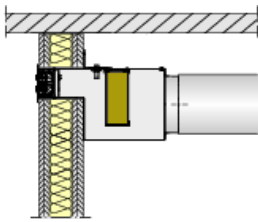
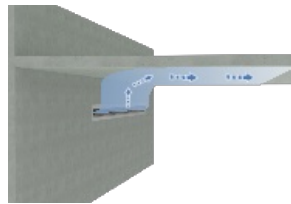


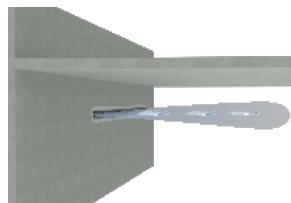
Various design options with black, grey and white air control blades



Installation opening in a lightweight partition wall



Air flow with ceiling influence



Direct air flow into the room

## CHS

[Available online - configure now](#)

### SLOT DIFFUSER FOR WALL INSTALLATION

Wall diffusers with adjustable air control blades and optional splitter for cross-talk sound attenuation for different wall thicknesses

- Optionally with the front rails of PURELINE18, PURELINE35 or PURELINE50
- Available in nominal lengths 450 - 1200 mm
- Wide range of applications due to variants with 1 - 4 air slots
- Simple and tool-free assembly of the front rail, e.g. after completion of all preparatory work
- Installation in lightweight partition walls with 50, 75 or 100 mm stud frame width and 75, 100, 125 or 150 mm wall thickness
- Optionally for supply air, extract air or as supply air/extract air combination

## Optional equipment

- Spigot for improved cross-talk sound attenuation
- Various looks thanks to powder-coated slotted profiles and manually adjustable air control blades, optionally in black, white or grey
- Damper blade in the spigot for flow rate balancing, adjustable via cable pulls when the front is mounted
- Fixing bracket for wall mounting

## General information

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## Application

- Wall diffusers as supply air or extract air diffuser or as supply air/extract air combination in ventilation systems for comfort areas
- Wide range of applications due to the choice of different front rails:
  - PURELINE18, PURELINE 50 with 1 - 2 air slots
  - PURELINE35 with 1 - 4 air slots
- Air flow with ceiling effect or directly into the room as turbulent mixed ventilation
- Depending on the setting of the air control blades, the minimum installation height is defined
- High induction causes a rapid reduction of the temperature difference and the air velocity
- For constant and variable volume flows
- For supply air temperature differences of -10 to +10 K
- For room heights up to 4 m (lower edge of suspended ceiling)
- Different neck lengths for common wall thicknesses: 75, 100, 125 or 150 mm
- Space-saving installation preferably in lightweight partition walls
- Optionally with fixing bracket for wall mounting

## Special characteristics

- Uniform jet dispersion to reduce dirt deposits that occur on the wall due to induced room air
- The air flow is one-sided and is manually adjusted by air control blades
- Large penetration depths or throw distances due to direct air flow into the room
- Airflow with ceiling influence for positive effects on air velocities and comfort:
  - First, the air flows vertically along the wall and is redirected under the ceiling
- Splitter as cross-talk silencer (optional):
  - To reduce sound transmission to neighbouring rooms via the air duct system
- Tool-free fixing for easy and safe installation of the front rail
- Installation of the front rail still possible after completion of all preparatory work
- Comfortable indoor climate due to high induction and rapid reduction of temperature differences and airflow velocities
- High-quality appearance due to surface-treated extruded aluminium profiles with anodised coating or powder coating according to RAL-CLASSIC colour scale
- The front rail has been optimised for maximum volume flow rate at low sound power levels

## Nominal sizes

### Nominal length $L_N$ :

- PL18: 500 - 1200 mm (in 100 mm steps)
- PL35/50: 450 - 1200 mm (in increments of 150 mm)

### Spigot diameter $\varnothing D$

- 98, 123, 138, 158 mm

### Neck length

- 75, 100, 125, 150 mm

## Variants

#### Diffuser face

- -18: PURELINE18 series front rail
- -35: PURELINE35 series front rail
- -50: PURELINE50 series front rail

#### Number of slots

- -\*: 1 - 4 air slots (3 or 4 air slots only with PURELINE35)

#### System

- -S: Supply air
- -E: Extract air
- -SE: Supply air/extract air combination from L<sub>N</sub> 900

#### Construction

##### Surface diffuser face

- Anodised, E6-C-0, natural colour
- P1: Powder-coated RAL 9010, pure white, GU 50
- P1: Powder-coated RAL 9006, white aluminium, GU 30
- P1: Powder-coated in any other RAL CLASSIC colour, GU 70

#### Attachments

##### Spigot

- -D: with damper blade for flow rate balancing
- -LS: with lip seal to reduce duct leakage

##### Splitter

- -CT: with splitter to improve cross-talk sound attenuation to reduce sound transmission via the air duct system

##### End pieces

- No entry: front rail equipped at the factory with end brackets for circumferential covering of the installation opening
- -NO: The front rail is equipped without end brackets. This means that the installation opening is not covered all the way round.

#### Construction features

- Spigot suitable for circular ducts to EN 1506 or EN 13180
- Manually adjustable air control blades with detent for defined adjustment of the air flow
- Factory preset airflow that can be manually adjusted on site (only airflow with ceiling influence or direct airflow into the room)
- Spigot with groove for lip seal (only for lip seal version)
- Front rail available in nominal lengths of 450 mm - 1200 mm depending on slot diffuser width
- Fixing material for the front rail is enclosed loosely packed in a drawstring bag

#### Accessories

##### End pieces

- The aluminium profiles of the PURELINE18, PURELINE35 and PURELINE50 series are used as front rails. This means that the front rails can also be retrofitted with the end plates and end brackets of the respective PURELINE series available as accessories. The end plates and end brackets must be ordered as a separate item

#### Material and surfaces

- Front rail made of extruded aluminium profiles
- End brackets made of aluminium
- Air control blades made of ABS plastic, UL 94, V-0, flame retardant
- Plenum box made of galvanised sheet steel
- Lip seal made of Evoprene
- Sound insulation material made of mineral wool
- Front rail anodised, E6-C-0, natural colour or powder-coated (P1), colour shade according to RAL-CLASSIC
- Air control blades similar to RAL 9005, black
- -W: Air control blades similar to RAL 9010, white
- -G: Air control blades similar to RAL 9006, grey

##### Mineral wool

- Mineral wool on surfaces in contact with air are laminated with glass fibre fabric, abrasion-resistant up to 20 m/s
- According to EN13501, building material class A1, noncombustible
- RAL quality mark RAL-GZ 388
- Non-hazardous thanks to high biosolubility according to the German Ordinance on Hazardous Substances and Note Q of the European Regulation

(EC) No. 1272/2008

- Inert to fungal and bacterial growth

#### Standards and guidelines

- Sound power level of the air-regenerated noise measured according to EN ISO 5135.
- Conforms to VDI 6022
- Transmission loss to ISO 7235

#### Maintenance

- Low maintenance, as there is no wear and tear due to design and materials used
- Inspection and cleaning according to VDI 6022

## TECHNICAL INFORMATION

### FUNCTION, TECHNICAL DATA, QUICK SIZING, SPECIFICATION TEXT, ORDER CODE



Wall diffusers allow the supply air of room air conditioning systems to flow with ceiling influence or directly into the room. The flow takes place with a high induction of the room air. This quickly reduces the air velocity and the temperature difference between supply air and room air. The result is a mixed ventilation system for comfort areas with good room air circulation and low turbulence in the occupied zone.

The wall diffusers can be combined with PURELINE 18, PURELINE35 or PURELINE50 range front rails. These have factory-set air control blades that can be manually adjusted on site. The airflow direction can be adjusted to meet various local requirements.

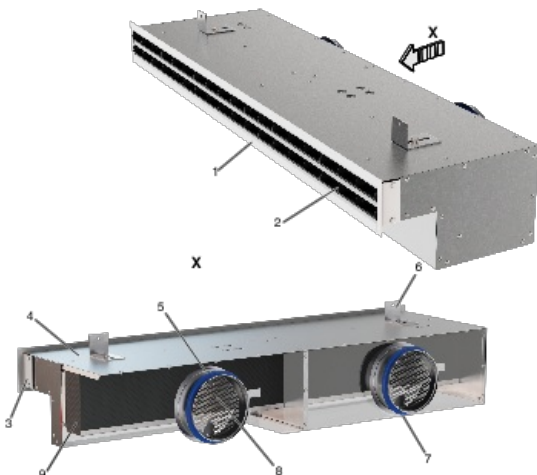
The supply air to room air temperature difference may range from -10 to +10 K.

A spigot can be optionally integrated in the plenum box to increase the passage attenuation and reduce the sound transmission into neighbouring rooms.

Damper blades (optional) in the spigot enable the volume flow rate to be balanced during commissioning. The damper blade is adjusted via cable pulls and can also be adjusted when the diffuser face is mounted.

For an architecturally uniform design, the wall diffusers are used as extract air diffusers or as supply air/extract air combinations.

#### Schematic representation, CHS-50-\* as supply air/extract air combination



1 Front rail

2 Adjustable air control blade

3 End angle

4 Plenum box

5 Spigot

Optional

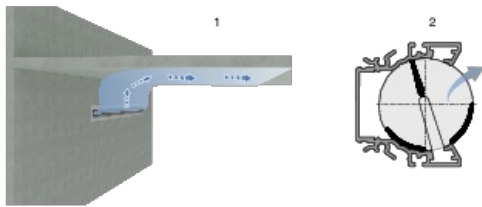
6 Fixing brackets

7 Lip seal

8 Damper blade for volume flow rate balancing

9 Splitter as cross-talk silencer

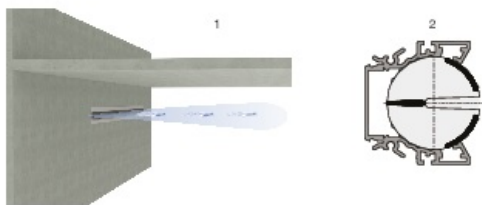
Supply air: Air flow with ceiling effect



1 -HR: Airflow with ceiling influence - distance from lower edge of ceiling to lower edge of front rail  $\leq 0.5$  m

2 Setting of the air control blades

Supply air: direct air flow into the room



1 -V: direct air flow into the room - distance from lower edge of ceiling to lower edge of front rail  $\leq 0.3$  m

2 Setting of the air control blades

CHS-18

Nominal length	500 - 1200 mm (in increments of 100 mm)
Number of slots	1 or 2
minimum volume flow at $\Delta t_z = -10$ K	4 l/s or 13 m <sup>3</sup> /h
maximum volume flow at $L_{WA} 50$ dB (A)	83 l/s or 300 m <sup>3</sup> /h
Supply air to room air temperature difference	-10 - +10 K

CHS-35

<b>Nominal length</b>	450 - 1200 mm (in increments of 150 mm)
<b>Number of slots</b>	1, 2, 3 or 4
<b>minimum volume flow at <math>\Delta t_z = -10</math> K</b>	5 l/s or 19 m <sup>3</sup> /h
<b>maximum volume flow at L<sub>WA</sub> 50 dB (A)</b>	160 l/s or 575 m <sup>3</sup> /h
<b>Supply air to room air temperature difference</b>	-10 - +10 K

CHS-50

<b>Nominal length</b>	450 - 1200 mm (in increments of 150 mm)
<b>Number of slots</b>	1 or 2
<b>minimum volume flow at <math>\Delta t_z = -10</math> K</b>	8 l/s or 27 m <sup>3</sup> /h
<b>maximum volume flow at L<sub>WA</sub> 50 dB (A)</b>	153 l/s or 550 m <sup>3</sup> /h
<b>Supply air to room air temperature difference</b>	-10 - +10 K

#### Specification text

Wall diffusers as supply air or extract air diffusers or supply air/extract air combinations for ventilating rooms in ventilation and air conditioning systems. Consisting of a plenum box with spigot for connection to the on-site duct system and the front rail. The air into the room is provided by air control blades integrated in the front rails. These air control blades are manually adjustable and enable airflow with ceiling influence or direct airflow into the room. Optional splitter for improved cross-talk sound attenuation.

#### Material

- Plenum box and spigot made of galvanised sheet steel
- Fixing bracket made of galvanised sheet steel
- Aluminium front rail
- Air control blades made of plastic ABS UL94 V-0
- Sound insulation material made of mineral wool, laminated with glass fibre fabric on surfaces in contact with air

#### Surfaces

- Front rail natural anodised (E6 C-0)
- Front rail powder-coated according to RAL CLASSIC
- Air control blades black, similar to RAL 9005
- Air control blades white, similar to RAL 9010
- Air control blades grey, similar to RAL 9006

#### Nominal size

##### Length [mm]

450, 500, 600, 700, 750, 800, 900, 1000, 1050, 1100, 1200

##### Spigot diameter [mm]

98, 123, 138, 158

##### Neck length [mm]

75, 100, 125, 150

#### Technical data / design data

- Design-specific

#### Standards and guidelines

- Conforms to VDI 6022
- Sound power level in air-regenerated noise measured according to EN ISO 5135
- Transmission loss to ISO 7235
- Mineral wool according to EN13501 of building material class A1, non-combustible, with RAL quality mark RAL-GZ 388
- Mineral wool according to the German Ordinance on Hazardous Substances and Note Q of the European Regulation (EC) No. 1272/2008

#### Variants

- Without damper blade
- With damper blade
- Without lip seal
- With lip seal
- Without splitter
- With splitter
- Without end pieces
- With end brackets

#### Accessories

- Wall fixing bracket
- End pieces to match the front rails
-

Equivalence criteria

- Choice of 3 different slot sizes
- Uniform jet spread to reduce dirt deposits on the wall
- Air conduction with ceiling influence or direct air flow into the room through manually adjustable air control blades
- Air control blades selectable in 3 different colours
- One to four slot front rails made of extruded aluminium profiles
- Splitter for improved cross-talk sound attenuation
- Glass fibre fabric abrasion resistant up to 20 m/s
- Mineral wool harmless to health due to high biosolubility
- Mineral wool with glass fibre fabric inert to fungal and bacterial growth
- Easy and quick installation of the front rail due to tool-free fastening after completion of the drywall work

Make of the tender

- TROX

Type

- CHS

CHS	-	35	-	2	-	SE	/	1200 × 123 × 125	/	1	/	D	/	LS	/	CT	/	NO	/	HR	/	F	/	P1 - RAL 9016	/	W
1		2		3		4		5		6		7		8		9		10		11		12		13		14

1 Type

CHS Wall diffuser

2 Front rail

18 PURELINE18

35 PURELINE35

50 PURELINE50

3 Number of slots

1, 2, 3, 4

4 System

S Supply air

E Extract air

SE Supply and extract air combination

5 Dimensions [mm]

Nominal length

450, 500, 600, 700, 750, 800, 900, 1000, 1050, 1100, 1200

Spigot diameter

98, 123, 138, 158

Neck length

75, 100, 125, 150

6 Number of spigots

1

2 (from nominal length 900)

7 Damper blade for volume flow rate balancing

No entry: without damper blade

D with damper blade

8 Lip seal

No entry: without lip seal

LS with lip seal

9 Splitters

No entry: without splitters

CT with splitters



10 End pieces  
No entry: with end angles  
NO without end finishes

11 Airflow settings  
HR Airflow with ceiling effect  
V direct airflow into the room

12 Fixing  
No entry: without bracket for wall mounting  
F with bracket for wall mounting

13 Surface front rail  
No entry: anodised, E6-C-0 (natural colour)  
P1 powder-coated, specify RAL CLASSIC colour  
Gloss level  
RAL 9010 GE 50  
RAL 9006 GU 30  
All other RAL colours GU 70 (except luminous colours)

14 Colour of air control elements  
No entry: similar to RAL 9005 (jet black)  
W similar to RAL 9010 (pure white)  
G similar to RAL 9006 (white aluminium)

Order example: CHS-35-2-SE/1200×123×125/2/D/LS/CT/NO/HR/F/P1-RAL9016/W

Type	CHS
Front rail	PURELINE35
Number of slots	2
System	Supply and extract air combination
Dimensions [mm]	Nominal length 1200, spigot diameter 123, neck length 125
Number of spigots	2
Damper blade for volume flow rate balancing	with damper blade
Lip seal	with lip seal
Splitters	with splitters
End pieces	without end angles
Settings airflow	Airflow with ceiling effect
Fixing	with bracket for wall mounting
Surface front rail	powder-coated, RAL 9016 (traffic white)
Colour of air control blades	similar to RAL 9010 (pure white)

## VARIANTS, PRODUCT DETAILS



### Application

- Air control blades available in 3 colours:
  - Black (similar to RAL9005), white (similar to RAL9010), grey (similar to RAL 9006)
  - Different design possibilities in combination with the slot profiles
- For supply air: Air flow with ceiling effect or direct air flow into the room through manually adjustable air control elements
- For extract air: Factory setting of the air control blades to air flow -V (direct air flow into the room)
- Supply air/extract air combinations: identical factory setting of the extract air blades to the supply air blades for a uniform appearance in the unit

### Application

- Supply air and extract air combinations (-SE):
  - Available from a nominal length of 900 mm
  - Always with 2 spigots (one for supply air and one for extract air)
- CHS-18 and CHS-35 variants:
  - Available as supply air (-S) or extract air (-E) units optionally with 2 connection spigots (from nominal length 900 mm)
- Variant CHS-50:
  - Available as supply air (-S) or extract air units (-E) optionally with 2 spigots (from nominal length 1200 mm)
- Spigot optionally available with lip seal and damper blade. If the options are selected, these applies to all spigots of one unit

CHS-\*-2-\*



Front rail with black air control blades

CHS-\*-2-\*-W



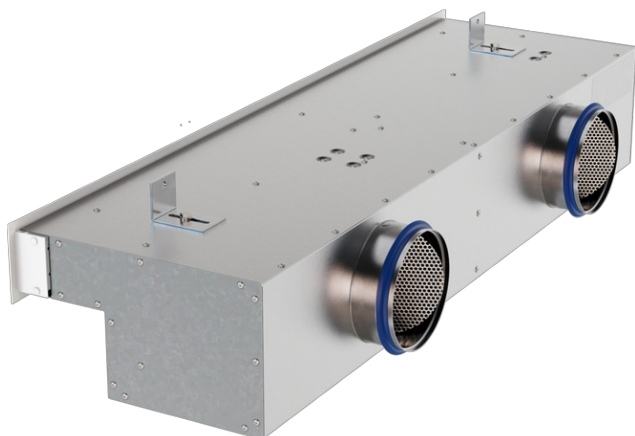
Front rail with white air control blades

CHS-\*-2-\*-G



Front rail with grey air control blades

2. Spigot from LN  $\geq$  900 mm

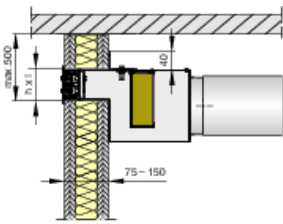


## Installation and commissioning

- Preferably for rooms with a clear height up to 4.0 m
- Installation in lightweight partition walls and ceiling box-outs
- Horizontal duct connection
- The available neck lengths are matched to common drywall thicknesses that can be achieved with common metal stud frames. Trimmers might be required for the CW profiles
- If necessary, carry out volume flow rate balancing with the damper blade
- Suitable fastening material must be provided by the qualified personnel according to the structural conditions

The schematic diagrams are provided to illustrate installation details.

### Installation opening in a lightweight partition wall

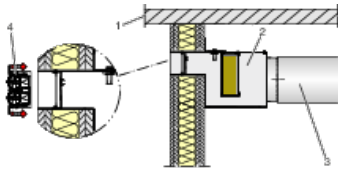


Installation opening:

$$h = P - 12$$

$$l = L1 + 9$$

The fixing bracket can be moved by +17 mm and -23 mm through the slotted hole.



1 Ceiling slab

2 Slot diffuser for wall installation

3 Duct

4 Front rail

### Volume flow rate balancing CHS



Adjustment via cords (closed position shown, maximum damping)

Green = CLOSE

White = OPEN