

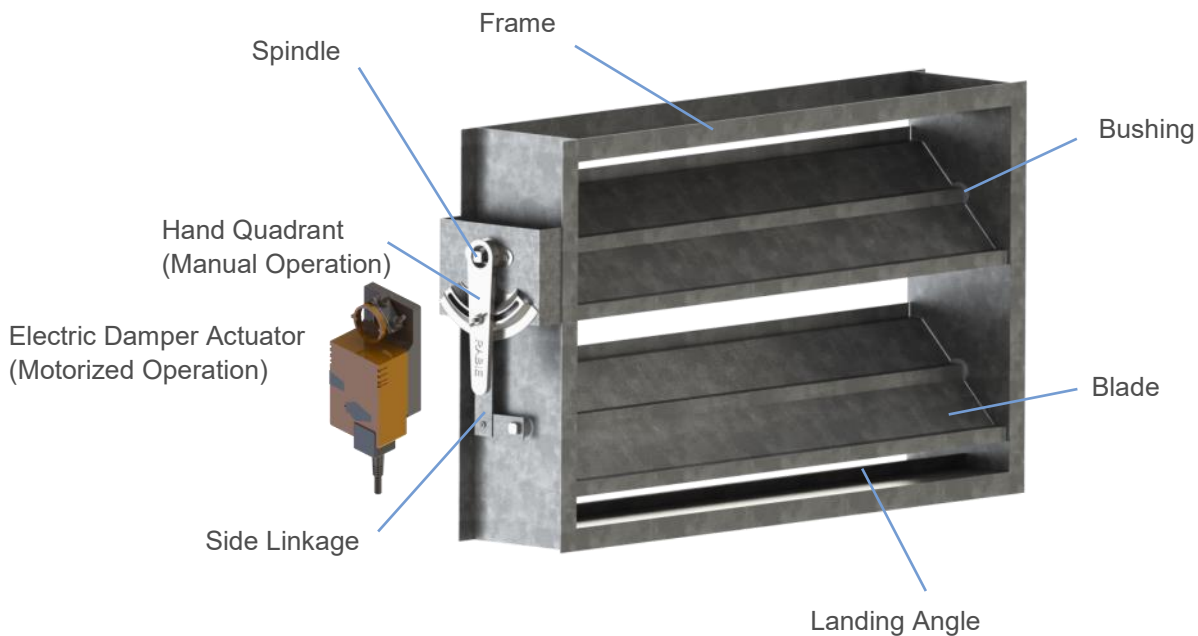


VOLUME CONTROL DAMPERS

PRODUCT DESCRIPTION

A **Volume Control Damper (VCD)** is used in HVAC systems to regulate the amount of air that moves through a duct system. It is designed to keep the airflow within a particular range, delivering optimal amounts of air to different parts of the building.

VCDs are manually or motorized operated dampers that allow the control of airflow in HVAC. They are usually installed in between ducts and come in various shapes and connections.



VCDF



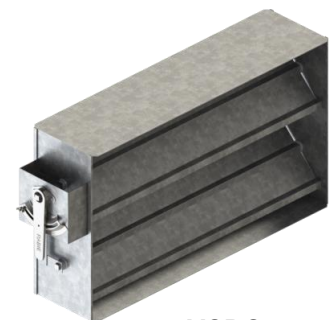
VCDS



VCDO



VCDR



VCDC



BLADES OPERATING STYLES

There are two ways to set the blades depending on the damper's intended function, as follows:

Parallel Blades: used for balancing and regulating the air flow/pressure through duct work, ensuring connected rooms are balanced.

Opposed Blades: used for controlling air flow rates as it open and close constantly (Usually comes with Motorized Damper Actuators).



Parallel
Blades



Opposed
Blades

OPTIONS

- Blade seal (for low leakage requirements).
- SS jamb (for low leakage dampers).
- Other construction material such as SS304, SS316L, and Aluminum.
- Actuator base 25mm height (standard) or any other height on request.



Hand Quadrant For
Manual Operation



Single or Multi Blade Construction



Electrical Actuator For
Motorized Operation



VCD AIR PERFORMANCE TESTS

(PRESSURE DROP)

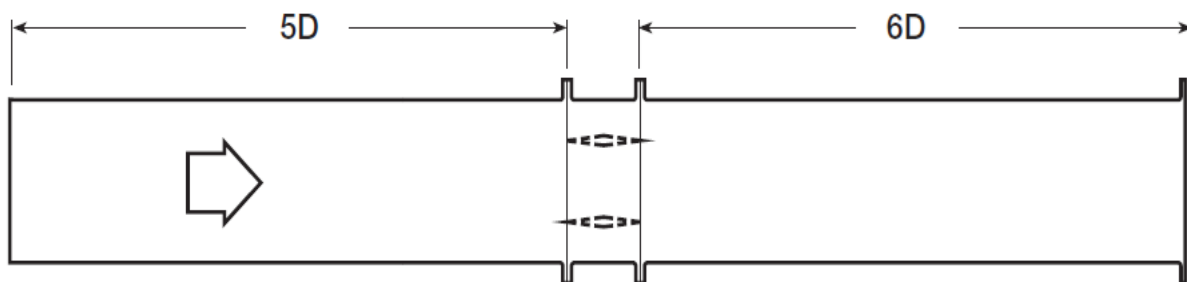
Pressure Drop Data in this catalogue are given as per tests conducted in accordance with ANSI / AMCA Standard 500-D using the configuration shown below.

All data has been corrected to represent standard air at a density of 1.201 kg/m^3 (0.075 lb/ft^3).

The selected test figure simulate best all site conditions of HAVC duct system (supply, return, and exhaust) and estimate actual pressure losses for the dampers installed in a given HVAC system.

AMCA 500-D Test Figure 5.3

Figure 5.3 Illustrates a fully ducted damper. The test is conducted for fully open dampers. System static pressure is first measured, then total damper + system static pressure is measured, and damper static pressure is calculated.

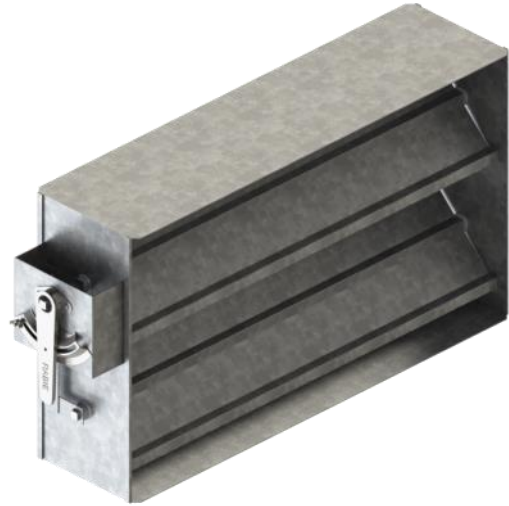




RECTANGULAR CONNECTION VOLUME CONTROL DAMPERS VCDF (FLANGED TYPE) | VCDC (DRIVE AND “S” SLIP TYPE)



VCDF



VCDC

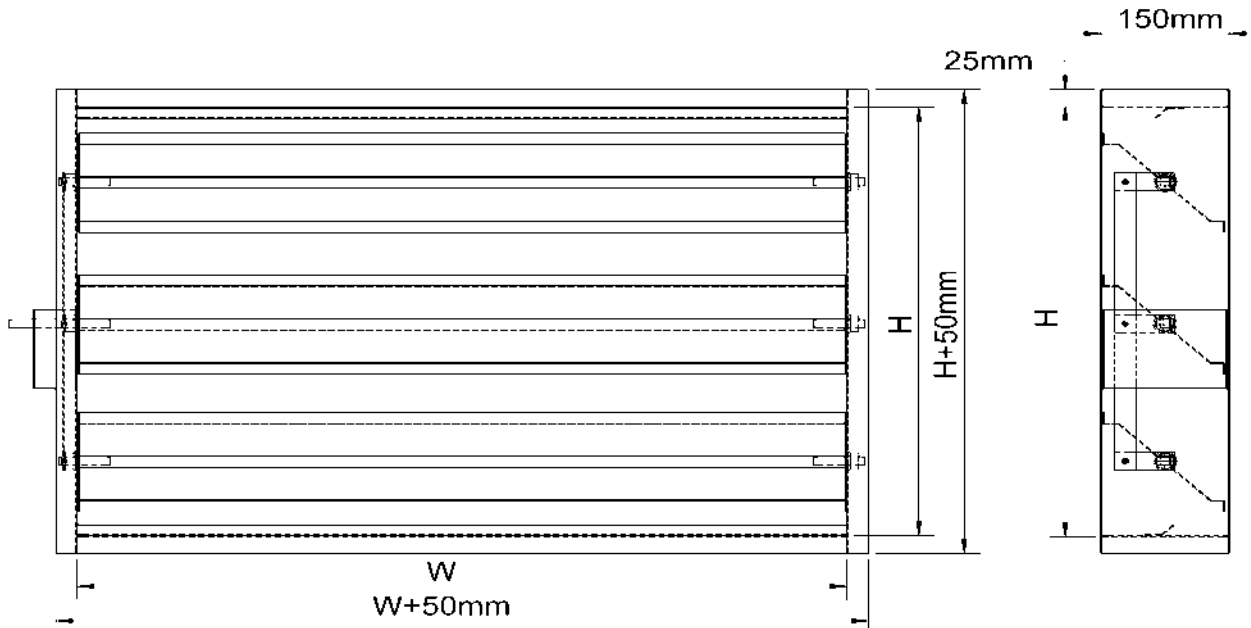
STANDARD CONSTRUCTION

Frame (VCDF):	Flanged Steel Chanel 150×25×1.5mm (16 gauge) galvanized.
Frame (VCDC):	Drive and “S” Slip Shape 150×1.5mm (16 gauge) galvanized. Other sizes are available on request.
Blade:	3-V 1.5mm thickness (16 gauge) galvanized steel (Reinforced with 3 longitudinal “structurally designed vees”)
Bushing:	Nylon bearings
Control shaft :	12mm×12mm square steel spindle.
Operation:	Hand Quadrant For manual operation. Electrical Actuator for motorized operation.
Finish:	Mill galvanized.
Min size (mm):	100×100
Max size (mm):	VCDF: 1220×1830 or 2440×1525 as a single section. VCDC: 1220×1220 as single section. Available Multiple section assembly for VCDF of unlimited size, where each section operates independently. For details consult Rabie Al Takyef Factory

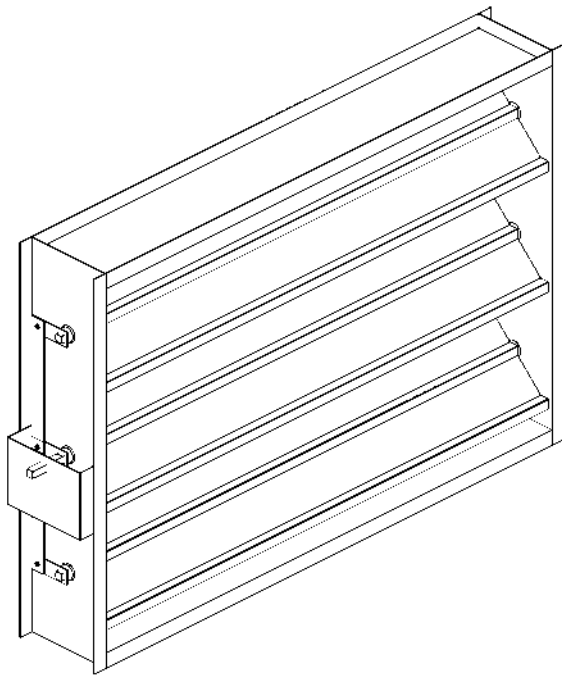
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DIMENSIONS (VCDF)



STANDARD NO. OF BLADES

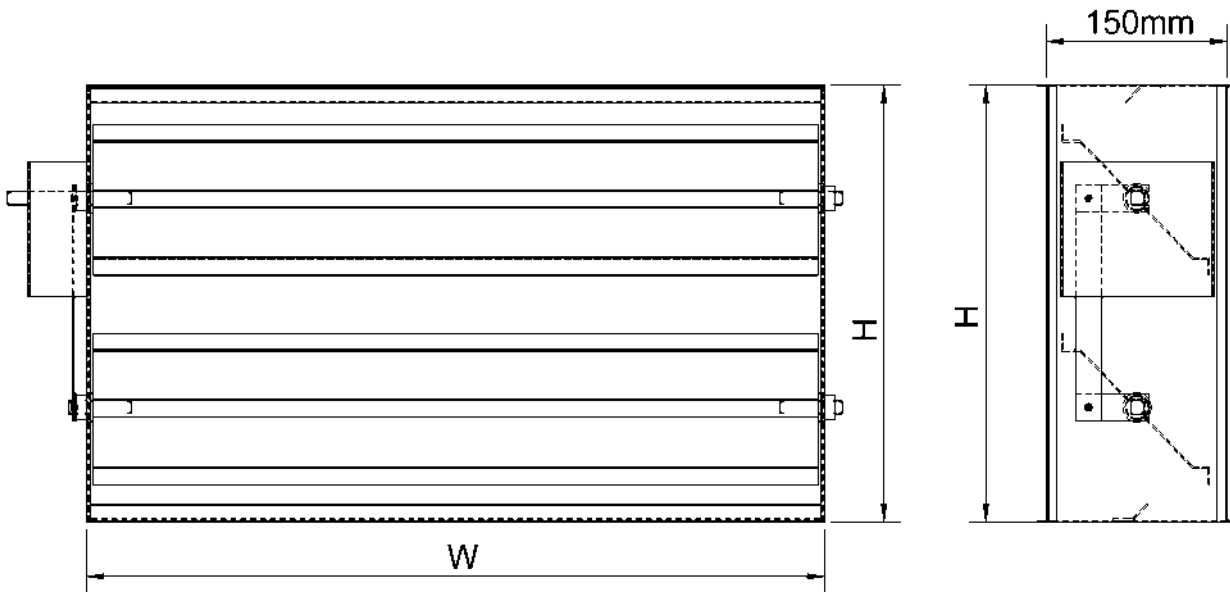


H in mm	Number of Blades
100	1
150	1
200	1
250	1
300	2
350	2
400	2
450	2
500	2
600	3
700	3
800	4
900	4
1000	4
1100	5
1200	5
1300	6
1400	6
1525	7
1600	7
1700	7
1830	8

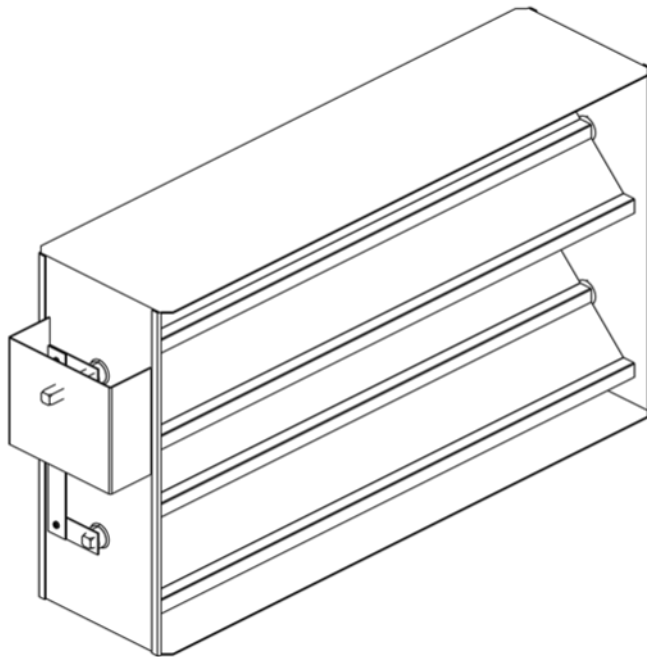
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DIMENSIONS (VCD)



STANDARD NO. OF BLADES



H in mm	Number of Blades
100	1
150	1
200	1
250	1
300	2
350	2
400	2
450	2
500	2
600	3
700	3
800	4
900	4
1000	4
1100	5
1200	5
1300	6
1400	6
1525	7
1600	7
1700	7
1830	8

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VOLUME CONTROL DAMPER (VCD)



PERFORMANCE

Air Performance (VCDF / VCDC)

305mm×305mm		610mm×610mm		914mm×914mm		305mm×1219mm		1219mm×305mm	
Velocity (m/s)	Pressure Drop (Pa)	Velocity (m/s)	Pressure Drop (Pa)	Velocity (m/s)	Pressure Drop (Pa)	Velocity (m/s)	Pressure Drop (Pa)	Velocity (m/s)	Pressure Drop (Pa)
3	2	3	2	3	1	3	1	3	2
5	7	5	3	5	2	5	3	5	6
10	25	10	11	10	11	10	14	10	21
15	58	15	25	15	24	15	32	15	50
20	108	20	47	20	55	20	57	20	92



Rabie Al-Takyeef Factory certifies that the Volume Control Damper Models VCDF and VCDC shown herein are licensed to bear the AMCA Certified Ratings Program seal. The ratings shown are based on tests and procedures performed in accordance with ANSI / AMCA Standard 500-D-18 (Pressure Drop), Figure 5.3 and comply with the requirements of the AMCA Certified Rating Program. The AMCA Certified Rating Program seal applies to Air Performance ratings.

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VOLUME CONTROL DAMPER (WITH TRANSMISSION)

VCDS (WITH CIRCULAR TRANSMISSION)

VCDO (WITH OVAL TRANSMISSION)



VCDS



VCDO

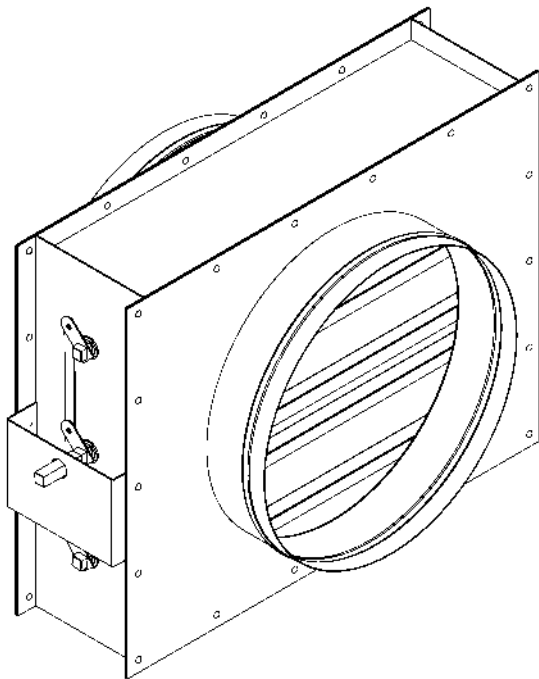
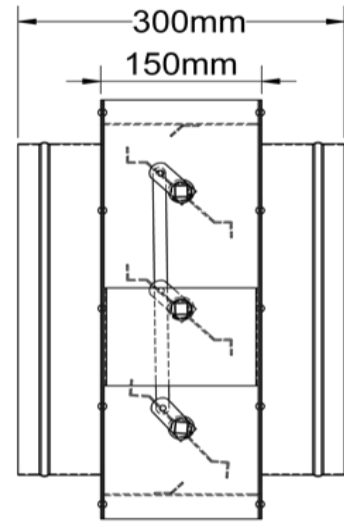
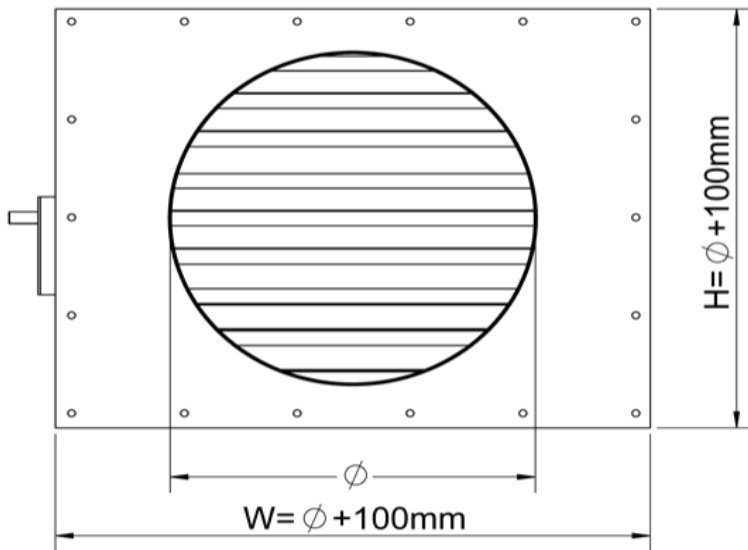
STANDARD CONSTRUCTION

Frame:	Steel Chanel 150×25×1.5mm (16 gauge) galvanized with welded collars on both sides of 75×1.0mm (20 gauge) galvanized steel. Other sizes are available on request.
Blade:	3-V 1.5mm thickness (16 gauge) galvanized steel (Reinforced with 3 longitudinal “structurally designed vees”)
Bushing:	Nylon bearings
Control shaft :	12mm×12mm square steel spindle.
Operation:	Hand Quadrant For manual operation. Electrical Actuator for motorized operation.
Finish:	mill galvanized.
Min size (mm):	100 diameter
Max size (mm):	914 diameter for VCDS 914×508 flat oval for VCDO For larger sizes consult Rabie Al Takyeef Factory

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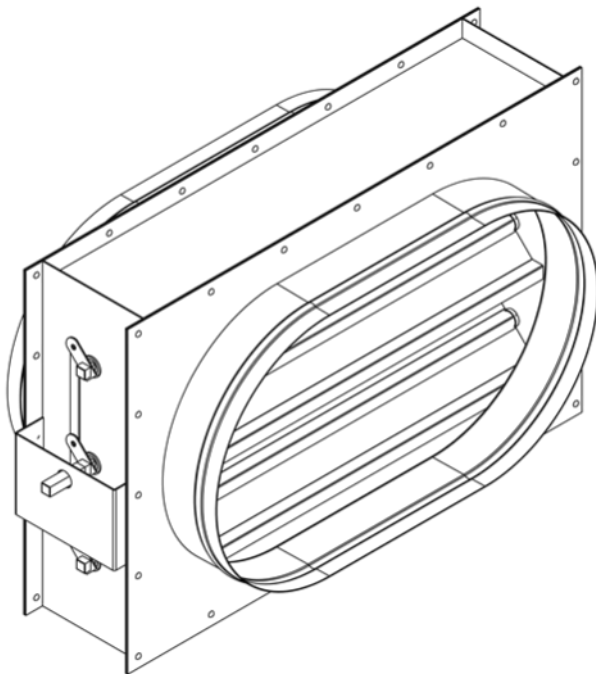
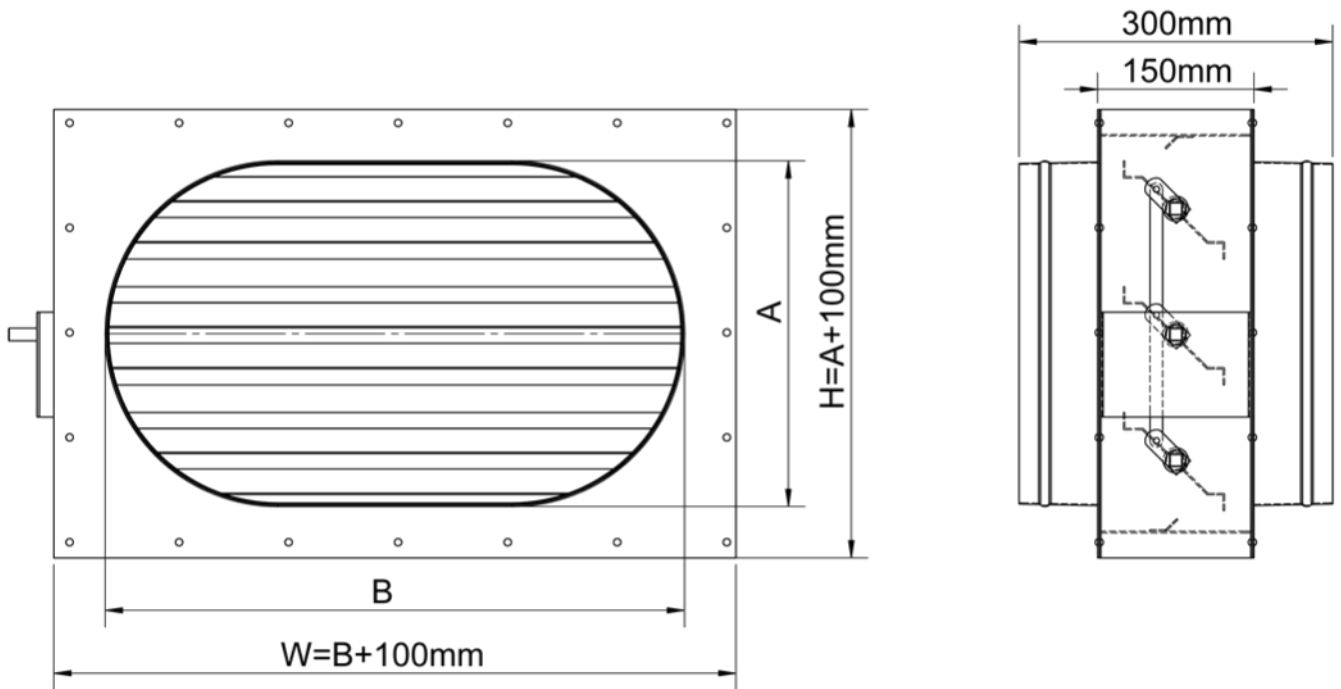
DIMENSIONS (VCDS)



ϕ in mm	Number of Blades
100	1
150	2
200	2
250	2
300	3
350	3
400	3
450	4
500	4
550	4
600	5
650	5
700	5
750	6
800	6
850	6
914	7



DIMENSIONS (VCDO)



Y in mm	Number of Blades
100	1
150	2
200	2
250	2
300	3
350	3
400	3
450	4
500	4
550	4
600	5
650	5
700	5
750	6
800	6
850	6
914	7

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PERFORMANCE

Air Performance (VCDS)

305mm		610mm	
Velocity (m/s)	Press Drop (Pa)	Velocity (m/s)	Press Drop (Pa)
3	2	3	1
5	5	5	5
10	31	10	20
15	71	15	43
20	129	20	77



Rabie Al-Takyeef Factory certifies that the Volume Control Damper Model VCDS shown herein is licensed to bear the AMCA Certified Ratings Program seal. The ratings shown are based on tests and procedures performed in accordance with ANSI / AMCA Standard 500-D-18 (Pressure Drop), Figure 5.3 and comply with the requirements of the AMCA Certified Rating Program. The AMCA Certified Rating Program seal applies to Air Performance ratings



VOLUME CONTROL DAMPER (ROUND TYPE)

VCDR



VCDR-H (WITH HAND QUADRANT)



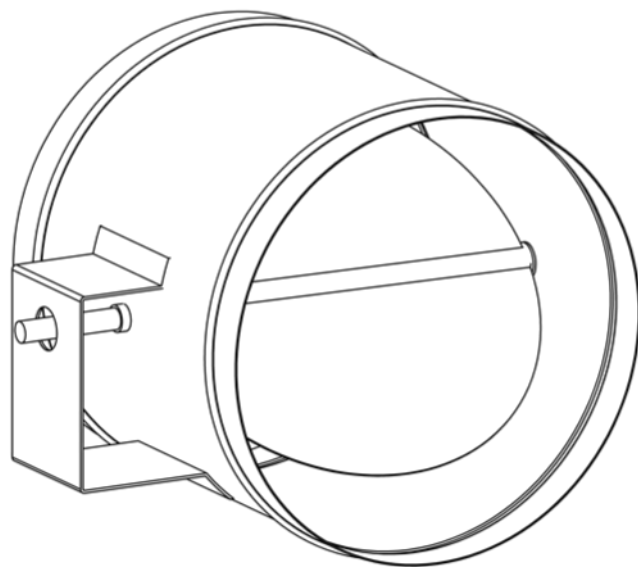
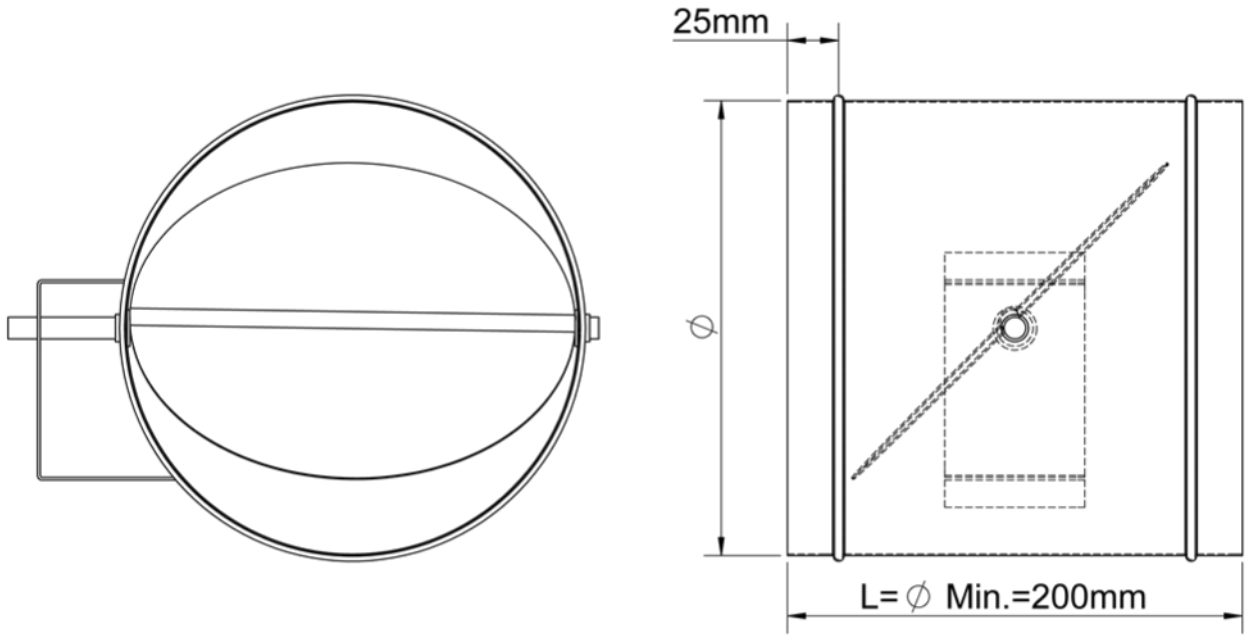
VCDR-M (WITH ELECTRICAL ACTUATOR)

STANDARD CONSTRUCTION

Casing:	1.0mm thickness (20 Gauge) galvanized Steel up to 508mm size and 1.2mm thickness (18 gauge) for up to 610mm size.
Blade:	1.2mm thickness (18 Gauge) galvanized Steel up to 508mm size and 1.5mm thickness (16 gauge) for up to 610mm size.
Bushing:	Brass bearings
Control shaft:	12.5mm round bar steel.
Operation:	Hand Quadrant For manual operation. Electrical Actuator for motorized operation.
Finish:	Mill galvanized.
Minimum size:	100mm in single blade construction.
Maximum size:	610mm in single blade construction. For larger diameters the construction will be of Multiblade type. Consult Rabie Al-Takyeef Factory for details.



DIMENSIONS





PERFORMANCE

Air Performance (VCDR)

305mm		610mm	
Velocity (m/s)	Press Drop (Pa)	Velocity (m/s)	Press Drop (Pa)
3	1	2	1
5	1	3	1
10	4	4	1
15	7	5	1
20	12	10	7

Catalogue ID: VCD-2023 October 2023

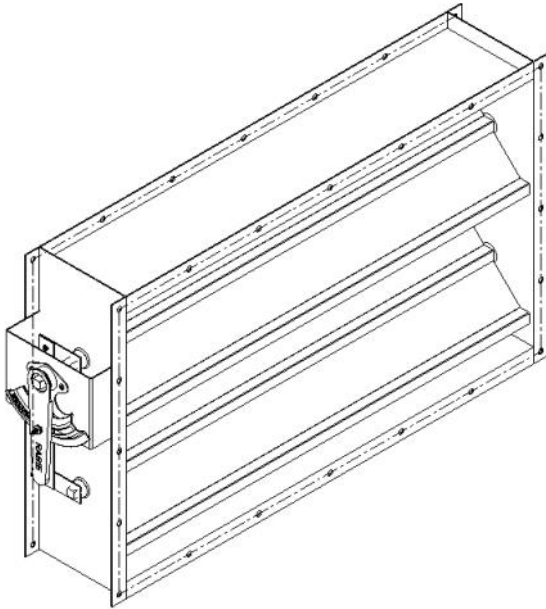


Rabie Al-Takyeef Factory certifies that the Volume Control Damper Model VCDR shown herein is licensed to bear the AMCA Certified Ratings Program seal. The ratings shown are based on tests and procedures performed in accordance with ANSI / AMCA Standard 500-D-18 (Pressure Drop), Figure 5.3 and comply with the requirements of the AMCA Certified Rating Program. The AMCA Certified Rating Program seal applies to Air Performance ratings

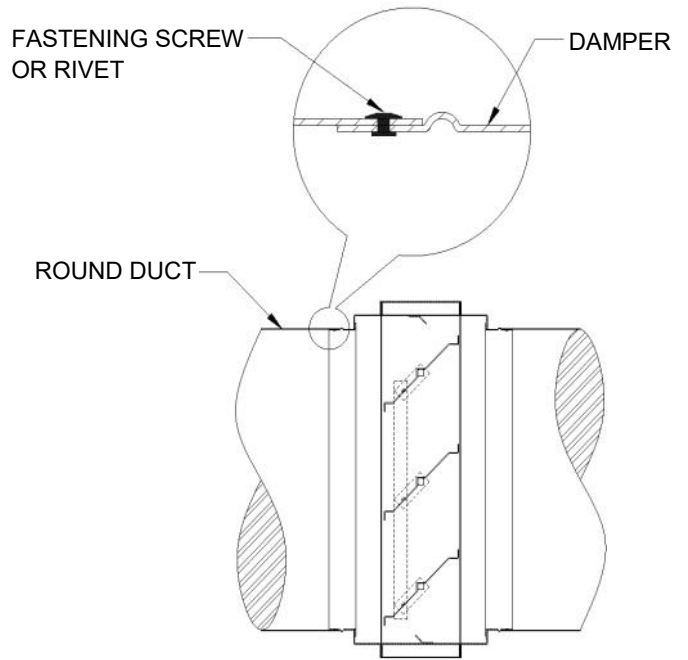


INSTALLATION

Flange Drilling



Circular and Oval



Round

