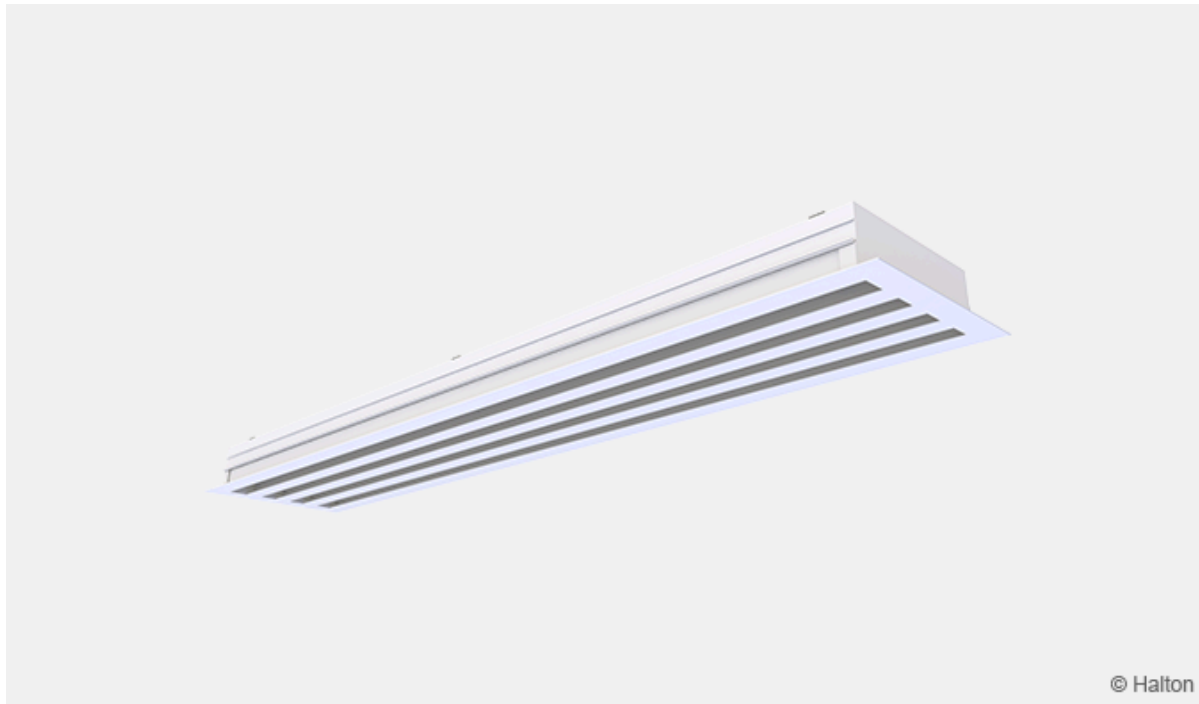


# Halton SLL – Linear slot diffuser



## Overview

- Horizontal or vertical plane jet air supply
- Suitable also for supply and exhaust
- Special profile diffuser blade creates a Coanda effect which enables wide range of airflow rates
- Supply in one or two directions
- Ceiling or wall installation, suitable also for continuous “wall to wall” installations
- Adjustable throw pattern, flexibility of orientation with different configurations
- Detachable diffuser allows cleaning of the terminal unit and ductwork

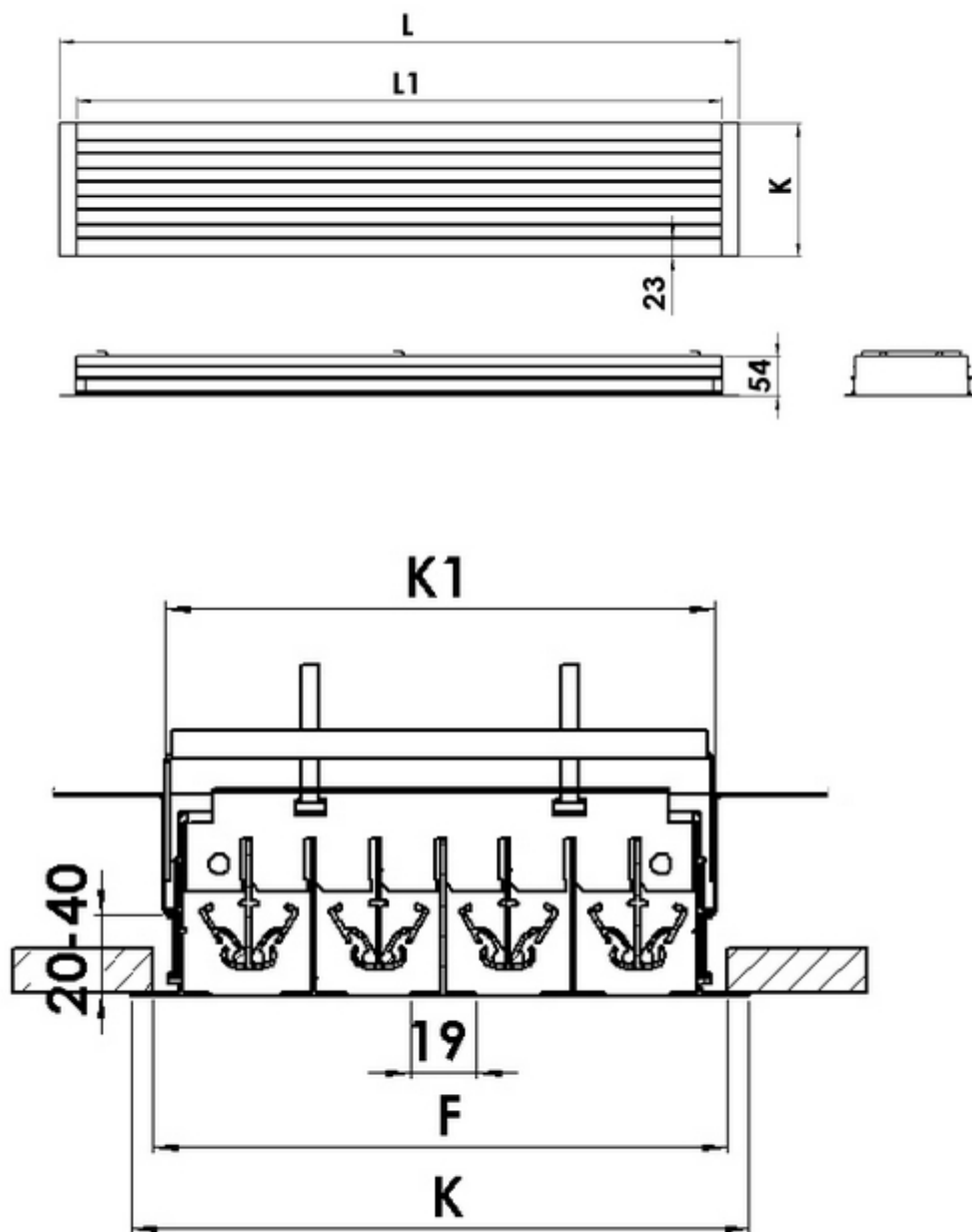
## Models

- Frame models: Standard and Cubus
- Front plate options: T-Bar and Fineline

## Accessories

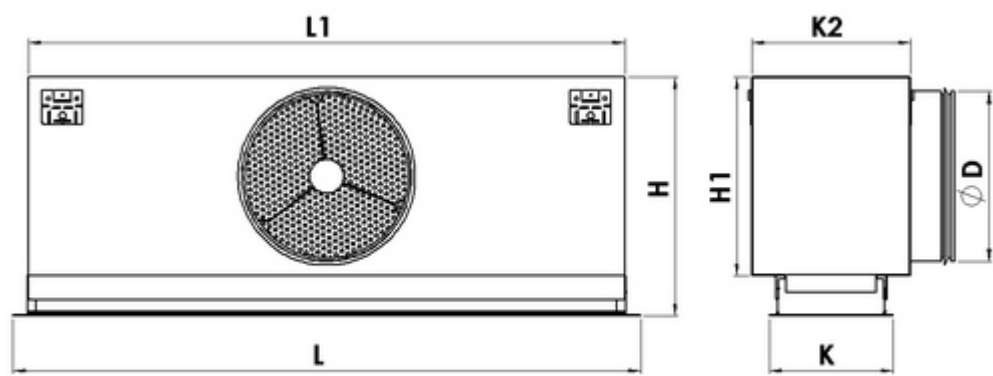
- Plenum with a circular duct connection(s) D160...250mm with rubber gasket
- Plenum options with measurement and adjustment functions
- Sound insulation for plenum

# Dimensions



The maximum active length of one piece is 2000 mm. The minimum is 372 mm. Continuous diffusers with modular design are also available for installation lengths greater than 2000 mm.

# Halton SLL + Halton PLL



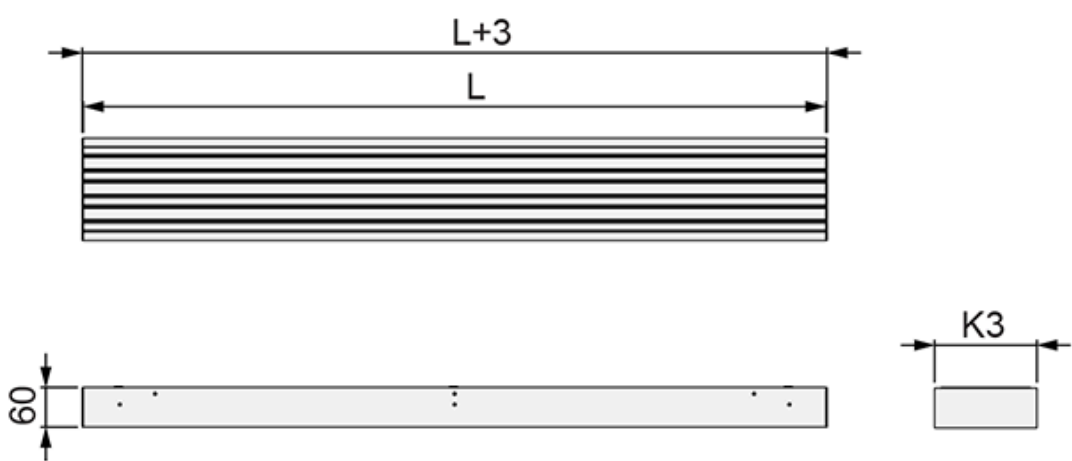
Standard dimensions of the Halton SLL + Halton PLL unit with standard end caps are presented in the table below.

The amount of spigots shown in table below is Halton’s recommendation. On request other amount of spigots and sizes are available. Please contact your sales.

| Active length | Number of slots | F   | L    | L1   | H        | H1  | K   | K1  | K2  | ØD    |
|---------------|-----------------|-----|------|------|----------|-----|-----|-----|-----|-------|
| 572           | 1               | 54  | 618  | 572  | 255..275 | 200 | 67  | 47  | 117 | 1×160 |
| 872           | 1               | 54  | 918  | 872  | 255..275 | 200 | 67  | 47  | 117 | 1×160 |
| 1172          | 1               | 54  | 1218 | 1172 | 255..275 | 200 | 67  | 47  | 117 | 1×160 |
| 1472          | 1               | 54  | 1518 | 1472 | 255..275 | 200 | 67  | 47  | 117 | 2×160 |
| 1772          | 1               | 54  | 1818 | 1772 | 255..275 | 200 | 67  | 47  | 117 | 2×160 |
| 572           | 2               | 92  | 618  | 572  | 295..315 | 240 | 105 | 85  | 155 | 1×200 |
| 872           | 2               | 92  | 918  | 872  | 295..315 | 240 | 105 | 85  | 155 | 1×200 |
| 1172          | 2               | 92  | 1218 | 1172 | 295..315 | 240 | 105 | 85  | 155 | 1×200 |
| 1472          | 2               | 92  | 1518 | 1472 | 295..315 | 240 | 105 | 85  | 155 | 2×200 |
| 1772          | 2               | 92  | 1818 | 1772 | 295..315 | 240 | 105 | 85  | 155 | 2×200 |
| 572           | 3               | 130 | 618  | 572  | 295..315 | 240 | 143 | 123 | 193 | 1×200 |
| 872           | 3               | 130 | 918  | 872  | 295..315 | 240 | 143 | 123 | 193 | 1×200 |
| 1172          | 3               | 130 | 1218 | 1172 | 295..315 | 240 | 143 | 123 | 193 | 1×200 |
| 1472          | 3               | 130 | 1518 | 1472 | 295..315 | 240 | 143 | 123 | 193 | 2×200 |
| 1772          | 3               | 130 | 1818 | 1772 | 295..315 | 240 | 143 | 123 | 193 | 2×200 |
| 572           | 4               | 168 | 618  | 572  | 345..365 | 290 | 181 | 161 | 231 | 1×250 |
| 872           | 4               | 168 | 918  | 872  | 345..365 | 290 | 181 | 161 | 231 | 1×250 |
| 1172          | 4               | 168 | 1218 | 1172 | 345..365 | 290 | 181 | 161 | 231 | 1×250 |
| 1472          | 4               | 168 | 1518 | 1472 | 345..365 | 290 | 181 | 161 | 231 | 2×250 |
| 1772          | 4               | 168 | 1818 | 1772 | 345..365 | 290 | 181 | 161 | 231 | 2×250 |
| 572           | 5               | 206 | 618  | 572  | 345..365 | 290 | 219 | 199 | 269 | 1×250 |
| 872           | 5               | 206 | 918  | 872  | 345..365 | 290 | 219 | 199 | 269 | 1×250 |
| 1172          | 5               | 206 | 1218 | 1172 | 345..365 | 290 | 219 | 199 | 269 | 1×250 |
| 1472          | 5               | 206 | 1518 | 1472 | 345..365 | 290 | 219 | 199 | 269 | 2×250 |
| 1772          | 5               | 206 | 1818 | 1772 | 345..365 | 290 | 219 | 199 | 269 | 2×250 |
| 572           | 6               | 244 | 618  | 572  | 345..365 | 290 | 257 | 237 | 277 | 1×250 |
| 872           | 6               | 244 | 918  | 872  | 345..365 | 290 | 257 | 237 | 277 | 1×250 |
| 1172          | 6               | 244 | 1218 | 1172 | 345..365 | 290 | 257 | 237 | 277 | 1×250 |
| 1472          | 6               | 244 | 1518 | 1472 | 345..365 | 290 | 257 | 237 | 277 | 2×250 |
| 1772          | 6               | 244 | 1818 | 1772 | 345..365 | 290 | 257 | 237 | 277 | 2×250 |

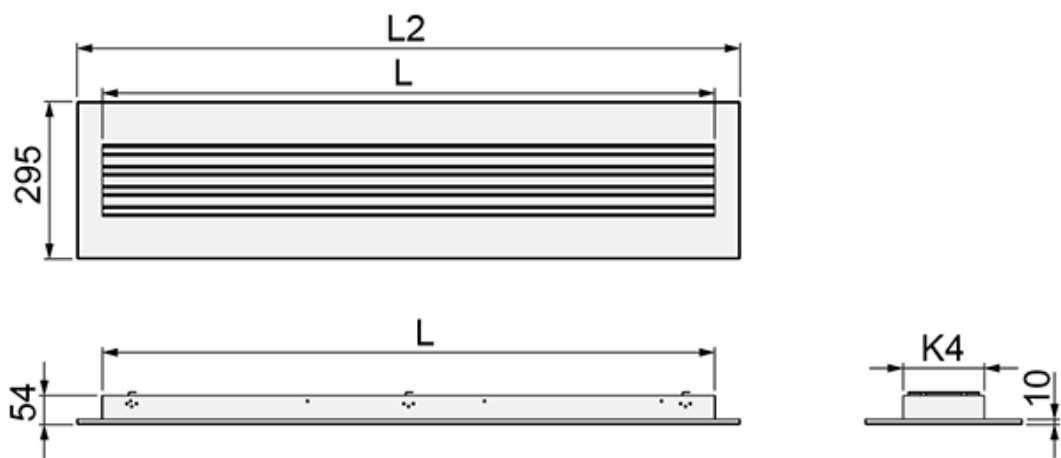
Installation hole in the ceiling =  $F \times (L1+10)$

Frame type: Cubus (FT=C)



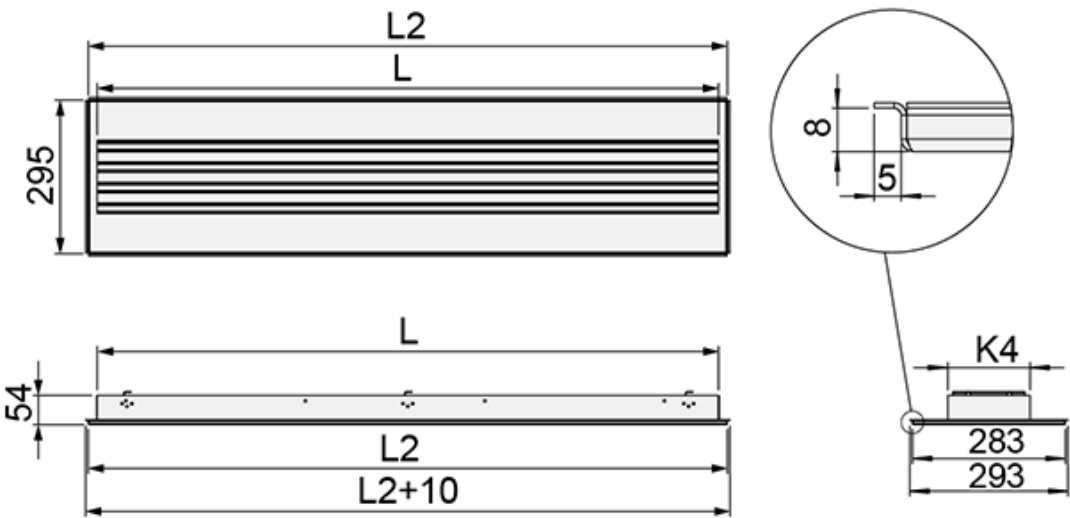
| Feature           | Number of slots | K3  |
|-------------------|-----------------|-----|
| Active length (L) | 1               | 40  |
|                   | 2               | 78  |
|                   | 3               | 116 |
|                   | 4               | 154 |
|                   | 5               | 192 |
|                   | 6               | 230 |

Front plate: T bar ceiling (FP=TC1, TC2)



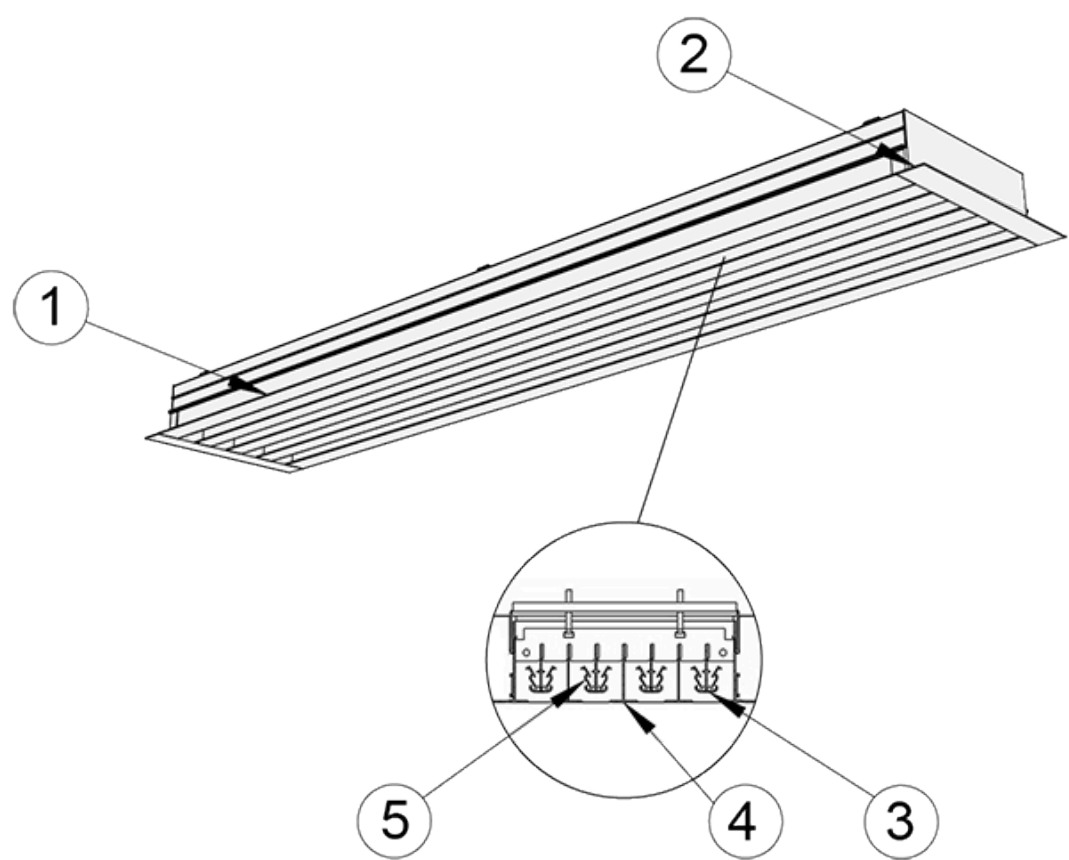
| Front plate | L2   | Active length (L)                  | Number of slots | K4  |
|-------------|------|------------------------------------|-----------------|-----|
| TC1         | 1195 | 572, 872 or 1150                   | 1               | 39  |
|             |      |                                    | 2               | 77  |
|             |      |                                    | 3               | 115 |
|             |      |                                    | 4               | 153 |
|             |      |                                    | 5               | 191 |
|             |      |                                    | 6               | 229 |
| TC2         | 1345 | 572, 872, 1150, 1172, 1250 or 1300 | 1               | 39  |
|             |      |                                    | 2               | 77  |
|             |      |                                    | 3               | 115 |
|             |      |                                    | 4               | 153 |
|             |      |                                    | 5               | 191 |
|             |      |                                    | 6               | 229 |

Front plate: Fineline ceiling (FP=FC1, FC2)



| Front plate | L2   | Active length (L)                  | Number of slots | K4  |
|-------------|------|------------------------------------|-----------------|-----|
| FC1         | 1183 | 572, 872 or 1150                   | 1               | 39  |
|             |      |                                    | 2               | 77  |
|             |      |                                    | 3               | 115 |
|             |      |                                    | 4               | 153 |
|             |      |                                    | 5               | 191 |
|             |      |                                    | 6               | 229 |
| FC2         | 1333 | 572, 872, 1150, 1172, 1250 or 1300 | 1               | 39  |
|             |      |                                    | 2               | 77  |
|             |      |                                    | 3               | 115 |
|             |      |                                    | 4               | 153 |
|             |      |                                    | 5               | 191 |
|             |      |                                    | 6               | 229 |

# Structure and materials





| No | Note   | Material  | Finishing   | Note  |
|----|--|-----------|---|---|
| 1  | Outer frame  | Aluminium | Mill finished,<br>Epoxy-painted:<br>White<br>(RAL 9003/30% gloss) | Special colours available.<br>Epoxy/polyester painted<br>as option. |
| 2  | End caps   | Aluminium | Mill finished,<br>Epoxy-painted:<br>White<br>(RAL 9003/30% gloss) | Special colours available.<br>Epoxy/polyester painted<br>as option. |
| 3  | Inner vanes  | Aluminium | Mill finished,<br>Epoxy-painted:<br>White<br>(RAL 9003/30% gloss) | Special colours available.<br>Epoxy/polyester painted<br>as option. |
| 4  | T profiles   | Aluminium | Mill finished,<br>Epoxy-painted:<br>White<br>(RAL 9003/30% gloss) | Special colours available.<br>Epoxy/polyester painted<br>as option. |
| 5  | Flow deflection<br>vanes (for supply<br>application) | Aluminium | Mill finished   | Special colours available.<br>Epoxy/polyester painted<br>as option. |

## Accessories

| Accessory             | Code | Description  |
|-----------------------|------|--|
| Plenum                | PLL  | Plenum for duct connection<br>(with or without attenuation material) |
| Plenum                | PLD  | Plenum for duct connection<br>(without attenuation material)         |
| End caps              | N1   | Width = 23 mm (2 pcs)  |
|                       | E1   | Width = 12.5 mm (2 pcs)  |
|                       | O1   | Width = 23 mm (1 pc)   |
|                       | O2   | Width = 12.5 mm (1 pc)   |
|                       | O4   | Flat (Cubus)   |
| Installation brackets | –    | For installation of the diffuser with a PLL or PLD plenum            |
| Staff brackets        | –    | For installation of the diffuser without plenum                      |

Special end caps are available for modular ceilings.

# Function



Supply air is supplied through the linear slots of the diffuser horizontally along the ceiling surface or vertically into the occupied zone.

For wall installation, the plane jet air is supplied horizontally or directed to the ceiling surface, which increases the throw length.

For an exhaust application, the diffuser is supplied without flow control vanes.

# Product models



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**Fig. 2. Frame**

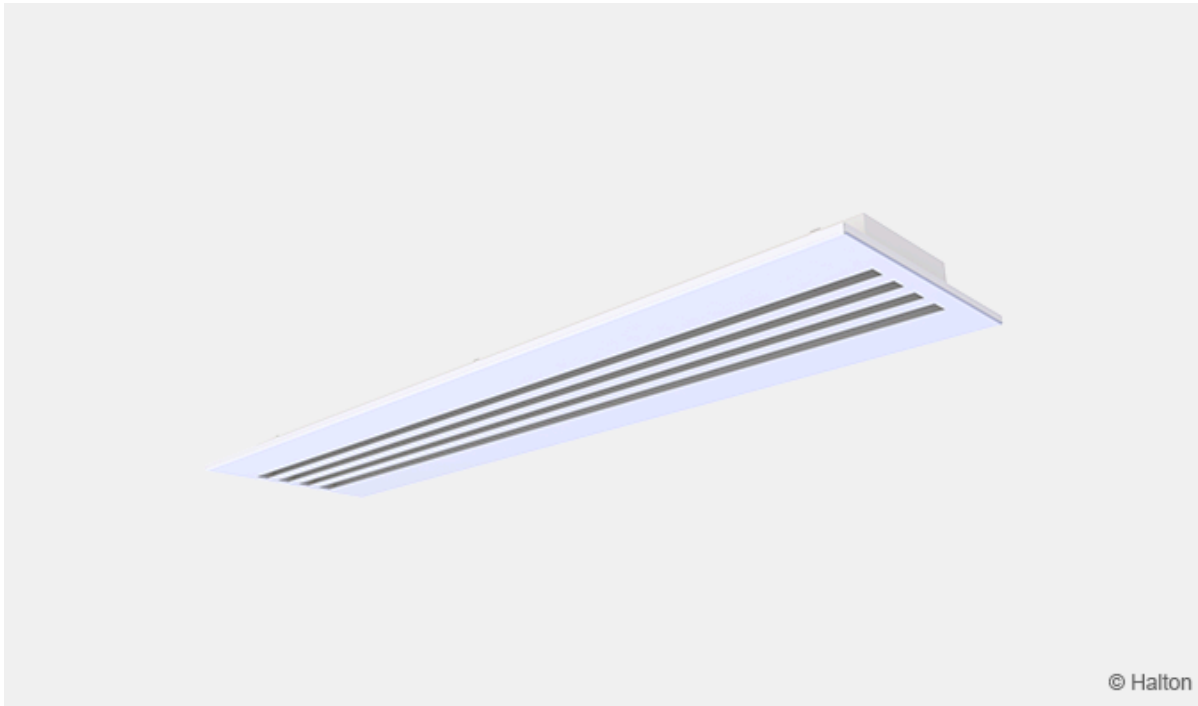
*model: Standard (FT=S)*



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**Fig. 3. Frame**

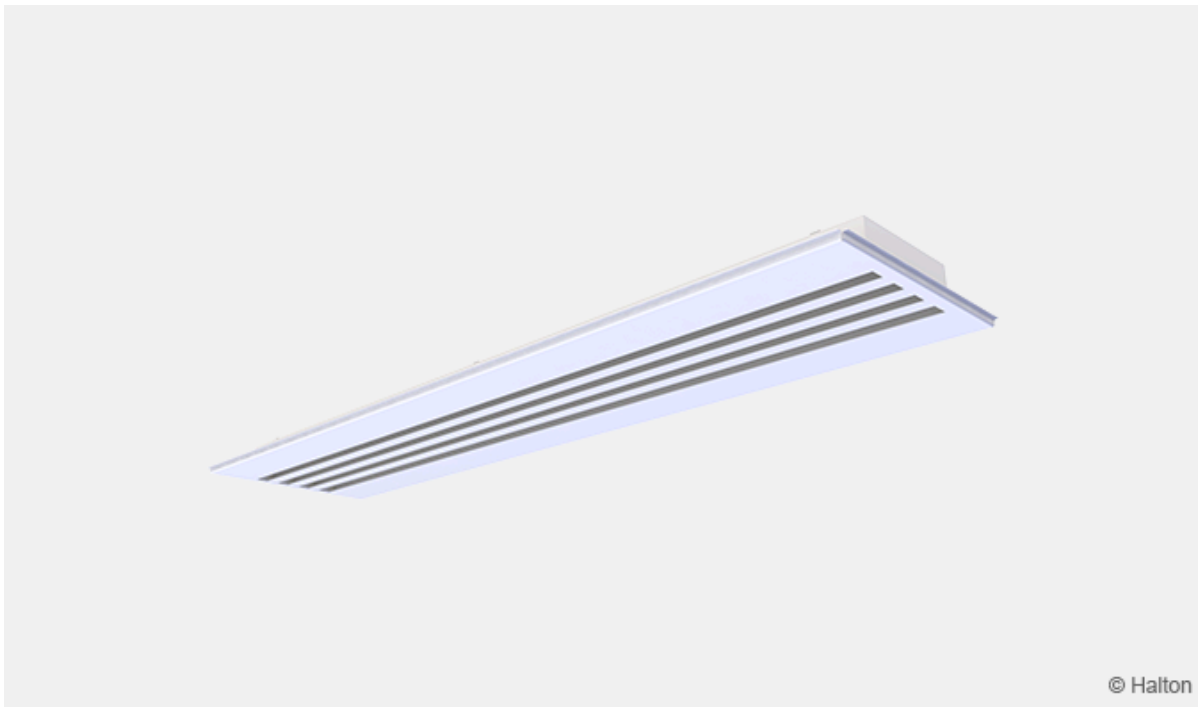
*model: Cubus (FT=C)*



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**Fig. 4. Front**

*plate: T bar ceiling (FP=TC1 or TC2)*

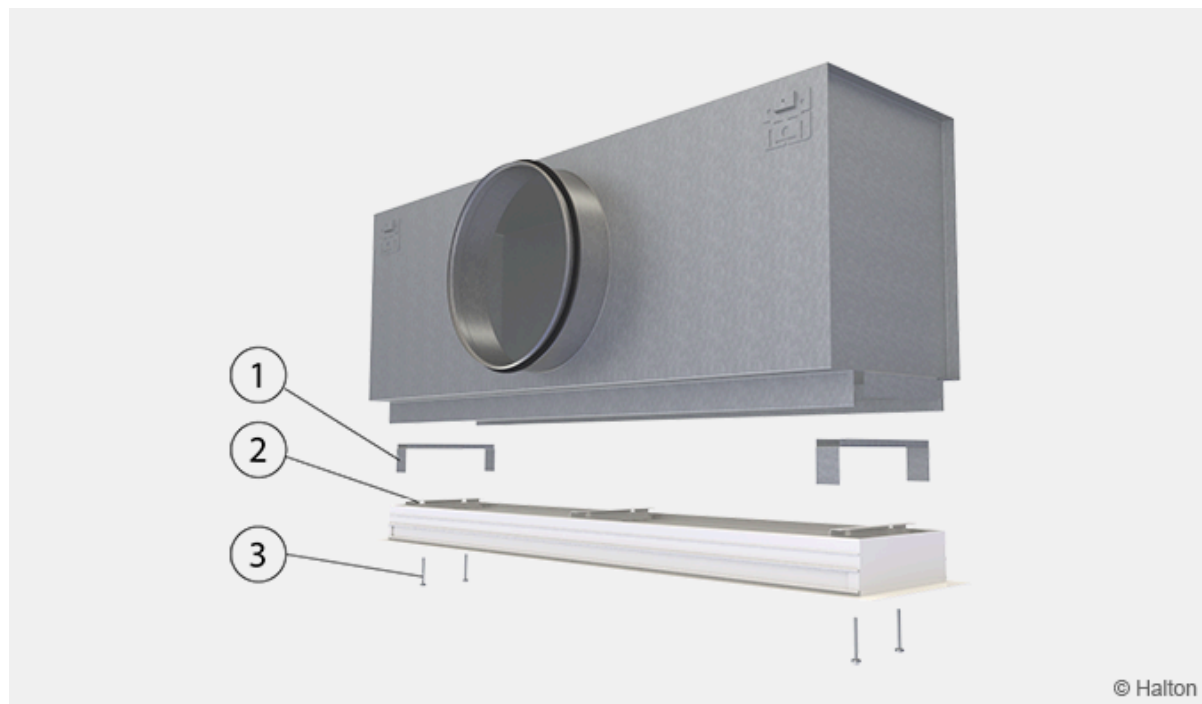


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**Fig. 5. Front**

*plate: Fineline ceiling (FP=FC1 or FC2)*

# Installation



## Code description

1. Mounting bracket
2. Transversal bar
3. Screw

The Halton SLL linear slot diffuser is connected directly to the Halton PLL or Halton PLD plenum. The plenum is installed into the suspended ceiling with M8 drop rods (not included in the delivery) and connected to the ductwork.

Remove the T-profiles of the Halton SLL by pulling them gently, in order to access the transversal bars located behind the profiles.

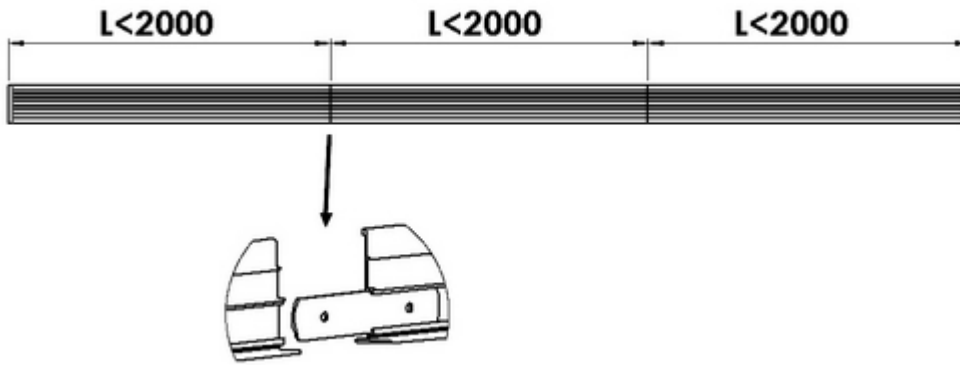
Fit the installation brackets into the grooves of the plenum and secure with the screws supplied with the unit.

Put screws into the holes of the transversal bars. Screw on until the diffuser is flush to the ceiling. Replace the T-profiles.

The unit can be installed without plenum using the staff brackets. Those pieces are available as accessory (2 by slat or by linear meter).

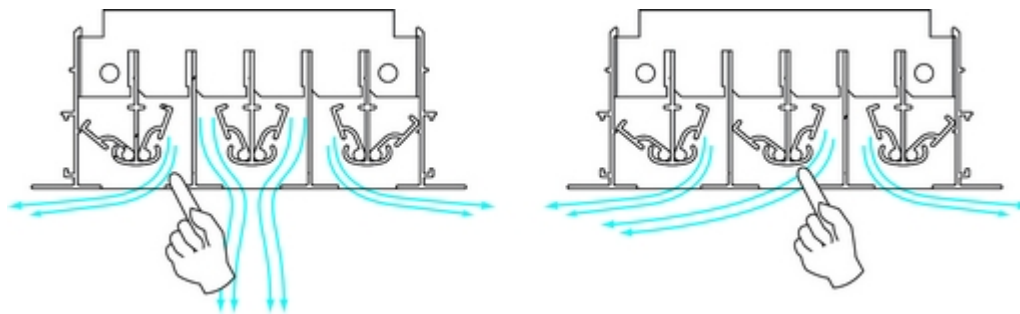
## String course mounting

The maximum length is 2000 mm. So when length is superior to 2000 mm, it is necessary to place side by side several pieces. Some alignment guides are given in order to make the the mounting easier.



## Adjustment

The air pattern can be changed through 180° by adjusting the flow deflection vanes using a screwdriver. Each deflection vane section can be individually adjusted without removing the T-profiles in order to provide flexibility in supply air pattern orientation. Diffusers are delivered unadjusted with the flow deflection vanes in the open position.



To aid in adjusting and measuring the airflow rate, it is recommended that the diffuser is connected to a plenum equipped with a MSM.

The supply airflow is determined by measuring the pressure difference with a measurement module.

Measure the differential pressure with a manometer. The airflow rate is calculated according to the following formula:

$$q_v = k * \sqrt{\Delta p_m}$$

$\Delta p_m$  Measured pressure [Pa]

$k$  Factor given as a function of mounting and diameter

$q_v$  Airflow rate [l/s]

The  $k$  factor for installations with different safety distances (distance of other items from the MSM):

| NS  | Safety distance |          |
|-----|-----------------|----------|
|     | > 6xD           | Min. 3xD |
| 160 | 19              | 22       |
| 200 | 49              | 32       |
| 250 | 51              | 51       |

Adjust the airflow rate by rotating the control spindle until the desired setting is achieved.  
 Lock the damper in position with a screw.  
 Replace the tubes and spindle in the plenum, and return the linear diffuser to its position.

## Servicing

Remove the T-profiles.  
 Remove the linear diffuser by unscrewing the screws of the transversal bars.  
 Clean the parts by wiping with a damp cloth.  
 Push the linear diffuser back into place by screwing the transversal bars to the installation brackets.

### Option:

### With balancing plenum Halton PLD + MSM/MEM or Halton PLL + MSM/MEM

Remove the measurement and adjustment module by gently pulling the shaft (not the control spindle or measurement tubes!).  
 Wipe the parts with a damp cloth, instead of immersing in water.  
 Reassemble the measurement and adjustment module by pushing the shaft back into place until the module meets the stopper.  
 Push the linear diffuser back into place by screwing the transversal bars to the installation brackets.

## Specification

Halton-brand ceiling diffuser, type Halton SLL, with one to four slots, suitable for variable air flow.

Excellent Coanda effect provided with a wide range of airflow rates.  
 Each air pattern adjustment section comprises two flow deflection vanes.  
 The supply air pattern is directable by adjusting the flow deflection vanes without any change in the appearance of the diffuser.

The linear slot diffuser has an extruded aluminium outer frame, flow deflection vanes and T-profiles, and polyester-painted to white (RAL 9003) colour.

The diffuser is connected to the ductwork using a plenum with mineral wool as sound attenuation material.

The removable linear slot diffuser is mounted into the plenum with invisible screws.

The plenum comprises an airflow measurement and adjustment module.

The linear diffuser is removable in order to provide access to the measurement and adjustment module in the plenum.

Flow deflection vanes and T-profiles are easily removable for access to the plenum.

## Order code

### SLL/S-N-L; FP-FT-SE-ST-FI-CO-ID-ZT

#### **S = Model**

- S Supply
- E Exhaust
- O Opening front

#### **N = Number of slots**

1, 2, 3, 4, 5, 6

#### **L = Active length (mm)**

372, +1, ..., 49972

## Other options and accessories

#### **FP = Front plate option**

- NA Not assigned
- TC1 T bar ceiling (1200×300)
- FC1 Fineline ceiling (1200×300)
- TC2 T bar ceiling (1350×300)
- FC2 Fineline ceiling (1350×300)

#### **FT = Frame type**

- S Standard
- C Cubus
- NA Not assigned

#### **SE = End caps**

- Y Yes
- N No

#### **ST = Type of end caps**

- N1 23.0 mm (2 pcs)
- E1 12.5 mm (2 pcs)
- O1 23.0 mm (1 pc)
- O2 12.5 mm (1 pc)



O4 Flat (Cubus)  
NA Not assigned

**FI = Finishing**

PN Painted  
MF Mill finished

**CO = Colour**

SW Signal white (RAL 9003)  
X Special colour (RAL xxxx)  
N No painting

**ID = Diffuser assembled with plenum**

N No  
Y Yes

**ZT = Tailored product**

N No  
Y Yes (ETO)

## Sub products

PLL Plenum  
PLD Plenum

## Code example

SLL/S-1-572, FP=NA, FT=S, SE=Y, ST=N1, FI=PN, CO=SW, ID=N, ZT=N