

D2E146-HS97-03

AC centrifugal fan

forward curved, dual inlet

with housing (flange)

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County court Stuttgart · HRB 590142



Nominal data

Type	D2E146-HS97-03		
Motor	M2E068-DF		
Phase		1~	1~
Nominal voltage	VAC	230	230
Frequency	Hz	50	60
Type of data definition		fa	ml
Valid for approval / standard		CE	CE
Speed	min ⁻¹	1350	1750
Power input	W	195	215
Current draw	A	0.86	0.94
Motor capacitor	µF	5	5
Capacitor voltage	VDB	400	400
Capacitor standard		P2 (CE)	P2 (CE)
Min. back pressure	Pa	0	150
Min. ambient temperature	°C	-25	-25
Max. ambient temperature	°C	45	40

ml = Max. load · me = Max. efficiency · fa = Running at free air · cs = Customer specs · cu = Customer unit
Subject to alterations

Data according to ErP directive

Installation category	A
Efficiency category	Static
Variable speed drive	No
Specific ratio*	1.00

* Specific ratio = $1 + p_g / 100\,000\text{ Pa}$

		Actual	Request 2013	Request 2015
Overall efficiency η_{es}	%	25.6	25.6	32.6
Efficiency grade N		37	37	44
Power input P_e	kW	0.16		
Air flow q_v	m ³ /h	455		
Pressure increase p_{fs}	Pa	331		
Speed n	min ⁻¹	2315		

Data definition with optimum efficiency.

The ErP data is determined using a motor-impeller combination in a standardised measurement configuration.



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Technical features

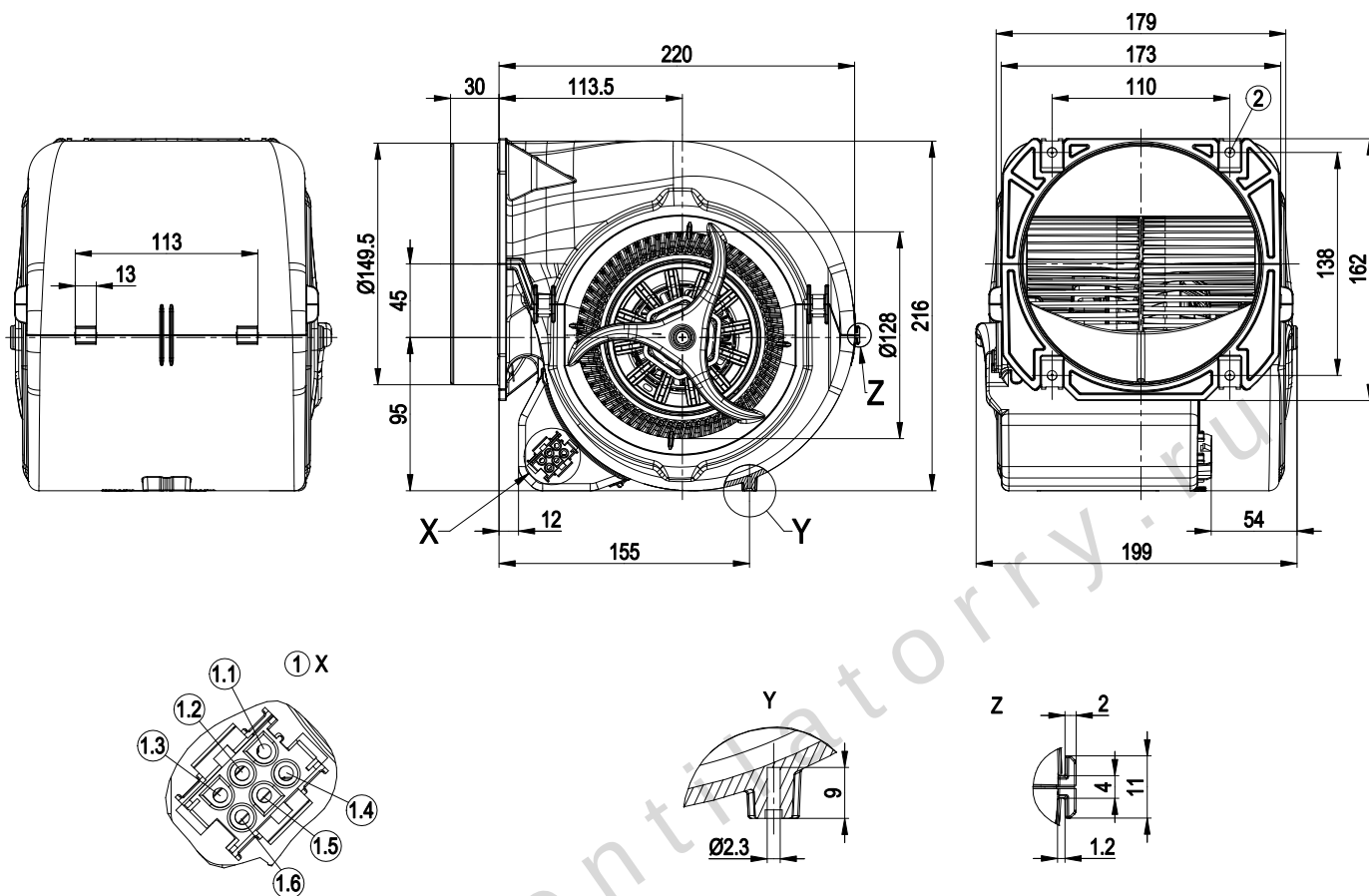
Mass	3 kg
Size	146 mm
Surface of rotor	Partially cast in aluminium
Material of terminal box	PP plastic, black
Material of impeller	PP plastic, white
Housing material	PP plastic, black
Motor suspension	Motor anti-vibration mounted on both sides
Direction of rotation	Counter-clockwise, seen on rotor
Type of protection	IP 20
Insulation class	"F"
Humidity class	F0
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Mounting position	Any
Condensate discharge holes	None, open rotor
Operation mode	S1
Motor bearing	Ball bearing
Speed steps	4
Touch current acc. IEC 60990 (measuring network Fig. 4, TN system)	< 0.75 mA
Electrical leads	Via terminal box, integrated capacitor connected via terminal box; With plug
Motor protection	Thermal overload protector (TOP) wired internally
Cable exit	Variable
Protection class	I (if protective earth is connected by customer)
Product conforming to standard	EN 60335-2-31; CE
Approval	VDE; CCC

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Product drawing



1	AMP Universal Mate-N-Lok coded plug system; connector shell: AMP 926 682-3; 6x plug pin: AMP 926 886-1
1.1	L = stage 1
1.2	L = step 2
1.3	L = stage 3
1.4	L = stage 4
1.5	N
1.6	Protective earth
2	4 x sheet metal nut for thread EN ISO 1478-ST4.8 (min. screw length 14.5 mm plus thickness of mounting material)

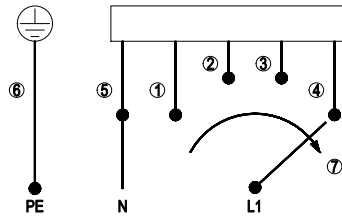
D2E146-HS97-03

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Connection screen



When changing speeds, switch must break the circuit

1	Step 1 (min.)	2	Step 2	3	Step 3
4	Step 4 (max.)	5	N	6	PE protective earth
7	Speed increase				

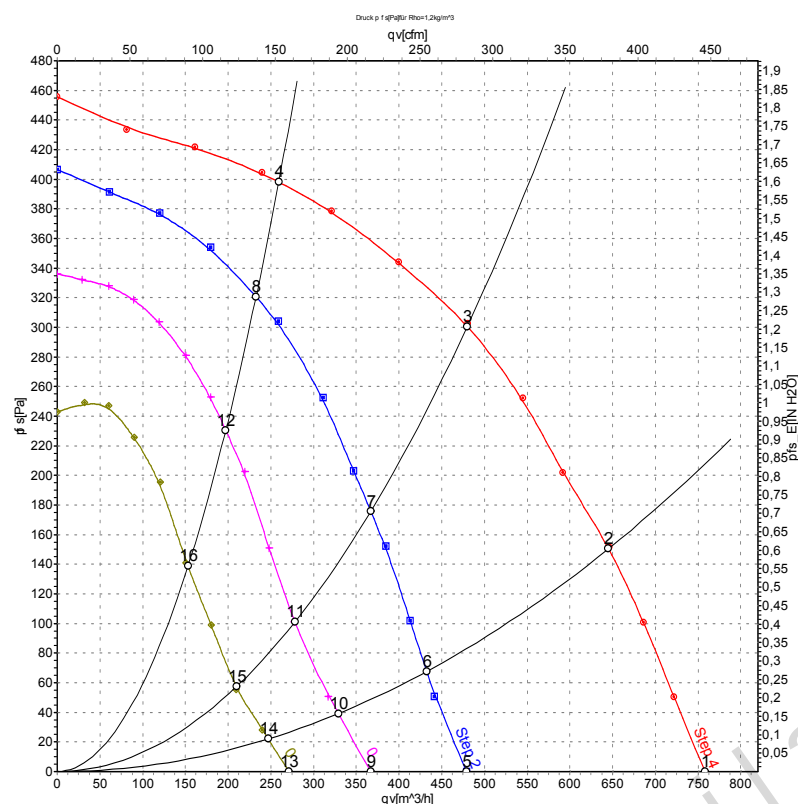
D2E146-HS97-03

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Charts: Air flow 50 Hz



Measurement: LU-72087
Measurement: LU-72089
Measurement: LU-72091
Measurement: LU-72094

Air performance measured as per ISO 5801
Installation category A. For detailed
information on the measuring set-up, please
contact ebm-papst. Suction-side noise
levels: L_{wA} measured as per ISO 13347 /
L_{pA} measured with 1m distance to fan axis.
The values given are valid under the
measuring conditions mentioned above and
may vary according to the actual installation
situation. With any deviation from the
standard set-up, the specific values have to
be checked and reviewed with the unit
installed.

Measured values

	Stage	U	f	n	P _e	I	L _{pA_{in}}	L _{wA_{in}}	qv	p _{fs}
		V	Hz	min ⁻¹	W	A	dB(A)	dB(A)	m³/h	Pa
1	4	230	50	1350	195	0.86	53	65	760	0
2	4	230	50	1795	185	0.81	53	65	645	150
3	4	230	50	2200	169	0.75	55	67	480	300
4	4	230	50	2520	146	0.65	58	70	260	400
5	3	230	50	875	128	0.61	42	54	480	0
6	3	230	50	1215	125	0.60	43	55	430	67
7	3	230	50	1680	116	0.58	49	61	365	176
8	3	230	50	2255	94	0.52	56	68	235	321
9	2	230	50	660	109	0.53	35	46	365	0
10	2	230	50	915	106	0.52	36	48	330	38
11	2	230	50	1280	102	0.51	43	54	280	100
12	2	230	50	1920	88	0.48	52	64	195	230
13	1	230	50	510	95	0.47	27	39	270	0
14	1	230	50	715	94	0.47	28	40	245	22
15	1	230	50	960	92	0.46	34	46	210	55
16	1	230	50	1515	85	0.44	46	58	155	138

U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · L_{pA_{in}} = Sound pressure level inlet side · L_{wA_{in}} = Sound power level inlet side · qv = Air flow
p_{fs} = Pressure increase

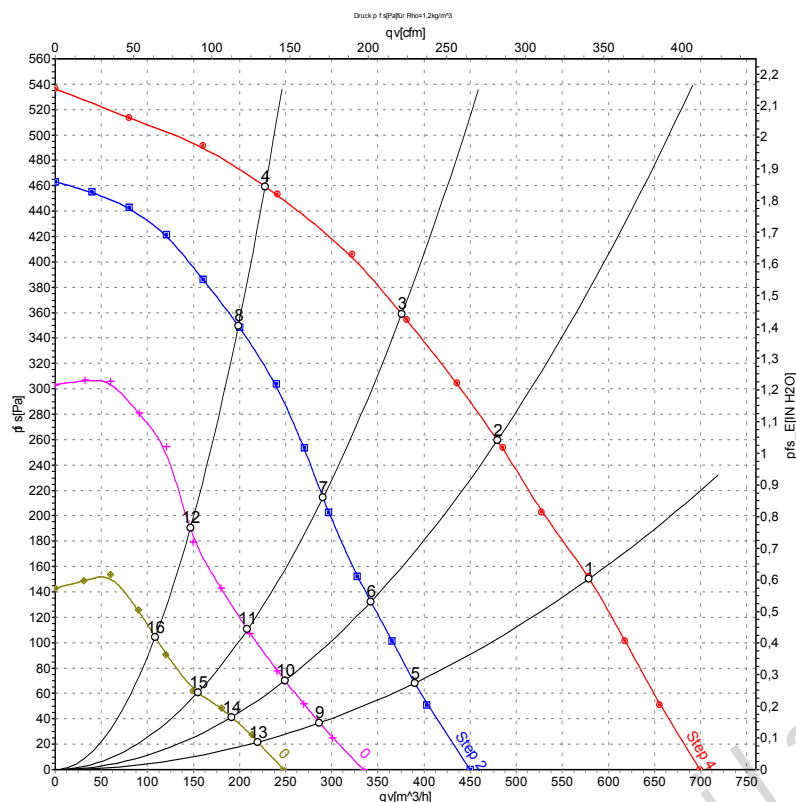
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Charts: Air flow 60 Hz



Measurement: LU-72088
Measurement: LU-72090
Measurement: LU-72092
Measurement: LU-72095

Air performance measured as per ISO 5801
Installation category A. For detailed
information on the measuring set-up, please
contact ebm-papst. Suction-side noise
levels: LwA measured as per ISO 13347 /
LpA measured with 1m distance to fan axis.
The values given are valid under the
measuring conditions mentioned above and
may vary according to the actual installation
situation. With any deviation from the
standard set-up, the specific values have to
be checked and reviewed with the unit
installed.

Measured values

	Stage	U	f	n	P _e	I	qv	P _{fs}
		V	Hz	min ⁻¹	W	A	m³/h	Pa
1	4	230	60	1750	215	0.94	580	150
2	4	230	60	2060	212	0.93	480	260
3	4	230	60	2380	208	0.91	375	360
4	4	230	60	2710	201	0.89	230	460
5	3	230	60	1175	131	0.67	390	68
6	3	230	60	1485	129	0.67	340	132
7	3	230	60	1855	125	0.66	290	214
8	3	230	60	2365	114	0.65	200	350
9	2	230	60	890	106	0.57	285	37
10	2	230	60	1100	105	0.57	250	70
11	2	230	60	1365	104	0.57	210	110
12	2	230	60	1835	99	0.56	145	187
13	1	230	60	665	92	0.50	220	22
14	1	230	60	820	91	0.50	190	41
15	1	230	60	1010	90	0.50	155	60
16	1	230	60	1325	88	0.50	110	104

U = Supply voltage · f = Frequency · n = Speed · P_e = Power input · I = Current draw · qv = Air flow · P_{fs} = Pressure increase