DWFX-F Installation Method

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Drawings

Please visit our website to download the installation drawings, which are located on the relevant product download section.

Applies to...

- Actionair SmokeShield PTC

Health and safety

- This process must be undertaken by competent persons. More than one person may be required to ensure the safe handling of large dampers and other materials. Use must be made of access equipment to ensure unsafe practices are not used to approach walls or difficult access areas.
- Standard site PPE should be used (minimum steel toe cap boots, hard hat); together with any protective eyewear, gloves and masks, when drilling or cutting is being undertaken. The latter should also be used when handing the wall construction materials, as defined by the material suppliers. If loud equipment is being used, hearing protection should be used.
- All waste materials should be collected and disposed of as defined by the relevant supplier.
- Actuators: All wiring should be carried out in accordance with the wiring details provided by the IEE and BS regulations and by a competent person. Care must be taken when installing and inspecting dampers, as they are likely to close without warning due to loss of electrical power or a temperature rise in the ductwork. This is their prime function. Do not insert any items, fingers or limbs between the blades. Larger dampers must be handled in accordance with current regulations and good practice due to weight.

actionair
by Swegon

CE Installation Method Overview

Application	Installation Method
	Actionair SmokeShield
Vertical Damper In A Plasterboard Wall	Page 3, [AA/F13412] 1xType F board each side. [AA/F10704] 2xType F boards each side.
Vertical Damper (Top Flange Removed) In A Plasterboard Wall Under Concrete Slab	Page 4, [AA/F11945]
Vertical Damper In a Masonry Wall	Page 5, [AA/F12493]
Vertical Damper (Top Flange Removed) In A Masonry Wall Under Concrete Slab	Page 6, [AA/F12394]
Vertical Damper In a British Gypsum Shaftwall System	Page 7, [AA/F13472]
Vertical Damper In a Knauf Shaft Wall System	Page 8, [AA/F13763]
Vertical Damper In a Eurobond Firemaster Extra Composite Wall System	Page 9, [AA/F13396]
Vertical Damper In a British Gypsum Timber Stud Partition	Page 10, [AA/F13752]
Vertical Damper within British Gypsum SoundBloc A206186 (EN)	Page 11, [AA/F13769]

- The methods in this manual should be followed to ensure a CE-marked installation. This CE installation document covers single dampers only. If a multiple damper assembly or, if a non-standard install is required, talk to us as early as possible in the project to get important stakeholders engaged and ensure an installation solution can be found.
- The instructions are based on the tested method using Actionair SmokeShield PTC products.
- Our SmokeShield dampers are designed to be used with fire separating elements to maintain fire compartments. The SmokeShield is an actuated failsafe close damper with a low smoke leakage classifcation.
- Under the Fire Damper Product standard BS EN 15650 our Fire Damper products are tested to BS EN 1366-2 and classified under BS EN 13501-3.
- For smoke control, the product you use should be tested to BS EN 12101-8 and drive open, drive closed without failsafe position, see our website for information on the Actionair SmokeCommand smoke control damper documentation and suitable installation methods.

Swegon reserves the right to alter specifications.

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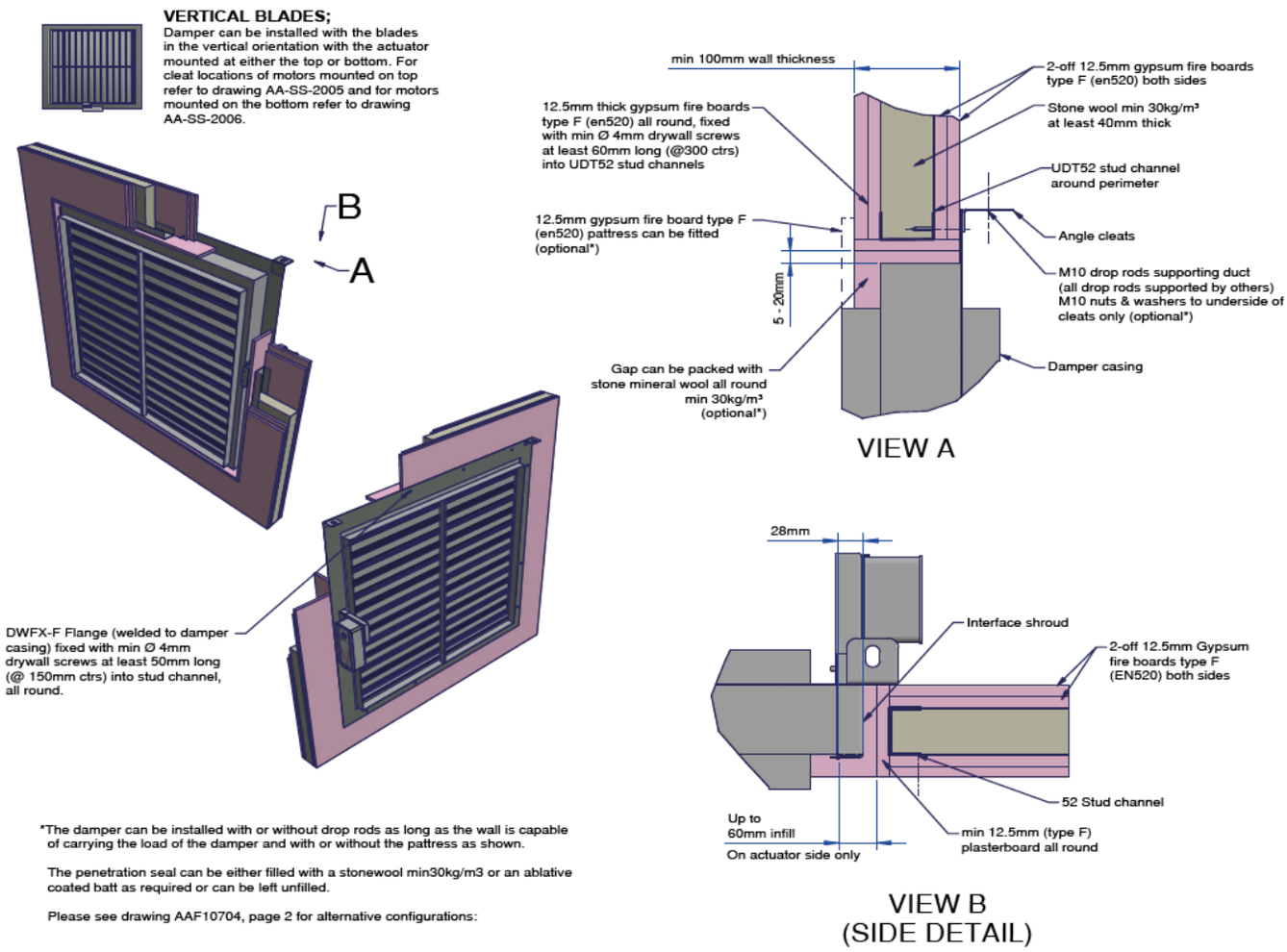


Vertical Damper Installation in a Plasterboard Wall

Actionair SmokeShield PTC -

[AA/F13412] 1xType F board each side.

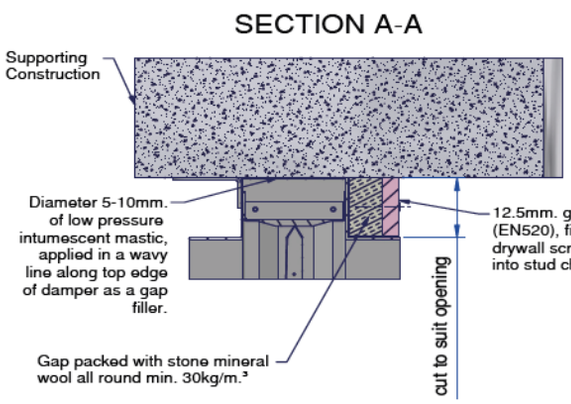
[AA/F10704] 2xType F boards each side.

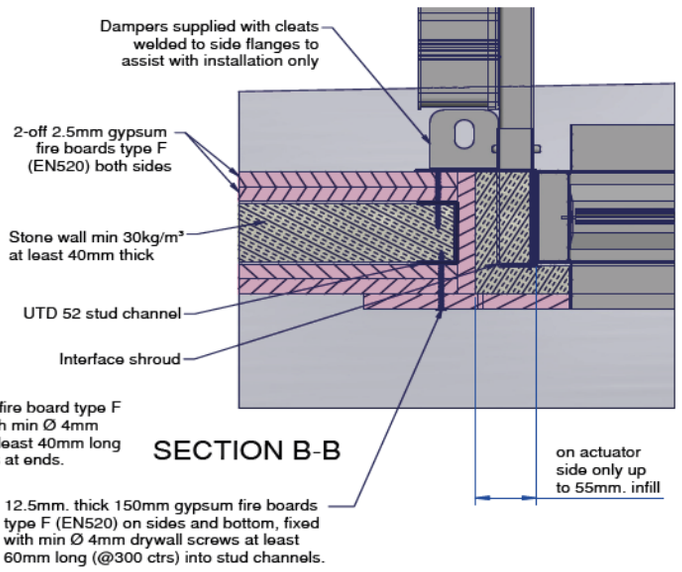
Installation Method

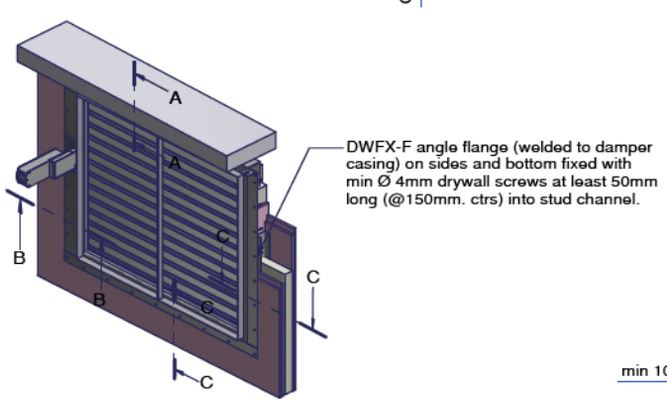
1. Measure the overall Fire damper casing size w x h, but for Smoke Shield include the PTC Shroud (28mm) in the width but do not include any of the peripheral flange.
2. Calculate the hole size using hole sizer program available on www.swegon.com/uk
3. For SmokeShield (AA/F13412) calculate the finished hole size adding 30mm to the case width and height.
   - For SmokeShield calculate the finished hole size adding 10-40mm to the width and 10-40mm to the height.
4. Calculate the hole to cut size by adding two board thicknesses to the finished hole width and height.
5. Mark out the hole on the partition and cut it out, cutting the top and bottom edges first to maintain stability.
6. Frame out the hole with stud and track and cover this with board. Finish edges with joint filler.
7. Drill clearance holes in the damper flange at 150mm centres and such that they will allow screws to pull into the stud and track around the hole.
8. Install the damper and fasten.
9. Back fill and complete penetration seal as per the installation drawing
10. Connecting ductwork omitted for clarity. Ductwork must be independently supported. There must be an appropriate break-away joint between the damper and connecting ductwork on both sides of assembly. Aluminium rivets or plastic cleats, clips, clamps and bolts etc. should be used for this, unless fire resisting ductwork is being used where fire resisting fixings should be used. A minimum of 200 mm between fire dampers installed in separate ducts and 75 mm between fire damper and a construction element (wall/floor).

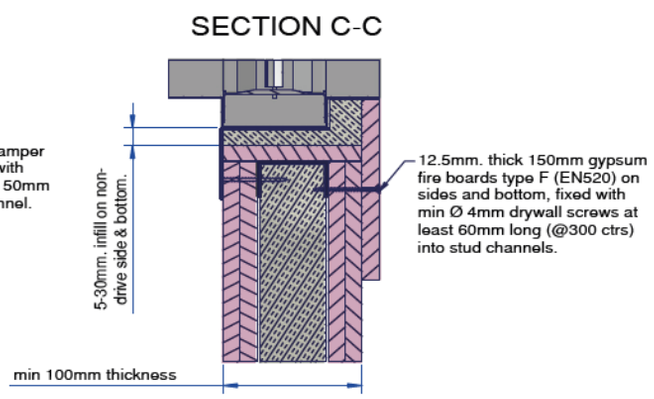
Always ensure to consult with the wall manufacturer on confirmation of the minimum separation between service apertures.

VERTICAL BLADES
Damper can be installed with the blades in the vertical orientation with the actuator mounted at the bottom. For cleat locations of motors mounted on the bottom refer to drawing AA-SS-2011.









Vertical Damper Installation (Top Flange removed) in a Plasterboard Wall under Concrete Slab

Actionair SmokeShield PTC - [AA/F11945]

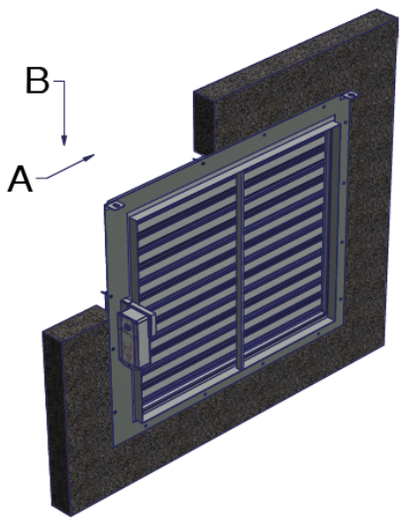
Installation Method

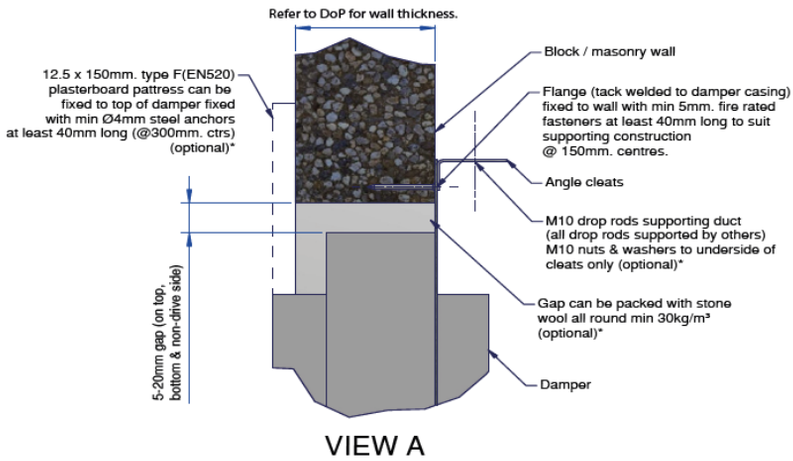
1. Measure the overall Fire damper casing size w x h, but for Smoke Shield include the PTC Shroud (28mm) in the width but do not include any of the peripheral flange.
2. Calculate the hole size using hole sizer program available on www.swegon.com/uk
3. For Smoke Shield calculate the finished hole size adding 10-40mm to the width and 10-30mm to the height as the head of the damper will be against the slab.
4. Calculate the hole to cut size by adding two board thicknesses to the finished hole width and only one for the height.
5. Mark out the hole on the partition and cut it out.
6. Frame out the hole sides and bottom with stud and track and cover this with board. Finish edges with joint filler.
7. Drill clearance holes in the three damper flange sides at 150mm centres and such that they will allow screws to pull into the stud and track around the hole.
8. Apply a bead of low pressure intumescent mastic along top edge of damper as a gap filler and Install the damper and fasten.
9. Back fill with mineral/stone wool and pattress over this down to the spigot. Fasten with drywall screws at 300mm centres on the sides and bottom such that they will allow screws to pull into the stud and track around the hole. Fix the top pattress into the track at the sides.
10. Connecting ductwork omitted for clarity. Ductwork must be independently supported. There must be an appropriate break-away joint between the damper and connecting ductwork on both sides of assembly. Aluminium rivets or plastic cleats, clips, clamps and bolts etc. should be used for this, unless fire resisting duct-work is being used where fire resisting fixings should be used. A minimum separation of 200 mm between fire dampers installed in separate ducts and 75mm between fire damper and a construction element (ie wall/floor) unless otherwise tested.

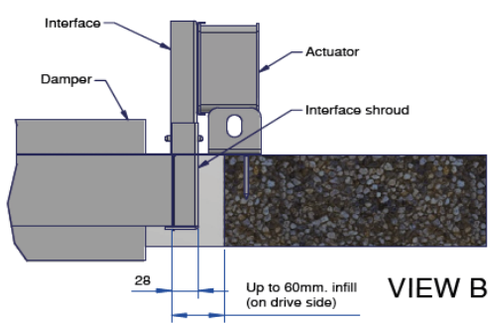
Always ensure to consult with the wall manufacturer on confirmation of the minimum separation between service apertures.

Swegon reserves the right to alter specifications.

VERTICAL BLADES;
Damper can be installed with the blades in the vertical orientation with the actuator mounted at either the top or bottom. For cleat locations of motors mounted on top refer to drawing AA-SS-2005 and for motors mounted on the bottom refer to drawing AA-SS-2006.







*The damper can be installed with or without drop rods as long as the wall is capable of carrying the load of the damper and with or without the pattress as shown.

The penetration seal can be either filled with a stonewool min30kg/m3 or an ablative coated batt as required or can be left unfilled.

Please see drawing AAF12493 page 2 for alternative configurations:

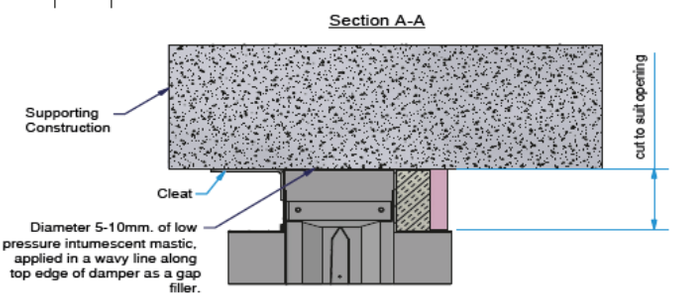
Vertical Damper Installation in a Masonry Wall

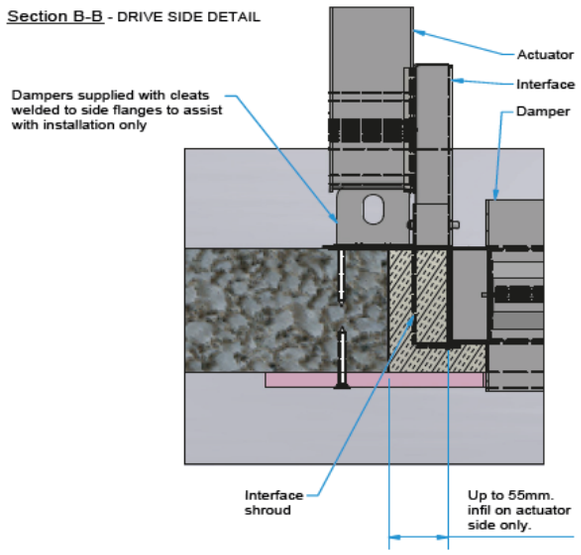
Actionair SmokeShield PTC - [AA/F12493]

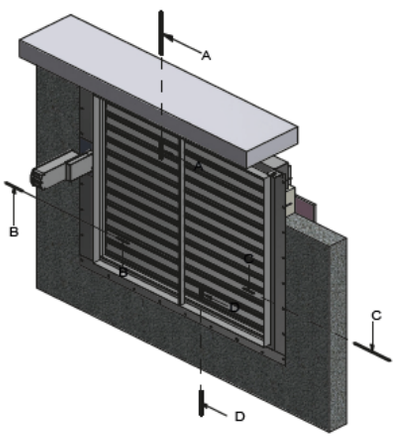
Installation Method

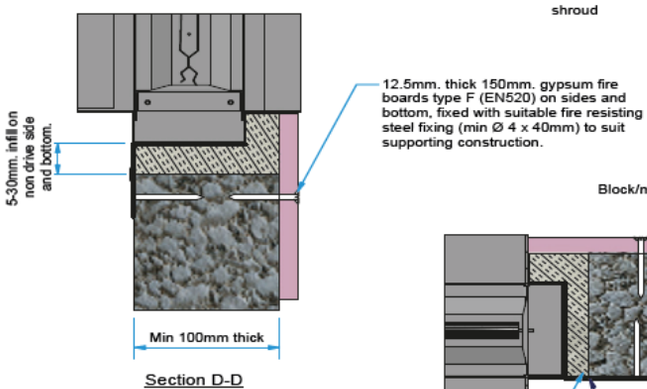
1. Drill clearance holes in the damper flange at 150mm centres.
2. Install the damper and fix through flange using fire rated fasteners, min ø4mm.
3. Back fill and complete penetration seal as per the installation drawing
4. Connecting ductwork omitted for clarity. Ductwork must be independently supported. There must be an appropriate break-away joint between the damper and connecting ductwork on both sides of assembly. Aluminium rivets or plastic cleats, clips, clamps and bolts etc. should be used for this, unless fire resisting duct-work is being used where fire resisting fixings should be used. A minimum of 200 mm between fire dampers installed in separate ducts and 75 mm between fire damper and a construction element (wall/floor).

VERTICAL BLADES;
The damper can be installed with the blades in the vertical orientation with the actuator mounted at the bottom. For cleat locations of motors mounted on the bottom refer to drawing AA-SS-2011.









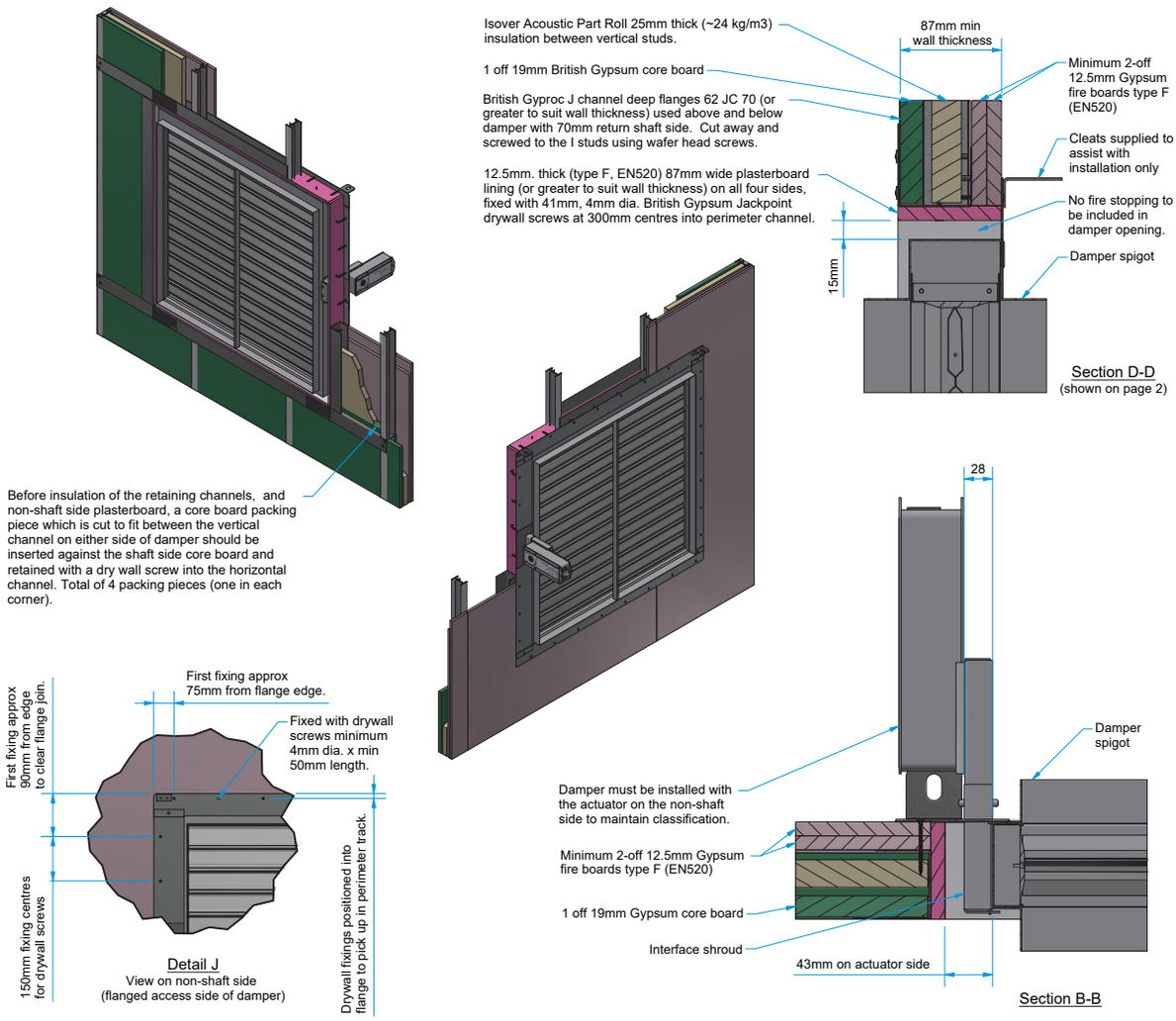
Vertical Damper Installation (Top Flange Removed) In A Masonry Wall Under Concrete Slab

Actionair SmokeShield - [AA/F12394]

Installation Method

1. Measure the overall Fire damper casing size width x height, but for Smoke Shield include the PTC Shroud (28mm) in the width but do not include any of the peripheral flange.
2. Calculate hole size...
3. For Smoke Shield calculate the finished hole size adding 10-40mm to the width and 5-30mm to the height as the head of the damper will be against the slab.
4. Drill clearance holes in the three damper flange's side and bottom at 150mm centres.
5. Apply a bead of low pressure intumescent mastic along top edge of damper as a gap filler and install the damper and fasten through flange using fire rated fasteners, min ø4mm.
6. Dampers are supplied with cleats and only need to be used to help/assist with the installation before fastening the flange to the wall.
7. Back fill with mineral/stone wool and to retain this use a 150mm pattress down to the damper spigot/duct line. Fasten with fire rated fasteners, min ø4mm at 300mm centres on the sides and bottom. Measure the gap for the top pattress and fix this pattress to the wall either side of the damper, (do not fix at 300ctr to the damper case).
8. Connecting ductwork omitted for clarity. Ductwork must be independently supported. There must be an appropriate break-away joint between the damper and connecting ductwork on both sides of assembly. Aluminium rivets or plastic cleats, clips, clamps and bolts etc. should be used for this, unless fire resisting duct-work is being used where fire resisting fixings should be used. A minimum of 200 mm between fire dampers installed in separate ducts and 75 mm between fire damper and a construction element (wall/floor).

Swegon reserves the right to alter specifications.



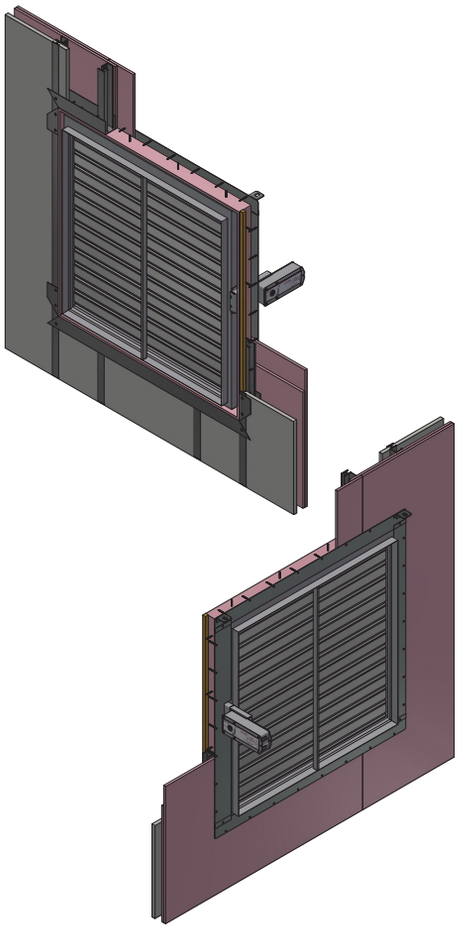
Vertical Damper Installation in a British Gypsum Shaftwall System

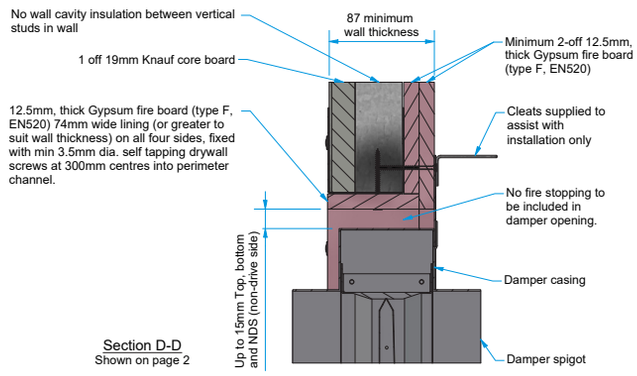
Actionair SmokeShield PTC - [AA/F13472]

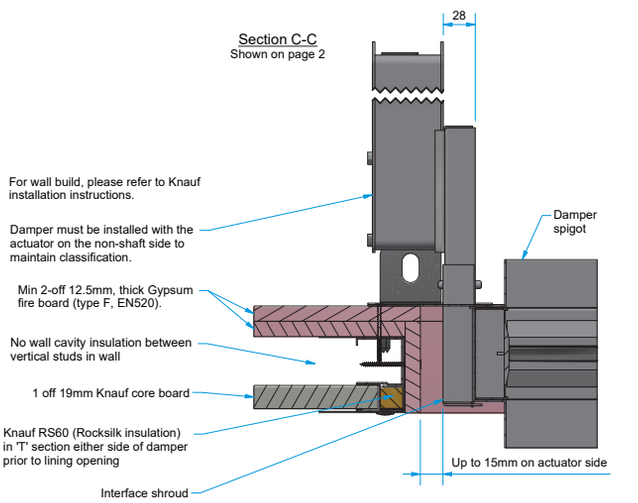
Installation Method

1. Measure the overall Fire damper casing size w x h, including the PTC Shroud (28mm) in the width but do not include any of the peripheral flange.
2. Calculate the finished hole size by adding 30mm to the damper width and height.
3. Calculate the opening size required (frame to frame) by adding two board thicknesses to the finished hole width and height.
4. Create the sub-frame in accordance with the installation drawing, ensuring that the damper aperture is formed to the size obtained from steps 1-3 and using the appropriate Gyproc J Channel to suit the thickness of the wall system being utilised (Refer to Installation Drawing - Details E, F & H).
5. Fit the 19mm core board to suit the wall system and secure in position using the appropriate retaining channel following the wall manufacturers standard practice (friction fit). N.B. Before insulation of the retaining channels, and non-shaft side plasterboard, a core board packing piece which is cut to fit between the vertical channel on either side of damper should be inserted against the shaft side core board and retained with a dry wall screw into the horizontal channel. Total of 4 packing pieces (one in each corner).
6. Apply the plasterboard covering to the non-shaft side ensuring any joints are offset (min. 2 x 12.5mm).
7. Finish the aperture as detailed with a plasterboard lining. Finish edges with joint filler.
8. Drill clearance holes in the damper flange at 150mm centres and such that they will allow screws to pull into the stud and track around the hole.
9. Install the damper and fasten ensuring the actuator and peripheral flange are non shaft side to maintain classification.
10. Connecting ductwork omitted for clarity. Ductwork must be independently supported. There must be an appropriate break-away joint between the damper and connecting ductwork on both sides of assembly. Aluminium rivets or plastic cleats, clips, clamps and bolts etc. should be used for this, unless fire resisting ductwork is being used where fire resisting fixings should be used. A minimum of 200 mm between fire dampers installed in separate ducts and 75 mm between fire damper and a construction element (wall/floor).

Always ensure to consult with the wall manufacturer on confirmation of the minimum separation between service apertures.







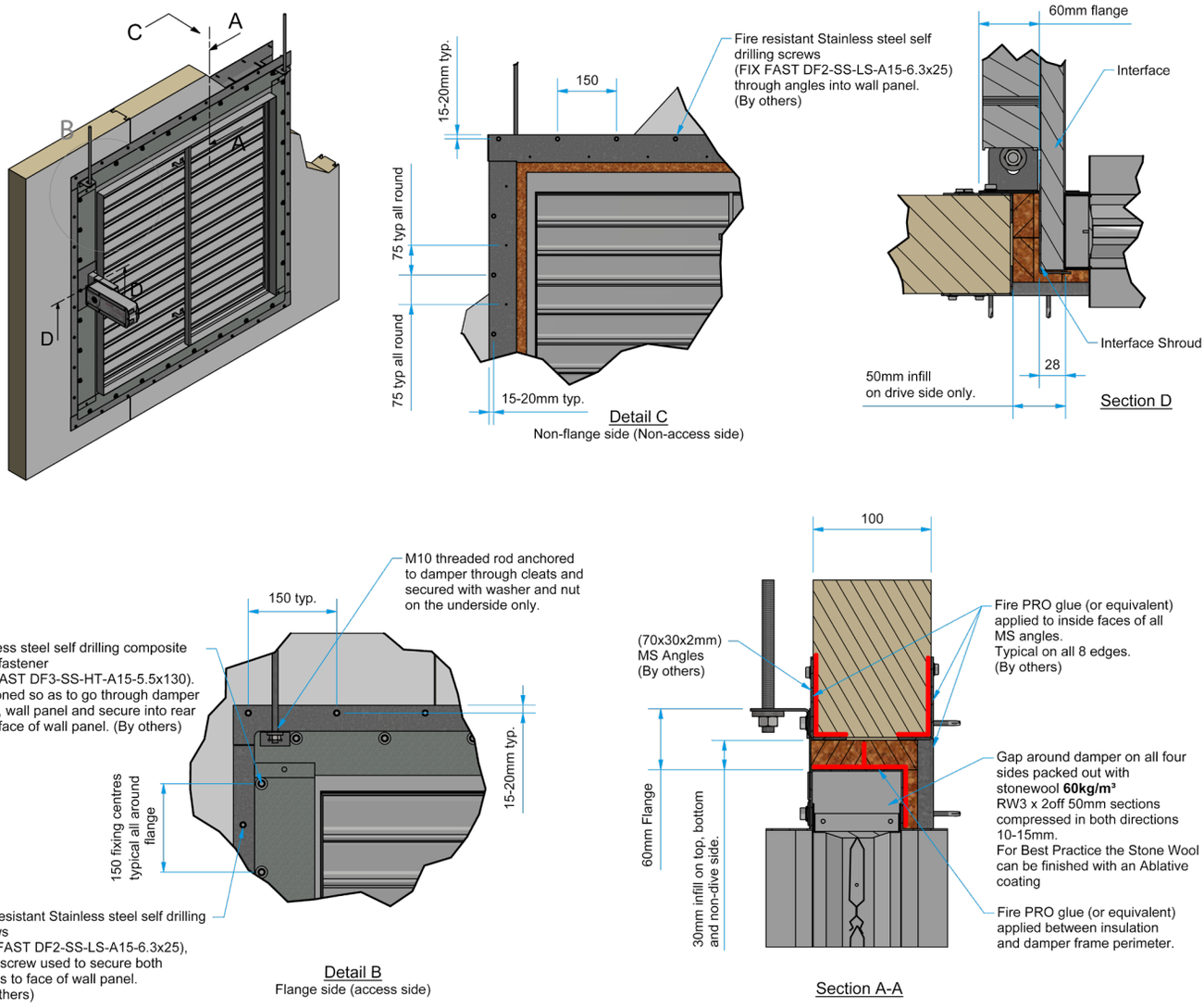
Vertical Damper Installation in a Knauf Shaft wall System

Actionair SmokeShield PTC - [AA/F13763]

Installation Method

1. Measure the overall Fire damper casing size w x h, including the PTC Shroud (28mm) in the width but do not include any of the peripheral flange.
2. Calculate the hole size adding 30mm to the overall damper case (including 28mm shroud) for the width and 30mm to the height.
3. The hole size should be the 'finished opening size' including the plasterboard letter box, aperture should also be framed out to accommodate the opening size and to the wall manufacturers recommendations.
4. Construct the framework and core board arrangement in line with Knauf's recommendations. This will typically consist of utilising pull out tabs to retain the core board within the 'J' channel. Coreboard should be installed sequentially whilst the framework is erected.
5. Full height verticals and centres should be as per Knauf's recommendations and should form the left- and right-hand side of the damper aperture. Aperture framing to the upper and lower section to be 62mm Knauf Deep Flange 'U' channel – 70mm flange with a 45° cut on each side, leaving a 150mm section to be affixed to the verticals (AA/F 13763: Page 2, detail A). To be mechanically fixed via 4.2x14mm Knauf wafer head screw as per detail. Please note, whilst the DWFX-F can be supplied as a 200mm x 200mm consideration should be given to the minimum allowable opening size of the shaft-wall system and Knauf's minimum service opening.
6. Reinforcing horizontal coreboard joints and flat plate for horizontal lobby side boards to be installed as per Knauf's recommendations. Knauf RS60 (Rocksilk insulation) to be installed into sides of the vertical jamb of the opening. Please refer to AA/F 13763: Page 1, Section C-C,
7. 1no 12.5mm Type F (EN520) plasterboard should be installed to the corridor side of the wall system with the inclusion of 1no 74mm (or greater) letterbox lining installed onto the depth of the aperture fixed with 3.5dia self-tapping drywall screws at 300mm centres. The Second layer of 1no 12.5mm Type F (EN520) plasterboard should then be installed flush the to edge of aperture overlapping the letterboxing. Finish edges with joint filler. Please refer to AA/F 13763: Page 1, Section D-D,
8. Drill clearance holes in the damper flange at 150mm centres and such that they will allow screws to pull into the stud and track around the hole.
9. Install the damper and fasten ensuring the actuator and peripheral flange are non shaft side to maintain classification.
10. Connecting ductwork omitted for clarity. Ductwork must be independently supported. There must be an appropriate break-away joint between the damper and connecting ductwork on both sides of assembly. Aluminium rivets or plastic cleats, clips, clamps and bolts etc. should be used for this, unless fire resisting ductwork is being used where fire resisting fixings should be used. A minimum of 200 mm between fire dampers installed in separate ducts and 75 mm between fire damper and a construction element (wall/floor). **Always ensure to consult with the wall manufacturer on confirmation of the minimum separation between service apertures.**

Swegon reserves the right to alter specifications.



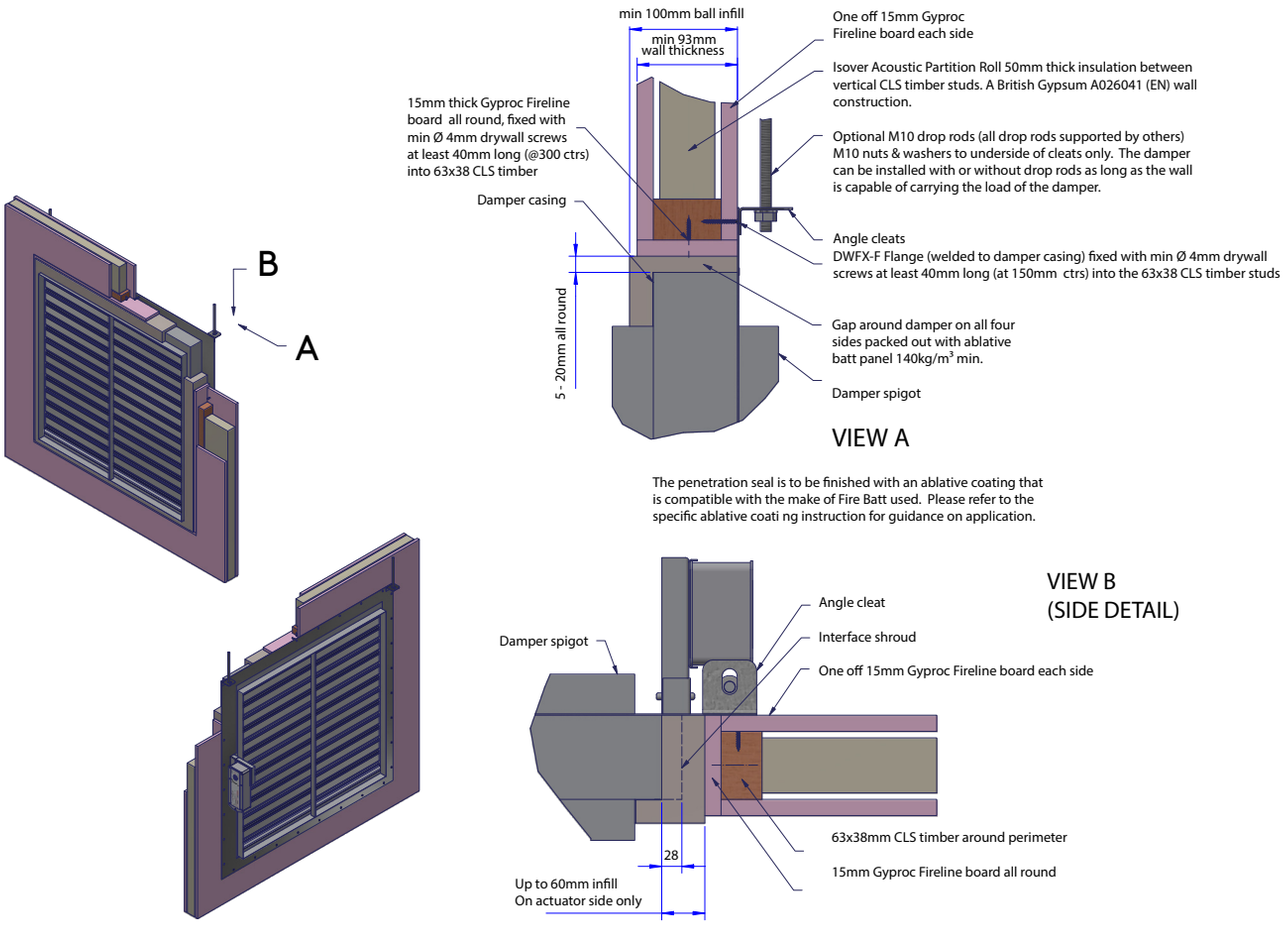
Vertical Damper Installation in a Eurobond Firemaster Extra Panel Wall System

Actionair SmokeShield PTC - [AA/F13396]

Installation Method

1. Measure the overall Fire damper casing size w x h, including the PTC Shroud (28mm) in the width but do not include any of the peripheral flange.
2. Calculate the finished hole size adding 52mm to the width and 60mm to the height.
3. Mark out the hole on the partition and cut it out.
4. Frame out the hole with 70x30x2mm mild steel angles (by others) on both sides of the wall and fix at 150mm centres with Fire Pro glue (or equivalent) applied to inside faces of all angles.
5. Drill clearance holes in the damper flange at 150mm centres, position the damper and fix to the MS angle with Stainless steel self-drilling composite panel fasteners (min. FIX FAST DF3-SS-HT-A15-5.5x130). Positioned so as to go through damper flange, wall panel and secure into rear metal face of wall panel.
6. Back fill and complete penetration seal as per the installation drawing
7. Connecting ductwork omitted for clarity. Ductwork must be independently supported. There must be an appropriate break-away joint between the damper and connecting ductwork on both sides of assembly. Aluminium rivets or plastic cleats, clips, clamps and bolts etc. should be used for this, unless fire resisting ductwork is being used where fire resisting fixings should be used. A minimum of 200 mm between fire dampers installed in separate ducts and 75 mm between fire damper and a construction element (wall/floor).

Always ensure to consult with the wall manufacturer on confirmation of the minimum separation between service apertures.



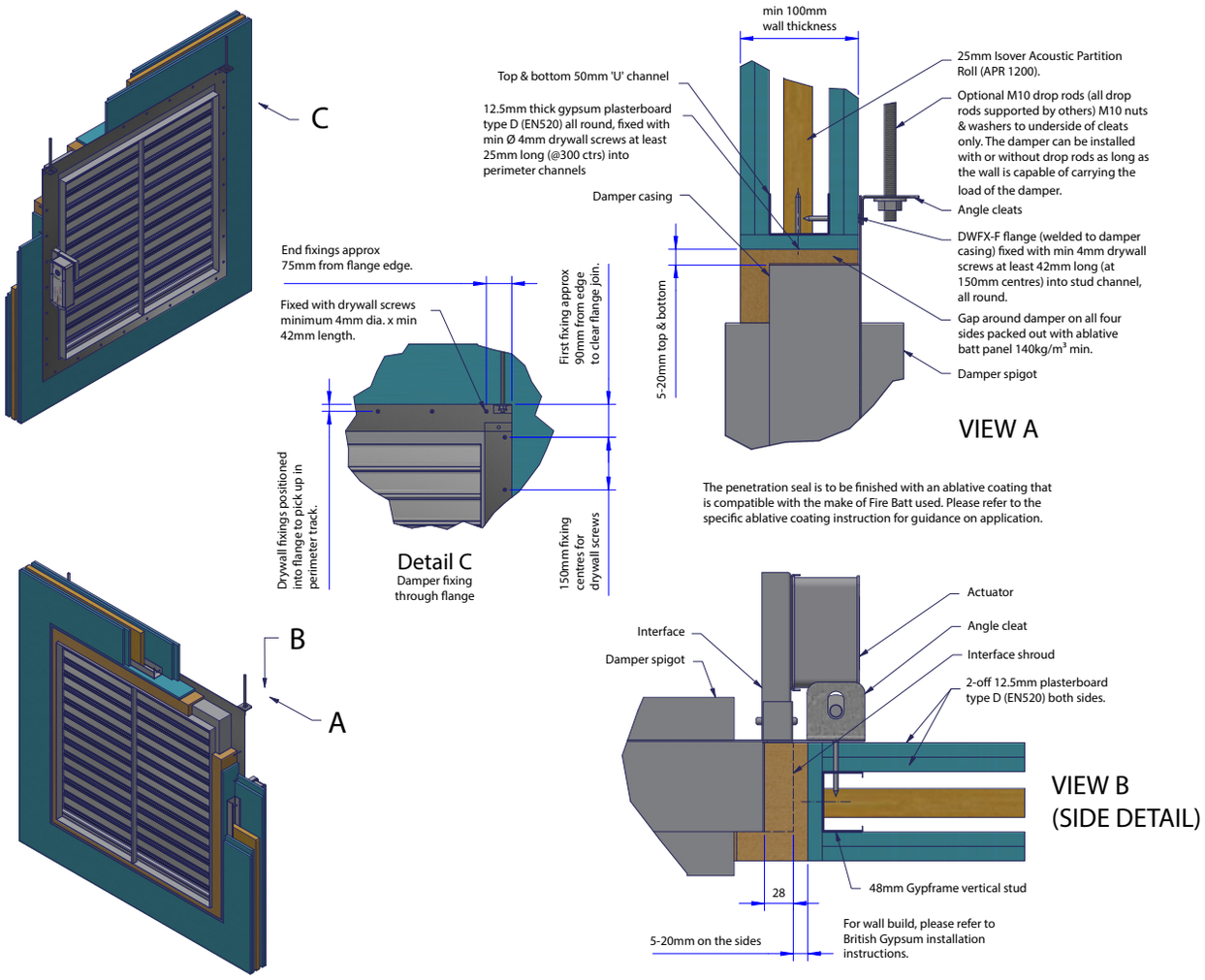
Vertical Damper Installation in a British Gypsum Timber Stud Partition

Actionair SmokeShield - [AA/F13752]

Installation Method

1. Measure the overall Fire damper casing size w x h, including the PTC Shroud (28mm) in the width but do not include any of the peripheral flange.
2. Calculate the hole size adding 10-40mm to the overall damper case (including 28mm shroud) and 10-40mm to the height.
3. The hole size should be the 'finished opening size' including the plasterboard letter box, aperture should also be framed out to accommodate the opening size and to the wall manufacturers recommendations.
4. 1no 15mm Type F (EN520) plasterboard letter boxing should be installed to the CLS timber stud round the aperture. Note: adding additional layers of plasterboard does not have a detrimental effect on the classification of the installation, however the mechanical screw fixing must be able to pass through the wall lining and into the CLS timber stud.
5. Create the sub-frame in accordance with the installation drawing, ensuring that the damper aperture is formed to the size obtained from steps 1-3 and using the appropriate 63mm x 38mm CLS timber to suit the thickness of the wall system being utilised (Refer to Installation Drawing).
6. Finish the aperture as detailed with a plasterboard lining.Finish edges with joint filler.
7. Drill clearance holes in the damper flange at 150mm centres and such that they will allow screws to pull into the timber stud and track around the hole.
8. Install the damper and fasten ensuring the actuator and peripheral flange.
9. Install the damper and fasten. Optional M10 drop rods, bolts and washer (to the under-side of the cleat only) can be installed if required,
10. Penetration seal must be installed to the non-access side of the damper. 140kg/m3 ablative batt fill packed between the damper case and wall, 100mm thick.
11. Connecting ductwork omitted for clarity. Ductwork must be independently supported. There must be an appropriate break-away joint between the damper and connecting ductwork on both sides of assembly. It is allowable to hard fix a section of sub duct to the non-access damper spigot to ensure the breakaway fixing is outside of the penetration seal. Aluminium rivets or plastic cleats, clips, clamps and bolts etc. should be used for this, unless fire resisting ductwork is being used where fire resisting fixings should be used. A minimum of 200 mm between fire dampers installed in separate ducts and 75 mm between fire damper and a construction element (wall/floor). **Always ensure to consult with the wall manufacturer on confirmation of the minimum separation between service apertures. The SmokeShield-DWFX-F has been tested within British Gypsum A026041 (EN) system.**

Swegon reserves the right to alter specifications.



Vertical DWFX-F within British Gypsum SoundBloc A206186 (EN)

Actionair SmokeShield PTC - [AA/F13769]

Installation Method

1. Measure the overall Fire damper casing size w x h, including the PTC Shroud (28mm) in the width but do not include any of the peripheral flange.
2. Calculate the hole size adding 30mm to the overall damper case (including 28mm shroud) for the width and 30mm to the height.
3. The hole size should be the 'finished opening size' including the plasterboard letter box, aperture should also be framed out to accommodate the opening size and to the wall manufacturers recommendations.
4. 1no 12.5mm Type D (EN520) plasterboard letter boxing should be installed to the metal stud round the aperture. Note: adding additional layers of plasterboard does not have a detrimental effect on the classification of the installation, however the mechanical fixing (detailed above) must be able to pass through the wall lining and into the metal channel.
5. Drill clearance holes in the damper flange at 150mm centres and such that they will allow screws to pull into the stud and track around the hole.
6. Install the damper and fasten. Optional M10 drop rods, bolts and washer (to the under-side of the cleat only) can be installed if required.
7. Penetration seal must be installed to the non-access side of the damper. 140kg/m3 ablative batt fill packed between the damper case and wall, finishing flush with the face of the wall. It is allowable to hard fix a section of sub duct to the nonaccess damper spigot to ensure the breakaway fixing is outside of the wall line.
8. Connecting ductwork omitted for clarity. Ductwork must be independently supported. There must be an appropriate breakaway joint between the damper and connecting ductwork on both sides of assembly. Aluminium rivets or plastic cleats, clips, clamps and bolts etc. should be used for this, unless fire resisting ductwork is being used where fire resisting fixings should be used. A minimum of 200 mm between fire dampers installed in separate ducts and 75 mm between fire damper and a construction element (wall/floor).

Always ensure to consult with the wall manufacturer on confirmation of the minimum separation between service apertures.

The SmokeShield-DWFX-F has been tested within British Gypsum SoundBloc A206186 (EN) system.

Actuators

Control Mode Installation Procedure

1. Remove transit plate and recycle.
2. Slide the interface and mode assembly into the shroud. Ensure the slots in the interface casing and the drive coupling located on the rear of the interface are in line.
3. Push the assembly fully home until the interface sprung retaining pin engages through the locating hole in the damper shroud (snaplock™).
4. The control mode can be fitted in any of three orientations i.e. vertically down, horizontally and vertically up (For height restrictions). This can easily be carried out by the following:
5. Remove and retain screw (8mm A/F) and washer, through the position indicator on the control mode.
6. Remove the control mode and interface adapter plate.
7. Taking care not to disturb the drive hexagon. Replace the interface adapter plate and control mode in the new orientation.
8. Replace the washer and screw tight (Max 5Nm) Select a suitable position for the Electrical Thermal Release (ETR) to be mounted through the ductwork.
9. Ideally this should be in the top half of the duct and/ or above the level of the interface.
10. Apply the self-adhesive template (located on the rear of the ETR) and drill the necessary holes (Ø3mm & Ø9.5 & Ø11mm). Push the ETR through the duct and ensure both screws are used to hold it in position. Both screws should be tightened fully to ensure that both sections of the ETR are closed together. It is a safety feature, if both sections are not closed the unit will not operate. For ductless installations the ETR should be fitted onto the damper spigot (not casing) above the damper interface shroud and in accordance with the fitting instructions. If the ETR is not fitted in the exact manner described above, the unit will not operate.
11. The damper should be manually reset and released using the winder provided to ensure that correct mechanical operation is achievable. It is possible to mechanically lock open the SmokeShield PTC damper to allow air to pass through it using the winder provided, this may be necessary if electrical power isn't available yet. The ETR is not operable in this instance, the damper will not release automatically if the temperature rises or a fire occurs.
12. The unit must be wired as detailed. When power is available, the unit must be checked for correct electrical operation. Power on to reset, power off to release.
13. The unit must also be checked by pushing and holding the test switch on the ETR to confirm that the damper releases. When pressure is removed from the switch the damper resets. This may also be done after the initial installation test, to provide periodic operation of the damper to simulate actual fail-safe release under smoke/fire conditions.
14. The ETR cable must not cut to shorten or lengthen, and care must be taken not to damage it. Either will render the unit inoperable and void any warranties. This is due to a built in safety feature.

Swegon reserves the right to alter specifications.

Actuator Rotating Instructions

SmokeShield PTC™ Control Modes

Modes 5 and 6 Three position 180° (Pivotable Control Mode)
SmokeShield PTC™ Control Modes 5 and 6 are located outside of the ductwork for ease of access and installation (see Image 1*).

Control Modes 5 and 6 can be fitted in any of the three orientations (see Image 2):

- Vertically down (Position 1)
- Horizontally (Position 2)
- Vertically up (Position 3)

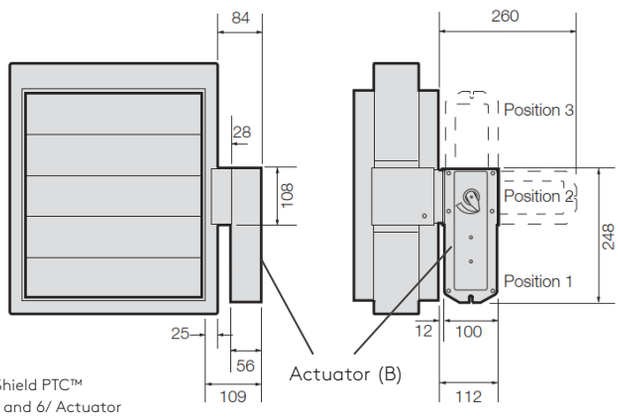


Image 1. SmokeShield PTC™ Control Modes 5 and 6/ Actuator

Image 2. SmokeShield PTC™ Control Modes 5 and 6, orientations.

This flexibility ensures that the damper and control mode require the minimal amount of room.
Control Modes 5 and 6 are supplied in Position 2 as standard.
The orientation can be changed by repositioning the location plate and the Control Mode on to the snaplock ™ Drive Interface (see Image 3**).

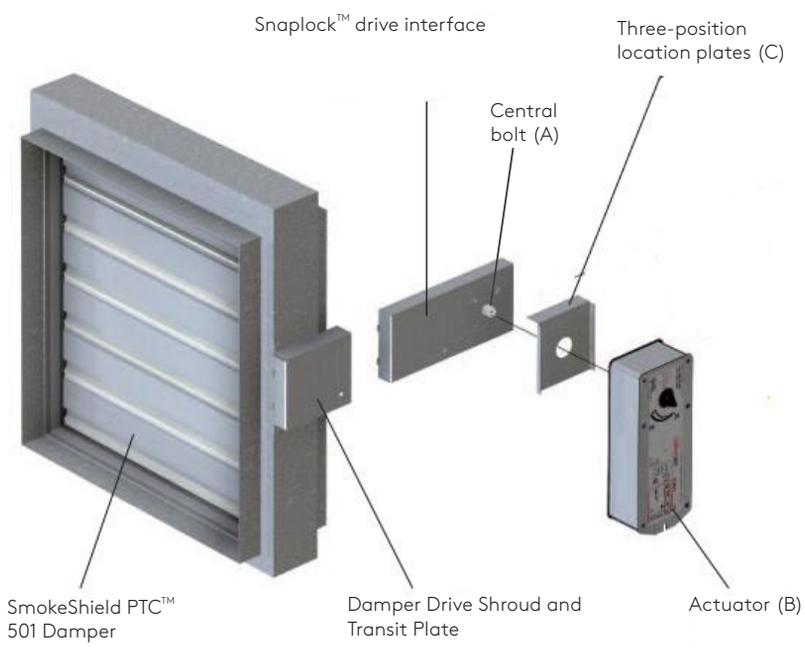


Image 3. SmokeShield PTC™ 501 Damper Modes 5 and 6 (exploded view).

To change the orientation:

1. Remove the bolt central to the position indicator (A).
2. Release the actuator (B) and location plate (C).
3. Reposition the actuator and location plate to the desired new position.
4. Retighten the central bolt to a maximum torque of 5 Nm.

*Label the Control Mode / Actuator in the picture. It must be identifiable by looking at the picture.

**Label the parts that are mentioned in Steps 1. – 4.: Central bolt, actuator, location plate. The image must be on the same page as step-by-step instructions.

Periodic Maintenance

Manufacturer Recommended Service Intervals

- After commissioning and handover (see DW145 check sheet), in order to remain compliant with 15650:2010, we recommend that you follow a regular service and inspection programme to ensure correct operation of dampers in the event the damper is required to actuate.
- In addition to regular physical inspections (in accordance with 15650:2010) we recommend using a dedicated damper control panel with a digital reporting mechanism (such as an Actionpac LNS system) to frequently monitor and report on regular remote damper testing.
- Ensure maintenance is performed in line with the latest best practice and relevant local or specialist guidance.
- Our recommended service intervals for life safety products are as follows:

Interval	Action	Competence
6 Months	Check Actuator Wiring (if applicable) for Damage	Specialist Persons
6 Months	Check Limit Switch Wiring (if applicable) for Damage	Specialist Persons
6 Months	Check Damper Cleanliness, Clean and Lubricate if necessary.	Specialist Persons
6 Months	Check Condition of Blades and Seals, report and rectify if necessary.	Specialist Persons
6 Months	Check for blade obstructions	Specialist Persons
6 Months	Check Damper Release Mechanism (through activation or release of the ETR or Thermal Fuse Device)	Specialist Persons
6 Months	Check damper is left in normal operational position after inspection.	Specialist Persons
Monthly	Complete actuation of damper from control panel (if installed)and check all faults. Consult specialist persons to investigate any reported faults.	Facility Manager

- *Specialist Persons: A recognised and experienced person with prior experience in the inspection and assessment of the functional safety of smoke and fire damper products. If in doubt, please consult with our technical support team for advice. To talk about our OEM maintenance inspections, contact our nationwide service team.

BS EN 15650:2010 - Ventilation for Buildings

- Fire Dampers

- Section 8.3 states regular testing/ inspection should be undertaken to meet regulatory requirements, or at intervals not exceeding six months.
- A comprehensive example of the maintenance procedure is given in Annex D of the standard. Some automatic systems may allow more frequent testing (48hr or less) and this may be required by a national standard.

Approved Document B, Volume 2

- Clause 10.12 states adequate means of access must be provided to allow inspection, testing and maintenance of both fire damper and its actuating mechanism.

BS 9999:2017 - Code of Practice for the Fire Safety in the Design, Management and Use of Buildings - Annex I

Smoke Control Systems

- For means of escape states actuation of the system should be simulated once a week. It should be ensured that any fans and powered exhaust ventilators operate correctly, smoke dampers close (or open in some systems), natural exhaust ventilators open, automatic smoke curtains move into position, etc.

Three Monthly

- In addition to the checks recommended in V.2, V.3 and V.4, the actuation of all smoke control systems should be simulated once every three months. All zones should be separately tested and it should be ensured that any fans and powered exhaust ventilators operate correctly, smoke dampers close (or open in some systems) etc.

Yearly

- In addition to the following checks should be made for annual inspections and tests of the following to be carried out by competent persons, for any defects to be logged and the necessary action taken, and for certificates of testing to be obtained.
  - Fire detection and fire alarm systems;
  - Self-contained luminaires with sealed batteries, if more than 3 years old;
  - Sprinkler, drencher and watermist systems;
  - Smoke ventilators and smoke control systems;
  - Fire dampers

BS 9999:2017 - Code of Practice for the Fire Safety in the Design, Management and Use of Buildings - Annex W

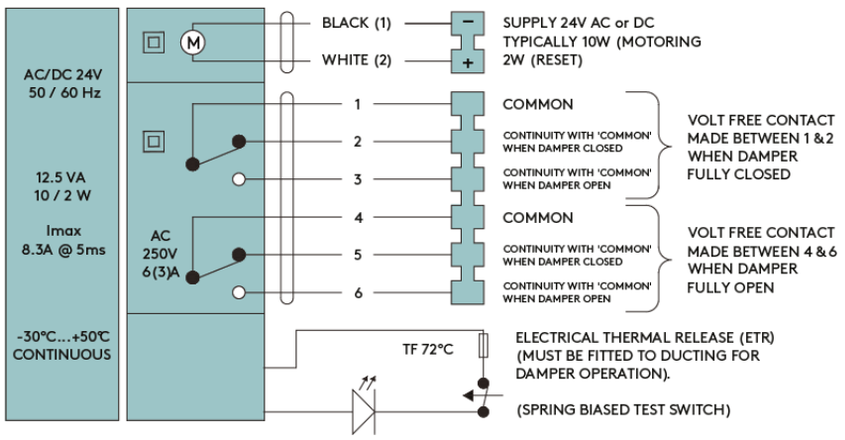
Maintenance of air conditioning and ventilation equipment including air filters, motors, fire dampers and their controls, smoke detectors and alarms is of paramount importance both in preventing fire and in ensuring that measures taken to mitigate its consequences are effective when needed. Arrangements should be made for all fire dampers to be tested by a competent person on completion of the installation and at least annually, and to be prepaired or replaced immediately if found to be faulty. Spring-operated fire dampers should be tested annually and fire dampers situated in dust-laden and similar atmospheres should be tested much more frequently, at periods suited to the degree of pollution.

Swegon reserves the right to alter specifications.

DWFX-F Wiring Diagrams

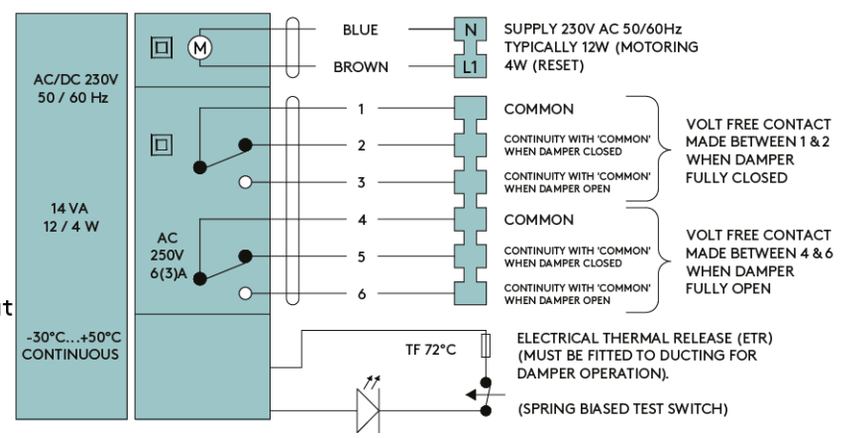
Mode 5 PTC 24V

Supply On – Damper motors open.
Supply Off – Damper spring closes.
Electrical Thermal Release.
External mechanical position indicator with pointer.
Close Time ≈ 22 secs.
Open Time ≈ 60 secs.
(Connect 24V via a safety isolating transformer.)
IP54 Rated.



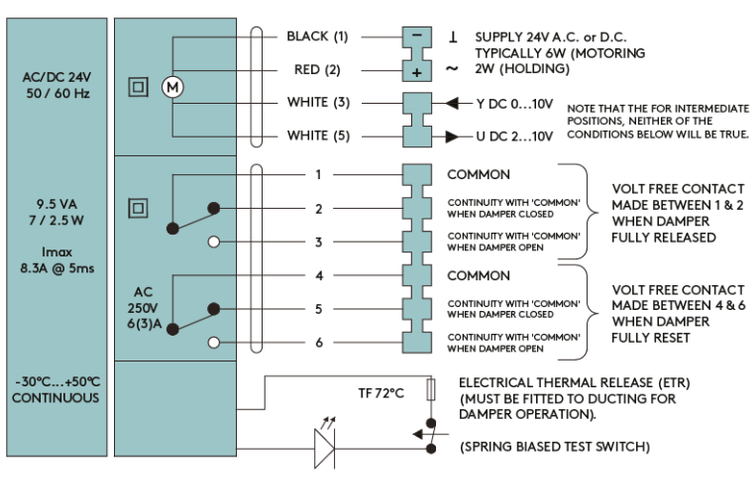
Mode 6 PTC 230V

Supply On – Damper motors open.
Supply Off - Damper spring closes.
Electrical Thermal Release.
External mechanical position indicator with pointer.
Close Time ≈ 22 secs.
Open Time ≈ 60 secs.
(To isolate from main power supply, the system must incorporate a device which disconnects the phase conductors, with at least 3mm contact gap.)



Mode 5-3P

Supply On – Damper motors open.
Supply Off - Damper spring closes.
The M5-3P is controlled by standard 0...10V control signal. The actuator motors to the position specified by the control signal. If the ETR is activated, power supply lost or removed the device springs the damper to the fail-safe position.
Electrical thermal release (ETR)
(Must be fitted to ducting for damper operation).
Spring close time ≈ 18 seconds
Motor open time ≈ 120 seconds
(Connect 24V via a safety isolating transformer.)
IP54 Rated.



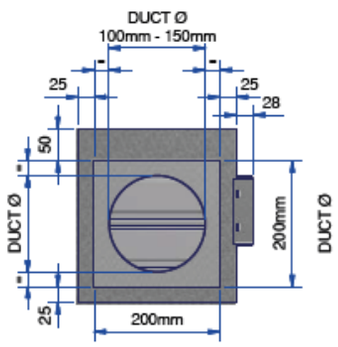
DIAGRAMS SHOWS ACTUATOR IN FULLY CLOSED STATE

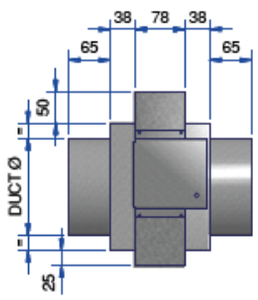
DWFX-F Damper Dimensional Data

Actionair SmokeShield PTC

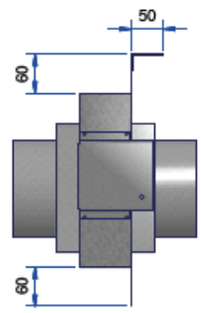
Circular Dampers Series 601

FOR DAMPERS 100-150MM

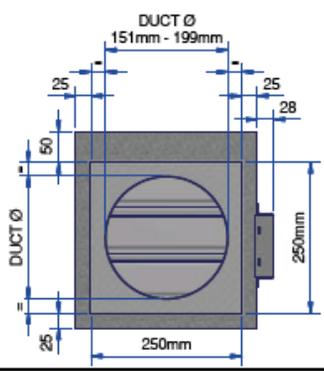


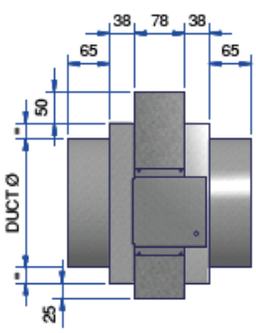


OVERALL FLANGE WIDTH = 398mm
OVERALL FLANGE HEIGHT = 395mm

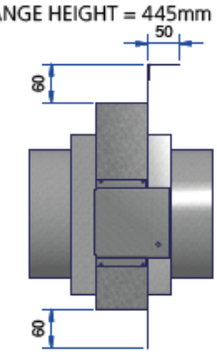


FOR CIRCULAR DAMPERS SERIES 601, DIAMETERS 151-199MM

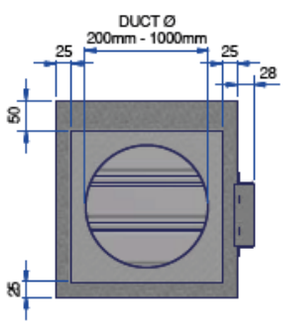


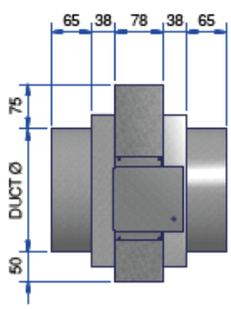


OVERALL FLANGE WIDTH = 448mm
OVERALL FLANGE HEIGHT = 445mm

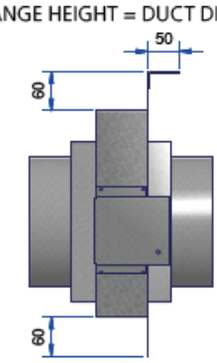


FOR CIRCULAR DAMPERS SERIES 601, DIAMETERS 200-1000MM





OVERALL FLANGE WIDTH = DUCT DIA + 248mm
OVERALL FLANGE HEIGHT = DUCT DIA + 245mm



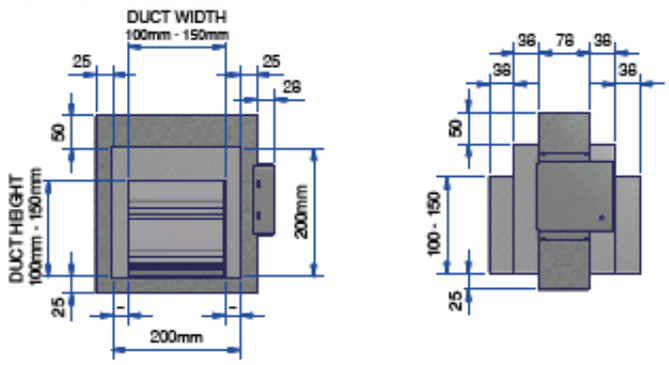
FOR DUCT DIAMETERS BETWEEN 970mm - 1000mm
OVERALL WIDTH OF FLANGE WIDTH IS 1198mm
OVERALL HEIGHT OF INSTALLATION FRAME IS 1195mm

Swegon reserves the right to alter specifications.

Rectangular Dampers Series 501

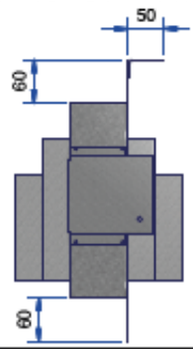
For Rectangular Dampers spigots are 5mm under duct size.
Widths and heights available in 1mm increments.

FOR DUCT WIDTHS AND HEIGHTS OF 100-150MM

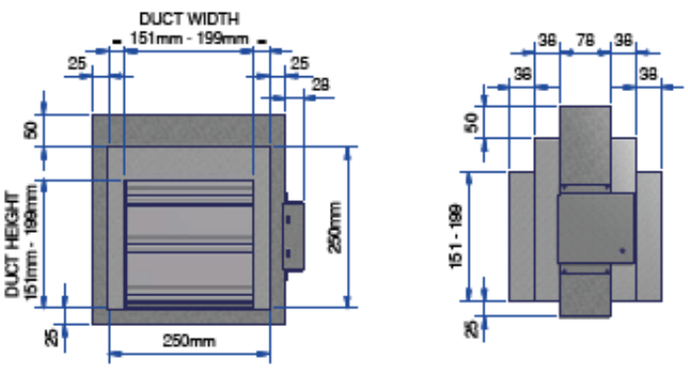


OVERALL FLANGE WIDTH IS 398mm

OVERALL FLANGE HEIGHT IS 395mm

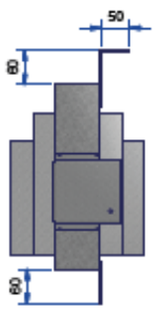


FOR DUCT WIDTHS AND HEIGHTS OF 151-199MM

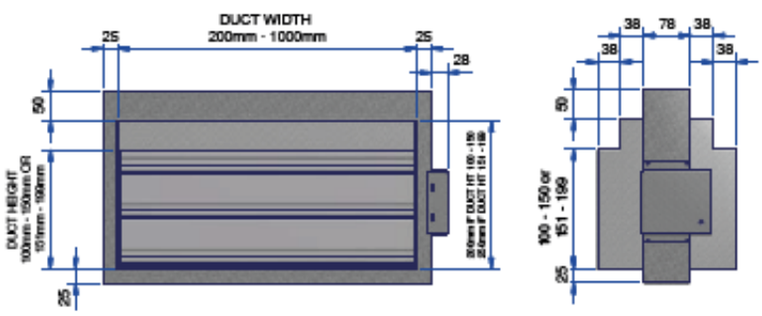


OVERALL FLANGE WIDTH IS 448mm

OVERALL FLANGE HEIGHT IS 445mm

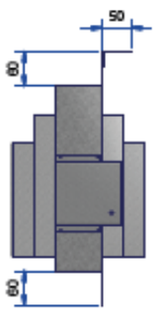


FOR DUCT WIDTHS 200MM - 1000MM WITH HEIGHTS OF 100-199MM

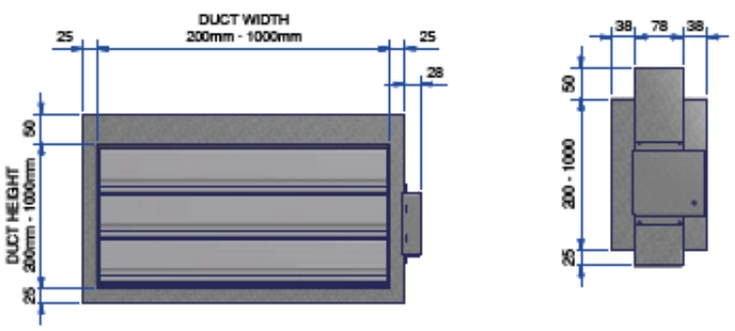


FOR OVERALL HEIGHTS SEE 100 - 150mm

OR 151 - 199mm AS ABOVE



For Ducts with widths and heights of 200 - 1000mm



OVERALL FLANGE WIDTH DUCT WIDTH + 198mm

OVERALL FLANGE HEIGHT DUCT HEIGHT + 195mm

Troubleshooting

Product Commissioning & Maintenance Available

Below is a quick guide to problems that may be encountered.

Please note modifications made to units will invalidate warranties etc

Fault	Possible problem	Recommended action
Interface Mode Assembly does not fit into the shroud on the damper.	Damper drive shaft not in line with shroud	Gentle adjustment made by manually setting blades to fully closed
	Mode not in released position	Release clutch on motor using manual key. Check the slot on rear of interface
	Slots on the non-access side of the shroud may be blocked (due to removal of transit plate prior to backfilling)	Ensure adequate clearance
Control mode does not operate electrically	The ETR is not correctly fitted to duct	Screw fix to duct ensuring both parts of the ETR are fully together. Do not over tighten
	The mode is incorrectly wired	Check wiring in accordance with procedures
	The ETR cables have been damaged or tampered with	Replace with new mode
Control Mode operates, but limited, or no movement of damper blades is observed	The mode is not correctly synchronised with the interface	Remove motor from interface. Check motor in fully released state. Set position of interface, and refit motor with label upmost, include motor location pointer and washer
	The damper is damaged or poorly installed	New damper or re-install
	Interface not fitted correctly to damper	Fit interface correctly, ensure retaining pin protrudes through location hole in the shroud
	Foreign matter is impeding blade movement	Check and remove
	Motor location pointer omitted	Fit new pointer
	Mode not screwed down correctly	Check and tighten

Swegon reserves the right to alter specifications.

Inspection and handover check sheet

This certificate applies only to Swegon Fire Dampers. The installer must complete this installation certificate when installing fire and smoke dampers. A separate certificate must be completed for each individual fire and smoke damper.

	Question	Action
1	Are the dampers the correct type?	Confirm damper is correct type for the application
2	Are the dampers located correctly?	The damper location is to be checked against the installation drawings/details
3	Are the dampers correctly identified?	Unique system ID to be clearly indicated on the damper or other agreed location.
4	Have supports for both the damper and the adjacent ductwork been installed in accordance with the approved manner?	
5	Are the dampers fitted in the correct orientation?	Confirm the damper is installed with any actuators (if applicable) on the left or right hand side. Not on the top or the bottom (i.e. blade pivot running vertically) unless permitted under the respective DoP.
6	Is access through the ductwork, to the damper unobstructed?	Unobstructed space should be provided for safe access to the damper. This must include access through ceiling voids and adjacent services. Damper installer to advise the system designer if problems are foreseen.
7	Has the space around the damper and within the opening been left clear and not been used for other services?	Other services within the installation opening will invalidate the installation method. Damper installer to advise the lead contractor if problems are foreseen.
8	Using the access opening provided, check that blades open and close.	Check position of damper blades.
9	Has the damper been checked for internal cleanliness, free from damage and that vertical casings in particular are free from debris?	With the damper in the closed position, inspect for damage.
10	Has the damper been released to simulate operation of the thermal release? (Damper drop test)	Ensure damper operation is free from interference.
11	Have the damper blades been re-set following drop test and the access panel replaced?	After re-setting the damper, check the position shown on the blade position indicator is correct.
12	At the time of damper handover, is the fire barrier and penetration seal complete?	Damper installer to record on the handover register if any following trades are still to complete their activities.
13	Is the damper installation complete and available for handover prior to system commissioning?	Obtain the relevant acceptance of the damper installation from the CDM coordinator.
14	Is the completed handover register cross-referenced back to the identification codes listed in the system designers damper schedule?	

Damper Unique System I.D: .....
Name of installation location:.....
Address:.....
Installation location identification section/floor/room: .....
Damper product type: .....
Release fuse temperature: .....
Notes/Considerations: .....
Installed by: .....
Company Name: .....
Address: .....
Company Telephone No: .....
Installers Name: .....
Installers Telephone No: .....
Date of installation: .....

It is hereby verified that the damper detailed above has been installed and tested according to the manufactures recommendations:

Installers signature: ..... Date: .....