Halton RMC – Airflow management damper (CAV)

Overview

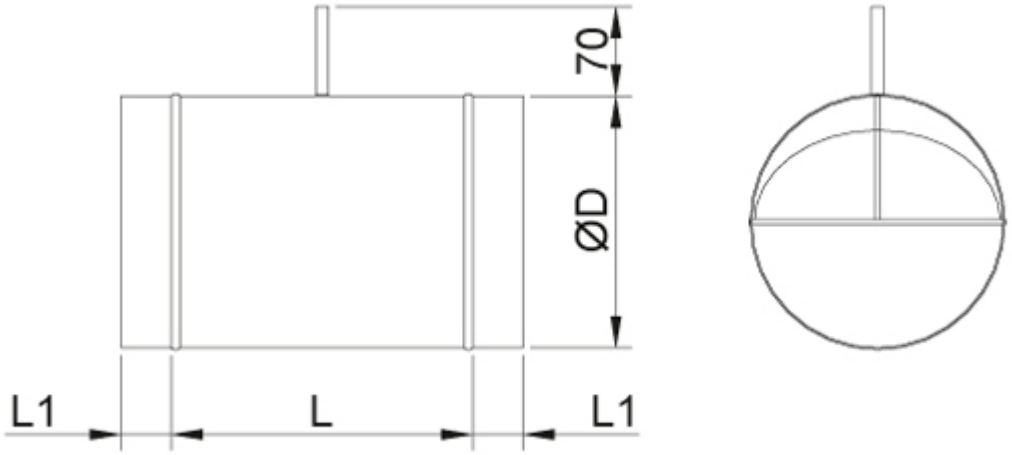
- Constant airflow damper without external power supply, self-balancing operation
- Effective commissioning
- Large operation area, pressure range of 50...600 Pa and optionally up to 1000 Pa
- Galvanised steel design

Product models

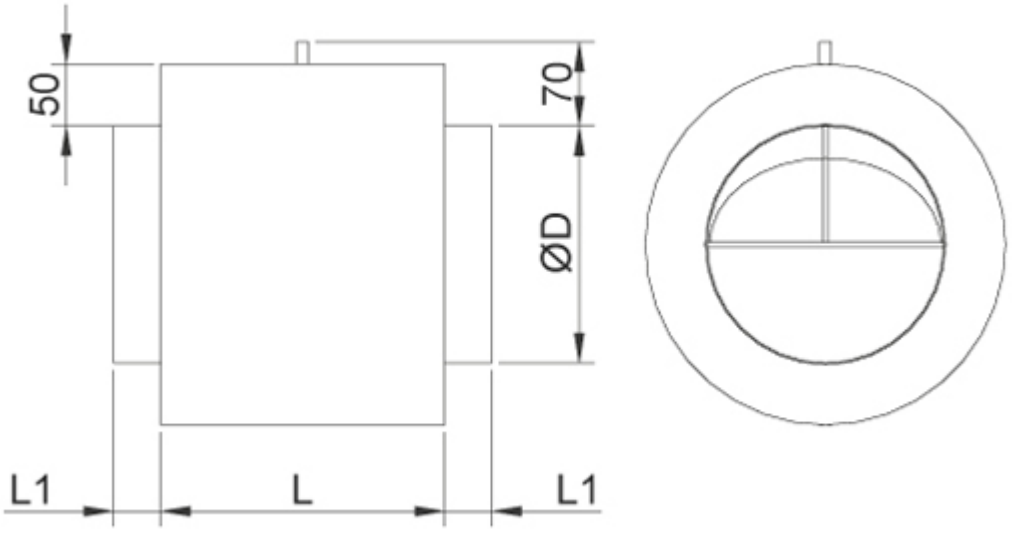
- Models with and without insulated casing

Dimensions

Halton RMC/N (without insulation)



Halton RMC/I (insulated)



NS [mm]	L [mm]	L1 [mm]	ØD [mm]
100	170	40	99
125	170	40	124
160	240	40	159
200	240	40	199
250	240	40	249
315	220	60	314
400	295	60	399

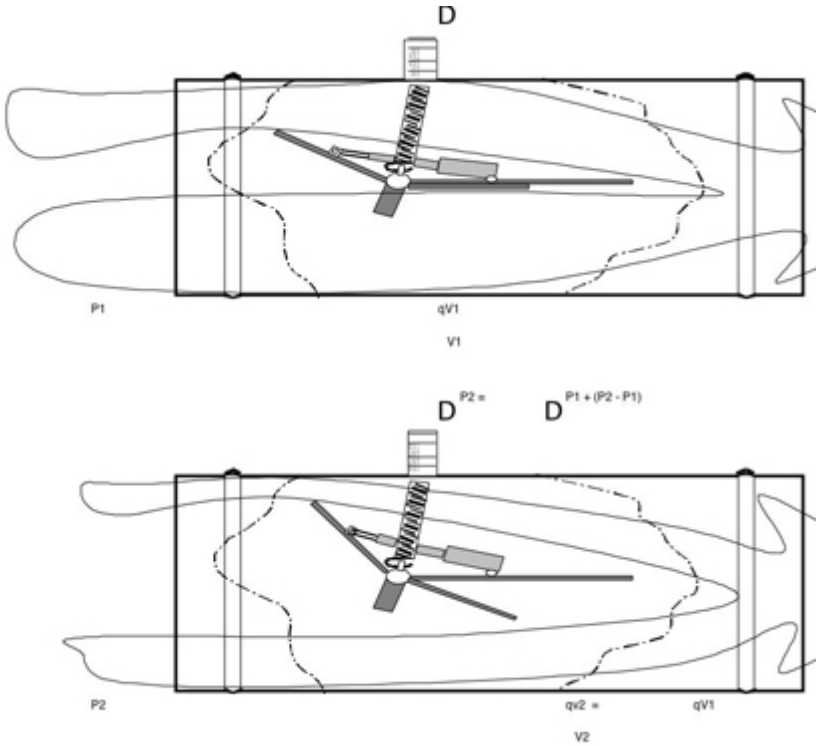
Material

Part	Material
Housing	Galvanised steel
Damper blade	Aluminium
Damper blade bearings	PTFE
Tube for the adjustment	Plastic
Ring seals	Rubber

Product models

Product model	Code	Description
Standard	N	No insulation
External insulation	I	Mineral wool, thickness 50 mm, for sound insulation and reduction of heat transfer

Function



Constant airflow damper Halton RMC is an independent control element operating without an external power supply, maintaining the required airflow rate regardless of upstream pressure changes. Consequently, system balancing is not needed.

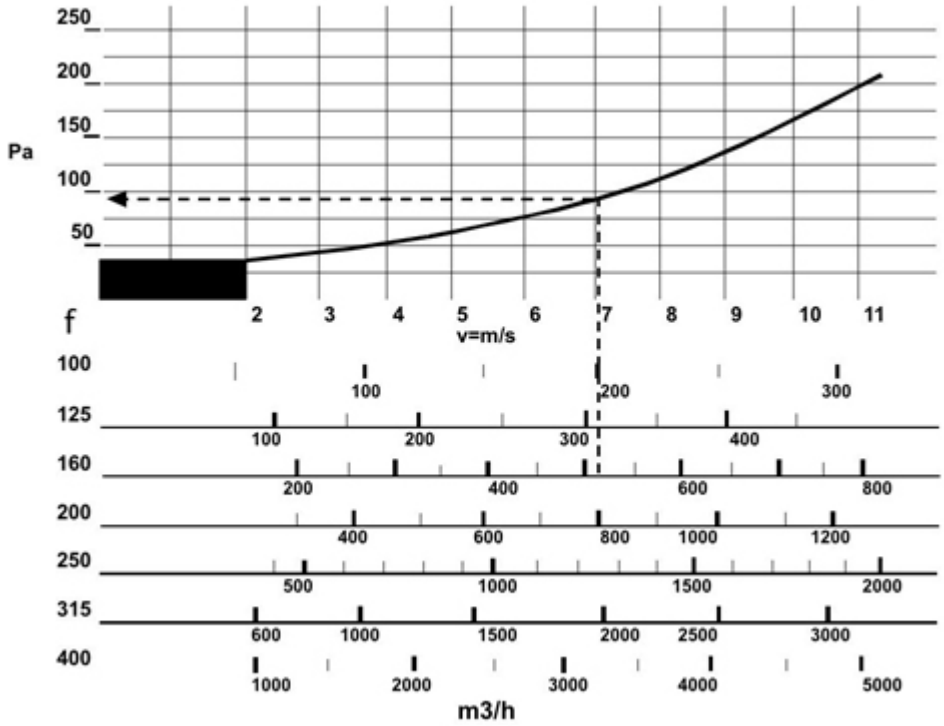
As the dynamic pressure in the duct branch increases, the damper turns, thus increasing the pressure loss and preventing an excessive increase in the airflow rate. Similarly, as the dynamic pressure decreases, the spring returns the blade to the open position, reducing the pressure loss and thus maintaining a constant airflow rate.

The constant airflow damper includes a damper blade, supported by bearings and connected to an adjustment spring. As a result of the balance between aerodynamic forces and the spring effect, the necessary throttling effect is achieved and the set airflow rate is achieved.

Operation range

The constant airflow damper operates from a minimum pressure difference over the unit, which depends on the air velocity (see diagram below) to a maximum pressure difference of 1000 Pa.

For example, if air velocity in duct is 7 m/s, the unit pressure loss is approximately 100 Pa or above.



Size	q_v min.	q_v max	q_v min.	q_v max	v min.	v max	d_{Pst} min.*	d_{Ps} max
mm	m³/h	m³/h	l/s	l/s	m/s	m/s	Pa	Pa
100	70	220	19	61	2.5	7.8	50	1000
125	100	280	28	78	2.3	6.3	50	1000
160	180	500	50	139	2.5	6.9	50	1000
200	250	900	69	250	2.2	8.0	50	1000
250	500	1500	139	417	2.8	8.5	50	1000
315	800	2200	222	611	2.8	7.8	50	1000
400	1000	3800	278	1250	2.2	8.4	50	1000

Control inaccuracy less than 20%.

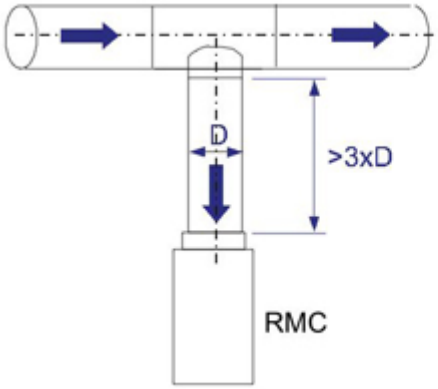
Installation

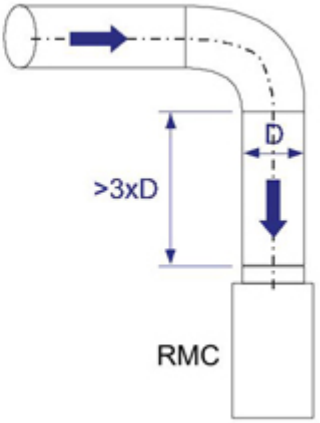
Safety distances for the damper

The airflow control damper should be installed in undisturbed airflow. The airflow velocity profile in the duct should be sufficiently even, without disturbances caused by bends, T-branches etc.

The necessary safety distance after a bend or a T-branch is 3 x the duct diameter.

The airflow control damper should be installed so that the arrow on the damper corresponds to the direction of the airflow. See the installation examples below.





Specification

The constant airflow damper operates without an electric or pneumatic external power supply. The damper operates with an adjustable spring.

The damper with a manual adjustment device shall be able to be easily set or reset on the work site, during commissioning.

The damper casing is made of galvanised steel and the blade of aluminium.
The damper casing is insulated with mineral wool as sound and heat insulation material (optional).

Order Code

RMC/S-D; ZT

S = Model
N Standard
I Insulated (casing 50 mm)

D = Duct connection [mm]
100, 125, 160, 200, 250, 315, 400

Other options and accessories

ZT = Tailored product
N No
Y Yes (ETO)

Order code example

RMC/N-100, ZT=N