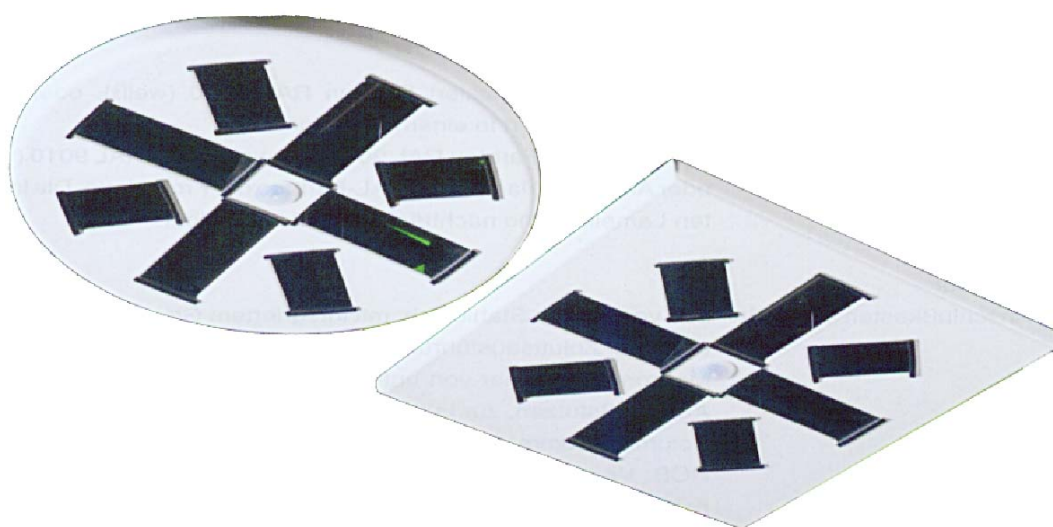




## ceiling swirl diffuser

DQJA / DQJR



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# Ceiling Swirl Diffuser DQJA / DQJR

## Contents

<b>Description</b> .....	<b>3</b>
Construction .....	3
Model .....	3
Accessories .....	3
Fastening .....	3
<b>Models and dimensions</b> .....	<b>4</b>
Dimensions .....	4
Dimensions of accessories .....	5
<b>Technical data</b> .....	<b>6</b>
Pressure loss and noise level .....	6
Further data .....	6
<b>Legend</b> .....	<b>6</b>
<b>Order details DQJA / DQJR</b> .....	<b>7</b>
<b>Order details SK</b> .....	<b>8</b>
<b>Specification texts</b> .....	<b>10</b>

## Ceiling Swirl Diffuser DQJA / DQJR

### Description

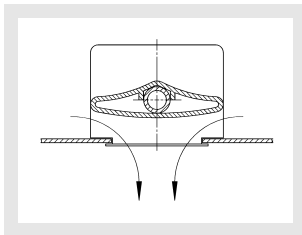
The swirl diffuser type DQJA / DQJR was developed especially for **installation in grid ceilings**. Its main field of application is for **comfort rooms up to a maximum air change rate of 12**. Unlike the conventional ceiling diffusers, the built-in **air deflection blades can also be adjusted at a later stage**. By lifting the horizontal throw blades, the jets are lowered toward the vertical direction. The blades can be adjusted to achieve a vertical outflow. The horizontal throw is preset in factory.

A volumetric flow meter can be integrated into the spigot of the plenum box at an extra charge. The measurement error of the volumetric flow meter is  $\pm 5\%$  at a connection spigot 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 SRK-R-..., the ceiling diffuser must be removed, before the damper can be adjusted. Alternatively, a cable-operated adjustment can be ordered at an extra charge, which allows the damper to be adjusted on the room side even with mounted diffuser.

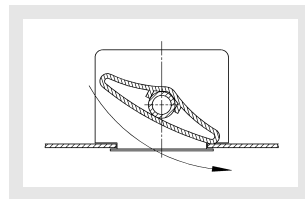
### Blade adjustment possibilities and screw mounting (SM)

All blades set in position 2 (as standard).

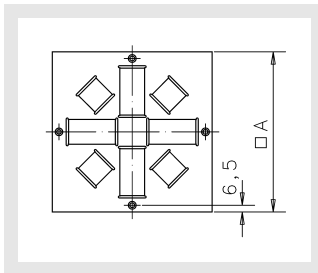
#### Blade position 1



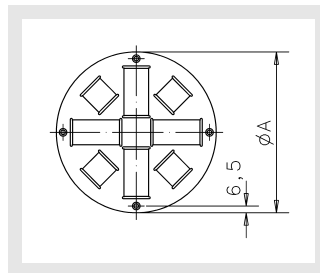
#### Blade position 2



#### DQJA



#### DQJR



### Construction

#### Faceplate

- Sheet steel painted to RAL 9010 (white)
- Sheet steel painted to a different RAL colour (at an extra charge)

#### Blades

- Plastic, similar to RAL colour 9010 (white) or RAL 9005 (black)
- Aluminium painted to the RAL colour of the faceplate (subsequent adjustment of blades not possible)

### Model

- |              |                    |
|--------------|--------------------|
| DQJA         | - square faceplate |
| DQJR         | - Round faceplate  |
| DQJ...-Z-... | - Supply air       |
| DQJ...-A-... | - Return air       |

### Accessories

#### Plenum box (SK-R-12-...)

- galvanised sheet steel

#### Transition piece for flexible duct connection (-US)

- sheet steel painted to RAL 9005 (black)

#### Rubber lip seal (-GD1)

- Special rubber

#### Damper (-DK1)

- Throttle damper made of galvanised sheet steel
- Damper fastening made of plastic
- with cable-operated adjustment (at an extra charge) (-DK2)

#### Volumetric flow meter (-VME1)

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

#### Internal insulation (-li)

- thermal insulation at the inside of the plenum box

#### External insulation (-la)

- thermal insulation at the outside of the plenum box

### Fastening

#### Screw mounting (-SM)

- not available with plenum box type SK-R-..., screws must be provided on site

#### Concealed mounting (-VM)

- only possible in connection with plenum box type SK-R-12-...

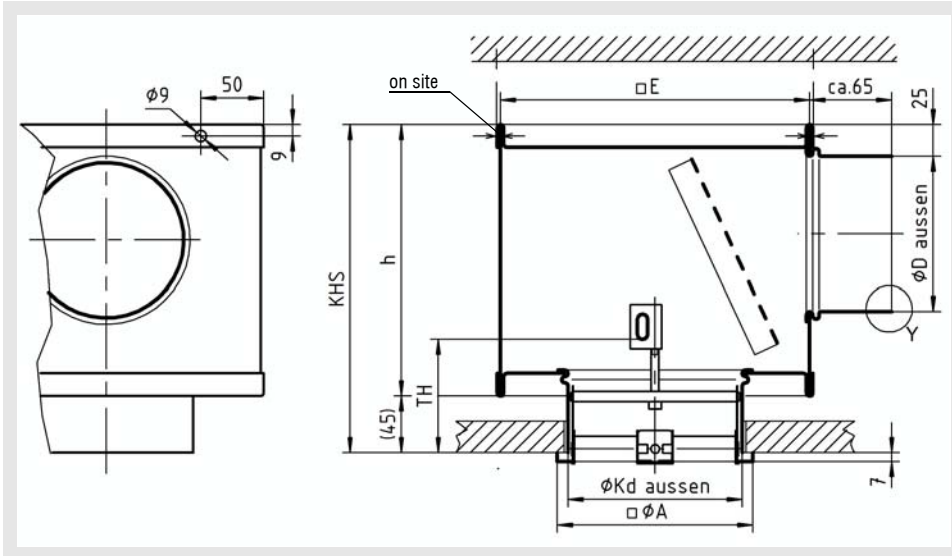
**Attention: The max. torque of the fastening screw is 0.4 Nm**

## Ceiling Swirl Diffuser DQJA / DQJR

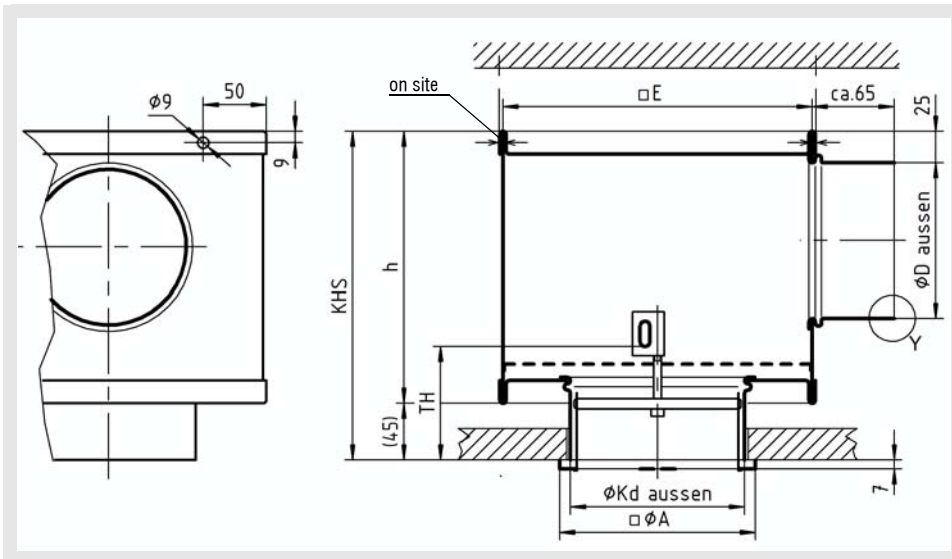
### Models and dimensions

#### Dimensions

DQJA-Z-... / DQJR-Z-... with SK-R-12-Z-...



DQJA-A-... / DQJR-A-... with SK-R-12-A-...

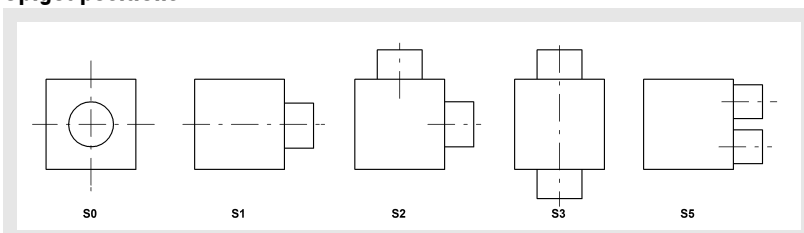


#### Available sizes

NW	□øA	øKd	E	KHS	øD	h	TH	øD <sub>max</sub> for ...-S5
155	155	138	245	260	123	215	90	78
185	185	170	245	260	123	215	90	78
240	240	222	290	295	158	250	100	98
300	300	278	335	295	158	250	100	123

KHS= standard height of plenum box  
Special height of plenum box = øD + 137 mm, but at least 235 mm

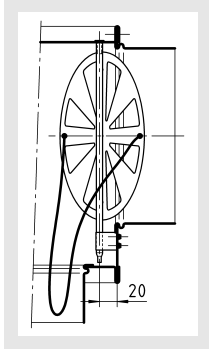
#### Spigot positions



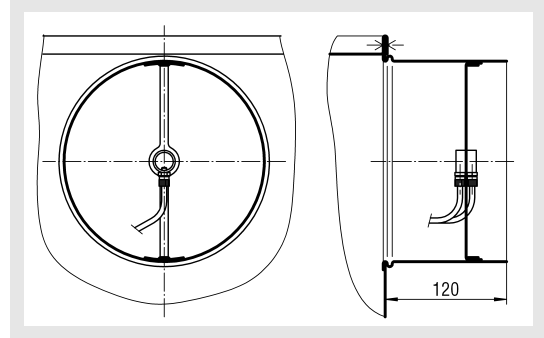
## Ceiling Swirl Diffuser DQJA / DQJR

### Dimensions of accessories

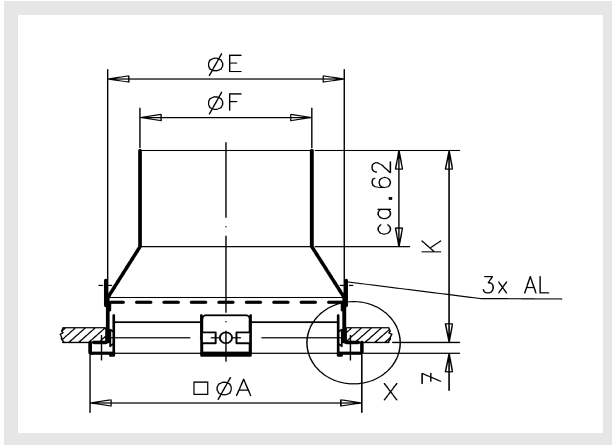
(at an extra charge): damper  
with cable-operated adjustment (-DK2)



### Volumetric flow meter (-VME1)

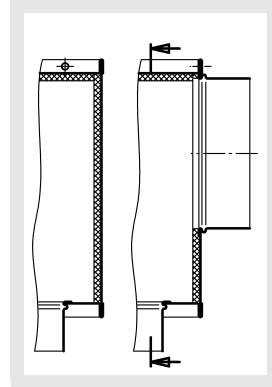


### Transition piece for flexible duct (-US)

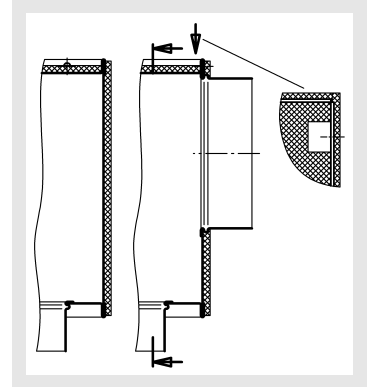


AL = fixing lugs

### Insulation for SK-R... internal (-li)



### external (-la)



### Available sizes

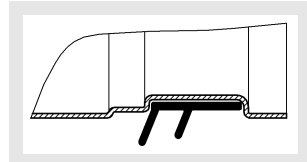
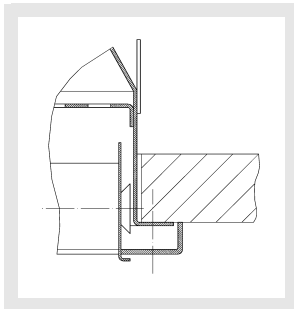
DQJA-...-US and DQJR-...-US

NW	$\square \varnothing A$	$\varnothing F$	$\varnothing E$	$\varnothing K$
155	155	98	135	125
185	185	98	165	140
240	240	123	220	165
300	300	123	275	210

### Rubber lip seal (-GD1)

Detail Y

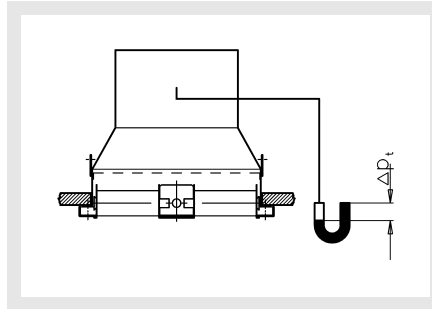
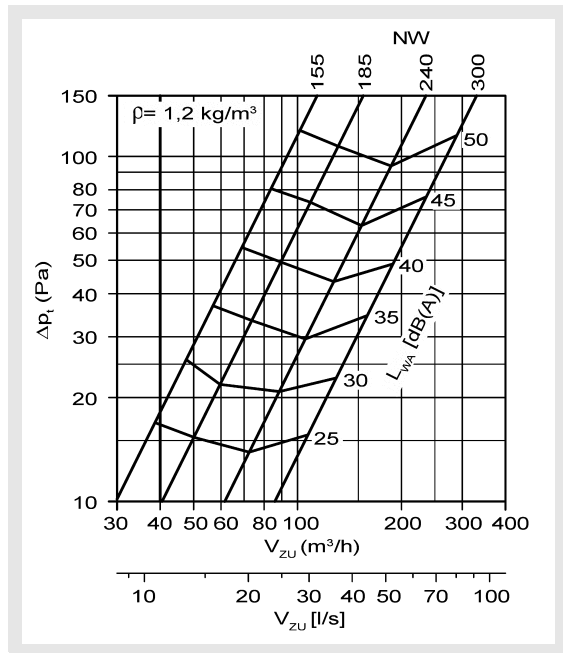
Detail X



## Ceiling Swirl Diffuser DQJA / DQJR

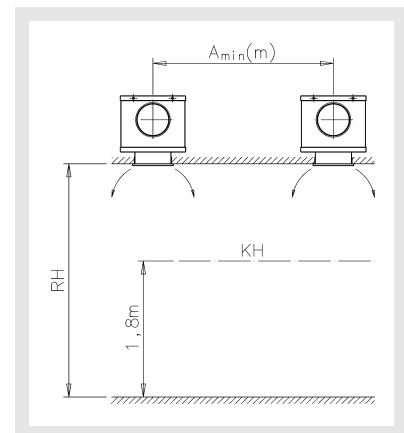
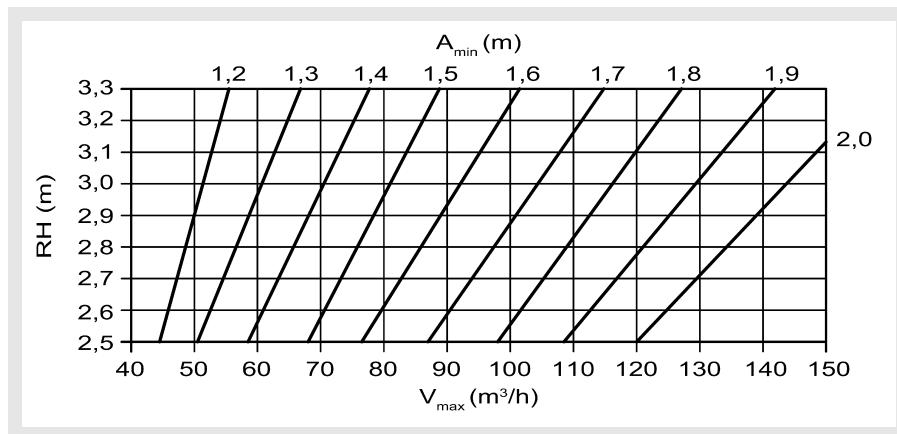
### Technical data

#### Pressure loss and noise level



#### Further data

##### Minimum distance and max. volumetric flow:



The mentioned values are still valid for a 12 times air change rate between two diffusers. The max. temperature difference is  $\Delta t = 10 \text{ K}$ . If a higher air change or temperature difference is chosen the comfort conditions are exceeded according to DIN EN 13779.

#### Legend

$A_{min}$	(m)	=	Minimum clearance between two diffusers
RH	(m)	=	Inside room height
KH	(m)	=	Head height
$V_{max}$	( $m^3/h$ )	=	Max.volumetric flow
$\Delta p_t$	(Pa)	=	Pressure loss
$V_{ZU}$	( $m^3/h$ )	=	Supply air volume
$V_{ZU}$	[l/s]	=	Supply air volume
$L_{WA}$	[dB(A)]	=	A-weighted sound power level
$\rho$	( $kg/m^3$ )	=	Density
NW	(mm)	=	Nominal value

## Ceiling Swirl Diffuser DQJA / DQJR

### Order details DQJA / DQJR

01	02	03	04	05	06	07
Type	Air throw	Nominal size	Material	Paint	Blade colour	Air throw pattern
<b>Example</b>						
DQJA	-Z	-240	-SB	-9010	-L9005	-A

08	09
Mounting	Transition piece for flexible duct
-VM	-U0

#### Sample

**DQJA-Z-240-SB-9010-L9005-A-VM-U0**

Ceiling swirl diffuser type DQJA with square faceplate | supply air | NW240 | faceplate made of sheet steel | faceplate painted to RAL9010 | blade colour similar to RAL9005 black | air throw pattern A | concealed mounting | without transition piece for flexible duct

#### Order details

##### 01 - Type

DQJA = Ceiling swirl diffuser with square faceplate

DQJR = Ceiling swirl diffuser with round faceplate

##### 02 - Air throw

Z = Supply air

A = Return air

##### 03 - Nominal size

155 = NW155

185 = NW185

240 = NW240

300 = NW300

##### 04 - Material

SB = Sheet steel (standard)

##### 05 - Paint

0000 = without paint (galvanised sheet steel)

9010 = RAL colour white (standard)

xxxx = RAL colour can be freely selected

##### 06 - Bladescolour

L9005 = Blades made of plastic similar to RAL 9005 (black)

L9006 = Blades made of plastic similar to RAL9006 (grey)

L9010 = Blades made of plastic similar to RAL9010 (white)

Axxxx = Blades made of aluminium, RAL colour can be freely selected

00000 = Without blades (available only for return air)

##### 07 - Air throw pattern

A = All blades in position 2 (standard)

C = Without blades (available only for return air)

##### 08 - Mounting

VM = concealed mounting (standard), only in conjunction with SK-R-...)

SM = screw mounting (not possible for SK-R-...)

##### 09 - Transition piece for flexible duct

U0 = without transition piece (standard)

US = with transition piece, painted to RAL 9005 (black)

## Ceiling Swirl Diffuser DQJA / DQJR

### Order details SK

01	02	03	04	05	06	07	08
Plenum box	Model	Air diffuser	Type of air	Nominal size	Fastening	Material	Damper
<b>Example</b>							
SK	-R	-12	-Z	-240	-VM	-SV	-DK2

09	10	11	12	13	14	15
Rubber lip seal	Measuring device for volumetric flow	ROB version	Insulation	Height of plenum box	Spigot diameter	Spigot position
-GD1	-VME1	-ROB0	-I0	-KHS	-SDS	-S1

#### Sample

**SK-R-12-Z-240-VM-SV-DK2-GD1-VME1-ROB0-I0-KHS-SDS-S1**

Plenum box, square design I for round air diffusers I air diffuser DQJA/DQJR I supply air I NW240 I with concealed mounting I galvanised sheet steel I with damper with cable I with rubber lip seal I with volumetric flow meter I without ROB model I without box insulation I standard height of plenum box I standard spigot diameter I 1 lateral spigot

#### Order details

##### 01 - Plenum box

SK = Plenum box, square design

##### 02 – Model

R = for round air diffusers with round diffuser support

##### 03 - Air diffuser (must be ordered separately)

12 = suitable for DQJA-... / DQJR-...

##### 04 - Type of air

Z = Supply air

A = Return air

##### 05 – Nominal size

155 = NW155

185 = NW185

240 = NW240

300 = NW300

##### 06- Fastening

VM = Concealed mounting (standard)

SM = Screw mounting

##### 07 - Material

SV = Galvanised sheet steel (standard)

##### 08 - Damper

DK0 = without damper (standard)

DK1 = With damper

DK2 = With damper + cable

##### 09 - Rubber lip seal

GD0 = Without rubber lip seal (standard)

GD1 = With rubber lip seal

##### 10 – Volumetric flow meter

VME0 = Without volumetric flow meter (standard)

VME1 = With volumetric flow meter

##### 11 - ROB version

ROB0 = Without ROB version (standard)

##### 12 - Insulation

I0 = Without insulation (standard)

Ii = With box insulation inside

Ia = With box insulation outside



## Ceiling Swirl Diffuser DQJA / DQJR

### 13 - Height of plenum box

- KHS = Height of plenum box standard  
xxx = Height of plenum box in mm ( $\text{Height}_{\min}$  = spigot diameter + 137 mm, but at least 235 mm)

### 14 – Spigot diameter

- SDS = Spigot diameter standard  
xxx = Spigot diameter in mm

### 15 – Spigot position

- S0 = Spigot from above  
S1 = Lateral spigot on the box (standard)  
S2 = 2 spigots offset by 90°  
S3 = 2 spigots offset by 180°  
S5 = 2 spigots arranged next to each other

## Ceiling Swirl Diffuser DQJA / DQJR

### Specification texts

Ceiling swirl diffuser type **DQJA-Z-...**, in square design, especially for installation in grid ceilings. Especially suitable for comfort rooms up to a maximum air change rate of 12. Cooling and heating modes are possible. Consisting of a perforated faceplate made of sheet steel provided with a high-quality powder coating in a RAL colour (RAL 9010, white, standard), with central pivoting, aerodynamic radially fitted air deflection blades, which are individually adjustable, without any tools, from the diffuser front side without dismantling the diffuser, in support profile design made of plastic similar to RAL colour 9010 (white), RAL 9005 (black) or aluminium, painted individually or to the same RAL colour as the faceplate (subsequent adjustment of blades not possible). Free cross-section, resistance and sound power level constant in all blade positions. With visible screw mounting (-SM) and circumferential foam seal.

Product: SCHAKO **type DQJA-Z-...**

- for return air, without air deflection blades, with square faceplate, circular punch

Product: SCHAKO **type DQJA-A-...**

- for supply air, with air deflection blades, with round front plate

Product: SCHAKO **type DQJR-Z-...**

- for return air without air deflection blades, with round faceplate.

Product: SCHAKO **type DQJR-A-...**

- with concealed mounting (-VM), made of aerodynamic aluminium profile with 2-point suspension, only possible in connection with plenum box.

Accessories:

- Plenum box (SK-R-12-...), made of galvanised sheet steel, with fixing lugs and lateral connection spigot. Diffuser fixing with concealed mounting (-VM)
- Supply air model with integrated perforated straightener (-Z)
- Return air model (-A)
- includes a damper (-DK1) adjustable at the front side in the plenum box for air volume regulation
  - with cable-operated adjustment (-DK2)
- with volumetric flow meter (-VME1).
- with rubber lip seal (-GD1), at the connection spigot made of special rubber.
- Thermal insulation
  - internal (-li)
  - external (-la)
- Height of plenum box can be freely selected, xxx in mm, (minimum height = spigot diameter + 137 mm, but at least 235 mm)
- Spigot diameter can be freely selected, xxx in mm
- Spigot position
  - S0 = spigot from above
  - S1 = 1 lateral spigot on the box (standard)
  - S2 = 2 spigots offset by 90°
  - S3 = 2 spigots offset by 180°
  - S5 = 2 spigots arranged next to each other
- with transition piece for flexible duct connection (-US) made of sheet steel in RAL colour 9005 (black).