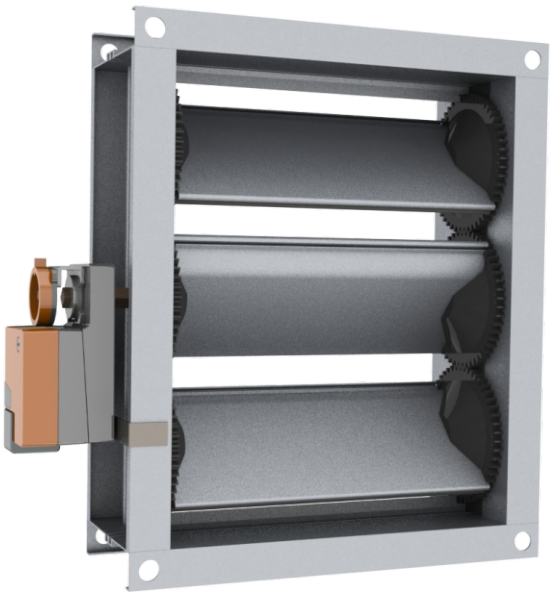
# ALUMINIUM DUCT VOLUME CONTROL DAMPER-MOTORISED.

GLENSTORMS

**Model : GL-VCD-AL-M**

## Introduction

The GI Duct Volume control Dampers have aluminium blades for applications as motorised balancing dampers. A wide range of electric or pneumatic actuators are available for these models. These dampers are typically used in low to medium pressure and velocity systems.



## Ratings:

Velocity : 2000 fpm (10.2 m/s)
Max. Pressure : 4 in. wg (1 P kPa)
Leakage Class: Class I, 8 cfm/ft²@4 in. wg. as per AMCA.
Max. Temperature : 200˚ F (93˚C)

## Optional Features:

Hand Quadrant.
Dampers can also be made of face & bypass configuration.
Silicon rubber blade seal for ultra low leakage.
Available in combination motorised & manual.
.Factory installed actuators.
Position switch.

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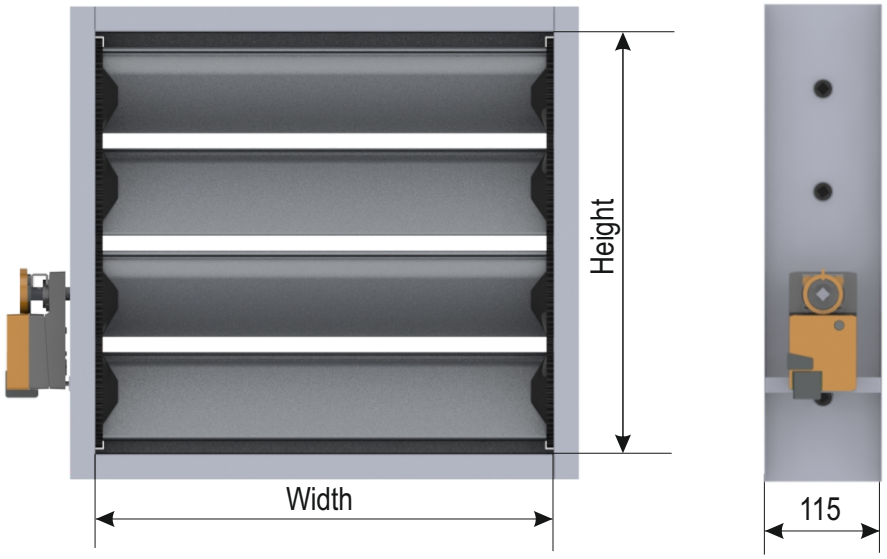
**Model : GL-VCD-AL-E**

## Dimensional Data and Construction:




## Standard Construction & Rating

| | | |
|---|---|---|
| Frame | : | Heavy gauge extruded aluminium, C section, 115 mm depth. |
| Blade | : | Heavy gauge extruded aluminium, Airfoil shape, 100 mm depth with EPDM blade seal. |
| Gear | : | High grade PVC. |
| Linkage | : | Exposed nylon gear. |
| Axles | : | 3/8 in. square plated steel removable control shaft extends 6 in. beyond frame. |
| Pressure | : | 3.0 - 6.0 in. wg- differential pressure. |
| Velocity | : | 2500-6000 fpm |

## Size Limitations:

Minimum size : 150 mm x 150 mm
Maximum size : 1500 mm x 500 mm (in single unit)

**Note- If maximum size is increased (either width or height) it will be made in partition.**

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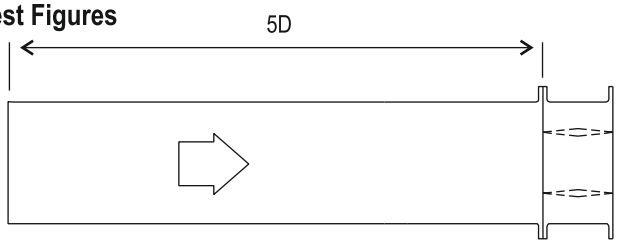
## Performance Chart.

### Pressure Drop Data

This pressure drop testing was conducted in accordance with AMCA Standard 500-D using the three configurations shown. All data has been corrected to represent standard air at a density of 1.201 kg/m3.
Actual pressure drop found in any HVAC system is a combination of many factors. This pressure drop information along with an analysis of other system influences should be used to estimate actual pressure losses for a damper installed in a given HVAC system.

**AMCA Test Figures**




$$D = \sqrt{\frac{4\,(W)\,(H)}{3.14}}$$

**Figure 5.2** Illustrates a ducted damper exhausting air into an open area. This configuration has a lower pressure drop than Figure 5.5 because entrance losses are minimized by a straight duct run upstream of the damper.

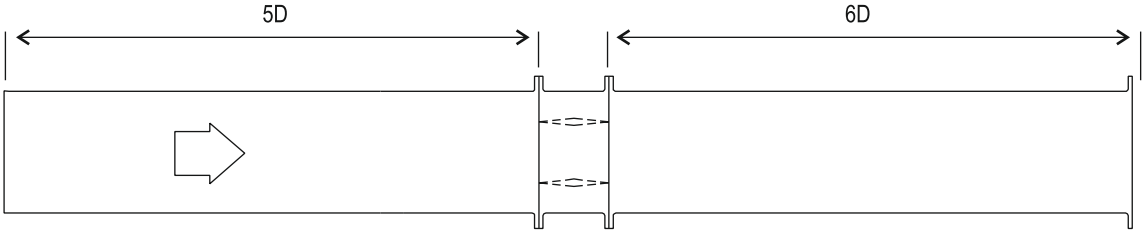



**Figure 5.3** Illustrates a fully ducted damper. This configuration has the lowest pressure drop of the three test configurations because entrance and exit losses are minimized by straight duct runs upstream and downstream of the damper.

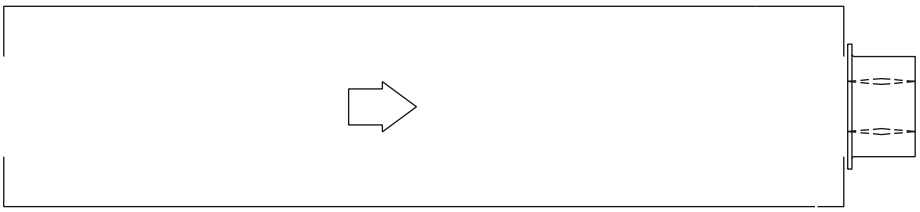


**Figure 5.5** Illustrates a plenum mounted damper. This configuration has the highest pressure drop because of extremely high entrance and exit losses due to the sudden changes of area in the system.

| Dimensions (mm) | 305 X305 | | | 610 X 610 | | | 914 X 914 | | | 305 X 1219 | | | 1219 X 305 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMCA Figure | 5.2 | 5.3 | 5.5 | 5.2 | 5.3 | 5.5 | 5.2 | 5.3 | 5.5 | 5.2 | 5.3 | 5.5 | 5.2 | 5.3 | 5.5 |
| Velocity (m/s) | Pressure Drop (pa.) | | | | | | | | | | | | | | |
| 2.5 | 12.5 | 7.5 | 17.4 | 2.5 | 2.5 | 10 | 2.5 | 2.5 | 5 | 2.5 | 2.5 | 7.5 | 7.5 | 5 | 12.5 |
| 5 | 44.8 | 29.9 | 69.7 | 12.5 | 7.5 | 42.3 | 10 | 5 | 29.9 | 2.5 | 10 | 44.8 | 27.4 | 14.9 | 47.3 |
| 7.5 | 107.1 | 69.7 | 154.4 | 29.9 | 14.9 | 92.2 | 22.4 | 12.5 | 69.7 | 34.9 | 22.4 | 99.6 | 62.3 | 34.9 | 109.6 |
| 10 | 189.3 | 122.1 | 276.5 | 54.8 | 27.4 | 164.4 | 42.3 | 19.9 | 124.5 | 62.3 | 39.9 | 179.3 | 109.6 | 62.3 | 194.3 |
| 12.5 | 296.4 | 191.8 | 430.9 | 84.7 | 42.3 | 259.1 | 64.8 | 32.4 | 194.3 | 97.1 | 62.3 | 279 | 171.9 | 97.1 | 301.4 |
| 15 | 425.9 | 276.5 | 622.7 | 122.1 | 59.8 | 373.6 | 94.7 | 47.3 | 281.5 | 142 | 89.7 | 403.5 | 249.1 | 142 | 435.9 |
| 17.5 | 580.4 | 376.1 | 849.4 | 164.4 | 82.2 | 508.1 | 127 | 64.8 | 381.1 | 191.8 | 122.1 | 550.5 | 338.8 | 191.8 | 592.8 |
| 20 | 757.2 | 493.2 | 1108.4 | 216.7 | 107.1 | 662.6 | 166.9 | 84.7 | 500.7 | 251.6 | 159.4 | 717.4 | 443.4 | 251.6 | 774.7 |