TECHNICAL DATASHEET

1400 Slimline Volume Control Damper

Advanced Air (UK) Ltd

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1400
Slimline Volume Control Damper

The 1400 Slimline Volume Control Damper is a versatile, compact solution to balance airflow in a ductwork system.

Flanges can be supplied to match most flange systems and the corner slot allows for alignment problems on site.

The damper can be supplied hand operated which allows the damper to be locked in to position and is tamper proof. Alternatively the damper can also be supplied with bare shaft suitable for motorisation.

Features and Benefits

- Opposed blade operation.
- Blades factory-fitted with polypropylene end caps.
- Fully sealed, semi-sealed and unsealed models.
- Manual, motorised and bare shaft options.
- Fully tested for leakage, sound and airflow performance.
- Positive, side-mounted drive linkage ensures accurate airflow control.
- Sizes from 100 to 1,000mm, and multi-module assemblies.
- Manual operator includes position indicator and tamper-proof lock.
- Flanged or spigotted case.

Unsealed



Semi-sealed



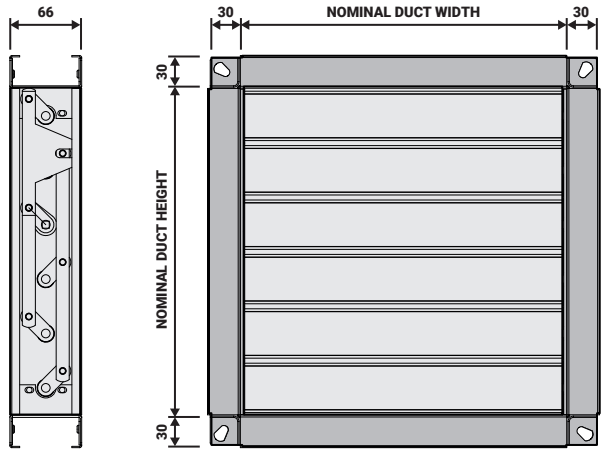
Fully sealed



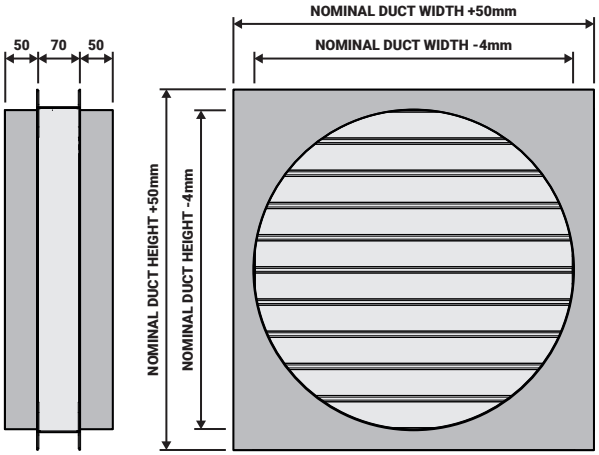
TECHNICAL SPECIFICATION

1400 Slimline Volume Control Damper

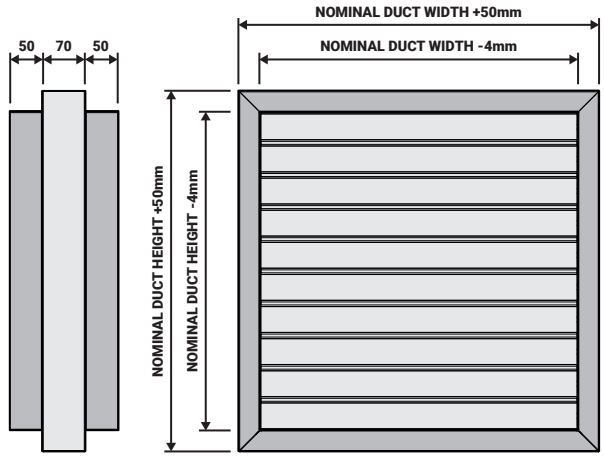
1400 Dimensions – Flanged



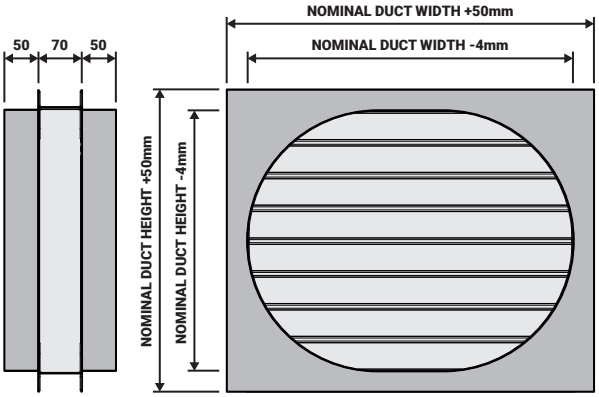
1400 Dimensions – Circular Spigot



1400 Dimensions – Rectangular Spigot



1400 Dimensions – Flat Oval Spigot



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Construction

BLADES

Width – 50 mm.

Centres – 50 mm.

1 mm galvanised mild steel – standard.
(Not available on fully sealed units.)

1 mm grade 304 stainless steel – optional.
(Not available on fully sealed units.)

1.2 mm extruded aluminium – optional.
(Available on all models.)

All fitted with polypropylene end caps.

FRAME

Width – 66 mm (flanged units).
70 mm (spigotted, non-welded)
70 mm (spigotted, fully-welded)

1.2 mm galvanised mild steel – standard.

FLANGE WIDTH

30 mm – standard.

25 mm and 35 mm – optional.

CORNERS

Flanged and non-welded units – die-formed corner channels, button locked for strength and rigidity.

Welded units – welded mitre corners with aluminium aerosol spray.

LINKAGE

External, enclosed within the frame, out of airstream. Zinc-plated mild steel and Delrin 500P NC010.

BEARINGS

ø12.7mm nylon.

AXLES

Interference fit Delrin 500P NC010.

SEALS

Unsealed – standard.

Semi sealed – side jamb seals – grade 301 S21 to BS EN 10088-2 1.4310 stainless steel, cambered profile.

Fully sealed – side jamb seals and blade seals – composite PVC material to an aerodynamic profile (available with aluminium blades only).

CONTROLS

Manually operated tamper-proof moulded handle with position indicator – standard.

Hand-locking quadrant (mild steel) – optional.

ø10mm zinc-plated mild steel drive spindle suitable for motorisation by others – optional.

SILLS

Fully sealed units with height increments not in 50mm multiples will have a sill fitted on the bottom of the damper.

OPERATING TEMPERATURE

Suitable for use up to 70 ºC (all models).

Duct Sizes – Single Section

FLANGED UNITS

100 x 100mm to 1,000 x 1,000mm.

SPIGOTTED NON-WELD/CRIMPED (CLASS B) UNITS

100 x 100mm to 500 x 500mm or ø100 to ø500mm.

SPIGOTTED FULLY WELDED (CLASS C) UNITS

Square / rectangular / flat oval – 100 x 100mm to 1,000 x 1,000mm, or ø100 to ø1,000mm.

Duct Sizes – Multiple Sections

FLANGED UNITS

2,000mm x unlimited maximum.

SPIGOTTED FULLY WELDED (CLASS C) UNITS

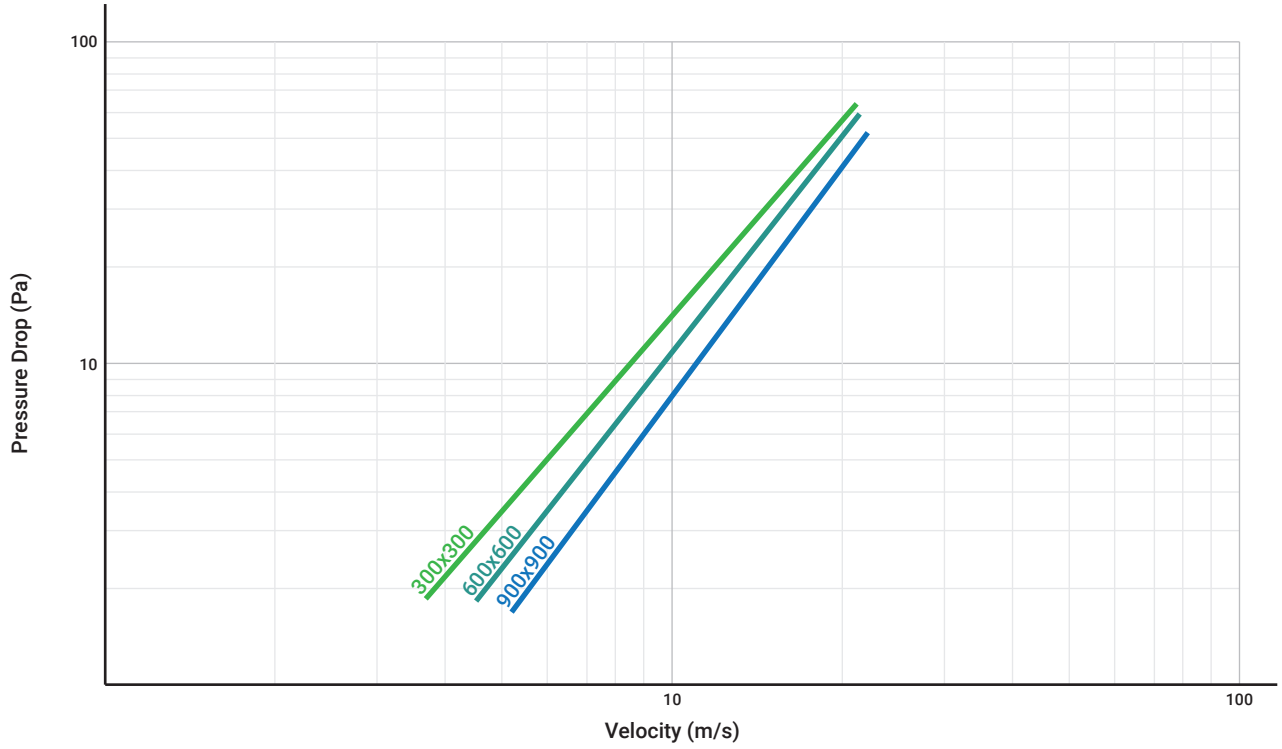
Square / rectangular – 2,000 x 2,000mm.

Circular maximum ø1,500mm.

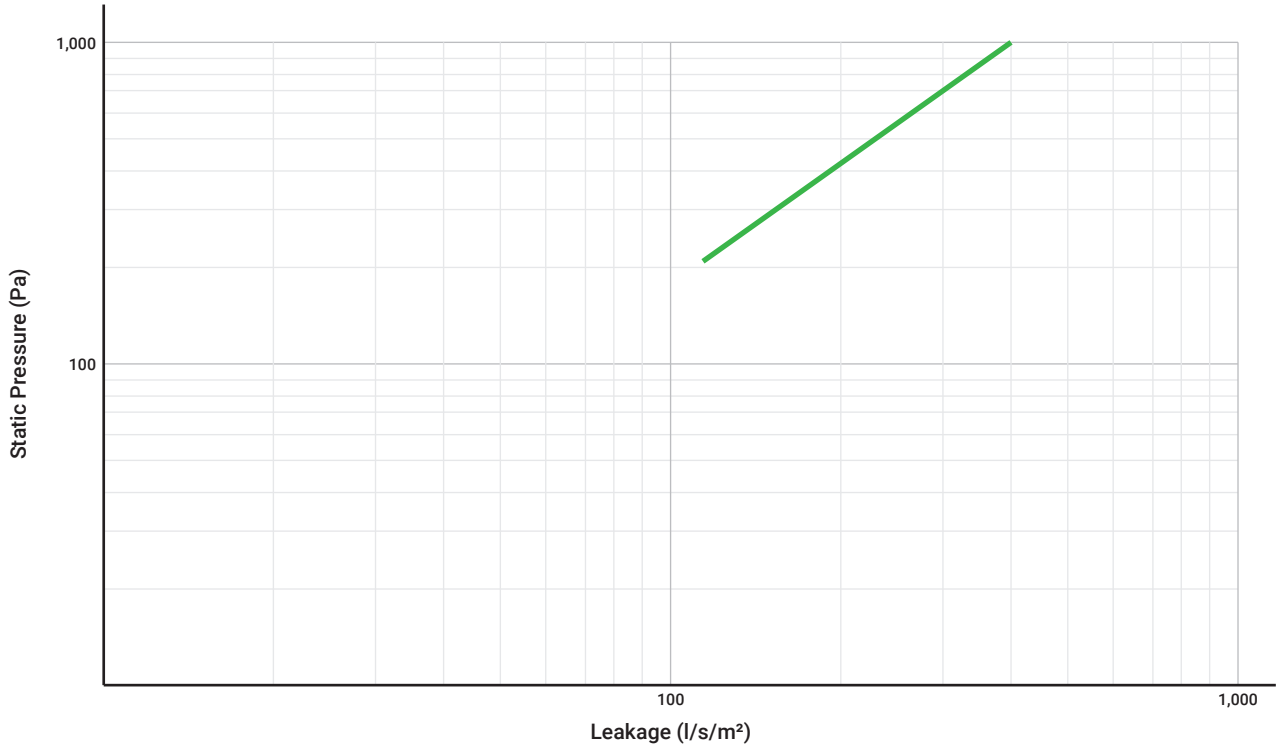
Flat oval maximum W1,500 x H1,000mm.

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1400 – Pressure Drop (Fully Open)



1400 – Blade Leakage (Fully Sealed)



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1400 Slimline Volume Control Damper

1400 Slimline VCD Weights (kg) – Galvanised Flanged Frame with Galvanised Blades

Height (mm) \ Width (mm)	100	200	300	400	500	600	700	800	900	1,000
100	0.7	1.2	1.6	2.1	2.6	3.1	3.6	4.1	4.5	5
200	1	1.7	2.3	3	3.6	4.3	5	5.6	6.3	6.9
300	1.3	2.1	3	3.8	4.7	5.5	6.3	7.2	8	8.8
400	1.6	2.6	3.87	4.7	5.7	6.7	7.7	8.7	9.7	10.8
500	2	3.1	4.3	5.5	6.7	7.9	9.1	10.3	11.5	12.7
600	2.3	3.6	5	6.4	7.7	9.1	10.5	11.9	13.2	14.6
700	2.6	4.1	5.7	7.52	8.8	10.3	11.9	13.4	15	16.5
800	2.9	4.6	6.4	8.1	9.8	11.5	13.2	15	16.7	18.4
900	3.2	5.1	7	8.9	10.89	12.7	14.6	16.5	18.4	20.3
1,000	3.5	5.6	7.7	9.8	11.9	13.9	16	18.1	20.2	22.2

1400 Slimline VCD Weights (kg) – Galvanised Flanged Frame with Stainless Steel Blades

Height (mm) \ Width (mm)	100	200	300	400	500	600	700	800	900	1,000
100	0.71	1.22	1.62	2.13	2.64	3.15	3.65	4.16	5.57	5.08
200	1.02	1.73	2.34	3.05	3.65	4.36	5.08	5.68	6.39	7
300	1.32	2.13	3.05	3.86	4.77	5.58	6.39	7.31	8.12	8.93
400	1.62	2.64	3.93	4.77	5.79	6.8	7.82	8.83	9.85	10.96
500	2.03	3.15	4.36	5.58	6.8	8.02	9.24	10.45	11.67	12.89
600	2.33	3.65	5.08	6.5	7.82	9.24	10.66	12.08	13.4	14.82
700	2.64	4.16	5.79	7.63	8.93	10.45	12.08	13.6	15.23	16.75
800	2.94	4.67	6.5	8.22	9.95	11.67	13.4	15.23	16.95	18.68
900	3.25	5.18	7.11	9.03	11.05	12.89	14.82	16.75	18.68	20.6
1,000	3.55	5.68	7.82	9.95	12.08	14.11	16.24	18.37	20.5	22.53

1400 Slimline VCD Weights (kg) – Galvanised Flanged Frame with Aluminium Blades

Height (mm) \ Width (mm)	100	200	300	400	500	600	700	800	900	1,000
100	0.6	1	1.4	1.8	2.1	2.5	2.9	3.3	3.7	4.1
200	0.8	1.3	1.8	2.2	2.7	3.2	3.7	4.1	4.6	5.1
300	1	1.6	2.2	2.7	3.3	3.8	4.4	5	5.5	6.1
400	1.3	1.9	2.6	3.2	3.8	4.5	5.1	5.8	6.4	7.1
500	1.5	2.2	3	3.7	4.4	5.1	5.9	6.6	7.3	8
600	1.8	2.6	3.4	4.2	5	5.8	6.6	7.4	8.2	9
700	2	2.9	3.8	4.7	5.5	6.4	7.3	8.2	9.1	10
800	2.2	3.2	4.2	5.1	6.1	7.1	8.1	9	10	11
900	2.4	3.5	4.6	5.6	6.7	7.7	8.8	9.9	10.9	12
1,000	2.7	3.8	5	6.1	7.3	8.4	9.5	10.7	11.8	13

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1400 Slimline VCD – Torque To Open Based On Aluminium Blades Only (Nm)

Duct velocity (m/s)	300 x 300mm		600 x 600mm		900 x 900mm	
	No Side Seals	With Side Seals	No Side Seals	With Side Seals	No Side Seals	With Side Seals
5	1.24	1.24	6.22	9.04	10.17	11.30
10	1.13	1.13	6.55	10.74	11.87	13.00
15	1.13	1.13	6.78	11.30	13.56	13.56

The results were obtained by experimentation. Tests performed in a clean air system at 2,000 Pa corrected pressure and are for guidance only.