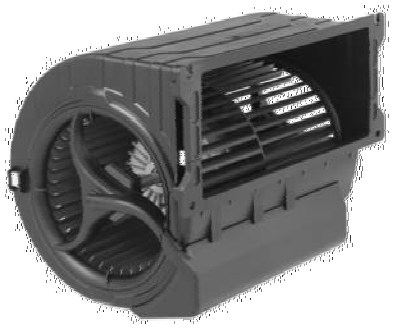
AC centrifugal fan

forward-curved, dual-intake

with housing (flange)



ebm-papst Mulfingen GmbH & Co. KG
Bachmühle 2 · D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com
www.ebmpapst.com

Limited partnership · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen
Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**D4E146-LV19-14**		
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}	780	710
Power consumption	W	65	68
Current draw	A	0.29	0.3
Capacitor	µF	2	2
Capacitor voltage	VDB	400	400
Capacitor standard		S2 (CE)	S2 (CE)
Min. back pressure	Pa	0	0
Min. back pressure	in. wg	0	0
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	50	40
Starting current	A	0.33	0.33

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
Size	146 mm
Motor size	68
Rotor surface	Unpainted
Terminal box material	PP plastic
Impeller material	PP 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	Connector with cable; Via terminal box, capacitor integrated and connected
Motor protection	Thermal switch auto reset, internally connected
With cable	Axial
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; UKCA; CE
Comment on CE	Ecodesign Directive 2009/125/EC + Fan Directive (EC) No. 327/2011 does not apply, as power consumption <125W.
Approval	EAC

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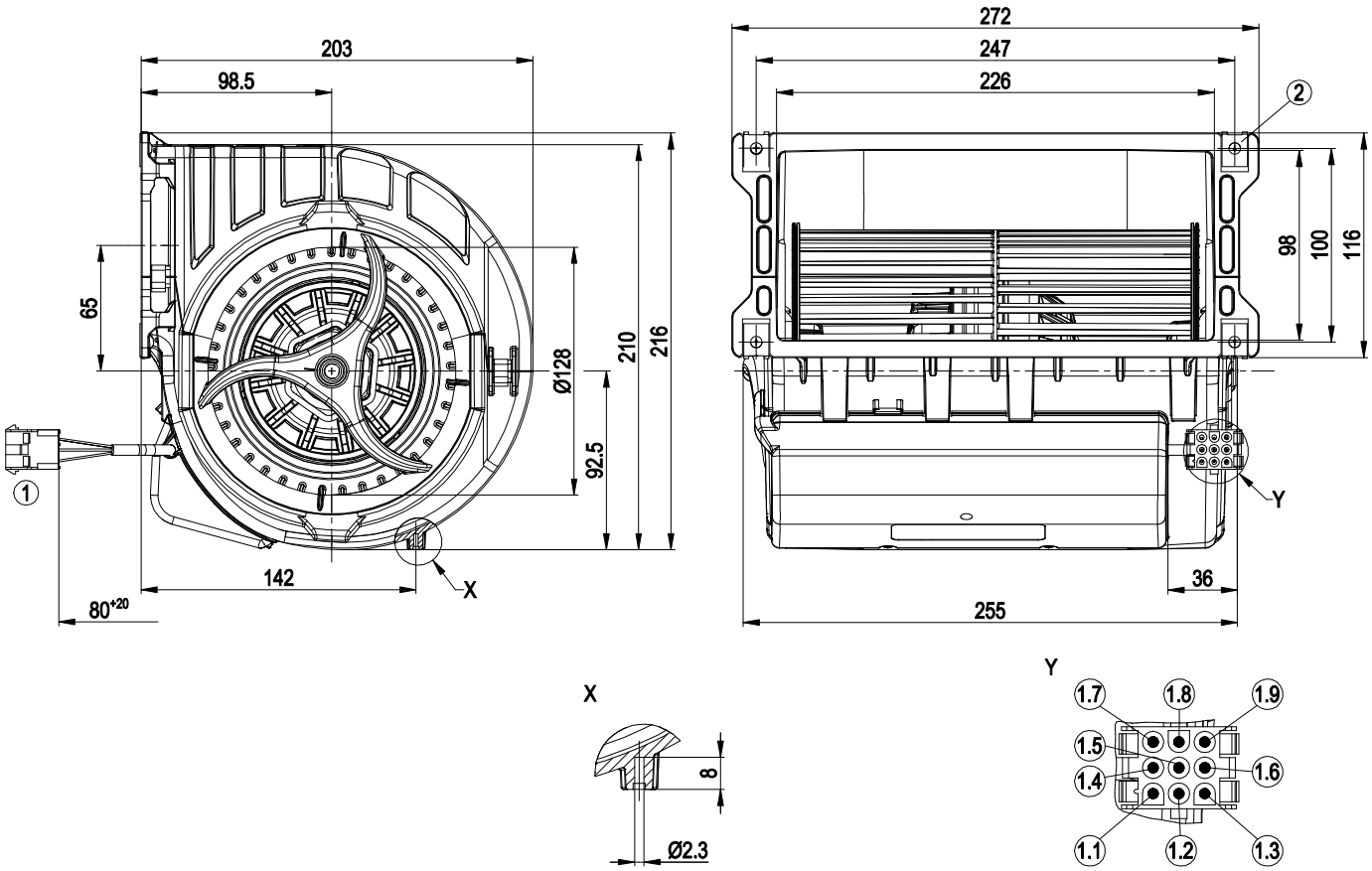
Product drawing



1	Cable ETFE AWG20, 1x plug pin tyco 926886-1, cable ETFE AWG22, 6x plug pin tyco 926886-1, 1x 9-pole connector housing tyco 927231-5
1.1	Step 1 (min.)
1.2	Step 2
1.3	Step 3
1.4	Step 4
1.5	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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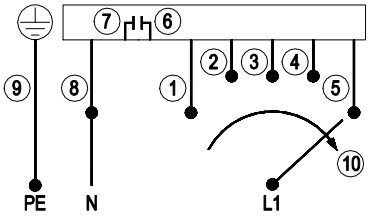
Connection diagram



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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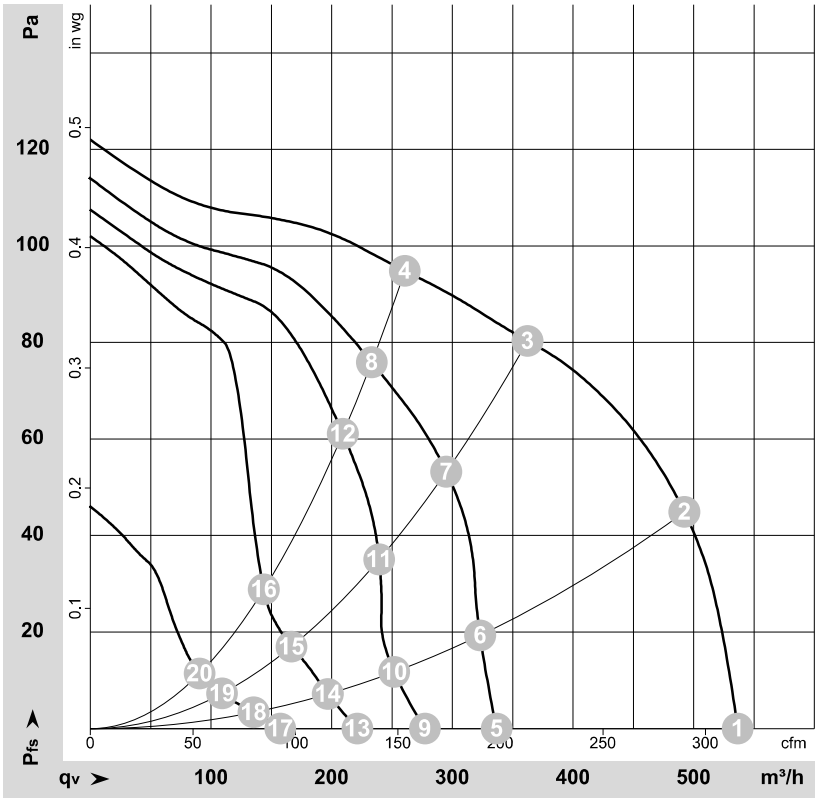
Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-68469-1
Date: 2005-05-19
Nozzle: 65118-2-2945

Measurement: LU-68471-1
Date: 2005-05-19

Measurement: LU-68472-1
Date: 2005-05-19

Measurement: LU-68473-1
Date: 2005-05-19

Measurement: LU-68474-1
Date: 2005-05-19

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	in. wg
1	5	230	50	780	65	0.29	535	0	315	0.00
2	5	230	50	1080	58	0.25	490	45	290	0.18
3	5	230	50	1285	47	0.21	360	80	215	0.32
4	5	230	50	1345	43	0.19	260	95	155	0.38
5	4	230	50	495	54	0.24	335	0	200	0.00
6	4	230	50	690	52	0.23	325	17	190	0.07
7	4	230	50	1050	45	0.21	295	53	175	0.21
8	4	230	50	1215	39	0.18	235	76	135	0.31
9	3	230	50	390	50	0.22	275	0	165	0.00
10	3	230	50	560	48	0.22	250	10	150	0.04
11	3	230	50	870	45	0.21	240	35	140	0.14
12	3	230	50	1085	40	0.19	210	61	125	0.24
13	2	230	50	345	20	0.16	220	0	130	0.00
14	2	230	50	445	20	0.16	195	7	115	0.03
15	2	230	50	605	20	0.16	165	17	100	0.07
16	2	230	50	735	20	0.16	145	26	85	0.10
17	1	230	50	245	13	0.13	155	0	90	0.00
18	1	230	50	315	13	0.13	135	3	80	0.01
19	1	230	50	405	13	0.13	110	7	65	0.03
20	1	230	50	480	13	0.13	90	11	55	0.04

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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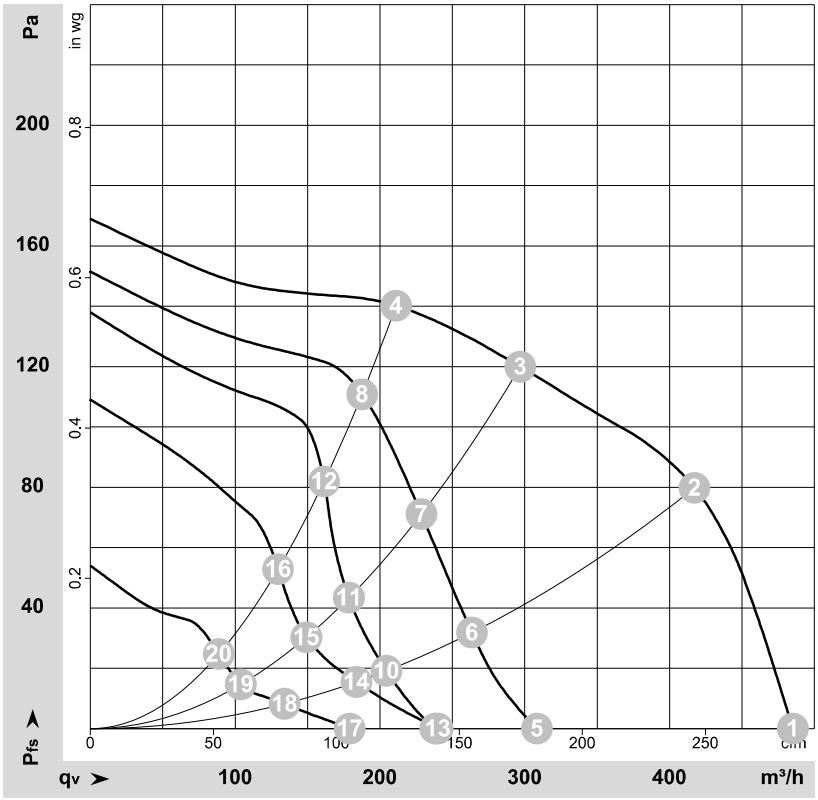
Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-68484-1
Date: 2005-05-19
Nozzle: 65118-2-2945

Measurement: LU-68487-1
Date: 2005-05-20

Measurement: LU-68490-1
Date: 2005-05-20

Measurement: LU-68493-1
Date: 2005-05-20

Measurement: LU-68495-1
Date: 2005-05-20

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	in. wg
1	5	230	60	710	68	0.30	485	0	285	0.00
2	5	230	60	1300	61	0.28	415	80	245	0.32
3	5	230	60	1520	53	0.25	295	120	175	0.48
4	5	230	60	1620	47	0.23	210	140	125	0.56
5	4	230	60	465	52	0.24	310	0	180	0.00
6	4	230	60	830	50	0.24	265	31	155	0.12
7	4	230	60	1175	46	0.23	230	71	135	0.29
8	4	230	60	1440	39	0.21	190	111	110	0.45
9	3	230	60	380	47	0.22	240	0	140	0.00
10	3	230	60	620	46	0.22	205	19	120	0.08
11	3	230	60	870	44	0.22	180	40	105	0.16
12	3	230	60	1255	38	0.20	160	84	95	0.34
13	2	230	60	360	23	0.18	240	0	140	0.00
14	2	230	60	590	23	0.18	185	15	110	0.06
15	2	230	60	775	22	0.17	150	30	90	0.12
16	2	230	60	1005	22	0.17	130	53	75	0.21
17	1	230	60	280	15	0.14	180	0	105	0.00
18	1	230	60	435	15	0.14	135	8	80	0.03
19	1	230	60	545	15	0.14	105	14	60	0.06
20	1	230	60	695	15	0.14	90	25	50	0.10

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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