

**RWR-2  
(RAL9016)**

- Cairox
- Swirl diffuser
- Circular
- Steel
- White, RAL 9016
- Fixed blades



## Circular swirl diffuser with fixed blades type RWR-2 (RAL9016)

Circular swirl ceiling diffusers with flat frame and fixed blades

**Brand**

- CAIROX

**Application**

- For air supply and exhaust in ventilation and air conditioning systems.

**Material**

- Steel

**Colour**

- Standard colour white, RAL 9016
- Other colours available upon request

**Composition**

- Fixed blades

**Mounting**

- Fixing directly on the collar
- Fixing with central screw
- For the mounting of **RER-LB** and **RER-LB ISO**, the airtight connection between the diffuser and the plenum box is made halfway the upright collar of the diffuser. This is why the plenum box has to be installed at the right height before mounting the finishing grille.

**Accessories**

- Plenum box, type **RER-LB**
- Insulated plenum box, type **RER-LB ISO**
- Regulating valve for plenum box, type **CRC**
- Mounting crossbar for direct duct mounting, type **FGN**
- Mounting crossbar for direct ceiling mounting, type **FHN**

**Order Example**

- **RWR-2, 200 + RER-LB + CRC 250**

Explanation

**RWR-2** = Diffuser type

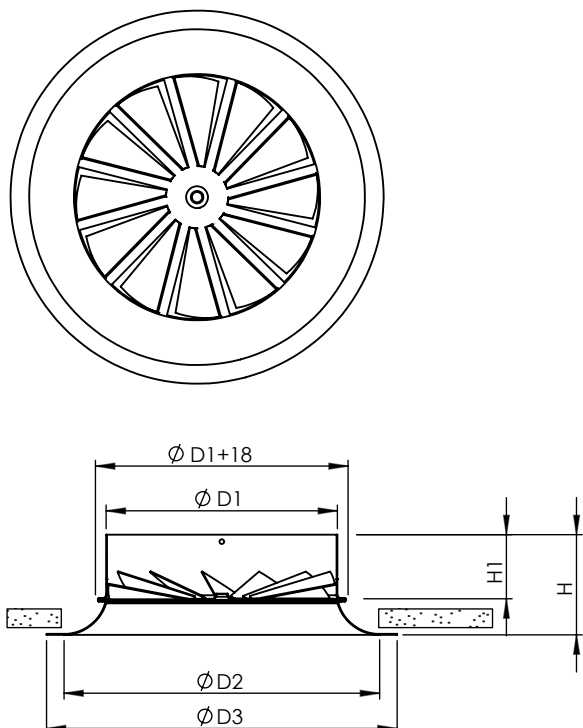
**200** = Neck size of diffuser

Accessories

**RER-LB** = Plenum box

**CRC** = Regulating valve for plenum box

**250** = Plenum box connection diameter 250



| RWR-2 | Dimensions |          |          |        |         |         |
|-------|------------|----------|----------|--------|---------|---------|
|       | ØD1 [mm]   | ØD2 [mm] | ØD3 [mm] | H [mm] | H1 [mm] | #Blades |
| 100   | 98         | 134      | 150      | 74     | 45      | 10      |
| 125   | 123        | 170      | 190      | 86     | 55      | 10      |
| 160   | 158        | 220      | 250      | 86     | 55      | 10      |
| 200   | 198        | 270      | 300      | 86     | 55      | 10      |
| 250   | 248        | 320      | 350      | 86     | 55      | 10      |
| 315   | 313        | 385      | 415      | 86     | 55      | 10      |
| 355   | 353        | 425      | 455      | 100    | 65      | 10      |

| RWR-2 |    |        | Quick selection |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------|----|--------|-----------------|------|------|--------|------|------|--------|------|------|--------|------|------|--------|------|------|--------|------|------|--------|------|------|------|------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Ak    |    |        | 100             |      |      | 125    |      |      | 160    |      |      | 200    |      |      | 250    |      |      | 315    |      |      | 355    |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    |        | 0.0056          |      |      | 0.0086 |      |      | 0.0141 |      |      | 0.0224 |      |      | 0.0345 |      |      | 0.0537 |      |      | 0.0676 |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Q     | B  |        | 1.2             | 2.4  | 3.6  | 1.2    | 2.4  | 3.6  | 1.2    | 2.4  | 3.6  | 1.2    | 2.4  | 3.6  | 1.2    | 2.4  | 3.6  | 1.2    | 2.4  | 3.6  | 1.2    | 2.4  | 3.6  |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 40    | Vz | H= 2.7 | 0.51            | 0.25 | 0.15 | 0.28   | 0.13 | 0.07 |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.2 | 0.28            | 0.16 | 0.1  | 0.14   | 0.08 | 0.05 |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.8 | 0.16            | 0.1  | 0.07 | 0.08   | 0.05 | 0.03 |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | Vk     | 2               |      |      | 1.3    |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | X0,25  | 2.1             |      |      | 1.6    |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 60    | Vz | H= 2.7 | 0.77            | 0.38 | 0.22 | 0.4    | 0.18 | 0.1  | 0.31   | 0.14 | 0.08 |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.2 | 0.42            | 0.24 | 0.16 | 0.21   | 0.11 | 0.07 | 0.16   | 0.09 | 0.05 |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.8 | 0.24            | 0.16 | 0.11 | 0.11   | 0.07 | 0.05 | 0.09   | 0.05 | 0.04 |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | Vk     | 3               |      |      | 1.9    |      |      | 1.2    |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | X0,25  | 2.6             |      |      | 1.8    |      |      | 1.7    |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 100   | Vz | H= 2.7 |                 |      |      | 0.68   | 0.31 | 0.17 | 0.52   | 0.24 | 0.13 | 0.39   | 0.17 | 0.09 |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.2 |                 |      |      | 0.35   | 0.19 | 0.12 | 0.26   | 0.14 | 0.09 | 0.19   | 0.1  | 0.06 |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.8 |                 |      |      | 0.19   | 0.12 | 0.08 | 0.14   | 0.09 | 0.06 | 0.1    | 0.06 | 0.04 |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | Vk     |                 |      |      | 3.2    |      |      | 2      |      |      | 1.2    |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | X0,25  |                 |      |      | 2.3    |      |      | 2      |      |      | 1.8    |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 150   | Vz | H= 2.7 |                 |      |      |        |      |      | 0.78   | 0.35 | 0.2  | 0.61   | 0.27 | 0.15 | 0.55   | 0.25 | 0.14 |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.2 |                 |      |      |        |      |      | 0.4    | 0.21 | 0.13 | 0.31   | 0.16 | 0.1  | 0.28   | 0.15 | 0.09 |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.8 |                 |      |      |        |      |      | 0.21   | 0.13 | 0.09 | 0.16   | 0.1  | 0.07 | 0.15   | 0.09 | 0.06 |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | Vk     |                 |      |      |        |      |      | 3      |      |      | 1.9    |      |      | 1.2    |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | X0,25  |                 |      |      |        |      |      | 2.4    |      |      | 2.2    |      |      | 2.1    |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 200   | Vz | H= 2.7 |                 |      |      |        |      |      |        |      |      | 0.81   | 0.36 | 0.2  | 0.73   | 0.33 | 0.18 | 0.53   | 0.23 | 0.12 |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.2 |                 |      |      |        |      |      |        |      |      | 0.4    | 0.22 | 0.13 | 0.37   | 0.2  | 0.12 | 0.26   | 0.14 | 0.08 |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.8 |                 |      |      |        |      |      |        |      |      | 0.22   | 0.13 | 0.09 | 0.2    | 0.12 | 0.08 | 0.14   | 0.08 | 0.05 |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | Vk     |                 |      |      |        |      |      |        |      |      | 2.5    |      |      | 1.6    |      |      | 1      |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | X0,25  |                 |      |      |        |      |      |        |      |      | 2.4    |      |      | 2.4    |      |      | 2      |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 250   | Vz | H= 2.7 |                 |      |      |        |      |      |        |      |      |        |      |      | 1      | 0.45 | 0.24 | 0.92   | 0.41 | 0.23 | 0.69   | 0.3  | 0.16 | 0.39 | 0.15 | 0.08 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.2 |                 |      |      |        |      |      |        |      |      |        |      |      | 0.5    | 0.27 | 0.16 | 0.46   | 0.25 | 0.15 | 0.34   | 0.18 | 0.11 | 0.18 | 0.08 | 0.05 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.8 |                 |      |      |        |      |      |        |      |      |        |      |      | 0.27   | 0.16 | 0.11 | 0.25   | 0.15 | 0.1  | 0.18   | 0.11 | 0.07 | 0.08 | 0.05 | 0.03 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | Vk     |                 |      |      |        |      |      |        |      |      |        |      |      | 3.1    |      |      | 2      |      |      | 1.3    |      |      | 1    |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | X0,25  |                 |      |      |        |      |      |        |      |      |        |      |      | 2.7    |      |      | 2.6    |      |      | 2.3    |      |      | 1.8  |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 300   | Vz | H= 2.7 |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.2 |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.8 |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | Vk     |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | X0,25  |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 350   | Vz | H= 2.7 |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.2 |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.8 |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | Vk     |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | X0,25  |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 400   | Vz | H= 2.7 |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.2 |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.8 |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | Vk     |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | X0,25  |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 500   | Vz | H= 2.7 |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.2 |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | H= 3.8 |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | Vk     |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|       |    | X0,25  |                 |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |        |      |      |      |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Symbols and specifications

- Q = Air volume in m<sup>3</sup>/h
- Ak = Effective surface (free area) in m<sup>2</sup>
- B = Distance between the diffusers in m
- H = Installation height of the diffusers in m
- Vz = Maximum velocity at the occupied zone according to distance between the diffusers and installation height in m/s
- Vk = Average effective velocity through the diffuser in m/s
- X0.25 = Throw length in m at an end velocity Vt of 0,25m/s
- Ps = Static pressure loss given in Pa
- Lw(A) = Acoustic power in dB(A)
- The throw X0.25 is given at an end velocity of 0.25m/s for a smooth ceiling without any obstacles.
- The values are given for isothermal supply air. Throw distances for cooling conditions at -11K can be calculated by dividing the X0.25 values with factor 1.1. For heating purposes at Dt of +11K a multiplier of 1.1 should be applied to the given X0.25 value.
- In order to achieve a high comfort level, selections can be made according to the maximal velocity at the occupied zone Vz. These values are given at distances between diffusers B and installation heights H. Velocities Vz lower than, or equal to 0,25m/s at the occupied zone are advised.
- The pressure losses Ps are given for diffusers without damper or with fully opened damper.

- The acoustic power values  $L_w(A)$  are given for diffusers without damper or with fully opened damper without room attenuation. Acoustic powers below 20dB(A) are mentioned as "<20" in the tables.
- For all special requirements, please contact our engineering office.

## Placement instruction

