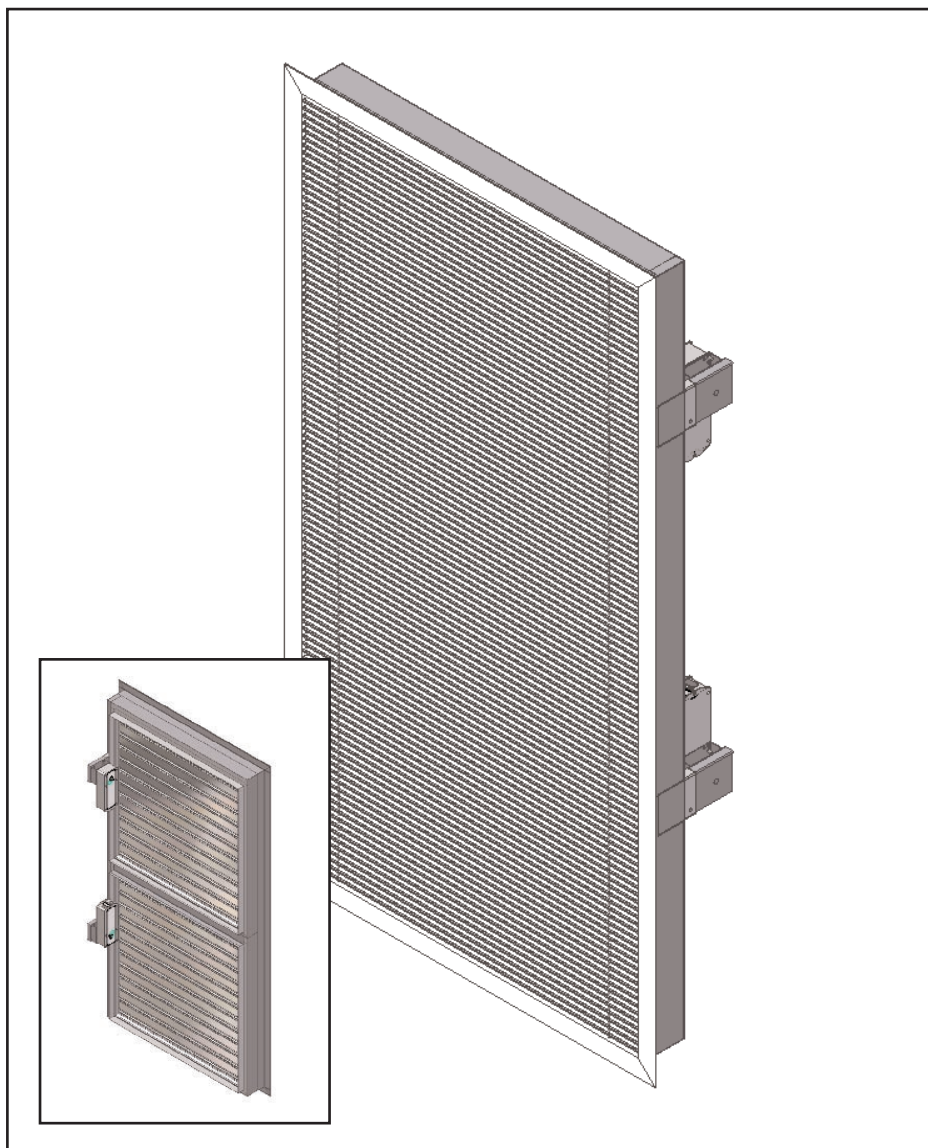


Smoke Shaft Ventilation System Series SSV

Features

- Smoke Management and Fire Dampers operational up to 2 hours.
- Halogen free low smoke and fume cabling supplied as a standard feature.
- Low closed blade leakage.
- Dampers when closed are compliant to BS476 Part 20 Fire Damper Test Standard.
- The control mode/damper connection shall be by means of the Unique *snaplock*[™] reverse mounted drive interface ensures a non-obstructive installation into the builders opening.
- Aesthetic finished Grille options.



*action*air

Dampers Controls Fancoils

Ruskin Air Management Limited

www.ruskinuk.co.uk

Introduction

The growing demand for multi storey apartment, hotels and flats requires safe evacuation of smoke and toxic gases within the stairwell and corridor area to allow time for the safe evacuation of the occupants.

Smoke Shaft Ventilation PTC™ dampers have been designed for installation within the smoke evacuation risers in multi storey buildings.

SSV series dampers will give up to 1.56m² free area for the evacuation of smoke and toxic gases within the stairwell lobby and corridor areas of the building.

Specification

Smoke Shaft Ventilation System (Series SSV)

Proportional Torque Control (PTC™).

Automatic Smoke Release Dampers with 75mm x 0.5mm thick stainless steel aerodynamic interlocking blades incorporating synthetic seal, with steel blade end bearings and peripheral gasketing. Housed in a galvanised steel fully welded casing with either a flanged or flangeless sleeve for Grille connection.

The control mode/damper connection shall be by means of the *snaplock™* drive interface mechanism, which is reverse mounted so as not to obstruct installation into the builders opening.

Models

Frames can be supplied either with or without a flange return, depending on the fixing arrangements suitable for the builders opening.

Grille

Materials

Extruded Aluminium frame with 51mm border flange.

Frames/Borders

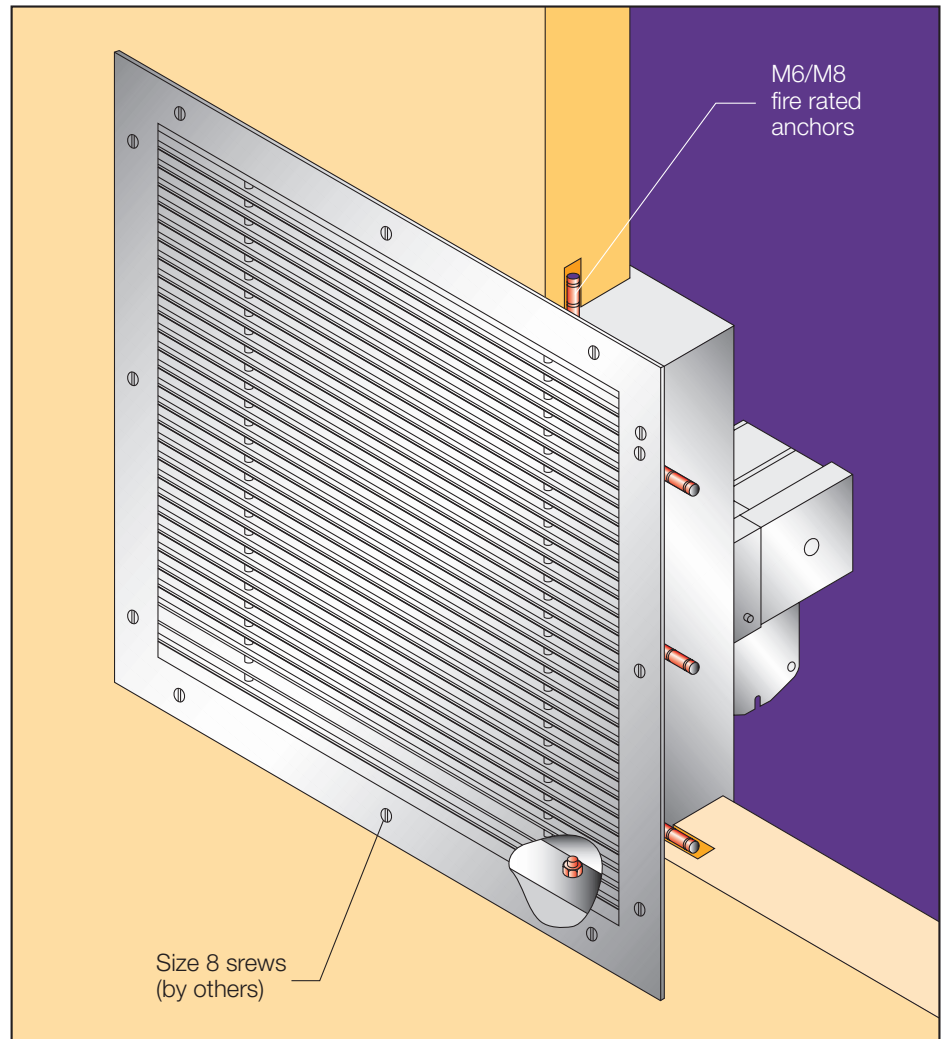
51mm Frame borders are supplied as standard with the SSV damper, optional 25mm borders available.

Grille Finish

Depending on size standard finish is either stove enamel silver RAL9006 or White RAL9010 (20% gloss) or Polyester powder, other finishes available.

Note: Grille selection can affect the free area value of the damper.

Installation Method



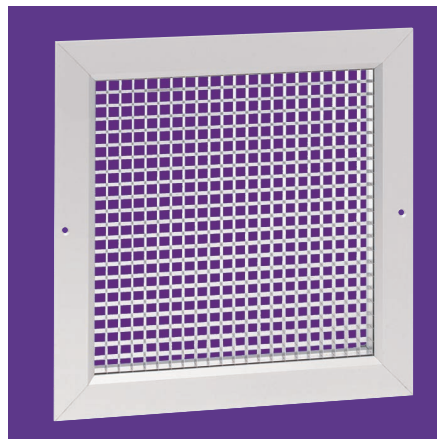
Grille Fixings

Grilles are prepared with countersunk screw holes in the flange to suit size 8 screws (by others).

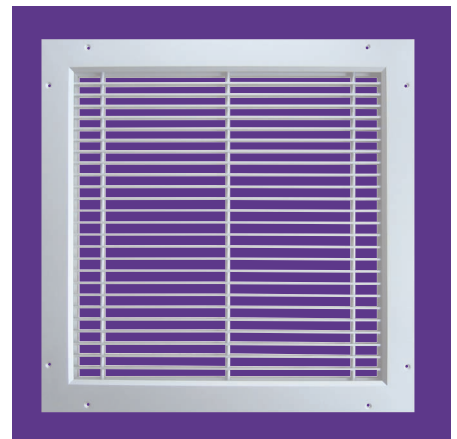
Damper Fixings

Dampers should be secured using suitable M6/M8 fire rated anchors at 200mm CTRS to secure the damper sleeve to the wall structure. (Drillings and anchors by others).

Grille Models



Model ECG
Egg Crate Grille.

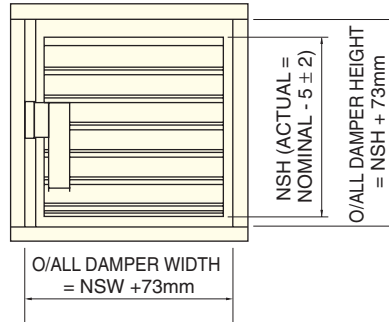
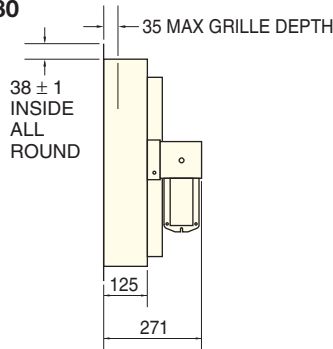


Model GN
Bar Grille with either 0°, 15°, or 30° blade.

Dimensional Data

Standard Sized Units SSV Type F (Flanged)

PTC080

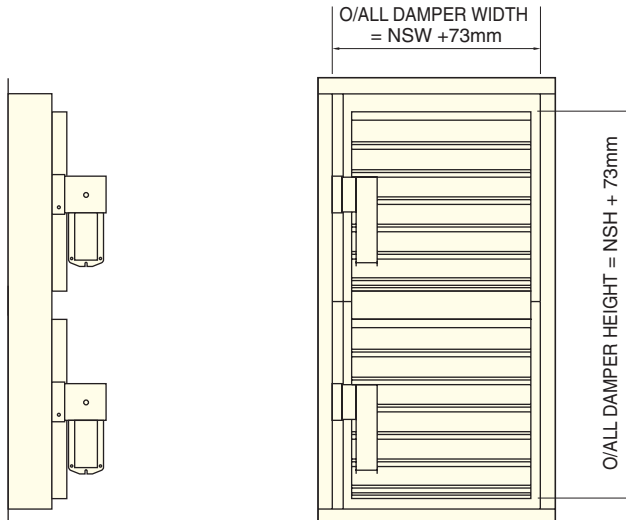


Structural Opening Size.

Min Width = 283mm
 Max Width = 1083mm
 Min Height = 383mm
 Max Height = 1083mm

DRG No.	Description	(Structural Opening)	(Nom Damper / Nom Grille)	Product	Free Area
PTC080	SSV Damper	1083 x 1083	1000 x 1000	SSV Vent	0.80m ²
	Bar Grille		1071 x 1071	44W - GNOG	0.75m ²
	(or) Egg Crate Grille		1071 x 1071	44W - ECG	0.92m ²

PTC081

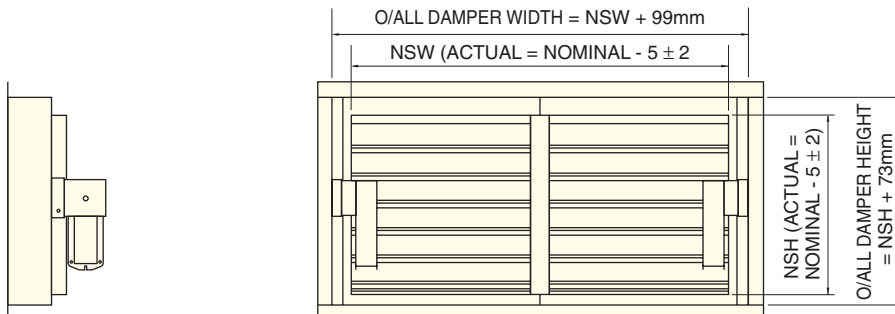


Structural Opening Size.

Min Width = 283mm
 Max Width = 1083mm
 Min Height = 1084mm
 Max Height = 2154mm

DRG No.	Description	(Structural Opening)	(Nom Damper / Nom Grille)	Product	Free Area
PTC081	SSV Damper 1 ^W x 2 ^H	1083 x 2083	1000 x 2000	SSV Vent	1.54m ²
	Bar Grille		1071 x 2071	44W - GNOG	1.44m ²
	(or) Egg Crate Grille		1071 x 2071	44W - ECG	1.78m ²

PTC082



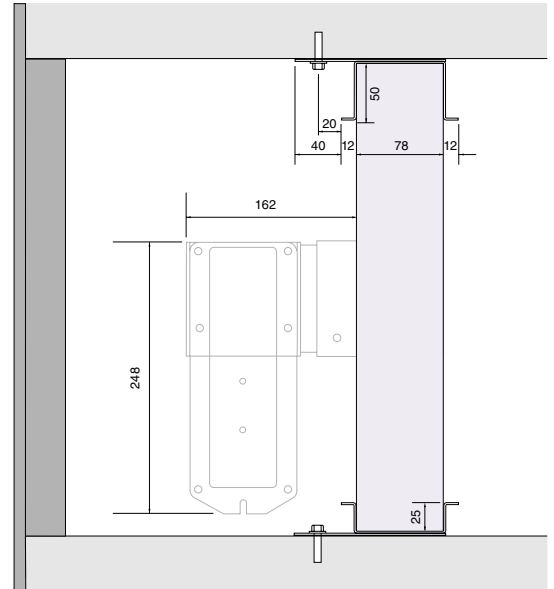
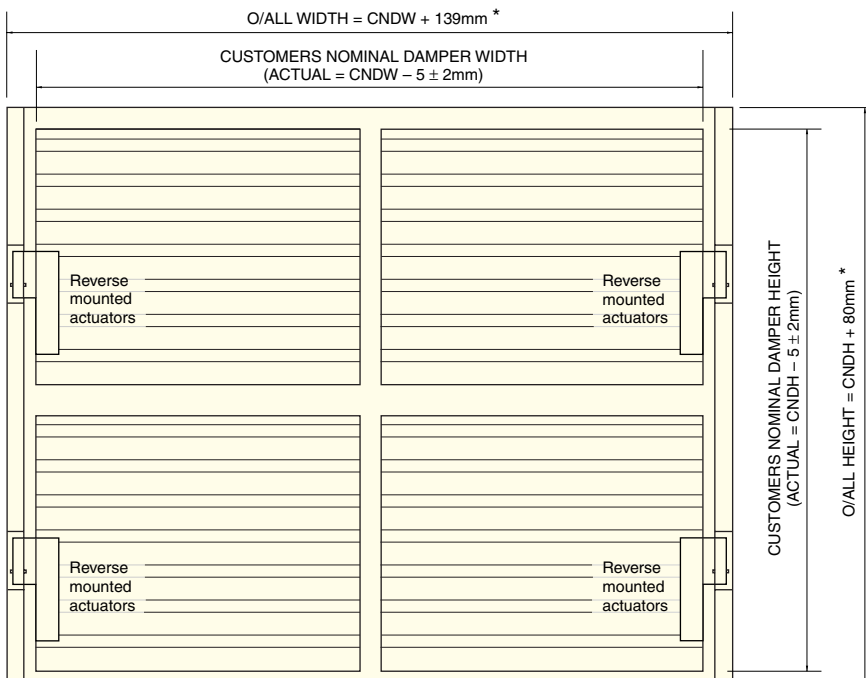
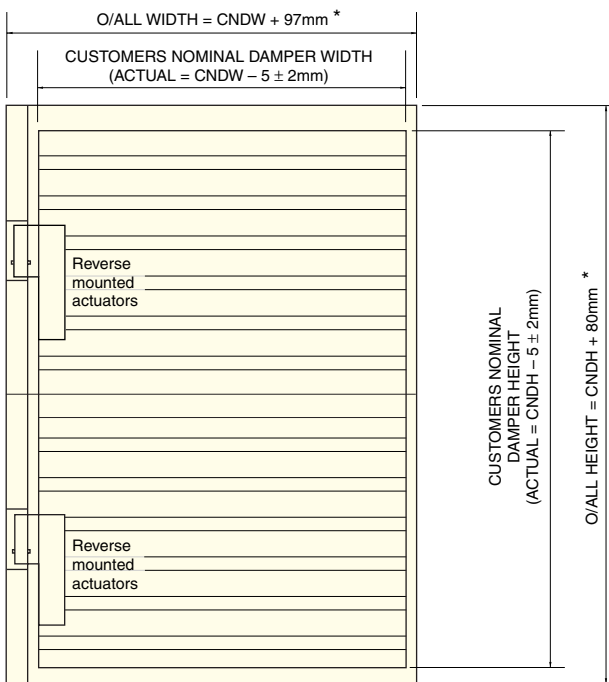
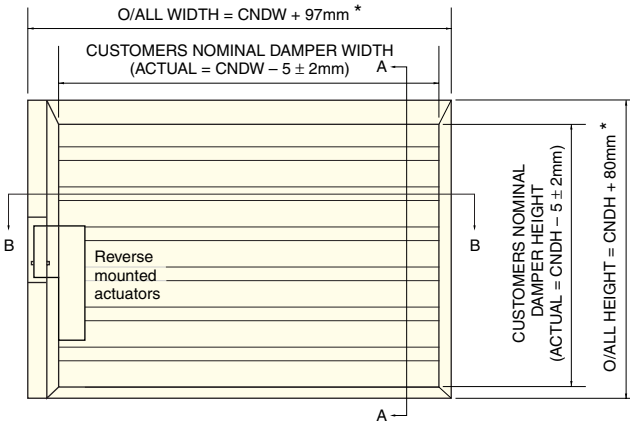
Structural Opening Size.

Min Width = 1084mm
 Max Width = 2155mm
 Min Height = 383mm
 Max Height = 1083mm

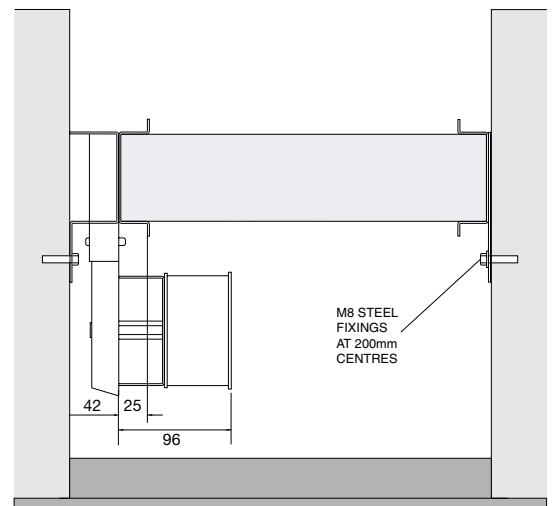
DRG No.	Description	(Structural Opening)	(Nom Damper / Nom Grille)	Product	Free Area
PTC082	SSV Damper 2 ^W x 1 ^H	2083 x 1083	2000 x 1000	SSV Vent	1.56m ²
	Bar Grille	2083 x 2096	2000 x 1071	44W - GNOG	1.46m ²
	(or) Egg Crate Grille	2083 x 2096	2000 x 1071	44W - ECG	1.79m ²

Dimensional Data

Standard Sized Units SSV Type S (Sleeved)



View A



View B

** Suitable external louvre/grille to finish opening. (Refer to Actionair Sales Office).

* Customer to allow for clearance and builders tolerances on site.

Ordering Information

Damper Example

Quantity	Series	Outer Sleeve	Structural Opening	Control Mode
3	SSV1501/PTC	F	1000 x 2000	M5 - 2P
Number of units required	<p>SSV1501/PTC / F Smoke/Shaft Vent Square or rectangular with peripheral sleeve with flange return.</p> <p>SSV1501/PTC / S Smoke/Shaft Vent Square or rectangular with peripheral sleeve.</p>	<p>F – Flanged</p> <p>S – Sleeved</p>	<p>Width x Height Refer to page 3 and 4 for minimum and maximum opening sizes.</p>	<p>60 Seconds Drive Open/Drive Closed</p> <p>Mode 5-2P Open/Close Electrical 24 Volt A.C. or D.C. XNNN00503</p> <p>Mode 6-2P Open/Close Electrical 230 Volt A.C. XNNN00504</p> <p>Spring Return Operation Fail Open</p> <p>Mode 5 Remote Reset Electrical 24 Volt A.C. and D.C. XNNN00481</p> <p>Mode 6 Remote Reset Electrical 230 Volt A.C. XNNN00482</p>

Note: Fire rated versions also available - Fail Safe Closed.

Grille Example (Note: Grille type selection by customer. Grille size will be selected by Actionair)

Quantity	Flange Style	Model	Screw Fixing	Paint Finish	Structural Opening
3	44W	ECG	F1	3	988 x 1988
Number of units required	<p>25W – 25mm flat surface flange having mitred and welded corners.</p> <p>44W – 44mm wide flat surface flange having mitred and welded corners.</p>	<p>Egg Crate Grille ECG Egg crate grille with a fixed core.</p> <p>Bar Grilles GN0G Narrow blade bar grille having 0° deflection, 3.5mm blade on 19mm pitch.</p> <p>GN15G Narrow blade bar grille having 15° deflection, 3.5mm blade on 19mm pitch.</p> <p>GN30G Narrow blade bar grille having 30° deflection, 3.5mm blade on 19mm pitch.</p>	<p>F0 – No fixing (fixing by others).</p> <p>F1 - Countersunk Screw Holes in Flange (Standard).</p>	<p>2 – Silver (RAL9006) stove enamel paint. (Standard).</p> <p>3 – White (RAL9010) 20% gloss stove enamel paint. (Standard).</p> <p>6 – Special stove enamel paint finish. (Please state separately the RAL colour reference and finish type required).</p> <p>Note: Extra Cost</p> <p>8 – Polyester powder coat finish is available. Note: Extra Cost</p>	<p>Width x Height</p> <p>For further application, technical and pricing information, please refer to Actionair Sales Office.</p>

Acoustic Data

The data presented is from the Laboratory Determination of Acoustic and Aerodynamic Performance of Smoke Shaft Ventilation System (Series SSV) Automatic Smoke Release Dampers.

A programme of extensive tests was carried out in the Reverberation Chamber and North Transmission Chamber of Sound research Laboratories Limited, Holbrook Hall, Sudbury, Suffolk, generally in accordance with BRITISH STANDARDS Nos. 4196, 4773, 4856, 4857 and 4954.

This independent test facility is approved under the NAMAS Scheme.

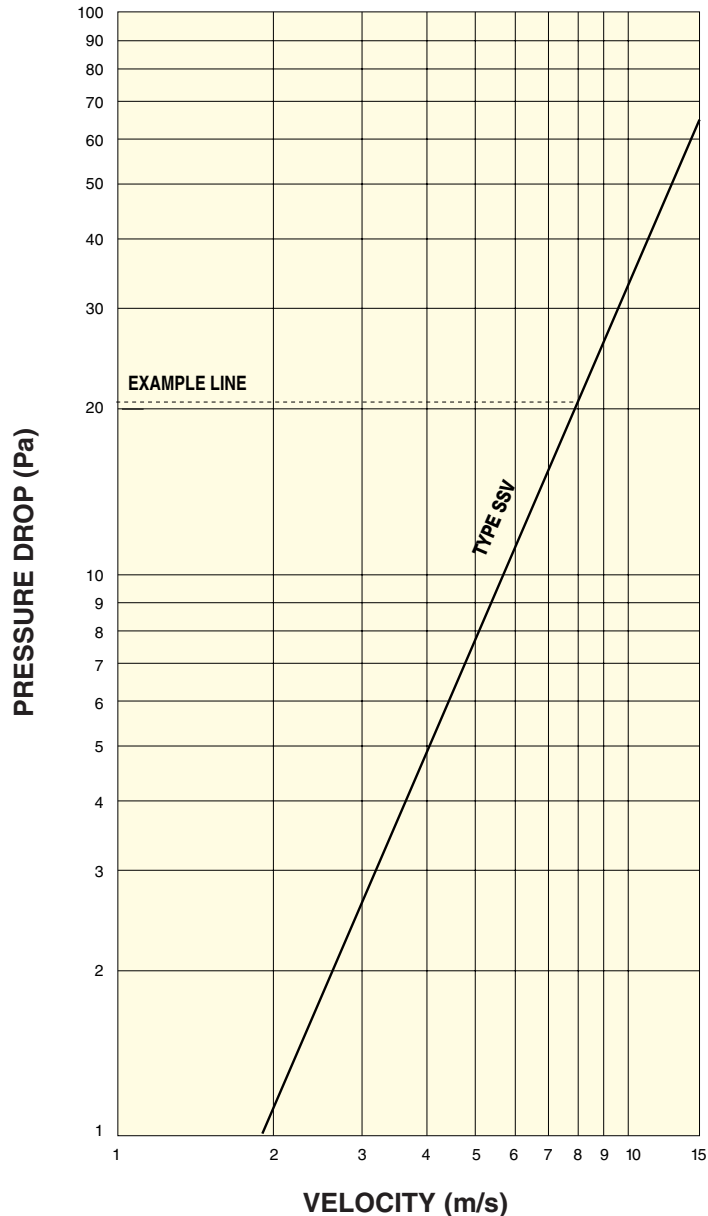
From the selection of a duct velocity within the operational parameters of the damper a resultant pressure drop from Graph 1 can be determined and the sum of these two components applied to the Velocity x Pressure Drop Vs Sound Power Level Graph. (Graph 2)

The graph is the result of a full range of acoustic tests on SSV Smoke Release Dampers with the blades set in their fully open position.

The Spectrum Correction Data is applied to the number obtained from the graph and a complete Sound Spectrum of Flow Generated Noise for both Outlet (in duct) and Breakout (casing radiated) can be obtained from Table 1.

Pressure Drop Vs Velocity

Graph 1



Example:

Duct with a design velocity of 8 m/sec.
SSV PTC Damper Series 1501 fully open.

Pressure Drop = 21 Pa (Graph 1).

Multiply Velocity x Pressure Drop

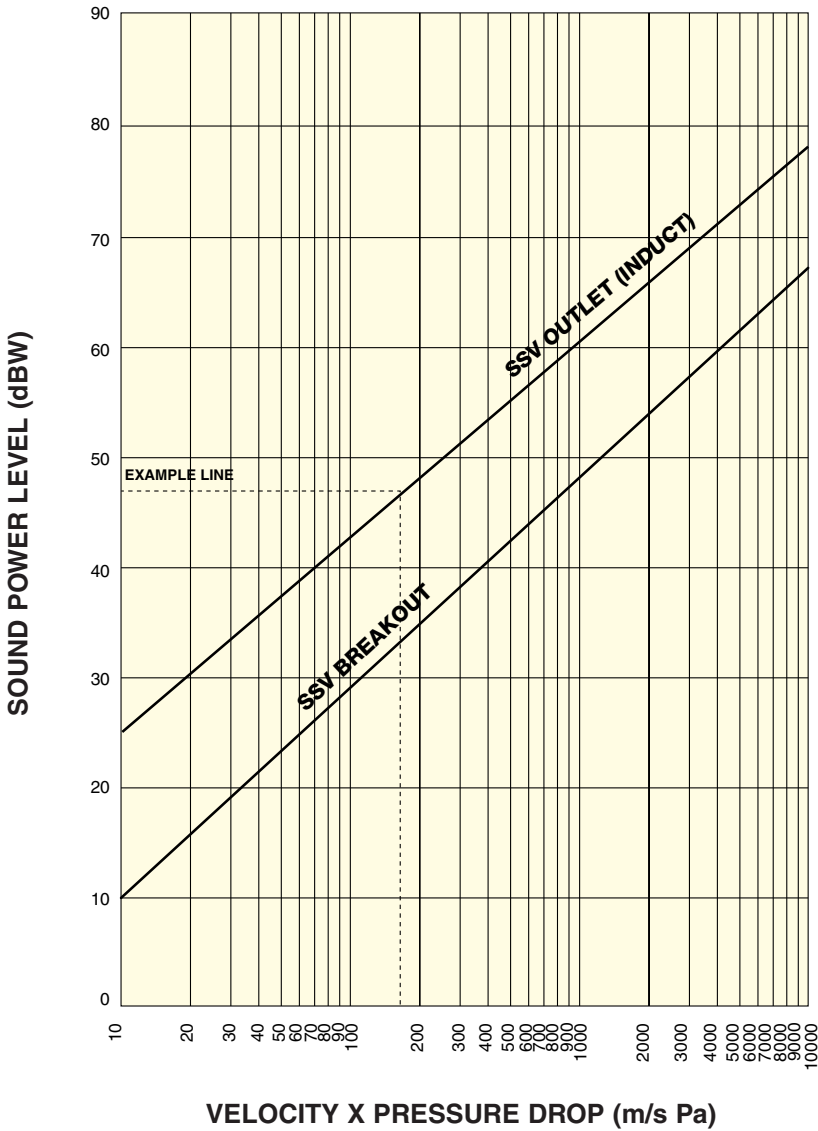
$$8 \times 21 = 168.$$

From Sound Power Graph (Graph 2) plot 168 on horizontal Velocity/Pressure axis against 501 outlet (in duct) graph to obtain 47 dBW on Vertical Sound Power Level

Axis. Add or subtract corrections to the 47 dBW to provide full spectrum analysis using appropriate Correction Table.

Velocity (m/s) X Pressure Drop (Pa) Vs Sound Power Level (dBW)

Graph 2



Correction Tables

Table 1

SSV PTC™ Outlet (Induct) Spectrum Corrections

Octave Band	Hz	63	125	250	500	1k	2k	4k	8k
Series SSV	dB	5	4	5	5	3	1	-3	-5

Table 2

SSV PTC™ Breakout Spectrum Corrections

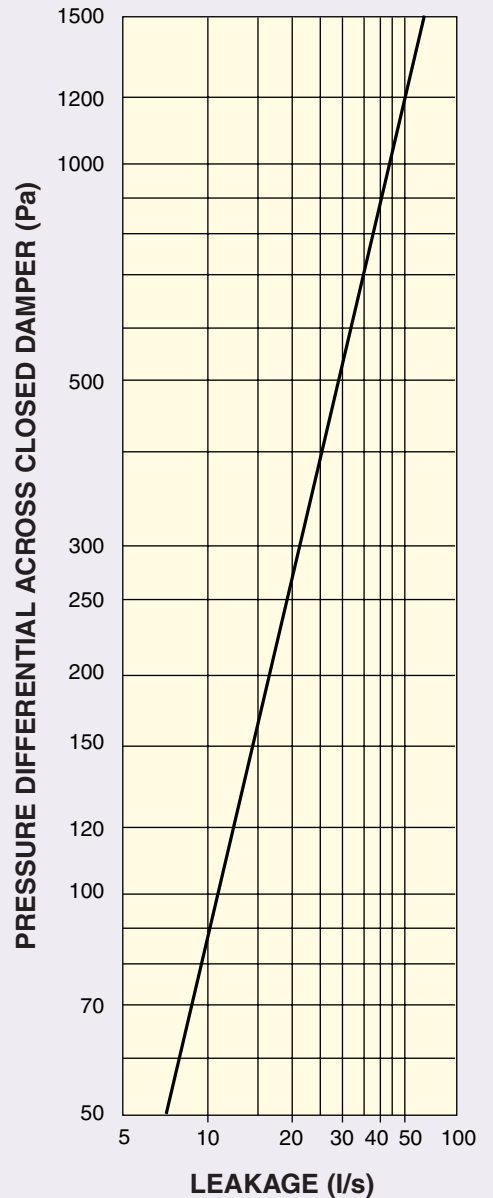
Octave Band	Hz	63	125	250	500	1k	2k	4k	8k
Series SSV	dB	8	11	9	6	-3	-6	-14	-17

Graph 3

Damper Leakage

Leakage data at Ambient temperature (Cold Smoke).

SSV PTC™ closed blade leakage as tested on a damper 1000mm wide x 1000mm high.



Ruskin Air Management Limited
a BS EN ISO 9000 registered company

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Due to a policy of continuous product development the specification and details contained herein are subject to alteration without prior notice.

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