Rectangular Variable Air Volume

WLMS WLMD

Introduction

The Waterloo variable air volume damper supplies a controlled volume of air, independent of the duct pressure. The unit consists of a Waterloo Flow Sensor, a damper section and a motor with an integrated controller. The external motor controls the required air volume between factory commissioned maximum and minimum settings. Depending on the chosen controller a BMS control system can be connected to the unit. If required the unit can be set as a constant volume damper.
Single skin and double skin insulated units are available.

Product Description

WLMS Single skin air volume damper
WLMD Double skin insulated air volume damper

Features

- Adjustable for air velocity of 2.0 - 10 m/s
- Accuracy ± 10%
- Suitable for mounting in all positions
- Minimum straight duct is 2x longest dimension (W/H) of unit
- Manufactured in standard duct sizes
- Factory set
- Settings adjustable on site
- Controls from a number of different manufacturers may be fitted.

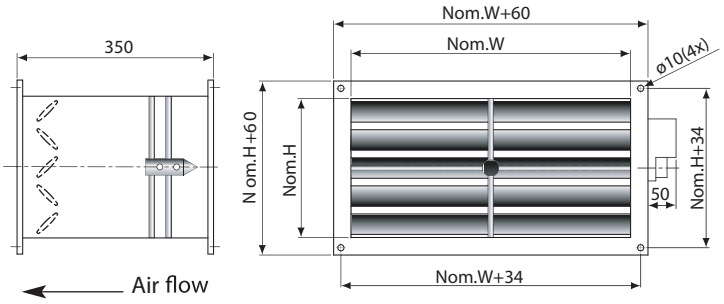
Finishes

Casing: Zintec Plate
Damper: Aluminium

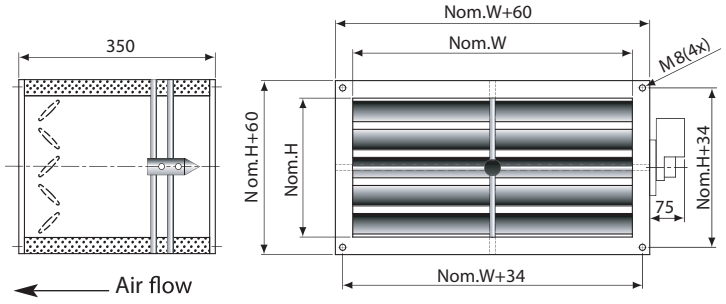
Sizes

Nom. Width 200 - 1000 mm in Increments 50 mm

Nom. Height 200 - 600 mm in Increments 50 mm



WLMS



WLMD

Order Example

WLMD/500/300

Type
Nominal Width
Nominal Height

Rectangular Variable Air Volume

WLMS WLMD

Selection Example WLMS/500x200

Air Volume (q_v)	2160m³/h or 600 l/s
Operating Pressure (P_d)	200 Pa
Velocity (v)	q_v / 1000 / (W x H)
	600 / 1000 / (0.5 x 0.2) = 6 m/s
Pressure Drop (ΔP_d)	11 Pa
Air Noise (L_{PA})	dBA 40 - 5 = dBA 35
Radiated Noise (L_{PR})	dBA 46 - 3 = dBA 43

L_p dBA = L_w dBA - 8dB (Room Absorption)

Performance Table

WLMS WLMD		Air noise L_{PA} dBA in dB with Static pressure			Radiated noise L_{PR} dBA in dB with Static pressure					
Velocity v	Pressure Drop ΔP_d	100 [Pa]	200 [Pa]	400 [Pa]	100 [Pa]	200 [Pa]	400 [Pa]	100 [Pa]	200 [Pa]	400 [Pa]
		WLMS / WLMD			WLMS			WLMD		
2	1	23	30	37	28	35	42	-	22	29
4	5	30	37	43	35	42	48	23	29	35
6	11	40	42	47	40	46	52	32	34	39
8	21	45	47	50	45	49	56	37	40	43
10	35	47	49	60	48	54	59	41	46	49

Width/ height correction for air noise

		Width				
		200	300	600	800	1000
Height	200	-9	-7	-5	-4	-3
	400	-7	-4	-2	-1	0
	600	-5	-2	0	+1	+2

Width/ height correction for radiated noise

		Width				
		200	300	600	800	1000
Height	200	-5	-4	-3	-3	-3
	400	-4	-2	-1	-1	0
	600	-3	-2	0	0	+1