# VIREO Ceiling a with ALS

***Installation – Commissioning – Maintenance***

***20200625***

## Included parts

### Air diffuser VIREO C

- The air diffuser consists of a backing box and a diffuser face made of sheet steel. Powder paint sprayed and baked finish.
- Rectangular nozzles made of environmentally friendly plastic (PP-polypropylene) are mounted in the diffuser face.

### Commissioning box ALS

- Commissioning box made of galvanized sheet steel, contains a removable damper, fixed measurement tapings and sound absorbing material*).

  *) Fire resistance rated to B-s1,d0 in accordance with EN ISO 11925-2.

### Other accessories

- SAR K, for aesthetic installation of a lowered diffuser.
- ADAPTER, for adaptation to various variants and makes of suspended ceiling systems, see separate product sheet.

## Installation

- Dismantle the diffuser face by inserting a thin object, for example a Quick Access card.
- Place the card in between the diffuser face and the diffuser backing box in order to release the springs. Move the card from the centre out towards the corner, see Figure 2.
- The inlet spigot of the diffuser backing box can be secured to the connecting duct by means of self-tapping screws or a blind rivets. Telescopic vertically fine adjustment is possible between the commissioning box and the air diffuser to reach alignment with the ceiling.
- For flush-mounting in fixed ceiling constructions, secure the terminal by means of screws into place in the framework through either the sides or top of the diffuser backing box.
- The air diffuser is designed for installation in modular suspended ceiling systems. The air diffuser can be placed directly in suspended ceiling systems, with visible T-bar framework, then fixed to the commissioning box.
- The commissioning box ALS must be secured to the building structure by means of hangers or mounting brackets. Use the mounting brackets on the sides or the M8 connection on top of the box.
- The distance between the commissioning box and the air diffuser can be increased by 500 mm with a circular duct without having to lengthen the measuring tubes and damper commissioning cords, see figure 3.

## Commissioning with ALS

- Commissioning should be carried out with the face plate mounted.
- Pull the measuring tube and damper adjusting cord out through the face plate. Connect a manometer to the right measuring tube.
- Supply air coloured tube.
- Extract air transparent tube.
- The required commissioning pressure can be calculated by means of the K-factor according to the formula in figure 1.
- Measurement accuracy and requirement on straight duct before the commissioning box, see Figure 3. The requirements of straight duct depends on the type of disturbance before the commissioning box. Figure 3 shows a bend, a dimensional change and a T-piece. Other types of disturbances requires at least 2xD straight (D = connection dimension) for measurement accuracy of ± 10% of the flow.

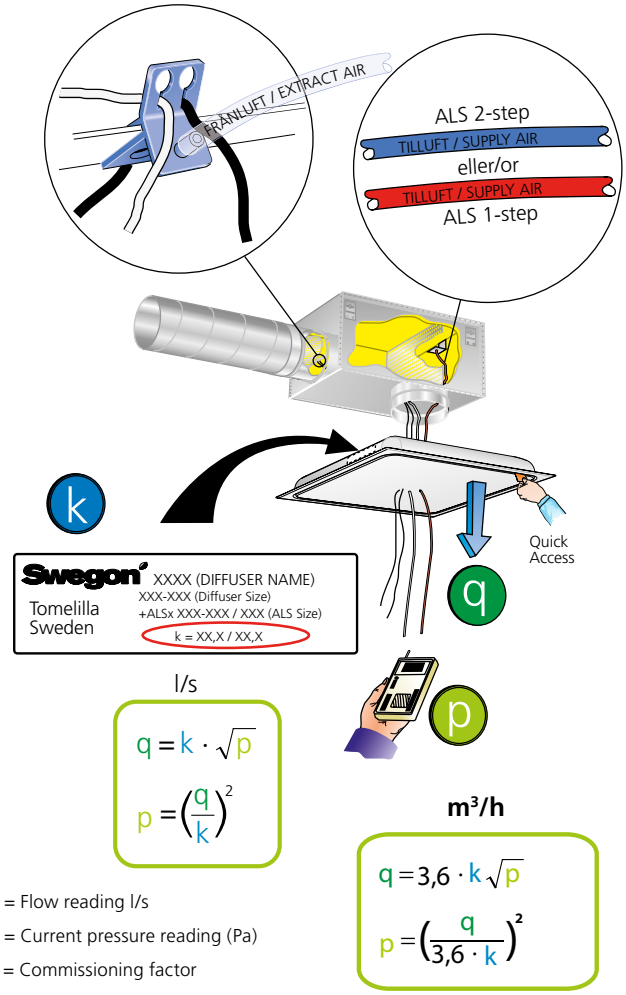



*Figure 1. Commissioning with ALS.*

- The K-factor is specified on the product identification plate or see table page 3.
- Adjust the damper to the correct position and tie a commissioning knot on the damper cords to indicate the damper setting.

## Maintenance

- The air diffuser and the commissioning box can be cleaned, if necessary, using lukewarm water with dishwashing detergent added or by vacuum cleaning using a brush nozzle.
- The duct system can be reached for cleaning after opening the diffuser face, see figure 2, Quick Access.
- Commissioning box ALS has a removable damper to enable access to the duct system.
- NOTE! Make sure the white and black string are tied together (before demounting) to indicate the current damper position.

Swegon

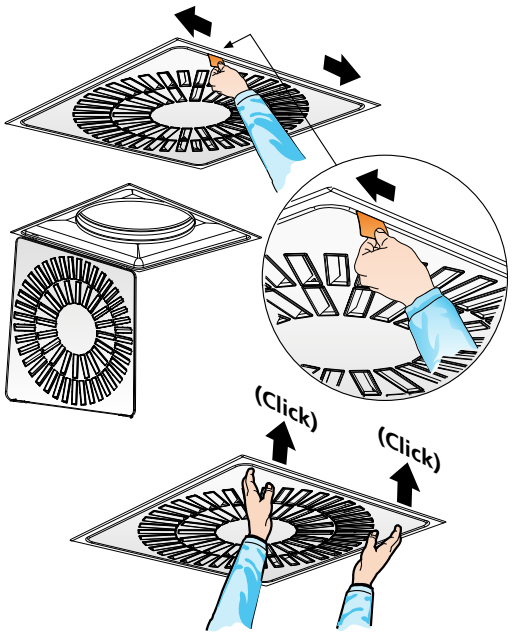



*Figure 2. Quick Access.*

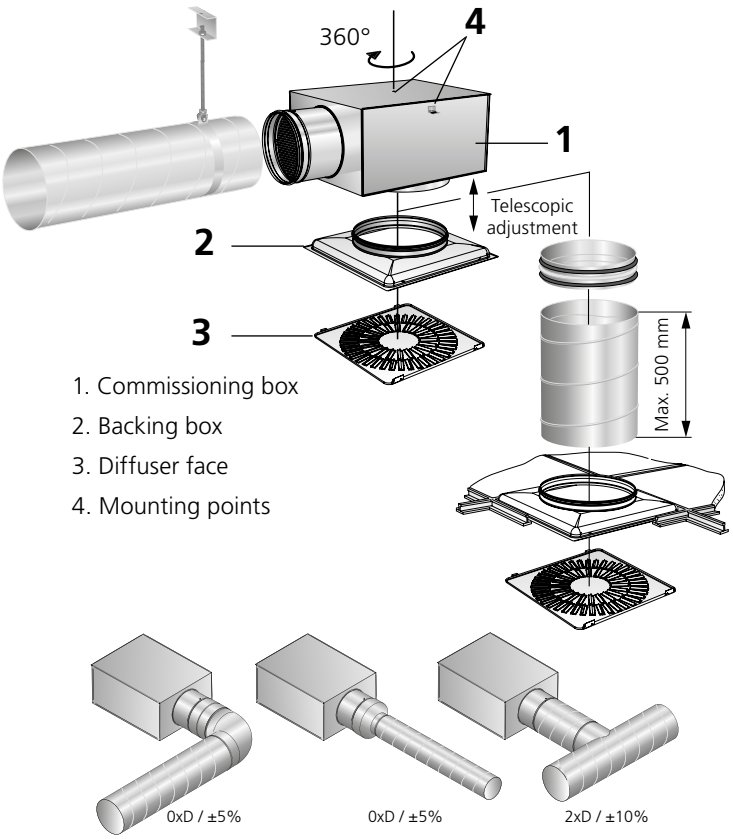



*Figure 3. Installation alternatives.*

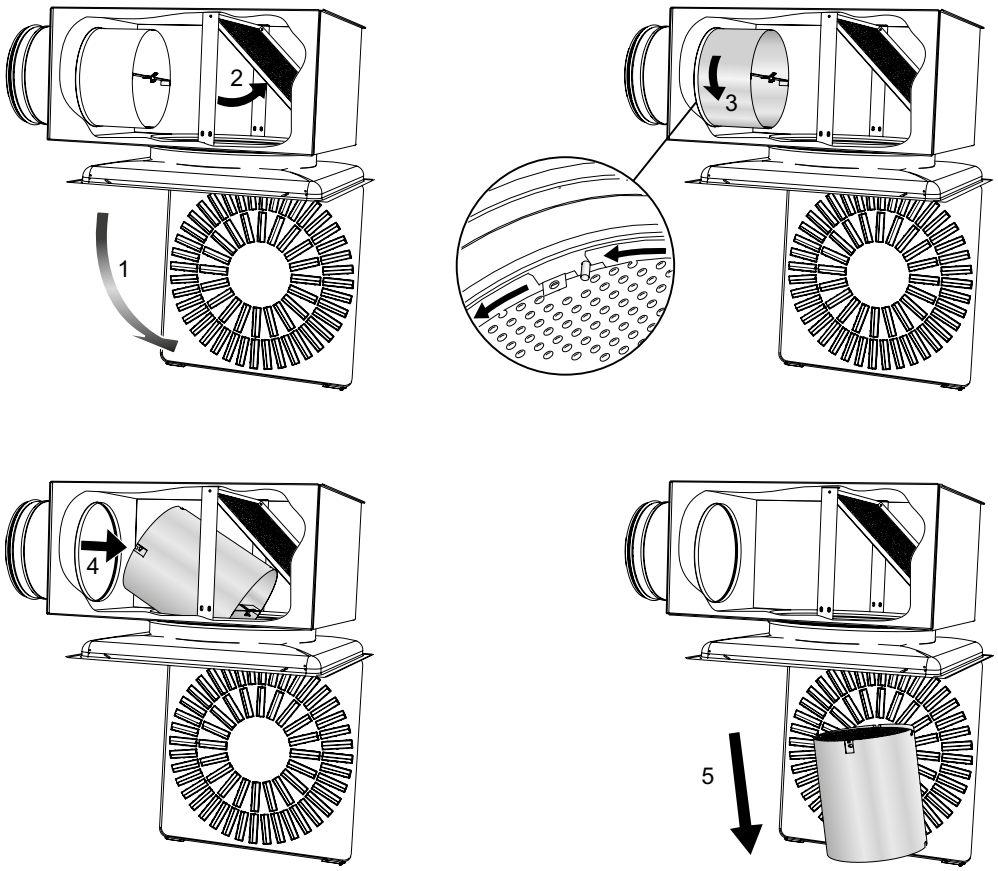



*Figure 4. Dismounting the damper, VIREO C with ALS. Reverse order when mounting the damper.*

# Dimensions and weights

### VIREO C

| Size | A | ØD1 | l | M | Weight, kg |
|---|---|---|---|---|---|
| 125-600 | 595 | 124 | 575 | 70 | 3,5 |
| 160-600 | 595 | 159 | 575 | 70 | 3,5 |
| 200-600 | 595 | 199 | 575 | 70 | 3,5 |
| 250-600 | 595 | 249 | 575 | 70 | 3,4 |
| 315-600 | 595 | 314 | 575 | 50 | 3,2 |
| 400-600 | 595 | 399 | 575 | 50 | 3,1 |

Dimensions of opening in ceiling = l x l

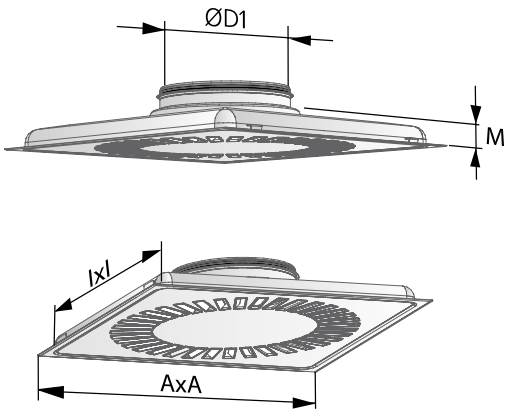



*Figure 5. VIREO C.*

### VIREO C with ALS 1-step

| Size | A | B | C | ØD | Ød | E1 | F1 | G1 | H | K | Weight, kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 125-600 | 595 | 282 | 217 | 99 | 125 | 255 | 113 | 175 | 270 | 80 | 5,4 |
| 160-600 | 595 | 342 | 252 | 124 | 160 | 279 | 113 | 188 | 315 | 80 | 6,0 |
| 200-600 | 595 | 404 | 288 | 159 | 200 | 314 | 113 | 205 | 375 | 100 | 7,0 |
| 250-600 | 595 | 504 | 332 | 199 | 250 | 354 | 113 | 225 | 465 | 115 | 8,3 |
| 315-600 | 595 | 622 | 388 | 249 | 315 | 395 | 93 | 230 | 575 | 140 | 10,6 |
| 400-600 | 595 | 767 | 488 | 314 | 400 | 455 | 93 | 262 | 712 | 175 | 15,0 |

### VIREO C with ALS 2-step

| Size | A | B | C | ØD | Ød | E1 | F1 | G1 | H | K | Weight, kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 160-600 | 595 | 342 | 252 | 99 | 160 | 255 | 113 | 175 | 315 | 80 | 5,7 |
| 200-600 | 595 | 404 | 288 | 124 | 200 | 279 | 113 | 188 | 355 | 80 | 6,4 |
| 250-600 | 595 | 504 | 332 | 159 | 250 | 314 | 113 | 205 | 450 | 100 | 7,5 |
| 315-600 | 595 | 622 | 388 | 199 | 315 | 334 | 93 | 205 | 550 | 115 | 9,6 |
| 400-600 | 595 | 622 | 488 | 249 | 400 | 400 | 100 | 230 | 535 | 140 | 11,4 |

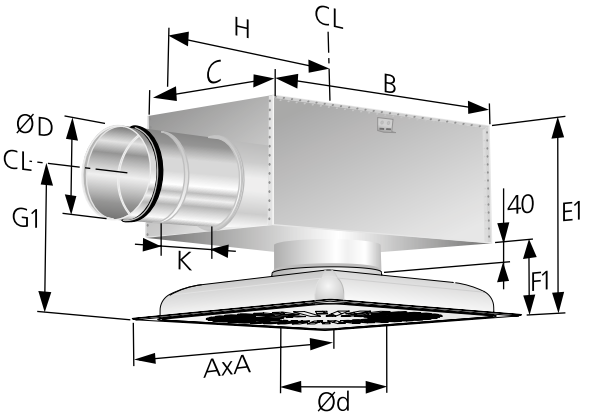



*Figure 6. VIREO C with ALS.*

### Frame – SAR K

| Size | Dimensions (mm) | | Weight (kg) |
|---|---|---|---|
| | L | N | |
| 600* | 595 | 75 | 1,0 |

*)Position the ALS box so that its branch extends 20 mm below the ceiling surface.

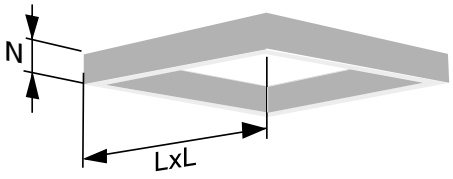
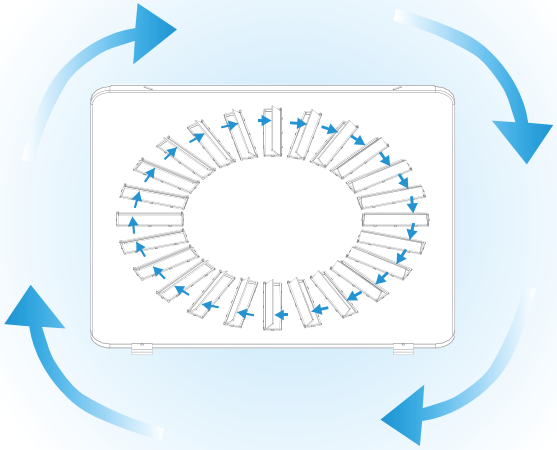


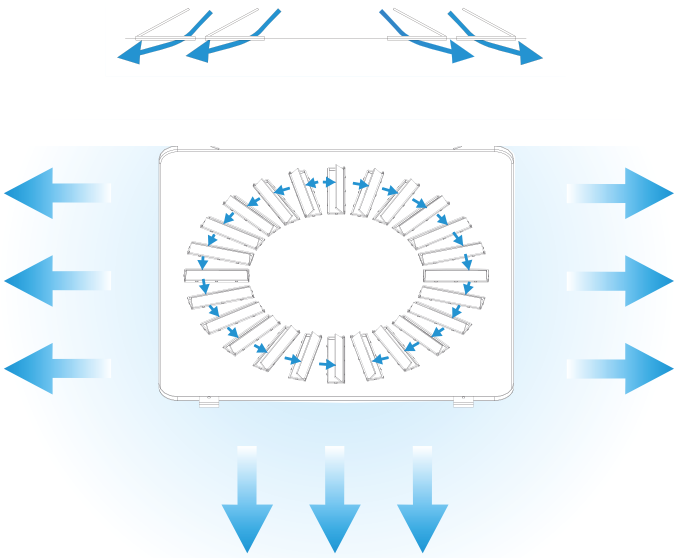

*Figure 7. Frame, SAR K.*

# Nozzle settings, examples - View from above the air diffuser

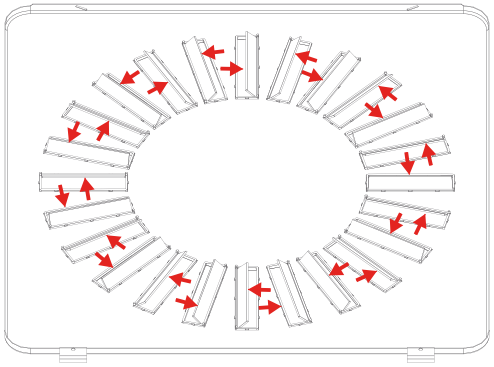
## Size 125-600, 160-600 - 24 nozzles

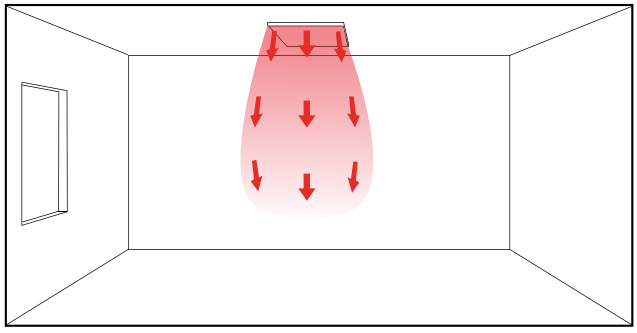


1. Standard rotation pattern, the air comes out counterclockwise when looking at the air diffuser.



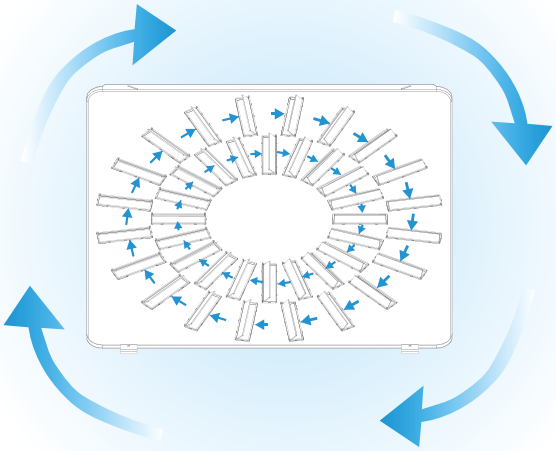
2. 3-ways, half of the air comes out counterclockwise, the other half clockwise.



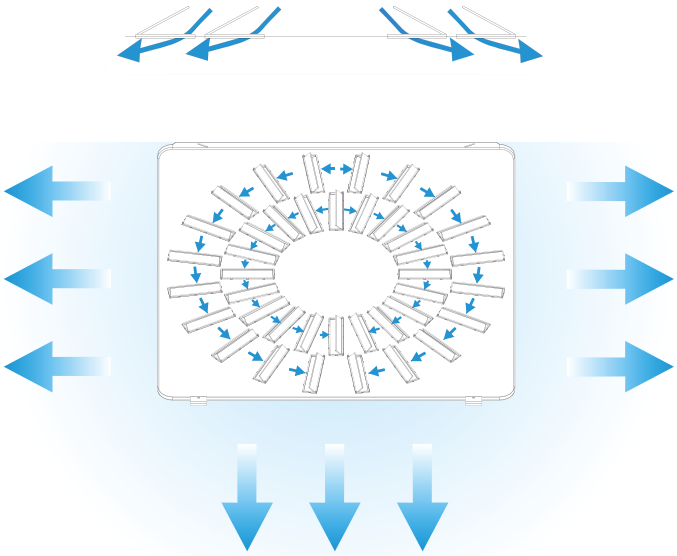


3. Vertical, the nozzles are positioned against eachother (two and two). The air streams meet and are directed downwards.

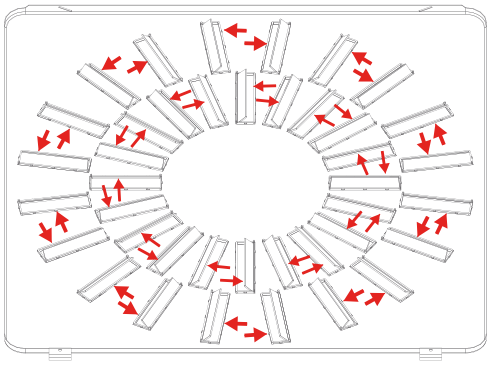
## Size 200-600, 250-600 - 40 nozzles

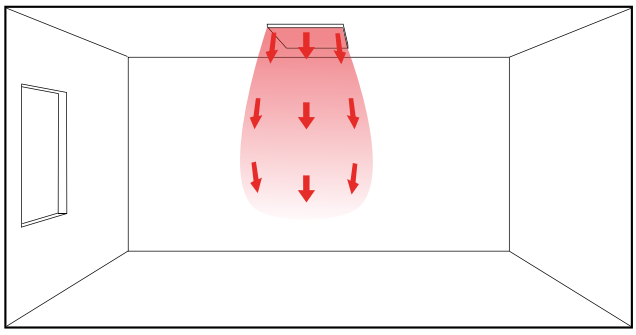


1. Standard rotation pattern, the air comes out counterclockwise when looking at the air diffuser.



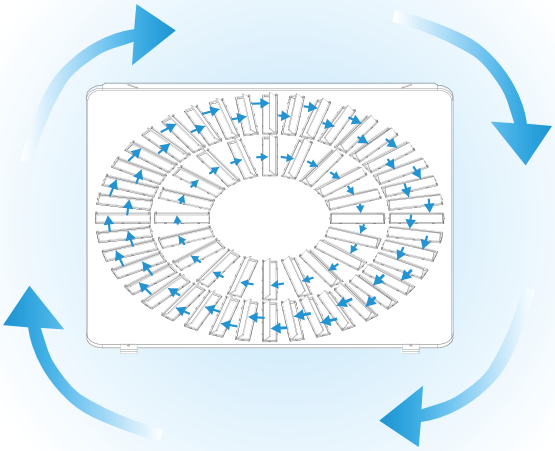
2. 3-ways, half of the air comes out counterclockwise, the other half clockwise.



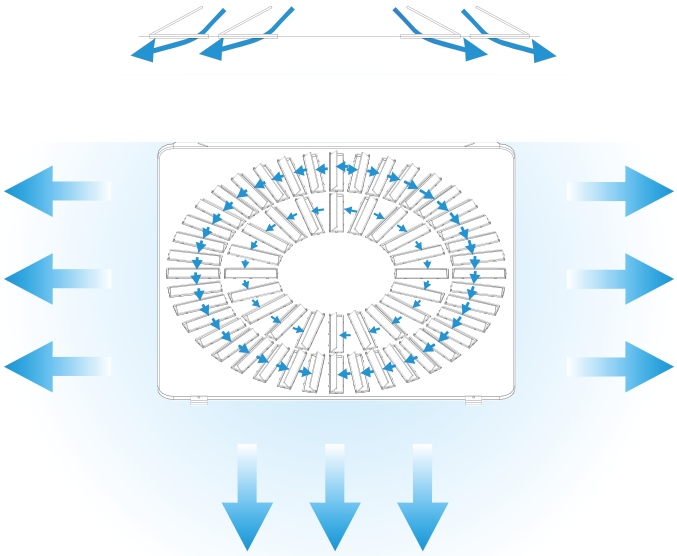


3. Vertical, the nozzles are positioned against eachother (two and two). The air streams meet and are directed downwards.

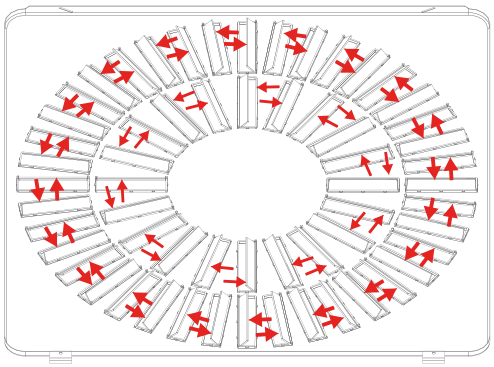
## Size 315-600, 400-600 - 60 nozzles

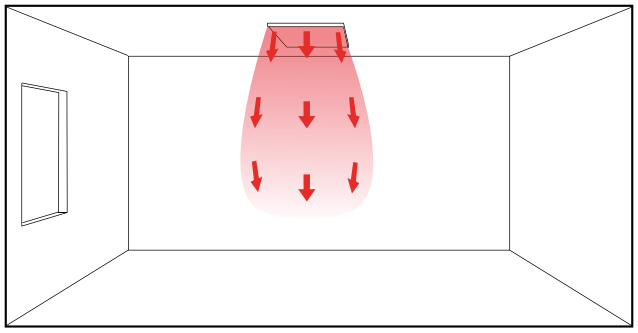


1. Standard rotation pattern, the air comes out counterclockwise when looking at the air diffuser.



2. 3-ways, half of the air comes out counterclockwise, the other half clockwise.





3. Vertical, the nozzles are positioned against eachother (two and two). The air streams meet and are directed downwards.

# K-factor VIREO C with ALS

## Supply air

| ALS | VIREO C supply air | | |
|---|---|---|---|
| Size | Size | Standard | Tube colour |
| 100-125 | 125-600 | 7,7 | Red |
| 125-160 | 160-600 | 11,6 | Red |
| 160-200 | 200-600 | 18,7 | Red |
| 200-250 | 250-600 | 24,2 | Red |
| 250-315 | 315-600 | 34,7 | Red |
| 315-400 | 400-600 | 43,2 | Red |
| | | | |
| 100-160 | 160-600 | 10,7 | Blue |
| 125-200 | 200-600 | 16,9 | Blue |
| 160-250 | 250-600 | 23,7 | Blue |
| 200-315 | 315-600 | 33,0 | Blue |
| 250-400 | 400-600 | 41,1 | Blue |

Number of measuring tubes: 1

## Extract air

| ALS | VIREO C extract air | | |
|---|---|---|---|
| Size | Size | Standard | Tube colour |
| 100-125 | 125-600 | - | - |
| 125-160 | 160-600 | - | - |
| 160-200 | 200-600 | - | - |
| 200-250 | 250-600 | 17,3 | Transparent |
| 250-315 | 315-600 | 26,4 | Transparent |
| 315-400 | 400-600 | 38,2 | Transparent |
| | | | |
| 100-160 | 160-600 | - | - |
| 125-200 | 200-600 | - | - |
| 160-250 | 250-600 | 12,9 | Transparent |
| 200-315 | 315-600 | 19,5 | Transparent |
| 250-400 | 400-600 | 29,8 | Transparent |

Number of measuring tubes: 1