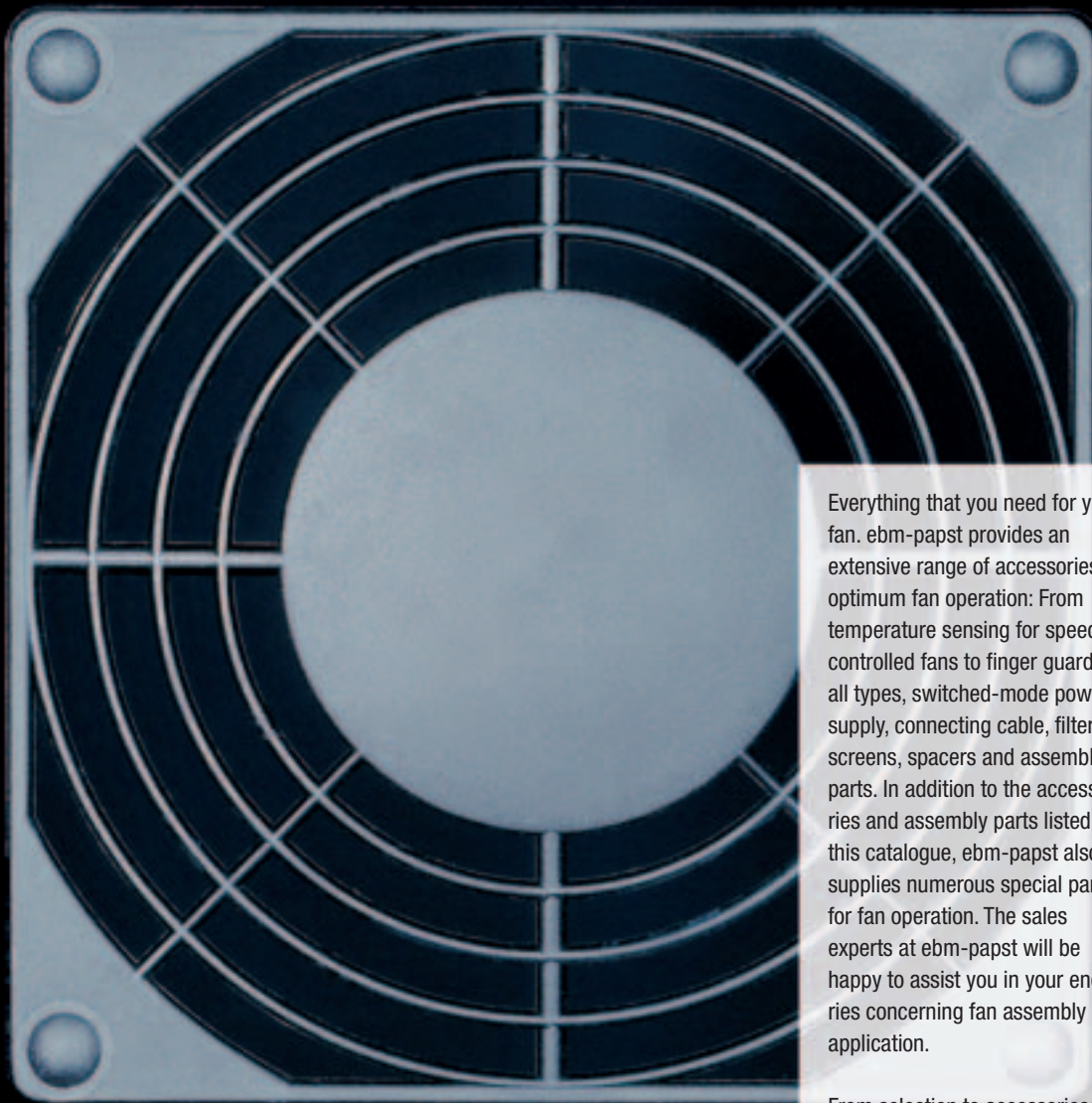


Power Supply	124
Finger Guards	126
Accessories	130



Everything that you need for your fan. ebm-papst provides an extensive range of accessories for optimum fan operation: From temperature sensing for speed-controlled fans to finger guards of all types, switched-mode power supply, connecting cable, filter, screens, spacers and assembly parts. In addition to the accessories and assembly parts listed in this catalogue, ebm-papst also supplies numerous special parts for fan operation. The sales experts at ebm-papst will be happy to assist you in your enquiries concerning fan assembly and application.

From selection to accessories: Insist on the efficient and reliable service provided by ebm-papst.

# Power Supply PS60



- Convection-cooled switched-mode power supply, specially designed for operating electronically commutated fans or motors.
- Up to 6 consumers with a total of 60 watts power consumption can be directly connected to the output plug connector.
- 24 V DC nominal voltage. Output voltage adjustable from 12 to 24 V via external resistor or potentiometer.
- Temperature-dependent fan operation. The required voltage is set via an external temperature sensor.
- Plastic housing.

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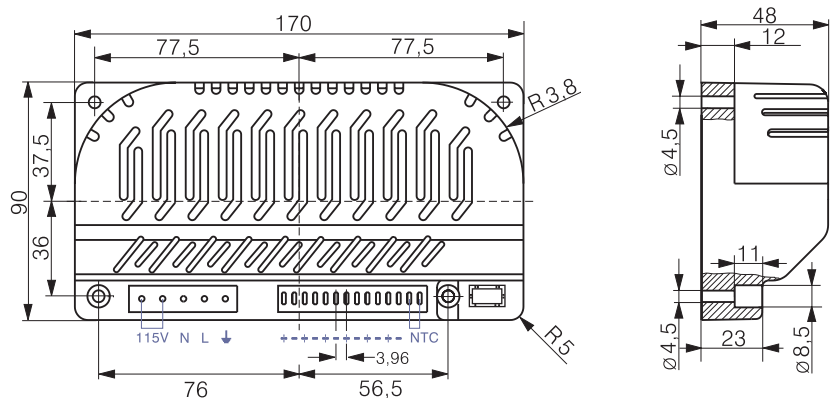
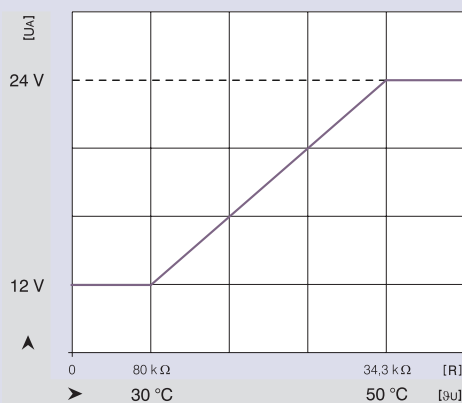
The power unit features a control input for selecting the voltage. The output voltage can be set via an external resistor from 12 to 24 V. When using a 100 kΩ NTC sensor (Accessory LZ 370) a temperature/voltage curve of 30 to 50 °C is produced. An efficient and practice-oriented reduction of the air flow performance and noise emitted by the fan can be achieved in this temperature range.

If the control input is open or the sensor has been torn off, 24 V DC are available at the output.

Option: PCB with additional functions e.g. speed monitoring with alarm signal output for critical speeds.

The power unit is an integrated device. For installation and operation, observe the relevant DIN/VDE (German Industrial Standards/Association of German Electricians) and country-specific regulations.

For optimum cooling vertical assembly; observe clearance of min. 80 mm. The place of installation must fulfill the conditions for fireproof housings as per EN 60335 and EN 60950. Installation should only be carried out by skilled personnel.



Electrical connection	Mains input:	N / L / PE Bridge for 115 V mains voltage
	Outputs:	6x plus / minus
	Connection:	Standard plug e.g.: AMP MTA-connector SL156
Nominal input voltage	115 V AC 60 Hz or 230 V AC 50 Hz switchable	
Voltage range	110 V AC (-10 % + 15 %)	57 Hz ... 63 Hz
110 V nominal voltage	Operation down to 90 VAC with limited output	
Voltage range	230 V AC (-20 % + 15 %)	47 Hz ... 53 Hz
230 V Nominal voltage		
Nominal output voltage	24 V $\pm$ 2 %	(12 ... 24 V $\pm$ 2 %)
Starting inrush current	< 20 A (cold start)	
Control line / load	$\leq$ 0.2 %	$\leq$ 0.1 %
Output current / output power	2.5 A with UA = 24 V 1.25 A with UA = 12 V	60 W with UA = 24 V 30 W with UA = 12 V
Operating efficiency	> 85 % at nominal load	
Reliability (Siemens Standard)	L10 = 70 000 h at 40 °C / 40 000 h at 70 °C	
Protection type and class	IP 20 / 1	
Degree of contamination	2 (EN 50178)	
Galvanic separation	3000 V AC	
Basic safety standards	EN 60950 / VDE 0805 / UL 1950 / CE	
Protective functions	Output – free running and short circuit proof	
Operating mode	Continuous operation	
Operating temperature	-25 °C ... +55 °C	
Max. operating temperature	+ 70 °C housing temperature	
EMV: Emission / noise immunity	EN 50081-1 / EN 50081-2	
Mass	300 g	

# Finger Guards

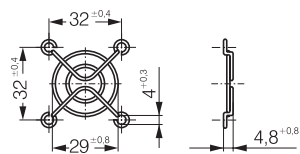


- Finger guards as per EN 294, of rust-proof steel wire for equipment fans.
- Further finger guards that do not conform to EN 294 can be supplied on request.

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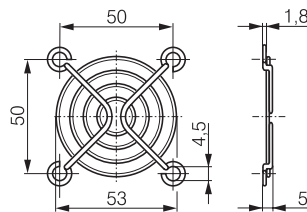
LZ29-1

Fan series 400



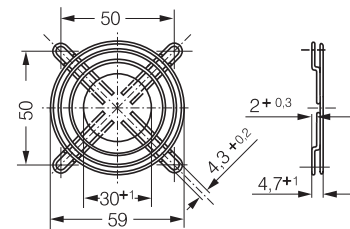
LZ31

Fan series 500



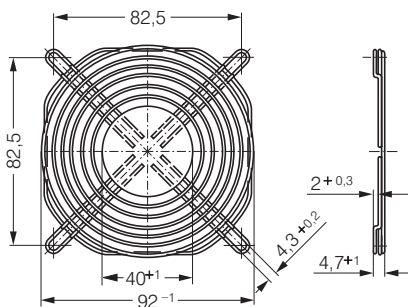
LZ28-1

Fan series 600



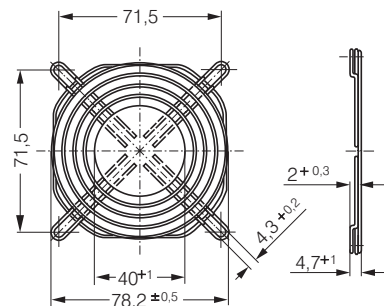
LZ23-1

Fan series 3000



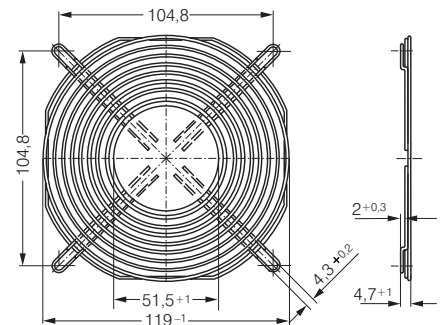
LZ32-4

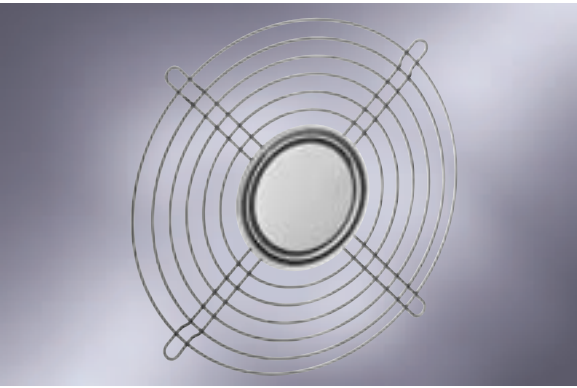
Fan series 8000



LZ30-4

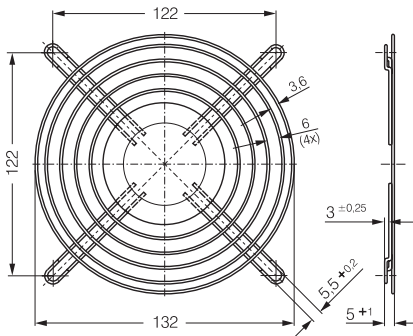
Fan series 9000/4000



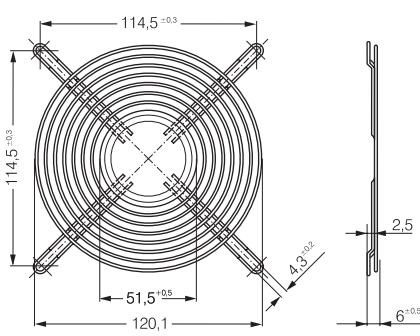


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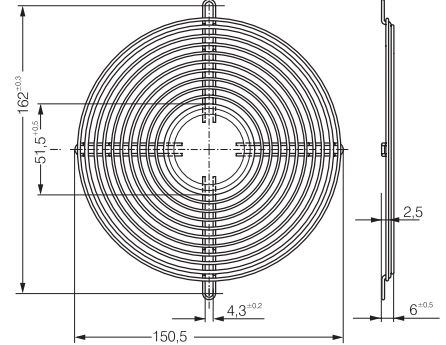
**LZ25** Fan series 5100/5600



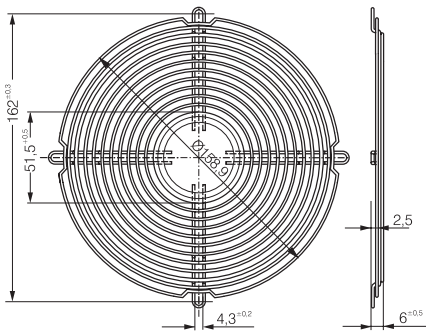
**LZ35** Fan series 5200/5900



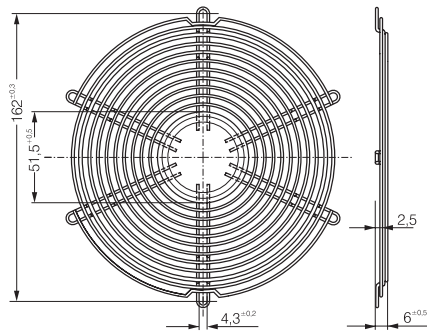
**LZ36** Fan series 7000



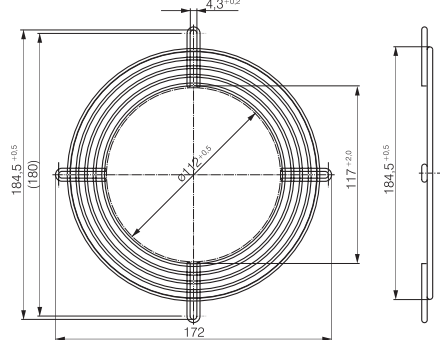
**LZ37** Fan series 6000



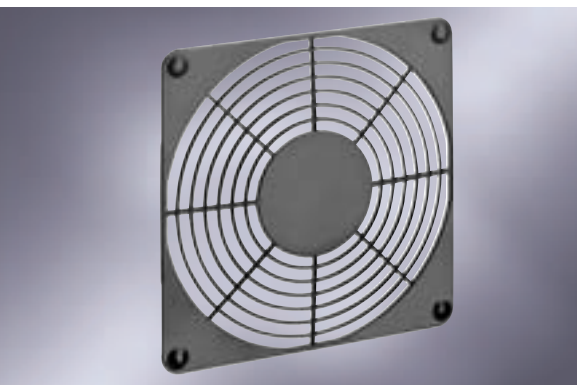
**LZ38** Fan series 6400



**LZ39** Fan series DV 6200



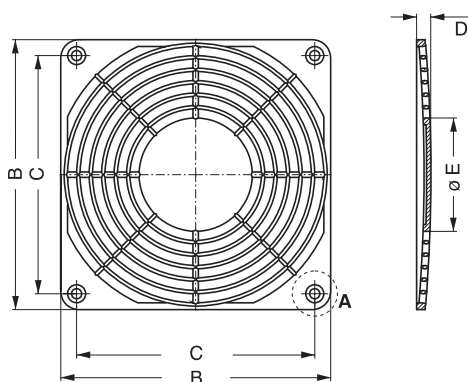
# Finger Guards



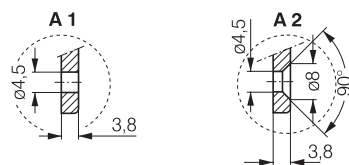
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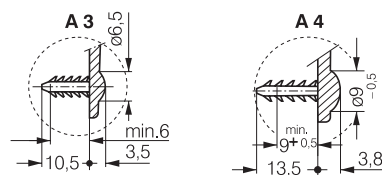
Fan series	Finger Guards	Fan series	Finger Guards	Finger Guards	Mounting	B	C	D	E
8000	LZ32-2	4000	LZ30-5	LZ32-2	A1	80 <sup>-0.5</sup>	71.5 <sup>±0.2</sup>	7.0	34
8000	LZ32-3	4000	LZ30-6	LZ32-3	A3	80 <sup>-0.5</sup>	71.5 <sup>±0.2</sup>	7.0	34
8000	LZ32P	4000	LZ30P	LZ23-2	A1	92.5 <sup>-0.5</sup>	82.5 <sup>±0.2</sup>	6.5	46
3000	LZ23-2	5200	LZ33-1	LZ23-3	A3	92.5 <sup>-0.5</sup>	82.5 <sup>±0.2</sup>	6.5	46
3000	LZ23-3	5200	LZ33-2	LZ30-5	A2	119 <sup>-0.5</sup>	105 <sup>±0.2</sup>	6.5	50
9000	LZ30-5	5900	LZ33-1	LZ30-6	A4	119 <sup>-0.5</sup>	105 <sup>±0.2</sup>	6.5	50
9000	LZ30-6	5900	LZ33-2	LZ33-1	A2	127 <sup>-0.5</sup>	113.5 <sup>±0.2</sup>	6.5	50
9000	LZ30P	RG125	LZ34	LZ33-2	A4	127 <sup>-0.5</sup>	113.5 <sup>±0.2</sup>	6.5	50



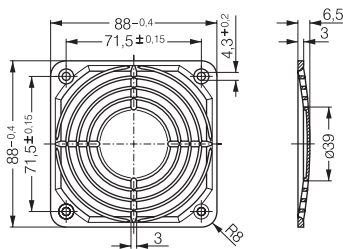
### Screw connection



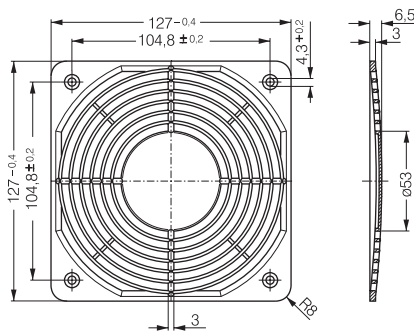
### Barbed inserts



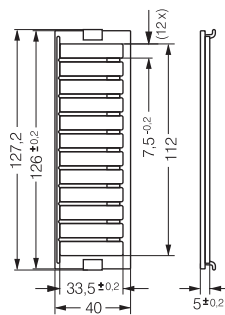
### LZ32P

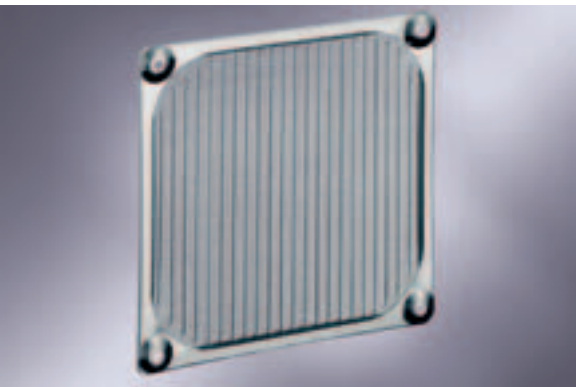


### LZ30P



### LZ34



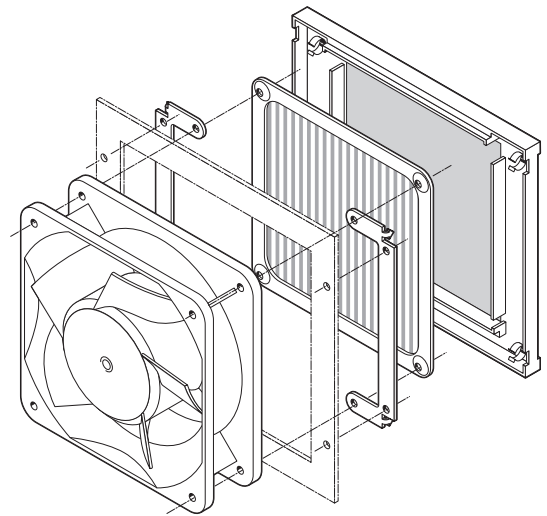


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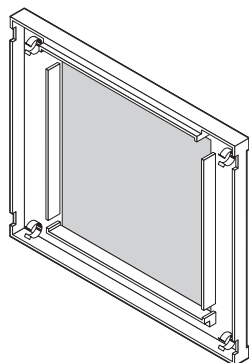
Fan series	Finger Guards
8300	LZ212
8300	LZ260
8400	LZ261
3300	LZ212
3300	LZ260
9000	LZ210
9000	LZ40N

Fan series	Finger Guards
9000	LZ40-1
9000	LZ60
4000	LZ210
4000	LZ40N
4000	LZ40-1
4000	LZ60
4300	LZ212

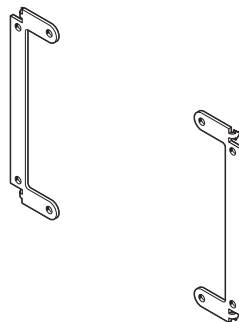
Fan series	Finger Guards
4300	LZ260
5100	LZ210
5600	LZ210
5200	LZ210
5900	LZ210
7000	LZ210
VARIOFAN	LZ370



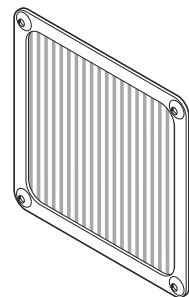
LZ40N Screen



LZ40-1 Bracket



LZ60 Filter



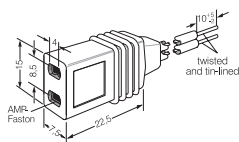




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### LZ120

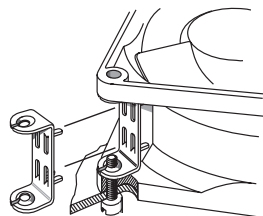


Type	Cable length	Pins
LZ120	610 mm	0,5 mm
LZ126	1000 mm	0,5 mm
LZ130-1	610 mm, UL approved	0,5 mm

Additional versions are available on special order

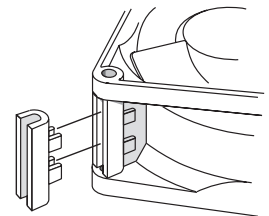
Connecting cable with moulded plug, (PVC, black). Stranded wires with multi-core cable ends. For all types of fan with flat pins 3.0 x 0.5 mm.

### LZ212



Screw clip of rust-resistant spring steel. For mounting fans with threaded pin 3.5 DIN 7970.

### LZ260/LZ261



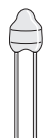
Spacer of fibreglass reinforced plastic. For screw mounting over both fan mounting flanges.

### LZ210



Screw clip of hardened steel. For mounting fans with threaded pin 6-32 UNC and/or 3.5 DIN 7970.

### LZ370



Required performance date:

$R_{25}$  = 100 K $\Omega$   $\pm$ 5%

B-value = 4190  $\pm$  2%

$P_{max}$  = 0,25 W

Temperature sensor for speed-controlled fan operation. Temperature range 30...50 °C.