Smoke control damper
Installation guide for Halton Sec SSR

CE

Fire resistance class **EI 120 (v_{ew} -h_{ow} -i↔o) S 1500C_{10000} AAmulti**
CE certificate of Constancy of Performance No: P-1391-CPR-2018/0208
Declaration of Performance No: 10039-SSR-2019/01/01
CE certified according to product standard EN 12101-8

Contents

1 Introduction

1.1 About this document

This guide provides guidelines for installing the smoke control damper.

1.2 Document copyright and disclaimer

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2 Dimensions

2.1 Damper dimensions (mm)

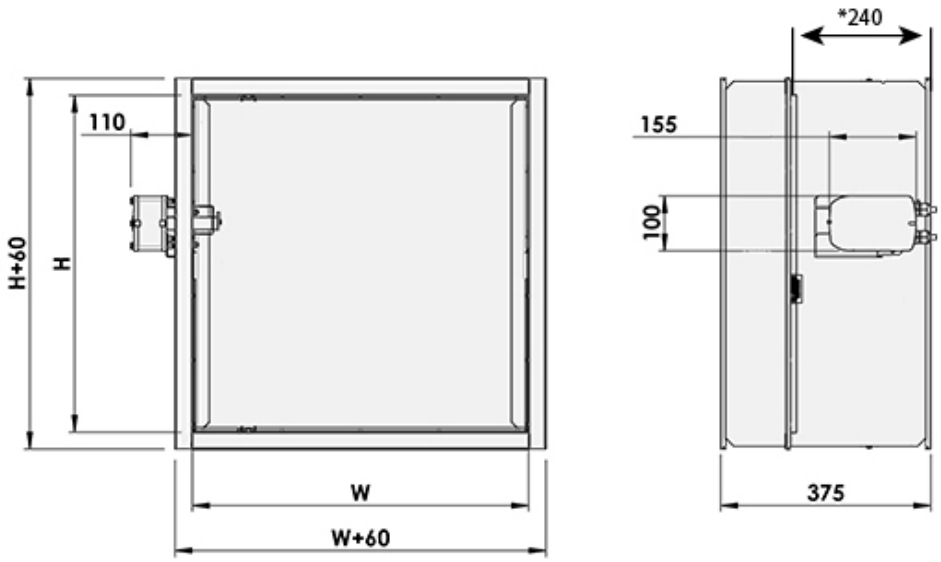


Fig. 1.

* Space reservation

2.2 Size of installation opening

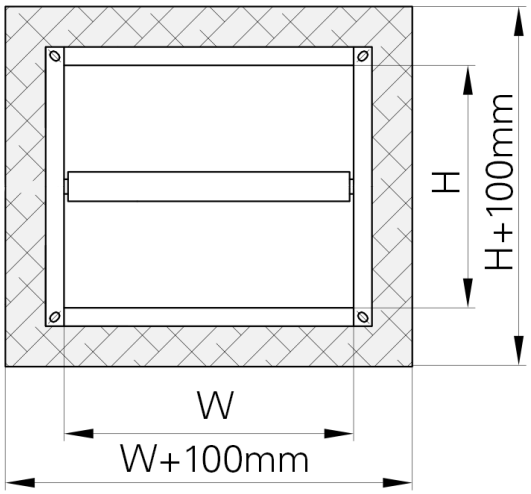


Fig. 2.

2.3 Minimum distances

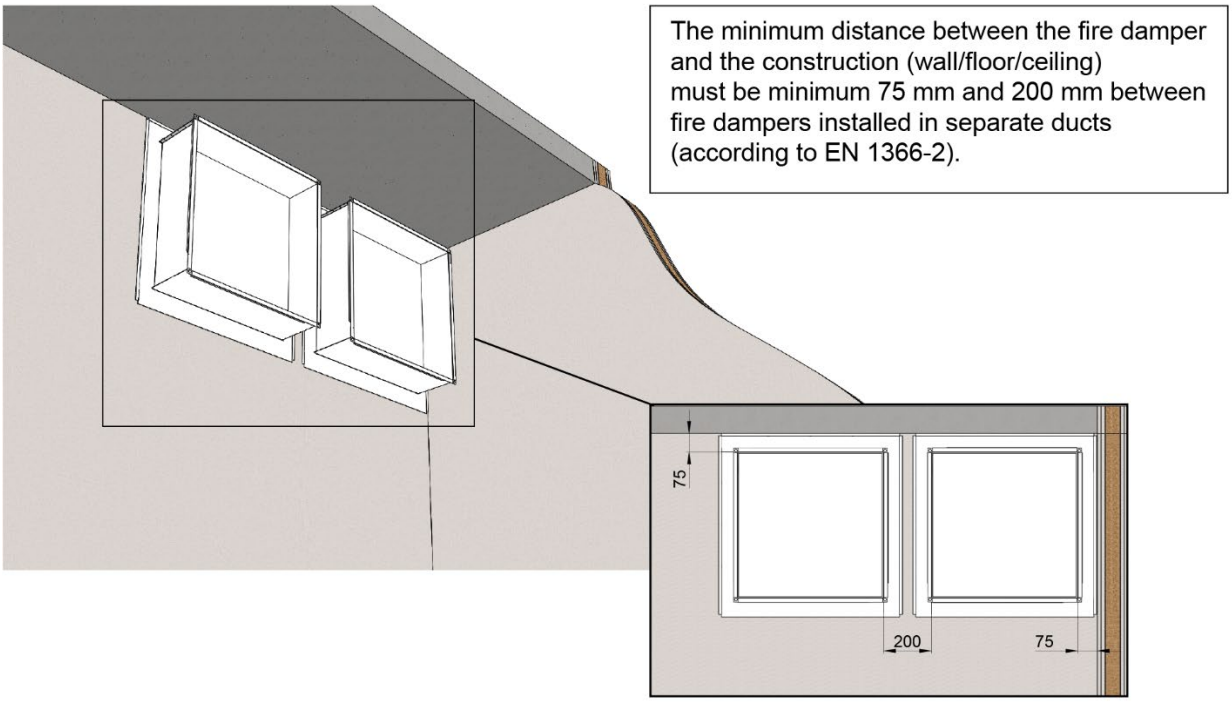


Fig. 3. The distance between the smoke control damper and construction

3 Installation

3.1 Before you start

1. Halton manufactures and supplies only the smoke control damper element of any installation method. All other components or materials mentioned in this guide must be supplied and fitted by the appropriate contractor as accepted best practice, regulation or guidelines for the country in which they are being installed.
2. Perform visual inspection of the condition of the damper before installation.
3. Operation of the damper does not depend on the direction of air circulation.
4. Spindle of the blade and the operating model can be installed in vertical or horizontal position in wall installation.
5. The blade must be in close position during installation.
6. The control mechanism must be protected against damage and pollution during installation process with e.g. plastic cover.
7. For installation of Halton smoke control dampers, all ductwork must be installed so that there is no load on the smoke control damper. Connections to ductwork should be performed as accepted best practice, regulation or guidelines for the country in which they are being installed (e.g. for the UK this is DW144).
8. Functionality of the damper must be tested before and after installation and after filling the gap between damper and construction.
9. Fill the gap between damper and construction with mortar or gypsum, e.g. HILTI, SIKLA, MÜPRO etc.

Note: The minimum recommended inspection period is every 6 months or according to the building code.

3.2 Mounting the smoke control damper, wall of floor

3.2.1 Solid wall construction, single to multi compartment (EI 120 S)

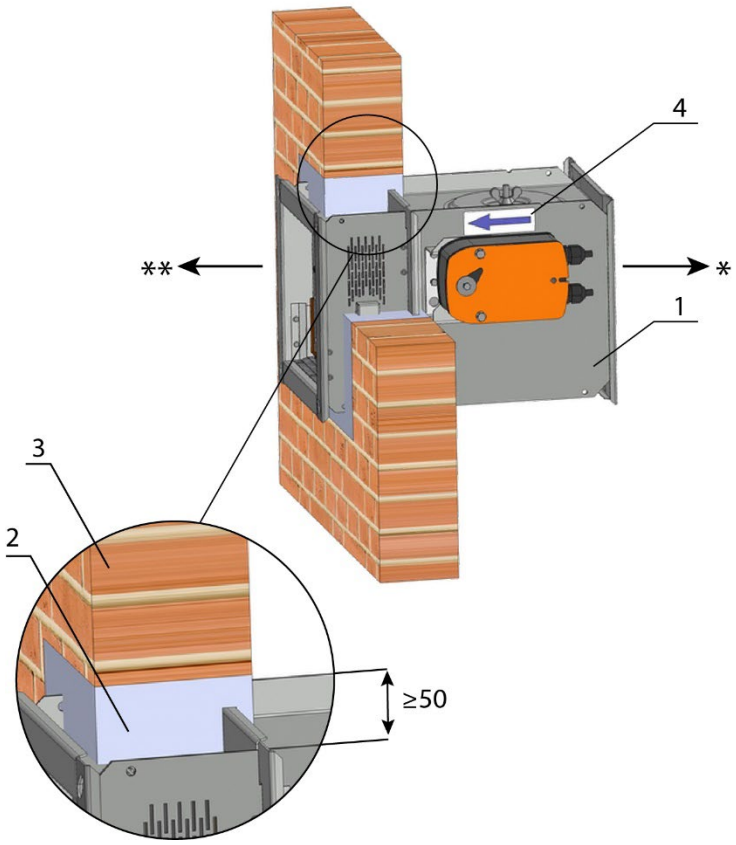


Fig. 4.

Key:

1. Halton smoke control damper
2. Mortar or gypsum (min. density 800 kg/m^3)
3. Solid wall construction between fire compartments
4. Airflow direction

* Duct structure as single compartment
** Duct structure as multi compartment

3.2.2 Lightweight wall construction, single to multi compartment (EI 120 S)

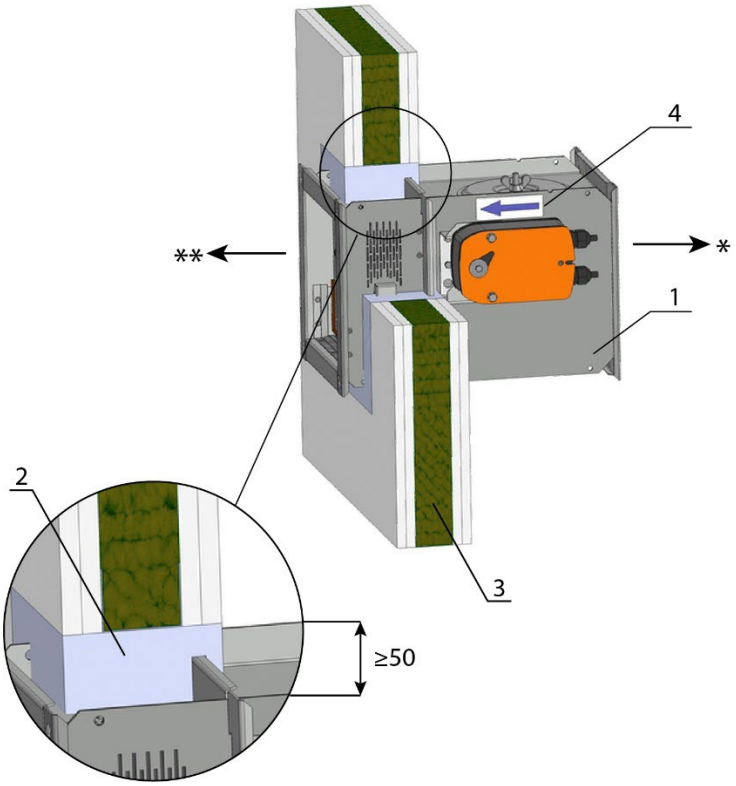


Fig. 5.

Key:

1. Halton smoke control damper
2. Mortar or gypsum (min. density 800 kg/m^3)
3. Lightweight wall construction between fire compartments
4. Airflow direction

* Duct structure as single compartment
** Duct structure as multi compartment

3.2.3 Solid floor construction, single to multi compartment (EI 120 S)

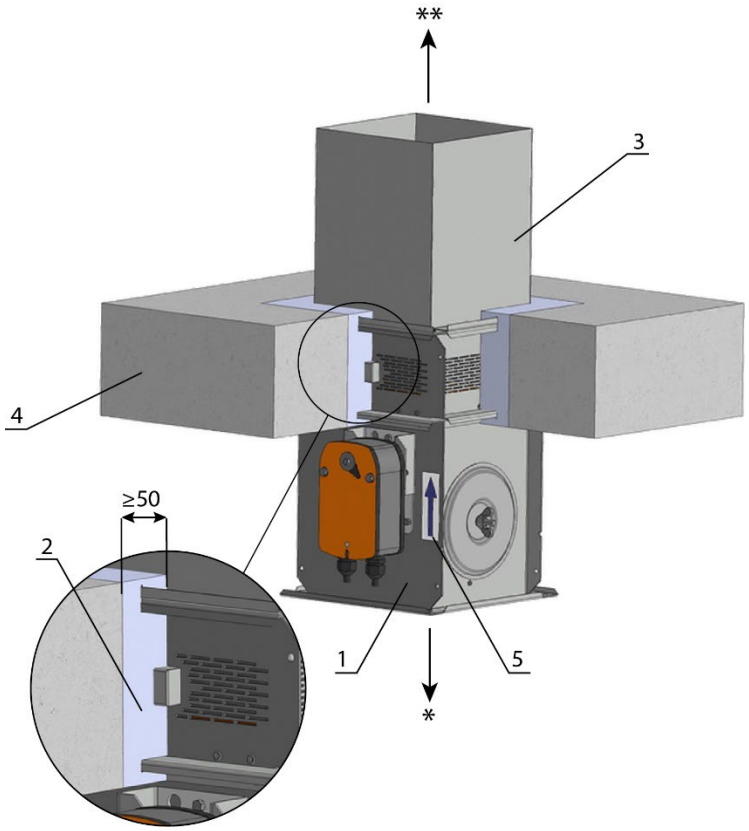


Fig. 6.

Key:

1. Halton smoke control damper
2. Mortar or gypsum (min. density 800 kg/m^3)
3. Smoke control duct
4. Solid floor construction between fire compartments
5. Airflow direction

Note: Thickness of floor min. 110 mm – concrete / min. 125 mm – aerated concrete

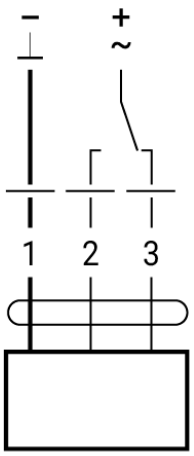
* Duct structure as single compartment
** Duct structure as multi compartment

4 Key technical data

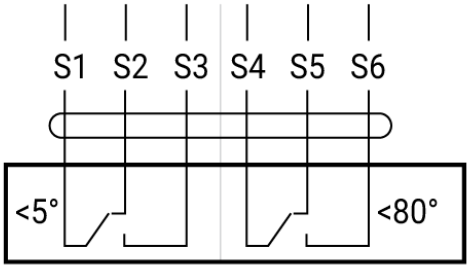
4.1 Wiring

4.1.1 Belimo, AC/DC 24 V, open-close

AC/DC 24 V, open/close



Auxiliary switch

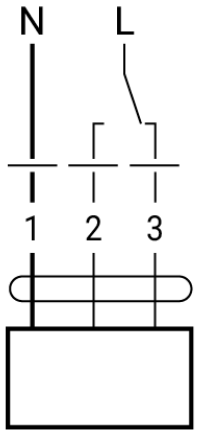


Wire colours:
1 = black
2 = red
3 = white
S1 = violet
S2 = red
S3 = white
S4 = orange
S5 = pink
S6 = grey

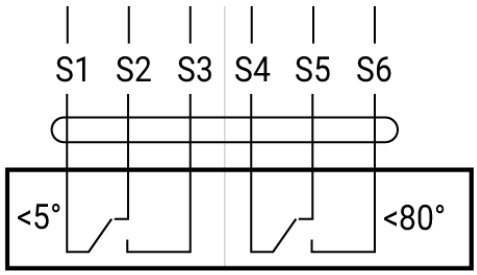
Electrical installation	
	Notes • Connection via safety isolating transformer • Parallel connection of other actuators possible. Observe the performance data. • Combination of power supply voltage and safety extra-low voltage not permitted at the both auxiliary switches.

4.1.2 Belimo, AC 230 V, open-close

AC 230 V, open/close



Auxiliary switch



Wire colours:
1 = blue
2 = brown
3 = white
S1 = violet
S2 = red
S3 = white
S4 = orange
S5 = pink
S6 = grey

Electrical installation	
	Notes • Caution: Power supply voltage! • The actuator must be protected by a fuse that does not exceed 16 A. • Parallel connection of other actuators possible. Observe the performance data. • Combination of power supply voltage and safety extra-low voltage not permitted at the both auxiliary switches.

4.2 Actuators

Actuating mechanism, Belimo	**BEN 230**	**BEN 24**
Nominal voltage	AC 230 V 50/60 Hz	AC/DC 24 V 50/60 Hz
Power consumption - in operation - at rest	 4 W 0,4 W	 3 W 0,1 W
Power consumption for wire sizing note	7 VA (Imax 3 A @ 5 ms)	6 VA (Imax 8,2 A @ 5 ms)
Protection class	II	III
Degree of protection IEC/EN	IP 54	
Running time for 95°	< 30 s	
Ambient temperature range Non-operating temperature	- 30 °C...55 °C - 40 °C...80 °C	
Connecting - in operation - auxiliary switch	Cable 1 m, 3 x 0,75 mm^2 (halogen-free) Cable 1 m, 6 x 0,75 mm^2 (halogen-free)	

Actuating mechanism, Belimo	BE 230-12	BE 24-12 (-ST)
Nominal voltage	AC 230 V 50/60 Hz	AC 24 V 50/60 Hz DC 24 V
Power consumption - in operation - at rest	 8 W 0,5 W	 12 W 2 W
Power consumption for wire sizing note	15 VA (Imax 7,9 A @ 5 ms)	18 VA (Imax 8,2 A @ 5 ms)
Protection class	II	III
Degree of protection IEC/EN	IP 54	
Running time for 95°	< 60 s	
Ambient temperature range Non-operating temperature	- 30 °C...50 °C - 40 °C...80 °C	
Connecting - in operation - auxiliary switch	Cable 1 m, 2 x 0,75 mm^2 (halogen-free) Cable 1 m, 6 x 0,75 mm^2 (halogen-free) (BE 24-ST) with plug-in connectors	