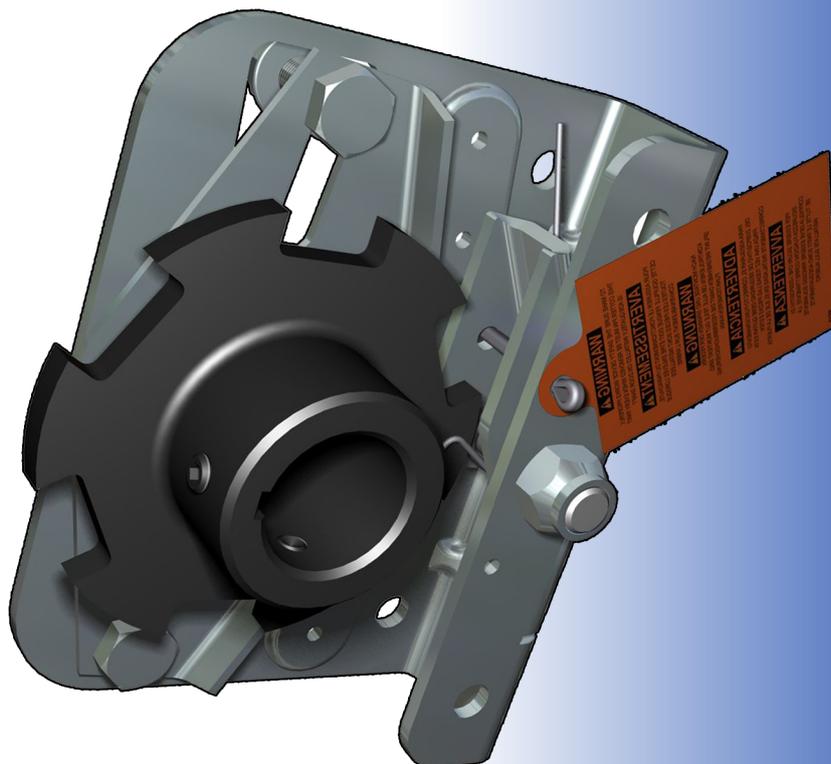
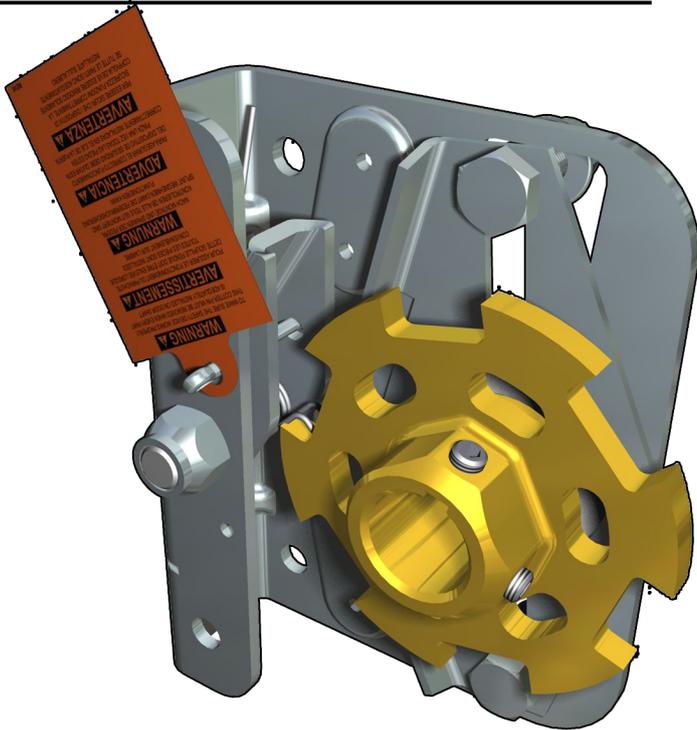


DOCO®

INTERNATIONAL

door-solutions

25449 / 25549
Spring break device



Installation manual

IMPORTANT:

Tensioned springs carry a high tension; always be very careful, especially when adjusting, and use tensioning rods (12025) of the right size and that are well maintained. Ensure that the mounting place for the spring break protection is structurally strong enough to attach the spring break protection and to absorb the force of any cable break!



1) General

Spring break protection is used in sectional doors and is meant to prevent the door panel from falling in case of a torsion spring break.

Torsion springs are used in sectional doors to keep the door panel balanced in all positions.

When a spring breaks, the sectional door is no longer in balance and gravity will push it down.

The spring break protection prevents this by triggering immediately upon a spring breaking.

2) Scope of application

Spring break protection devices 25449 and 25549 are used in industrial sectional doors that are operated either manually, using a chain or electrically.

Type 25449 is used in sectional doors with a 1" (25.4mm) shaft with key way.

Type 25549 is used in sectional doors with a 1 1/4" (31.75mm) shaft with key way.

Spring heads to be fitted: 50mm spring head up to 152mm spring head

The maximum torque per spring break protection is 210 Nm



When using a certain cable drum, the minimum number of spring break protection devices per door may be calculated as follows:

$$\text{Door panel weight (D)} = \frac{\text{Maximum torque (Tmax)}}{\frac{1}{2} * \text{drum diameter (d:) * gravity (g)}} = \frac{\text{Tmax}}{\frac{1}{2} * d * g} \quad g = 10 \text{ m/s}^2$$

The drum diameter is measured at the unwind point of the cable when the door is closed!

EXAMPLE:

DOCO cable drum item 11002 (M134-5500) has a diameter of 138.2mm

$$\frac{210 \text{ Nm}}{\frac{1}{2} * 0.1382 \text{ m} * 10 \text{ m/s}^2} = 303.9 \text{ kg}$$

So for a door panel weighing up to 303 kg, one spring break protection is sufficient.

For a door panel weighing more than 303 kg, a minimum of 2 spring break protection devices must be used.

One spring break protection is installed for each torsion spring.



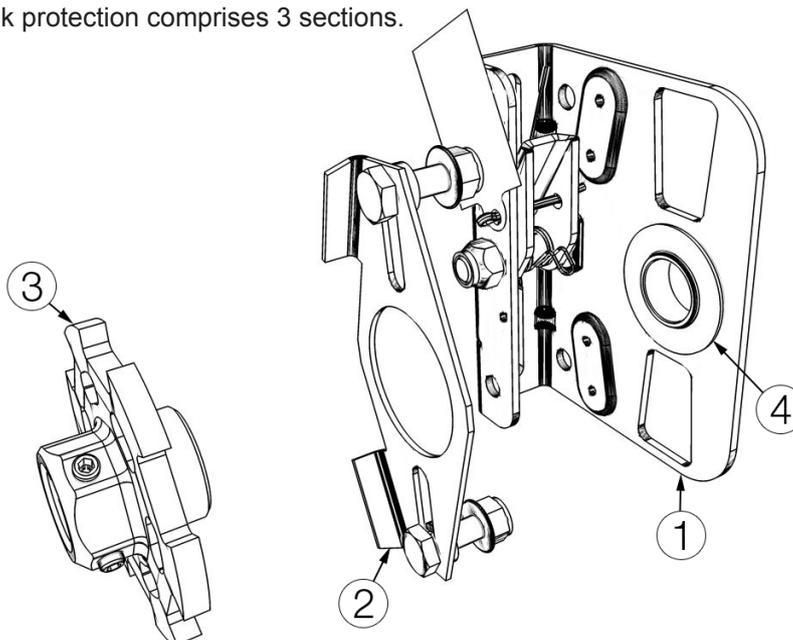
The maximum specified weight for the cable drum may never be exceeded!

3) Installation

Installing a spring break protection is relatively simple. The spring break protection replaces the centre console and at the same time provides extra safety.

- When supplied, the spring break protection comprises 3 sections.

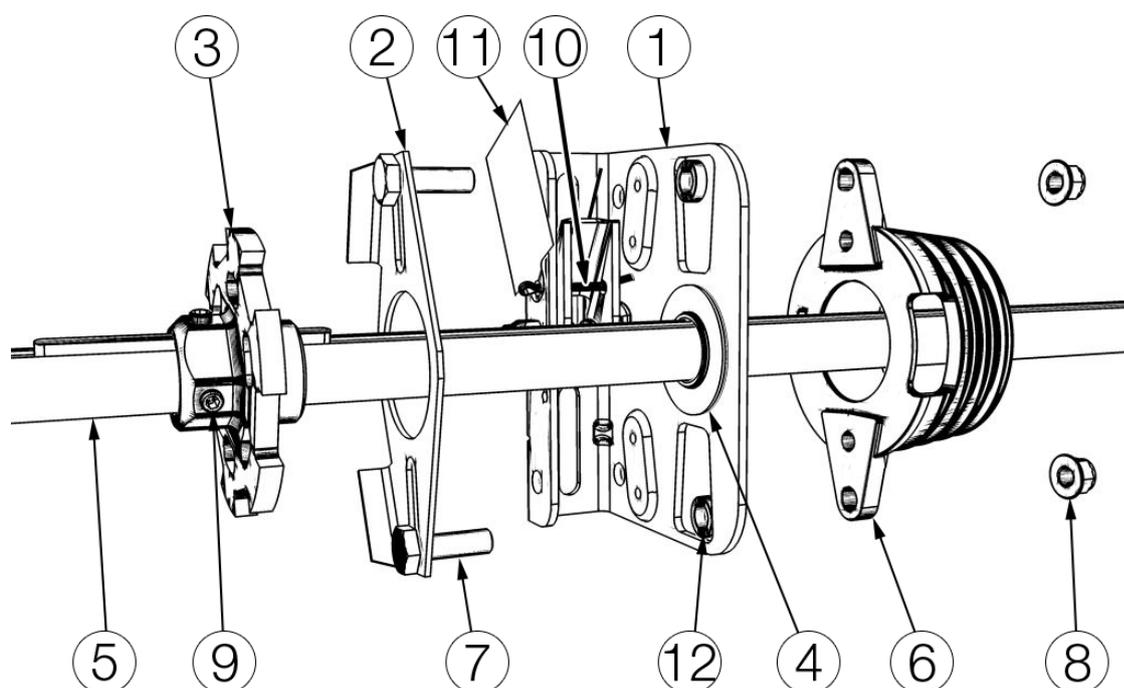
- 1) Base plate with bearing (4)
- 2) Blocking plate
- 3) Blocking wheel



Installation steps:



1. Slide the base plate (1) onto the shaft (5) up to the fixed spring head (6) of the pre-fitted spring.
2. Now slide the blocking plate (2) up to the bearing (4) of the base plate (1).
3. Now fix the spring break protection to the construction or wall. The spring break protection should be fitted at the same position as the fixed spring head (6) of the spring.
4. Fix the fixed spring head onto the moving blocking plate (2), using bolts (7) and nuts (8). Don't forget to install the spacers (8) in between the blocking wheel (2) and the fixed spring head (6)
5. Don't forget to put the bearing in the tensioning head of the pre-installed spring!
6. Check whether the blocking wheel (2) still rotates freely.
7. Slide the blocking wheel (3) onto the shaft (5), as far as possible.
8. Slide a key in between shaft (5) and blocking wheel (3) and secure hexagon socket set screws with knurled cup point (9), one in the shaft and in the key.
9. The installation is now complete. As soon as the remaining parts such as cables and drums are fitted, the spring can be tensioned.
10. After the spring is tensioned, the safety lock with label (10+11) can be removed.
11. The spring break protection is now activated.



4) Optional extras

1) Offset plate item 25448

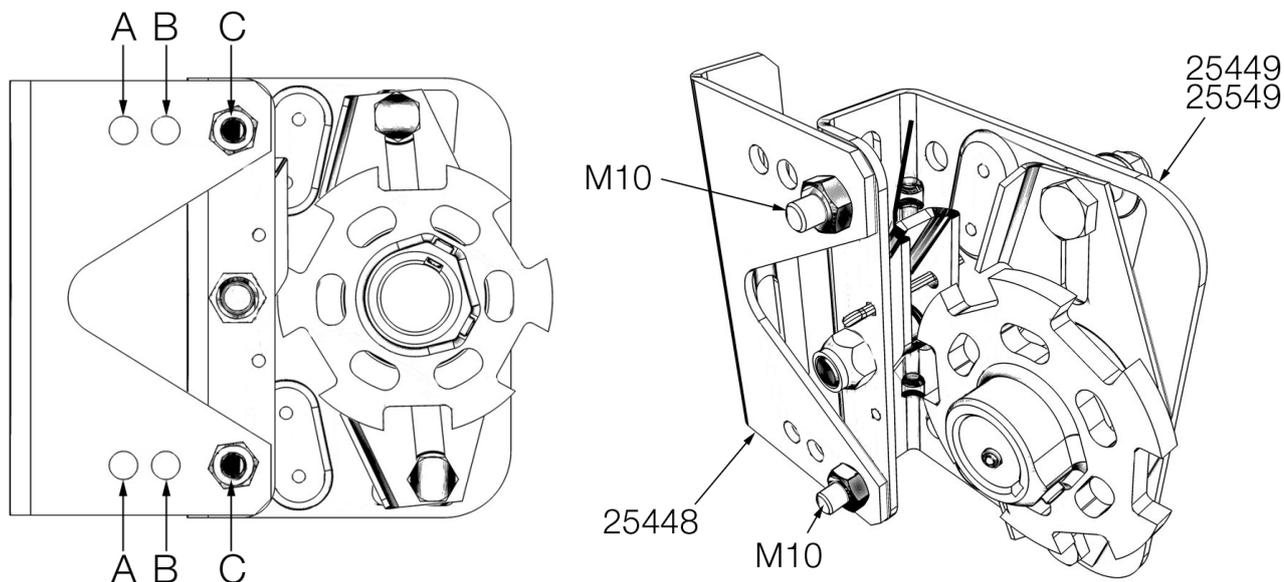
Use spacer plate 25448 to achieve the correct offset (x). See figure.

Offset 86mm : only use the spring break protection 25449 without spacer plate 25448

Offset 111mm : fit the spring break protection to the spacer plate at position A using M10 nuts and bolts

Offset 127mm : fit the spring break protection to the spacer plate at position B using M10 nuts and bolts

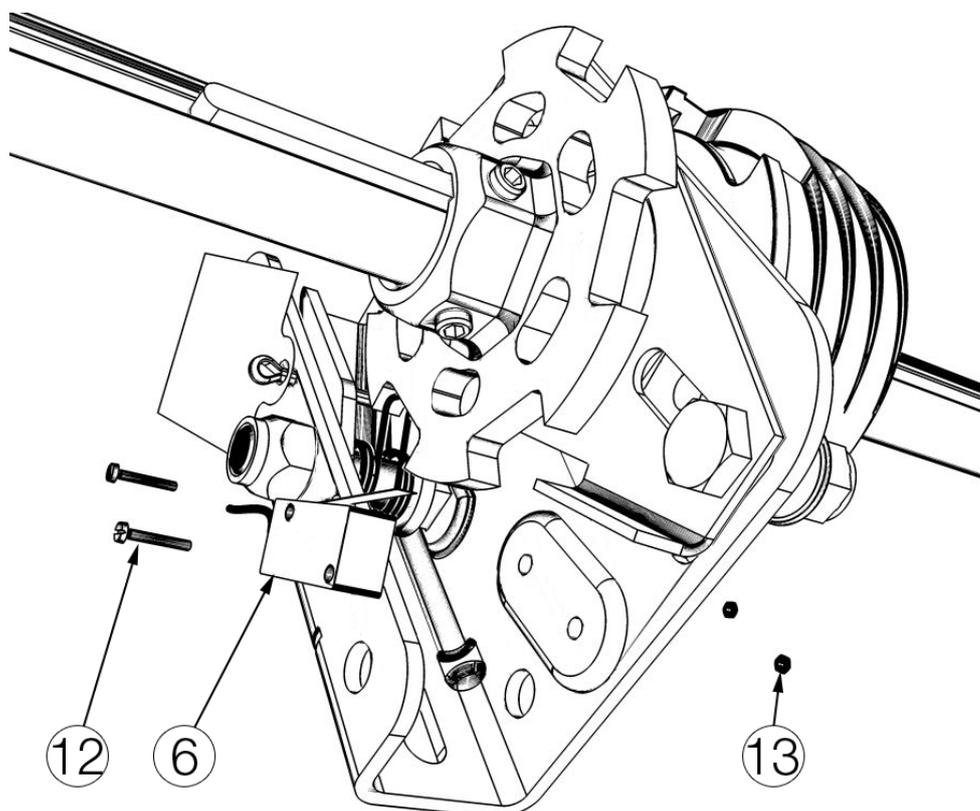
Offset 152mm : fit the spring break protection to the spacer plate at position C using M10 nuts and bolts



2) Microswitch item 25447 (125/250 VAC, 15 amp. IP67)

Fit the switch (6) to the inside of the spring

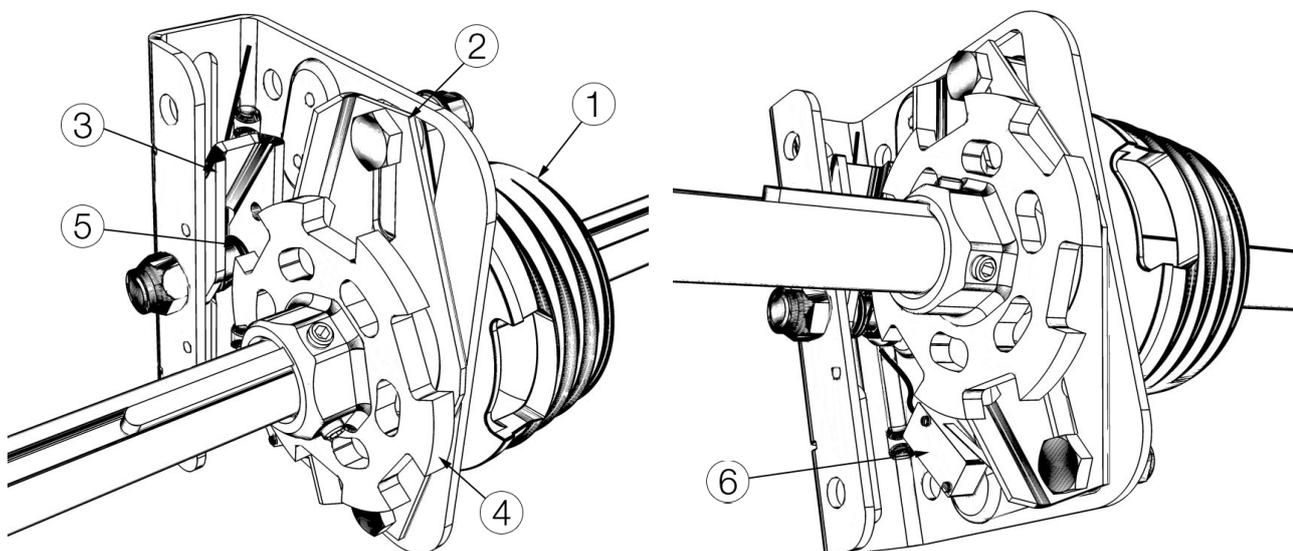
break protection using 2 M3x16 bolts with 2 M3 nuts (neither are supplied with the switch). The handle of the switch should be positioned against the blocking plate (not activated). Check whether the switch activates correctly by turning the blocking plate. Note: the cables may not interfere with the operation of the spring break protection!



5) Operation

When the torsion spring (1) is tensioned, the blocking plate (2) turns slightly. This will cause the bent tab of the blocking plate (2) to block the blocking pawl (3). The blocking wheel (4) fitted to the shaft with key can now rotate freely.

When a spring breaks, spring tension is removed, so the blocking plate (2) can rotate back. The force of the spring (5) will cause the blocking pawl (3) to push the blocking plate (2) away and engage with the teeth of the blocking wheel (4), preventing the door panel from falling. The blocking plate (2) being rotated back now triggers the micro switch (6), stopping the electric drive.



6) Replacing (after a broken spring)

 Torsion springs and spring break protection devices may only be replaced by qualified personnel.

- Secure the door panel using struts to prevent further falling of the door panel.
- Remove the broken torsion spring with spring break protection and offset plate (if fitted).
- Fit the replacement torsion spring with spring break protection in accordance with the installation instructions.

Notes:

- In case of a hollow shaft with key way, the shaft should also be replaced.
- If a torsion spring is broken, we recommend replacing all torsion springs.

7) Maintenance

This safety feature must be checked at least once a year.

This check must be carried out by qualified personnel.

Checklist:

- Remove dirt
- Check whether the force of the spring (5) against the blocking pawl (2) is sufficient, by depressing the blocking pawl (2) on page 4. If this does not return to its original position, the spring break protection should be replaced.
- Repeat this check five times.
- Check all bolts and nuts for tightness.

8) TÜV approval.

This spring break protection carries BG-Prüfbescheinigung Number 01043 (Berufs Genossenschaft).

This means this spring break protection complies with the EU standard, EN 12604 /12605.

9) Supplier

DOCO International b.v.
Nusterweg 96
6130 AK Sittard (NL)
Tel.: +31 (0)46-4200666
Fax: +31 (0)46-4526894

10) Terms and conditions of supply

A copy of these terms and conditions may be requested by contacting us.

We will send it free of charge.



Industrie Service

Bescheinigung über eine Konformitätsprüfung

Bescheinigungs-Nr.:	TorFV 6/101
Bauaufsichtlich anerkannte Prüfstelle:	TÜV SÜD Industrie Service GmbH Prüfstelle für das Bauprodukt (System 3: EN 13241) "Tore - Produkte ohne Feuer- und Rauchschutzeigenschaften" Westendstraße 199, 80686 München – Deutschland
Antragsteller/ Bescheinigungsinhaber:	DOCO International B.V. Nusterweg 96 6136 KV Sittard – Niederlande
Hersteller:	s. o.
Produktbezeichnung:	Fangvorrichtung für Tore
Typ:	25449
Prüflaboratorium:	TÜV SÜD Industrie Service GmbH Prüflaboratorium für Produkte der Fördertechnik Prüfbereich Aufzüge und Sicherheitsbauteile Westendstraße 199, 80686 München – Deutschland
Datum und Nummer des Prüfberichtes:	1996-02-05 24025310
Prüfgrundlagen:	<ul style="list-style-type: none"> ➤ DIN EN 12604 / DIN EN 12605 (Ausgabe Aug. 2000) Tore, Mechanische Aspekte, Anforderungen/Prüfverfahren ➤ GS-BE-04 (Ausgabe Jan. 2001) Grundsätze für die Prüfung und Zertifizierung von Fang- vorrichtungen für Fenster, Türen und Tore
Ergebnis:	Die Fangvorrichtung erfüllt für den im Prüfbericht angegebenen Einsatzbereich die Anforderungen der Prüfgrundlagen.
Hinweis:	Diese Bescheinigung behält ihre Gültigkeit solange die Fangvorrichtung wie geprüft hergestellt wird und die Anforderungen aus den Prüfgrundlagen für die Fangvorrichtung unverändert bleiben. Sie ersetzt die BG-Prüfbescheinigung Nr. 01043 von 2001-06-29 einschließlich des Kennzeichens A-BE 01043.
Ausstellungsdatum:	2006-05-03