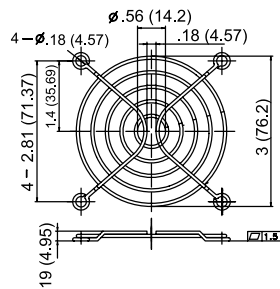


# ACCESSORIES

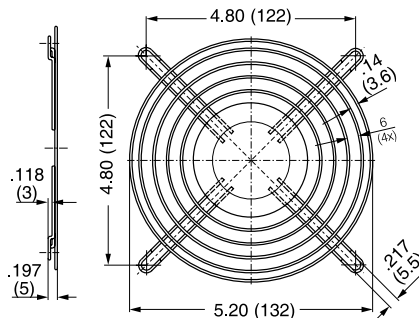
| Frame Size | Fan Series                                                                 | Plastic Finger Guards<br>Barbed<br>Insert | Plastic Finger Guards<br>Thru Holes | .25" Plastic Filter<br>with Foam Pad | Metal Finger Guard             | Plug & Cord Set                              | Shock & Vibration<br>Mount | Spacer | Mounting<br>Screw Clip | Metal Mesh<br>Filter | Screen | Bracket | Temp<br>Sensor |
|------------|----------------------------------------------------------------------------|-------------------------------------------|-------------------------------------|--------------------------------------|--------------------------------|----------------------------------------------|----------------------------|--------|------------------------|----------------------|--------|---------|----------------|
| 40 mm      | 400, 400F, 400J                                                            |                                           |                                     |                                      | LZ29-1                         |                                              |                            |        |                        |                      |        |         |                |
| 60 mm      | 600, 600F, 600N, 600NG,<br>600NV, 620                                      |                                           |                                     |                                      | LZ28                           |                                              |                            |        |                        |                      |        |         |                |
| 60 mm      | 620J                                                                       |                                           |                                     |                                      | LZ28-1                         |                                              |                            |        |                        |                      |        |         |                |
| 80 mm      | 8200J                                                                      | LZ32-3                                    | LZ32-2                              |                                      | LZ32-4                         |                                              |                            |        |                        |                      |        |         |                |
| 80 mm      | 8000A, 8000N, 8000V, 8100                                                  | LZ32-3                                    | LZ32-2, LZ32P                       | 10020-1-5170                         | LZ22N                          | LZ120, LZ126                                 | 2678-2-2945                | LZ260  | LZ212                  | LZ60-8               |        |         | LZ370          |
| 80 mm      | 8300, 8300V                                                                |                                           |                                     |                                      | LZ22N                          |                                              |                            | LZ261  |                        | LZ60-8               |        |         | LZ370          |
| 80 mm      | 8400, 8400N, 8400V                                                         |                                           |                                     |                                      | LZ22N                          |                                              |                            |        |                        | LZ60-8               |        |         | LZ370          |
| 92 mm      | 3000, 3600, 3900                                                           | LZ23-3                                    | LZ23-2                              | 10023-1-5170                         | LZ23                           | LZ120, LZ126                                 |                            |        |                        |                      |        |         |                |
| 92 mm      | 3300, 3300V                                                                | LZ23-3                                    | LZ23-2                              |                                      | LZ23                           |                                              |                            | LZ260  | LZ212                  |                      |        |         | LZ370          |
| 92 mm      | 3400, 3400N, 3400NV                                                        | LZ23-3                                    | LZ23-2                              |                                      | LZ23                           |                                              |                            | LZ261  |                        |                      |        |         | LZ370          |
| 92 mm      | 3200J                                                                      |                                           |                                     |                                      | LZ23-1                         |                                              |                            |        |                        |                      |        |         |                |
| 119 mm     | 4000, 4000AX, 4000N, 4000Z,<br>4100N, 4200, 4200N, 4400F,<br>4600N, 4600AX | LZ30-6                                    | LZ30-5, LZ30P                       | 10021-1-5170                         | LZ30                           | LZ120, LZ126                                 | 2678-2-2945                |        | LZ210                  | LZ60                 | LZ40N  | LZ40-1  |                |
| 119 mm     | 4300, 4300N, 4300V                                                         | LZ30-6                                    | LZ30-5, LZ30P                       |                                      | LZ30                           |                                              |                            | LZ260  | LZ212                  |                      |        |         | LZ370          |
| 119 mm     | DV4100                                                                     | LZ30-6                                    | LZ30-5                              |                                      | LZ30                           |                                              |                            |        |                        |                      |        |         |                |
| 119 mm     | 9900                                                                       | LZ30-6                                    | LZ30-5, LZ30P                       | 10021-1-5170                         | LZ30                           |                                              |                            |        | LZ210                  | LZ60                 | LZ40N  | LZ40-1  |                |
| 127 mm     | W2G115                                                                     |                                           | 88601-2-2929                        | 10024-1-5170                         | 09496-2-4039<br>50951-2-4039   | 01433-4-6711<br>01478-4-6711<br>01357-4-6711 |                            |        |                        |                      |        |         |                |
| 127 mm     | W2K121                                                                     |                                           |                                     | 10024-1-5170                         |                                |                                              |                            |        |                        |                      |        |         |                |
| 127 mm     | 5200N, DV5200, 5900                                                        | LZ33-2                                    | LZ33-1                              |                                      | LZ35                           |                                              |                            |        | LZ210                  |                      |        |         |                |
| 135 mm     | 5100N, 5600                                                                |                                           |                                     |                                      | LZ25                           | LZ120, LZ126                                 |                            |        | LZ210                  |                      |        |         |                |
| 150 mm     | W2G130                                                                     |                                           |                                     |                                      | 09498-2-4039                   |                                              |                            |        |                        |                      |        |         |                |
| 150 mm     | W2S130                                                                     |                                           |                                     |                                      | 09498-2-4039<br>50950-2-4039   |                                              |                            |        |                        |                      |        |         |                |
| 150 mm     | 7100N, 7200N                                                               |                                           |                                     |                                      | LZ24                           |                                              |                            |        | LZ210                  |                      |        |         |                |
| 150 mm     | W2E142                                                                     |                                           |                                     |                                      | 03749-2-4039<br>50950-2-4039   | 01434-4-6711<br>01477-4-6711<br>01505-4-6711 |                            |        |                        |                      |        |         |                |
| 172 mm     | 6200N, 6200NT, 6200NTD                                                     |                                           |                                     |                                      |                                |                                              |                            |        |                        |                      |        |         |                |
| 172 mm     | 6400, DV6400, 6400T                                                        |                                           |                                     |                                      | LZ37                           | LZ120, LZ126                                 |                            |        | LZ215                  |                      |        |         |                |
| 172 mm     | DV6200, DV6200TD                                                           |                                           |                                     |                                      | LZ38                           |                                              |                            |        |                        |                      |        |         |                |
| 172 mm     | W2E143                                                                     |                                           |                                     |                                      | LZ37 (inlet)<br>LZ39 (exhaust) |                                              |                            |        |                        |                      |        |         |                |
| 200 mm     | W1G180                                                                     |                                           |                                     |                                      | 04013-2-4039                   | 01434-4-6711<br>01477-4-6711<br>01505-4-6711 |                            |        |                        |                      |        |         |                |
| 225 mm     | W1G200T                                                                    |                                           |                                     |                                      | 26388-2-4039                   |                                              |                            |        |                        |                      |        |         | LZ370          |
| 225 mm     | W2E200T                                                                    |                                           |                                     |                                      | 78128-2-4039                   |                                              |                            |        |                        |                      |        |         |                |
| 225 mm     | W1G250T                                                                    |                                           |                                     |                                      | 78128-2-4039                   |                                              |                            |        |                        |                      |        |         |                |
| 280 mm     | W2E250T                                                                    |                                           |                                     |                                      | 09418-2-4039                   |                                              |                            |        |                        |                      |        |         |                |
| 280 mm     | VARIOFAN                                                                   |                                           |                                     |                                      | 09418-2-4039                   |                                              |                            |        |                        |                      |        |         | LZ370          |

**LZ22N**

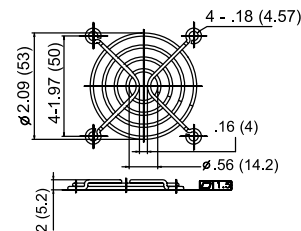
Series 8000


**LZ25**

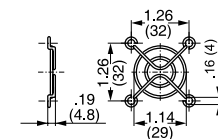
Series 5100/5600


**LZ28**

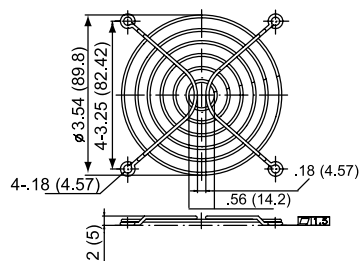
Series 600


**LZ29-1**

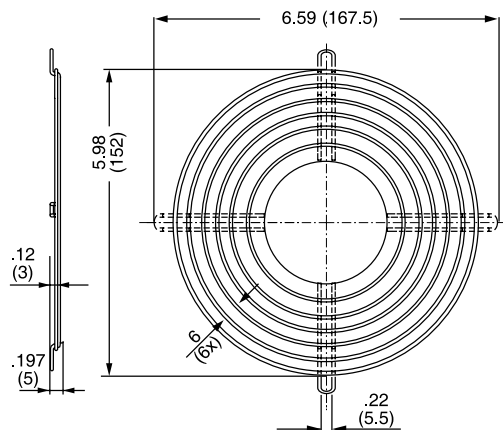
Series 400


**LZ23**

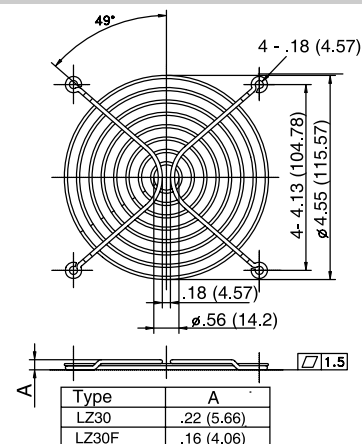
Series 3000


**LZ26**

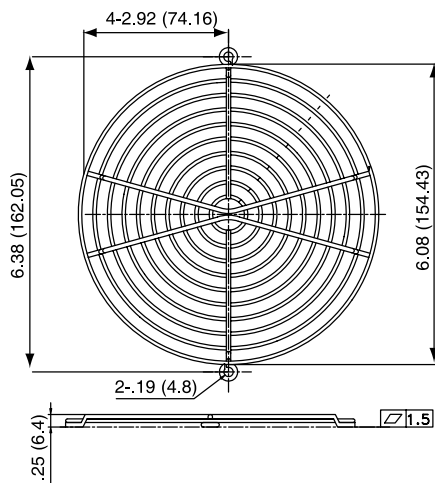
Series 6000


**LZ30/LZ30F**

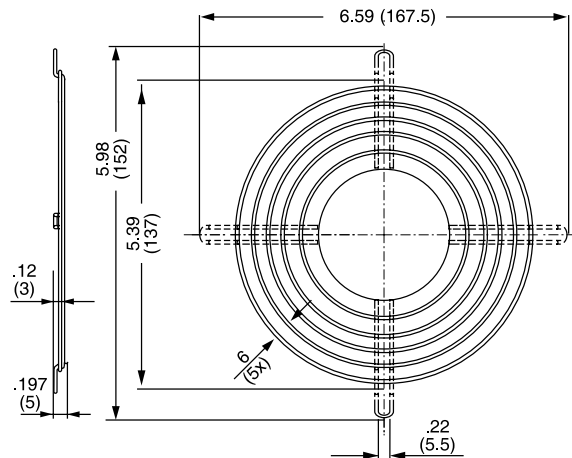
Series 4000/9000


**LZ24**

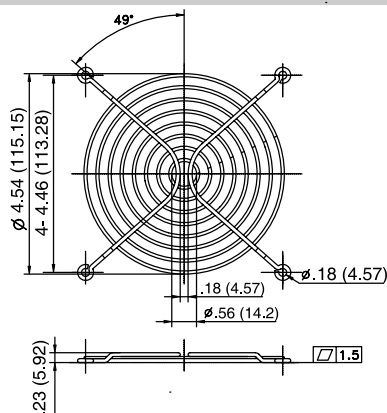
Series 7000


**LZ27**

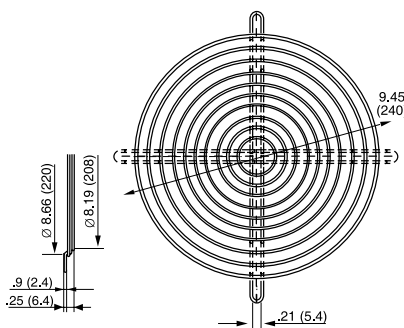
Series 7000



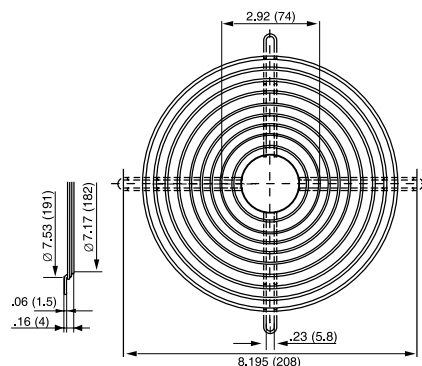
**09496-2-4039-1** Series W2G115



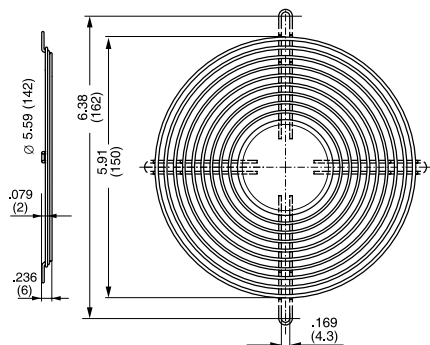
**78128-2-4039** Series W1G200/W2E200



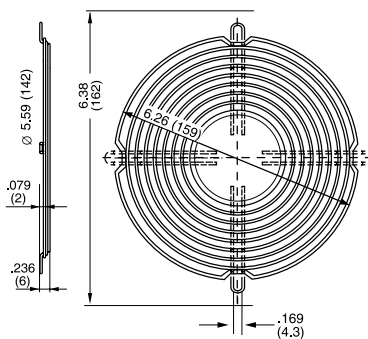
**26388-2-4039** Series W1G180



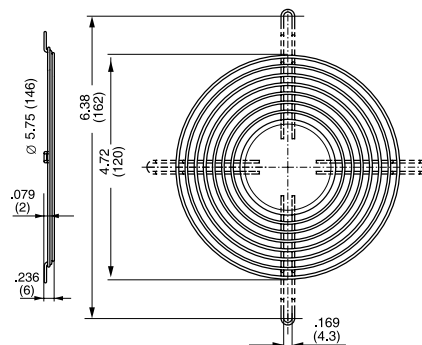
**50950-2-4039** Series W2E142



**50952-2-4039** Series W2E143



**50951-2-4039** Series W2G115



## Part Number Changes -

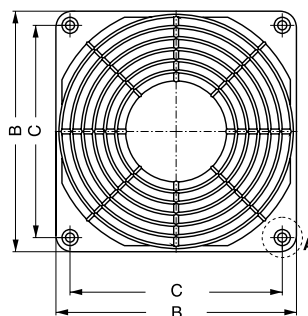
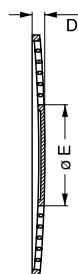
| Old Part      | New Part |
|---------------|----------|
| 9480-2-4039-1 | LZ22N    |
| 9483-2-4039-1 | LZ23     |
| 9497-2-4039-1 | LZ30     |
| 9497-2-4039-2 | LZ30F    |
| 9498-2-4039-1 | LZ24     |
| 92163-2-2929  | LZ32P    |
| 92165-2-2929  | LZ30P    |

| Part Number | Fan series | Dimensions LZ 32.. |          |             |              |           |           |
|-------------|------------|--------------------|----------|-------------|--------------|-----------|-----------|
| LZ32-2      | 8000       | Finger Guards      | Mounting | B           | C            | D         | E         |
| LZ32-3      | 8000       | LZ 32-2            | A 1      | 3.15 (80)   | 2.82 (71.5)  | .28 (7)   | 1.34 (34) |
| LZ32P       | 8000       | LZ 32-3            | A 3      | 3.15 (80)   | 2.82 (71.5)  | .28 (7)   | 1.34 (34) |
| LZ23-2      | 3000       | LZ23-2             | A 1      | 3.64 (92.5) | 3.25 (82.5)  | .26 (6.5) | 1.81 (46) |
| LZ23-3      | 3000       | LZ23-3             | A 3      | 3.64 (92.5) | 3.25 (82.5)  | .26 (6.5) | 1.81 (46) |
| LZ30-5      | 9000       | LZ30-5             | A 2      | 4.69 (119)  | 4.14 (105)   | .26 (6.5) | 1.97 (50) |
| LZ30-6      | 9000       | LZ30-6             | A 4      | 4.69 (119)  | 4.14 (105)   | .26 (6.5) | 1.97 (50) |
| LZ30P       | 9000       | LZ33-1             | A 2      | 5.0 (127)   | 4.47 (113.5) | .26 (6.5) | 1.97 (50) |
| LZ30-5      | 4000       | LZ33-2             | A 4      | 5.0 (127)   | 4.47 (113.5) | .26 (6.5) | 1.97 (50) |
| LZ30-6      | 4000       |                    |          |             |              |           |           |
| LZ30P       | 4000       |                    |          |             |              |           |           |
| LZ33-1      | 5200       |                    |          |             |              |           |           |
| LZ33-2      | 5200       |                    |          |             |              |           |           |
| LZ33-1      | 5900       |                    |          |             |              |           |           |
| LZ33-2      | 5900       |                    |          |             |              |           |           |

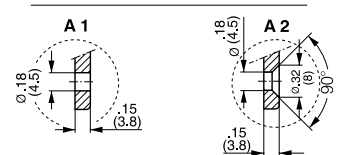
The drawing shows a side view of a fan assembly on the left, with dimension D indicating the width of the finger guard. On the right is a top-down view of the fan housing, showing the curved blades and mounting points. Dimension A is indicated as the distance between the mounting points.

Screw connection

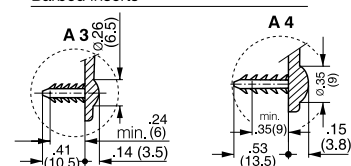
The drawing shows two types of screw connections, A1 and A2, used for mounting the fan. Connection A1 is shown with a screw passing through a plate of thickness 0.18 (4.5) into a housing. Connection A2 is shown with a screw passing through a plate of thickness 0.32 (8) into a housing. Both connections are shown at a 90-degree angle to the mounting surface.



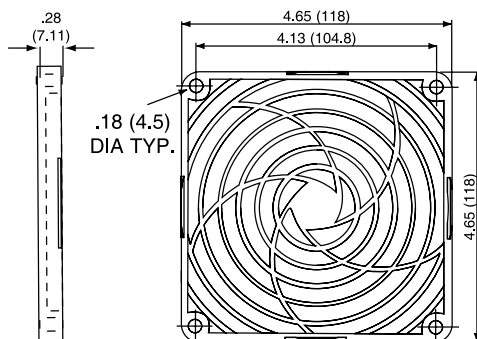
Screw connection



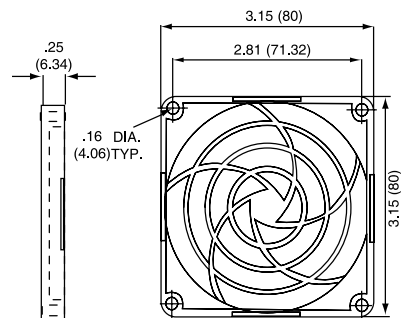
Barbed inserts



LZ30P



LZ32P



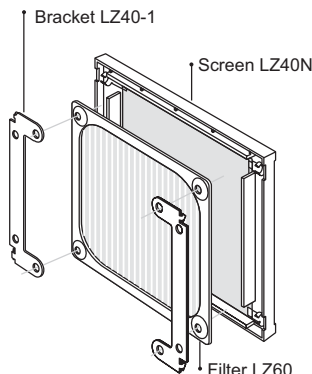
| Part Number | Series   |
|-------------|----------|
| LZ212       | 8300     |
| LZ260       | 8300     |
| LZ261       | 8400     |
| LZ212       | 3300     |
| LZ260       | 3300     |
| LZ210       | 9000     |
| LZ40N       | 9000     |
| LZ40-1      | 9000     |
| LZ60        | 9000     |
| LZ210       | 4000     |
| LZ40N       | 4000     |
| LZ40-1      | 4000     |
| LZ60        | 4000     |
| LZ212       | 4300     |
| LZ260       | 4300     |
| LZ210       | 5100     |
| LZ210       | 5600     |
| LZ210       | 5200     |
| LZ210       | 5900     |
| LZ210       | 7000     |
| LZ370       | VARIOFAN |

## Filter Kit for 119mm fans

|              |                             |
|--------------|-----------------------------|
| 10016-1-5170 | Grill Guard                 |
| 10017-1-5170 | Grill Guard and Filter      |
| 10018-1-5170 | Grill Guard, Filter, Spacer |

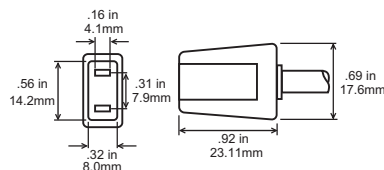
## LZ40N / LZ40-1 / LZ60

LZ40N of black, fiberglass reinforced plastic with inserted aluminium wire mess LZ60. Mounting with brackets LZ40-1.



## LZ120

Connecting cable with molded plug. (PVC, black). Stranded wires with multi-core cable ends. For all types of fans with flat pins .12 x .02 in (3.0 x 0.5 mm).



| Type  | Cable Length in. (mm) | Pins     |
|-------|-----------------------|----------|
| LZ120 | 24 (610)              | .02 (.5) |
| LZ126 | 39.4 (1000)           | .02 (.5) |

Additional versions are available on special order

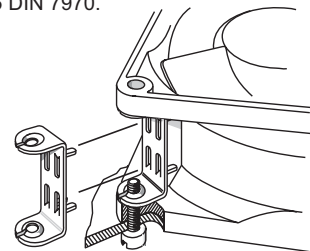
## Plug and Cord Sets

.110 x .02 inch (2.8 x .5 mm)

| RIGHT ANGLE      | CONNECTION     |
|------------------|----------------|
| 24 inch (610mm)  | 1434-4-6711-1  |
| 36 inch (914mm)  | 1434-4-6711-3  |
| 80 inch (2032mm) | 1434-4-6711-80 |

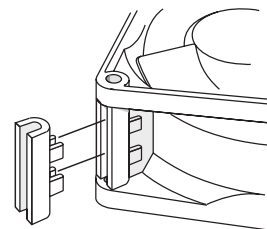
## LZ212

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



## LZ260 / LZ261

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



## LZ370

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



Required performance date:

|                  |              |
|------------------|--------------|
| R <sub>25</sub>  | = 100 KΩ ±5% |
| B-value          | = 4190 ± 2%  |
| P <sub>max</sub> | = 0,25 W     |

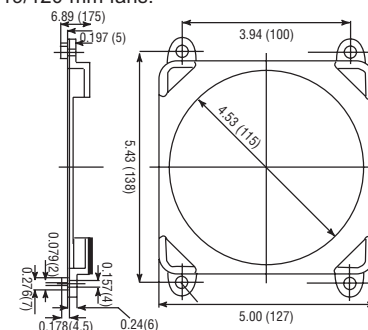
## LZ210

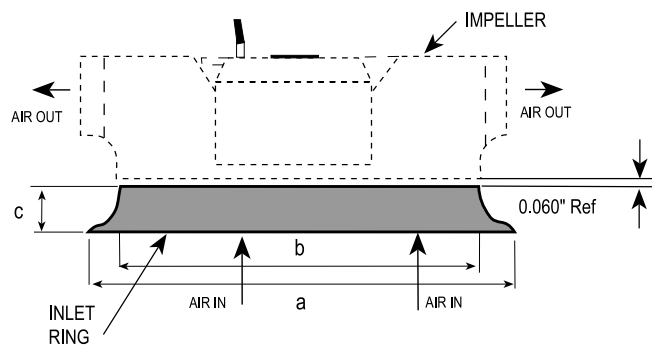
Screw clip of hardened steel. For mounting fans with threaded pin 6-32 UNC and/or 3.5 DIN 7970.



## 2678-2-2945

Plastic shock and vibration mount for 119/120 mm fans.

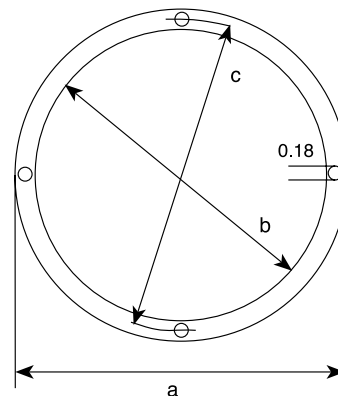




| Part Number  | Impeller Number                  | Max. Dimensions (inches) |               |              |
|--------------|----------------------------------|--------------------------|---------------|--------------|
|              |                                  | a                        | b             | c            |
| 9566-2-4013  | 133                              | 5.08<br>(129)            | 3.43<br>(87)  | 0.51<br>(13) |
| 9588-2-4013  | 175, 180 & 190                   | 7.28<br>(185)            | 5.12<br>(130) | 0.67<br>(17) |
| 9609-2-4013  | 220                              | 9.96<br>(253)            | 6.10<br>(155) | 0.79<br>(20) |
| 9597-2-4013  | R1G225<br>R4E225-AR<br>R2E225-BB | 8.27<br>(210)            | 5.87<br>(149) | 1.10<br>(28) |
| 9607-2-4013  | R4S225<br>R4E225-AC<br>250       | 8.78<br>(223)            | 6.57<br>(167) | 0.87<br>(22) |
| 9614-2-4013  | 280                              | 10.04<br>(255)           | 7.40<br>(188) | 0.98<br>(25) |
| 9621-2-4013  | 310                              | 11.81<br>(300)           | 7.60<br>(193) | 1.69<br>(43) |
| 51357-2-4013 | 355                              | 13.78<br>(350)           | 8.90<br>(226) | 2.36<br>(60) |

| Part Number | Blower Wheel Size | Max. Dim.- in. (mm) |              |              |
|-------------|-------------------|---------------------|--------------|--------------|
|             |                   | a                   | b            | c            |
| 9489-2-4039 | 085               | 3.5<br>(90)         | 2.9<br>(74)  | 3.3<br>(84)  |
| 9485-2-4039 | 097 ?             | -                   | -            | 4.5<br>(114) |
| 9490-2-4039 | 108               | 5.0<br>(126)        | 4.3<br>(110) | 4.7<br>(118) |
| 9494-2-4039 | 120               | 5.5<br>(140)        | 4.9<br>(124) | 5.2<br>(132) |
| 9500-2-4039 | 133 ?             | -                   | -            | 5.7<br>(145) |
| 9492-2-4039 | 140/146           | 6.6<br>(168)        | 6.0<br>(152) | 6.2<br>(158) |
| 9503-2-4039 | 160               | 7.1<br>(180)        | 6.4<br>(162) | 6.9<br>(175) |
| 9493-2-4039 | 180               | 8.1<br>(205)        | 7.2<br>(183) | 7.6<br>(194) |

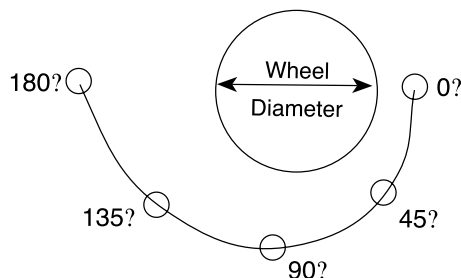
? - Dual inlet wire guard with three holes at 120°



Material is galvanized wire.

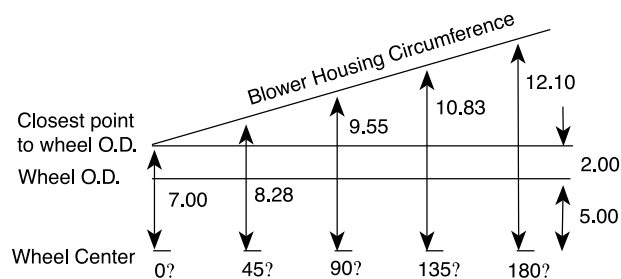
### Technical Note on Scroll Housings

18° EXPANSION, FOR REFERENCE ONLY



Forward Curved Wheels use 6° - 12° expansion, 10° normal  
Backward Curved Wheel normally uses 18° half scroll  
MODIFY TO SUIT YOUR NEEDS

REFERENCE ONLY BASED ON A 10 INCH DIAMETER WHEEL



ANGLE AROUND WHEEL FROM STARTING POINT  
(a half scroll housing expands for approx. 180 degrees)  
NOTE: Expansion angle must always increase.



# Accessories - Wiring Diagrams and Signals

## Hall Effect Monitor

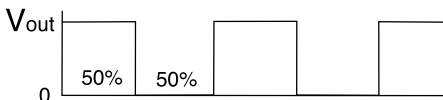
Selected ebm blowers ordered with this option monitor the speed of the blower with a device consisting of a magnet and solid state switch built into the motor. The output signal is a low voltage DC pulse train that can be incorporated into the end product to trigger an audible or visual alarm or to initiate an orderly system shutdown. This device is suited for telecommunications, computer, peripheral and copier applications, or others as required.

## Hall Effect Monitor for AC Models



Input = 4.5 to 16 VDC;  $T = 60/\text{RPM}$ ;  $V_{\text{out}} = V$   
Output Impedance = 4.7 K nominal.

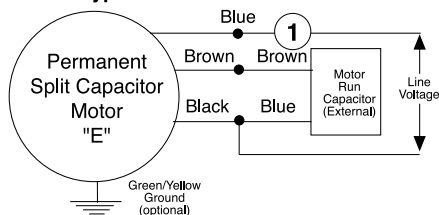
## Hall Effect Monitor for Brushless DC Models



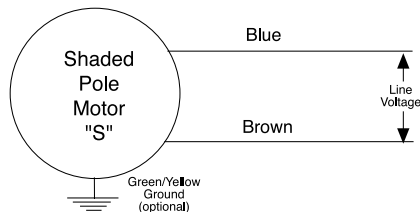
2 pulse / revolution –  $V_{\text{out}} = 5\text{V}$ ; Output current = 5mA max.

## MOTOR WIRING DIAGRAMS

### A. PSC "Type E" Motor

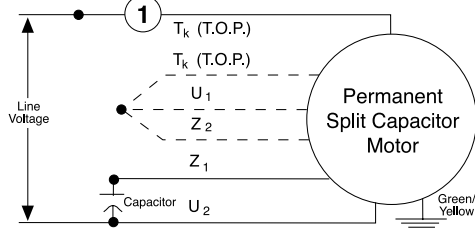


### B. Shaded Pole Motor

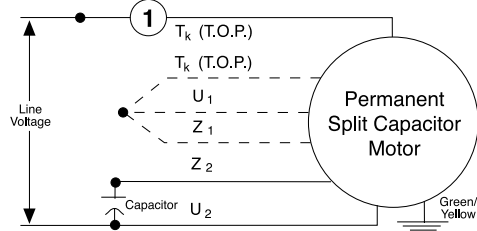


① An extra capacitor can be connected in series to yield lower RPM for multi-speed requirements

### C. PSC Motor



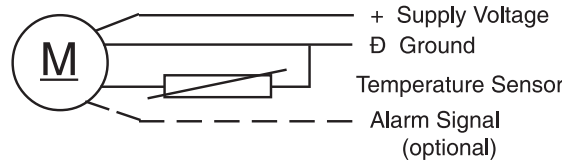
### D. PSC Motor



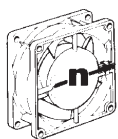
Dotted lines not supplied on all designs

# Accessories - Wiring Diagrams and Signals

## VarioFans have Temperature Dependent Speed Control



## Alarms & Connectors for ebm/Papst Tubeaxial Fans



S /2 /12

**Speed Sensor**  
DC Fan with integrated sensor for externally speed monitoring



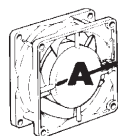
/5 /17

**Alarm Circuit**  
DC Fan with integrated alarm circuit for speed monitoring



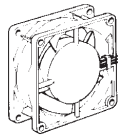
D

**Housing Reinforcement**  
Fan housing with stiffening ribs. For mounting over both flanges



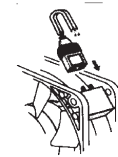
/10

**Alarm Signal**  
DC Fan with integrated fan failure sensor



W

**Connection Leads**  
Electrical connection via 2 leads AWG 22, 310 mm long



**Connector Design**

Type 6 = 2,8 x 0,8 mm 6  
Type 8 = 2,8 x 0,5 mm 8



Type 7 = 2,8 x 0,8 mm 7  
Type 9 = 2,8 x 0,5 mm 9

## Characteristics of Fan Signals and Operation with different Alarm Signals

Speed Sensor Type: S, /2, /12

These fans produce speed-proportional square-wave signals via an integrated sensor. This 'electronic' tachometer is used to monitor the fan speed.

Alarm Signal Type: /10

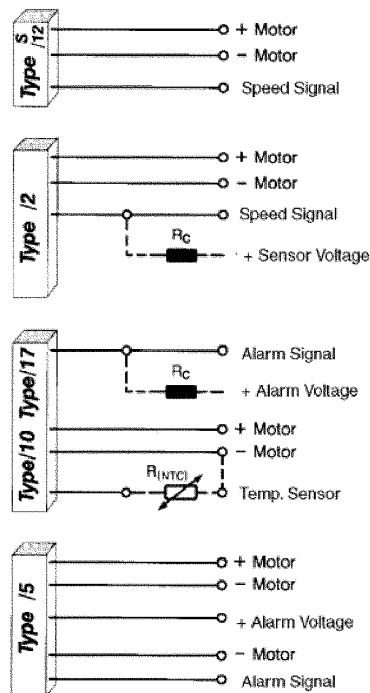
These fans produce a continuous signal output when operating interference-free. When fan speed falls below 75 - 85% of the nominal speed, short low impulses are generated. The greater the fall below the alarm speed, the greater the low impulse width becomes. At rest there is a continuous low signal.

Alarm Switching Signal Type: /5, /17

These fans produce speed-dependent, directly usable high/low square-wave signals via integrated alarm switching circuits.

/5 models: Switching circuit is galvanically separated with a separate current supply.

/17: Direct current supply via motor; the switching circuit is not separate.



# Accessories - Capacitors

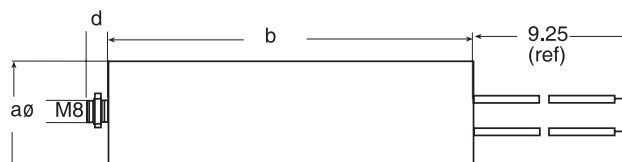
## HOW TO USE CAPACITORS FOR MULTI-SPEED BLOWERS

It is possible to make any ebm blower with a PSC motor a multi-speed blower by adding a second or third capacitor on the load line (blue) at or near the value of the motor run capacitor. Actual capacitor value and RPM achieved are dependent on the nature of each application.

## PLASTIC CAPACITORS

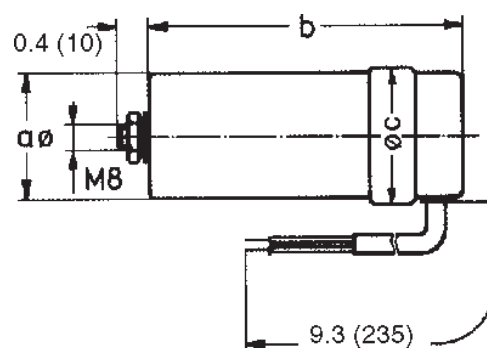
| Part Number  | Size (mfd) | Temp. Range (°C) | Max. Dim in. (mm) |             |             |
|--------------|------------|------------------|-------------------|-------------|-------------|
|              |            |                  | a                 | b           | d           |
| 02100-4-7320 | 1          | -25 to +85       | 1.1<br>(28)       | 2.2<br>(55) | 0.5<br>(12) |
| 99282-4-7320 | 1.5        | -25 to +85       | 1.1<br>(28)       | 2.2<br>(55) | 0.5<br>(12) |
| 99283-4-7320 | 2          | -25 to +85       | 1.1<br>(28)       | 2.2<br>(55) | 0.5<br>(12) |
| 02103-4-7320 | 2.5        | -25 to +85       | 1.1<br>(28)       | 2.2<br>(55) | 0.5<br>(12) |
| 02102-4-7320 | 3          | -25 to +85       | 1.1<br>(28)       | 2.2<br>(55) | 0.5<br>(12) |
| 99284-4-7320 | 4          | -25 to +85       | 1.3<br>(32)       | 2.2<br>(55) | 0.5<br>(12) |
| 02101-4-7320 | 5          | -25 to +85       | 1.4<br>(36)       | 2.3<br>(58) | 0.5<br>(12) |
| 99285-4-7320 | 6          | -25 to +85       | 1.4<br>(36)       | 2.8<br>(70) | 0.5<br>(12) |
| 99286-4-7320 | 8          | -25 to +85       | 1.6<br>(40)       | 2.6<br>(67) | 0.5<br>(12) |
| 99287-4-7320 | 10         | -25 to +85       | 1.6<br>(40)       | 2.8<br>(70) | 0.5<br>(12) |

(For larger sizes consult factory)



## METAL CAPACITORS

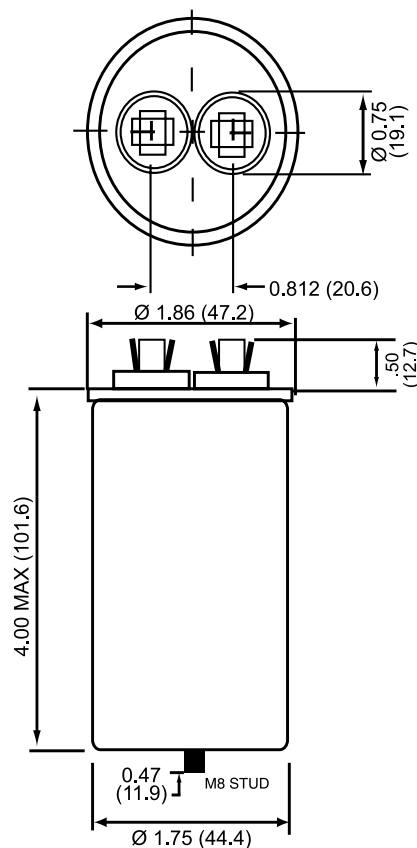
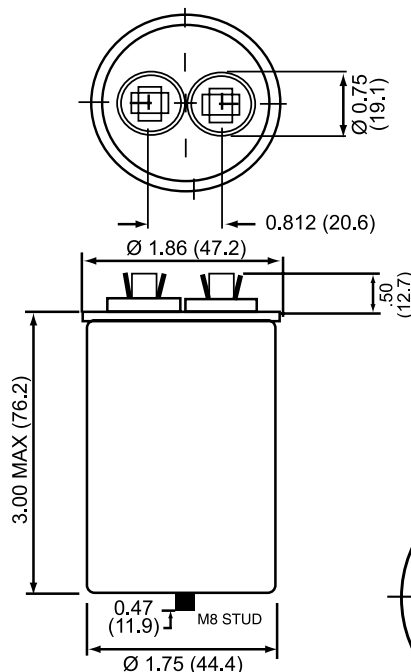
| Part Number | Size (mfd) | Temp. Range (°C) | Max. Dim in. (mm) |              |             |
|-------------|------------|------------------|-------------------|--------------|-------------|
|             |            |                  | a                 | b            | c           |
| 2151-4-7320 | 1          | -25 to +85       | 1.0<br>(25)       | 2.9<br>(74)  | 1.1<br>(29) |
| 2155-4-7320 | 1.5        | -25 to +85       | 1.0<br>(25)       | 2.9<br>(74)  | 1.1<br>(29) |
| 2156-4-7320 | 2          | -25 to +85       | 1.0<br>(25)       | 2.9<br>(74)  | 1.1<br>(29) |
| 2159-4-7320 | 2.5        | -25 to +85       | 1.2<br>(30)       | 2.8<br>(71)  | 1.3<br>(34) |
| 2160-4-7320 | 3          | -25 to +85       | 1.2<br>(30)       | 3.9<br>(99)  | 1.3<br>(34) |
| 2161-4-7320 | 4          | -25 to +85       | 1.2<br>(30)       | 4.1<br>(104) | 1.3<br>(34) |
| 2162-4-7320 | 5          | -25 to +85       | 1.4<br>(35)       | 4.1<br>(104) | 1.5<br>(39) |
| 2163-4-7320 | 6          | -25 to +85       | 1.4<br>(35)       | 4.0<br>(101) | 1.5<br>(38) |
| 2164-4-7320 | 7          | -25 to +85       | 1.6<br>(40)       | 4.0<br>(101) | 1.7<br>(43) |
| 2165-4-7320 | 8          | -25 to +85       | 1.4<br>(35)       | 4.0<br>(101) | 1.5<br>(38) |
| 2166-4-7320 | 10         | -25 to +85       | 1.4<br>(35)       | 3.9<br>(99)  | 1.5<br>(39) |
| 2167-4-7320 | 12         | -25 to +85       | 1.6<br>(40)       | 3.9<br>(99)  | 1.7<br>(43) |
| 2168-4-7320 | 16         | -25 to +75       | 1.8<br>(46)       | 6.3<br>(160) | 1.9<br>(48) |
| 2169-4-7320 | 20         | -25 to +75       | 1.8<br>(46)       | 6.3<br>(160) | 1.9<br>(48) |
| 2170-4-7320 | 25         | -25 to +75       | 1.8<br>(46)       | 6.3<br>(160) | 1.9<br>(48) |



# Accessories - Metal Capacitors

with UL, CSA and VDE Approvals

| Part Number | Size (mfd) | Temp Range ?C |
|-------------|------------|---------------|
| 450-20-0017 | 1          | -20 to +85    |
| 450-20-0018 | 1.5        | -20 to +85    |
| 450-20-0019 | 2          | -20 to +85    |
| 450-20-0020 | 2.5        | -20 to +85    |
| 450-20-0021 | 3          | -20 to +85    |
| 450-20-0022 | 4          | -20 to +85    |
| 450-20-0023 | 5          | -20 to +85    |
| 450-20-0024 | 6          | -20 to +85    |
| 450-20-0025 | 7          | -20 to +85    |
| 450-20-0026 | 8          | -20 to +85    |
| 450-20-0027 | 10         | -20 to +85    |
| 450-20-0028 | 12         | -20 to +85    |



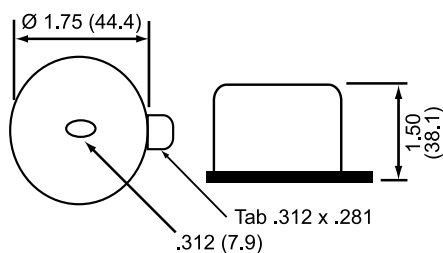
LARGER SIZE (see drawing)

| Part Number | Size (mfd) | Temp Range ?C |
|-------------|------------|---------------|
| 450-20-0029 | 16         | -20 to +85    |
| 450-20-0030 | 20         | -20 to +85    |
| 450-20-0031 | 25         | -20 to +85    |
| 450-20-0033 | 30         | -20 to +85    |
| 450-20-0034 | 40         | -20 to +85    |

|                      |             |
|----------------------|-------------|
| Part Number for Boot | 710-00-0042 |
|----------------------|-------------|

\* UL File # for capacitors E133000(N)  
 CSA File # for capacitors LR96263  
 UL File # for Boot SA6016(N)

Boot Dimensions



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## Accessories - EC Remote Drive And Control Unit

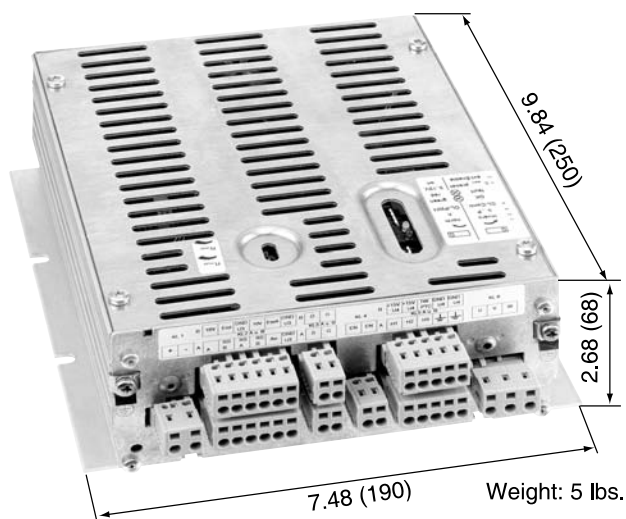
### Part Numbers:

**CHW050-AA01-70**

**CHW050-AA01-71**

### RATINGS:

100-120 VAC, 50/60 Hz, 250 W input  
200-277 VAC, 50/60 Hz, 500 W input  
2.4 A  
Power Factor: >0.98 at 500 W  
Leakage Current: 10 mA  
Maximum ambient temperature: 40° C



### STANDARDS:

|                 |                                           |
|-----------------|-------------------------------------------|
| UL508C          | Power Conversion Equipment file # E208140 |
| EN50081-1       | RFI Emissions                             |
| EN50082-2       | RFI Susceptibility                        |
| DIN EN61000-3-2 | Harmonics                                 |

### Standard features with CHW050-AA01-71:

Digital ebm BUS interface  
Green power ON indicator LED  
Red ALARM indicator LED  
Alarm relay NC  
Alarm relay NO  
Temperature and locked rotor  
protection  
Short circuit protection  
Limited ground fault protection  
Cage clamp connector included

### Additional features with CHW050-AA01-70:

Open collector tach Output (3 pulses/rev.)  
0-10 V external sensor input  
0-10 V control input  
Enable input  
Potentiometers for MIN and MAX settings  
10 VDC / 20 mA stabilized power supply  
18 VDC / 25 mA non-stabilized power supply

### Available Accessories:

|              |                           |
|--------------|---------------------------|
| 25711-2-0199 | Application software LISA |
| 21487-1-0174 | Transceiver RS232 / RS485 |
| 25710-1-0174 | Repeater RS485            |

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