

# Axial Flow Fans

## EC Motor

AER, AEQ, ADR, ADQ

### Fan type code

**AEQ 450 EC**

|                       |
|-----------------------|
| EC Motor              |
| Impeller diameter     |
| Type                  |
| Q = Square wall plate |
| R = Duct flange       |
| Motor type            |
| E = Single-phase      |
| D = Three-phase       |
| Axial flow fan        |



### Advantages

- low installation depth
- ideal for many applications in air-conditioning and cooling
- 100 % speed controllable by potentiometer or electronic controls
- motor protection by thermal contacts as standard
- easy installation in any position

### Design features

The high efficiency axial fans are used where large air volumes must be conveyed against low to medium pressures.

There are two housing versions available:

- Fans mounted on a square plate with inlet cone (AEQ/ADQ) are used for general ventilation, air-conditioning and cooling applications
- Fans with round casings (AER/ADR) are used in ducted systems of air conditioning, cooling and drying applications

### Casing

The casings are made of powder-coated sheet steel.

### Impeller

The axial fans have aerodynamically moulded blades made from galvanised and painted sheet steel. The blades are mounted directly onto the external rotor motor. The motorised impeller is balanced in two planes according to quality level G 2.5 (DIN ISO 1940).

### Motor

The EC (Electronically Commutation) Motors with die cast aluminium enclosure have maintenance free ball bearings & are capable of continuous operation (S1). The EC fan motor is capable of variable speed control. The motor speed can be pre-set by the user to operate at a certain maximum fan speed and the fan speed can also be adjusted automatically according to the cooling

demand of the room to provide energy savings during period of partial load. A minimum fan speed can be preset by the user to avoid lower fan speeds than the requirement which is required in order to maintain sufficient airflow in the room. The fan motor is variable speed and totally enclosed fan cooled type with Class F insulation, IP54 standard. Motor assembly conforms to standards: EN60034-1, EN60335-1 & EN62233.

### Fan performance curves

The performance curves for these fans have been established in mounting position A (free inlet, free outlet) and indicate the static pressure increase  $\Delta p_s$  as a function of the volume flow (measured with inlet cone and without protection guards).

### Noise levels

The fan curve gives the A-weighted sound power level  $L_{WA6}$  on the outlet side in decibel. The A-weighted sound power level at the inlet side  $L_{WA5}$  is identical to  $L_{WA6}$ .

The A-weighted sound power level radiated from the casing ( $L_{WA2}$ ) according to DIN 45 635, part 38, is obtained approximately as follows:  
 $L_{WA2} \approx L_{WA6} - 8 \text{ dB}$  (for AER or ADR).

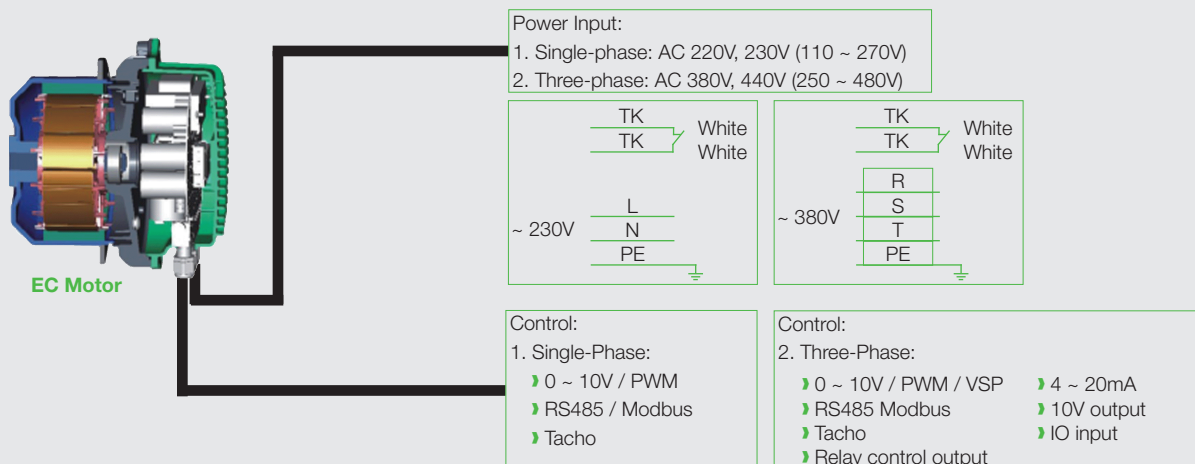
The A-weighted sound pressure level  $L_{PA}$  at a distance of 1 metre is obtained approximately by deducting 7 dB(A) from the A-weighted sound power level:

$$L_{PA(1m)} \approx L_{WA2} - 7 \text{ dB}$$

It is important to note that reflexion and environmental characteristics as well as resonant frequencies influence the sound pressure levels in different ways. The A-weighted octave sound power level is important for the choice of suitable sound attenuators. It is obtained as follows:

$$L_{WAokt} = L_{WA6} + L_{WArel}$$

The relative A-weighted octave sound power level  $L_{WArel}$  at octave medium frequency can be taken from the following tables. These levels have been established at  $0.8 \times V_{max}$ .

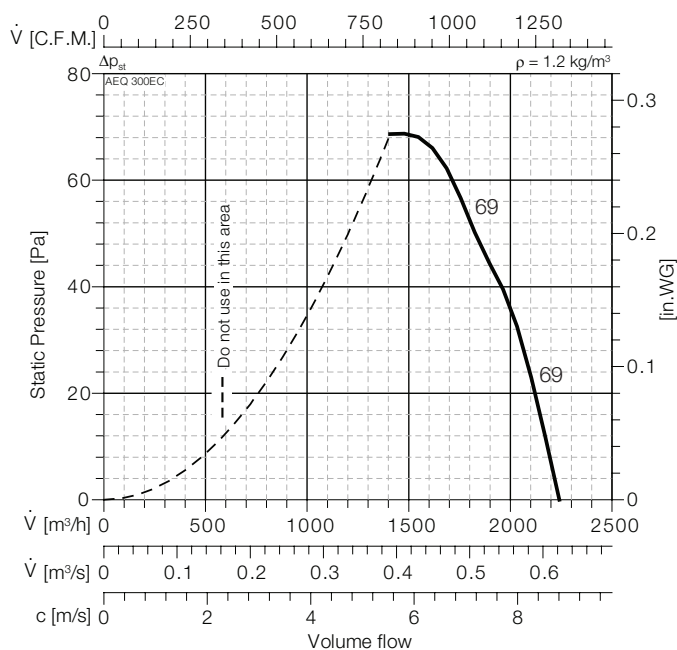




AEQ, ADQ, AER, ADR

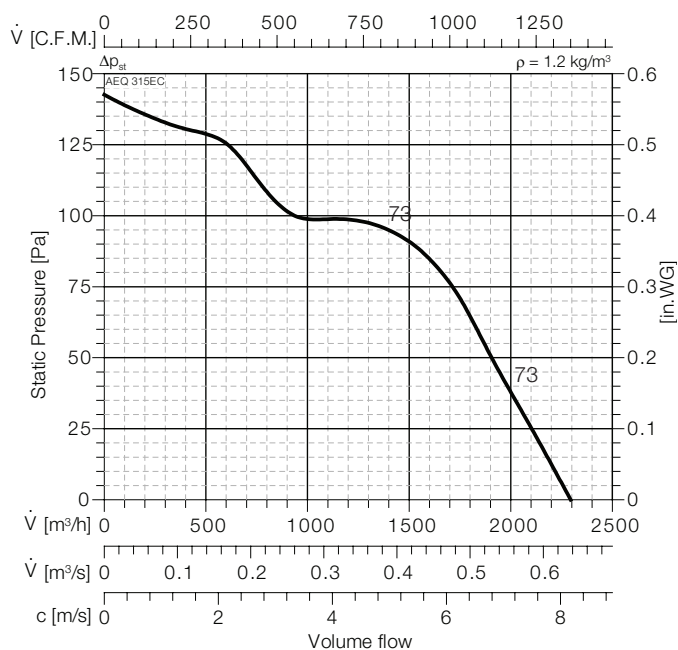


## AEQ / AER 300 EC

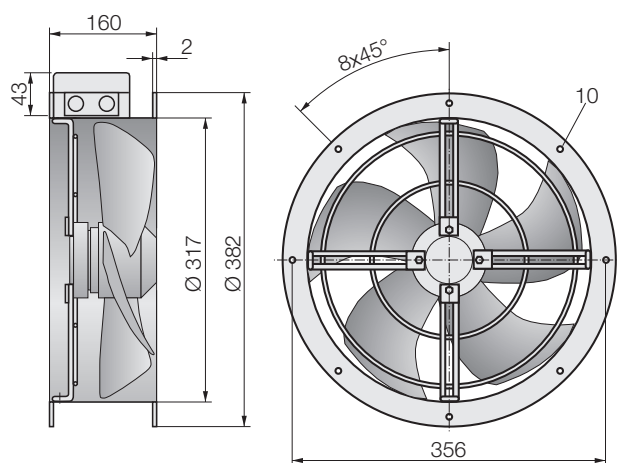
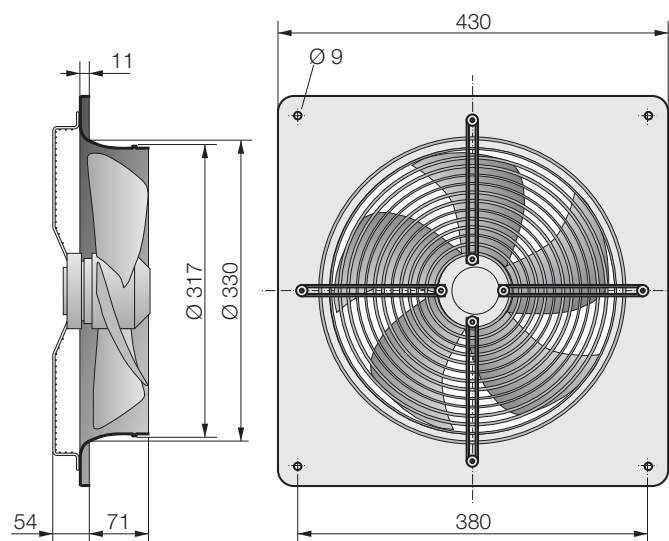


| Typ : AEQ / AER 300 EC     | I <sub>A</sub> /I <sub>N</sub> : | -     | ΔdB                 | L <sub>WA5</sub> | L <sub>WA6</sub> |
|----------------------------|----------------------------------|-------|---------------------|------------------|------------------|
| ArtNr : - / -              | △                                | IP 54 | L <sub>WA tot</sub> | 0                | 0                |
| : 6,5/5,3 kg               | ★                                | E13   | 125 Hz              | -36              | -36              |
| U : 230 V 50/60 Hz         | □                                | -     | 250 Hz              | -17              | -17              |
| P <sub>1</sub> : 0,1 kW    | ■                                | -     | 500 Hz              | -8               | -8               |
| I <sub>N</sub> : 0,85 A    | ▽                                | -     | 1 kHz               | -7               | -7               |
| n : 1600 min <sup>-1</sup> |                                  |       | 2 kHz               | -6               | -6               |
| C <sub>400V</sub> : - μF   |                                  |       | 4 kHz               | -9               | -9               |
| t <sub>R</sub> : 50 °C     |                                  |       | 8 kHz               | -19              | -19              |

## AEQ / AER 315 EC



| Typ : AEQ / AER 315-4A     | I <sub>A</sub> /I <sub>N</sub> : | -     | ΔdB                 | L <sub>WA5</sub> | L <sub>WA6</sub> |
|----------------------------|----------------------------------|-------|---------------------|------------------|------------------|
| ArtNr : - / -              | △                                | IP 54 | L <sub>WA tot</sub> | 0                | 0                |
| : 6,8/5,6 kg               | ★                                | E13   | 125 Hz              | -36              | -36              |
| U : 230 V 50/60 Hz         | □                                | -     | 250 Hz              | -17              | -17              |
| P <sub>1</sub> : 0,12 kW   | ■                                | -     | 500 Hz              | -8               | -8               |
| I <sub>N</sub> : 0,95 A    | ▽                                | -     | 1 kHz               | -7               | -7               |
| n : 1800 min <sup>-1</sup> |                                  |       | 2 kHz               | -6               | -6               |
| C <sub>400V</sub> : - μF   |                                  |       | 4 kHz               | -9               | -9               |
| t <sub>R</sub> : 50 °C     |                                  |       | 8 kHz               | -19              | -19              |



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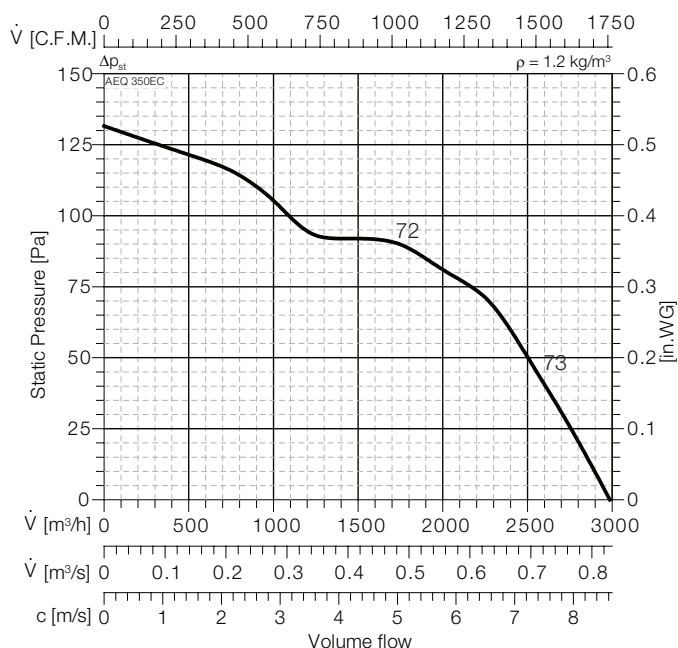


EV-AXR  
GL-AXR

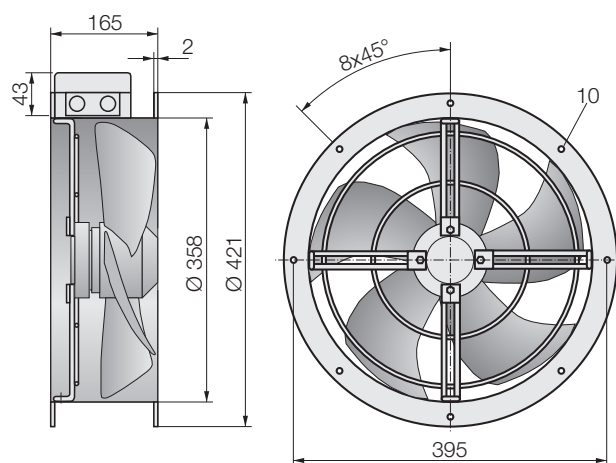
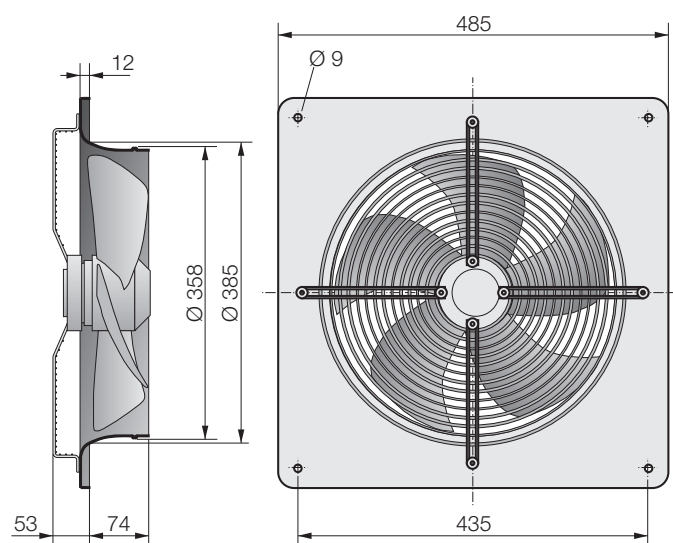


VVK

### AEQ / AER 350 EC



|                            |               |                     |                  |                  |
|----------------------------|---------------|---------------------|------------------|------------------|
| Typ : AEQ / AER 350 EC     | $I_A/I_N$ : - | $\Delta\text{dB}$   | $L_{\text{WA5}}$ | $L_{\text{WA6}}$ |
| ArtNr : - / -              | IP 54         | $L_{\text{WA tot}}$ | 0                | 0                |
| : 8,5/7,8 kg               | E13           | 125 Hz              | -38              | -38              |
| U : 230 V 50/60 Hz         | -             | 250 Hz              | -23              | -23              |
| P <sub>1</sub> : 0,15 kW   | -             | 500 Hz              | -11              | -11              |
| I <sub>N</sub> : 1,27 A    | -             | 1 kHz               | -6               | -6               |
| n : 1600 min <sup>-1</sup> |               | 2 kHz               | -4               | -4               |
| C <sub>400V</sub> : - μF   |               | 4 kHz               | -6               | -6               |
| t <sub>R</sub> : 50 °C     |               | 8 kHz               | -17              | -17              |



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EV-AXR  
GL-AXR



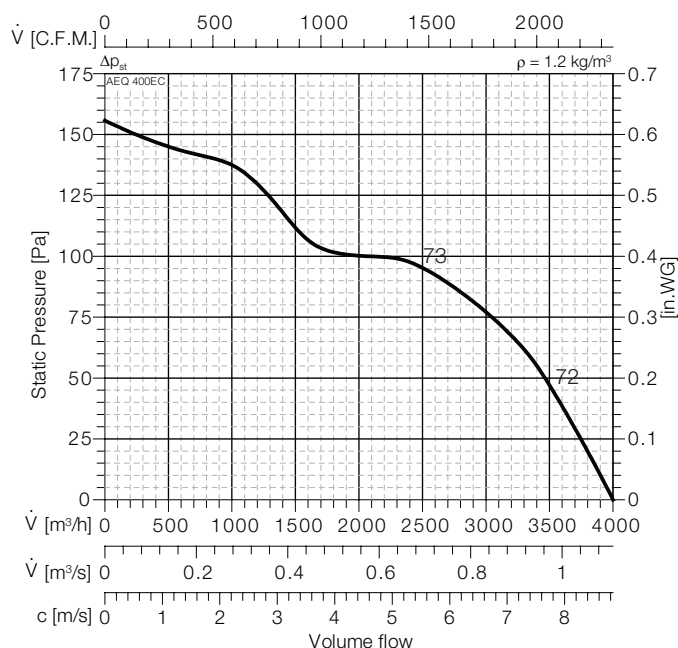
WVK



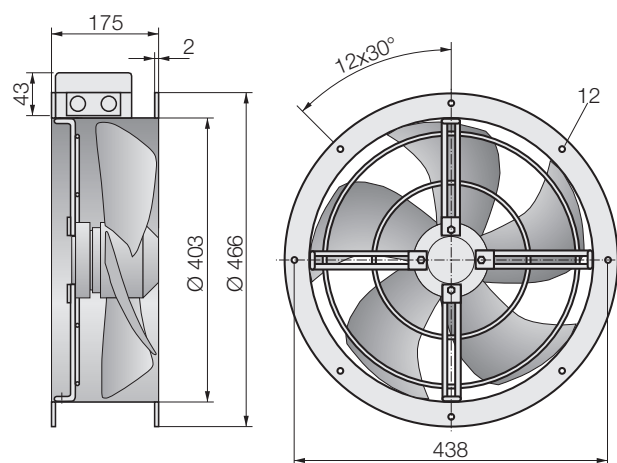
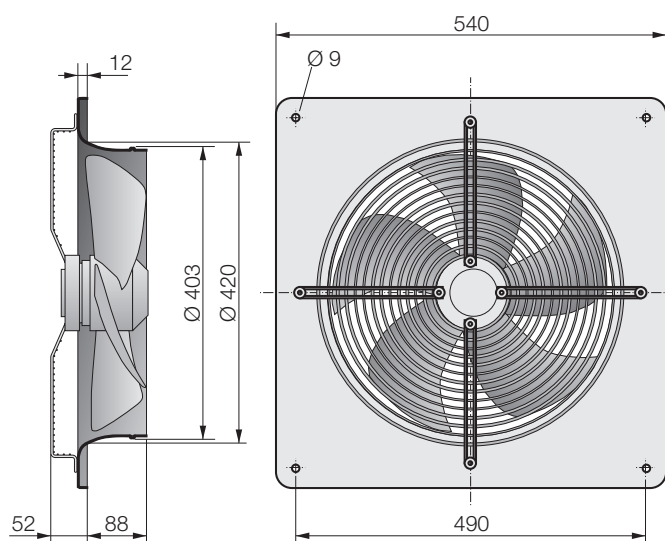
AEQ, ADQ, AER, ADR



## AEQ / AER 400 EC



| Typ : AEQ / AER 400 EC    |                        | $I_A/I_N$ : | -     | $\Delta dB$   | $L_{WA5}$ | $L_{WA6}$ |
|---------------------------|------------------------|-------------|-------|---------------|-----------|-----------|
| ArtNr :                   | - / -                  |             | IP 54 | $L_{WA\ tot}$ | 0         | 0         |
| :                         | 9,4/8,8 kg             |             | E13   | 125 Hz        | -36       | -36       |
| <b>U :</b>                | 230 V 50/60 Hz         |             | -     | 250 Hz        | -24       | -24       |
| <b>P<sub>1</sub> :</b>    | 0,2 kW                 |             | -     | 500 Hz        | -9        | -9        |
| <b>I<sub>N</sub> :</b>    | 1,65 A                 |             | -     | 1 kHz         | -6        | -6        |
| <b>n :</b>                | 1410 min <sup>-1</sup> |             |       | 2 kHz         | -4        | -4        |
| <b>C<sub>400v</sub> :</b> | - µF                   |             |       | 4 kHz         | -8        | -8        |
| <b>t<sub>R</sub> :</b>    | 50 °C                  |             |       | 8 kHz         | -19       | -19       |



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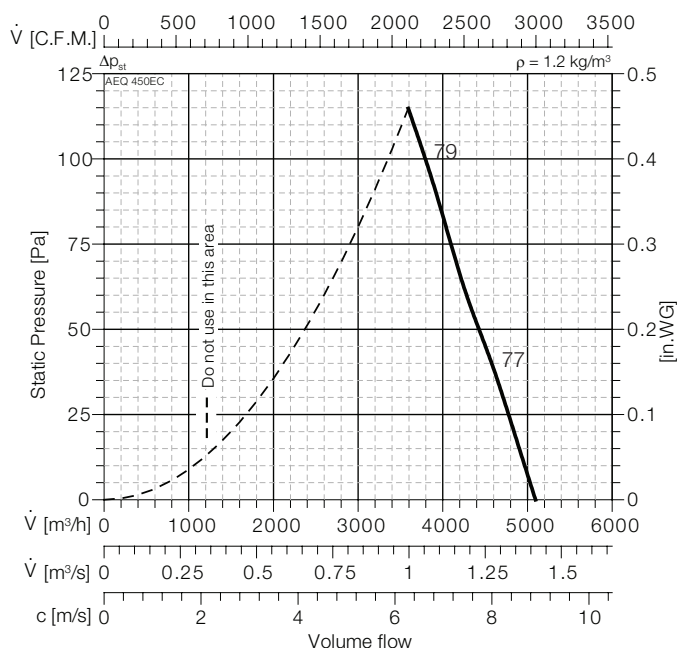


EV-AXR  
GL-AXR

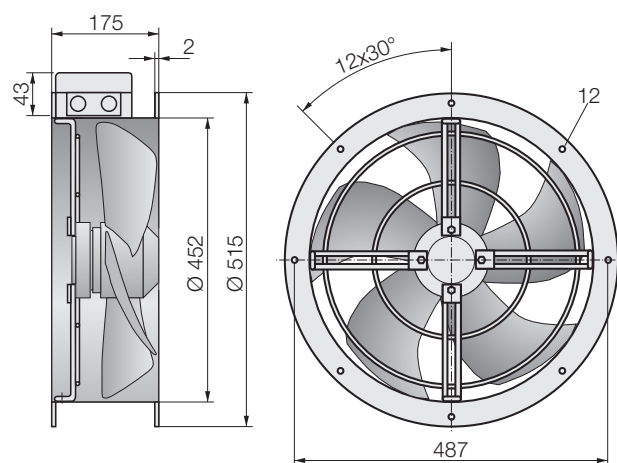
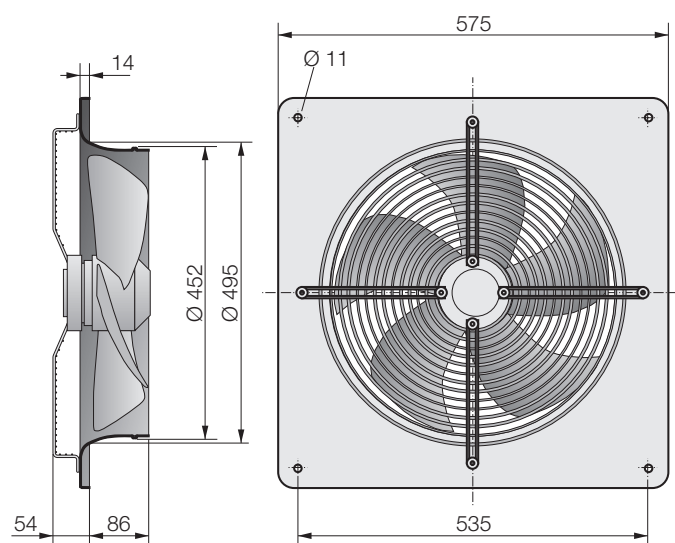


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### AEQ / AER 450 EC



|                            |                                    |                     |                  |                  |
|----------------------------|------------------------------------|---------------------|------------------|------------------|
| Typ : AEQ / AER 450 EC     | I <sub>A</sub> /I <sub>N</sub> : - | ΔdB                 | L <sub>WA5</sub> | L <sub>WA6</sub> |
| ArtNr : - / -              | IP 54                              | L <sub>WA tot</sub> | 0                | 0                |
| 10,5/12 kg                 | E13                                | 125 Hz              | -21              | -21              |
| U : 230 V 50/60 Hz         | -                                  | 250 Hz              | -11              | -11              |
| P <sub>1</sub> : 0,332 kW  | -                                  | 500 Hz              | -8               | -8               |
| I <sub>N</sub> : 2,79 A    | -                                  | 1 kHz               | -6               | -6               |
| n : 1500 min <sup>-1</sup> | -                                  | 2 kHz               | -5               | -5               |
| C <sub>400V</sub> : - μF   | -                                  | 4 kHz               | -8               | -8               |
| t <sub>R</sub> : 50 °C     | -                                  | 8 kHz               | -15              | -15              |



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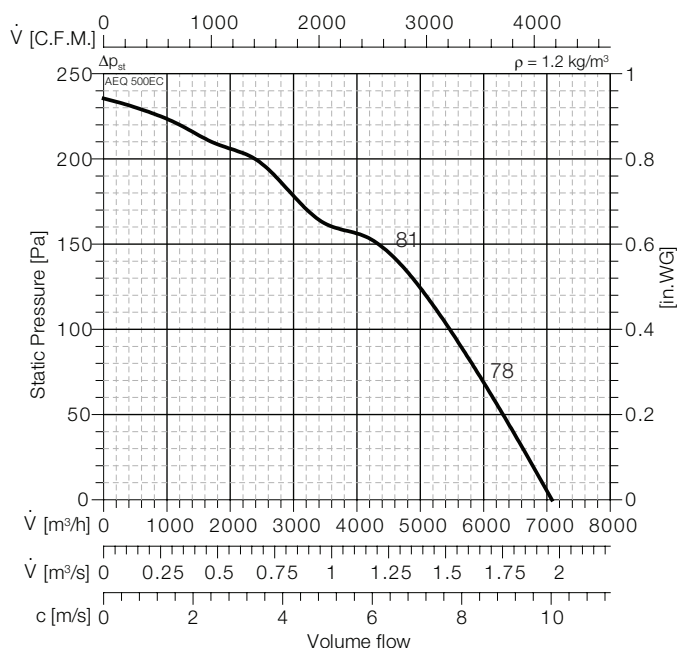
EV-AXR  
GL-AXR



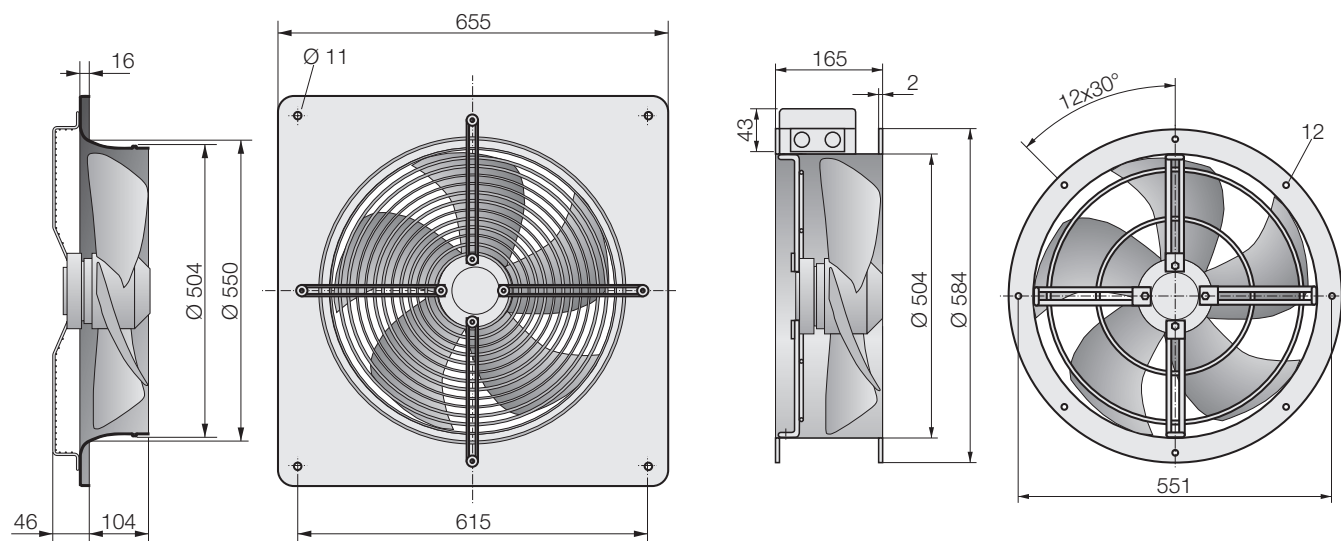
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**AEQ / AER 500 EC**



|                                                                                               |                                                                                       |                                                                                         |                                                                                           |                           |                        |                        |
|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------|------------------------|------------------------|
| <b>Typ :</b> AEQ / AER 500 EC                                                                 |                                                                                       |                                                                                         | <b>I<sub>A</sub>/I<sub>N</sub> :</b> -                                                    | <b>ΔdB</b>                | <b>L<sub>WA5</sub></b> | <b>L<sub>WA6</sub></b> |
| <b>ArtNr :</b> - / -                                                                          |                                                                                       |                                                                                         |  IP 54 | <b>L<sub>WA tot</sub></b> | 0                      | 0                      |
|  16,2/16,2 | <b>kg</b>                                                                             |  E13 | <b>125 Hz</b>                                                                             | -37                       | -37                    |                        |
| <b>U :</b> 230 V 50/60 Hz                                                                     |  - | <b>250 Hz</b>                                                                           | -20                                                                                       | -20                       |                        |                        |
| <b>P<sub>1</sub> :</b> 0,45                                                                   | <b>kW</b>                                                                             |  -   | <b>500 Hz</b>                                                                             | -9                        | -9                     |                        |
| <b>I<sub>N</sub> :</b> 3,5                                                                    | <b>A</b>                                                                              |  -   | <b>1 kHz</b>                                                                              | -6                        | -6                     |                        |
| <b>n :</b> 1400                                                                               | <b>min<sup>-1</sup></b>                                                               |                                                                                         | <b>2 kHz</b>                                                                              | -5                        | -5                     |                        |
| <b>C<sub>400V</sub> :</b> -                                                                   | <b>μF</b>                                                                             |                                                                                         | <b>4 kHz</b>                                                                              | -8                        | -8                     |                        |
| <b>t<sub>R</sub> :</b> 50                                                                     | <b>°C</b>                                                                             |                                                                                         | <b>8 kHz</b>                                                                              | -16                       | -16                    |                        |



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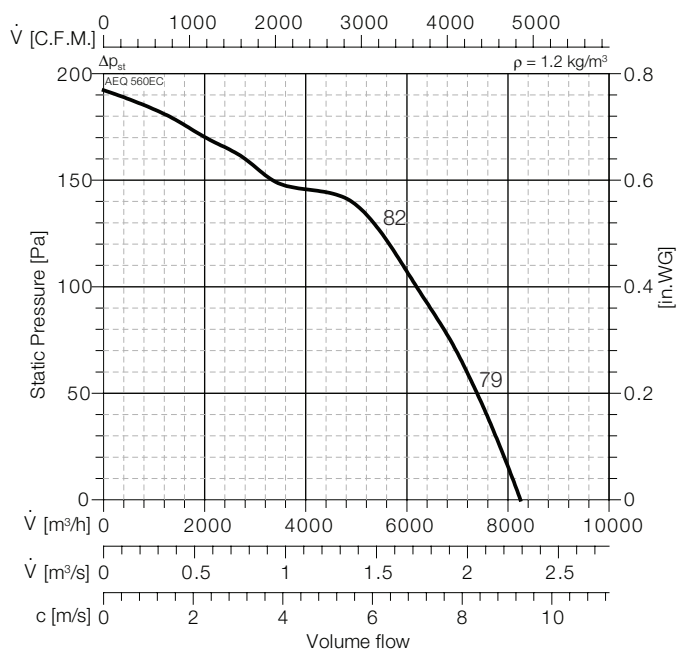


EV-AXR  
GL-AXR

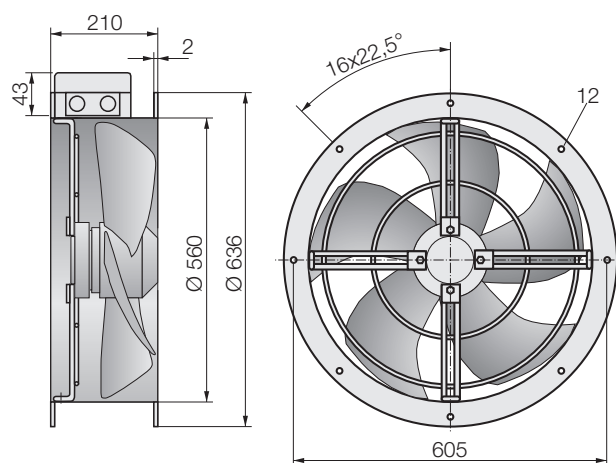
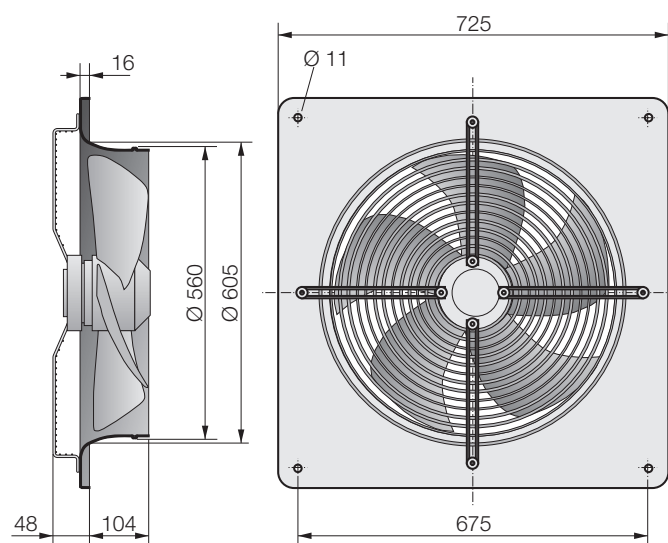


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**AEQ / AER 560 EC**



|                                                                                     |                |                         |                                                                                     |       |                           |                        |                        |
|-------------------------------------------------------------------------------------|----------------|-------------------------|-------------------------------------------------------------------------------------|-------|---------------------------|------------------------|------------------------|
| <b>Typ : AEQ / AER 560 EC</b>                                                       |                |                         | <b>I<sub>A</sub>/I<sub>N</sub> :</b>                                                | -     | <b>ΔdB</b>                | <b>L<sub>WA5</sub></b> | <b>L<sub>WA6</sub></b> |
| <b>ArtNr :</b> - / -                                                                |                |                         |  | IP 54 | <b>L<sub>WA tot</sub></b> | 0                      | 0                      |
|  | 20,6/19        | <b>kg</b>               |  | E13   | <b>125 Hz</b>             | -37                    | -37                    |
| <b>U :</b>                                                                          | 230 V 50/60 Hz |                         |  | -     | <b>250 Hz</b>             | -19                    | -19                    |
| <b>P<sub>1</sub> :</b>                                                              | 0,52           | <b>kW</b>               |  | -     | <b>500 Hz</b>             | -9                     | -9                     |
| <b>I<sub>N</sub> :</b>                                                              | 3,9            | <b>A</b>                |  | -     | <b>1 kHz</b>              | -6                     | -6                     |
| <b>n :</b>                                                                          | 1400           | <b>min<sup>-1</sup></b> |                                                                                     |       | <b>2 kHz</b>              | -8                     | -8                     |
| <b>C<sub>400V</sub> :</b>                                                           | -              | <b>μF</b>               |                                                                                     |       | <b>4 kHz</b>              | -12                    | -12                    |
| <b>t<sub>P</sub> :</b>                                                              | 50             | <b>°C</b>               |                                                                                     |       | <b>8 kHz</b>              | -21                    | -21                    |



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EV-AXR  
GL-AXR



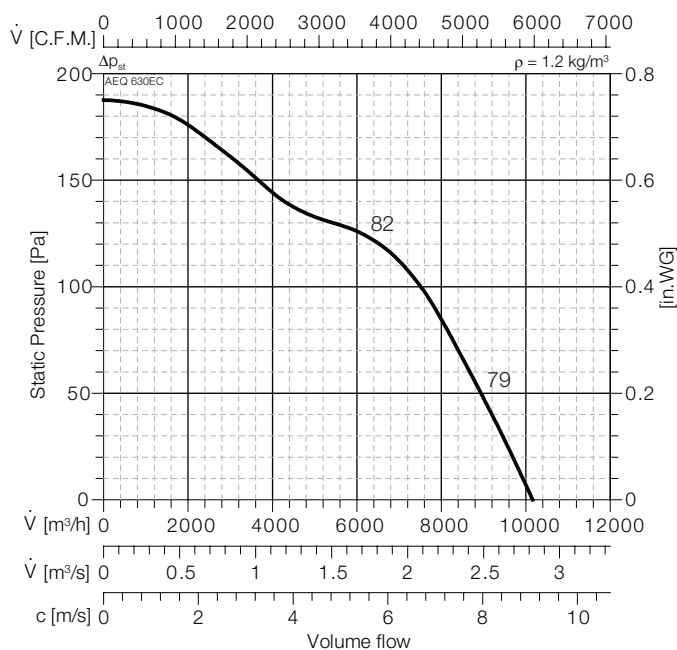
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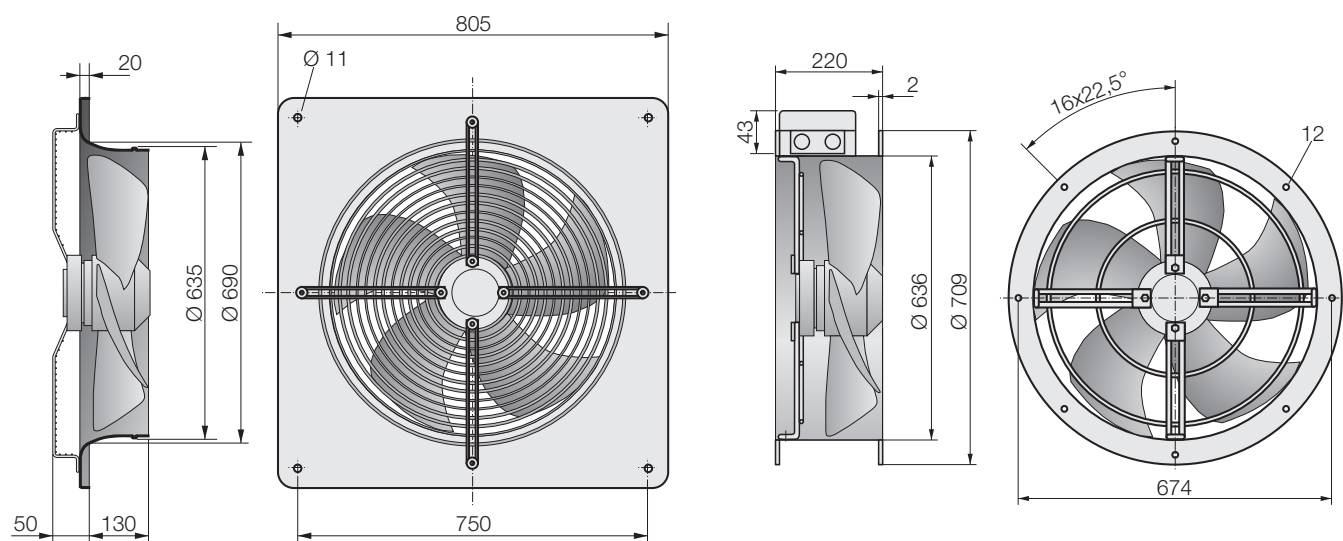
AEQ, ADQ, AER, ADR



## AEQ / AER 630 EC



| Typ : AEQ / AER 630 EC            | I <sub>A</sub> /I <sub>N</sub> : | -     | ΔdB                 | L <sub>WA5</sub> | L <sub>WA6</sub> |
|-----------------------------------|----------------------------------|-------|---------------------|------------------|------------------|
| ArtNr : - / -                     | △                                | IP 54 | L <sub>WA tot</sub> | 0                | 0                |
| : 25,2/26 kg                      | ★                                | E13   | 125 Hz              | -35              | -35              |
| <b>U</b> : 230 V 50/60 Hz         | ⏏                                | -     | 250 Hz              | -20              | -20              |
| <b>P<sub>1</sub></b> : 0,528 kW   |                                  | -     | 500 Hz              | -10              | -10              |
| <b>I<sub>N</sub></b> : 4,07 A     |                                  | -     | 1 kHz               | -5               | -5               |
| <b>n</b> : 1215 min <sup>-1</sup> |                                  |       | 2 kHz               | -5               | -5               |
| <b>C<sub>400v</sub></b> : - μF    |                                  |       | 4 kHz               | -8               | -8               |
| <b>t<sub>R</sub></b> : 50 °C      |                                  |       | 8 kHz               | -19              | -19              |



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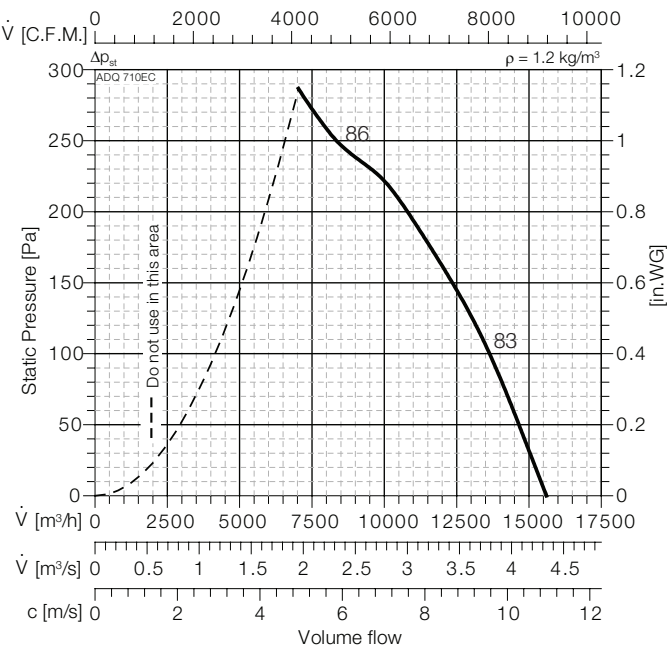


EV-AXR  
GL-AXR

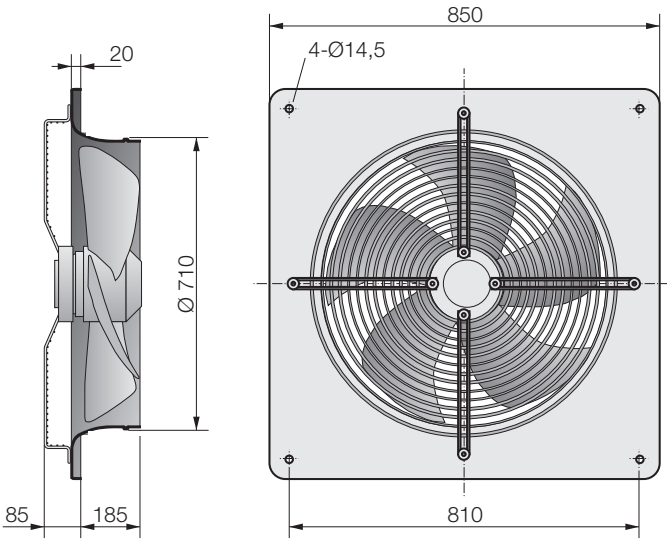


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ADQ 710 EC



|                     |                        |                                  |       |                     |                  |                  |
|---------------------|------------------------|----------------------------------|-------|---------------------|------------------|------------------|
| Typ :               | ADQ 710 EC             | I <sub>A</sub> /I <sub>N</sub> : | -     | ΔdB                 | L <sub>WA5</sub> | L <sub>WA6</sub> |
| ArtNr :             | -                      |                                  | IP 54 | L <sub>WA tot</sub> | 0                | 0                |
|                     | 45 kg                  |                                  | DD0b  | 125 Hz              | -39              | -39              |
| U :                 | 400 V 50/60 Hz         |                                  | -     | 250 Hz              | -21              | -21              |
| P <sub>1</sub> :    | 1,44 kW                |                                  | -     | 500 Hz              | -11              | -11              |
| I <sub>N</sub> :    | 2,7 A                  |                                  | -     | 1 kHz               | -7               | -7               |
| n :                 | 1250 min <sup>-1</sup> |                                  |       | 2 kHz               | -3               | -3               |
| C <sub>400v</sub> : | - μF                   |                                  |       | 4 kHz               | -7               | -7               |
| t <sub>R</sub> :    | 50 °C                  |                                  |       | 8 kHz               | -18              | -18              |



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EV-AXR  
GL-AXR



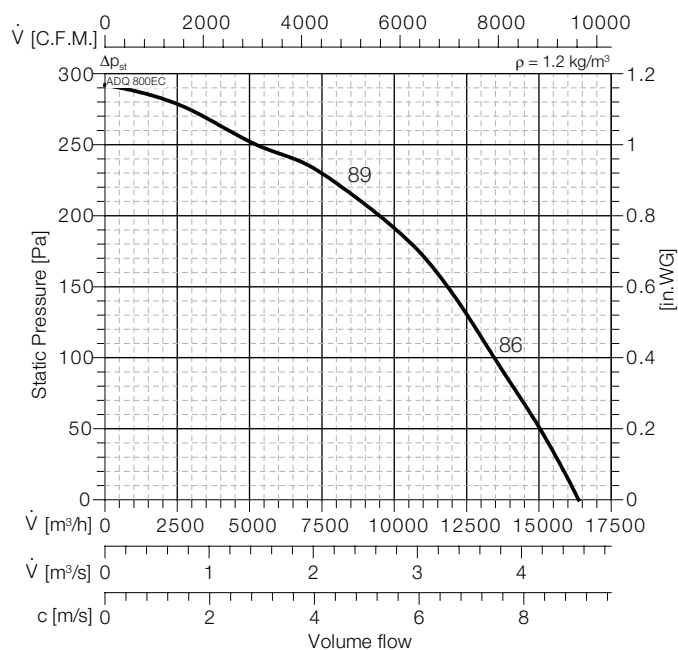
WVK



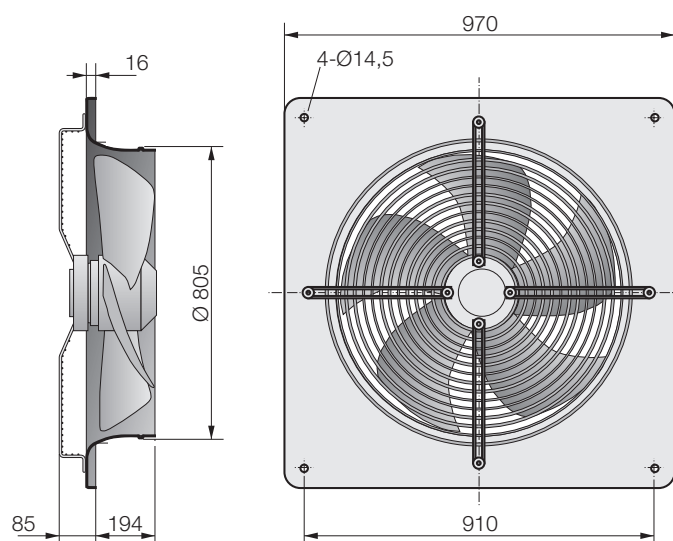
AEQ, ADQ, AER, ADR



## ADQ 800 EC



|              |                        |             |       |                      |           |           |
|--------------|------------------------|-------------|-------|----------------------|-----------|-----------|
| Typ :        | ADQ 800 EC             | $I_A/I_N$ : | -     | $\Delta$ dB          | $L_{WA5}$ | $L_{WA6}$ |
| ArtNr :      | -                      |             | IP 54 | $L_{WA \text{ tot}}$ | 0         | 0         |
| :            | 49 kg                  | :           | DD0b  | 125 Hz               | -39       | -39       |
| U :          | 400 V 50/60 Hz         | :           | -     | 250 Hz               | -21       | -21       |
| $P_1$ :      | 1,65 kW                | :           | -     | 500 Hz               | -11       | -11       |
| $I_N$ :      | 3,3 A                  | :           | -     | 1 kHz                | -7        | -7        |
| n :          | 1165 min <sup>-1</sup> |             |       | 2 kHz                | -3        | -3        |
| $C_{400V}$ : | - $\mu$ F              |             |       | 4 kHz                | -7        | -7        |
| $t_R$ :      | 50 °C                  |             |       | 8 kHz                | -18       | -18       |



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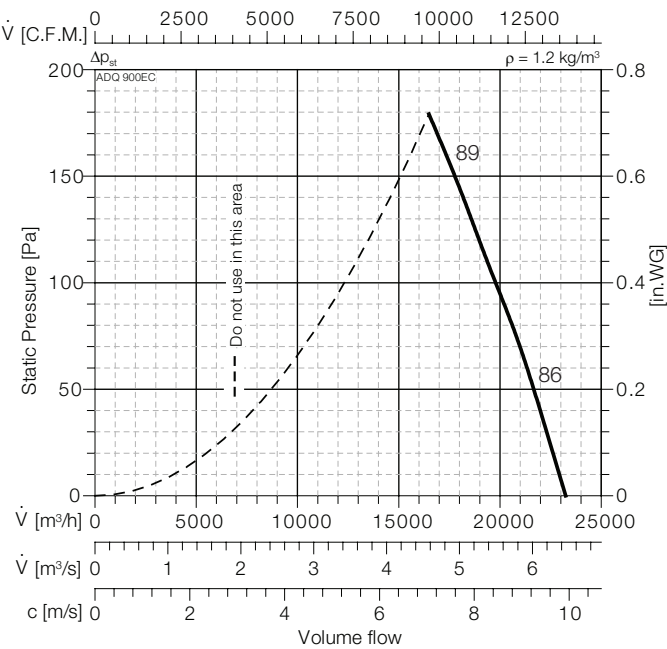


EV-AXR  
GL-AXR

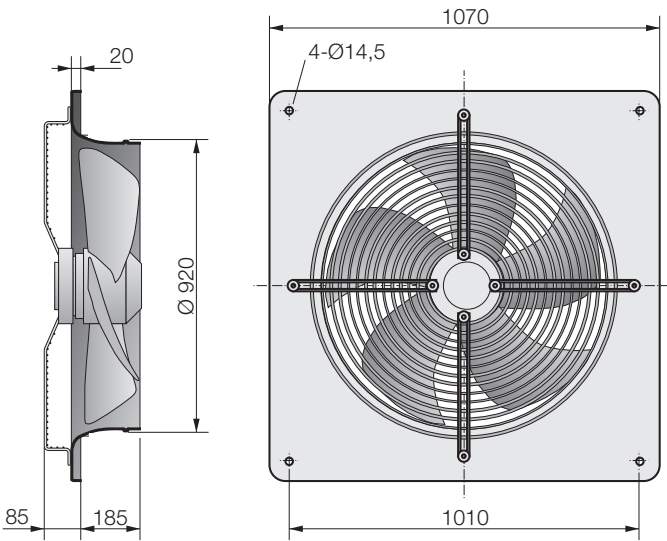


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ADQ 900 EC



|                     |                        |                                  |       |                     |                  |                  |
|---------------------|------------------------|----------------------------------|-------|---------------------|------------------|------------------|
| Typ :               | ADQ 900 EC             | I <sub>A</sub> /I <sub>N</sub> : | -     | ΔdB                 | L <sub>WA5</sub> | L <sub>WA6</sub> |
| ArtNr :             | 117821                 |                                  | IP 54 | L <sub>WA tot</sub> | 0                | 0                |
|                     | 71 kg                  |                                  | DD0b  | 125 Hz              | -39              | -39              |
| U :                 | 400 V 50/60 Hz         |                                  | -     | 250 Hz              | -21              | -21              |
| P <sub>1</sub> :    | 2,0 kW                 |                                  | -     | 500 Hz              | -11              | -11              |
| I <sub>N</sub> :    | 3,65 A                 |                                  | -     | 1 kHz               | -7               | -7               |
| n :                 | 1000 min <sup>-1</sup> |                                  |       | 2 kHz               | -3               | -3               |
| C <sub>400v</sub> : | - μF                   |                                  |       | 4 kHz               | -7               | -7               |
| t <sub>R</sub> :    | 50 °C                  |                                  |       | 8 kHz               | -18              | -18              |



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EV-AXR  
GL-AXR



WVK