

# Iso-B EC

## Sound-insulated inline centrifugal fans

### Use

- Supply and extract ventilation systems installed in premises with high requirements to the noise level.
- Suitable for limited mounting space.
- Unit design includes a possibility of space-restricted installation above suspended ceilings.
- Compatible with  $\varnothing$  100 up to 315 mm round air ducts.



**Air flow:**  
up to 1260 m<sup>3</sup>/h  
350 l/s



**Power:**  
from 92.6 W



**Noise level:**  
from 32 dBA



### Design

- Galvanized steel casing internally filled thermal- and sound-insulating layer.
- The connection spigots are equipped with rubber seals.
- Fixing brackets for easy mounting.

### Motor

- High-efficient direct current EC motor with external rotor and backward curved blades.
- EC technology meets the up-to-date requirements to energy-saving and controllable ventilation and provides up to 35 % energy saving as compared to asynchronous motors.
- EC motor ensures totally controllable speed range for the fan and has integrated overheating protection with automatic restart.
- EC motor has no friction and wearing parts as capacitor and brushes. Instead a maintenance-free EC controller electronic circuit board is used.
- The impeller is dynamically balanced.
- The fan is compatible with 50 Hz and 60 Hz power mains and the maximum speed does not depend on power mains frequency.

### Speed control

- The fan speed is controlled with a 0–10 V control signal from the following sources:
  - integrated or external speed controller
  - controller with sensors
  - central BMS system.

- The control signal value changes depending on air temperature, pressure, smoke concentration and other parameters.
- During signal value change the fan with EC motor correspondingly changes the rotations speed and delivers required air volume to the ventilation system.
- The computer central building management systems (BMS) enable integration of several EC motors in network and precise individual operation control for each fan.

### Mounting

- The fans are intended for installation in round air ducts. They are installed between the air ducts.
- The use of flexible connectors requires fixation of the fan on the building structure by means of supports, mounts or fixing brackets.
- The fan can be fixed in any position, taking into account the air flow direction indicated by the arrow on the fan casing.
- While mounting the fan provide enough access for servicing and repair operations.
- Electrical connection and installation must be performed in accordance with the instruction manual and the electrical connections diagram applied to the terminal box.

### Modifications and options

- FR1:** smooth speed controller adjustable from 0 to 100 % and power cable with mains plug.
- W1:** power cable with mains plug.

#### Designation key

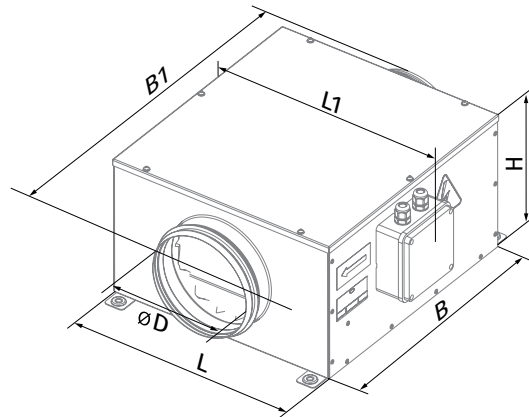
| Series | Motor                               | Spigot diameter [mm]              | Options  |
|--------|-------------------------------------|-----------------------------------|--|
| Iso-B  | EC: electronically commutated motor | 100; 125; 150; 160; 200; 250; 315 | FR1: smooth speed controller adjustable from 0 to 100 % and power cable with mains plug<br>W1: power cable with mains plug |

#### Accessories

| Silencers   | Filter boxes   | Electric heaters   | Water heaters  | Backdraft air dampers  | Air dampers   | Speed controllers   |
|---|--|--|--|--|---|---|
| <br>SD | <br>KFBK / KFBT | <br>EKH | <br>WKH | <br>VRV | <br>VK / VKA | <br>CDT E/0-10 |

**Overall dimensions [mm]**

| Type         | Ø D | L   | L1  | B   | B1  | H   |
|--------------|-----|-----|-----|-----|-----|-----|
| Iso-B EC 100 | 99  | 325 | 375 | 355 | 447 | 200 |
| Iso-B EC 125 | 124 | 325 | 375 | 355 | 447 | 200 |
| Iso-B EC 150 | 149 | 325 | 405 | 385 | 447 | 220 |
| Iso-B EC 160 | 159 | 325 | 405 | 385 | 447 | 220 |
| Iso-B EC 200 | 199 | 435 | 490 | 485 | 590 | 295 |
| Iso-B EC 250 | 249 | 435 | 490 | 485 | 590 | 295 |
| Iso-B EC 315 | 314 | 435 | 560 | 545 | 650 | 405 |



**Technical data**

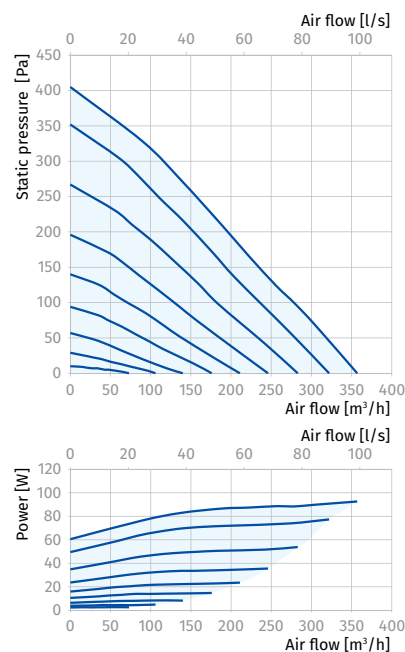
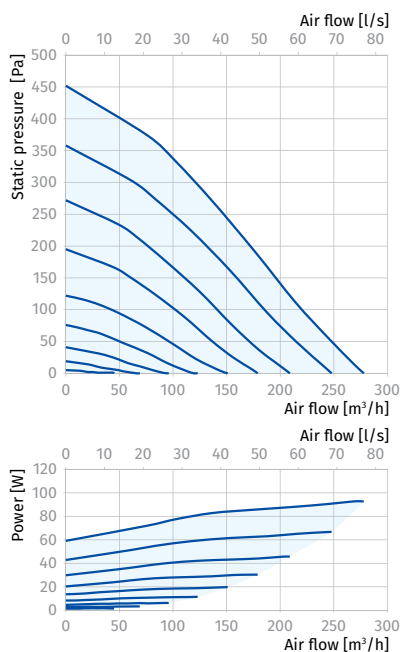
| Parameters                                     | Iso-B EC 100 | Iso-B EC 125 | Iso-B EC 150<br>Iso-B EC 160 | Iso-B EC 200 | Iso-B EC 250 | Iso-B EC 315 |
|--|--------------|--------------|------------------------------|--------------|--------------|--------------|
| Voltage [V]                                    | 1 ~ 230      | 1 ~ 230      | 1 ~ 230                      | 1 ~ 230      | 1 ~ 230      | 1 ~ 230      |
| Frequency [Hz]                                 | 50/60        | 50/60        | 50/60                        | 50/60        | 50/60        | 50/60        |
| Power [W]                                      | 92.7         | 92.6         | 94.8                         | 101.6        | 163.7        | 164.3        |
| Current [A]                                    | 0.75         | 0.75         | 0.77                         | 0.83         | 1.34         | 1.35         |
| Maximum air capacity [m <sup>3</sup> /h (l/s)] | 278 (77)     | 357 (99)     | 425 (118)                    | 700 (194)    | 1145 (318)   | 1260 (350)   |
| RPM [min <sup>-1</sup> ]                       | 3200         | 3200         | 3200                         | 2580         | 2510         | 2620         |
| Sound pressure level at 3 m distance [dBA]     | 32           | 34           | 35                           | 37           | 40           | 42           |
| Max. transported air temperature [°C]          | -25...+60    | -25...+60    | -25...+60                    | -25...+60    | -25...+60    | -25...+60    |
| Energy efficiency class                        | C            | C            | B                            | B            | B            | -            |
| IP rating                                      | IPX4         | IPX4         | IPX4                         | IPX4         | IPX4         | IPX4         |
| Motor IP rating                                | IP55         | IP55         | IP55                         | IP55         | IP55         | IP55         |
| ErP  | 2018         | 2018         | 2018                         | 2018         | 2018         | 2018         |

**ISO-B EC 100**

| Sound power level,<br>A-weighted     | Total | Octave frequency bands [Hz] |     |     |     |      |      |      |      | LpA<br>3 m | LpA<br>1 m |
|--------------------------------------|-------|-----------------------------|-----|-----|-----|------|------|------|------|------------|------------|
|                                      |       | 63                          | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |            |            |
| L <sub>WA</sub> to inlet [dBA]       | 61    | 47                          | 55  | 59  | 51  | 47   | 41   | 41   | 32   | 41         | 51         |
| L <sub>WA</sub> to outlet [dBA]      | 64    | 52                          | 59  | 60  | 57  | 47   | 41   | 42   | 36   | 44         | 54         |
| L <sub>WA</sub> to environment [dBA] | 53    | 42                          | 49  | 49  | 41  | 36   | 31   | 27   | 23   | 32         | 42         |

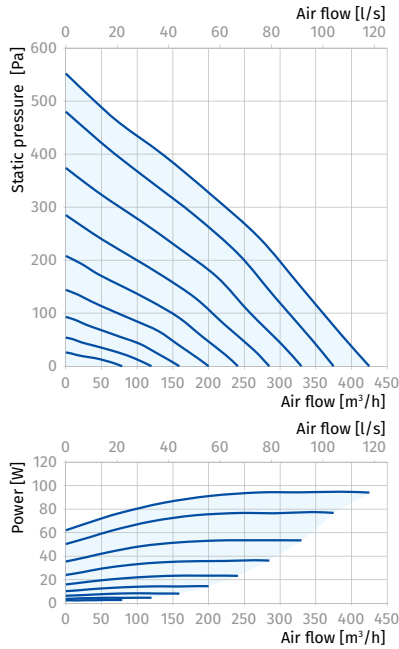
**ISO-B EC 125**

| Sound power level,<br>A-weighted     | Total | Octave frequency bands [Hz] |     |     |     |      |      |      |      | LpA<br>3 m | LpA<br>1 m |
|--------------------------------------|-------|-----------------------------|-----|-----|-----|------|------|------|------|------------|------------|
|                                      |       | 63                          | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |            |            |
| L <sub>WA</sub> to inlet [dBA]       | 60    | 46                          | 54  | 58  | 50  | 46   | 40   | 40   | 31   | 40         | 50         |
| L <sub>WA</sub> to outlet [dBA]      | 63    | 51                          | 58  | 59  | 56  | 46   | 40   | 41   | 35   | 43         | 53         |
| L <sub>WA</sub> to environment [dBA] | 55    | 44                          | 51  | 51  | 43  | 38   | 32   | 28   | 24   | 34         | 44         |



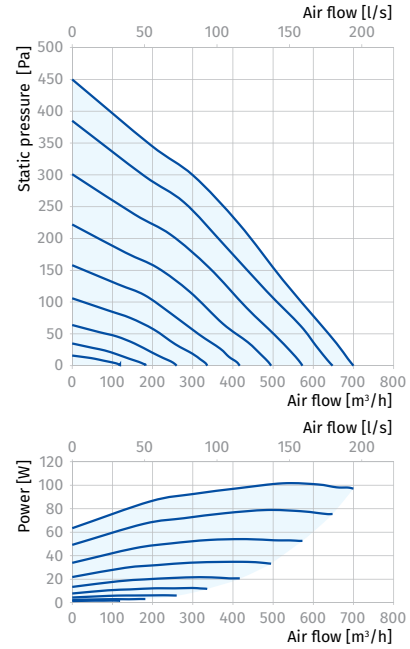
**ISO-B EC 150 / ISO-B EC 160**

| Sound power level, A-weighted | Total | Octave frequency bands [Hz] |     |     |     |      |      |      |      | LpA 3 m | LpA 1 m |
|-------------------------------|-------|-----------------------------|-----|-----|-----|------|------|------|------|---------|---------|
|                               |       | 63                          | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |         |         |
| LWA to inlet [dBA]            | 63    | 48                          | 56  | 60  | 52  | 48   | 42   | 42   | 32   | 42      | 52      |
| LWA to outlet [dBA]           | 65    | 53                          | 60  | 61  | 58  | 48   | 42   | 43   | 36   | 45      | 55      |
| LWA to environment [dBA]      | 56    | 45                          | 52  | 52  | 44  | 39   | 33   | 29   | 24   | 35      | 45      |



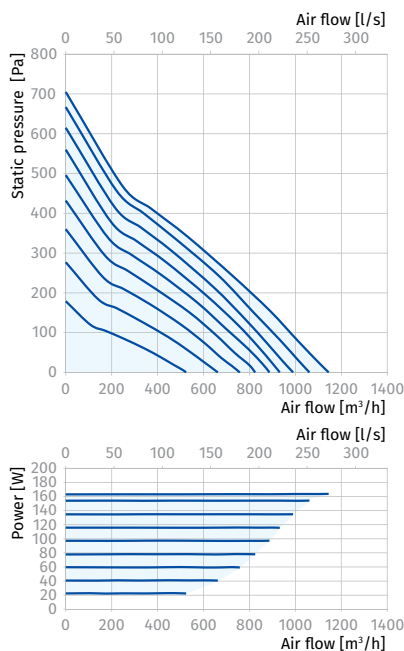
**ISO-B EC 200**

| Sound power level, A-weighted | Total | Octave frequency bands [Hz] |     |     |     |      |      |      |      | LpA 3 m | LpA 1 m |
|-------------------------------|-------|-----------------------------|-----|-----|-----|------|------|------|------|---------|---------|
|                               |       | 63                          | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |         |         |
| LWA to inlet [dBA]            | 62    | 46                          | 59  | 59  | 41  | 37   | 34   | 30   | 23   | 41      | 51      |
| LWA to outlet [dBA]           | 65    | 52                          | 64  | 51  | 47  | 43   | 35   | 29   | 22   | 44      | 54      |
| LWA to environment [dBA]      | 57    | 46                          | 53  | 54  | 45  | 40   | 33   | 30   | 25   | 37      | 47      |



**ISO-B EC 250**

| Sound power level, A-weighted | Total | Octave frequency bands [Hz] |     |     |     |      |      |      |      | LpA 3 m | LpA 1 m |
|-------------------------------|-------|-----------------------------|-----|-----|-----|------|------|------|------|---------|---------|
|                               |       | 63                          | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |         |         |
| LWA to inlet [dBA]            | 66    | 49                          | 62  | 62  | 44  | 39   | 36   | 32   | 24   | 45      | 55      |
| LWA to outlet [dBA]           | 68    | 55                          | 68  | 54  | 50  | 45   | 37   | 31   | 24   | 48      | 58      |
| LWA to environment [dBA]      | 61    | 49                          | 57  | 57  | 48  | 43   | 36   | 32   | 27   | 40      | 50      |



**ISO-B EC 315**

| Sound power level, A-weighted | Total | Octave frequency bands [Hz] |     |     |     |      |      |      |      | LpA 3 m | LpA 1 m |
|-------------------------------|-------|-----------------------------|-----|-----|-----|------|------|------|------|---------|---------|
|                               |       | 63                          | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |         |         |
| LWA to inlet [dBA]            | 67    | 52                          | 61  | 65  | 56  | 51   | 45   | 45   | 35   | 46      | 56      |
| LWA to outlet [dBA]           | 70    | 56                          | 65  | 66  | 62  | 51   | 44   | 46   | 39   | 49      | 59      |
| LWA to environment [dBA]      | 62    | 51                          | 58  | 59  | 50  | 44   | 37   | 32   | 28   | 42      | 52      |

