



Young Regulator Co.

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Submit CVDxx 6/2018

CVDxx Constant Volume Damper Adjustable Maximum Flow Control

Application and Design

The CVD - Constant Volume Damper has been designed to provide a pressure-independent maximum airflow. As pressure increases the asymmetrical blade moves to close off the free area which keeps airflow stable over a wide pressure range.

The CVDs have an exterior adjustment mechanism which is easily adjusted by professional installing/balancing contractors. They have been designed to handle up to 4.0 InWC (Medium Pressure Systems) with maximum flows from 25 to 2350 CFM.

Installation is simple, the unit slips inside standard ductwork. Secure with mechanical fasteners. Soft but rugged lip seals ensure a tight fit directly inline with ductwork which may eliminated the need for sealing.

Young Regulator can add a motor to provide two max airflows. (ex. Occupied/Unoccupied) if your job calls for enhanced control.



| CVD - Two Configurations | |
|---|---|
| One Max Flow | Two Max Flows |
| Application: Space Ventilation | Application: Occupied/Unoccupied Ventilation |
| Limit airflow to a preset field adjustable, pressure independent volume | Limit airflow to either of two preset field adjustable, pressure independent volumes |
| No Motor | High Quality Synchronous Motor 24 VAC Std. / 120 VAC available |
| Required Accessories | |
| none Unit is non-electric | Activation Signal from: <ul style="list-style-type: none"> Occupancy Sensor, Current Sensing Relay or T-720A thermostat Transformer |

| Standard Construction | |
|-----------------------------|--|
| Shell | 26 gauge galvanized Stainless Steel available |
| Gasket | Self-Sealing EPDM Lip Seals |
| Asymmetrical Blade | Heavy-duty aircraft aluminum |
| Size Diameter | |
| Low Range | High Range |
| 4,5,6,8,10 | 4,5,6,7,8,10,12,14,16 |
| Operating Limits | |
| Temperature | 0°F to 200°F |
| Pressure | Low See Diff. Pres. Chart High - 4.0 InWC |
| Volume See chart on back | 24 -2350 CFM Setpoint +/- 10% |

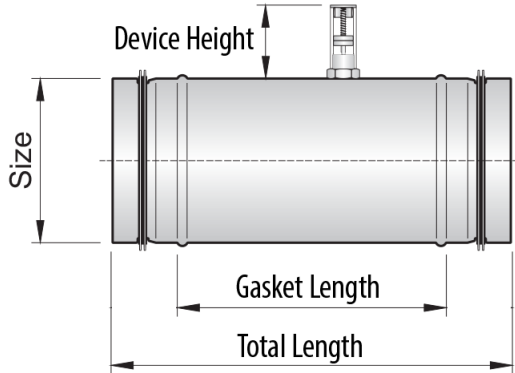
Performance Note:

Young Regulator strongly recommends three duct diameters of straight duct, the same size as the damper, both before and after the unit. Turbulence will degrade performance accuracy.

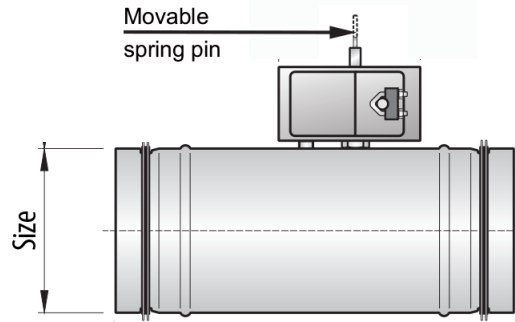
| QUANTITY | DIAMETER | FLOW (CFM) | NOTES |
|------------|----------|------------------|-------|
| | | | |
| | | | |
| | | | |
| PROJECT | | LOCATION | |
| CONTRACTOR | | DESIGN SPECIFIER | |

Physical Drawings

Straight VCD
Provides One Max Flow



Motorized VCD
Provides Two Max Flows

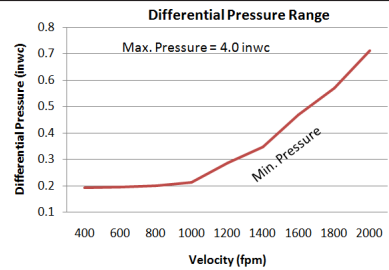


Constant Volume Damper Spec Table

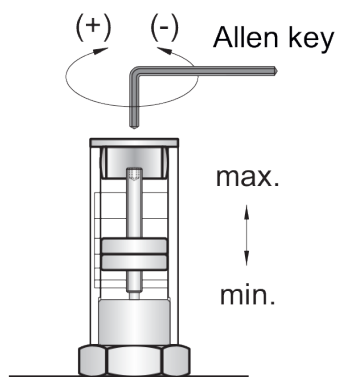
| Nominal | mm | Volume CFM | | | | Total Length | Gasket Length Inches | Device Height |
|---------|-----|---------------|---------------|----------------|----------------|--------------|----------------------|---------------|
| | | CVDxx-Low Min | CVDxx-Low Max | CVDxx-High Min | CVDxx-High Max | | | |
| 4 | 100 | 24 | 74 | 41 | 130 | 9.6 | 8.1 | 2.75 |
| 5 | 125 | 40 | 130 | 59 | 165 | 9.6 | 8.1 | 2.75 |
| 6 | 150 | 60 | 206 | 100 | 265 | 9.6 | 8.1 | 2.75 |
| 7 | 180 | | | 118 | 350 | 12.4 | 10.9 | 2.75 |
| 8 | 200 | 95 | 295 | 147 | 530 | 12.4 | 10.9 | 2.75 |
| 10 | 250 | 140 | 470 | 295 | 940 | 12.4 | 10.9 | 2.75 |
| 12 | 300 | | | 470 | 1650 | 13.6 | 12.1 | 4.33 |
| 14 | 355 | | | 530 | 1880 | 16.3 | 14.8 | 4.33 |
| 16 | 400 | | | 589 | 2354 | 16.3 | 14.8 | 4.33 |

Pressure Range

The CVD begins to regulate flow when the pressure drop across the unit reaches a minimum value. The chart below provides that "Activation Point". The high pressure limit is 4.0 InWC.



Damper Adjustment

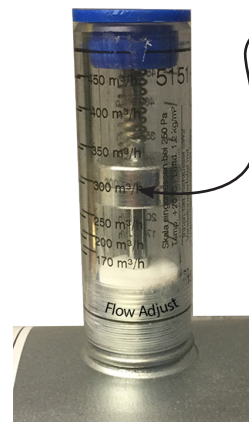


Use a #2 allen wrench to adjust flow rate.

Down = less flow
Up = more flow

Adjustment device

Adjustment Device



Calibrated in M3/hr

To convert CFM to M3/hr
 $M^3/hr = CFM \times 1.7$