

Halton PTS, Airflow management damper (single-blade) - Technical description

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1 Introduction

1.1 About this document

The purpose of this document is to give technical information and design examples for salespersons, technical support and designers.

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1.3 Summary of changes

Release	Date	Description
1.0	26.10.2026	First published version from Heretto (Content moved from WordPress)

2 Product description

2.1 Overview



- Shut-off, adjustment, balancing or control damper
- Casing leakage classification: EN 1751, Class C
- Casing and damper blade made of galvanized steel
- Tightness classification of shut-off damper: EN 1751, Class 4 (PTS/A model)

Product models and accessories

- Shut-off, adjustment, balancing or control damper
- Adjustment, balancing or control damper
- Adjustment, balancing or control damper with perforated blade
- Several actuator options

2.2 Operating principle

The Halton PTS unit can operate as a shut-off, control or adjustment damper depending on the product model. This damper is available for circular standard duct sizes 100 mm to 500 mm. Damper position is visually indicated below the operating mechanism.

The Halton PTS/A is a shut-off damper of leakage class 4 according to the EN 1751 standard. It includes rubber gaskets to ensure low leakage flow when the damper is in closed position. The PTS/A is available with a handle for manual operation or with an electric actuator for on-off control or for modulating control using a 0...10 VDC control signal.

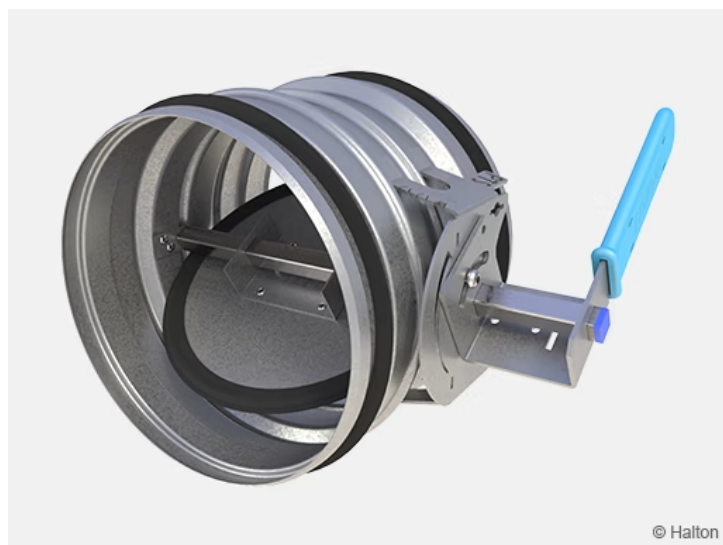
The Halton PTS/B can be used for airflow control or adjustment of airflow rates in the ductwork. It includes a steel blade without gasket. The PTS/B is available with a handle for manual operation or with an electric actuator for on-off control or for modulating control using a 0...10 VDC control signal.

The Halton PTS/C is an airflow adjustment damper. The damper blade is a perforated blade that is acoustically and operationally designed for balancing of airflow rates.

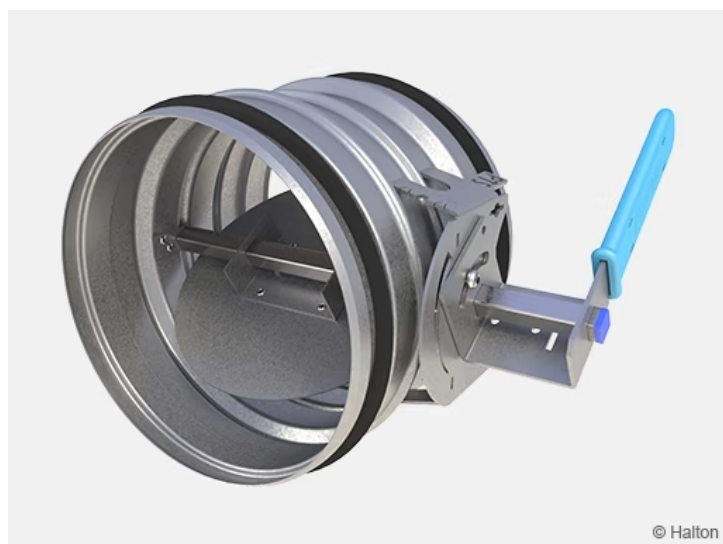
The electric actuator is normally installed in the factory on the actuator platform with screws. On-site actuator installation is possible with the help of an actuator installation kit. The actuator installation kit, available as an

accessory, includes an actuator platform and extension shaft for universal actuator fixing. The actuator platform and actuator can be installed easily using standard hand tools.

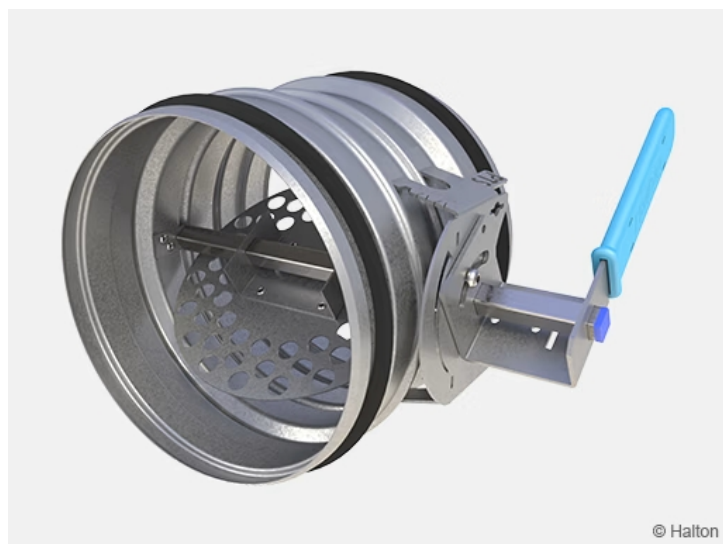
Halton PTS/A



Halton PTS/B



Halton PTS/C



2.3 Quick selection

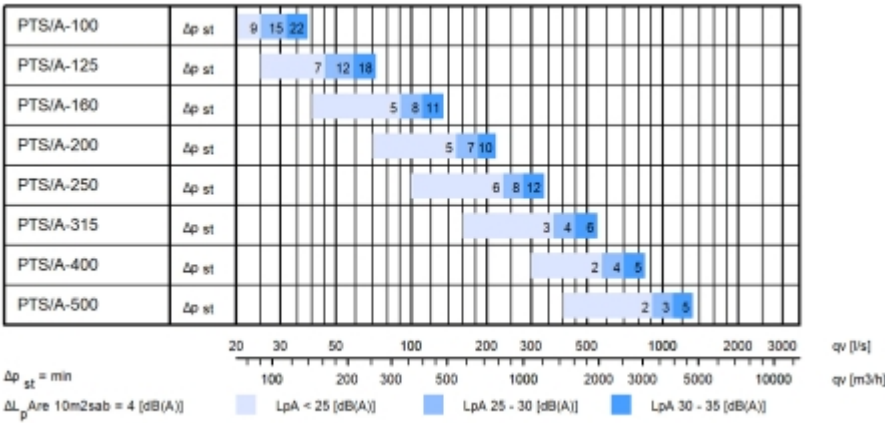


Fig. 1. Halton PTS with blade gasket (A)

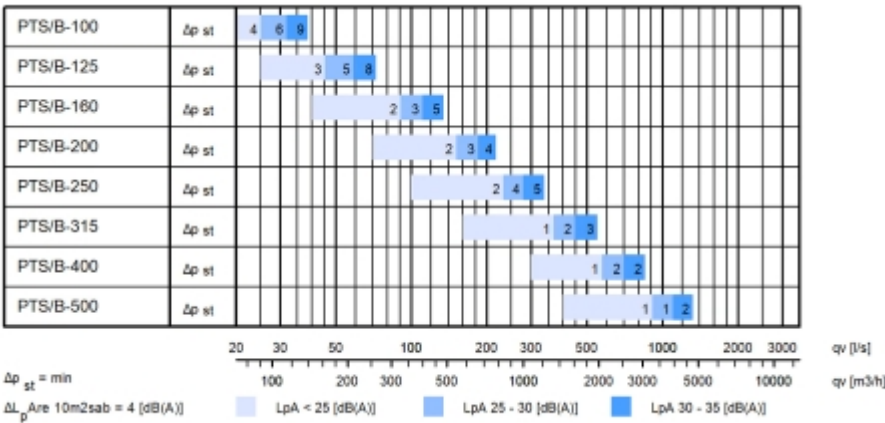


Fig. 2. Halton PTS without blade gasket (B)

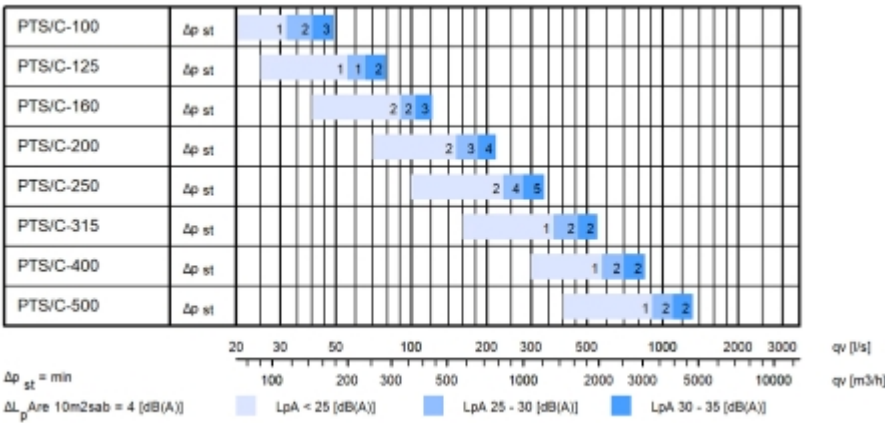
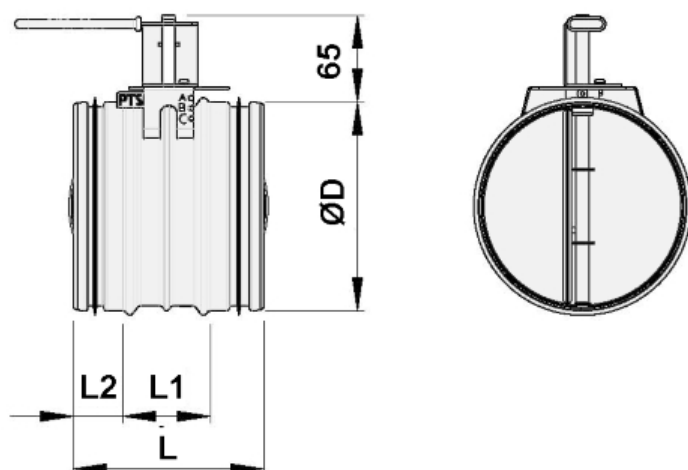


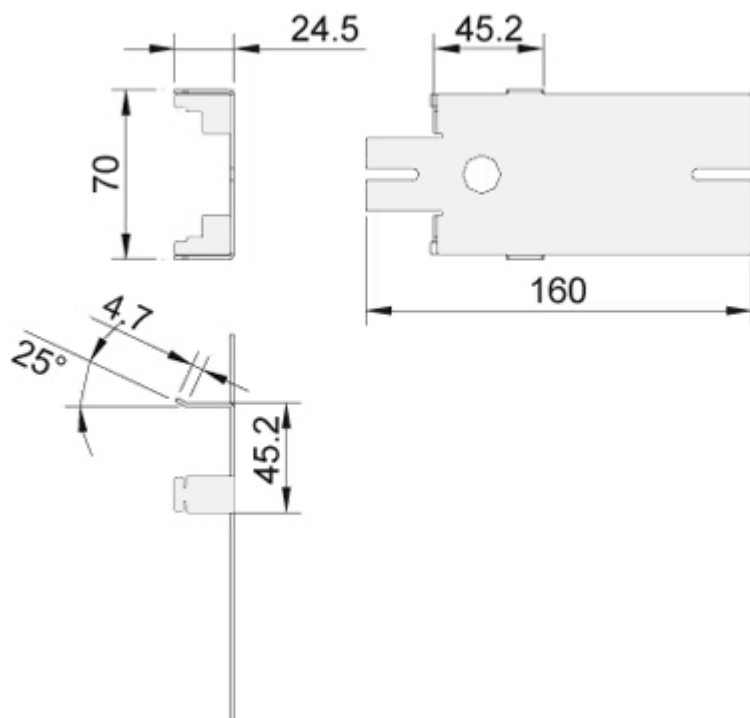
Fig. 3. Halton PTS perforated blade (C)

2.4 Dimensions and weight

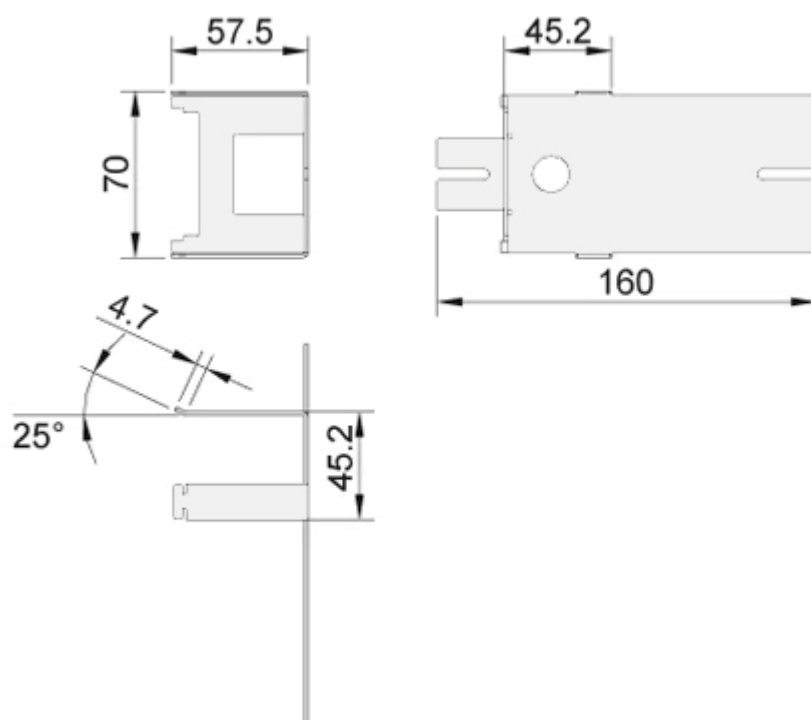


NS [mm]	L [mm]	L1 [mm]	L2 [mm]	ØD [mm]
100	145	70	36	99
125	145	70	36	159
160	145	70	36	159
200	145	70	36	199
250	145	70	36	249
315	145	70	36	314
400	245	175	35	399
500	245	175	35	499

Actuator platform, low (ML)



Actuator platform, high (MH)

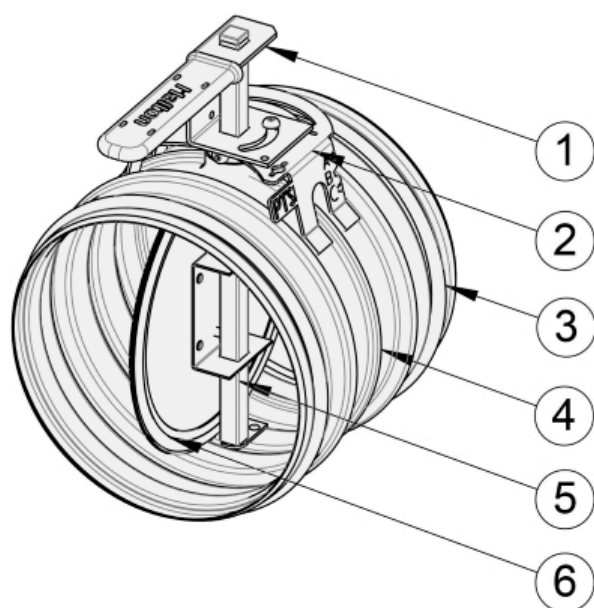


Weight [kg]

NS	PTS/A	PTS/B	PTS/C
100	0.5	0.5	0.5
0.6	0.6	0.6	0.6

NS	PTS/A	PTS/B	PTS/C
160	0.8	0.7	0.7
200	1.1	0.9	9.8
250	1.5	1.1	1.1
315	2.1	1.5	1.4
400	3.3	2.4	-
500	4.9	3.6	-

2.5 Structure and materials



No.	Part	Material	Note
1	Operating mechanism	Galvanised steel	-
2	Actuator platform	Galvanised steel	-
3	Duct gaskets	1C-polyurethane hybrid	-
4	Casing	Galvanised steel	-
5	Blade and shaft	Galvanised steel	-
6	Blade gasket	EPDM rubber	Used only in PTS/A model

2.6 Product models

There are three different product models, for different purposes:

- Shut-off, adjustment, balancing or control damper, PTS/A. Tightness classification: EN 1751, Class 4

- Adjustment, balancing or control damper, PTS/B
- Adjustment, balancing or control damper with perforated blade, PTS/C

Minimum torque

Model and size [mm]	4 Nm	10 Nm
PTS/A 100...250	x	
PTS/A 315...500		x
PTS/B 100...500	x	
PTS/C 100...500	x	

Manual operation

Handle for manual operation with blade position locking.

Actuator options

Standard actuators

Code	Name	Manufac.	Torque Nm	Power supply	Control type	Power consumption
B1	LM24A	Belimo	5	24 VAC/ VDC	On-off, 2-wire	3 VA/2 W
B2	LM230A	Belimo	5	230 VAC	On-off, 2-wire	12 VA/1 W
B3	LM24A-SR	Belimo	5	24 VAC/ VDC	Modulating 0...10 VDC	4 VA/2 W
B4	NM24A	Belimo	10	24 VAC/ VDC	On-off, 2-wire	3.5 VA/2 W
B5	NM230A	Belimo	10	230 VAC	On-off, 2-wire	18 VA/2 W
B6	NM24A-SR	Belimo	10	24 VAC	Modulating 0...10 VDC	3 VA/1.5 W
V5	LM24A-VST	Belimo	5	AC/DC 24 V	Control communicative PP	2 VA/1 W
V6	NM24A-VST	Belimo	10	AC/DC 24 V	Control communicative PP	4 VA/2 W
M1	BFN24 (Marine)	Belimo	9/7	AC/DC 24 V	On-off, spring return	6 VA/4 W
M2	BFN230 (Marine)	Belimo	9/7	230 VAC	On-off, spring return	9 VA/4.5 W

Code	Name	Manufac.	Torque Nm	Power supply	Control type	Power consumption
M3	SM24A-MA-C7 (Marine)	Belimo	20	AC/DC 24 V	Modulating 4...20 mA	6 VA/3.5 W
M4	InMax-15-SF (Marine)	Schischek	15/30	24...240 VAC/DC	On-off, spring return, 3-point	-

If other actuator types are required, consult Halton in order to specify the type and manufacturer.

After sales installation of the actuator

Actuator installation on the site is possible with the help of an actuator bed and extension shaft. This enables installation of a universal actuator type. The actuator bed selected can be of standard type when the ductwork is not insulated or of high type if the ductwork is insulated.



Fig. 4. Halton PTS/A with actuator (B4 = NM24A)

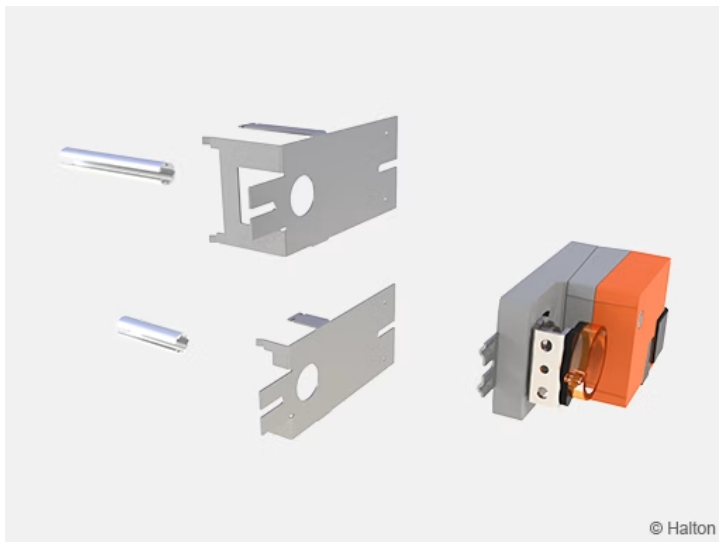


Fig. 5. Actuator with installation kit low (IL) and high (IH)

2.7 Specification

Materials

- The casing and circular (perforated) blade of the shut-off/adjustment/control damper are made of galvanised steel.

Structure

- External rubber gaskets on the spigot shall provide an airtight connection to circular ductwork.
- The casing of the damper meets the tightness requirements of EN 1751 class B.

2.8 Order code

PTS-S-D; MA-MO-AC-ZT

Main options	
S = Model	
A	Damper with blade gasket
B	Damper without blade gasket
C	Damper with perforated blade
D = Duct connection size [mm]	100, 125, 160, 200, 250, 315, 400, 500

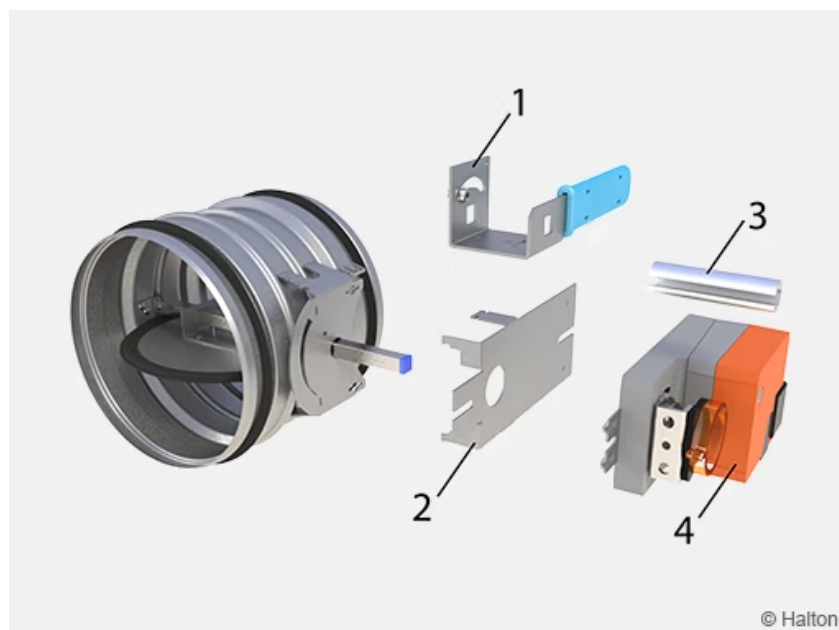
Other options and accessories	
MA = Material	
CS	Steel
MO = Actuator type	
MA	Manual handle
B1	LM24A, 24 VAC/VDC (on-off), 5 Nm
B2	LM230A, 230 VAC (on-off), 5 Nm
B3	LM24A-SR, 24 VAC/VDC (modulating), 5 Nm
B4	NM24A, 24 VAC/VDC (on-off), 10 Nm
B5	NM230A, 230 VAC (on-off), 10 Nm
B6	NM24A-SR, 24 VAC/VDC (modulating), 10 Nm
V5	LM24A-VST, (DC 0/2...10 V), 5 Nm
V6	NM24A-VST, (DC 0/2...10 V), 10Nm
M1	BFN24 (on-off, spring return), 7 Nm (MEI)
M2	BFN230 (on-off, spring return), 7 Nm (MEI)
M3	SM24A-MA (modulating), 24V, 20 Nm (MEI)

Other options and accessories	
M4	InMax-15-SF, 24-230V, 15 Nm (MEI)
NA	Not assigned
AC = Accessories	
BA	Bar adjustment
ML	Actuator platform, low
MH	Actuator platform, high
IL	Installation kit for actuator, low
IH	Installation kit for actuator, high
IJ	Actuator platform (for LF actuator)
WM	Connector (Marine/Wieland Blue2, MAC)
WB	Connector (Marine/Wieland Blue1, MAC)
ZT = Tailored product	
N	No
Y	Yes (ETO)

Order code example
PTS-A-160; MA=CS, MO=B1, AC=ML, ZT=N

3 Design information

3.1 Installation



Fasten the damper to the ductwork with, e.g., rivets. Ensure that the rivets do not prevent the operation of the damper. The position of each rivet must be at least 10 mm from the duct end. External duct gaskets ensure an airtight joint when the damper has been mechanically fastened to the duct with rivets or screws. The electric actuator (where applicable) is to be connected to the power supply and control signal wires according to the wiring diagram. Examples of connections for the standard actuators are shown in a separate diagram.

The electric actuator can also be installed, when necessary, in an on-site procedure with the help of an actuator platform and universal shaft fitting, available as an accessory: Remove the operating mechanism (1) by opening the locking screw. Assemble the actuator platform in the location of the operation mechanism (2) and ensure its stability mechanically by bending the legs of the actuator platform with a hand tool. The universal actuator fitting enables connection of most actuator types to the shaft (3) (4). Wire connections are to be performed according to the instruction for the actuator installed.

Install the damper in the ductwork with the blades in horizontal or vertical position. Fasten the damper in the ductwork using slip joints (SF=NA).

Optional models enable fastening the damper to duct flange by using bolts (SF=R2). Drill holes in the damper flange if necessary (options SF=L1 / SF=L2). Use a seal between the flanges in order to tighten the seam.

Fasten the models with circular connections by riveting or screwing.

Electric wire connections

Belimo

