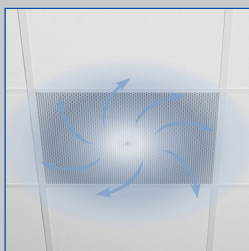
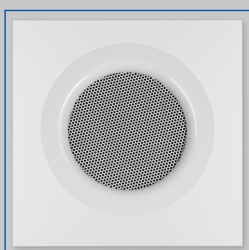


Ceiling swirl diffusers with perforated face plate

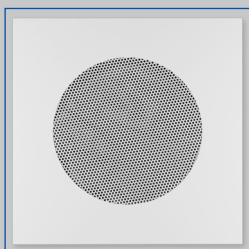
Type DCS



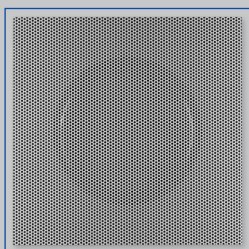
Horizontal swirling air discharge



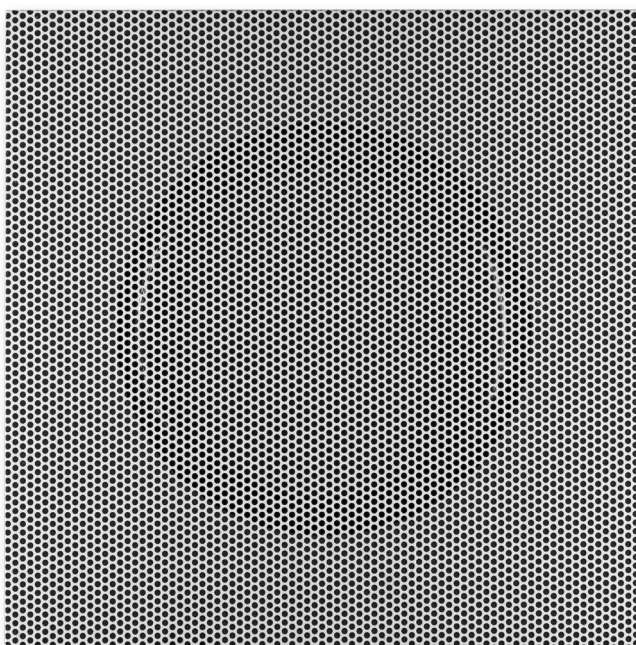
Diffuser face plate with perforated circular face style and exposed discharge nozzle



Diffuser face plate with perforated circular face style



Perforated diffuser face



For horizontal swirling supply air discharge creating high induction levels, with fixed air control blades

Square ceiling swirl diffusers with perforated face plate, for comfort and industrial zones

- Nominal sizes 600, 625
- Volume flow rate range 4 – 260 l/s or 16 – 936 m³/h
- Perforated diffuser face made of galvanised sheet steel, powder-coated
- For supply and extract air
- For variable and constant volume flows
- For all types of ceiling systems, particularly for T-bar ceilings
- Swirl unit inside, 6 sizes, for the best swirl effect and high induction levels
- Ideal for comfort zones

Optional equipment and accessories

- Exposed diffuser face available in RAL CLASSIC colours
- Horizontal or vertical duct connection
- Plenum box with lining

| Type | | Page |
|------|------------------------------------|----------|
| DCS | General information | DCS – 2 |
| | Function | DCS – 4 |
| | Technical data | DCS – 5 |
| | Quick sizing | DCS – 6 |
| | Specification text | DCS – 10 |
| | Order code | DCS – 11 |
| | Variants | DCS – 12 |
| | Dimensions and weight | DCS – 15 |
| | Product details | DCS – 20 |
| | Installation examples | DCS – 21 |
| | Installation details | DCS – 22 |
| | Basic information and nomenclature | DCS – 24 |

Application

Application

- Type DCS ceiling swirl diffusers are preferably used as supply air diffusers for comfort and industrial zones
- Perfect integration with suspended perforated sheet metal ceilings
- Horizontal swirling 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 variant)
- For variable and constant volume flows
- For supply air to room air temperature differences –12 to +10 K

- For room heights up to 4 m (lower edge of suspended ceiling)
- For T-bar ceilings

Special characteristics

- Horizontal air discharge creating high induction levels
- Design variants with perforated square or circular diffuser face style
- For T-bar ceilings
- Horizontal or vertical duct connection

Nominal sizes

- Diffuser face: 593, 598, 618, 623
- Swirl diffuser: 125, 160, 200, 250, 315, 400

Description

Variants

- DCS-P: Perforated diffuser face
- DCS-N: Unperforated diffuser face
- DCS-C: Diffuser face with exposed discharge nozzle

Installation type

- V: Exposed T-bars
- H: Concealed T-bars

Connection

- K: Vertical duct connection, with duct collar
- US: Vertical duct connection, with transition piece
- A: Horizontal duct connection, with plenum box
- AK: Horizontal duct connection, with plenum box and lining

Parts and characteristics

- Square diffuser face
- V: For T-bar ceilings with exposed T-bars
- H: For T-bar ceilings with concealed T-bars
- Swirl unit with radially arranged fixed air control blades

Construction features

- Spigot suitable for circular ducts to EN 1506 or EN 13180

Materials and surfaces

- Diffuser face, discharge nozzle, swirl unit, duct collar and plenum box made of galvanised sheet steel
- Transition piece made of aluminium
- Plenum box lining is mineral wool
- Swirl unit and discharge nozzle dip coated RAL 9005, jet black
- Diffuser face and discharge nozzle powder-coated RAL 9010, pure white
- P1: Powder-coated, RAL CLASSIC colour

Mineral wool

- To EN 13501, fire rating class A1, non-combustible
- RAL quality mark RAL-GZ 388
- Biosoluble and hence hygienically safe according to the German TRGS 905 (Technical Rules for Hazardous Substances) and EU directive 97/69/EC
- Faced with glass fibre fabric as a protection against erosion through airflow velocities of up to 20 m/s
- Inert to fungal and bacterial growth

Standards and guidelines

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

Maintenance

- Maintenance-free as construction and

- materials are not subject to wear
- Inspection and cleaning to VDI 6022

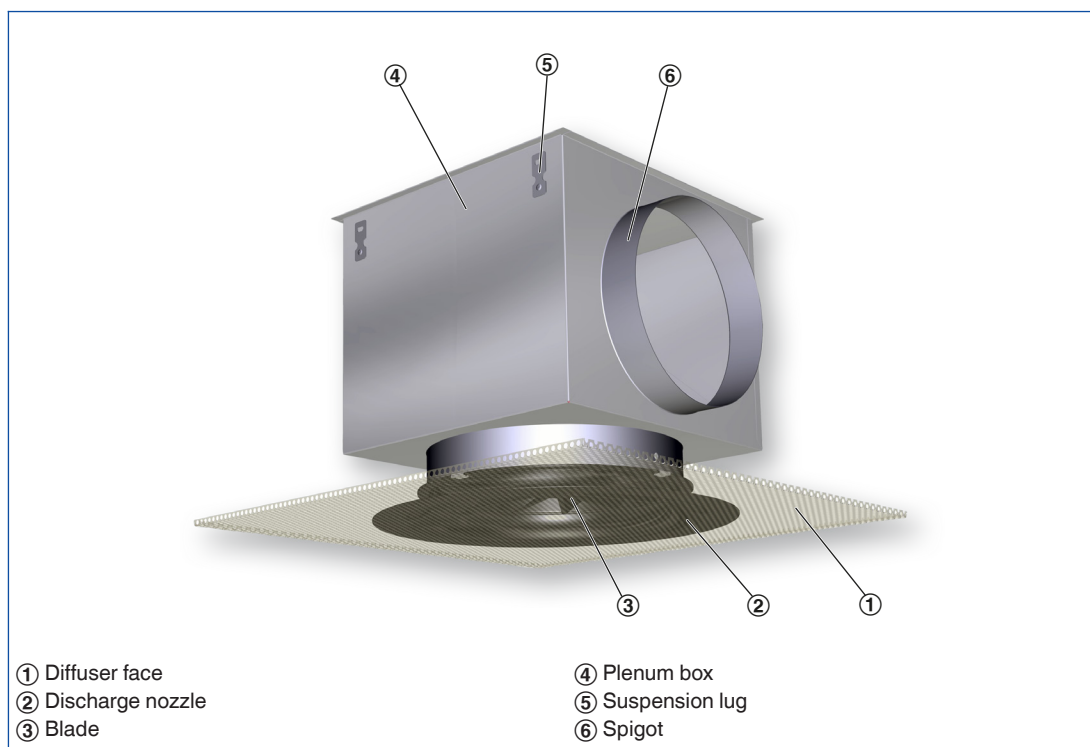
Functional description

Ceiling swirl diffusers in air conditioning systems create a swirl to supply air to rooms. 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 swirl 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.

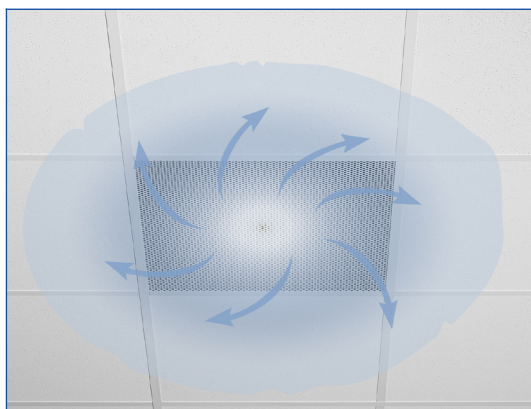
Type DCS ceiling swirl diffusers have fixed blades. The swirl unit required for the swirling air discharge is situated inside the plenum box, concealed by a perforated plate, and hence not visible from the room. Air discharge is horizontal omni directional. The supply air to room air temperature difference may range from -12 to $+10$ K.

To give rooms an aesthetic, uniform look, Type DCS diffusers may also be used for extract air.

Schematic illustration of the DCS, with perforated diffuser face and plenum box for horizontal duct connection



Horizontal omni directional air discharge



| | |
|--|---|
| Nominal sizes – diffuser face | 593, 598, 618, 623 mm |
| Nominal sizes – swirl unit | 125, 160, 200, 250, 315, 400 mm |
| Minimum volume flow rate, with $\Delta t_z = -6$ K | 4 – 36 l/s or 16 – 128 m ³ /h |
| Maximum volume flow rate, with $L_{WA} \cong 50$ dB(A) | 37 – 260 l/s or 132 – 936 m ³ /h |
| Supply air to room air temperature difference | -12 to +10 K |

Quick sizing tables provide a good overview of the volume flow rates and corresponding sound power levels and differential pressures.

The minimum volume flow rates apply to a supply air to room air temperature difference of -6 K.

The maximum volume flow rates apply to a sound power level of approx. 50 dB (A) with damper blade position 0° .

Exact values for all parameters can be determined with our Easy Product Finder design programme.

DCS-P-K, DCS-N-K, sound power level and total differential pressure

| Nominal size | \dot{V} | | Δp_t | L_{WA} |
|--------------|-----------|-------------------|--------------|----------|
| | l/s | m ³ /h | Pa | dB(A) |
| 125 | 4 | 16 | 1 | <15 |
| | 20 | 72 | 17 | 28 |
| | 30 | 108 | 38 | 40 |
| | 40 | 146 | 69 | 50 |
| 160 | 6 | 23 | 1 | <15 |
| | 30 | 108 | 16 | 26 |
| | 50 | 180 | 43 | 39 |
| | 70 | 252 | 85 | 50 |
| 200 | 9 | 32 | 1 | <15 |
| | 35 | 126 | 8 | 21 |
| | 65 | 234 | 28 | 37 |
| | 98 | 354 | 65 | 50 |
| 250 | 14 | 50 | 1 | <15 |
| | 55 | 198 | 10 | 26 |
| | 95 | 342 | 29 | 39 |
| | 135 | 486 | 59 | 50 |
| 315 | 25 | 90 | 1 | <15 |
| | 85 | 306 | 9 | 27 |
| | 145 | 522 | 27 | 40 |
| | 200 | 720 | 52 | 50 |
| 400 | 36 | 128 | 1 | <15 |
| | 110 | 396 | 9 | 26 |
| | 185 | 666 | 27 | 39 |
| | 260 | 936 | 53 | 50 |

DCS-C-K, sound power level and total differential pressure

| Nominal size | \dot{V} | | Δp_t Pa | L_{WA} dB(A) |
|--------------|-----------|-------------------|--------------------|-------------------|
| | l/s | m ³ /h | | |
| 125 | 4 | 16 | 1 | <15 |
| | 15 | 54 | 16 | 21 |
| | 30 | 108 | 64 | 43 |
| | 40 | 128 | 89 | 50 |
| 160 | 6 | 23 | 1 | <15 |
| | 20 | 72 | 9 | 21 |
| | 40 | 144 | 37 | 39 |
| | 60 | 216 | 83 | 51 |
| 200 | 9 | 32 | 1 | <15 |
| | 35 | 126 | 12 | 24 |
| | 65 | 234 | 42 | 40 |
| | 85 | 306 | 71 | 50 |
| 250 | 14 | 50 | 1 | 2 |
| | 50 | 180 | 10 | 26 |
| | 85 | 306 | 29 | 39 |
| | 115 | 414 | 53 | 50 |
| 315 | 25 | 90 | 1 | 3 |
| | 70 | 252 | 10 | 24 |
| | 120 | 432 | 28 | 38 |
| | 170 | 612 | 56 | 50 |
| 400 | 36 | 128 | 1 | 14 |
| | 100 | 360 | 9 | 30 |
| | 165 | 594 | 25 | 40 |
| | 225 | 810 | 46 | 50 |

DCS-P-US, DCS-N-US, sound power level and total differential pressure

| Nominal size | \dot{V} | | Δp_t Pa | L_{WA} dB(A) |
|--------------|-----------|-------------------|--------------------|-------------------|
| | l/s | m ³ /h | | |
| 125 | 4 | 16 | 1 | <15 |
| | 20 | 72 | 19 | 30 |
| | 30 | 108 | 43 | 43 |
| | 37 | 132 | 64 | 50 |
| 160 | 6 | 23 | 1 | <15 |
| | 30 | 108 | 15 | 29 |
| | 50 | 180 | 42 | 43 |
| | 63 | 225 | 66 | 50 |
| 200 | 9 | 32 | 1 | <15 |
| | 35 | 126 | 17 | 22 |
| | 65 | 234 | 57 | 38 |
| | 93 | 334 | 116 | 50 |
| 250 | 14 | 50 | 1 | <15 |
| | 50 | 180 | 16 | 22 |
| | 85 | 306 | 47 | 36 |
| | 128 | 460 | 106 | 50 |
| 315 | 25 | 90 | 2 | <15 |
| | 85 | 306 | 21 | 28 |
| | 145 | 522 | 60 | 42 |
| | 180 | 648 | 92 | 50 |
| 400 | 36 | 128 | 2 | <15 |
| | 110 | 396 | 16 | 26 |
| | 180 | 648 | 42 | 39 |
| | 250 | 900 | 81 | 50 |

DCS-C-US, sound power level and total differential pressure

| Nominal size | \dot{V} | | Δp_t | L_{WA} |
|--------------|-----------|-------------------|--------------|----------|
| | l/s | m ³ /h | Pa | dB(A) |
| 125 | 4 | 16 | 2 | <15 |
| | 15 | 54 | 19 | 27 |
| | 20 | 72 | 33 | 36 |
| | 30 | 108 | 74 | 50 |
| 160 | 6 | 23 | 1 | <15 |
| | 20 | 72 | 10 | 20 |
| | 40 | 144 | 39 | 40 |
| | 55 | 198 | 74 | 51 |
| 200 | 9 | 32 | 1 | <15 |
| | 35 | 126 | 22 | 25 |
| | 60 | 216 | 64 | 40 |
| | 80 | 288 | 114 | 50 |
| 250 | 14 | 50 | 1 | <15 |
| | 45 | 162 | 14 | 23 |
| | 75 | 270 | 40 | 37 |
| | 105 | 378 | 79 | 50 |
| 315 | 25 | 90 | 2 | 5 |
| | 70 | 252 | 17 | 27 |
| | 115 | 414 | 45 | 40 |
| | 160 | 576 | 86 | 50 |
| 400 | 36 | 128 | 2 | 5 |
| | 100 | 360 | 14 | 27 |
| | 160 | 576 | 36 | 39 |
| | 220 | 792 | 69 | 50 |

DCS-P-A, DCS-P-AK, DCS-N-A, DCS-N-AK, sound power level and total differential pressure

| Nominal size | \dot{V} | | Δp_t | L_{WA} |
|--------------|-----------|-------------------|--------------|----------|
| | l/s | m ³ /h | Pa | dB(A) |
| 125 | 4 | 16 | 1 | <15 |
| | 15 | 54 | 13 | 21 |
| | 25 | 90 | 36 | 35 |
| | 39 | 140 | 88 | 51 |
| 160 | 6 | 23 | 1 | <15 |
| | 25 | 90 | 12 | 20 |
| | 45 | 162 | 40 | 36 |
| | 65 | 234 | 84 | 50 |
| 200 | 9 | 32 | 1 | <15 |
| | 35 | 126 | 11 | 22 |
| | 65 | 234 | 39 | 39 |
| | 90 | 324 | 76 | 50 |
| 250 | 14 | 50 | 1 | <15 |
| | 50 | 180 | 10 | 23 |
| | 90 | 324 | 34 | 38 |
| | 128 | 462 | 68 | 50 |
| 315 | 25 | 90 | 1 | <15 |
| | 80 | 288 | 12 | 25 |
| | 130 | 468 | 31 | 38 |
| | 185 | 666 | 62 | 50 |
| 400 | 36 | 128 | 1 | <15 |
| | 110 | 396 | 11 | 25 |
| | 180 | 648 | 29 | 39 |
| | 250 | 900 | 57 | 50 |

DCS-C-A, DCS-C-AK, sound power level and total differential pressure

| Nominal size | \dot{V} | | Δp_t Pa | L_{WA} dB(A) |
|--------------|-----------|-------------------|--------------------|-------------------|
| | l/s | m ³ /h | | |
| 125 | 4 | 16 | 2 | <15 |
| | 15 | 54 | 19 | 24 |
| | 25 | 90 | 53 | 39 |
| | 35 | 126 | 105 | 51 |
| 160 | 6 | 23 | 1 | 2 |
| | 20 | 72 | 10 | 15 |
| | 35 | 126 | 32 | 32 |
| | 55 | 200 | 80 | 50 |
| 200 | 9 | 32 | 1 | <15 |
| | 35 | 126 | 15 | 24 |
| | 65 | 234 | 53 | 43 |
| | 80 | 288 | 80 | 50 |
| 250 | 14 | 50 | 1 | <15 |
| | 45 | 162 | 10 | 21 |
| | 50 | 180 | 12 | 24 |
| | 110 | 396 | 58 | 50 |
| 315 | 25 | 90 | 1 | 0 |
| | 70 | 252 | 11 | 24 |
| | 115 | 414 | 31 | 38 |
| | 160 | 576 | 60 | 50 |
| 400 | 36 | 128 | 1 | 3 |
| | 95 | 342 | 9 | 24 |
| | 155 | 558 | 25 | 37 |
| | 225 | 810 | 52 | 50 |

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Design ceiling swirl diffusers with perforated square diffuser face, for comfort zones with particularly demanding requirements of aesthetics and design. For supply air or extract air. Excellent aerodynamic and acoustic function due to fixed air control blades for horizontal swirling air discharge, creating high levels of induction. For installation into all types of suspended ceilings.

Ready-to-install component which consists of the diffuser face, a top entry spigot or a plenum box with equalising element, a side entry spigot, and suspension lugs.

Spigot suitable for ducts to EN 1506 or EN 13180. Sound power level of the air-regenerated noise measured according to EN ISO 5135.

Special characteristics

- Horizontal air discharge creating high induction levels
- Design variants with perforated square or circular diffuser face style
- For T-bar ceilings
- Horizontal or vertical duct connection

Materials and surfaces

- Diffuser face, discharge nozzle, swirl unit, duct collar and plenum box made of galvanised sheet steel
- Transition piece made of aluminium
- Plenum box lining is mineral wool
- Swirl unit and discharge nozzle dip coated RAL 9005, jet black
- Diffuser face and discharge nozzle powder-coated RAL 9010, pure white
- P1: Powder-coated, RAL CLASSIC colour

Mineral wool

- To EN 13501, fire rating class A1, non-combustible
- RAL quality mark RAL-GZ 388
- Biosoluble and hence hygienically safe according to the German TRGS 905 (Technical Rules for Hazardous Substances) and EU directive 97/69/EC
- Faced with glass fibre fabric as a protection against erosion through airflow velocities of up to 20 m/s
- Inert to fungal and bacterial growth

Technical data

- Nominal sizes – diffuser face: 593, 598, 618, 623 mm
- Nominal sizes – swirl unit: 125, 160, 200, 250, 315, 400 mm
- Minimum volume flow rate, with $\Delta t = -6$ K: 4 – 36 l/s or 16 – 128 m³/h
- Maximum volume flow rate, with $L_{WA} \approx 50$ dB(A): 37 – 260 l/s or 132 – 936 m³/h
- Supply air to room air temperature difference: -12 to +10 K

Sizing data

- \dot{V} _____
[m³/h]
- Δp_t _____
[Pa]

Air-regenerated noise

- L_{WA} _____
[dB(A)]

DCS

| | | | | | | |
|--|----------|----------|----------|----------|----------|----------|
| DCS – P – V – AK / 593x315 / P1 – RAL ... | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

1 Type

DCS Swirl diffuser

2 Construction style

- P** Diffuser face, perforated
- N** Diffuser face, unperforated
- C** Diffuser face with discharge nozzle

3 Installation type

- V** T-bars exposed (diffuser face rests on T-bars)
- H** T-bars concealed (diffuser face conceals T-bars)

4 Connection

- K** Vertical, with duct collar
- US** Vertical, with transition piece
- A** Horizontal, with plenum box
- AK** Horizontal, with plenum box and lining

5 Size of diffuser face plate

- Installation type V
- 593**
- 618**
- Installation type H
- 598**
- 623**

Order example: DCS-P-V-AK/593x315/P1-RAL 9016

| | |
|------------------------------------|---|
| Construction style | Perforated diffuser face |
| Installation type | Exposed T-bars |
| Connection | Plenum box with lining, horizontal connection |
| Size of diffuser face plate | 593 mm |
| Nominal size | 315 mm |
| Exposed surface | RAL 9016, traffic white, gloss level 70 % |

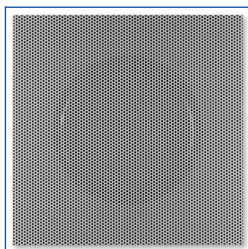
6 Nominal size [mm]

- 125**
- 160**
- 200**
- 250**
- 315**
- 400**

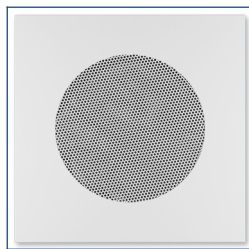
7 Exposed surface

- No entry: powder-coated RAL 9010, pure white
- P1** Powder-coated, specify RAL CLASSIC colour
- Gloss level
- RAL 9010 50 %
- RAL 9006 30 %
- All other RAL colours 70 %

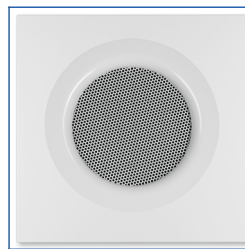
DCS-P



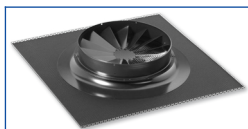
DCS-N



DCS-C



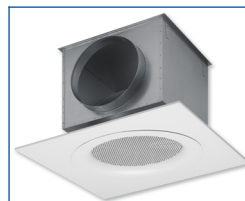
DCS-P-...-K



DCS-N-...-US



DCS-C-...-A



DCS-P-...-K

Variant

- Ceiling swirl diffuser with perforated square diffuser face
- Perforated diffuser face

Nominal sizes

- Diffuser face: 593, 598, 618, 623
- Swirl diffuser: 125, 160, 200, 250, 315, 400

Parts and characteristics

- Perforated square diffuser face
- Circular duct collar for connection to a vertical duct

Construction features

- Spigot suitable for circular ducts to EN 1506 or EN 13180

DCS-P-...-US

Variant

- Ceiling swirl diffuser with perforated square diffuser face
- Perforated diffuser face

Nominal sizes

- Diffuser face: 593, 598, 618, 623
- Swirl diffuser: 125, 160, 200, 250, 315, 400

Parts and characteristics

- Perforated square diffuser face
- Transition piece for connection to a vertical duct

Construction features

- Spigot suitable for circular ducts to EN 1506 or EN 13180

DCS-P-...-A

Variant

- Ceiling swirl diffuser with perforated square diffuser face
- With plenum box for horizontal duct connection

Nominal sizes

- Diffuser face: 593, 598, 618, 623
- Swirl diffuser: 125, 160, 200, 250, 315, 400

Parts and characteristics

- Perforated square diffuser face
- Plenum box for horizontal duct connection
- Plenum box with lining, optional

Construction features

- Spigot suitable for circular ducts to EN 1506 or EN 13180

DCS-N-...-K

Variant

- Ceiling swirl diffuser with square diffuser face
- Diffuser face plate with perforated circular face style

Nominal sizes

- Diffuser face: 593, 598, 618, 623
- Swirl diffuser: 125, 160, 200, 250, 315, 400

Parts and characteristics

- Square diffuser face

- Circular duct collar for connection to a vertical duct
- EN 13180

Construction features

- Spigot suitable for circular ducts to EN 1506 or

DCS-N-*-US

Variant

- Ceiling swirl diffuser with square diffuser face
- DCS-N: Unperforated diffuser face

Nominal sizes

- Diffuser face: 593, 598, 618, 623
- Swirl diffuser: 125, 160, 200, 250, 315, 400

Parts and characteristics

- Square diffuser face
- Transition piece for connection to a vertical duct

Construction features

- Spigot suitable for circular ducts to EN 1506 or EN 13180

DCS-N-*-A

Variant

- Ceiling swirl diffuser with square diffuser face
- DCS-N: Unperforated diffuser face
- With plenum box for horizontal duct connection

Nominal sizes

- Diffuser face: 593, 598, 618, 623
- Swirl diffuser: 125, 160, 200, 250, 315, 400

Parts and characteristics

- Square diffuser face
- Plenum box for horizontal duct connection
- Plenum box with lining, optional

Construction features

- Spigot suitable for circular ducts to EN 1506 or EN 13180

DCS-C-*-K

Variant

- Ceiling swirl diffuser with square diffuser face
- Unperforated diffuser face with visible discharge nozzle

Nominal sizes

- Diffuser face: 593, 598, 618, 623
- Swirl diffuser: 125, 160, 200, 250, 315, 400

Parts and characteristics

- Square diffuser face
- Circular duct collar for connection to a vertical duct

Construction features

- Spigot suitable for circular ducts to EN 1506 or EN 13180

DCS-C-*-US

Variant

- Ceiling swirl diffuser with square diffuser face
- Unperforated diffuser face with visible discharge nozzle

Nominal sizes

- Diffuser face: 593, 598, 618, 623
- Swirl diffuser: 125, 160, 200, 250, 315, 400

Parts and characteristics

- Square diffuser face
- Transition piece for connection to a vertical duct

Construction features

- Spigot suitable for circular ducts to EN 1506 or EN 13180

DCS-C-*-A

Variant

- Ceiling swirl diffuser with square diffuser face
- Unperforated diffuser face with visible discharge nozzle
- With plenum box for horizontal duct connection

Nominal sizes

- Diffuser face: 593, 598, 618, 623
- Swirl diffuser: 125, 160, 200, 250, 315, 400

Parts and characteristics

- Square diffuser face
- Plenum box for horizontal duct connection

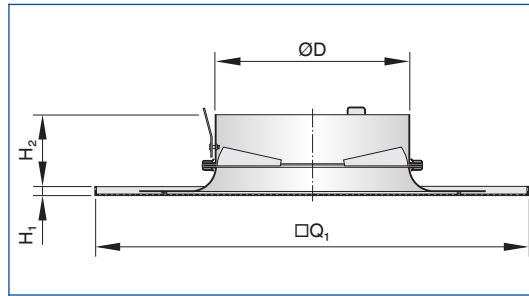
- Plenum box with lining, optional

EN 13180

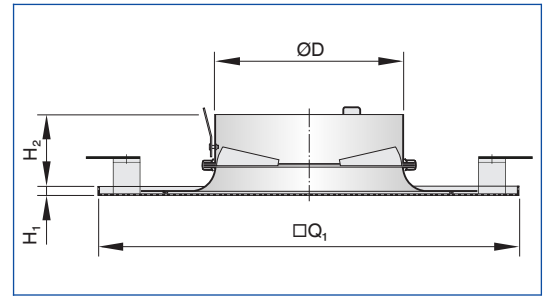
Construction features

- Spigot suitable for circular ducts to EN 1506 or

DCS-P-V-K



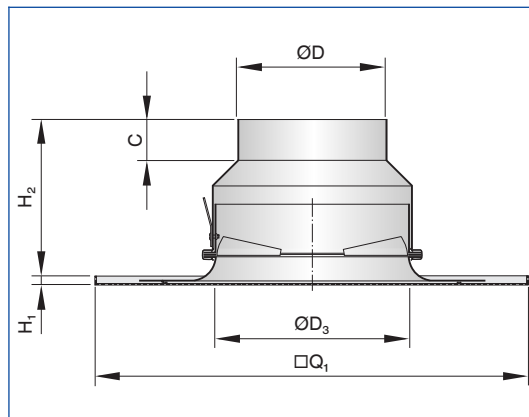
DCS-P-H-K



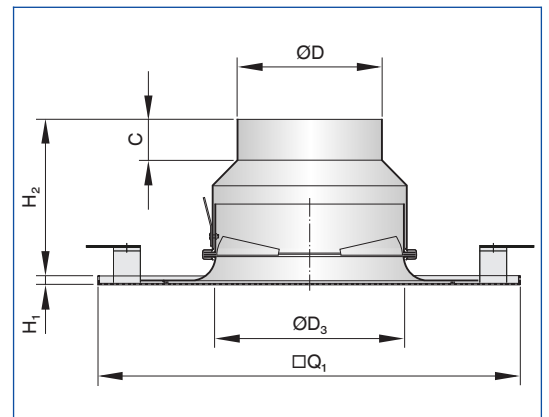
DCS-P-*-K

| Nominal size | H-*/598 x ... | H-*/623 x ... | V-*/593 x ... | V-*/618 x ... | H ₁ mm | H ₂ mm | ØD mm | m kg |
|--------------|-----------------|---------------|---------------|---------------|----------------------|----------------------|----------|---------|
| | □Q ₁ | | | | | | | |
| | mm | mm | mm | mm | | | | |
| ... x 125 | 598 | 623 | 593 | 618 | 8 | 69 | 123 | 1.9 |
| ... x 160 | 598 | 623 | 593 | 618 | 8 | 69 | 158 | 2.2 |
| ... x 200 | 598 | 623 | 593 | 618 | 8 | 69 | 198 | 2.3 |
| ... x 250 | 598 | 623 | 593 | 618 | 8 | 69 | 248 | 2.5 |
| ... x 315 | 598 | 623 | 593 | 618 | 8 | 79 | 313 | 3.1 |
| ... x 400 | 598 | 623 | 593 | 618 | 8 | 79 | 398 | 3.8 |

DCS-P-V-US



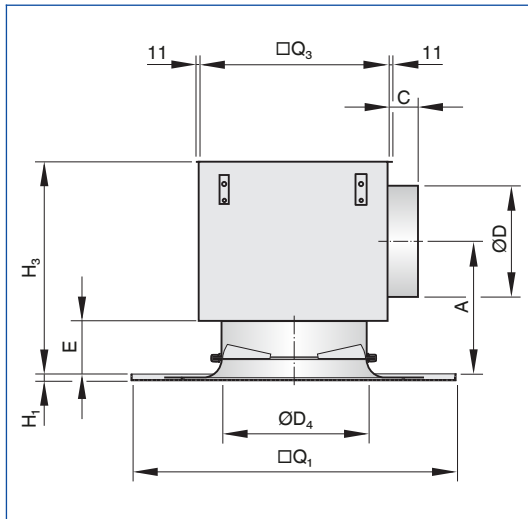
DCS-P-H-US



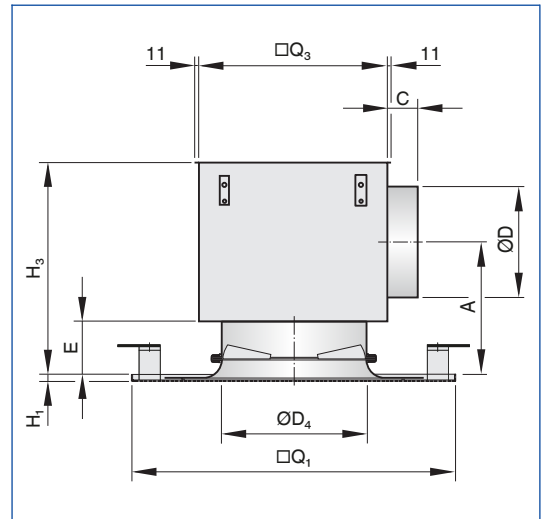
DCS-P-*-US

| Nominal size | H-*/598 x ... | H-*/623 x ... | V-*/593 x ... | V-*/618 x ... | H ₁ mm | H ₂ mm | ØD ₃ mm | ØD mm | C mm | m kg |
|--------------|-----------------|---------------|---------------|---------------|----------------------|----------------------|-----------------------|----------|---------|---------|
| | □Q ₁ | | | | | | | | | |
| | mm | mm | mm | mm | | | | | | |
| ... x 125 | 598 | 623 | 593 | 618 | 8 | 146 | 123 | 98 | 40 | 2.0 |
| ... x 160 | 598 | 623 | 593 | 618 | 8 | 151 | 158 | 123 | 40 | 2.3 |
| ... x 200 | 598 | 623 | 593 | 618 | 8 | 154 | 198 | 158 | 40 | 2.5 |
| ... x 250 | 598 | 623 | 593 | 618 | 8 | 159 | 248 | 198 | 40 | 2.8 |
| ... x 315 | 598 | 623 | 593 | 618 | 8 | 176 | 313 | 248 | 40 | 3.5 |
| ... x 400 | 598 | 623 | 593 | 618 | 8 | 186 | 398 | 313 | 40 | 4.3 |

DCS-P-V-A



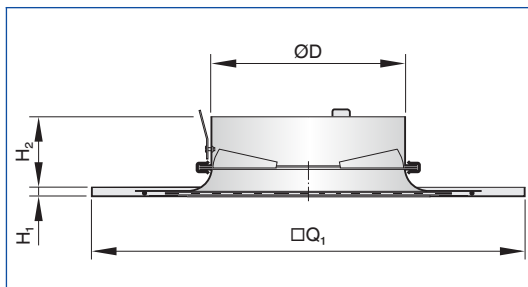
DCS-P-H-A



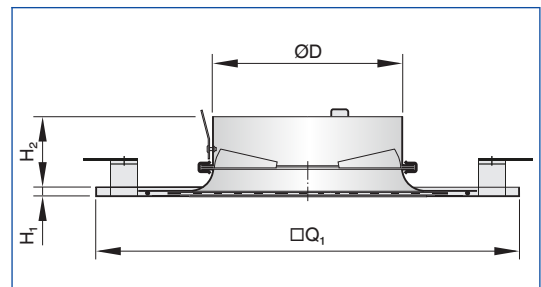
DCS-P*-A

| Nominal size | H-*/598 x | H-*/623 x | V-*/593 x | V-*/618 x | | | | | | | | | |
|--------------|-----------------|-----------|-----------|-----------|----------------|----------------|-----------------|-----------------|----|-----|-----|----|------|
| | ... | ... | ... | ... | | | | | | | | | |
| | □Q ₁ | | | | H ₁ | H ₃ | □Q ₃ | ØD ₄ | E | ØD | A | C | m |
| | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | kg |
| ... x 125 | 598 | 623 | 593 | 618 | 8 | 225 | 180 | 123 | 69 | 98 | 136 | 49 | 3.4 |
| ... x 160 | 598 | 623 | 593 | 618 | 8 | 249 | 215 | 158 | 69 | 123 | 149 | 49 | 4.2 |
| ... x 200 | 598 | 623 | 593 | 618 | 8 | 284 | 255 | 198 | 69 | 158 | 167 | 49 | 5.0 |
| ... x 250 | 598 | 623 | 593 | 618 | 8 | 324 | 305 | 248 | 69 | 198 | 187 | 49 | 6.4 |
| ... x 315 | 598 | 623 | 593 | 618 | 8 | 384 | 370 | 313 | 79 | 248 | 222 | 49 | 8.5 |
| ... x 400 | 598 | 623 | 593 | 618 | 8 | 440 | 454 | 398 | 79 | 313 | 257 | 49 | 11.8 |

DCS-N-V-K



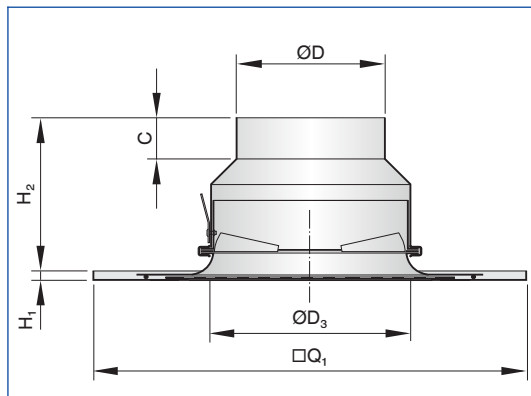
DCS-N-H-K



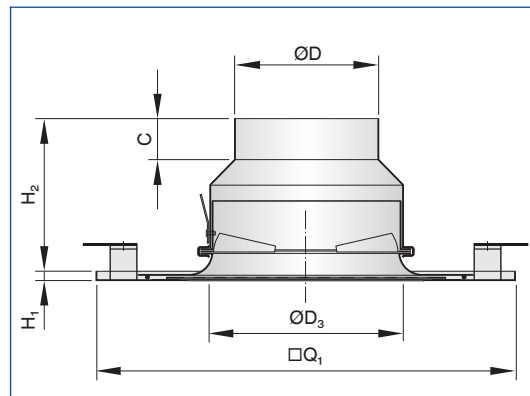
DCS-N*-K

| Nominal size | H-*/598 x | H-*/623 x | V-*/593 x ... | V-*/618 x ... | | | | |
|--------------|-----------------|-----------|---------------|---------------|----------------|----------------|-----|-----|
| | ... | ... | | | | | | |
| | □Q ₁ | | | | H ₁ | H ₂ | ØD | m |
| | mm | mm | mm | mm | mm | mm | mm | kg |
| ... x 125 | 598 | 623 | 593 | 618 | 8 | 69 | 123 | 3.5 |
| ... x 160 | 598 | 623 | 593 | 618 | 8 | 69 | 158 | 3.7 |
| ... x 200 | 598 | 623 | 593 | 618 | 8 | 69 | 198 | 3.8 |
| ... x 250 | 598 | 623 | 593 | 618 | 8 | 69 | 248 | 3.9 |
| ... x 315 | 598 | 623 | 593 | 618 | 8 | 79 | 313 | 4.4 |
| ... x 400 | 598 | 623 | 593 | 618 | 8 | 79 | 398 | 4.9 |

DCS-N-V-US



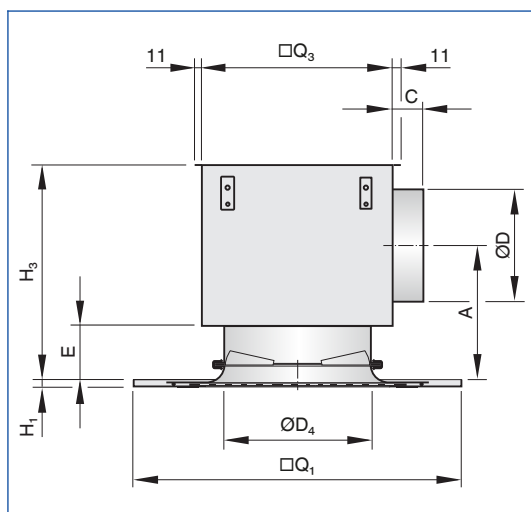
DCS-N-H-US



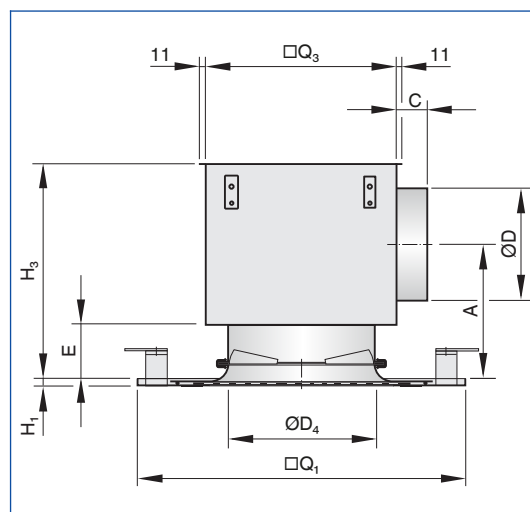
DCS-N-*-US

| Nominal size | H-*/598 x ... | H-*/623 x ... | V-*/593 x ... | V-*/618 x ... | H ₁ mm | H ₂ mm | ØD ₃ mm | ØD mm | C mm | m kg |
|--------------|------------------|------------------|------------------|------------------|----------------------|----------------------|-----------------------|----------|---------|---------|
| | □Q ₁ | | | | | | | | | |
| | mm | mm | mm | mm | | | | | | |
| ... x 125 | 598 | 623 | 593 | 618 | 8 | 146 | 123 | 98 | 40 | 3.6 |
| ... x 160 | 598 | 623 | 593 | 618 | 8 | 151 | 158 | 123 | 40 | 3.9 |
| ... x 200 | 598 | 623 | 593 | 618 | 8 | 154 | 198 | 158 | 40 | 4.0 |
| ... x 250 | 598 | 623 | 593 | 618 | 8 | 159 | 248 | 198 | 40 | 4.2 |
| ... x 315 | 598 | 623 | 593 | 618 | 8 | 176 | 313 | 248 | 40 | 4.8 |
| ... x 400 | 598 | 623 | 593 | 618 | 8 | 186 | 398 | 313 | 40 | 5.4 |

DCS-N-V-A



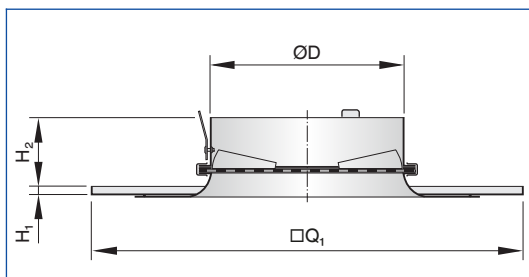
DCS-N-H-A



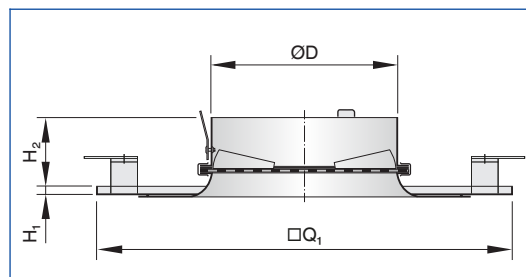
DCS-N-*-A

| Nominal size | H-*/ 598 x | H-*/ 623 x | V-*/ 593 x | V-*/ 618 x | H ₁ mm | H ₃ mm | □Q ₃ mm | ØD ₄ mm | E mm | ØD mm | A mm | C mm | m kg |
|--------------|-----------------|---------------|---------------|---------------|----------------------|----------------------|-----------------------|-----------------------|---------|----------|---------|---------|---------|
| | ... | ... | ... | ... | | | | | | | | | |
| | □Q ₁ | | | | | | | | | | | | |
| mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | kg |
| ... x 125 | 598 | 623 | 593 | 618 | 8 | 225 | 180 | 123 | 69 | 98 | 136 | 49 | 4.9 |
| ... x 160 | 598 | 623 | 593 | 618 | 8 | 249 | 215 | 158 | 69 | 123 | 149 | 49 | 5.7 |
| ... x 200 | 598 | 623 | 593 | 618 | 8 | 284 | 255 | 198 | 69 | 158 | 167 | 49 | 6.4 |
| ... x 250 | 598 | 623 | 593 | 618 | 8 | 324 | 305 | 248 | 69 | 198 | 187 | 49 | 7.7 |
| ... x 315 | 598 | 623 | 593 | 618 | 8 | 384 | 370 | 313 | 79 | 248 | 222 | 49 | 9.8 |
| ... x 400 | 598 | 623 | 593 | 618 | 8 | 440 | 454 | 398 | 79 | 313 | 257 | 49 | 12.9 |

DCS-C-V-K



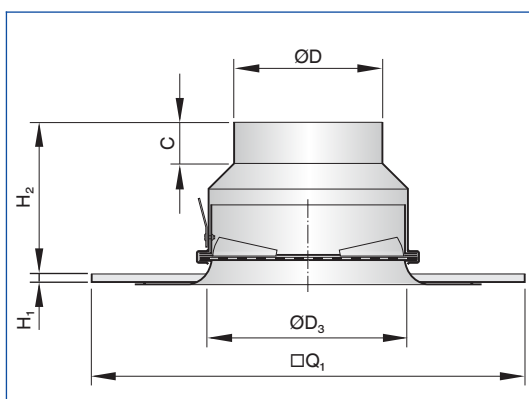
DCS-C-H-K



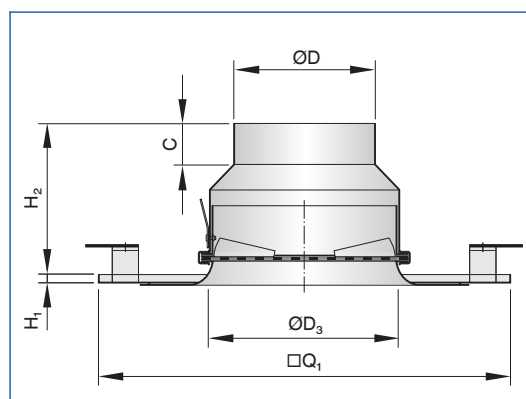
DCS-C-*-K

| Nominal size | H-*/598 x ... | H-*/623 x ... | V-*/593 x ... | V-*/618 x ... | H ₁ mm | H ₂ mm | ØD mm | m kg |
|--------------|-----------------|---------------|---------------|---------------|----------------------|----------------------|----------|---------|
| | □Q ₁ | | | | | | | |
| | mm | mm | mm | mm | | | | |
| ... x 125 | 598 | 623 | 593 | 618 | 8 | 69 | 123 | 3.4 |
| ... x 160 | 598 | 623 | 593 | 618 | 8 | 69 | 158 | 3.6 |
| ... x 200 | 598 | 623 | 593 | 618 | 8 | 69 | 198 | 3.6 |
| ... x 250 | 598 | 623 | 593 | 618 | 8 | 69 | 248 | 3.8 |
| ... x 315 | 598 | 623 | 593 | 618 | 8 | 79 | 313 | 4.3 |
| ... x 400 | 598 | 623 | 593 | 618 | 8 | 79 | 398 | 4.7 |

DCS-C-V-US



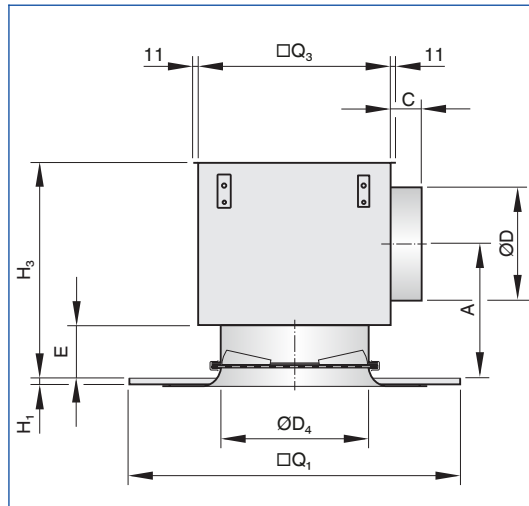
DCS-C-H-US



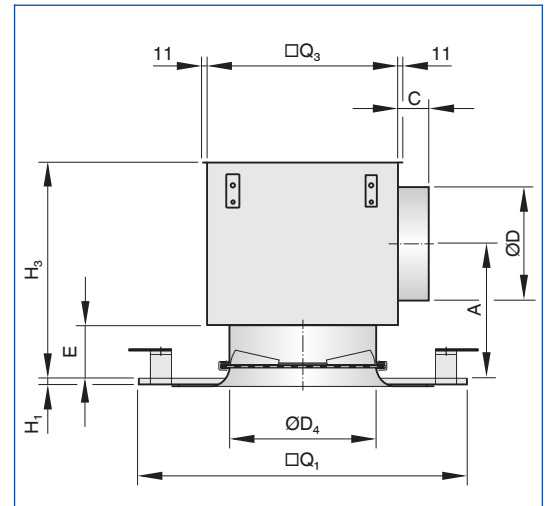
DCS-C-*-US

| Nominal size | H-*/598 x ... | H-*/623 x ... | V-*/593 x ... | V-*/618 x ... | H ₁ mm | H ₂ mm | ØD ₃ mm | ØD mm | C mm | m kg |
|--------------|-----------------|---------------|---------------|---------------|----------------------|----------------------|-----------------------|----------|---------|---------|
| | □Q ₁ | | | | | | | | | |
| | mm | mm | mm | mm | | | | | | |
| ... x 125 | 598 | 623 | 593 | 618 | 8 | 146 | 123 | 98 | 40 | 3.5 |
| ... x 160 | 598 | 623 | 593 | 618 | 8 | 151 | 158 | 123 | 40 | 3.8 |
| ... x 200 | 598 | 623 | 593 | 618 | 8 | 154 | 198 | 158 | 40 | 3.9 |
| ... x 250 | 598 | 623 | 593 | 618 | 8 | 159 | 248 | 198 | 40 | 4.1 |
| ... x 315 | 598 | 623 | 593 | 618 | 8 | 176 | 313 | 248 | 40 | 4.6 |
| ... x 400 | 598 | 623 | 593 | 618 | 8 | 186 | 398 | 313 | 40 | 5.2 |

DCS-C-V-A



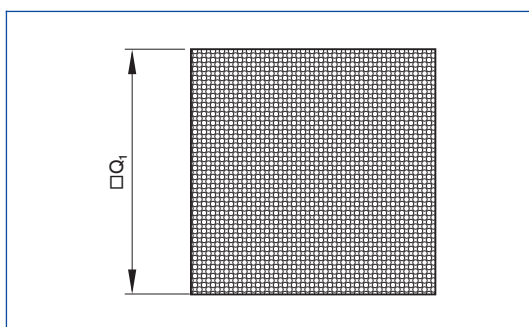
DCS-C-H-A



DCS-C-*-A

| Nominal size | H-*/ 598 x ... | H-*/ 623 x ... | V-*/ 593 x ... | V-*/ 618 x ... | | | | | | | | | |
|--------------|----------------------|----------------------|----------------------|----------------------|----------------|----------------|-----------------|-----------------|----|-----|-----|----|------|
| | □Q ₁ | | | | H ₁ | H ₃ | □Q ₃ | ØD ₄ | E | ØD | A | C | m |
| | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | kg |
| ... x 125 | 598 | 623 | 593 | 618 | 8 | 225 | 180 | 123 | 69 | 98 | 136 | 49 | 4.8 |
| ... x 160 | 598 | 623 | 593 | 618 | 8 | 249 | 215 | 158 | 69 | 123 | 149 | 49 | 5.6 |
| ... x 200 | 598 | 623 | 593 | 618 | 8 | 284 | 255 | 198 | 69 | 158 | 167 | 49 | 6.3 |
| ... x 250 | 598 | 623 | 593 | 618 | 8 | 324 | 305 | 248 | 69 | 198 | 187 | 49 | 7.7 |
| ... x 315 | 598 | 623 | 593 | 618 | 8 | 384 | 370 | 313 | 79 | 248 | 222 | 49 | 9.7 |
| ... x 400 | 598 | 623 | 593 | 618 | 8 | 440 | 454 | 398 | 79 | 313 | 257 | 49 | 12.7 |

Diffuser face DCS-P

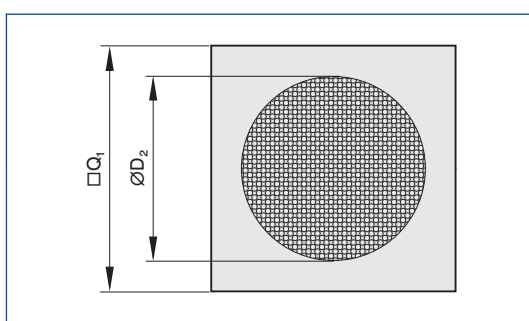


DCS-P

| Nominal size | A_{eff} m^2 |
|--------------|----------------------------------|
| ... x 125 | 0.0034 |
| ... x 160 | 0.0060 |
| ... x 200 | 0.0092 |
| ... x 250 | 0.0150 |
| ... x 315 | 0.0265 |
| ... x 400 | 0.0355 |

□Q₁: 593, 598, 618, 623

Diffuser face DCS-N

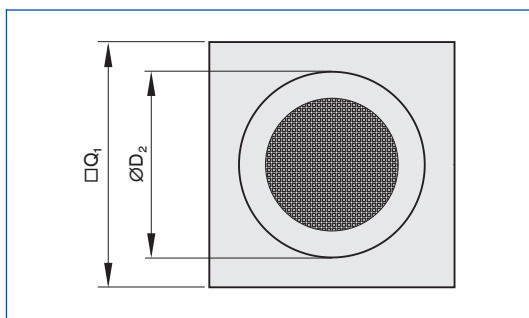


DCS-N

| Nominal size | ØD_2 mm | A_{eff} m^2 |
|--------------|---------------------|----------------------------------|
| ... x 125 | 175 | 0.0034 |
| ... x 160 | 210 | 0.0060 |
| ... x 200 | 250 | 0.0092 |
| ... x 250 | 300 | 0.0150 |
| ... x 315 | 385 | 0.0265 |
| ... x 400 | 470 | 0.0355 |

□Q₁: 593, 598, 618, 623

Diffuser face DCS-C

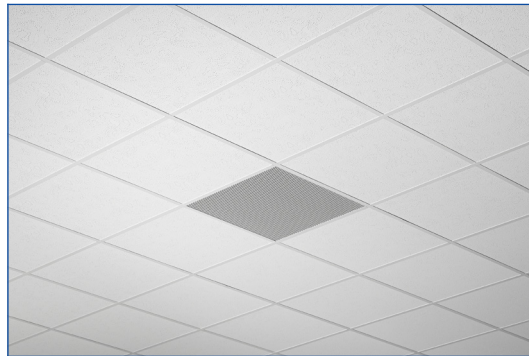


DCS-C

| Nominal size | ØD_2 mm | A_{eff} m^2 |
|--------------|---------------------|----------------------------------|
| ... x 125 | 200 | 0.0034 |
| ... x 160 | 250 | 0.0060 |
| ... x 200 | 300 | 0.0092 |
| ... x 250 | 350 | 0.0150 |
| ... x 315 | 450 | 0.0265 |
| ... x 400 | 580 | 0.0355 |

□Q₁: 593, 598, 618, 623

Installation in T-bar ceilings



Installation and commissioning

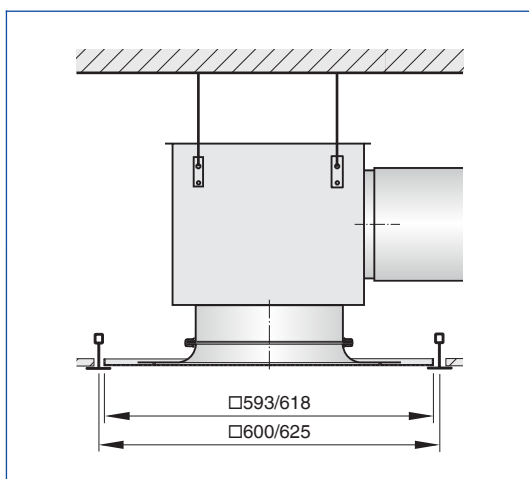
- Preferably for rooms with a clear height up to 4.0 m
- Flush ceiling installation
- Horizontal or vertical duct connection

Installation information

- Flush ceiling installation
- Installation and making connections to be performed by others

These are only schematic diagrams to illustrate installation details.

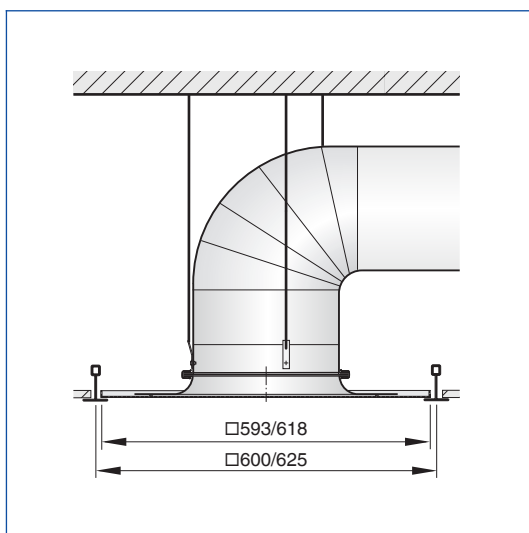
Installation with the T-bars exposed



Variants DCS-*-V-A, DCS-*-V-AK-Uni

- Horizontal duct connection
- Four suspension lugs
- Diffuser face rests on T-bars

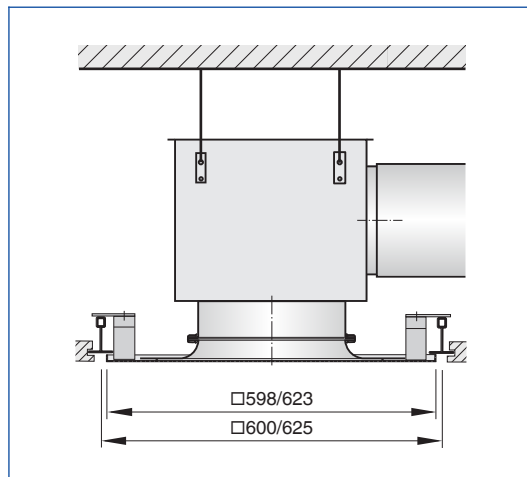
Installation with the T-bars exposed



Variants DCS-*-V-K

- Vertical duct connection
- Three suspension lugs
- Diffuser face rests on T-bars

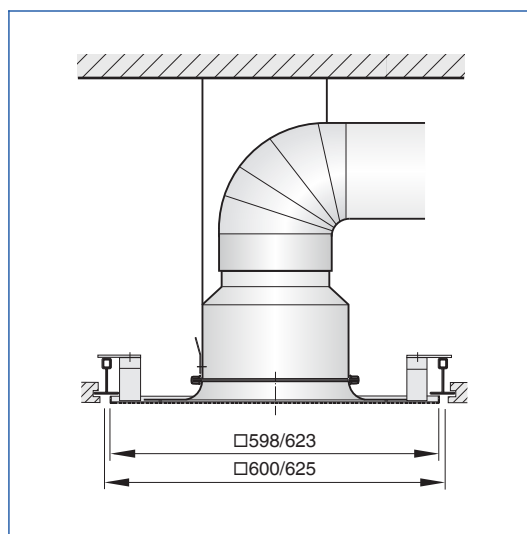
Installation with the T-bars concealed



Variant DCS-*H-A, DCS-*H-AK-Uni

- Horizontal duct connection
- Four suspension lugs
- Push the diffuser face from below into the ceiling opening
- Diffuser face conceals T-bars

Installation with the T-bars concealed



Variant DCS-*V-K

- Vertical duct connection
- Four hanging brackets with movable lugs
- Push the diffuser face from below into the ceiling opening
- Diffuser face conceals T-bars

Principal dimensions

$\varnothing D$ [mm]

Outer diameter of the spigot

$\varnothing D_1$ [mm]

Outer diameter of a circular diffuser face

$\varnothing D_2$ [mm]

Diameter of a circular diffuser face style

$\varnothing D_3$ [mm]

Diameter of a circular plenum box

$\square Q_1$ [mm]

Outer diameter of a square diffuser face

$\square Q_2$ [mm]

Dimensions of a square diffuser face style

$\square Q_3$ [mm]

Dimensions of a square plenum box

H_1 [mm]

Distance (height) from the lower edge of the

suspended ceiling to the lower edge of the diffuser face

H_2 [mm]

Height of a ceiling diffuser, from the lower edge of the suspended ceiling to the upper edge of the spigot

H_3 [mm]

Height of a ceiling diffuser with plenum box, from the lower edge of the suspended ceiling to the upper edge of the plenum box or of the spigot

A [mm]

Position of the spigot, defined by the distance of the spigot centre line to the lower edge of the suspended ceiling

C [mm]

Length of the spigot

m [kg]

Weight

Nomenclature

L_{WA} [dB(A)]

A-weighted sound power level of air-regenerated noise

\dot{V} [m^3/h] and [l/s]

Volume flow rate

Δt_z [K]

Supply air to room air temperature difference, i.e.

supply air temperature minus room temperature

Δp_t [Pa]

Total differential pressure

A_{eff} [m^2]

Effective air discharge area

All sound power levels are based on 1 pW.