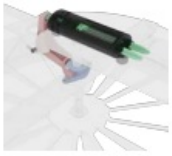
TROX® TECHNIK
The art of handling air

Ceiling Swirl Diffusers

Circular diffuser face

Circular plenum



Internal thermal actuator

RFD-V

WITH LOW SOUND POWER LEVEL FOR COMFORT AND INDUSTRIAL ZONES, WITH FIXED AIR CONTROL BLADES AND VARIABLE INTERNAL GEOMETRY

- Circular swirl diffusers for exposed installation
- Nominal sizes 160, 200, 250, 315
- Volume flow rate range 9l/s – 195l/s or 32m³/h – 702m³/h
- For variable and constant volume flows
- Available in RAL CLASSIC colours
- Horizontal duct connection
- Plenum box with damper blade and pressure tap
- Internal thermal actuator

General information

Application

- Type RFD-V ceiling swirl diffusers are used as supply or extract air diffusers for comfort and industrial zones
- Attractive design element for building owners and architects with demanding aesthetic requirements
- Horizontal 360° supply air discharge for mixed flow ventilation
- The efficient swirl creates high induction levels, thereby rapidly reducing the temperature difference and airflow velocity (supply air)

- Designed for freely suspended applications
- For variable and constant volume flows
- For supply air to room air temperature differences -10 to +15 K

Special characteristics
- Low sound power level, ideal for comfort zones
- Fixed blades
- Diaphragm for volume flow determination
- Optional internal lining, closed or open cell
- Internal thermal actuator (supply only)

Nominal sizes
- 160, 200, 250, 315

Construction
Diffuser face finish
- P3: Powder-coated RAL9010, pure white, gloss level 20%
- P2: Powder-coated RAL9006, white aluminium, gloss level 30%
- P4: Powder-coated RAL9005, jet black, gloss level 20%
- P6: Powder-coated in any other RAL CLASSIC colour, gloss level 30%

Plenum finish
- 0: Natural (unpainted)
- P3: Powder-coated RAL9010, pure white, gloss level 20%
- P2: Powder-coated RAL9006, white aluminium, gloss level 30%
- P4: Powder-coated RAL9005, jet black, gloss level 20%
- P6: Powder-coated in any other RAL CLASSIC colour, gloss level 30%

Material and surfaces
- Diffuser face made of galvanised steel
- Discharge nozzle made of aluminium
- Plenum box, non-visible adjustment mechanism and cross bar made of galvanised sheet steel

Standards and guidelines
- Sound power level of the air-regenerated noise measured according to EN ISO 5135

Maintenance
- Low maintenance as construction and materials are not subject to wear
- Inspection and cleaning to VDI 6022

TECHNICAL INFORMATION

Ceiling diffusers direct the air from air conditioning systems into the room. The resulting airflow induces high levels of room air, thereby rapidly reducing the airflow velocity and the temperature difference between supply air and room air. Ceiling diffusers allow for large volume flow rates. The result is a mixed flow ventilation in comfort zones, with good overall room ventilation, creating only very little turbulence in the occupied zone. Type RFD-V ceiling diffusers have fixed blades and an adjustable internal sleeve, allowing for horizontal and vertical air discharge. During cooling air discharge is horizontal and radial, in heating air discharge is vertical. The internal sleeve is controlled with a thermal actuator. The supply air to room air temperature difference may range from -10 to +15K. To give rooms an aesthetic, uniform look, type RFD-V diffusers may also be used for extract air.

1 Discharge nozzle
2 Swirl element
3 Air distribution element
4 Pressure Diaphragm
5 Retractable sleeve
6 Thermal actuator
7 Spigot damper
8 Lip seal
9 Pressure tap

Usage instructions Please note that the minimum volume flows are not valid for free hanging or exposed installation. For these types of installation the minimum flow rate is equivalent to an effective discharge velocity of 3.5m/s

Nominal diffuser sizes	160, 200, 250, 315
Minimum volume flow rate, with Δt_x = -8K	9l/s - 32l/s or 32m3/h - 307m3/h
Maximum volume flow rate with L_{WA} ≈ 50dB(A)	64l/s - 195l/s or 230m3/h - 702m3/h

1 Type
RFD-V Swirl diffuser

2 System
Z Supply air
A Extract air

3 Construction
DX Standard

4 Inner lining (insulation)
No entry: without lining
D06 inner lining 6 mm thick
D12 inner lining 12 mm thick

5 Spigot damper for flow rate balancing
M with damper screen

6 Lip seal
No entry: without lip seal
L with lip seal

7 Air distribution element
No entry: without air distribution element
ADE with air distribution element

8 Nominal size [mm]
160, 200, 250, 315

9 Spigot diameter [mm]
158 (only for nominal size 160)
198 (only for nominal size 200, 250)
248 (only for nominal size 200, 250, 315)
313 (only for nominal size 315)

10 Plenum box fixing
No entry: central threaded rod
SB Fixing bracket

11 Exposed surface of diffuser face
P2 powder-coated RAL 9006 (white aluminium)
P3 powder-coated, RAL 9010 (pure white)
P4 powder-coated, RAL 9005 (deep black)
P6 powder-coated, specify RAL CLASSIC colour

12 Surface plenum box
No entry: without surface finish
P2 powder-coated RAL 9006 (white aluminium)
P3 powder-coated, RAL 9010 (pure white)
P4 powder-coated, RAL 9005 (deep black)
P6 powder-coated, specify RAL CLASSIC colour

Gloss level
RAL 9006 GU 30
RAL 9010 and RAL 9005 GU 20
All other RAL colours GU 30