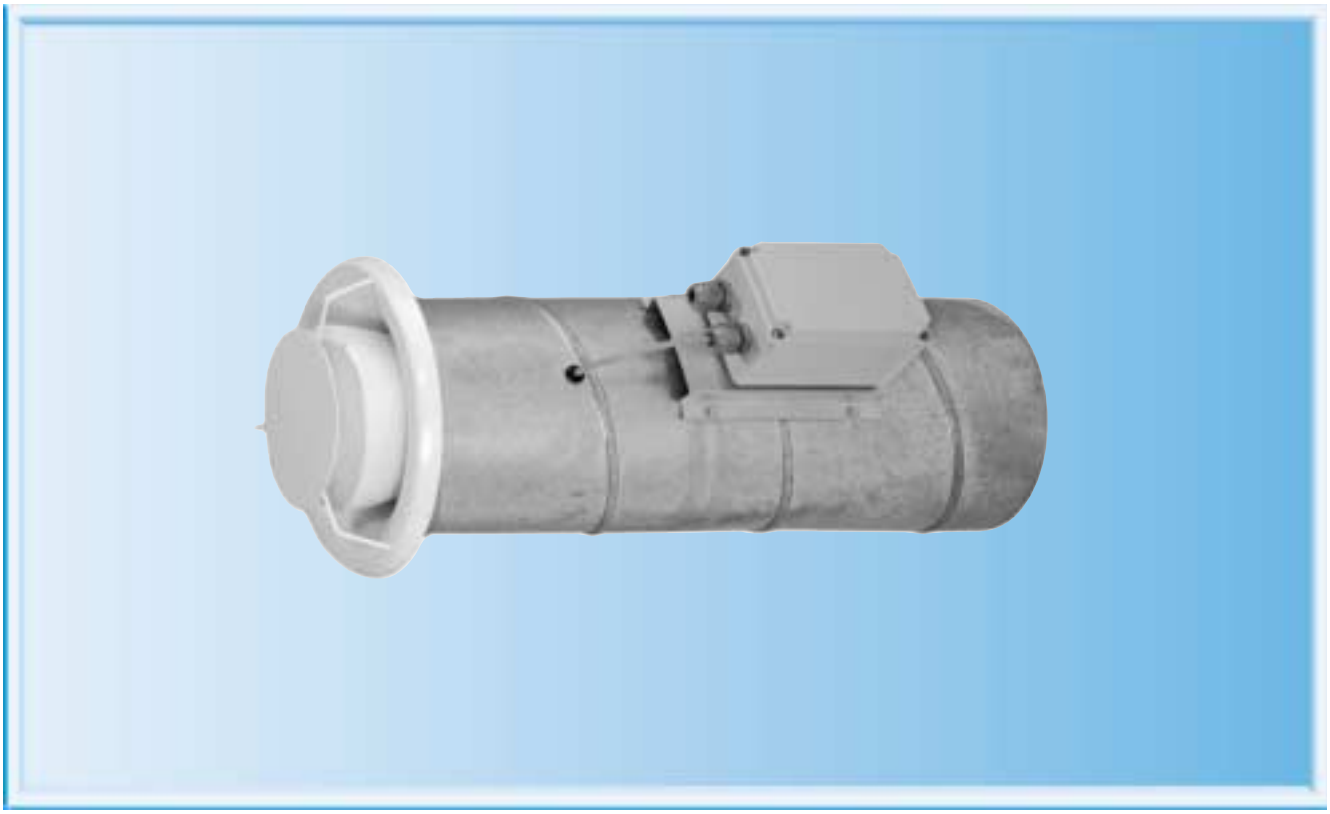
# AFCa

e.r.i.c.

**Active exhaust register**



***FUNCTION***

*Active exhaust register for mounting in ceilings or walls. Developed for ventilation systems with constant pressure in branch ducts and demand controlled airflows.High airflow capacity with low sound levels.*

***QUICK FACTS***

- Active damper control
- High airflow capacity
- Cleanable
- Aerodynamically shaped

***QUICK GUIDE***

| AIRFLOWS-SOUND LEVELS | | | |
|---|---|---|---|
| AFCa Size | Flow range l/s min | max | dB(A) |
| 160 | 3 | 60 | <30 |

All data applies to fully open slot with constant pressure of 50 Pa.

AFCa

### *DEISGN*

AFCa consists of three parts: a mounting frame. Outer cone and inner cone.
The inner cone is suspended on a swivel pin and can slide in and out of the outer cone. It is equipped with an electric motor which is connected with the control unit (see accessories).
The outer cone is screwed into the mounting frame in the bayonet fastening. It is also equipped with a sealing strip that seals between the wall and mounting frame.
The mounting frame has the same nipple dimension as the connecting duct and a bayonet fastening for the outer cone.

### *MATERIALS AND SURFACE TREATMENT*

AFCa is manufactured in galvanised sheet steel, painted on both interior and exterior surfaces with Stifab Farex white interior paint.

### *ACCESSORIES*

| | |
|---|---|
| JUNCTION BOX: | With control card. Supplied with AFCa. |
| ROOM REGULATOR: | KCDa, control accessory. |
| TEMP.SENSOR: | KSTa, control accessory. |
| $CO_2$ SENSOR: | KSCa, control accessory. |
| OCCUPANCY SENSOR | KSOa, control accessory. |

### *PLANNING*

A detailed planning guide describing the entire e.r.i.c. concept is to be found in the technical section.

Since the terminal is active and the branch duct pressure is maintained at a constant level, the selection of terminals is carried out as described below:

Select a constant pressure. Follow the pressure line in the graph from left to right. The flow range can now be read off and with the aid of the pressure range lines maximum and minimum flows can be determined. These flows are stated in the specifications for the terminal and the room regulator KCDa (see separate product sheet). Note that at constant pressure the sound level decreases with reduced airflow.

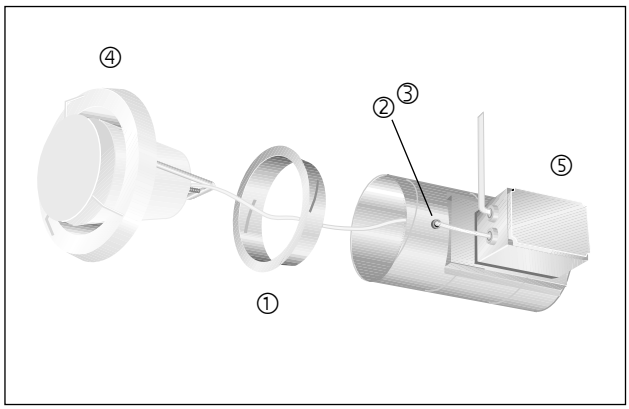
### *INSTALLATION ( SEE FIGURE 1)*

1. The mounting frame AFTC 1a is fixed to the duct system using blind rivets.
2. A hole is drilled in the connecting duct and the supplied rubber bush pushed into the hole.
3. The cable from AFCa is pulled through the rubber bush.
4. The AFCa terminal is turned to fit into the mounting frame.
5. It is suggested that the junction box and control card supplied with the terminal are mounted on the side of the section box or duct, wall etc. The electric cable from AFCa is then connected to the junction box. See wiring diagram.

### *COMMISSIONING*

AFCa are normally pre set via the room regulator KCDa at the factory. Verification measurements can be made using the traditional k-factor measurements via a measurement hook.

***Figure 1 .*** *AFCa*




### *MAINTENANCE*

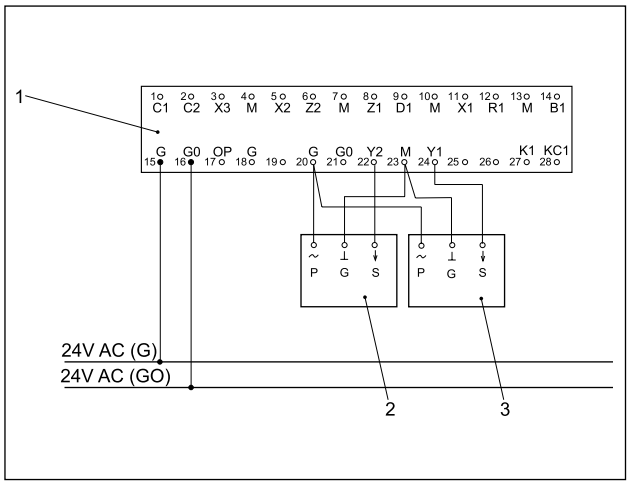
AFCa is cleaned when necessary using lukewarm water with detergent added. Access to the duct system is possible without requiring the use of tools (see installation).

### *ENVIRONMENT*

The environmental declaration of goods is available on our Internet website.

### *CONNECTION*

The supply current for AFCa comes from the room regulator KCDa. (See wiring diagram, also technical section.)




***Wiring diagram***

1. Room regulator KCDa
2. Supply air terminal
3. Exhaust air terminal

### *TECHNICAL DATA*

- The sound level dB(A) applies to rooms of 10 $m^2$ equivalent absorption area.
- Dimensioned power rating 4 VA.

### *Sound data - AFCa - exhaust air*

Sound power level $L_w$(dB)
Table $K_{OK}$

| Size AFCa | Mid-frequency (octave band) Hz 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
|---|---|---|---|---|---|---|---|---|
| 160 | -2 | -2 | 2 | -4 | 0 | -4 | -12 | -17 |
| Tol. ± | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

Sound attenuation ΔL(dB)
TableΔL

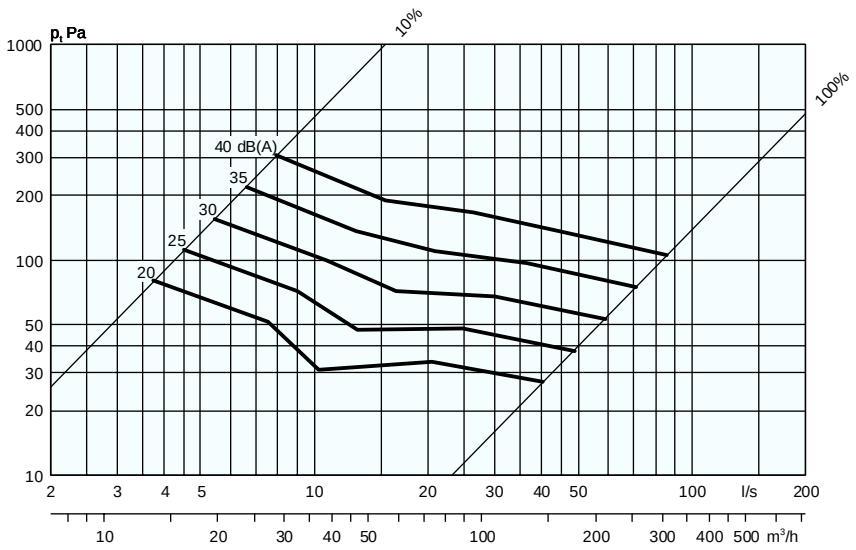
| Size AFCa | Mid-frequency (octave band) Hz 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
|---|---|---|---|---|---|---|---|---|
| 160 | 24 | 18 | 16 | 13 | 12 | 7 | 6 | 6 |
| Tol. ± | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

### *Engineering graphs - AFCa - exhaust air*

### *Airflow - Pressure drop - Sund level - Throw*

- The graphs must not be used for commissioning.
- The dB(A) values are for rooms with normal acoustic damping (4 dB).
- The dB(C) value is normally 6-9 dB´s higher than the dB(A) value. For more accurate calculation, see the calculation template in the chapter on Acoustics in this catalogue. It is found in the Technical Information section.

**AFCa 160**

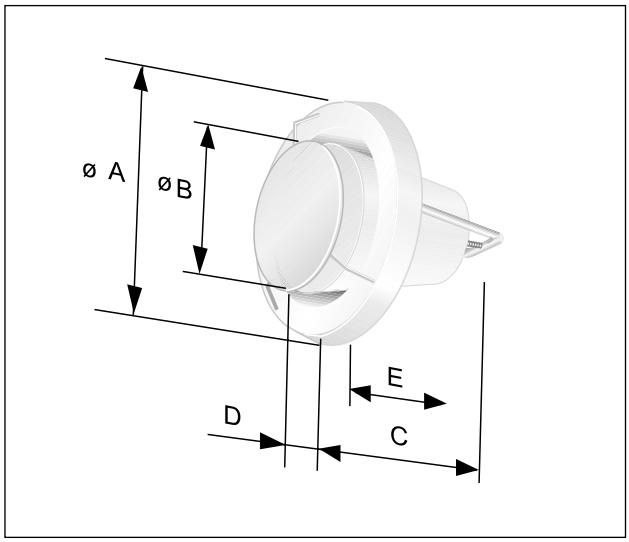


***DIMENSIONS AND WEIGHTS***

***AFCa***

| Size | ØA | ØB | C | D | E | Weight,kg |
|---|---|---|---|---|---|---|
| 160 | 222 | 127 | 107 | 30 | 93 | 0,6 |

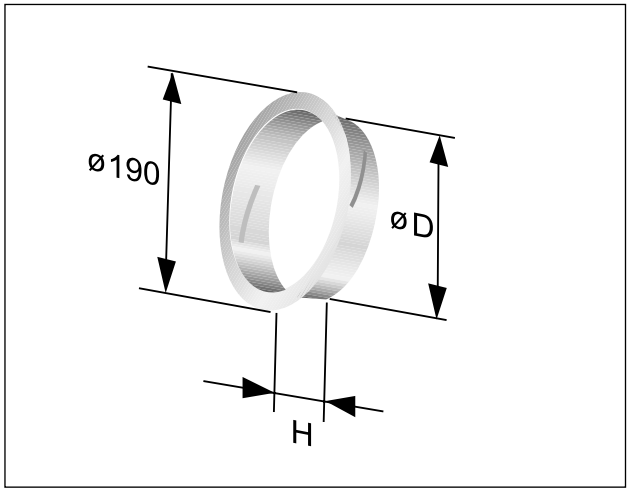
***AFCa***




***Mounting frame KVBT 1***

| Size KVBT 1 | ØD | H | Weight, kg |
|---|---|---|---|
| 160 | 159 | 30 | 0,1 |

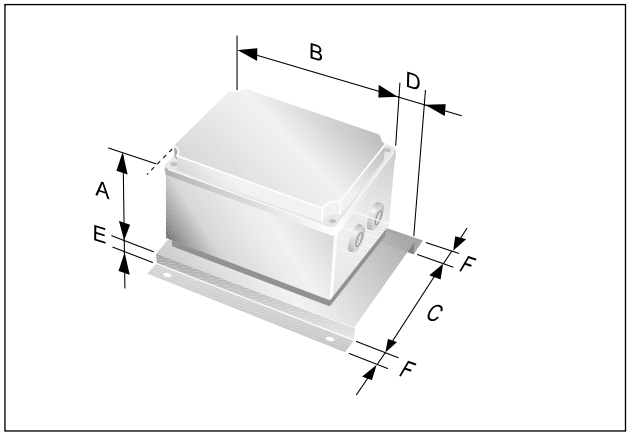
***Monting frame KVBT 1***




***Junction box***

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| | 65 | 110 | 80 | 30 | 12 | 12 |

***Junction box***



***ORDER KEY***

***Product designation***

Square active register for ceilings — AFCa aaa - bbb - ccc

Size:
Nominal connection dimension mm

Minimum airflow l/s
Maximum airflow l/s

Standard range:

Size: 160

***Accessories***
Control accessories such as:
KCDa room regulator
KSTa temperature sensor
KSCa $CO_2$ sensor
KSOa occupancy sensor
are specified in each product sheet.

***SPECIFICATION EXAMPLE***

TD XX
Stifab Farex circular active register, type AFCa with the following functions:

- Active slot opening
- Aerodynamically shaped
- Cleanable, can be opened
- Powder coated white
- Low constant pressure drop
- Optimised sound level
- Guaranteed airflow with small tolerances
- Junction box

*NOTES*