

WLDX-VCD

(Low Leakage Volume Control Damper)

Catalogue



By your side for 50 years.
And counting.

 systemair



Systemair headquarters in Skinnskatteberg, Sweden



Systemair Worldwide

Systemair is a leading ventilation company with operations in 51 countries in Europe, North America, the Middle East, Asia, Australia and Africa. We develop, manufacture and market high quality ventilation products and solutions. The Company was founded in 1974 on the initiative of Chairman of the Board Gerald Engström. Systemair shares have been quoted on the Nasdaq OMX Nordic Exchange in Stockholm since October 2007, and are today traded on the Large Cap List. The Company has its registered office and headquarters in Skinnskatteberg, Sweden.

What we do

Systemair offers a wide range of energy-efficient fans, air handling units, air distribution products, air conditioning products and air curtains for different types of premises. We also help our customers in combining these products into total solutions meeting their demands. Our products are robust and simple to choose, install and use.

The Group's products and solutions are marketed under the Systemair, Frico, Fantech and Menerga brands.

Production and Technology

The Group comprises about 91 companies with more than 6,700 employees, who together work to ensure that Systemair is among the leading players in the global ventilation industry. We have 28 modern and well-invested production facilities in 19 countries. Systemair's product development organisation consists of engineers and technicians with cutting-edge expertise across a range of technologies.

We create better air.
Every day. Worldwide



SYSTEMAIR IN INDIA



UNIT 1
Greater Noida- Headquarters



4 Factories

Total Production Area approx. 42000 sqm



9 Offices



UNIT 2
Greater Noida



UNIT 3
Hyderabad



UNIT 4
Chennai- NADI Airtechnics

20
SYSTEMAIR INDIA
**Trusted years
in India**

Systemair has a strong presence in India with four state-of-the-art manufacturing facilities, ensuring wide coverage, faster delivery, and local support. These facilities are backed by in-house R&D and testing, delivering high-performance, reliable products with a focus on reduced CO₂ emissions. The Production facilities are well invested with more than 750 well-trained employees. Quality and precision remain at the core of every operation.

OUR PRODUCTS RANGE



Air Handling Units

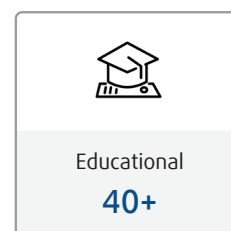
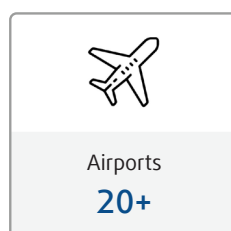
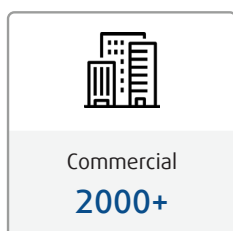


Air Distribution & Fire Safety Products



Fans

OVER 4,500 PROJECTS DELIVERED ACROSS KEY SECTORS



*Figures are indicative and cumulative.

CERTIFICATIONS





Systemair India Pvt Ltd certifies that the WLDX-VCD (Low leakage volume control damper) shown herein is licensed to bear the AMCA Seal. The ratings shown are based on the tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Rating Program.

The AMCA Certified Ratings seal applies to Air Leakage and Air Performance ratings



Description and design

WLDX-VCD (Low leakage volume control damper) is used for high efficiency and low leakage. It has following components:

Blades

It consists of roll formed galvanized steel aerofoil blades. Aerofoil blades are ideal for dampers, as they tend to produce low resistance to the airflow. This results in low-pressure drop across the damper, hence low power consumption during overall operation. The aerofoil blade design also enables it to be used in high-pressure conditions due to its increased strength.

Frame

Side, Top & Bottom frames are constructed from heavy gauge roll formed galvanized steel section.

Other components

Stainless steel side seal is used to minimize air leakage between blade ends and side frame. EPDM gasket is use at the lip of the blade, which ensure no gap between blades and creates tight contact.

Components/size	Description
Blade Material	Galvanized steel
Blade Type	Aerofoil
Blade Action	Opposed
Frame Material	Galvanized steel
Minimum Size	135mm (W) x 165mm (H)
Maximum Size (Single Section)	1220mm (W) x 1220mm (H)
Damper Operation	Manual / Motorized

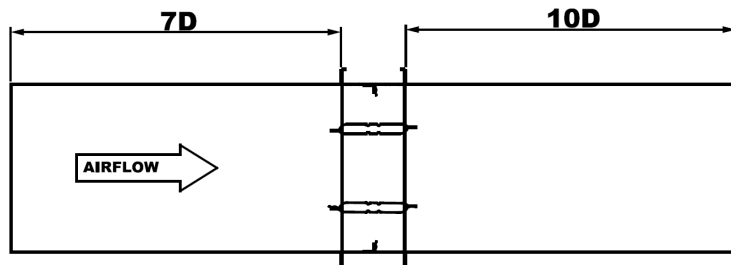
Application

These volume control dampers feature low leakage and high efficiency, and are ideal for most of the applications (like; commercial, IT, Industrial, Metro, Airport projects etc.). It is designed to be installed in all supply/return/ fresh air, main/branch ducts.

Damper test performance

Pressure Drop Data

Test Damper Setup with Inlet and Outlet Ducts – Figure 5.3



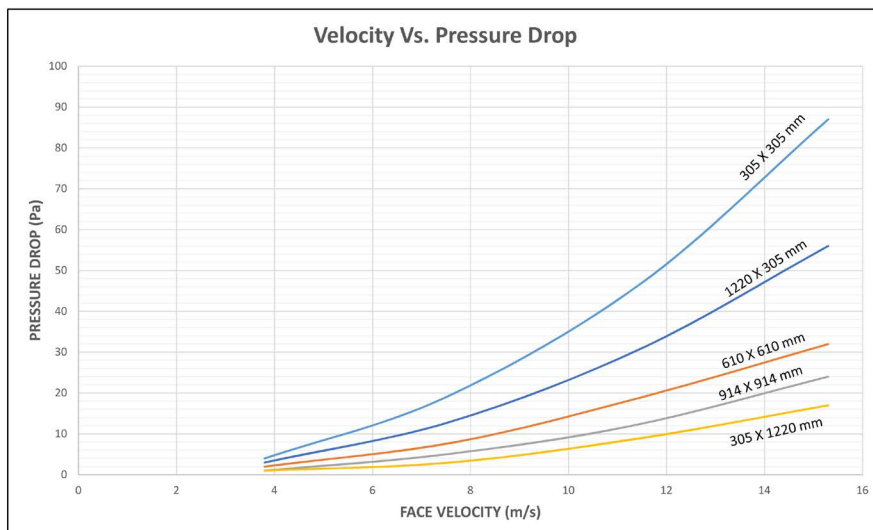
$D = \sqrt{4WH/\pi}$ for rectangular ducts (where W = duct width and H = duct height).
D = Duct diameter for round ducts.

Tested for air performance in accordance with ANSI/AMCA Standard 500-D, Figure 5.3.
All data has been corrected to standard air density of 1.2 kg/m³.

Pressure Drop Values

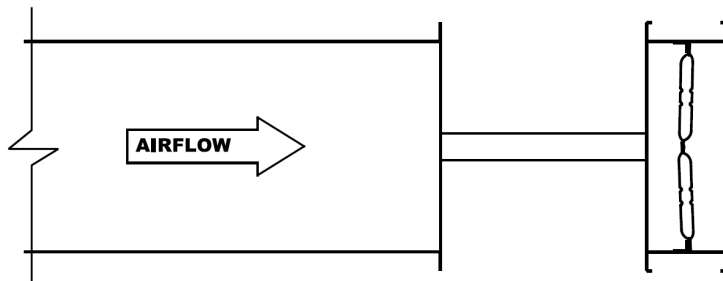
Damper size (WxH) 305mm X 305mm		Damper size (WxH) 610mm X 610mm		Damper size (WxH) 914mm X 914mm		Damper size (WxH) 1220mm X 305mm		Damper size (WxH) 305mm X 1220mm	
Velocity (m/s)	ΔP (Pa)	Velocity (m/s)	ΔP (Pa)	Velocity (m/s)	ΔP (Pa)	Velocity (m/s)	ΔP (Pa)	Velocity (m/s)	ΔP (Pa)
2	1	2	1	2	0	2	1	2	0
3.8	4	3.8	2	3.8	1	3.8	3	3.9	1
7.5	19	7.5	8	7.5	5	7.5	13	7.5	3
11.5	47	11.5	19	11.3	12	11.5	31	11.5	9
15.3	87	15.3	32	15.3	24	15.3	56	15.3	17

Velocity vs Pressure drop curve



Leakage test data

Test Damper Setup with Inlet Chamber – Figure 5.5 Alternate



As defined by AMCA Publication 511-21, the maximum allowable leakage is as follows:

WLDX-VCD Leakage Class Rating, L/s/m ² (cfm/ft ²)					
Class	At 0.25KPa (1in. wg)	At 0.5KPa (2in. wg)	At 1KPa (4in. wg)	At 1.5KPa (6in. wg)	At 2KPa (8in. wg)
1A	15.2 (3)	N/A	N/A	N/A	N/A
1	20 (4)	28 (6)	41 (8)	49 (10)	56 (11)
2	51 (10)	72 (14)	102 (20)	124 (24)	144 (28)
3	203 (40)	287 (57)	406 (80)	497 (98)	574 (113)

Test Information

Air leakage is based on operation between 0°C and 49°C (32 °F and 120 °F).

Tested for air Leakage in accordance with ANSI/AMCA standard 500-D, Figure 5.5 Alternate

All data has been corrected to standard air density of 1.2 kg/m³.

Torque

For the damper (305 x 1220) mm, a torque of 32.3 Nm/m² was applied to the close and seat dampers during the test.

For the damper (1220 x 914) mm, a torque of 10.8 Nm/m² was applied to the close and seat dampers during the test.

WLDX-VCD Leakage Classification

WLDX-VCD	Leakage Class Rating, L/s/m ² (cfm/ft ²)		
Damper Size, W x H	At 0.25KPa (1in. wg)	At 1KPa (4in. wg)	At 2KPa (8in. wg)
305 x 1220 mm (12 x 48) in.	1A	1	1
1220 x 914 mm (48 x 36) in.	1A	1	1

Note – As per AMCA, Leakage class 1A is defined, only for 250 Pa (1 in. wg).

Ordering Code

WLDX-VCD- - -		
Size (mm)	Width x Height	(W X H)
Operation Type	For Manual operation	H
	For Motorized operation	M
Operation side	Right Hand	R
	Left Hand	L



Examples:

- WLDX-VCD-1200×600-H-R
Volume Control damper WLDX-VCD with 1200 mm width and 600 mm height, Manual operation with Right Hand operation side.
- WLDX-VCD-500×1000-M-L
Volume Control damper WLDX-VCD with 500 mm width and 1000 mm height, Motorized operation with Left Hand operation side.

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Unit I

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