

# HÄFELE

## GEZE NOW PARTNERED WITH HÄFELE!

Häfele Australia and Geze are proud to announce the foundation of a new partnership. This exciting development combines the strength of Australia's most progressive Architectural Hardware company with one of the world's leading manufacturers of door technology.

[www.hafele.com.au](http://www.hafele.com.au)

**GEZE**

## GEZE DOOR TECHNOLOGY INNOVATIVE, VERSATILE & RELIABLE

Brought to you by Häfele

# WHY HÄFELE?

## WHY CHOOSE HÄFELE?

### Häfele HQ, Dandenong, Victoria



Häfele represents a world of solutions spanning many countries and industries. As a global supplier of quality hardware to a dozen industries, Häfele is an innovator for everything from joining timber to moving walls.

As a creator of brilliant designs for decorative elements, or simply an established partner for every customer, Häfele doesn't just sell hardware, they provide solutions.

Since the beginning Häfele have been dedicated to bringing quality not only to their products, but to each customer relationship. Quality is the driving force guiding the efforts of their employees worldwide. As the company's reach has expanded around the world, Häfele strives to make these values universal. This is accomplished through the remarkable breadth of expertise that Häfele uses every day to help customers. Whether an architect is designing a high-tech building or a manufacturer is attempting to drive down costs, Häfele will find better ways.

This is our promise and commitment to all our clients and partners worldwide. Established in 1982, Häfele Australia has been bringing you the latest innovations, sourced from either our own factories, or from our partners around the world, for over 30 years. With our own sales offices in all states around Australia and warehouses in Victoria, Queensland and Western Australia, we are at your side Australia wide.

Among experts in the field, **"Häfele"** has become synonymous with greater convenience and pioneering ideas.

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**HÄFELE: THINKING  
AHEAD FOR MORE  
THAN 90 YEARS**

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## INFORMATION

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PAGE

# 04

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### OVERHEAD DOOR CLOSERS

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PAGE

# 09

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Häfele offers GEZE door closer systems for any type of door, with a range of individual setting options. From the most basic overhead door closer, to the multi-faceted variations suitable for use with fire and smoke protection doors. The GEZE door closer range offers a range of options to meet every requirement.

### CONCEALED DOORS CLOSERS

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PAGE

# 35

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The integrated door closers of the GEZE Boxer range are installed fully inside the door leaf. Therefore, the guide rail can only be seen when the door is open. The system can be used with single and double leaf doors and offers a wide range of setting options when installed.

### FLOOR SPRINGS

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PAGE

# 39

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GEZE floor springs from Häfele, can be used to close single and double action doors made of various materials in a reliable manner whilst remaining subtle. The product range includes systems for light and heavy leaf weights.

### AUTOMATIC SWINGING AND SLIDING DOORS

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PAGE

# 46

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Häfele's automatic door systems by GEZE open up an almost unlimited range of door design options. Daily, millions of people enjoy their natural convenience. As the most modern of innovative drives, in which high performance capability, security, convenience and design are a priority, automatic door solutions from GEZE are both the focus and the eye catcher of every entrance area.

### DOOR WEIGHT CALCULATION GUIDE

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PAGE

# 49

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### NUMERICAL INDEX

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PAGE

# 51

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TS 5000 - OVERHEAD DOOR CLOSERS

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TS 4000 - OVERHEAD DOOR CLOSER

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BOXER CONCEALED DOOR CLOSER

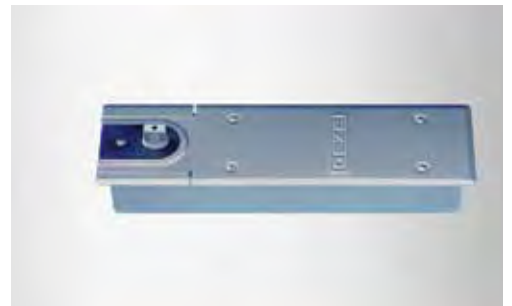
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EMD - AUTOMATIC SLIDING DOOR DRIVE

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TS 550 NV - FLOOR SPRING

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SLIM DRIVE - AUTOMATIC SLIDING DOORS

# GEZE DOOR TECHNOLOGY FROM HÄFELE

**INNOVATIVE, VERSATILE & RELIABLE**

Häfele Australia are proud to announce the formation of a new partnership with GEZE for the Australian market.

This exciting development will combine the strength of one of Australia's most progressive Architectural Hardware companies with one of the world's leading manufacturers of door technology systems.

**An extensive range of optical and technical options.**

GEZE products have always been developed around the needs of customers, therefore the company offers direct solutions for individual requirements – aesthetic, functional and economical.

Door technology systems from GEZE impress with their intelligent functionality, their high performance, and their long life spans, as well as the integrated design lines. GEZE's quality management system has been certified to ISO 9001. GEZE door closers have been inspected and certified in accordance with the applicable standards EN 1154, EN 1155, 1158 AND AS 1428. The manufacture of these products is regularly monitored by independent test institutes. All these measures guarantee the high quality of GEZE products.



# DOOR TECHNOLOGY

## INFORMATION

The products in this catalogue are divided into the following groups:

- > Surface mounted door closers with projecting arm assembly
- > Surface mounted door closers with guide channel
- > Concealed door closers
- > Floor springs
- > Automatic swing door operators
- > Automatic sliding door operators

Accessories for the door closer and floor spring systems can be found directly after the individual systems.

### Appropriate Application

**1**

Door closers must be used appropriately only to close pivoted or hinged doors made of timber, metal, PVC or glass after these have been opened manually. Individual floor springs can also be used for double acting doors. Door closers need to be replaced when a satisfactory and safely functioning closing action is no longer guaranteed.

The following inappropriate use must be avoided under any circumstances:

- > Use of the door closer for applications other than closing of doors.
- > Obstruction of the closing action for example by scraping doors, catching seals or stiff locks.
- > Incorrect or inappropriate installation and setting such as banging doors.
- > Incorrect selection of the closer size or closing force
- > Catching between door frame and door leaf (risk of injury).

### Installation and Initiation

**2**

The following points must be observed during the installation and initiation of door closers:

- > Before the installation and initiation of the door closer, including additional installation and accessories, the relevant legal regulations need to be observed.
- > Door closers must be installed and adjusted correctly by qualified personnel.
- > Product information must be observed and has to be passed on to the clients and end users.
- > Door closers with hold-open devices are subject to legal controls, monitoring and maintenance procedures.
- > In case of particularly unfavourable local conditions (i.e. wind influence), door closers with a higher closing force must be used.
- > If, due to the circumstances of the door and surrounds, it cannot be avoided that the door leaf knocks against the door frame near the door pivot point, a door stop should always be used, which will limit the maximum opening angle of the door closer.
- > If a floor spring is in contact with water or moisture (i.e. external doors), the space between the cement casing and the housing must be filled with a suitable sealing compound.

### Maintenance and Repair

**3**

Carry out the following maintenance works regularly:

- > Check the safety relevant components for their sturdy positioning and for wear and tear.
- > Re-tighten the fixing screws and exchange defective components.
- > Test the settings (i.e. closing speed) and movement of the door.
- > If necessary, apply grease to the moving components (i.e. arm assembly).

Repairs must be carried out by qualified personnel.

Only cleaning agents which do not contain corrosive elements may be used.

### Fire and Smoke Control

**4**

Normally, fire and smoke control doors which have been approved by the building inspector must not be modified. The installation of a door closer or hold-open devices may require a proof of suitability in connection with the fireproof and smoke control door, a final check and an agreement or authorisation.

The construction of fireproof doors is subject to the clearly defined regulations of AS1905.1-2005. In addition, there are smoke-proof doors, the regulations of which are listed in AS1905.1-1997.

# FUNCTION

## GENERAL DOOR FUNCTIONS

### Closing Force

- 1** The closing force depends on the width of the door leaf. With most door closers, it can be set and adjusted exactly to the respective door situation. In case of particularly unfavourable local conditions (i.e. wind influence), door closers with a higher closing force must be used.

### Hold-Open Device

- 2** A door hold-open device (fixed opening) can be achieved with additional special fittings (eg: hold-open arm) or with integrated construction elements (interlocking hold open function). Door closers with hold-open arm or interlocking hold-open functions are not suitable for fireproof and smoke control doors.

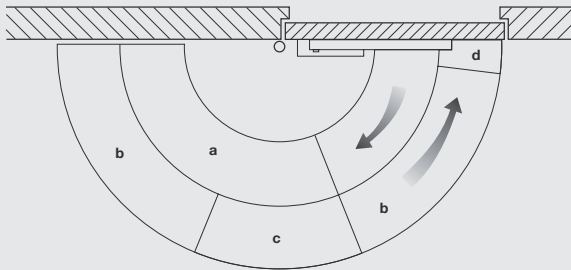
### Door Co-ordination

- 3** In case of 2-leaf doors, the door coordinator ensures the correct closing sequence of both door leaves (inactive passive leaf before active leaf).

### Free-Swing Arm Assembly

- 4** With a free-swing arm assembly, the doors remain freely movable (comparable with a door without closing function), however the door closes securely in case of a fire.

### General Functions in the Door Operating Range



EN Force	Leaf Width (mm)
1	up to 750
2	750 - 850
3	850 - 950
4	950 - 1100
5	1100 - 1250
6	1250 - 1400

#### a Back Check

With backcheck, the swing of a forcefully opened door (manually or for example by gusts of wind) is reduced. Damage to the door handle or wall are therefore minimised or eliminated. All GEZE door closers supplied by Häfele are fitted with Back Check functionality.

#### b Closing Speed

The exact setting of the closing speed guarantees a controlled closing of the door leaf.

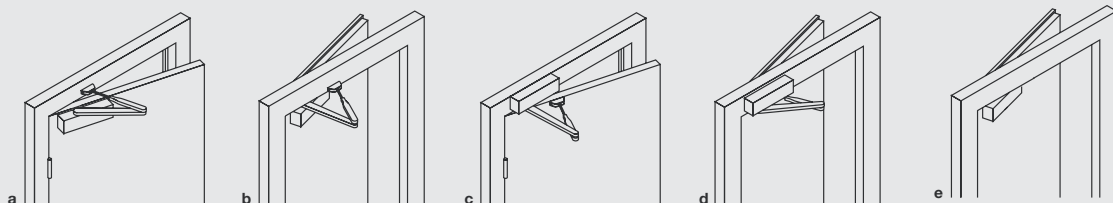
#### c Closing Delay

The Closing Delay increases the closing time so that, for example, persons carrying luggage or bulky items, mothers with prams, elderly persons, etc. have sufficient time to walk through the door.

#### d Latching Action

The Latching Action controls the closing of the door and ensures, that the lock closes reliably.

### Fixing Types



- a** Standard fixing (door leaf fixing) on the pull side
- b** Standard fixing (door leaf fixing) on the push side
- c** Top jamb fixing on the pull side

- d** Top jamb fixing on the push side
- e** Parallel arm fixing on the push side

	Type	Page	Closing force						Version									
			1	2	3	4	5	6	Electromechanical hold open function	Electrohydraulic hold open function	With hold-open insert	Central smoke alarm system	Suitable for fire resistant doors	Integrated door coordinator	With free-swing function	For double doors	Delayed action	
<b>Overhead door closers with arm</b>																		
	TS 1500 BC	10			✓	✓						✓		✓				
	TS 2000 NVBC	12		✓	✓	✓						✓		✓				
	TS 4000	15	✓	✓	✓	✓	✓	✓			✓		✓					
	TS 4000 E	17	✓	✓	✓	✓	✓	✓			✓		✓				✓	
<b>Overhead door closers with guide rail</b>																		
	TS 1500 BCG	11	✓									✓		✓				
	TS 2000 NVBCG	13	✓	✓	✓							✓		✓				
	TS 3000 VBC	14	✓	✓	✓	✓						✓		✓				
	TS 4000 G	16	✓	✓	✓	✓	✓					✓		✓				
	TS 5000	18		✓	✓	✓	✓	✓				✓		✓				
	TS 5000 L	19		✓	✓	✓	✓	✓				✓		✓				
	TS 5000 E	20		✓	✓	✓	✓	✓	✓					✓				
	TS 5000 L-E	21		✓	✓	✓	✓	✓	✓					✓				
	TS 5000 R	22		✓	✓	✓	✓	✓	✓				✓	✓				
	TS 5000 L-R	23		✓	✓	✓	✓	✓	✓				✓	✓				
	TS 5000 ISM	24		✓	✓	✓	✓	✓						✓	✓		✓	
	TS 5000 L-ISM	25		✓	✓	✓	✓	✓						✓	✓		✓	
	TS 5000 E-ISM	26		✓	✓	✓	✓	✓	✓					✓	✓		✓	
	TS 5000 L-E-ISM	27		✓	✓	✓	✓	✓	✓					✓	✓		✓	
	TS 5000 R-ISM	28		✓	✓	✓	✓	✓	✓				✓	✓	✓		✓	
	TS 5000 L-R-ISM	29		✓	✓	✓	✓	✓	✓				✓	✓	✓		✓	
	TS 5000 EFS	30		✓	✓	✓	✓					✓		✓		✓		
	TS 5000 RFS	31		✓	✓	✓	✓					✓		✓		✓		
	TS 5000 S	32		✓	✓	✓	✓	✓				✓		✓				✓
	Accessories	33																
<b>Concealed door closers</b>																		
	Boxer I	36		✓	✓	✓				✓		✓						
	Boxer II	37			✓	✓	✓	✓	✓			✓						
	Boxer P	38		✓	✓	✓						✓						
<b>Floor springs</b>																		
	TS 500 NV	40	✓	✓	✓	✓						✓						
	TS 550 NV	41			✓	✓	✓	✓				✓						✓
	Accessories	42-45																



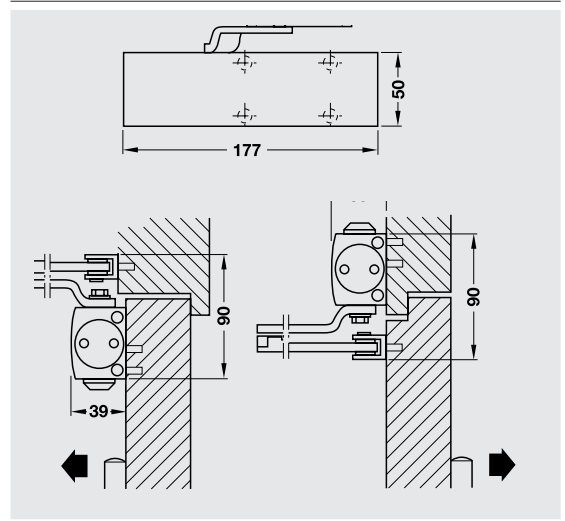


## GEZE OVERHEAD DOOR CLOSERS


# OVERHEAD DOOR CLOSERS

## TS 1500 BC

EN 3, 4



- > Version: Supplied with back check function
- > Adjustment facility: Closing force, closing speed and latching action adjustable
- > Installation: Suitable for standard installation on pull side or overhead installation on push side
- > Closing force: 3 or 4 in compliance with EN 1154
- > Door width: <1,100 mm
- > Hold open angle: 70 – 150°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002
- > Finish: Silver coloured

	Version	Cat. No.
	TS 1500 BC with standard arm	931.17.149
	TS 1500 BC with hold-open arm	931.17.159
	Parallel arm bracket to suit TS 1500	931.16.329

Packing: 1 piece

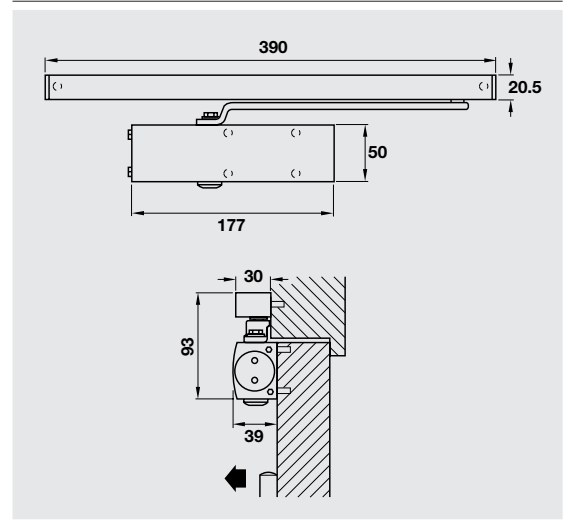
 **Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.


# OVERHEAD DOOR CLOSERS

**TS 1500 BCG**

EN 1



- > Features: DDA compliant
- > Version: Supplied with back check function
- > Adjustment facility: Closing speed and latching action adjustable
- > Installation: Suitable for standard installation on pull side
- > Closing force: 1 in compliance with EN 1154
- > Door width: <750 mm
- > Hold open angle: 80 – 130°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002
- > Finish: Silver coloured

Version	Cat. No.
 TS 1500 BCG with guide rail	931.17.169
TS 1500 BCG with guide rail and hold-open insert	931.17.179

Packing: 1 piece

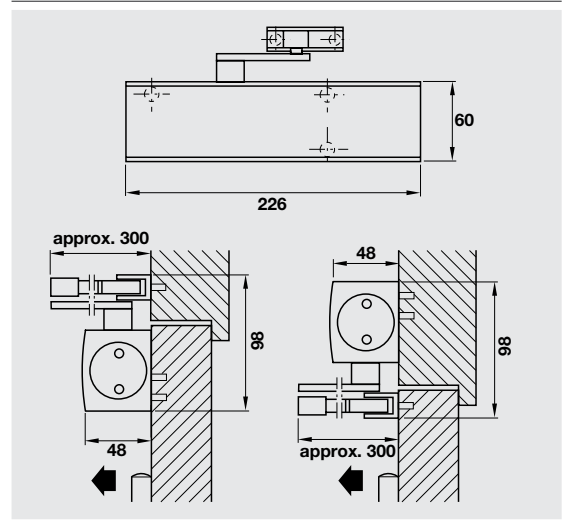
## Fire resistance and smoke control

Tested for fire resistance and smoke control doors. Further information available upon request.


# OVERHEAD DOOR CLOSERS

## TS 2000 NVBC

EN 2, 3, 4



- > Version: Supplied with back check function
- > Adjustment facility: Closing force adjustment of the sizes 2, 3 and 4 from the side, closing speed adjustable from the front, latching action adjustment from the front
- > Installation: Suitable for standard installation on pull side or overhead installation on push side
- > Closing force: 2, 3, 4 in compliance with EN 1154
- > Door width: <1,100 mm
- > Hold open angle: 70 – 150°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1997
- > Finish: Silver coloured

Version	Cat. No.
 TS 2000 NVBC with standard arm	931.16.269
TS 2000 NVBC with hold-open arm	931.16.279
Parallel arm bracket to suit TS 2000	931.16.329

Packing: 1 piece

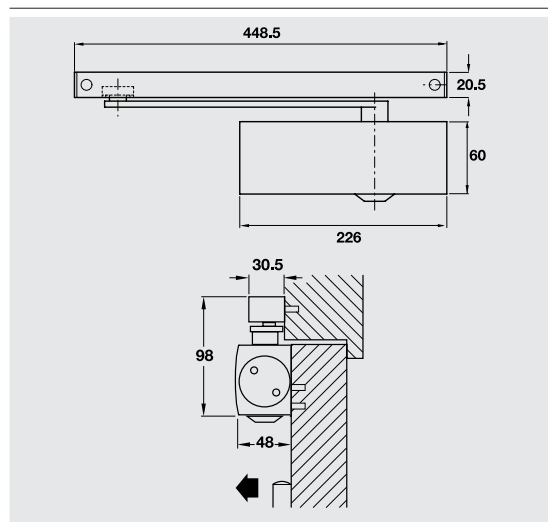
 **Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.

# OVERHEAD DOOR CLOSERS

**TS 2000 NVBCG**

EN 1, 2, 3



- > Features: DDA compliant
- > Version: Supplied with back check function
- > Adjustment facility: Variable closing force (size EN2 and EN3)  
Closing speed valve adjustable, latching action valve adjustable  
Optional with hold-open device (not fire rated)
- > Installation: Suitable DIN right hand and DIN left hand
- > Closing force: 1 - 3 In compliance with EN 1154
- > Door Width (mm): 750 - 950mm
- > Max. door opening angle: Approx. 130°
- > Hold open angle: 80 - 130°
- > Standard: Certified in compliance with EN 1154:1997
- > Finish: Silver coloured

Version	Cat. No.
 TS 2000 NVBCG with guide rail	931.16.289
TS 2000 NVBCG with hold-open guide rail	931.16.299

Packing: 1 piece

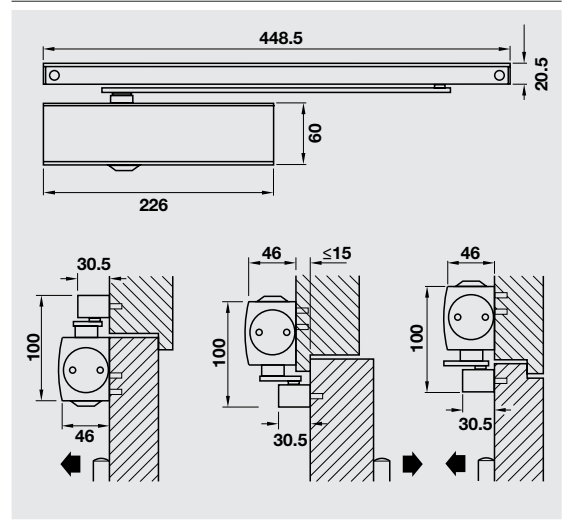
## Fire resistance and smoke control

Tested for fire resistance and smoke control doors. Further information available upon request.

# OVERHEAD DOOR CLOSERS

## TS 3000 VBC

EN 1 - 4



- > Version: Supplied with back check function
- > Adjustment facility: Latching action and closing speed adjustable from the front, closing force adjustable from the side
- > Installation: Standard installation (door leaf installation) on pull side, overhead installation (transom fixing) on pull side
- > Closing force: 1 – 4 in compliance with EN 1154
- > Door width: <1,100 mm
- > Hold open angle: 80 – 130°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002
- > Finish: Silver coloured

Version	Cat. No.
TS 3000 VBC with guide rail	931.10.699
TS 3000 VBC with guide rail and hold-open insert	931.10.709
TS 3000 VBC set with T-Stop guide rail	931.10.899

Packing: 1 piece

**Note:** TS 3000 VBC is designed for pull side operation only.

**Fire resistance and smoke control**

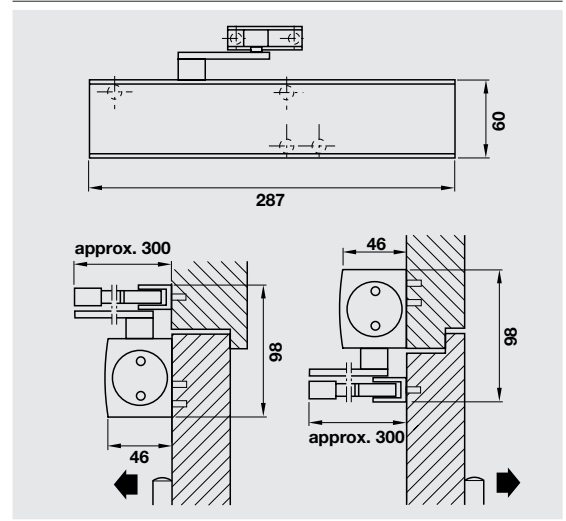
Tested for fire resistance and smoke control doors. Further information available upon request.




# OVERHEAD DOOR CLOSERS

TS 4000

EN 1 - 6



- > Adjustment facility: Closing force, closing speed and back check adjustable, latching action adjustment with arm
- > Installation: Suitable for standard installation on pull side and overhead installation on push side
- > Closing force: 1 – 6 in compliance with EN 1154
- > Door width: <1,400 mm
- > Hold open angle: Up to approx. 150°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002
- > Finish: Silver coloured

Version	Cat. No.
 TS 4000 set with standard arm	931.16.579
TS 4000 set with hold-open arm	931.16.589
Parallel arm bracket to suit TS 4000	931.16.329

Packing: 1 piece

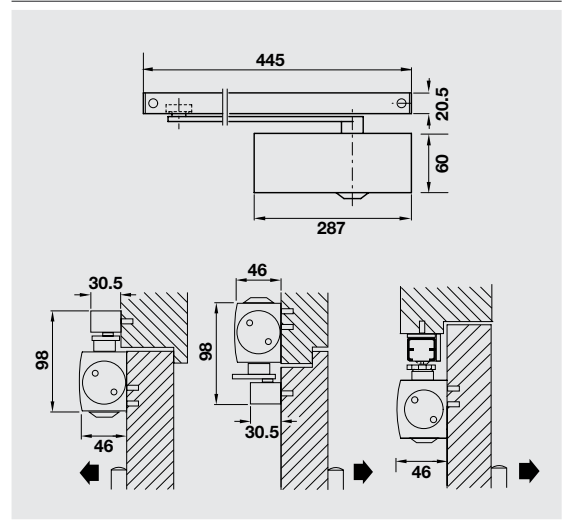
 **Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.


# OVERHEAD DOOR CLOSERS

## TS 4000 G

EN 1 - 5



- > Features: DDA compliant
- > Adjustment facility: Closing force valve adjustable  
Closing speed valve adjustable  
Available with adjustable back check
- > Closing force: 1 - 5 In compliance with EN 1154
- > Door Width (mm): 650 - 1250mm
- > Max. door opening angle: Approx. 130°
- > Mounting: Suitable for DIN right hand and DIN left hand
- > Standard: Certified in compliance with EN 1145
- > Finish: Silver coloured

	Version	Cat. No.
	TS 4000 G set with guide rail	931.17.189
	TS 4000 G with hold-open guide rail	931.17.199

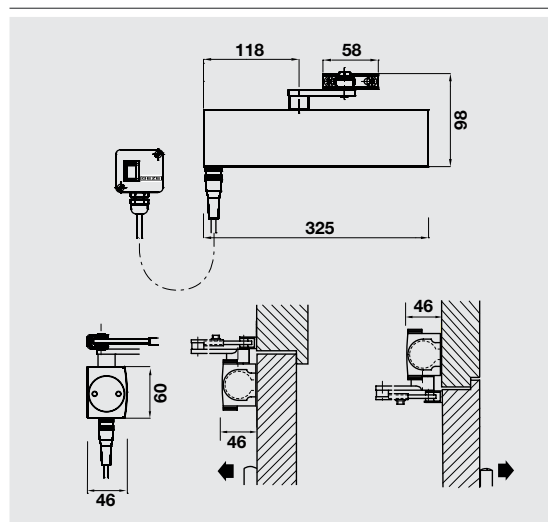
Packing: 1 piece

 **Note:** TS 4000 G is designed for pull side operation only.


 **Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.

# OVERHEAD DOOR CLOSERS

**TS 4000 E**


- > Version: When voltage is applied to closer, the door is held open. When voltage is not present, the door will close automatically  
The door can be closed manually at any time regardless of whether the voltage is applied or not
- > Adjustment facility: Closing speed and closing force is valve adjustable from the front  
Optical indicator for closing force  
Latching action adjustable via arm position
- > Mounting: Suitable for DIN right hand and DIN left hand
- > Operating voltage: 24V DC  $\pm 10\%$
- > Enclosure rating: IP43
- > Closing Force: 1 - 6 in compliance with EN 1154
- > Hold open angle: 80 - 175°
- > Standard: Certified in compliance with EN 1154 and EN1155
- > Door width: <1400mm
- > Finish: Silver coloured

Version	Cat. No.
 TS 4000 E set with standard arm	931.16.559

Packing: 1 piece

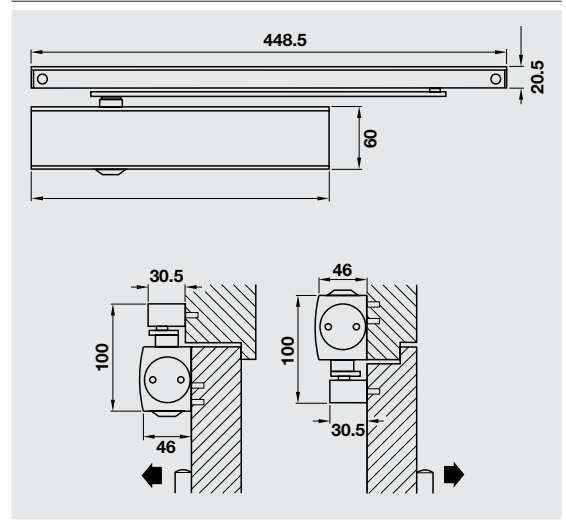
## Fire resistance and smoke control

Tested for fire resistance and smoke control doors. Further information available upon request.


# OVERHEAD DOOR CLOSERS

## TS 5000


EN 2 - 6



- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on pull side and overhead installation on push side
- > Closing force: 2 – 6 in compliance with EN 1154
- > Door width: <1,400 mm
- > Opening angle: <180°
- > Hold open angle: 80 – 130°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002
- > Finish: Silver coloured

	Version	Cat. No.
	TS 5000 set with guide rail	931.10.609
	TS 5000 set with guide rail and hold-open insert	931.10.619
	TS 5000 set set with T-Stop guide rail	931.11.249

Packing: 1 piece

 **Note:**  
T-stop guide rail should be used for all external installations

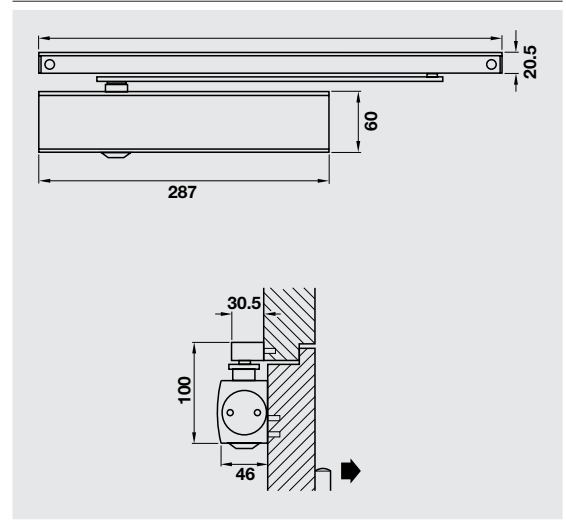
 **Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.


# OVERHEAD DOOR CLOSERS

TS 5000 L


EN 2 - 6



- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on push side
- > Closing force: 2 – 6 in compliance with EN 1154
- > Door width: <1,400 mm
- > Opening angle: <110°
- > Hold open angle: 80 – 110°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002
- > Finish: Silver coloured

Version	Cat. No.
 TS 5000 L set with guide rail	931.10.629
TS 5000 L set with guide rail and hold-open insert	931.10.639
TS 5000 L set set with T-Stop guide rail	931.11.259

Packing: 1 piece

 **Note:**  
T-stop guide rail should be used for all external installations

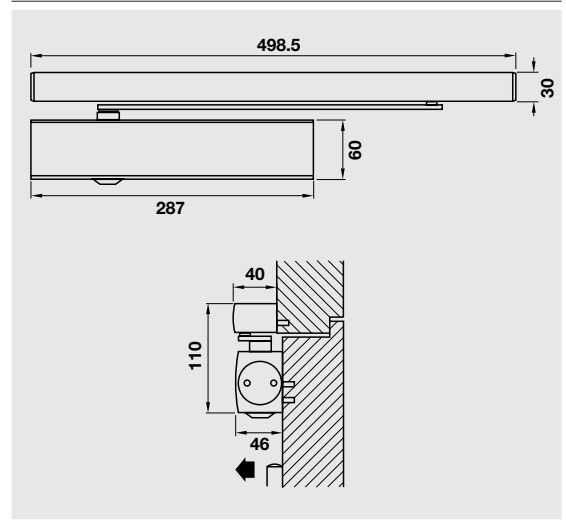
 **Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.


# OVERHEAD DOOR CLOSERS

## TS 5000 E

EN 2 - 6



- > Version: Supplied with electromechanical hold open function
- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on pull side
- > Closing force: 2 – 6 in compliance with EN 1154
- > Door width: <1,400 mm
- > Nominal voltage: 24 V DC  $\pm 10\%$
- > Connecting load: <100 mA
- > Degree of protection: IP 43 (for indoor use only)
- > Rated for continuous duty: 100%
- > Opening angle: <180°
- > Hold open angle: 80 – 130°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002 and EN 1155
- > Finish: Silver coloured

Version	Cat. No.
 TS 5000 E set with E guide rail	931.10.769
Packing: 1 piece	

** Fire resistance and smoke control**

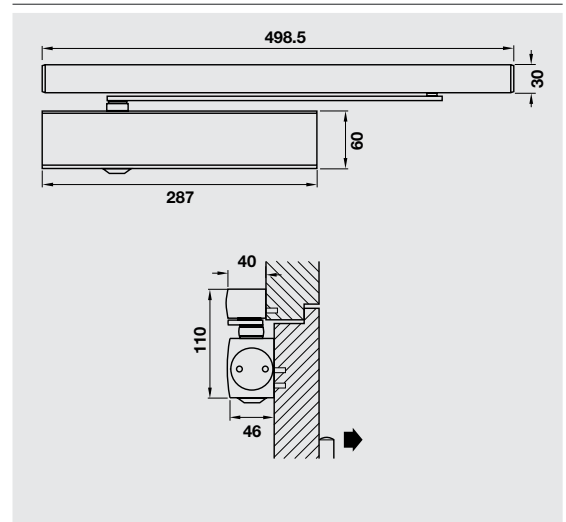
Tested for fire resistance and smoke control doors. Further information available upon request.




# OVERHEAD DOOR CLOSERS

**TS 5000 L-E**

EN 2 - 6



- > Version: Supplied with electromechanical hold open function
- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on push side
- > Closing force: 2 – 6 in compliance with EN 1154
- > Door width: <1,400 mm
- > Nominal voltage: 24 V DC
- > Connecting load: <100 mA
- > Degree of protection: IP 43 (for indoor use only)
- > Rated for continuous duty: 100%
- > Opening angle: <110°
- > Hold open angle: 80 – 130°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002 and EN 1155
- > Finish: Silver coloured

Version	Cat. No.
 TS 5000 L-E set with E guide rail	931.10.669

Packing: 1 piece



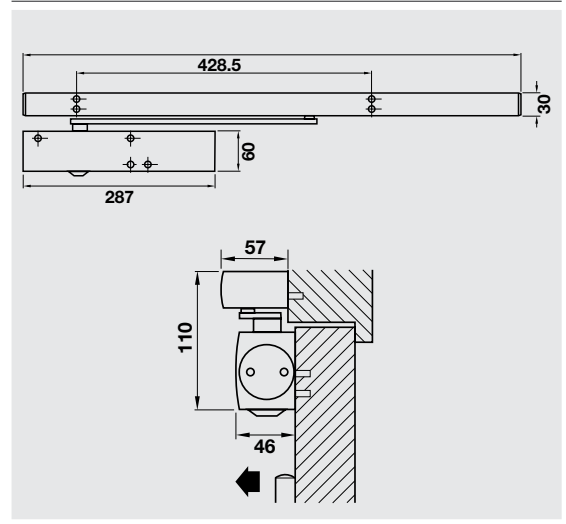
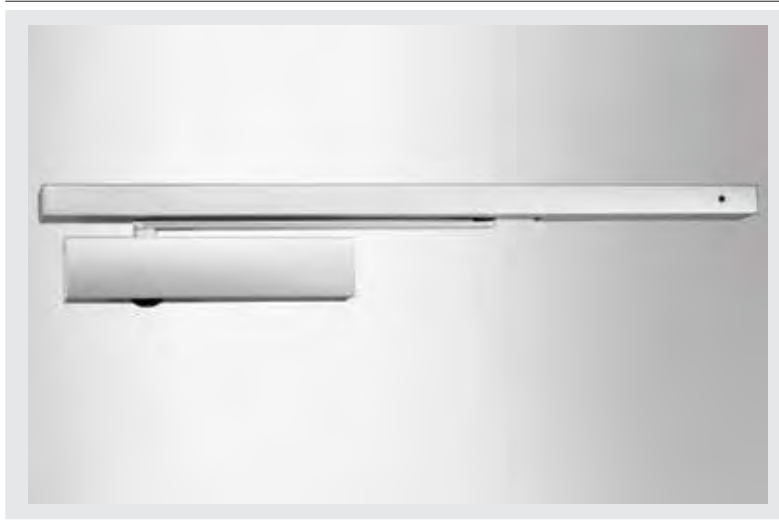
## Fire resistance and smoke control

Tested for fire resistance and smoke control doors. Further information available upon request.

# OVERHEAD DOOR CLOSERS

## TS 5000 R

EN 2 - 6



- > Version: Supplied with electromechanical hold open function, integrated central smoke switch unit, additional smoke alarms can be connected
- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on pull side
- > Closing force: 2 – 6 in compliance with EN 1154
- > Door width: <1,400 mm
- > Nominal voltage: 230 V AC
- > Connecting load: <200 mA
- > Degree of protection: IP 20
- > Opening angle: <180°
- > Hold open angle: 80 – 130°
- > Operating temperature range: 0 – +50 °C
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002 and EN 1155
- > Finish: Silver coloured

Version	Cat. No.
TS 5000 R set with R guide rail	931.10.789
Packing: 1 piece	

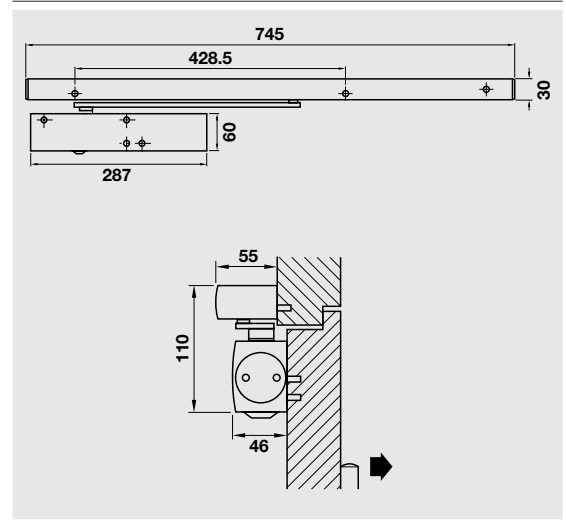
**Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.

# OVERHEAD DOOR CLOSERS

**TS 5000 L-R**

EN 2 - 6



- > Version: Supplied with electromechanical hold open function, integrated central smoke switch unit, additional smoke alarms can be connected
- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on push side
- > Closing force: 2 – 6 in compliance with EN 1154
- > Door width: <1,400 mm
- > Nominal voltage: 230 V AC
- > Connecting load: <230 mA
- > Degree of protection: IP 20
- > Opening angle: <110°
- > Hold open angle: 80 – 130°
- > Operating temperature range: -5 – +50 °C
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002 and EN 1155
- > Finish: Silver coloured

Version	Cat. No.
<span style="border: 1px solid red; padding: 2px;">F</span> TS 5000 L-R set with R guide rail	931.10.679
Packing: 1 piece	

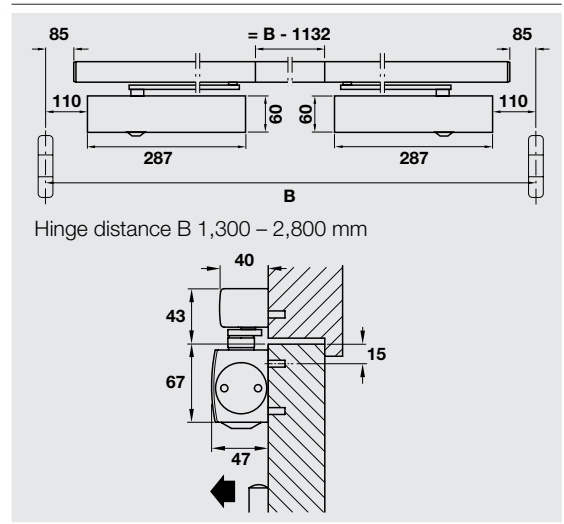

**Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.

# OVERHEAD DOOR CLOSERS

## TS 5000 ISM

EN 2 - 6



- > Area of application: For double doors
- > Version: Supplied with 2 closers and door coordinator (integrated in ISM guide rail)
- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on pull side
- > Closing force: 2 – 6 in compliance with EN 1154
- > For door width: B = 1,300 – 2,800 mm
- > Opening angle: <math><180^\circ</math>
- > Standard: Certified in compliance with EN 1154:1996/A1:2002 and EN 1158
- > Finish: Silver coloured

Version	Cat. No.
<div style="display: flex; align-items: center;"> <div style="width: 15px; height: 15px; background-color: red; color: white; text-align: center; line-height: 15px; font-size: 10px; margin-right: 5px;">F</div> <div>TS 5000 ISM set with ISM guide rail</div> </div>	931.11.759
Packing: 1 piece	

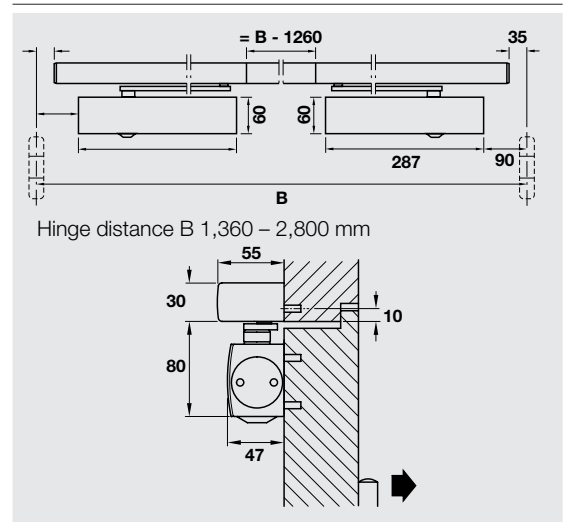
**F Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.

# OVERHEAD DOOR CLOSERS

TS 5000 L-ISM

EN 2 - 6



- > Area of application: For double doors
- > Version: Supplied with 2 basic closers and door coordinator (integrated in ISM guide rail)
- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on push side
- > Closing force: 2 – 6 in compliance with EN 1154
- > For door width: B = 1,360 – 2,800 mm
- > Opening angle: <math><120^\circ</math>
- > Standard: Certified in compliance with EN 1154:1996/A1:2002 and EN 1158
- > Finish: Silver coloured

Version	Cat. No.
TS 5000 L-ISM set with ISM guide rail	931.11.369
Packing: 1 piece	

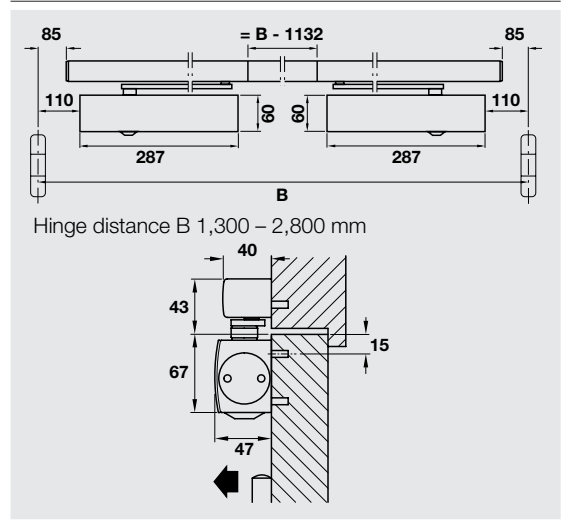
**Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.


# OVERHEAD DOOR CLOSERS

## TS 5000 E-ISM

EN 2 - 6



- > Area of application: For double doors
- > Version: Supplied with 2 closers and door coordinator (integrated in E-ISM guide rail) with electromechanical hold open function
- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on pull side
- > Closing force: 2 – 6 in compliance with EN 1154
- > For door width: B = 1,300 – 2,800 mm
- > Nominal voltage: 24 V DC ±15%
- > Connecting load: 2 x 100 mA
- > Degree of protection: IP 43 (for indoor use only)
- > Rated for continuous duty: 100%
- > Opening angle: <180°
- > Hold open angle: 80 – 130°
- > Standard: Certified in compliance with EN 1154:1996/A1:2002 and EN 1158
- > Finish: Silver coloured

Version	Cat. No.
 TS 5000 E-ISM with E-ISM guide rail	931.11.769

Packing: 1 piece

 **Fire resistance and smoke control**

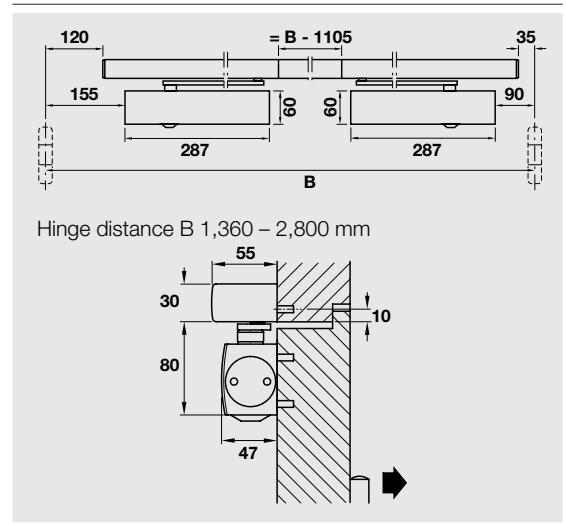
Tested for fire resistance and smoke control doors. Further information available upon request.




# OVERHEAD DOOR CLOSERS

TS 5000 L-E-ISM

EN 2 - 6



- > Area of application: For double doors
- > Version: Supplied with 2 closers and door coordinator (integrated in E-ISM guide rail) with electromechanical hold open function
- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on push side
- > Closing force: 2 – 6 in compliance with EN 1154
- > For door width:  $B = 1,360 - 2,800$  mm
- > Nominal voltage: 24 V DC  $\pm 15\%$
- > Connecting load: 2 x 100 mA
- > Degree of protection: IP 43 (for indoor use only)
- > Rated for continuous duty: 100%
- > Opening angle:  $< 110^\circ$
- > Hold open angle: 80 – 130°
- > Standard: Certified in compliance with EN 1154:1996/A1:2002 and EN 1158
- > Finish: Silver coloured

Version	Cat. No.
 TS 5000 L-E-ISM with E-ISM guide rail	931.11.329

Packing: 1 piece

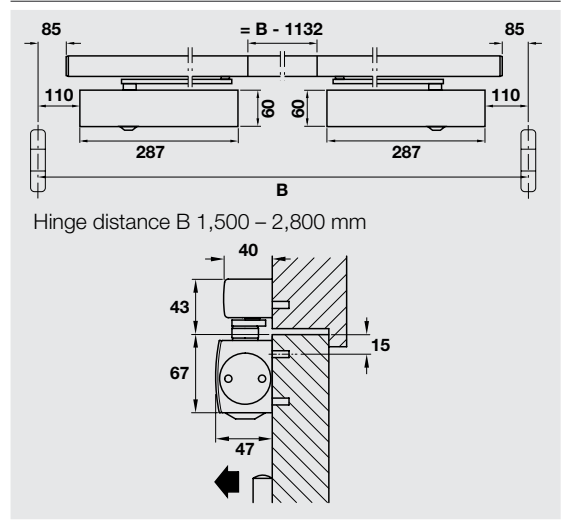
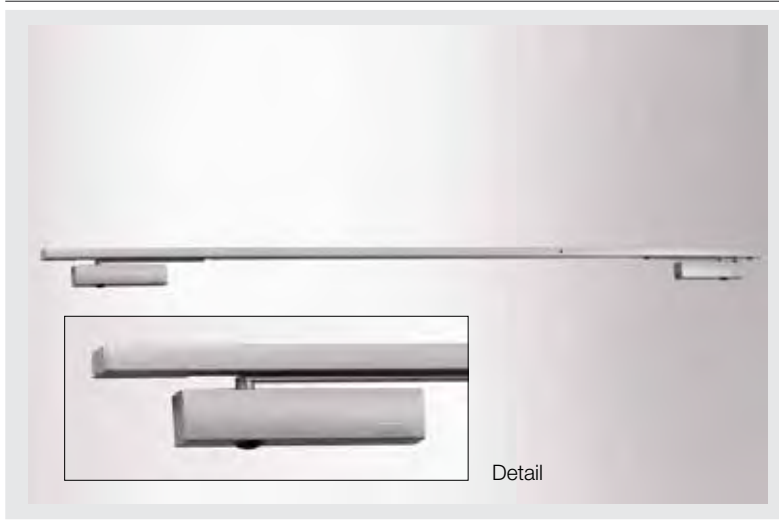
 **Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.


# OVERHEAD DOOR CLOSERS

## TS 5000 R-ISM

EN 2 - 6



- > Area of application: For double doors
- > Version: Supplied with 2 closers and door coordinator (integrated in R-ISM guide rail) with electromechanical hold open function and integrated central smoke switch unit. Additional smoke alarms can be connected
- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on the pull side
- > Closing force: 2 – 6 in compliance with EN 1154
- > For door width: B = 1,500 – 2,800 mm
- > Nominal voltage: 230 V AC
- > Connecting load: < 200 mA
- > Degree of protection: IP 20
- > Operating temperature range: 0 – + 50 °C
- > Opening angle: < 180°
- > Hold open angle: 80 – 130°
- > Standard: Certified in compliance with EN 1154:1996/A1:2002 and EN 1158
- > Finish: Silver coloured

Version	Cat. No.
 TS 5000 R-ISM with R-ISM guide rail	931.11.799

Packing: 1 piece

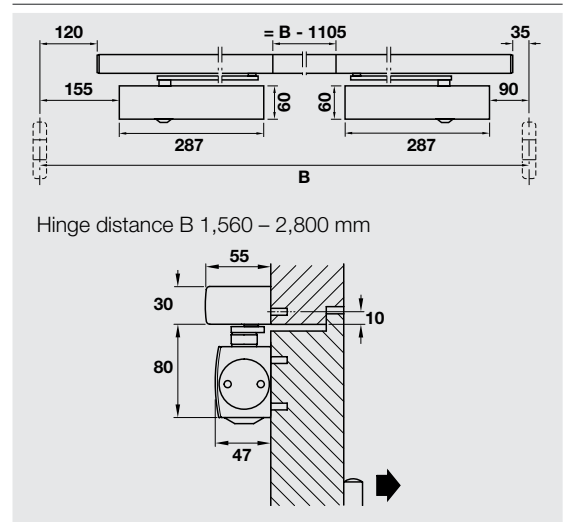
** Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.


# OVERHEAD DOOR CLOSERS

TS 5000 L-R-ISM

EN 2 - 6



- > Area of application: For double doors
- > Version: Supplied with 2 closers and door coordinator (integrated in R-ISM guide rail) with electromechanical hold open function and integrated central smoke switch unit, additional smoke alarms can be connected
- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on push side
- > Closing force: 2 – 6 in compliance with EN 1154
- > For door width:  $B = 1,560 - 2,800$  mm
- > Nominal voltage: 230 V AC
- > Connecting load: < 200 mA
- > Degree of protection: IP 20
- > Operating temperature range: 0 – +50 °C
- > Hold open angle: 80 – 130°
- > Opening angle: < 110°
- > Standard: Certified in compliance with EN 1154:1996/A1:2002 and EN 1158
- > Finish: Silver coloured

Version	Cat. No.
 TS 5000 L-R-ISM set with R-ISM guide rail	931.11.349

Packing: 1 piece

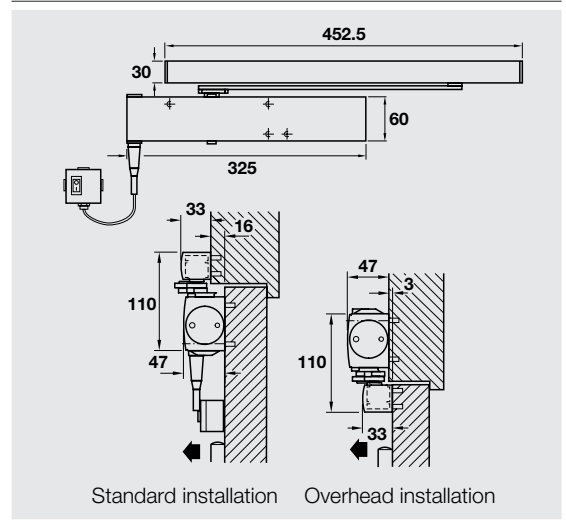
 **Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.



# OVERHEAD DOOR CLOSERS

## TS 5000 EFS

EN 2 - 5



- > Version: Supplied with free-swing function
- > Adjustment facility: Closing force, closing speed and latching action adjustable from the front
- > Installation: Suitable for standard or overhead installation on pull side
- > Closing force: 2 – 5 in compliance with EN 1154
- > Door width: <1,250 mm
- > Nominal voltage: 24 V DC
- > Opening angle: <180°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002 and EN 1155
- > Finish: Silver coloured

Version	Cat. No.
 TS 5000 EFS set with guide rail for standard installation	931.10.069
 TS 5000 EFS set with guide rail for overhead installation	931.10.079

Packing: 1 piece

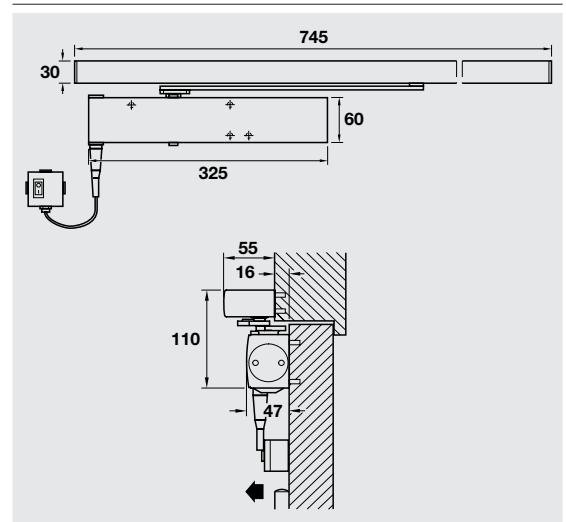
** Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.


# OVERHEAD DOOR CLOSERS

TS 5000 RFS

EN 2 - 5



- > Version: Supplied with integrated smoke detector with power supply unit, with free-swing function
- > Adjustment facility: Closing force, closing speed and latching action adjustable from the front
- > Installation: Suitable for standard installation on pull side
- > Closing force: 2 – 5 in compliance with EN 1154
- > Door width: <1,250 mm
- > Nominal voltage: 230V AC
- > Opening angle: <180°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002 and EN 1155
- > Finish: Silver coloured

Version	Cat. No.
 TS 5000 RFS set with guide rail for standard installation	931.10.059
Packing: 1 piece	

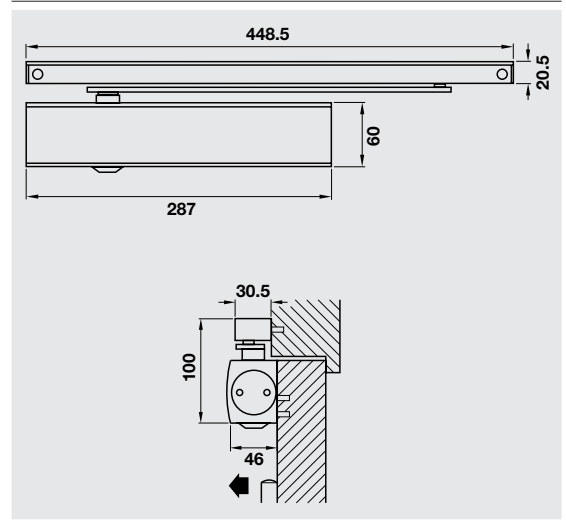
 **Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.


# OVERHEAD DOOR CLOSERS

## TS 5000 S

EN 2 - 6



- > Version: Supplied with delayed closing action
- > Adjustment facility: Closing force, closing speed, back check and latching action adjustable from the front
- > Installation: Suitable for standard installation on pull side
- > Closing force: 2 – 6 in compliance with EN 1154
- > Door width: <1,400
- > Opening angle: <180°
- > Hold open angle: 80 – 130°
- > Mounting: For DIN left hand and DIN right hand use
- > Delayed closing action: <30 seconds
- > Standard: Certified in compliance with EN 1154:1996/A1:2002
- > Finish: Silver coloured

	Version	Cat. No.
	TS 5000 S set with guide rail	931.11.859
	TS 5000 S set with guide rail and hold-open insert	931.11.899

Packing: 1 piece

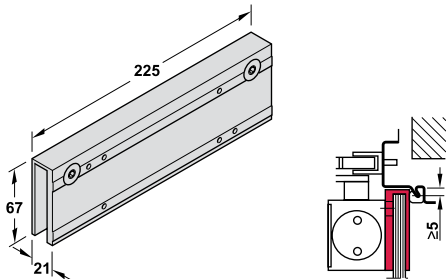
 **Fire resistance and smoke control**

Tested for fire resistance and smoke control doors. Further information available upon request.

# ACCESSORIES

## CLAMPING PLATES FOR FRAMELESS GLASS DOORS

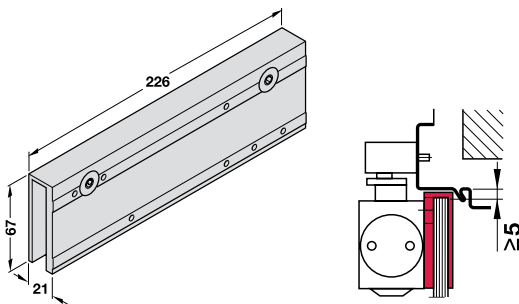
For TS 2000



- > Area of application: For mounting door closer to all-glass doors
- > For glass thickness: 8 – 10 mm

Finish	Cat. No.
Silver Coloured	931.16.379
Packing: 1 piece	

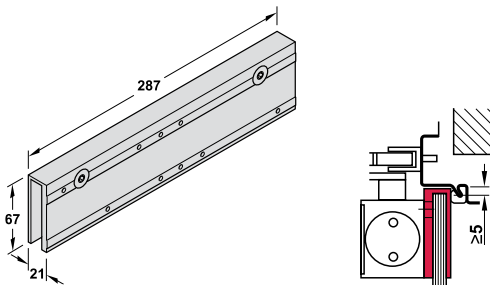
For TS 3000



- > Area of application: For mounting door closer to all-glass doors
- > For glass thickness: 10 mm

Finish	Cat. No.
Silver Coloured	931.10.509
Packing: 1 piece	

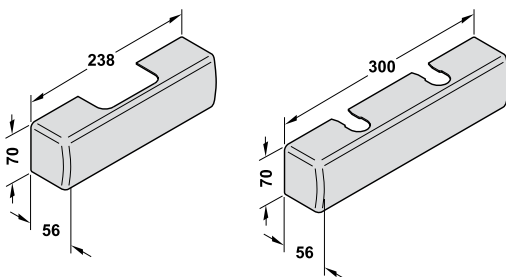
For TS 4000 and TS 5000



- > Area of application: For mounting door closer to all-glass doors
- > For glass thickness: 8 – 10 mm

Finish	Cat. No.
Silver Coloured	931.16.319
Packing: 1 piece	

## COVER CAP FOR TS 5000 / TS 4000 / TS 3000 / TS 2000



- > Area of application: Cover cap for basic closer

To suit door closer	Silver coloured	Stainless steel coloured	Dark bronze	Brass coloured	White, RAL 9016
TS 2000 / TS 3000	931.10.429	931.10.420	931.10.421	931.10.428	931.10.427
TS 4000 / TS 5000	931.10.409	931.10.400	931.10.401	931.10.408	931.10.407

Packing: 1 piece



## 360° PROJECT SERVICE

### HELPING YOU PUT THE PIECES TOGETHER

It takes time to complete a new building and carry out the work that is subsequently required. Planning, tendering and order placement, order processing and the post-handover phase each have their own requirements.

Based on specific market demands and with a background of over 90 years experience worldwide, Häfele's 360° Project Service represents a portfolio of services that can meet these needs.

A comprehensive service on the one hand and an extensive range of Architectural Hardware and Furniture Fittings on the other, effectively relieves the pressure on Property Developers, Architects, Planners and Processing Companies. The wide range of services means that the customer has a single contact for all phases of the project.

This is not just convenient, but also ensures the construction decisions that have been made are consistently implemented, and the interests of all parties involved are looked after from the planning phase to the completion of the project.

### ORDER PROCESSING & HANDOVER

Häfele coordinates and monitors all deadlines and logistical services over the entire construction period. This is made possible because of our individual construction site logistics and just-in-time delivery capability, which Häfele provides with its global sales network and state-of-the-art logistics centres.

Integrated project coordination until handover ensures that the standard of all construction work is consistently high, and guarantees adherence to the defined interests of Property Developers, Architects and Planners throughout all phases of a project.

### COMPETENCE IN PROJECT SUPPORT & SERVICES

During the course of planning, 360° Project Service provides assistance with the creation of detailed planning manuals, tailored seminars addressing specific topics, tendering texts, application examples, CAD files and other planning and support such as mounting instructions, available at [www.hafele.com.au](http://www.hafele.com.au)

However, planning also means: calculating, evaluating and comparing. One of the objectives of project advice is to look for and find the best individual solution for the project. This includes not just in depth requirement analysis, but also consistent brand and manufacturer-independent advice.

Häfele's enthusiastic and qualified design consultants can assist with integrated and coordinated hardware selection and prepare clear and precise door schedules according to specific project requirements.

A central pillar of this service offering is manufacturer independent advice on Architectural and Furniture Hardware. Häfele's specification team are competent, solution oriented partners for architects, builders, investors, specialists, consultants and general contractors. In addition, Häfele also offers extensive support in all phases of the project development. For example, specialized planning aids facilitate the development and implementation of electronic access control systems, lighting concepts in furniture and furnishings, as well as sliding door solutions.



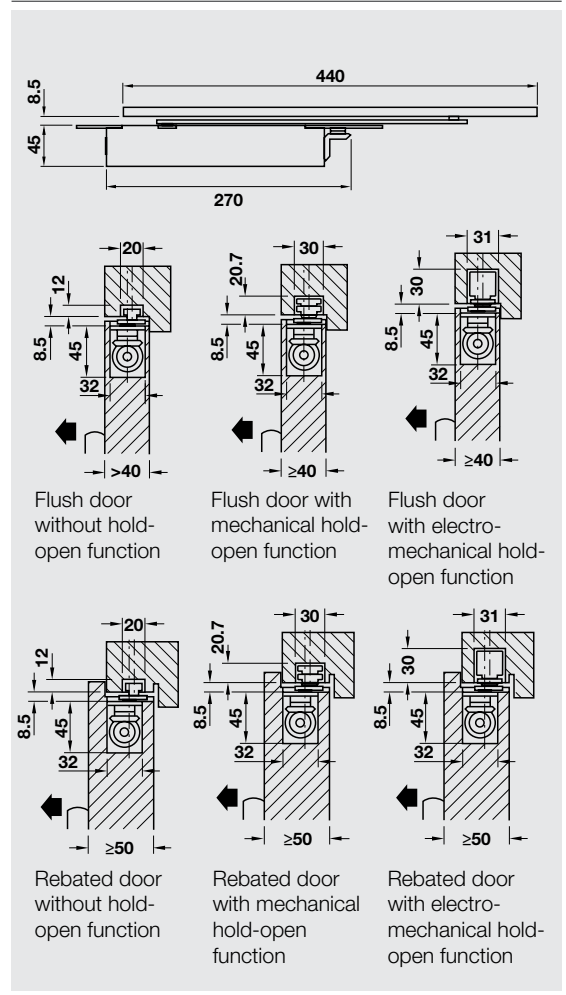


CONCEALED  
DOOR CLOSERS

# CONCEALED DOOR CLOSERS

## BOXER I

EN 2 - 4



- > Area of application: Door closer and guide rail for concealed installation in door
- > Version: With mechanical, electromechanical or without hold open function
- > Adjustment facility: Closing force and closing speed continuously adjustable, latching action hydraulically adjustable, hydraulic backcheck adjustable
- > Closing force: 2 – 4 in compliance with EN 1154
- > For door thickness: >40 mm
- > Door width: <1,100 mm
- > Max. door weight: 130 kg
- > Opening angle: <120°
- > Hold open angle: 80 – 120°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002
- > Finish: Silver coloured

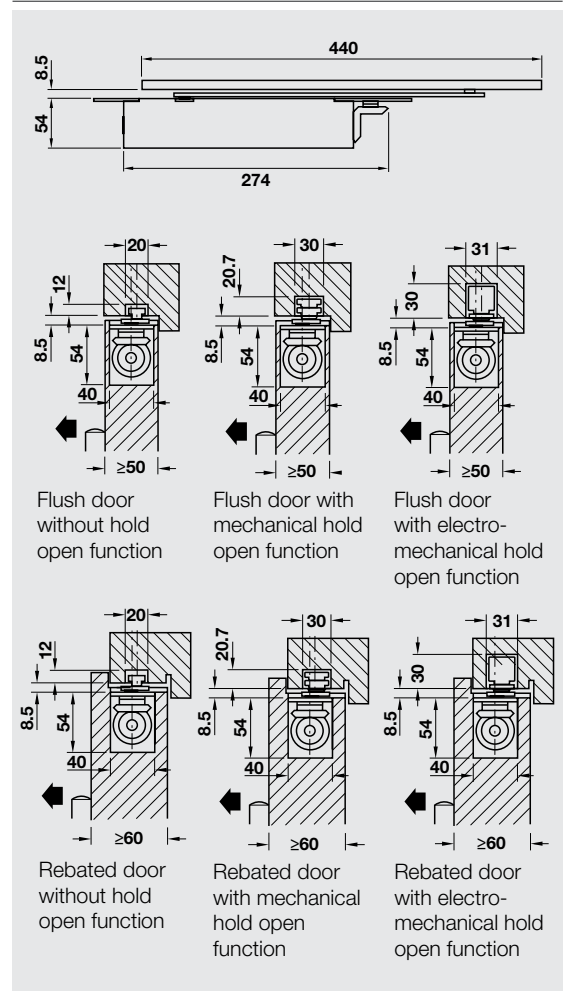
Version	Cat. No.
Boxer I set with guide rail	931.14.689
Boxer I set with guide rail and hold-open insert	931.15.009
Boxer I set with guide rail and electromechanical hold-open function	931.14.529

Packing: 1 piece

# CONCEALED DOOR CLOSERS

## BOXER II

EN 3 - 6



- > Area of application: Door closer and guide rail for concealed installation in door
- > Version: With mechanical, electromechanical or without hold-open function
- > Adjustment facility: Closing force and closing speed continuously adjustable, latching action hydraulically adjustable, hydraulic backcheck adjustable
- > Closing force: 3 – 6 in compliance with EN 1154
- > For door thickness: >50 mm
- > Door width: <1,400 mm
- > Max. door weight: 180 kg
- > Opening angle: <120°
- > Hold open angle: 80 – 120°
- > Mounting: For DIN left hand and DIN right hand use
- > Standard: Certified in compliance with EN 1154:1996/A1:2002
- > Finish: Silver coloured

### Version

Boxer II set with guide rail

Boxer II set with guide rail and hold-open insert

Boxer II set with guide rail and electromechanical hold-open function

### Cat. No.

931.14.699

931.15.019

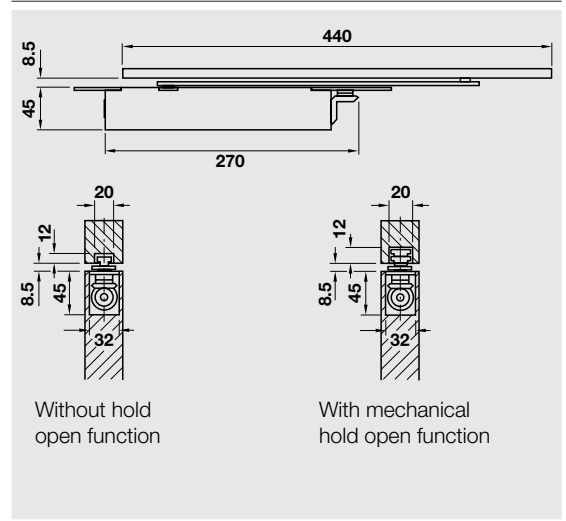
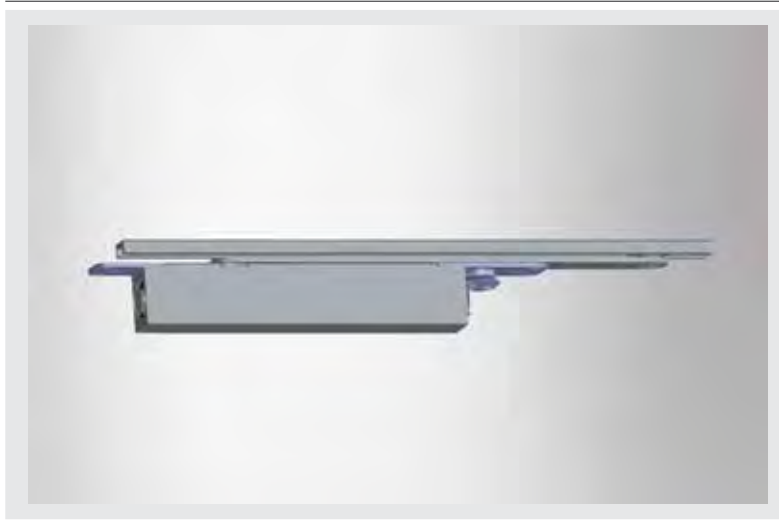
931.14.559

Packing: 1 piece

# CONCEALED DOOR CLOSERS

## BOXER P

EN 2 - 4



- > Area of application: For double action doors, door closer and guide rail for concealed installation in door
- > Version: With mechanical, electromechanical or without hold-open function
- > Adjustment facility: Closing force, latching action, hydraulic backcheck and closing speed continuously adjustable
- > Closing force: 2 – 4 in compliance with EN 1154
- > For door thickness: >40 mm
- > Door width: <1,100 mm
- > Max. door weight: 80 kg
- > Opening angle: <120°
- > Hold open angle: 80 – 120°
- > Standard: Certified in compliance with EN 1154:1996/A1:2002
- > Finish: Silver coloured

Version	Cat. No.
Boxer P set with guide rail	931.14.789
Boxer P set with guide rail and mechanical hold-open function	931.15.029

Packing: 1 piece

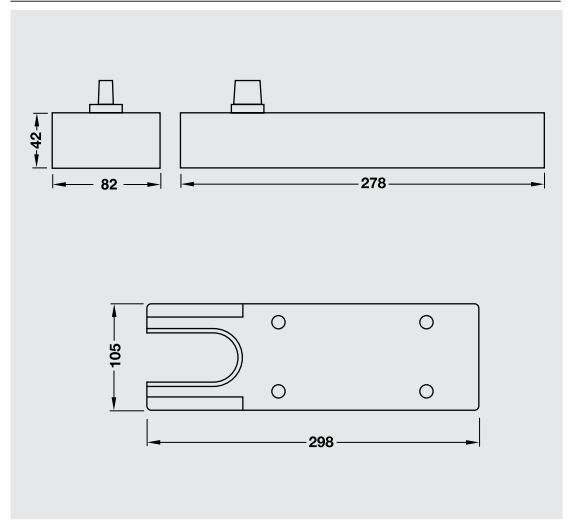


## FLOOR SPRINGS

# FLOOR SPRINGS

## TS 500 NV

EN 1 - 4



- > Area of application: For single action and double action doors
- > Version: With fixed back check, with or without hold-open function, safety valve against overloading
- > Adjustment facility: Closing force, closing speed and latching action adjustable
- > Closing force: 1 – 4 in compliance with EN 1154
- > Door width: <1,100 mm
- > Door weight: <150 kg
- > Material thickness: 1 mm
- > Mounting: Edges can be broken off for single action doors for DIN left hand and DIN right hand use
- > Closing effect: From approx. 170°
- > Standard: Certified in compliance with EN 1154:1996/A1:2002
- > Finish: Stainless steel matt (cover plate)



**Note:**

- > Set contains floor springs and cover plate.
- > GEZE Sealing Compound must be used for all external installations or where moisture is present

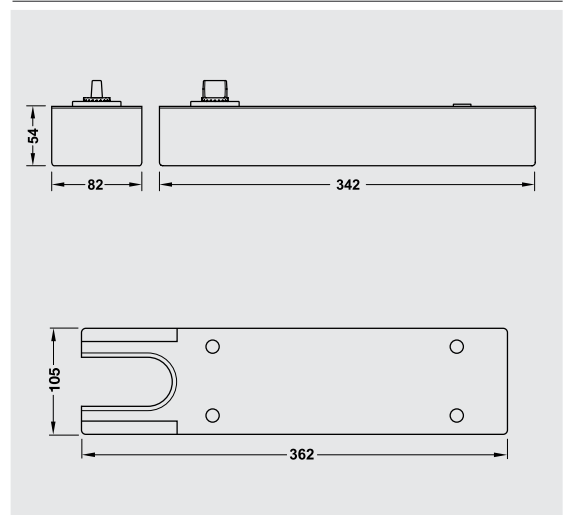
Version	Cat. No.
TS 500 NV set without hold-open function	932.10.047
TS 500 NV set with hold-open function (90° angle)	932.10.049

Packing: 1 set

# FLOOR SPRINGS

**TS 550 NV**

EN 3 - 6



- > Area of application: For single action and double action doors
- > Version: With fixed back check, with delayed action, with or without hold-open function, can be enabled or disabled, safety valve against overloading
- > Adjustment facility: Closing force, closing speed and latching action adjustable
- > Closing force: 3 – 6 in compliance with EN 1154
- > Door width: <1,400 mm
- > Door weight: <300 kg
- > Hold open angle: 85 - 165°
- > Material thickness: 1.5 mm
- > Mounting: Edges can be broken off for single action doors for DIN left hand and DIN right hand use
- > Closing effect: From approx. 170°
- > Standard: Certified in compliance with EN 1154:1996/A1:2002
- > Finish: Stainless steel matt (cover plate)


**Note:**

- > Set contains floor springs and cover plate.
- > GEZE Sealing Compound must be used for all external installations or where moisture is present

**Version**

TS 550 NV set

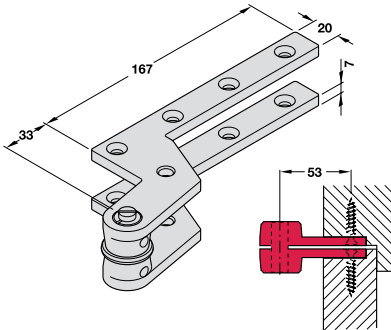
**Cat. No.**

932.10.054

Packing: 1 set

# ACCESSORIES

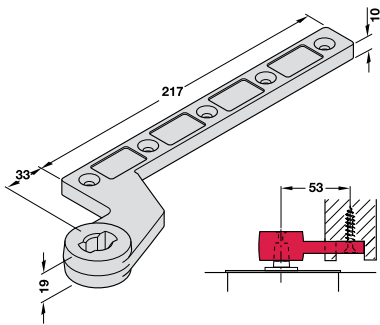
## Top pivot for single action doors



> Area of application:	For rebated and flush single action doors
> Material:	Steel
> Finish:	Galvanised

	<b>Cat. No.</b>
	932.10.420
Packing: 1 piece	

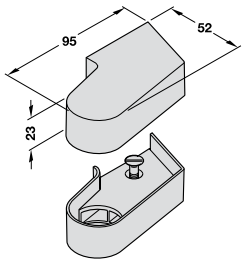
## Lower door strap for single action doors



> Area of application:	For welding to steel doors, for screw fixing to rebated and flush wooden doors or light metal doors
> Material:	Steel
> Finish:	Galvanised

	<b>Cat. No.</b>
	932.10.200
Packing: 1 piece	

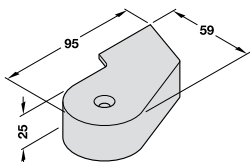
## Top pivot cover cap



> Area of application:	For flush doors
> Material:	Aluminium
> Finish:	Silver coloured

	<b>Cat. No.</b>
	932.10.529
Packing: 1 pair	

## Lower door strap cover cap

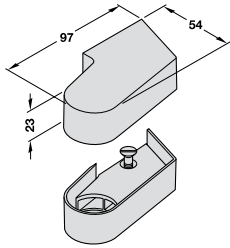


> Area of application:	For flush doors
> Material:	Aluminium
> Finish:	Silver coloured

	<b>Cat. No.</b>
DIN left	932.10.519
DIN right	932.10.509
Packing: 1 piece	



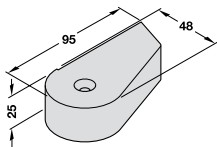
## Top pivot cover cap



- > Area of application: For rebated doors
- > Material: Aluminium
- > Finish: Silver coloured

	Cat. No.
DIN left	932.10.569
DIN right	932.10.559
Packing: 1 pair	

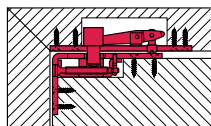
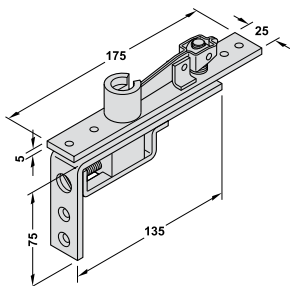
## Lower door strap cover cap



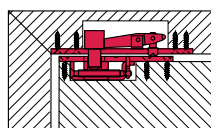
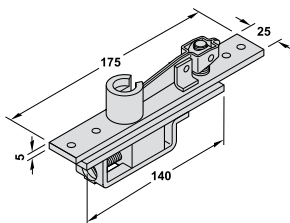
- > Area of application: For rebated doors
- > Material: Aluminium
- > Finish: Silver coloured

	Cat. No.
DIN left	932.10.549
DIN right	932.10.539
Packing: 1 piece	

## Adjustable double action top pivot for double action doors



Double action top pivot with angle

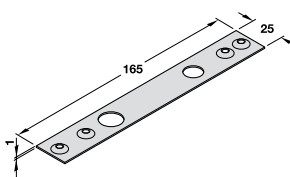


Double action top pivot without angle

- > Version: Adjustable, with or without angle (optional)
- > Material: Stainless Steel
- > Finish: Brushed

	Cat. No.
Double action top pivot with angle	932.10.400
Double action top pivot without angle	932.10.410
Packing: 1 piece	

## Adjustable top pivot cover plate

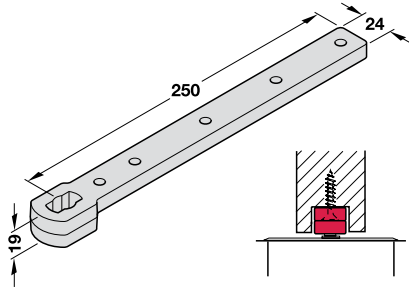


- > Material: Steel
- > Finish: Galvanised

	Cat. No.
	932.10.589
Packing: 1 piece	

# ACCESSORIES

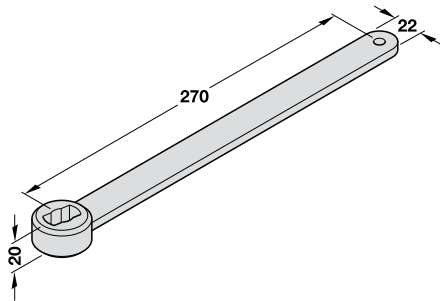
Door strap for double action doors



> Material:	Steel
> Finish:	Galvanised

	<b>Cat. No.</b>
	932.10.270
Packing: 1 piece	

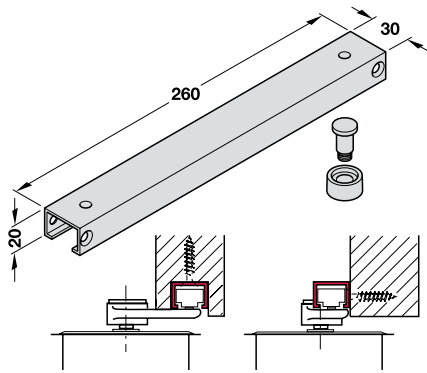
Double action bottom strap



> Area of application:	For doors with bearing hinges
> Material:	Steel
> Finish:	Galvanised

	<b>Cat. No.</b>
	932.10.440
Packing: 1 piece	

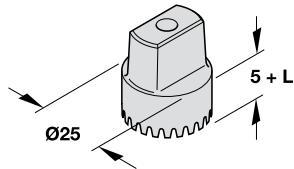
Guide rail



> Area of application:	For double action bottom strap, for doors with bearing hinges
> Material:	Steel
> Finish:	Galvanised

	<b>Cat. No.</b>
	932.10.430
Packing: 1 piece	

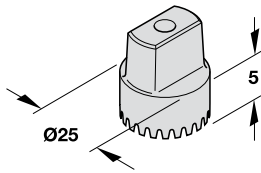
Spindle extensions for floor springs



> Features:	To increase the floor clearance (i.e. for doors with thresholds or floors fitted with carpets) With radial serrations
> Mounting:	Suitable for DIN right hand and DIN left hand

Length (L) mm	Cat. No.
5	932.10.700
10	932.10.703
15	932.10.705
20	932.10.706
25	932.10.707
Packing: 1 piece	

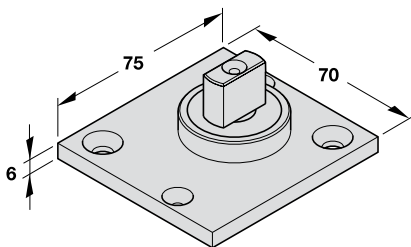
## 5° Offset spindle for floor springs



> Features: Provides a preload pressure to hold door in closed position

	Cat. No.
Left Hand	932.10.770
Right Hand	932.10.771
Packing: 1 piece	

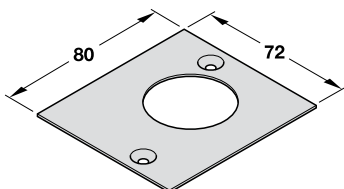
## TS 137B Pivot bearing with flat conical axle



> Max. door leaf weight (kg): 250

Finish	Cat. No.
Brushed Stainless Steel	932.10.601
Packing: 1 piece	

## TS 137B Cover plate



Finish	Cat. No.
Brushed Stainless Steel	932.10.602
Packing: 1 piece	

## Sealing Compound



> Features: Low viscous, 2-part reactive resin to be used for sealing gaps between floor spring and installation box  
 > Area of application: For use with external or wet area applications

	Cat. No.
	932.10.310
Packing: 1 piece (0.4kg)	

### Note:

> GEZE Sealing Compound must be used for all external installations or where moisture is present

# AUTOMATIC SWING DOORS



EMD-F



EMD



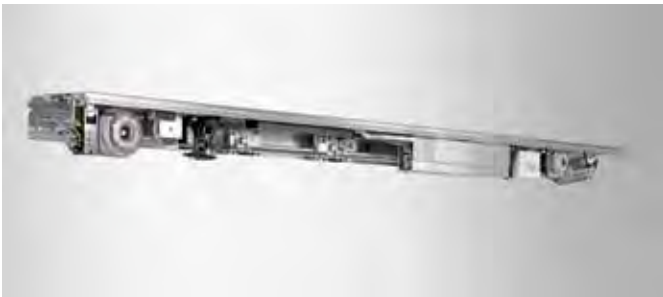
EC-Turn



Powerturn

- > GEZE offer a comprehensive range of electronically operated swing door mechanisms to suit all commercial and residential applications.
- > GEZE automatic swing door mechanisms are designed specifically for large and heavy doors, and also to provide maximum accessibility and increased safety.
- > Please contact your local Häfele sales office for further details on the GEZE automatic swing door product range.

# AUTOMATIC SLIDING DOORS



EC Drive



Slim Drive



Power Drive

- > GEZE offer a comprehensive range of sliding doors are space saving, elegant and modern.
- > The large number of variations available in the GEZE automatic sliding door product range, means that the perfect system can be provided for every application - large or small, commercial or residential.
- > Please contact your local Häfele sales office for further details on the GEZE automatic sliding door product range.



# PROJECT REFERENCES

A wide range of projects in many different categories, qualities and equipment have successfully utilised GEZE door technology both in Australia and abroad. You can request project references in your area from Häfele at any time.



Burj Al Arab, Dubai, UAE



BMW Museum, Munich, Germany



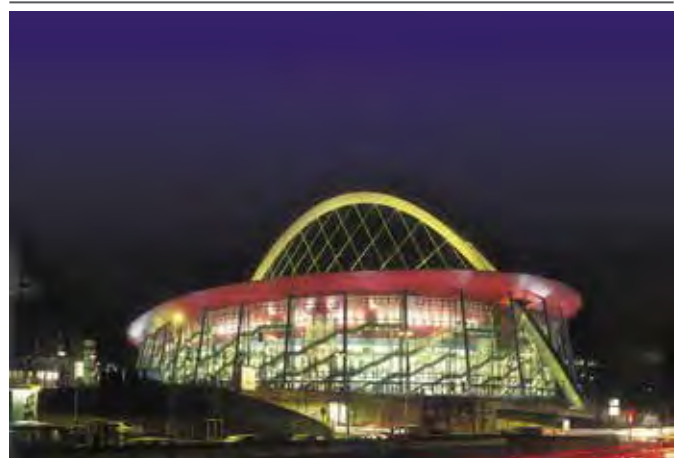
Palacio de las Artes, Valencia, Spain



Vienna University of Economics and Business, Vienna, Austria



Neuer Zollhof, Dusseldorf, Germany



Cologne Arena, Cologne, Germany

## DOOR WEIGHT CALCULATION GUIDE



### Note

Please refer to the Building Code and relevant Australian Standards for Glass to determine suitable glass type and maximum permissible size for each individual application. The information on this page is a guide only.

### Softwoods and Hardwoods

Standard doors 2040 mm high x 35 mm thick		
Width (mm)	Hollow core (kg)	Solid core (kg)
620	11.8	22.8
720	13.0	31.6
770	14.0	33.8
820	14.8	36.0
870	15.0	38.2

### Softwoods and Hardwoods

Seasoned weight:	kg/m3
Blackbutt	930
Brush Box	930
Canada Pine	460
Douglas Fir (Oregon)	480/ 560
Hoop Pine	540
Pacific Maple (Meranti)	450/ 720
Radiata Pine	480
Red Cedar	420
Red Mahogany	500
Redwood	450
Spotted Gum	930
Sydney Blue Gum	910
Tallowwood	990
Tasmanian Oak	680
Turpentine	910
Western Red Cedar	370
White Cypress Pine	690

### Ply, Hardboard, Wallboards, MDF etc.

Type	Thickness (mm)	kg/m2
Plywood	4.5	2.50
Hardwood	3.0	3.30
Wallboard - Plaster	10.0	6.70
	13.0	8.50
Fibre Cement	6.0	11.00
	9.0	17.00
	12.0	22.50
Medium Density Fibreboard (MDF)	6.0	4.80
	9.0	7.20
	12.0	9.40
	16.0	12.60
	18.0	13.88
	25.0	19.30
	32.0	25.10
40.0	27.00	

### Aluminium

Type	Thickness (mm)	kg/m2
Sheet	1.2	3.71
	1.6	4.88
	2.0	6.20

### Steel

Type	Thickness (mm)	kg/m2
Steel Sheet	0.5	3.93
	1.0	7.85
	2.0	15.70
	3.0	23.55
Steel Cladding	0.5	5.03
	0.7	6.90
	0.9	8.82
Expanded 10 mm mesh	0.6	1.61

### Various Materials

Type	kg/m3
Brass	8,410
Expanded Polystyrene	16
Lead	11,422
Marble	2,723

### Solid Timbers

Type	Thickness (mm)	kg/m2
Oak	16	10.88
	19	12.92
Pine	16	8.80
	19	10.50
Teak	16	9.92
	19	11.80

### Laminex Structural MR, Lamiwood and Vertiboard

Type	Thickness (mm)	kg/m2
<b>Structural MR</b>	18	14.32
	25	20.04
	33	26.88
<b>Lamiwood</b>	5	4.86
	9	7.44
	12	9.82
	16	13.08
	18	14.32
	25	20.04
	32	26.06
	35	26.49
<b>Vertiboard</b>	10	8.14
	13	10.48
	16	12.90
	18	14.11
	25	19.75
	35	26.49

### Glass

Type	Thickness (mm)	kg/m2
Glass	4	10
	6	15
	8	20
	10	25
	12	30
	15	37.5
	19	47.5

# SLIDING AND FOLDING

ERGONOMICS, EFFICIENCY AND AESTHETICS.  
WE SIMPLY CALL IT FUNCTIONALITY.



The 2014 Häfele Sliding and Folding catalogue for Furniture and Buildings contains the very latest ergonomic, efficient and aesthetically pleasing sliding and folding door solutions available from Häfele for you, the architect, the developer, investor, builder or installer.

With solutions for timber, glass or framed doors, there is a new design freedom that can be found within these pages to make your next project exciting and successful.

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# NUMERICAL INDEX

## 931.

931.10.059.....	31
931.10.069.....	30
931.10.079.....	30
931.10.400.....	33
931.10.401.....	33
931.10.407.....	33
931.10.408.....	33
931.10.409.....	33
931.10.420.....	33
931.10.421.....	33
931.10.427.....	33
931.10.428.....	33
931.10.429.....	33
931.10.509.....	33
931.10.609.....	18
931.10.619.....	18
931.10.629.....	19
931.10.639.....	19
931.10.669.....	21
931.10.679.....	23
931.10.699.....	14
931.10.709.....	14
931.10.769.....	20
931.10.789.....	22
931.10.899.....	14
931.11.249.....	18
931.11.259.....	19
931.11.329.....	27
931.11.349.....	29
931.11.369.....	25
931.11.759.....	24
931.11.769.....	26
931.11.799.....	28
931.11.859.....	32
931.11.899.....	32
931.14.529.....	36
931.14.559.....	37
931.14.689.....	36
931.14.699.....	37
931.14.789.....	38
931.15.009.....	36
931.15.019.....	37
931.15.029.....	38
931.16.269.....	12
931.16.279.....	12
931.16.289.....	13
931.16.299.....	13

931.16.319.....	33
931.16.329.....	10
931.16.329.....	12
931.16.329.....	15
931.16.379.....	33
931.16.559.....	17
931.16.579.....	15
931.16.589.....	15
931.17.149.....	10
931.17.159.....	10
931.17.169.....	11
931.17.179.....	11
931.17.189.....	16
931.17.199.....	16

## 932.

932.10.047.....	40
932.10.049.....	40
932.10.054.....	41
932.10.200.....	42
932.10.270.....	44
932.10.310.....	45
932.10.400.....	43
932.10.410.....	43
932.10.420.....	42
932.10.430.....	44
932.10.440.....	44
932.10.509.....	42
932.10.519.....	42
932.10.529.....	42
932.10.539.....	43
932.10.549.....	43
932.10.559.....	43
932.10.569.....	43
932.10.589.....	43
932.10.601.....	45
932.10.602.....	45
932.10.700.....	44
932.10.703.....	44
932.10.705.....	44
932.10.706.....	44
932.10.707.....	44
932.10.770.....	45
932.10.771.....	45

Dimensions in mm Dimensional data not binding. We reserve the right to alter specifications without notice

# HÄFELE

732.04.692 - GEZE DOOR TECHNOLOGY - 08.2015

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