

# Halton ALE – Universal grille



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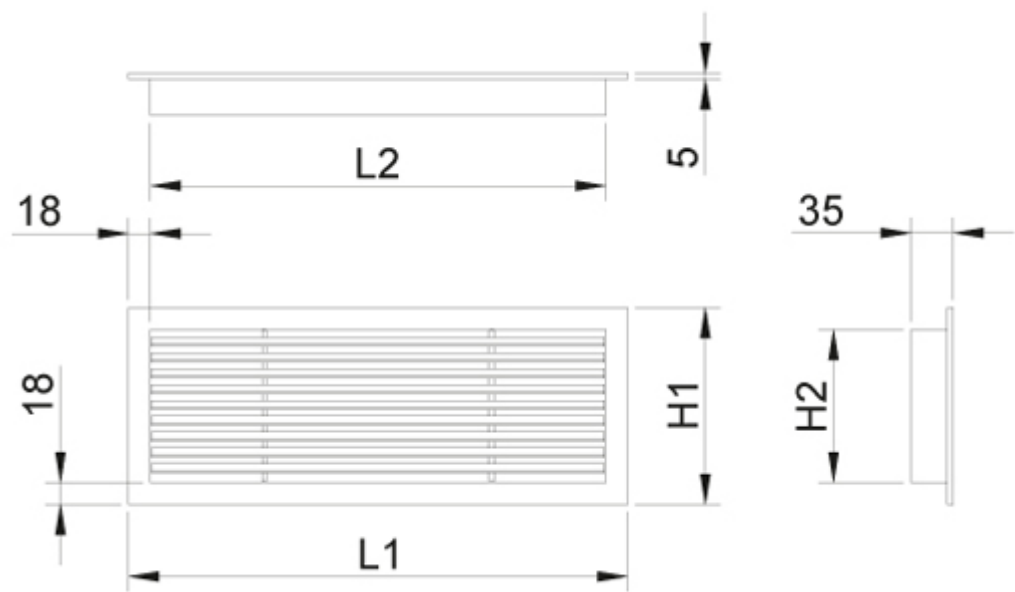
## Overview

- Horizontal air supply, also suitable for exhaust
- Fixed vanes, stable throw pattern with vertical 15° deflection
- Aluminum design with elegant appearance
- Detachable grille allows cleaning of the grille and ductwork
- Continuous grilles available with modular design.

## Accessories

- Airflow adjustment damper
- Plenum options with measurement and adjustment functions
- Installation frame

# Dimensions



<b>LxH</b>	<b>L1</b>	<b>L2</b>	<b>H1</b>	<b>H2</b>
<b>200×50</b>	212	176	62	26
<b>800×100</b>	812	776	112	76
<b>300×100</b>	312	276	112	76
<b>400×100</b>	412	376	112	76
<b>500×100</b>	512	476	112	76
<b>600×100</b>	612	576	112	76
<b>800×100</b>	812	776	112	76
<b>1000×100</b>	1012	976	112	76
<b>600×150</b>	612	576	162	126
<b>800×150</b>	812	776	162	126
<b>1000×150</b>	1012	976	162	126
<b>1200×150</b>	1212	1176	162	126
<b>1500×150</b>	1512	1476	162	126
<b>600×200</b>	612	576	212	176
<b>800×200</b>	812	776	212	176
<b>1000×200</b>	1012	976	212	176
<b>1200×200</b>	1212	1176	212	176
<b>1500×200</b>	1512	1476	212	176

With flow control damper OD/ALE total depth is 35 mm + 45 mm.  
The free area of the Halton ALE grille is 65 %.

## Special dimensions

In addition to standard sizes, other sizes can be specially ordered. The maximum size is 1500×500 mm (LxH).

It is possible to have a continuous grille of modular design when the installation length is greater than 1500 mm. The maximum total length is 20 m.

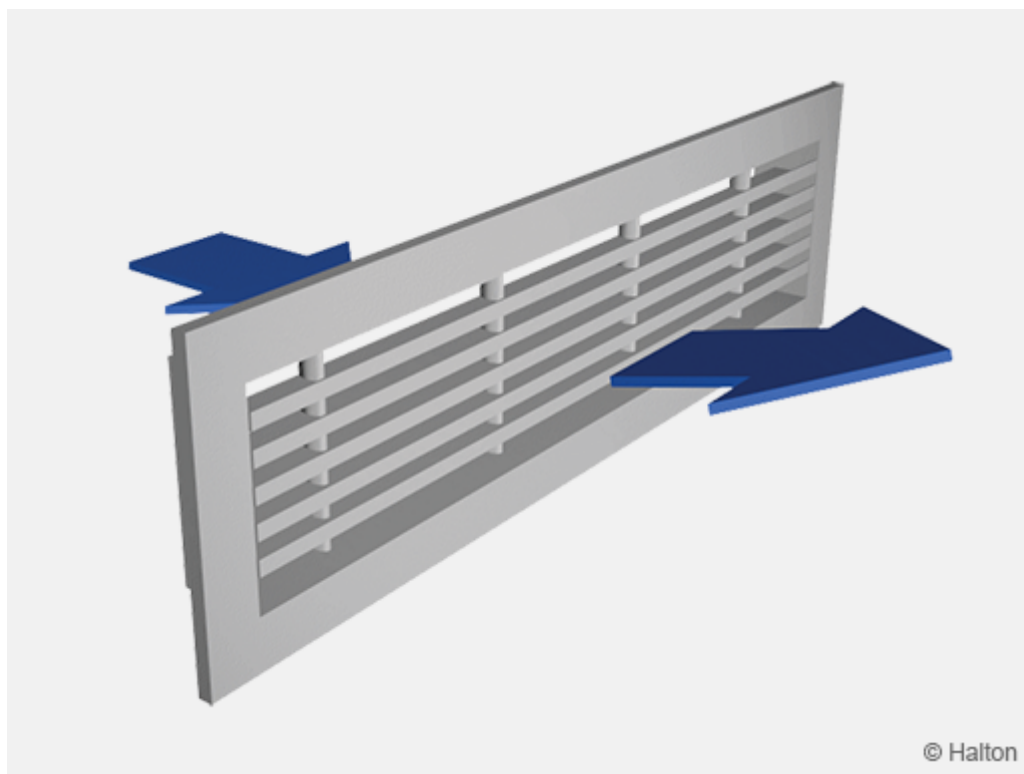
# Material

Part	Material	Finishing	Note
Frame	Aluminium	Polyester-painted as white (RAL9003/30% gloss), anodised or mill finished	Special colours available. Epoxy-painting (100 %) available.
Vanes	Aluminium	Polyester-painted as white (RAL9003/30% gloss), anodised or mill finished	Special colours available. Epoxy-painting (100 %) available.
Installation frame	Aluminium	–	Option: Concealed screw (CC) fastening – galvanised steel
Plenum box / spigot	Galvanised steel	–	–

# Accessories

Accessory	Code	Description
Balancing plenum	PRL	For balancing & equalising the airflow and attenuating the duct noise
Plenum	BDR	Plenum for duct connection (with or without attenuation material)
Airflow measurement and adjustment unit	MSM	For supply installation
Sound attenuation	IN	Mineral wool for the BDR plenum box. Polyester fiber or mineral wool for the PRL plenum box.
Flow adjustment damper	OD	Aluminium opposite blade damper for airflow adjustment
Installation frame	IF	For installation without plenum
Concealed screw fastening	CC	For installation with BDR plenum or IF frame

# Function



Supply air is supplied with a 15° vertical angle deflection through the vanes into the space mixing with room air in front of the grille.

Wall installation for horizontal supply or ceiling installation for vertical supply.

In wall installations the recommended distance from the ceiling is 200 mm when the supply air is directed to the ceiling.

The grille can also be used as an exhaust unit.

## Installation

Size of the installation hole is LxH when installation frame is used, and (L-5) x (H-5) without installation frame.

The grille is connected to the circular duct using either a Halton PRL balancing plenum or a Halton BDR plenum or alternatively directly to the rectangular duct using the IF/ALE installation frame.



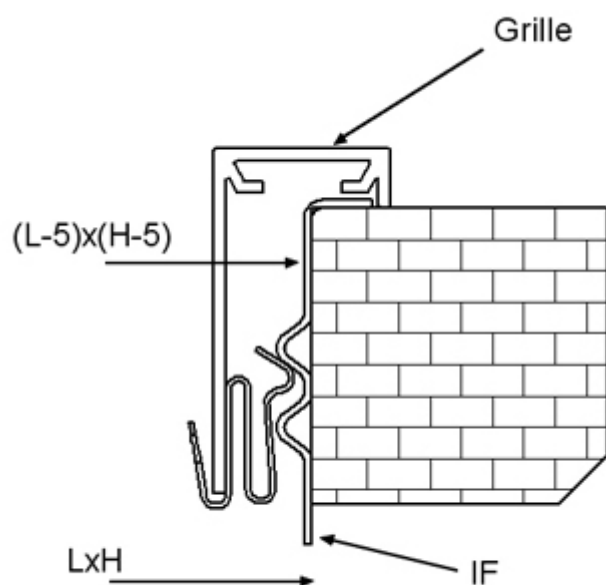
Installation frame, IF/ALE

Balancing plenum, PRL

Plenum box, BDR

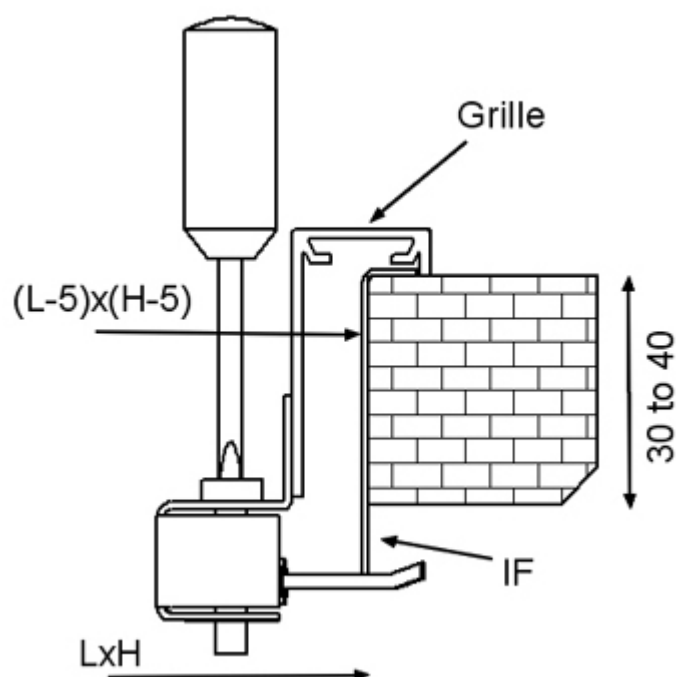
## Fastening options

### Clips, as standard (CL)



The grilles are supplied with clips fastening as standard.  
Clips fastening is used with IF/ALE, Halton PRL and Halton BDR.

### Concealed screw (CC)



Concealed screw fastening is possible when the grille is installed with an installation frame (IF/ALE) or a Halton BDR plenum, though not with a Halton PRL balancing plenum.

Holes for screws are provided in the Halton BDR.

For ceiling installation concealed screw fastening is recommended.

**Visible screw**

Visible screw fastening is not possible due to the reduced width of the frame (18 mm).

# Adjustment

In order to enable airflow adjustment and measurement of airflow rate it is recommended that you connect the diffuser to the Halton BDR plenum or Halton PRL balancing plenum equipped with the MSM module.

The supply flow rate is determined by using the MSM measurement and adjustment module. Detach the grille and pass the tubes and control spindle through the grille. Measure the differential pressure using a manometer. The flow rate is calculated using the formula below:

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

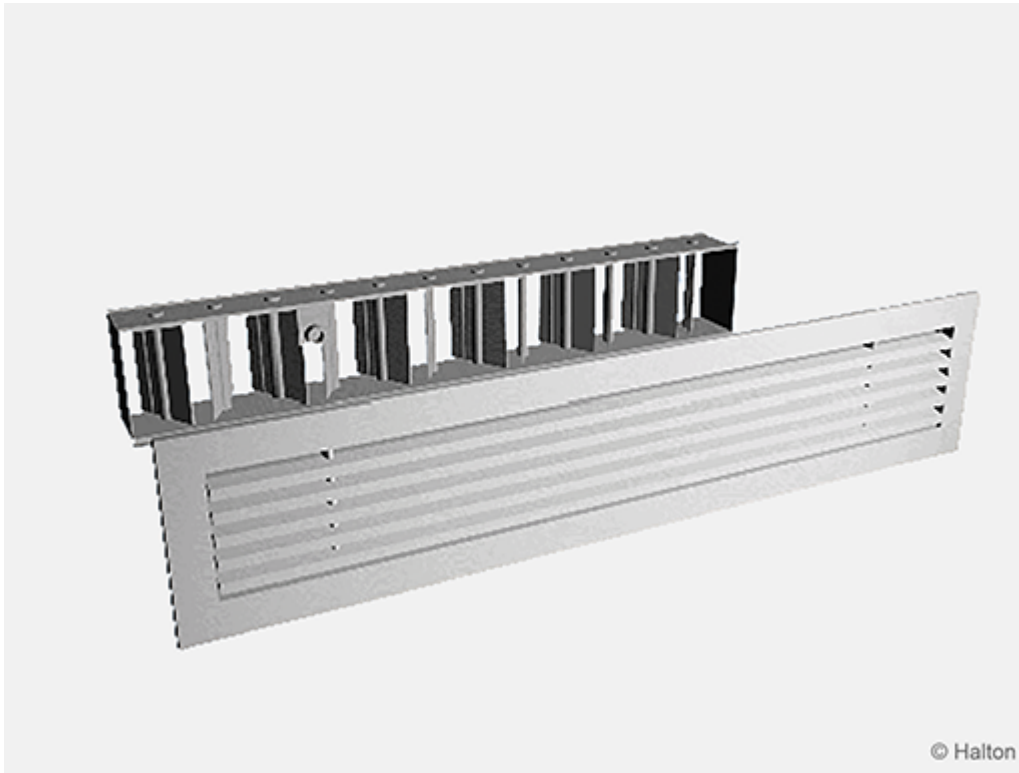
Adjust the airflow rate by rotating the control spindle until the desired setting is achieved. Lock the damper position with a screw.

Replace the tubes and spindle in the plenum and replace the grille.

**The k factor for installations with different safety distances  
(D= duct diameter)**

D	>6 x D	min. 3 x D
100	6	7
125	10	12
160	19	22
200	28	32
250	49	51
315	77	83

## Airflow adjustment damper OD/ALE



The airflow rate is adjusted by turning the damper blades (1) behind the grille using a screwdriver. The measurement is carried out when grille is installed.

## Servicing

Remove the grille by gently drawing it out by the frame. Use a screwdriver if necessary.

Clean the parts by wiping then with a damp cloth.

Push the grille back into place so that the clips lock (or fix by tightening the concealed screws).

### Option:

### With balancing plenum Halton PRL or Halton BDR + MSM

Remove the measurement and adjustment module by gently pulling the shaft (NB. 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 until the module meets the stopper.

Push the grille back into place so that the clips lock.



# Specification

The grille has horizontal fixed vanes with a 15° angle deflection and an 18 mm wide flat frame, anodised or polyester-painted with a white (RAL 9003) colour.

## Option 1

The grille can be connected to the ductwork using a plenum with mineral wool as sound insulation material.

## Option 2

The grille can be connected to the ductwork using a balancing plenum, which comprises polyester fibre with a washable surface as sound attenuation material.

The plenum comprises an airflow measurement and adjustment unit.

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

# Order code

## ALE-L-H; FS-FI-CO-ZT

**L = Length (mm)**

200, +1, ..., 20000

**H = Height (mm)**

50, +1, ..., 500

## Other options and accessories

**FS = Fastening**

CL Clips

CC Concealed screw

**FI = Finishing**

AN Anodised

MF Mill finished

PN Painted

**CO = Colour**

SW Signal white (RAL 9003)

X Special colour (RAL xxxx)

N No painting

**ZT = Tailored product**

N No

Y Yes (ETO)

## Sub products

BDR Plenum

PRL Balancing plenum

IF Installation frame

OD Opposed blade damper

## Code example

ALE-200-50, FS=CL, FI=AN, CO=N, ZT=N