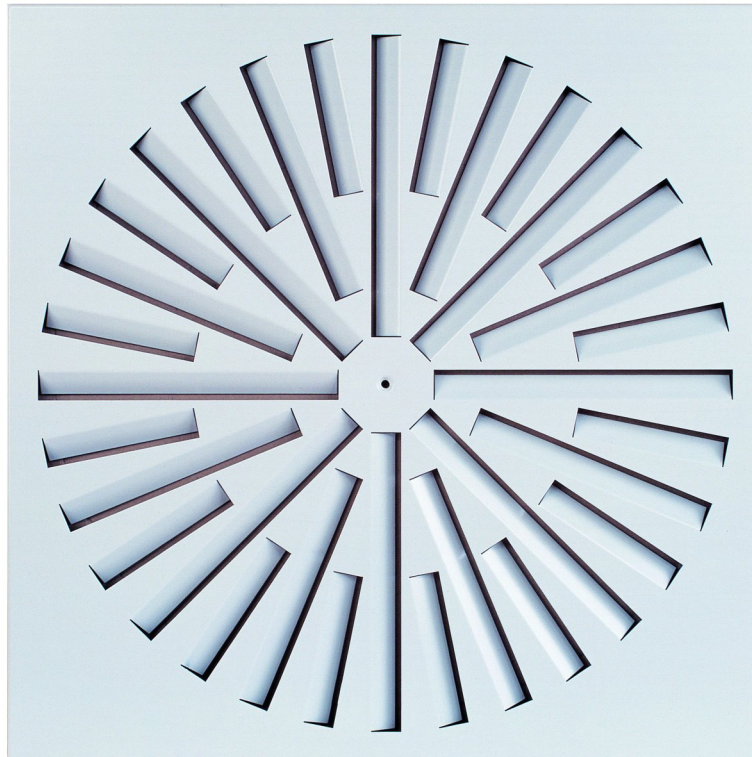




# Ceiling Swirl Diffuser

## DO-SR-F



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## Ceiling Swirl Diffuser DO-SR-F

### Contents

<b>Description</b> .....	<b>3</b>
Construction .....	3
Model .....	3
Accessories .....	3
Fastening .....	3
<b>Models and dimensions</b> .....	<b>4</b>
Dimension .....	4
Dimensions of accessories .....	5
Fastening methods .....	6
<b>Legend</b> .....	<b>6</b>
<b>Order details</b> .....	<b>7</b>
<b>Specification text</b> .....	<b>8</b>

## Ceiling Swirl Diffuser Model DO-SR-F

### Description

The ceiling swirl diffuser type DO-SR-F has been developed in particular **for comfort rooms with a high air change rate**. It is manufactured with a square faceplate (type DOA-SR-F) or round faceplate (type DOR-SR-F) and **integrated air deflection blades**. The air deflection blades produce a horizontal swirl jet. The diffuser can be used for both **supply and return air installations**.

The swirl diffuser is suitable in particular for installations with variable volumetric flow. A **stable jet pattern** is guaranteed by the high exit velocity. Even at a low volumetric flow the jet does not sink abruptly from the ceiling. If, in the selection, the parameter "critical throw"  $x_{kr}$  (m) is smaller than the parameter "horizontal throw"  $x$  (m), the calculation of the maximum end velocity  $V_{max}$  (m/s) must be based on the parameter "critical throw"  $x_{kr}$  (m) and not on the parameter "horizontal throw"  $x$  (m).

A volumetric flow meter can be integrated in the connection piece of the plenum box at an extra charge. The measurement error of the volumetric flow meter is  $\pm 5\%$  at a connection pipe velocity of 2-5 m/s and a straight flow pattern of at least  $1 \times D$ . The measurement is carried out with mounted diffuser. By adjusting the throttle damper, the required air volume of each diffuser can be set quickly and correctly. For plenum boxes type SGK, a cable-operated adjustment must be ordered at an extra charge, which allows the damper to be adjusted on the room side even with mounted diffuser.

With the ROB version, the diffuser plate, the throttle damper, if built in, and the volumetric flow meter can be removed from the plenum box type SGK to allow duct cleaning robots into the ductwork from the room side.

#### Attention:

**The swirl diffuser type DO-SR-F must only be fitted with a plenum box type SGK**

#### Technical Data

See under swirl diffuser type DQJ-SR

Please observe the correction factors shown below.  
correction factor

for DO-SR-F compared to DQJA-SR with air throw pattern "A"

	Size			
	310	400	500	600 / 625
$V_{max}$ (m/s)	x 1.1	x 1.1	x 1.1	x 1.15
$X_{kr}$ (m)	x 0.8	x 0.8	x 0.8	x 0.8
$i$ (-)	x 0.42	x 0.42	x 0.42	x 0.42
TV (-)	x 2.4	x 2.4	x 2.4	x 2.4

### Construction

Faceplate

- Sheet steel painted to RAL 9010 (white)
- Sheet steel painted to a different RAL colour (at an extra charge)
- Natural colour anodised aluminium (E6/EV1) (only available with VM mounting)

### Model

- DOA-SR-F - Square faceplate
- DOR-SR-F - Round faceplate

### Accessories

Plenum box (-SGK)

- only possible in combination with VM mounting
- made of galvanised sheet steel with fixing lugs

Throttle damper (-DK)

- Damper made of galvanised sheet steel
- Damper fastening made of plastic
- with cable-operated adjustment (-SZV) (at an extra charge)

Rubber lip seal (-GD)

- Special rubber

ROB version (-ROB)

- Removable diffuser plate, throttle damper and volumetric flow meter

Volumetric flow meter (-VME)

- Mounting made of galvanised sheet steel
- Measuring sensor made of plastic
- Aluminium connections

Ball-impact guard (-BS)

- only possible for DOA-SR-F with SM mounting
- Steel painted to RAL 9010 (white), other RAL colours possible at an extra charge.

Internal insulation (-li)

- Thermal insulation inside the plenum box

External insulation (-la)

- Thermal insulation on the outside of the plenum box

### Fastening

Concealed mounting (-VM, standard)

- Pole brace fixing by means of M6 screw to DIN EN ISO 10642 to the plenum box, only possible with plenum box (-SGK).

Screw mounting (-SM) (DOA-SR-F only)

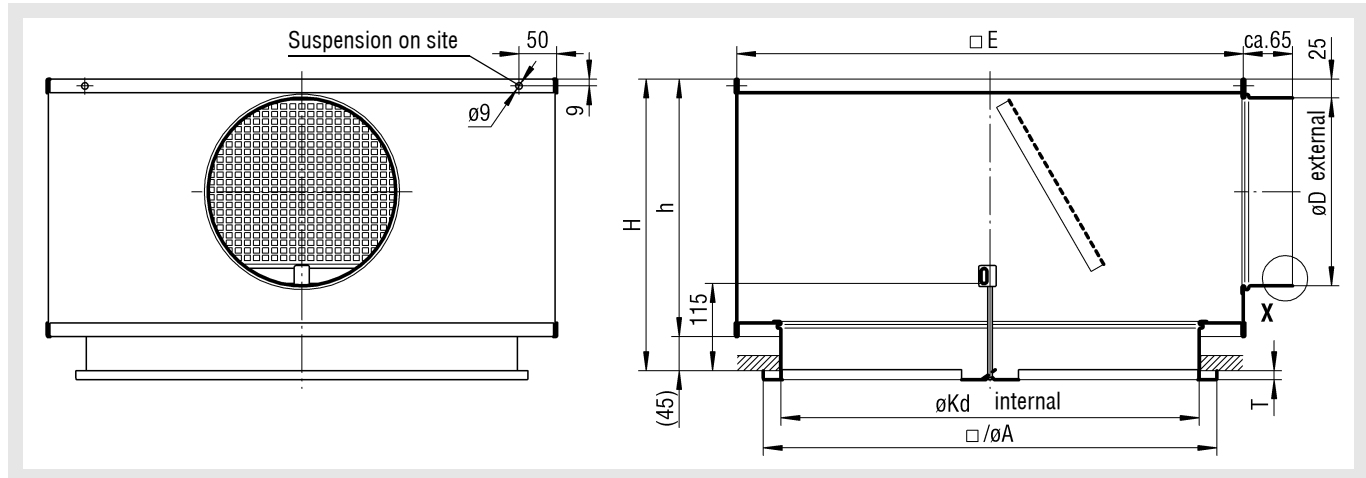
- only for connection to fire protection box
- for model with ball-impact guard only (-BS)
- with 4 raised countersunk head tapping screws (on-site)

# Ceiling Swirl Diffuser Model DO-SR-F

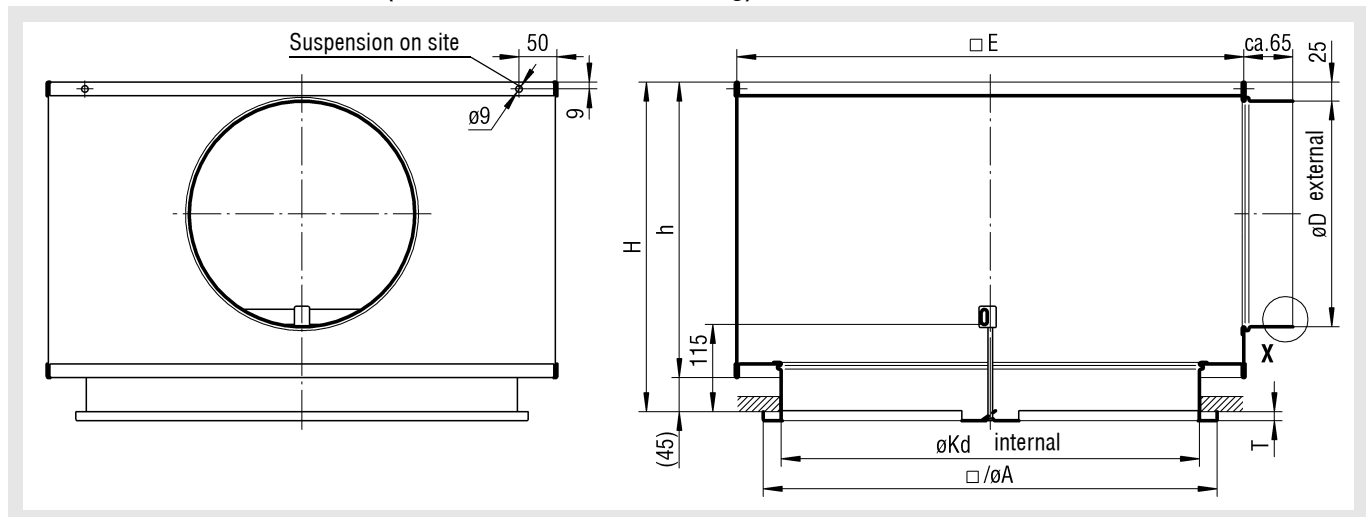
## Models and dimensions

### Dimension

DOA-SR-F / DOR-SR-F with SGK-Z (for supply air, with VM mounting)



DOA-SR-F / DOR-SR-F with SGK-A (for return air, with VM mounting)



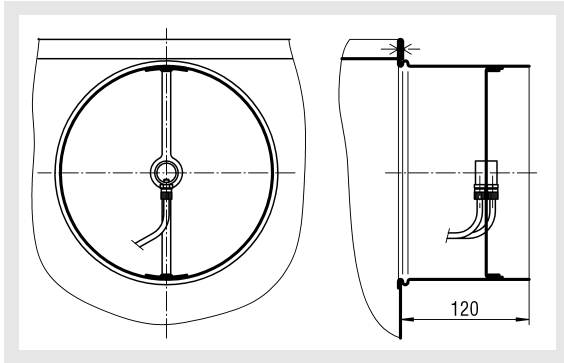
### Available sizes

Size	DOA-SR-F		DOR-SR-F		SGK-Z					SGK-A				
	□A	T	øA	T	□E	øKd	H	h	øD	□E	øKd	H	h	øD
310	308	7	310	7	445	283	295	250	158	445	283	335	290	198
400	398	12	400		445	353	295	250	158	445	353	335	290	198
500	498		500		545	453	335	290	198	545	453	385	340	248
600	598		600		670	553	385	340	248	670	553	435	390	298
625	623		625		670	553	385	340	248	670	553	435	390	298

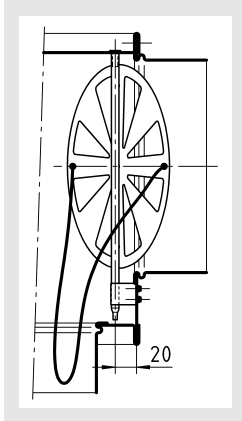
# Ceiling Swirl Diffuser Model DO-SR-F

## Dimensions of accessories

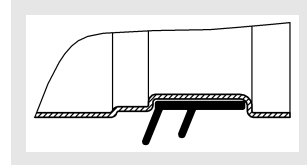
Volumetric flow meter (-VME)



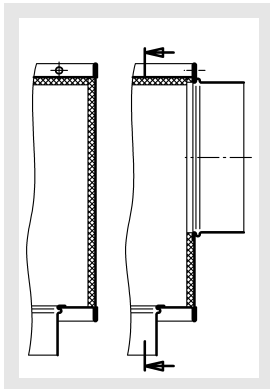
Throttle damper (-DK) with cable-operated adjustment (-SZV) Detail X



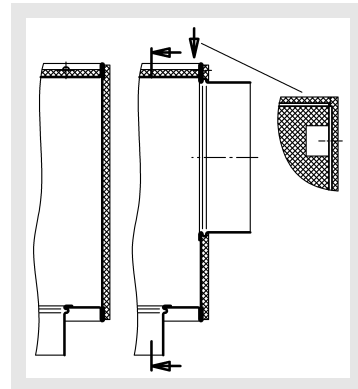
Rubber lip seal (GD)



Insulation for SGK inside(-li)

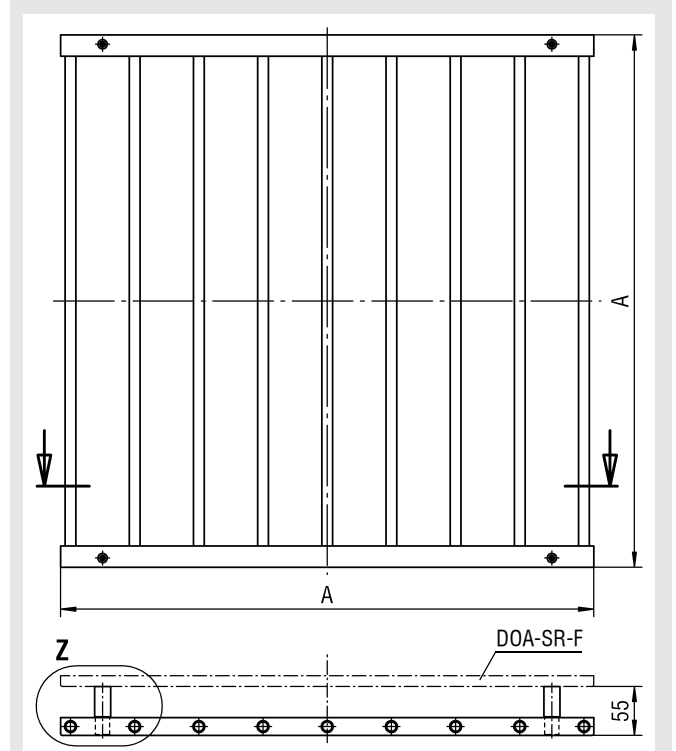


outside(-la)

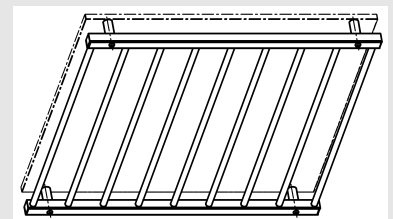
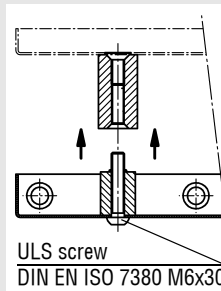


Ball-impact guard (-BS)

(only possible for DOA-SR-F with SM mounting)



Detail Z



Available sizes

Size	□ A
310	308
400	398
500	498
600	598
625	623

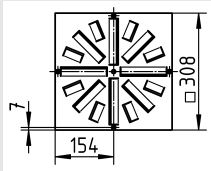
## Ceiling Swirl Diffuser Model DO-SR-F

### Fastening methods

#### Screw mounting (-SM) (DOA-SR-F only)

only for connection to fire protection unit or for model with ball-impact guard

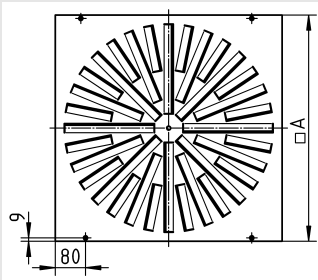
#### Size 310



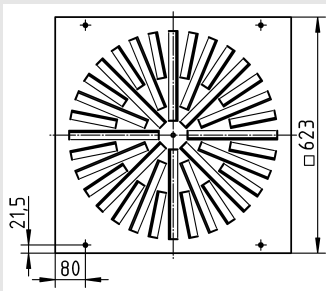
with indentation for slotted shallow-raised counter-sunk-head tapping screw (on-site)

- Size 310:  
DIN ISO 7051 pitch 3.9
- Sizes 400-625:  
DIN ISO 7051 pitch 4.8

#### Sizes 400-600



#### Size 625

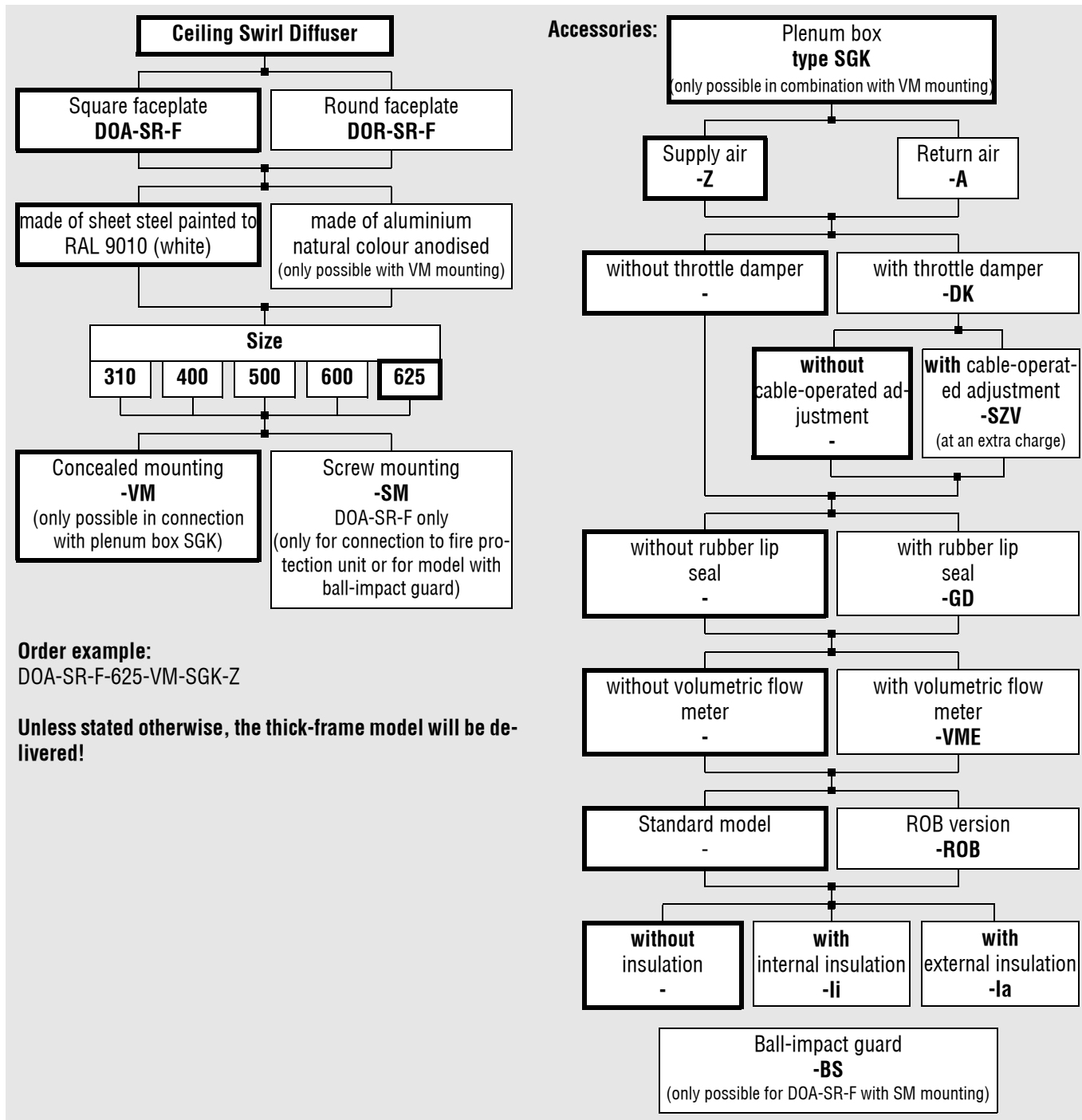


### Legend

- $v_{\max}$  (m/s) = Maximum end velocity
- $x_{kr}$  (m) = Critical throw
- $l$  (-) = Induction ratio ( $i = V_x / V_{ZU}$ )
- TV (-) = Temperature ratio ( $TV = \Delta T_x / \Delta T_0$ )
- Size (mm) = Nominal value
- $V_x$  (m<sup>3</sup>/h) = total air jet volume at point x
- $V_x$  [l/s] = total air jet volume at point x
- $V_{ZU}$  (m<sup>3</sup>/h) = Supply air volume
- $V_{ZU}$  [l/s] = Supply air volume
- $\Delta T_x$  (K) = Temperature difference at point x
- $\Delta T_0$  (K) = Temperature difference between supply air temperature and room temperature  
( $\Delta T_0 = t_{ZU} - t_R$ )
- $t_{ZU}$  (°C) = Supply air temperature
- $t_R$  (°C) = Room temperature

# Ceiling Swirl Diffuser Model DO-SR-F

## Order details



## Ceiling Swirl Diffuser Model DO-SR-F

### Specification text

Ceiling swirl diffuser type DOA-SR-F for square supply and return air models. Particularly suitable for comfort rooms with air change rates for and for VAV systems having variable volumetric flows (between 40 and 100%). Consisting of square sheet steel faceplate painted with a high-quality powder coating to a RAL colour (RAL 9010 (white), standard), with integrated fixed air deflection blades to produce a horizontal throw pattern, with concealed mounting (VM). For use up to -14 K. Sophisticated design allows easy cleaning to VDI 6022.

Product: SCHAKO **type DOA-SR-F**

- with round faceplate  
Product: SCHAKO **type DOR-SR-F**
- Faceplate made of natural colour anodised aluminium (E6/EV1) (only available with VM mounting)
- with screw mounting (-SM) (DOA-RF-F only), only for connection to fire protection unit and for model with ball-impact guard

#### Accessories:

- Plenum box (SGK) made of galvanised sheet steel, with fixing lugs (only possible in connection with VM mounting).
  - Supply air model with integrated perforated straightener.
  - Return air version without perforated straightener.
  - with a throttle damper (-DK) adjustable at the front side in the plenum box for air volume regulation
    - with cable-operated adjustment (-SZV)
  - with volumetric flow meter (-VME)
  - with ROB version (-ROB), removable diffuser plate, throttle damper and volumetric flow meter.
  - with rubber lip seal (-GD), made of special rubber, at the connection pipe.
  - with thermal insulation
    - internal (-li)
    - external (-la)
- Ball-impact guard (-BS), made of steel with high-quality powder coating in RAL 9010 (white), other RAL colours possible at an extra charge (only possible for DOA-SR-F with screw mounting).