W2E200-HK38-C01/B1

AC axial compact fan

sickled blades (S series)

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

Nominal data

Type	**W2E200-HK38-C01/B1**		
Motor	**M2E068-BF**		
Phase		1~	1~
Nominal voltage	[V]	230	230
Frequency	[Hz]	50	60
Type of data definition		rfa	rfa
Valid for approval / standard		CE	CE
Speed	[min^{-1}]	2550	2800
Power input	[W]	64	80
Current draw	[A]	0.29	0.35
Motor capacitor	[µF]	1.5	1.5
Capacitor voltage	[VDB]	450	450
Capacitor standard		P0 (CE)	P0 (CE)
Max. back pressure	[Pa]	80	95
Max. ambient temperature	[°C]	60	65
Sound pressure level	dB(A)	59	61

ml = max. load · me = max. efficiency · rfa = running at free air · cs = customer specs · cu = customer unit

Subject to alterations

voltage range:230VAC +10%/-15%, according to EN60035-1

high voltage test: AC 2000V/1 sec, leakage current < 30mA

AC axial compact fan

sickled blades (S series)

Technical features

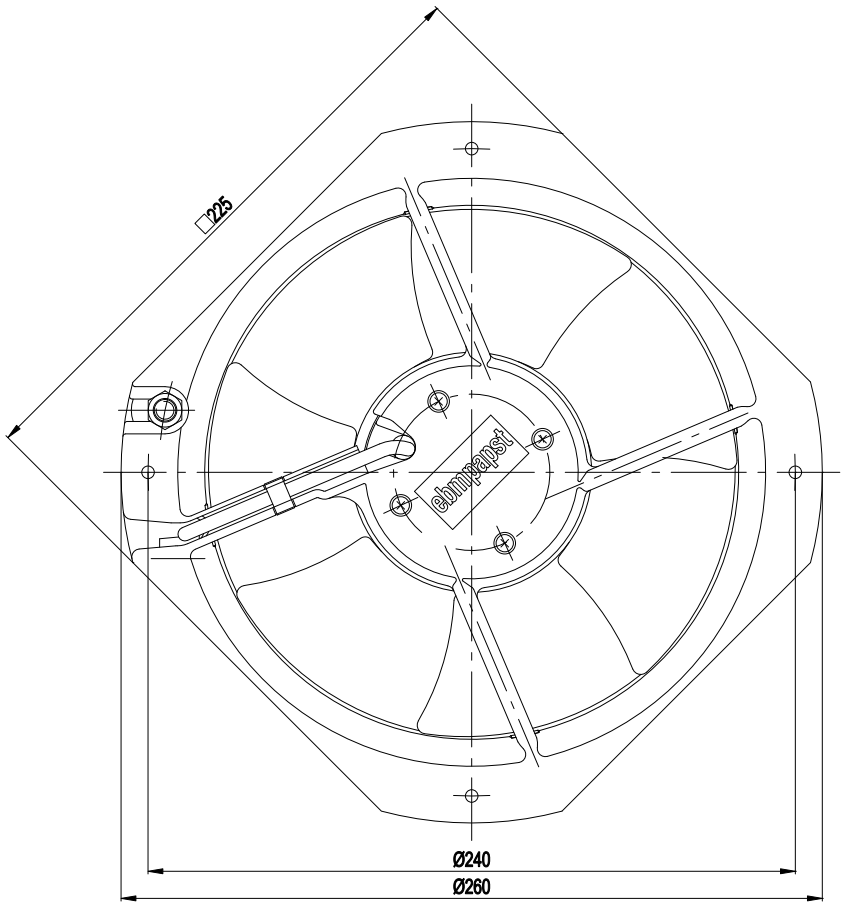
Leackage current	< 0.75 mA
Size	200 mm
Operation mode	S1
Direction of rotation	Counter-clockwise, seen on rotor
Mounting position	Any
Electrical leads	Via terminal strips, integrated capacitor connected via terminal strips
Humidity class	F0
Direction of air flow	"V"
Insulation class	"B"
Cable exit	Variable
Condensate discharge holes	None
Bearing motor	Ball bearing
Mass	2.1 kg
Material of blades	Sheet steel, coated in black
Material of wall ring	Die-cast aluminium
Motor protection	Thermal overload protector (TOP) wired internally
Product conforming to standard	CE; EN 60335-1
Surface of rotor	Coated in black
Number of blades	7
Type of protection	IP 44; Depending on installation and position
Protection class	I
Max. permissible ambient motor temp. (transp./ storage)	+ 80 °C
Min. permissible ambient motor temp. (transp./storage)	- 40 °C
Approval	CCC; CSA C22.2 Nr.77; GOST; UL 2111; VDE

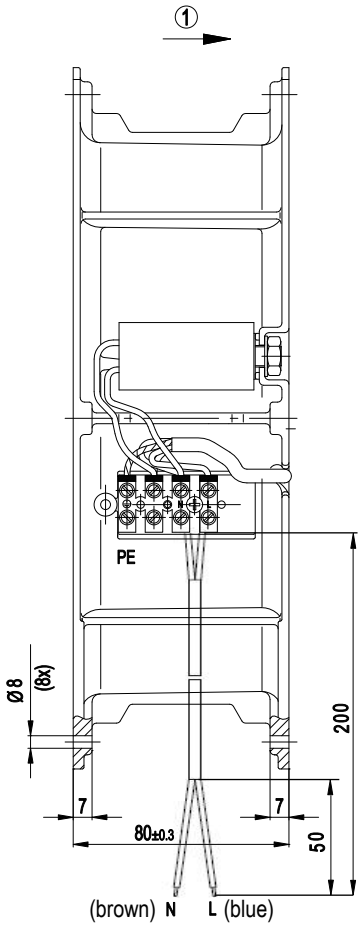
ebm-papst Mulfingen GmbH & Co. KG · Bachmühle 2 · 74673 Mulfingen · Phone: +49 7938 81-0 · Fax: +49 7938 81-110 · www.ebmpapst.com · info1@de.ebmpapst.com

AC axial compact fan

sickled blades (S series)

Product drawing





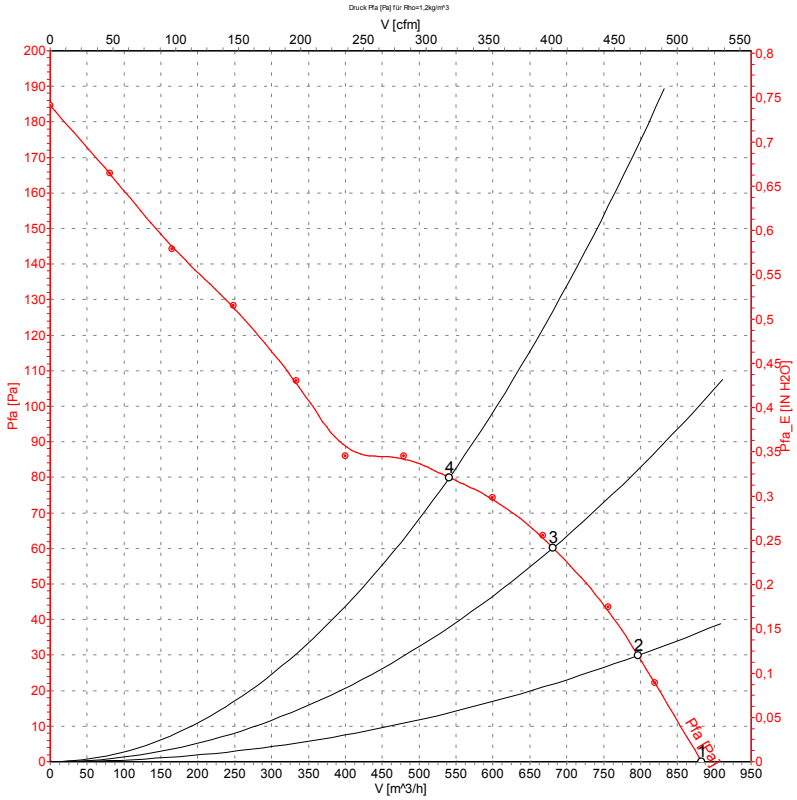
1	Direction of air flow "V"

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

AC axial compact fan

sickled blades (S series)

Charts: Air flow 50 Hz



Measurement: LU-62128

Measured values

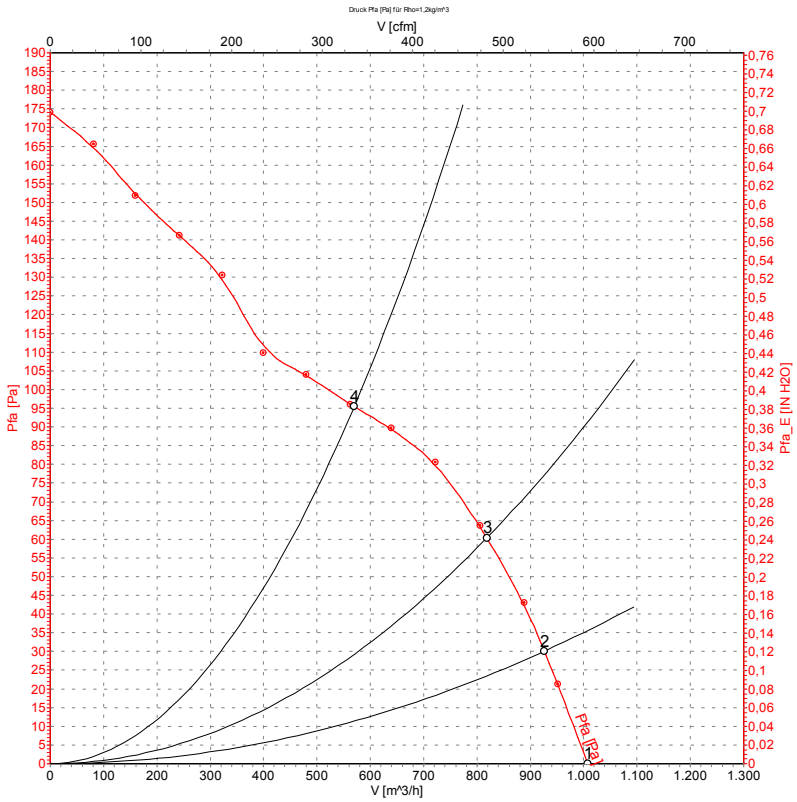
	U	f	n	P_1	I	$\dot{V}$	p_{fa}
	[V]	[Hz]	[min^{-1}]	[W]	[A]	[m^3/h]	[Pa]
1	230	50	2630	60	0.30	880	0
2	230	50	2585	64	0.31	795	30
3	230	50	2530	66	0.31	680	60
4	230	50	2480	69	0.32	540	80

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

AC axial compact fan

sickled blades (S series)

Charts: Air flow 60 Hz



Measurement: LU-62129

Measured values

	U	f	n	P_1	I	$\dot{V}$	p_{fa}
	[V]	[Hz]	[min^{-1}]	[W]	[A]	[m^3/h]	[Pa]
1	230	60	3000	70	0.31	1000	0
2	230	60	2935	73	0.32	925	30
3	230	60	2850	77	0.34	820	60
4	230	60	2705	83	0.36	570	95

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

Temperature test

Guidlines: VDE 0530 Teil 1 Abschnitt 15 u. VDE 0730 Teil 1 §12
Resistance methode

ebmpapst

Date:	2009.12.11	Handeld by:	Nash	Project-No:	
Customer:	EBMPAPST	Application:		Test No:	
Type:	W2E200HK38C01	Motor:		Housing:	
Voltage [V]:	230	Frequency [Hz]:	50	Cpacitator [mF]:	1.5
Motor Layout:		Rotor No:			
Impeller D [mm]:		Impeller width [mm]:		Impeller No:	
inletring:		wallring:		No of blades:	
fan outlet dimension 1 [mm]:		outlet geometry:		ambient temperature, ta [°C]:	23.8
fan outlet dimension 2 [mm]:		outlet [m²]:		atmospheric pressure, pa [hPa]:	1025
				relatve humidity of air, hu [1]:	0.40
				ambient density of air, ρa [kg/m³]:	1.197

remark:

Start of the Temperature Test:

No.	Measure Place	U~ [V]	f [Hz]	I tot~ [A]	Imw~ [A]	Iaw~ [A]	Smw [A/mm²]	Saw [A/mm²]	P1 [W]	speed [rpm]	cos Φ [1]	Uc~ [V]	Δp_{sF} [Pa]	qv [m³/h]	Rc mw [Ω]	Rc aw [Ω]	$T_{(R\ cold)}$ [°C]
1	SH-A	230.0	50.0		0.389				89.0	2095					146.8	226.6	23.8
	SH-A																
	SH-A																
	SH-A																
	SH-A																
	SH-A																
	SH-A																
	SH-A																
	SH-A																
	SH-A																
	SH-A																
	SH-A																

End of the Temperature Test:

No.	Measure Place	U~ [V]	f [Hz]	I tot~ [A]	Imw~ [A]	Iaw~ [A]	Smw [A/mm²]	Saw [A/mm²]	P1 [W]	speed [rpm]	cos Φ [1]	Uc~ [V]	Δp_{sF} [Pa]	qv [m³/h]	Rc mw [Ω]	Rc aw [Ω]	$T_{(R\ warm)}$ [°C]	ΔT (mw) [K]	ΔT (aw) [K]
1w	SH-A	230.0	50.0		0.375				86.0	2066					174.5	262.8	23.4	49.1	41.7
	SH-A																		
	SH-A																		
	SH-A																		
	SH-A																		
	SH-A																		
	SH-A																		
	SH-A																		
	SH-A																		
	SH-A																		
	SH-A																		
	SH-A																		

U = effective supply voltage
I tot = total curient consumption
Imw = curient consumption main winding
Iaw = curient consumption auxiliary winding
speed = rational speed of impeller
Uc = voltage capacitator
P1 = effective supply power

Δp_{sF} = fan static pressure
qv = Volume flowrate at fan inlet
Rc = cold Resistance of the winding
Rw = warm resistance of the winding
T = temperature
ΔT = temperature rise

Indizes
mw = main winding
aw = auxiliary winding

依必安派特风机（上海）有限公司
ebm-papst Ventilator (Shanghai) Co., Ltd

地址：上海市杨高北路2001号（新海关内）外高桥保税区华京路418号　　邮编：200031
Add: No. 2001 Yang Gao (N) Road, Wai Gao Qiao Free Trade Zone No. 418 Huajing Road, Shanghai, P.R. of China　Post Code: 200031
电话/Tel: +86 (0) 21 - 5046 0183　　传真/Fax: +86 (0) 21 - 5046 1119
电子邮件/E-mail: sales@cn.ebmpapst.com　　网址/Website: www.ebmpapst.com.cn

TECHNICAL INFORMATION

ball bearing life expectancy calculation

ebm-papst Mulfingen GmbH & Co. KG
Postfach 11 61 · 74671 Mulfingen
Telefon 0 79 38 / 81-0
Telefax 0 79 38 / 81-1 10

calculation number:	8846	note:	8846
date:	19.12.2011		
type:	W2E 200-HK38-01		
motor:	M2E 068-BF -		
customer:			

motor date		general data	
voltage [V]:	230	lubricant :	Asonic GHY 72
frequency [Hz]:	50	rotor side ball bearing :	Kugellager
capacitor [µF]	1,5	stator side ball bearing :	Kugellager
power [W]:	61	ambient temperature [°C] :	40
speed [1/min]:	2590	probability a1 :	1

operating pos	rotor above	bearing :	rotor side	coeff. of grease a_{23} :	0,79
nominal life expectancy			L_{nh}	= 82341,49	
modified nominal life expectancy			L_{nah} =a1*a23*L_{nh}	= 65105*	
lubricant life expectancy			t_f	= 64307	

*The life expectancy is limited to 64307 by the lubricant life expectancy.

operating pos	rotor below	bearing :	stator side	coeff. of grease a_{23} :	0,83
nominal life expectancy			L_{nh}	= 82341,49	
modified nominal life expectancy			L_{nah} =a1*a23*L_{nh}	= 68516*	
lubricant life expectancy			t_f	= 64307	

*The life expectancy is limited to 64307 by the lubricant life expectancy.

operating pos	horizontal shaft	bearing:	rotor side	coeff. of grease a_{23} :	0,79
nominal life expectancy			L_{nh}	= 96543,21	
modified nominal life expectancy			L_{nah} =a1*a23*L_{nh}	= 76334*	
lubricant life expectancy			t_f	= 64307	

*The life expectancy is limited to 64307 by the lubricant life expectancy.

This calculation only takes influences into account, which occur within the scope of optimal application of the above motor and ventilator type.
Date of printing:19.12.2011

IDNO	Type	U [V]	f [Hz]	C [uF]	Uc [V]	PWM [%]	Layout	Inst. cat.	Line	Remark
108	W2E200HK38C01						Y	A		230V
108	W2E200HK38C01						Y	A		196V
108	W2E200HK38C01						Y	A		253V

