

Damper Installation

The following installation method and diagrams (shown on the following pages), are presented as the method by which

Holyoake IBD-FS fire and leakage rated dampers must be installed.

It draws upon SMACNA fire, smoke and radiation damper installation guide for HVAC systems, fifth edition, 2002 and Standard AS 1682.1 and 1682.2

Dampers must be installed as tested.

- (I) The casing shall completely penetrate the wall and be retained on both sides by 4 off 40 x 60 x 2 mm mounting angles, in such a manner that it can expand in a fire without distorting the blades in a closed position.

Mounting flanges^{3,4,5} shall be butted against the face of the wall and are fixed to the fire damper casing. The width of the angle section of the flange shall be not less than twice the clearance between the fire damper body and the penetration.

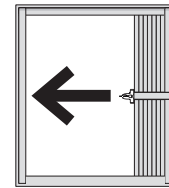
- (II) The fire and leakage rated damper shall be installed so that the airflow¹ does not impede its closure and air velocities² do not exceed the damper's limit (10 m/s).
- (III) The method of attachment of ductwork to the fire and leakage rated damper must be such that any deformation, or collapse of the ductwork in a fire, does not dislodge the fire and leakage rated damper, or affect its performance.
This is best achieved by the use of slip joints which will allow damaged ductwork to fall away.
Refer to "Breakaway Joints" within AS 1682.1 and AS 1682.2.
- (IV) IBD-FS fire dampers do not require packing between the sleeve and penetration (both vertical and horizontal).
- (V) **Clearance** between the sleeve and penetration should be such that the hole size may be no less than the overall sleeve size plus **22mm** in both width and height, as in the tested prototype. However, in no case should total clearance exceed 50% of the flange face width. For Multiple Section fire dampers the clearance shall be **30mm**, see pg 339 for further details.
- (VI) Access doors, or removable pressed panels, must be provided for duct entry, to test and reset release mechanisms and to inspect the fire and leakage rated damper.
- (VII) When installed and closed, the blade and pivots **must** be fully contained within the penetrated element and within the casing, as tested (AS 1530.4 - 2014).

- (VIII) Fire and leakage rated dampers may not be used as control dampers. i.e. They must be installed fully open.

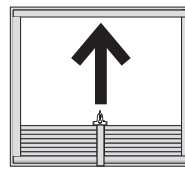
- (IX) All Holyoake IBD-FS type fire and leakage rated dampers **must** be sleeve mounted using the factory fitted sleeves and angles.^{3,4,5}

See details on following pages.

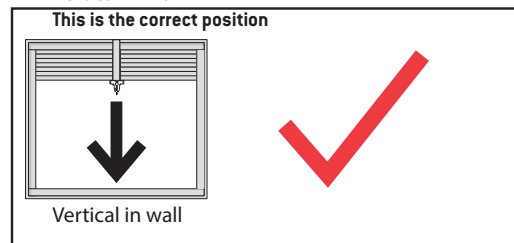
- (X) Series IBD-FS fire and leakage rated dampers must **not** be installed either with blades vertical (on end) or with the blade stack below the opening.



Vertical in wall



Vertical in wall



This is the correct position

Vertical in wall

- (XI) Ensure damper is square and free from racking, that there are no obstructions in the centre track, and that it is installed vertically in accordance with the "this way up" arrow on every damper. [See Page 334H].
- (XII) IBD-FS fire dampers must include a completed installers label (supplied) compliant with AS 1682.2 - 2015.

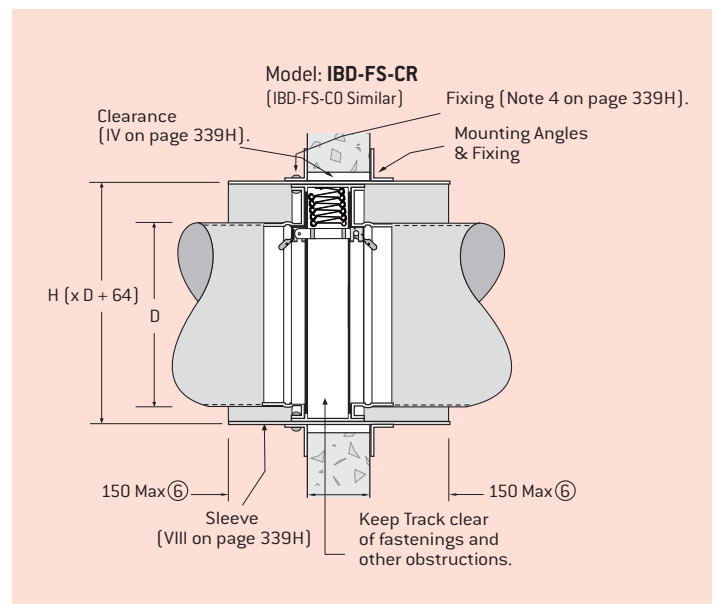
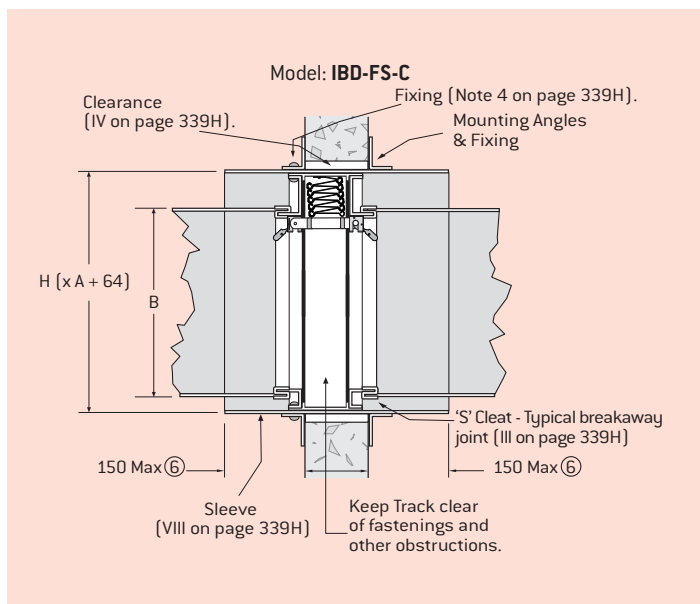
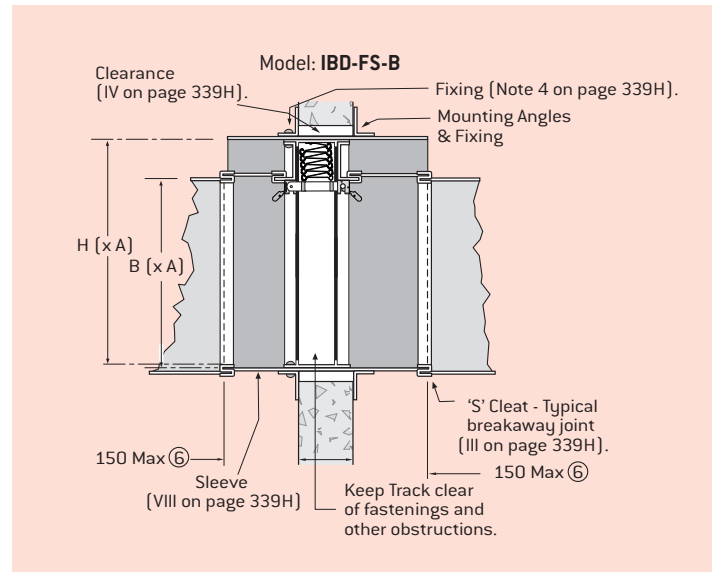
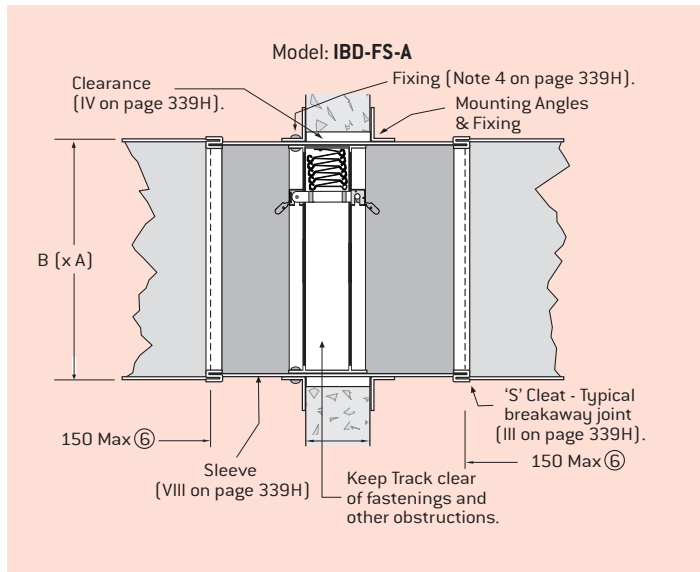
Notes

- 1 Air flow may be from either direction for Holyoake Series IBD-FS.
- 2 While damper size influences acceptable velocities (i.e. the larger the damper the lower the velocity), Holyoake Industries suggests a maximum of 10 m/s on IBD-FS dampers. Pressure differential across the closed damper should not exceed 750 Pa.
- 3 The damper and fixed retaining flanges are factory fitted to the sleeves. The loose flange is provided with pre-punched holes for the appropriate number of site fixings. (Optional fixing screws can be provided).
- 4 Retaining Flanges are a minimum thickness of 2 mm, as tested, (AS 1530.4 - 2014). They are mandatory on all four sides, but need not be welded to form a frame.
- 5 Materials for sleeves and retaining flanges complies with AS 1682.1 and AS 1682.2 - 2015 and AS 1530.4 - 2014 as tested, which specifies using galvanised steel with a coating class of not less than Z275.
- 6 Fire damper certifications are consistently updated, contact your local Holyoake branch for updated installation details and compatible wall/floor constructions.

IBD-FS – Fire & Leakage Rated Dampers

Vertical Damper Installation

IBD-FS Fire and Leakage Rated Damper, Installation Various Styles in a Masonry Wall.



Guide Product Weights	
IBD-FS Curtain Fire Dampers	Approximate Weight in Kg
IBD-FS-A 200 x 200	2.1
IBD-FS-A 600 x 600 (Inc Sleeve)	16.47
IBD-FS-B 206 x 500	4.6
IBD-FS-B 250 x 250	3.56
IBD-FS-B 400 x 375	6.34
IBD-FS-B 760 x 560	12.79
IBD-FS-B 1050 x 700	11.61

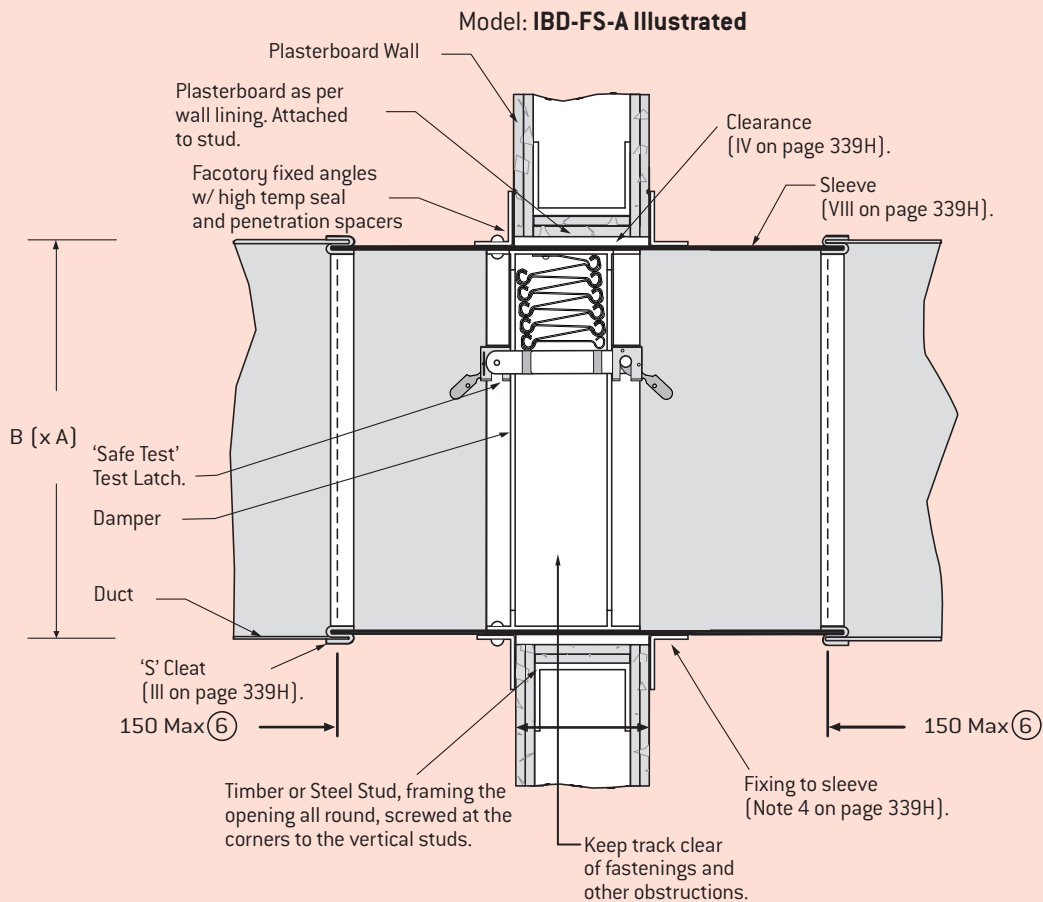
Guide Product Weights	
IBD-FS Curtain Fire Dampers	Approximate Weight in Kg
IBD-FS-B 350 x 350 (Inc Sleeve)	16.09
IBD-FS-B 400 x 375 (Inc Sleeve)	16.36
IBD-FS-B 500 x 350 (Inc Sleeve)	19.73
IBD-FS-CR 150 Diameter	3.16
IBD-FS-CR 200 Diameter	4.15
IBD-FS-CR 250 Diameter	5.21
IBD-FS-CR 450 Diameter	10.8
IBD-FS-CR 400 Diameter (Inc Sleeve)	23.75

Notes

1. Refer to Damper Installation and Notes on Page 339H.
2. For 'H' dimension refer to tables on pages 335H - 338H.

3. ⑥ Refer to Note ⑥ on Page 344H.
4. Above details are intended as a guide for field installation of sleeves.

IBD-FS Fire and Leakage Rated Damper, Installation in a Plasterboard Wall.



(IBD-FS-B, C, CR & CO similar, with duct connections as per masonry drawings on page 340H).

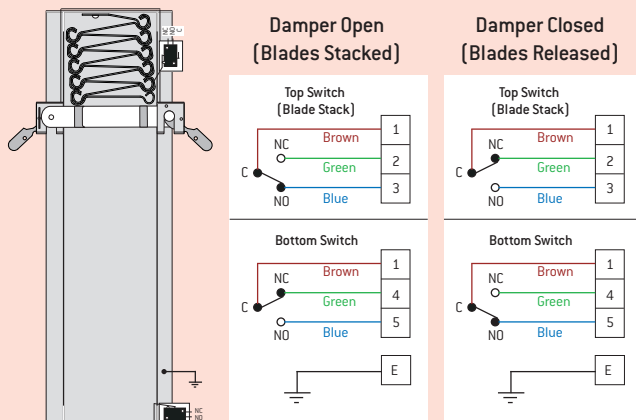
Reset and Release Microswitches

Optional Release and/or Reset Microswitches are available, factory fitted.

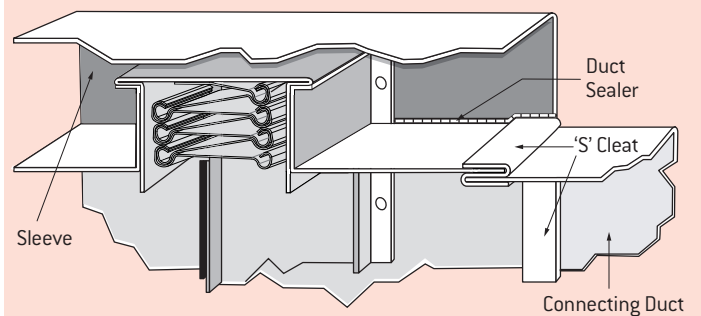
(Note: Standard switches are not fire rated).

Contact your local Holyoake branch for details.

IBD-FS Reset and Release Micro Switches



Duct attachment method for the IBD-FS-B in Sleeve



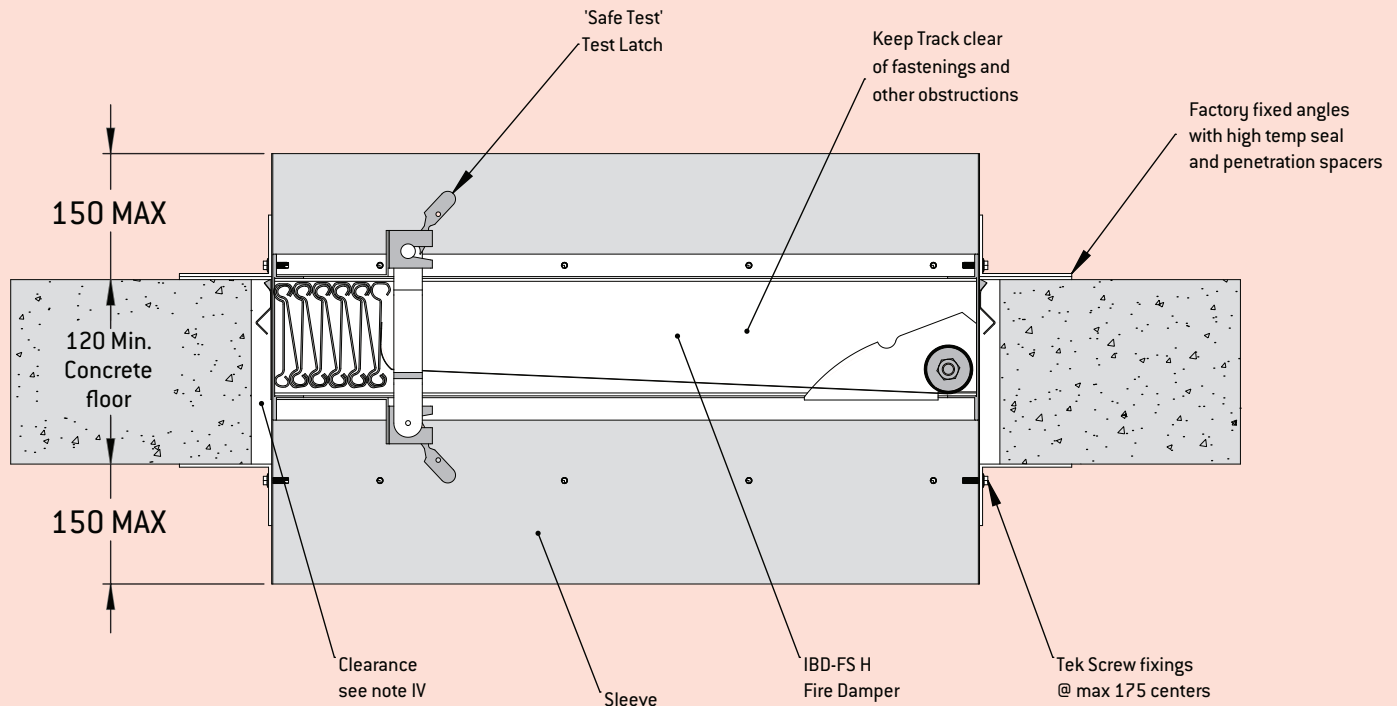
Notes

1. Refer to Damper Installation and Notes on Page 339H.
2. For Various Duct Connection Styles refer to page 340H.
3. Refer to Note 6. on Page 344H.
4. Above details are intended as a guide for field installation of sleeves.

IBD-FS – Fire & Leakage Rated Dampers

Horizontal Damper Installation

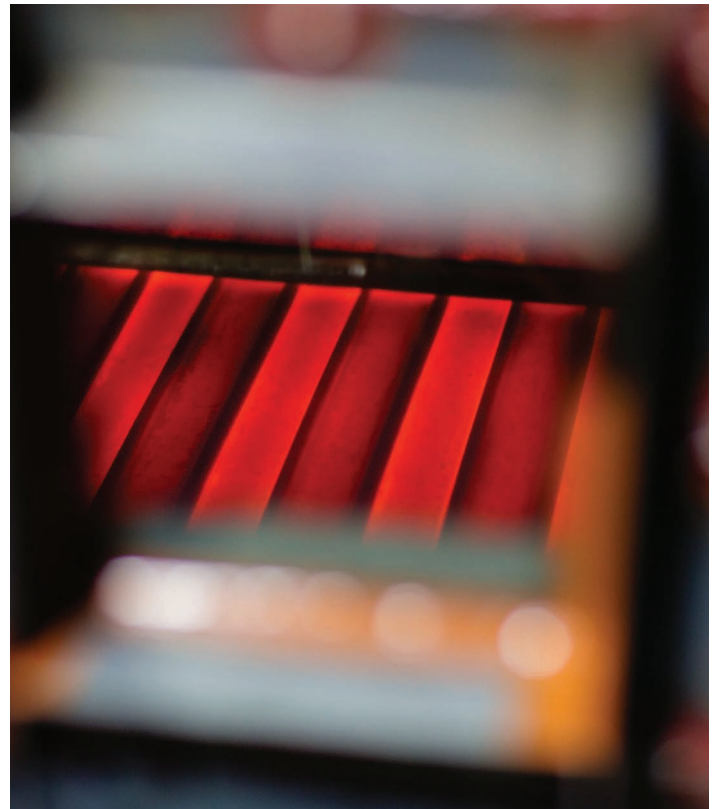
For IBD-FS Horizontal in a concrete slab floor.



IBD-FS horizontal specific instructions

Dampers must be installed as tested.

- (I) The Factory fixed angles must be located on the top of the penetration in accordance with the “this way up” label on every damper. The blade catch bracket must be oriented as illustrated in the above figure.
- (II) Attachments between damper and riser shafts do not require breakaway joints provided that the riser shaft only contains building services. See AS1682.2-2015 for full details of this.
- (III) Where insulated ductwork mounted above the fire damper is required under AS1668.1-2015, it shall be installed so that it will not breakaway or collapse in a fire.
- (IV) IBD-FS horizontal fire dampers include a blade catch to ensure a positive lock of the blades on closure. To release when testing, the blades must be pulled tight to create tension to disengage the catch.



IBD-FS Horizontal AS1530.4 certification testing.

Multiple Section Fire Dampers Installation

IBD-FS Fire and Leakage Rated Damper Assembly for oversize openings.

Multiple sections dampers are installed as per single section dampers. See either IBD-FS V or H instructions for full details of the installation and requirements.

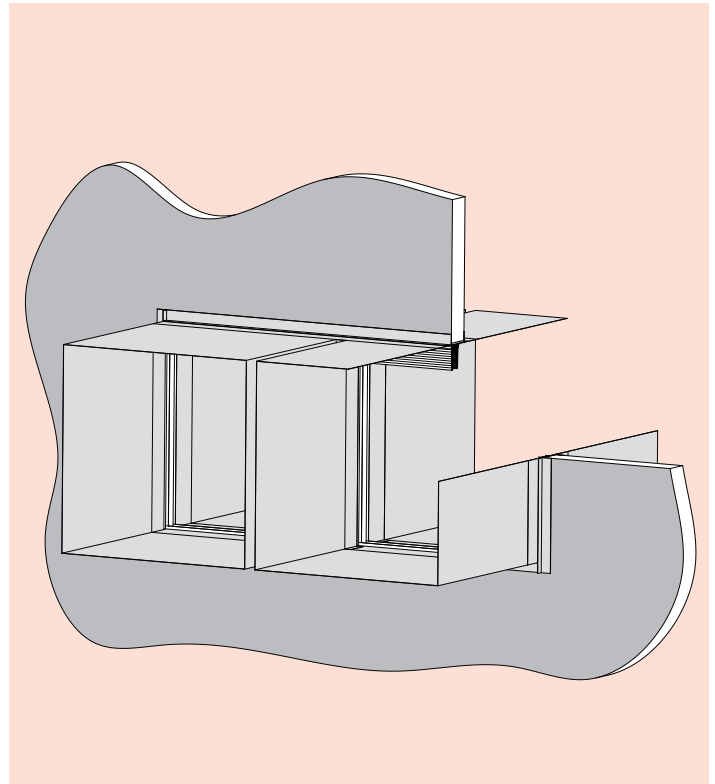
Multi-section IBD-FS fire dampers must be installed with a **30mm** total expansion gap (as tested)

IBD-FS multiple section dampers can be installed as one oversized duct or as multiple ducts through a single penetration.

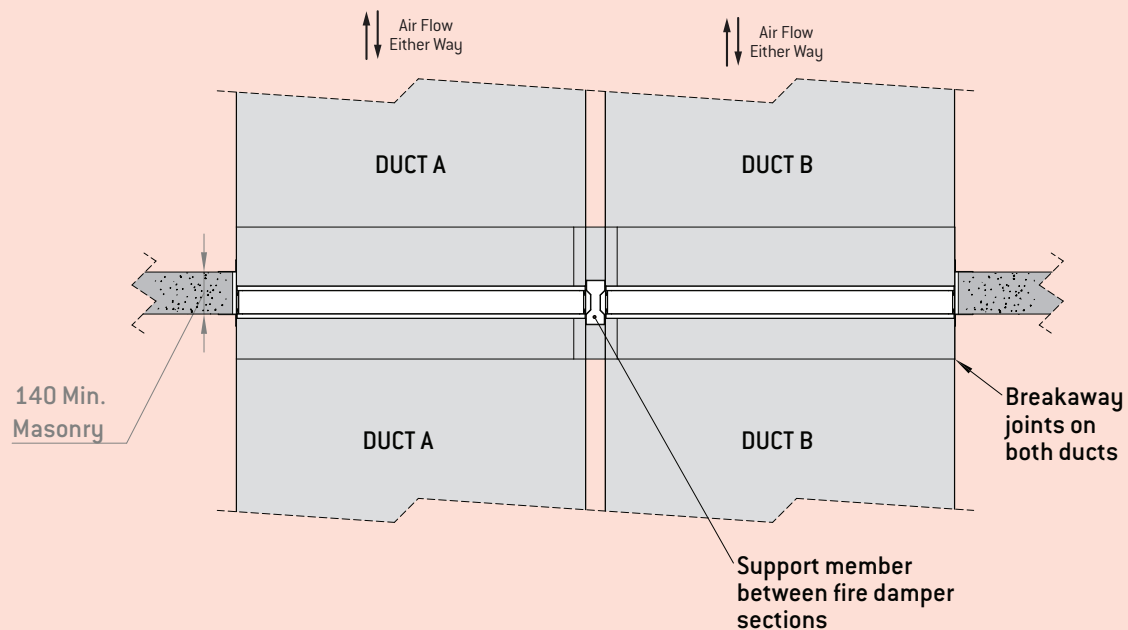
Depending on the size of the fire damper and site access considerations the damper may be supplied in parts for on-site assembly. Contact your local Holyoake branch to discuss this option.

Adequate fire rated bracing must be provided by the installer to prevent collapse of multiple unit assemblies when closed, even under relatively low pressure differential conditions.

Multi section units must be installed with suitable supporting construction to adhere to BCA or Local Authority Building Control Approval.



Fire & Leakage Rated Dampers



Multiple duct installation

Where a 200mm separation between fire dampers cannot be met duct bridging pieces can be used. The 65mm wide support mullion is used between fire damper sections to create a single fire rated penetration. This allows multiple ducts to pass through a fire wall without the need for a 200mm separation between fire dampers.

Contact your local Holyoake branch to discuss this option.

IBD-FS – Fire & Leakage Rated Dampers

IBD-FS Factory Fitted Mounting Sleeves

Holyoke Fire and Leakage Rated Damper Sleeves.

Model IBD-FS fire and leakage rated damper mounting sleeves are constructed as tested to AS1530.4-2014 (Refer also to Page 339H, Damper Installation and Notes). Two standard sleeve lengths are available, 380mm and 520mm and are suitable for wall/floor thicknesses of 78 -230mm and 230-370mm. However, optional variable length sleeves are available on request. Mounting angles are supplied. One set is fixed to one end of the sleeve and the other is supplied loose, for final fixing of these to the sleeve, on site, by others.

All IBD-FS sleeves are supplied factory fixed to the appropriate damper.

Minimum Wall Thickness:

380mm Standard Sleeve 90 mm.
520mm Standard Sleeve 230 mm.

Maximum Wall Thickness:

380mm Standard Sleeve 230 mm.
520mm Standard Sleeve 370 mm.

Material:

Galvanised Steel Type Z275.

Minimum Dimension:

100 W x 160 mm H (Type IBD-FS-A Only – Refer to pages 335H - 342H and 341H).

Maximum Dimension Thickness

3600 W x 2400 mm H. 0.75 mm.

Flanges

40 x 60 x 2 mm galvanised steel angle. (x4 per side, x 2).

Construction

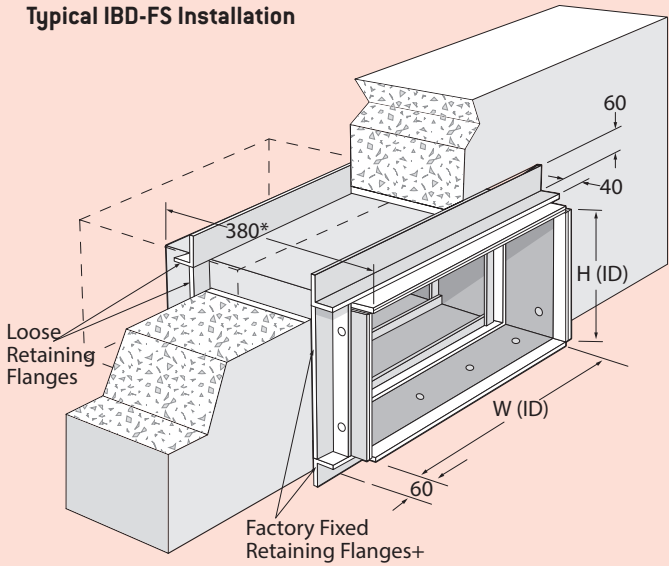
Sleeves are corner lapped and spot-welded, then attached to the damper frame on all four sides, to form a rigid assembly.

1. All damper sleeves come with raw edges.
2. Optional 'S' cleats on all edges (Typical Breakaway Joint).
3. Optional 25 or 35 mm Breakaway flange on all edges.
Do NOT use bolts or 'no bolt corner clips' for Fire Damper Breakaway Joints, (Optional PVC cleats and nylon bolts are available).
(Typical Breakaway Joint – refer to Section K Accessories).
4. Type 'B' damper sleeves are fitted with a duct bridging piece.
5. An extended damper sleeve is available for wall depths 291 – 690 mm, (specify length required when ordering).
Supplied only as part of a complete unit.
6. Casing sleeve may only be extended 150 mm from the face of the wall on each side, with either slip or flanged breakaway connections.

If in excess of these dimensions sleeve should be trimmed back to the appropriate lengths. This then complies with AS 1682, Parts 1 & 2, 2015.

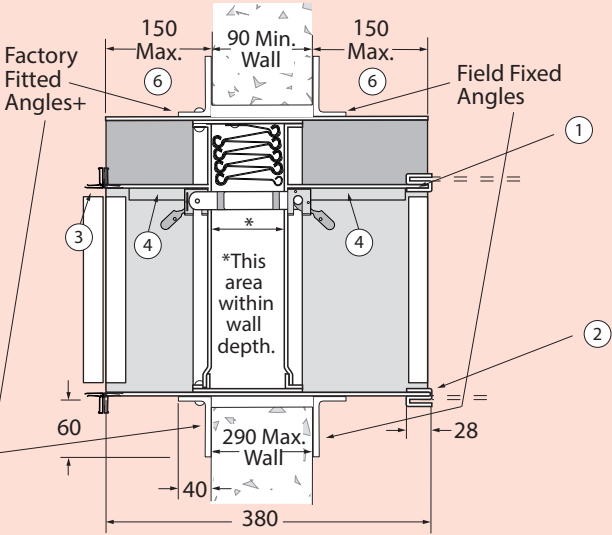
Standard or Extended Sleeve					
Style	A	B	C	CR	CO
Width	A - 3	A - 3	A + 67	D + 67	A + 67
Height	B - 3	H + 3	H + 3	H + 3	H + 3

Typical IBD-FS Installation



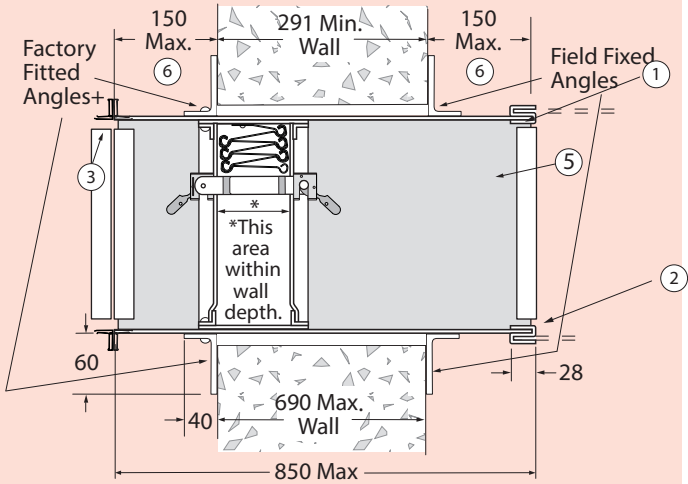
Typical Assembly - Standard IBD-FS Damper Sleeve

(B Type Damper Illustrated)



Typical Assembly - Optional Extended Damper Sleeve

(A Type Damper Illustrated)



'Safe Test' - Test Latch Model IBD-TL

- **Safe and Simple Testing Method.**
- **Test and Reset in minutes.**
- **AS 1851 - 2012 (Section 13) requires that you annually test Fire Dampers.**
- **To ensure the Life and Property saving function for which they are designed, all fire dampers should be drop tested after installation.**
- **Note: All IBD-FS dampers are fitted with 'Safe Test' Test Latch Links, as tested and certified.**

Each Holyoake Series IBD-FS Fire and Leakage Rated Damper is mechanically tested before it is allowed to leave the factory. In the event of damage occurring during transit, on site, or during installation, rendering any fire damper ineffective, failure to function will reveal any warping, track obstruction, or spring failure that may have occurred. This will require rectification, cleaning and removal of the obstacle, prior to retesting and handover.

The Holyoake 'Safe Test' Test Latch Model IBD-TL, is a latching device with a specially made fusible link, which, when the latch is released, swings clear and allows the curtain to close as if the link had parted under the influence of flame.

After testing, the curtain can be re-stacked and the same link clipped back into the latch, where it is again ready to be released in the event of a fire.

To Operate IBD-FS Dampers

1. Remove the duct access door (refer to Section K accessories section of this manual).
2. Using this access, reach in and remove the locking pin from the nearest latch.
3. Check that the locking pin is still in place on the other latch, so that the fusible link is retained by it, when released.
4. Check that the track is clear of any obstruction and keep hands clear.
5. Lift the latch lever and the curtain will rapidly close.
6. Reload the curtain and swing the fusible link back into place in the latch.
7. Replace the locking pin in the latch.
8. Replace the duct access door.

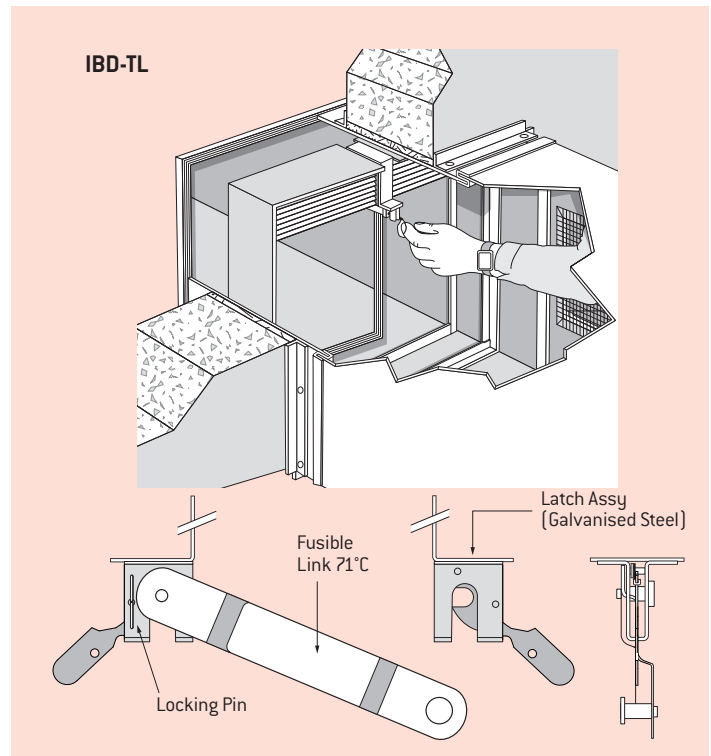
To Operate IBD-FS Dampers below minimum heights shown.

1. Remove the duct access door (refer to Section K accessories section of this manual).
2. Remove locking pin from both sides.
3. Check that the track is clear of any obstruction and keep hands clear.
4. Support the blade pack, lift both latch levers and remove fusible link.
5. Release the blade pack and the curtain will rapidly close.
6. Reload the curtain and support the blade pack, whilst replacing the fusible link locating pins into both latches.
7. Replace both locking pins.
8. Replace the duct access door.

Minimum Duct Height for dampers fitted with Electro Thermal Resettable Links	
Duct Connection Style	Minimum Duct Height
A	210
B	150
C	150
CR	150
CO	150

For testing purposes, all dampers below these heights will require removal of link and blades dropped manually.

Note: Take suitable safety precautions for Hand and Eye protection.

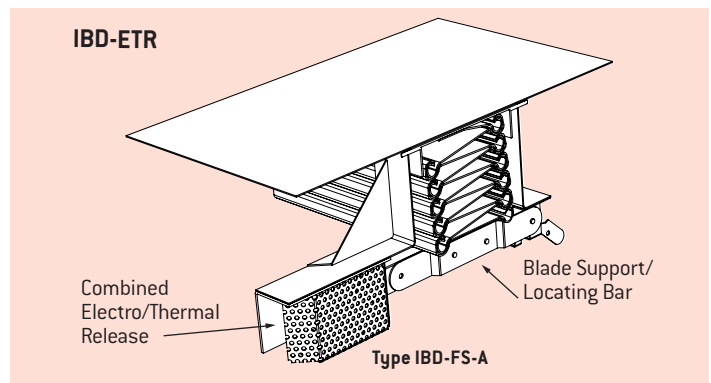


Electro Thermal Resettable Links Model: IBD-ETR

All Holyoake IBD-FS type fire and leakage rated dampers, are available with optional Electro Thermal Resettable Link mechanisms.

Contact your local Holyoake branch for details.

24 V AC or DC Supply Electro Thermal Resettable Release.
Max 30 Sec Release and 60 Sec Reset, with integral 71 Degrees C Thermal Resettable Release.



Maximum Damper size with IBD-ETR is 750 x 750 mm.

