

# Halton FDT – Fire damper (EI 60 S)

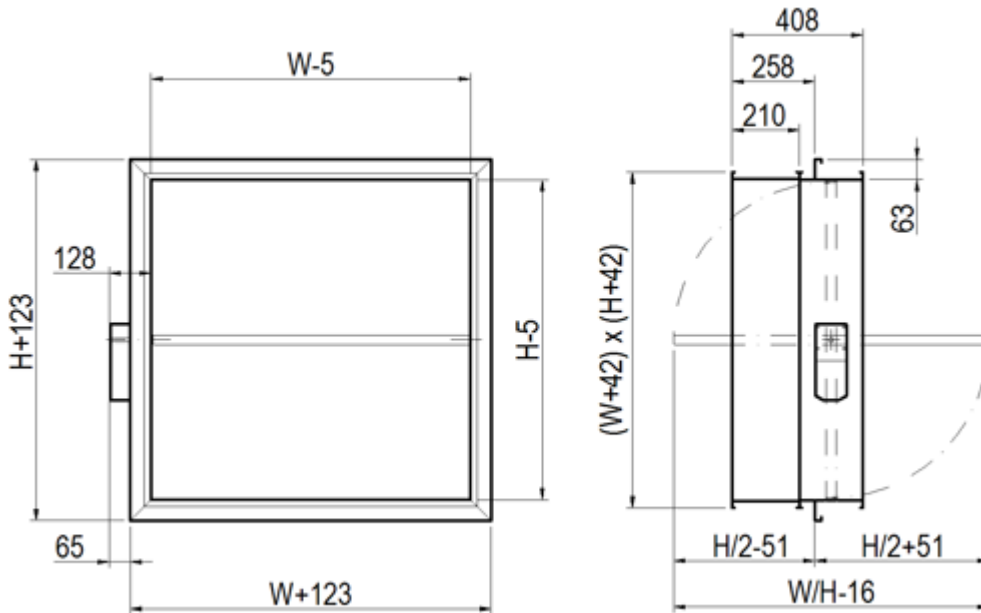


## Overview

- Possible to install in concrete, masonry or lightweight wall with fire resistance of **E 90** (v<sub>e</sub>) C 50 ; **E 60** (v<sub>e</sub>) **S** C 50 ; **E 180** (h<sub>o</sub>) **S** C 50 ; **EI 60** (v<sub>e</sub> – h<sub>o</sub>) **S** C 50
- Manufactured in accordance with ISO 9001 quality system
- Damper in close position tightness class 4 and casing tightness class C according to EN 1751
- Suitable for horizontal and vertical installation
- Installation on the wall with shaft oriented horizontal or vertical
- Circular connection version available
- No spare parts or additional installation frames needed, regardless from the wall type
- Double sealing on the blade to ensure full tightness
- Damper closing test performed at 15 m/s duct velocity
- Possible to equipped with manual or electric actuator

# Dimensions

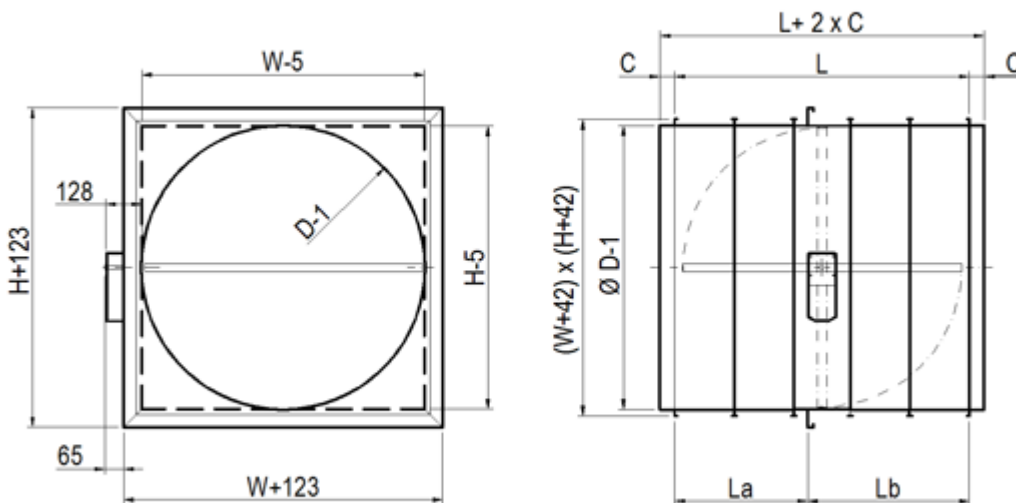
## Halton FDT, for rectangular ducts (S=R)



W: 200, 250, 300, 350, 400...2100

H: 200, 250, 300, 350, 400..1000

## Halton FDT, for circular ducts (S=C)



ØD [mm]	WxH [mm]	D-1 [mm]	La [mm]	Lb [mm]	C [mm]	L [mm]	L+2xC [mm]
<b>630</b>	600×600	629	362	468	52	830	934
<b>800</b>	800×800	799	362	468	58	830	946
<b>1000</b>	1000×1000	999	572	678	58	1250	1366
<b>1250</b>	1000×1000	1249	572	678	58	1250	1366

## Material

Part	Material	Note
Casing and installation flange	Galvanised steel	–
Blade	Heat-insulating panel structure	–
Blade gasket	Silicone	–
Expanding seal	Graphite mass	–
Closing springs	Stainless steel	Mechanical model
Round duct gaskets	EPDM rubber	–

The Halton FDT fire damper casing, installation flange, and installation frame are made of galvanised steel. The closing blade is made of heat-insulation panel structure and equipped with a flexible silicone seal as well as a graphite mass seal that expands at high temperatures.

## Accessories

Accessory	Code	Description
Safety mesh on one side	N1	Galvanised steel, 10×10 mm Installed on actuator side
Safety mesh on both sides	N2	Galvanised steel, 10×10 mm
Damper casing extension	CE	Length 210 mm, galvanised steel
Fuse (manual model)	FU	Thermal release at 72 °C
Limit switch (mechanical model)	MS	Closed position indication, enclosure class IP65

The mechanical Halton FDT fire damper can be equipped with a bipolar limit switch (MS), which indicates the closing of the shut off blade. The limit switch has potential-free points (no = normally open and nc = normally closed), which can be used to control other fire dampers equipped with an electric release, e.g., triggering an alarm in the fire suppression system. The maximum operating voltage and current is 400 V, 10 A.

## Actuators

MA Mechanical spring release (failsafe)

B1 BF24-TN-2 Operating voltage AC/DC 24 V (72 °C), 18 Nm, with limit switch

B2 BF230-TN-2 Operating voltage AC 230 V (72 °C), 18 Nm, with limit switch

## Function

The Halton FDT is a rectangular and/or circular fire damper, which prevents fire and smoke from spreading in the ductwork of ventilation and air conditioning systems.

The Halton FDT is approved for horizontal and vertical installation in heavy, light-weight structures and concrete floors/ceilings fulfilling the fire resistance class EI 60 (ve,ho,i<->o) S requirements.

The fire damper Halton FDT is equipped with either mechanical or electric actuator. All models are equipped with a thermal fuse and a visual position indicator. The fuse responds to a rise in temperature, closing the spring-return blade.

The nominal release temperature of the fuse with a mechanical and an electric actuator is 72 °C.

The fire dampers equipped with electric actuators are released by switching off the power supply.

Alternatively, the damper may be released by a system using an electric actuator. If the power in the motorised actuator system is switched off, the blade is automatically closed by a spring-return actuator.

A double-sealing solution closes the duct, effectively preventing the spreading of fire gases in the ventilation ductwork when the fire damper closes. The flexible seal of the double-sealing system operates at lower temperatures, while the graphite mass seal expands to insulate the system at temperatures above 150 °C.

The Halton FDT fire damper is recommended to be connected to the Halton Safe Management 2.0 (SM2) fire damper management system. The Halton Safe Management 2.0 system enables the use of smoke detectors in ductwork or room spaces. The Halton FDT fire damper can also be connected to other commonly used building automation systems.

## Installation

The fire damper is installed on concrete or masonry walls and ceilings and on lightweight walls.

An opening is always left in the separating element for the casing of the product to be led through the structure. The maximum diameter of the installation hole is the fire damper diameter W/H + 55 mm.

To make installation easier, all products come with an installation/casting frame, which is used to fasten the fire damper to the wall surface or the steel frame of the plasterboard wall.

The installation is finished by filling the casting frame from the front of the device with a gypsum-based firestop certificated fire break compound that is tested for use for this purpose (in example GBG from Palokatkomiehet Oy; CP 637 from Hilti; or FIREBREAK COMPOUND from Würth).

During installation, the fire damper and actuator must be protected with, e.g., a plastic cover.

The correct operation of the fire damper must be ensured both before and after grouting. Setting of the damper is performed from outside the device.

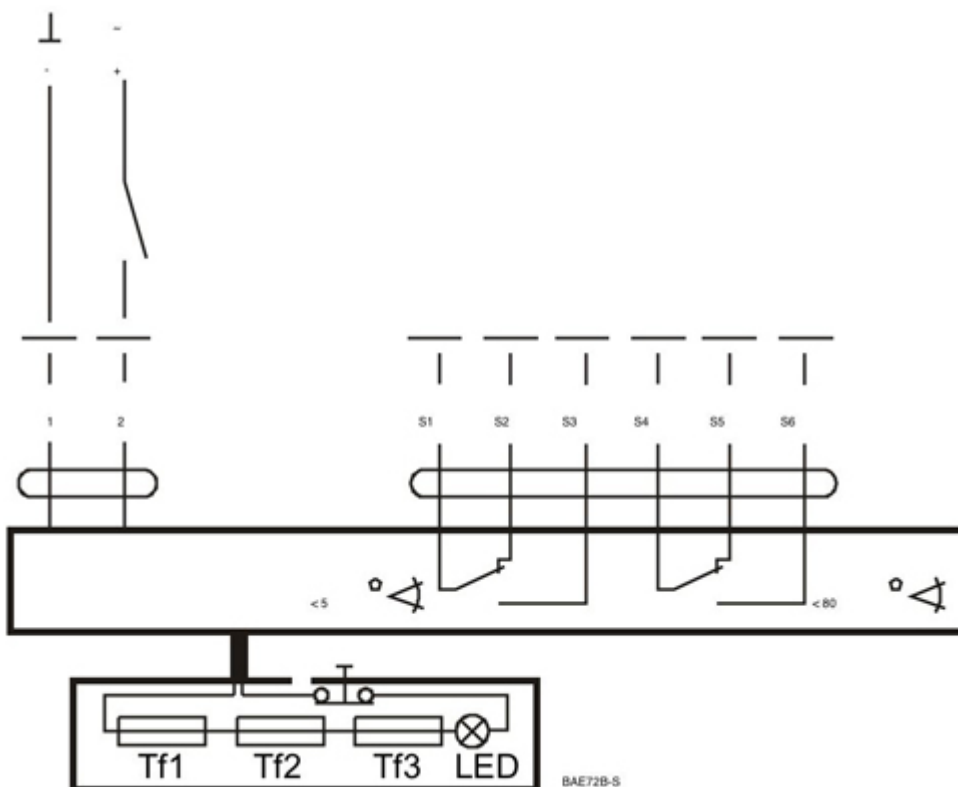
### Installation of modules

Two or more fire dampers can be installed using the same screws on one side such that the lip of the installation frame of the lower damper is either flattened or removed, and the casting is spread uninterrupted from one outside end to the other.

**Note:** Modules have to be left 105 mm space between fire dampers. See the installation instructions.

Detailed installation instructions, as well as an installer's installation certificate form, are supplied with each product. See also the section 'Downloads/Installation Instructions'.

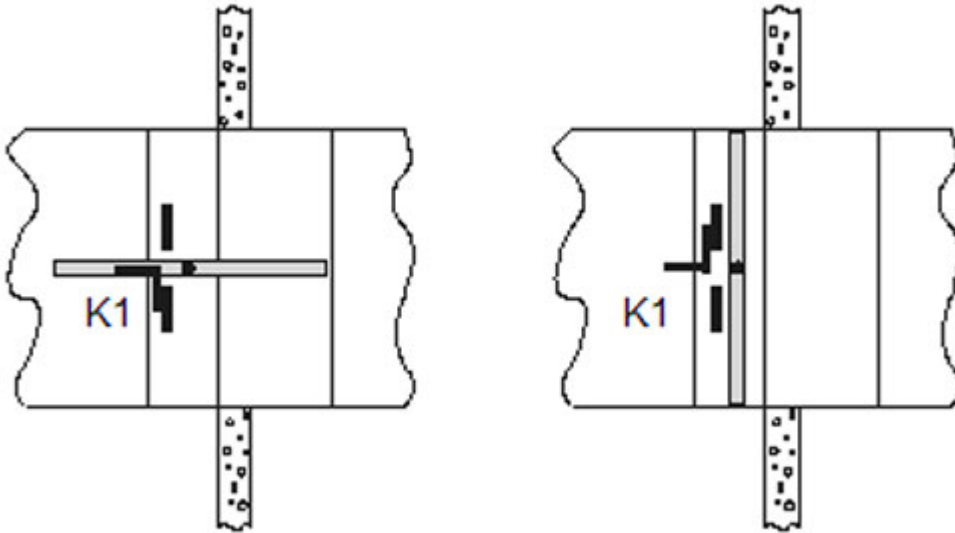
## Electric actuator wiring diagram



BF24-TN-2 Power supply 24 VAC/VDC (72°C)

BF230-TN-2 Power supply 230 VAC (72°C)

## Mechanical actuator wiring diagram (limit switches, MS)



Fire damper open  
K1: 13/14 closed  
21/22 open

Fire damper closed  
K1: 13/14 open  
21/22 closed

## Maintenance

In case the fuse of a manual fire damper is gone off, it can be reset after the fuse temperature has fallen below the release temperature. If the shutoff blade does not lock, the fuse is worn out and must be replaced. The fuse can be changed from outside the fire damper.

The fuse of a fire damper equipped with an electric actuator must be replaced if the fuse has been released because of a rise in temperature.

To ensure proper operation of fire dampers, they should be inspected regularly. The minimum recommended inspection period is six months or according to the building code. It is recommended that the fire damper is connected to automatic fire damper management system Halton Safe Management 2.0 (SM2), operating voltage 24-VAC).

Upon failure during testing of the fire damper, maintenance service shall be ordered from an authorised Halton representative to ensure appropriate operation of the product.

# Specification

The fire damper is CE marked according to the standard EN 15650:2010.

A fire damper of class **EI 60** ( $v_e - h_o$ ) S C 50, has a double-sealing solution that ensures fire-gas tightness and fire resistance both at room temperature and in high temperatures when the fire damper is closed.

In electrical actuator, the fuse is activated at 72 °C.

In the manually operated model, the fuse activation temperature corresponds to the specification (72 °C).

The fuse is located inside the damper, and it is possible to replace it from the outside.

The fire damper has means for external opening / triggering of the release and closing.

The fire damper includes a position indicator.

The fire damper casing complies with the tightness requirements for EN 1751 class C.

The fire damper is suitable for vertical and horizontal installation in concrete and masonry walls and on ceilings and lightweight plasterboard walls between fire compartments.

The blade shaft can be installed in either horizontal or vertical orientation, and the actuator can be installed in any direction.

The fire damper can be installed from the installation frame side without separate sealing of the installation opening on the wall.

The internal quality control of the fire damper manufacturer shall be based on the ISO 9001 quality system, and the operations of the manufacturer shall be subject to external third-party quality control.

## Order code

### FDT/S-W-H-D; MA-RE-FU-AC-ZT

**S = Type of duct connections**

R Rectangular

C Circular connections

**W = Width of duct connection [mm]**

200, 250, 300, 350, 400, 450, 500..., 2100

**H = Height of duct connection [mm]**

200, 250, 300, 350, 400, 450, 500..., 1000

**D = Duct connection size of circular model [mm]**

630, 800, 1000, 1250

## Other options and accessories

### MA = Material

CS Galvanised steel

### RE = Release type

MA Mechanical spring release (failsafe)

B1 BF24-TN-2 (72 °C), 18 Nm

B2 BF230-TN-2 (72 °C), 18 Nm

### FU = Fuse release temperature (mechanical release)

72 72 °C

### AC = Accessories

CE Casing extension, 210 mm (for structural thickness > 200 mm)

MS Limit switch for mechanical model

N1 Safety mesh, 1 side (installed on actuator side)

N2 Safety mesh, 2 sides

### ZT = Tailored product

N No

Y Yes (ETO)

## Order code example

FDT/R-400-200, RE=B1, FU=72, ZT=N