HVC

Incorporating

NEAS

AIRTECHNIC
www.airtechnic.gr
Air-Conditioning & Ventilation Components & Systems

Fire dampers

NCA Series 100
Fire dampers - CE marked

- **CE marked curtain type fire damper**
- **Assessed against the requirements of BS EN 15650**
- **Four installation methods all with 120 minute 'E' ratings**
- **Galvanised steel construction as standard, stainless steel optional**
- **Vertical installations for masonry walls and drywall partitions**
- **Horizontal installation for concrete floor slabs**
- **Available to suit square, rectangular, circular and flat oval ducting**
- **Now available with fixing lugs**

CE

S100: November 2018

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Quality assurance

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

Assessed to ISO 9001
Cert/Ref No. 1186

CE marking

In accordance with the Construction Products Regulation or CPR (305/2011/EU) introduced into the UK on the 1st of July 2013, any fire dampers sold into the UK and EU markets must be CE marked.

To obtain CE marking, companies and fire dampers themselves must fully comply with the requirements of BS EN 15650.

Companies must be:

- ISO 9001 accredited
- Monitoring production through a program of Factory Production Control (FPC)
- Issued with a certificate of constancy of performance by a notified body

Fire dampers must be:

- Fire tested to BS EN 1366-2
- Classified to BS EN 13501-3
- Thermal release mechanism tested to ISO 10294-4
- Stainless steel and multiple damper assemblies assessed against EN 15882-2

HVC currently have four CE marked installation methods for Series 100 fire dampers.

- HEVAC frame in a masonry wall
- Plate frame in a drywall partition
- Plate frame in a masonry wall
- Plate frame in a concrete floor

It is a legal requirement that fire dampers are installed in the way instructed by the manufacturer. Any other installation is untested and therefore illegal.

Responsibility for ensuring correct installation lies with all parties in the supply chain.

This brochure gives a short overview of the installation methods.

For full installation instructions, declaration of performance, maintenance routine and CE certificates go to:

www.h-v-c.com/installations

NCA Series 100 fire dampers

A CE marked fire damper, comprising a folding curtain type blade design.

Constructed from galvanised steel as standard, with stainless steel optional, and available with 120 minute 'E' rated installations to suit masonry walls, drywall partitions and concrete floors.

During normal conditions, the curtain type blade pack is recessed into the damper header and retained in place by a fusible link, leaving the duct open to airflow.

Upon exposure to temperatures exceeding the temperature rating of the fusible link, the link will split, and the blade pack will be fully extended by springs to shut down the duct.

Series 100 fire dampers are designed to be used as part of building compartmentalisation, this being the process of constructing a building with zones. The purpose of this is that if a fire starts in any one zone, it is contained within that zone and not allowed to spread, thereby potentially savings lives, limiting damage to the building and making the job of fire fighters easier.

It is useful to think of fire dampers as the ductwork equivalent of fire doors, allowing an unrestricted flow of air during normal operation, but shutting down a potential transmission route in the event of fire.

Design features

Material	Standard: Blades, frame, case and motor mounting plate - Galvanised steel
	Brass fusible link
	Optional: Stainless steel blades and / or case. Please contact us for more information.
Sizes	Minimum: 100mm x 100mm / 100mm diameter nominal
	Maximum: Damper in HEVAC frame - 1250mm x 1000mm / 1000mm diameter nominal
	Damper in plate frame - 1000mm x 1000mm / 1000mm diameter nominal (up to 1250mm x 1000mm with reduced time rating, please see page 8 for more information)
	Units above the maximum size can be made in multiple sections. Please contact us for more information.
Finish	Bare metal
Mass/m² face area	20 kg (S100BGH - 1000mm x 1000mm nominal size)
	25 kg (S100CGH - 1000mm diameter nominal size)
	Smaller units will be proportionally heavier relative to size

Damper design

1. **Installation frame**
   Designed to integrate the damper into the partition. Available as a HEVAC (shown) or plate frame.

2. **Link bracket**
   Retains the fusible link.

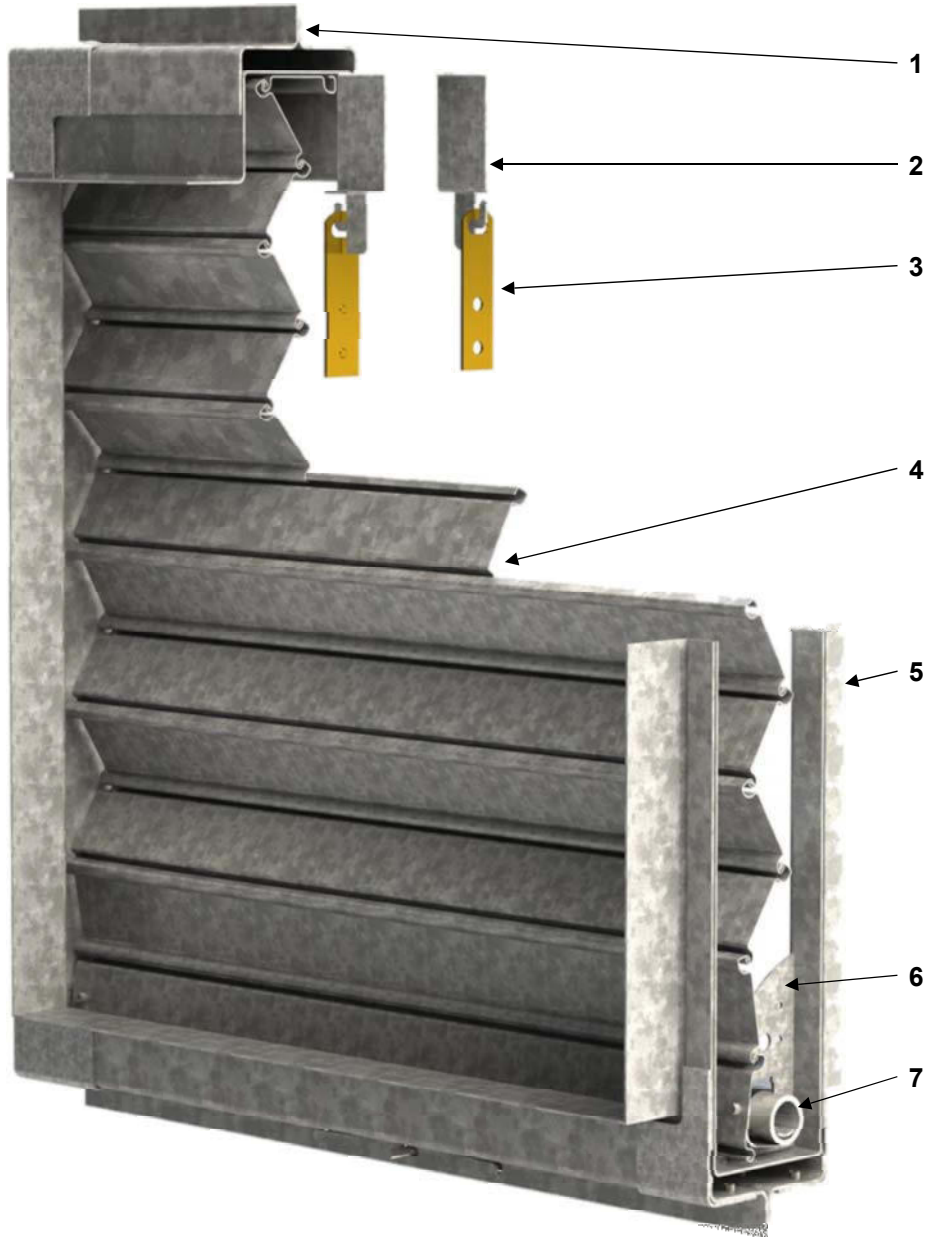
3. **Fusible link**
   Retains the blade pack in a recessed position under normal conditions. Splits into two parts to release blades upon reaching rated temperature.

4. **Blade pack**
   Interlocking steel blades which concertina into the header during normal operation. When the fusible link splits the blade pack is pulled closed by the blade springs.

5. **Case**
   The main body of the damper, comprising elements including the header and spigots.

6. **Lock guide**
   Two fitted to each damper, act to retain the blade springs, and also lock the blade pack in position when closed.

7. **Blade spring**
   Fully extended during normal operation. When the fusible link splits, the blade springs pull the blade pack down and into the lock guides.



Testing and certification - CE qualifying certification

NCA Series 100 fire damper with HEVAC frame

Tested to:

- **BS EN 1366-2**
  Fire resistance test
  Vertical installation in masonry wall: Tested for up to 240 minutes
  Pass

- **BS EN 13501-3**
  Classification of fire resistance performance
  Classified to: E 120 (ve i ↔ o)

- **BS ISO 10294-4**
  Test of thermal release mechanism
  Pass

- **Multiple and stainless steel options**
  CE marked against the requirements of EN 15882-2 (EXAP)

NCA Series 100 fire damper with plate frame

Tested to:

- **BS EN 1366-2**
  Fire resistance test
  Vertical installation in drywall partition: Tested for up to 120 minutes
  Horizontal installation in concrete floor slab: Tested for up to 240 minutes
  Pass

- **BS EN 13501-3**
  Classification of fire resistance performance
  Classified to: Vertical, 100mm x 100mm to 1000mm x 1000mm: E 120 (ve i ↔ o)
  Vertical, 1000mm x 1000mm to 1250mm x 1000mm: E 90 (ve i → o)
  Horizontal: E 120 (ho i → o)

- **BS ISO 10294-4**
  Test of thermal release mechanism
  Pass

- **Multiple and stainless steel options**
  CE marked against the requirements of EN 15882-2 (EXAP)

Testing and certification - Corrosion

Series 100 fire dampers have been tested to:

- **BS EN 60068-2-11:1999**
  Salt spray corrosion test
  Pass

Testing and certification - Case leakage

Series 100 fire dampers have been tested to:

- **BS EN 1751:1999**
  Ventilation for buildings - Air terminal devices
- **DW144**
  Specification for sheet metal ductwork

All case types available with Series 100 fire dampers have been tested, and the class/classes to which each has passed are detailed in the table below.

	Quadrilateral spigot S100A** and S100B**		Circular spigot S100C**		Flat oval spigot S100D**	
Static pressure differential (Pa)	**DW144**	**BS EN 1751**	**DW144**	**BS EN 1751**	**DW144**	**BS EN 1751**
100	A & B	A, B & C	A & B	A & B	A & B	A & B
200	A & B	A, B & C	A & B	A & B	A	A
300	A & B	A, B & C	A & B	A & B	A	A
400	A & B	A, B & C	A & B	A & B	A	A
500	A & B	A, B & C	A & B	A & B	A	A
600	B & C	A, B & C	B	A & B	Max leakage exceeded	A
700	B & C	A, B & C	B	A & B	Max leakage exceeded	A
800	B & C	A, B & C	B	A & B	Max leakage exceeded	A
900	B & C	A, B & C	B	A & B	B	A & B
1000	B	A & B	B	A & B	Max leakage exceeded	A
1100	Max leakage exceeded	A, B & C	Max leakage exceeded	A & B	Max leakage exceeded	B
1200	C	A, B & C	Max leakage exceeded	A & B	Max leakage exceeded	B
1300	C	A, B & C	Max leakage exceeded	A & B	Max leakage exceeded	B
1400	C	A, B & C	Max leakage exceeded	A & B	Max leakage exceeded	B
1500	C	A, B & C	Max leakage exceeded	A & B	Max leakage exceeded	B
1600	C	A, B & C	Max leakage exceeded	A & B	Max leakage exceeded	B
1700	C	A, B & C	Max leakage exceeded	A & B	Max leakage exceeded	B
1800	C	A, B & C	Max leakage exceeded	A & B	Max leakage exceeded	B
1900	C	A, B & C	Max leakage exceeded	A & B	Max leakage exceeded	B
2000	C	A, B & C	Max leakage exceeded	A & B	Max leakage exceeded	B

Installation guide

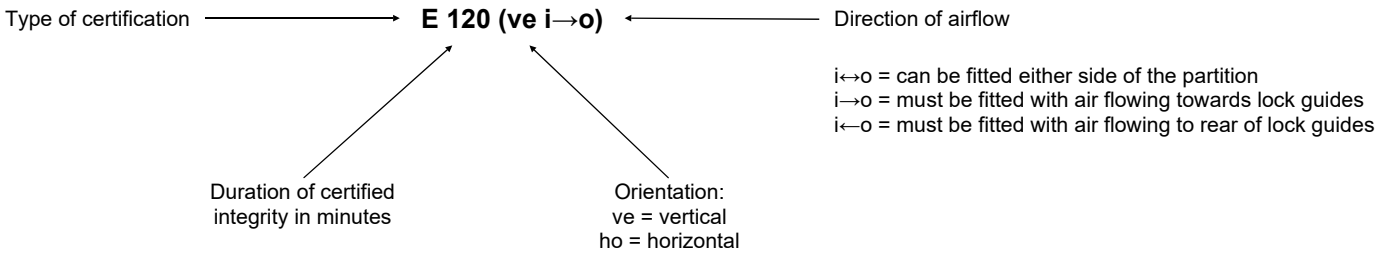
HVC currently have four CE marked installations available for Series 100 fire dampers.

Please see the table below to find the installation type you require.

Installation code	Frame type	Substrate			Orientation		Material		Nominal size range (w x h, mm)	Classification		Page
		Masonry	Drywall partition	Concrete	Vertical	Horizontal	Galvanised steel	Stainless steel		Single section	Multi-section	
FD-1V	HEVAC	✓			✓		✓		100 x 100 to 1250 x 1000	E 120 (ve i↔o)		9
FD-2VP/M	Plate	✓ (M)	✓ (P)		✓		✓		100 x 100 to 1000 x 1000	E 120 (ve i↔o)	E 90 (ve i↔o)	10 and 11
									1000 x 1000 to 1250 x 1000	E 90 (ve i→o)	E 60 (ve i→o)	
								✓	100 x 100 to 1000 x 1000	E 90 (ve i↔o)	E 90 (ve i↔o)	
									1000 x 1000 to 1250 x 1000	E 60 (ve i→o)	E 60 (ve i→o)	
FD-2HC	Plate			✓		✓	✓		100 x 100 to 1000 x 1000	E 120 (ho i→o)	Not available	12

Please note: HEVAC frames are supplied in galvanised steel only.

Guide to classification



Installation FD-1V

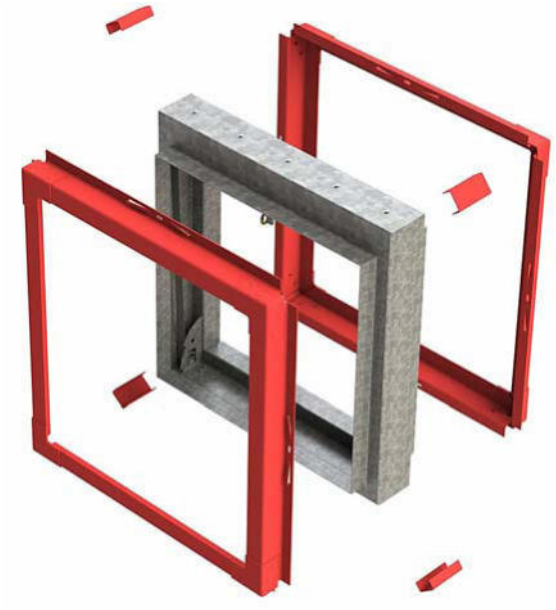
Series 100 fire damper c/w HEVAC frame in masonry wall

HEVAC frames completely surround the damper case. They assist in maintaining the integrity of the damper during a fire.

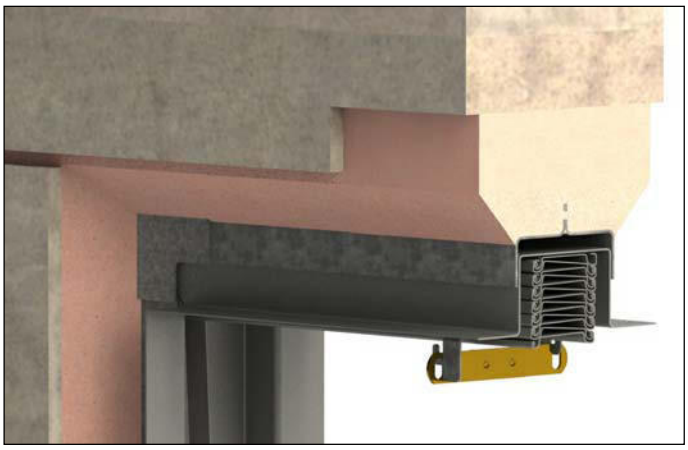
During a fire, walls may be so severely affected by heat that they begin to deform. Any fire dampers held within the wall could also be subject to this deformation, potentially causing the blade pack to buckle and therefore compromising integrity.

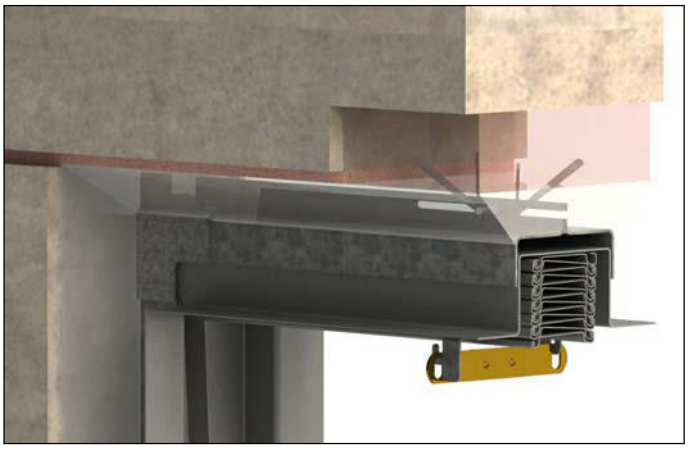
HEVAC frames are designed to allow expansion and deformation of the damper and wall in the event of fire, in turn preventing the damper from being subjected to possibly damaging forces.

Installation involves creating an appropriately sized aperture in the wall, bending the frame tabs out and upwards, and then mortaring the damper into place.



Time and cost saving design
Series 100 fire dampers with HEVAC frames do not need to be tied off to steel anchors set into masonry.





Two copies of the label shown here are supplied with every fire damper fitted with a HEVAC frame.

One label is fitted to the damper before despatch, the other will be supplied loose and must be installed near the damper after installation, for example on ductwork or the wall, so that it remains visible.

To download full installation instructions, declaration of performance and maintenance routine, go to:

www.h-v-c.com/installations

CE 0832
HVC Supplies (Stourbridge) Ltd ***Date of manufacture stamped here*** 0832-CPR-P0015
EN 15650:2010 Fire Damper Series 100 HEVAC
E 120 (ve i↔o)
This damper shall be installed as per the manufacturer's instructions. Installation details and DOP available via www.h-v-c.com. Spare product label to be affixed on or near product so it is visible after installation.

Installation FD-2VP

Series 100 fire damper c/w plate frame in drywall partition

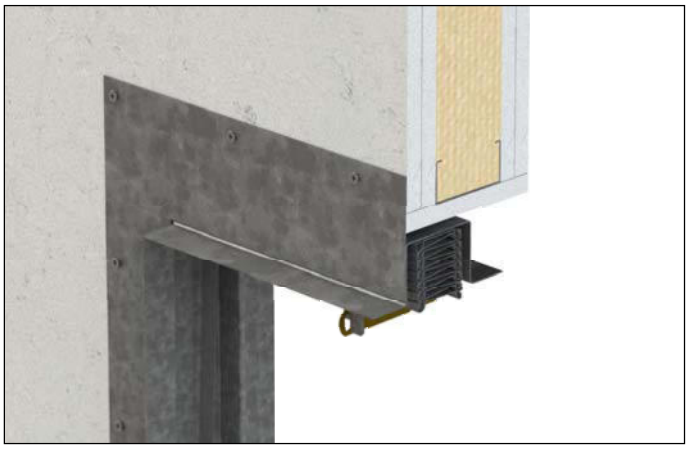
Plate frames can be used to integrate fire dampers into drywall partition walls.

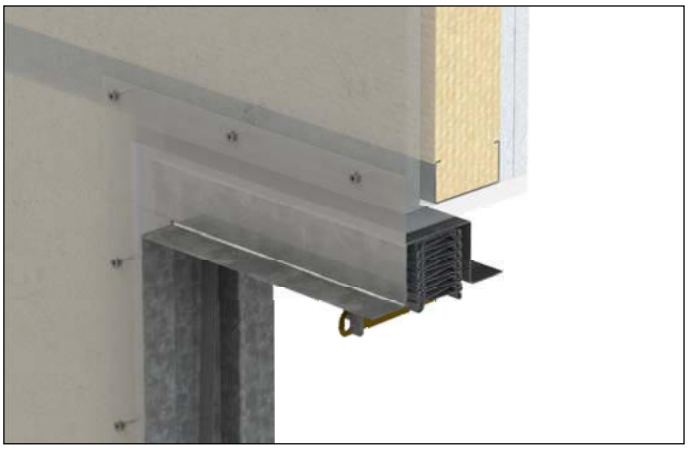
Installation involves creating an appropriately sized aperture in the steel framework of a plasterboard wall. The aperture must be lined with a single layer of plasterboard, and the wall cavities filled with mineral wool. Two sheets of plasterboard must be fitted to each side of the wall.

Dampers should be affixed directly to the steelwork with screws at not more than 125mm centres.

Fixing lugs are now available factory fitted to plate frames, please see page 16 for more information.

Time and cost saving design
Series 100 fire dampers with plate frames for drywall partition installations do not require the use of drop rods.





Two copies of the label shown here are supplied with every fire damper fitted with a plate frame.

One label is fitted to the damper before despatch, the other will be supplied loose and must be installed near the damper after installation, for example on ductwork or the wall, so that it remains visible.

To download full installation instructions, declaration of performance and maintenance routine, go to:

www.h-v-c.com/installations

0832
HVC Supplies (Stourbridge) Ltd ***Date of manufacture stamped here*** 0832-CPR-P0015
EN 15650:2010 Fire Damper Series 100 Plate Frame
100mm x 100mm to 1000mm x 1000mm nominal Galvanised single unit: E 120 (ve i↔o) Stainless and/or multiple unit: E 90 (ve i↔o) Galvanised single unit: E 120 (ho i→o) **1000mm x 1000mm to 1250mm x 1000mm nominal** Galvanised single unit: E 90 (ve i→o) Stainless and/or multiple unit: E 60 (ve i→o)
This damper shall be installed as per the manufacturer's instructions. Installation details and DOP available via www.h-v-c.com. Spare product label to be affixed on or near product so it is visible after installation.

Installation FD-2VM

Series 100 fire damper c/w plate frame in masonry wall

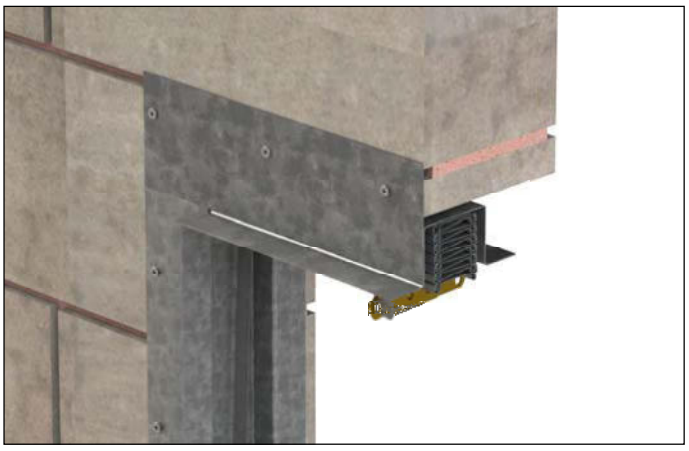
Plate frames can be used to integrate fire dampers into masonry walls.

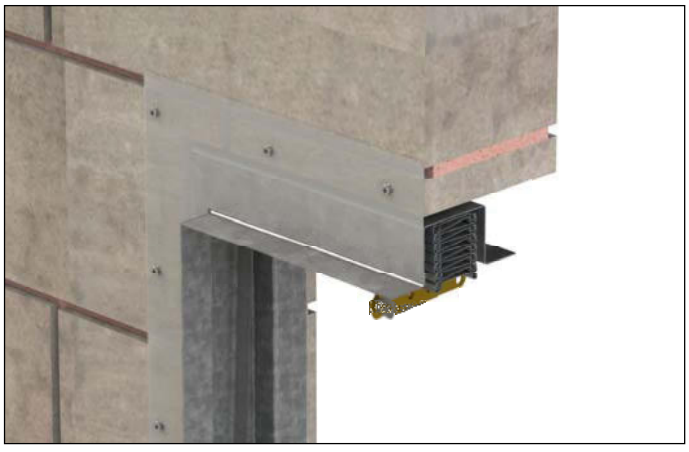
Installation involves simply creating an appropriately sized aperture in the masonry wall and fixing the damper into place.

Dampers should be affixed to the wall with appropriate fixings at not more than 125mm centres.

Fixing lugs are now available factory fitted to plate frames, please see page 16 for more information.

Time and cost saving design
Series 100 fire dampers with plate frames for masonry wall installations do not require the use of drop rods.





Two copies of the label shown here are supplied with every fire damper fitted with a plate frame.

One label is fitted to the damper before despatch, the other will be supplied loose and must be installed near the damper after installation, for example on ductwork or the wall, so that it remains visible.

To download full installation instructions, declaration of performance and maintenance routine, go to:

www.h-v-c.com/installations

CE
0832

HVC Supplies (Stourbridge) Ltd
Date of manufacture stamped here
0832-CPR-P0015

EN 15650:2010
Fire Damper
Series 100 Plate Frame

100mm x 100mm to 1000mm x 1000mm nominal
Galvanised single unit: E 120 (ve i↔o)
Stainless and/or multiple unit: E 90 (ve i↔o)
Galvanised single unit: E 120 (ho i→o)

1000mm x 1000mm to 1250mm x 1000mm nominal
Galvanised single unit: E 90 (ve i→o)
Stainless and/or multiple unit: E 60 (ve i→o)

This damper shall be installed as per the manufacturer's instructions.
Installation details and DOP available via www.h-v-c.com.
Spare product label to be affixed on or near product so it is visible after installation.

Installation FD-2HC

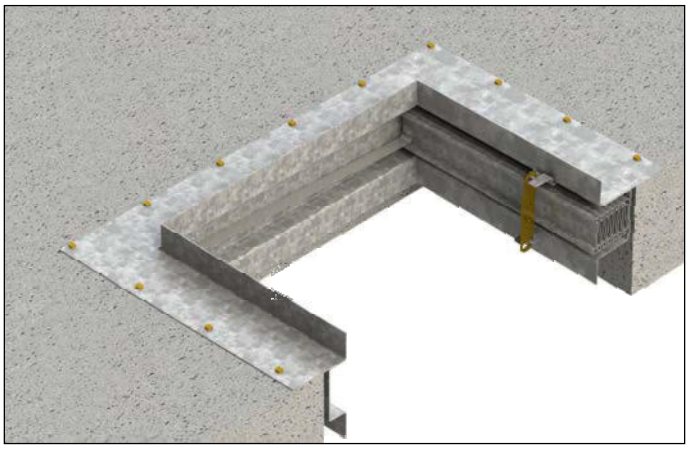
Series 100 fire damper c/w plate frame in concrete floor

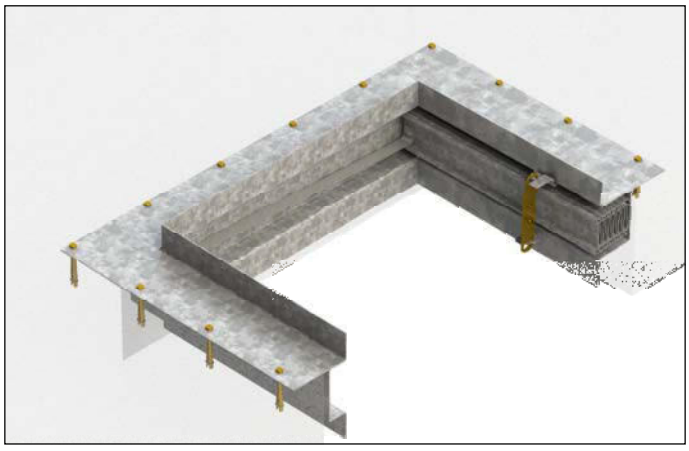
Plate frames can be used to integrate fire dampers into concrete floors.

Installation involves creating an appropriately sized aperture in the concrete slab and then fixing the damper to the floor slab with 'Loden anchor' fixings or equivalent.

Fixings should be 10mm in from the edge of the damper frame, and spaced at a pitch of not more than 125mm.

Time and cost saving design
Series 100 fire dampers with plate frames for concrete floor installations require no backfilling of concrete.





Two copies of the label shown here are supplied with every fire damper fitted with a plate frame.

One label is fitted to the damper before despatch, the other will be supplied loose and must be installed near the damper after installation, for example on ductwork or the wall, so that it remains visible.

To download full installation instructions, declaration of performance and maintenance routine, go to:

www.h-v-c.com/installations

0832
HVC Supplies (Stourbridge) Ltd ***Date of manufacture stamped here*** 0832-CPR-P0015
EN 15650:2010 Fire Damper Series 100 Plate Frame
100mm x 100mm to 1000mm x 1000mm nominal Galvanised single unit: E 120 (ve i↔o) Stainless and/or multiple unit: E 90 (ve i↔o) Galvanised single unit: E 120 (ho i→o) **1000mm x 1000mm to 1250mm x 1000mm nominal** Galvanised single unit: E 90 (ve i→o) Stainless and/or multiple unit: E 60 (ve i→o)
This damper shall be installed as per the manufacturer's instructions. Installation details and DOP available via www.h-v-c.com. Spare product label to be affixed on or near product so it is visible after installation.

Guide: Why is it so important to use certified fire dampers?

On the 1st of July 2013 it became EU law that any fire dampers sold into the UK and EU markets must be CE marked.

In the event of a severe fire, fire dampers may make the difference between partial damage to a building or total loss, or even the difference between life and death for both the occupants of the building, and for the fire crews who may be sent in to extinguish the fire.

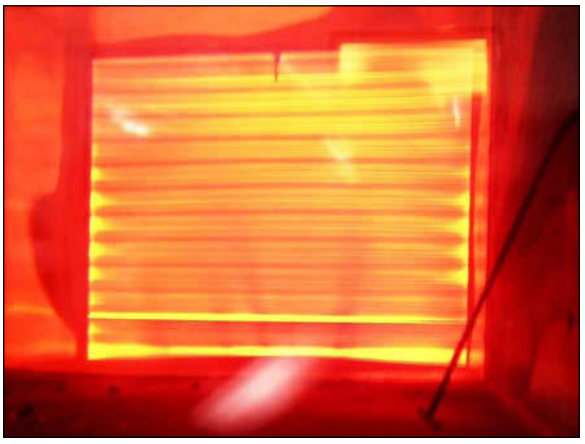
The test fire dampers must pass to become certified is BS EN 1366-2. This looks to replicate an absolute worst case scenario of there being a severe fire whilst ductwork remains pressurised.

Fire dampers are bolted to a gas furnace, which during the test exposes them to temperatures approaching 1200°C with a pressure differential of 300 Pa on either side of the blade pack.

Leakage through the damper must remain below 360 $m^3/hr/m^2$ at all times or the damper fails.

Testing to this extreme standard ensures that only the very best fire dampers can ever become CE marked.

Series 100 fire damper during a horizontal fire test
The test was stopped after 4 hours and 24 minutes because the 150mm thick concrete slabs themselves were failing. Damper leakage was actually decreasing at this stage.



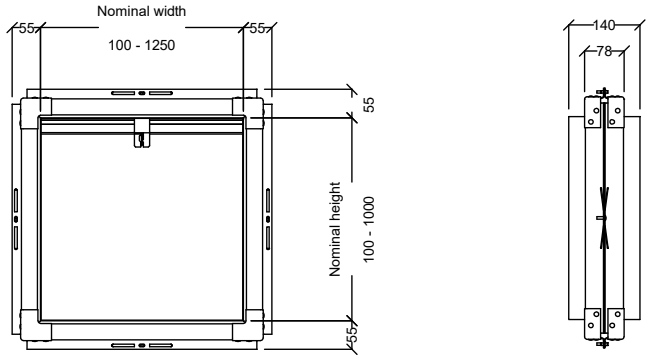
Damper blades glowing during a vertical fire test
Fire dampers are exposed to temperatures approaching 1200 degrees celsius during fire testing, causing the galvanised steel blade pack to glow red hot.

Remains of a drywall partition after a fire test
The two 15mm thick layers of plasterboard have been completely destroyed by the ferocity of the fire and the fire damper blade pack itself has been completely deformed.

Technical drawings - HEVAC frame

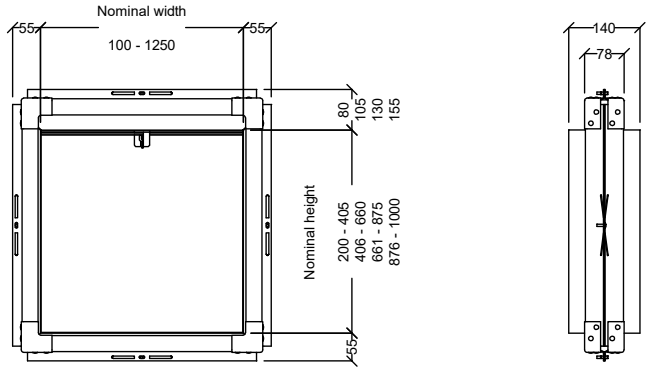
S100A*H

- Square spigot
- Blades in airstream
- Spigot 6mm under nominal (duct) width and height
- Recommended for sizes under 200mm high
- Min size: 100mm W x 100mm H
- Max size: 1250mm W x 1000mm H



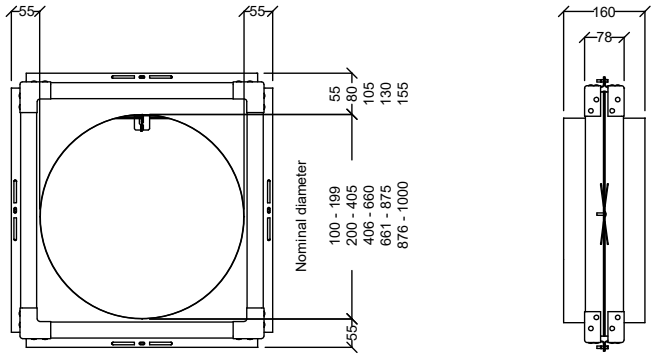
S100B*H

- Square spigot
- Blades out of airstream
- Spigot 6mm under nominal (duct) width and height
- Recommended for sizes equal to or over 200mm high
- Min size: 100mm W x 200mm H
- Max size: 1250mm W x 1000mm H



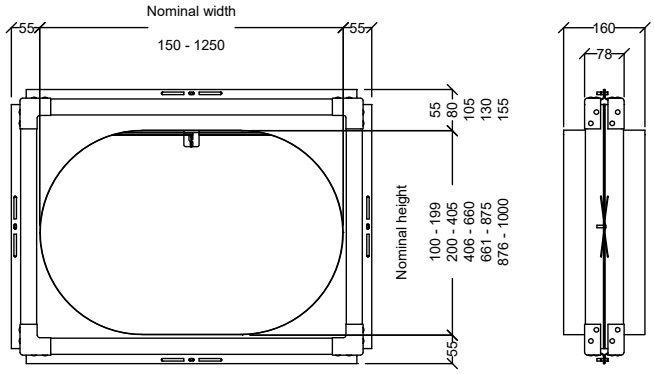
S100C*H

- Circular spigot
- Blades out of airstream
- Spigot 3mm under nominal (duct) diameter
- Min size: 100mm dia
- Max size: 1000mm dia



S100D*H

- Flat oval spigot
- Blades out of airstream
- Spigot 3mm under nominal (duct) width and height
- Min size: 150mm W x 100mm H
- Max size: 1250mm W x 1000mm H



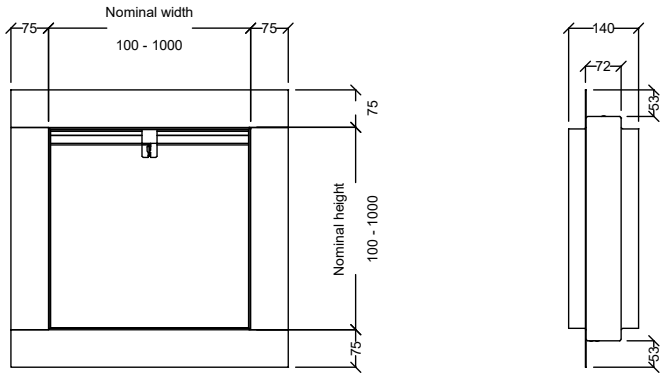
Please note:

Units above the maximum size can be made in multiple sections. Please contact us for more information.

Technical drawings - Plate frame

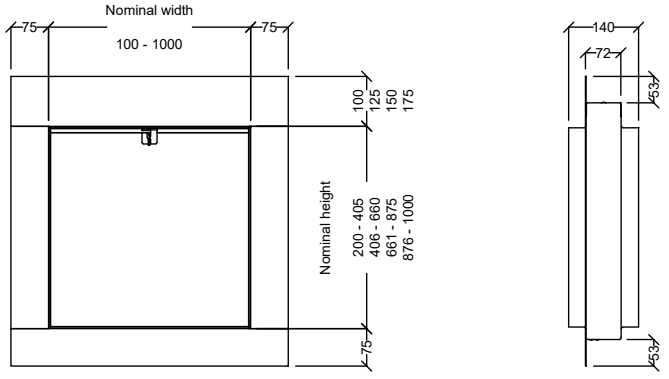
S100A*P

- Square spigot
- Blades in airstream
- Spigot 6mm under nominal (duct) width and height
- Recommended for sizes under 200mm high
- Min size: 100mm W x 100mm H
- Max size: 1250mm W x 1000mm H
  (refer to page 8 for more information)



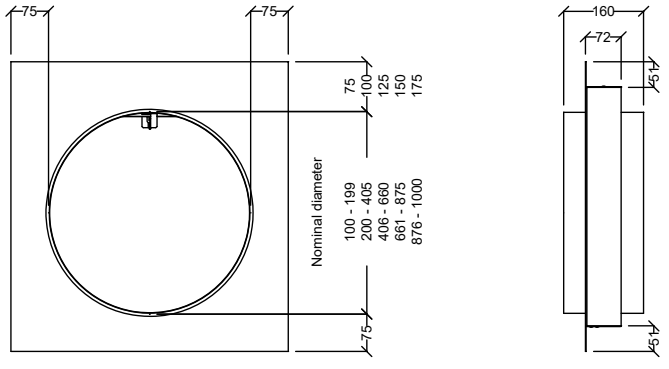
S100B*P

- Square spigot
- Blades out of airstream
- Spigot 6mm under nominal (duct) width and height
- Recommended for sizes equal to or over 200mm high
- Min size: 100mm W x 200mm H
- Max size: 1250mm W x 1000mm H
  (refer to page 8 for more information)



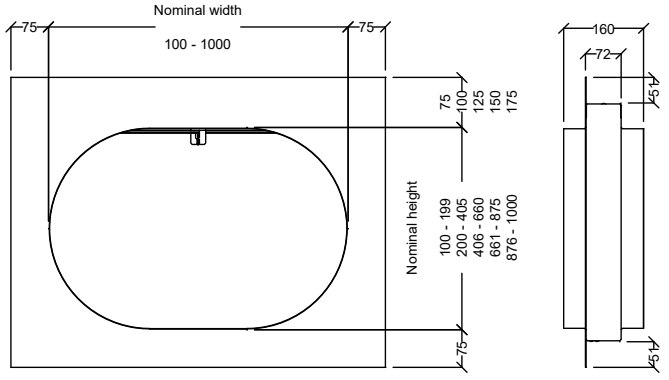
S100C*P

- Circular spigot
- Blades out of airstream
- Spigot 3mm under nominal (duct) diameter
- Min size: 100mm dia
- Max size: 1000mm dia



S100D*P

- Flat oval spigot
- Blades out of airstream
- Spigot 3mm under nominal (duct) width and height
- Min size: 150mm W x 100mm H
- Max size: 1250mm W x 1000mm H
  (refer to page 8 for more information)



Please note:

Units above the maximum size can be made in multiple sections. Please contact us for more information.

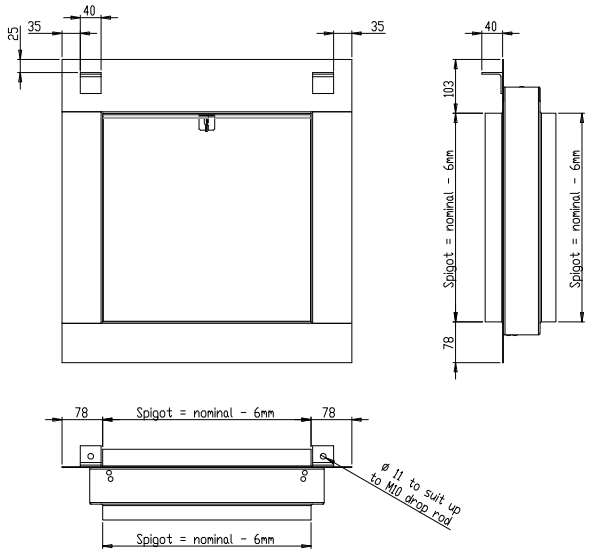
Installation accessories

Fixing lugs

Now available factory fitted to fire dampers equipped with plate frames, fixing lugs allow dampers to be hung from drop rods in addition to the approved vertical plate frame installation methods detailed on pages 10 and 11.

Factory drilled with an 11mm diameter hole to suit up to an M10 drop rod, fixing lugs aid installation by supporting the damper during fitment.

Nuts and washers should only be positioned below the fixing lugs, allowing the damper/drop rod to expand in the event of fire.



Damper operation methods

Fusible links (standard operation method)

The standard operation method, fusible links are a two part brass unit, joined with a solder formulated to melt at a specific temperature.

Series 100 fusible links incorporate two dimples which act to prevent creep over time. This ensures that the damper only releases when the solder has melted, rather than through fatigue due to the constant pressure exerted by the blade pack.

Available ratings: 72°C (Standard)
96°C
145°C
183°C

Electromagnets

Power normally on, damper closes upon loss.

Available for systems which require dampers to close upon loss of power.

The fusible link is retained so the damper will still close upon reaching the specified temperature.

Please note that unless back up power supplies are in place, a power cut will result in dampers closing.

Not available on square/rectangular/flat oval dampers with a nominal height of less than 200mm, or on circular dampers with a nominal diameter of less than 250mm.

Available models: 24V DC
24V AC (with rectifier)
230V DC
230V AC (with rectifier)

Maintenance assisting options

Resettable link / Easy maintenance link

Resettable links make damper testing and maintenance easier by reducing the complexity of releasing and resetting a damper. Normally the link must be manually removed from the bracket which can be awkward, especially through small duct access doors.

Resettable links incorporate a spring loaded lever arm which holds one end of the fusible link. To release the damper during testing depress the lever arm to release the blade pack.

Resetting the pack then involves pushing the blades back into the header, and putting the link back into position.

Pull ring

Attached to the bottom blade, when working from upstream of the damper pull rings allow the blade pack to be pulled off the lock guides and reset into the damper header.

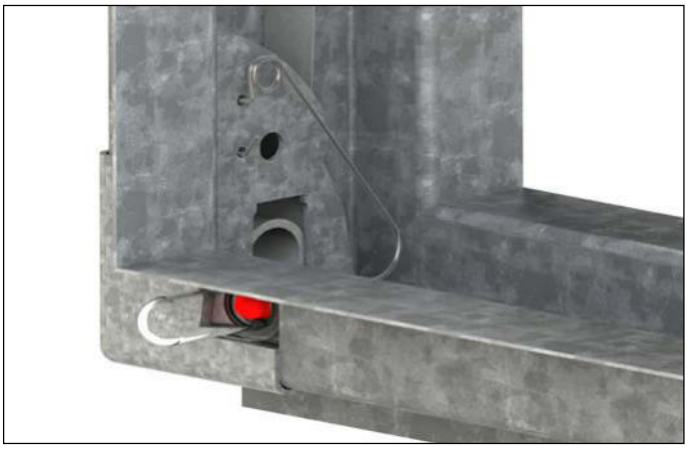
Damper status indicators

Visual position indicator

VPIs allow damper blade position to be observed from outside the duct.

Positioned on the bottom of the damper frame, VPIs consist of a clear plastic tube with a red insert.

When the damper is open, the red insert is fully recessed. When closed, the insert is extended.



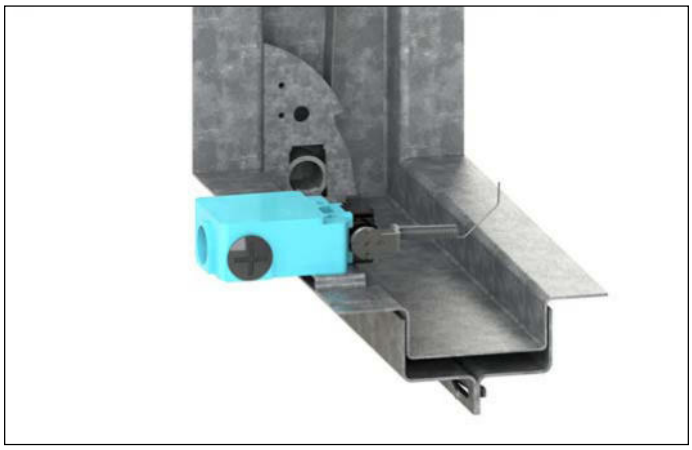
Microswitch

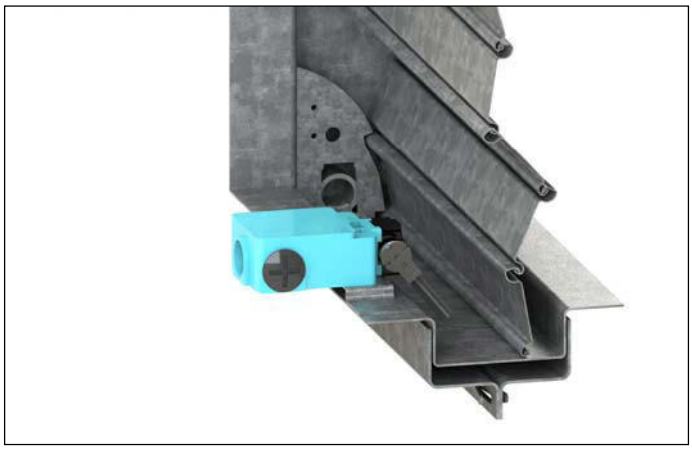
Made by Honeywell specifically for HVC, this double pole, single throw microswitch completes a circuit when the blade pack falls, remotely indicating blade position.

A spring arm protrudes from the microswitch into the blade path. Upon blade closure, the arm is pushed down. The arm is spring-loaded so no resetting to the switch itself is required.

The microswitch body allows connection on the back or either side to assist fitting.

Not available on square/rectangular/flat oval dampers with a nominal height of less than 100mm, or on circular dampers with a nominal diameter of less than 200mm.

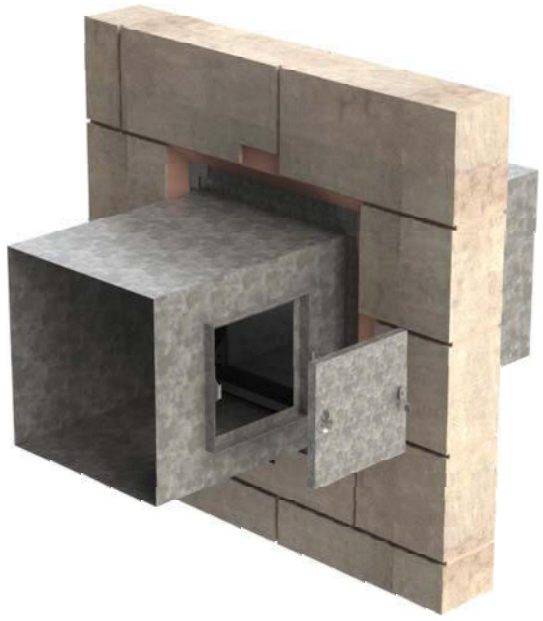




Installation

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.



Important note:

Installation into chlorinated environments

We are unable to supply S100 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.

Testing and maintenance must be carried out in accordance with:

BS 9999
Code of practice for fire safety in the design, management and use of buildings.

An operation and maintenance manual (O & M) for NCA Series 100 CE marked fire dampers is available via:

www.h-v-c.com

EC Declaration of Performance

Refer to **www.h-v-c.com/installations**

Finish

Bare metal only

Ordering codes

Example

1 - 500 x 500 - S100BSH - SS304 - VPI

Codes

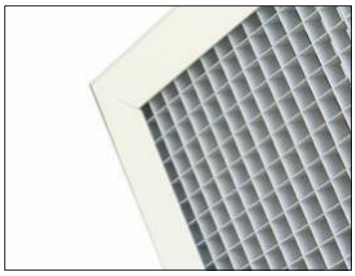
1)	**Quantity**		
2)	**Size (mm)**	(Width x height)	Nominal size
3)	**Series**	S100	Series 100 CE marked fire damper
4)	**Spigot shapes:**	A	Square spigotted (recommended under 200mm nominal height)
		B	Square spigotted (recommended over or equal to 200mm nominal height)
		C	Circular spigotted
		D	Flat oval spigotted
	Material:	G	Fully galvanised steel
		M	Galvanised steel case, stainless steel blades
		S	Fully stainless steel
	Frame type:	H	HEVAC frame
		P	Plate frame
5)	**Fixing lugs**	FL	Factory fitted fixing lugs (plate frame only)
6)	**Stainless grades:**	SS430	430 grade stainless steel
		SS304	304 grade stainless steel
		SS316	316 grade stainless steel (marine spec)
		(Required if material code is M or S)	
7)	**Accessories:**	VPI	Visual position indicator
		MS	Microswitch (minimum height/dia. restictions apply - please see page 17)
		PR	Pull ring
		RSL	Resettable link
		EM24AC	Electromagnet 24V AC (minimum height/dia. restictions apply - please see page 16)
		EM24DC	Electromagnet 24V DC ((minimum height/dia. restictions apply - please see page 16)
		EM230AC	Electromagnet 230V AC (minimum height/dia. restictions apply - please see page 16)
		EM230DC	Electromagnet 230V DC (minimum height/dia. restictions apply - please see page 16)

HVC & NCA products

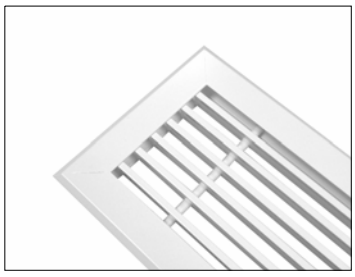
HVC offer the significant advantage of manufacturing both in duct and duct terminal equipment, making us a one stop shop for all your HVAC needs.

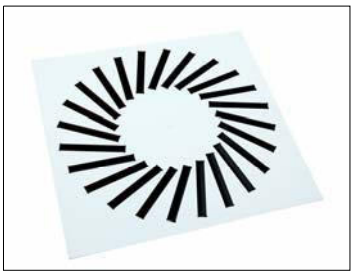
The products shown below are a selection, not an exhaustive list. Go to **www.h-v-c.com** for details on all HVC and NCA products.

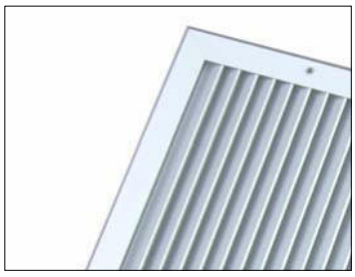
HVC: Grilles, Diffusers, Louvres and Volume Control Dampers

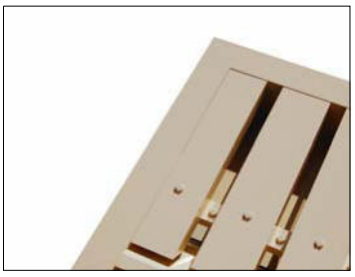













NCA: Fire and Volume Control Dampers



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West Midlands
DY8 4EY
United Kingdom

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

sales@h-v-c.com

Installation guide
Series 100 fire damper c/w HEVAC frame

Upon receipt of unit - Before signing for the delivery

- Flourescent yellow stickers are attached to every package we despatch detailing receipt instructions and what to do if your goods are damaged.
- The instructions on this must be followed or HVC will not be able to assist with any claims for damage.

Prior to installation

- If damper is to be stored on site, ensure it is stored in a clean and dry environment.
- Immediately prior to fitment, remove all packaging from the unit. Take particular care inspecting the inside of the unit for any packing materials which may disrupt damper operation.

Installation

- Fire damper installation should only be carried out by competant persons. As life safety devices, correct operation is reliant on correct installation.
- Damper edges can be sharp. PPE should be used when handling.
- Larger dampers can be very heavy, ensure suitable lifting methods are used to help prevent injury.
- 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 corner or adjacent wall.
- Remove the safety cable tie around the fusible link. Failure to remove this will render the damper inoperable.

Operation

- Fusible link fire dampers are designed to operate without any command from an operator or building maintenance system (unless equipped with an electromagnet or solenoid).
- Fusible links will release at the temperature embossed onto the link body.
- The use of electromagnets and solenoids enables the damper to be operated remotely, even when the damper itself is not being exposed to elevated temperatures.
- The activation command may originate from an automated command or a human operator through the building maintenance system.
- Once the damper has been shut, it can only be opened by hand.
- Once exposed to elevated temperatures/flames resulting in the damper closing, the damper must be replaced.

Spares

- A spare amount of replacement fusible links should be kept on site.

Installation FD-1V
Masonry wall installation

BS EN 13501-3:2005 + A1:2009

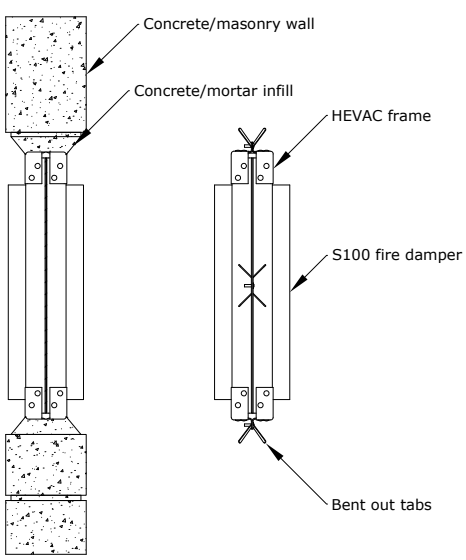
Classification report numbers:
Galvanised units - 301099A / 2
Stainless units - 301099A / 3
Multiple units - 301099A / 3

Installation procedure

- Install damper centrally in the depth of the wall, the wall being not less than 150mm thick of aerated blockwork or concrete construction.
- If wall is thicker, installation so damper centre line is not less than 50mm from nearest wall face is acceptable.
- Wall aperture should be sized to give approximately 10mm clearance between damper extremities and wall.
- HEVAC frame tabs should be bent outwards and set into recesses in the wall aperture approximately 100mm long x 50mm deep in positions coinciding with the frame tab positions.
- Gaps between the HEVAC frame and the aperture should then be filled with mortar.

Notes

- No lugs are required when fitting this CE marked fire damper.
- Multiple assemblies are subject to the same installation.



IMPORTANT NOTE

It is a legal requirement that fire dampers are installed in the way instructed by the manufacturer.
Any other installation is untested and therefore illegal.

Responsibility for ensuring correct installation lies with all parties in the supply chain.

Installation Declaration for Series 100 Fire Dampers

CE

- It is the installer's responsibility to ensure the installation is done as per the installation method provided.
- This document must be completed when installing any HVC Fire Damper.
- By signing this document you are declaring that the correct installation method has been followed.

Check:	**Yes/No**
Is the installed damper the correct type?	
Is the damper installed correctly?	
Has the damper been correctly identified?	
Has the correct orientation been used?	
Are there sufficient access routes installed?	
Has a check of the damper been carried out for: • Internal cleanliness? • Damage? • Obstructing debris?	
Has a drop test been carried out?	
At the time of handover is the fire barrier and penetration seal complete?	

Damper unique system I.D. (If applicable):	
Damper location:	
Installation address:	
Damper type: *e.g. S100BGH*	
Link rated temperature:	
Notes:	

Installer's name:	
Company name:	
Company address:	
Company telephone number:	

I hereby confirm that the damper detailed above has been installed in accordance with HVC Supplies (Stourbridge) Ltd's tested installation method, and has been tested as above.

Installer's signature:

Date:

Μιχαήλ Καραολή 19 143 43, Ν. Χαλκηδόνα, Αθήνα
Τηλ: 211 - 70.55.500 & 210 - 21.30.051, Fax: 210 - 22.23.283
www.h-v-c.com
sales@h-v-c.com

Installation guide
Series 100 fire damper c/w plate frame

Upon receipt of unit - Before signing for the delivery

- Flourescent yellow stickers are attached to every package we despatch detailing receipt instructions and what to do if your goods are damaged.
- The instructions on this must be followed or HVC will not be able to assist with any claims for damage.

Prior to installation

- If damper is to be stored on site, ensure it is stored in a clean and dry environment.
- Immediately prior to fitment, remove all packaging from the unit. Take particular care inspecting the inside of the unit for any packing materials which may disrupt damper operation.

Installation

- Fire damper installation should only be carried out by competant persons. As life safety devices, correct operation is reliant on correct installation.
- Damper edges can be sharp. PPE should be used when handling.
- Larger dampers can be very heavy, ensure suitable lifting methods are used to help prevent injury.
- 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 corner or adjacent wall.
- Remove the safety cable tie around the fusible link. Failure to remove this will render the damper inoperable.

Operation

- Fusible link fire dampers are designed to operate without any command from an operator or building maintenance system (unless equipped with an electromagnet or solenoid).
- Fusible links will release at the temperature embossed onto the link body.
- The use of electromagnets and solenoids enables the damper to be operated remotely, even when the damper itself is not being exposed to elevated temperatures.
- The activation command may originate from an automated command or a human operator through the building maintenance system.
- Once the damper has been shut, it can only be opened by hand.
- Once exposed to elevated temperatures/flames resulting in the damper closing, the damper must be replaced.

Spares

- A spare amount of replacement fusible links should be kept on site.

Installation FD-2VP
Drywall partition installation

BS EN 13501-3:2005 + A1:2009

Classification report numbers:
Galvanised units - P103718-1002/3
Stainless units - P103718-1002B/2
Multiple units - P103718-1002/2

Installation procedure

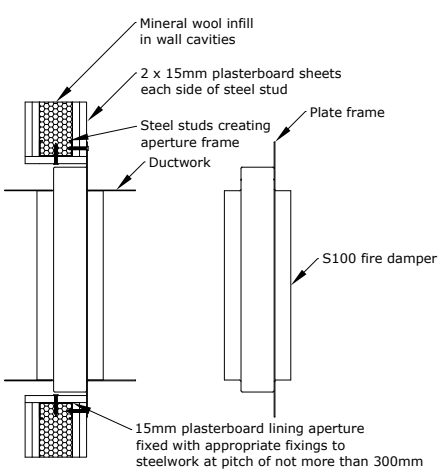
- Construct studwork aperture so that the space inside the steel channels is 45mm larger than the overall size of the damper case.
  e.g. Damper case 500mm x 200mm, studwork aperture size 545mm x 245mm.
- Clad one side of studwork with two layers of plasterboard.
- Infill wall cavities with mineral wool.
- Clad second side of studwork with two layers of plasterboard.
- Line aperture with one layer of plasterboard.
- Offer damper into aperture and using 7.5mm thick spacers if necessary to ensure correct positioning, affix damper into partition by screwing through the plate frame and plasterboard into the steel studwork
- Screws to be 10mm in from outer edge of plate frame, and pitch to be not more than 125mm. Ensure the screws gain a positive fix on the steelwork.

Notes

- The void at the non-access side of the damper does not require filling, nor a pattress.
- No lugs are required when fitting this CE marked fire damper.
- Multiple assemblies are subject to the same installation.
- Air can flow through the damper in either direction.

Material specifications

Plasterboard: 15mm thick and 30 minute fire rated
e.g. GTEC Fire Board, Knauf Fireshield, Gyproc Fireline
Mineral wool: Rockwool RW5, Knauf RS100 or equivalent



Installation FD-2VM
Masonry wall installation

BS EN 13501-3:2005 + A1:2009

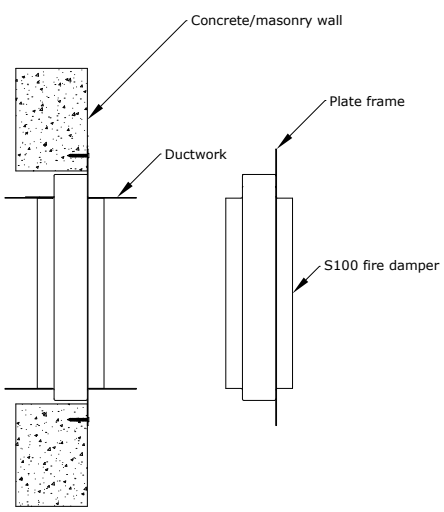
Classification report numbers:
Galvanised units - P103718-1002/3
Stainless units - P103718-1002B/2
Multiple units - P103718-1002/2

Installation procedure

- Construct wall so that the aperture for the fire damper is 15mm larger than overall size of the damper case.
  e.g. Damper case 500mm x 200mm, wall aperture size 515mm x 215mm.
- Offer damper into aperture and using 7.5mm thick spacers if necessary to ensure correct positioning, affix damper into partition by screwing through the plate frame into the wall.
- Screws to be 10mm in from outer edge of plate frame, and pitch to be not more than 125mm. Ensure the screws gain a positive fix on the concrete/masonry.

Notes

- The void at the non-access side of the dampers does not require filling, nor a pattress.
- No lugs are required when fitting this CE marked fire damper.
- Multiple assemblies are subject to the same installation.
- Air can flow through the damper in either direction.



Installation FD-2HC
Concrete floor installation

BS EN 13501-3:2005 + A1:2009

Classification report numbers:
P101275-1001/1

Installation procedure

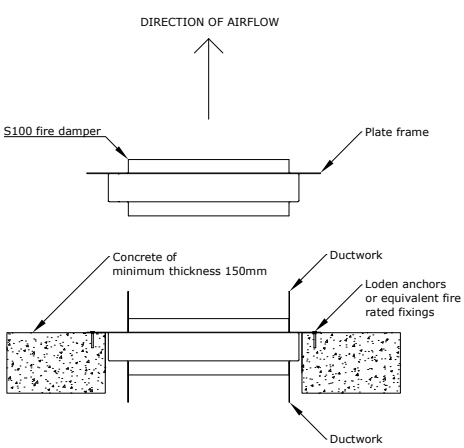
- Construct floor so that the aperture for the fire damper is 15mm larger than overall size of damper case.
  e.g. Damper case 500mm x 200mm, floor aperture size 515mm x 215mm.
- Offer damper into aperture and using 7.5mm thick spacers if necessary to ensure correct positioning, affix damper into partition using fixings as detailed below, through the plate frame into the floor.
- Fixings to be 10mm in from outer edge of plate frame, and pitch to be not more than 125mm. Ensure the fixings gain a positive fix on the concrete/masonry.

Notes

- The void at the non-access side of the dampers does not require filling, nor a pattress.
- Air must flow towards the lock guides - See arrow below.

Material specifications

Floor: 150mm (minimum) thick concrete.
Fixings: Loden anchors, 5mm diameter x 50mm long
Equivalent fixing acceptable



IMPORTANT NOTE

It is a legal requirement that fire dampers are installed in the way instructed by the manufacturer.
Any other installation is untested and therefore illegal.

Responsibility for ensuring correct installation lies with all parties in the supply chain.

www.h-v-c.com
sales@h-v-c.com

Installation Declaration for Series 100 Fire Dampers

CE

- It is the installer's responsibility to ensure the installation is done as per the installation method provided.
- This document must be completed when installing any HVC Fire Damper.
- By signing this document you are declaring that the correct installation method has been followed.

Check:	**Yes/No**
Is the installed damper the correct type?	
Is the damper installed correctly?	
Has the damper been correctly identified?	
Has the correct orientation been used?	
Are there sufficient access routes installed?	
Has a check of the damper been carried out for: • Internal cleanliness? • Damage? • Obstructing debris?	
Has a drop test been carried out?	
At the time of handover is the fire barrier and penetration seal complete?	

Damper unique system I.D. (If applicable):	
Damper location:	
Installation address:	
Damper type: *e.g. S100BGP*	
Link rated temperature:	
Notes:	

Installer's name:	
Company name:	
Company address:	
Company telephone number:	

I hereby confirm that the damper detailed above has been installed in accordance with HVC Supplies (Stourbridge) Ltd's tested installation method, and has been tested as above.

Installer's signature:

Date:

Μιχαήλ Καραολή 19 143 43, Ν. Χαλκηδόνα, Αθήνα
Τηλ: 211 - 70.55.500 & 210 - 21.30.051, Fax: 210 - 22.23.283
www.h-v-c.com
sales@h-v-c.com

Operation and maintenance manual

NCA Series 100 - CE marked fire dampers

Thank you for purchasing an NCA Series 100 fire damper.

Please ensure the following information is read, understood and followed at all stages of the damper's life.

Upon receipt of unit - Before signing for the delivery

- Flourescent yellow stickers are attached to every package we despatch detailing receipt instructions and what to do if your goods are damaged.
- The instructions on this must be followed or HVC will not be able to assist with any claims for damage.

Prior to installation

- If the damper is to be stored on site, ensure it is stored in a clean and dry environment.
- Immediately prior to fitment, remove all packaging from the unit. Take particular care inspecting the inside of the unit for any packing materials which may disrupt damper operation.

Installation

- All fire damper installations must be carried out as stated by HVC.

  Installation instructions are available to download at:
  www.h-v-c.com/installations
- Installation should only be carried out by competent persons. Fire dampers are life safety devices, their effectiveness is reliant on correct installation.
- Damper edges can be sharp. The relevant PPE should be used when handling dampers, in accordance with the relevant local risk assessment/s.
- Larger dampers can be very heavy, ensure suitable lifting methods are used to help prevent injury.
- Ensure that ductwork is appropriately supported, and that the damper itself will not be relied upon to support ductwork.
- Remove the safety cable tie from the fusible link. Failure to remove this will render the damper inoperable.
- Installation should always take into account the requirement to provide future access for testing and maintenance, by fitting appropriately positioned and sized access doors.

Operation

- Fusible link fire dampers are passive devices, and are designed to operate without any command from an operator or system.
- Fusible links will split, closing the damper when the temperature inside the duct reaches that embossed on the link body.
- The use of electromagnets or solenoids enables the damper to be closed remotely, however they will still close when the link's rated temperature is reached.
- Once the damper has been shut, it can only be reset manually.
- Once a fusible link has split, it must be replaced with a new unit.

Spares

An amount of spare fusible links should be kept on site.

Maintenance information and checklist overleaf >>>

Operation and maintenance manual

NCA Series 100 - CE marked fire dampers

Maintenance overview and checklist

Fire damper maintenance is essential and should be carried out in accordance with the requirements set out in:

BS 9999 - Code of practice for fire safety in the design, management and use of buildings.

This regulation states that maintenance of air conditioning and ventilation equipment, including fire dampers is of paramount importance both in preventing fire and in ensuring that measures taken to mitigate its consequences are effective when needed.

- The maintenance steps below should be carried out by a competent person at least once per year.
- Local conditions should be taken into consideration when deciding a test plan, more frequent tests may be necessary. For example if dusty conditions are prevalent.
- Series 100 CE marked fire dampers have been designed to operate without lubrication. Do not introduce any as it will attract dust and dirt.

Damper reference and location	

Operation	Result
Cleanliness Clean where necessary, ensuring damper is free from dust and debris.	
Damage and corrosion Check for any damage or signs of corrosion to damper components.	
Drop test Confirm operation of damper with a drop test by following the below steps: • Relieve the weight of the blade pack from the fusible link with one hand placed in the centre of the pack width. Ensure bottom blade remains parallel to top of damper at all times. • Failure to support the blade pack from the centre will result in damper blades falling unevenly, potentially causing damage to the damper. In event of damage being caused, damper must be repaired or replaced. Contact HVC for more information. • Remove hand quickly, replicating a splitting fusible link, allowing damper to shut due to springs / gravity. • Perform a visual check of the blades, ensure bottom blade has latched correctly into both lock guides.	
Reset Reset blade pack by pushing (or pulling if a pull ring is fitted) the bottom blade off the lock guides and pushing blade pack up into the header. Reset fusible link correctly.	
Confirmation Confirm that damper has been left in normal working condition.	

I hereby confirm that the damper detailed above has been tested and maintained in accordance with the above steps.

Name:

Signature:

Date of inspection:

Μιχαήλ Καραολή 19 143 43, Ν. Χαλκηδόνα, Αθήνα
Τηλ: 211 - 70.55.500 & 210 - 21.30.051, Fax: 210 - 22.23.283

www.h-v-c.com
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Incorporating

DOP - 1

EC DECLARATION OF PERFORMANCE

Series 100 fire dampers

Series 100 HEVAC
Series 100 Plate Frame

Complying with the following EU regulation:
305/2011/EU: The Construction Products Regulation or CPR

HVC Supplies (Stourbridge) Ltd
Jason House, 91 - 95 King William Street, Amblecote, West Midlands, DY8 4EY.
United Kingdom.

BRE Global Ltd - 0832
The above body carried out all product sampling, testing, inspection of manufacturing plant and continuous factory production control, according to System 1 of the Construction Products Regulation and has issued the certificate of constancy of performance.
0832-CPR-P0015

Required performances to comply with BS EN 15650:2010			
Fire resistance according to BS EN 1366-2 and classifications according to EN 13501-3			
SIZE	**DESCRIPTION**	**CLASSIFICATION REF.**	**CLASSIFICATION**
100mm - 1250mm x 100mm - 1000mm	Series 100 (HEVAC Installation) in masonry wall	301099A/2	E 120 (ve i↔o)
Over 1250mm x 1000mm (in either dim.)	Series 100 (HEVAC Installation) in masonry wall - Multiple	301099A/3	E 120 (ve i↔o)
Both of the above	Series 100 (HEVAC Installation) in masonry wall - Stainless	301099A/3	E 120 (ve i↔o)
100mm - 1000mm x 100mm - 1000mm	Series 100 (Plate Frame Installation) in drywall partition	P103718-1002/3	E 120 (ve i↔o)
Over 1000mm x 1000mm (in either dim.)	Series 100 (Plate Frame Installation) in drywall partition - Multiple	P103718-1002/3	E 90 (ve i↔o)
Both of the above	Series 100 (Plate Frame Installation) in drywall partition - Stainless	P103718-1002B/2	E 90 (ve i↔o)
100mm - 1000mm x 100mm - 1000mm	Series 100 (Plate Frame Installation) in masonry wall	P103718-1002/3	E 120 (ve i↔o)
Over 1000mm x 1000mm (in either dim.)	Series 100 (Plate Frame Installation) in masonry wall - Multiple	P103718-1002/3	E 90 (ve i↔o)
Both of the above	Series 100 (Plate Frame Installation) in masonry wall - Stainless	P103718-1002B/2	E 90 (ve i↔o)
100mm - 1250mm x 100mm - 1000mm	Series 100 (Plate Frame Installation) in drywall partition - Large (L)	301099B/3	E 90 (ve i→o)
100mm - 1250mm x 100mm - 1000mm	Series 100 (Plate Frame Installation) in drywall partition - Large (L) - Stainless	301099C/1	E 60 (ve i→o)
100mm - 1250mm x 100mm - 1000mm	Series 100 (Plate Frame Installation) in masonry wall - Large (L)	301099B/3	E 90 (ve i→o)
100mm - 1250mm x 100mm - 1000mm	Series 100 (Plate Frame Installation) in masonry wall - Large (L) - Stainless	301099C/1	E 60 (ve i→o)
100mm - 1000mm x 100mm - 1000mm	Series 100 (Plate Frame Installation) in concrete floor	P101275-1001/1	E 120 (ho i→o)

Nominal activation conditions/sensitivity according to BS ISO 10294-4: - Sensing element - Response behaviour - Sensing element - Faulty set-off	**Pass**
Operational reliability according to BS EN 1366-2: - Cycling	**Pass**
Response delay (response time) according to BS EN 1366-2: - Closure time	**Pass**
Durability of response delay according to BS EN 1366-2: - Sensing element response to temperature and load bearing capacity	**Pass**
Durability of operational reliability according to BS EN 1366-2: - Open and closing cycle tests	**Not relevant for Series 100 fire dampers**

Signed for and on behalf of the manufacturer by:

Kerry Allen
Operations Director

Place of signing:
HVC Supplies (Stourbridge) Ltd, Jason House, Amblecote, West Midlands, DY8 4EY, United Kingdom

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