

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
- Actionair FireShield

Health and safety

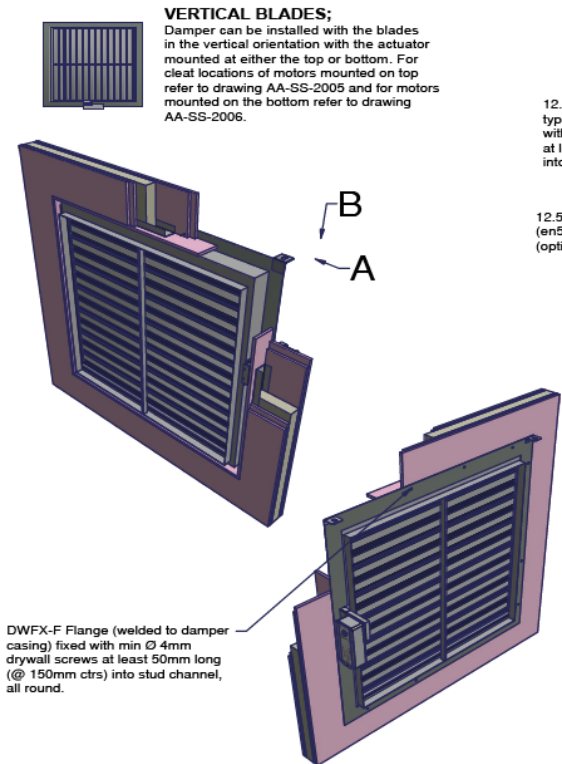
- This process must be undertaken by competent persons. More than one person may be required to ensure the safe handling of large dampers and other materials. Use must be made of access equipment to ensure unsafe practices are not used to approach walls or difficult access areas.
- Standard site PPE 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 handling 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.

CE Installation Method Overview

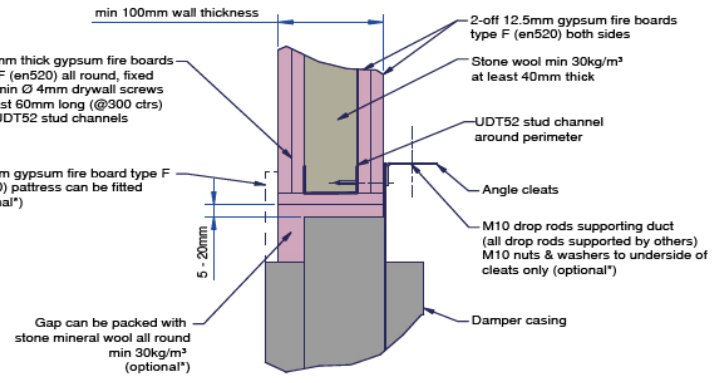
Application	Installation Method	
	Actionair SmokeShield	Actionair FireShield
Vertical DWFX-F In A Plasterboard Wall	Page 3, [AA/F13412] 1xType F board each side. [AA/F10704] 2xType F boards each side.	Page 3, [AA/F13440] 1xType F board each side. [AA/F10705] 2xType F boards each side.
Vertical DWFX-3F (Top Flange Removed) In A Plasterboard Wall Under Concrete Slab	Page 4, [AA/F11945]	Page 4, [AA/F11944]
Vertical DWFX-F In A Masonry Wall	Page 5, [AA/F12493]	Page 5, [AA/F10707]
Vertical DWFX-3F (Top Flange Removed) In A Masonry Wall Under Concrete Slab	Page 6, [AA/F12394]	Page 6, [AA/F12827]
Vertical DWFX-F In a Plasterboard Shaftwall System.	Page 7, [AA/F13472]	
Vertical DWFX-F In a Composite Wall System	Page 8, [AA/F13396]	
Vertical DWFX-F In A Plasterboard Timber Stud Partition	Page 9, [AA/F13752]	

- 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 and FireShield 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 low smoke leakage, often referred to in the industry as a Fire/Smoke damper.
- 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.

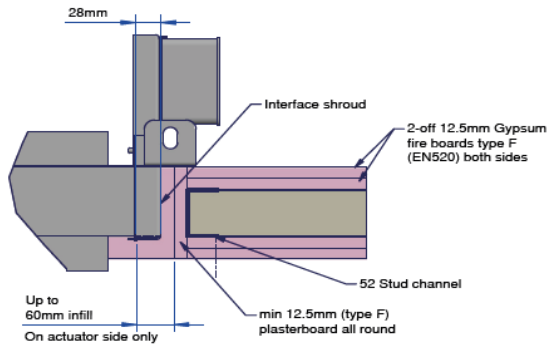
Actionair DWFX-F Installation Guide



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.



VIEW A



VIEW B
(SIDE DETAIL)

*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 AAF10704, page 2 for alternative configurations:



Vertical Damper Installation in a Plasterboard Wall

Actionair SmokeShield PTC -

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

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

Actionair FireShield -

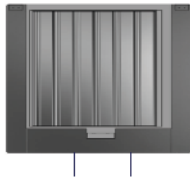
[AA/F13440] 1xType F board each side.

[AA/F10705] 2xType F boards each side.

Installation Method

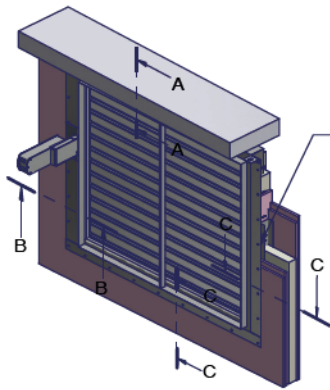
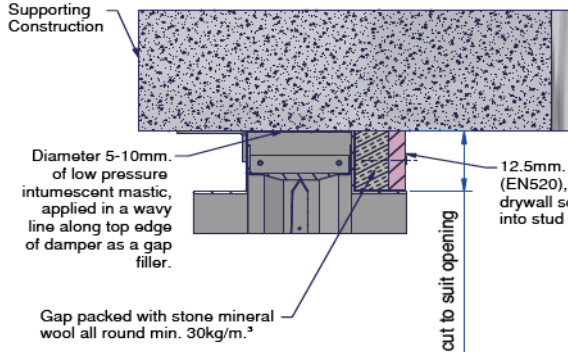
1. Measure the overall Fire damper casing size w x h, but for Smoke Shield include the PTC Shroud (28mm) in the width but do not include any of the peripheral flange.
2. Calculate the hole size using hole sizer program available on www.swegon.com/uk
3. For FireShield (AA/F13440) calculate the finished hole size by adding 30mm to the case width and height.
 - For FireShield (AA/F10705) calculate the finished hole size by adding 10-40mm to the case width and height.
4. 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 10-52mm to the width and 10-40mm to the height.
5. Calculate the hole to cut size by adding two board thicknesses to the finished hole width and height.
6. Mark out the hole on the partition and cut it out, cutting the top and bottom edges first to maintain stability.
7. Frame out the hole with stud and track and cover this with board. 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.
10. Back fill and complete penetration seal as per the installation drawing
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. 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).

Actionair DWFX-F Installation Guide

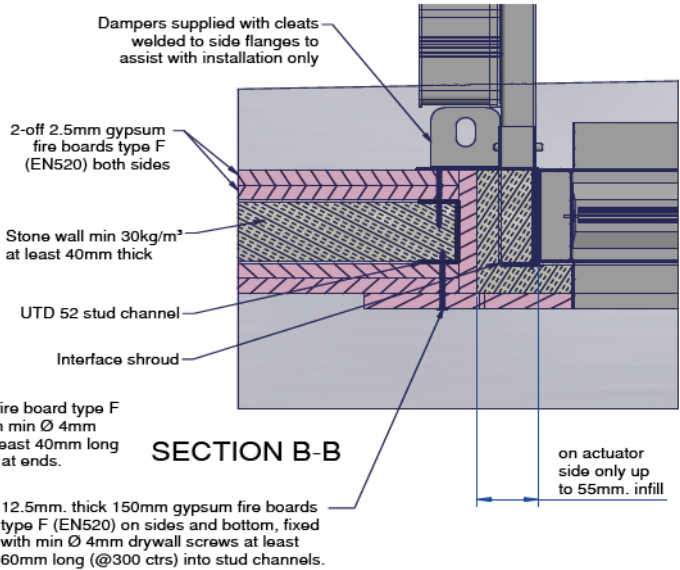


VERTICAL BLADES
Damper can be installed with the blades in the vertical orientation with the actuator mounted at the bottom. For cleat locations of motors mounted on the bottom refer to drawing AA-SS-2011.

SECTION A-A

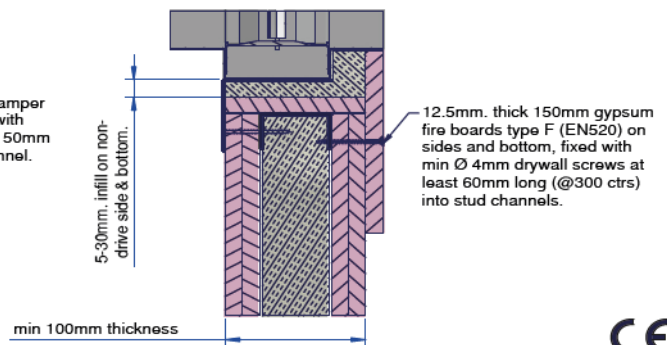


DWFX-F angle flange (welded to damper casing) on sides and bottom fixed with min Ø 4mm drywall screws at least 50mm long (@150mm. ctrs) into stud channel.



SECTION B-B

SECTION C-C



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

Actionair SmokeShield PTC - [AA/F11945]

Actionair FireShield - [AA/F 11944]

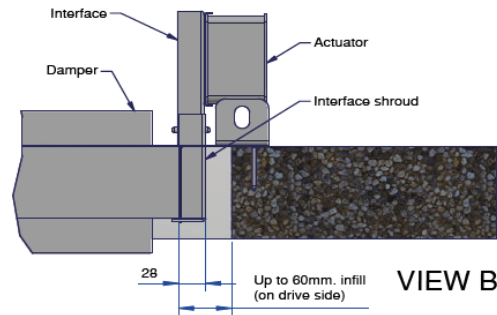
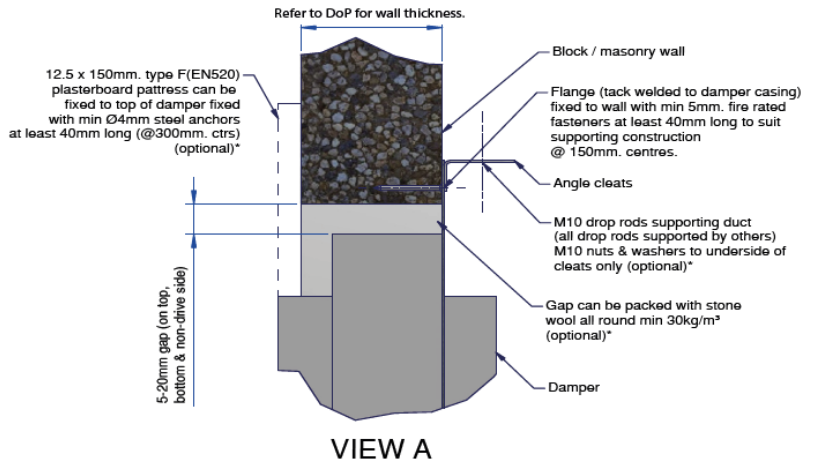
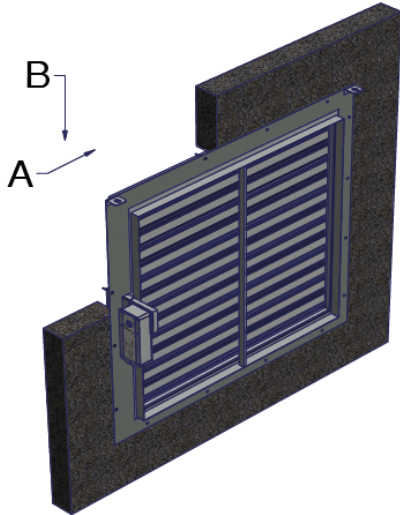
Installation Method

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 Fire Shield calculate the finished hole size by adding 10-60mm to the case width and 5-30mm for the height as the head of the damper will be against the slab.
4. For Smoke Shield calculate the finished hole size adding 10-57mm to the width and 10-30mm to the height as the head of the damper will be against the slab.
5. Calculate the hole to cut size by adding two board thicknesses to the finished hole width and only one for the height.
6. Mark out the hole on the partition and cut it out.
7. Frame out the hole sides and bottom with stud and track and cover this with board. Finish edges with joint filler.
8. 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.
9. Apply a bead of low pressure intumescent mastic along top edge of damper as a gap filler and install the damper and fasten.
10. 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.
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. 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.

Actionair DWFX-F Installation Guide



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

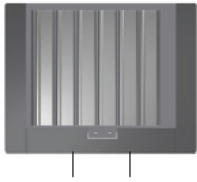
Actionair SmokeShield PTC - [AA/F12493]

Actionair FireShield - [AA/F10707]

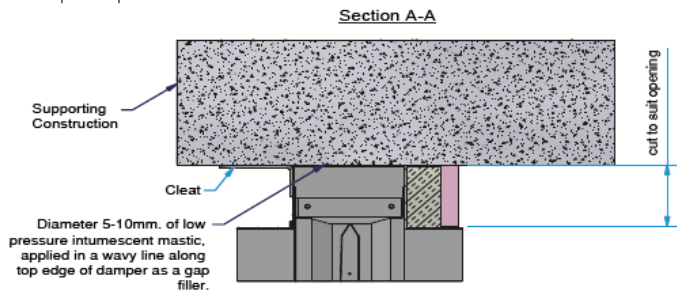
Installation Method

1. Drill clearance holes in the damper flange at 150mm centres.
2. Install the damper and fix through flange using fire rated fasteners, min \varnothing 4mm.
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).

Actionair DWFX-F Installation Guide

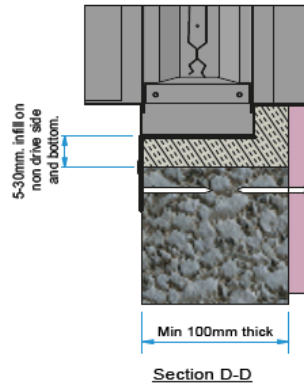
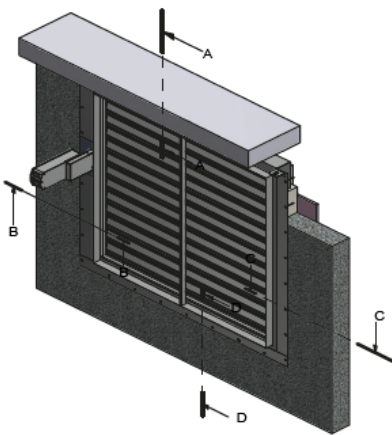
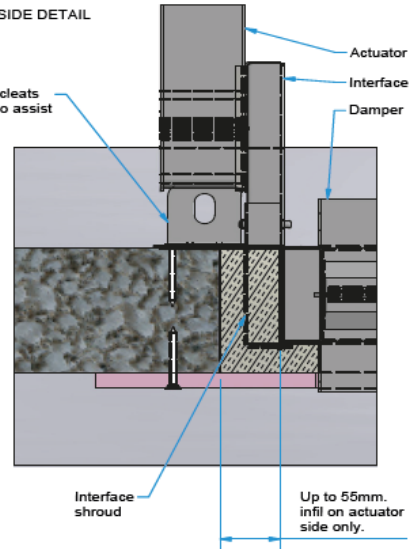


VERTICAL BLADES;
The damper can be installed with the blades in the vertical orientation with the actuator mounted at the bottom. For cleat locations of motors mounted on the bottom refer to drawing AA-SS-2011.

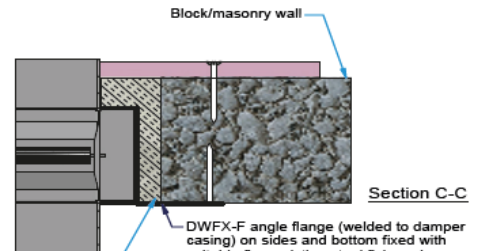


Section B-B - DRIVE SIDE DETAIL

Dampers supplied with cleats welded to side flanges to assist with installation only



12.5mm. thick 150mm. gypsum fire boards type F (EN520) on sides and bottom, fixed with suitable fire resisting steel fixing (min \varnothing 4 x 40mm) to suit supporting construction.



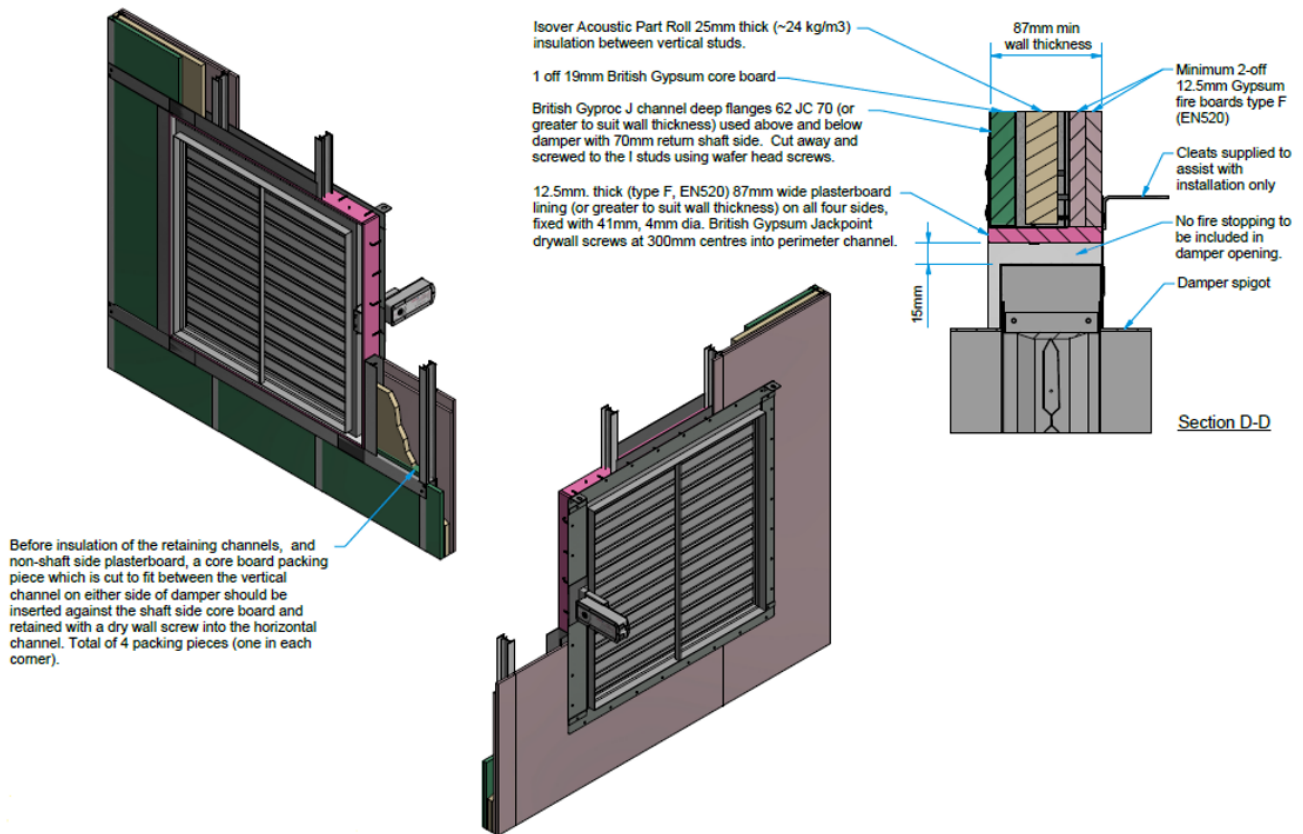
Vertical Damper Installation (Top Flange Removed) In A Masonry Wall Under Concrete Slab

Actionair SmokeShield - [AA/F12394]

Actionair FireShield - [AA/F12827]

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 Fire Shield calculate the finished hole size by adding 10-80mm to the case width and 5-40mm for the height as the head of the damper will be against the slab.
4. For Smoke Shield calculate the finished hole size adding 10-57mm to the width and 5-30mm to the height as the head of the damper will be against the slab.
5. Drill clearance holes in the three damper flange's side and bottom at 150mm centres.
6. 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 \varnothing 4mm.
7. Dampers are supplied with cleats and only need to be used to help/assist with the installation before fastening the flange to the wall.
8. 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 \varnothing 4mm 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).
9. 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).



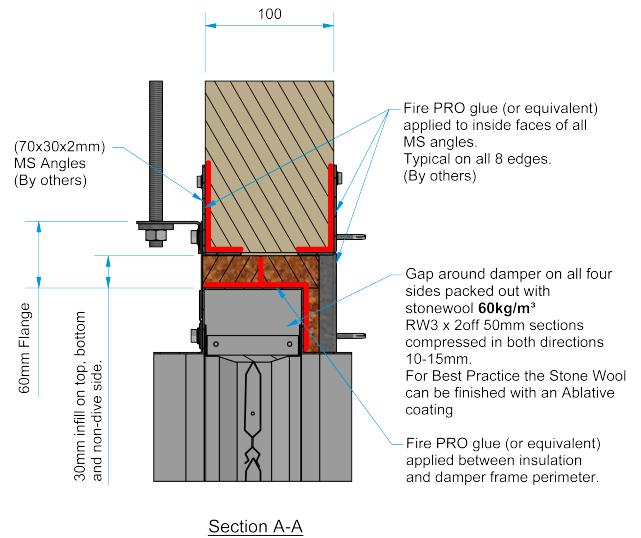
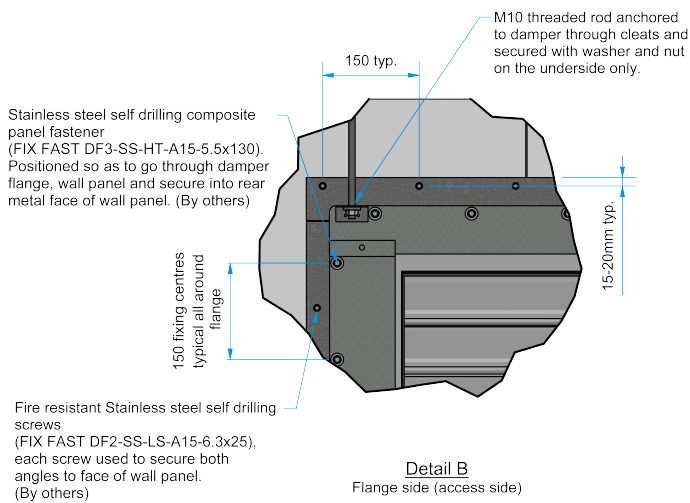
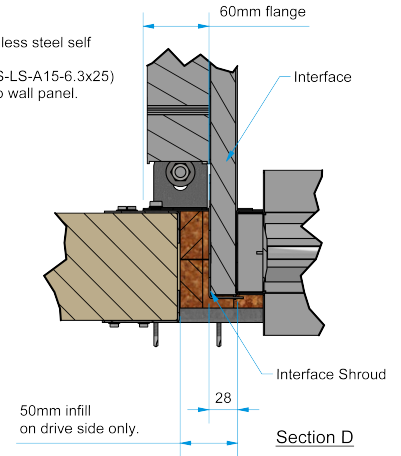
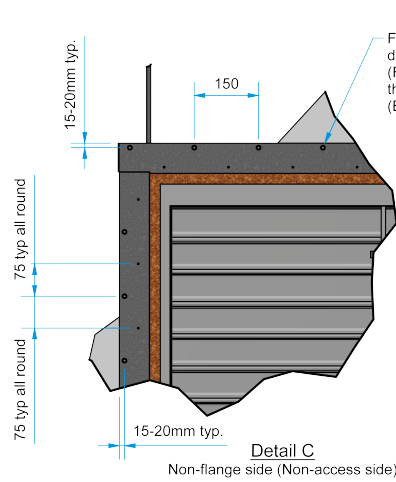
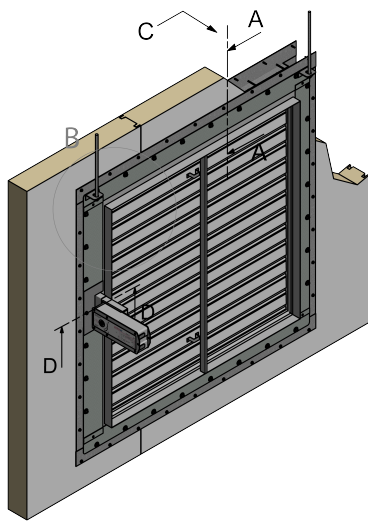
Vertical Damper Installation in a Plasterboard Shaftwall System

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).

Actionair DWFX-F Installation Guide



Vertical Damper Installation in a Composite Panel Wall System

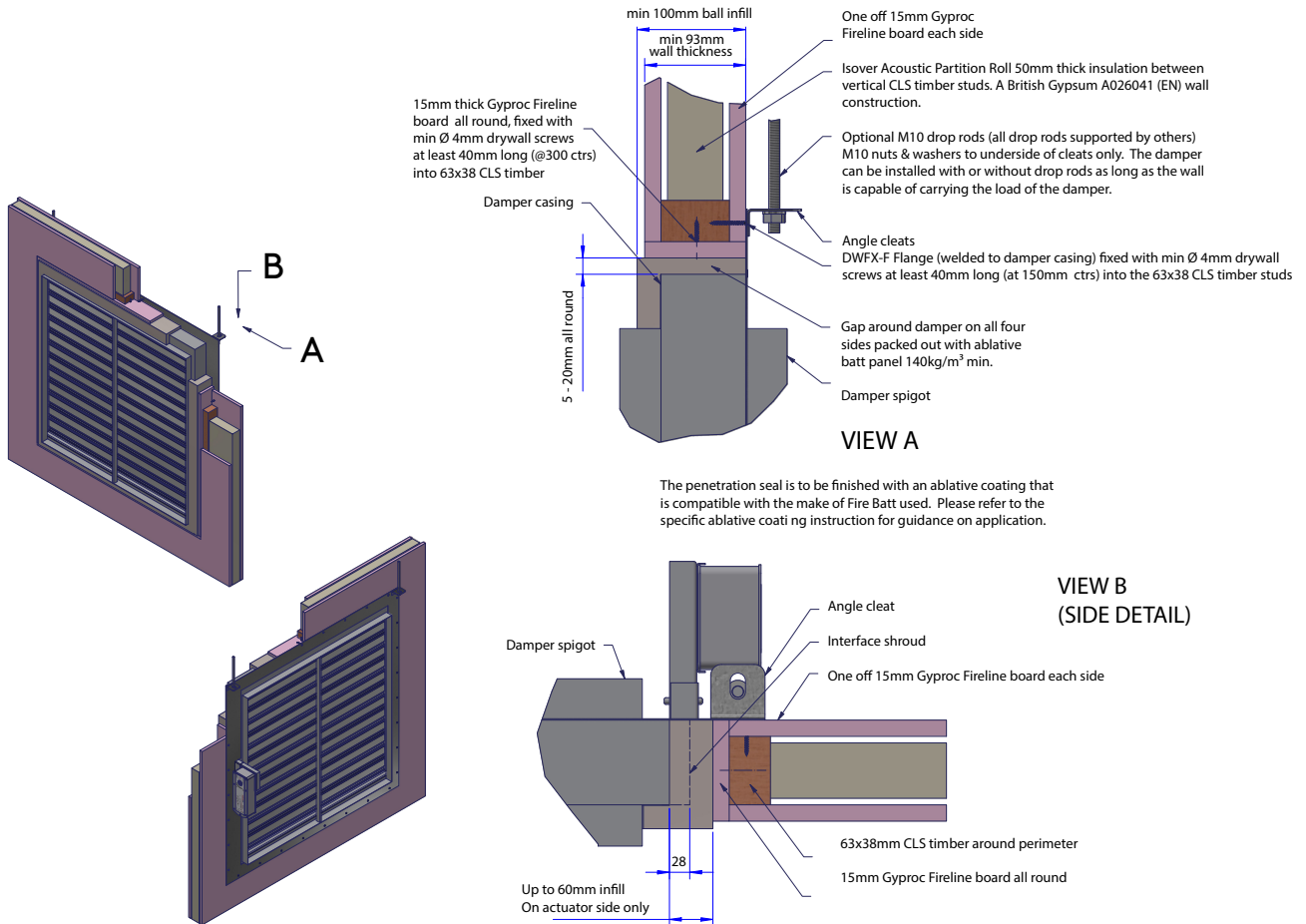
Actionair SmokeShield PTC - [AA/F13396]

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).

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Vertical Damper Installation in a Plasterboard 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.

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.

Self Latching Removable Release Mechanism Cassette

The cassette mechanism is completely removable from the FireShield Damper by manually releasing the retaining clip.

This allows replacement of the cassette without the use of tools

Simple hand operation enables the damper curtain to be reset and latched in the fully Open Position.

This increases the ease and speed with which the FireShield Damper can be reset following periodic functional testing in accordance with British Standard BS9999:2008 Code of Practice for fire safety.

The thermal actuator in the form of a helical memory metal compression spring is produced from a special Cu-Zn-Al brass alloy.

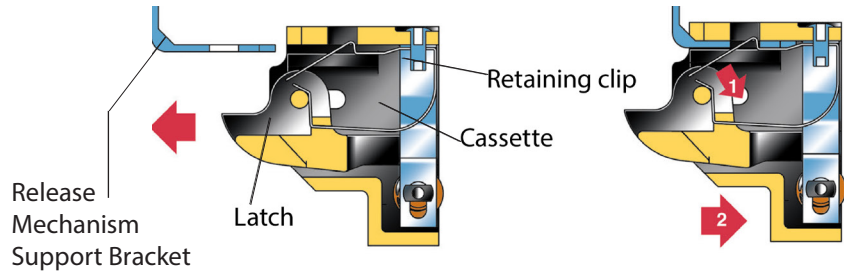
On temperature rise this expands and at 72 °C, causes the FireShield damper blades to release.

On cooling, the spring reverts to the close-coiled state offering the significant advantage of repeated operation, unless it has reached temperatures in excess of 170 °C, where it will remain extended, preventing reset.

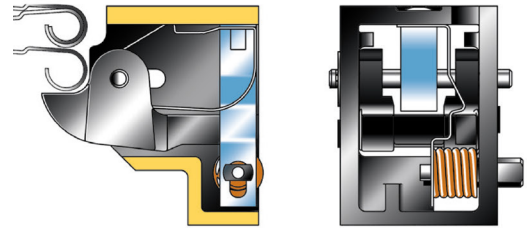
Cassettes are only available for 72 °C. For Dampers where alternative thermal link temperatures are required a chain-link can be offered in place of a cassette. Electrical release is only available with a cassette i.e. 72 °C.

Please refer to Actionair Sales Office.

Please note: For dampers with dimensions of 150mm and below ensure that there is adequate access to enable re-setting.

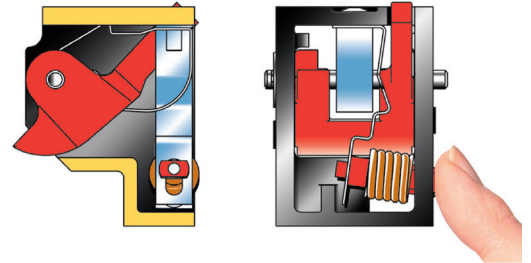


Set Position



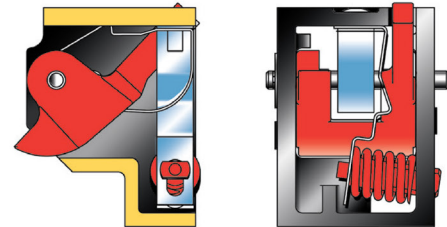
Manual Operation

Manual Operation for periodic functional testing in accordance with BS9999:2008 Code of Practice for Ventilation and Air Conditioning Ductwork.



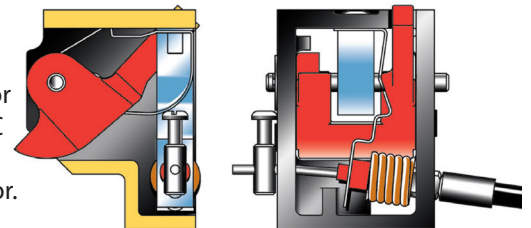
Thermal Actuator Operation

Memory metal coil springs, specially designed to fully expand at 72 °C and actuate damper closure.



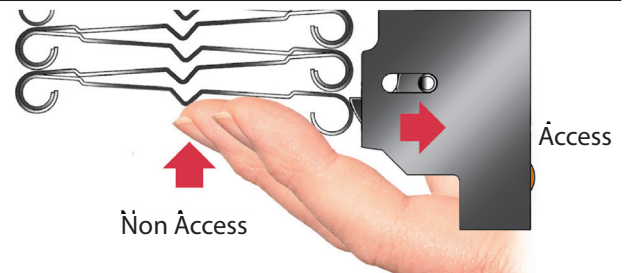
Remote Release Operation

Remote release operation to close the FireShield Damper is by Bowden cable with Manual action or Electrical 230V AC or 24V AC and DC Electro Magnet fail-safe action and independent of the thermal actuator. Bowden outer sleeve can be fitted from either side of cassette.



Reset Operation

Single hand operation. Each blade pushes the latch back under spring tension. On full blade reset the latch springs out to secure.



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.



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

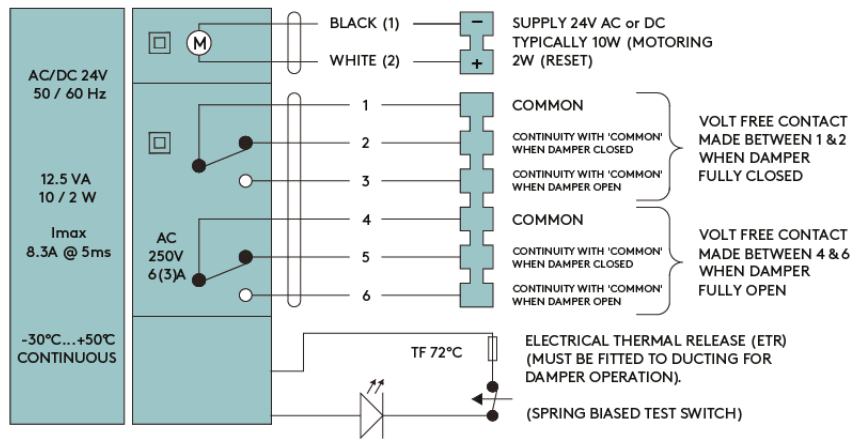
BS 9999:2017 - Code of Practice for the Fire Safety in the Design, Management and Use of Buildings - Annex W

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 prepared 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.

DWFX-F Wiring Diagrams

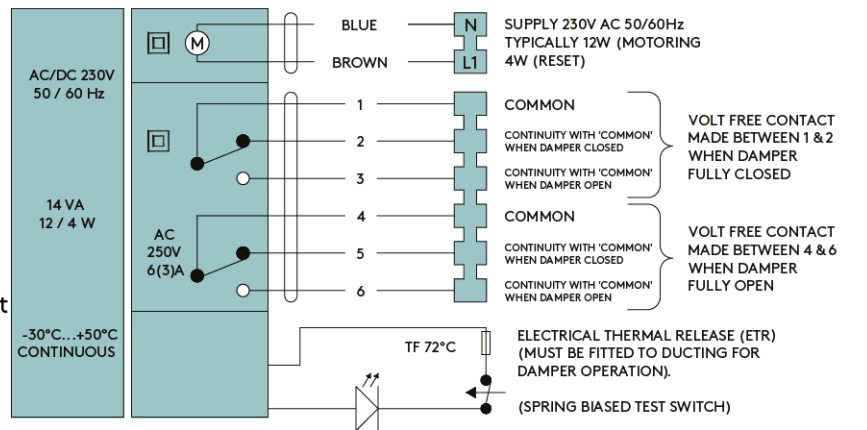
Mode 5 PTC 24V

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.



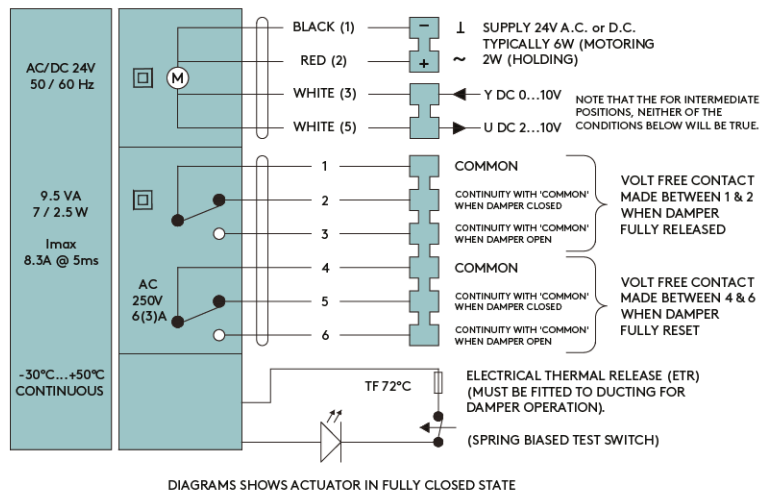
Mode 6 PTC 230V

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

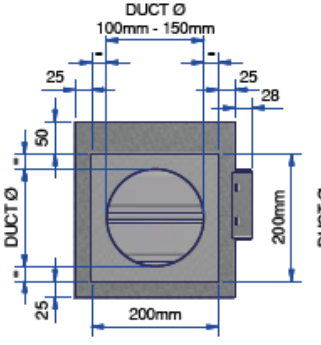
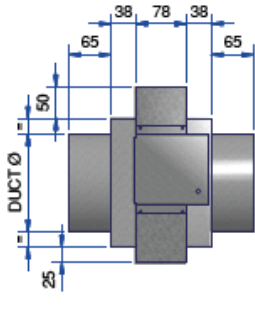
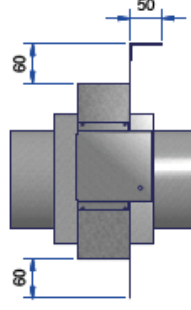
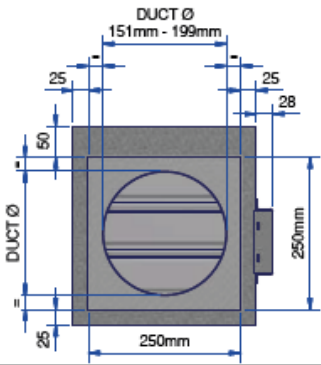
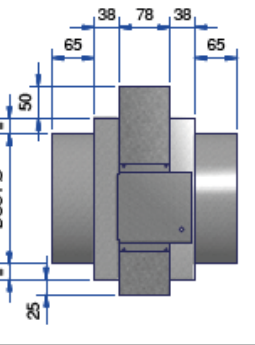
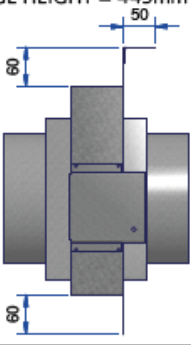
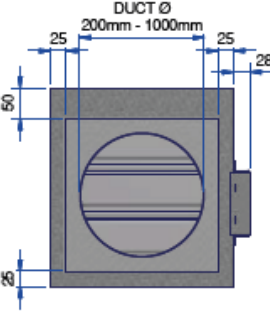
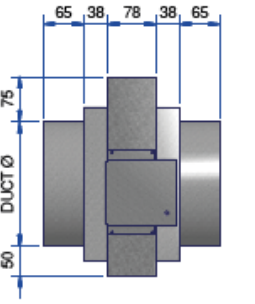
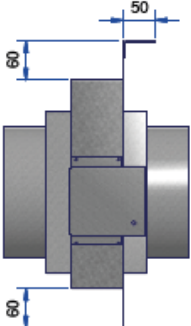
Supply On – Damper motors open.
 Supply Off - Damper spring closes.
 The M5-3P is controlled by standard 0...10V control signal. The actuator motors to the position specified by the position. If the ETR is activated, power supply lost or removed the device springs the damper to the fail-safe position.
 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

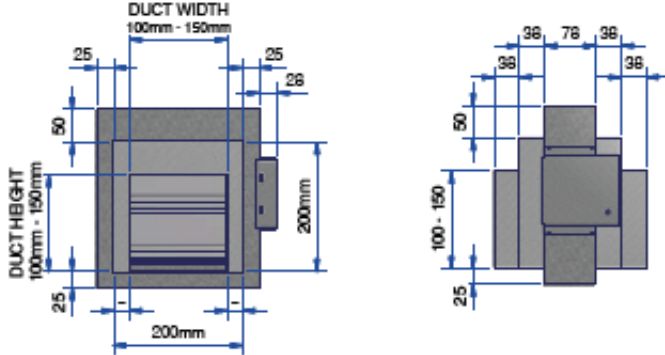
Actionair SmokeShield PTC

<p>Circular Dampers Series 601</p> <p>FOR DAMPERS 100-150MM</p> 		<p>OVERALL FLANGE WIDTH = 398mm OVERALL FLANGE HEIGHT = 395mm</p> 
<p>FOR CIRCULAR DAMPERS SERIES 601, DIAMETERS 151-199MM</p> 		<p>OVERALL FLANGE WIDTH = 448mm OVERALL FLANGE HEIGHT = 445mm</p> 
<p>FOR CIRCULAR DAMPERS SERIES 601, DIAMETERS 200-1000MM</p> 		<p>OVERALL FLANGE WIDTH = DUCT DIA + 248mm OVERALL FLANGE HEIGHT = DUCT DIA + 245mm</p>  <p>FOR DUCT DIAMETERS BETWEEN 970mm - 1000mm OVERALL WIDTH OF FLANGE WIDTH IS 1198mm OVERALL HEIGHT OF INSTALLATION FRAME IS 1195mm</p>

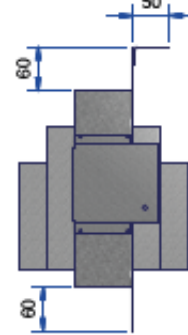
Rectangular Dampers Series 501

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

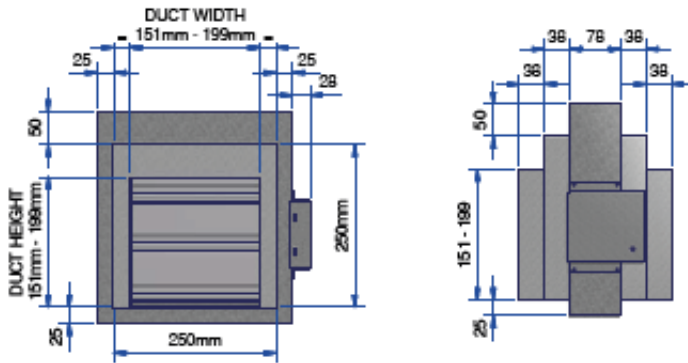
FOR DUCT WIDTHS AND HEIGHTS OF 100-150MM



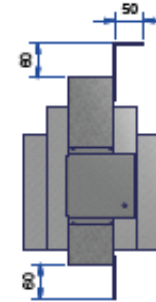
OVERALL FLANGE WIDTH IS 398mm
OVERALL FLANGE HEIGHT IS 395mm



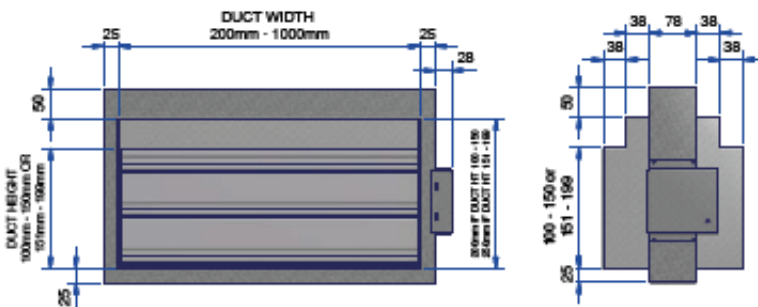
FOR DUCT WIDTHS AND HEIGHTS OF 151-199MM



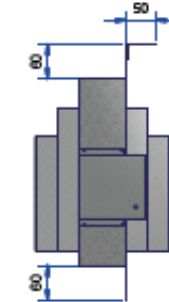
OVERALL FLANGE WIDTH IS 448mm
OVERALL FLANGE HEIGHT IS 445mm



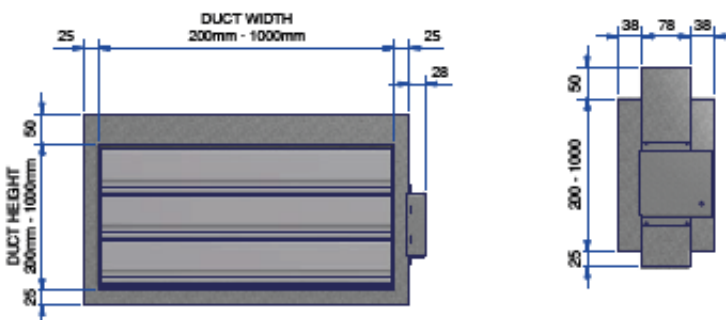
FOR DUCT WIDTHS 200MM - 1000MM WITH HEIGHTS OF 100-199MM



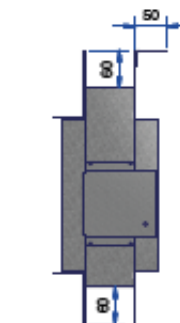
FOR OVERALL HEIGHTS SEE 100 - 150mm
OR 151 - 199mm AS ABOVE



For Ducts with widths and heights of 200 - 1000mm



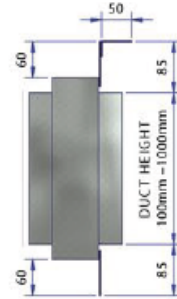
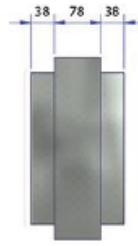
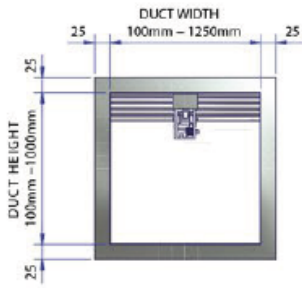
OVERALL FLANGE WIDTH DUCT WIDTH + 198mm
OVERALL FLANGE HEIGHT DUCT HEIGHT + 195mm



Actionair DWFX-F Installation Guide

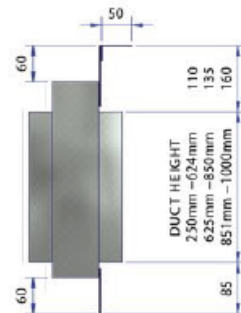
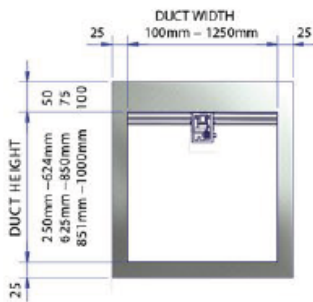
Actionair FireShield

5mm under duct size) 100 - 249 high, blades effectively outside airstream



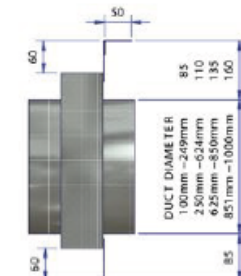
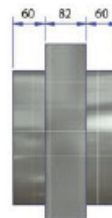
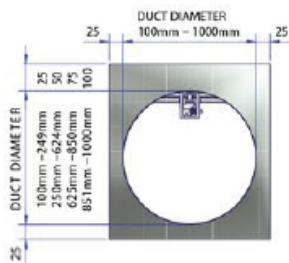
Series 201

FireShield Dampers with blades effectively outside airstream (Damper spigots 5mm under duct size) 100 - 249 high, use Series 101 Damper as blades effectively outside airstream



Series 301

FireShield Dampers with blades effectively outside airstream (Damper spigots 3mm under duct size)



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

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: