



Incorporating



Fire protection

NCA Series 700
Motorised leakage rated fire dampers

- CE marked against the requirements of EN 15650
- Classified in accordance with EN 13501-3
- Fire tested to EN 1366-2
- 120 minute installations for drywall partitions of min. spec EI60, masonry walls and concrete floor slabs
- Unique surface mounted design with factory punched fixing holes
- No backfilling or sealing of apertures required
- Single and multiple section assemblies available (CE marked)
- Available to suit square, rectangular, circular and flat oval ducting



NCA Series 700 fire dampers

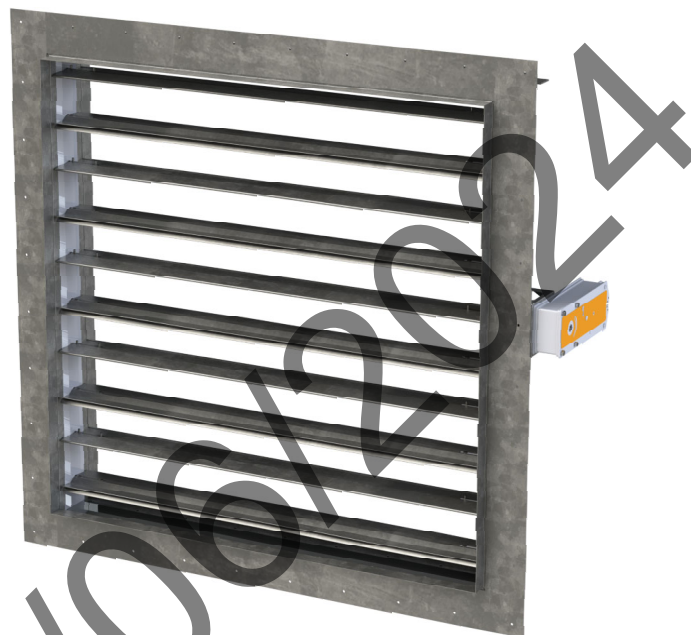
Designed to maintain compartmentation in buildings at locations where ductwork penetrates a fire barrier, a fire damper's basic function is to prevent fires spreading through ductwork.

NCA Series 700 motorised leakage rated fire dampers go beyond this basic requirement with their reduced leakage design, making them suitable for areas requiring dampers with 'ES' classification.

Uniquely easy to install, S700 fire dampers are surface mounted, making use of fixing lugs and a simple plate frame with factory punched fixing holes, installations require no backfilling, sealing or pattress frames. This makes them especially useful for refurbishment projects where disruption needs to be minimised.

S700 fire dampers are currently available with 120 minute rated installations to suit drywall partitions of minimum specification EI60 group A, masonry walls and concrete floor slabs (single sections only). All installations are classified 'i-o' meaning air is permitted to flow in either direction through the damper.

Actuators are Belimo BF series, are available in 24 or 230 volt variants and are supplied with a 72°C rated thermal probe.



Design features

Materials	Plate frame - 1.5mm galvanised steel Case, internal frame and actuator mounting bracket - 1.2mm galvanised steel Blades - 0.7mm galvanised steel (double layered) Frame side, top and bottom seals - 0.4mm stainless steel (grade 301) Drive system - Steel throughout (zinc plated)
Sizes	Minimum: 200mm x 200mm / 200mm diameter nominal Maximum: Single section - 1000mm x 1000mm / 1000mm diameter nominal Multiple section - 2074mm x 2074mm / 2074mm diameter nominal Units requiring a nominal width/height/diameter of less than 200mm can be supplied using reducing spigots
Operation	Opposed blade, linkage driven (out of airstream)
Controls	Single section assemblies: Belimo BF24-TN or BF230-TN actuator (power open, spring return, non-modulating) complete with 72°C thermal probe Multiple section assemblies: Belimo BF24 actuators (power open, spring return, non-modulating) complete with relay box assembly (24V or 230V supply) with 72°C thermal probe

Quality assurance

HVC Supplies (Stourbridge) Ltd is an ISO 9001 certified company.



Assessed to ISO 9001
Cert/Ref No. 1186

Damper design

1. Plate frame

Serves as the mounting point for fixing the damper to the partition. Pre-punched 5mm diameter fixing holes assist installation on site.

2. Fixing lugs

Mounted at the top of the case on either side, these serve as mounting points for hanging the damper from either 8mm or 10mm diameter threaded drop rods. Fixing lugs are not required to be used in horizontal applications.

3. Case

Comprises the spigots and encapsulates the inner frame.

4. Inner frame

The main component around which other components are fitted. Formed bushes in the side members hold steel tube axles to which the blades are mounted.

5. Blades

Aerodynamic formed steel blades designed to present low resistance to airflow when open, but also to provide the required strength and level of shut-off when closed.

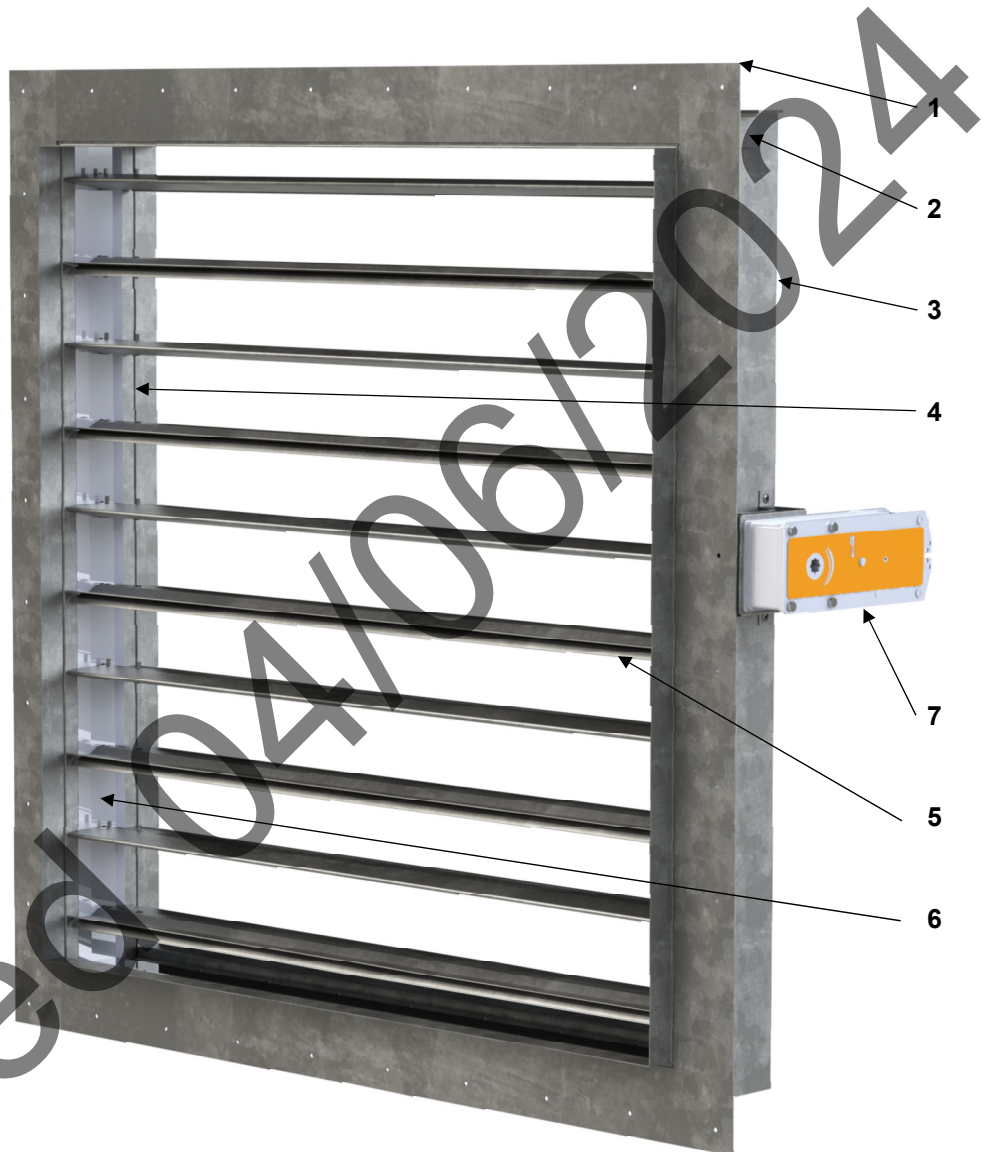
6. Stainless steel seals

Formed stainless steel seals sit between the inside frame and blade edges and ends.

7. Belimo BF series actuator

A specialist fire damper actuator with integrated thermal probe, powered open during normal use, springs closed when required.

Positioned on damper's left side (as shown) unless specified.



Product testing - Non-CE mandated

Aerodynamic testing

S700 motorised leakage rated fire dampers have been tested for blade leakage, case leakage and resistance to airflow in accordance with:

BS EN 1751:2014

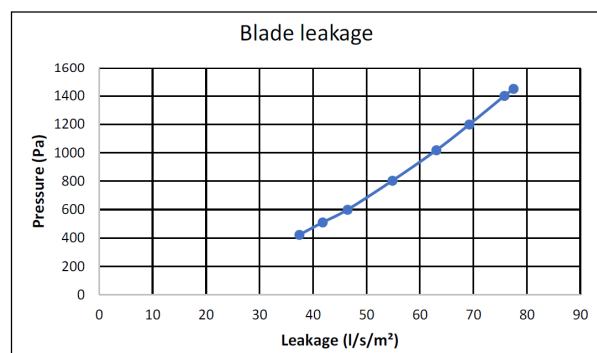
The testing was carried out in April and May 2019 by BSRIA in Preston and Bracknell, England.

Copies of the test reports are available on request.



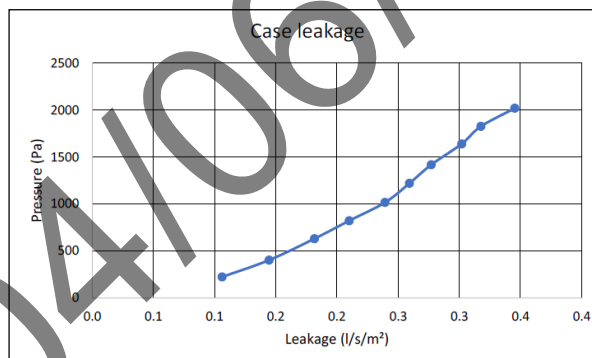
Blade leakage: Class 2 achieved

Tested unit size: 1000mm x 1000mm nominal



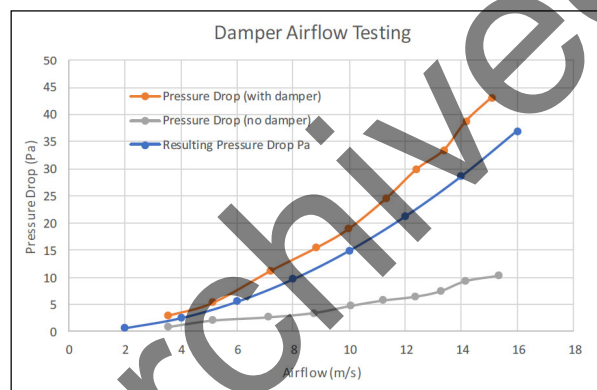
Case leakage: Class C achieved

Tested unit size: 1000mm x 1000mm nominal



Resistance to airflow

Tested unit size: 500mm x 500mm nominal



Installation guide

HVC currently have three CE marked installations available for Series 700 fire dampers.

Installation code	Substrate			Orientation		Nominal size range (single sections, w x h / dia, mm)	Nominal size range (multiple sections, w x h / dia, mm)	Classification (EN 13501-3)
	Drywall partition	Masonry wall	Concrete slab	Vertical	Horizontal			
S700-2VP/M	✓ (P) Min. spec EI60 group A*	✓ (M) Min. thickness 100mm		✓		200 x 200** / 200** to 1000 x 1000 / 1000	1001 x 1001 / 1001 to 2074 x 2074 / 2074	E 120 (ve i↔o) S
S700-2HC			✓ Min. thickness 150mm Min. density 600 kg/m ³		✓		Not available	E 120 (ho i↔o) S

* Per EN 1363-1:2020

** Units requiring a nominal width/height/diameter of less than 200mm can be supplied using reducing spigots.

Installation S700-2VP

NCA Series 700 fire damper c/w plate frame in drywall partition



Installation classified to (in accordance with BS EN 13501-3):

E 120 (ve i↔o) S

120 minute rated reduced leakage vertical installation
Air permitted to flow in either direction through damper
Permitted for single and multiple section assemblies

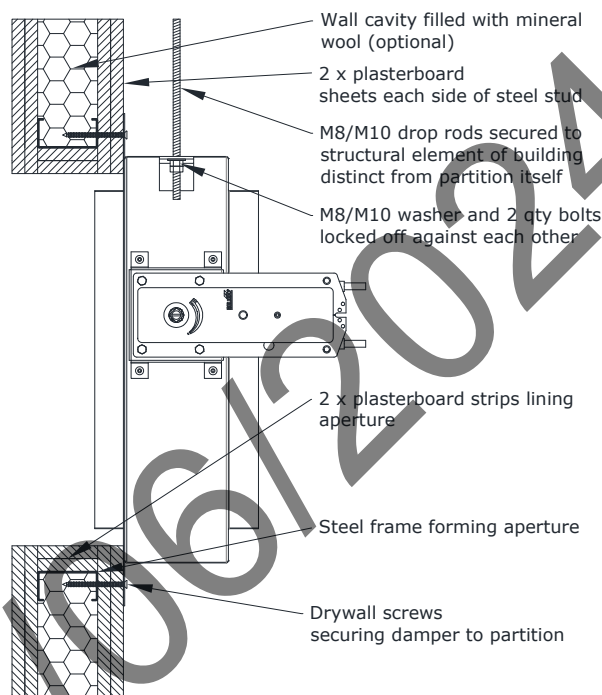
Installation procedure:

Hang the damper using the two factory fitted fixing lugs from drop rods (M8/M10) securely attached to a structural element of the building distinct from the partition itself.

Position the damper spigot centrally within a correctly sized aperture, constructed in accordance with our S700 installation instructions.

Screw the damper to the wall through the factory punched fixing holes in the plate frame, ensuring all screws gain a positive fix on the steel framework inside the partition.

Fit the actuator's thermal probe to the top half of ductwork.
No backfilling or sealing of the aperture, nor a pattress frame are required.
The damper must be installed so blades run horizontally.
Mineral wool infill in the wall cavity is not mandatory.



Installation S700-2VM

NCA Series 700 fire damper c/w plate frame in masonry wall



Installation classified to (in accordance with BS EN 13501-3):

E 120 (ve i↔o) S

120 minute rated reduced leakage vertical installation
Air permitted to flow in either direction through damper
Permitted for single and multiple section assemblies

Installation procedure:

Open the factory punched 5mm diameter fixing holes in the plate frame out to 8mm diameter.

Hang the damper using the two factory fitted fixing lugs from drop rods (M8/M10) securely attached to a structural element of the building distinct from the partition itself.

Position the damper spigot centrally within a correctly sized aperture, constructed in accordance with our S700 installation instructions.

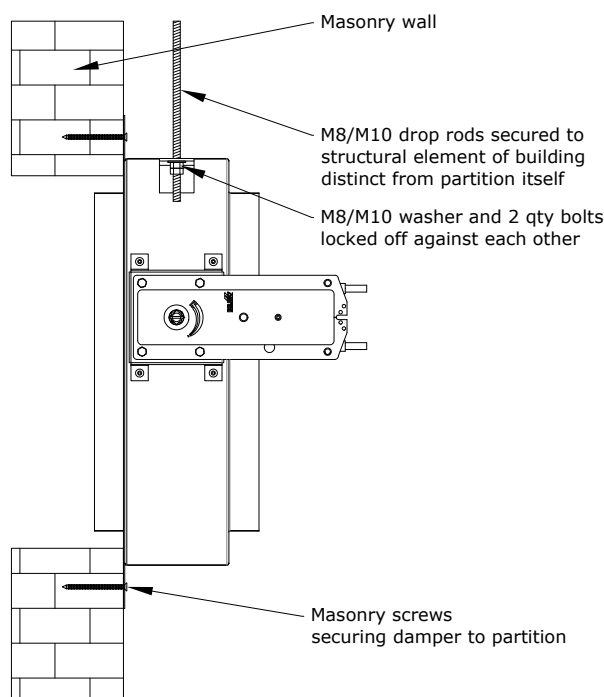
Screw the damper to the wall through the enlarged fixing holes in the plate frame, ensuring all screws gain a positive fix on the masonry.

Fit the actuator's thermal probe to the top half of ductwork.
No backfilling or sealing of the aperture, nor a pattress frame are required.
The damper must be installed so blades run horizontally.

The above are shortened versions of our full installation methods and do not contain all details necessary to perform a compliant installation.

To download full installation instructions, go to:

www.h-v-c.com/installations



Installation S700-2HC

NCA Series 700 fire damper c/w plate frame in aerated concrete floor slab



Installation classified to (in accordance with BS EN 13501-3):

E 120 (ho i↔o) S

120 minute rated reduced leakage horizontal installation
Air permitted to flow in either direction through damper
Permitted for single section assemblies only

Installation procedure:

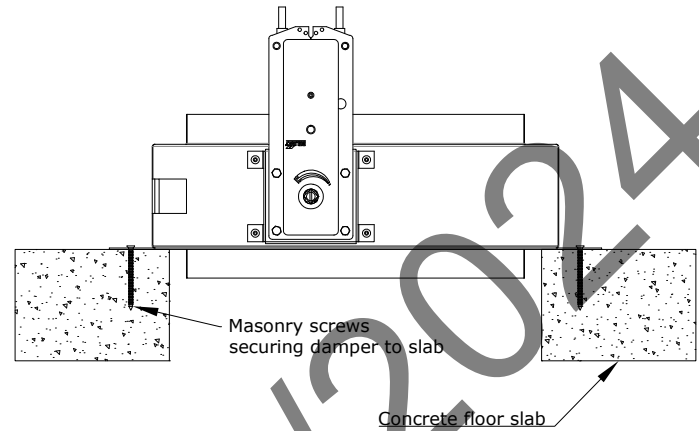
Position the damper spigot centrally within a correctly sized aperture, constructed in accordance with our S700 installation instructions.

Open the factory punched 5mm diameter fixing holes in the plate frame out to 8mm diameter, then screw the damper to the floor slab ensuring all screws gain a positive fix.

Fit ductwork to damper spigots and then fit the actuator's thermal probe to ductwork.

Fixing lugs are redundant in this installation.

No backfilling or sealing of the aperture, nor a pattress frame are required.



The above is a shortened version of our full installation method and does not contain all details necessary to perform a compliant installation.

To download full installation instructions, go to:

www.h-v-c.com/installations

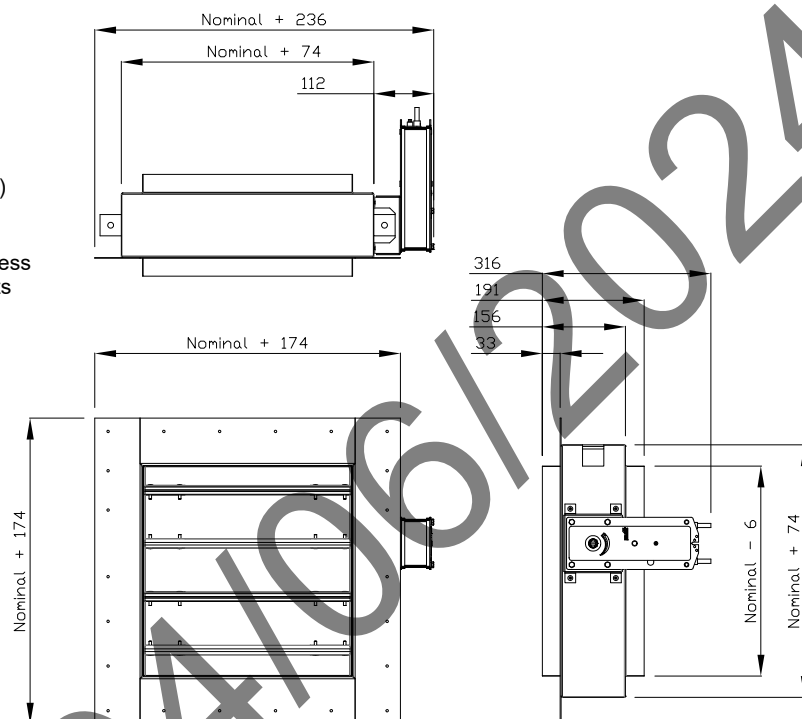
Technical drawings

S700BGP

- Square spigot (35mm deep)
- Spigot 6mm under nominal (duct) width and height
- Min nominal size: 200mm W x 200mm H
- Max nominal size: 1000mm W x 1000mm H (single section)
2074mm W x 2074mm H (multiple section)

Please note: Units requiring a nominal width/height/diameter of less than 200mm can be supplied using reducing spigots

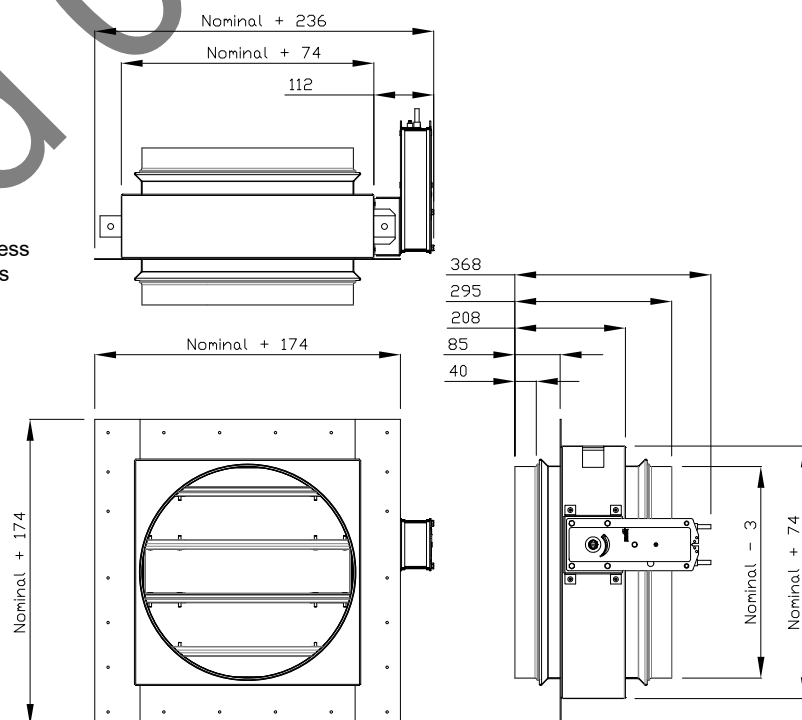
This will increase damper depth by 70mm.



S700CGP

- Circular spigot (40mm deep)
- Spigot 3mm under nominal (duct) diameter
- Min nominal size: 200mm dia.
- Max nominal size: 1000mm dia. (single section)
2074mm dia. (multiple section)

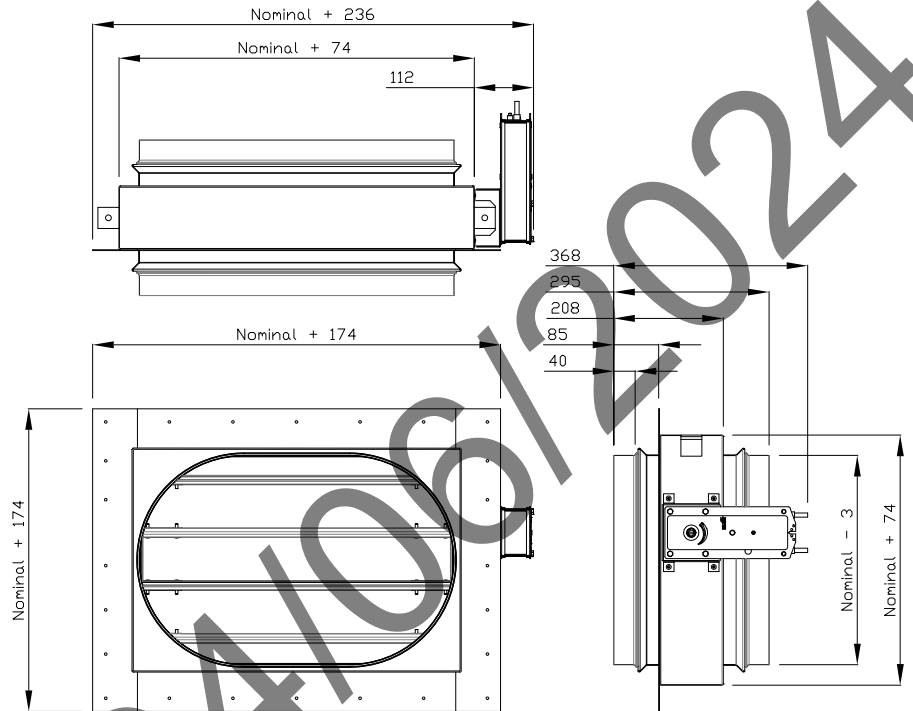
Please note: Units requiring a nominal width/height/diameter of less than 200mm can be supplied using reducing spigots



S700DGP

- Flat oval spigot (40mm deep)
- Spigot 3mm under nominal (duct) width and height
- Min nominal size: 200mm W x 200mm H
- Max nominal size: 1000mm W x 1000mm H (single section)
2074mm W x 2074mm H (multiple section)

Please note: Units requiring a nominal width/height/diameter of less than 200mm can be supplied using reducing spigots



Weight charts

		Nominal width (mm)																
Nominal height (mm)		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
	200	10	11	11	12	13	13	14	15	15	16	17	17	18	19	19	20	21
	271	12	12	13	14	14	15	16	17	17	18	19	20	20	21	22	22	23
	371	13	14	15	16	16	17	18	19	20	20	21	22	23	23	24	25	26
	471	15	16	17	17	18	19	20	21	22	23	23	24	25	26	27	28	28
	571	16	17	18	19	20	21	22	23	24	25	26	27	27	28	29	30	31
	671	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
	771	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	37
	871	21	22	24	25	26	27	28	29	30	31	32	34	35	36	37	38	39
	971	23	24	25	26	28	29	30	31	32	34	35	36	37	38	39	41	42
	1000	23	24	25	27	28	29	30	31	33	34	35	36	37	38	40	41	42

		Nominal diameter (mm)																
		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
		12	14	17	18	21	23	26	27	31	33	36	38	42	44	48	50	52

- Weights are in kg and include a Belimo BF actuator
- For multiple sections obtain total weight of component single sections and add 10% to cover section joint cover plates.

Single/multiple section assemblies

Single sections

Single section damper assemblies comprise a single damper section complete with single actuator with integrated 72°C rated thermal probe (Belimo BF24-TN or BF230-TN).

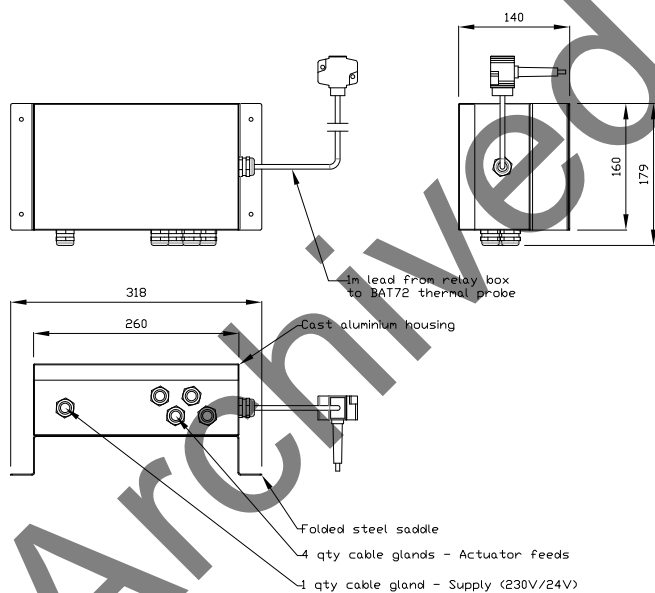
Multiple sections

Supplied factory assembled and comprising either two or four dampers depending on the size required.

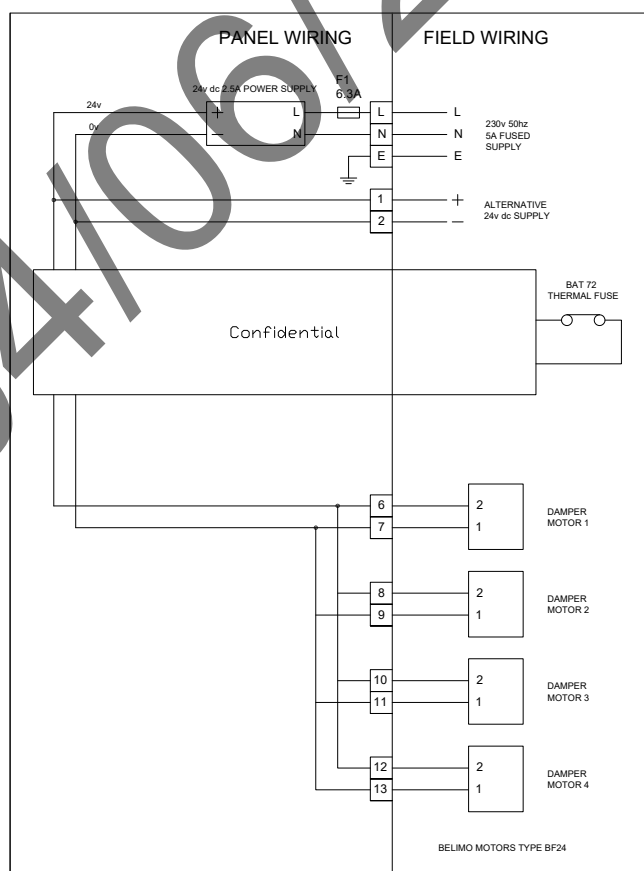
Each component section uses a single Belimo BF24 actuator which is connected on site to a fire damper relay box.

Unique to HVC, fire damper relay boxes ensure that the component single section dampers in a multiple section assembly operate in unison while opening and closing.

Fire damper relay boxes power up to four actuators and are equipped with a single thermal probe which should be fitted to ductwork as normal. Relay boxes should be fitted to the partition or floor, not ductwork.



FIRE DAMPER RELAY BOX CIRCUIT DIAGRAM



Further information: Direct field of application

Separation between fire dampers and between fire dampers and construction elements

- There should be a minimum of 200mm of supporting construction between fire dampers installed in separate ducts.
- There should be a minimum of 75mm of supporting construction between the fire damper and any adjacent construction element, e.g. a wall or ceiling.

Supporting construction

A test result obtained for a fire damper mounted in or on the face of a standard supporting construction is applicable to a supporting construction of the same type with a fire resistance equal to or greater than that of the standard supporting construction used in the test (thicker, denser, more layers of board etc.)

Control panels

HVC are able to supply, install and commission a full range of fire damper control panels to suit S700 fire dampers throughout the UK and Republic of Ireland, including:

- Single/multiple zone electro-mechanical systems
- Basic addressable systems
- Fully addressable systems

For further information on control panels please contact HVC or download the Series CPL brochure from our website:



Installation

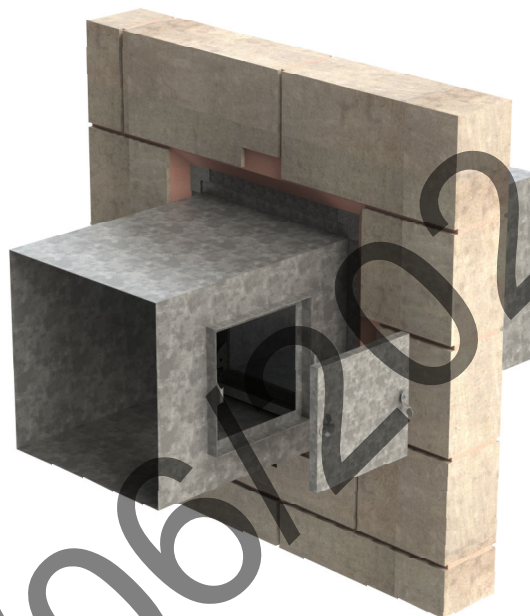
Installation should take into account the requirements of future maintenance, with a view to providing adequate access to fire dampers for testing and cleaning purposes.

We are able to supply a full range of access doors to facilitate access into ductwork.

Installation into chlorinated environments

We are unable to supply S700 fire dampers suitable for installation into chlorinated environments, swimming baths for example.

Any dampers installed into environments where chlorine is present shall be considered to be installed in an unsuitable location and will therefore not be covered by our standard 12 month warranty.



Maintenance

Maintenance of fire dampers is essential to ensure they remain in good working condition for the life of the building.

An operation and maintenance manual for NCA Series 700 fire dampers is available via:

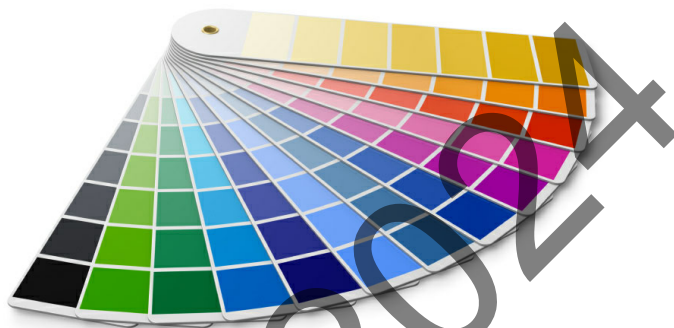
www.h-v-c.com/oandm

Notes

Archived 04/06/2024

Finish

Bare metal only



Ordering codes

Example

1 - 500 x 500 - S700BGP - BF24-TN

Codes

- | | | | |
|----|------------------|---|---|
| 1) | Quantity | | |
| 2) | Size (mm) | (Width x height / diameter) | Nominal size (see pages 8 and 9 for size details) |
| 3) | Series | S700 | Series 700 motorised leakage rated fire damper |
| 4) | Duct connection: | B
C
D | Square spigotted
Circular spigotted
Flat oval spigotted |
| | Material: | G | Galvanised steel |
| | Frame type: | P | Plate frame |
| 6) | Actuator/s: | Single section damper assemblies only
BF24-TN
BF230-TN | Belimo BF series actuator c/w 72°C rated thermal probe, 24 volt
Belimo BF series actuator c/w 72°C rated thermal probe, 230 volt |
| | | Multiple section damper assemblies only
BF24 | Belimo BF series actuator, 24 volt |

Important: S700 fire dampers must be supplied with a factory fitted Belimo BF series actuator. Actuators must always be used in a power open, spring return (fail closed) configuration with S700 fire dampers. Single section dampers will be supplied with motors on their left side unless specified (as detailed in this brochure). Multiple section dampers will be supplied with a relay box.

HVC & NCA products

HVC offer the significant advantage of manufacturing both in duct and duct terminal equipment, making us a one stop shop for all your HVAC needs.

The products shown below are a selection, not an exhaustive list. Go to www.h-v-c.com for details on all HVC and NCA products.

HVC: Grilles, Diffusers, Louvres and Volume Control Dampers



NCA: Fire and volume control dampers



HVC Supplies (Stourbridge) Ltd
Jason House
Amblecote
West Midlands
DY8 4EY
United Kingdom

Tel: +44 (0)1384 376555
Fax: +44 (0)1384 392555

sales@h-v-c.com

www.h-v-c.com



Assessed to ISO 9001
Cert/Ref No. 1186

All details within this brochure are correct at time of publication. However HVC's policy is one of continual product development. The right is reserved to alter any details published in this brochure without any prior notice. Any changes will appear on www.h-v-c.com as soon as is practically possible.

All information in this brochure is designed to be used for informative purposes only. HVC will not be legally bound by anything contained within this publication, or any other information distributed.

All references to companies not part of the HVC group of companies are used with the permission of their respective owners.