CSS

'ES' Rated Fire Damper

KEY FEATURES

- Easy 'single side fix' installation, no insulation required.
- Choice of Actuators
- Electrical Thermal Release for ultimate safety
- CE marked fulfilling the requirements of EN 15650
- Fire tested to EN 1366-2
- Classified to EN 13501-3
- Corrosion tested to EN60068-2-52
- Tested installation method to suit concrete/ masonry floors & walls and dry wall
- Halogen Free low smoke and fume cabling
- Suitable for standard or 50mm insulated circular ductwork
- Sizes available to suit 100, 125, 150, 160, 200, 250, 300, 315, 350 and 355mm circular ductwork
- Designed to work with ACTIONPAC Control Systems

actionair by Swegon

Contents

Technical Description

CSS Dampers

- CE Marked Circular Fire Damper.
- Fire tested to EN 1366-2
- Classified to EN 13501-3
- Corrosion tested to EN60068-2-52
- Tested installation method to suit concrete/ masonry floors & walls and dry walls.
- Choice of actuators to suit 24v or 230v operation.
- Single flange design for single side fixing.
- Sizes available to suit 100, 125, 150, 160, 200, 250, 300, 315, 350 and 355mm circular ductwork.

Casing Features

• The CSS Damper is housed in a galvanised case complete with one installation flange for easy fitting concrete/masonry floors & walls and dry wall applications.

Optional second coverall flange available if required.

Blade Features

• A single 430 stainless steel blade incorporating patented seal to provide both ambient and fire rated low leakage.

Actuators

- Two Actuator options are available for CSS: COMPACT M5 - 24V (Open / Fail-Safe Close); COMPACT M6 - 230V (Open / Fail-Safe Close);
- Actuators are located outside of the ductwork for easy installation and access.
- Actuators are motor open, spring return with remote reset/release facilities.
- Volt free contacts for provision of external indication, monitoring and control by means of an ACTIONPAC damper control system, or by a suitable alternative.
- COMPACT M5/COMPACT M6 can be fitted in 3 positions through 180° allowing maximum on-site installation flexibility. (Position 2 is supplied as standard).
- COMPACT M5 Specification
- Power On – Damper motors open.
- Power Off – Spring closure.
- Electrical Thermal Release.
- External mechanical position indicator with pointer.
- Release Time ≈ 20 secs.
- Reset Time ≈ 60 secs.
- Connect 24V via a safety isolating transformer.
- Nominal voltage: AC/DC 24 V
- Nominal voltage frequency: 50/60 Hz
- Power consumption in operation: 4 W
- Power consumption in rest position: 1.4 W
- Power consumption for wire sizing: 6 VA
- Power consumption for wire sizing note: Imax 8.3 A @ 5 ms
- Auxiliary switch: 2 x SPDT
- Switching capacity auxiliary switch: 1 mA...3 (0.5 inductive) A, AC 250 V
- Ambient temperature normal operation: -30...55°C
- COMPACT M6 Specification
- Power On – Damper motors open.
- Power Off – Spring closure.
- Electrical Thermal Release.
- External mechanical position indicator with pointer.
- Release Time ≈ 20 secs. Reset Time ≈ 60 secs.
- To isolate from main power supply, the system must incorporate a device which disconnects the phase conductors, with a least a 3mm contact gap.
- Nominal voltage: AC 230 V
- Nominal voltage frequency: 50/60 Hz
- Power consumption in operation: 5 W
- Power consumption in rest position: 2.1 W
- Power consumption for wire sizing: 10 VA
- Power consumption for wire sizing note: Imax 4 A @ 5ms
- Auxiliary switch: 2 x SPDT
- Switching capacity auxiliary switch: 1 mA...3 (0.5 inductive) A, AC 250 V
- Ambient temperature normal operation: -30...55°C

BAT (Electronic Thermal Release)

- COMPACT M5 and COMPACT M6 fail-safe by means of a unique electrical thermal release which operates at 72°C or if the power supply is interrupted, complying with BS 9999:2017.
- BAT incorporates triple safety features, including an ingenious device that ensures the fail-safe status of the damper if the BAT is not correctly fitted on to the damper case. CSS Dampers come with a factory fitted BAT .
- A manual test switch allows periodic operation of the damper for testing purposes simulating actual fail-safe release under smoke/fire conditions.
- The BAT is designed to operate once the set activation temperature is reached.
- After activation, it will then need replacing with a new replacement BAT 72. Note: You can only replace the BAT probe, not the BAT head.
- As standard, a green LED lamp is built into the BAT housing. This gives the user a simple and clear visual check that the Actuator is receiving power, the BAT is correctly fitted and the thermal fuse is intact.

Application Parameters

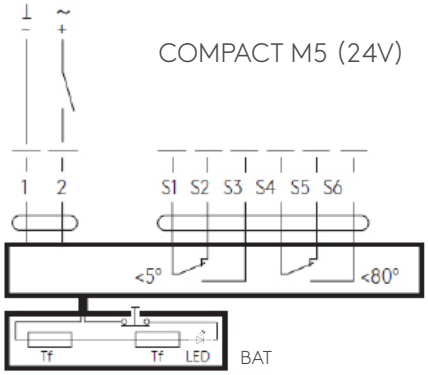
- CSS 'ES' Rated Fire Dampers are available in 100, 125, 150, 160, 200, 250, 300, 315, 350 and 355 circular sizes manufactured to BS EN 1506.
- The CSS dampers can be incorporated into systems using SMOKESHIELD dampers or, within circular ventilation systems, as an alternative to the SMOKESHIELD 601 fire dampers.
- CSS dampers can be used where the operating total system pressure is up to 1500 Pascals and duct velocities to 15 m/second.
- The CSS damper blade is normally open and Fail-Safe returns to the closed position.
- CSS dampers are designed for applications in normal dry filtered air systems.
- If exposed to fresh air intakes / or inclement conditions please discuss your application with our technical team.

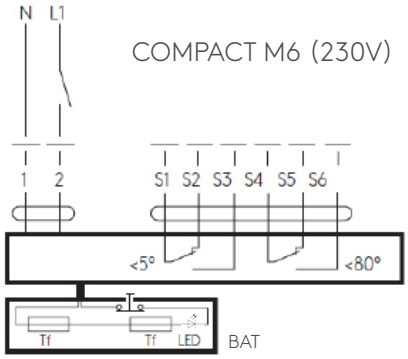
Installation

• Full installation details are available on our website and installation documents are sent out with each damper purchased.

Wiring Diagrams

• For detailed specifications, refer to the 'Actuator' section under 'Technical Descriptions'





Maintenance

- Adequate access must be provided to fire dampers to enable inspection, maintenance and cleaning. This would normally be in the form of access panels/doors. At least one access point is required for access, but access both sides may be required for cleaning (refer to the relevant ductwork cleaning standards) Dampers require cleaning and light oil lubrication.
- Regular testing/inspection by suitably qualified personnel shall be undertaken in accordance with local legislation.
- ACTIONPAC control panels will allow more frequent testing (48 hours or less), but physical inspection is still required at the prescribed intervals as per local legislation.
- Some systems, where cleanliness is an issue due to site conditions, may require more frequent inspection, testing and cleaning. All such inspections should be recorded.

Technical Data

Testing and Classification

- CE marked to Product Standard EN 15650:2010
- Fire tested to EN 1366-2 and classified to EN 13501-3 ES Rated in vertical and horizontal installations.
- 20,000 cycle tested.
- Corrosion tested to EN 60068-2-52:
- Meets the requirements of LPS 1162.
- Complies with the DW144 casing leakage specification.
- The Electrical Actuators satisfy requirements of the following standard(s), EN60730-1/EN 60730-2-14.

Accessories

SFDI

- Dedicated Smoke Fire Damper Interfaces will provide a communication interface between the damper actuator and dedicated ACTIONPAC damper control panels (or alternative panels) to control the damper in accordance with the programmed cause and effect.

ACTIONPAC

- We recommend using an ACTIONPAC panel with CSS. A range of intelligent and hard wired panels are available. See our website for full details of all accessories available for CSS dampers.

Second Flange

- Second, non functional aesthetic flange available to order.

Electrical and Communication Accessories

Damper Test Unit

- Reset (open) and release (closed) indication.
- Spring bias (power OFF) test switch. Power normally ON.
- Part number: DTU24 24V AC/DC / DTU230 230V AC.

Damper Status Indicator

- Reset (open) and release (closed) indication.
- Part number: DSI24 24V AC/DC / DSI230 230V AC.

Damper Control Unit

- Switch ON/OFF function.
- Reset (open) and release (closed) indication.
- Part number: DCU24 24V AC/DC / DCU230 230V AC.

Damper Release and Indication

- This is designed for control and monitoring of the electrically operated CSS Fire dampers. It will operate from 24V or 230V supplies, 50 or 60 Hz. Selection of the operating voltage is by use of internal links on the PCB, prior to installation and connection of actuator and supply.
- The DRIM may be used singly to provide local damper control, or in pairs to provide control from either side of a damper. It can also operate 2 actuators when dampers are provided in 2 multiple sections.
- LED position and operation indication is provided. Operation is by push button to close and twist to reopen damper.
- Tested to BS EN 61010 -1: 2001 and is CE compliant.
- IP44 rated.
- Operating range 5 - 40 °C.
- DRIM 24V – 230V AC/DC.

Damper Connection Box

- The Damper Connection Box is in galvanised steel. DCB 24V – 230V AC/DC.

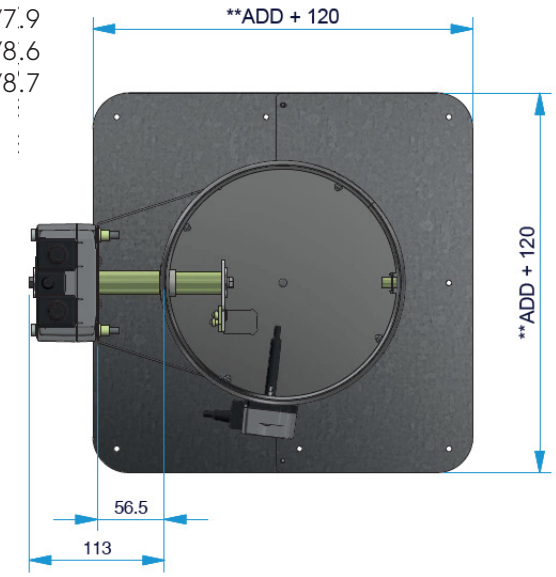
Dimensions and weights

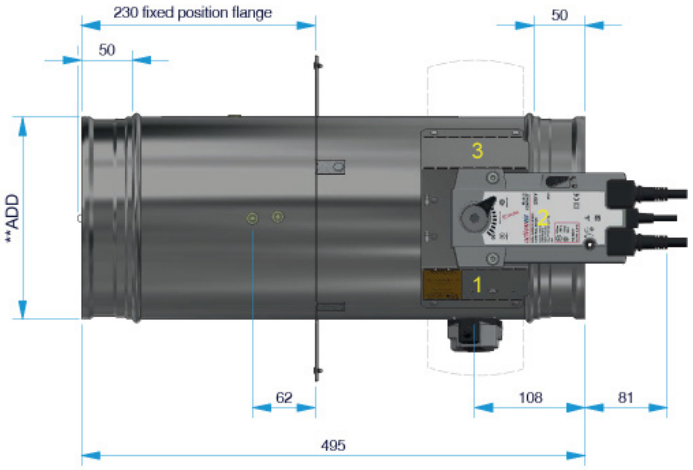
Dimensions

- Control can be mounted in one of three positions vertically down, horizontally (factory std) or vertically up.
- CSS 'ES' Rated Fire Dampers are available to fit 100, 125, 150, 160, 200, 250, 300, 315, 350 and 355mm circular ductwork.
- The blade on CSS dampers will exceed the casing on 350/355mm diameter dampers by 6.5/9mm.
- **ADD - Actual Duct Diameter (mm)

Weights

- Dia (mm)/Weight (kg)
- 100/3.5
- 125/3.9
- 150/4.5
- 160/4.7
- 200/5.4
- 250/6.5
- 300/7.5
- 315/7.9
- 350/8.6
- 355/8.7





Ordering Key

Product - CSS	-b[dia]	- c	- d
Size - Norminal Duct Diameter			
Actuator - COMPACT M5 - COMPACT M6			
Quantity			

Example: CSS-150dia-COMPACT-M5-20. To order acces-soeries please refer to the 'Accessories Section' for part numbers and product details.

Specification Text

CE Marked 'ES' classified single blade automatic fire damper used to prevent the spread of fire and smoke, maintaining compartmentation in internal normal dry filtered air systems. Once closed by the buildings automatic fire detection system or the local thermal fuse (72°C), the CSS damper will fulfil the Integrity ('E') and reduced smoke leakage ('S') criteria.

Suitable for 50mm insulated or non-insulated standard circular spiral duct systems, CSS dampers consist of a single 430 stainless steel blade incorporating patented seal, housed in a galvanised casing and complete with a 1.2mm galvanised installation flange supplied factory fitted for inclusion into vertical plasterboard, concrete / masonry walls & horizontal slabs – Refer to Product IO&M's for installation methods and DoP (Declaration of Performance) for classification.

CSS fire dampers with their appropriate Control Mode shall have a spring Fail-Safe Closed operation (with selected Control Mode M5 24V or M6 230V) and associated patented Electrical Thermal Release which operates at 72°C, or if the power supply is off / interrupted. The unique & patented Electrical Thermal Release (ETR) incorporates a safety electrical interlock that only permits control mode operation when correctly fitted.

Dampers fully comply with the product standards: EN 15650:2010, fire tested to EN 1366-2, classified to EN 13501–3.