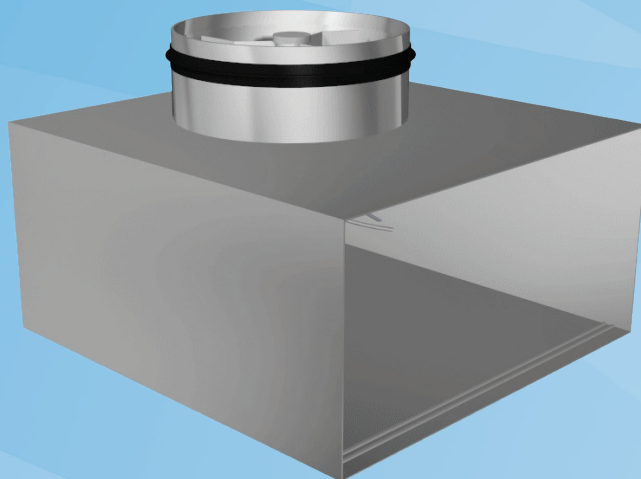


Halton BDR

Plenum

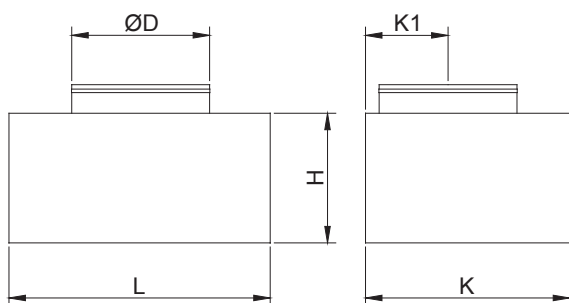


- Plenum for connecting supply/exhaust grille to ductwork
- Ensures proper function of the supply air diffuser
- Wide range of grille dimensions
- Spring clips fastening of the grille
- Access for ductwork cleaning

Product Models & Accessories

- Model with sound attenuation material
- Detachable airflow rate measurement and adjustment module

DIMENSIONS



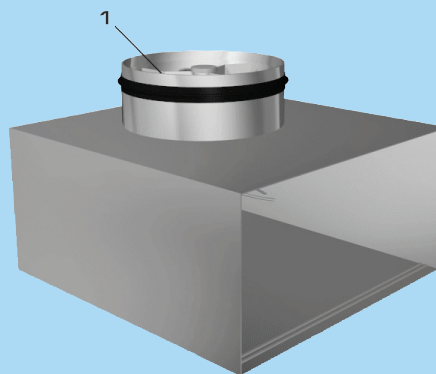
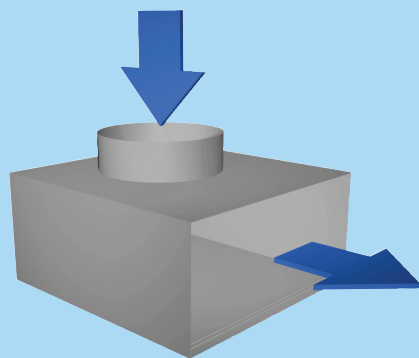
NS	L	H	K	K1	ØD
200x50	195	45	250	80	99
200x100	195	95	250	80	99
250x100	245	95	275	92	124
300x100	295	95	275	92	124
400x100	395	95	310	110	159
500x100	495	95	310	110	159
600x100	595	95	350	130	199
800x100	795	95	400	155	249
1000x100	995	95	400	155	249
300x150	295	145	310	110	159
400x150	395	145	350	130	199
600x150	595	145	350	130	199
800x150	795	145	400	155	249
1000x150	995	145	465	188	314
1200x150	1195	145	505	208	354
1500x150	1495	145	550	230	399
200x200	195	195	310	110	159
400x200	395	195	400	155	249
600x200	595	195	465	188	314
800x200	795	195	465	188	314
1000x200	995	195	505	208	354
1200x200	1195	195	505	208	354
1500x200	1495	195	550	230	399
300x300	295	295	400	155	249
500x300	495	295	465	188	314
600x300	595	295	505	208	354
800x300	795	295	550	230	399
1000x300	995	295	550	230	399
400x400	395	395	505	208	354
600x400	595	395	550	230	399
800x400	795	395	550	230	399
1000x400	995	395	600	255	449
1200x400	1195	395	600	255	449
500x500	495	495	550	230	399
570x270	565	265	465	188	314
570x570	565	565	550	230	399
1170x570	1165	565	650	280	499

MATERIAL AND FINISHING

PART	MATERIAL	NOTE
Plenum / spigot	Galvanised steel	
Insulation	Mineral wool	The mineral wool is fixed with nails

PRODUCT MODELS AND ACCESSORIES

ACCESSORY	CODE	DESCRIPTION
Balancing plenum	BDR	For balancing & equalising the airflow (with airflow adjustment and measurement unit)
Sound attenuation	IN	Mineral wool on 2 sides in the BDR plenum
Sound attenuation	IN	Mineral wool on 5 sides in the BDR plenum
Airflow measurement and adjustment unit	MSM	For supply installation (for spigot with diameter Ø 315)
Airflow measurement and adjustment unit	MEM	For exhaust installation



Function

The duct pressure and air velocity are reduced inside the BDR plenum box. Consequently supply air is evenly spread over the surface of the grille. The airflow rate can be adjusted using the optional measurement and adjustment module MSM.

Installation

The plenum is connected to the distribution ductwork with a spigot.

When equipped with a measurement and adjustment module (1), the recommended safety distance upstream of the device is at least 3D, in order to ensure a reliable airflow rate measurement.

The unit's control spindle must not be excessively bent.

With wall installations the required hole size is at least (L x H).

The spigot comprises two grooves to enable the grille springs to lock.

Adjustment

In order to enable airflow adjustment and measurement of airflow rate, it is recommended that the grille be connected to the plenum equipped with the MSM module.

The supply flow rate is determined by using the measurement and adjustment module MSM.

Detach the grille and pass the tubes and control spindle through the grille.

Push the grille back into place.

Measure the differential pressure with 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 into the plenum and replace the grille.

K-factor for installations with different safety distances (D= duct diameter)

SUPPLY AIR

BDR-D	>8xD	min 3xD
125	9.9	12.6
160	16.9	21.9
200	28.3	31.0
250	47.9	51.5
315	78.6	-

Exhaust

The airflow rate is determined by measuring the differential pressure between the measurement tap on the BDR plenum and the room air.

The corresponding airflow rate is calculated using the formula above.

The desired airflow rate can be adjusted by turning the control spindle of the adjustment unit MEM.

Servicing

Remove the measurement and adjustment module by gently pulling the shaft (not the control spindle).

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.

Suggested specifications

The BDR plenum shall be made of galvanised steel.

The plenum shall comprise an airflow measurement and adjustment unit.

The grille shall be detachable to provide access to the measurement and adjustment module in the plenum.

The plenum shall have mineral wool as sound insulation material.

The plenum shall reduce duct pressure and air velocity in order to supply air through the whole face area of the grille and improve the air distribution quality.

Product code

BDR-LH-D-N

L = Length

200,+1,...,20000

H = Height

50,+1,...,670

D = Size of duct connection

200<= L <240: 100, 125, 160

240<= L <290: 100, 125, 160, 200

290<= L <355: 100, 125, 160, 200, 250

355<= L <440: 100, 125, 160, 200, 250, 315, 355

440<= L <490: 100, 125, 160, 200, 250, 315, 355, 400

490<= L < 540: 100, 125, 160, 200, 250, 315, 355, 400, 450

L>=540: 100, 125, 160, 200, 250, 315, 355, 400, 450, 500

N = Number of duct connections

1,+1,...,((L-40)/D1)

Specifics and accessories

IN = Additional attenuation option

N No additional attenuation

2 2 sides

5 5 sides

OM = Measurement/Adjustment module MSM

N No MSM module

Y MSM module in each duct connection

Code example

BDR-200-50-100-1, IN=N,OM=N