequency	Hz	50	60
Method of obtaining data		ml	ml
Valid for approval/standard		CE	CE
Speed (rpm)	min^{-1}	1070	1000
Power consumption	W	60	68
Current draw	A	0.27	0.30
Capacitor	µF	2	2
Capacitor voltage	VDB	400	400
Capacitor standard		S2 (CE)	S2 (CE)
Min. back pressure	Pa	40	35
Min. back pressure	inH2O	0.16	0.14
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	55	50
Starting current	A	0.33	0.35

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	2.5 kg
Fan size	146 mm
Rotor surface	Unpainted
Terminal box material	PP plastic
Impeller material	PA plastic
Housing material	PP plastic
Motor suspension	Motor vibration-damped on both sides
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP44; installation- and position-dependent
Insulation class	"F"
Moisture (F) / Environmental (H) protection class	H0 - dry environment
Max. permitted ambient temp. for motor (transport/storage)	+ 80 °C
Min. permitted ambient temp. for motor (transport/storage)	- 40 °C
Installation position	Any
Condensation drainage holes	None
Mode	S1
Motor bearing	Ball bearing
Speed levels	5
Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system)	< 0.75 mA
Electrical hookup	With plug; Via terminal box, capacitor integrated and connected
Motor protection	Thermal overload protector (TOP) internally connected
Protection class	I (with customer connection of protective earth)
Motor capacitor according to EN 60252-1 in safety protection class	S2
Conformity with standards	EN 60335-1; CE

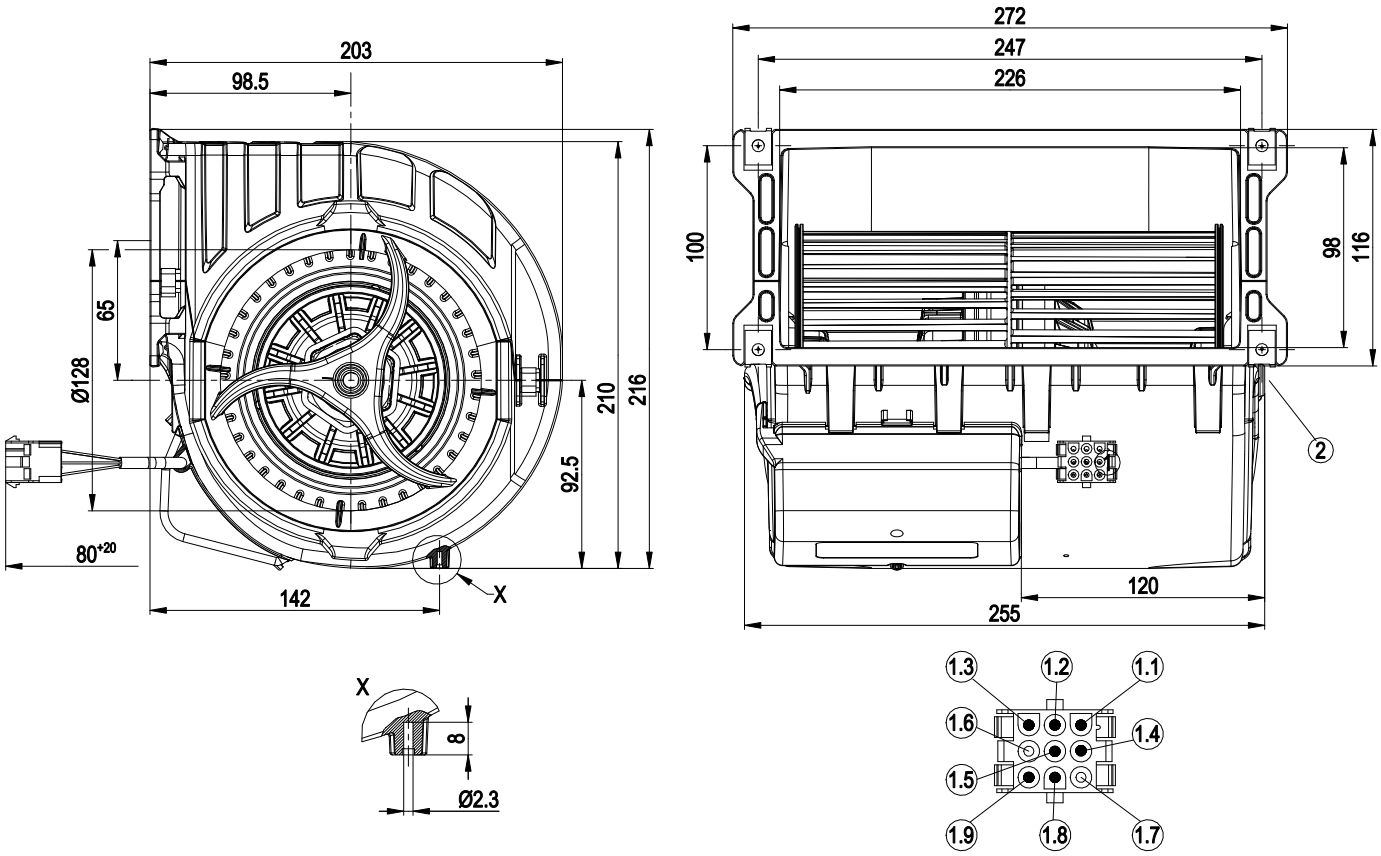
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Product drawing



1	Cable ETFE AWG22, 9-pole connector housing tyco 927231-5, 7x plug pin tyco 926886-1
1.1	L = step 1 (min.)
1.2	L = step 2
1.3	L = step 3
1.4	L = step 4
1.5	L = step 5 (max.)
1.6	-
1.7	-
1.8	N
1.9	Protective earth
2	4x sheet metal nut for thread EN ISO 1478-ST4.8 (min. screw length 14.5 mm plus material thickness of attachment)

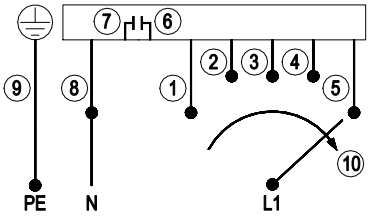
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Connection diagram



The switch must interrupt the circuit when switching.

1	Step 1 (min.)	2	Step 2	3	Step 3
4	Step 4	5	Step 5 (max.)	6	Capacitor
7	Capacitor	8	N	9	Protective earth
10	Speed increasing				

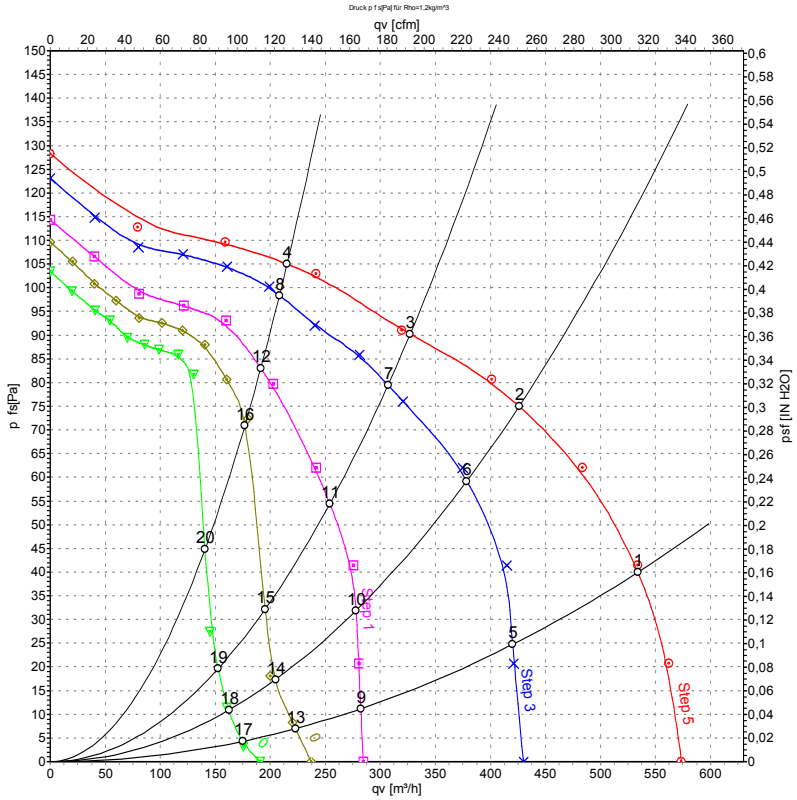
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Curves: Air performance 50 Hz



Measurement: LU-63860-1
Measurement: LU-63862-1
Measurement: LU-63864-1
Measurement: LU-63866-1
Measurement: LU-63868-1

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	1070	60	0.27	535	40	315	0.16
2	5	230	50	1250	50	0.22	425	75	250	0.30
3	5	230	50	1325	44	0.20	325	90	190	0.36
4	5	230	50	1385	40	0.17	215	105	125	0.42
5	4	230	50	840	56	0.25	420	24	245	0.10
6	4	230	50	1120	48	0.22	380	60	220	0.24
7	4	230	50	1245	42	0.19	305	80	180	0.32
8	4	230	50	1335	36	0.17	210	98	120	0.39
9	3	230	50	565	50	0.22	280	11	165	0.04
10	3	230	50	795	47	0.21	280	32	165	0.13
11	3	230	50	1020	42	0.19	255	54	150	0.22
12	3	230	50	1225	34	0.16	190	83	110	0.33
13	2	230	50	470	47	0.21	225	7	130	0.03
14	2	230	50	635	45	0.21	205	16	120	0.06
15	2	230	50	785	43	0.20	195	30	115	0.12
16	2	230	50	1155	35	0.16	175	74	105	0.30
17	1	230	50	385	44	0.20	175	4	105	0.02
18	1	230	50	515	43	0.20	160	10	95	0.04
19	1	230	50	660	42	0.19	150	20	90	0.08
20	1	230	50	920	37	0.18	140	44	85	0.18

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

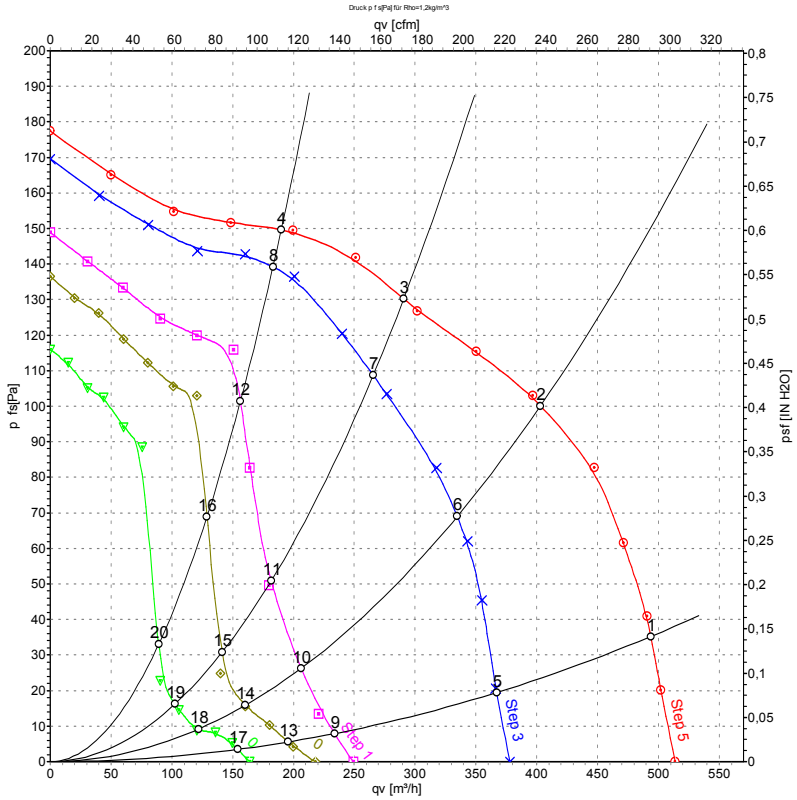
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Curves: Air performance 60 Hz



Measurement: LU-63861-1
Measurement: LU-63863-1
Measurement: LU-63865-1
Measurement: LU-63867-1
Measurement: LU-63869-1

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	1000	68	0.30	495	35	290	0.14
2	5	230	60	1420	59	0.27	405	100	235	0.40
3	5	230	60	1565	52	0.25	290	130	170	0.52
4	5	230	60	1650	46	0.22	190	150	110	0.60
5	4	230	60	725	58	0.27	365	19	215	0.08
6	4	230	60	1165	53	0.25	335	69	195	0.28
7	4	230	60	1410	46	0.23	265	109	155	0.44
8	4	230	60	1580	39	0.21	185	139	110	0.56
9	3	230	60	480	48	0.22	235	7	140	0.03
10	3	230	60	700	47	0.22	205	26	120	0.10
11	3	230	60	950	45	0.22	180	48	105	0.19
12	3	230	60	1385	36	0.19	155	102	90	0.41
13	2	230	60	410	45	0.21	195	5	115	0.02
14	2	230	60	575	44	0.21	160	15	95	0.06
15	2	230	60	695	44	0.21	140	24	85	0.10
16	2	230	60	1090	38	0.19	130	69	75	0.28
17	1	230	60	320	42	0.20	155	4	90	0.02
18	1	230	60	460	41	0.20	120	9	70	0.04
19	1	230	60	575	41	0.20	105	16	60	0.06
20	1	230	60	725	40	0.20	90	28	50	0.11

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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