

Air through perfection

# Volume control damper

# VCD



**ACP**  
Airflow regulation dampers

## Volume control damper VCD



### Description

VCD is a rectangular aluminum damper with opposable blades.  
The rectangular damper is mounted on the sections of rectangular duct or wall.

### Technical specifications

#### Characteristics

The damper is made by manual or electric drive.  
According to EN 1751 the damper is class 2 sealing.  
The width of the blade is 100 mm and is not adjustable.  
The blades are parallel to the length.  
The product is provided with a sealing gasket positioned on the frame and blades.  
The manual operation system has a locking element.  
The operating handle/servomotor operates the opening/closing of the blades by means of a 12 x 12 mm shaft.  
Mounting the servomotor on the support plate is easy.  
Dimensional limits: LxH int = min 200x110 mm and max 2800x2010 mm (with stiffening)

### Materials

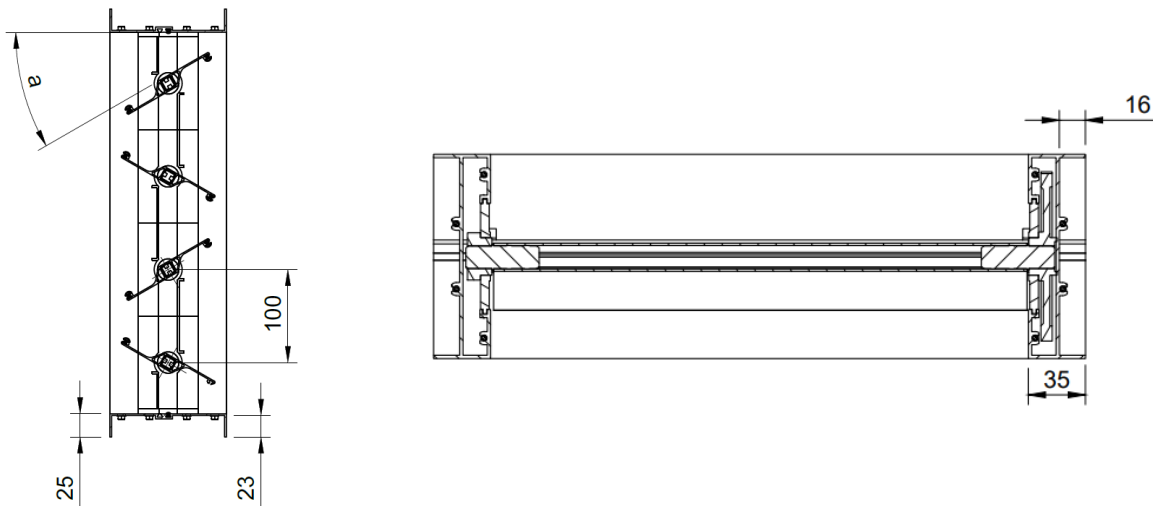
The product is made of natural extruded aluminum profiles (frame, drive mechanism and blade) with gears and polypropylene accessories.

The gasket is made of TPE and PP.

### Maintenance

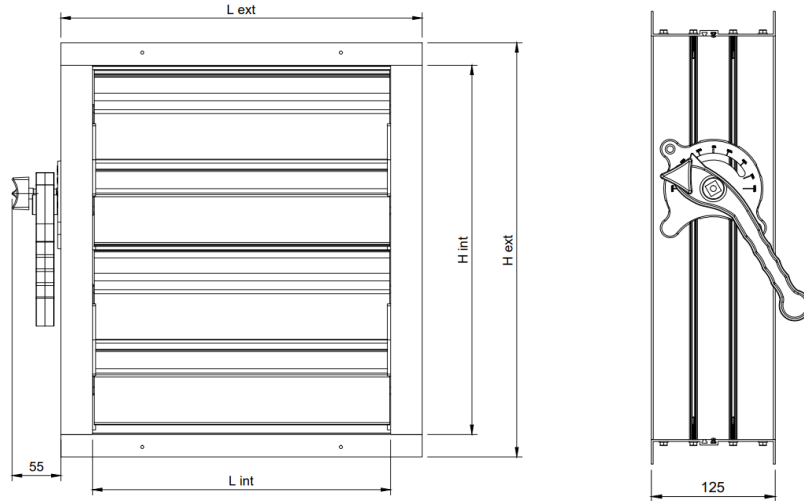
The damper does not require maintenance. The operating system must be checked in the open/closed positions at least once a year.

### Technical drawing

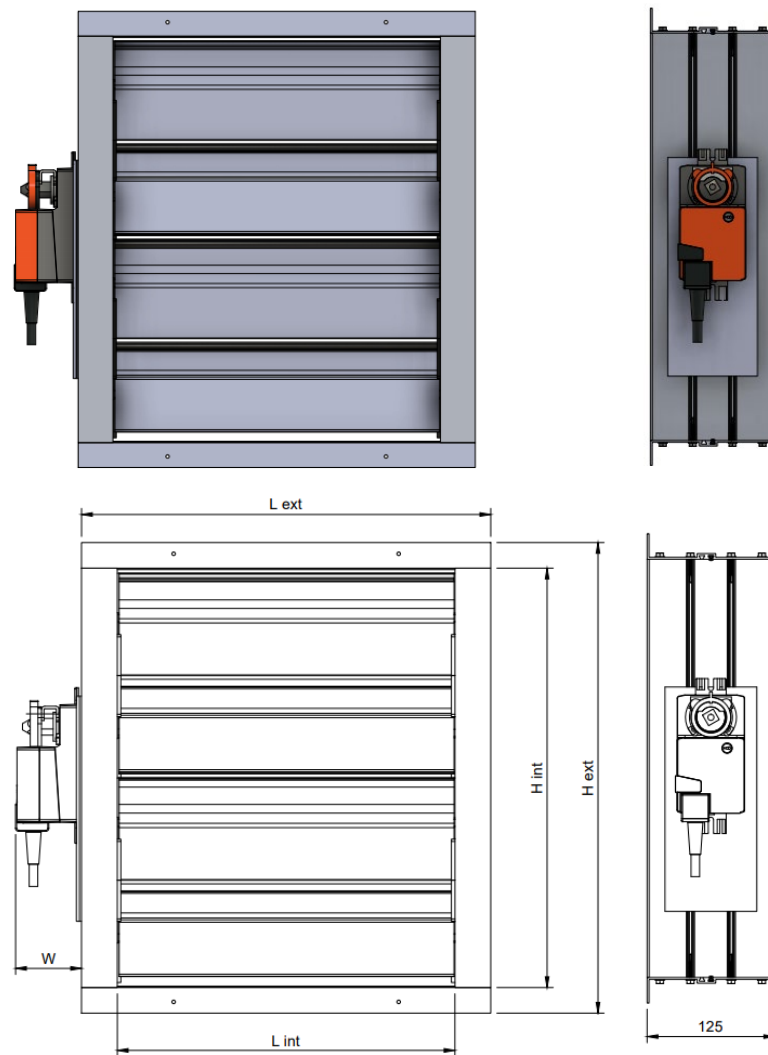


### Manually operated damper (VCD)





Electrically operated damper (VCD-S)



The servomotor mounted on the VCD-S is ordered separately.

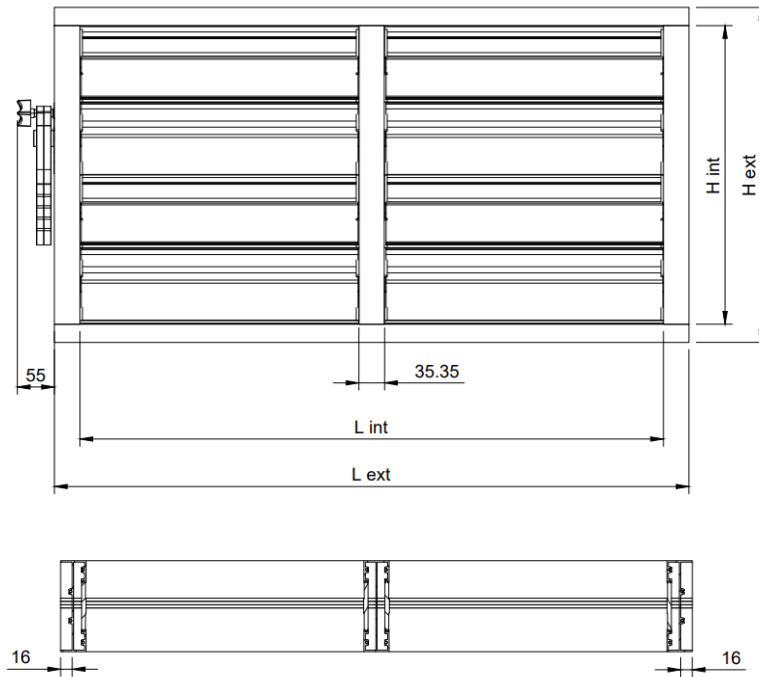
The W dimension is given by the servomotor.

Product specifications

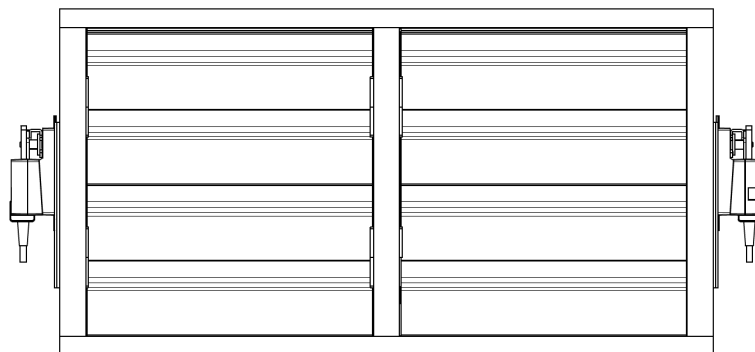
Dimensional limits of execution

Dimensional limits: LxH int = min 200x110 mm and max 2800x2010 mm (with stiffening).

Regardless of the type of drive (manual or electric), the dampers with L int > 1400 mm are made with a stiffening system according to the drawing below.



Electrically operated dampers with an area  $\geq 4$  sqm require 2 servomotors according to the drawing.



## Accessories

The product can be delivered with Belimo servomotor. The servomotor is selected according to the damper size, supply voltage, safety function and other technical specifications mentioned in the project.

### Belimo servomotor



Dampers [m <sup>2</sup> ]	Actuator type	Supply voltage AC/DC 24V	Torque	Running time 90°
up to 1 m <sup>2</sup>	Belimo LM 230A	230 V	5 Nm	150 s
	Belimo LM 230A-S			
	Belimo LM 230A-SR			
	Belimo LM 24A	24 V		
	Belimo LM 24A-S			
Belimo LM 24A-SR				
up to 2 m <sup>2</sup>	Belimo NM 230A	230 V	10 Nm	150 s
	Belimo NM 230A-S			
	Belimo NM 230A-SR			
	Belimo NM 24A	24 V		
	Belimo NM 24A-S			
Belimo NM 24A-SR				
up to 4 m <sup>2</sup>	Belimo SM 230A	230 V	20 Nm	150 s
	Belimo SM 230A-S			
	Belimo SM 230A-SR			
	Belimo SM 24A	24 V		
	Belimo SM 24A-S			
Belimo SM 24A-SR				

The required torque depending on the size of the damper is given in the table below. Dampers with  $H_{int} \gg L_{int}$  requires a servomotor with higher torque.

		Torque [Nm]										
H int [mm]	L int [mm]											
	200	300	400	500	600	700	800	900	1000	1100	1400	
110	5 Nm											
210												
310												
410												
510	10 Nm											
610												
710												
810												
910												
1010												
1010												

## Functional parameters

Discharge area $A_k$ [m <sup>2</sup> ]											
H int [mm]	L int [mm]										
	200	300	400	500	600	700	800	900	1000	1100	1400
110	0.016	0.024	0.036	0.047	0.056	0.067	0.073	0.085	0.095	0.104	0.129
210	0.030	0.050	0.067	0.087	0.101	0.121	0.138	0.159	0.178	0.197	0.251
310	0.047	0.079	0.105	0.134	0.159	0.184	0.210	0.238	0.263	0.290	0.371
410	0.062	0.104	0.141	0.173	0.210	0.245	0.279	0.315	0.351	0.386	0.492
510	0.079	0.130	0.173	0.216	0.261	0.301	0.350	0.393	0.435	0.480	0.610
610	0.099	0.155	0.209	0.260	0.311	0.359	0.415	0.470	0.521	0.575	0.729
710	0.110	0.180	0.242	0.300	0.361	0.424	0.483	0.539	0.607	0.668	0.849
810	0.128	0.205	0.269	0.341	0.416	0.484	0.552	0.619	0.693	0.761	0.969
910	0.134	0.219	0.312	0.386	0.466	0.543	0.621	0.700	0.778	0.856	1.080
1010	0.159	0.255	0.335	0.431	0.518	0.604	0.690	0.777	0.864	0.949	1.215

a	V [m/s]	1	2	3	4
0°	NR [dB(A)]	<30	<30	38	43
	$\Delta Pt$ [Pa]	<5	<5	<5	<5
40°	NR [dB(A)]	39	54	60	69
	$\Delta Pt$ [Pa]	18	65	102	175

The legend

$A_k$  [m<sup>2</sup>] - The free surface

$\Delta Pt$  [Pa] - Pressure loss

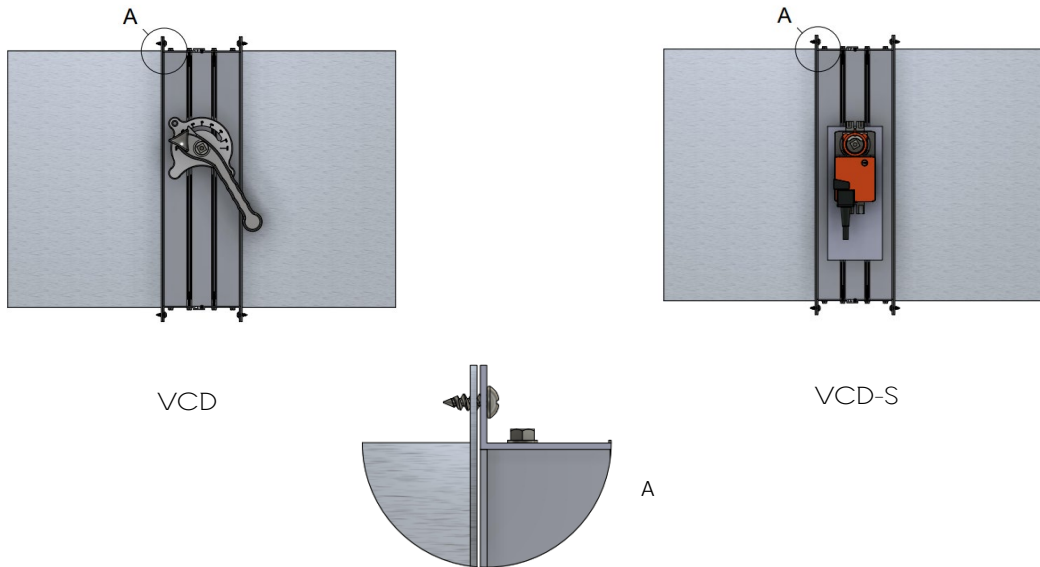
NR [dB (A)] - Noise level without room attenuation

a - The angle of the blade

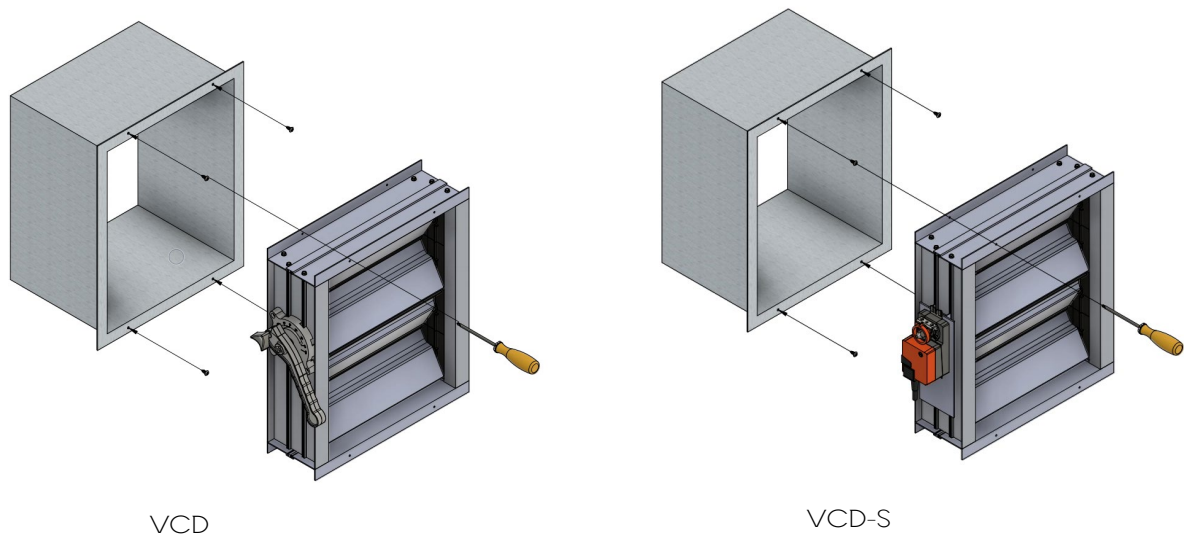
## Installation

The damper can be mounted at the end of rectangular ducts, between two sections of rectangular ducts or on the wall. Fastening is done with screws.

### Installation between duct flanges



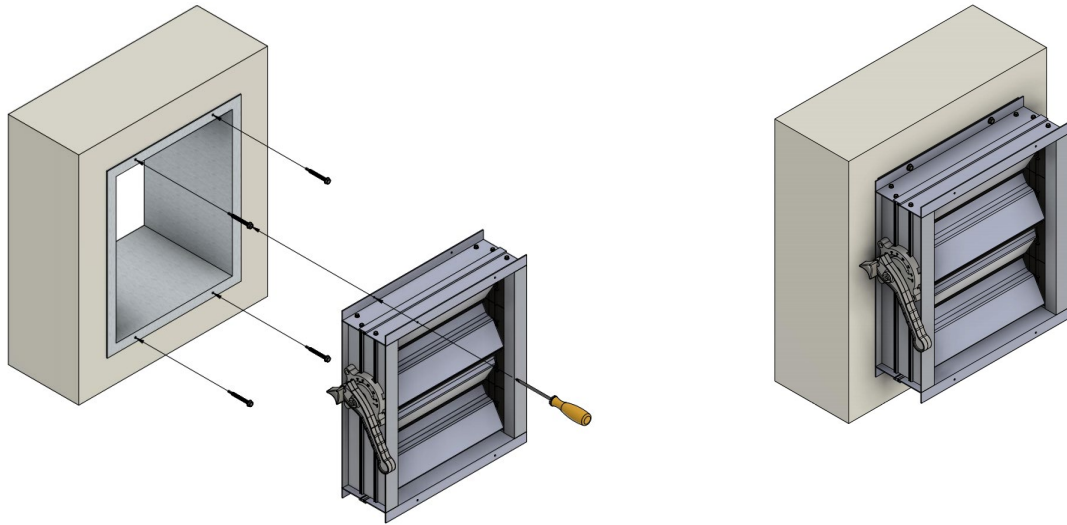
### Rectangular duct end assembly



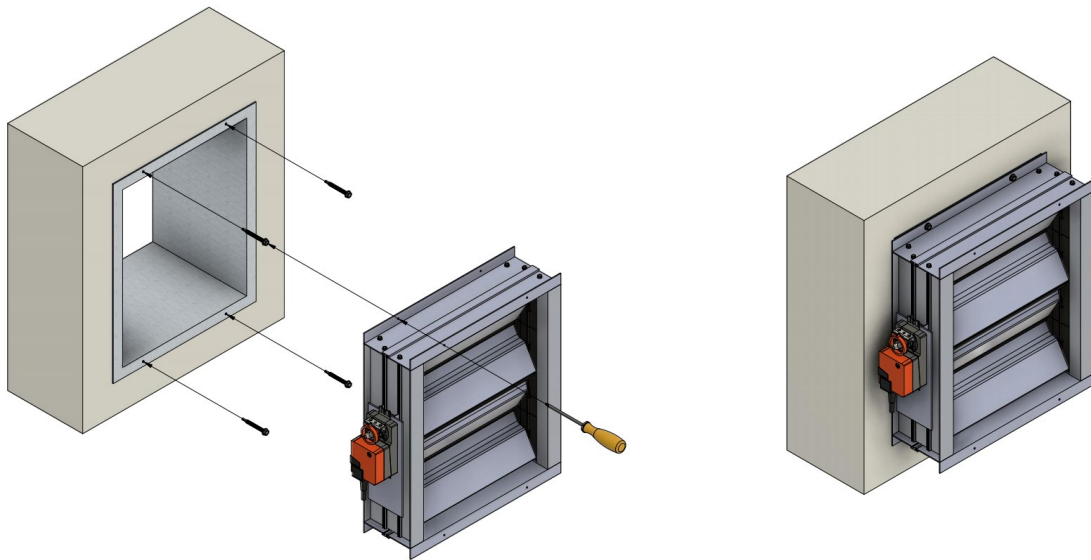


Wall mounting

VCD



VCD-S



Order code

Example on how to place an order

Type	Dimensions	Accessories
VCD		
VCD-S		
On request		
Servomotor		