



Constant Air Volume Control  
**CAV HP**



At Gerhman we are driven by a strong desire to continuously generate improvements. We do that by developing products and systems that are easy to use and energy efficient, together with industry-leading knowledge, support, logistics and efficient availability.



[gerhman.com](https://gerhman.com)

## Constant Air Volume Control



### CAV HP

regulators are used for automatic constant air flow control in ventilation installations. They maintain constant air volumes regardless of the changes of static pressure in the ventilation duct. They operate automatically, without any external power supply. Regulation range is from 2 to 12 m/s, operating pressure from 50 to 1000 Pa. Complies with EN 1751 casing air leakage has class C, close blade air leakage has class 0. The changes of set values can be made independently by the user, so the regulator is delivered with default factory settings. It is possible to order factory-made value settings, which should be indicated in the order code.

#### Advantages

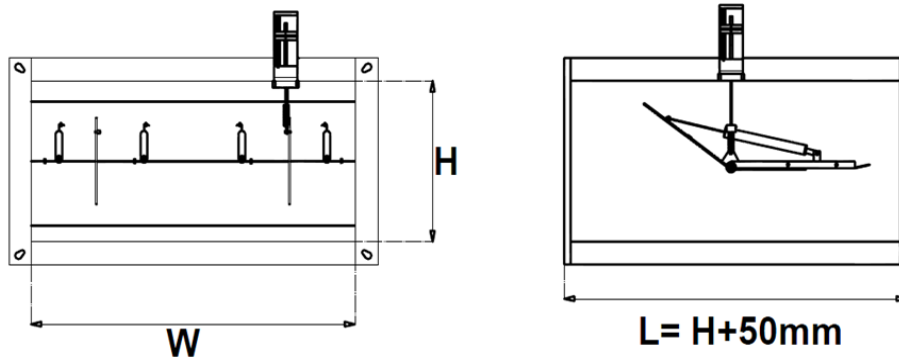
The regulator makes it possible to control the air flow within the pressure range from 50 to 1000 Pa, without any external power supply. The standard version of the regulator has the housing and the baffle made of galvanized steel, whereas the baffle axis is fastened in brass bearings. The special version of the regulator made of AISI304L stainless steel can be ordered. In accordance with EN1751, the housing leakage class is C. Due to intuitive adjusting mechanism, any flow rate maintained by the regulator can be set by the user independently.

#### Main Advantages

- Operating range 2 – 12 m/s
- Operating pressure 50 – 1000 Pa
- The possibility of changing settings by the user
- The possibility of making the version with an actuator
- Complies with EN 1751 air leakage has class C0
- It can be used both in ventilation air supply and air extraction ducts
- It can be mounted both vertically and horizontally
- It can be made with a seal on the service lines
- Round or rectangular options
- Scale accuracy  $\pm 10\%$
- Operating temperature 10 – 80 °C

# Technical Data

## General Sizes and Quick Selection

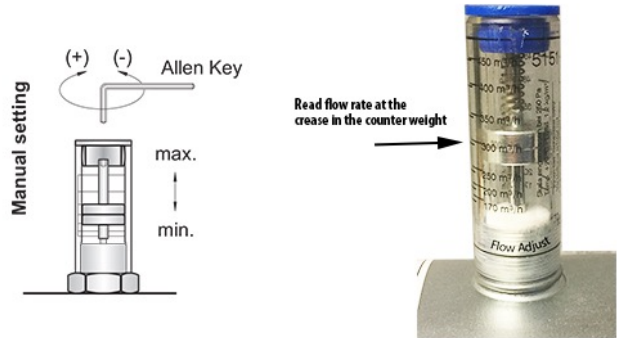
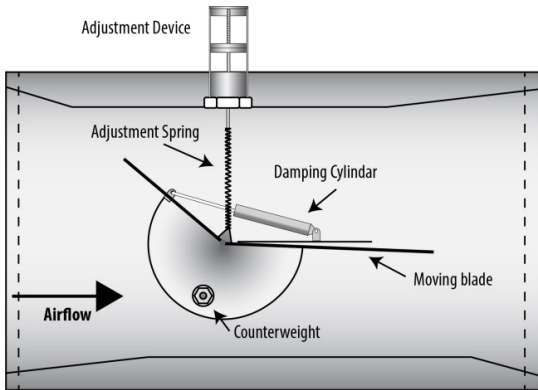


Dimensions

Height (H)	Width (W)									Length (L)
	100	200	300	400	500	600	800	1000	1200	
100		•								220
200		•	•	•						220
300			•	•	•	•				320
400				•	•	•				380
500					•	•	•			425
600						•	•	•	•	475

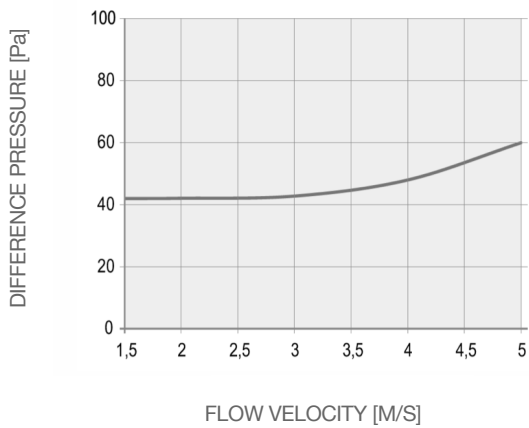
Model H x W	Recommended air volume					
	l/s		CFM		m <sup>3</sup> /h	
	Min	Max	Min	Max	Min	Max
100 x 200	60	180	120	383	220	650
200 x 200	120	360	254	762	432	1296
200 x 300	180	540	381	1144	648	1944
200 x 400	240	720	508	1525	864	2592
300 x 300	270	810	572	1715	972	2916
300 x 400	360	1080	762	2290	1296	3888
300 x 500	450	1350	950	2290	1620	4860
300 x 600	540	1620	1144	3431	1944	5832
400 x 400	480	1440	1016	3049	1728	5184
400 x 500	600	1800	1271	3812	2160	6480
400 x 600	720	2160	1525	4574	2592	7776
500 x 500	750	2250	1588	4765	2700	8100
500 x 600	900	2700	1906	5718	3240	9720
500 x 800	1250	3600	2545	7633	4320	12960
600 x 600	1080	3240	2291	8246	3890	14000
600 x 800	1440	4320	3051	9159	5180	15550
600 x 1000	1800	5400	3816	11450	6480	19440
600 x 1200	2160	6480	4582	13740	7780	23330

# Technical Data



- Insert a 2 mm allen key through the small hole in the top of the adjustment device.
- CW Increases the flow
- CCW Decrease flow
- The device is calibrated in M3/hour

MINIMUM STATIC PRESSURE DIFFERENCE DIAGRAM



- Constant volume flow controller with proof plug connection (only fitting measure)
- Automatically regulating without auxiliary energy
- Customers can change the amount of air by manual adjustment



**General:**

- Minimum static pressure drop over the control  $P_{min}$  in Pa
- Sound power  $L_w$  in dB in the octave bands at a reference value of 10-12 Watt.
- The selection table shows the  $L_w$  and  $L_p$  values for discharge sound. The sound pressure levels  $L_p$ , dB(A) stated have taken into account the attenuation of a silencer and a ceiling diffuser with plenum box.
- The adopted room attenuation is 10dB. If the actual value is lower, the dB(A) values have to be corrected.
- Note: the  $L_w$  values have been measured with one end nozzle of the duct in the free room. (i.e. including end reflection). For rooms with a low sound level (<25dB(A)), hard surfaces, light walls etc. consult an acoustic consultant.
- The available pressure drop across the unit has to be minimal 50 Pa. Interpolation of intermediate values is acceptable.

**Authority**

To ensure accuracy of the unit, the pressure drop across the damper should be at least equal to the total pressure drop behind the unit (duct plus grilles, diffusers).

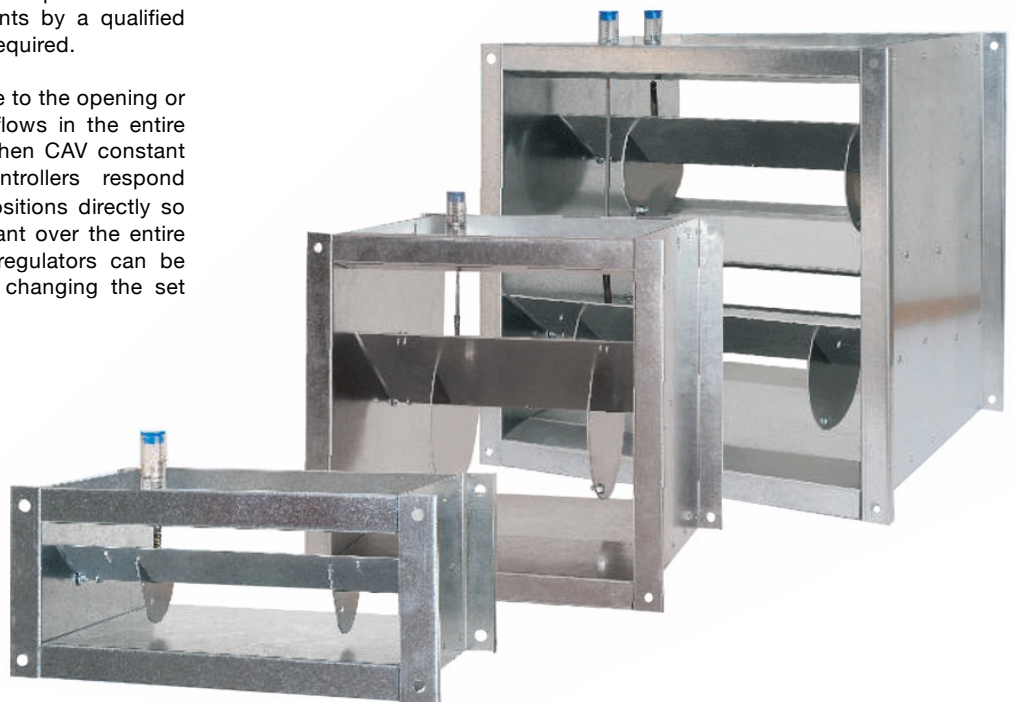
**Commissioning**

The advantage over conventional dampers is that repeated measurements and adjustments by a qualified commissioning engineer are no longer required.

If the system pressure changes, e.g. due to the opening or closing of duct sections, the volume flows in the entire system change; this is not the case when CAV constant flow regulators are used. The controllers respond immediately and adjust the damper positions directly so that the set volume flow is held constant over the entire differential pressure range. The CAV regulators can be supplied with an electric actuator for changing the set value.

**Installation instructions**

- CAV constant flow regulators are adjusted for the entire scaled application area.
  - To install the regulator, a straight inlet section which is at least three times as long as the nominal width and a straight outlet section which is at least 1.5 times as long as nominal width is required. Installation directly downstream or upstream of flow disruption points (bends, branches, etc.) reduces the control accuracy.
  - The volume flow set point is adjusted during installation. This does not affect the control accuracy.
  - The basic version is adjusted manually by setting the pointer to the required set point on the scale and fixing this setting.
  - Dual controller: If the duct cross section is larger than the available controller size, two or more CAV can be installed in parallel. The volume flow must be distributed in such a way that the same flow velocity is configured for each controller.
- Suitable metal plates for connecting the flanges and compensating for differences in length must be provided on site. Sound power levels must be added up.
- CAV constant flow regulators and sound attenuators are supplied individually. Assembly on site!



# Accessories

## Silencer

For reduction of internal flow noise. Sound attenuator length 500-750-1000-1500 mm.  
For performance details check model K100 and R01 silencer catalogue.



K100



R01

Quick Selection		Model: K100				
Maximum possible reduction of flow noise in [dB]						
width [mm]		200	300	400	500	600
No. Of splitters		1	1	2	2	3
height [mm]	100	-	-	-	-	-
	150	-16	-10			
	200	-16	-10	-16	-12	-15
	250		-10	-16	-12	-16
	300		-10	-16	-12	-15
<b>Total Length L: 1000 mm</b>						

Quick Selection		Model: R01	
Maximum possible reduction of flow noise in [dB] with a			
Size	Outer diameter	L [mm]	
DN	Ø [mm]	750	1000
100	200	-22	-
125	225	-22	-25
140	240	-22	-25
160	260	-22	-24
200	300	-19	-24
250	355	-18	-22
315	415	-17	-20
400	500	-15	-20

db

## Reheat Coil

- Separately deliverable for reheat of air volume
- Casing made of galvanised sheet steel
- Flanged on both ends
- Copper tubes and aluminium fins
- Generally two rows
- Maximum operating pressure 16 bar
- For warm water up to 100 °C
- Water connections horizontal, air venting by customer







## Constant Air Volume Control **CAV HP**



• +90 0850 303 4766



• [info@gerhman.com](mailto:info@gerhman.com)



• [gerhman.com](http://gerhman.com)