D4E146-LV19-12

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-LV19-12**
Motor	**M4E068-CF**

Phase		1~	1~
Nominal voltage	VAC	230	230
Frequency	Hz	50	60
Method of obtaining data		ce	ce
Valid for approval/standard		CE	CE
Speed (rpm)	min^{-1}	1180	1170
Power consumption	W	53	65
Current draw	A	0.24	0.29
Capacitor	µF	2	2
Capacitor voltage	VDB	400	400
Capacitor standard		S2 (CE)	S2 (CE)
Min. back pressure	Pa	60	60
Min. back pressure	inH2O	0.24	0.24
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	55	55
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

AC centrifugal fan

forward-curved, dual-intake

with housing (flange)

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
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; CE

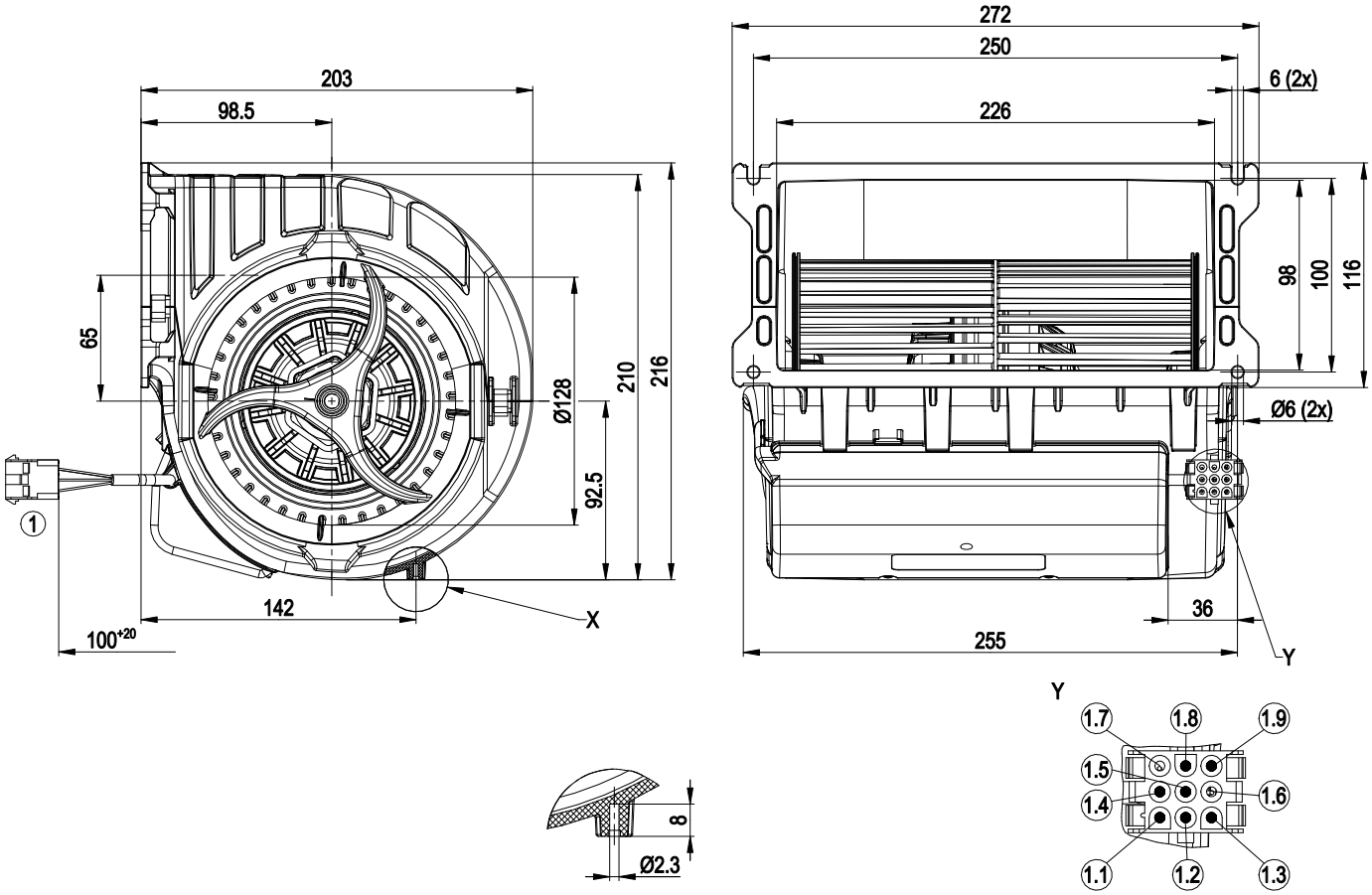
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC centrifugal fan

forward-curved, dual-intake

with housing (flange)

Product drawing



1	Cable ETFE AWG20/AWG22, 9-pole connector housing tyco 927231-5, 7x plug pin tyco 926886-1
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

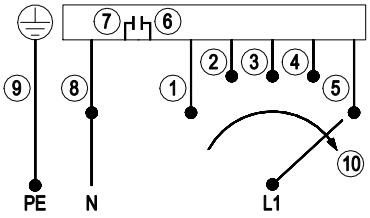
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC centrifugal fan

forward-curved, dual-intake

with housing (flange)

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				

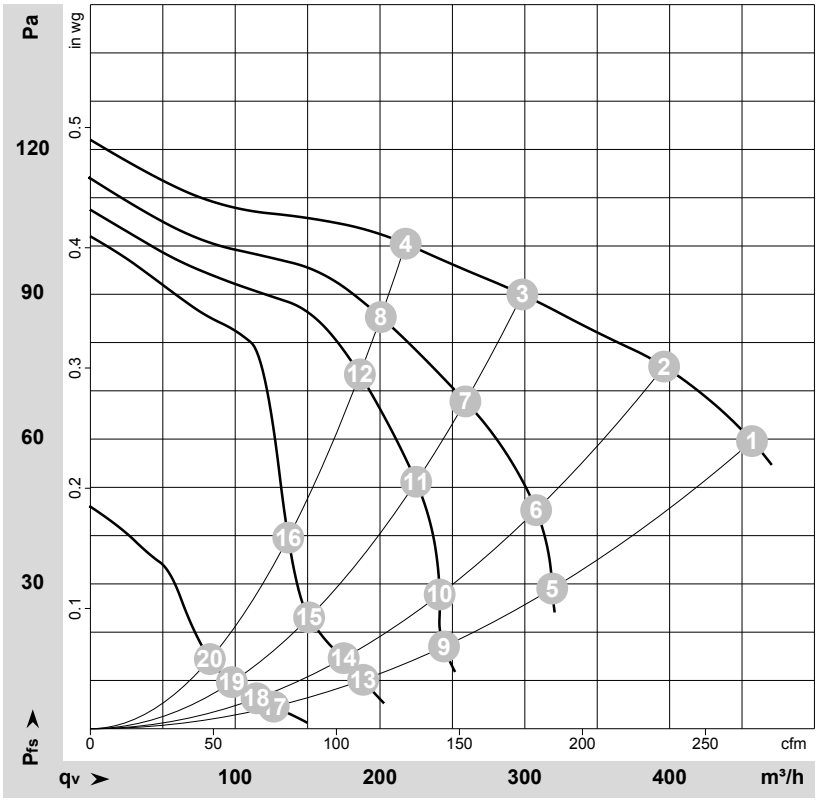
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC centrifugal fan

forward-curved, dual-intake

with housing (flange)

Curves: Air performance 50 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-68469-1
Measurement: LU-68471-1
Measurement: LU-68472-1
Measurement: LU-68473-1
Measurement: LU-68474-1

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	1180	53	0.24	455	60	270	0.24
2	5	230	50	1255	49	0.22	395	75	235	0.30
3	5	230	50	1325	45	0.20	300	90	175	0.36
4	5	230	50	1370	41	0.18	220	100	130	0.40
5	4	230	50	820	50	0.23	320	29	190	0.12
6	4	230	50	985	46	0.21	310	46	180	0.18
7	4	230	50	1160	41	0.19	260	68	150	0.27
8	4	230	50	1265	37	0.17	200	86	120	0.35
9	3	230	50	605	48	0.22	245	13	145	0.05
10	3	230	50	625	48	0.22	240	14	140	0.06
11	3	230	50	1010	42	0.20	225	51	130	0.20
12	3	230	50	1175	37	0.17	185	74	110	0.30
13	2	230	50	490	20	0.16	190	10	110	0.04
14	2	230	50	560	20	0.16	175	15	105	0.06
15	2	230	50	695	20	0.16	150	23	90	0.09
16	2	230	50	845	20	0.15	135	38	80	0.15
17	1	230	50	345	13	0.13	125	5	75	0.02
18	1	230	50	385	13	0.13	115	6	70	0.02
19	1	230	50	445	13	0.13	100	10	60	0.04
20	1	230	50	535	13	0.13	80	14	50	0.06

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

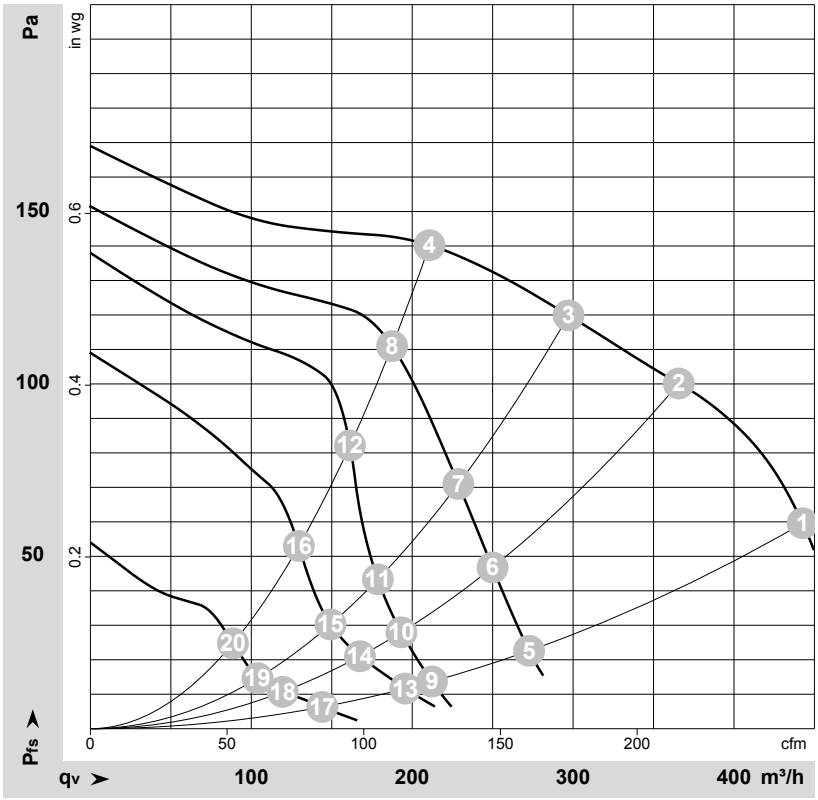
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · D-74673 Mulfingen · Phone +49 (0) 7938 81-0 · Fax +49 (0) 7938 81-110 · info1@de.ebmpapst.com · www.ebmpapst.com

AC centrifugal fan

forward-curved, dual-intake

with housing (flange)

Curves: Air performance 60 Hz



ρ = 1.15 kg/m³ ± 2 %

Measurement: LU-68484-1
Measurement: LU-68487-1
Measurement: LU-68490-1
Measurement: LU-68493-1
Measurement: LU-68495-1

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	1170	65	0.29	445	60	260	0.24
2	5	230	60	1425	57	0.26	365	100	215	0.40
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	735	51	0.24	275	23	160	0.09
6	4	230	60	965	49	0.23	250	47	145	0.19
7	4	230	60	1170	46	0.23	230	71	135	0.29
8	4	230	60	1440	39	0.21	185	111	110	0.45
9	3	230	60	540	46	0.22	210	12	125	0.05
10	3	230	60	730	45	0.22	195	28	115	0.11
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	535	23	0.18	195	12	115	0.05
14	2	230	60	665	23	0.17	170	21	100	0.08
15	2	230	60	775	22	0.17	150	30	90	0.12
16	2	230	60	1010	22	0.17	130	53	75	0.21
17	1	230	60	395	15	0.14	145	6	85	0.02
18	1	230	60	485	15	0.14	120	11	70	0.04
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 = Power supply · f = Frequency · n = Speed (rpm) · P_e = Power consumption · I = Current draw · q_V = Air flow · p_{fs} = Pressure increase

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