D2E146-HT81-33

AC centrifugal fan

forward-curved, dual-intake

with housing (flange)



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Amtsgericht (court of registration) Stuttgart · HRB 590142

Nominal data

Type	**D2E146-HT81-33**
Motor	**M2E068-EC**

Phase		1~	1~
Nominal voltage	VAC	230	230
Frequency	Hz	50	60
Method of obtaining data		fa	ml
Valid for approval/standard		-	-
Speed (rpm)	min^{-1}	1900	2150
Power consumption	W	365	400
Current draw	A	1.60	1.75
Capacitor	µF	8	8
Capacitor voltage	VDB	450	450
Capacitor standard		S2 (CE)	S2 (CE)
Min. back pressure	Pa	0	250
Min. back pressure	inH2O	0	1
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	60	45
Starting current	A	1.8	1.9

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	3.5 kg
Fan size	146 mm
Rotor surface	Partly cast in aluminum
Terminal box material	PP plastic, black
Impeller material	Sheet steel, hot-dip galvanized
Housing material	PP plastic, black
Motor suspension	Motor vibration-damped on both sides
Direction of rotation	Counterclockwise, viewed toward rotor
Degree of protection	IP20
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	Shaft horizontal or rotor on bottom; rotor on top on request
Condensation drainage holes	None, open rotor
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) with basic insulation
With cable	Variable
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

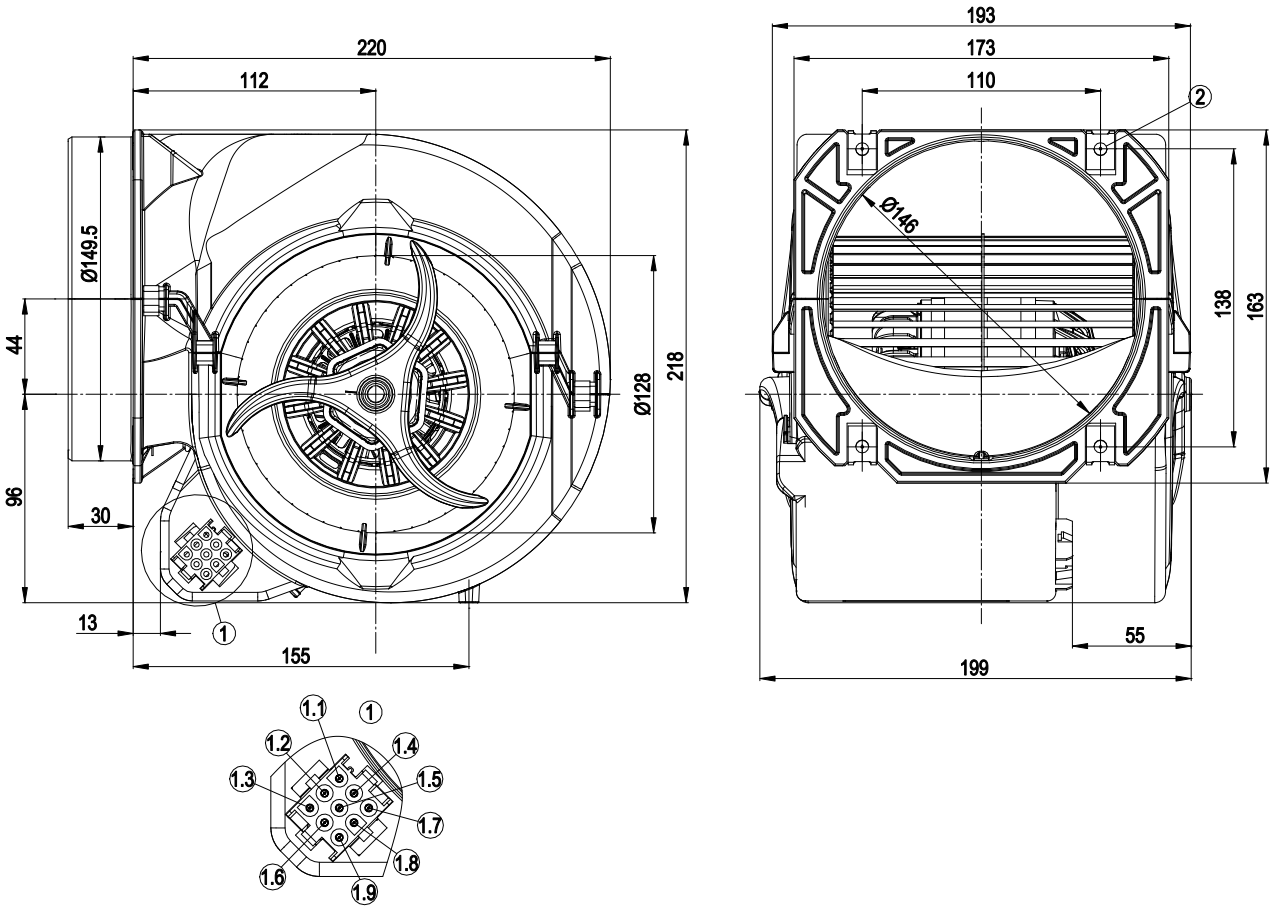
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Product drawing



1	Coded plug system: 9-pole connector housing tyco 927231-5, 7x plug pin tyco 926886-1
1.1	L = step 1
1.2	L = step 2
1.3	L = step 3
1.4	L = step 4
1.5	L = step 5
1.6	TW
1.7	TW
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 mounting)

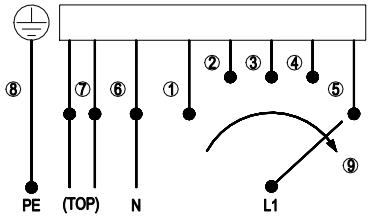
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Connection diagram



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

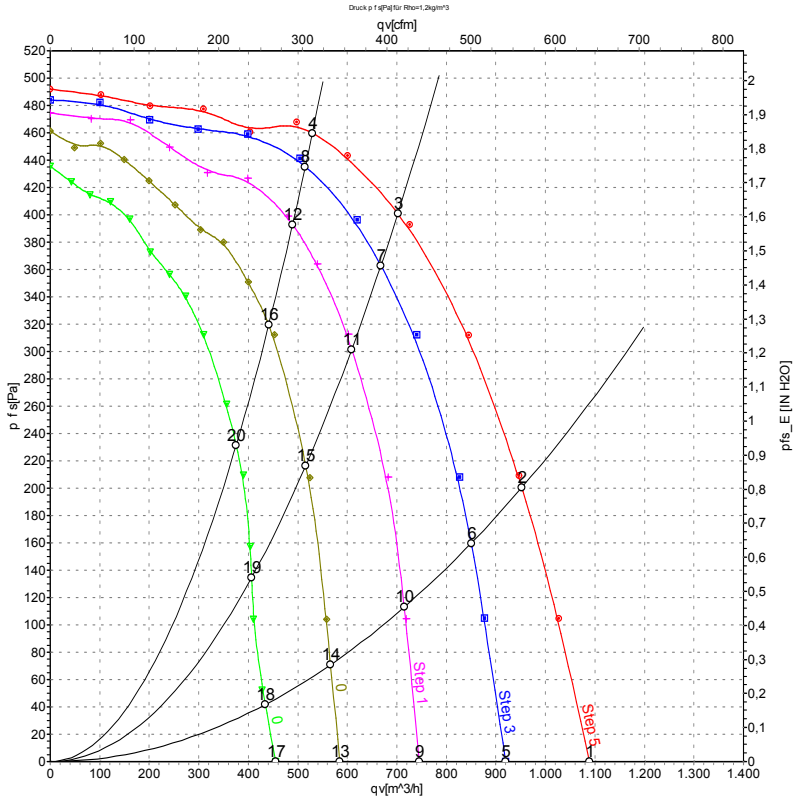
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Curves: Air performance 50 Hz



Measurement: LU-61067-1
Measurement: LU-61069-1
Measurement: LU-61071-1
Measurement: LU-61073-1
Measurement: LU-61075-1

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	1900	365	1.60	1090	0	640	0.00
2	5	230	50	2205	324	1.41	950	200	560	0.80
3	5	230	50	2490	271	1.18	700	400	415	1.61
4	5	230	50	2615	242	1.05	530	460	310	1.85
5	4	230	50	1660	307	1.36	920	0	540	0.00
6	4	230	50	1985	281	1.26	850	160	500	0.64
7	4	230	50	2365	234	1.08	670	363	395	1.46
8	4	230	50	2540	204	0.96	515	437	305	1.75
9	3	230	50	1365	266	1.19	745	0	440	0.00
10	3	230	50	1700	248	1.14	715	117	420	0.47
11	3	230	50	2175	211	1.01	610	304	360	1.22
12	3	230	50	2415	180	0.90	490	394	290	1.58
13	2	230	50	1090	230	1.05	585	0	345	0.00
14	2	230	50	1350	221	1.02	565	73	335	0.29
15	2	230	50	1855	196	0.93	515	221	305	0.89
16	2	230	50	2190	170	0.85	440	321	260	1.29
17	1	230	50	865	205	0.93	455	0	270	0.00
18	1	230	50	1040	200	0.92	435	40	255	0.16
19	1	230	50	1460	186	0.87	405	135	240	0.54
20	1	230	50	1865	167	0.81	375	232	220	0.93

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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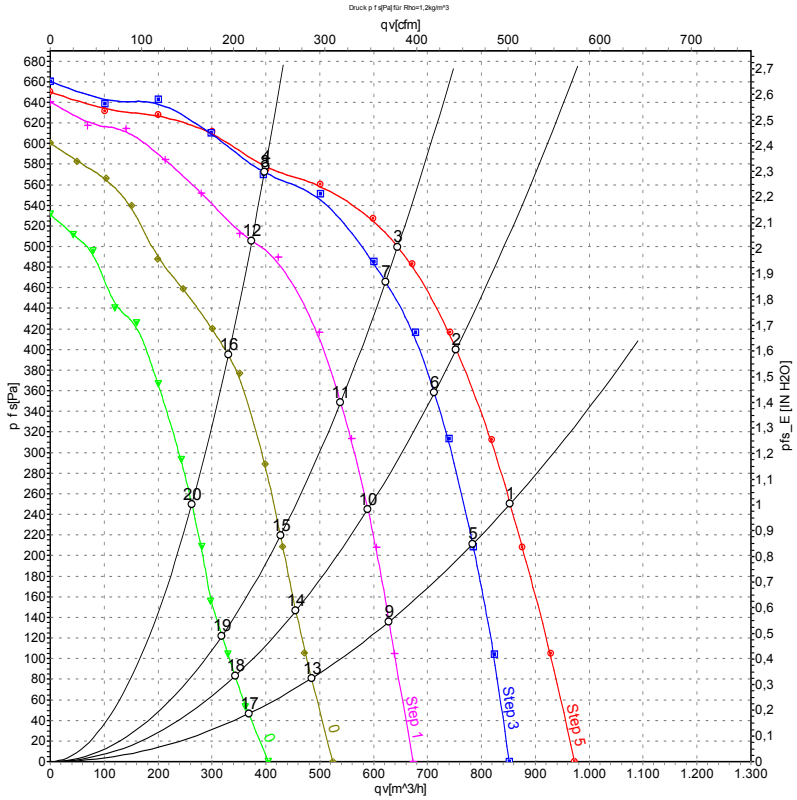
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Curves: Air performance 60 Hz



Measurement: LU-61068-1
Measurement: LU-61070-1
Measurement: LU-61072-1
Measurement: LU-61074-1
Measurement: LU-61076-1

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	2150	400	1.75	855	250	500	1.00
2	5	230	60	2500	380	1.66	755	400	445	1.61
3	5	230	60	2710	366	1.60	645	500	380	2.01
4	5	230	60	2990	334	1.48	400	575	235	2.31
5	4	230	60	2045	327	1.50	785	213	460	0.86
6	4	230	60	2365	311	1.45	715	358	420	1.44
7	4	230	60	2630	291	1.40	620	466	365	1.87
8	4	230	60	2985	254	1.30	400	569	235	2.28
9	3	230	60	1660	269	1.27	630	136	370	0.55
10	3	230	60	1975	258	1.25	590	245	345	0.98
11	3	230	60	2285	244	1.22	540	349	315	1.40
12	3	230	60	2795	208	1.14	375	505	220	2.03
13	2	230	60	1275	226	1.09	485	79	285	0.32
14	2	230	60	1540	221	1.08	455	146	270	0.59
15	2	230	60	1835	214	1.06	425	220	250	0.88
16	2	230	60	2465	186	1.01	330	395	195	1.59
17	1	230	60	1030	194	0.95	370	45	215	0.18
18	1	230	60	1200	191	0.94	345	83	200	0.33
19	1	230	60	1390	188	0.94	320	122	185	0.49
20	1	230	60	2000	172	0.91	265	250	155	1.00

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