

VRI Plénum pour diffuseur à débit variable



Présentation

- Plénum de raccordement pour diffuseurs actifs VHB ou VHD
- Adapté aux systèmes de ventilation à débit d'air variable
- Assure le bon fonctionnement des diffuseurs actifs
- Permet un montage étanche avec un niveau sonore performant
- Facilite l'accès à la gaine pour son entretien
- Boîtier de jonction pour le diffuseur à débit d'air variable livré en standard de série
- Organe de mesure et de réglage du débit de soufflage

Spécifications

Plénum de raccordement VRI pour diffuseurs à débit d'air variable, avec raccordement circulaire monté sur le côté du plénum.

Le plénum permet une bonne répartition de l'air sur le diffuseur, améliorant ainsi la diffusion.

Le plénum pourra être équipé d'une isolation acoustique ou thermique.

Le plénum comporte, en option, un organe de mesure et de réglage de débit MSM, démontable. Cet organe permet une mesure précise du débit grâce à ses deux prises de pression dynamique, un système de réglage du débit par translation d'une tôle perforée et un système de blocage de ce réglage en position.

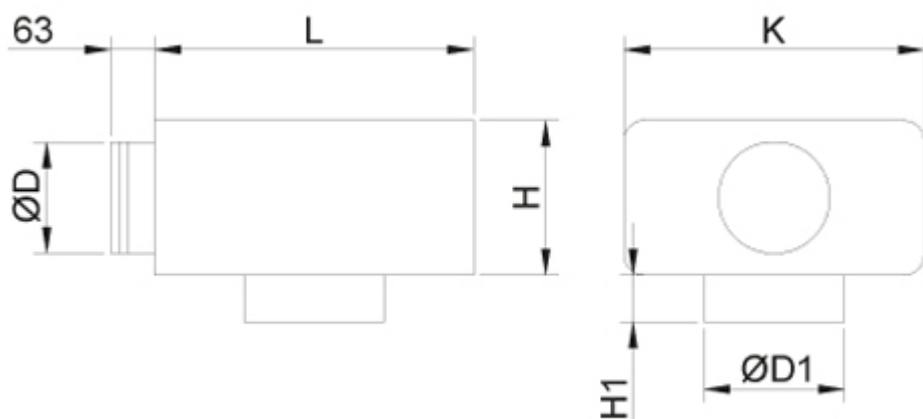
Fabrication du plénum en acier galvanisé.

Plénum étanche sans agrafage.

Isolation à base de fibre minérale.

Piquage équipé d'un joint intégral pour assurer l'étanchéité à l'air.

Dimensions

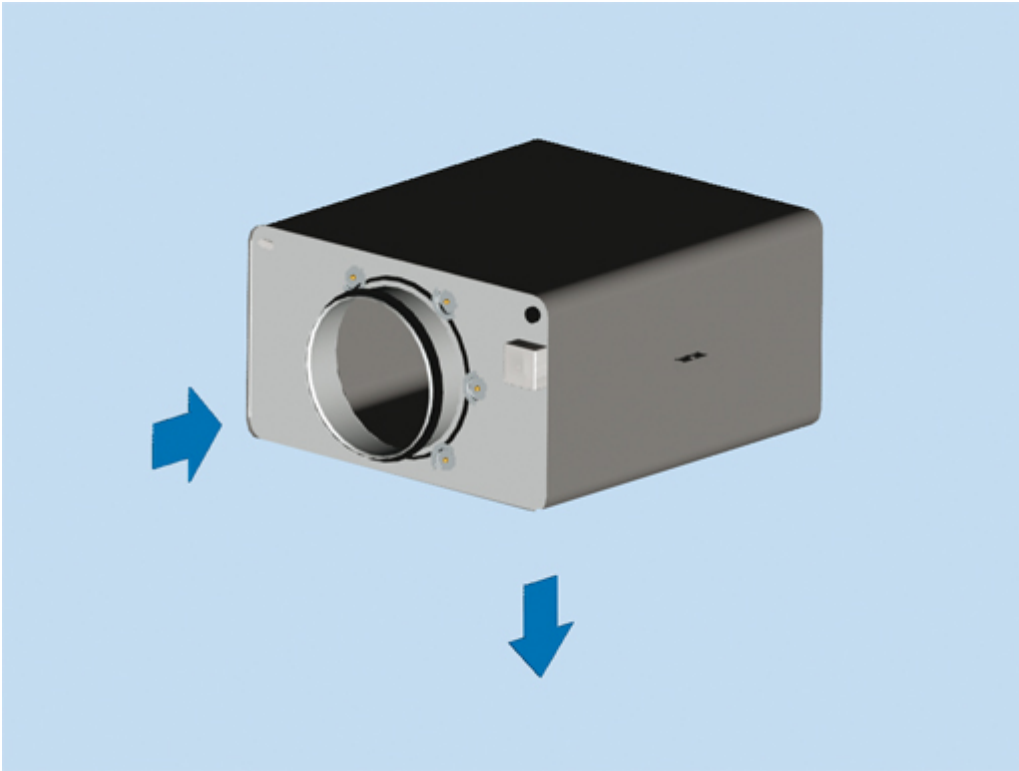


NS	L	H	K	ØD	ØD1
160/160	458	222	432	159	162
200/200	618	272	592	199	202
250/250	618	336	592	249	252

Material

Part	Material	Note
Casing	Galvanised steel	
Collar	Galvanised steel	
Attenuation material	Polyester fibre	
Spigot with gasket	Galvanised steel	Gasket of rubber compound
Measurement and adjustment module MSM	Body: aluminium Plate: galvanised steel Brackets: galvanised steel Plastic parts: polypropylene (PP) Spindle: stainless steel	
Junction box	Plastic	
Hanging and safety wire	Steel	

Function

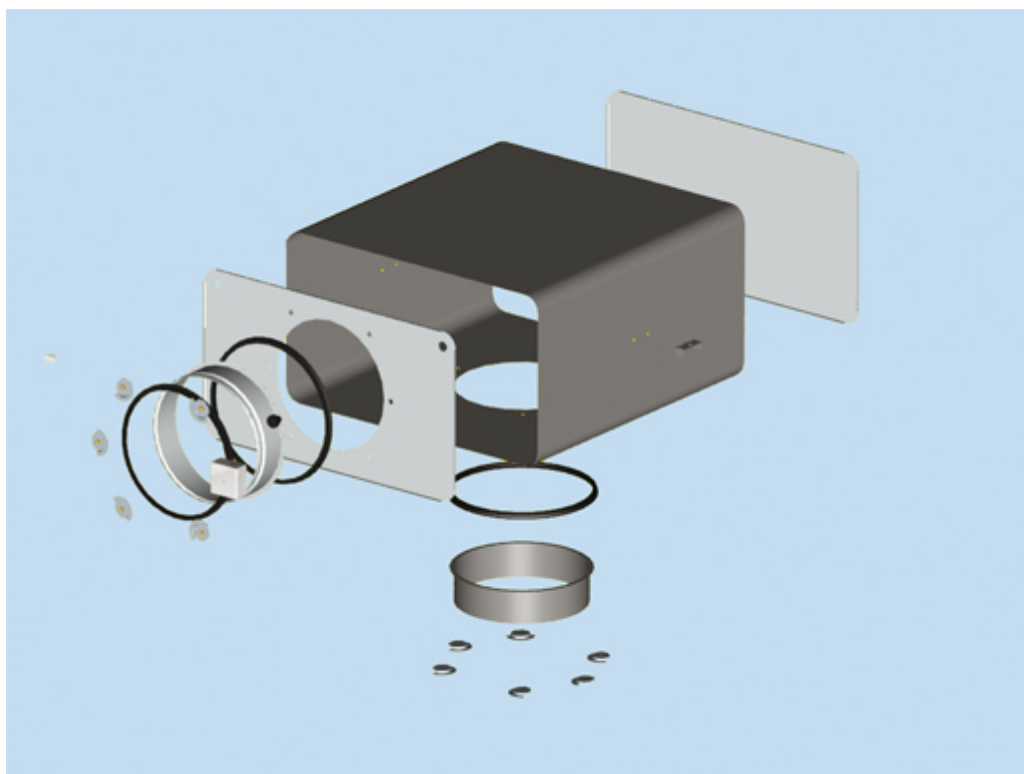


The Halton VRI balancing plenum equalises the airflow by reducing the flow velocity.

Air is spread evenly into the diffuser, ensuring a proper throw pattern in the room space.

The balancing plenum attenuates airborne sounds.

Installation



Halton VRI plenum can be installed using two strips. Connection to distribution ductwork is performed with a spigot including an integral gasket. Halton VRI/V includes a pressure test plug.

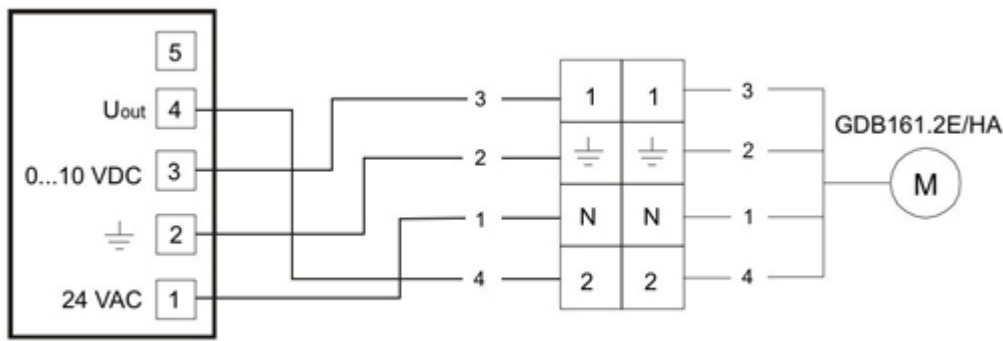
Halton VRI/V

The VRI/V is connected to the ventilation ductwork with a male inlet connection. After the ductwork pressure test, the diffuser can be installed.

Hang the diffuser to the wire of the VRI/V plenum.
Connect the actuator cable connector plug to the plug from the plenum junction box.

Fix the actuator assembly to the plenum and tighten two screws.
The power supply and control signal cables are connected to junction box according to the diffuser's wiring instructions.

Wiring



Junction box

Cable connector

Control signals on junction box

Terminal 3

- 0 VDC = minimum position / airflow
- 10 VDC = maximum position / airflow

Terminal 5

- Not connected

Adjustment

The supply airflow rate is determined using measurement and adjustment module MSM. Maximum airflow rate is measured when the active diffuser is fully open.

Pull out the airflow measurement tubes and airflow adjustment spring through the plenum.

Make sure that the active diffuser is fully open.

Measure the differential pressure with a manometer and calculate the airflow rate using the formula below.

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

q_v Actual airflow rate, l/s

k Airflow coefficient: see the k value table delivered with the diffuser

Δp_m Measured differential pressure

Adjust the airflow rate by rotating the adjustment spring until the desired setting is achieved. Push the tubes and adjustment spring back into the plenum.

Servicing

Open the diffuser part and detach the perforated plate of the coupling sleeve. Remove the control cone part completely by opening the screw in the middle of the cone.

Loosen two screws which are holding the motor assembly on Halton VHB body and let it hang on the wire.

The MSM is removed through VRI/V outlet by pulling from it's body – not the measurement tubes or control spindle.

The possible sound attenuation material of the plenum is removable and washable. Clean the parts with a damp cloth, instead of immersing in water.

Replace all parts in opposite order.

Both the diffuser and the airflow adjustment unit are removable for ductwork cleaning purposes. Open or detach the diffuser.

Detach the measurement and adjustment module by gently pulling from the unit body. Please, do not pull from the adjustment spring or measurement tubes.

For cleaning of the plenum and diffuser, wipe the plenum and diffuser parts with a damp cloth, instead of immersing in water.

The sound attenuation material of the plenum is removable and washable.

After cleaning, reassemble the sound attenuation material, airflow adjustment unit and diffuser.

Specification

The balancing plenum is made of galvanised steel and shall have an airtight design.

The airflow equalisation module or airflow rate measurement and adjustment module are supplied for supply air applications.

The measurement and adjustment module are adjustable without opening the device.

The balancing plenum has a spigot with integral gasket for airtight duct connection and a plug for ductwork pressure testing.

The balancing plenum attenuates airborne sound, and the sound attenuation material is made of polyester fibre with a washable surface.

Product Code

VRI/S-D-E

S = VRI plenum
V V model

D = Connection size
160, 200, 250

E = Dimension of diffuser connection
160, 200, 250

Code example

VRI/V-160-160