CSS - ES Rated Fire Damper (Fire & Smoke Barrier)

Health and Safety

This process must be undertaken by a 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.

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Rigid or dry Walls or Concrete Floor construction

Damper installation method

1. Measure the overall damper casing diameter. Calculate the finished square hole size by adding $10mm \pm 5mm$ to both width and height (For drywall partitions calculate the hole to cut size by adding two board thickness to the finished hole width and height).

2. Mark out the hole on the partition and cut it out, cutting the top and bottom edges first to maintain stability.

3. For drywall partitions, frame out the hole with stud and track and cover this with board. Finish edges with joint filler.

4. Install the damper and fasten one installation flange so the blade in its closed position is in the centre of the wall.

5. Fill the 4 triangular voids between the damper and the edges of the hole with fire rated stone wool.

6. Fit the remaining installation flange.



Control Mode Wiring Procedure

If integrating this unit with an Actionpac damper control system (LNS, EMS or EMB) please refer to the relevant catalogue and specific project details.



General

One metre of halogen free low smoke and fume electric cable is fitted to each control mode for convenience of on-site wiring. This provides the distinct safety advantage of all electrics terminating outside the duct, eliminating potential in-duct fire hazards from wiring faults. The Electrical Thermal Release is pre-wired with 0.5m halogen free low smoke and fume cabling to Control Modes 5 and 6.

A Manual test switch fitted on the ETR allows periodic operation of damper, simulating actual fail safe release under smoke/fire conditions.

Commissioning

The procedure detailed under periodic maintenance should be followed

Periodic maintenance

As detailed in BS 9999:2008

1. For dampers this is at least once per year for units with spring operation.

2. Units operating in dusty atmospheres should be frequently often to suit the severity of the conditions.

3. Units associated with systems may be required to be checked, as part of the system, as often as once per week or month to ensure ongoing confidence in the life safety system. This may be seen as analogous to fire alarm systems.

Procedure

1. The units should be carefully inspected and cleaned of dust and debris

2) The units should then be lubricated with a light oil, by wiping this over all the surfaces

3) Modes should be operated to ensure that it moves the blades from open to closed and the reverse.

4) If the end switches (in the mode) are being used, it should be checked that they are actually indicating that the blades are open or closed. This is done by running a cycle and checking both the blades (open and closed) and the indication that the micro switches are feeding back to.

Inspection and handover check sheet Damper Installation Certificate

This certificate applies only to actionair products. 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.

No.	Question	Action	Tick
1	Are the dampers the correct type?	Confirm damper is correct type i.e. SmokeShield	
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 the correct way up and relative to airflow and/or access.	
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, are the damper blades in the open position?	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 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:

Replacement of Mode & ETR on CSS Dampers

Remove ETR

Undo the 2 self tapping screws with a No.1 Pozidriv screwdriver and remove the ETR from the hole. Undoing the 2 screws allows separation of the two pieces of the ETR. Replace the old ETR with new.



Remove Mode Fasteners

Unscrew and remove the two bolts holding the mode to the bracket using a 5mm allen key.

Unscrew and remove the bolt and washer holding the mode to the shaft using an 8mm A/F spanner. Do not to lose the fixings these will be reused later.

Check damper blade starting position

Damper blade in closed position for the 'Fail-Safe-Closed'. It is also a good opportunity to check the condition of the white seal around the circumference of the blade for any damage.

Orientation of mode

The mode can be fitted in one of three positions depending on preference this is the time to decide.



Aligning, tensioning and fitting mode

The damper blade is designed to be pre-tensioned with the mode fitted. To ease mode fitting the following is necessary. Wind mode manually 1½ turns clockwise and ½ turn anticlockwise quickly to lock for fail-safe-closed position, to align the 2 fixing screw holes. Fit mode to bracket screws through mode and into bracket then fit nuts (they are embossed to stop them coming loose). Fit screw supplied with mode through mudguard washer and into the drive shaft. Tighten screw into the shaft on the mode end 5Nm Max torque. Fully reset and release actuator by manually winding to fully open, then release, noting blade contacts both 'blade stop' positions using manual reset key (3mm cranked allen key supplied).



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For damper sizes greater than Ø100mm fit the ETR into the pre-punched hole in the circular case using a No.1 Pozidriv screwdriver to tighten the two self tapping screws supplied with the ETR.

For damper size Ø100mm fit to pre-punched hole in the side of mode bracket and through a grommet in case beneath. Tighten using a No.1 Pozidriv screwdriver to tighten the two self tapping screws supplied with the ETR. NOTE fully tighten the ETR so that its two part case is completely together to ensure electrical continuity inside.

Electrical Connection and Final Operational Test

When power is available, the unit must be checked for electrical operation. Power on to motor open, power off to spring close (fail-safe-closed). The unit must also be checked by pushing and holding the test switch on the ETR to confirm that the damper closes. When pressure is removed from the switch the damper will reopen. This may be done after the initial installation test to provide periodic operation of the damper to simulate actual fail-safe-closure under fire conditions. Note: Supply voltage will automatically override the manual locking mechanism.







Assessed to ISO 9001:2008 LPCB Cert No. 17



LPS1162 Cert No. 017a

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