



Young Regulator Co.

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Submit CVDxx 6/2018

CVDR-wwxhh

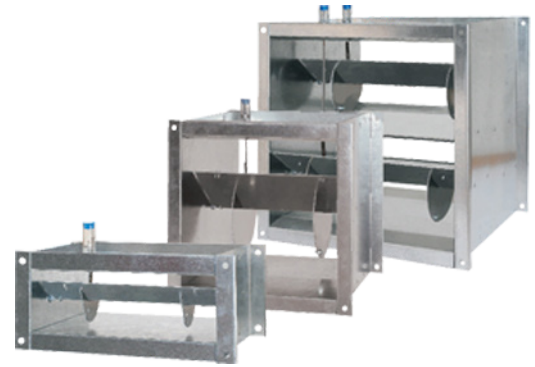
*Rectangular Constant Volume Damper
Adjustable Maximum Flow Control*

Application and Design

Application and Design

The Constant Volume Rectangular Dampers are designed to provide a pressure-independent maximum air flow into or out of a space. These units are installed in both the supply and exhaust side of commercial systems. Most sizes can be fit with a motor to provide two flow settings. (Example: day/night - occupied/unoccupied)

As velocity changes, the asymmetrical angled damper blade self-adjusts to maintain a preset maximum airflow. The system is adjusted at installation by professional installers/balancers over a wide range of desired flows. This is new technology to the U.S. but has been employed in Europe for some time. The system has been designed to be robust with special maintenance-free bearings and a stabilizing piston to prevent vibrations. This allows the units to be installed in all but the harshest environment:

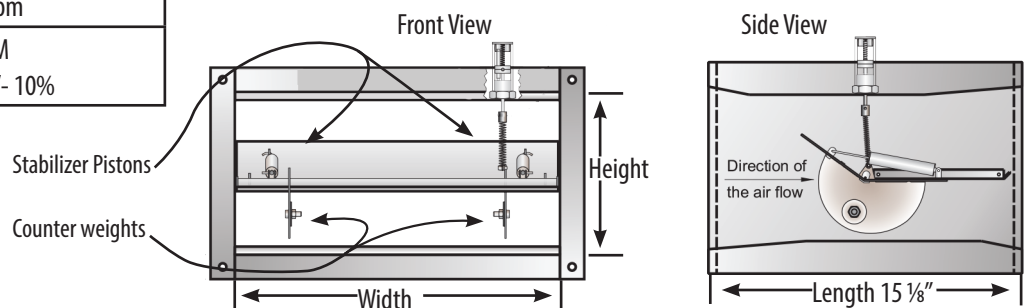


Performance Note:

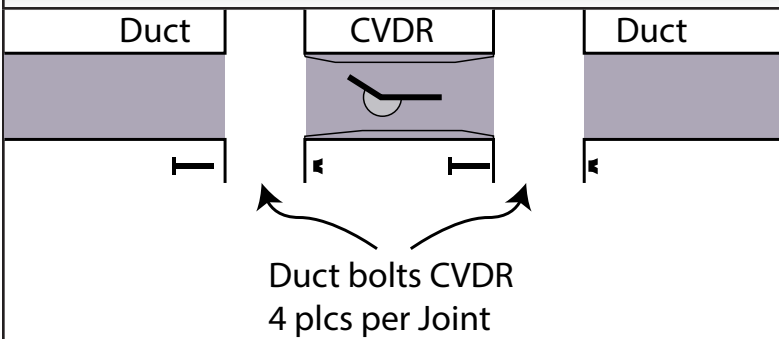
Young Regulator recommends 48" of straight duct, the same size as the damper, before the unit to assure laminar flow. Turbulence will degrade performance accuracy.

Standard Construction	
Shell	24 gauge galvanized Stainless Steel available
Asymmetrical Blade	Heavy-duty aircraft aluminum
Bearings	PTFE Maintenance Free
Size	
6x6 to 24x24	30 Sizes
Height,Width,length See Selection Chart Back	See drawing All units 15 1/8" front to back
Flanges 1 3/4" with corner holes	
Operating Limits	
Temperature	0°F to 200°F
Pressure	Up to - 4.0 InWC
Velocity	500 - 2000 fpm
Volume See chart on back	60 -5900 CFM Set-point +/- 10%

CVDR - 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	Brushless Belimo LM Motor 24 VAC Std. / 120 VAC available 5 year motor warranty
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

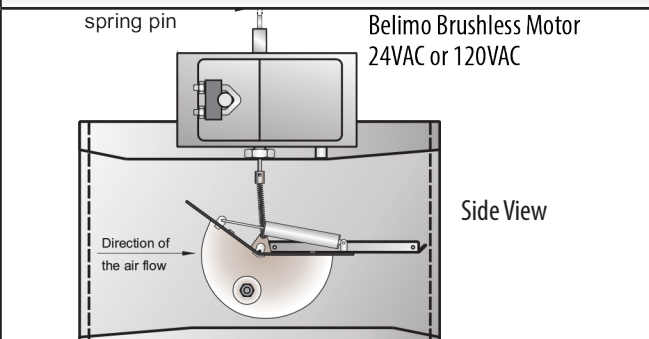


Damper Installation



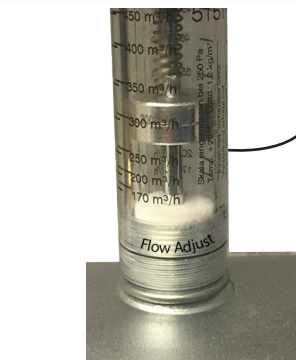
The CVDR is built with heavy 1 3/8" flanges on both the entering and leaving faces of the damper with holes in each corner. Simply drill holes in the **duct flange** and bolt together. Unit should be supported in accordance with professional standards.

Two Flow Option Motorized



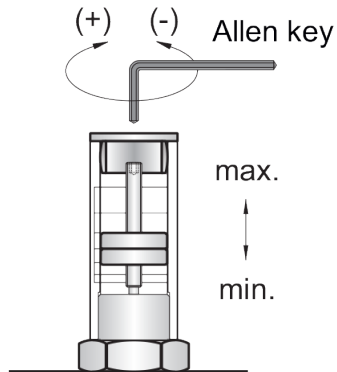
Adding a motor provides a two flow solution. Control with either 24 or 120VAC. Set the default condition to correspond with the off motor cycle. Energize the motor and the blade will move to the higher control point. See table below for size availability.

Damper Adjustment



Calibrated in M3/hr

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



Use a #2 allen wrench to adjust flow rate.

Down = less flow
 Up = more flow

Adjustment device

Available CVDR flow ranges

Width (in) nominal	Height (in) nominal	CFM			
		6	6	120-145	150-205
8	4	120-205	180-350		
	6	150-205	210-320	235-530	
	8	235-380	355-585		
10	6	180-350	235-530		
	8	235-350	355-470	475-820	
	10	380-585	475-765	765-1350	
12	4	130-235	180-350	235-470	
	6	235-470	415-705	765-880	
	8	235-645	590-1000	885-1175	
	10	475-880	765-1585		
14	12	415-705	650-1235	1180-1765	
	6	295-645			
	8	415-705	650-1115	590-1470	
	10	475-880	765-1350	1060-1880	
16	12	885-1295	1180-1765		
	4	180-350	295-645		
	6	355-530	530-765	590-1175	475-1055
	8	355-530	475-880	825-1295	1240-1645
18	10	590-940	885-1585	1180-2060	
	12	650-940	765-11470	885-1765	1475-2530
	16	710-2115	1770-2940	1355-3295	
	8	530-1000	885-1470		
20	10	590-1175	765-1470	1295-2350	
	12	590-1000	885-1470	1180-2470	2060-2645
	8	590-1320	1180-2060		
	10	765-1470	1180-2115	1475-2530	
22	12	590-1000	885-1765	1475-2350	2120-3235
	16	1180-2645	2355-4120		
	20	1530-2940	2355-4235	2945-5060	
	10	765-1470	1180-2350		
24	6	590-1470	885-2060	1475-2645	
	10	885-2060	1180-2940		
	12	885-1765	1475-2645	2650-3825	
	16	1180-2940	1770-4120	2945-5295	
	20	1770-4120	2355-5885		
	24	1770-3530	2945-5295	5300-7650	

QUANTITY	SIZE (WXXHH)	FLOW (CFM)	NOTES
PROJECT			LOCATION
CONTRACTOR			DESIGN SPECIFIER