

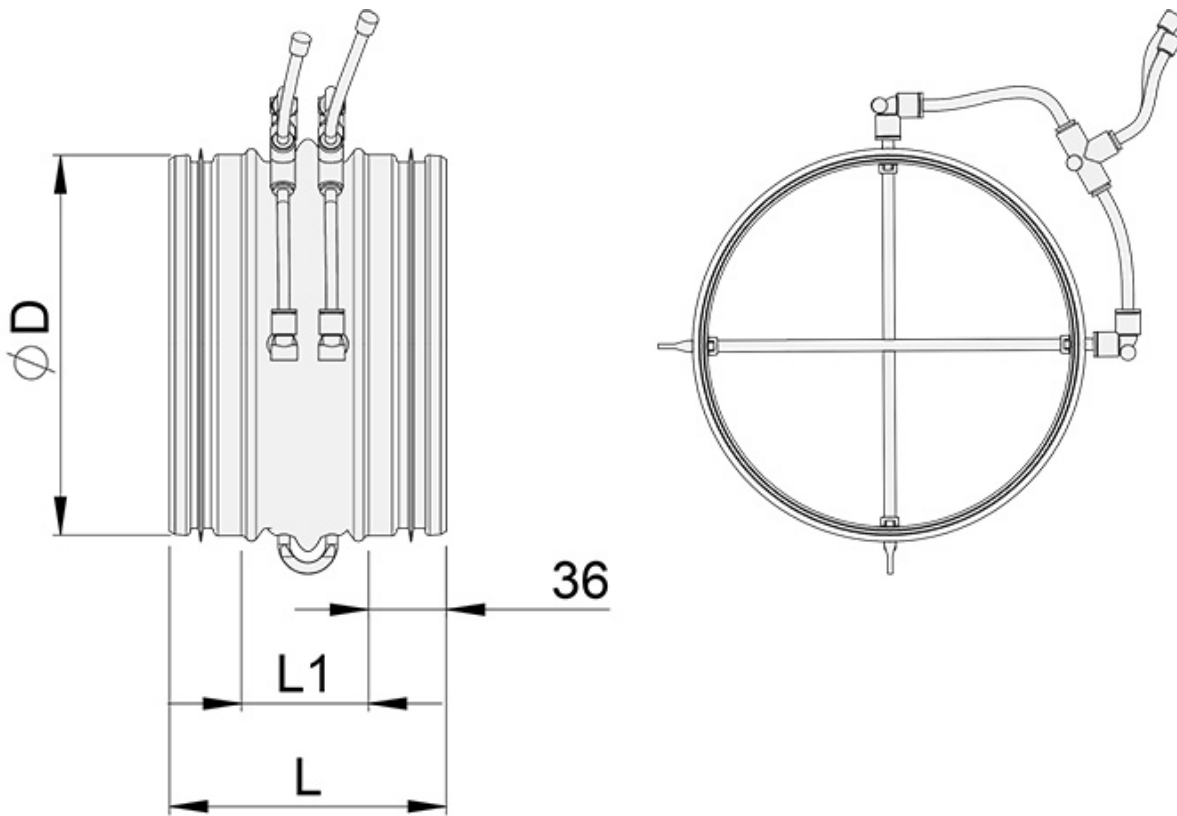
# Halton MSD – Airflow measurement unit



## Overview

- Airflow measurement unit based on differential pressure created by measurement probe pipes
- Classification of casing leakage EN 1751 class C
- Inlet and outlet spigots have integral rubber gaskets
- Airflow transmitter installation allows 50 mm insulation

# Dimensions and weight

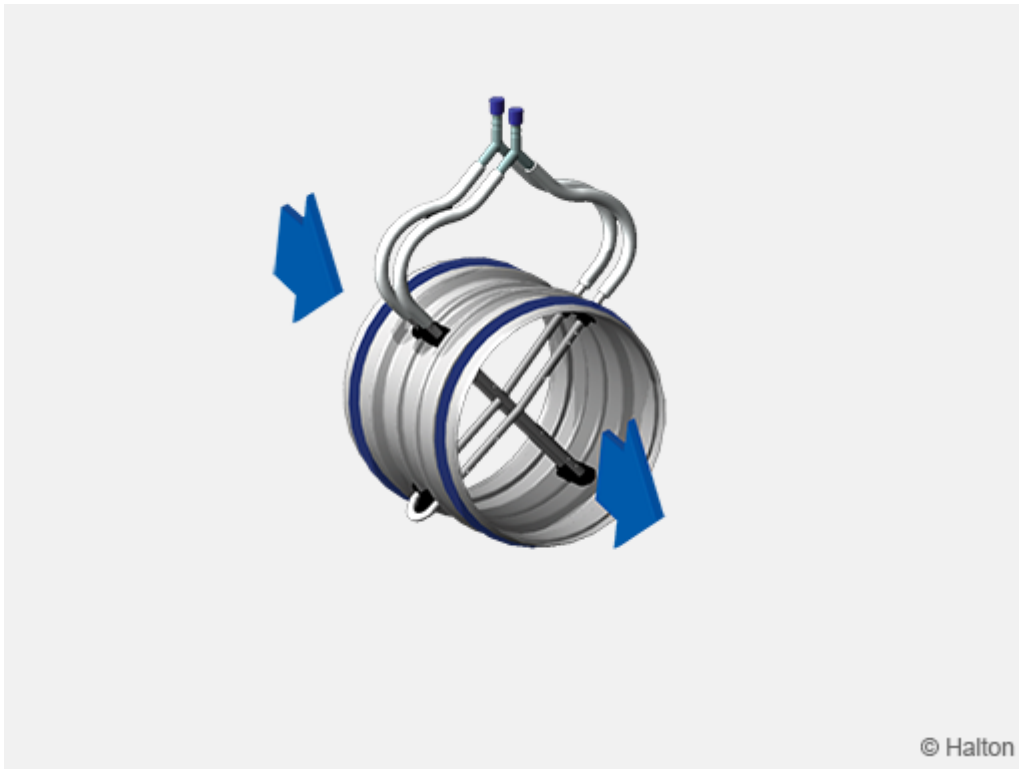


MSD	L [mm]	L1 [mm]	$\varnothing D$ [mm]	Weight [kg]
100	142	75	99	0.3
125	142	75	124	0.4
160	142	75	159	0.5
200	142	75	199	0.6
250	142	75	249	0.7
315	142	75	314	0.9
400	195	125	399	1.1
500	195	125	499	1.4

# Material

Part	Material
Casing	Galvanised steel
Measurement probe pipes	Aluminium
Measurement tubes	PVC and PP plastic
Duct gaskets	1C-polyurethane hybrid

# Function



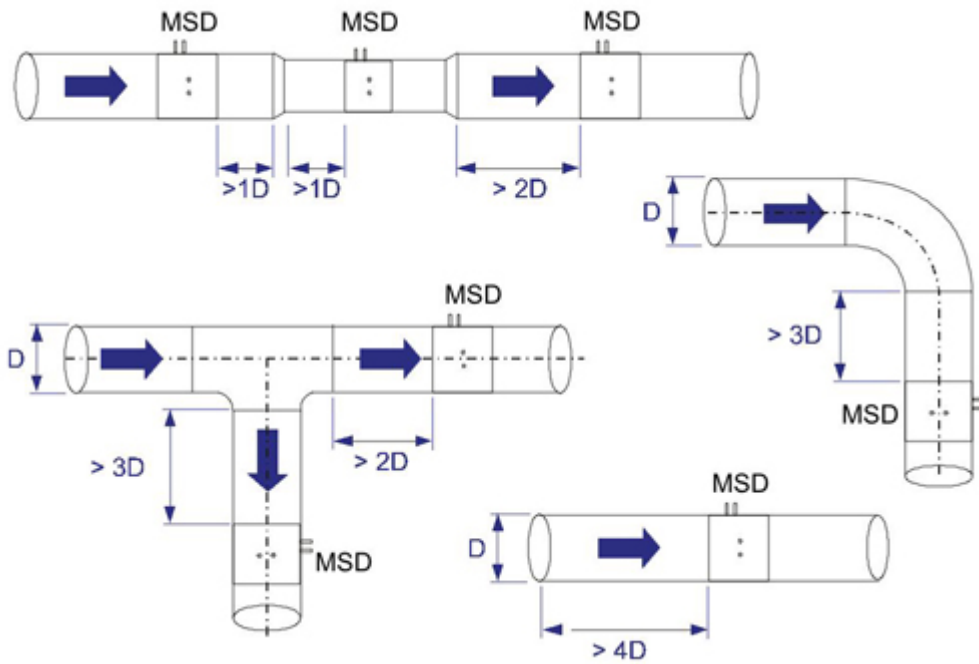
Airflow in a duct creates a pressure difference between the front and rear probes.

The corresponding airflow rate can be defined by measuring the pressure difference sensed by the two crossing sets of averaging probes.

# Installation

In order to ensure the accuracy of the airflow measurement the safety distances between the measurement unit and flow disturbances (e.g. bends, T-branches) have to be respected. The necessary safety distances before and after different disturbances are presented in figures below.

The figure below describes also the recommended axial orientation of measurement probes related to bends and T-branches.



## Measurement

Connect the measurement tubes to the manometer and read the pressure difference. The airflow rate is calculated using the formula below or by reading the airflow rate directly from the diagram:

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

NS	k factor
100	5.7
125	9.4
160	17.2
200	27.8
250	43.9
315	72.3
400	127.0
500	200.0

Nominal airflow rates of Halton MSD are presented in the table below:

NS	qv_nom
100	70 l/s (252 m <sup>3</sup> /h)
125	115 l/s (414 m <sup>3</sup> /h)
160	210 l/s (756 m <sup>3</sup> /h)
200	340 l/s (1224 m <sup>3</sup> /h)
250	538 l/s (1937 m <sup>3</sup> /h)
315	885 l/s (3186 m <sup>3</sup> /h)
400	1555 l/s (5598 m <sup>3</sup> /h)
500	2449 l/s (8816 m <sup>3</sup> /h)

## Specification

The casing of the measurement unit shall be made of galvanised steel.  
The measurement probe pipes shall be made of aluminium.

The measurement unit shall have integral gaskets.

## Order code

### MSD-D; PT-ZT

**D = Duct connection (mm)**

100, 125, 160, 200, 250, 315, 400, 500

### Other options and accessories

**PT = Difference pressure transmitter**

NA Not assigned

P1 HDE-PE

P2 VRU-D3-BAC

**ZT = Tailored product**

N No

Y Yes (ETO)

### Code example

MSD-100, PT=P1, ZT=N