

## 2. VCD – Opposed Blade Damper (Balancing only)

### Introduction

For duct installations to balance/regulate airflows all spindles revolve in low maintenance nylon bushes which are fitted within pressed inserts. Precise blade positioning is achieved via a robust dual-purpose quadrant and spindle assembly, operating the linkage mechanism which is located outside of the airstream.

The quadrant assembly is designed to facilitate simple conversion to motorisation with an additional component of a new spindle.

### Construction

The standard case construction is aluminium throughout, blades are 50mm aerofoil design and come with tear drop pre-punched flange connection holes or with galvanised spigots for round ductwork.

### Sizes

Infinite sizing capability from 100mm<sup>2</sup> to 750mm<sup>2</sup> and from 100mm diameter to 750mm diameter.

### Specifications

Unless stated otherwise, flange models are suitable for use in DW144 low pressure system to balance airflow legs connected to single diffuser.

### Blades

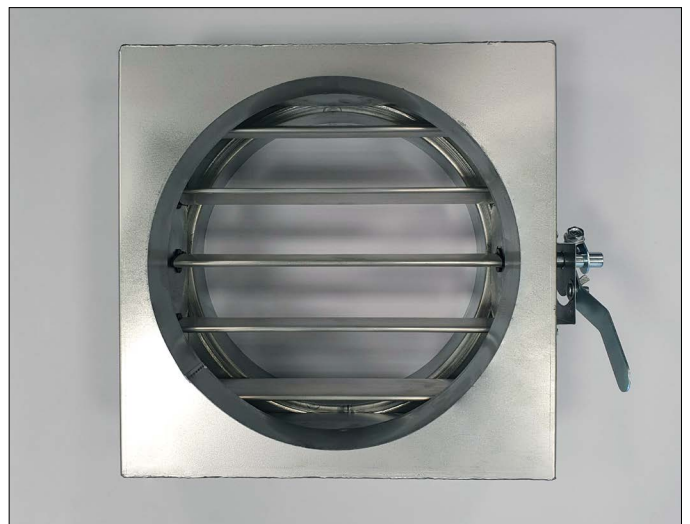
The 50mm wide extruded aluminium airfoil section blades are fitted to 12.5mm diameter spindles. All models are available with opposed blades.

VCD



The VCD is the preferred choice to the single blade damper see p.14, which is approved by DW 144, however an opposed blade damper offers far more precise control.

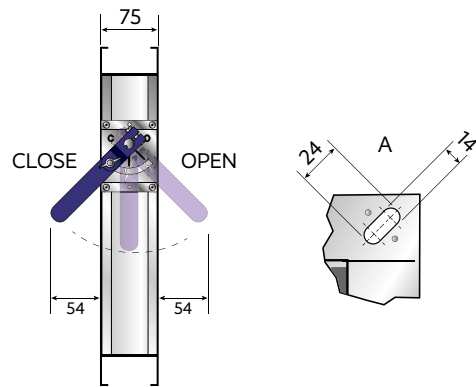
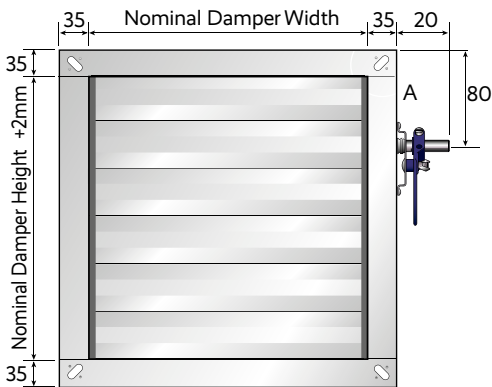
VCD-R



VCD-R dampers are opposed blade using 50mm aluminium aerofoil (low resistance blades) which makes an ideal solution to a balanced system with control available to above 90%.

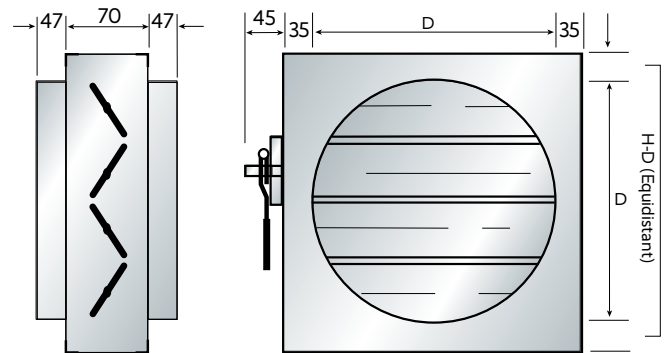
## Dimensions

### Standard VCD



<b>W x H</b>	100mm to 750mm square
<b>B</b>	20mm, 25mm and 30mm to order (35mm standard)
<b>*</b>	35mm flange – 25mm spindle protrusion
<b>Depth</b>	75mm square – 70mm round

### VCD-R



D = 100mm to 750mm diameter

VCD/R	Depth (D) Ø	Width (W)	Height (H)
95	165	165	165
120	190	190	190
145	215	215	215
195	265	265	265
245	315	315	315
295	365	365	365
310	380	380	380
345	415	415	415
395	465	465	465
445	515	515	515
495	565	565	565
545	615	615	615
595	665	665	665
645	715	715	715
695	765	765	765
745	815	815	815

## Multiple Assemblies (Multiple drives)

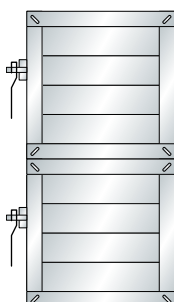
Illustrated below are several variants of multiple section units. Where sizes exceed 750mm square, multi-section units can be supplied.

All multiple units are shipped as individual sections for site assembly by others. Unless requested, joining strips would not normally be supplied drilled.

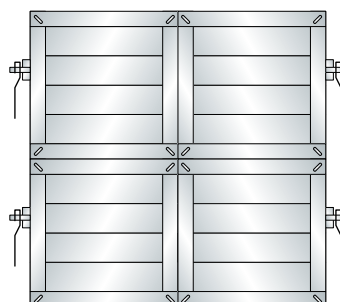
VCD dampers can be installed in the vertical or horizontal position. It is recommended that for sizes greater than 750mm width or height, the HD/LL Damper is used (see page 4).

**A.** Can be up to 750W × 1500H, **B.** Can be up to 1500H × 750W, or **C.** up to 1500W × 750H (multiple drive).

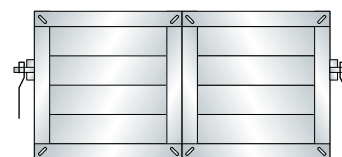
**A.** Up to 750W × 1500H



**B.** Up to 1500W × 1500H



**C.** Up to 1500W × 750H

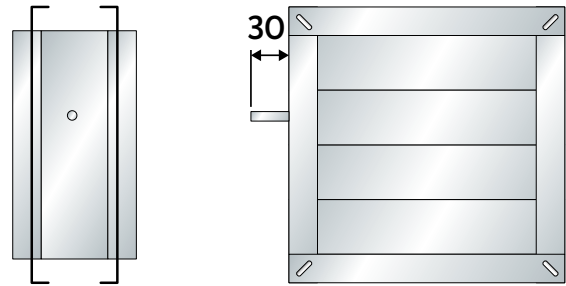


## Control Options

Hand control is standard.

### Option ES – Extended Spindle

When the specification requires the VCD Damper to be supplied for motorisation by others, AMS supplies the damper with a 12.5mm diameter spindle, 50mm in length, based on a 35mm flanged damper.



### Option EM – Electric Motor

The VCD Damper can be supplied with the following control motors fitted:

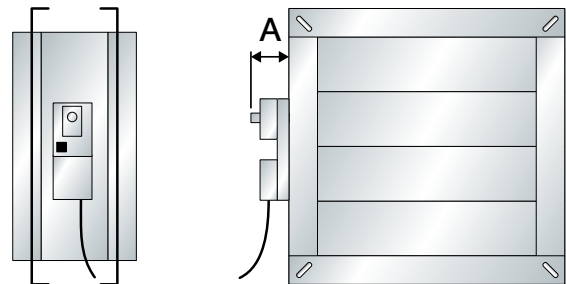
Open/Close operation:

A = 70mm, 15Nm

A = 80mm, 30Nm

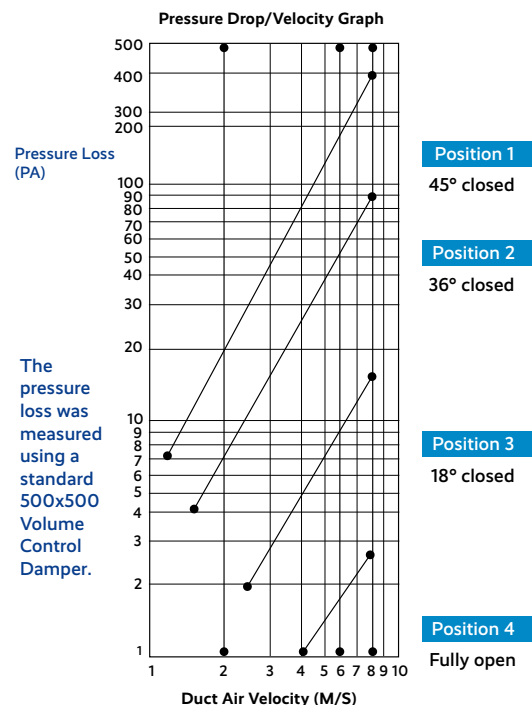
Spring Return operation:

A = 95mm, 15Nm



## Performance, Weight and Torque Data

### Performance Characteristics



### Torque Chart

Differential pressure (Pa)	Damper Size (mm)					
	200 × 200		500 × 500		750 × 750	
	Nm	lb/ins	Nm	lb/ins	Nm	lb/ins
500	2.0	18.0	4.0	35.0	7.5	66.0
1000	4.0	35.0	7.0	62.0	10.0	88.0

### Weight Chart (kg)

Damper height (mm)	Damper Width (mm)					
	200	300	400	500	600	750
100	1.5	2.0	2.5	3.0	3.5	4.0
200	2.5	3.0	3.5	4.0	4.5	5.0
300	3.0	4.0	4.5	5.5	6.0	6.5
400	4.0	5.0	6.0	6.5	7.5	8.5
500	4.5	5.5	6.5	7.5	8.5	9.5
600	5.5	6.5	7.5	9.0	10.0	11.0
750	6.0	7.5	9.0	10.5	12.0	13.0

