

Smoke control damper

Installation guide for Halton Sec SFR



Fire resistance class: **E₆₀₀ 90 (v_{ed-i↔o}) S 1000C₃₀₀ AA_{single}**
CE certificate of Constancy of Performance No: 1391-CPR-2018/0209
Declaration of Performance No: 10036-SFR-2019/01/01
CE certified according to product standard EN 12101-8

Contents

1 Introduction	3
1.1 About this document	3
1.2 Document copyright and disclaimer.....	3
2 Dimensions	4
2.1 Damper dimensions (mm).....	4
2.2 Flanges.....	4
3 Installation.....	5
3.1 Main points before you start.....	5
3.2 Mounting the smoke control damper	6
3.2.1 Horizontal smoke control duct (E 90 S)	6
4 Key technical data.....	8
4.1 Wiring	8
4.1.1 Belimo, AC/DC 24 V, open-close.....	8
4.1.2 Belimo, AC 230 V, open-close	9
4.2 Actuators	10

1 Introduction

1.1 About this document

This guide provides guidelines for installing the Smoke control damper.

1.2 Document copyright and disclaimer

The contents of this document are for information purposes only. This document remains the sole property of Halton and may not be duplicated, borrowed, copied, amended, modified or reproduced. Any information held in this document or associated materials may only be used for the purpose specified in this document.

Halton disclaims any and all liability related to this document. Halton gives no explicit or implied warranties in terms of this document. Any permitted use of the information included herein is at your own risk. Halton may amend or replace the information included in this document at its sole discretion without further notice and liability.

All intellectual property rights or applications thereof, including without limitation copyright, model rights, patents, trade secrets, trade names, trademarks, know-how (whether registered or unregistered) attributable to this document remain the sole and exclusive property of Halton. No rights or licenses are granted.

2 Dimensions

2.1 Damper dimensions (mm)

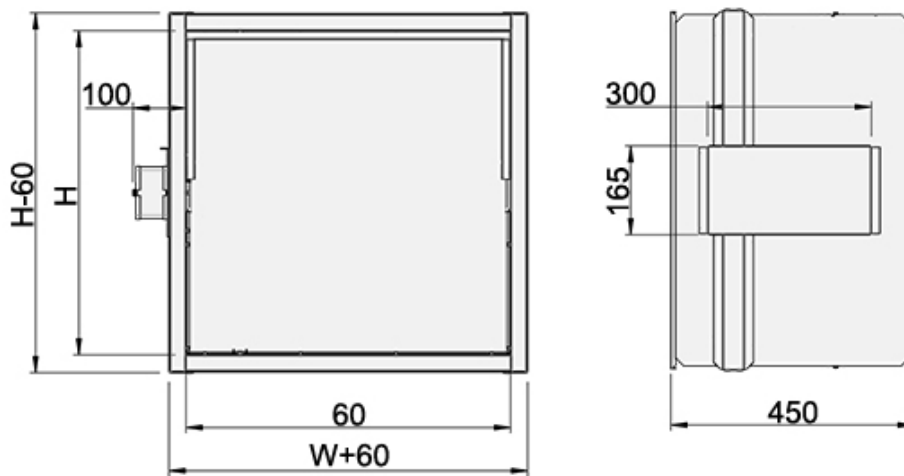


Fig. 1.

2.2 Flanges

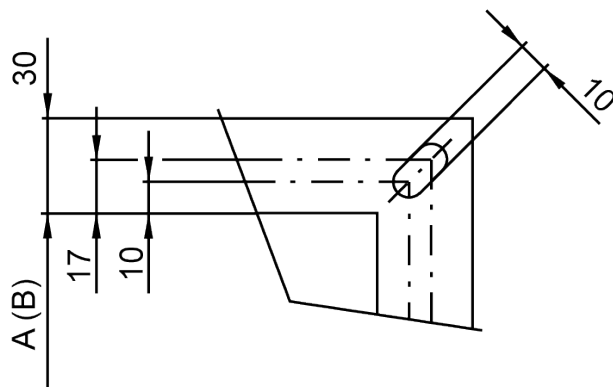


Fig. 2.

Flanges of dampers are 30 mm wide with oval hole.

3 Installation

3.1 Main points 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. The smoke control damper can be installed to horizontal smoke extract duct or directly to the end of the smoke extract duct.
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.

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

3.2 Mounting the smoke control damper

3.2.1 Horizontal smoke control duct (E 90 S)

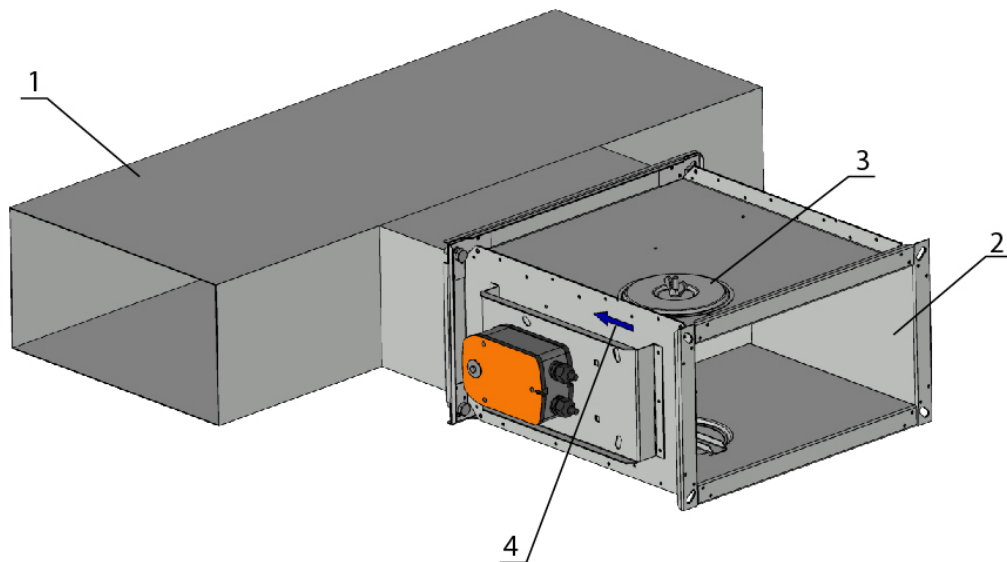


Fig. 3. Installation to the side of horizontal duct, blade and spindle in horizontal position.

Key:

1. Halton smoke control damper
2. Smoke control duct
3. Inspection hatch cover
4. Airflow direction

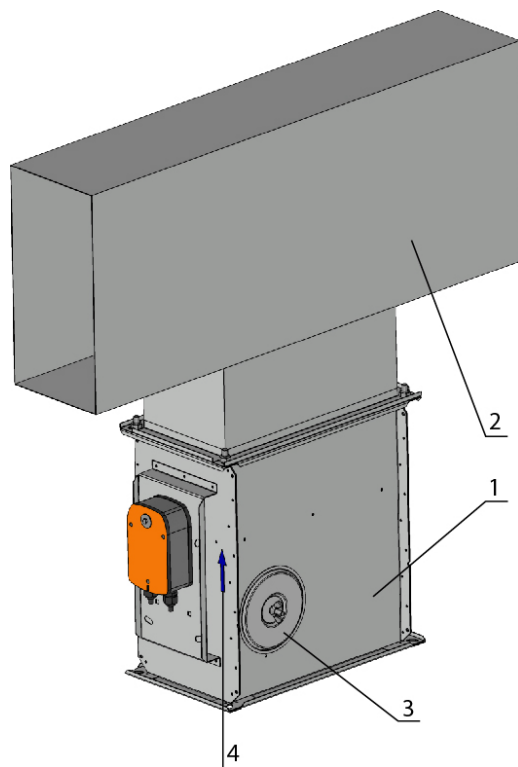


Fig. 4. Installation below the horizontal duct, blade and spindle in vertical position.

Key:

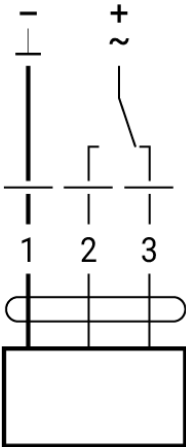
1. Halton smoke control damper
2. Smoke control duct
3. Inspection hatch cover
4. Airflow direction

4 Key technical data

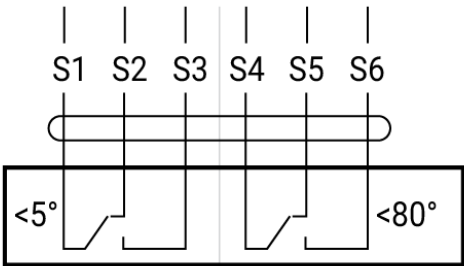
4.1 Wiring

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

AC/DC 24 V, open/close



Auxiliary switch



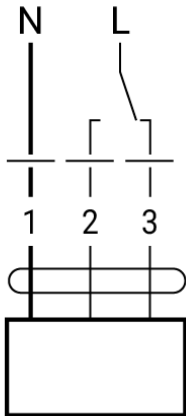
Wire colours:

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

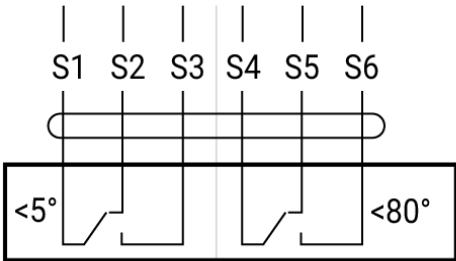
Electrical installation		
	Notes	<ul style="list-style-type: none">• Connection via safety isolating transformer• Parallel connection of other actuators possible. Observe the performance data.• Combination of power supply voltage and safety extra-low voltage not permitted at the both auxiliary switches.

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	<ul style="list-style-type: none">• 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 (I _{max} 3 A @ 5 ms)	6 VA (I _{max} 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	- 30 °C...55 °C	
Non-operating temperature	- 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 (I _{max} 7,9 A @ 5 ms)	18 VA (I _{max} 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	