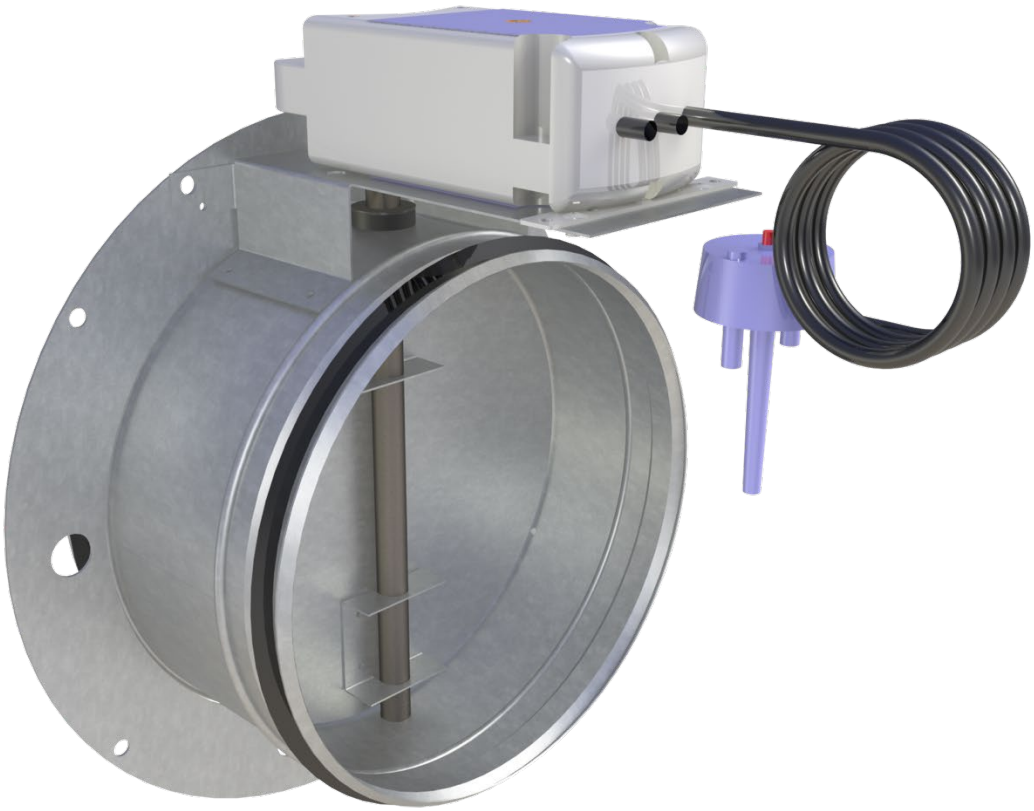
Fire Damper
Installation Guide for Halton Exe Light Circular (ELC)

CE



Fire resistance class **E 120 (v_e h_o i↔o) S**
CE certificate of Constancy of Performance No: 2434-CPR-0035
Declaration of Performance No: 10029-ELC-2019/04/04
Tested according to fire test standard 1366-2

Contents

1 Introduction

1.1 About this document

This guide provides guidelines for installing the fire damper.

1.2 Document copyright and disclaimer

2 Dimensions

2.1 Damper dimensions (mm)

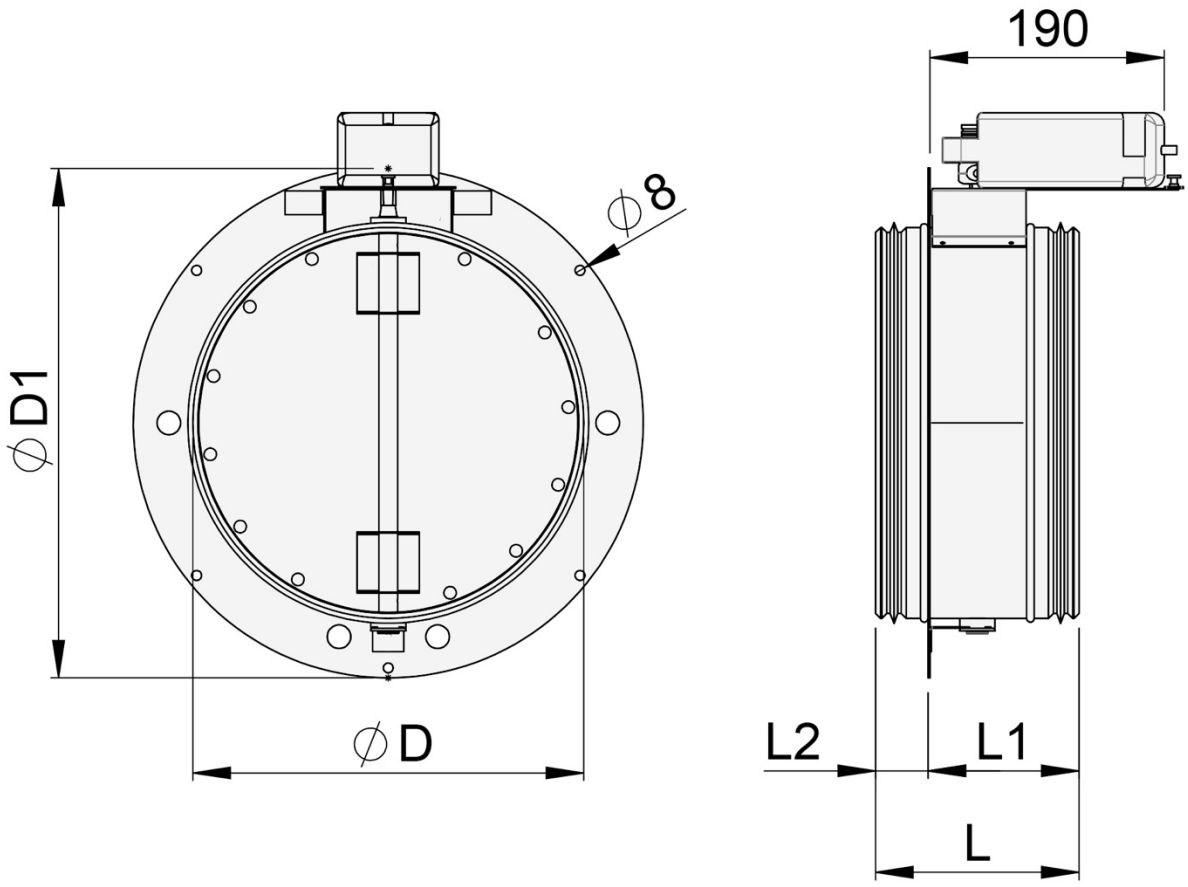


Fig. 1. Dimensions, with actuator

NS	D	D1	L	L1	L2
100	99	197	163	120	43
125	124	222	163	120	43
150	149	247	163	120	43
160	159	257	163	120	43
200	199	297	163	120	43
250	249	347	163	120	43
315	314	412	163	120	43
350	349	447	163	120	43
400	399	530	163	120	43
500	499	630	245	143	102

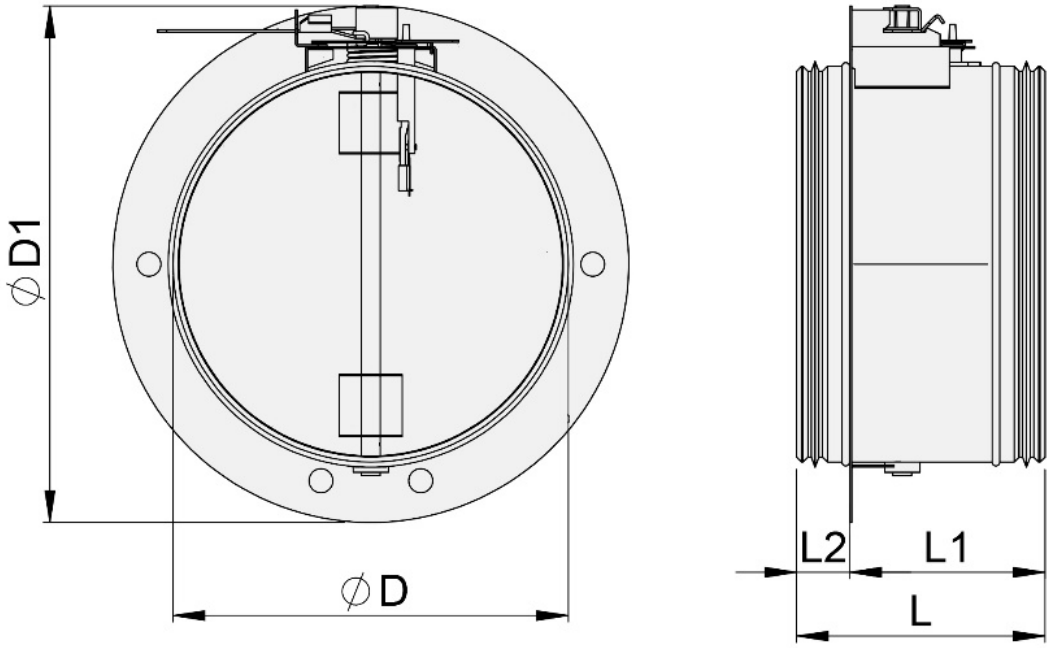


Fig. 2. Dimensions, with mechanical spring release

NS	D	D1	L	L1	L2
100	99	197	197	153	43
125	124	222	197	153	43
150	149	247	197	153	43
160	159	257	197	153	43
200	199	297	197	153	43
250	249	347	197	153	43
315	314	412	197	153	43
350	349	447	197	153	43
400	399	530	197	153	43
500	499	630	245	143	102

2.2 Size of installation opening

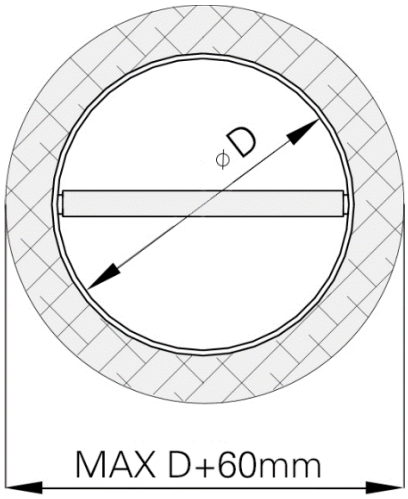


Fig. 3. Installation opening, circular

2.3 Minimum distances

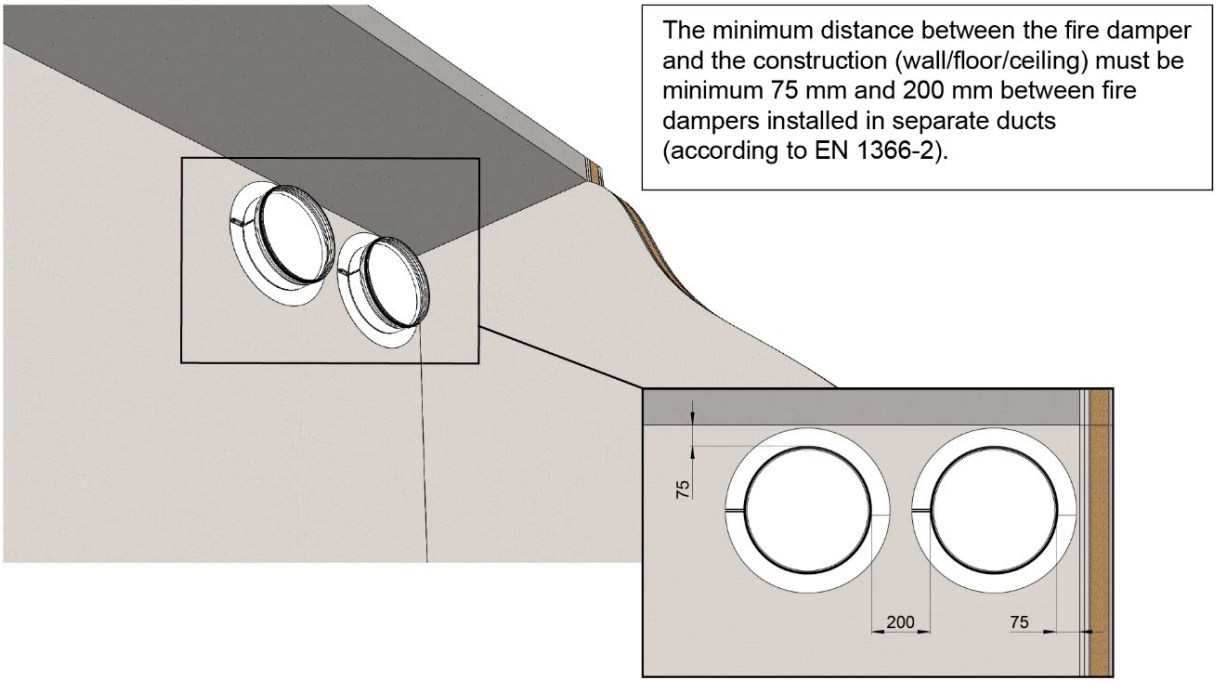


Fig. 4. The distance between the fire damper and construction

3 Installation

3.1 Before you start

1. Halton manufactures and supplies only the fire 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 models (electric actuator or mechanical spring release) can be installed in any position (360 °) in wall installation.
5. The blade must be in close position during installation.
6. The thermal fuse connected to the electric actuator model is delivered uninstalled. It must be installed in a way that it does not compromise damper operation. Ideal location is to the duct where it will not foul damper blade or operating mechanism.
7. The control mechanism must be protected against damage and pollution during installation process with e.g. plastic cover.
8. For installation of Halton fire dampers, all ductwork must be installed so that there is no load on the fire 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).
9. All damper installations where remote from construction (1m. maximum) is the preferred method of installation, all ducting should be certified according to EN 1366-1. Ducting and ancillary components such as fixings, hangers, drop rods etc. should be installed as per the ductwork suppliers specific installations instructions and the damper in accordance with Halton installation instructions.
10. Functionality of the damper must be tested before and after installation and after filling the gap between damper and construction.
11. Fill the gap between damper and construction with rock wool, 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 fire damper

3.2.1 Solid wall construction (E 120 S)

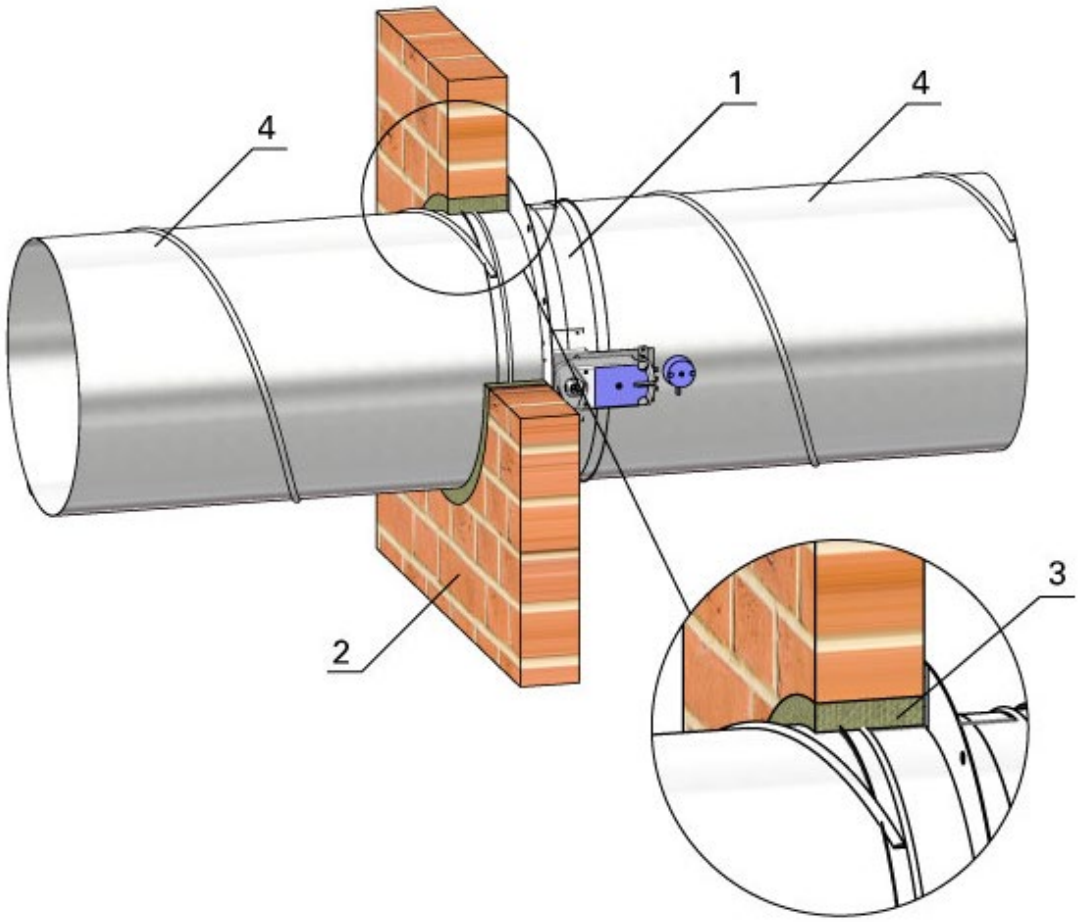


Fig. 5.

Key:

1. Halton fire damper
2. Solid wall construction
3. Rock wool, mortar or gypsum
4. Duct

3.2.2 Lightweight wall construction (E 120 S)

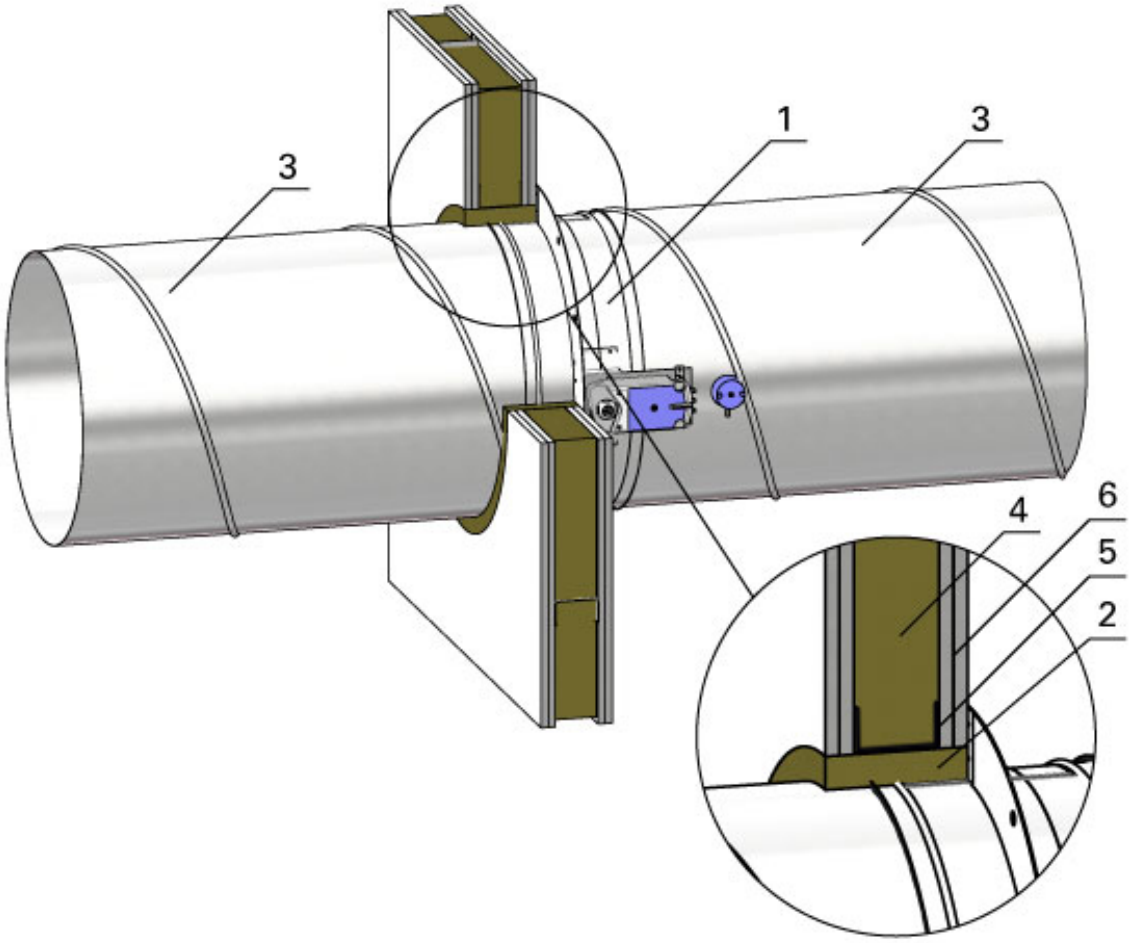


Fig. 6.

Key:

1. Halton fire damper
2. Rock wool, mortar or gypsum
3. Duct
4. Fire resistant insulation
5. Cavity closer *)
6. Gypsum plate

*) Installation opening must be reinforced by steel profile (UW, CW).
Profile is fixed by screws ≥ 3,5 mm with corresponding length.
Distance between screws ≤ 200 mm.

3.2.3 Solid floor construction (E 120 S)

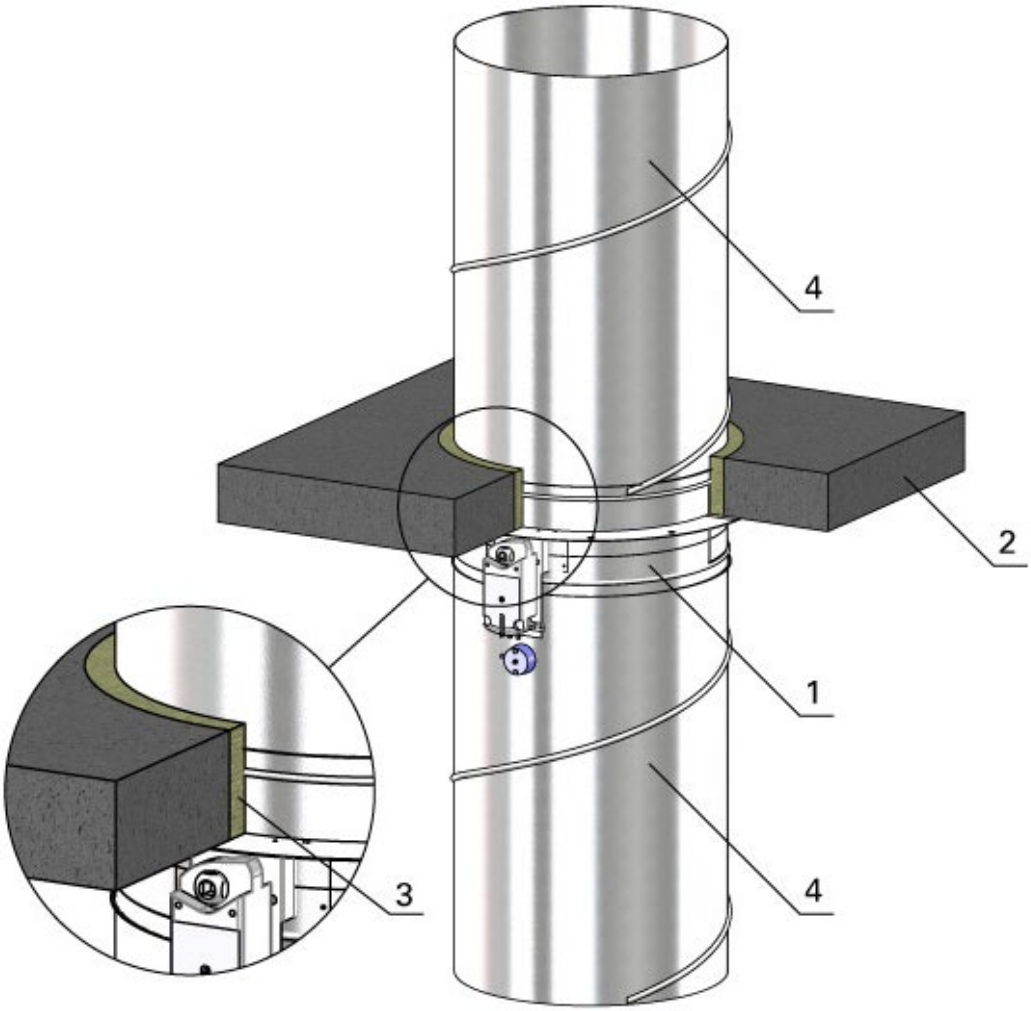


Fig. 7.

Key:

1. Halton fire damper
2. Solid floor construction
3. Rock wool, mortar or gypsum
4. Duct

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

3.2.4 Away from wall, solid construction (E 120 S)

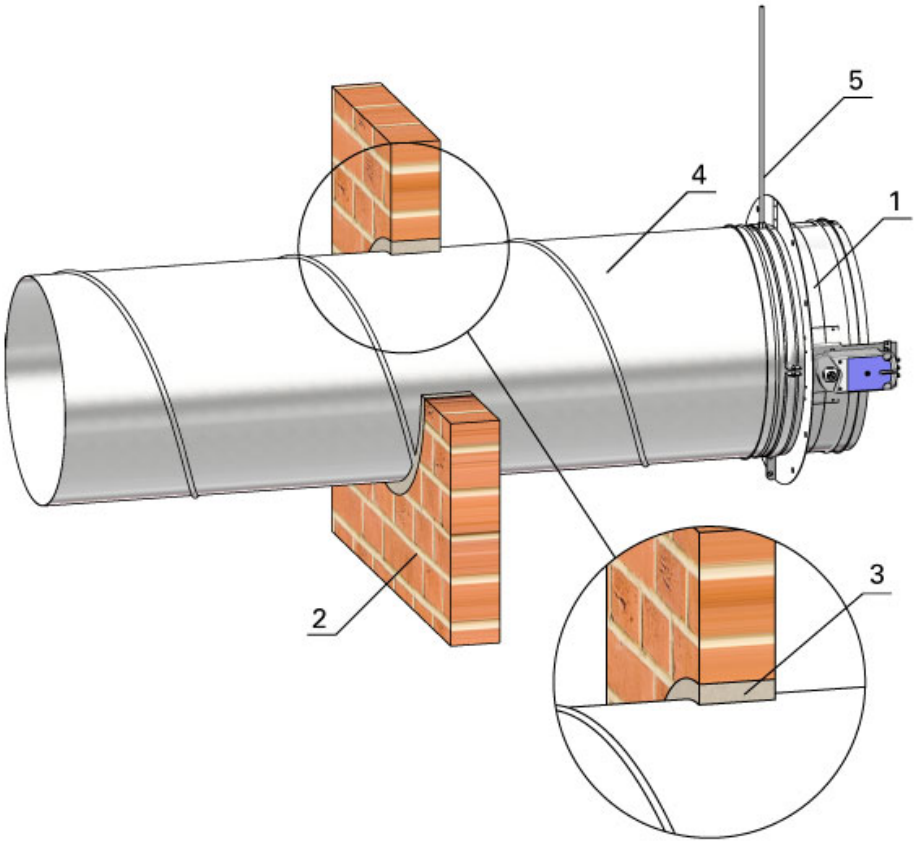


Fig 8.

Key:

1. Halton fire damper
2. Solid wall construction
3. Mortar or gypsum
4. Duct
5. Threaded rod

Note: All damper installations where remote from construction (1m. maximum) is the preferred method of installation, all ducting should be certified according to EN 1366-1. Ducting and ancillary components such as fixings, hangers, drop rods etc. should be installed as per the ductwork suppliers specific installations instructions and the damper in accordance with Halton installation instructions.

3.2.5 Away from wall, lightweight construction (E 120 S)

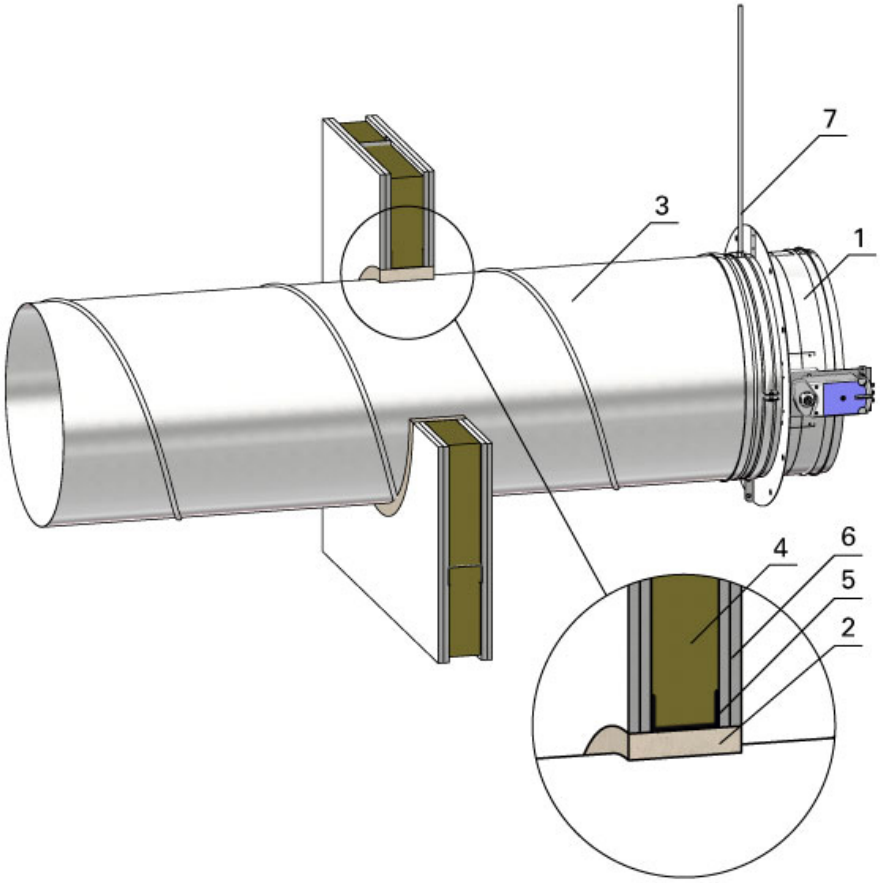


Fig 9.

Key:

1. Halton fire damper
2. Mortar or gypsum
3. Duct
4. Fire resistant insulation
5. Cavity closer *)
6. Gypsum plate
7. Threaded rod with fastening band for ventilation ducts

*) Installation opening must be reinforced by steel profile (UW, CW).
Profile is fixed by screws ≥ 3,5 mm with corresponding length.
Distance between screws ≤ 200 mm.

Note: All damper installations where remote from construction (1m. maximum) is the preferred method of installation, all ducting should be certified according to EN 1366-1. Ducting and ancillary components such as fixings, hangers, drop rods etc. should be installed as per the ductwork suppliers specific installations instructions and the damper in accordance with Halton installation instructions.

3.2.6 Away from floor, solid construction (E 120 S)

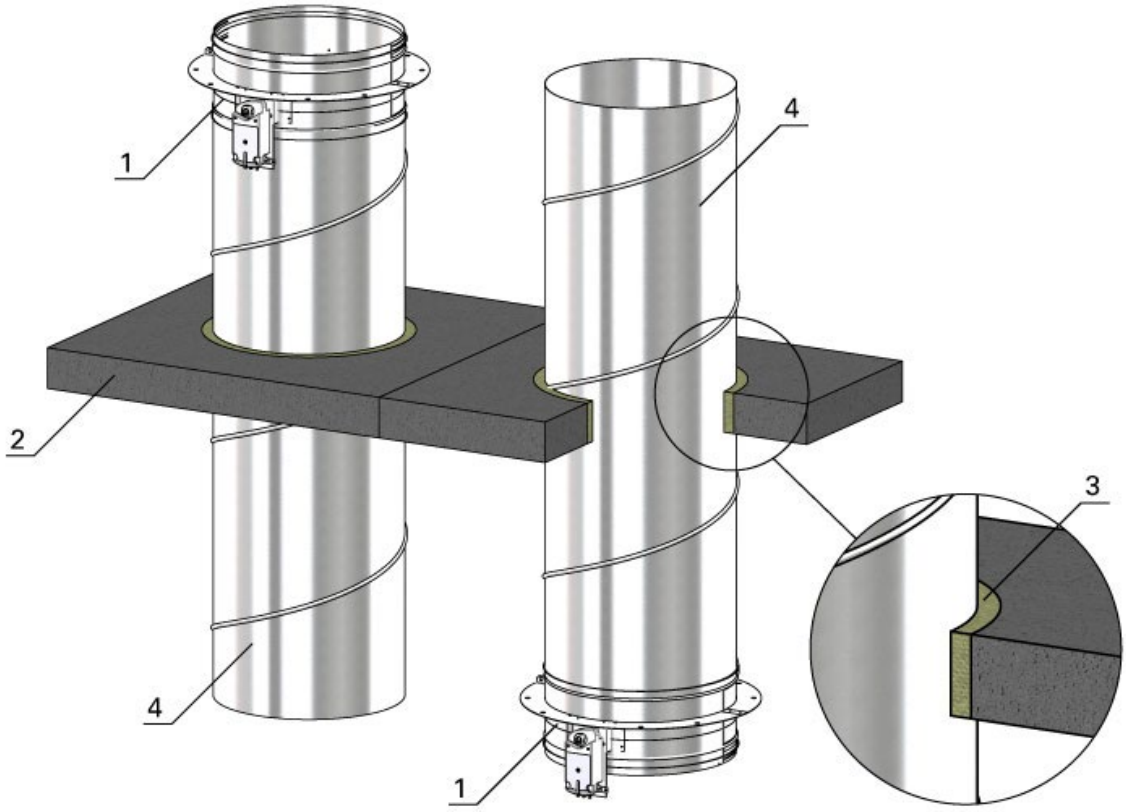


Fig 10.

Key:

1. Halton fire damper
2. Solid floor construction
3. Rock wool, mortar or gypsum
4. Duct

Note: All damper installations where remote from construction (1m. maximum) is the preferred method of installation, all ducting should be certified according to EN 1366-1. Ducting and ancillary components such as fixings, hangers, drop rods etc. should be installed as per the ductwork suppliers specific installations instructions and the damper in accordance with Halton installation instructions.

Thermal fuse, electrical actuator

The fuse is installed on the same side as the actuator. The fuse connected to the electric actuator model is delivered uninstalled. It must be installed in a way that it does not compromise damper operation. Ideal location is in the duct where it will not foul damper blade or operating mechanism.

Drill a 10 mm hole to the duct and fasten the fuse to the side of the duct with screws.

3.3 Thermal fuse, mechanical spring release

The blade of the fire damper is set in open position by the fuse as the handle is turned clockwise. When testing the functionality of the damper, press the test button. Then the fuse release the blade and it closes.

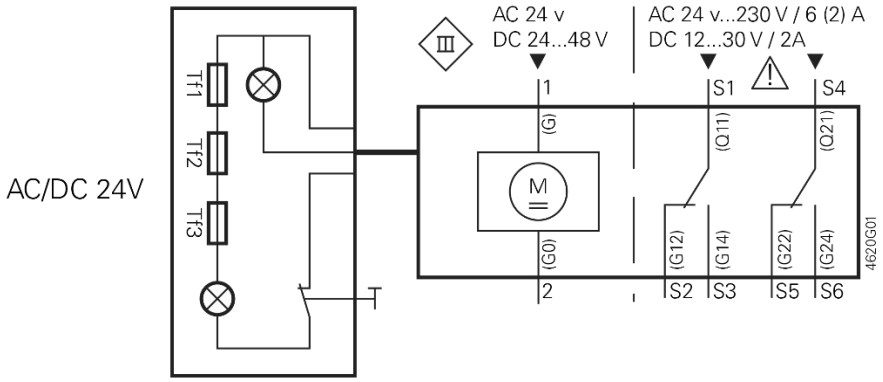
3.3.1 Changing thermal fuse

1. Turn sideward the tuning/testing bar.
2. Loose the locking screw of the holder of the fuse.
3. Turn sideward the holder of the fuse.
4. Remove the fuse.
5. Set a seal ring to the fuse.
6. Set the fuse into place.
7. Turn the holder of the fuse back to its place.
8. Tighten the locking screw of the holder.
9. Turn the tuning/testing bar to its place.
10. Set the fire damper to open position.

4 Key technical data

4.1 Wiring

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

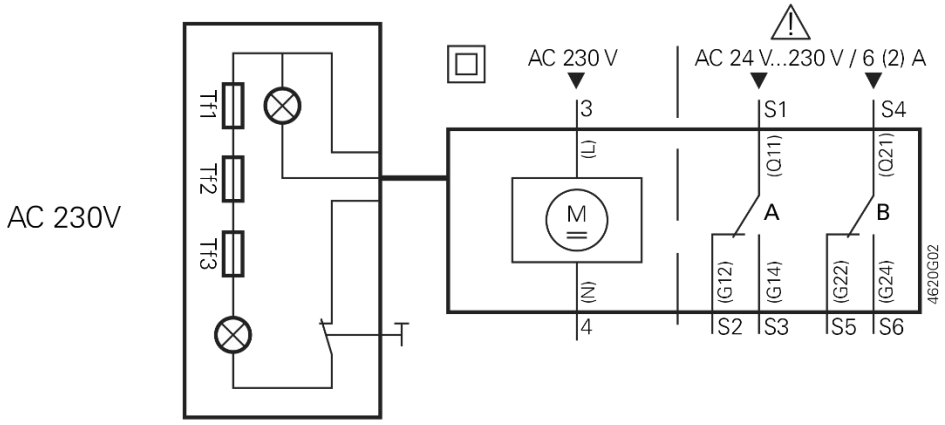


Cable colours

Code	No	Colour
G	1	Red
G0	2	Black
Q11	S1	Grey/red
Q12	S2	Grey/blue
Q14	S3	Grey/pink
Q21	S4	Black/red
Q22	S5	Black/blue
Q24	S6	Black/pink

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 Siemens, AC 230 V, open-close

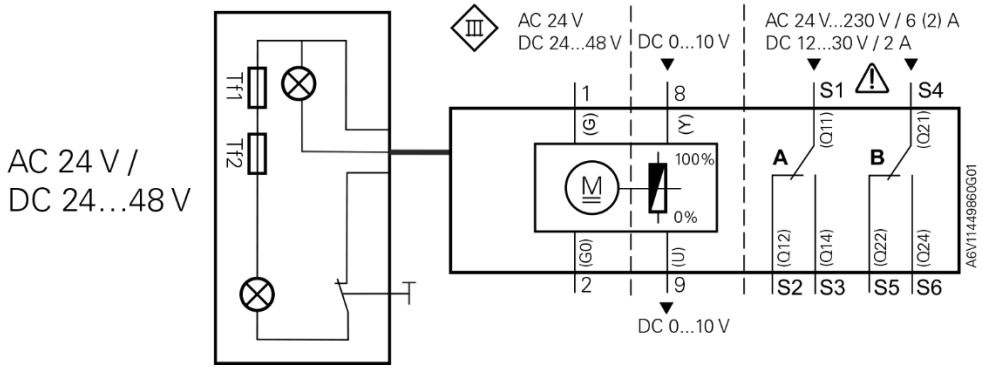


Cable colours

Code	No	Colour
L	3	Brown
N	4	Blue
Q11	S1	Grey/red
Q12	S2	Grey/blue
Q14	S3	Grey/pink
Q21	S4	Black/red
Q22	S5	Black/blue
Q24	S6	Black/pink

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.

4.1.3 Siemens, AC 24 V/DC 24-48 V, modulating



Cable colours

Code	No	Colour
G	1	Red
G0	2	Black
Y	8	Grey
U	9	Pink
Q11	S1	Grey/red
Q12	S2	Grey/blue
Q14	S3	Grey/pink
Q21	S4	Black/red
Q22	S5	Black/blue
Q24	S6	Black/pink

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 Actuators

Actuating mechanism, Siemens	**GNA 126/T**	**GNA 326/T**
Operating voltage	AC/DC 24 V 50/60 Hz	AC 230 V 50/60 Hz
Power consumption - in operation - at rest	AC: 5 VA / 3.5 W DC: 3.5 W 2 W	7 V / 4.5 W 3.5 W
Protection class	III (safety extra-low voltage)	
Degree of protection IEC/EN	IP 54	
Running time - in operation - spring return	< 90 s / 90 ° 15 s	
Ambient / storage temperature	- 20 °C	
Connecting - in operation - auxiliary switch	Cable 0.9 m, 2 x 0,5 mm^2 (halogen-free) Cable 0.9 m, 6 x 0,75 mm^2 (halogen-free)	
Switching temperature for sizing	Tf1: outside the duct 72 ºC Tf2: inside the duct 72 ºC Tf3: inside the duct 72 ºC	

Actuating mechanism, Siemens	**GNA 166/T**
Operating voltage	AC/DC 24 V DC 24…48 V 50/60 Hz
Power consumption - in operation - at rest	 AC 5 VA / 3.5 W DC 3.5 W AC/DC 2 W
Protection class	III (safety extra-low voltage)
Degree of protection IEC/EN	IP 54
Running time - in operation - spring return	 < 90 s / 90 ° 15 s
Ambient / storage temperature	- 20… 50 °C
Connecting - in operation - auxiliary switch - cross section	 Cable 0.9 m, 2 x 0,5 mm^2 (halogen-free) Cable 0.9 m, 6 x 0,75 mm^2 (halogen-free) Cable 0.9 m, 2 x 0,5 mm^2 (halogen-free)
Switching temperature for sizing	Tf1: outside the duct 72 ºC Tf2: inside the duct 72 ºC Tf3: inside the duct 72 ºC