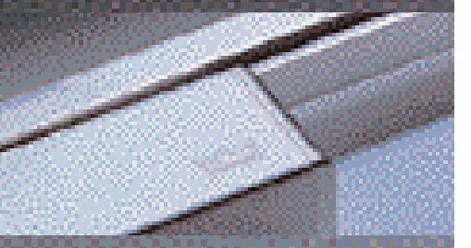
Getting your ideas into shape

Doors – often taken for granted by their users, but for architects they constitute an important design element. And for DORMA they represent a constant challenge. Aesthetic elegance, functionality, durability and preventive fire protection are just some of the parameters to which we apply our innovative efforts and expertise. Under the Door Control umbrella you will find the subsegments Door Closers and Door Control Systems, Door Furniture and Fittings, and DORMA Locks providing comprehensive capabilities that truly circle the door. DORMA Door Control is thus able to offer a reliable single-source solution in architectural door hardware as your project partner. We can support you right around the world in the realisation of your creative ideas - with technically sophisticated and cost-effective solutions and specifications combined with significant scope for design variation.

Differing requirements, a common objective

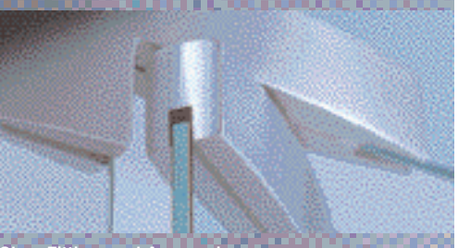
Knowing the market and understanding needs, incorporating and translating them into practical measures – DORMA applies a high level of system competence to meet these requirements. DORMA's unparalleled range of products and services allows the company to offer you everything you would expect from a competent solutions provider that "circles the door".

The five divisions, Door Control, Automatic, Glass Fittings and Accessories, Security/Time and Access (STA) and Movable Walls, are coordinated with one another in such a way that they provide architects and planners with greater design freedom in methodical project planning and realisation – with innovations taking the lead and always with an eye on the harmonious interaction of functionality and design. Shape your future with DORMA.



Door Control

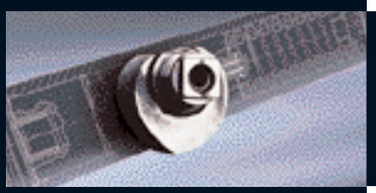
Automatic



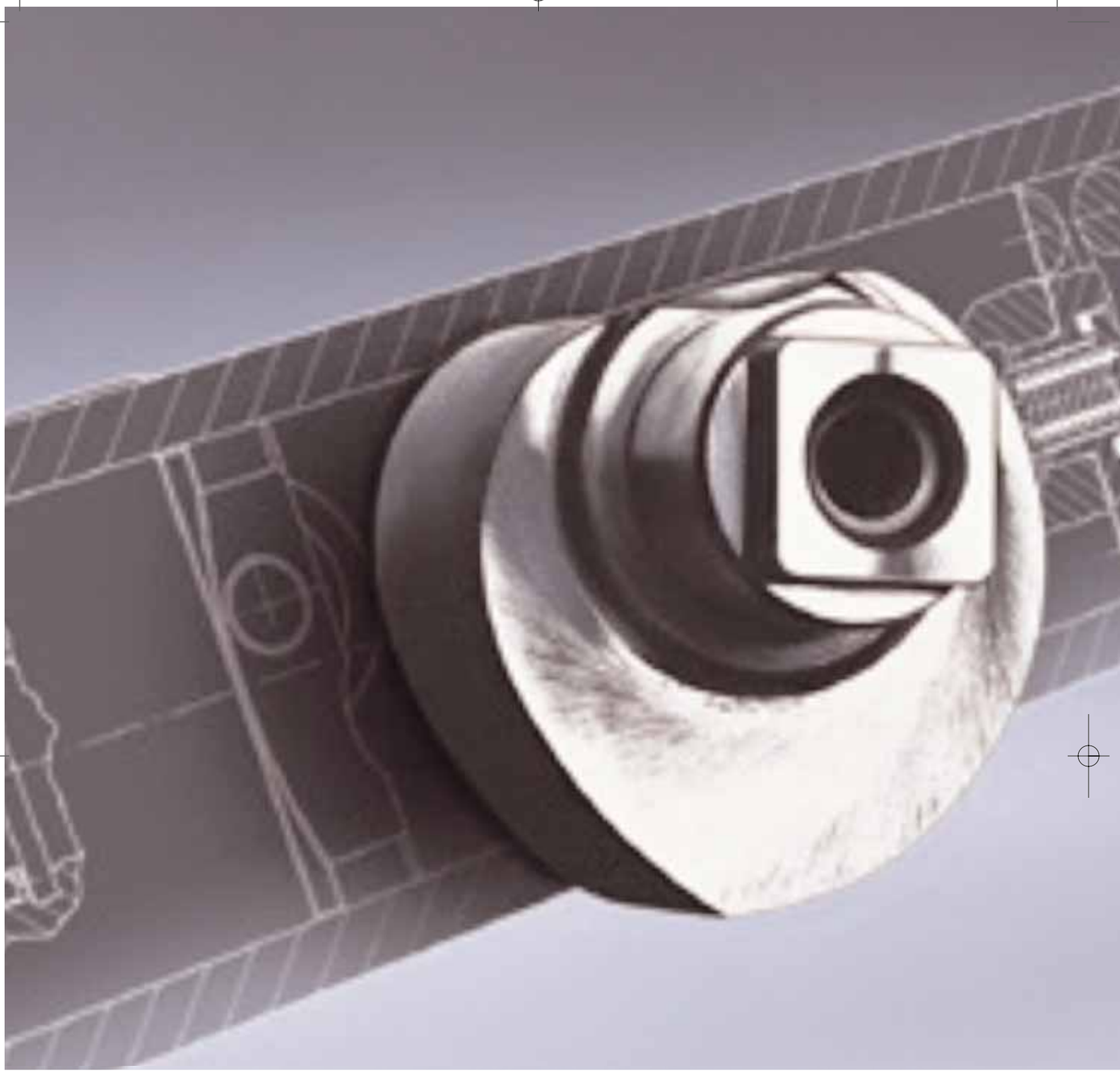
Glass Fittings and Accessories

Security/Time and Access (STA)

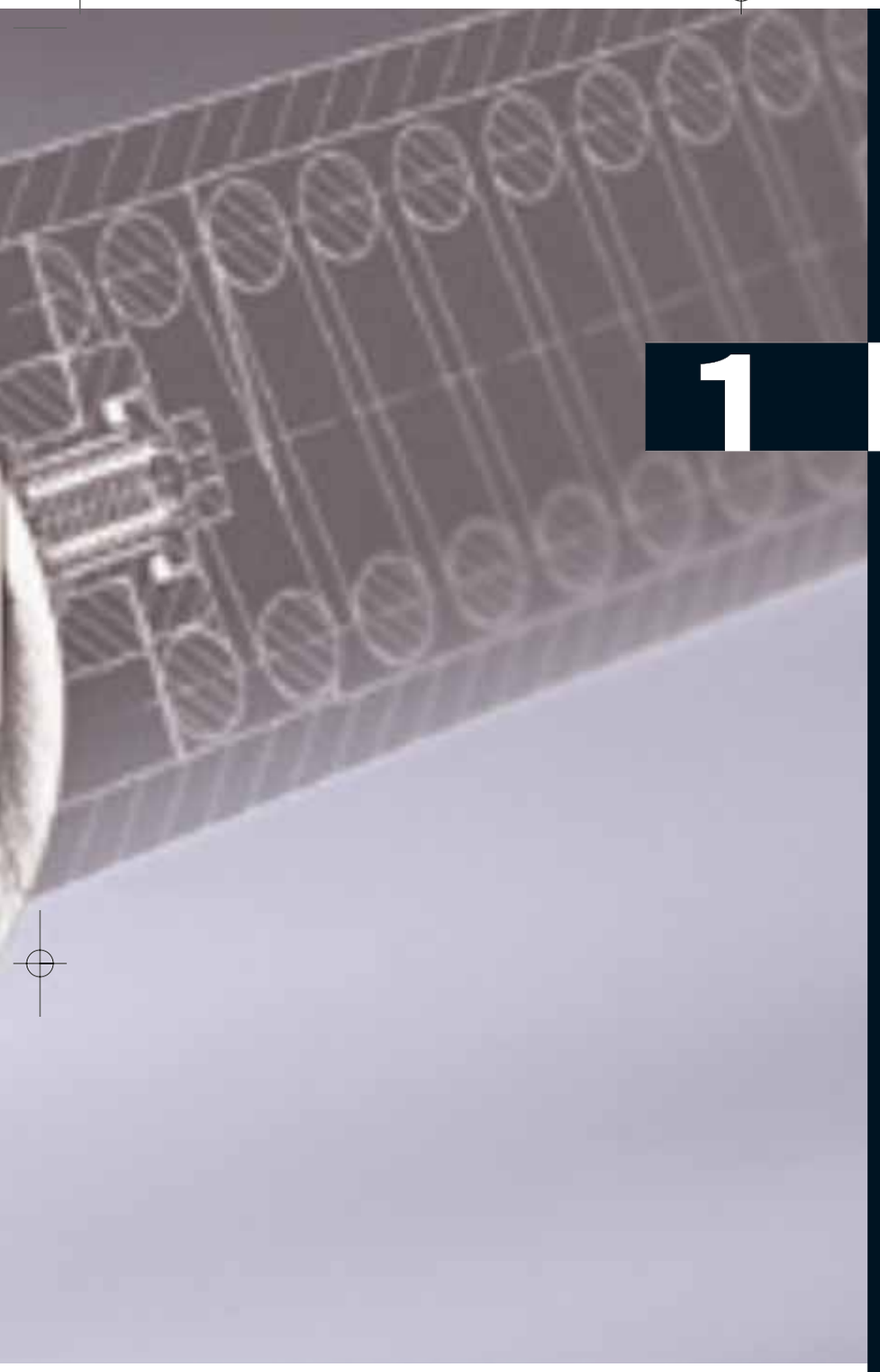
Movable Walls



DORMA



Door Closers and Door Control Systems



1

4–61

A full range of solutions

Whatever the demands made on doors, DORMA is able to satisfy them with a broad spectrum of door closers and door control systems. Moreover, the DORMA portfolio allows not just one solution but rather a number of equally viable alternatives.

DORMA door closers and door control systems really do set the standards in terms of technological excellence, range of functions, design elegance and installation flexibility enhanced by wide-ranging adjustment possibilities. The outstanding functional reliability and service life of these systems are underpinned by a certified and regularly audited quality management system to ISO 9001.

Finishes

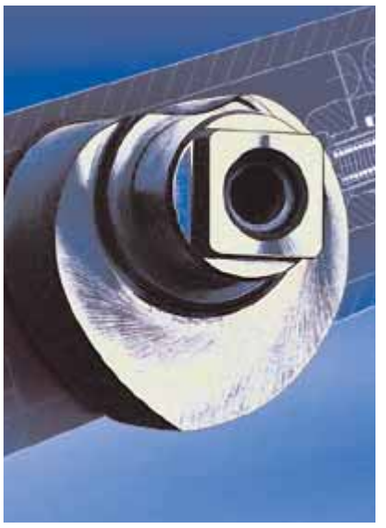
DORMA overhead door closers, RMZ-K, RMZ-S and RMZ 2 lintel-mounted smoke detectors and RM ceiling-mounted smoke detectors are available in
– Silver
– White (sim. to RAL 9016)
– White (sim. to RAL 9010)
– Special colours

The DORMA TS 93 system, TS 92, RMZ-K/S, RMZ 2 and RM smoke detectors are also available in
– stainless steel finish
– polished brass

Floor spring cover plates are available in
– satin-brushed stainless steel
– satin-brushed brass

	Cam action door closers with slide channels					
	concealed DORMA ITS 96 System	DORMA TS 93 System	DORMA TS 99 FLR TS 99 FL	DORMA TS 92	DORMA TS 91	
Applications and functions						
Standard doors Width (mm)						
≤ 950 mm					●	
≤ 1100 mm	●		●	●		
≤ 1250 mm		●				
≤ 1400 mm	●					
≤ 1600 mm		●				
Double action doors						
External doors, outward opening		●				
Fire and smoke check doors						
Free-swing function			●			
Single-leaf	●	●		●	●	
Single-leaf with electro-magnetic hold-open	●	●	●	●	●	
Double-leaf	●	●		●	●	
Double-leaf with electro-magnetic hold-open	●	●		●	●	
Functions						
Closing force	**EN 2–4, 3–6**	**EN 2–5, 5–7**	**EN 4**	**EN 2–4**	**EN 3**	
Adjustable closing force	●	●		●		
Adjustable closing speed	●	●	●	●	●	
Adjustable latching action	●	●				
2nd closing range from 15° to 0°				●	●	
Non-handed model for RH (ISO 5) and LH (ISO 6)	●	●	●	●	●	
Hold-open (not for fire and smoke check doors)	○	○		○	○	
Delayed closing action		●				
Backcheck		●				
Mounting backplate, incl. universal fixing hole pattern		●	●	●		
EN 1154	●	●	●	●	●	
CE	●	●	●	●	●	
Cushioned limit stay	●	○	○	○	○	
Page	**10–17**	**18–29**	**30–33**	**34–35**	**36–37**	

● standard ○ optional



	Rack and pinion door closers with projecting arm				Floor springs		
	DORMA TS 83	DORMA TS 73 V	DORMA TS 73 EMF TS 73 EMR	DORMA TS 72	DORMA BTS 80 System	DORMA BTS 75 V	DORMA BTS 84
					●		●
		●	●	●	●	●	●
			●		●		
	●		●		●		
	●						
					●	●	●
	●				●		
			○		●		
	●	●		●	●	●	
			●		●		
	●	●		●	●	●	
			●		●		
	EN 3–6	EN 2–4	EN 4, 5, 6	EN 2–4	EN 3, 4, 5, 6	EN 1–4	EN 2, 3, 4
	●	●		●		●	
	●	●	●	●	●	●	●
	●	●	●	●	●		
				●			
	●	●	●	●	●	●	
	○	○		○	●	○	○
	○				●		
	●	●			●		
	○	○	○ ●	○			
	●	●	●	●	●	●	●
	●	●	●	●	●	●	●
	38–39	40–41	42–45	46–47	48–51	52–53	54–55

DORMA door control systems for convenience, safety and security

DORMA door control systems ensure optimum visual harmony, offer extended scope for enhanced aesthetic elegance, and transform doors into contributory design elements. DORMA's products also excel in terms of their reliability, extensive functionality and ease of operation.

The proven quality of DORMA door control systems is apparent from their outstanding longevity despite daily, often heavy-duty usage. Depending on the application, various requirements relating to fire and smoke protection or sound and thermal insulation also need to be properly satisfied. And here again DORMA is able to offers its extensive services as a reliable partner and product supplier.

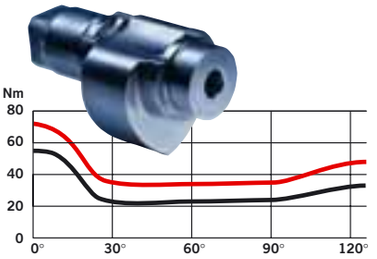
Particularly popular with architects and specifiers alike is the concealed door closer system from DORMA. The photo here shows a double-leaf T30-rated aluminium-framed fire door with integrated DORMA ITS 96 GSR-EMF door closer system.

The concealed cam action door closer system with slide channel

The DORMA ITS 96 system has ushered in a new era in door closer technology. Closers and slide channels are now so compact that they can be installed out of sight in doors and their frames. Yet these devices offer the same high quality expected of DORMA door closers with all the familiar ease of operation and widely ranging functionality.

Operating and closing force diagram

Equipped with the linear drive and heart-shaped cam, the door closers of the DORMA ITS 96 system offer the compelling advantage of an almost immediate reduction in resistance as the door is opened.



Opening and closing force diagram
Closing force setting EN 6

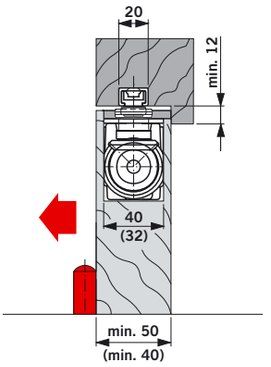
Opening moment
Closing moment

Pre-assembly

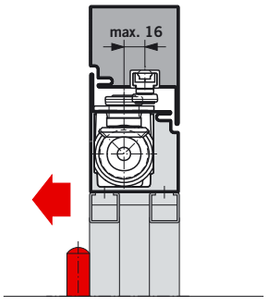
The door closers of the DORMA ITS 96 system are particularly suitable for pre-assembly. This is because the closing speed, closing force and latching action can all be adjusted without problem after component installation in the door.

F Approval certification

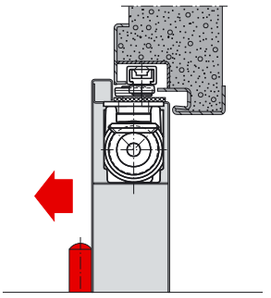
The DORMA ITS 96 has been tested and approved to EN 1154 by the State Material Testing Authority, Dortmund/Germany and is subject to third-party quality verification. Regular audit testing is undertaken. Test reports and/or certificates are available on request. Additional approval certification of the relevant fire and smoke check door in combination with the DORMA ITS 96 may be necessary – check local regulations.



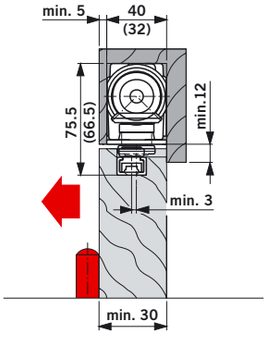
Installation in a timber door



Installation in an aluminium-framed door



Installation in a steel door



Transom installation

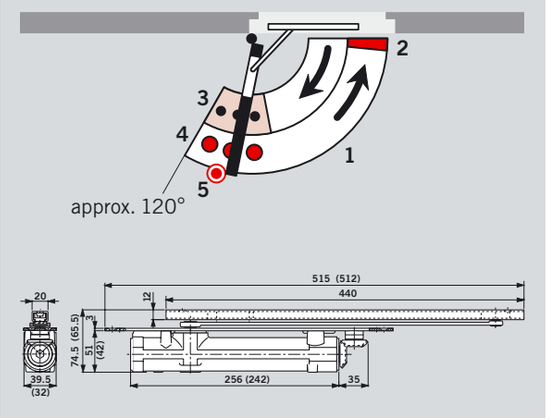
All examples refer to left-hand (ISO 6) doors;
mirror image applies to right-hand (ISO 5) doors.
All dimensions show ITS 96 3–6
( ) = ITS 96 2–4

Data and features		ITS 96	
Closing force adjustable	Spring strength	EN 2–4	EN 3–6
Standard doors, fire	≤ 1100 mm	●	●
and smoke check doors	≤ 1400 mm	–	●
Door leaf thickness	≥ 40 mm	●	–
	≥ 50 mm	●	●
Max. door leaf weight in kg		100	180
Non-handed		●	●
Arm assembly	Slide channel	●	●
Closing force adjustable by screw		●	●
Closing speed adjustable by valve		●	●
Latching action adjustable by valve		●	●
Cushioned limit stay		●	●
Hold-open (not for fire and smoke check doors)		○	○
Max. door opening angle (depending on door design)		approx. 120°	
Door closer compliant with EN 1154		●	
Hold-open devices compliant with EN 1155		●	
Door coordinators compliant with EN 1158		●	

● yes – no ○ option

ITS 96 compendium

You will find all the information you need relating to the DORMA ITS 96 system on this CD-ROM, which you can order online at www.dorma.com.



DORMA ITS 96 N

- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Adjustable closing force (EN 2–4, 3–6)
- Adjustable closing speed **(1)**
- Adjustable latching action **(2)**
- Cushioned limit stay **(3)**
- Hold-open device RF, optional (not approved for fire and smoke check doors) **(4)**
- Floor stop OGRO TZ 5000 **(5)**

For specification texts, see page 200 ff.

With hold-open for single-leaf fire and smoke check doors

DORMA ITS 96 EMF

The electro-mechanical hold-open device ensures that the door is held open in precisely the position required. In the event of an alarm or power failure, the door is released and the door closer closes the door. Release initiation is by external lintel or ceiling-mounted smoke detectors (e.g. DORMA RMZ-K, RMZ-S, RMZ-2, RM) or by fire alarm system.
The hold-open can also be released by simply tugging the door in the closing direction.

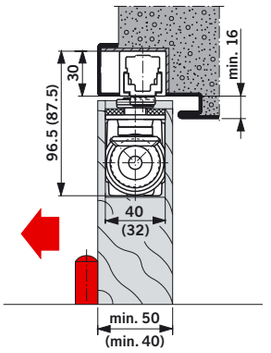
Note:
The hold-open point also constitutes the maximum door opening angle.
A door stop must be installed at this position.

Technical data

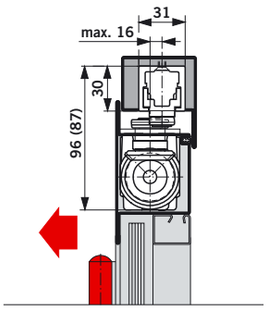
Operating voltage	24 V DC
Power input	1.6 W
Rated for continuous duty	100% DF
Compliant with	EN 1155

F Approval certification

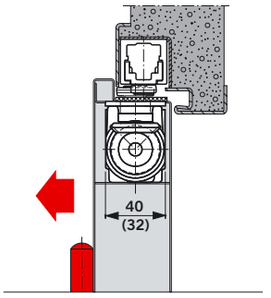
The DORMA ITS 96 EMF has been tested and approved to EN 1155 by the State Material Testing Authority, Dortmund/ Germany and is subject to third-party quality verification. Regular audit testing is undertaken. Test reports and/or certificates are available on request. Additional approval certification of the relevant fire and smoke check door in combination with the DORMA ITS 96 EMF may be necessary – check local regulations.



Installation in a timber door



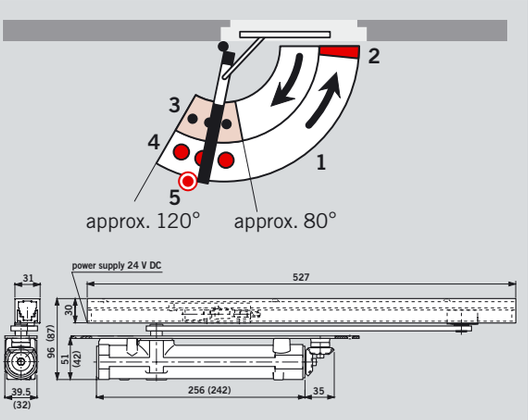
Installation in an aluminium-framed door



Installation in a steel door

All examples refer to left-hand (ISO 6) doors;
mirror image applies to right-hand (ISO 5) doors.
All dimensions show ITS 96 3–6
( ) = ITS 96 2–4

Application example:
Hold-open system in a fire and smoke check door, comprising: Door closer DORMA ITS 96 **(1)**; slide channel DORMA G 96 EMF **(2)**; lintel-mounted smoke detector DORMA RMZ-K **(3)**; one ceiling-mounted smoke detector DORMA RM **(4)** located either side of the door; door stop OGRO TZ 5000 **(5)**

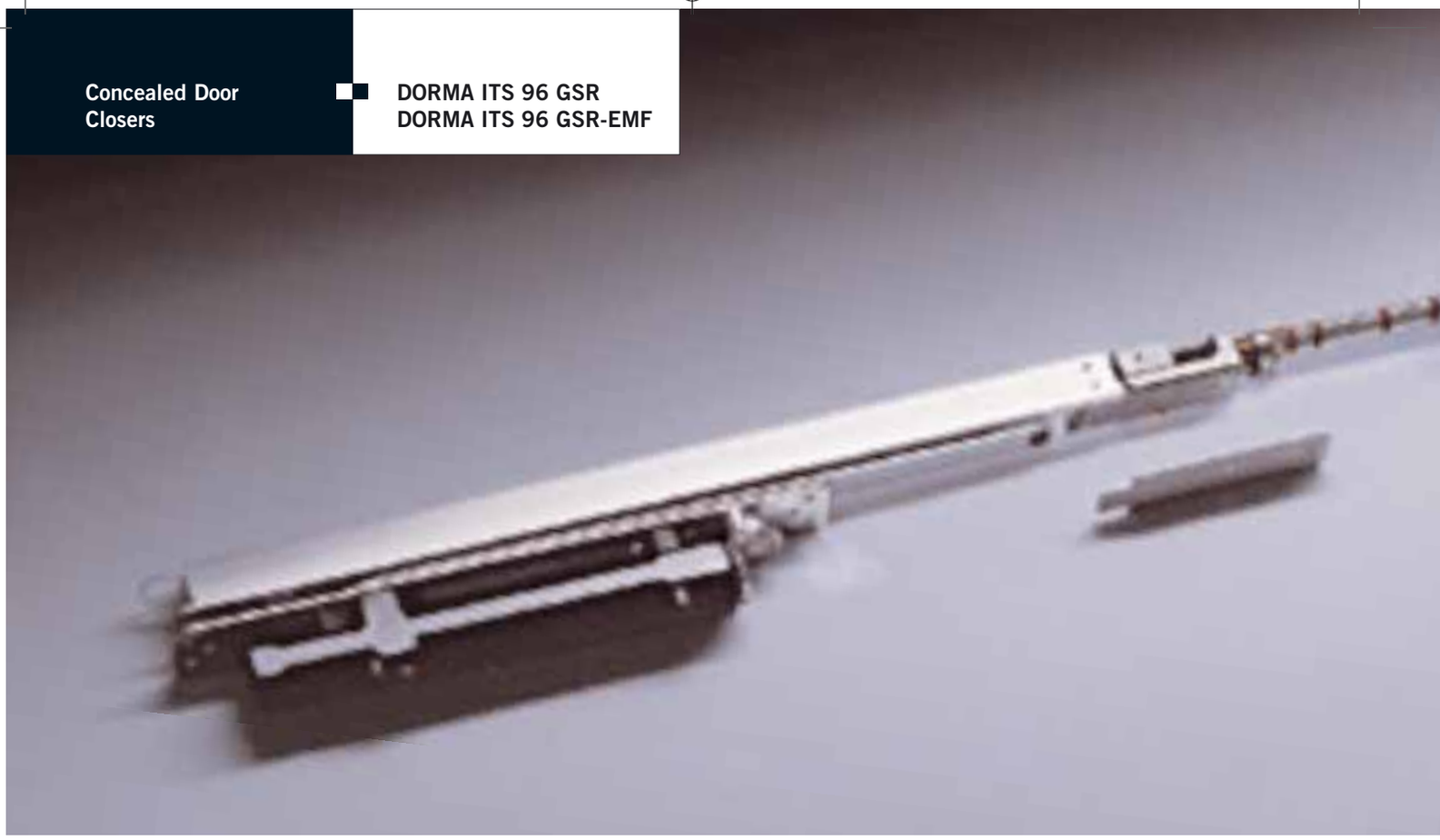


DORMA ITS 96 EMF

- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Adjustable closing force (EN 2–4, 3–6)
- Adjustable closing speed **(1)**
- Adjustable latching action **(2)**
- Cushioned limit stay **(3)**
- Electro-mechanical hold-open, adjustable release force **(4)**
- Floor stop OGRO TZ 5000 **(5)**

For specification texts, see page 200 ff.

DORMA ITS 96 GSR
DORMA ITS 96 GSR-EMF



For double-leaf standard and fire/smoke check double doors

DORMA ITS 96 GSR

With door coordinator

Ensures the correct closing sequence of double doors, i.e. inactive leaf before active leaf.

The system operates with a push-rod clamping system with overload release that operates independently of the closer hydraulics. The release mechanism is integrated in the slide channel.

DORMA ITS 96 GSR-EMF

With door coordinator and electro-mechanical hold-open

This system allows the precise and independent setting of the hold-open positions of each leaf of fire and smoke check double doors. In the event of an alarm or power failure, the hold-open is released and the door closer automatically closes the door leaves in the correct sequence.

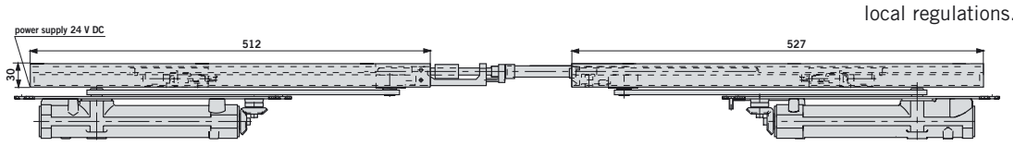
Release initiation is by lintel or ceiling-mounted smoke detectors (e.g. DORMA RMZ-K, RMZ-S, RMZ 2, RM) or by a fire alarm system. The hold-open can also be released by simply tugging the doors in the closing direction.

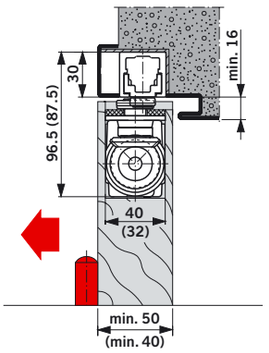
Note:

The hold-open point is also the maximum door opening angle. A door stop must be installed at this position.

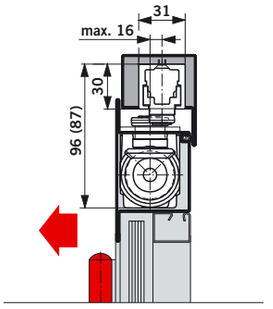
F Approval certification

The DORMA ITS 96 GSR-EMF has been tested and approved by the State Material Testing Authority, Dortmund/Germany for use on double doors in accordance with EN 1158 and EN 1155, and is subject to third-party verification. Regular audit testing is undertaken. Test reports and/or certificates are available on request. Additional approval certification of the relevant fire and smoke check door in combination with the DORMA ITS 96 GSR-EMF may be necessary – check local regulations.

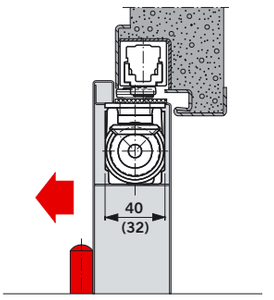




Installation in a timber door



Installation in an aluminium-framed door

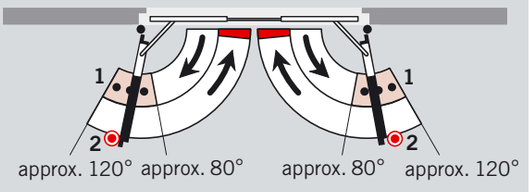


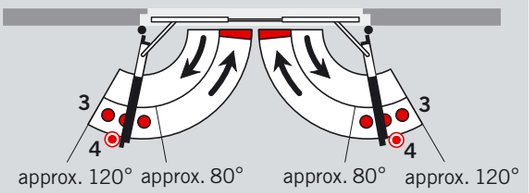
Installation in a steel door

Technical data
Operating voltage
24 V DC
Power input
3.2 W
Rated for continuous duty
100% DF
Adjustable release force

All examples refer to left-hand (ISO 6) doors;
mirror image applies to right-hand (ISO 5) doors.

All dimensions show ITS 96 3–6
( ) = ITS 96 2–4

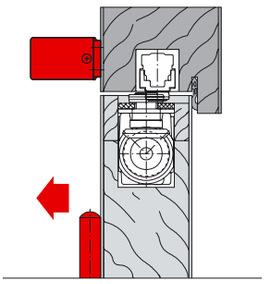




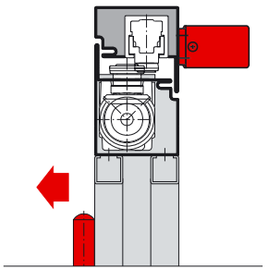
DORMA ITS 96 GSR
Ensuring the correct closing sequence of door leaves.
Compliant with EN 1158
– Cushioned limit stay **(1)**
– Door stop OGRO TZ 5000 **(2)**

DORMA ITS 96 GSR-EMF
Independent hold-open of the door leaves and correct closing sequence in the event of an alarm
– Electro-mechanical hold-open, adjustable release force **(3)**
– Door stop OGRO TZ 5000 **(4)**

For specification texts, see page 200 ff.



RMZ-K/S lintel-mounted smoke detector on the pull side in conjunction with the ITS 96 GSR-EMF



RMZ-K/S lintel-mounted smoke detector on the push side in conjunction with the ITS 96 GSR-EMF

Double doors with ITS 96 GSR/GSR-EMF

ITS 96 door closer size	Total door width (mm)	Width of inactive leaf min. (mm)	Door leaf thickness min. (mm)
EN 2–4	1400–2200	700	40
EN 3–6	1400–2800	700	50

When installing on fire and smoke check doors, the DORMA MK 397 carry bar must also be used

Door coordinator for narrow inactive leaf

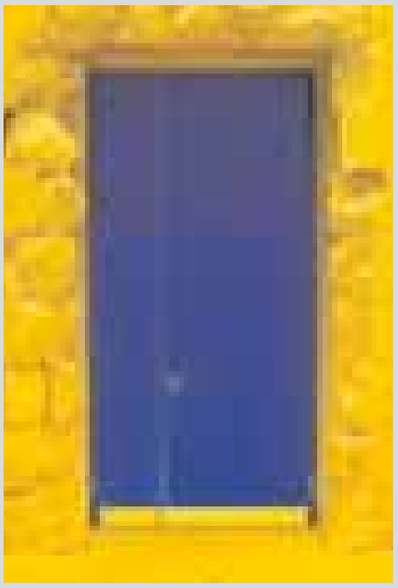
only for timber doors

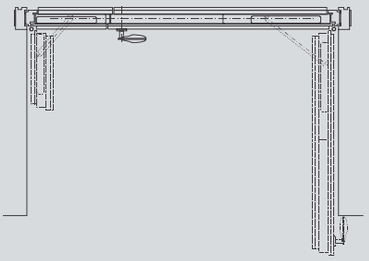
Inactive leaf width	540–700 mm
Active leaf width	min. 750 mm

Other door situations on application

Application example: Hold-open system on a double door, comprising: Two door closers type DORMA ITS 96 **(1)**; active and inactive slide channel DORMA G 96 GSR-EMF **(2)** with push-rod clamping system; lintel-mounted smoke detector DORMA RMZ-K **(3)**; one ceiling-mounted smoke detector type DORMA RM **(4)** on either side of the door; two door stops type OGRO TZ 5000 **(5)**; carry bar MK 397 **(6)**

Timber door
Double-leaf door set (smoke check, T30 fire rating, SD 42 sound protection rating) with integrated DORMA ITS 96 GSR door closer. 110 mm thick door leaf, leaves 1500 x 3500 mm, solid timber frame



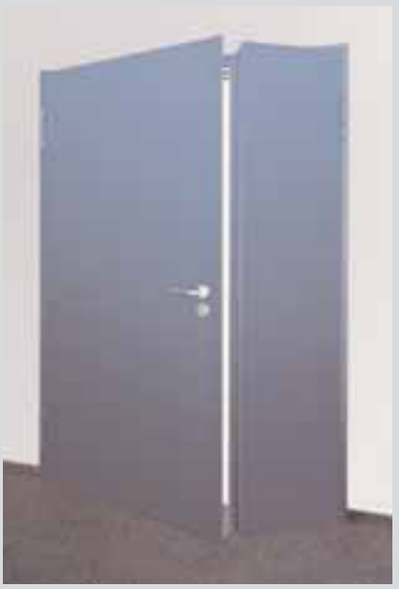


DORMA Hüppe Varitrans CVA
ITS 96 in sliding passdoor element

Aluminium-framed door
Double-leaf, T30 fire-rated, integrated door closer system type DORMA ITS 96 GSR-EMF (left)

Steel door
Double-leaf with narrow inactive leaf, integrated door closer system type DORMA ITS 96 GSR (right)

Timber door
Double-leaf, T30 fire-rated, integrated door closer system type DORMA ITS 96 GSR-EMF (below)



The cam action door closer system

Under the designation TS 93, DORMA is able to offer an impressive door closer range with slide channel and Softline design that offers not only aesthetic appeal but also unbeatable ease of use. The DORMA TS 93 is based on a modular system able to meet almost every conceivable functional requirement.

Opening and closing force diagram

The linear drive of the DORMA TS 93 door closer system features a heart-shaped cam that ensures an almost immediate reduction in resistance as the door is opened.

F Approval certification

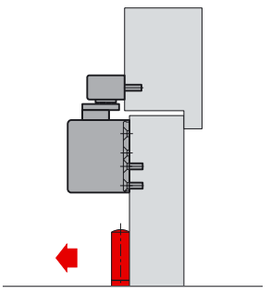
The DORMA TS 93 B has been tested and approved to EN 1154 by the State Material Testing Authority, Dortmund/Germany and is subject to third-party quality verification. Regular audit testing is undertaken. Test reports and/or certificates are available on request. In the case of the transom-fixed DORMA TS 93 B and the DORMA TS 93 G for door leaf and transom fixing, additional approval certification may be required in conjunction with the fire and smoke check door concerned – check local regulations.

Standard backcheck – BC

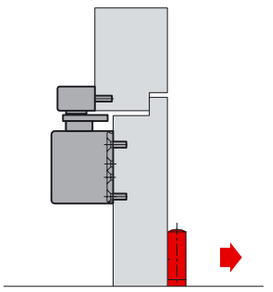
The backcheck serves to absorb a large proportion of the energy generated when a door is thrown open or caught by the wind. This protects both the door and wall from damage.

Standard delayed closing action – DC/SV

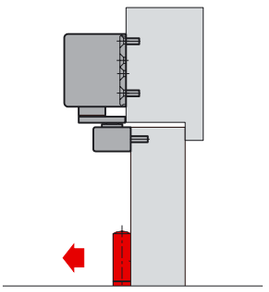
The delayed action feature reduces the closing speed between door opening angles of 120° and 70°. This gives more time e.g. to the disabled, mothers with prams or nurses with hospital beds to pass through a doorway.



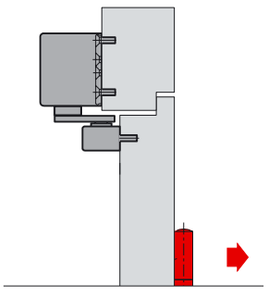
Door leaf fixing on the pull side DORMA TS 93 B
Structural conditions permitting, opening angle = 180°



Door leaf fixing on the push side DORMA TS 93 G
Structural conditions permitting, opening angle = approx. 120° to 145°: a door stop must be installed for fire and smoke check doors



Transom fixing on the pull side DORMA TS 93 G
Structural conditions permitting, opening angle = approx. 180°



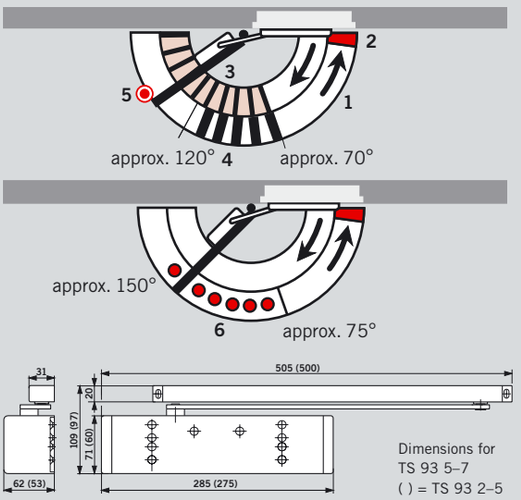
Transom fixing on the push side DORMA TS 93 B
Structural conditions permitting, opening angle = approx. 120° to 145°; backcheck and delayed closing action non-operative

Data and features		TS 93 B/G	
Closing force, adjustable	Spring strength	EN 2–5	EN 5–7
Standard doors and fire/smoke check doors[1]	≤ 1250 mm	●	–
	≤ 1600 mm	–	●
External doors, outward opening[1]	≤ 1250 mm	●	–
	≤ 1600 mm	–	●
Non-handed		●	●
Arm assembly	Slide channel	●	●
Closing force adjustable by screw		●	●
Closing speed adjustable by valve		●	●
Latching speed adjustable by valve		●	●
Backcheck (BC) adjustable by valve		●	●
Delayed closing action (DC/SV) adjustable by valve		●	●
Hold-open (not for fire and smoke check doors)		○	○
Dimensions in mm	Length (L)	275	285
	Overall depth (B)	53	62
	Height (H)	60	71

● yes – no ○ option

[1] For applications involving particularly heavy or wide doors, and doors that have to close against wind resistance, the next highest door closer size should be selected, or the closing force adjusted to a higher setting.

All examples refer to left-hand (ISO 6) doors; mirror image applies to right-hand (ISO 5) doors



Dimensions for TS 93 5–7
( ) = TS 93 2–5

DORMA TS 93 N

- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Adjustable closing force (EN 2–5, 5–7)
- Adjustable closing speed **(1)**
- Adjustable latching action **(2)**
- Adjustable backcheck **(3)**
- Delayed closing action **(4)**
- Floor stop OGRO TZ 5000 **(5)**
- Optional mechanical RF hold-open with on/off switch (not suitable for fire and smoke check doors) **(6)**
- Mounting backplate, incl. universal fixing hole pattern
- Cushioned limit stay, optional

For specification texts, see page 204 ff.

With hold-open for single-leaf fire and smoke check doors

DORMA TS 93 EMF

This equipment combination allows the precise setting of the door's hold-open position. In the event of an alarm or power failure, the hold-open is released and the door closer closes the door.
The hold-open point can be adjusted between an opening angle of approx. 80° and 120°.

Note:
The hold-open point is also the maximum door opening angle. A door stop must be installed at this position.

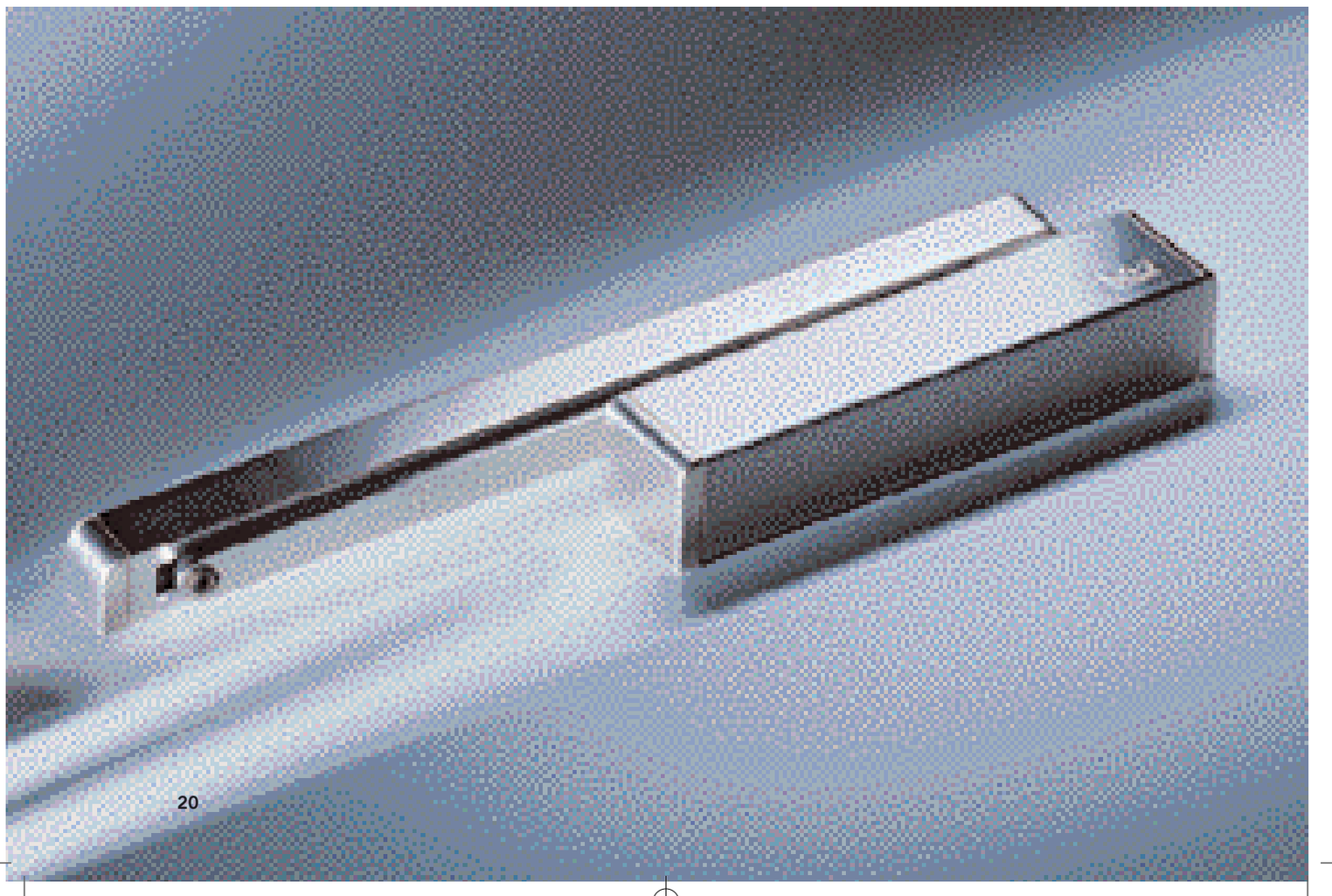
Release initiation is by an external lintel or ceiling-mounted smoke detector (e.g. DORMA RMZ-K/S, RMZ 2, RM, RM-S) or by a fire alarm system.
The hold-open can also be released by simply tugging the door in the closing direction.

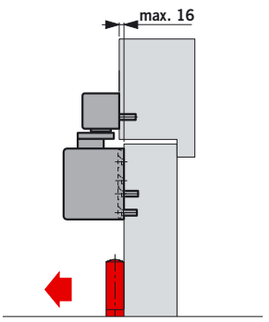
Technical data

Operating voltage	24 V DC
Power input	1.4 W
Rated for continuous duty	100% DF
Adjustable release force	
Compliant with	EN 1155

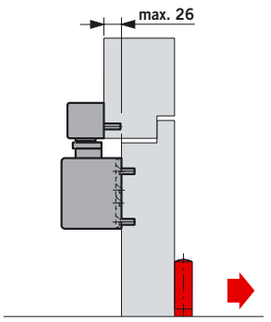
F Approval certification

The DORMA TS 93 EMF has been tested and approved to EN 1155 by the State Material Testing Authority, Dortmund/Germany and is subject to third-party quality verification. Regular audit testing is undertaken. Test reports and/or certificates are available on request. Additional approval certification of the relevant fire and smoke check door in combination with the DORMA TS 93 EMF may be necessary – check local regulations.



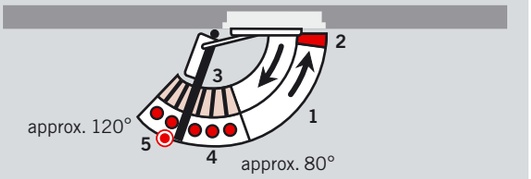


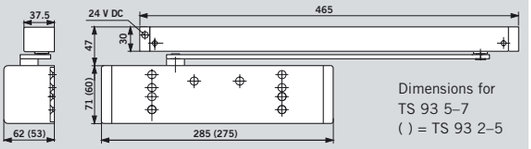
Door leaf fixing on the pull side DORMA TS 93 B EMF



Door leaf fixing on the push side DORMA TS 93 G EMF

Application example: Hold-open system on a fire and smoke check door, comprising: Door closer DORMA TS 93 B **(1)**; slide channel DORMA G-EMF **(2)**; lintel-mounted smoke detector DORMA RMZ-S **(3)**; one ceiling-mounted smoke detector (line detector) type DORMA RM-S **(4)** on either side of the door; door stop OGRO TZ 5000 **(5)**





DORMA TS 93 EMF

- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Adjustable closing force (EN 2–5, 5–7)
- Adjustable closing speed **(1)**
- Adjustable latching action **(2)**
- Adjustable backcheck **(3)**
- Electro-mechanical hold-open, adjustable release force **(4)**
- Door stop OGRO TZ 5000 **(5)**

For specification texts, see page 204 ff.

With hold-open and integral smoke detector for single-leaf fire and smoke check doors

DORMA TS 93 EMR-K/S
The electro-mechanical hold-open of this system allows precise setting of the door's hold-open position. In the event of an alarm or power failure, the hold-open is released and the door closer closes the door. The hold-open point can be adjusted between angles of approx. 80° and 120°.

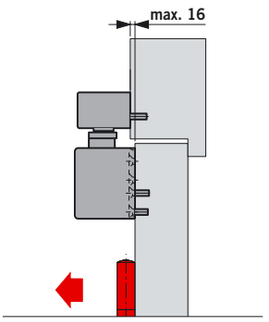
Note:
The hold-open point is also the maximum door opening angle. A door stop must be installed at this position.

Thanks to the integrated smoke detector, the system is able to operate independently of other alarm systems. Moreover, where the distance between the ceiling and the bottom edge of the transom is less than 1 m, and the door width is 3 m or less, an additional smoke detector may not be required – check with local regulations. The hold-open can also be released by simply tugging the door in the closing direction.

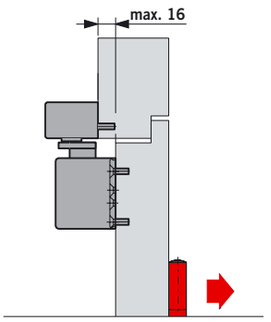
DORMA TS 93 EMR-K
Enhanced version with connections for further detectors (e.g. DORMA RM), external manual release device and floating alarm contact.

DORMA TS 93 EMR-S
Standard version with connections for further detectors in two-wire system (e.g. DORMA RM-S).

F Approval certification
The DORMA TS 93 EMR has been tested and approved to EN 1155 by the State Material Testing Authority, Dortmund/ Germany and is subject to third-party quality verification. Regular audit testing is undertaken. Test reports and/or certificates are available on request. In the case of a DORMA TS 93 EMR fixed on the push side, additional approval certification may be required in conjunction with the fire and smoke check door concerned – check local regulations.



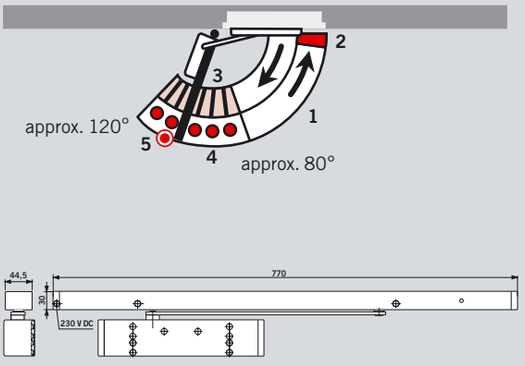
Door leaf fixing on the pull side DORMA TS 93 B G-EMR



Door leaf fixing on the push side DORMA TS 93 G G-EMR

Technical	
Operating voltage	24 V DC
Power input	1.4 W
Rated for continuous duty:	100% DF
Adjustable release force	
Compliant with EN 1155	

Application example: Hold-open system on a fire and smoke check door, comprising: Door closer DORMA TS 93 B **(1)**; slide channel DORMA G-EMR **(2)** with integrated power supply unit and smoke detector; one ceiling-mounted smoke detector DORMA RM **(3)** on either side of the door; door stop OGRO TZ 5000 **(4)**



DORMA TS 93 EMR

- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Adjustable closing force (EN 2–5, 5–7)
- Adjustable closing speed **(1)**
- Adjustable latching action **(2)**
- Adjustable backcheck **(3)**
- Electro-mechanical hold-open, adjustable release force **(4)**
- Door stop OGRO TZ 5000 **(5)**

For specification texts, see page 205 ff.

DORMA TS 93 GSR
DORMA TS 93 GSR-EMF

For double-leaf standard and fire/smoke check doors and installation on the pull side

DORMA TS 93 GSR

With door coordinator
This system ensures that double doors always close in the right sequence, i.e. inactive leaf before active leaf. The push-rod clamping system with overload release operates independently of the closer hydraulics. The release mechanism is integrated in the slide channel.

DORMA TS 93 GSR-EMF

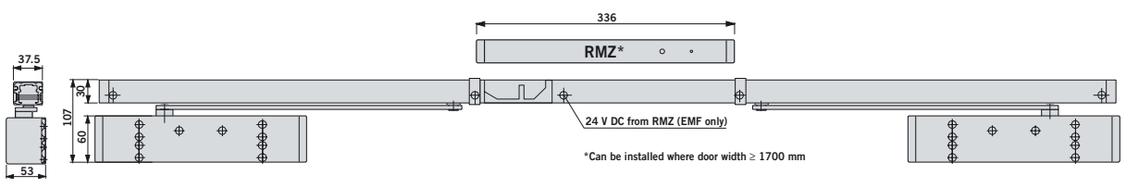
With door coordinator and electro-mechanical hold-open
Provides for the precise setting of the hold-open position of double fire and smoke check doors, either independently of each other or in combination, depending on model. In the event of an alarm or power failure, the hold-open is released and the door coordinator ensures that the door closers close the doors in the correct sequence. Release initiation can be controlled either by external lintel or ceiling-mounted smoke detectors (e.g. DORMA RMZ-K/S, RM) or by a fire alarm system. The hold-open can also be released by simply tugging the doors in the closing direction.

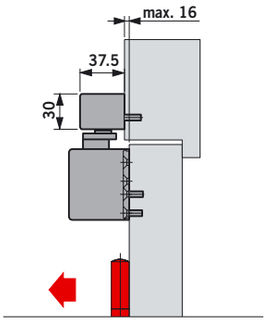
Note:
The hold-open point is also the maximum door opening angle. A door stop must be installed at this position.

Technical data
DORMA TS 93 GSR-EMF

Operating voltage	24 V DC
Power input	1.6 W
(TS 93 GSR-EMF 2	3.2 W)
Rated for continuous duty	100% DF
Adjustable release force	
Compliant with EN	1155

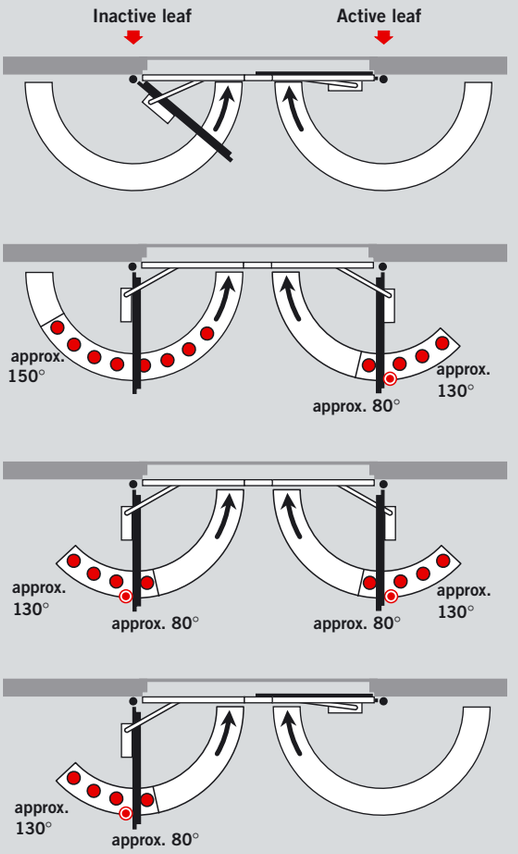
F Approval certification
The DORMA TS 93 GSR-EMF has been tested and approved by the State Material Testing Authority, Dortmund/Germany for use on double doors in accordance with EN 1158 and EN 1155, and is subject to third-party verification. Regular audit testing is undertaken. Test reports and/or certificates are available on request. Additional approval certification of the relevant fire and smoke check door in combination with the DORMA TS 93 GSR-EMF may be necessary – check local regulations.





Door leaf fixing
on the pull side
DORMA TS 93 B GSR

Drawing refers to left-hand (ISO 6) door;
mirror image applies to right-hand (ISO 5) door



◉ **Door stop, e.g. OGRO TZ 5000**

DORMA TS 93 GSR
Ensures the correct closing sequence of the door leaves.

DORMA TS 93 GSR-EMF 1
This system offers the combined hold-open of the door leaves with the hold-open point of the active leaf simultaneously fixing the hold-open point of the inactive leaf. The correct closing sequence in the event of an alarm is ensured.

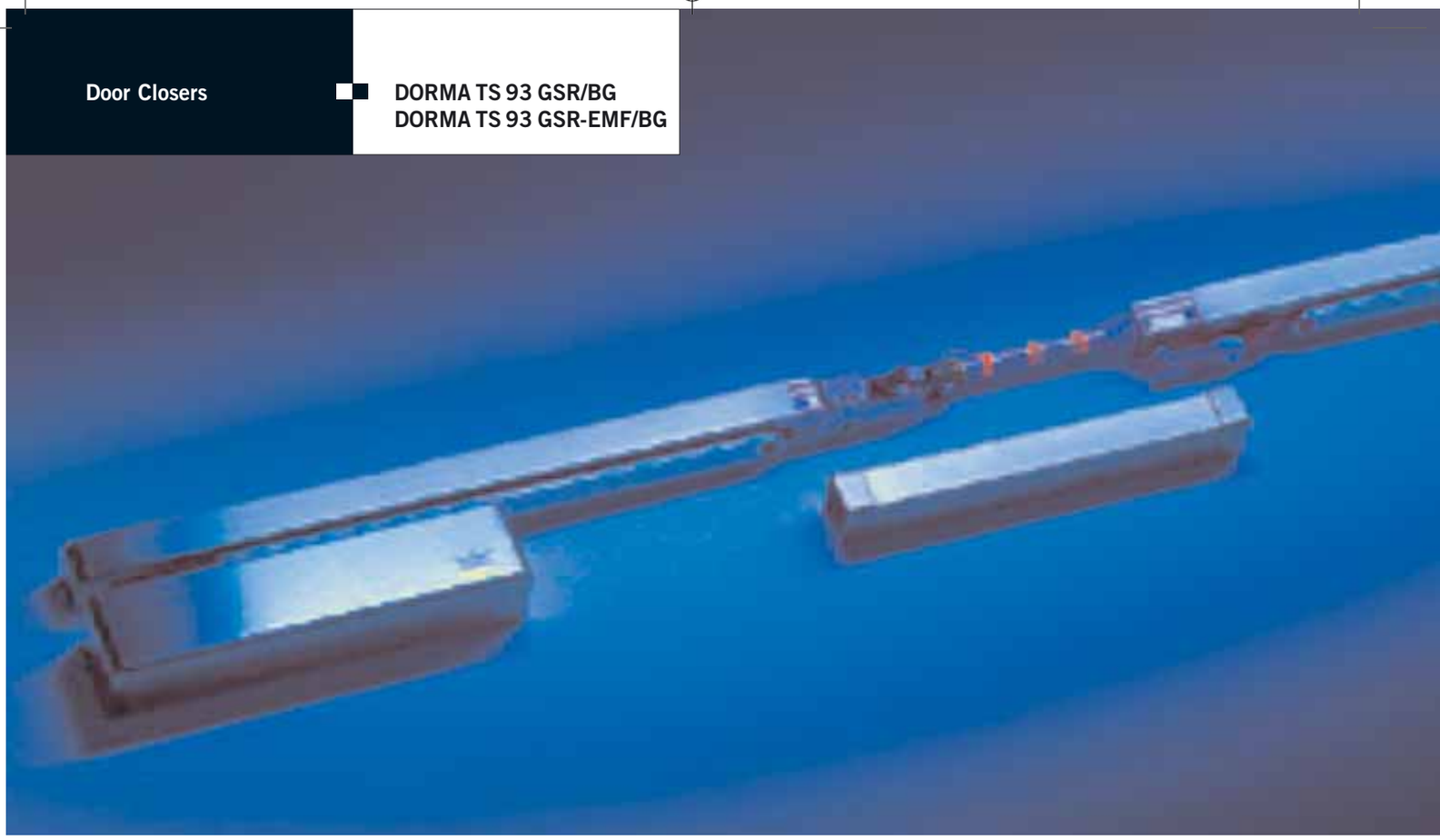
DORMA TS 93 GSR-EMF 2
This system enables the independent hold-open of the door leaves at an angle between 80° and 120°. In this case, however, the inactive leaf can also be closed while the active leaf remains open. The correct closing sequence in the event of alarm is ensured.

DORMA TS 93 GSR-EMF 1G
Hold-open of the active door leaf only (e.g. in doors with fixed side screens, unequal leaves etc.), with correct closing sequence in the event of an alarm.

For details, application example, door widths etc. see pages 28/29

For specification texts, see page 207 ff.

DORMA TS 93 GSR/BG
DORMA TS 93 GSR-EMF/BG



For double-leaf standard and fire/smoke check doors and installation on the push side

DORMA TS 93 GSR/BG

With door coordinator
Ensures the automatic closing of double doors in the correct sequence, i.e. inactive leaf before active leaf. The push-rod clamping system with overload release operates independently of the closer hydraulics. The release mechanism is integrated in the slide channel. This model is not suitable for emergency escape doors that are opened at the inactive leaf.

DORMA TS 93 GSR-EMF/BG

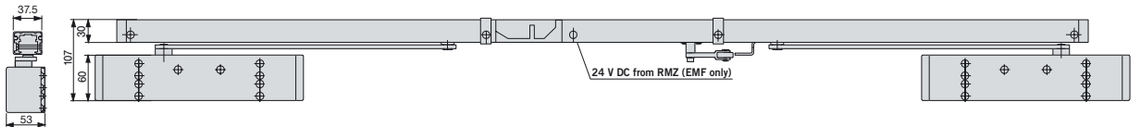
With door coordinator and electro-mechanical hold-open
This system provides for the precise setting of the hold-open position of double fire and smoke check doors, either independently of each other or in combination. In the event of an alarm or power failure, the hold-open is released and the door co-ordinator ensures that the door closers automatically close the doors in the correct sequence. Release initiation can be controlled either by external lintel or ceiling-mounted smoke detectors (e.g. DORMA RMZ-K/S, RM) or by a fire alarm system. The hold-open can also be released by simply tugging the doors in the closing direction.

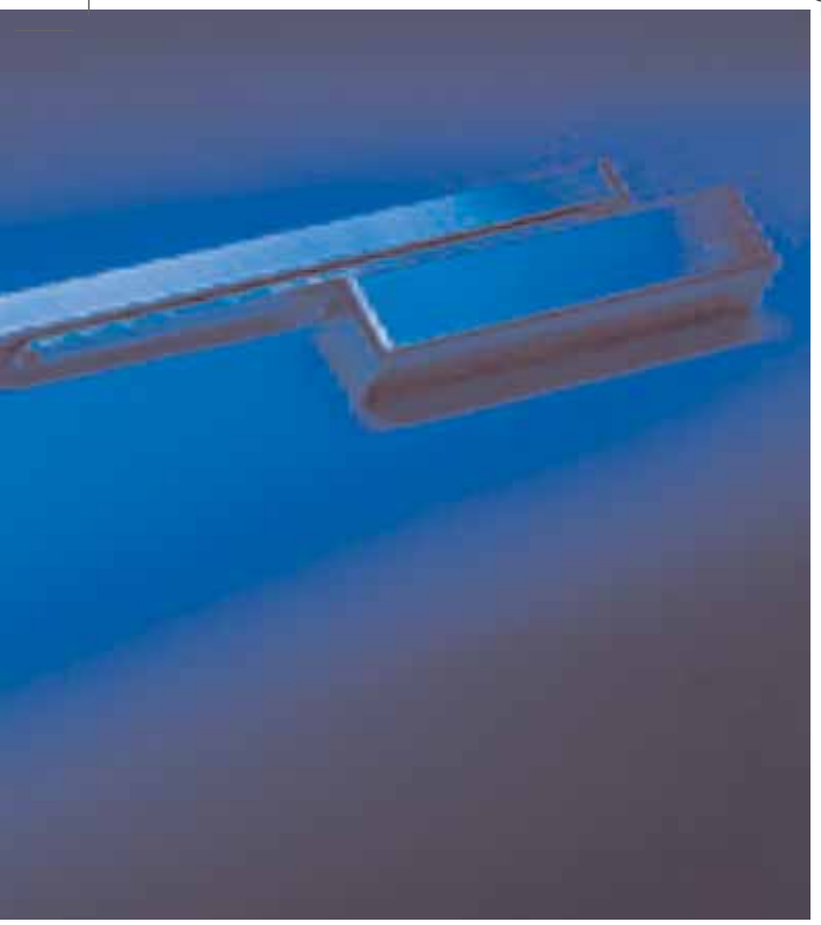
Note:
The hold-open point is also the maximum door opening angle. A door stop must be installed at this position.

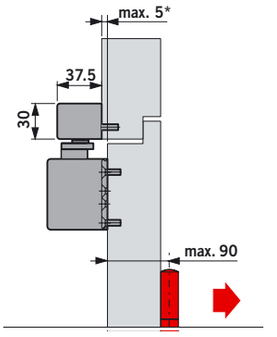
Technical data
DORMA TS 93 GSR-EMF/BG

Operating voltage	24 V DC
Power input	1.6 W
(GSR-EMF 2/BG	3.2 W)
Rated for continuous duty	100% DF
Adjustable release force	

F Approval certification
The DORMA TS 93 GSR-EMF/GB has been tested and approved by the State Material Testing Authority, Dortmund/Germany for use on double doors in accordance with EN 1158 and EN 1155, and is subject to third-party verification. Regular audit testing is undertaken. Test reports and/or certificates are available on request. Additional approval certification of the relevant fire and smoke check door concerned may be necessary – check local regulations.

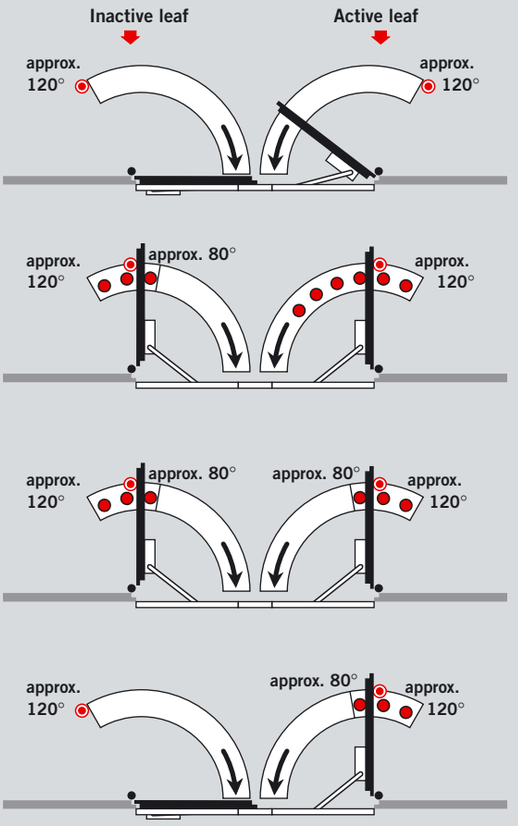






Door leaf fixing
on the push side
DORMA TS 93 GSR/BG
*Fit angle bracket for larger reveal depths

Drawing refers to left-hand (ISO 6) door;
mirror image applies to right-hand (ISO 5) door



◉ **Door stop, e.g. OGRO TZ 5000**

DORMA TS 93 GSR/BG
Ensures the correct closing sequence of the door leaves.

DORMA TS 93 GSR-EMF 1/BG
This system offers the combined hold-open of the door leaves with the hold-open point of the active leaf simultaneously fixing the hold-open point of the inactive leaf. The correct closing sequence in the event of an alarm is ensured.

DORMA TS 93 GSR-EMF 2/BG
This system enables the independent hold-open of the door leaves at an angle between 80° and 120°. In this case, however, the inactive leaf can also be closed while the active leaf remains open. The correct closing sequence in the event of alarm is ensured.

DORMA TS 93 GSR-EMF 1G/BG
Hold-open of the active door leaf only (e.g. in doors with fixed side screens, unequal leaves etc.), with correct closing sequence in the event of an alarm.

For details, application example, door widths etc. see pages 28/29

For specification texts, see page 209 ff.

Combination of door coordinator and hold-open for fire and smoke check doors

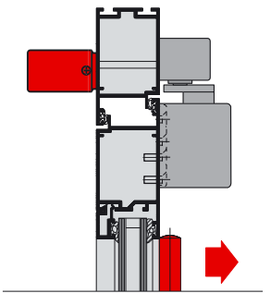
With its combination of door coordinator and electro-magnetic hold-open for double fire and smoke check doors, the TS 93 system is able to offer a range of possibilities for different door situations. Depending on the requirements, you can choose between 3 hold-open configurations:

– The GSR-EMF 1 model allows the combined hold-open of both leaves. The hold-open mechanism located in the inactive leaf slide channel also holds open the active leaf.
– With the GSR-EMF 2 model, both leaves can be independently held open. This means that the inactive leaf can remain closed while the active leaf is held open.
– With the GSR-EMF 1G version, only the active leaf can be held open while the inactive leaf remains closed.

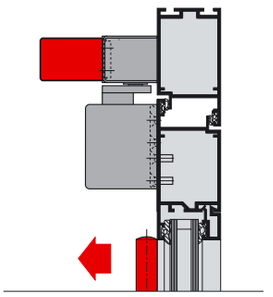
In order to satisfy the requirements placed on fire and smoke check doors, the hold-open is reliably released and the leaves closed in the correct sequence in the event of an alarm or power failure. The door closer closes the door in response to a release signal triggered by the lintel-mounted smoke detectors DORMA RMZ-K/S or a ceiling-mounted smoke detector.

You will find an overview of the DORMA door closer systems in combination with lintel-mounted smoke detectors on pages 56–58.

Application example: Hold-open system on a double door, comprising: Two door closers type DORMA TS 93 B **(1)**; active and inactive leaf slide channels type DORMA GSR/EMF **(2)** with push-rod clamping system and set of covers; lintel-mounted smoke detector DORMA RMZ-K **(3)** mounted on the slide channel with cover; one ceiling-mounted door detector type DORMA RM **(4)** on either side of the door; two door stops type OGRO TZ 5000 **(5)**; carry bar MK 396 **(6)**.



Lintel smoke detector type RMZ-K/S on the push side connected to the TS 93 GSR-EMF on the pull side



Lintel-mounted smoke detector RMZ-K/S on the pull side connected to a TS 93 GSR-EMF on the pull side (with mounting bracket)

DORMA TS 93 GSR/GSR-EMF – Pull-side fixing

Model/Function	Door width (mm)	TS 93 closer spring size (EN)
GSR Door coordinator	1220 – 1350	2 – 5
	1350 – 2500	2 – 5
	2500 – 3200	5 – 7
GSR-EMF 1 Door coordinator and hold-open in the inactive leaf	1220 – 1350	2 – 5
	1350 – 2500	2 – 5
	2500 – 3200[1)]	5 – 7
GSR-EMF 2 Door coordinator and hold-open in both leaves	1220 – 1350	2 – 5
	1350 – 2500	2 – 5
	2500 – 3200[1)]	5 – 7
GSR-EMF 1G Door coordinator and hold-open in the active leaf	1220 – 1350	2 – 5
	1350 – 2500	2 – 5
	2500 – 3200[1)]	5 – 7

Inactive leaf widths
Minimum width in the case of unequal doors: 370 mm

[1)] Electro-magnets
In the case of particularly large and heavy doors (over 2500 mm wide), we recommend that, instead of an electro-mechanical hold-open, you install electro-magnets of the type DORMA EM in conjunction with manual release switch DORMA HT (see page 60/61).

DORMA TS 93 GSR/GSR-EMF – Push-side fixing

Model/Function	Door width (mm)	TS 93 closer spring size (EN)
GSR/BG Door coordinator	1500 – 2500	2 – 5
GSR-EMF 1/BG Door coordinator and hold-open in the inactive leaf	1500 – 2500[2)]	2 – 5
GSR-EMF 2/BG Door coordinator and hold-open in both leaves	1500 – 2500[2)]	2 – 5
GSR-EMF 1G/BG Door coordinator and and hold-open in the active leaf	1500 – 2500[2)]	2 – 5

For specification texts, see page 207 ff.

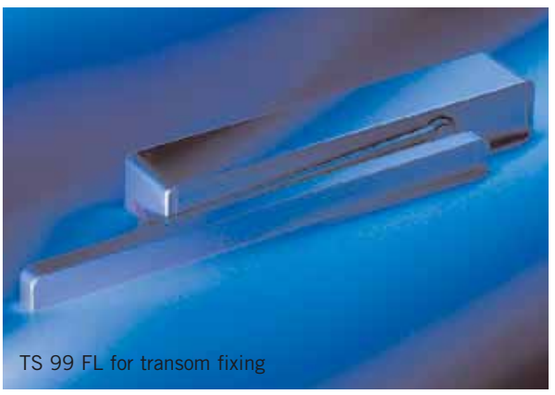
Inactive leaf widths
Minimum width in the case of unequal doors: 600 mm

[2)] Electro-magnets
In the case of particularly large and heavy doors (over 2500 mm wide), we recommend that, instead of an electro-mechanical hold-open, you install electro-magnets of the type DORMA EM in conjunction with manual release switch DORMA HT (see page 60/61).

Door closers with free-swing arm assembly – for fire and smoke check doors

DORMA TS 99 FL

The DORMA TS 99 FL is a door closer with a hold-open device featuring a free-swing function that can be used as a hold-open system in conjunction with a lintel-mounted smoke detector (e.g. DORMA RMZ-K/S, RMZ 2). The door is automatically and reliably closed in the event of an alarm or a power failure.



TS 99 FL for transom fixing

The free-swing function allows easy operation of the door due to the reduced resistance to the opening action. It remains freely operable and is not automatically closed, so facilitating ease of use for doors in heavily frequented areas.

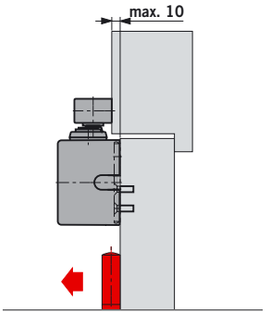
F Approval certification

The DORMA TS 99 FL has been tested and approved to EN 1155 by the State Material Testing Authority, Dortmund/Germany and is subject to third-party quality verification. Regular audit testing is undertaken. Test reports and/or certificates are available on request. Additional approval certification of the relevant fire and smoke check door in combination with the transom-fixed DORMA TS 99 FL may be necessary – check local regulations.

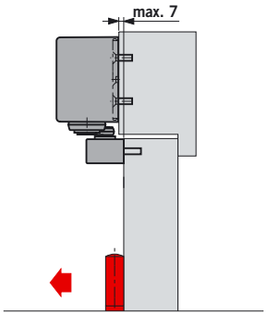
Application example: Hold-open device with free-swing function on a fire and smoke check door, comprising: Door closer DORMA TS 99 FL **(1)**; slide channel with free-swing arm **(2)**; lintel-mounted smoke detector DORMA RMZ-K **(3)**; one ceiling-mounted smoke detector DORMA RM **(4)** on either side of the door; manual-release switch DORMA HT **(5)**; door stop OGRO TZ 5000 **(6)**.

Data and features		TS 99 FL	TS 99 FLR	TS 99 FLR-K
Spring strength setting	Size	EN 4	EN 4	EN 4
Standard doors	≤ 1100 mm	●	●	●
Fire and smoke check doors	≤ 1100 mm	●	●	●
Non-handed		●	●	●
Arm assembly type	Slide channel	●	●	●
Closing speed adjustable at valve		●	●	●
Free-swing function		●	●	●
Weight in kg		3.5	4.9	5.1
Dimensions in mm (without slide channel)	Length Overall depth Height	371 52 71	660 52 71	371 52 71
Door closer tested to EN 1154		●	●	●
Hold-open device tested to EN 1155		●	●	●
Functions	Smoke detector Release device Power supply unit	– ● –	● ● ●	● ● ●
Smoke detection	Scattered light principle, optical sensor	–	●	●
Connection of other detectors	2-wire system Smoke switches	– –	● ●	● ●
Total installed load (max.) for other detectors in W		–	5.7	2
Indicators	Alarm – red LED Armed – green LED	– –	● ●	● ●
Input voltage		24 V DC ± 15%	230 V AC ± 10%	230 V AC ± 10%
Output voltage		–	24 V DC	24 V DC
Power consumption in W		2	14.6	8
Floating change-over contacts		–	24 V AC/DC 2 A	24 V AC/DC 2 A
Reset	Automatic; selector for manual reset	–	● ●	● –
Test port for function test		–	●	●
Connection terminals for remote manual release		–	●	●
Degree of protection		–	IP 20	IP 20

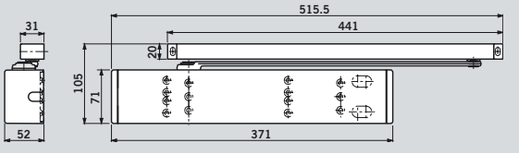
● yes – no



Door leaf fixing on the pull side



Transom fixing on the pull side



For specification texts, see page 211

With free-swing arm and integrated smoke detector for single-leaf fire and smoke check doors

DORMA TS 99 FLR/K

Equipped with free-swing arm assembly, hold-open device and a smoke detector system, the DORMA TS 99 FLR/K is widely used as a complete, integral solution.
The free-swing function allows easy operation of the door due to the reduced resistance to the opening action. It remains freely operable and is not automatically closed, so facilitating ease of use for doors in heavily frequented areas.

In the event of an alarm or a power failure, the door is reliably closed automatically by the door closer responding to the signal from the integral smoke detector.

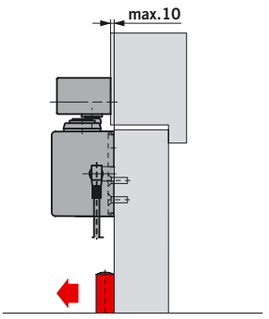
Free-swing functions are also available as an option with the TS 73 EMF/EMR door closers.
The DORMA BTS 80 FLB floor spring is equipped as standard with a free swing function.

Technical data

Operating voltage	24 V DC
Power input	8 W
Rated for continuous duty	100 % DF
Adjustable release force	
Compliant with	EN 1155

F Approval certification

The DORMA TS 99 FLR/K has been tested and approved to EN 1155 by the State Material Testing Authority, Dortmund/ Germany and is subject to third-party quality verification. Regular audit testing is undertaken. Test reports and/or certificates are available on request. Additional approval certification of the relevant fire and smoke check door in combination with the transom-fixed DORMA TS 99 FLR may be necessary – check local regulations.



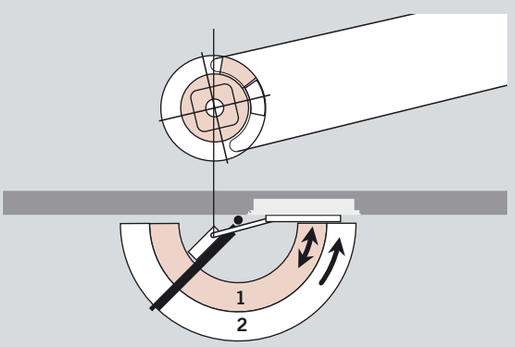
Door leaf fixing on the pull side

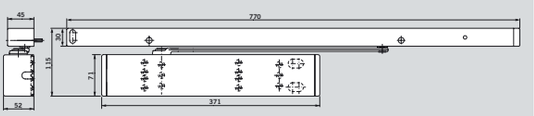
Application example: Hold-open device with free swing function on a fire and smoke check door, comprising: Door closer DORMA TS 99 FLR/K **(1)** with integral smoke detector system; slide channel with free swing arm **(2)**; one ceiling-mounted smoke detector type DORMA RM **(3)** on either side of the door; manual release switch DORMA HT **(4)**; door stop OGRO TZ 5000 **(5)**.

The free-swing function

If the door is opened at least 75° the closer spindle is held by the electro-hydraulic hold-open device at that position in the closer. The door can, however, be freely operated thanks to the free-swing function integrated in the arm assembly. In the event of a fire or power failure, the door closer automatically and reliably closes the door. Consequently, the free swing function is frequently utilised to protect fire and smoke check doors in homes for the elderly, centres for the disabled and hospitals.

– Free swing range **(1)**
– Fully controlled closing (non-electrical spring action) **(2)**





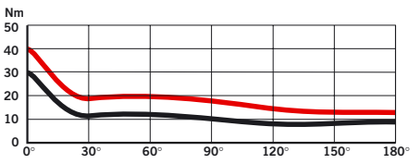
For specification texts, see page 211

Cam action door closers

The DORMA TS 92 constitutes the ideal complement to the DORMA TS 93 cam action door closer system – specially developed for internal doors and likewise styled in the Softline design. The linear drive with the heart-shaped cam offers the same excellent ease of use, and all the usual installation options are available.

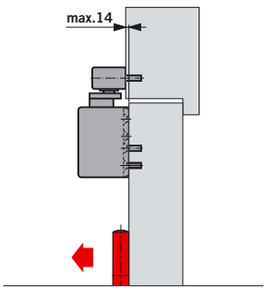
Opening and closing force diagram

The linear drive and heart-shaped cam ensure that the resistance encountered when opening the door is reduced almost immediately.

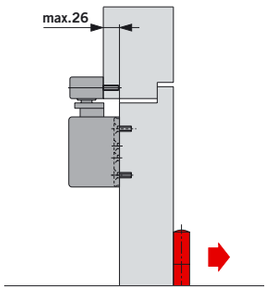


Opening and close force diagram
Closing force setting EN 4

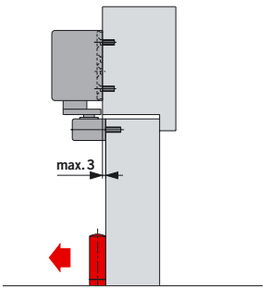
Opening moment
Closing moment



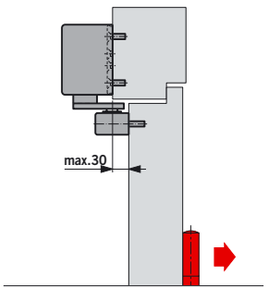
Door leaf fixing on the pull side DORMA TS 92 B
Structural conditions permitting, opening angles up to approx. 180° are possible



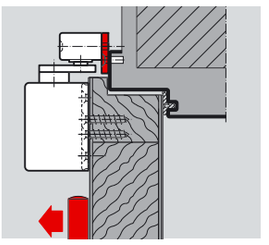
Door leaf fixing on the push side DORMA TS 92 G
Structural conditions permitting, opening angle from 120° to 145° are possible. Install a door stop at the maximum opening angle



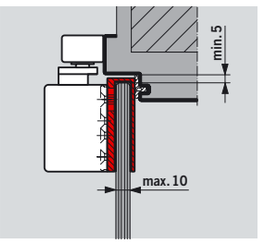
Transom fitting on the pull side DORMA TS 92 G
Structural conditions permitting, opening angles up to approx. 180° are possible



Transom fitting on the push side DORMA TS 92 B
Structural conditions permitting, opening angles up to approx. 120° to 145° are possible. Install door stop at max. opening angle



Mounting backplate for G-N
For attaching the slide channel to the door frame where direct fixing is not possible



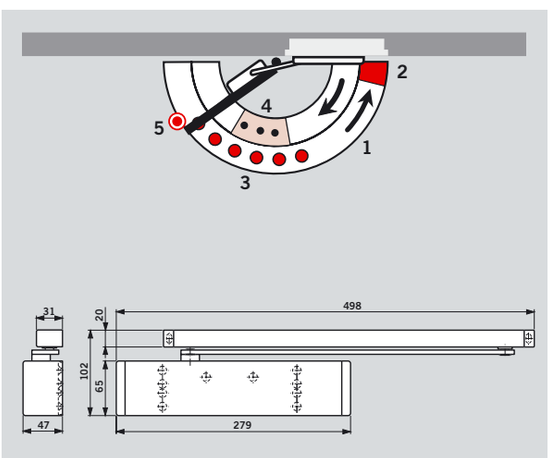
Saddle plate
For attaching the closer to toughened glass doors – no glass preparation, e.g. cutting and drilling, required

All examples refer to left-hand (ISO 6) doors;
mirror image applies to right-hand (ISO 5) doors

Data and features		TS 92 B/G[1]
Closing force, adjustable	Spring size EN	2–4 ●
Standard doors[2]	≤ 1100 mm	●
External doors, outward opening[2]		–
Fire and smoke check doors		●
Non-handed		●
Arm assembly	Slide channel	●
Closing speed adjustable by valve in two individual ranges	180°–15° 15°– 0°	●
Cushioned limit stay		○
Hold-open		○
Door closer compliant with EN 1154		●

● yes – no ○ option

[1] B = Model for door leaf fixing on the pull side/ transom fixing on the push side
G = Model for door leaf fixing on the push side/ transom fixing on the pull side.
[2] For particularly heavy doors and doors that have to close against wind resistance, we recommend the DORMA TS 93.



DORMA TS 92

- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Adjustable closing force (EN 2–4)
- Closing speed adjustable in the range 180°–15° **(1)**
- Closing speed adjustable in the range 15°–0° **(2)**
- Optional mechanical RF hold-open with on/off switch **(3)**
- Cushioned limit stay, optional **(4)**
- Door stop OGRO TZ 5000 **(5)**

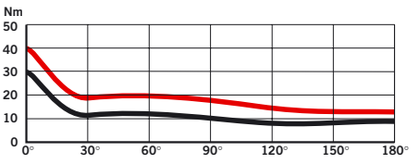
For specification texts, see page 224

Cam action door closers

Designed for light internal doors, the DORMA TS 91 cam action door closer offers compelling benefits in the form of the easy to operate linear drive and its attractive Softline design. Its extensive fixing options and affordable price make it a highly popular solution for a wide range of applications.

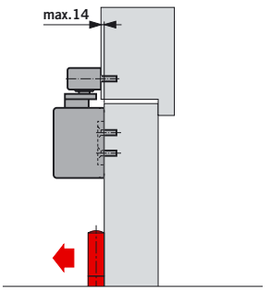
Opening and closing force diagram

The linear drive and heart-shaped cam ensure that the resistance encountered when opening the door is reduced almost immediately.

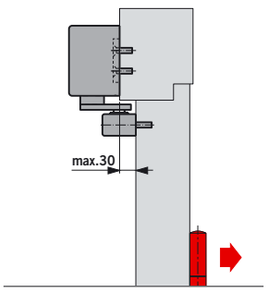


Opening and close force diagram
Closing force setting EN 4

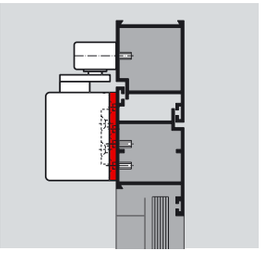
- Opening moment
- Closing moment



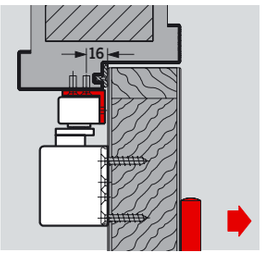
Door leaf fixing on the pull side
Structural conditions permitting, opening angles up to approx. 180° are possible



Transom fixing on the push side
Structural conditions permitting, opening angles from 120° to 145° are possible. Install a door stop at the maximum opening angle



Mounting backplate
For mounting on doors where direct fixing is not possible.
With universal fixing hole pattern



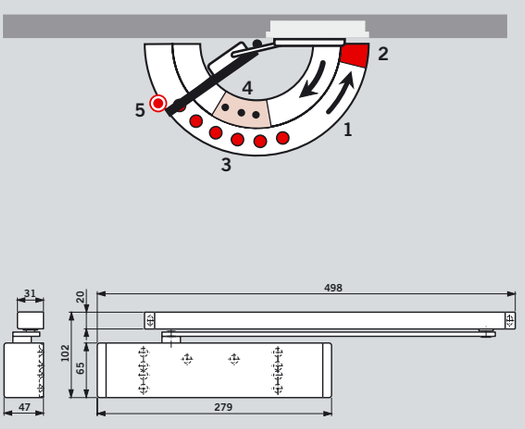
Angle bracket for G-N
For attaching the slide channel to door frames with a deep-set frame reveal when fixing on the push side.
For TS 92 and TS 91

All examples refer to left-hand (ISO 6) doors;
mirror image applies to right-hand (ISO 5) doors

Data and features		TS 91 B
Closing force	Spring size EN	3
Standard doors[1)]	≤ 950 mm	●
External doors, outward opening[1)]		–
Fire and smoke check doors		●
Non-handed		●
Arm assembly	Slide channel	●
Closing speed adjustable by valve in two individual ranges	180°–15° 15°– 0°	●
Cushioned limit stay		○
Hold-open		○
Door closer compliant with EN 1154		●

● yes – no ○ option

[1)] For particularly heavy doors and doors that have to close against wind resistance, we recommend the DORMA TS 93.



DORMA TS 91

- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Closing force EN 3
- Closing speed adjustable in the range 180°–15° **(1)**
- Closing speed adjustable in the range 15°–0° **(2)**
- Optional mechanical RF hold-open with on/off switch **(3)**
- Mounting backplate with universal fixing hole pattern
- Cushioned limit stay, optional **(4)**
- Door stop OGRO TZ 5000 **(5)**

Door closers with projecting arm

If a door closer is required that not only closes doors but also protects the door and adjacent walls in the event that the door is flung open or caught by a gust of wind, the DORMA TS 83 is the answer: Provided as standard with adjustable, self-regulating backcheck.

And if more time is required for passage through the doorway, the optional delayed-action mechanism provides this very feature – also applicable on fire and smoke check doors.

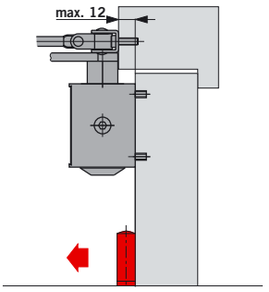
Hold-open arms with on/off switch are also available for temporarily holding the doors at a specific point. And for external doors, the DORMA TS 83 can also be supplied with optimised corrosion protection.

With all these excellent properties, it is hardly surprising that this door closer is extremely popular in hospitals and clinics, sheltered housing, hotels, shops and office buildings.

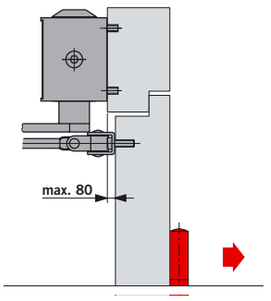
Approval certification

The DORMA TS 83 has been tested and approved to EN 1154 by the State Material Testing Authority, Dortmund/Germany and is subject to third-party quality verification. Regular audit testing is undertaken. Test reports and/or certificates are available on request.

In the case of the transom-fixed DORMA TS 83 on the push side, additional approval certification may be required in conjunction with the fire and smoke check door concerned – check local regulations.



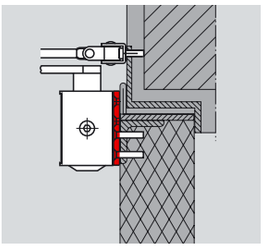
Door leaf fixing on the pull side



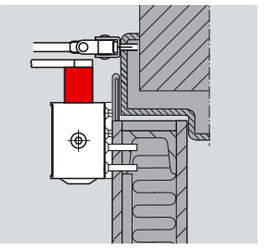
Transom fixing on the push side

Data and features		TS 83 EN 2–6	TS 83 EN 7
Closing force, adjustable	Spring size		
Standard doors, external doors, outward opening	≤ 1400 mm	●	–
Fire and smoke check doors	≤ 1600 mm	–	●
Non-handed		●	●
Projecting arm assembly		●	●
Closing force adjustable by screw		●	–
Closing speed adjustable by valve		●	●
Latching action adjustable by arm		●	●
Backcheck	self-regulating	●	●
	adjustable by valve	●	●
Delayed closing action adjustable by valve		○	–
Hold-open (not for fire and smoke check doors)		○	○
Door closer compliant with EN 1154		●	●

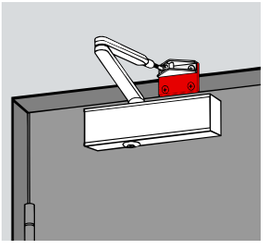
● yes – no ○ option



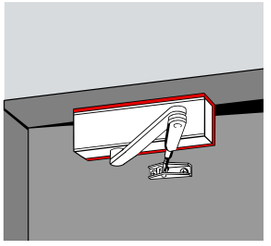
Fixing to fire and smoke check doors with mounting backplate
with universal fixing hole pattern to EN 1154



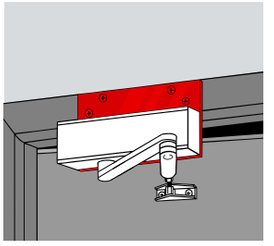
Fixing on doors with high over-rebating
with extended spindle insert



Fixing on doors with narrow frame
with upstand bracket

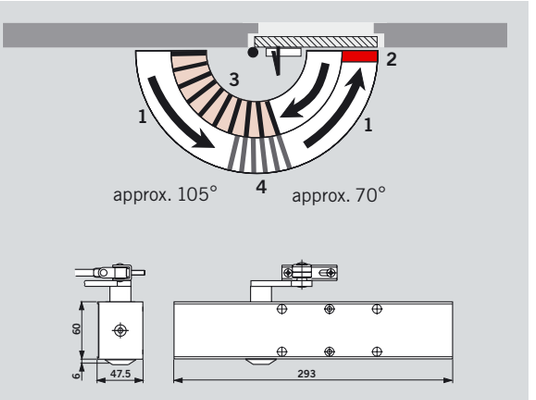


Transom fixing on doors with deep-set frame reveal
with angle bracket; not suitable for fire and smoke check doors



Transom fixing on frames where direct mounting is not possible
with drop plate; not suitable for fire and smoke check doors

Backcheck BC
The backcheck serves to absorb the energy generated when the door is flung open or caught by heavy gusts of wind.



DORMA TS 83
- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Adjustable closing force (EN 3-6) and EN 7
- Adjustable closing speed **(1)**
- Adjustable latching action **(2)**
- Adjustable, self-regulating backcheck **(3)**
- Delayed closing action (DC/SV), optional **(4)**
- Optional mechanical RF hold-open (not suitable for fire and smoke check doors)
- Optimised additional corrosion protection (AC), optional

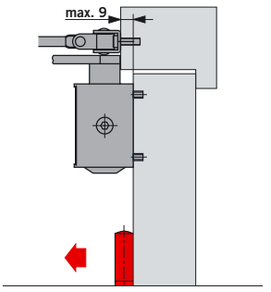
For specification texts, see page 211 ff.

Door closers with projecting arm

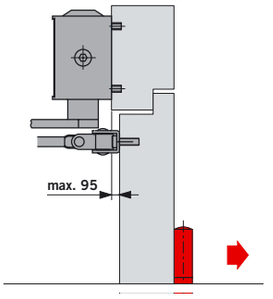
A particularly versatile and compact door closer featuring conventional technology. Its suits a wide range of internal doors and can also be used for fire and smoke check doors.
Installation is simple and the DORMA TS 73 can be provided with a hold-open device for doors that occasionally need to be kept open.

F Approval certification
The DORMA TS 73 V has been tested and approved to EN 1154 by the State Material Testing Authority, Dortmund/Germany and is subject to third-party quality verification. Regular audit testing is undertaken. Test reports and/or certificates are available on request.
In the case of the transom-fixed DORMA TS 73 V on the push side, additional approval certification may be required in conjunction with the fire and smoke check door concerned – check local regulations.

Backcheck – BC
The backcheck serves to absorb the energy generated when the door is flung open or caught by heavy gusts of wind.
This effectively protects the wall and door from damage.



Door leaf fixing on the pull side

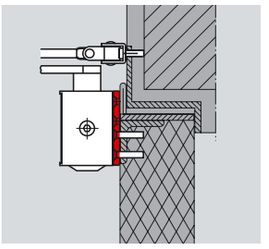


Transom fixing on the push side

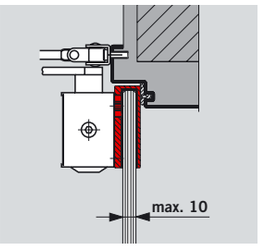
Data and features		TS 73 V
Closing force, adjustable	Spring size	EN 2–4
Standard doors, external doors, outward opening, fire and smoke check doors	≤ 1100 mm	●
Non-handed		●
Projecting arm assembly		●
Closing force adjustable by screw and arm hinge		●
Closing speed adjustable by valve		●
Latching action adjustable by arm		●
Backcheck	self-regulating	●
	adjustable by valve	●
Hold-open (not for fire and smoke check doors)		○
Door closer compliant with EN 1154		●

● yes ○ option

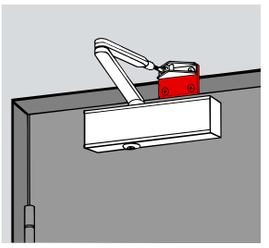
[1] For particularly heavy doors, external doors and doors that have to close against heavy wind resistance, we recommend the DORMA TS 83.



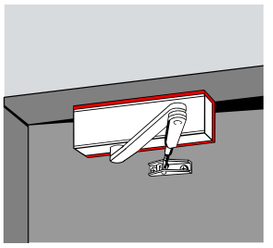
Fixing to fire and smoke check doors with mounting backplate
with universal fixing hole pattern to EN 1154



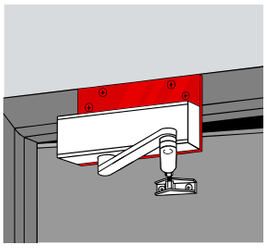
Saddle plate for attaching the closer to toughened glass doors – no glass preparation, e.g. cutting and drilling, required



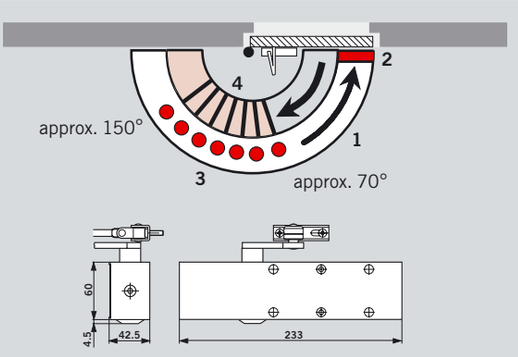
Fixing on doors with narrow frame
with upstand bracket



Transom fixing on frames where direct mounting is not possible
with drop plate; not suitable for fire and smoke check doors



Transom fixing on doors with deep-set frame reveal
with angle bracket; not suitable for fire and smoke check doors



DORMA TS 73 V

- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Adjustable closing force (EN 2–4)
- Adjustable closing speed **(1)**
- Adjustable latching action **(2)**
- Optional mechanical RF hold-open **(3)**
  (not suitable for fire and smoke check doors)
- Adjustable, self-regulating backcheck **(4)**

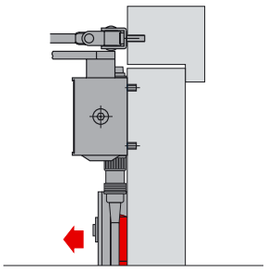
For specification texts, see page 212

With projecting arm and hold-open – for fire and smoke check doors

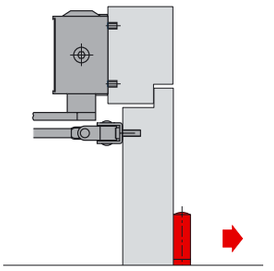
DORMA TS 73 EMF
This unit holds open doors electro-hydraulically at angles between approx. 75° and 180° with only very slight fall-back. In the event of an alarm or power failure, the hold-open is released and the door is automatically closed.
The release of the hold-open in the DORMA TS 73 EMF can be initiated by external lintel and ceiling-mounted smoke detectors (e.g. DORMA RMZ 2, RM) or by a fire alarm system.

The hold-open can also be released by simply tugging the door in the closing direction.

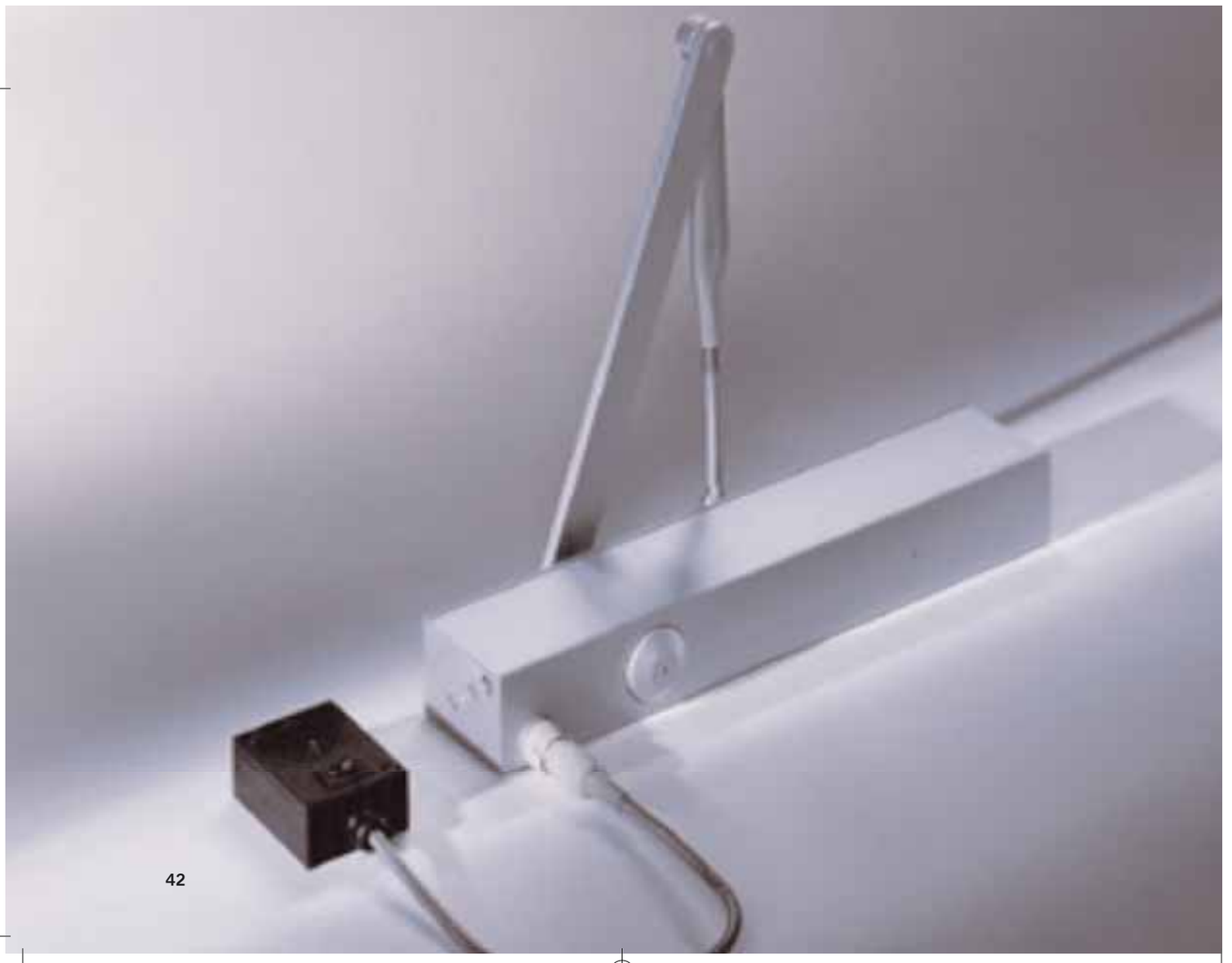
DORMA TS 73 EMF-FL
with free-swing function
(see TS 73 EMR, page 44)



Door leaf fixing on the pull side DORMA 73 EMF/B
The power supply is provided via a junction box with plug-in connection



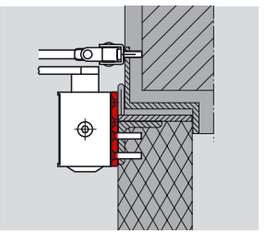
Door leaf fixing on the push side DORMA TS 73 EMF/BG
for power supply by others



Data and features		TS 73 EMF		
Closing force	Spring size	EN 4	EN 5	EN 6
Standard doors[1)] and fire/smoke check doors	≤ 1100 mm	●	–	–
	≤ 1250 mm	–	●	–
	≤ 1400 mm	–	–	●
Non-handed		●	●	●
Projecting arm assembly		●	●	●
Closing force ±15% adjustable by arm hinge		●	●	●
Closing speed adjustable by valve		●	●	●
Latching speed adjustable by projecting arm		●	●	●
Hold-open point variable (75°–180° opening angle)		●	●	●
Free-swing function		○	○	○
Power input		2 W		
Operating voltage		24 V DC ±15%		
Rated for continuous duty		100% DF		
Release force in Nm, approx. (from a door opening angle of approx. 90°)		55	60	65

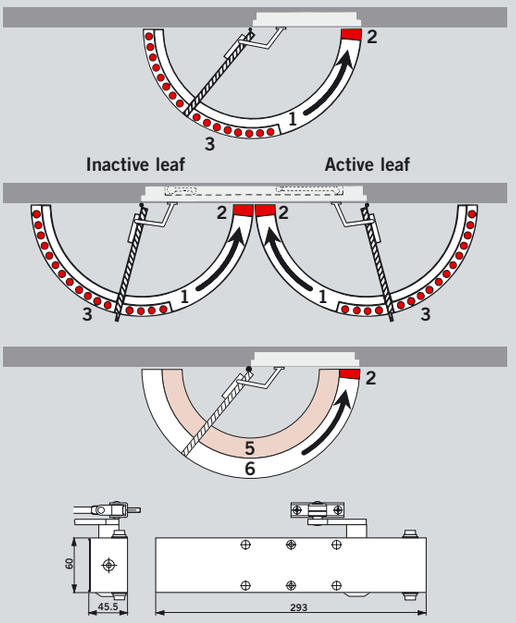
● yes – no ○ option

[1)] For heavy or wide doors, and doors closing against wind resistance, select the next highest door closer size.



Fixing on fire and smoke check doors with mounting backplate, with universal fixing hole pattern to EN 1154

Application example: Hold-open system on a fire and smoke check door, comprising: Door closer DORMA TS 73 EMF **(1)**; lintel-mounted smoke detector DORMA RMZ 2 **(2)**; one ceiling-mounted smoke detector DORMA RM **(3)** on either side of the door; door stop OGRO TZ 5000 **(4)**.



DORMA TS 73 EMF
- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Closing force optionally EN 4, 5, 6
- Adjustable closing force (±15%)
- Adjustable closing speed **(1)**
- Adjustable latching action **(2)**
- Electro-hydraulic hold-open, adjustable release force **(3)**

DORMA TS 73 EMF
For double fire and smoke check doors
- With DORMA SR 390 or SR 392 door coordinator

DORMA TS 73 EMF/FL
With free-swing function via arm
- Door closer activation in the event of an alarm only **(5)**
- Door freely moveable under normal operating conditions; with double doors, free-swing function only available in the active leaf **(6)**

For specification texts, see page 213 ff.

With projecting arm, hold-open and integral smoke detector – for fire and smoke check doors

DORMA TS 73 EMR

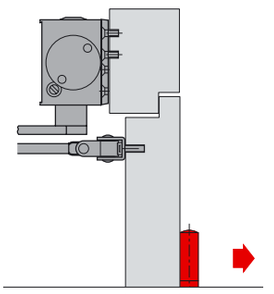
This unit with its electro-hydraulic hold-open can hold doors at angles from approx. 75° to 180° with no more than a minimum fall-back. In the event of an alarm or power failure, the hold-open is released and the door closes automatically. Release initiation is performed by an integrated smoke detector, so rendering the system independent of other alarm systems. Another advantage: Where the clearance between the ceiling and the bottom edge of the transom is less than 1 m and the door width is 3 m or less, an additional smoke detector may not be required – check local regulations.
The hold-open can also be released by simply tugging the door in the closing direction.

DORMA TS 73 EMR-FL

The free-swing function enhances the ease of door operation thanks to the significantly reduced resistance. This free motion remains available unless an alarm is triggered, in which case the door is automatically closed – an ideal combination of functions in heavy-traffic applications.

F Approval certification

The DORMA TS 73 EMR can only be installed on fire and smoke check doors that have been approved for such applications and carry the necessary approval certificate or test report.



Transom fixing on the push side with mounting backplate, with universal fixing hole pattern to EN 1154

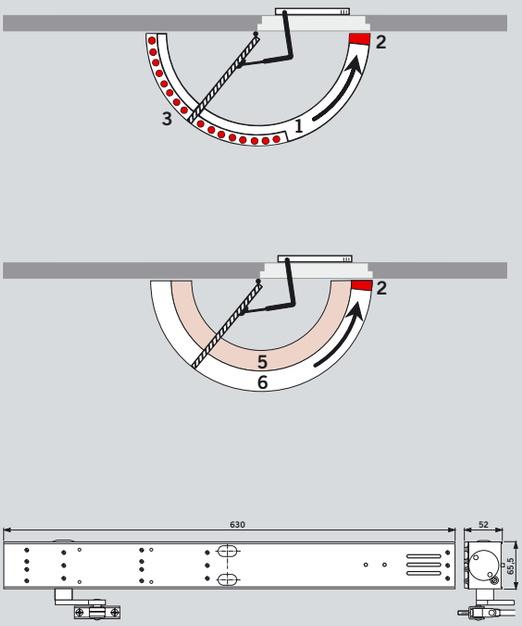
All examples refer to left-hand (ISO 6) doors; mirror image applies to right-hand (ISO 5) doors

Data and features		TS 73 EMR		
Closing force	Spring size	EN 4	EN 5	EN 6
Standard doors[1)] and fire/smoke check doors	≤ 1100 mm	●	–	–
	≤ 1250 mm	–	●	–
	≤ 1400 mm	–	–	●
Non-handed		●	●	●
Projecting arm assembly		●	●	●
Closing force ± 15% adjustable by arm hinge		●	●	●
Closing speed adjustable by valve		●	●	●
Latching speed adjustable by projecting arm		●	●	●
Hold-open point variable (75°-180° opening angle)		●	●	●
Free-swing function		○	○	○
Power supply data		230 V AC (+15%, – 10%)		
Class of protection/ Enclosure rating		II VDE/IP 30 acc.to DIN 40 050		
Microfuse		0.5 A		
Operating/output voltage		24 V DC		
Output current		250 mA		
Rated for continuous duty		100% DF		
Response sensitivity		0.5 dB/m ≙ 10.8%/m		
Release force in Nm, approx. (at a door angle of approx. 90°)		55	60	65

● yes – no ○ option

[1)] For heavy or wide doors, and doors closing against wind resistance, select the next highest door closer size.

Application example: Hold-open system on a fire and smoke check door, comprising: Door closer DORMA TS 73 EMR **(1)** with integral smoke detector; one ceiling-mounted smoke detector DORMA RM **(2)** on either side of the door; door stop OGRO TZ 5000.



DORMA TS 73 EMR
- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Closing force optionally EN 4, 5, 6
- Adjustable closing force (±15%)
- Adjustable closing speed **(1)**
- Adjustable latching action **(2)**
- Electro-hydraulic hold-open, adjustable release force **(3)**

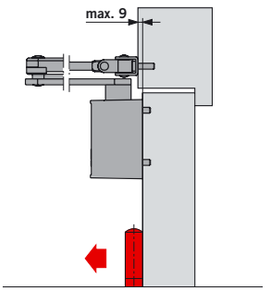
DORMA TS 73 EMR/FL
With free-swing function via arm
- Door closer activation in the event of an alarm only **(5)**
- Door freely moveable under normal operating conditions; with double doors, free-swing function only available in the active leaf **(6)**

For specification texts, see page 215 ff.

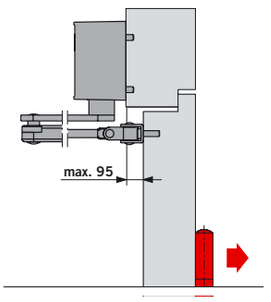
Standard door closer with projecting arm

Whether LH or RH doors and whether timber, plastics or metal – the DORMA TS 72 provides a simple yet ideal door closer specification for internal doors. The unit is designed for direct fixing for easy installation and offers individual, infinitely variable closing force between EN 2 and 4 (adjustment screw) to suit the specific door sizes.

The closing speed of the DORMA TS 72 can also be ideally adapted to requirements via two regulating valves. And the arm-adjustable latching action also ensures that the door closes reliably every time.



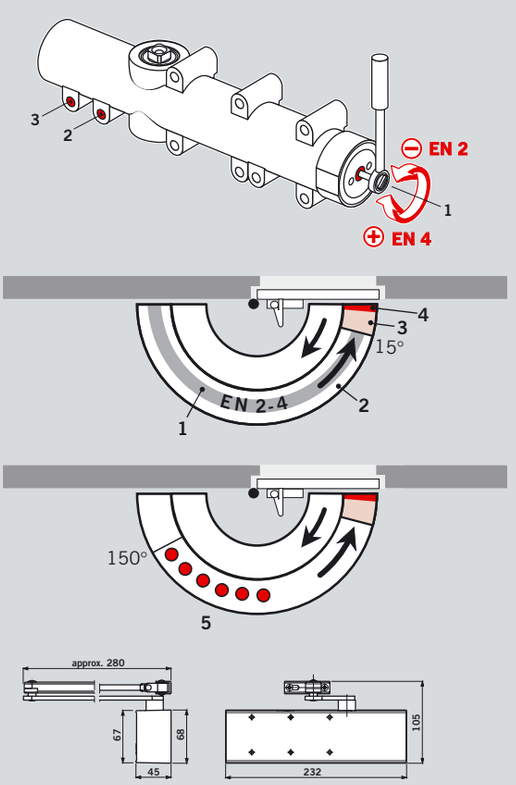
Door leaf fixing on the pull side



Transom fixing on the push side

Data and features		TS 72
Closing force, adjustable	Spring size	EN 2 – 4
Standard doors + FS/RS	≤ 1100 mm	●
Non-handed		●
Projecting arm assembly		●
Closing speed adjustable by two independent valves	180° – 15° 15° – 0°	●
Adjustable latching speed (by arm)		●
Hold-open		○
Door closer compliant with EN 1154		●

● yes ○ option



DORMA TS 72

- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Adjustable closing force (EN 2–4) **(1)**
- Closing speed adjustable in the range 180° – 15° **(2)**
- Closing speed adjustable in the range 15° – 0° **(3)**
- Latching action adjustable (by arm) **(4)**
- Hold-open arm optional
  Hold-open at any point up to approx. 150° **(5)**

For specification texts, see page 225

The floor spring series

Where door closers are required to perform their function discretely yet still meet exacting convenience and safety criteria, the DORMA BTS 80 invariably constitutes the ideal solution. Its wide range of accessories allows effective adaptability to various door designs and flooring materials.

DORMA BTS 80

For single and double action doors

As a universal floor spring, the DORMA BTS 80 has been designed to meet the requirements of doors of all types. With its many individually combinable extras, it is able to satisfy almost every requirement.

DORMA BTS 80 F

For fire and smoke check doors

The DORMA BTS 80 F is suitable for fire and smoke check doors to DIN 4102: Part 18. These doors have to exhibit the special design features required for floor spring operation. If used on fire barriers approved by the building supervisory authorities, compliance with the conditions of the relevant approval certificate must be ensured.

DORMA BTS 80 EMB

With electro-hydraulic hold-open

The DORMA BTS 80 EMB enables single-leaf fire and smoke check doors to be held open at an angle between approx. 75° and 180°. Due to the principle employed, a very slight fall-back must be expected. In the event of an alarm or power failure, the hold-open is released and the floor spring closes the door. Release initiation is by external lintel or ceiling-mounted smoke detectors (e.g. DORMA RMZ 2, RM) or by a fire alarm system. The hold-open can also be simply released by simply tugging the door in the closing direction.

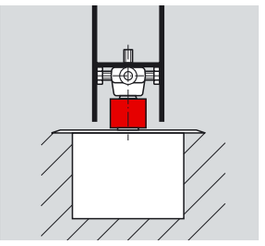
DORMA BTS 80 FLB

With free-swing function

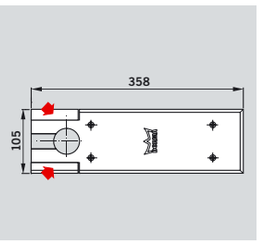
With this unit, single-leaf fire and smoke check doors can move freely during normal operation. In the event of an alarm, however, they are reliably closed by the floor spring.

F Approval certification

The DORMA BTS 80 F has been approved by the State Material Testing Authority, Dortmund/Germany, to EN 1154 and is subject to third-party quality verification.
Regular audit testing is undertaken. Test reports and/or certificates are available on request.



Extended spindle inserts
The floor clearance can be adjusted to the required value by using the appropriate spindle inserts. This is particularly advantageous for doors with thresholds or operating over carpeted floors. Spindle inserts are available in lengths from 5 mm to 50 mm

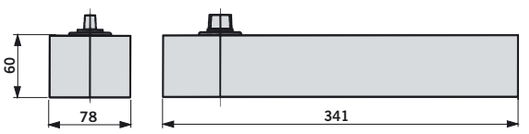


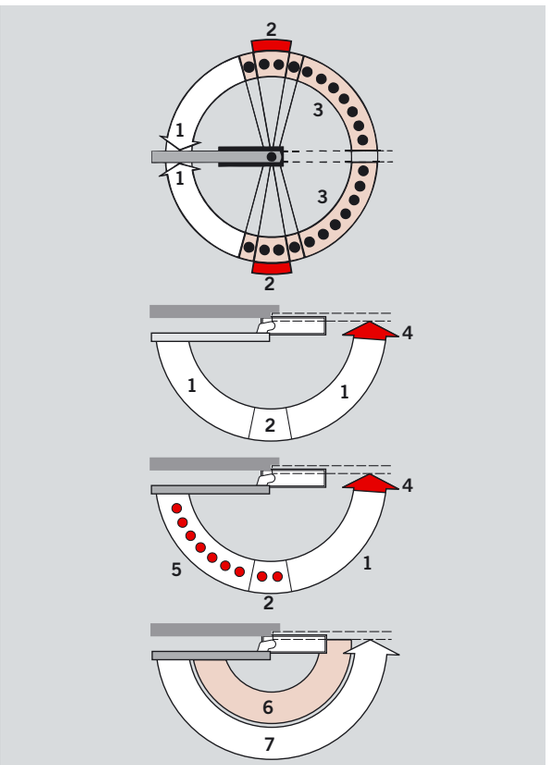
Universal cover plate
Adjustable to right or left hand single action applications by simply snapping off the appropriate pre-blanked corner sections. Available in stainless steel or satin-brushed brass

Data and features		BTS 80	BTS 80 F	BTS 80 EMB	BTS 80 FLB
Closing force/Spring strength Standard doors	≤ 1100 mm	–	EN 4	EN 4	EN 4
Fire and smoke check doors	≤ 1250 mm	–	EN 5	EN 5	EN 5
	≤ 1400 mm	–	EN 6	EN 6	EN 6
Closing force/Spring strength Standard doors	≤ 950 mm	EN 3	–	–	–
	≤ 1100 mm	EN 4	–	–	–
	≤ 1400 mm	EN 6	–	–	–
Non-handed, suitable for double action doors[1]		●	–	–	–
Handing	LH (ISO 6)	–	●	●	●
	RH (ISO 5)	–	●	●	●
Closing speed adjustable by valve		●	●	●	●
Latching speed adjustable by valve		–	●	●	–
Backcheck, mechanical		●	●	●	–
Hold-open, electro-hydraulic, hold-open point adjustable 75°–180°		–	–	●	–
Free swing 0°–180°		–	–	–	●
Power input in W		–	–	2.3	2.3
Operating voltage in V DC ±15%,		–	–	24	24
Rated for continuous duty (DF in %)		–	100	100	100
Hydraulic hold-open		●	–	–	–
Floor spring compliant with EN 1154		●	●	●	●
Hold-open device compliant with EN 1155		–	–	●	●

● yes – no

[1] Not permitted for fire and smoke check doors in Germany.





DORMA BTS 80
- Max. door leaf weight: 300 kg
- Closing force optionally EN 3, 4, 6
- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Adjustable closing speed **(1)**
- Mechanical backcheck, from approx. 80° **(2)**
- Adjustable hold-open or delayed closing action, approx. 75°–180° **(3)**

DORMA BTS 80 F
- Max. door leaf weight: 300 kg
- Closing force optionally EN 4, 5, 6
- Adjustable closing speed **(1)**
- Mechanical backcheck, from approx. 80° **(2)**
- Adjustable latching action **(4)**

DORMA BTS 80 EMB
As DORMA BTS 80 F, but additionally with electro-hydraulic hold-open **(5)**

DORMA BTS 80 FLB
As DORMA BTS 80 F, but with automatic closing function in the event of an alarm. **(6)**
Free-moving door during normal operation **(7)**

For specification texts, see page 217 ff.

The floor spring series

DORMA BTS 80 BSR

With door coordinator

Ensures the correct closing sequence of double doors, i.e. inactive leaf before active leaf. This system, which operates independently of the floor spring, features active leaf and inactive leaf sequencing mechanisms that are connected by a Bowden cable.

DORMA BTS 80 BSR-EMB

With door coordinator and electro-mechanical hold-open

This system offers the precise setting of the hold-open positions of double-leaf fire and smoke check doors. Depending on the model, these either work independently of each other or in combination.

In the event of an alarm or power failure, the hold-open is released and the door co-ordinator ensures that the floor springs close the leaves in the correct sequence. Release initiation of the system is by lintel or ceiling-mounted smoke detectors (e.g. DORMA RMZ 2, RM) or by fire alarm system.

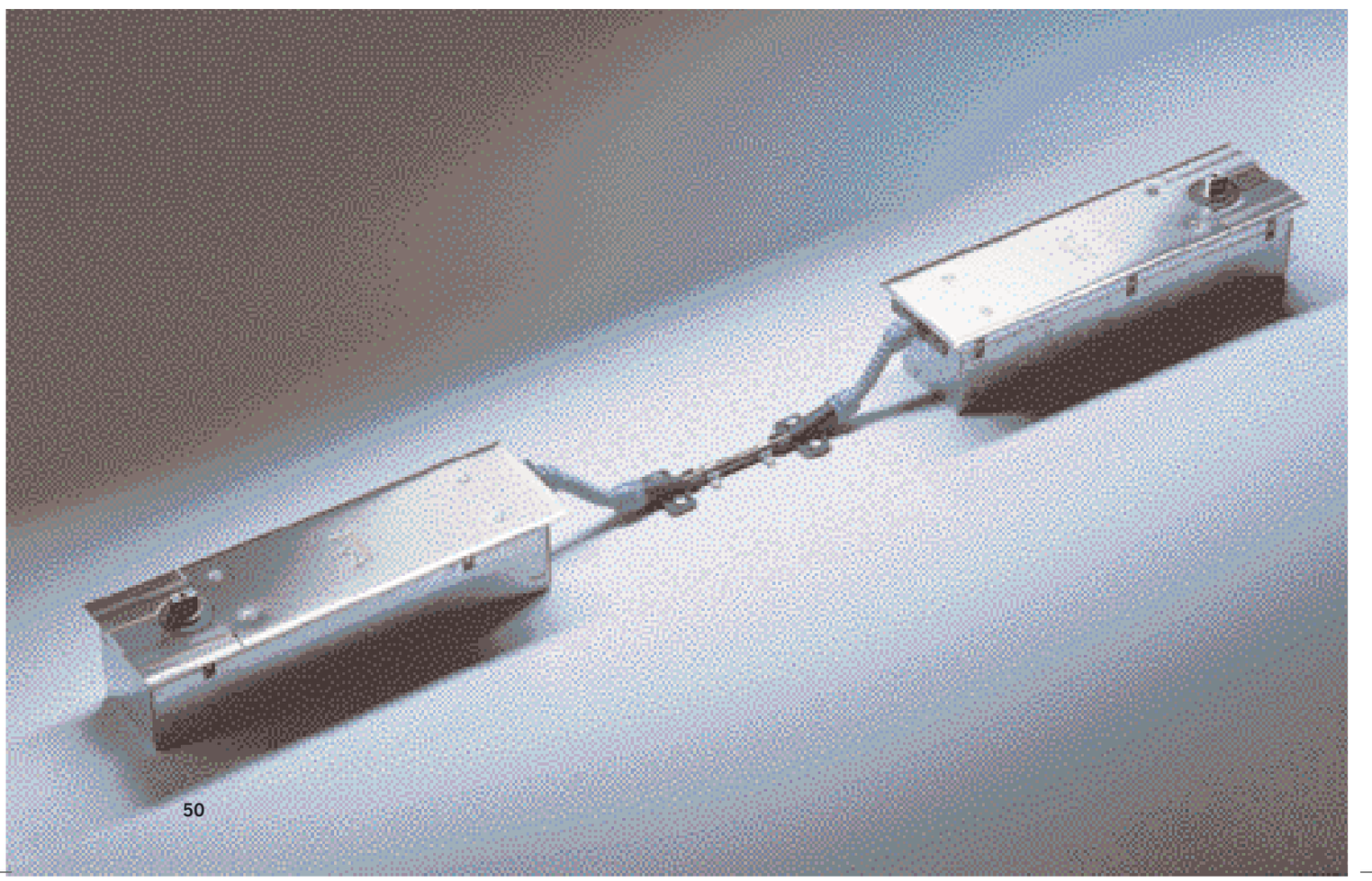
The hold-open can also be released by simply tugging the doors in the closing direction.

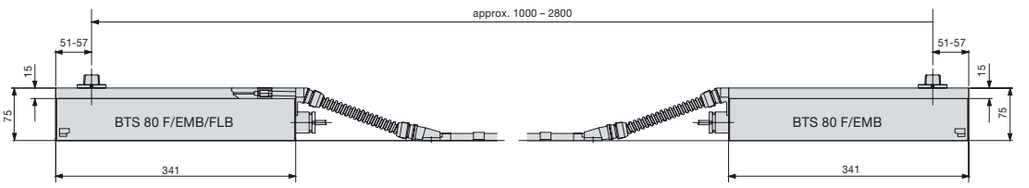
Technical data DORMA BTS 80 BSR-EMB and FLB

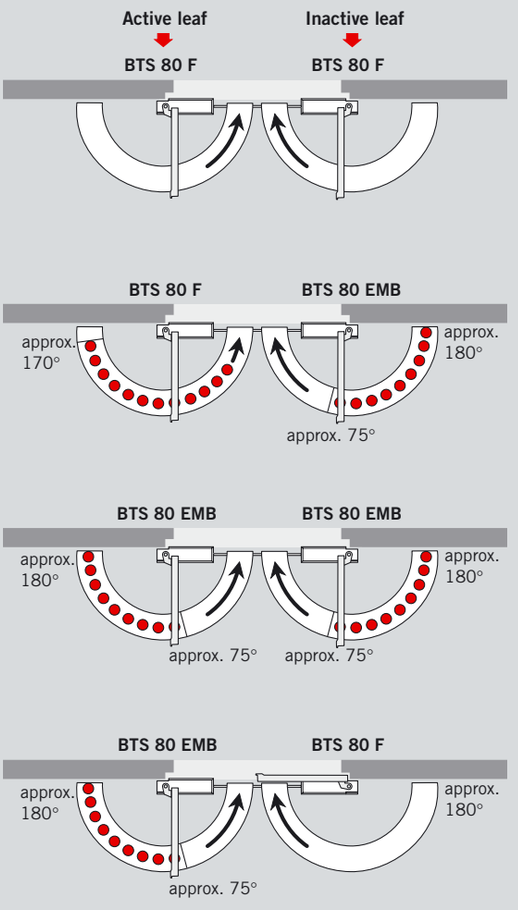
Operating voltage	24 V DC
Power input	1.6 W
(BSR-EMB 2	3.2 W)
Rated for continuous duty	100% DF

F Approval certification

The DORMA BTS 80 BSR has been approved by the State Material Testing Authority, Dortmund/ Germany for use on double doors. Additional approval certification may be required in conjunction with the fire and smoke check door concerned - check local regulations.







DORMA BTS 80 BSR
Correct closing sequence of door leaves

DORMA BTS 80 BSR-EMB 1
Combined hold-open of the door leaves and correct closing sequence in the event of an alarm

DORMA BTS 80 BSR-EMB 2
Independent hold-open of the door leaves and correct closing sequence in the event of an alarm

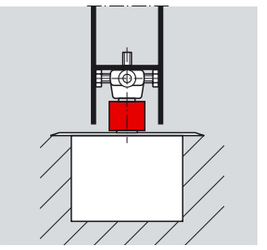
DORMA BTS 80 BSR-EMB 1G
Hold-open of the active door leaf only (e.g. in doors with fixed side screens, unequal leaves, etc.) and correct closing sequence in the event of an alarm

For specification texts, see page 219 ff.

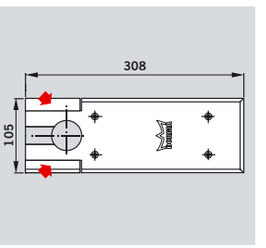
Universal floor springs

The DORMA BTS 75 V is a highly adaptable floor spring suitable for all standard single and double action doors with widths up to 1100 mm, with its closing force individually regulated by means of an adjustment screw.

Maximum ease of use and a wide range of accessories allowing the system to be installed in conjunction with different door designs and floor covering types are the salient features of the DORMA BTS 75 V.



Extended spindle inserts
For doors with thresholds and carpet-covered floors, these are the ideal solution. DORMA spindle inserts can be fitted to increase the floor clearance and are available in lengths from 5 to 50 mm

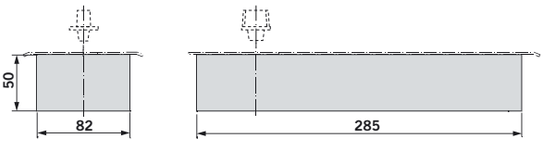


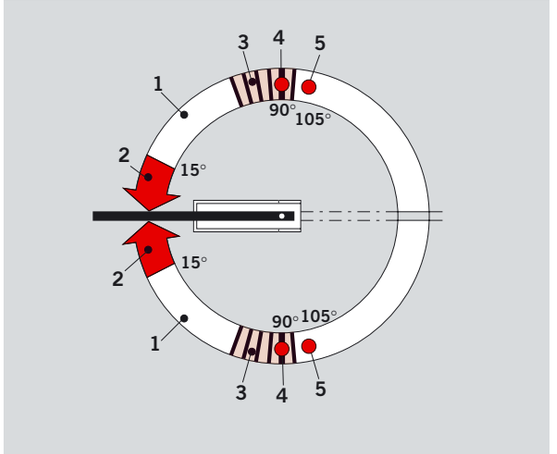
Universal cover plate
Simply snap off the pre-blanked corner sections and the universal cover plate can be adapted to either an LH (ISO 6) or an RH (ISO 5) door as required. Available in stainless steel or satin-brushed brass

Data and features		BTS 75 V
Closing force, adjustable		EN 1–4
Standard doors + FS/RS external doors[1)]	≦ 1100 mm	●
Non-handed and suitable for both single and double action doors		●
Closing force adjustable by screw		●
Closing speeds independently adjustable by separate valves	180° – 15° 15° – 0°	●
Backcheck, mechanical		●
Fixed hold-open at an angle of (no hold-open for fire doors)	90° 105°	○ ○
Cover plate fixed to floor spring		●
Floor spring compliant with EN 1154		●

● yes ○ option

[1)] For particularly high and heavy doors and also doors that constantly have to close against wind pressure, we recommend the DORMA BTS 80.





DORMA BTS 75 V

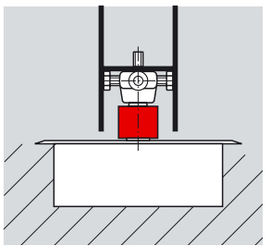
- Max. door weight: 120 kg
- Non-handed model for RH (ISO 5) and LH (ISO 6)
- Adjustable closing force (EN 1–4)
- Closing speed adjustable in two separate ranges – approx. 180° to approx. 15° **(1)**
  and approx. 15° to approx. 0° (latching action) **(2)**
- Mechanical backcheck **(3)**
- Constant hold-open, approx. 90°, optional **(4)**
- Constant hold-open, approx. 105°, optional **(5)**

For specification texts, see page 225 ff.

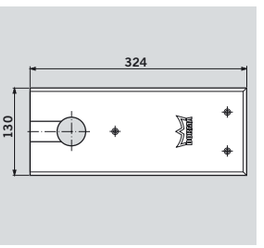
Floor springs for double action doors

Specially designed for the movement patterns of double action doors, the DORMA BTS 84 can be easily adapted to individual requirements. With an installation depth of just 40 mm, it offers the particular advantage of only requiring a shallow pocket, thus enabling problem-free installation.

The wide-ranging choice of accessories ensures adaptability to the most varied floor designs and flooring materials.



Extended spindle inserts
Replacement spindles can be used to increase the floor clearance when required. Ideal where doors are provided with thresholds or operate over carpet-covered floors. Available in lengths from 5 mm to 50 mm



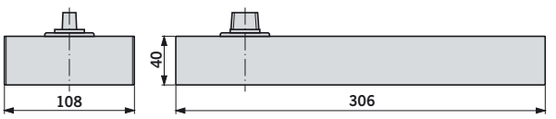
Cover plate
Available in stainless steel or satin-brushed brass

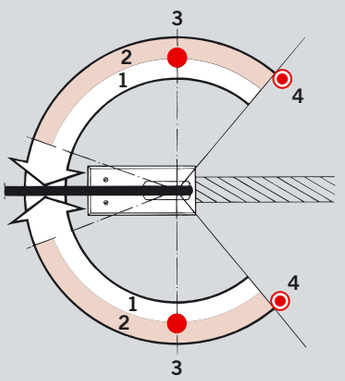
Data and features		BTS 84		
Closing force		EN 2	EN 3	EN 4
Standard doors	≤ 850 mm	●	–	–
and external doors[1) 2)]	≤ 950 mm	–	●	–
	≤ 1100 mm	–	–	●
Closing speed adjustable by valve		●	●	●
Constant hold-open at 90°		○	○	○
Floor spring compliant with EN 1154		●	●	●

● yes – no ○ option

[1)] For particularly high and heavy doors and also doors that constantly have to close against wind pressure, select the floor spring in the next highest size or the DORMA BTS 80.

[2)] Max. opening angle 130°.
In the case of doors that can open beyond 130°, install a door stop.





DORMA BTS 84

- Max. door weight: 100 kg
- Closing force optionally EN 2, 3, 4
- Adjustable closing speed **(1)**
- Second adjustable closing range approx. 130 to approx. 20° **(2)**
- Constant hold-open, approx. 90°, optional **(3)**
- Max. door opening angle: approx. 130°
- Door stop OGRO TZ 5000 **(4)**

For specification texts, see page 226 ff.

Concepts for the optimum hold-open system

The lintel and ceiling-mounted smoke detectors DORMA RMZ and DORMA RM, and also the RZ 01 power supply unit constitute the ideal accessories for an effective, integrated fire protection system.
As the perfect adjuncts to the internationally proven DORMA door closer control systems, they allow fire and smoke check doors to be held open in a wide range of applications and under varying conditions. Their innovative design means that the dimensions of these units are particularly compact, so facilitating their installation at the most suitable location. And also in the visual sense they constitute an attractive alternative with their Softline styling harmonising with any environment.

Data and features		RMZ-K	RMZ-S	RMZ 2	RM	RM-S	RZ 01
Functions	Smoke detector	●	●	●	●	●	–
	Release device	●	●	●	●	●	–
	Power supply	●	●	●	–	–	●
Smoke detector	Scattered light principle (optical)	●	●	●	●	●	–
Installation	Lintel	●	●	●	●	–	–
	Ceiling	–	–	–	●	●	–
Connection of other detectors	2-wire system	●	●	●	●	●	–
	Smoke switch	●	–	●	●	–	–
Total installed load (max.) for hold-open devices and other detectors in W		4.4	4.4	7.7	Depends on power supply unit	–	8.5
Power input to internal detectors in W		0.5	0.5	0.6	0.6	0.5	–
Displays	Alarm – red LED	●	●	●	●	●	–
	Standby – green LED	●	●	●	●	–	●
Input voltage		230 V AC ±10%	230 V AC ±10%	230 V AC ±10%	24 V DC +15%, –10%	20–30 V DC	230 V AC ±10%
Output voltage		24 V DC	24 V DC	24 V DC	24 V DC	–	24 V DC
Operating voltage of detectors		24 V DC	24 V DC	24 V DC	24 V DC	20-30 V DC	–
Current input (max.) in mA		111	91	75	25	22.5	85
Floating change-over contact	Switching voltage (max.)	60 V DC/ 25 V AC	–	60 V DC/ 25 V AC	60 V DC/ 25 V AC	–	–
	Switching current (max.)	2 A		2 A	2 A		
	Switching capacity (max.)	60 W		60 W	60 W		
Reset	Automatic	●	●	●	●	●	–
Test port for functional check		●	●	●	●	–	–
Connection for external manual release		●	–	●	●	–	–
Class of protection		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Ambient temperature in °C		–15, +60	–15, +60	–20, +50	–20, +50	–20, +70	–20, +50

● yes – no

Example illustrating number and arrangement of smoke detectors

1 lintel-mounted detector
The door width **(B)** is ≤ 3 m, and the distance **(A)** between the ceiling and the bottom of the transom is ≤ 1 m.

1 lintel-mounted detector and 2 ceiling-mounted detectors
The door width **(B)** is ≤ 3 m, and the distance **(A)** between the ceiling and the bottom of the transom is ≤ 1 m.

Lintel-mounted smoke detectors

DORMA RMZ-K

The DORMA RMZ-K with its stabilised power supply unit feeds connected hold-open devices with 24 V DC and ensures that they are tripped in the event of an alarm or a power failure (release function). Resetting is performed automatically. These units also feature outlets for connecting other detectors (e.g. DORMA RM) as well as for an external manual release device and floating change-over contact.

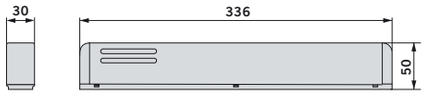
DORMA RMZ-S

The DORMA RMZ-S lintel-mounted smoke detector with stabilised power pack supplies connected hold-open devices with 24 V DC and trips these in the event of an alarm or a power failure (release function). Resetting is automatic. Further sensors (line detectors – e.g. the RM-S) can be connected to the DORMA RMZ-S.

Finishes

- Silver
- White (sim. to RAL 9016)
- White (sim. to RAL 9010)
- Special colours
- Stainless steel finish
- Polished brass

For specification texts, see page 228 ff.



Lintel and ceiling-mounted smoke detectors

DORMA RMZ 2

The lintel-mounted smoke detector DORMA RMZ 2 with its stabilised power supply unit feeds connected hold-open devices with 24 V DC and ensures that they are tripped in the event of an alarm or a power failure (release function). Resetting is performed automatically. These units also feature outlets for connecting other detectors (e.g. DORMA RM) as well as for an external manual release device and floating change-over contact.

DORMA RM

The ceiling-mounted smoke detector DORMA RM is designed as a smoke switch and trips a floating change-over contact in the event of an alarm or a power failure. Likewise contains outlets for connecting other detectors as well as for an external manual release device and floating change-over contact.

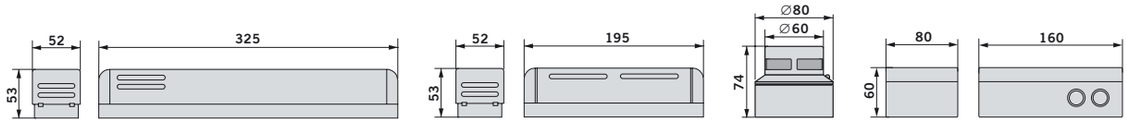
DORMA RM-S

The line smoke detector DORMA RM-S is capable of the early detection of both smouldering fires and open fires with smoke development, and can be connected to all DORMA hold-open systems.

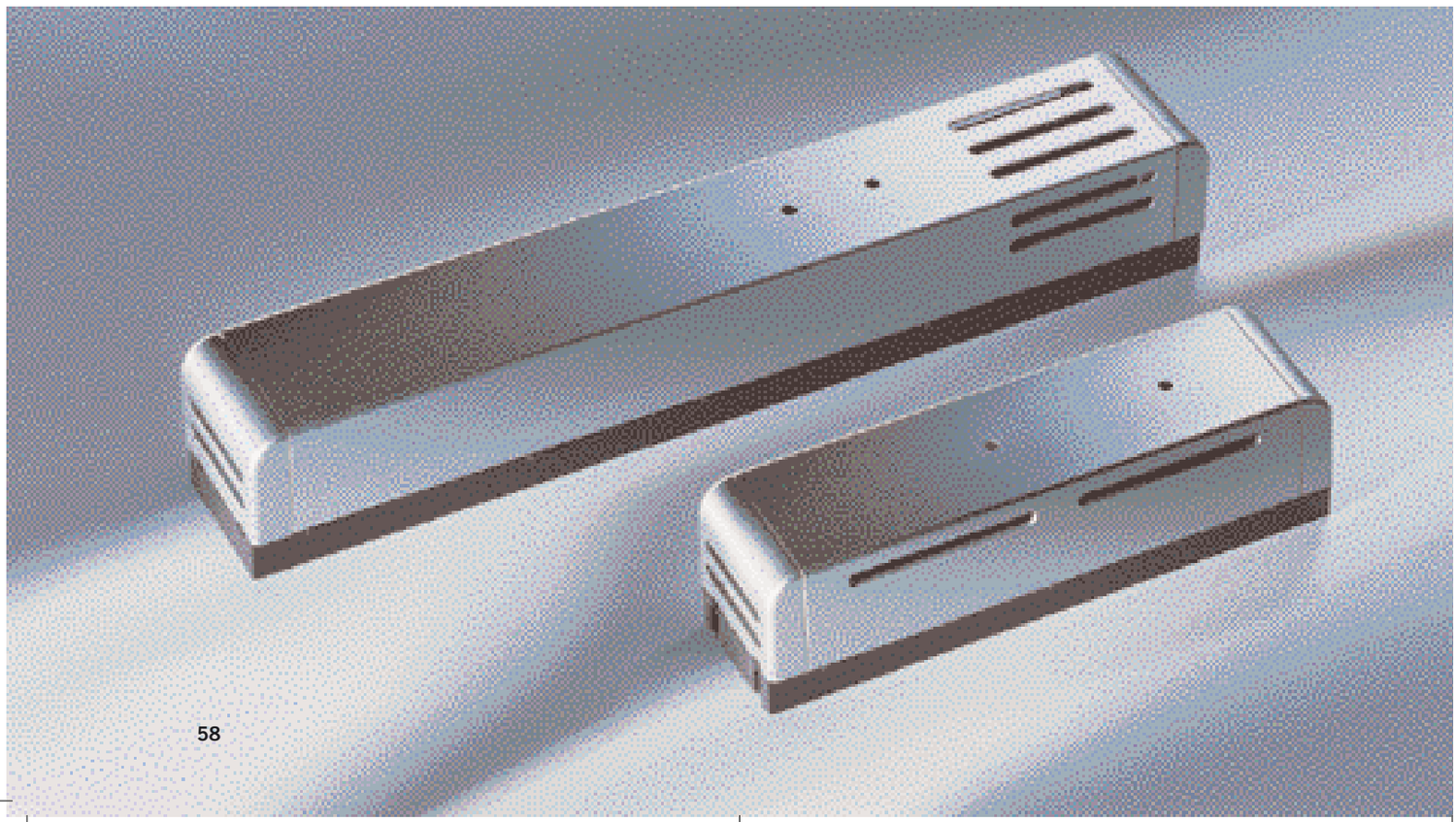
DORMA RZ 01

With stabilised integral power pack, this unit reliably and safely satisfies the high requirements placed on power supply units for hold-open systems.

For specification texts, see page 228 ff.



RMZ 2 RM RM-S RZ 01



Door coordinators

DORMA SR 390, SR 392 with telescopic shock absorber

Non-handed, with integral telescopic shock absorber and fixing bracket

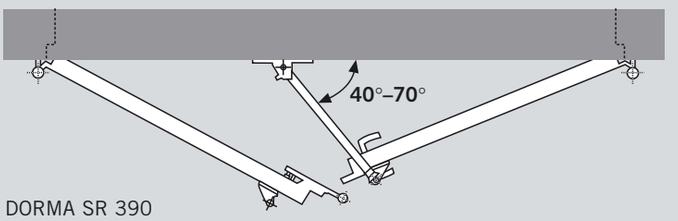
Fixing
- Door frame DORMA SR 390
- Concealed installation DORMA SR 392

Finish
- Zinc-plated
- Zinc-plated and silver-sprayed

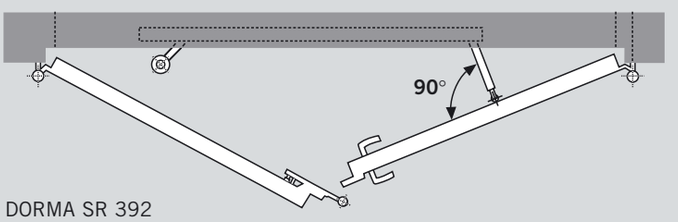
F Approval certification

The DORMA SR 390 and 392 have been approved by the State Material Testing Authority, Dortmund/ Germany, in accordance with EN 1158.
Regular audit testing is undertaken. Test reports and/or certificates are available on request.

For specification texts, see page 229



DORMA SR 390



DORMA SR 392

Application example: Double-leaf fire and smoke check door comprising two door closers type DORMA TS 73 V **(1)**, door coordinator DORMA SR 390 **(2)** and carry bar MK 396 **(3)**

Electro-magnets, magnet armature plates, manual release switches

DORMA EM 500 G, EM 100 G for wall and floor fixing

With polarity reversal protection. For wall and floor fixing (floor fixing using the floor bracket – supplied as accessory). Class of protection IP 40. Power input 1.5 W

Holding force
- 500 Nm
  DORMA EM 500 G
- 100 Nm
  DORMA EM 100 G

Finishes
- White plastics
- Stainless steel finish

DORMA EM 500 A, EM 100 A with test interrupt button

With polarity reversal protection. For wall and floor fixing (floor fixing using the floor bracket – supplied as accessory). Class of protection IP 40. Power input 1.5 W

Holding force
- 500 Nm
  DORMA EM 500 A
- 100 Nm
  DORMA EM 100 A

Finishes
- White plastics
- Stainless steel finish

DORMA EM 500 U, EM 100 U For concealed fixing

With polarity reversal protection. For wall and floor fixing (floor fixing using the floor bracket – supplied as accessory). Class of protection IP 40. Power input 1.5 W

Holding force
- 500 Nm
  DORMA EM 500 U
- 100 Nm
  DORMA EM 100 U

Finishes
- White plastics
- Stainless steel finish

Manual release switches DORMA HT-UP, HT-AP

For manual release of the hold-open.
Mandatory when employing electro-magnets in hold-open systems for fire and smoke check doors.

Models
- For concealed mounting
  DORMA HT-UP
- For surface mounting
  DORMA HT-AP

Ball-jointed armature plate DORMA MAG

Self-adjusts to the door tolerances and opening angle.

Telescopic armature plate DORMA MAT

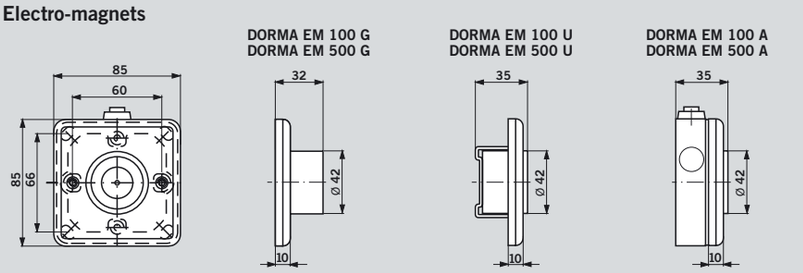
For relatively large distances between wall and door. Length of spring travel approx. 20 mm.

Armature plate for extreme angles DORMA MAW

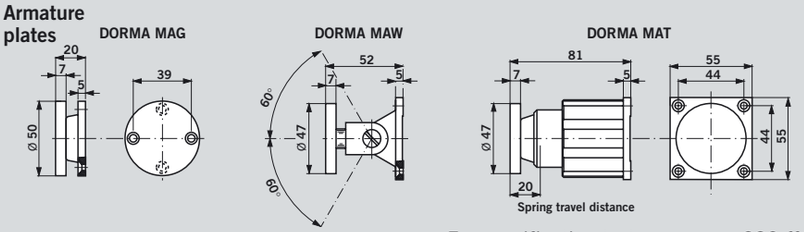
Adjustment range ± 60°.

Application example: Hold-open system on a double-leaf fire and smoke check door, comprising: Two door closers type DORMA TS 93 B **(1)**; active and inactive slide channels type DORMA GSR/EMF **(2)** with push-rod clamping system; lintel-mounted smoke detector DORMA RMZ-K **(3)** mounted on the slide channel or cover; one ceiling-mounted smoke detector type DORMA RM **(4)** on either side of the door; electro-magnets DORMA EM 500 G **(5)**; telescopic armature plate DORMA MAT **(6)**; manual release switch DORMA HT **(7)**

Electro-magnets

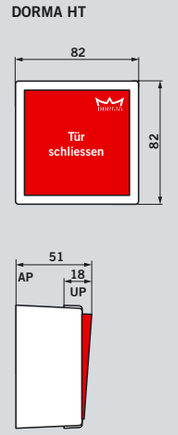


Armature plates



For specification texts, see page 230 ff.

DORMA HT



OGRO Door Furniture and Fittings

OGRO

2

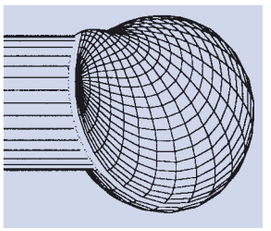
62–171

Modern classics

Back to basics

Designing door furniture and fittings has for many years fallen within the remit of the architect. That is why, in 1989, OGRO approached architect Dieter Sieger, and asked him to design a lever handle similar in style to the lever of his one-handed "Fino" mixer.
Sieger's extensive experience in product design led to the creation of the ZS 8830 lever handle, made from aluminium, and later also manufactured in satin finish (matt-brushed) stainless steel. The handle was complemented by matching door and window levers.
See page 103

Architecture and design

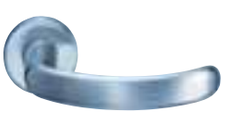


Hans-Ullrich Bitsch's dream came true when he designed the ZS 8200 lever handle for OGRO. Bitsch, a renowned architect and artist, is a firm believer that "Design is the thing of the future" and his goal is to break down the "frontier between architecture and design". What better way to fulfil this destiny than, together with his colleague Ulrich Nether, to turn his attention to the smallest of domestic fittings, creating a product that truly does justice to his holistic approach to aesthetics?
See page 89

Open house

In 1993 a cooperative society under the amazing German name of "Erwerbergemeinschaft Köpenicker Strasse 48/49 EKGS" was founded in Berlin, and a group of architects, artists and designers joined together to purchase a former protective clothing factory – at the said 48/49 Köpenicker Street – in which they could live and work. There they established a forum for the discussion of subjects relating to architecture, art and the media.

When the Deutsches Architektur Zentrum (DAZ) (German Architecture Centre) was opened on June 1, 1995, a largely independent sponsor of construction and design culture came into being, serving to promote the role of architecture in the public domain. It is here that the Bund Deutscher Architekten (Association of German Architects) and the Bund Deutscher Landschafts-Architekten (Association of German Landscape Architects) have their headquarters.
See page 105



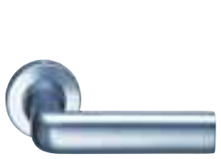
ZS 8830

ZS 8200

ZS 8906

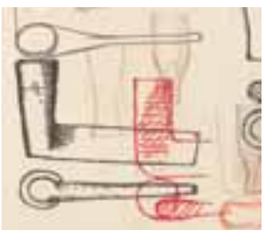
Familiar form

When Hans Poelzig built the administrative offices of the company IG Farben in Frankfurt am Main between 1928 and 1931, one issue that had to be resolved was where to get the lever handles for no fewer than 8,500 doors. Not only that, the handles had to fit in with the ethos of the building, which was constructed from massive building blocks.
Poelzig decided to manufacture a simple yet classic model based on his own design.
This listed building now belongs to the Goethe-University, Frankfurt. It has been renovated and extended by Reinhard Tölke, and OGRO manufactured around 3,500 lever handle sets during the first stage of the construction work.
See page 120



ZS 8058

The Wagenfeld tradition



The use of Wagenfeld lever handles in Berlin goes way back in time. As early as 1930 the architect Erich Mendelsohn fitted the Columbushaus in Berlin with some 1,000 Wagenfeld handles. Wilhelm Wagenfeld's main concern was that his lever handles should be as small and as lightweight as possible, because in the casting process every gram was crucial. The lighter the handle, the cheaper it was to produce. Wagenfeld went on to design handles that were impressive in both their styling and their value for money. The historical links between OGRO and Wagenfeld are equally deep-rooted. Even during the 1950s and 1960s, the artist and OGRO worked together on designs for lever handles.
See pages 111 and 118

ZS 8972

A Bauhaus classic for the new Federal Chancellery

In 1999 Axel Schultes, architect of the new Federal Chancellery in Berlin, was on the hunt for a door handle design that would do justice to the overall spirit of the building. His dream was a lever handle dating from 1928 – a classic design from the Bauhaus period. Schultes learned from designer Gottfried Heinz that the company P. Bisschop manufactured a brass door handle. He then worked together with OGRO to create a range of handles manufactured from high-grade steel, highly polished and including special roses and backplates with visible fixings. Altogether a total of around 3,000 lever handle sets were required for the Chancellery, in addition to matching window handles and special levers. As a result, these door handles originating in the Bauhaus period have been re-elected to serve the government of today.
See page 119

An exclusive product for the new Federal Chancellery

Quality and variety

Stainless steel, s/s

satin finish

Stainless steel, s/s

mirror-polished

Aluminium, Al

F1 silver/natural

Aluminium, Al

F2 champagne

As different as OGRO hinges, levers and pull handles may appear, they nevertheless also have a number of major attributes in common. All are designed to resist the wear and tear of daily usage, each is made exclusively from high-quality materials and every item is carefully crafted. The result is an impressive portfolio of round bar and bespoke lever handle models complemented by a range of narrow-stile door fittings manufactured to the same high standards. Coordinated with the handles you will find in the following pages round, oval and rectangular roses, rounded and rectangular short and long backplates, square backplates, and also WC sets.

Aluminium, Al

F3 gold

Aluminium, Al

F4 bronze

Aluminium, Al

F5 dark bronze

Further information, specification texts
Additional information, e.g. specification texts, drawings, installation instructions for many products, can be accessed via electronic media (CD-ROM, Internet). The specification texts are also available in printed form.

Materials and finishes
Stainless steel fittings (s/s)
A gleaming finish is the characteristic feature of stainless steel levers, window handles and pull handles. Stainless steel fittings feature unparalleled resistance to corrosion and mechanical stress. In addition, they are ideal where strict standards of hygiene are required.

OGRO stainless steel fittings are available in the following finishes:
- satin
- mirror-polished

Anodised aluminium fittings (Al)
Finished using our own anodising and colouring processes, OGRO aluminium fittings are protected to optimum effect against atmospheric influences and wear from handling – through the provision of a strong, exceptionally even anodised layer.
OGRO anodised aluminium fittings are available in:

- F1 silver (natural)
- F2 champagne
- F3 gold
- F4 bronze
- F5 dark bronze

Traces of use on the surface are not an indication of an inferior quality product, but rather reflect the history of the fitting.

ZS 8016 page 76

ZS 8141* page 86

ZS 8610 page 96

ZS 8907* page 106

ZS 8056 page 77

ZS 8155 page 87

ZS 8620 page 97

ZS 8910* page 107

ZS 8057 page 78

ZS 8156 page 88

ZS 8810*
page 98

ZS 8928 page 108

ZS 8100* page 79

ZS 8200 page 89

ZS 8811* page 99

ZS 8940 page 109

ZS 8101* page 80

ZS 8350* page 90

ZS 8815 page 100

ZS 8968 page 110

ZS 8103* page 81

ZS 8353* page 91

ZS 8825 page 101

ZS 8972 page 111

ZS 8111 page 82

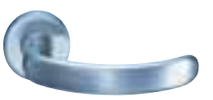
ZS 8354* page 92

ZS 8826 page 102

ZS 8974 page 112

ZS 8130 page 83

ZS 8437 page 93



ZS 8830* page 103

ZS 8998 page 113

ZS 8131 page 84

ZS 8526* page 94

ZS 8860 page 104

ZS 8140* page 85

ZS 8600 page 95

ZS 8906 page 105

* = CE EN 179

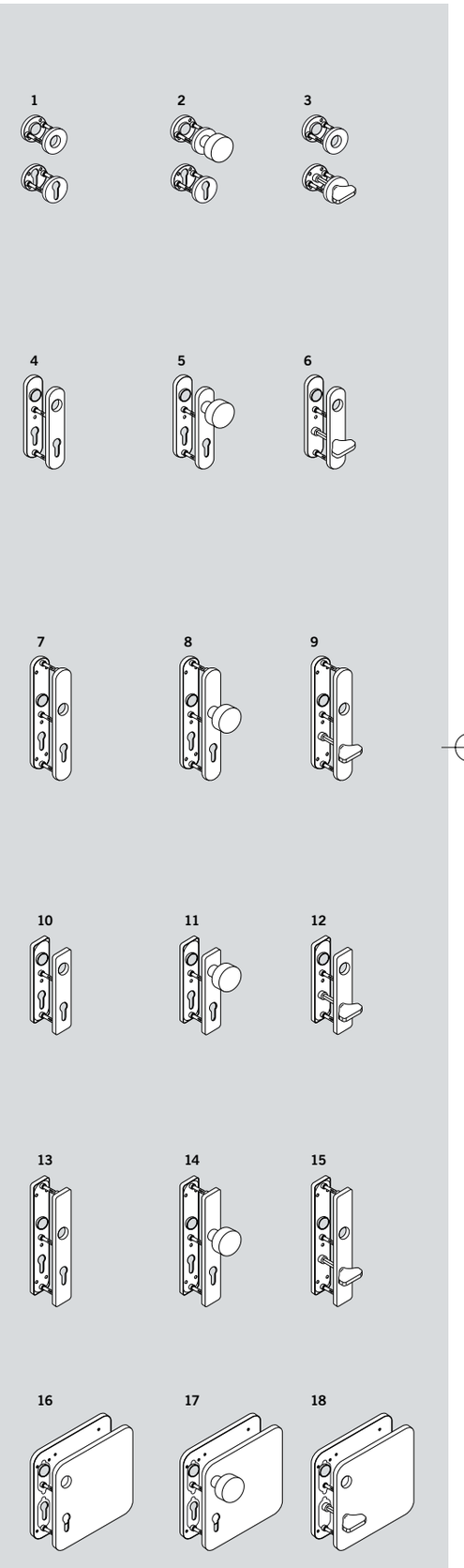
5 YEAR GUARANTEE ON All ZS LEVER HANDLES WITH ZS ROSES AND ZS BACKPLATES

Our range focuses on proven ZS furniture for heavy-duty use. The range has been extended by ZK furniture for luxury residential applications. It consists of ZS-identical lever handles and plastic backplates. In order to equip all the doors in the project sector with the same design, OGRO have developed narrow ZS roses to match the ZS lever handles.

Your benefits:

- Prompt delivery straight from the factory
- Identical lever handles minimise trade stocking requirements
- Clear overview of range of products available
- Conformity with DIN 18255 and DIN 18273 (FS) plus the new EN 1906
- Identical handles for ZS and ZK systems for timber and narrow stile doors
- Just one universal level handle for categories of use 2, 3 and 4 per EN 1906 (category 4 only with 9 mm square spindle)
- No tightening of the handle screw in the 8 mm version
- Roses and backplates are well suited to factory fixing on doors; handles can be chosen at a later date and simply installed by clipping into the rose or backplate.
- Easy fixing to special thickness doors – the lever handles are supplied as female parts with the spindle provided separately.
- Lever handles and roses or backplates can be fully interchanged even after fixing.

	ZS heavy-duty lever handles for project applications		**ZK components for residential applications**
1	**ZS ....**	Lever handles	**ZS ....**
	ZS 6500	Roses	**ZK 6500**
	ZS 6612	Escutcheons	**ZK 6612**
2	**ZS ....**	Lever handles	**ZS ....**
	ZS 6500	Roses	**ZK 6500**
	ZS 3020 N	Knob on rose	**ZK 3020 N**
	ZS 6612	Escutcheons	**ZK 6612**
3	**ZS ....**	Lever handles	**ZS ....**
	ZS 6500	Roses	**ZK 6500**
	ZS 7122 WC	WC rose set	**ZK 7122 WC**
4	**ZS ....**	Lever handles	**ZS ....**
	ZS 7050 K	Short backplates, rounded	**ZK 7050 K**
5	**ZS ....**	Lever handles	**ZS ....**
	ZS 7050 K	Short backplates, rounded	**ZK 7050 K**
	ZS 7050 K/ ZS 3020	Knob on short backplate, rounded	**ZK 7050 K/ ZK 3020**
6	**ZS ....**	Lever handles	**ZS ....**
	ZS 7050 K WC	Short backplates, rounded, WC set	**ZK 7050 K WC**
7	**ZS ....**	Lever handles	**ZS ....**
	ZS 7020 L	Long backplates, rounded	**ZK 7020 L**
8	**ZS ....**	Lever handles	**ZS ....**
	ZS 7020 L	Long backplates, rounded	**ZK 7020 L**
	ZS 7020 L/ ZS 3020	Knob on long backplate, rounded	**ZK 7020 L/ ZK 3020**
9	**ZS ....**	Lever handles	**ZS ....**
	ZS 7020 L WC	Long backplates rounded, WC set	**ZK 7020 L WC**
10	**ZS ....**	Lever handles	**ZS ....**
	ZS 7060 K	Short backplates, rectangular	**ZK 7060 K**
11	**ZS ....**	Lever handles	**ZS ....**
	ZS 7060 K	Short backplate, rectangular	**ZK 7060 K**
	ZS 7060 K/ ZS 3020	Knob on short backplate, rectangular	**ZK 7060 K/ ZK 3020**
12	**ZS ....**	Lever handles	**ZS ....**
	ZS 7060 K WC	Short backplates, rectangular, WC set	**ZK 7060 K WC**
13	**ZS ....**	Lever handles	**ZS ....**
	ZS 7010 L	Long backplates, rectangular	**ZK 7010 L**
14	**ZS ....**	Lever handles	**ZS ....**
	ZS 7010 L	Long backplate, rectangular	**ZK 7010 L**
	ZS 7010 L/ ZS 3020	Knob on long backplate, rectangular	**ZK 7010 L/ ZK 3020**
15	**ZS ....**	Lever handles	**ZS ....**
	ZS 7010 L WC	Long backplates, rectangular, WC set	**ZK 7010 L WC**
16	**ZS ....**	Lever handles	
	ZS 7600	Square backplates	
17	**ZS ....**	Lever handles	
	ZS 7600	Square backplates	
	ZS 7600/ ZS 3020	Knob on square backplate	
18	**ZS ....**	Lever handles	
	ZS 7600 WC	Square backplates, WC set	



The ZS and ZK systems – roses, escutcheons and backplates of coordinated design

ZS system
ZK system

ZS 6500
ZK 6500

ZS 6612
ZK 6612

ZS 6500
ZK 6500
Lever handle rose
ZS 6612
ZK 6612
Escutcheon
Al, s/s

ZS 7122 WC
ZK 7122 WC
WC sets
Al, s/s

ZS 7050 K
ZK 7050 K
Short backplate, rounded
Al, s/s

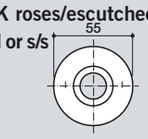
ZS 7020 L
ZK 7020 L
Long backplate, rounded
Al, s/s

ZS 7600
Square backplate
Al, s/s

ZS 7060 K
ZK 7060 K
Short backplate, rectangular
Al, s/s

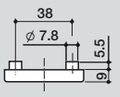
ZS 7010 L
ZK 7010 L
Long backplate, rectangular
Al, s/s

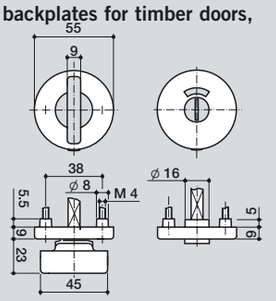
ZS roses/escutcheons and backplates for timber doors, Al or s/s
ZK roses/escutcheons and backplates for timber doors, Al or s/s



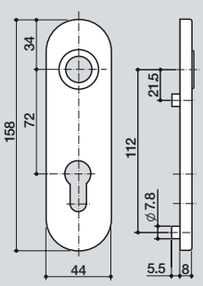
ZS 6500 or ZK 6500

ZS 6612 or ZK 6612

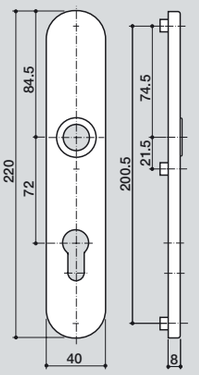




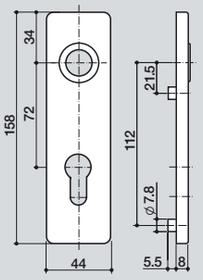
ZS 7122 WC or ZK 7122 WC



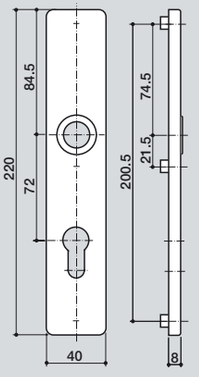
ZS 7050 K or ZK 7050 K



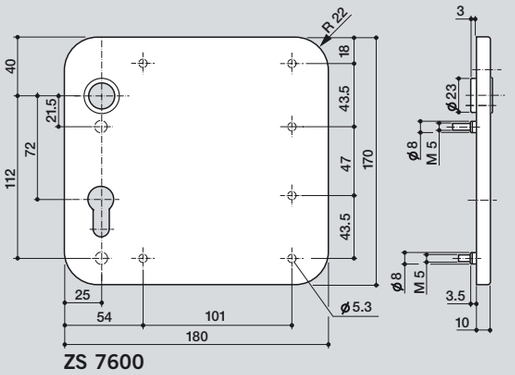
ZS 7020 L or ZK 7020 L



ZS 7060 K or ZK 7060 K



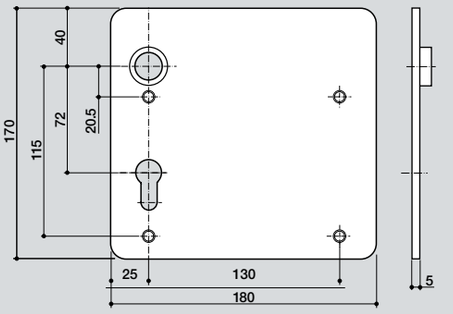
ZS 7010 L or ZK 7010 L



ZS 7600

ZS narrow-stile square backplate, Al or s/s

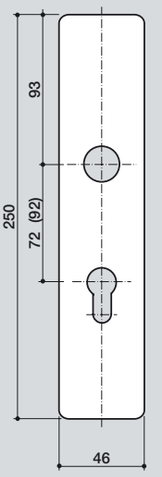
Square backplate	ZS 7691
Knob on square backplate	ZS 7691 / ZS 3020
Square backplate for WC	ZS 7691 O/RW



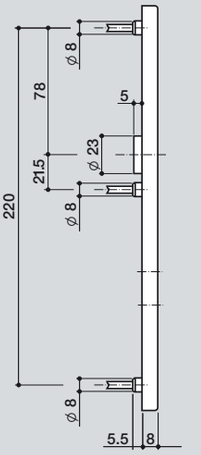
ZS 7691

ZS large overlay backplate, Al

Long backplate	ZS 7080 A
Knob on long backplate	ZS 7080 A / ZS 3020
Long backplate for WC	ZS 7080 A O/RW



ZS 7080 A



ZL system – roses, escutcheons and backplates of coordinated design

ZL 6500

ZL 6612

ZL 6500
Lever handle rose
s/s

ZL 6612
Escutcheon
s/s

ZL 7122 WC
WC set
s/s

ZL 7050 K
Short backplate, rounded
s/s

ZL 7020 L
Long backplate, rounded
s/s

PB 6625
Oval lever handle rose
s/s

PB 6684
Oval escutcheon
s/s

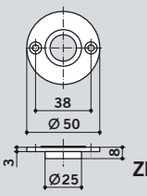
ZL 7060 K
Short backplate, rectangular
s/s

ZL 7010 L
Long backplate, rectangular
s/s

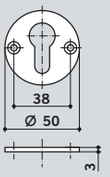
OGRO
DO 20.4
DIN 18273
FS
RPA RKW

These roses and backplates with visible socket head screw fixings can be combined with all the ZS lever handles on pages 68 and 124.
The lever handles have securely bushed connections with roses or backplates thanks to a positive Pitts fixing, together with a strong spring clip system. These half-sets are manufactured by OGRO to order and are supplied from the factory as securely bushed handles with a separately supplied square spindle.
Please allow approximately 4 – 6 weeks for delivery of sets with visible fixings.

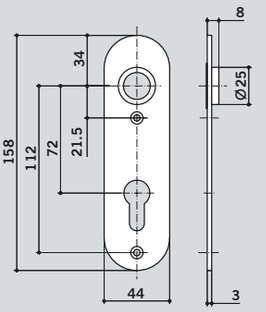
ZL roses/escutcheons and backplates with visible fixings



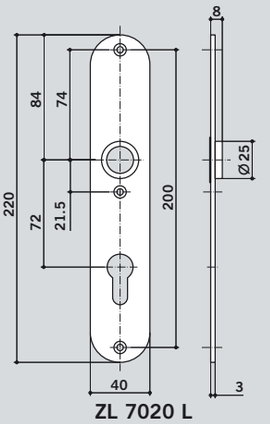
ZL 6500



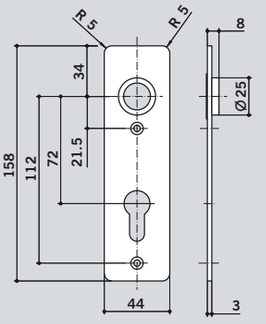
ZL 6612



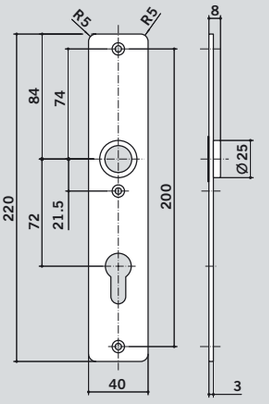
ZL 7050 K



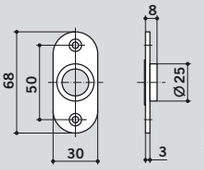
ZL 7020 L



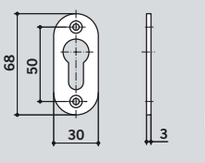
ZL 7060 K



ZL 7010 L



PB 6625



PB 6684

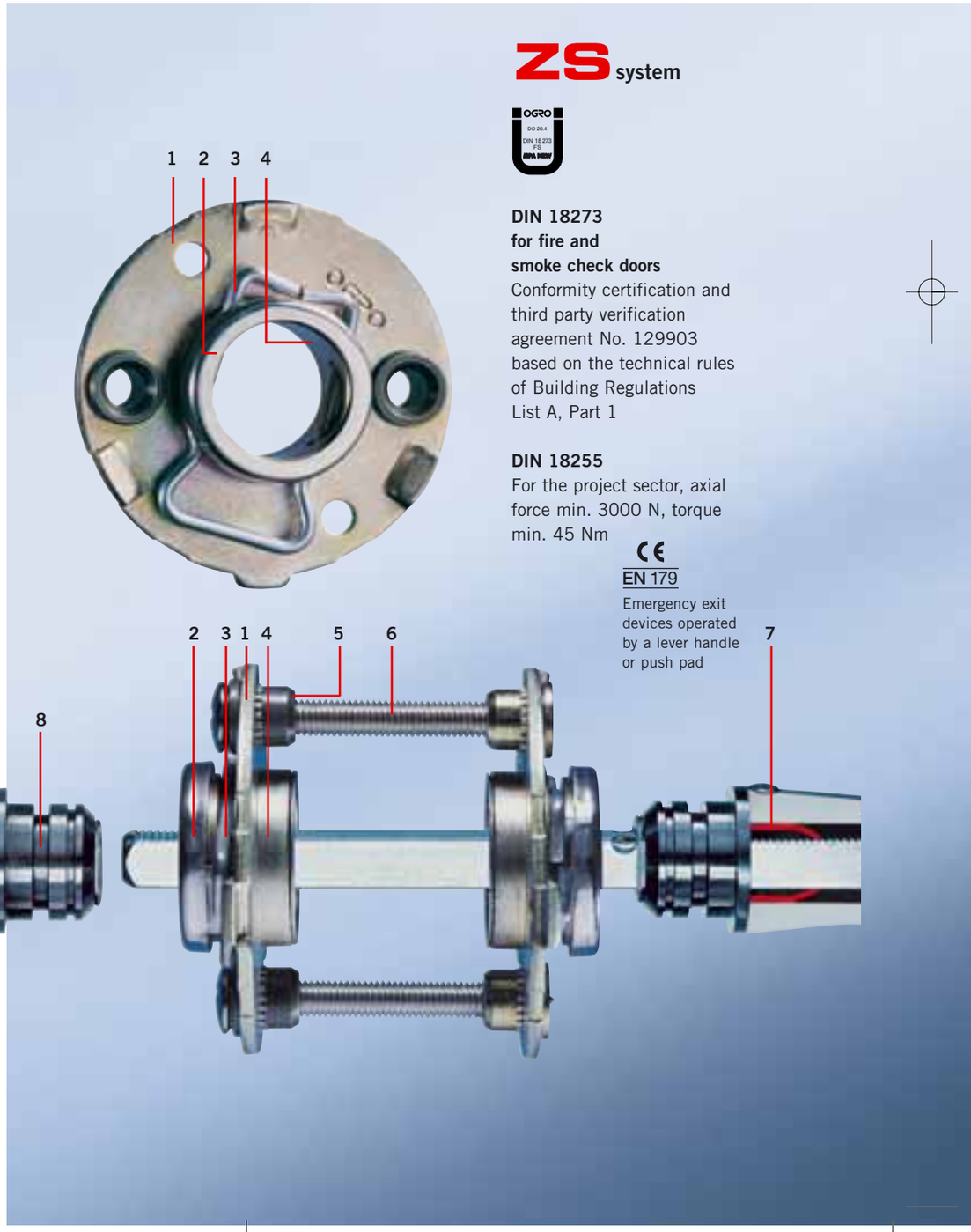
Narrow roses type PB 6625 and narrow escutcheons type PB 6684 are supplied without screws.

For heavy-duty project applications: OGRO ZS

1 **Steel base plates** for reliable transmission of even very high forces to the door leaf, so relieving the load on the furniture set and the lock
2 **ZS spring-mounted compensating collar** for axial play take-up and a permanently tight lever handle fit
3 **ZS spring clip** to enable fast assembly by simply snapping the lever handle into place – automatically ensures a firm fit and precise positioning without adjustment
4 **Extended-depth maintenance-free steel bushings** for reliable absorption of both compressive and tensile tilting moments to protect the lock follower from excess loading
5 **Steel support lugs** for precise retention of the assembly position and slip-free fitting of the furniture set to the door leaf
6 **Back-to-back fixing** with ever-tight through-bolting (M5) to ensure sturdy interconnection of the roses or backplates on timber doors
7 **Ratchet spring clip** ensures a firm fit of the 8 mm square spindle in the female lever handle (for fire doors with 9 mm spindle and an allen screw, without the ratchet spring clip – the OGRO FS fire protection solution)
8 **Identical lever handles** for ZS and ZK systems for timber and narrow-stile doors

Conforms to EN 1906 Category 4
For extremely high levels of usage in public areas, heavy wear and tear caused by inconsiderate use and the possible use of violence, for example, in sports venues, barracks and schools. Category 4 only with 9 mm spindle.

Conforms to EN 1906 Category 3
For frequent use by the general public or other people who may not be unduly concerned for showing consideration, and where there is a high risk that the fittings may be abused, for example, doors in office buildings that are frequented by members of the public.



ZS system

DIN 18273 for fire and smoke check doors
Conformity certification and third party verification agreement No. 129903 based on the technical rules of Building Regulations List A, Part 1

DIN 18255
For the project sector, axial force min. 3000 N, torque min. 45 Nm

CE
EN 179
Emergency exit devices operated by a lever handle or push pad

For use in normal-duty applications: OGRO ZK

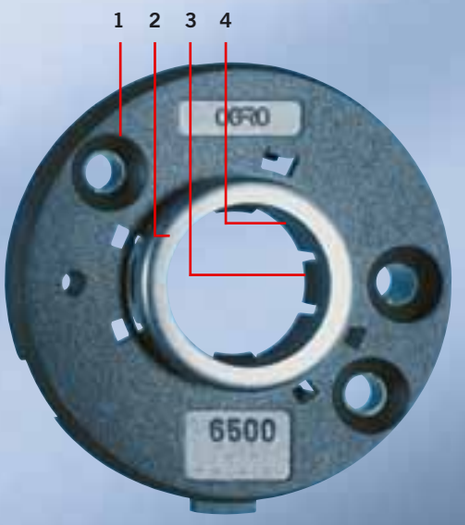
1 **Plastic backplates** for reliable transmission of forces to the door leaf and thus minimal loading of the furniture set and lock
2 **Stainless steel bezel** to fully conceal the plastic backplate
3 **Circlip fixing** to enable fast assembly by simply snapping the lever handle into place – automatically ensures a firm fit and precise positioning without adjustment
4 **Plastic bushings** for reliable absorption of both compressive and tensile tilting moments to protect the lock follower from excess loading
5 **Plastic support lugs** for precise retention of the assembly position and slip-free fitting of the furniture set to the door leaf
6 **Back-to-back fixing** with Spax screw fasteners to ensure sturdy interconnection of the roses or backplates
7 **Ratchet spring clip** ensures a firm fit of the 8 mm square spindle in the female lever handle
8 **Identical lever handles** for ZS and ZK systems for timber and narrow-stile doors

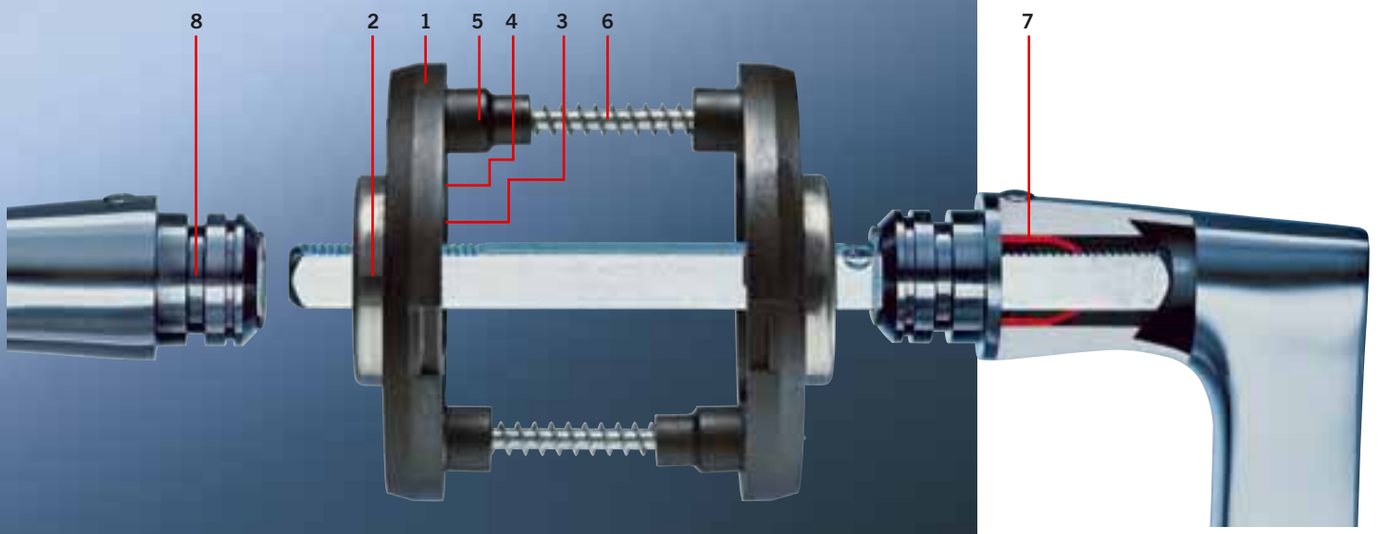
The roses and backplates are securely held by a back-to-back fixing arrangement passing through the door. The door thickness values indicated relate exclusively to Spax ZK 81 screw fasteners. Where your back-to-back fixing arrangement differs from the table data, please request from us information as to the correct screw length for your application. Our ZK systems are available for door thicknesses up to 63 mm.

ZK system

DIN 18255
For the residential sector, axial force min. 1500 N, torque min. 35 Nm

Conforms to EN 1906 Category 2
For medium frequency of use by people concerned for showing consideration, but where there is also a certain risk of maloperation – e.g. internal doors of office buildings.



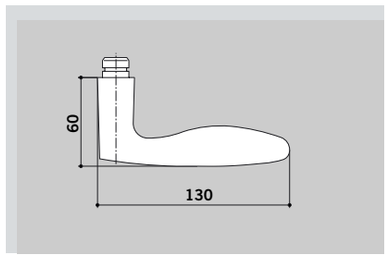


	Roses	
	Lever/ Lever set	Lever/ Fixed knob set*
Door thickness 38–63 mm	Spax-screws	M5 metric screws
	Backplates	
	Lever/ Lever set	Lever/ Fixed knob set*
Door thickness 38–63 mm	Spax screws	Spax screws

* external knob fixed dead, internal lever handle

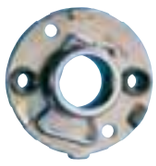
ZS 8016

The delta-like shape at the pivot end and a slender grip extension endow this classic lever handle with more than just a degree of elegance. Thanks to its ergonomic curves it lies comfortably in the hand.



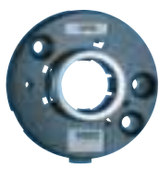
ZS 8016, Al

ZS system



DIN 18255
Project sector
EN 1906
Categories 4 and 3

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

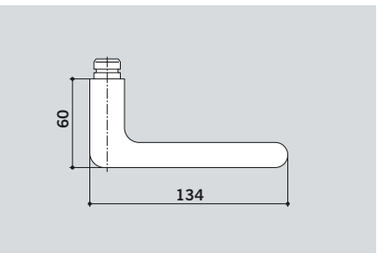
For explanations, see page 74

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	
Narrow-stile door furniture	Page 124	
Window handles	Page 157	

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

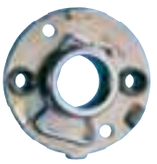
ZS 8056

A thoroughly proven, robust model with functional “firm grip” design, derived from the most basic form of door handle. Especially well suited for doors in very frequent use.



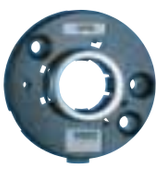
ZS 8056, Al
ZS 8056 FS, Al

ZS system



DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



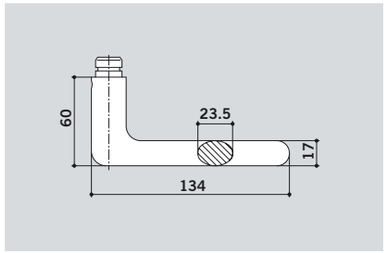
DIN 18255
Residential sector
EN 1906
Category 2

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	
Narrow-stile door furniture	Page 124	
Window handles	Page 157	

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

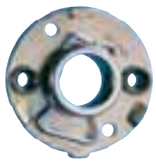
ZS 8057

Timeless and functional in design, this handle offers remarkable solidity thanks to the upstand overall cross section of the grip extension.



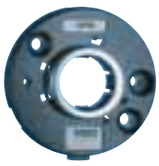
ZS 8057, Alu
ZS 8057 FS, Alu

ZS system



DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

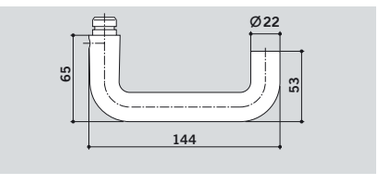
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	
Narrow-stile door furniture	Page 124	
Window handles	Page 157	

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

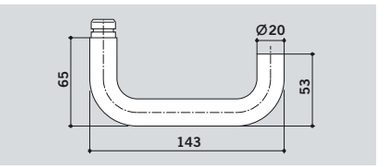
ZS 8100

An exceptionally versatile and economical model. Almost a “must” when it comes to equipping large-scale projects. The solid yet slimline handle fits comfortably in the hand.

For emergency exits and escape route doors



ZS 8100, Al / **ZS 8100 FS,** Al

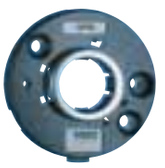


ZS 8100, s/s / **ZS 8100 FS,** s/s

ZS system

DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 128	Page 128
Window handles	Page 156	Page 156

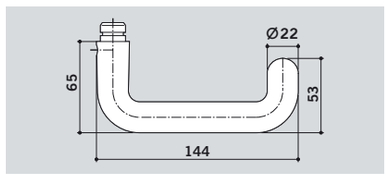
For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4100 **TG 9355**

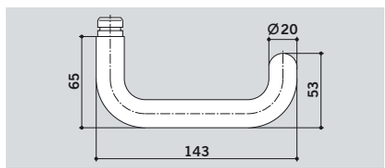
ZS 8101

This model offers the same versatility and economic advantages of the ZS 8100. However, the ball end of this handle provides for an optically elegant alternative.

For emergency exits and escape route doors



ZS 8101, Al / **ZS 8101 FS,** Al

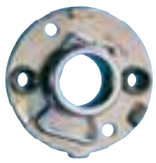


ZS 8101, s/s / **ZS 8101 FS,** s/s

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 130	Page 130
Window handles	Page 156	Page 156

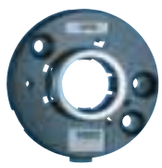
For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

ZS system



DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

FE 4101 **TG 9355**

ZS 8103

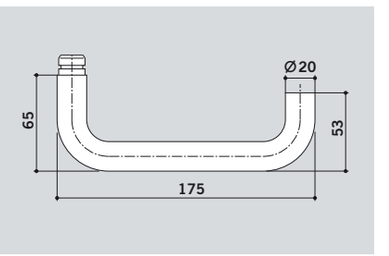
A versatile model based on the exceptionally successful project lever handle ZS 8100. With its 175 mm grip, however, it can also be very effectively operated with the elbow. No wonder, then, that it is widely used in hospitals, homes for the elderly and nursing homes.

ZS system

DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

For hospitals, homes for the elderly and nursing homes

For emergency exits and escape route doors



ZS 8103, s/s
ZS 8103 FS, s/s

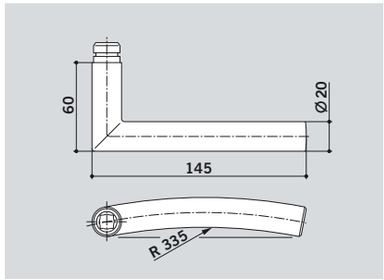
	Aluminium Al	Stainless steel s/s
Pull handles		Page 159
Narrow-stile door furniture		Page 128
Window handles		Page 156

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4100 **TG 9355**

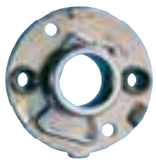
ZS 8111

The dynamic appearance of the grip contrasts beautifully with the right-angled neck and its stately charm. The shape of the curve is derived from the arc that the hand makes when it grips a lever handle, and as a result is extremely comfortable to operate.



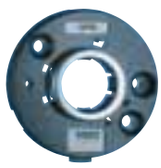
ZS 8111, s/s
ZS 8111 FS, s/s

ZS system



DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

	Aluminium Al	Stainless steel s/s
Pull handles		Page 159
Narrow-stile door furniture		Page 124
Window handles		Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4906

TG 9306
TG 9405

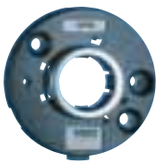
ZS 8130

A lever handle model of enhanced dynamic design. Its curved shape provides a pleasing yet subtle contrast to the rectangular shape of the door.

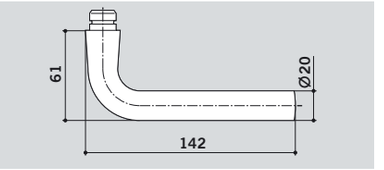
ZS system

DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

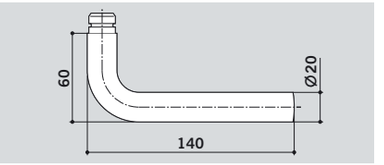
ZK system



DIN 18255
Residential sector
EN 1906
Category 2



ZS 8130, Al



ZS 8130, s/s / **ZS 8130 FS,** s/s

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 124	Page 124
Window handles	Page 157	Page 157

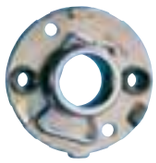
For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4140 **TG 9359**

ZS 8131

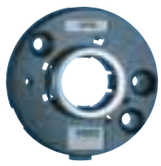
The mirrored shine of stainless steel and the sweeping shape complement each other perfectly. Despite its individualistic design, this handle assembly harmonises with every shape of door and every furnishing style.

ZS system

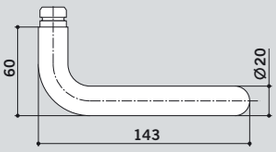


DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2



ZS 8131, s/s
ZS 8131 FS, s/s

	Aluminium Al	Stainless steel s/s
Pull handles		Page 159
Narrow-stile door furniture		Page 124
Window handles		Page 157

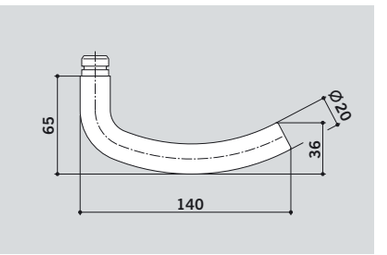
For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4141 TG 9304

ZS 8140

A handle assembly offering inwardly inclined elegance. Particularly popular for equipping large-scale building projects.

For emergency exits and escape route doors

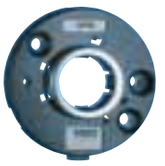


ZS 8140, s/s
ZS 8140 FS, s/s

ZS system

DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

	Aluminium Al	Stainless steel s/s
Pull handles		Page 159
Narrow-stile door furniture		Page 132
Window handles		Page 157

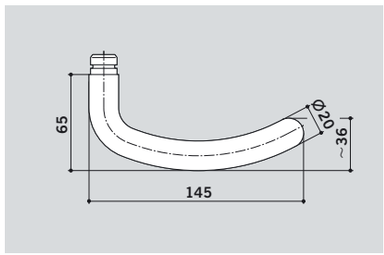
For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4140

ZS 8141

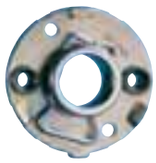
A direct descendant of the OGRO ZS 8140, this model offers the same non-compromising elegance together with a grip that is 5 mm longer. Also extremely well-suited to the requirements of large-scale building projects.

For emergency exits and escape route doors



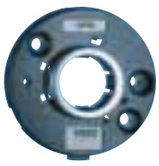
ZS 8141, s/s
ZS 8141 FS, s/s

ZS system



DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

	Aluminium Al	Stainless steel s/s
Pull handles		Page 159
Narrow-stile door furniture		Page 134
Window handles		Page 157

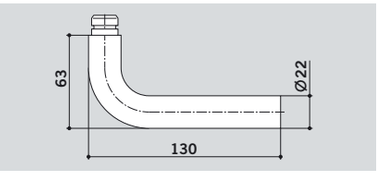
For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4141

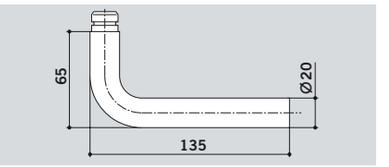
TG 9356

ZS 8155

A modern handle assembly in every respect with functional yet aesthetic lines that harmonise with every furnishing style.



ZS 8155, Al / **ZS 8155 FS,** Al

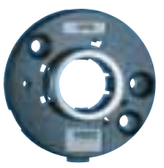


ZS 8155, s/s / **ZS 8155 FS,** s/s

ZS system

DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

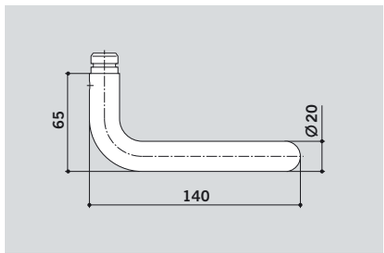
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 136	Page 136
Window handles	Page 157	Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4155 **TG 9355**

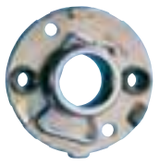
ZS 8156

A robust lever handle offering clean lines and understated elegance and that can thus be incorporated harmoniously into any surroundings.



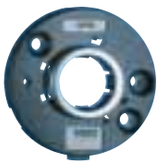
ZS 8156, s/s
ZS 8156 FS, s/s

ZS system



DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

	Aluminium Al	Stainless steel s/s
Pull handles		Page 159
Narrow-stile door furniture		Page 124
Window handles		Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4156 TG 9355

ZS 8200

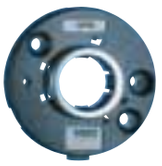
A joint design project undertaken by renowned architects Hans-Ullrich Bitsch and Hadi Teherani, from the design agency B+T Engineering in Hamburg, working in collaboration with Ulrich Nether. The result: An ergonomically designed lever handle that feels good in any hand. See also page 64

Design:
Hans-Ullrich Bitsch
Ulrich Nether
Hadi Teherani

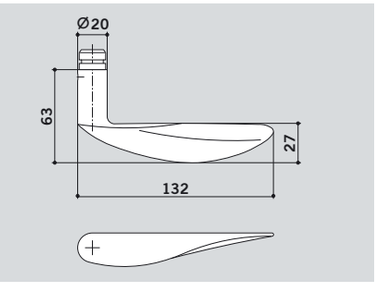
ZS system

DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2



ZS 8200, s/s
ZS 8200 FS, s/s

	Aluminium Al	Stainless steel s/s
Pull handles		Page 159
Narrow-stile door furniture		Page 124
Window handles		Page 157

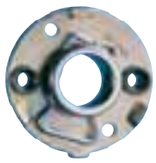
For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

ZS 8350

The stability and grip comfort offered by this model have made it one of the more preferred designs for high-frequency doors. Often to be found in administration buildings, sports centres, barracks and schools, this handle with its inward curving shape offers added protection against snagging.

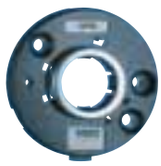
For emergency exits and escape route doors

ZS system

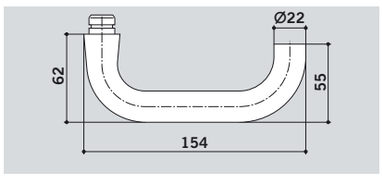


DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

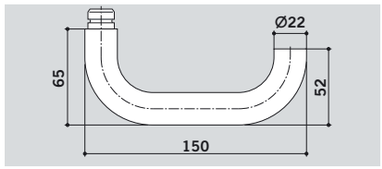
ZK system



DIN 18255
Residential sector
EN 1906
Category 2



ZS 8350, Al / **ZS 8350 FS,** Al



ZS 8350, s/s / **ZS 8350 FS,** s/s

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 137	Page 137
Window handles	Page 156	Page 156

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

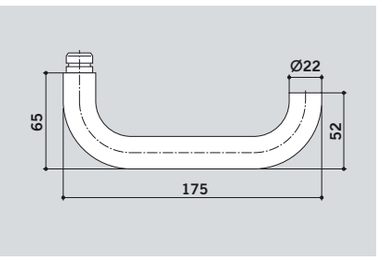
FE 4100

ZS 8353

Designed on the basis of the successful project lever handle ZS 8350, the ZS 8353 offers a grip extended to a length of 175 mm. This enables secure operation with the elbow, so making it highly suitable for hospitals, homes for the elderly and nursing homes.

For hospitals, homes for the elderly and nursing homes

For emergency exits and escape route doors



ZS 8353, s/s
ZS 8353 FS, s/s

ZS system

DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

	Aluminium Al	Stainless steel s/s
Pull handles		Page 159
Narrow-stile door furniture		Page 137
Window handles		Page 156

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

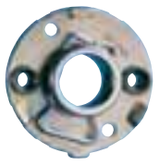
FE 4100

ZS 8354

With its pleasing semi-circular design, this model visibly extends from the door leaf while also offering enhanced hand comfort. Its inwardly curved form protects against the snagging of clothes and also ensures reliable operation with the elbow. Frequently encountered in buildings with a high level of public traffic.

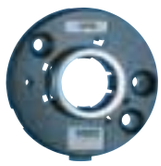
For emergency exits and escape route doors

ZS system

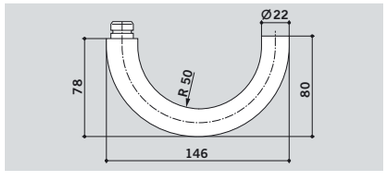


DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

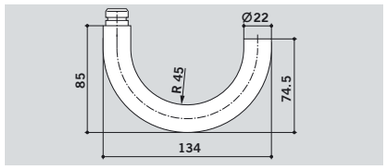
ZK system



DIN 18255
Residential sector
EN 1906
Category 2



ZS 8354, Al



ZS 8354, s/s / **ZS 8354 FS,** s/s

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 124	Page 124
Window handles	Page 157	Page 157

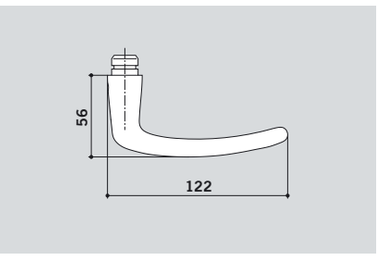
For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

TG 9306

ZS 8437

It was back in 1956 that Campus Building 1 of the University of Stuttgart was conceived for the Faculty of Architecture and Town Planning by Günter Wilhelm in collaboration with Professors Rolf Gutbier and Dr. Curt Siegel. Since then, the passage of time has left its mark.

Consequently, the planning department of the University decided to refurbish the building together with architects Heinle, Wischer & Partner. In order to preserve the authenticity of the interior fittings, OGRO produced a re-run of the original ZS 8437 door lever handle.

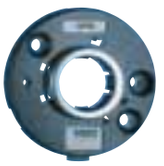


ZS 8437, Al

ZS system

DIN 18255
Project sector
EN 1906
Categories 4 and 3

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

For explanations, see page 74

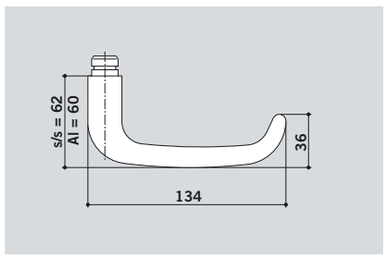
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	
Narrow-stile door furniture	Page 124	
Window handles	Page 157	

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

ZS 8526

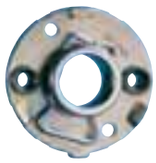
A user-friendly model of classic design. Its oval cross section fits comfortably in the hand, while its inward curved end ensures an optimum grip.

For emergency exits and escape route doors



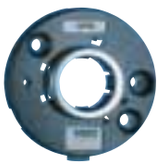
ZS 8526, Al
ZS 8526 FS, Al
ZS 8526, s/s
ZS 8526 FS, s/s

ZS system



DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

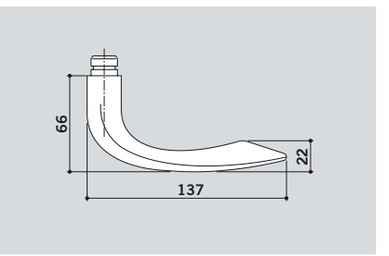
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 138	Page 138
Window handles	Page 157	Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4526

ZS 8600

OGRO always like to work together with young designers – hence the creation of the ZS 8600 model designed by Hagen Fendler shortly after receiving his Masters diploma.

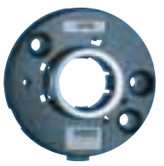


ZS 8600, Al

ZS system

DIN 18255
Project sector
EN 1906
Category 3

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

For explanations, see page 74

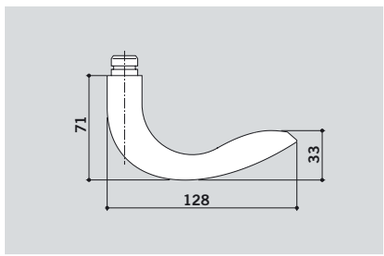
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	
Narrow-stile door furniture	Page 124	
Window handles	Page 157	

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4600

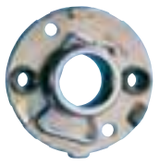
ZS 8610

This lever handle also embodies the unmistakable signature and unique design of Hagen Fendler.



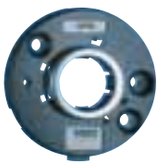
ZS 8610, Al

ZS system



DIN 18255
Project sector
EN 1906
Category 3

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

For explanations, see page 74

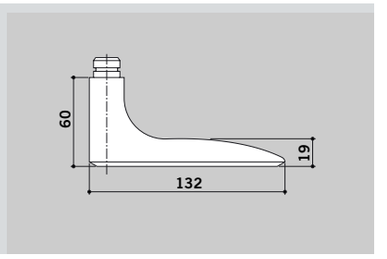
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	
Narrow-stile door furniture	Page 124	
Window handles	Page 157	

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4610

ZS 8620

With the lever end tapering to a point, it is easy to get a good grip on this model – another masterpiece from Hagen Fendler.

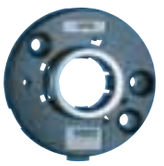


ZS 8620, Al

ZS system

DIN 18255
Project sector
EN 1906
Category 3

ZK system

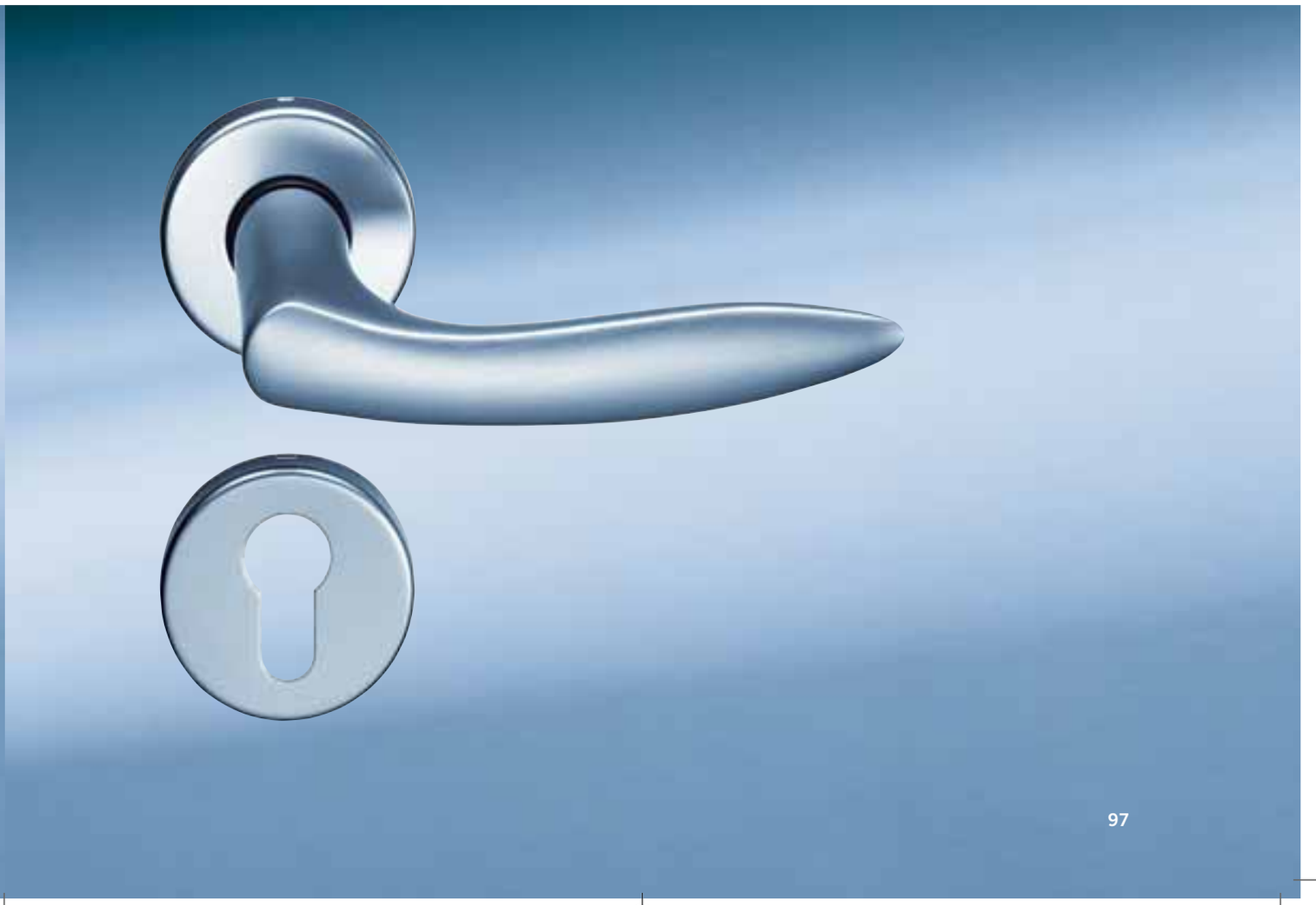


DIN 18255
Residential sector
EN 1906
Category 2

For explanations, see page 74

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	
Narrow-stile door furniture	Page 124	
Window handles	Page 157	

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171



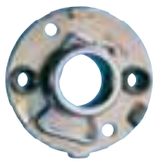
ZS 8810

Striking in appearance and designed with ergonomic requirements in mind, this lever handle with its downward angled shape and inward curved end enables reliable operation when using only the elbow, so making this design particularly suitable for use in hospitals, homes for the elderly and nursing homes.

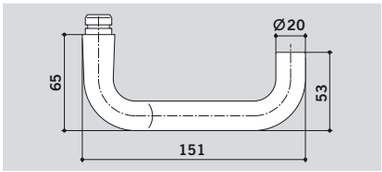
For hospitals, homes for the elderly and nursing homes

For emergency exits and escape route doors

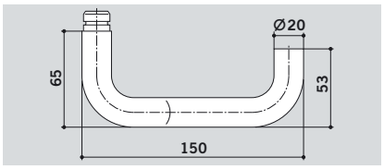
ZS system



DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74



ZS 8810, Al



ZS 8810, s/s / **ZS 8810 FS,** s/s

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 124	Page 124
Window handles	Page 157	Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

ZS 8811

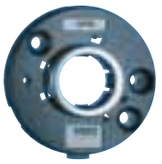
This upwardly inclined design with its in-built ergonomic functionality provides for a particularly effective grip combined with outstanding visual elegance and serviceability.

For emergency exits and escape route doors

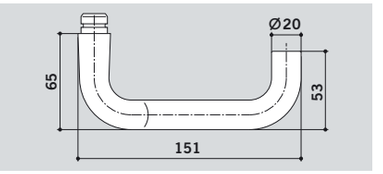
ZS system

DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

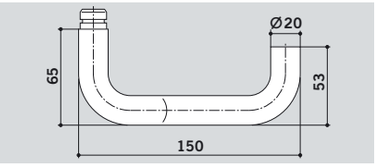
ZK system



DIN 18255
Residential sector
EN 1906
Category 2



ZS 8811, Al



ZS 8811, s/s / **ZS 8811 FS,** s/s

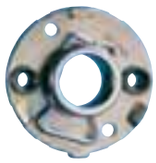
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 124	Page 124
Window handles	Page 157	Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

ZS 8815

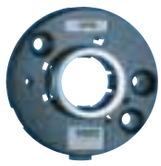
A furniture set of understated design as an expression of contemporary functionality. The hand falls naturally into the most suitable position for the grip.

ZS system

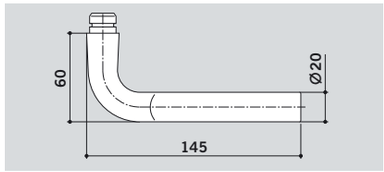


DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

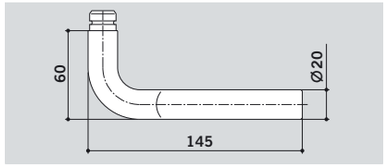
ZK system



DIN 18255
Residential sector
EN 1906
Category 2



ZS 8815, Al



ZS 8815, s/s / **ZS 8815 FS,** s/s

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 124	Page 124
Window handles	Page 157	Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

OGRO

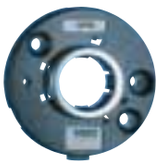
ZS 8825

The curve of this lever handle, extending beyond the point of rotation, radiates dynamism and harmony. The shape provides a visual counterpoint to the straight lines of the door and fits nicely into the concavity of the palm.

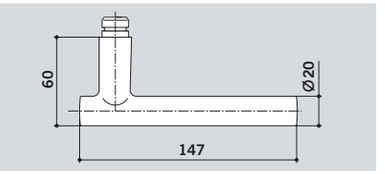
ZS system

DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

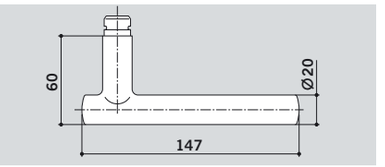
ZK system



DIN 18255
Residential sector
EN 1906
Category 2



ZS 8825, Al



ZS 8825, s/s / **ZS 8825 FS,** s/s

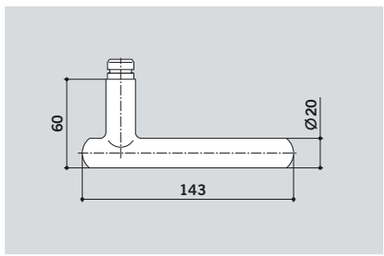
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 124	Page 124
Window handles	Page 157	Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

TG 9306

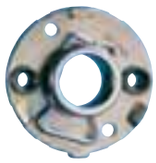
ZS 8826

The grip with its two spherical ends extends in a curve beyond the pivot point of this model to create an impression of eye-pleasing dynamism combined with harmonious elegance. Its curves offer an effective, ergonomic interface for the hand.



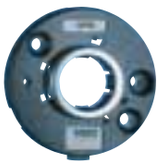
ZS 8826, s/s
ZS 8826 FS, s/s

ZS system



DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

	Aluminium Al	Stainless steel s/s
Pull handles		Page 159
Narrow-stile door furniture		Page 124
Window handles		Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

ZS 8830

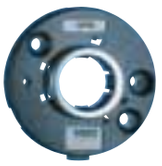
This model with its slightly radiused handle section exudes sleek elegance. Add to this the aesthetic grace of the cross section, with a generous grip fitting comfortably in the hand for easy operation in either direction. Thanks to its inward curving shape, this assembly is frequently encountered in buildings that are heavily frequented by the public.
Design: Dieter Sieger
See also page 64

For emergency exits and escape route doors

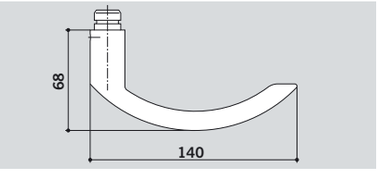
ZS system

DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

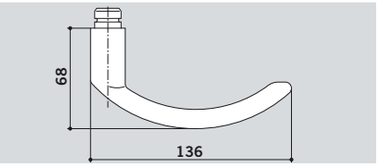
ZK system



DIN 18255
Residential sector
EN 1906
Category 2



ZS 8830, Al



ZS 8830, s/s / **ZS 8830 FS,** s/s

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 140	Page 140
Window handles	Page 157	Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

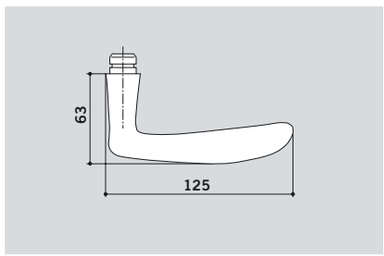
"My designs are always aligned to geometric shapes rather than to trendy design fads. As a result, the design of this handle was originally based on a curve." **Dieter Sieger**

FE 4830

TG 9830

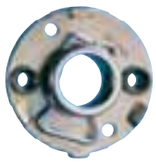
ZS 8860

In 1968, OGRO designers conceived a door handle for Nestlé's administrative headquarters, which ideally suited both the building and the corporate identity. Once the design had been agreed upon, matt-brushed, satin-finish aluminium was chosen as the material for the handle which is now found at Nestlé sites all around the world.



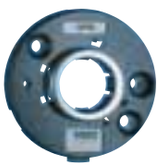
ZS 8860, Al

ZS system



DIN 18255
Project sector
EN 1906
Categories 4 and 3

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

For explanations, see page 74

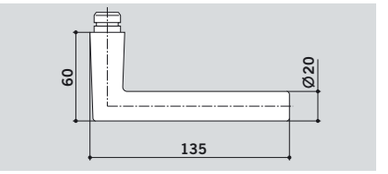
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	
Narrow-stile door furniture	Page 124	
Window handles	Page 157	

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

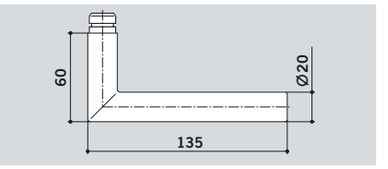
ZS 8906

The straight lines and uncompromising appearance of this design underlines the high-tech character of this lever handle in stainless steel. See also page 64.

See also ZS 8907 on page 106



ZS 8906, Al / **ZS 8906 FS,** Al



ZS 8906, s/s / **ZS 8906 FS,** s/s

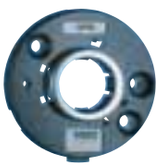
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 142	Page 142
Window handles	Page 157	Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

ZS system

DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

FE 4906

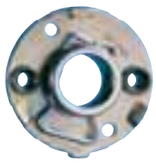
TG 9335

ZS 8907

This model has been based on the blueprint provided by our successful ZS 8906 project handle. With the additional mitred joint at the handle end, the ZS 8907 is also approved for use in emergency exits and on emergency escape route doors.

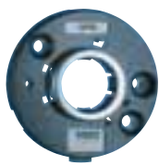
For emergency exits and escape route doors

ZS system

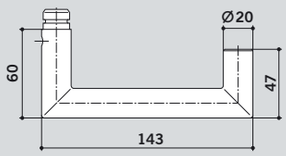


DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



DIN 18255
Residential sector
EN 1906
Category 2



ZS 8907, Al
ZS 8907 FS, Al
ZS 8907, s/s
ZS 8907 FS, s/s

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 144	Page 144
Window handles	Page 157	Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

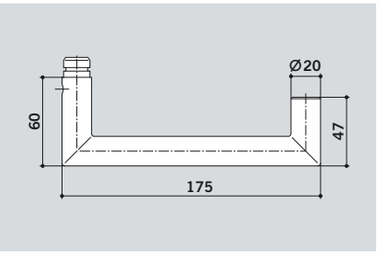
FE 4906 TG 9335

ZS 8910

Related to the ZS 8907 and with a handle extended to 175 mm in length, this project lever can also be reliably operated with the elbow alone, making it particularly suitable for use in care homes, clinics and hospitals.

For hospitals, homes for the elderly and nursing homes

For emergency exits and escape route doors



ZS 8910, s/s
ZS 8910 FS, s/s

ZS system

DIN 18255
Project sector
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
For explanations, see page 74

	Aluminium Al	Stainless steel s/s
Pull handles		Page 159
Narrow-stile door furniture		Page 144
Window handles		Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

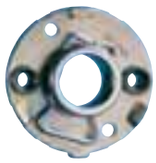
FE 4906

ZS 8928

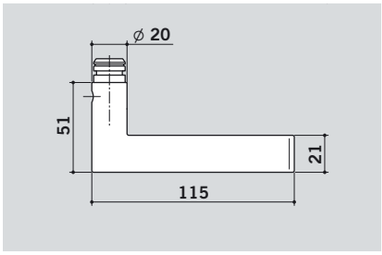
Axel Schultes, architect of the new Federal Chancellery in Berlin, was on the hunt for a door handle design that would do justice to the overall spirit of the building. His dream was Wilhelm Wagenfeld's lever handle dating from 1928 – a classic design from the Bauhaus period. OGRO adapted the model to the prodigious, prestigious modern-day requirements of the project, enabling the fittings to be re-elected to the highest office.

Design:
Wilhelm Wagenfeld

ZS system



DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74



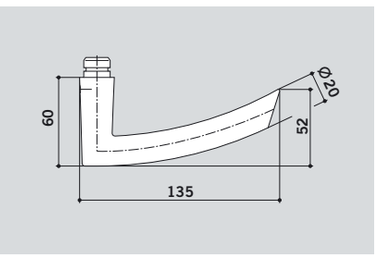
ZS 8928, s/s
ZS 8928 FS, s/s

	Aluminium Al	Stainless steel s/s
Pull handles		Page 159
Narrow-stile door furniture		Page 124
Window handles		Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

ZS 8940

The designer Georg Kaluza has demonstrated here how door handles for every type of door, and in particular glazed doors, can and should look. The light design is ideally suited to the ARCOS product range from DORMA-Glas.

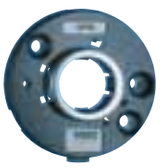


ZS 8940, Al
ZS 8940 FS, Al
ZS 8940, s/s
ZS 8940 FS, s/s

ZS system

DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



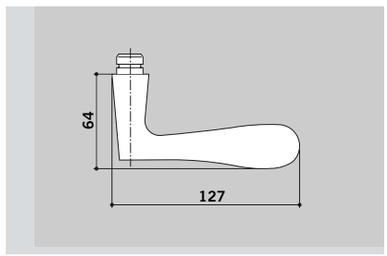
DIN 18255
Residential sector
EN 1906
Category 2

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 124	Page 124
Window handles	Page 157	Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

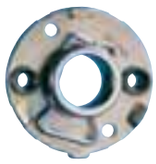
ZS 8968

A true classic that wears its years exceptionally well. Conceived originally during the 1960s, it continues to impress in the new millennium by virtue of its harmonious appearance and practical operability.



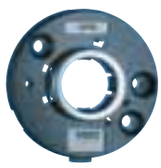
ZS 8968, Al

ZS system



DIN 18255
Project sector
EN 1906
Categories 4 and 3

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

For explanations, see page 74

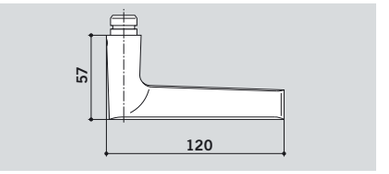
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	
Narrow-stile door furniture	Page 124	
Window handles	Page 157	

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

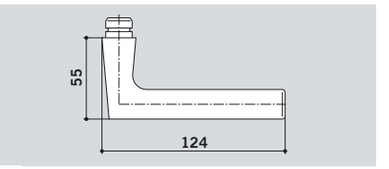
ZS 8972

Classic lines with slightly tapering elegance have made this lever handle one of the most widely used models from the OGRO portfolio. See also pages 65 and 118

Design:
Prof. Wilhelm Wagenfeld



ZS 8972, Al



ZS 8972, s/s / **ZS 8972 FS,** s/s

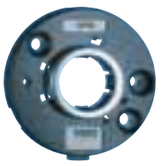
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 124	Page 124
Window handles	Page 157	Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

ZS system

DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



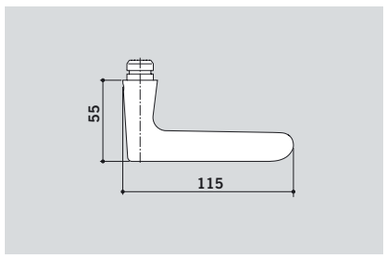
DIN 18255
Residential sector
EN 1906
Category 2

FE 4972

ZS 8974

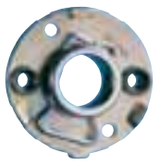
This model is a re-run of a lever handle from the 1960s during which Prof. Wilhelm Wagenfeld created numerous designs for OGRO. Manufactured in aluminium, this handle offers truly timeless beauty. See also pages 65 and 118

Design:
Prof. Wilhelm Wagenfeld



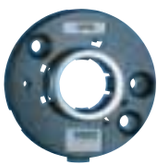
ZS 8974, Al

ZS system



DIN 18255
Project sector
EN 1906
Categories 4 and 3

ZK system



DIN 18255
Residential sector
EN 1906
Category 2

For explanations, see page 74

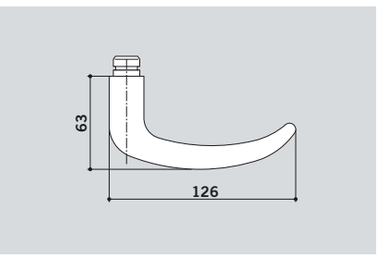
	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	
Narrow-stile door furniture	Page 124	
Window handles	Page 157	

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

ZS 8998

Almost semi-circular in shape and tapering at the end, this lever handle combines all the virtues of elegance and easy “grippability”. Due to its excellent performance in frequent-use applications, it is particularly popular for building projects.

For emergency exits and escape route doors

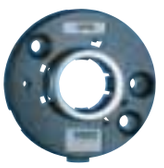


ZS 8998, Al
ZS 8998 FS, Al
ZS 8998, s/s
ZS 8998 FS, s/s

ZS system

DIN 18255
Project sector
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
For explanations, see page 74

ZK system



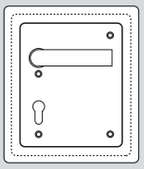
DIN 18255
Residential sector
EN 1906
Category 2

	Aluminium Al	Stainless steel s/s
Pull handles	Page 159	Page 159
Narrow-stile door furniture	Page 152	Page 152
Window handles	Page 157	Page 157

For roses, escutcheons and backplates, see pages 69–73
For specification texts, see pages 170–171

FE 4998 **TG 9359**

ZS 8936

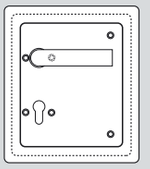


ZS 8936 A, Al, s/s

Sports hall fitting for short backplate on the opposite side

ZS 8936 A	8 mm	RE
ZS 8936 A	8 mm	LI
ZS 8936 A	9 mm	RE
ZS 8936 A	9 mm	LI

RE = right hand (ISO 5)
LI = left hand (ISO 6)



ZS 8936 B, Al, s/s

Sports hall fitting for escutcheon on the opposite side

ZS 8936 B	8 mm	RE
ZS 8936 B	8 mm	LI
ZS 8936 B	9 mm	RE
ZS 8936 B	9 mm	LI

Standard double spindles ZS 114

for female handles

ZS 114

ZS 114 FS

ZS 114, 8 mm ⊡

Door thickness*	Length	Article No.
24–33	99	ZS 114-0
34–43	109	ZS 114-1
44–53	119	ZS 114-2
54–63	129	ZS 114-3
64–73	139	ZS 114-4
74–83	149	ZS 114-5
84–93	159	ZS 114-6

ZS 114 FS, 9 mm ⊡

Door thickness*	Length	Article No.
33–42	**99**	**ZS 114 FS-0**
43–52	**109**	**ZS 114 FS-1**
53–62	**119**	**ZS 114 FS-2**
63–72	**129**	**ZS 114 FS-3**
73–82	**139**	**ZS 114 FS-4**
83–92	**149**	**ZS 114 FS-5**
93–103	**159**	**ZS 114 FS-6**

Dimensions in mm

*__Note:__ When using **OGRO ZS 7600 square backplates,** 4 mm should be added to the door thickness and the resulting dimensions used in order to determine the Article No. of the appropriate spindle. For example, actual door thickness = 40 mm: Door thickness for determining the required spindle = 40 mm + 4 mm, Article No. of the 8 mm square spindle = ZS 114-2, Article No. of the 9 mm square spindle = ZS 114 FS-1

Standard mixed-set spindles ZS 115

for external knob fixed dead, internal lever handle

ZS 115

ZS 115 FS

ZS 115, 8 mm ⊡

Door thickness*	Length	Article No.
20–39	85	ZS 115-1
40–49	95	ZS 115-2
50–69	115	ZS 115-3
70–89	135	ZS 115-4

ZS 115 FS, 9 mm ⊡

Door thickness*	Length	Article No.
31–44	**86**	**ZS 115 FS-1**
45–58	**100**	**ZS 115 FS-2**
59–72	**114**	**ZS 115 FS-3**
73–86	**128**	**ZS 115 FS-4**
87–102	**142**	**ZS 115 FS-5**

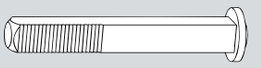
Dimensions in mm

*__Note:__ When using **OGRO ZS 7600 square backplates,** 4 mm should be added to the door thickness and the resulting dimensions used in order to determine the Article No. of the appropriate spindle. For example, actual door thickness = 40 mm: Door thickness for determining the required spindle = 40 mm + 4 mm, Article No. of the 8 mm square spindle = ZS 115-2, Article No. of the 9 mm square spindle = ZS 115 FS-1

Standard half-set spindles ZS 116

for through-drilled doors

ZS 116



Dimension xi	Length	Article No.
5–20	65	ZS 116
20–35	80	ZS 116
40–55	100	ZS 116
19.5–29.5	**69**	**ZS 116 FS**
–	74	ZS 116 H

Hook-type half-set spindles ZS 117

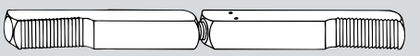
for doors drilled on one side

ZS 117

Dimension xi	Length	Article No.
9–22	67	ZS 117-1
27–42	87	ZS 117-2
–	65.5	ZS 117, 9 mm
–	86.5	ZS 117, 9 mm
–	72	ZS 117 H-1
–	85	ZS 117 H-1

Standard split spindles ZS 102 FS

for emergency escape locks with 9 mm ⊡ split follower



ZS 120 FS, 9 mm ⊡
for roses, long and short backplates (page 71) and **ZS 7080 A** large overlay backplates (page 71)

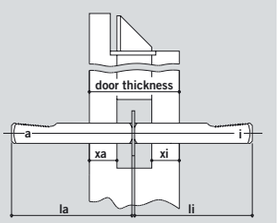
Door thickness	Dimen. xi or xa	Article No.
41–55	**13-20**	**ZS 120 FS-1**
56–69	**21-27**	**ZS 120 FS-2**
70–83	**28-34**	**ZS 120 FS-3**
84–97	**35-41**	**ZS 120 FS-4**

ZS 120 FS, 9 mm ⊡
for **ZS 7600** square backplates (page 71) and **ZS 7691** narrow-stile square backplates (page 71)

Door thickness	Dimen. xi or xa	Article No.
37–51	**11-18**	**ZS 120 FS-1**
52–65	**19-25**	**ZS 120 FS-2**
66–79	**26-32**	**ZS 120 FS-3**
80–93	**33-39**	**ZS 120 FS-4**

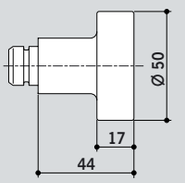
Dimensions in mm

The values indicated apply to a central lock seat.
If the lock seat is asymmetric and/or the door thicknesses are other than indicated, please indicate all li, la, xi, xa values when ordering.



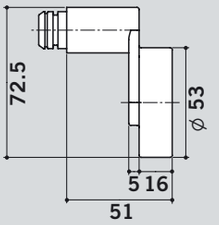
The details given on this page do not apply to our accessories with visible fixings on page 72 ff. (ZL series).

ZS 8020 K



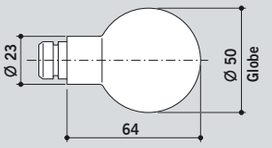
Securely bushed
ZS 8020 K, Al
ZS 8020 K FS, Al
ZS 8020 K, s/s
ZS 8020 K FS, s/s

ZS 8020 A



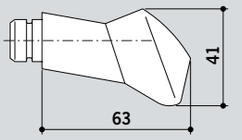
Securely bushed
ZS 8020 A, s/s
ZS 8020 A FS, s/s

ZS 8548 K



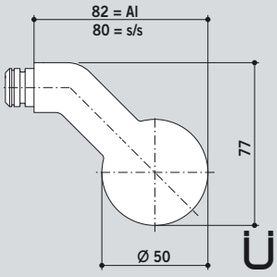
Securely bushed
ZS 8548 K, Al
ZS 8548 K FS, Al
ZS 8548 K, s/s
ZS 8548 K FS, s/s

ZS 8650 K



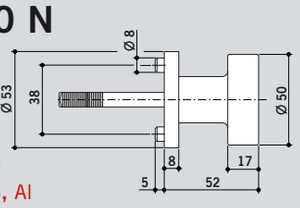
Securely bushed
ZS 8650 K, Al

ZS 8548 V



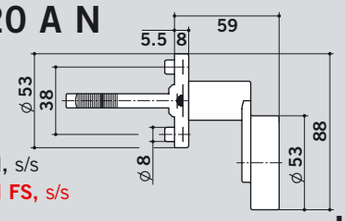
Securely bushed
ZS 8548 V, Al
ZS 8548 V FS, Al
ZS 8548 V, s/s
ZS 8548 V FS, s/s

ZS 3020 N



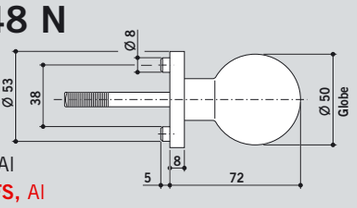
Fixed dead
ZS 3020 N, Al
ZS 3020 N FS, Al
ZS 3020 N, s/s
ZS 3020 N FS, s/s

ZS 3020 A N



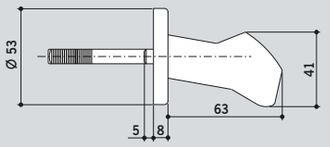
Fixed dead
ZS 3020 A N, s/s
ZS 3020 A N FS, s/s

ZS 3548 N



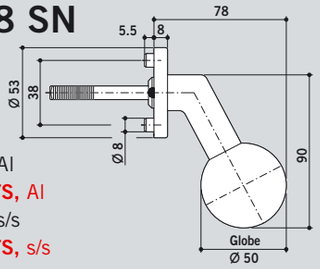
Fixed dead
ZS 3548 N, Al
ZS 3548 N FS, Al
ZS 3548 N, s/s
ZS 3548 N FS, s/s

ZS 3650 N



Fixed dead
ZS 3650 N, Al

ZS 3548 SN



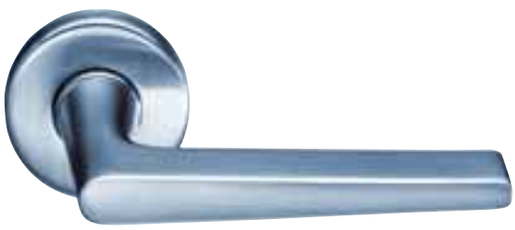
Fixed dead
ZS 3548 SN, Al
ZS 3548 SN FS, Al
ZS 3548 SN, s/s
ZS 3548 SN FS, s/s

Wagenfeld – pioneer of modernity

The meaning of functional art was always self-evident to the designer Wilhelm Wagenfeld, be it for lights, Lufthansa plastic plates or WMF cutlery. For Wagenfeld, there appeared to be no area of everyday life that might be too mundane to be rendered more attractive by accomplished design. Trained in the Bauhaus school of industrial design, Wagenfeld worked together with OGRO in the 1950s and 1960s in the development of lever handles. A classic design from that period is the ZS 8972 model. The re-run of the ZS 8974 lever handle in aluminium is also very much in the Wagenfeld tradition. In all, Wilhelm Wagenfeld created 3 lever handles and 6 pull handles for OGRO.

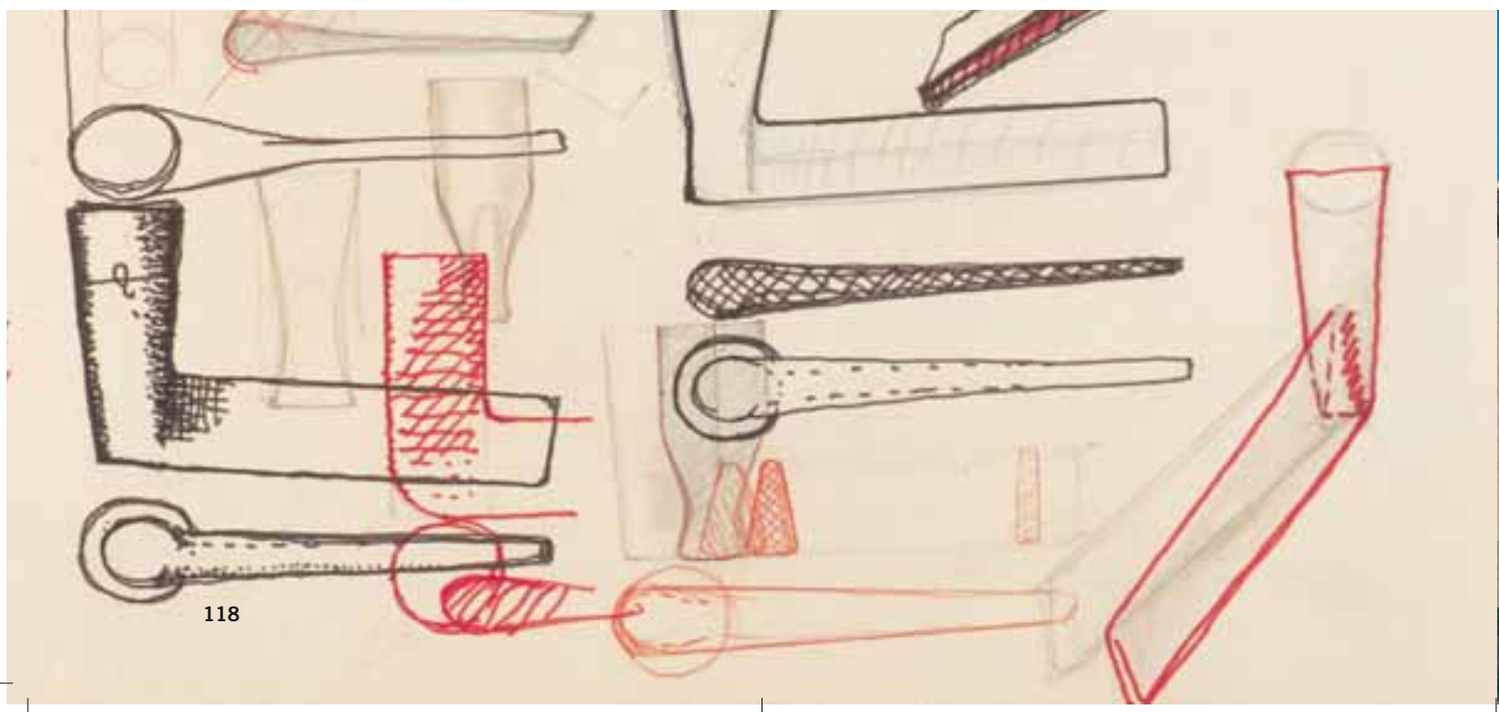
Window handle FE 4972

Wagenfeld firmly believed that "objects should attract our attention and make us stop and think". For him the value of an object revolves around the question "of being able to live with that object". Its value is not intrinsic, but instead "constantly evolves in relation to us".



Lever handle ZS 8972

Lever handle ZS 8974



OGRO

OGRO and DORMA products in the Federal Chancellery

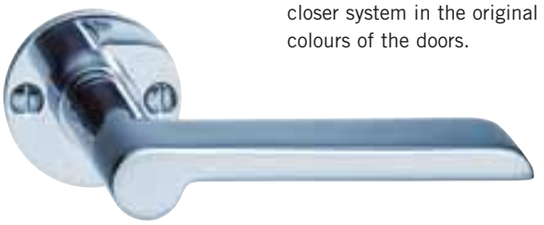
Lever handles/door knobs
Approximately 3,000 lever handle sets for timber doors, narrow-stile doors and high-security doors were produced specially for the Federal Chancellery project.

Door hinges
In keeping with the prestigious atmosphere of the building, almost 7,000 door hinges were manufactured in polished stainless steel to match the finish of the lever handles.

Window handles/ window levers
Coordinated in every respect: Even the window handles and special levers harmonise with the associated door handles in both form and finish.

Door closer systems
The concealed door closer DORMA ITS 96 was installed in many doors as a particularly elegant solution. Fire doors are equipped with the DORMA TS 93 door closer system in the original colours of the doors.

"This lever handle has that very rare archetypal quality – the designer becomes the medium though which the object takes its form – necessity and beauty in perfect harmony."
Axel Schultes

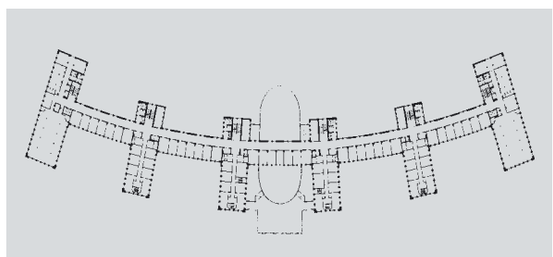


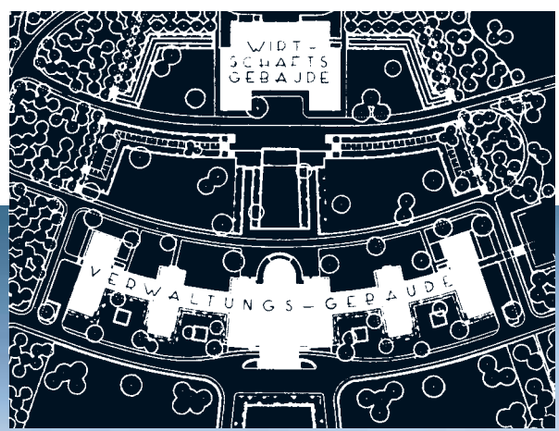
Lever handle 8928

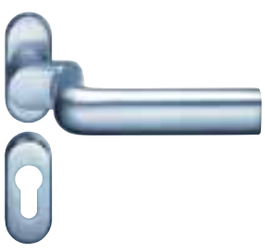
A building of major significance through the ages

The administrative centre of IG Farben in Frankfurt am Main was conceived during the 1920s by the architect Hans Poelzig and subsequently – in 1945 - was converted into the European headquarters of the CIA. The complex now belongs to the Goethe University, Frankfurt.

The building is heritage-listed and has been renovated and extended under the direction of Reinhard Tölke. OGRO manufactured 3,500 lever handles in the old classical design of a “Reich handle” for the first phase of construction. In addition, a crank-angled version of the model was also created so that all 8,500 doors were of an ideally coordinated appearance.







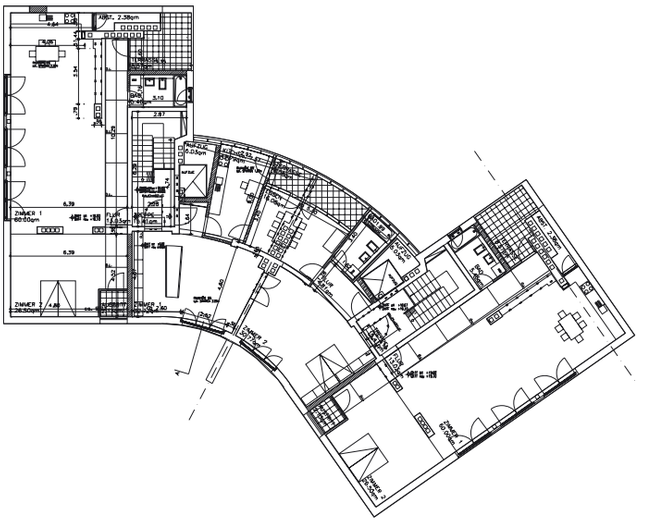
Lever handle ZS 8058 A

Lever handle ZS 8058

Beautifully practical

"With a total of 32 handle creations he is one of the most prolific door furniture designers of the century." So wrote Siegfried Gronert in 1998 in his monograph of Wilhelm Braun-Feldweg (published version). He continues: "When Braun-Feldweg designed the model in 1952, it was not a drawing pencil that was his tool. Instead he used his own hand, gripped around a fist-size roll of plasticine. He then continued to work the malleable negative hand-shape for the mass-produced permanent-mould casting."
The lever handle model ERNO 127 was chosen for the Gartenstadt Atlantik project in Berlin-Gesundbrunnen, where the requirement was to marry tradition and innovation. This housing complex dating from the 1920s pioneered a holistic concept of refurbishment and modernisation, with integration-aligned objectives and policies coupled to a return to cultural values.

"The hand judges the handle."
Wilhelm Braun-Feldweg

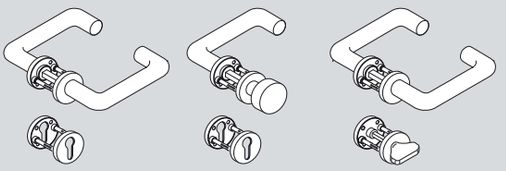


Lever handle 8962

OGRO standard lever handles in stainless steel and aluminium

- Stabilising bushing
- Springing
- Stainless steel with satin finish
- Aluminium, F1 silver (natural)
- Reliable transfer of forces to the door leaf due to backplates made from high-quality industrial plastics with lugs
- Back-to-back fixing through the lock
- Door thickness 38–53 mm
- Supplied only as a complete set

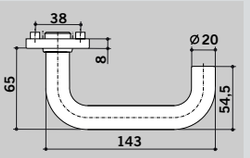
ST 8100



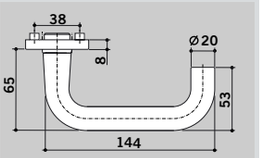
ST 8100/6501
ST 6612 PZ
or BB*

ST 8100/6501
ST 3020 N
ST 6612 PZ
or BB*

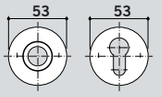
ST 8100/6501
ST 7122



ST 8100, s/s

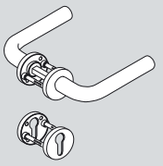


ST 8100, Al

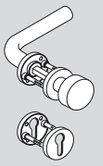


*Europrofile cylinder or warded lever lock

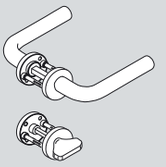
ST 8155



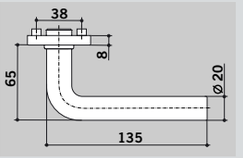
ST 8155/6501
ST 6612 PZ
or BB*



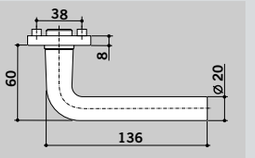
ST 8155/6501
ST 3020 N
ST 6612 PZ
or BB*



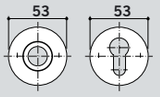
ST 8155/6501
ST 7122



ST 8155, s/s

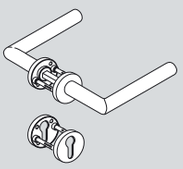


ST 8155, Al

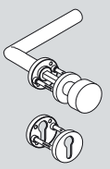


*Europrofile cylinder or warded lever lock

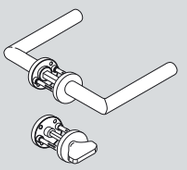
ST 8906



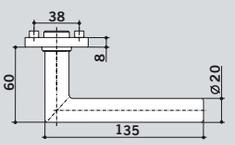
ST 8906/6501
ST 6612 PZ
or BB*



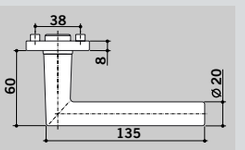
ST 8906/6501
ST 3020 N
ST 6612 PZ
or BB*



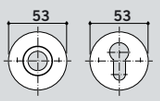
ST 8906/6501
ST 7122



ST 8906, s/s



ST 8906, Al



*Europrofile cylinder or warded lever lock


ZS 8100* page 128


ZS 8100 A* page 129


ZS 8907* page 144


ZS 8907 A* page 145


ZS 8101* page 130


ZS 8101 A* page 131


ZS 8907 V* page 145


ZS 8140* page 132


ZS 8140 A* page 133


ZS 8928 page 146


ZS 8928 A page 147


ZS 8141* page 134


ZS 8141 A* page 135


ZS 8940 page 148


ZS 8940 A* page 149


ZS 8155 V page 136


ZS 8972 page 150


ZS 8972 A page 151


ZS 8350 V* page 137


ZS 8998 page 152


ZS 8998 A* page 153


ZS 8526* page 138


ZS 8526 A* page 139

The wide range of ZS lever handle models on page 68 can equally be mixed and matched with the narrow ZS roses.


ZS 8830* page 140


ZS 8830 A* page 141


PB 8348 page 155
PB 8349


ZS 8906 page 142


ZS 8906 A page 143


PB 8348 V page 155
PB 8349 V


ZS 8906 V page 143


PB 8845 VU page 155
PB 8846 VU

* = CE EN 179

OGRO ZS system: Identical lever handle design for timber and narrow-stile doors

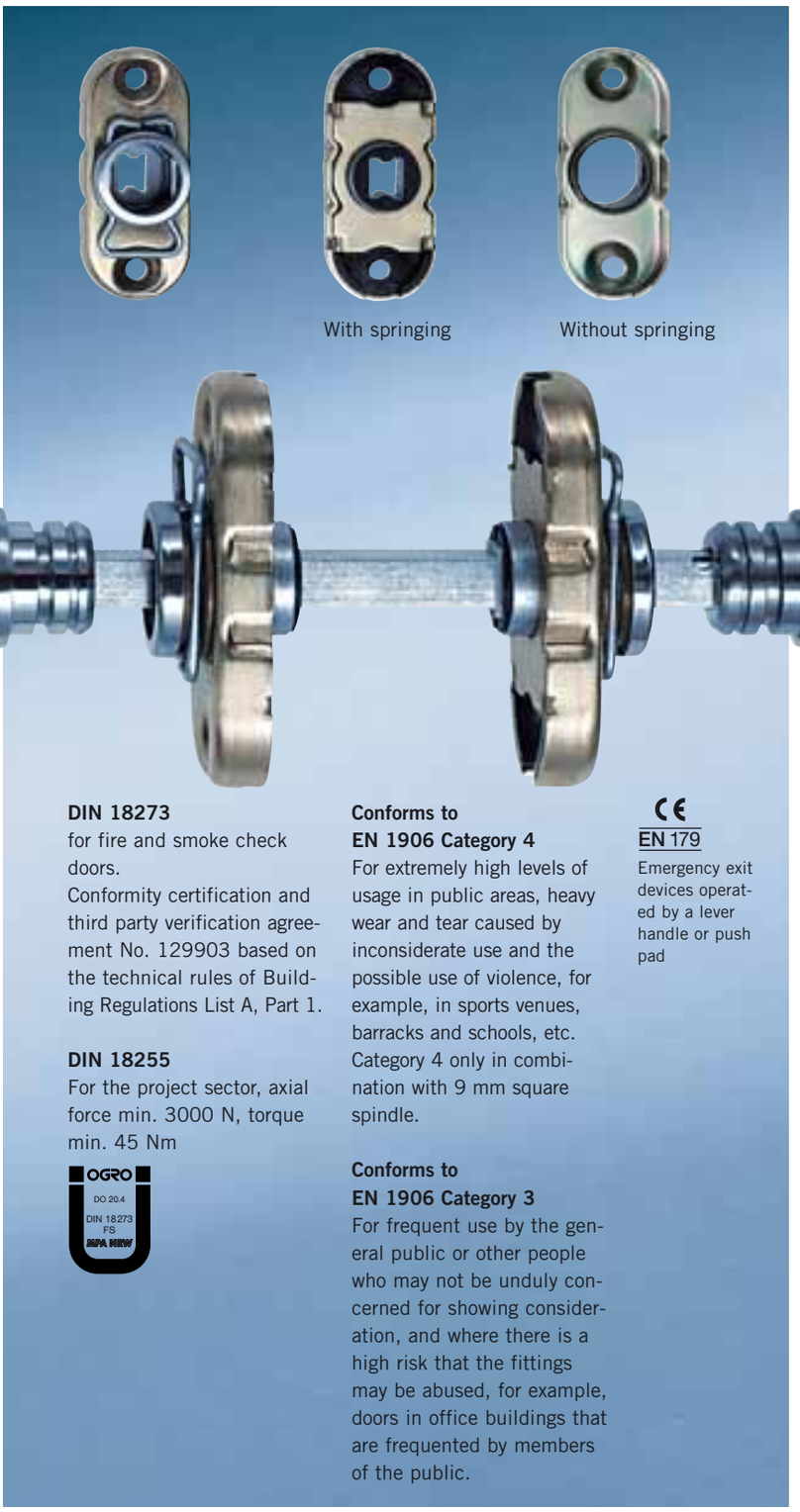
Decisive advantages

- Prompt delivery straight from the factory.
- Identical lever handles minimise trade stocking requirements.
- Clear overview of range of products available.
- Conformity with DIN 18255 and DIN 18273 (FS) plus the new EN 1906.
- Just one universal level handle for categories of use 2, 3 and 4 per EN 1906. Category 4 only with 9 mm square spindle.
- Roses and backplates are well-suited to factory fixing on doors; handles can be chosen at a later date and simply installed by clipping into the rose or backplate.
- Easy fixing to special thickness doors – the lever handles are supplied as female parts with the spindle provided separately.
- Lever handles and/or roses can be fully interchanged even after fixing.

5 YEAR GUARANTEE ON ALL ZS LEVER HANDLES WITH ZS ROSES

Narrow roses of the ZS system – for all lever handles in the ZS series

Designed on the basis of the ZS system, all OGRO narrow roses can be mixed and matched with any ZS lever handles.
As a result, all project doors can be fitted with the same door handle model regardless of their design. Further features and benefits as follows:



- Approved for use in combination with FS lever handles for fire and smoke check doors.
- Roses are ideal for factory fixing on doors; handles can be chosen at a later date and simply installed by clipping into the rose.
- Lever handles and/or roses are easily interchangeable independently of each other even after fixing simply by loosening the snap-fit connection.

DIN 18273
for fire and smoke check doors.
Conformity certification and third party verification agreement No. 129903 based on the technical rules of Building Regulations List A, Part 1.

DIN 18255
For the project sector, axial force min. 3000 N, torque min. 45 Nm

OGRO
DO 20.4
DIN 18273
FS
MPA NRW

Conforms to
EN 1906 Category 4
For extremely high levels of usage in public areas, heavy wear and tear caused by inconsiderate use and the possible use of violence, for example, in sports venues, barracks and schools, etc. Category 4 only in combination with 9 mm square spindle.

Conforms to
EN 1906 Category 3
For frequent use by the general public or other people who may not be unduly concerned for showing consideration, and where there is a high risk that the fittings may be abused, for example, doors in office buildings that are frequented by members of the public.

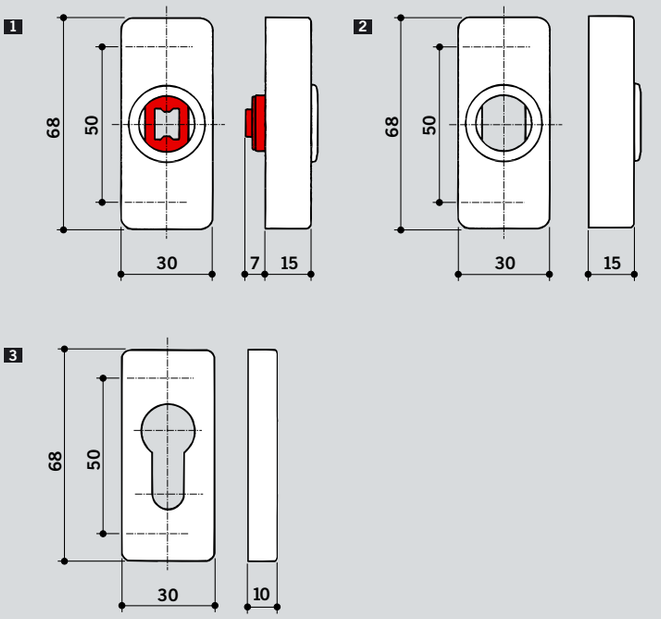
CE
EN 179
Emergency exit devices operated by a lever handle or push pad

Narrow roses with or without springing

1 PB 6611 ZS
Rectangular rose with springing, Al, s/s

2 PB 6610 ZS
Rectangular rose without springing, Al, s/s

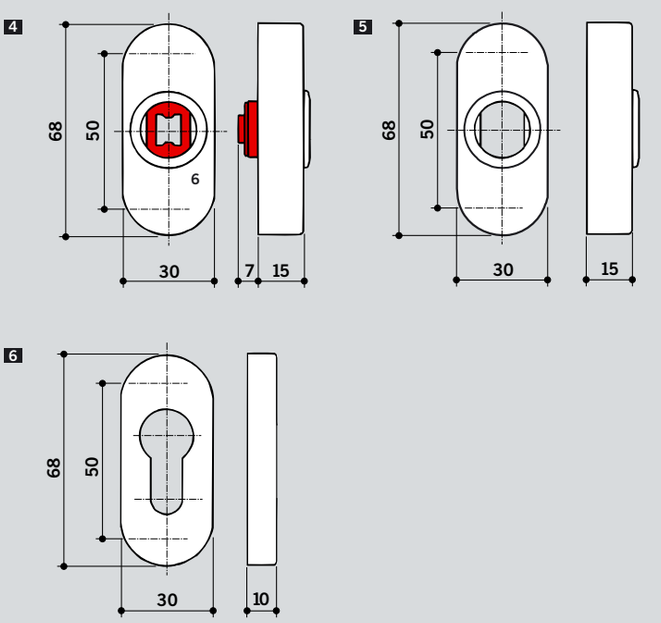
3 PB 6676 PZ
Rectangular escutcheon, Al, s/s

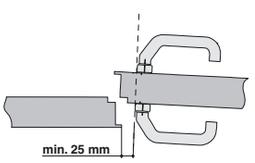


4 PB 6621 ZS
Oval rose with springing, Al, s/s

5 PB 6620 ZS
Oval rose without springing, Al, s/s

6 PB 6679 PZ
Oval escutcheon, Al, s/s





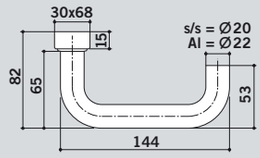
Note:
It is important that a minimum clearance of 25 mm is maintained between the lever handle and the frame stop.

ZS 8100

	With springing		Without springing	
1	**ZS 8100**	Lever handle	**ZS 8100**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8100**	Lever handle	**ZS 8100**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

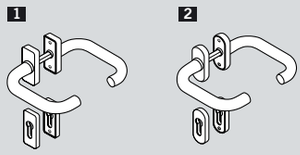
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8100, Al / **ZS 8100 FS,** Al
ZS 8100, s/s / **ZS 8100 FS,** s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type	ZS 8100	ZS 8100
FS for DIN fire doors	ZS 8100 FS	ZS 8100 FS
Pull handles	Page 159	Page 159
Window handles	Page 156	Page 156



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

ZS system

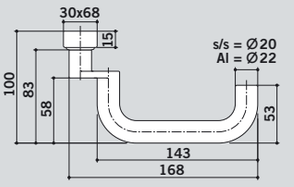
OGRO

ZS 8100 A

	With springing		Without springing	
1	**ZS 8100 A** **PB 6611 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon	**ZS 8100 A** **PB 6610 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon
2	**ZS 8100 A** **PB 6621 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon	**ZS 8100 A** **PB 6620 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon

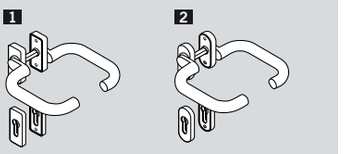
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8100 A, Al / **ZS 8100 A FS,** Al
ZS 8100 A, s/s / **ZS 8100 A FS,** s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type	ZS 8100 A	ZS 8100 A
FS for DIN fire doors	ZS 8100 A FS	ZS 8100 A FS
Pull handles	Page 159	Page 159
Window handles	Page 156	Page 156



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

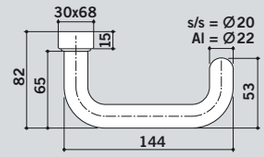
ZS system

ZS 8101

	With springing		Without springing	
1	**ZS 8101**	Lever handle	**ZS 8101**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8101**	Lever handle	**ZS 8101**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

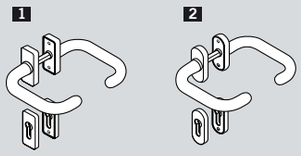
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8101, Al / **ZS 8101 FS,** Al
ZS 8101, s/s / **ZS 8101 FS,** s/s

	Aluminium Al	Stainless steell s/s
Standard (non-fire) type	ZS 8101	ZS 8101
FS for DIN fire doors	ZS 8101 FS	ZS 8101 FS
Pull handles	Page 159	Page 159
Window handles	Page 156	Page 156



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

ZS system

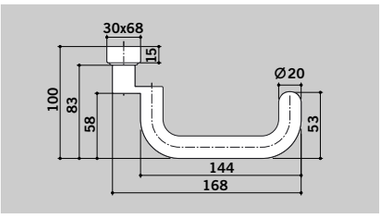
OGRO

ZS 8101 A

	With springing		Without springing	
1	**ZS 8101 A** **PB 6611 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon	**ZS 8101 A** **PB 6610 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon
2	**ZS 8101 A** **PB 6621 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon	**ZS 8101 A** **PB 6620 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon

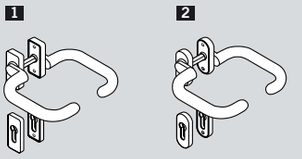
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8101 A, Alu / **ZS 8101 A FS,** Alu
ZS 8101 A, s/s / **ZS 8101 A FS,** s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type	ZS 8101 A	ZS 8101 A
FS for DIN fire doors	ZS 8101 A FS	ZS 8101 A FS
Pull handles	Page 159	Page 159
Window handles	Page 156	Page 156



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

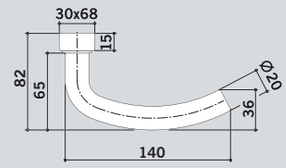
ZS system

ZS 8140

	With springing		Without springing	
1	**ZS 8140**	Lever handle	**ZS 8140**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8140**	Lever handle	**ZS 8140**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

Roses on page 127
For specification texts, see page 170–171

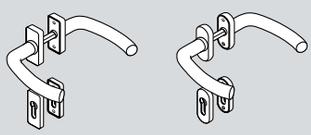
F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8140, s/s
ZS 8140 FS, s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type		ZS 8140
FS for DIN fire doors		ZS 8140 FS
Pull handles		Page 159
Window handles		Page 157

1 2



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

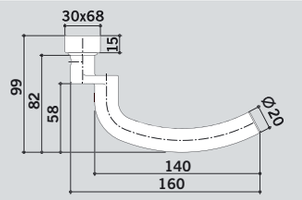
ZS system

ZS 8140 A

	With springing		Without springing	
1	**ZS 8140 A** **PB 6611 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon	**ZS 8140 A** **PB 6610 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon
2	**ZS 8140 A** **PB 6621 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon	**ZS 8140 A** **PB 6620 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon

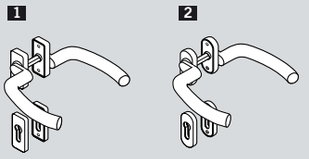
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8140 A, s/s
ZS 8140 A FS, s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type		ZS 8140 A
FS for DIN fire doors		ZS 8140 A FS
Pull handles		Page 159
Window handles		Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

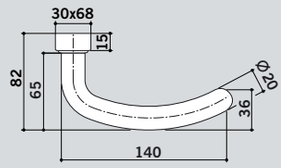
ZS system

ZS 8141

	With springing		Without springing	
1	**ZS 8141**	Lever handle	**ZS 8141**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8141**	Lever handle	**ZS 8141**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

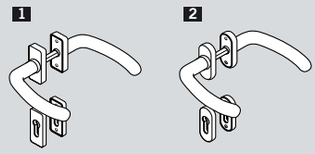
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8141, s/s
ZS 8141 FS, s/s

	Aluminium Al	Stainless steell s/s
Standard (non-fire) type		ZS 8141
FS for DIN fire doors		ZS 8141 FS
Pull handles		Page 159
Window handles		Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

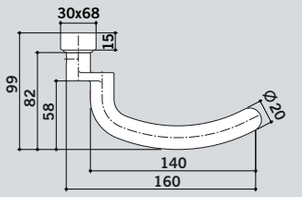
ZS system

ZS 8141 A

	With springing		Without springing	
1	**ZS 8141 A**	Lever handle	**ZS 8141 A**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8141 A**	Lever handle	**ZS 8141 A**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

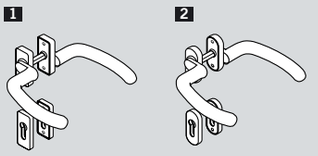
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8141 A, s/s
ZS 8141 A FS, s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type		ZS 8141 A
FS for DIN fire doors		ZS 8141 A FS
Pull handles		Page 159
Window handles		Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

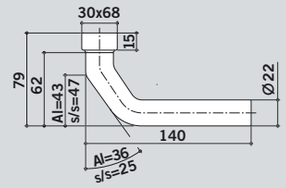
ZS system

ZS 8155 V

	With springing		Without springing	
1	**ZS 8155 V**	Lever handle	**ZS 8155 V**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8155 V**	Lever handle	**ZS 8155 V**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

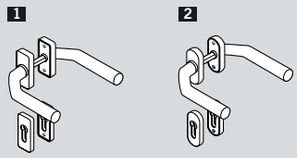
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors



ZS 8155 V, Al / **ZS 8155 V FS,** Al
ZS 8155 V, s/s / **ZS 8155 V FS,** s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type	ZS 8155 V	ZS 8155 V
FS for DIN fire doors	ZS 8155 V FS	ZS 8155 V FS
Pull handles	Page 159	Page 159
Window handles	Page 157	Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3

See page 126 for details

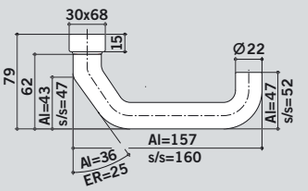
ZS system

ZS 8350 V

	With springing		Without springing	
1	**ZS 8350 V** **PB 6611 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon	**ZS 8350 V** **PB 6610 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon
2	**ZS 8350 V** **PB 6621 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon	**ZS 8350 V** **PB 6620 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon

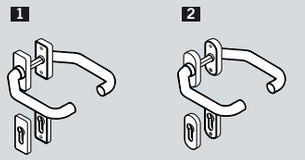
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8350 V, Alu / **ZS 8350 V FS,** Al
ZS 8350 V, s/s / **ZS 8350 V FS,** s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type	ZS 8350 V	ZS 8350 V
FS for DIN fire doors	ZS 8350 V FS	ZS 8350 V FS
Pull handles	Page 159	Page 159
Window handles	Page 156	Page 156



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

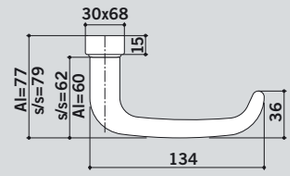
ZS system

ZS 8526

	With springing		Without springing	
1	**ZS 8526**	Lever handle	**ZS 8526**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8526**	Lever handle	**ZS 8526**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

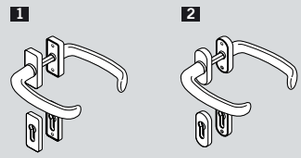
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8526, Al / **ZS 8526 FS,** Al
ZS 8526, s/s / **ZS 8526 FS,** s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type	ZS 8526	ZS 8526
FS for DIN fire doors	ZS 8526 FS	ZS 8526 FS
Pull handles	Page 159	Page 159
Window handles	Page 157	Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

ZS system

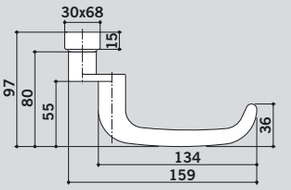
OGRO

ZS 8526 A

	With springing		Without springing	
1	**ZS 8526 A**	Lever handle	**ZS 8526 A**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8526 A**	Lever handle	**ZS 8526 A**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

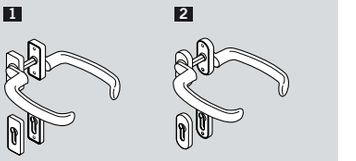
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8526 A, s/s
ZS 8526 A FS, s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type		ZS 8526 A
FS for DIN fire doors		ZS 8526 A FS
Pull handles		Page 159
Window handles		Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

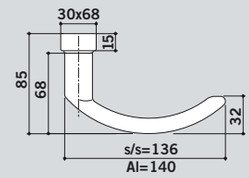
ZS system

ZS 8830

	With springing		Without springing	
1	**ZS 8830**	Lever handle	**ZS 8830**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8830**	Lever handle	**ZS 8830**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

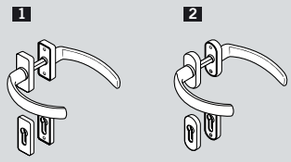
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8830, Al
ZS 8830, s/s / **ZS 8830 FS,** s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type	ZS 8830	ZS 8830
FS for DIN fire doors		ZS 8830 FS
Pull handles	Page 159	Page 159
Window handles	Page 157	Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

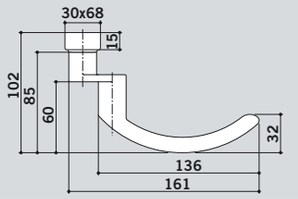
ZS system

ZS 8830 A

	With springing		Without springing	
1	**ZS 8830 A** **PB 6611 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon	**ZS 8830 A** **PB 6610 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon
2	**ZS 8830 A** **PB 6621 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon	**ZS 8830 A** **PB 6620 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon

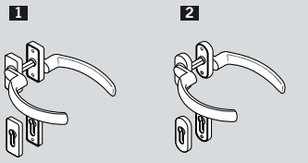
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8830 A, s/s
ZS 8830 A FS, s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type		ZS 8830 A
FS for DIN fire doors		ZS 8830 A FS
Pull handles		Page 159
Window handles		Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

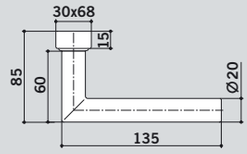
ZS system

ZS 8906

	With springing		Without springing	
1	**ZS 8906**	Lever handle	**ZS 8906**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8906**	Lever handle	**ZS 8906**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

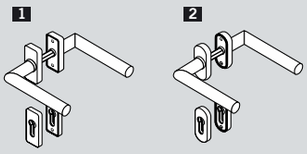
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors



ZS 8906, Al / **ZS 8906 FS,** Al
ZS 8906, s/s / **ZS 8906 FS,** s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type	ZS 8906	ZS 8906
FS for DIN fire doors	ZS 8906 FS	ZS 8906 FS
Pull handles	Page 159	Page 159
Window handles	Page 157	Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3

See page 126 for details

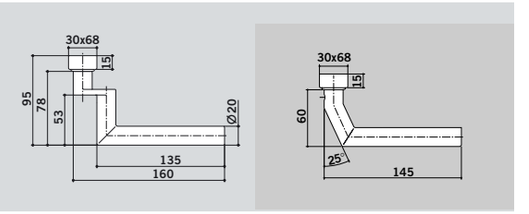
ZS system

ZS 8906 A / ZS 8906 V

	With springing		Without springing	
1	**ZS 8906 A** **PB 6611 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon	**ZS 8906 A** **PB 6610 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon
2	**ZS 8906 A** **PB 6621 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon	**ZS 8906 A** **PB 6620 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon
3	**ZS 8906 V** **PB 6611 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon	**ZS 8906 V** **PB 6610 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon
4	**ZS 8906 V** **PB 6621 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon	**ZS 8906 V** **PB 6620 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon

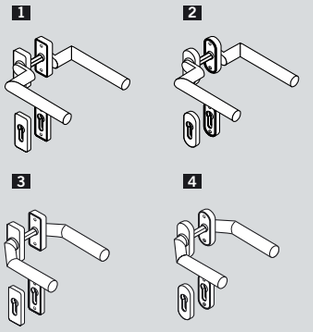
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors



ZS 8906 A, Al / **ZS 8906 A FS,** Al
ZS 8906 A, s/s / **ZS 8906 A FS,** s/s
ZS 8906 V, s/s / **ZS 8906 V FS,** s/s

	Aluminium Al	Stainless steel s/s	
Standard (non-fire) type	ZS 8906 A	ZS 8906 A	ZS 8906 V
FS for DIN fire doors	ZS 8906 A FS	ZS 8906 A FS	ZS 8906 V FS
Pull handles	Page 159	Page 159	Page 159
Window handles	Page 157	Page 157	Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3

See page 126 for details

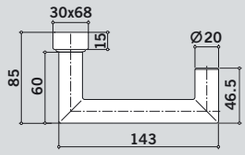
ZS system

ZS 8907

	With springing		Without springing	
1	**ZS 8907**	Lever handle	**ZS 8907**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8907**	Lever handle	**ZS 8907**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

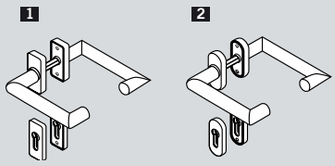
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8907, Al / **ZS 8907 FS,** Al
ZS 8907, s/s / **ZS 8907 FS,** s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type	ZS 8907	ZS 8907
FS for DIN fire doors	ZS 8907 FS	ZS 8907 FS
Pull handles	Page 159	Page 159
Window handles	Page 157	Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

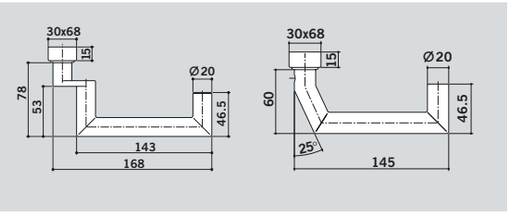
ZS system

ZS 8907 A / ZS 8907 V

	With springing		Without springing	
1	**ZS 8907 A** **PB 6611 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon	**ZS 8907 A** **PB 6610 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon
2	**ZS 8907 A** **PB 6621 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon	**ZS 8907 A** **PB 6620 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon
3	**ZS 8907 V** **PB 6611 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon	**ZS 8907 V** **PB 6610 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon
4	**ZS 8907 V** **PB 6621 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon	**ZS 8907 V** **PB 6620 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon

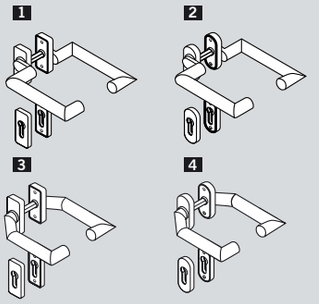
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8907 A, Al / **ZS 8907 A FS,** Al
ZS 8907 A, s/s / **ZS 8907 A FS,** s/s
ZS 8907 V, s/s / **ZS 8907 V FS,** s/s

	Aluminium Al	Stainless steel s/s	
Standard (non-fire) type	ZS 8907 A	ZS 8907 A	ZS 8907 V
FS for DIN fire doors	ZS 8907 A FS	ZS 8907 A FS	ZS 8907 V FS
Pull handles	Page 159	Page 159	Page 159
Window handles	Page 157	Page 157	Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

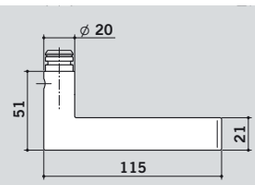
ZS system

ZS 8928

	With springing		Without springing	
1	**ZS 8928**	Lever handle	**ZS 8928**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8928**	Lever handle	**ZS 8928**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

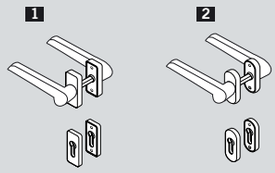
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors



ZS 8928, s/s
ZS 8928 FS, s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type		ZS 8928
FS for DIN fire doors		ZS 8928 FS
Pull handles		Page 159
Window handles		Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3

See page 126 for details

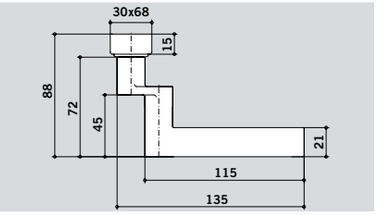
ZS system

ZS 8928 A

	With springing		Without springing	
1	**ZS 8928 A**	Lever handle	**ZS 8928 A**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8928 A**	Lever handle	**ZS 8928 A**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

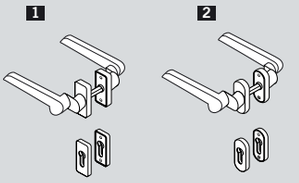
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors



ZS 8928 A, s/s
ZS 8928 A FS, s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type		ZS 8928 A
FS for DIN fire doors		ZS 8928 A FS
Pull handles		Page 159
Window handles		Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3

See page 126 for details

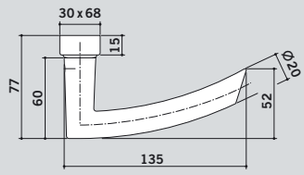
ZS system

ZS 8940

	With springing		Without springing	
1	**ZS 8940**	Lever handle	**ZS 8940**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8940**	Lever handle	**ZS 8940**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

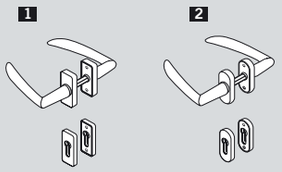
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors



ZS 8940, Al / **ZS 8940 FS,** Al
ZS 8940, s/s / **ZS 8940 FS,** s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type	ZS 8940	ZS 8940
FS for DIN fire doors	ZS 8940 FS	ZS 8940 FS
Pull handles	Page 159	Page 159
Window handles	Page 157	Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3

See page 126 for details

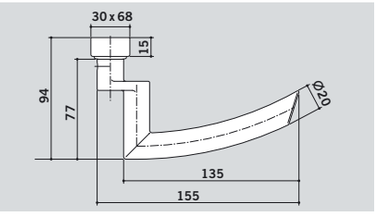
ZS system

ZS 8940 A

	With springing		Without springing	
1	**ZS 8940 A**	Lever handle	**ZS 8940 A**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8940 A**	Lever handle	**ZS 8940 A**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

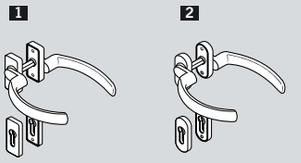
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors



ZS 8940 A, s/s
ZS 8940 A FS, s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type		ZS 8940 A
FS for DIN fire doors		ZS 8940 A FS
Pull handles		Page 159
Window handles		Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

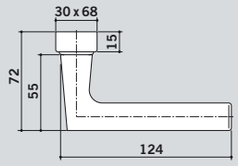
ZS system

ZS 8972

	With springing		Without springing	
1	**ZS 8972**	Lever handle	**ZS 8972**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8972**	Lever handle	**ZS 8972**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

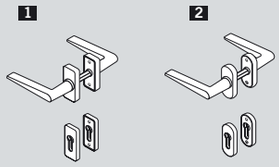
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors



ZS 8972, Al
ZS 8972, s/s / **ZS 8972 FS,** s/s

	Aluminium Al	Stainless steell s/s
Standard (non-fire) type	ZS 8972	ZS 8972
FS for DIN fire doors		ZS 8972 FS
Pull handles	Page 159	Page 159
Window handles	Page 157	Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3

See page 126 for details

ZS system

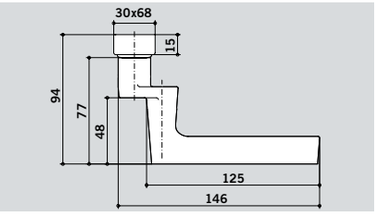
OGRO

ZS 8972 A

	With springing		Without springing	
1	**ZS 8972 A**	Lever handle	**ZS 8972 A**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8972 A**	Lever handle	**ZS 8972 A**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

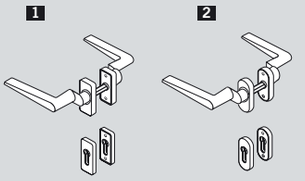
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors



ZS 8972 A, s/s
ZS 8972 A FS, s/s

	Aluminium Al	Stainless steell s/s
Standard (non-fire) type		ZS 8972 A
FS for DIN fire doors		ZS 8972 A FS
Pull handles		Page 159
Window handles		Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3

See page 126 for details

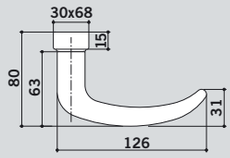
ZS system

ZS 8998

	With springing		Without springing	
1	**ZS 8998**	Lever handle	**ZS 8998**	Lever handle
	PB 6611 ZS	Rectangular rose	**PB 6610 ZS**	Rectangular rose
	PB 6676	Rectangular escutcheon	**PB 6676**	Rectangular escutcheon
2	**ZS 8998**	Lever handle	**ZS 8998**	Lever handle
	PB 6621 ZS	Oval rose	**PB 6620 ZS**	Oval rose
	PB 6679	Oval escutcheon	**PB 6679**	Oval escutcheon

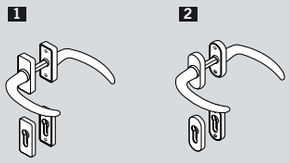
Roses on page 127
For specification texts, see page 170–171

F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8998, Al / **ZS 8998 FS,** Al
ZS 8998, s/s / **ZS 8998 FS,** s/s

	Aluminium Al	Stainless steell s/s
Standard (non-fire) type	ZS 8998	ZS 8998
FS for DIN fire doors	ZS 8998 FS	ZS 8998 FS
Pull handles	Page 159	Page 159
Window handles	Page 157	Page 157



DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3

See page 126 for details

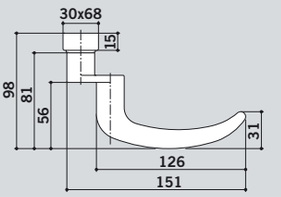
ZS system

ZS 8998 A

	With springing		Without springing	
1	**ZS 8998 A** **PB 6611 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon	**ZS 8998 A** **PB 6610 ZS** **PB 6676**	Lever handle Rectangular rose Rectangular escutcheon
2	**ZS 8998 A** **PB 6621 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon	**ZS 8998 A** **PB 6620 ZS** **PB 6679**	Lever handle Oval rose Oval escutcheon

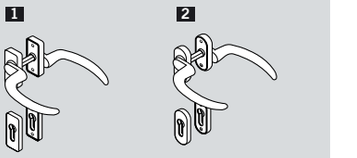
Roses on page 127
For specification texts, see page 170–171

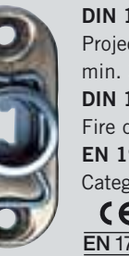
F For DIN fire and smoke check doors and also emergency exits and escape routes



ZS 8998 A, Al / **ZS 8998 A FS,** Al
ZS 8998 A, s/s / **ZS 8998 A FS,** s/s

	Aluminium Al	Stainless steel s/s
Standard (non-fire) type	ZS 8998 A	ZS 8998 A
FS for DIN fire doors	ZS 8998 A FS	ZS 8998 A FS
Pull handles	Page 159	Page 159
Window handles	Page 157	Page 157



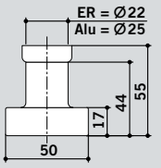


DIN 18255
Project sector
min. 3000 N / 45 Nm
DIN 18273
Fire doors Ü
EN 1906
Categories 4 and 3
CE
EN 179

See page 126 for details

ZS system

PB 3020



Flat knob

PB 3020 O, Al, Al white (RAL 9010/9016), s/s

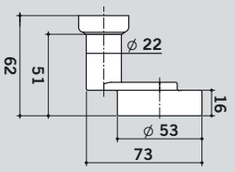
PB 3020 O FS, Al, Al white (RAL 9010/9016), s/s

PB 3020 U, Al, Al white (RAL 9010/9016), s/s

PB 3020 U FS, Al, Al white (RAL 9010/9016), s/s

O = On oval rose
U = On rectangular rose

PB 3020 A



Flat knob, cranked with fixing spacer

PB 3020 A O, s/s

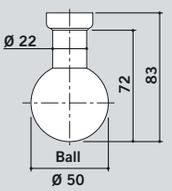
PB 3020 A O FS, s/s

PB 3020 A U, s/s

PB 3020 A U FS, s/s

O = On oval rose
U = On rectangular rose

PB 3548



Ball knob

PB 3548 O, Al, Al white (RAL 9010/9016), s/s

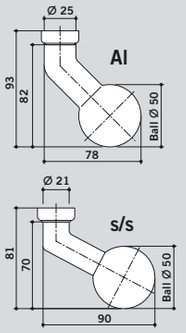
PB 3548 O FS, Al, Al white (RAL 9010/9016), s/s

PB 3548 U, Al, Al white (RAL 9010/9016), s/s

PB 3548 U FS, Al, Al white (RAL 9010/9016), s/s

O = On oval rose
U = On rectangular rose

PB 3548 S



Cranked ball knob

PB 3548 SO, Al, Al white (RAL 9010/9016), s/s

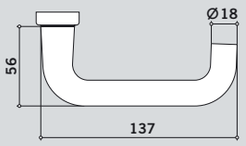
PB 3548 SO FS, Al, Al white (RAL 9010/9016), s/s

PB 3548 SU, Al, Al white (RAL 9010/9016), s/s

PB 3548 SU FS, Al, Al white (RAL 9010/9016), s/s

O = On oval rose
U = On rectangular rose

PB 8348, PB 8349

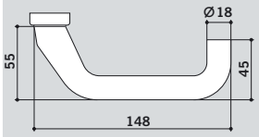


PB 8348 O, Al
PB 8348 U, Al

With springing:
PB 8349 O, Al
PB 8349 U, Al

O = On oval rose
U = On rectangular rose

PB 8348 V, PB 8349 V

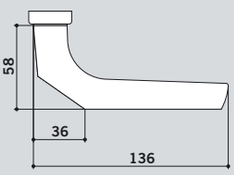


PB 8348 VO, Al
PB 8348 VU, Al

With springing:
PB 8349 VO, Al
PB 8349 VU, Al

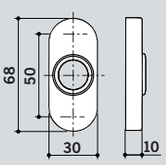
O = On oval rose
U = On rectangular rose

PB 8845 VU, PB 8846 VU

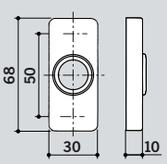


PB 8845 VU, Al

With springing:
PB 8846 VU, Al



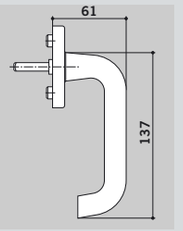
Oval rose
PB 6678 R
(Only in combination with products shown on pages 154 and 155)



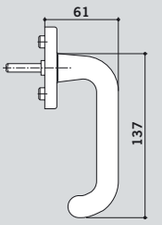
Rectangular rose
PB 6677 R

FE window handles

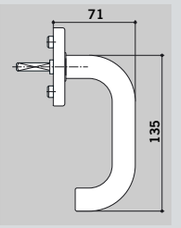
- We supply window handles in the shape of most ZS lever handles for interior design integrity
- All window handles have oval or rectangular roses
- Four-position insertion at 90° angles
- Gap ventilation at 45° if required



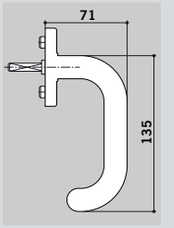
FE 4100 SO, Al
FE 4100 SU, Al



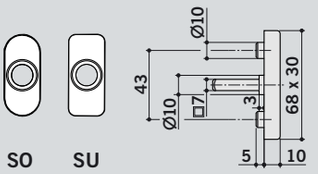
FE 4101 SO, Al
FE 4101 SU, Al



FE 4100 SO, s/s
FE 4100 SU, s/s

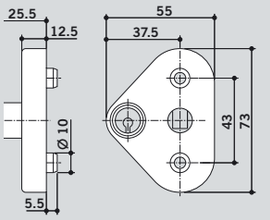


FE 4101 SO, s/s
FE 4101 SU, s/s



The spindle projects 30 mm (12–40 mm projection also possible). Also supplied with 12 mm diameter lugs or without lugs

SI 4066



Lockable module suitable for mix and match combination with all OGRO FE window handles. With 5 different keying levels.

White plastic
Black plastic

SI 4066
in combination with
FE 4906

SI 4066
in combination with
FE 4998

FE 4100

FE 4101

FE 4140

FE 4141

FE 4155

FE 4156

FE 4526

FE 4600

FE 4610

FE 4830

FE 4906

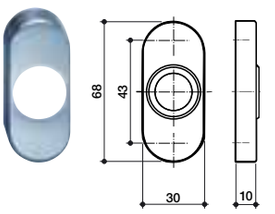
FE 4908

FE 4940

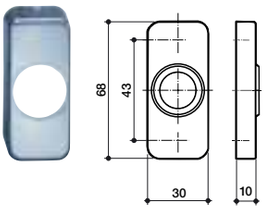
FE 4972

FE 4998

SI 4077 SU



Oval rose (SO),
Al, s/s, to suit all
FE window handles



Rectangular rose (SU),
Al, s/s, to suit all
FE window handles

Pull handles

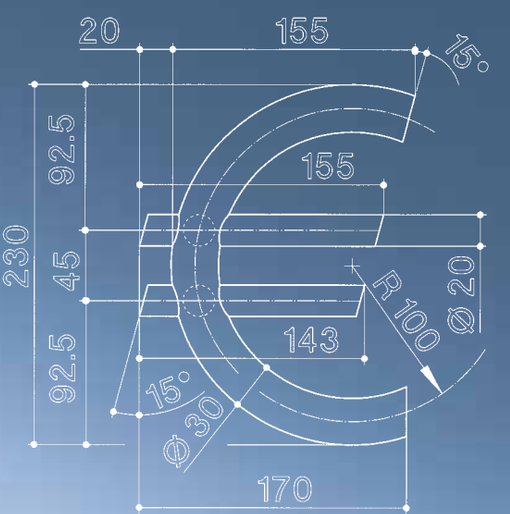
Together with OGRO you can quickly turn your own design for a pull handle into reality:

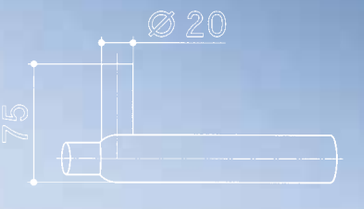
- You send us your suggested design
- We produce a design drawing
- You examine the drawing in detail with us and then give us permission to proceed
- We manufacture the handle to suit your time constraints

OGRO has already successfully carried out many projects with architects and designers on this basis.

Numerous standard designs and/or sizes as well as special designs can be manufactured to your individual specifications. The benefits at a glance:

- Attractive styling and numerous finishes
- Beautifully crafted down to the last detail
- Thorough quality control
- Reliable absorption of compressive and tensile forces thanks to sophisticated fixing techniques
- Quick fixing and easy preparation work due to simple drilling and fastening systems
- Several mounting methods for concealed fixing to every kind of door
- Rapid manufacture of individual pull handles from sketches or drawings
- Almost all pull handle ends can be manufactured in curved design, with fixing spacers or mitred design





Example: TG 9319 “Euro” pull handle for a bank

TG 9317
TG 9417

TG 9318

Materials and finishes

Stainless steel, s/s
- satin finish
- mirror-polished

Anodised aluminium, Al
- F1 silver (natural)
- F2 champagne
- F3 gold
- F4 bronze
- F5 dark bronze
- special colours

TG 9306
TG 9405

TG 9316
TG 9416

TG 9300
TG 9303
TG 9304
TG 9403

TG 9159
TG 9359
TG 9459

TG 9313

TG 9335
TG 9435

TG 9357
TG 9457

TG 9830

TG 9025
TG 9125
TG 9155
TG 9355
TG 9455

TG 9126
TG 9156
TG 9356
TG 9456

TG 9327

TG 9328

TG 9055

TG 9056

TG 9059

TG 9004

TG 9910

TG 9911

TG 9915

OGRO door hinges

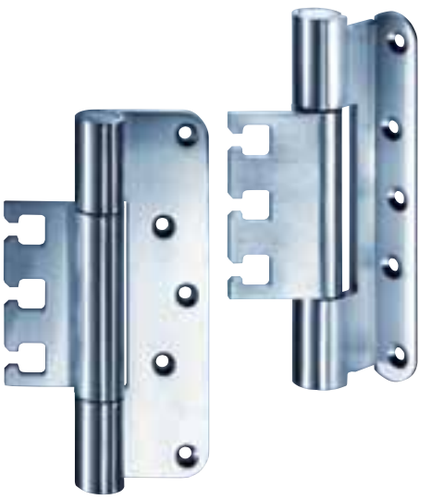
Owing to their exceptional design features and high quality, OGRO project hinges can be relied upon to provide exemplary performance over an extended service lifetime.
The use of high-performance ball bearings (also for fire doors) or plastic axial bearings (not for fire doors) ensures excellent load bearing characteristics and the absorption of all axial and radial stresses. This results in doors that move both silently and effortlessly.
All OGRO hinges can be fitted quickly and with ease. Their radii and edges have been precisely machined, so rendering subsequent finishing work unnecessary. Combined with the relevant fixings, the positioning of all project hinges is infinitely variable in three dimensions, thus enabling doors to be adjusted whenever needed. In the case of frequently used doors, further support lugs (available as optional extras) can be fitted to provide additional stability.

The load capacity data relating to our door hinges assume the use of two hinges spaced at 1435 mm (distance between hinge reference lines) on a door measuring 200 x 100 cm (H x W). The load capacity values decrease for door widths greater than 100 cm by the percentage increase on the width base value of 100 cm (e.g. door width 110 cm = load capacity value reduced by 10%).

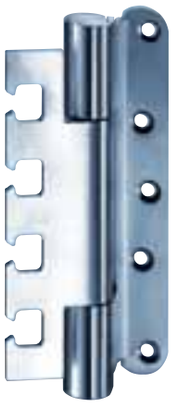
If a third hinge is used (spaced at 370 mm between the reference lines of the top and bottom hinges), the load capacity increases by approx. 30%.
The load capacity data in kg do not, therefore, relate exclusively to door deadweight. The following criteria indicate a selection of factors, that, in addition to the deadweight of the door, can influence the load on the door hinges:

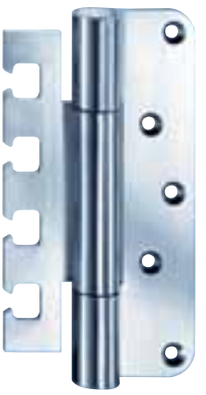
- Site of installation (e.g. schools, barracks, public facilities, administrative buildings, kindergartens/ nurseries, hospitals, apartment blocks)
- Door and frame construction materials
- Dimensions of the door (higher, wider)
- Frequency of door usage
- Additional components fitted, e.g. door closers/floor springs, automatic door operator systems and/or door stops
- Carefulness of use
- Proper fitting of the door hinges, etc.

In any application, the interplay of these and other factors is virtually impossible to accurately predict or calculate. It is important, therefore, to select those hinges from our range that offer an additional load capacity reserve for the door concerned in order to be confident of its long-term functional integrity. The door hinges should be fitted only by appropriately skilled personnel from a qualified, reputable firm.

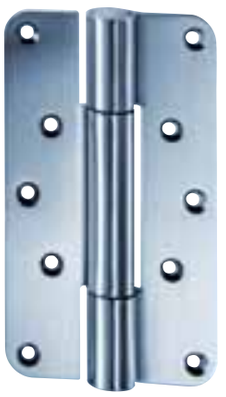


BA-X
stainless steel
Page 162





BA-N
stainless steel
Page 164



BA-N
stainless steel
Page 166

Materials and finishes for project hinges

Stainless steel
– satin finish
– mirror-polished

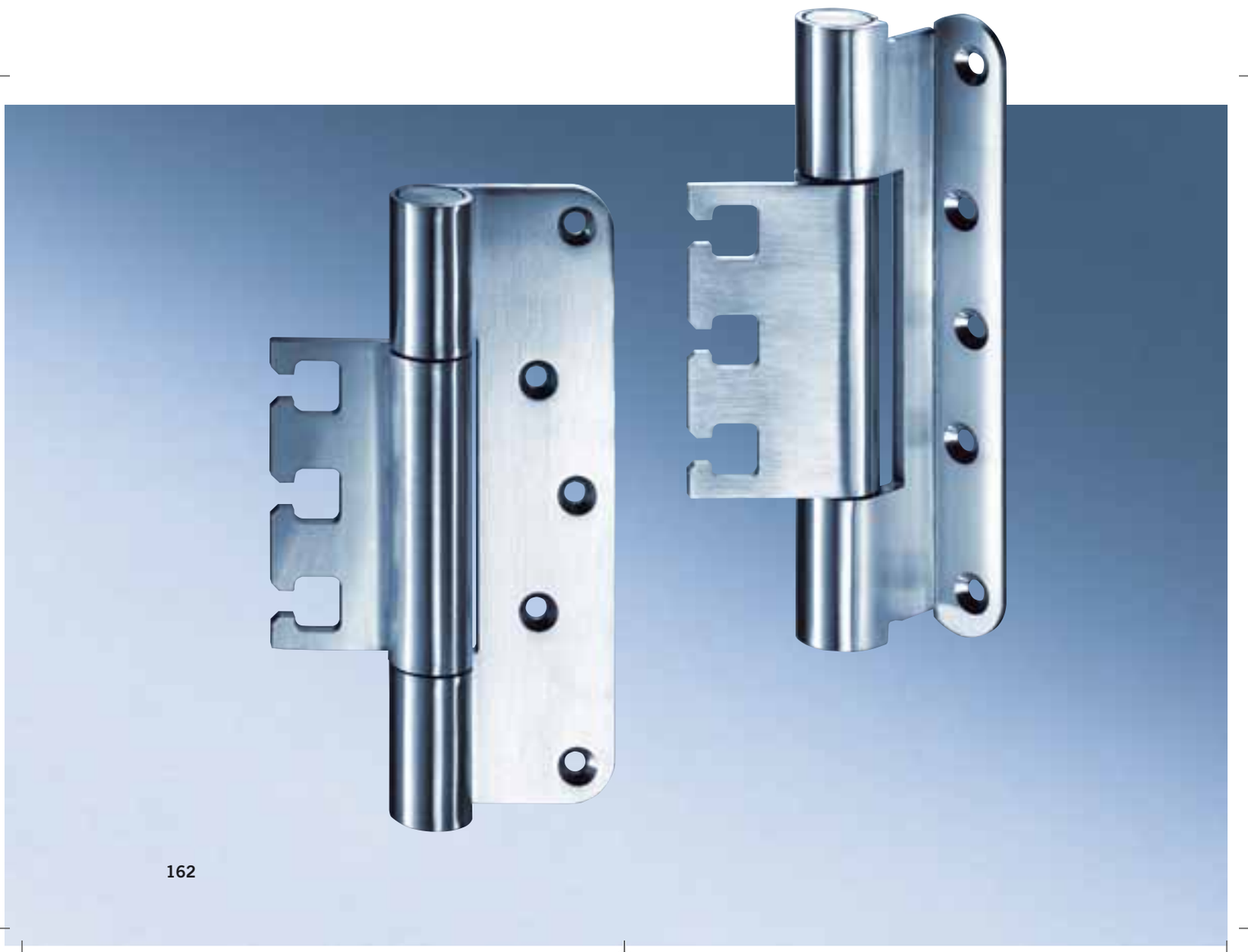
OGRO
DO 25.2
P-1207717796
MPA NRW

General (German) Building Regulations Test Certificate No. P-1207717796

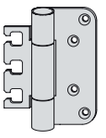
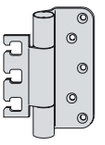
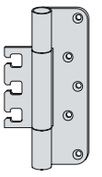
BA-X stainless steel – for steel, timber and aluminium frames, with VX mounting element

- High load capacities ensured by substantial thickness of materials
- Maintenance-free plastic axial bearings or high-performance ball bearings (also for fire doors) ensure optimum operating smoothness
- Elegant design featuring concealed bearings and internal anti-twist pins
- Adjustable in three axes (3D)
- Optional locking pin for enhanced security
- Optional extra lugs for additional stability of frequently used doors

For specification texts, see page 171



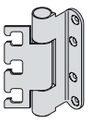
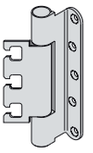
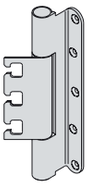
For flat-stiled flush-closing doors

Ü

Stainless steel BA-X	**101029**	**121049**	**161029/161029 FS**
Height (mm)	100	120	160
Load capacity (kg)	**80**	**100**	**120**
Knuckle diameter (mm)	21	21	21
Material thickness (mm)	3.5	3.5	3.5
Screws to DIN 97	5 x 50	5 x 50	5 x 50

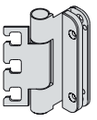
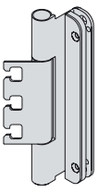
For over-rebated doors

Ü

Stainless steel BA-X	**101059**	**121059**	**161059/161059 FS**
Height (mm)	100	120	160
Load capacity (kg)	**100**	**120**	**150**
Knuckle diameter (mm)	21	21	21
Material thickness (mm)	3.5	3.5	3.5
Screws to DIN 97	5 x 50	5 x 50	5 x 50

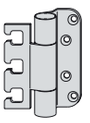
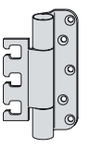
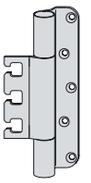
For over-rebated doors with door leaf seal

Ü

Stainless steel BA-X	**101069**	**161069/161069 FS**
Height (mm)	100	160
Load capacity (kg)	**100**	**150**
Knuckle diameter (mm)	21	21
Material thickness (mm)	3.5	3.5
Screws to DIN 97	5 x 50	5 x 50

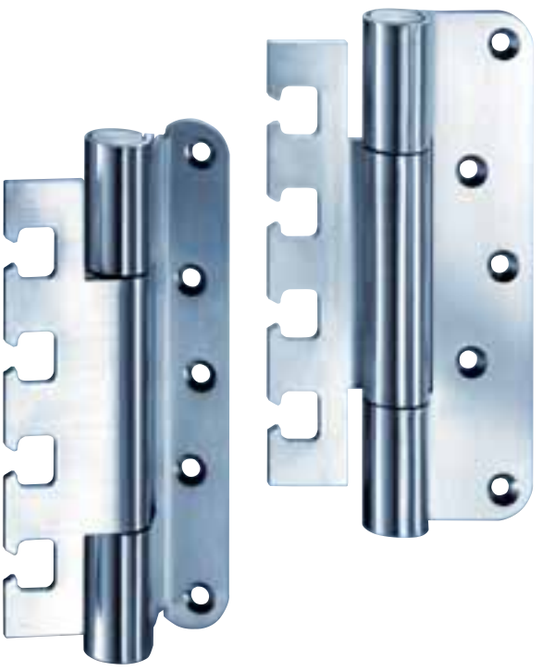
For rebated-stile flush-closing doors

Ü

Stainless steel BA-X	**101079**	**121079**	**161079/161079 FS**
Height (mm)	100	120	160
Load capacity (kg)	**80**	**100**	**120**
Knuckle diameter (mm)	21	21	21
Material thickness (mm)	3.5	3.5	3.5
Screws to DIN 97	5 x 50	5 x 50	5 x 50

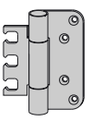
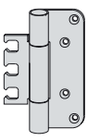
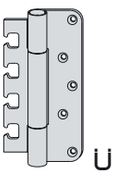
BA-N stainless steel – for steel frames, with VN mounting element and V welding pocket



- High load capacities ensured by substantial thickness of materials
- Maintenance-free plastic axial bearings or high-performance ball bearings (also for fire doors) ensure optimum operating smoothness
- Elegant design featuring concealed bearings and internal anti-twist pins
- Adjustable in three axes in combination with VN mounting element
- Optional locking pin for enhanced security
- Optional extra lugs for additional stability of frequently used doors

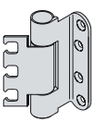
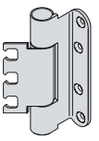
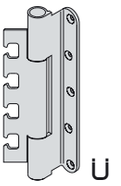
For specification texts, see page 171

For flat-stiled flush-closing doors
VN mounting element

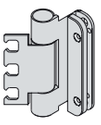
Stainless steel BA-N	**102040**	**122040**	**162040 / 162040 FS**
Height (mm)	100	120	160
Load capacity (kg)	**80/65**	**100/80**	**120/100**
Knuckle diameter (mm)	20	20	20
Material thickness (mm)	3	3	3
Screws to DIN 97	5 x 50	5 x 50	5 x 50

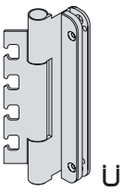
For over-rebated doors
VN mounting element

Stainless steel BA-N	**102050**	**122050**	**162050 / 162050 FS**
Height (mm)	100	120	160
Load capacity (kg)	**100/70**	**120/90**	**150/110**
Knuckle diameter (mm)	20	20	20
Material thickness (mm)	3	3	3
Screws to DIN 97	5 x 50	5 x 50	5 x 50

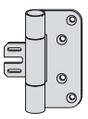
For over-rebated doors with door leaf seal
VN mounting element





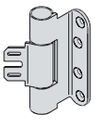
Stainless steel BA-N	**102060**	**162060 / 162060 FS**
Height (mm)	100	160
Load capacity (kg)	**100/70**	**150/110**
Knuckle diameter (mm)	20	20
Material thickness (mm)	3	3
Screws to DIN 97	5 x 50	5 x 50

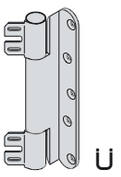
For flat-stiled flush-closing doors
Welding pocket
V 8600, V 8610

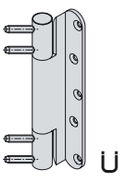


Stainless steel BA-N	**102041**
Height (mm)	100
Load capacity (kg)	**80/65**
Knuckle diameter (mm)	20
Material thickness (mm)	3
Screws to DIN 97	5 x 50

For over-rebated doors
Welding pocket
V 8600, V 8610, V 9600

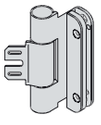


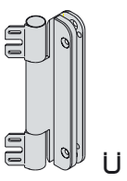




Stainless steel BA-N	**102051**	**162051 / 162051 FS**	**162052 / 162052 FS**
Height (mm)	100	160	160
Load capacity (kg)	**100/70**	**120/90**	**120**
Knuckle diameter (mm)	20	20	20
Material thickness (mm)	3	3	3
Screws to DIN 97	5 x 50	5 x 50	5 x 50

For over-rebated doors with door leaf seal
Welding pocket
V 8600, V 8610



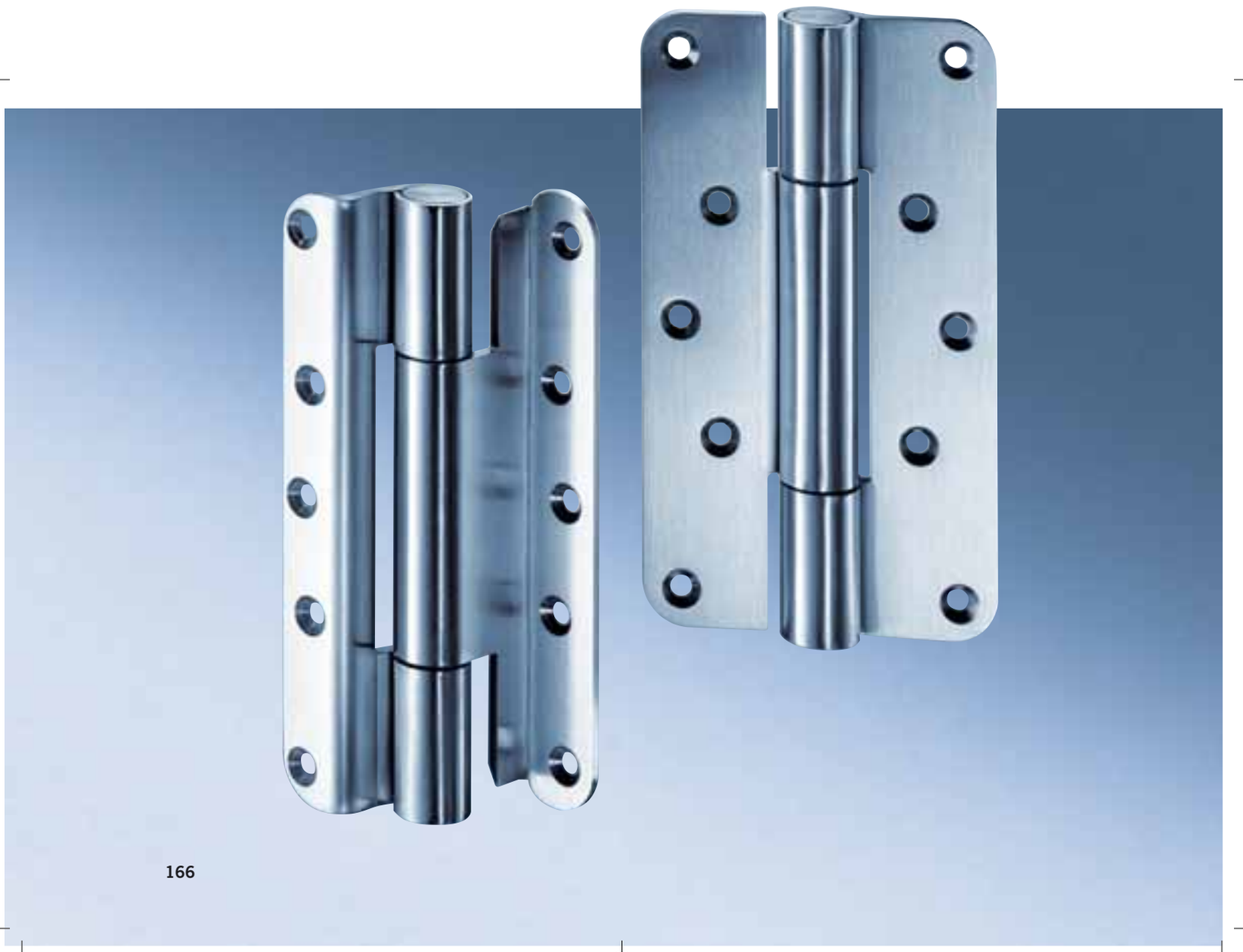


Stainless steel BA-N	**102061**	**162061 / 162061 FS**
Height (mm)	100	160
Load capacity (kg)	**100/70**	**120/90**
Knuckle diameter (mm)	20	20
Material thickness (mm)	3	3
Screws to DIN 97	5 x 50	5 x 50

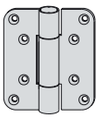
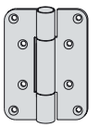
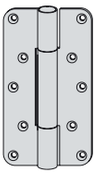
BA-N stainless steel – for timber frames

- High load capacities ensured by substantial thickness of materials
- Maintenance-free plastic axial bearings or high-performance ball bearings (also for fire doors) ensure optimum operating smoothness
- Elegant design featuring concealed bearings and internal anti-twist pins
- Optional locking pin for enhanced security
- Optional extra lugs for additional stability of frequently used doors

For specification texts, see page 171



For flat-stiled flush-closing doors

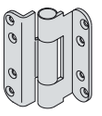
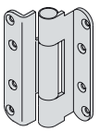
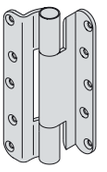




Ü

Stainless steel BA-N	**102043**	**122043**	**162043/162043 FS**
Height (mm)	100	120	160
Load capacity (kg)	**80/60**	**100/80**	**120/100**
Knuckle diameter (mm)	20	20	20
Material thickness (mm)	3	3	3
Screws to DIN 97	5 x 50	5 x 50	5 x 50

For double-rebated doors in solid frames with 25 mm deep frame rebate

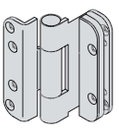
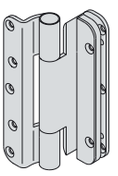
For over-rebated doors

Ü

Stainless steel BA-N	**102053**	**122053**	**162053/162053 FS**
Height (mm)	100	120	160
Load capacity (kg)	**100/70**	**120/90**	**150/120**
Knuckle diameter (mm)	20	20	20
Material thickness (mm)	3	3	3
Screws to DIN 97	5 x 50	5 x 50	5 x 50

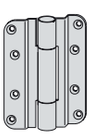
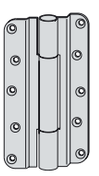
For over-rebated doors with door leaf seal

Ü

Stainless steel BA-N	**102063**	**162063/162063 FS**
Height (mm)	100	160
Load capacity (kg)	**100/70**	**150/120**
Knuckle diameter (mm)	20	20
Material thickness (mm)	3	3
Screws to DIN 97	5 x 50	5 x 50

For over-rebated doors in solid frames

Ü

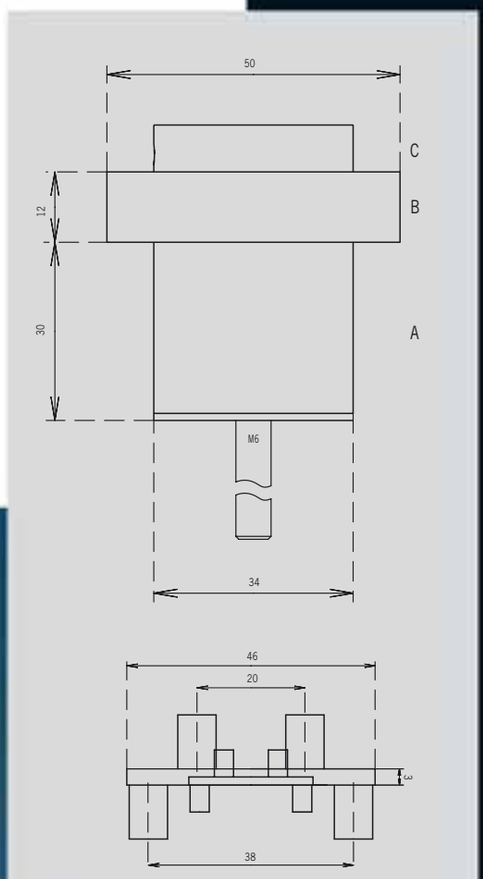
Stainless steel BA-N	**122083**	**162083/162083 FS**
Height (mm)	120	160
Load capacity (kg)	**100/70**	**120/90**
Knuckle diameter (mm)	20	20
Material thickness (mm)	3	3
Screws to DIN 97	5 x 50	5 x 50

OGRO door stops in the best of shape

Innovative design and sophisticated elegance characterise the new line in OGRO door stops. Thanks to the modular principle applied in the creation of this system, you can freely select precisely the shape that best suits your needs.

- Stainless steel body (A)
- Rubber collar (B) in black or grey
- Four bespoke head elements in stainless steel (C)

Special designs can also be provided on request, including heads incorporating, for example, your company logo.



TZ 60 anchor plate

TZ 5023

TZ 5022

TZ 5021

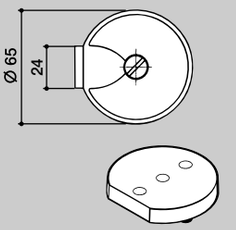
TZ 5020

In the case of critical applications, we will be glad to test the suitability of the door stop system on the basis of your specific data relating to the installation situation. We will also offer advice as to the need for additional components such as the TZ 60 anchor plate.

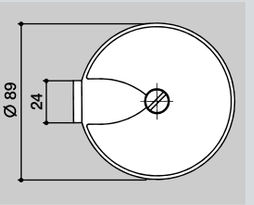
Accessories

Floor-mounted door stop
TZ 5000
s/s with hard rubber insert
Ø 65 mm

Matching shims of
polyacetal
TZ 55, 10 mm gauge
TZ 56, 15 mm gauge

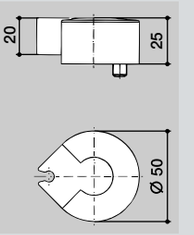


Floor-mounted door stop
TZ 5001
s/s with hard rubber insert
Ø 89 mm



Floor-mounted door stop
and door holder in one
TZ 5002
Al with hard rubber
Ø 50 mm

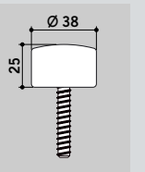
Design: Prof. Odo Klose

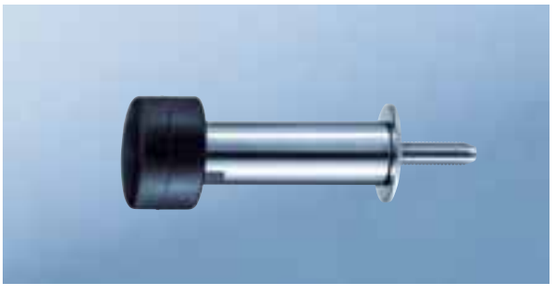


Floor-mounted door stop

TZ 5010 hard rubber
Ø 38 mm, L 25 mm

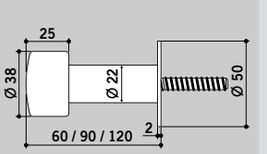
TZ 5011
hard rubber, Ø 38 mm,
with rose in Al and s/s,
L 27 mm, with rose Ø 50 mm x 2 mm





Wall-mounted door stop
Al and s/s with
hard rubber insert

TZ 5012, L 60 mm
TZ 5013, L 90 mm
TZ 5014, L 120 mm



Specification texts for OGRO door furniture and fittings

ZS project sets

OGRO project set to DIN 18255; 5 year guarantee; stabilising bushing in maintenance-free OGRO plain steel bearing with spring clip system for snap-action, secure insertion of the lever handles; remains permanently in the mounted position; minimal rattle due to flexibly located OGRO adapter ring; metal backplates with supporting steel lugs and permanently secure fixings concealed on both sides.

OGRO lever handle ZS 8 ...

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

Aluminium
Colour F _____
F1 Silver (natural)
F2 Champagne
F3 Gold
F4 Bronze
F5 Dark bronze

Type of set:
Standard set
(lever handles both sides)
Mixed set
(external knob fixed dead, internal lever handle)
WC set

Accessories:
Roses and escutcheons
Short backplates
Long backplates
Square backplates

ZS project sets for fire and smoke check doors

OGRO project set to DIN 18273; for fire and smoke check doors; 5 year guarantee; stabilising bushing in maintenance-free OGRO plain steel bearing with spring clip system for snap-action, secure insertion of the lever handles; remains permanently in the mounted position; minimal rattle due to flexibly located OGRO adapter ring; metal backplates with supporting steel lugs and permanently secure fixings concealed on both sides.

OGRO lever handle ZS 8 ... FS

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

Aluminium
Colour F _____
F1 Silver (natural)
F2 Champagne
F3 Gold
F4 Bronze
F5 Dark bronze

Type of set:
Standard set
(lever handles both sides)
Mixed set
(external knob fixed dead, internal lever handle)

Accessories:
Roses and escutcheons
Short backplates
Long backplates
Square backplates

ZS project sets for narrow-stile doors (metal-framed doors)

OGRO door handle sets for narrow-stile doors; 5 year guarantee; stabilising bushing in maintenance-free OGRO plain steel bearing with spring clip system for snap-action, secure insertion of the lever handles; remains permanently in the mounted position; minimal rattle due to flexibly located OGRO adapter ring; metal roses with or without springing.

OGRO lever handle ZS 8 ...

OGRO lever handle ZS 8 ... FS
for fire and smoke check doors

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

Aluminium
Colour F _____
F1 Silver (natural)
F2 Champagne
F3 Gold
F4 Bronze
F5 Dark bronze

Type of set:
Standard set
(lever handles both sides)
Mixed set
(external knob fixed dead, internal lever handle)

ZK sets for residential applications

OGRO residential door handle sets to DIN 18255; stabilising bushing in maintenance-free OGRO plain plastic bearing with circlip fixing for snap-action, secure insertion of the lever handles; plastic backplates with supporting lugs and fixings concealed on both sides

OGRO lever handle model ZS 8 ...
with ZK roses or ZK backplates

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

Aluminium
Colour F _____
F1 Silver (natural)
F2 Champagne
F3 Gold
F4 Bronze
F5 Dark bronze

Type of set:
Standard set
(lever handles both sides)
Mixed set
(external knob fixed dead, internal lever handle)

Accessories:
Roses and escutcheons
Short backplates
Long backplates

Pull handles

OGRO pull handles as flexible socket-connected (female) parts; comprehensive range of fixing accessories for one-sided or back-to-back mounting on all types of door; surface finish coordinated to that of the lever handles.

OGRO pull handle model TG 9 ...
with fixing type TG 2 ...

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

Aluminium
Colour F _____
F1 Silver (natural)
F2 Champagne
F3 Gold
F4 Bronze
F5 Dark bronze

Window handles

OGRO window handles, securely bushed with stable pin/circlip connection; with choice of oval or rectangular rose; with concealed fixings; with 10 mm support lugs (also available with 12 mm lugs and without lugs); with 7 mm square spindle, 30 mm projection; surface finish coordinated to that of the OGRO lever handles.

OGRO window handle FE 4 ...

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

Aluminium
Colour F _____
F1 Silver (natural)
F2 Champagne
F3 Gold
F4 Bronze
F5 Dark bronze

Rose:
SO (oval)
SU (rectangular)

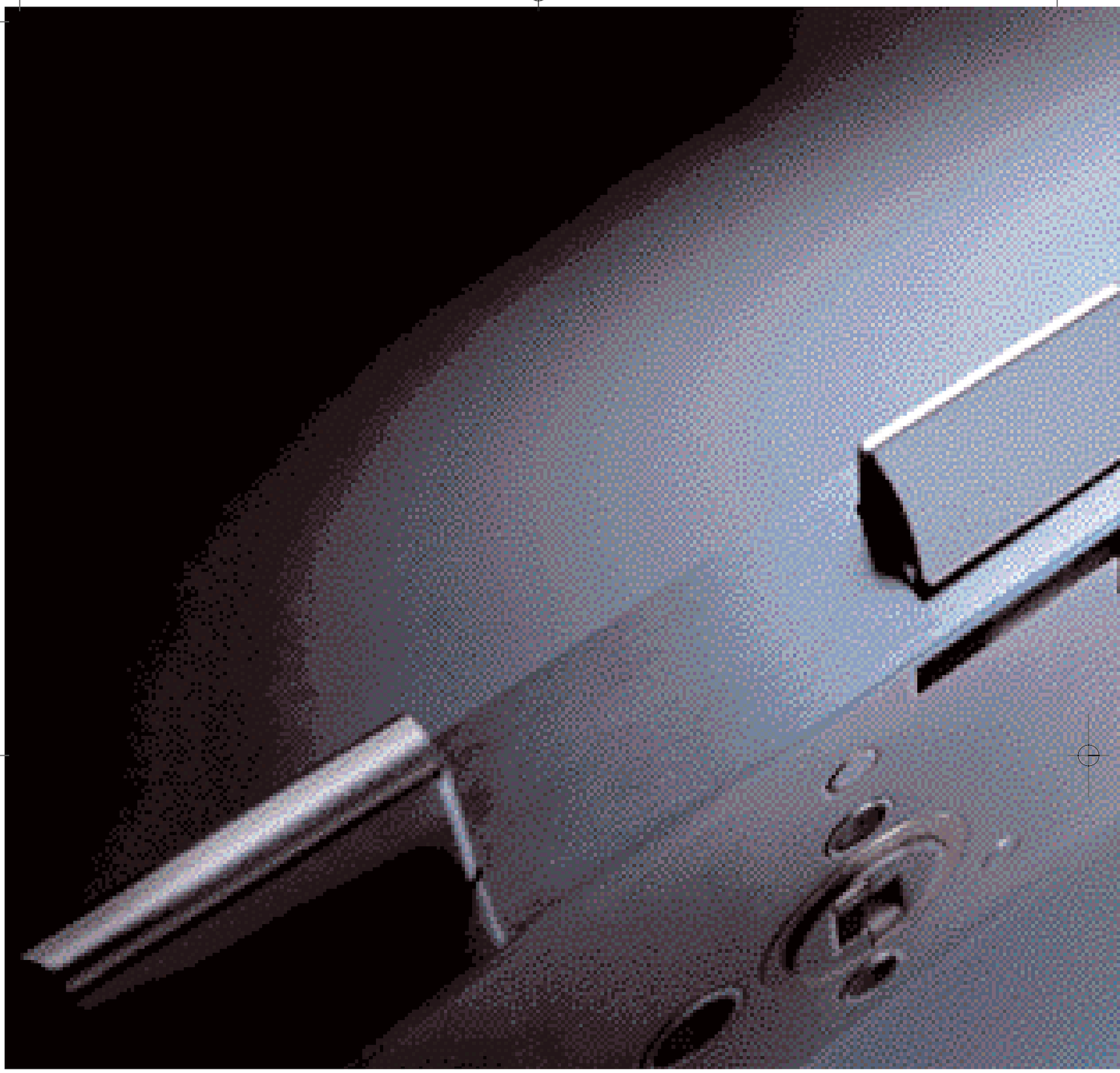
Hinges BA-X and BA-N

OGRO hinges with high-performance ball bearings (also for fire doors) or plastic axial bearings, both giving high load capacities; surface finish coordinated with that of the OGRO lever handles; all project hinges offer infinite 3D adjustability on appropriate mountings (by others); additional stabilisation with optional support lugs.

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

For steel, timber or aluminium frames with VX mounting element:
OGRO hinge BA-X 1 ...

For steel frames with VN mounting element or V welding pocket, and also for timber doors:
OGRO hinge BA-N 1 ...



DORMA Locks

3

172–185

Welcome to the safe side

DORMA locks offer compelling benefits thanks to assured high quality and functional integrity combining with long service lifetimes. With high-grade materials, careful manufacturing and a comprehensive quality management system, these products are able to satisfy virtually all the technical requirements ever likely to arise. Conforming to DIN 18251 and EN 12209, DORMA locks offer unbeatable performance, safety and security.

Whichever solution you opt for, you can be sure that absolute reliability and engineering excellence will be included as standard.

	Mortise locks for timber doors					
	Internal door locks	**Mortise lock; latch and bolt of steel**	**Project locks**	**Project latch locks**	**Project deadbolt locks**	**Fire and smoke check door locks**
Lock No.	**771**	**752-F**	**151**	**115**	**132**	**180**
Features	Technical specifications to DIN 18251-1, Class 3	Technical specifications to DIN 18251-1, Class 3	Technical specifications to DIN 18251-1, Class 3	Technical specifications to DIN 18251-1, Class 3	Technical specifications to DIN 18251-1, Class 3	DIN 18250
EN 12209 in preparation*	○	1	○	○	○	1
Bolt projection (mm)	Double-throw, 20	Double-throw, 20	Double-throw, 20	Double-throw, 20	Double-throw, 20	Double-throw, 22
Backset D (mm)	55	55	55, 60, 65	55, 60, 65	55, 60, 65	55, 65, 100
Forend widths (mm)	20, 24	20, 24	20, 24	20, 24	20, 24	20, 24
Latch and bolt position	Central	Central	Central	Central	Central	LH or RH
Forend designs						
Square ends	●	●	●	●	●	
Radiused	●	●	●	●	●	●
Forend finishes						
Satin-brushed stainless steel	●	●	●	●	●	●
For Europrofile cylinders	●	●	●	●	●	●
Warded lever lock	●		●			
For bathroom/WC, bolt projection 10 mm	●		●			
Recommended strike plate Nos. (please request technical documentation)	20	20	20	23	21	20
Page	**176**	**177**	**178**	**179**	**180**	**181**

*○ = Not approved for use on DIN fire and smoke check doors 1 = Approved for use on DIN fire and smoke check doors

DORMA locks – unique design features combined with manufacturing quality of the highest standard

	Fire and smoke check door locks with emergency escape latch function	Fire and smoke check door locks with permanent emergency exit release	Mortise locks for narrow-stile doors			
			Lock with latch and bolt	Lock with roller catch and bolt	Deadlock	Latch lock
	181	**182**	**952.0**	**985.0**	**917.0**	**936.0**
	DIN 18250 CE EN 179	DIN 18250 CE EN 179	DIN 18250-2, Class 3	DIN 18250-2, Class 3	DIN 18251-2, Class 3	DIN 18251-2, Class 3
	1	1	○	○	○	○
	Double-throw, 22	Double-throw, 22	Single-throw, 20	Single-throw, 20	Single-throw, 20	
	55, 65, 100	55, 65, 100	25, 30, 35, 40, 45	25, 30, 35, 40, 45	25, 30, 35, 40, 45	25, 30, 35, 40, 45
	20, 24	20, 24	24	24	24	24
	LH or RH	LH or RH	Central	Central	Central	Central
			●	●	●	●
	●	●				
	●	●	●	●	●	●
	●	●	●	●	●	
	20	20	71.5	71.7	75.5	74.5
	181	**181**	**182**	**183**	**184**	**185**

Features

- Lock case sealed, zinc-plated
- Latch and bolt nickel-plated
- Bolt projection, double-throw, 20 mm
- 8 mm square steel follower in drawn steel bushes
- Holes for standard fixings
- Technical specifications to DIN 18251-1, Class 3
- EN 12209 in preparation
- Non-handed

Backset (mm)

55

Forend widths (mm)

20, 24

Forend designs

- Radiused
- Square ends

Forend finish

- Satin-brushed stainless steel

771

For Europrofile cylinders to DIN 18252 with night latch function
Follower-to-keyway centres 72 mm

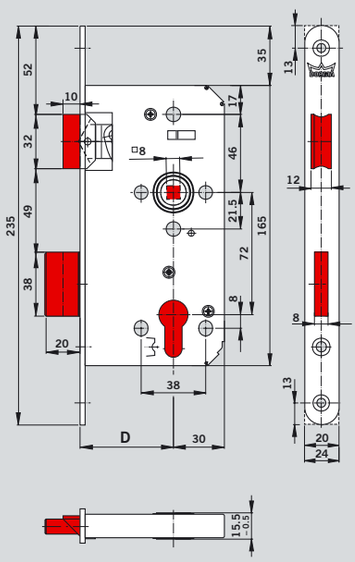
773

Warded lever without night latch function, with one key
Follower-to-keyway centres 72 mm

775

For bathroom/WC without night latch function
Bolt projection 10 mm
8 mm bathroom follower
Follower-to-keyway centres 78 mm

For specification texts,
see page 238



Features

- Lock case sealed, zinc-plated
- Latch and bolt of nickel-plated steel
- Bolt projection, double-throw, 20 mm
- 8 mm square steel follower in drawn steel bushes
- Holes for standard fixings
- Technical specifications to DIN 18251-1, Class 3
- EN 12209 in preparation
- Non-handed

Backset (mm)

55

Forend widths (mm)

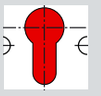
20, 24

Forend designs

- Radiused
- Square ends

Forend finish

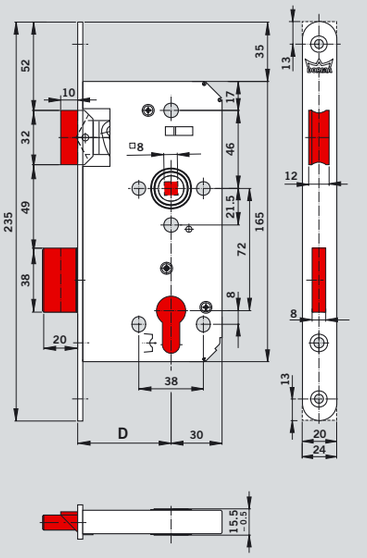
- Satin-brushed stainless steel



752-F

For Europrofile cylinders to DIN 18252 with night latch function
Follower-to-keyway centres 72 mm

For specification texts,
see page 239



Features

- Lock case sealed, zinc-plated
- Latch and bolt nickel-plated
- Bolt projection, double-throw, 20 mm
- 8 mm square follower
- Special bronze-bushed, self-adjusting clamp follower for rattle-free lever handles
- Maintenance-free, pre-lubricated silent-pattern latch
- Through-bolt protection sleeves for holes for standard fixings
- Technical specifications to DIN 18251-1, Class 3
- EN 12209 in preparation
- Non-handed

Backsets D (mm)

55, 60, 65

Forend widths (mm)

20, 24

Forend designs

- Radiused
- Square ends

Forend finish

- Satin-brushed stainless steel

Special models

- Also available as latch locks

151

For Europrofile cylinders to DIN 18252 with night latch function
Follower-to-keyway centres 72 mm

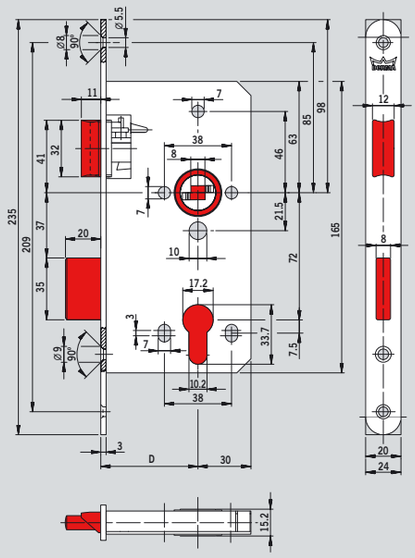
161

Warded lever without night latch function, with one key
Follower-to-keyway centres 72 mm

191

For bathroom/WC, without night latch function
Bolt projection 10 mm
8 mm bathroom follower
Follower-to-keyway centres 78 mm

For specification texts, see page 239



115

8 mm square follower

Features

- Lock case sealed, zinc-plated
- Latch nickel-plated
- 8 mm square follower
- Special bronzed-bushed, self-adjusting clamp follower for rattle-free lever handles
- Maintenance-free, pre-lubricated silent-pattern latch
- Through-bolt protection sleeves for holes for standard fixings
- Technical specifications to DIN 18251-1, Class 3
- EN 12209 in preparation
- Non-handed

Backsets D (mm)

55, 60, 65

Forend widths (mm)

20, 24

Forend designs

- Radiused
- Square ends

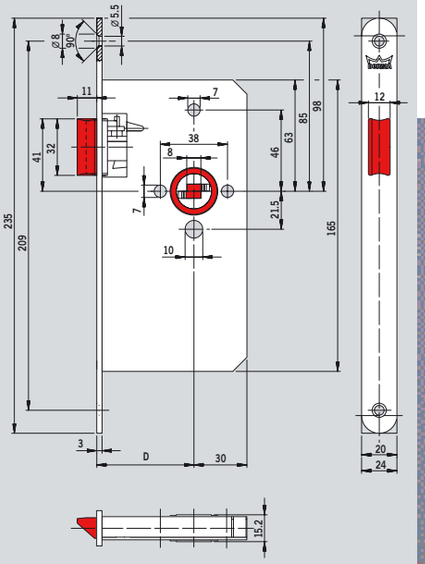
Forend finish

- Satin-brushed stainless steel

Special designs

- Also available with night latch function

For specification texts, see page 239



Features

- Lock case sealed, zinc-plated
- Bolt nickel-plated
- Bolt projection, double-throw, 20 mm
- Through-bolt protection sleeves for holes for standard fixings
- Technical specifications to DIN 18251-1, Class 3
- EN 12209 in preparation
- Non-handed

Backsets D (mm)

55, 60, 65

Forend widths (mm)

20, 24

Forend design

- Radiused
- Square ends

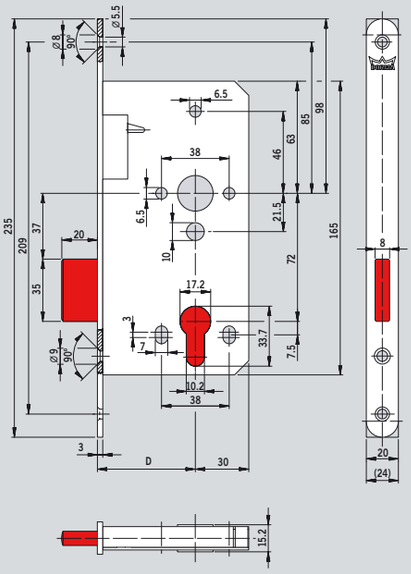
Forend finish

- Satin-brushed stainless steel

132

For Europrofile cylinders to DIN 18252
Follower-to-keyway centres 72 mm

For specification texts, see page 240



Features

- Lock case sealed, zinc-plated
- Latch and bolt of nickel-plated steel
- Bolt projection, double-throw, 22 mm
- 9 mm square follower
- Specifications to DIN 18250 for fire and smoke check doors
- EN 12209 in preparation

Backsets D (mm)

55, 65, 100

Forend widths (mm)

20, 24

Forend designs

- Radiused
- LH or RH

Forend finish

- Satin-brushed stainless steel

Function of lock 182

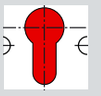
Emergency escape and permanent release

Internal function

(Emergency escape side) Operation of the lever handle retracts the latch and the projected bolt

External function

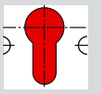
The lever handle can be used to retract the latch. Closing the door does not lock it from the outside. The door lock has to be engaged using the key. To open the door, the door lock must be disengaged using the key and the latch must then be retracted using the lever handle.



180

For fire and smoke check doors
9 mm square follower

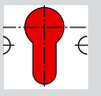
F



181

Emergency escape latch
9 mm square follower
CE EN 179

F



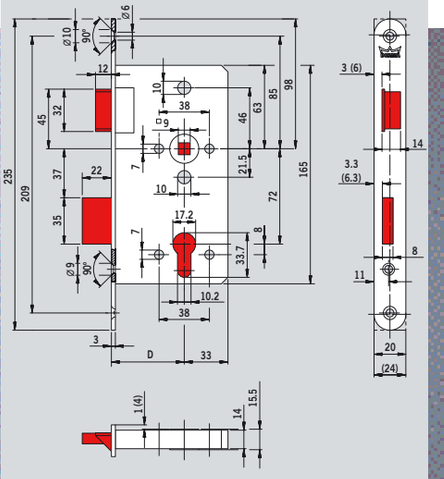
182

Emergency escape + permanent release
9 mm square follower
CE EN 179

F

For specification texts, see page 240

Illustration shows LH/ISO6 lock
(Mirror image applies for RH/ISO5 lock)



Features

- Lock case, zinc-plated
- Latch and bolt nickel-plated
- Bolt projection, single-throw, 20 mm
- Bolt with anti-saw protection
- 8 mm square follower
- With night latch function
- Specifications to DIN 18250-2, Class 3
- EN 12209 in preparation
- Non-handed

Backsets D (mm)

25, 30, 35, 40, 45

Forend width (mm)

24

Forend finish

- Satin-brushed stainless steel

Forend design

- Square ends

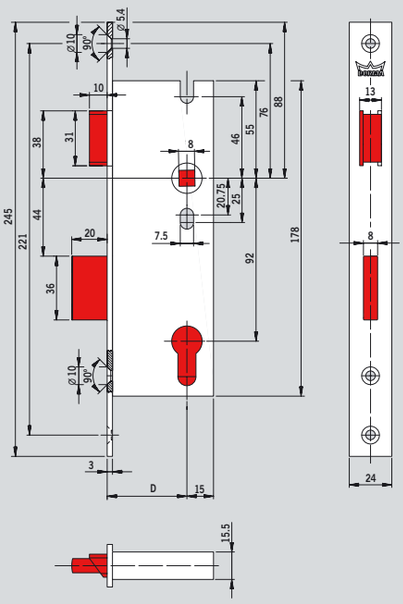
Special designs

- Bolt projection 15 mm

952.0

For Europrofile cylinders to DIN 18252 with night latch function.
Follower-to-keyway centres 92 mm

For specification texts, see page 240



985.0

For Europrofile cylinders to DIN 18252
Follower-to-keyway centres 92 mm

Features

- Lock case zinc-plated
- Adjustable roller catch and bolt, nickel-plated
- Bolt projection, single-throw, 20 mm
- Bolt with anti-saw protection
- Technical specifications to DIN 18250-2, Class 3
- EN 12209 in preparation
- Non-handed

Backsets D (mm)

25, 30, 35, 40, 45

Forend width (mm)

24

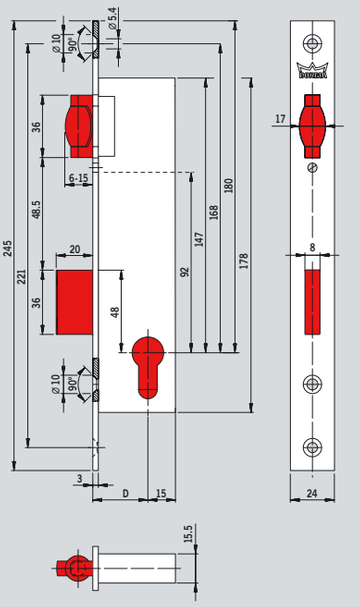
Forend finish

- Satin-brushed stainless steel

Forend design

- Square ends

For specification texts, see page 241



Features

- Lock case zinc-plated
- Bolt nickel-plated with anti-saw protection
- Bolt projection, single-throw, 20 mm
- EN 12209 in preparation
- Non-handed

Backsets D (mm)

25, 30, 35, 40, 45

Forend width (mm)

24

Forend finish

- Satin-brushed stainless steel

Forend design

- Square ends

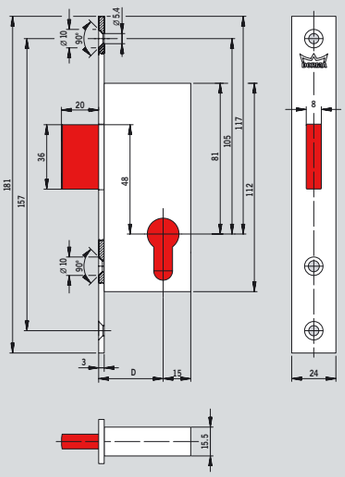
Special designs

- Bolt projection 15 mm

917.0

For Europrofile cylinders to DIN 18252

For specification texts, see page 241



Features

- Lock case zinc-plated
- Latch nickel-plated
- 8 mm square follower
- EN 12209 in preparation
- Non-handed

Backsets D (mm)

25, 30, 35, 40, 45

Forend width (mm)

24

Forend finish

- Satin-brushed stainless steel

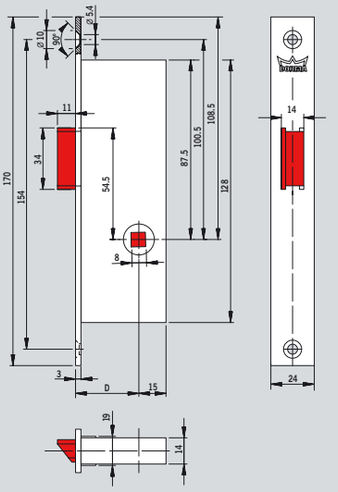
Forend design

- Square ends

936.0

8 mm square follower

For specification texts,
see page 241



The Modular DORMA Panic Hardware system

4

Function and safety systematically combined
The modular Panic Hardware system

DORMA PHA 2000 and DORMA PHB 3000
DORMA is setting new standards in hardware solutions for emergency exits. With the DORMA PHA Pushbar and DORMA PHB Touchbar range based on a thoroughly modular product system for optimum horizontal and vertical locking of single and double doors.

Practical panic hardware for diverse door applications
The PHA Series 2000 Pushbar, PHB Series 3000 Touchbar and the universally applicable Series PHT 3900 external fittings offer a range of solutions that can be applied to both aluminium-framed/narrow-stile doors and timber doors. The wide security latch bolt engages in a keep that is normally mounted on the frame. This brings the dual benefits of easy installation and reliable, secure locking. The panic hardware products of the DORMA PHA 2000 and PHB 3000 series are type tested and approved to EN 1125. They also comply with Annex ZA supplementing EN 1125 and are therefore permitted to carry the CE-mark of conformity.

		PHA Series 2000 1-point	2-point	3-point	
Data and features					
Modular system		●	●	●	
Standard (non expandable)			●		
Standard doors (single-leaf)		●	●	●	
Standard doors (double-leaf)		●	●		
Fire and smoke check doors (single-leaf)		●	●	●	
Fire and smoke check doors (double-leaf)		●	●		
Door width	≤ 1000 mm	●	●	●	
	≤ 1300 mm	●	●	●	
Door height	≤ 2270 mm		●	●	
	≤ 3400 mm[1)]		●	●	
	≤ 2265 mm				
	≤ 3200 mm[1)]				
Max. door leaf weight in kg		200	200	200	
Non-handed		●	●	●	
Daytime snib[2)]		●	●	●	
Security anti-thrust latch	for standard doors				
	for fire and smoke check doors	●	●	●	
Electrical unlocking via electric strike		○	○	○	
Monitor switch in pushbar		○	○	○	
External fittings PHT 3900 for general fire and smoke check doors for door leaf thicknesses up to 60 mm		●	●	●	
Extended square follower and bolts for door leaf thicknesses of 60 – 105 mm		○	○	○	
Compliant with EN 1125 ●		●	●	●	
CE symbol for construction products		●	●	●	
Page		190–195	190–195	190–195	

● = yes – = no ○ = option

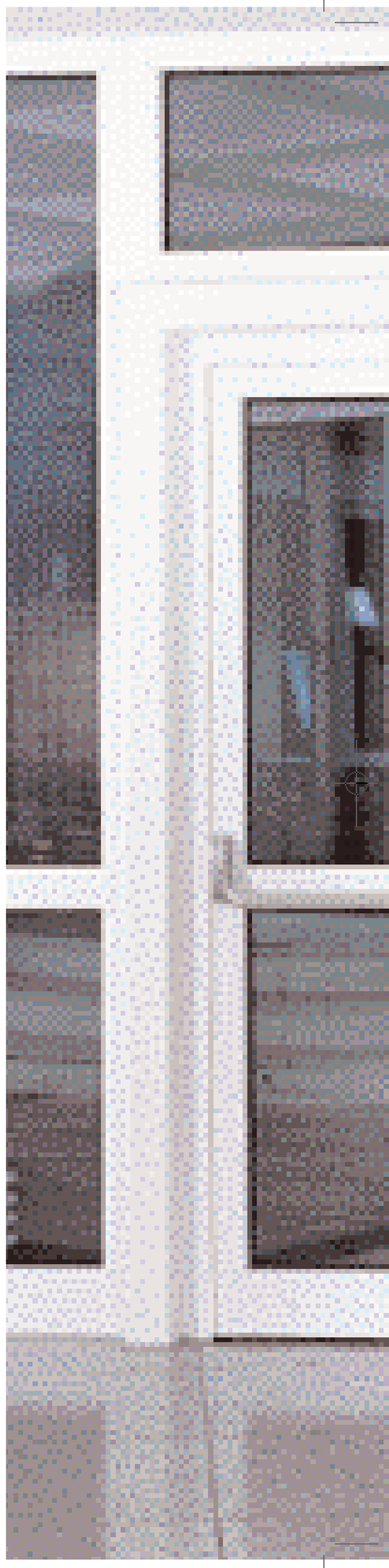
[1)] Door heights in excess of 2500 mm do not fall within the scope of EN 1125.

PHB Series 3000	1-point	2-point	3-point
	●	●	●
	●		
	●	●	●
	●	●	
	●	●	●
	●	●	
	●	●	●
	●	●	●
		●	●
		●	●
	200	200	200
	●	●	●
	●	●	●
	●	●	●
	●	●	●
	○	○	○
	○	○	○
	●	●	●
	○	○	○
	●	●	
	●	●	●
	190–195	190–195	190–195

[2] The daytime snib function is not permitted for fire and smoke check doors

Advanced, innovative hardware for emergency exit doors

The DORMA Panic Hardware system offers an extensive range of high-quality panic hardware fittings with horizontal and vertical locking for use on emergency exit doors where security, reliability and aesthetic elegance are crucial requirements. DORMA PHA, PHB and PHT products fully meet the demands that are made on fittings used in public buildings, for example, in hospitals, universities and schools, concert halls, shopping centres, hotels and offices.
The same DORMA PHT external fittings can be used in conjunction with both series.



Optional for emergency exits and escape routes

One system – all the advantages

The modular Panic Hardware system from DORMA offers the following salient features:

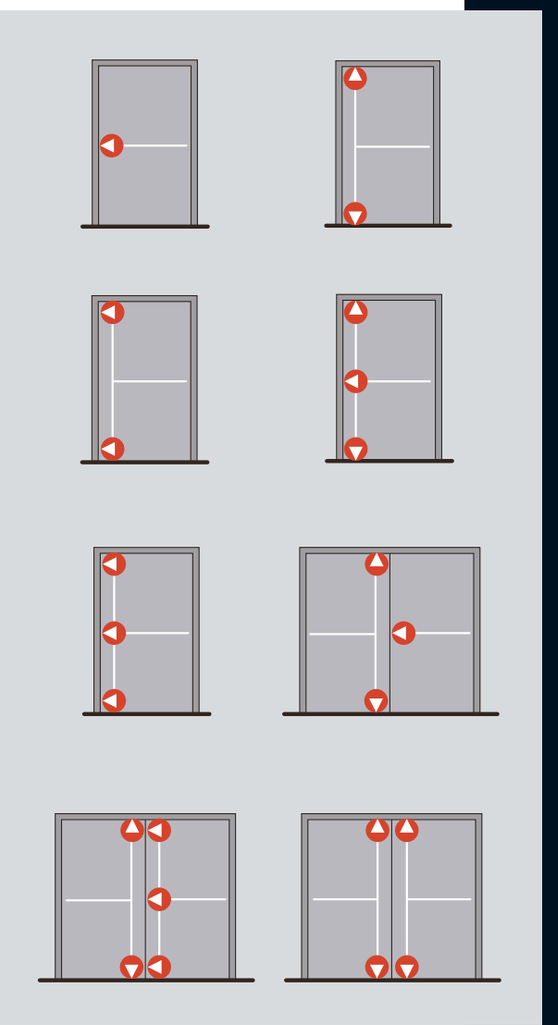
- Expandable system for reduced inventory costs
- Tested for safety to EN 1125
- Variety of locking device options plus attractive bespoke external fittings
- Fast, professional fixing system with easy adaptability to different door widths and heights
- Easy operation and durable quality

Safely protected

The security latchbolt provides reliable protection against unauthorised access from the outside. Part of the standard equipment of the DORMA PHB 3000 and available as an optional extra with the DORMA PHA 2000.

Approval certification
The Panic Hardware products in the DORMA PHA 2000 and PHB 3000 series have been tested and approved in accordance with EN 1125. They also comply with Annex ZA to EN 1125 as a prerequisite for carrying the CE mark of conformity.

Secure reliability
All the lock types can be applied to every type of door – RH or LH, narrow-framed or solid timber, single or double, and with flush or over-rebated meeting stiles. And with modular expansion from single-point to two or three-point locking available as standard.



For specification texts, see page 242–244

A decision now for future safety

The solutions applied to date in doors in emergency exits and escape routes are no longer sufficient. This is why DORMA has developed a completely new series of products in the form of its modular, pace-setting Panic Hardware system. In technology, design and price, it offers advantages that are more than a match for the international competition. And with DORMA's competence as a leading supplier of door hardware for project contracts, it can be relied upon to provide an intelligent answer to the safety and security questions of both today and tomorrow.

Because if that critical moment should arrive ...

... there may be no second chance ...

... the exit system has to work first time!

Progress points the way forward

DORMA has extended its range of Panic Hardware. For the most exacting of requirements in terms of visual appearance, the PHA 2000 series is available in stainless steel as well as the standard colours.

Aesthetics make an impact

All OGRO design handles and knobs guarantee aesthetic perfection. External hardware is the ideal complement to the PHA 2000 range and is also available in the stainless steel design.

Specification Texts

5

196–244

Door closers for standard doors and fire and smoke check doors

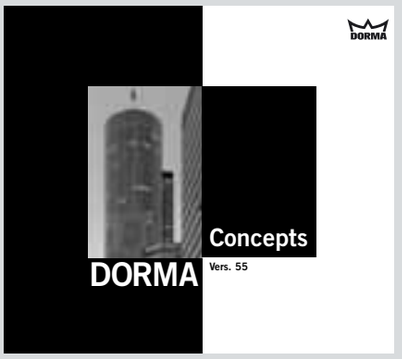
Specifications Catalogue DORMA Door Control

These specification texts have been prepared so that all you need to do is insert the dimensions and design preferences in the fields and locations indicated.

The abbreviations next to the computer symbol indicate the search terms with which you can retrieve the texts either from our CD-ROM or from our website at www.dorma.com.

Appended to these specification texts for DORMA door controls and door closer systems you will find a supplement section containing the relevant regulations governing the use of door closers and hold-open systems on DIN fire and smoke check doors.

DORMA CD-ROM



This CD-ROM contains all the product information relating to our five divisions:
- Door Control
- Automatic
- Glass Fittings and Accessories
- Security/Time and Access Control (STA)
- Movable Walls

Concealed cam-action door closer system
DORMA ITS 96 for inward opening external doors and internal doors

Cam-action door closer system
DORMA TS 93 for external and internal doors

Floor springs for standard doors and fire and smoke check doors

Door closers for standard doors (not specified for fire and smoke check applications)

Door closers for standard doors (not specified for fire and smoke check applications)

Universal floor springs
DORMA BTS 75 V

Enhanced-convenience floor springs
DORMA BTS 80 (door leaf weights up to 300 kg)

Floor springs for double-action doors.
DORMA BTS 84 (door leaf weights up to 100 kg)

Transom-concealed door closers
for standard single and double-action doors
DORMA RTS 85

Accessories for fire and smoke check doors

Lintel and ceiling-mounted smoke detectors

Door coordinators DORMA SR

Electro-magnets DORMA EM

Armature plates DORMA MA

Release pushbutton DORMA HT

Page 10–11	**DORMA ITS 96, Size EN 2-4** Concealed cam-action door closer for leaf or frame integration to EN 1154, with rapidly decreasing opening resistance (torque). Closing speed and latching action adjustable, with mechanically cushioned limit stay. Adaptation to different rebate clearances possible. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors); max. opening angle 120°.
ITS96/2-4	
Page 10–11	**DORMA ITS 96, Size EN 3-6** Concealed cam-action door closer for leaf or frame integration to EN 1154, with rapidly decreasing opening resistance (torque). Closing speed and latching action adjustable, with mechanically cushioned limit stay. Adaptation to different rebate clearances possible. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors); max. opening angle 120°.
ITS96/3-6	
Page 12–13	**DORMA ITS 96 EMF, Size EN 2-4** Concealed cam-action door closer for leaf or frame integration to EN 1154, with rapidly decreasing opening resistance (torque) and integrated electro-mechanical hold-open, 24 V DC, compliant with EN 1155, with adjustable closing speed and adjustable latching action. Hold-open point adjustable between approx. 80° and 120°. Pull-off force adjustable. Adaptation to different rebate clearances possible. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Approval necessary in conjunction with the relevant fire and smoke check door.
ITS96EMF/2-4	
Page 12–13	**DORMA ITS 96 EMF, Size EN 3-6** Concealed cam-action door closer for leaf or frame integration to EN 1154, with rapidly decreasing opening resistance (torque) and integrated electro-mechanical hold-open, 24 V DC, compliant with EN 1155, with adjustable closing speed and adjustable latching action. Hold-open point adjustable between approx. 80° and 120°. Pull-off force adjustable. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Adaptation to different rebate clearances possible. Approval necessary in conjunction with the relevant fire and smoke check door.
ITS96EMF/3-6	
Page 14–16	**DORMA ITS 96 GSR, Size EN 2-4** Concealed cam-action door closer for leaf or frame integration to EN 1154, with integral mechanical door coordinator to EN 1158, with rapidly decreasing opening resistance (torque). Closing speed and latching action adjustable. Adaptation to different rebate clearances possible. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Approval necessary in conjunction with the relevant fire and smoke check door.
ITS96GSR/2-4	
Page 14–16	**DORMA ITS 96 GSR, Size EN 3-6** Concealed cam-action door closer for leaf or frame integration to EN 1154, with integral mechanical door coordinator to EN 1158, with rapidly decreasing opening resistance (torque). Closing speed and latching action adjustable. Adaptation to different rebate clearances possible. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Approval necessary in conjunction with the relevant fire and smoke check door.
ITS96GSR/3-6	

Page 14–16	**DORMA ITS 96 GSR-EMF, Size EN 2-4** Concealed cam-action door closer for leaf or frame integration to EN 1154, with integral mechanical door coordinator to EN 1158, and electro-mechanical hold-open in the active and inactive leaf slide channel, 24 V DC, compliant with EN 1155. With rapidly decreasing opening resistance (torque) and adjustable closing speed, latching action and hold-open point (between approx. 80° and 120°). Pull-off force adjustable. Adaptation to different rebate clearances possible. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Approval necessary in conjunction with the relevant fire and smoke check door.
ITS96GSR-EMF/2-4	
Page 14–16	**DORMA ITS 96 GSR-EMF, Size EN 3-6** Concealed cam-action door closer for leaf or frame integration to EN 1154, with integral mechanical door coordinator to EN 1158, and electro-mechanical hold-open in the active and inactive leaf slide channel, 24 V DC, compliant with EN 1155. With rapidly decreasing opening resistance (torque), and adjustable closing speed, latching action and hold-open point (between approx. 80° and 120°). Pull-off force adjustable. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Adaptation to different rebate clearances possible. Approval necessary in conjunction with the relevant fire and smoke check door.
ITS96GSR-EMF/3-6	
Page 10–11	**DORMA ITS 96 RF, Size EN 2-4** Concealed cam-action door closer for leaf or frame integration to EN 1154, with mechanical hold-open unit. With rapidly decreasing opening resistance (torque) and adjustable closing speed, latching action and hold-open point (between approx. 75° and 120°). With mechanically cushioned limit stay. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Opening angle max. 120°. Adaptation to different rebate clearances possible.
ITS96RF/2-4	
Page 10–11	**DORMA ITS 96 RF, Size EN 3-6** Concealed cam-action door closer for leaf or frame integration to EN 1154, with mechanical hold-open unit. With rapidly decreasing opening resistance (torque) and adjustable closing speed, latching action and hold-open point (between approx. 75° and 120°). With mechanically cushioned limit stay. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Opening angle max. 120°. Adaptation to different rebate clearances possible.
ITS96RF/3-6	

Page 18–19

DORMA TS 93 N, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque). Featuring valve-adjustable closing speed, latching action, hydraulically controlled backcheck and delayed action. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93N/2-5

( ) stainless steel finish ( ) polished brass

Page 18–19

DORMA TS 93 N, Size EN 5-7
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque). Featuring valve-adjustable closing speed, latching action, hydraulically controlled backcheck and delayed action. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93N/5-7

( ) stainless steel finish ( ) polished brass

Page 20–21

DORMA TS 93 EMF, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque). integrated electro-mechanical hold-open, 24 V DC, compliant with EN 1155. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck. Pull-off force and hold-open point adjustable between 80° and 120°. Door stop must be fixed at this position. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93EMF/2-5

( ) stainless steel finish ( ) polished brass

Page 22–23

DORMA TS 93 EMR K, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque). Featuring integrated electro-mechanical hold-open (compliant with EN 1155), power pack, smoke detector and single-piece cover. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck. Pull-off force and hold-open point adjustable between 80° and 120°. Door stop must be fixed at this position. Input voltage 230 V AC; operating voltage 24 V DC. With floating (no-volt) change-over contact, connections for manual realease pushbutton and output for further detectors/sensors. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93EMR/K/2-5

( ) stainless steel finish ( ) polished brass

Page 22–23

DORMA TS 93 EMR S, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque). Featuring integrated electro-mechanical hold-open (compliant with EN 1155), power pack, smoke detector and single-piece cover. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck. Adjustable pull-off force and adjustable hold-open point between 80° and 120°. Door stop must be fixed at this position. Input voltage 230 V AC; operating voltage 24 V DC. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93EMR/S/2-5

( ) stainless steel finish ( ) polished brass

Page 18–19

DORMA TS 93 G/N, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque), for push-side fixing. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck and adjustable delayed action. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93G/N/2-5

( ) stainless steel finish ( ) polished brass

Page 18–19

DORMA TS 93 G/N, Size EN 5-7
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque), for push-side fixing. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck and adjustable delayed action. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93G/N/5-7

Page 20–21

DORMA TS 93 G/EMF, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque), for push-side fixing. Featuring integrated electro-mechanical hold-open, 24 V DC, compliant with EN 1155. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck. Adjustable pull-off force and adjustable hold-open point between 80° and 120°. Door stop must be fixed at this position. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)
( ) stainless steel finish ( ) polished brass

TS93G/EMF/2-5

Page 22–23

DORMA TS 93 G/EMR K, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque), for push-side fixing. Featuring integrated electro-mechanical hold-open (compliant with EN 1155), power pack, smoke detector and single-piece cover.
Closing speed and latching action adjustable by valve; hydraulically controlled backcheck. Adjustable pull-off force and adjustable hold-open point between 80° and 120°. Door stop must be fixed at this position. With floating (no-volt) change-over contact, connections for manual realease pushbutton and output for further detectors/sensors. Input voltage 230 V AC; operating voltage 24 V DC. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)
( ) stainless steel finish ( ) polished brass

TS93G/EMR/K/2-5

Page 22–23

DORMA TS 93 G/EMR S, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque), for push-side fixing.
Featuring integrated electro-mechanical hold-open (compliant with EN 1155), power pack, smoke detector and single-piece cover.
Closing speed and latching action adjustable by valve; hydraulically controlled backcheck. Adjustable pull-off force and adjustable hold-open point between 80° and 120°. Door stop must be fixed at this position. Input voltage 230 V AC; operating voltage 24 V DC. Mounting bracket with universal fixing hole pattern.
Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)
( ) stainless steel finish ( ) polished brass

TS93G/EMR/S/2-5

Page 24–25

DORMA TS 93 GSR, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque) and integral mechanical door coordinator.
Closing speed and latching action adjustable by valve; hydraulically controlled backcheck and adjustable delayed action. Door co-ordination via a push-rod clamping system with overload release, which operates independently of the closer's hydraulics, and full-width cover.
Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)
( ) stainless steel finish ( ) polished brass

TS93GSR/2-5

Page 24–25

DORMA TS 93 GSR, Size EN 5-7
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque) and integral mechanical door coordinator.
Closing speed and latching action adjustable by valve; hydraulically controlled backcheck and adjustable delayed action. Door coordination via a push-rod clamping system with overload release, which operates independently of the closer's hydraulics, and full-width cover.
Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)
( ) stainless steel finish ( ) polished brass

TS93GSR/5-7

Page 24–25

DORMA TS 93 GSR-EMF 1, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque) and integral mechanical door coordinator, plus electro-mechanical hold-open, 24 V DC, compliant with EN 1155, in the inactive leaf.
Closing speed and latching action adjustable by valve; hydraulically controlled backcheck; hold-open point adjustable between 80° and 130°. Door stop must be fixed at this position. Door coordination via a push-rod clamping system with overload release, which operates independently of the closer's hydraulics, and full-width cover. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93GSR-EMF1/2-5

( ) stainless steel finish ( ) polished brass

Page 24–25

DORMA TS 93 GSR-EMF 2, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque) and integral mechanical door coordinator, plus electro-mechanical hold-open, 24 V DC, compliant with EN 1155, in both leaves.
Closing speed and latching action adjustable by valve; hydraulically controlled backcheck; hold-open points adjustable between 80° and 130°. Door stop must be fixed at this position. Door coordination via a push-rod clamping system with overload release, which operates independently of the closer's hydraulics, and full-width cover. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93GSR-EMF2/2-5

( ) stainless steel finish ( ) polished brass

Page 24–25

DORMA TS 93 GSR-EMF 1G, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque) and integral mechanical door coordinator, plus electro-mechanical hold-open, 24 V DC, compliant with EN 1155, in the active leaf. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck; hold-open point adjustable between 80° and 130°. Door stop must be fixed at this position. Door coordination via a push-rod clamping system with overload release, which operates independently of the closer's hydraulics, and full-width cover. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93GSR-EMF1G/2-5

( ) stainless steel finish ( ) polished brass

Page 26–27

DORMA TS 93 GSR/BG, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque) and integral mechanical door coordinator, designed for push-side fixing. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck and adjustable delayed action. Door coordination via a push-rod clamping system with overload release, which operates independently of the closer's hydraulics, and full-width cover. Mounting bracket with universal fixing hole pattern. Specification of active leaf handing necessary.
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93GSR/BG/2-5

Page 26–27

DORMA TS 93 GSR-EMF 1/BG, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque) and integral mechanical door coordinator, plus electro-mechanical hold-open, 24 V DC, compliant with EN 1155, in the inactive leaf. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck; hold-open point adjustable between 80° and 120°. Door stop must be fixed at this position. Door coordination via a push-rod clamping system with overload release, which operates independently of the closer's hydraulics, and full-width cover. Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93GSR-EMF1/BG/2-5

Page 26–27

DORMA TS 93 GSR-EMF 2/BG, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque) and integral mechanical door coordinator, plus electro-mechanical hold-open, 24 V DC, compliant with EN 1155, in both leaves. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck; hold-open point adjustable between 80° and 120°. Door stop must be fixed at this position. Door coordination via a push-rod clamping system with overload release, which operates independently of the closer's hydraulics, and full-width cover. Mounting bracket with universal fixing hole pattern. Specification of active leaf handing necessary.
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93GSR-EMF2/BG/2-5

Page 26–27

DORMA TS 93 GSR-EMF 1G/BG, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque) and integral mechanical door coordinator, plus electro-mechanical hold-open, 24 V DC, compliant with EN 1155, in the active leaf. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck; hold-open point adjustable between 80° and 120°. Door stop must be fixed at this position. Door coordination via a push-rod clamping system with overload release, which operates independently of the closer's hydraulics, and full-width cover. Mounting bracket with universal fixing hole pattern. Specification of active leaf handing necessary.
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS93GSR-EMF1G/BG/2-5

Page 24–25

DORMA G-GSR
Slide channel door coordinator with integral mechanical coordinating mechanism, overall height 30 mm, for fixing on the pull side. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

G93GSR

Page 26–27

DORMA G-GSR/BG
Slide channel door coordinator with integral mechanical coordinating mechanism, overall height 30 mm, for fixing on the push side. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

G93GSR/BG

Page 24–27

DORMA GSR pivot bearings
Pivot bearings for non-closer-specific door coordination with DORMA G 93 GSR units.
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

GSR

Page 30–31

DORMA TS 99 FL, Size EN 4
Slide-channel door closer size EN 4 with electro-hydraulic hold-open and free-swing function to EN 1155. Closing speed adjustable. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Operating voltage 24 V DC.
Model:
( ) For door leaf fixing
( ) For transom fixing
Colour:
( ) silver
TS99FL ( ) special colour ... (sim. to RAL ...)

Page 32–33

DORMA TS 99 FLR/K, Size EN 4
Slide-channel door closer size EN 4 for fixing on the door leaf, with electro-hydraulic hold-open and free-swing function to EN 1155. Power pack and smoke detector integrated in the slide channel. Closing speed adjustable. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Possibility of connection of additional detectors, external manual release switch and floating (no-volt) alarm contact. Input voltage 230 V AC; operating voltage 24 V DC.
Colour:
( ) silver
TS99FLR ( ) special colour ... (sim. to RAL ...)

Page 38–39

DORMA TS 83, Size EN 2-6
Projecting-arm door closer to EN 1154, with integral self-regulating backcheck and standard arm assembly. With adjustable closing speed and latching action. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9016
TS83/2-6 ( ) special colour ... (sim. to RAL ...)

Page 38–39

DORMA TS 83, Size EN 7
Projecting-arm door closer to EN 1154, with integral self-regulating backcheck and standard arm assembly. With adjustable closing speed and latching action. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9016
TS83/7 ( ) special colour ... (sim. to RAL ...)

Page 38–39

DORMA TS 83 SV, Size EN 2-6
Projecting-arm door closer to EN 1154, with integral self-regulating backcheck, delayed action and standard arm assembly. With adjustable closing speed and latching action. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9016
TS83SV/2-6 ( ) special colour ... (sim. to RAL ...)

Page 38–39	**DORMA TS 83 AC, Size EN 2-6** Projecting-arm door closer to EN 1154, anti-corrosion protected, with integral self-regulating backcheck and arm assembly. With adjustable closing speed and latching action. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Colour: silver
TS83AC/2-6	
Page 40–41	**DORMA TS 73 V BC, Size EN 2-4** Projecting-arm door closer to EN 1154, with integral self-regulating backcheck and standard arm assembly. With adjustable closing force, closing speed and latching action. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Colour: ( ) silver ( ) white, sim. to RAL 9016 ( ) special colour ... (sim. to RAL ...)
TS73VÖD/2-4	
Page 46–47	**DORMA TS 72, Size EN 2-4** Projecting-arm door closer to EN 1154. Closing speed and latching action adjustable by valve. With standard mounting backplate. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). Colour: ( ) silver ( ) white, sim. to RAL 9016 ( ) special colour ... (sim. to RAL ...)
TS722/3/4	

Page 42–43

DORMA TS 73 EMF, Size EN 4
Projecting-arm door closer with electro-hydraulic hold-open, 24 V DC, and standard arm assembly. With adjustable closing speed and latching action, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver

TS73EMF/4 ( ) special colour ... (sim. to RAL ...)

Page 42–43

DORMA TS 73 EMF, Size EN 5
Projecting-arm door closer with electro-hydraulic hold-open, 24 V DC, and standard arm assembly. With adjustable closing speed and latching action, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver

TS73EMF/5 ( ) special colour ... (sim. to RAL ...)

Page 42–43

DORMA TS 73 EMF, Size EN 6
Projecting-arm door closer with electro-hydraulic hold-open, 24 V DC, and standard arm assembly. With adjustable closing speed and latching action, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver

TS73EMF/6 ( ) special colour ... (sim. to RAL ...)

Page 42–43

DORMA TS 73 EMF/FL, Size EN 4
Projecting-arm door closer with free-swing function integrated in the arm, 24 V DC. With adjustable closing speed and latching action. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver

TS73EMF/FL/4 ( ) special colour ... (sim. to RAL ...)

Page 42–43

DORMA TS 73 EMF/FL, Size EN 5
Projecting-arm door closer with free-swing function integrated in the arm, 24 V DC. With adjustable closing speed and latching action. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver

TS73EMF/FL/5 ( ) special colour ... (sim. to RAL ...)

Page 42–43

DORMA TS 73 EMF/FL, Size EN 6
Projecting-arm door closer with free-swing function integrated in the arm, 24 V DC. With adjustable closing speed and latching action. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) special colour ... (sim. to RAL ...)

TS73EMF/FL/6

Page 42–43

DORMA TS 73 EMF/BG, Size EN 4
Projecting-arm door closer for push-side fixing, with electro-hydraulic hold-open, 24 V DC, and standard arm assembly. With adjustable closing speed and latching action, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) special colour ... (sim. to RAL ...)

TS73EMF/BG/4

Page 42–43

43 DORMA TS 73 EMF/BG, Size EN 5
Projecting-arm door closer for push-side fixing, with electro-hydraulic hold-open, 24 V DC, and standard arm assembly. With adjustable closing speed and latching action, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) special colour ... (sim. to RAL ...)

TS73EMF/BG/5

Page 42–43

DORMA TS 73 EMF/BG, Size EN 6
Projecting-arm door closer for push-side fixing, with electro-hydraulic hold-open, 24 V DC, and standard arm assembly. With adjustable closing speed and latching action, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) special colour ... (sim. to RAL ...)

TS73EMF/BG/6

Page 42–43

DORMA TS 73 EMF/BG-FL, Size EN 4
Projecting-arm door closer for push-side fixing, with free-swing function integrated in the arm, 24 V DC. With adjustable closing speed and latching action. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) special colour ... (sim. to RAL ...)

TS73EMF/BG-FL/4

Page 42–43

DORMA TS 73 EMF/BG-FL, Size EN 5
Projecting-arm door closer for push-side fixing, with free-swing function integrated in the arm, 24 V DC. With adjustable closing speed and latching action. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) special colour ... (sim. to RAL ...)

TS73EMF/BG-FL/5

Page 42–43

DORMA TS 73 EMF/BG-FL, Size EN 6
Projecting-arm door closer for push-side fixing, with free-swing function integrated in the arm, 24 V DC. With adjustable closing speed and latching action. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) special colour ... (sim. to RAL ...)

TS73EMF/BG-FL/6

Page 44–45

DORMA TS 73 EMR, Size EN 4
Projecting-arm door closer with electro-hydraulic hold-open, integrated power pack, smoke detector and standard arm; for transom fixing on the push side. With adjustable closing speed and latching action, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. Floating (no-volt) alarm contact; suitable for connection of additional smoke detectors. Input voltage 230 V AC; operating voltage 24 V DC. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) special colour ... (sim. to RAL ...)

TS73EMR/4

Page 44–45

DORMA TS 73 EMR, Size EN 5
Projecting-arm door closer with electro-hydraulic hold-open, integrated power pack, smoke detector and standard arm; for transom fixing on the push side. With adjustable closing speed and latching action, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. Floating (no-volt) alarm contact; suitable for connection of additional smoke detectors. Input voltage 230 V AC; operating voltage 24 V DC. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) special colour ... (sim. to RAL ...)

TS73EMR/5

Page 44–45

DORMA TS 73 EMR, Size EN 6
Projecting-arm door closer with electro-hydraulic hold-open, integrated power pack, smoke detector and standard arm; for transom fixing on the push side. With adjustable closing speed and latching action, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. Floating (no-volt) alarm contact; suitable for connection of additional smoke detectors. Input voltage 230 V AC; operating voltage 24 V DC. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver

TS73EMR/6 ( ) special colour ... (sim. to RAL ...)

Page 44–45

DORMA TS 73 EMR/FL, Size EN 4
Projecting-arm door closer with electro-hydraulic hold-open, integrated power pack, smoke detector and free-swing function integrated in the arm; for transom fixing on the push side. With adjustable closing speed and latching action. Floating (no-volt) alarm contact; suitable for connection of additional smoke detectors. Input voltage 230 V AC; operating voltage 24 V DC. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver

TS73EMR/FL/4 ( ) special colour ... (sim. to RAL ...)

Page 44–45

DORMA TS 73 EMR/FL, Size EN 5
Projecting-arm door closer with electro-hydraulic hold-open, integrated power pack, smoke detector and free-swing function integrated in the arm; for transom fixing on the push side. With adjustable closing speed and latching action. Floating (no-volt) alarm contact; suitable for connection of additional smoke detectors. Input voltage 230 V AC; operating voltage 24 V DC. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver

TS73EMR/FL/5 ( ) special colour ... (sim. to RAL ...)

Page 44–45

DORMA TS 73 EMR/FL, Size EN 6
Projecting-arm door closer with electro-hydraulic hold-open, integrated power pack, smoke detector and free-swing function integrated in the arm; for transom fixing on the push side. With adjustable closing speed and latching action. Floating (no-volt) alarm contact; suitable for connection of additional smoke detectors. Input voltage 230 V AC; operating voltage 24 V DC. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver

TS73EMR/FL/6 ( ) special colour ... (sim. to RAL ...)

Page 48–49

DORMA BTS 80 F, Size EN 4
Floor spring to EN 1154, with fully controlled hydraulic closing action from 180°, adjustable latching action and backcheck. Including cement box, replaceable spindle and cover plate. Non-handed design for fire and smoke check doors. For door leaves up to 300 kg.
Cover plate material and finish:

BTS80F/4

( ) stainless steel ( ) satin-brushed brass

Page 48–49

DORMA BTS 80 F, Size EN 5
Floor spring to EN 1154, with fully controlled hydraulic closing action from 180°, adjustable latching action and backcheck. Including cement box, replaceable spindle and cover plate. Non-handed design for fire and smoke check doors. For door leaves up to 300 kg.
Cover plate material and finish:

BTS80F/5

( ) stainless steel ( ) satin-brushed brass

Page 48–49

DORMA BTS 80 F, Size EN 6
Floor spring to EN 1154, with fully controlled hydraulic closing action from 180°, adjustable latching action and backcheck. Including cement box, replaceable spindle and cover plate. Non-handed design for fire and smoke check doors. For door leaves up to 300 kg.
Cover plate material and finish:

BTS80F/6

( ) stainless steel ( ) satin-brushed brass

Page 48–49

DORMA BTS 80 EMB, Size EN 4
Floor spring with electro-hydraulic hold-open, 24 V DC, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. With adjustable closing speed under full hydraulic control, adjustable latching action and backcheck. Including cement box, replaceable spindle and cover plate. For door leaves up to 300 kg. Non-handed design for fire and smoke check doors.
Cover plate material and finish:

BTS80EMB/4

( ) stainless steel ( ) satin-brushed brass

Page 48–49

DORMA BTS 80 EMB, Size EN 5
Floor spring with electro-hydraulic hold-open, 24 V DC, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. With adjustable closing speed under full hydraulic control, adjustable latching action and backcheck. Including cement box, replaceable spindle and cover plate. For door leaves up to 300 kg. Non-handed design for fire and smoke check doors.
Cover plate material and finish:

BTS80EMB/5 ( ) stainless steel ( ) satin-brushed brass

Page 48–49

DORMA BTS 80 EMB, Size EN 6
Floor spring with electro-hydraulic hold-open, 24 V DC, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. With adjustable closing speed under full hydraulic control, adjustable latching action and backcheck. Including cement box, replaceable spindle and cover plate. For door leaves up to 300 kg. Non-handed design for fire and smoke check doors.
Cover plate material and finish:

BTS80EMB/6 ( ) stainless steel ( ) satin-brushed brass

Page 48–49

DORMA BTS 80 FLB, Size EN 4
Floor spring with electro-hydraulic free-swing function, 24 V DC, between door opening angles of 0° and 180°, closer function (when de-energised) effective from 180°, and with backcheck (also when de-energised). Including cement box, replaceable spindle and cover plate. For door leaves up to 300 kg. Non-handed design for fire and smoke check doors.
Cover plate material and finish:

BTS80FLB/4 ( ) stainless steel ( ) satin-brushed brass

Page 48–49

DORMA BTS 80 FLB, Size EN 5
Floor spring with electro-hydraulic free-swing function, 24 V DC, between door opening angles of 0° and 180°, closer function (when de-energised) effective from 180°, and with backcheck (also when de-energised). Including cement box, replaceable spindle and cover plate. For door leaves up to 300 kg. Non-handed design for fire and smoke check doors.
Cover plate material and finish:

BTS80FLB/5 ( ) stainless steel ( ) satin-brushed brass

Page 48–49

DORMA BTS 80 FLB, Size EN 6
Floor spring with electro-hydraulic free-swing function, 24 V DC, between door opening angles of 0° and 180°, closer function (when de-energised) effective from 180°, and with backcheck (also when de-energised). Including cement box, replaceable spindle and cover plate. For door leaves up to 300 kg. Non-handed design for fire and smoke check doors.
Cover plate material and finish:
BTS80FLB/6 ( ) stainless steel ( ) satin-brushed brass

Page 50–51

DORMA BTS 80 BSR, Size EN 4
Floor spring to EN 1154, with full hydraulic control of the closing action from 180°, adjustable latching action, backcheck and door coordination function operating independently of the closer hydraulics, comprising an active leaf and an inactive leaf mechanism interconnected by a Bowden cable. Including cement box, replaceable spindle and cover plate. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door leaves up to 300 kg.
Cover plate material and finish:
BTS80BSR/4 ( ) stainless steel ( ) satin-brushed brass

Page 50–51

DORMA BTS 80 BSR, Size EN 5
Floor spring to EN 1154, with full hydraulic control of the closing action from 180°, adjustable latching action, backcheck and door coordination function operating independently of the closer hydraulics, comprising an active leaf and an inactive leaf mechanism interconnected by a Bowden cable. Including cement box, replaceable spindle and cover plate. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door leaves up to 300 kg.
Cover plate material and finish:
BTS80BSR/5 ( ) stainless steel ( ) satin-brushed brass

Page 50–51

DORMA BTS 80 BSR, Size EN 6
Floor spring to EN 1154, with full hydraulic control of the closing action from 180°, adjustable latching action, backcheck and door coordination function operating independently of the closer hydraulics, comprising an active leaf and an inactive leaf mechanism interconnected by a Bowden cable. Including cement box, replaceable spindle and cover plate. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door leaves up to 300 kg.
Cover plate material and finish:
BTS80BSR/6 ( ) stainless steel ( ) satin-brushed brass

Page 50–51

DORMA BTS 80 BSR-EMB 1, Size EN 4
Floor spring with electro-hydraulic hold-open at the inactive leaf, 24 V DC, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. With adjustable closing speed, full hydraulic control of the closing action, adjustable latching action, backcheck and door coordination function operating independently of the closer hydraulics, comprising an active leaf and an inactive leaf mechanism interconnected by a Bowden cable. Including cement box, replaceable spindle and cover plate. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door leaves up to 300 kg.
Cover plate material and finish:

BTS80BSR-EMB1/4 ( ) stainless steel ( ) satin-brushed brass

Page 50–51

DORMA BTS 80 BSR-EMB 1, Size EN 5
Floor spring with electro-hydraulic hold-open at the inactive leaf, 24 V DC, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. With adjustable closing speed, full hydraulic control of the closing action, adjustable latching action, backcheck and door coordination function operating independently of the closer hydraulics, comprising an active leaf and an inactive leaf mechanism interconnected by a Bowden cable. Including cement box, replaceable spindle and cover plate. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door leaves up to 300 kg.
Cover plate material and finish:

BTS80BSR-EMB1/5 ( ) stainless steel ( ) satin-brushed brass

Page 50–51

DORMA BTS 80 BSR-EMB 1, Size EN 6
Floor spring with electro-hydraulic hold-open at the inactive leaf, 24 V DC, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. With adjustable closing speed, full hydraulic control of the closing action, adjustable latching action, backcheck and door coordination function operating independently of the closer hydraulics, comprising an active leaf and an inactive leaf mechanism interconnected by a Bowden cable. Including cement box, replaceable spindle and cover plate. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door leaves up to 300 kg.
Cover plate material and finish:

BTS80BSR-EMB1/6 ( ) stainless steel ( ) satin-brushed brass

Page 50–51

DORMA BTS 80 BSR-EMB 2, Size EN 4
Floor spring with electro-hydraulic hold-open at the active and inactive leaf, 24 V DC, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. With adjustable closing speed, full hydraulic control of the closing action, adjustable latching action, backcheck and door coordination function operating independently of the closer hydraulics, comprising an active leaf and an inactive leaf mechanism interconnected by a Bowden cable. Including cement box, replaceable spindle and cover plate. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door leaves up to 300 kg.
Cover plate material and finish:

BTS80BSR-EMB2/4

( ) stainless steel ( ) satin-brushed brass

Page 50–51

DORMA BTS 80 BSR-EMB 2, Size EN 5
Floor spring with electro-hydraulic hold-open at the active and inactive leaf, 24 V DC, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. With adjustable closing speed, full hydraulic control of the closing action, adjustable latching action, backcheck and door coordination function operating independently of the closer hydraulics, comprising an active leaf and an inactive leaf mechanism interconnected by a Bowden cable. Including cement box, replaceable spindle and cover plate. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door leaves up to 300 kg.
Cover plate material and finish:

BTS80BSR-EMB2/5

( ) stainless steel ( ) satin-brushed brass

Page 50–51

DORMA BTS 80 BSR-EMB 2, Size EN 6
Floor spring with electro-hydraulic hold-open at the active and inactive leaf, 24 V DC, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. With adjustable closing speed, full hydraulic control of the closing action, adjustable latching action, backcheck and door coordination function operating independently of the closer hydraulics, comprising an active leaf and an inactive leaf mechanism interconnected by a Bowden cable. Including cement box, replaceable spindle and cover plate.
Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
For door leaves up to 300 kg.
Cover plate material and finish:

BTS80BSR-EMB2/6

( ) stainless steel ( ) satin-brushed brass

Page 50–51

DORMA BTS 80 BSR-EMB 1 G, Size EN 4
Floor spring with electro-hydraulic hold-open at the active leaf, 24 V DC, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. With adjustable closing speed, full hydraulic control of the closing action, adjustable latching action, backcheck and door co-ordination function operating independently of the closer hydraulics, comprising an active leaf and an inactive leaf mechanism interconnected by a Bowden cable. Including cement box, replaceable spindle and cover plate.
Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
For door leaves up to 300 kg.
Cover plate material and finish:

BTS80BSR-EMB1G/4
( ) stainless steel ( ) satin-brushed brass

Page 50–51

DORMA BTS 80 BSR-EMB 1 G, Size EN 5
Floor spring with electro-hydraulic hold-open at the active leaf, 24 V DC, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. With adjustable closing speed, full hydraulic control of the closing action, adjustable latching action, backcheck and door co-ordination function operating independently of the closer hydraulics, comprising an active leaf and an inactive leaf mechanism interconnected by a Bowden cable. Including cement box, replaceable spindle and cover plate.
Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
For door leaves up to 300 kg.
Cover plate material and finish:

BTS80BSR-EMB1G/5
( ) stainless steel ( ) satin-brushed brass

Page 50–51

DORMA BTS 80 BSR-EMB 1 G, Size EN 6
Floor spring with electro-hydraulic hold-open at the active leaf, 24 V DC, and integrated pressure compensation for constant, adjustable, temperature-immune hold-open between door opening angles of approx. 75° and 180°. With adjustable closing speed, full hydraulic control of the closing action, adjustable latching action, backcheck and door co-ordination function operating independently of the closer hydraulics, comprising an active leaf and an inactive leaf mechanism interconnected by a Bowden cable. Including cement box, replaceable spindle and cover plate.
Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
For door leaves up to 300 kg.
Cover plate material and finish:

BTS80BSR-EMB1G/6
( ) stainless steel ( ) satin-brushed brass

Page 10–11	**DORMA ITS 96 RF, Size EN 2-4** Concealed cam-action door closer to EN 1154, integrated in the door leaf or frame, with mechanical hold-open unit. With rapidly decreasing opening resistance, adjustable closing speed, adjustable latching action and hold-open point variable between 75° and 120°. With mechanically cushioned limit stay. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors); max. opening angle 120°.
ITS96RF/1-3	
Page 10–11	**DORMA ITS 96 RF, Size EN 2-5** Concealed cam-action door closer to EN 1154, integrated in the door leaf or frame, with mechanical hold-open unit. With rapidly decreasing opening resistance, adjustable closing speed, adjustable latching action and hold-open point variable between 75° and 120°. With mechanically cushioned limit stay. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors); max. opening angle 120°.
ITS96RF/2-5	

Page 18–19

DORMA TS 93 RF, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque) and with mechanical hold-open unit. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck and latching action; hold-open point adjustable between 75° and 150°.
Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)
TS93RF/2-5 ( ) stainless steel finish ( ) polished brass

Page 18–19

DORMA TS 93 G/RF, Size EN 2-5
Cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque), with mechanical hold-open unit, for push-side fixing. Closing speed and latching action adjustable by valve; hydraulically controlled backcheck and latching action; hold-open point adjustable between 75° and 150°.
Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)
TS93G/RF/2-5 ( ) stainless steel finish ( ) polished brass

Page 34–35

DORMA TS 92 N, Size EN 2-4
Universal cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque), suitable for full range of fixing positions. Closing speed and latching action adjustable by valve.
Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)
TS92N ( ) stainless steel finish ( ) polished brass

Page 34–35

DORMA TS 92 RF, Size EN 2-4
Universal cam-action door closer to EN 1154, in Softline design, with rapidly decreasing opening resistance (torque), suitable for full range of fixing positions. Closing speed and latching action adjustable by valve. Hold-open point adjustable between 75° and 150°.
Mounting bracket with universal fixing hole pattern. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)
TS92RF ( ) stainless steel finish ( ) polished brass

Page 40–41

DORMA TS 73 V BC/RF, Size EN 2-4
Projecting-arm door closer to EN 1154, with switched (on/off) mechanical hold-open unit. With adjustable closing speed, latching action and hold-open point (between approx. 75° and 150°) and integral self-regulating backcheck. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS73VÖD/2/RF/2-4

Page 46–47

DORMA TS 72, Size EN 2–4
Projecting-arm door closer to EN 1154, with mechanical hold-open unit. With adjustable closing speed, latching action and hold-open point (between approx. 75° and 150°) and standard mounting backplate. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS722/3/4

Page 38–39

DORMA TS 83 RF, Size EN 2-6
Projecting-arm door closer to EN 1154, with integral self-regulating backcheck and switched (on/off) mechanical hold-open unit. With adjustable closing speed, latching action and hold-open point (between approx. 75° and 150°).
Non-handed (i.e. suitable for ISO 5 and ISO 6 doors).
Colour:
( ) silver
( ) white, sim. to RAL 9016
( ) special colour ... (sim. to RAL ...)

TS83RF/2-6

Page 52–53

DORMA BTS 75 V, Size EN 1-4, 90° hold-open
Universal floor spring to EN 1154, with adjustable closing force and closing speed. Closing action effective from approx. 175°, with full hydraulic sequential control and backcheck.
Including cement box, replaceable spindle and cover plate.
Non-handed; also suitable for double action doors.
Cover plate material and finish:
( ) stainless steel ( ) satin-brushed brass

BTS75V/90

Page 52–53

DORMA BTS 75 V, Size EN 1-4, 105° hold-open
Universal floor spring to EN 1154, with adjustable closing force and closing speed. Closing action effective from approx. 175°, with full hydraulic sequential control and backcheck.
Including cement box, replaceable spindle and cover plate.
Non-handed; also suitable for double action doors.
Cover plate material and finish:
( ) stainless steel ( ) satin-brushed brass

BTS75V/105

Page 52–53

DORMA BTS 75 V, Size EN 1-4
Universal floor spring to EN 1154, with adjustable closing force and closing speed. Closing action effective from approx. 175°, with full hydraulic sequential control and backcheck.
Including cement box, replaceable spindle and cover plate.
Non-handed; also suitable for double action doors.
Cover plate material and finish:

BTS75V

( ) stainless steel ( ) satin-brushed brass

Page 48–49

DORMA BTS 80, Size EN 3
Universal floor sping to EN 1154, for LH, RH and double-action doors up to leaf weights of 300 kg. Closing action effective from approx. 175° with full hydraulic control, integrated pressure compensation for constant, adjustable, temperature-immune, switched hold-open between door opening angles of 75° and 180°. With adjustable hold-open start point, delayed action (end of delayed action adjustable between 75° and 105°), and backcheck.
Including cement box, replaceable spindle and cover plate.
Cover plate material and finish:

BTS80/3

( ) stainless steel ( ) satin-brushed brass

Page 48–49

DORMA BTS 80, Size EN 4
Universal floor sping to EN 1154, for LH, RH and double-action doors up to leaf weights of 300 kg. Closing action effective from approx. 175° with full hydraulic control, integrated pressure compensation for constant, adjustable, temperature-immune, switched hold-open between door opening angles of 75° and 180°. With adjustable hold-open start point, delayed action (end of delayed action adjustable between 75° and 105°), and backcheck.
Including cement box, replaceable spindle and cover plate.
Cover plate material and finish:

BTS80/4

( ) stainless steel ( ) satin-brushed brass

Page 48–49

DORMA BTS 80, Size EN 6
Universal floor sping to EN 1154, for LH, RH and double-action doors up to leaf weights of 300 kg. Closing action effective from approx. 175° with full hydraulic control, integrated pressure compensation for constant, adjustable, temperature-immune, switched hold-open between door opening angles of 75° and 180°. With adjustable hold-open start point, delayed action (end of delayed action adjustable between 75° and 105°), and backcheck.
Including cement box, replaceable spindle and cover plate.
Cover plate material and finish:

BTS80/6

( ) stainless steel ( ) satin-brushed brass

Page 54–55

DORMA BTS 84, Size EN 2
Floor spring compliant with EN 1154, for double action doors up to 100 kg leaf weight. With full hydraulic control of the closing action from approx. 130°. Including cement box, replaceable spindle and cover plate. Total height of cement box 40 mm.
Cover plate material and finish:

BTS84/2

( ) stainless steel ( ) satin-brushed brass

Page 54–55 BTS84/3	**DORMA BTS 84, Size EN 3** Floor spring compliant with EN 1154, for double action doors up to 100 kg leaf weight. With full hydraulic control of the closing action from approx. 130°. Including cement box, replaceable spindle and cover plate. Total height of cement box 40 mm. Cover plate material and finish: ( ) stainless steel ( ) satin-brushed brass
Page 54–55 BTS84/4	**DORMA BTS 84, Size EN 4** Floor spring compliant with EN 1154, for double action doors up to 100 kg leaf weight. With full hydraulic control of the closing action from approx. 130°. Including cement box, replaceable spindle and cover plate. Total height of cement box 40 mm. Cover plate material and finish: ( ) stainless steel ( ) satin-brushed brass
RTS85/3	**DORMA RTS 85, Size EN 3** Transom-concealed door closer to EN 1154, with progressive mechanical backcheck and square-section spindle, adjustable closing speed and delayed action, for single and double-action doors.
RTS85/4	**DORMA RTS 85, Size EN 4** Transom-concealed door closer to EN 1154, with progressive mechanical backcheck and square-section spindle, adjustable closing speed and delayed action, for single and double-action doors.
RTS85/5	**DORMA RTS 85, Size EN 5** Transom-concealed door closer to EN 1154, with progressive mechanical backcheck and square-section spindle, adjustable closing speed and delayed action, for single and double-action doors.
RTS85/90/3	**DORMA RTS 85, Size EN 3, 90° hold-open** Transom-concealed door closer to EN 1154, with progressive mechanical backcheck and square-section spindle, adjustable closing speed and delayed action, for single and double-action doors.
RTS85/90/4	**DORMA RTS 85, Size EN 4, 90° hold-open** Transom-concealed door closer to EN 1154, with progressive mechanical backcheck and square-section spindle, adjustable closing speed and delayed action, for single and double-action doors.
RTS85/90/5	**DORMA RTS 85, Size EN 5, 90° hold-open** Transom-concealed door closer to EN 1154, with progressive mechanical backcheck and square-section spindle, adjustable closing speed and delayed action, for single and double-action doors.
RTS85/105/3	**DORMA RTS 85, Size EN 3, 105° hold-open** Transom-concealed door closer to EN 1154, with progressive mechanical backcheck and square-section spindle, adjustable closing speed and delayed action, for single and double-action doors.

RTS85/105/4	**DORMA RTS 85, Size EN 4, 105° hold-open** Transom-concealed door closer to EN 1154, with progressive mechanical backcheck and square-section spindle, adjustable closing speed and delayed action, for single and double-action doors.
RTS85/105/5	**DORMA RTS 85, Size EN 5, 105° hold-open** Transom-concealed door closer to EN 1154, with progressive mechanical backcheck and square-section spindle, adjustable closing speed and delayed action, for single and double-action doors.
Page 56–58 RMZ2	**DORMA RMZ 2** Lintel-mounted smoke detector with integral power pack and optical smoke sensor. For release actuation of DORMA hold-open devices. Suitable for the connection of additional smoke detectors. Floating (no-volt) change-over contact and terminals for external manual release switch. Input voltage 230 V AC; operating voltage 24 V DC; adjustable manual reset. Colour: ( ) silver ( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016 ( ) special colour ... (sim. to RAL ...) ( ) stainless steel finish ( ) polished brass
Page 56–58 RM	**DORMA RM** Universal, non-dicrectional optical smoke detector, 24 V DC, for lintel and ceiling installation. Suitable as smoke switch and monitoring device for hold-open systems. Prepared for connection to other DORMA RM smoke detectors. With floating (no-volt) change-over contact and terminals for external manual release switch. Colour: ( ) silver ( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016 ( ) special colour ... (sim. to RAL ...) ( ) stainless steel finish ( ) polished brass
Page 56–58 RMZK	**DORMA RMZ K** (overall height 30 mm) Lintel-mounted smoke detector with integral power pack and optical smoke sensor. For release actuation of DORMA hold-open devices. Suitable for the connection of additional smoke detectors. Floating (no-volt) change-over contact and terminals for external manual release switch. Input voltage 230 V AC; operating voltage 24 V DC. Colour: ( ) silver ( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016 ( ) special colour ... (sim. to RAL ...) ( ) stainless steel finish ( ) polished brass

Page 56–58	**DORMA RMZ S** Lintel-mounted smoke detector with integral power pack and optical smoke sensor. For release actuation of DORMA hold-open devices. Suitable for the connection of additional smoke detectors. Input voltage 230 V AC; operating voltage 24 V DC. Colour: ( ) silver ( ) dark brown ( ) white, sim. to RAL 9010 ( ) white sim. to RAL 9016 ( ) special colour ... (sim. to RAL ...)
RMZS	( ) stainless steel finish ( ) polished brass
Page 56–58	**DORMA RZ 01** Power supply unit with stabilised power pack for connection of DORMA RM smoke detectors and DORMA hold-open devices; with operating status indicator.
RZ01	Input voltage 230 V AC; operating voltage 24 V DC.
Page 59	**DORMA SR 390** Door coordinator, for door frame fixing; non-handed; with integral telescopic shock absorber and fixing bracket. Finish:
SR390	( ) zinc-plated for steel doors ( ) zinc-plated and silver-sprayed for timber doors
Page 59	**DORMA SR 392** Concealed door co-ordinator; non-handed; with integral telescopic shock absorber. Finish:
SR392	( ) zinc-plated for steel doors ( ) zinc-plated and silver-sprayed for timber doors

Page 60–61	**DORMA EM 500 A** Electro-magnet with test pushbutton, 24 V DC, with polarity reversal protection, for surface wall fixing. Pull-off force 500 Nm. Requisite accessories: Armature plate
EM500A	Accessories necessary for floor fixing: Floor bracket
Page 60–61	**DORMA EM 500 H** (height 150/175 mm) Electro-magnet with test pushbutton, 24 V DC, with polarity reversal protection, for floor, ceiling and wall fixing. Pull-off force 490 Nm.
EM500H/150/175	Requisite accessories: Armature plate
Page 60–61	**DORMA EM 500 H** (height 300/325 mm) Electro-magnet with test pushbutton, 24 V DC, with polarity reversal protection, for floor, ceiling and wall fixing. Pull-off force 490 Nm.
EM500H/300/325	Requisite accessories: Armature plate
Page 60–61	**DORMA EM 500 H** (height 450/475 mm) Electro-magnet with test pushbutton, 24 V DC, with polarity reversal protection, for floor, ceiling and wall fixing. Pull-off force 490 Nm.
EM500H/450/475	Requisite accessories: Armature plate
Page 60–61	**DORMA EM 500 U** Electro-magnet, 24 V DC, with polarity reversal protection, for concealed (flush) mounting. Pull-off force 500 Nm.
EM500U	Requisite accessories: Armature plate
Page 60–61	**DORMA EM 500 G** Electro-magnet, 24 V DC, with polarity reversal protection, for wall and floor fixing. Pull-off force 500 Nm. Requisite accessories: Armature plate
EM500G	Accessories necessary for floor fixing: Floor bracket

Page 60–61 MAG	**DORMA MAG** Ball-jointed armature plate for magnetic hold-open connection between the electro-magnet and the door leaf.
Page 60–61 MAG/I	**DORMA MAG I** Ball-jointed armature plate for magnetic hold-open connection between electro-magnet DORMA EM 500 H and the door leaf.
Page 60–61 MAT	**DORMA MAT** Telescopic armature plate for magnetic hold-open connection between the electro-magnet and the door leaf. Spring travel approx. 20 mm.
Page 60–61 MAW	**DORMA MAW** Armature plate for extreme angles, for magnetic hold-open connection between the electro-magnet and the door leaf.
Page 60–61 HT-AP	**DORMA HT-AP** Surface mounted manual release switch for releasing DORMA hold-open devices and hold-open systems.
Page 60–61 HT-UP	**DORMA HT-UP** Concealed (flush-mounted) manual release switch for releasing DORMA hold-open devices and hold-open systems.

Important information about door closers and hold-open systems for fire and smoke check doors

The installation of and equipment used on fire and smoke check doors are subject to strict statutory requirements.
The following summary has been provided to help planners, specifiers, fabricators and installation companies to satisfy these regulations when selecting and installing door closers and hold-open systems. It is based on the relevant specifications contained in the European standards and most national regulations.

Basic requirements and main components of preventive fire protection
The basic requirement to be met by all measures instituted within the framework of preventive fire protection lies in ensuring, through the building configuration and design, and through building maintenance, that measures are instituted to prevent the occurrence and propagation of a destructive fire, and that in the event of a fire, effective fire-fighting activities and the rescue of people and animals are possible.

The main components of preventive fire protection are fire-inhibiting wall and ceiling constructions in conjunction with correspondingly designed fire barriers/closures, primarily in the form of fire and smoke check doors.

Door closers for fire doors
The use of door closers for the self-closing design of fire doors is governed by a number of EN regulations – such as EN 1154 and EN 1155 for door closers with hydraulic damping.

EN 1154 covers the following application principles: Overhead door closers, concealed door closers and floor springs.
EN 1155 applies to electrically operated hold-open devices.

The use of concealed door closers and floor springs to EN 1154 is also permissible in the case of DIN doors subject to the proviso that the door in question was originally designed for use in combination with a concealed door closer or floor spring.

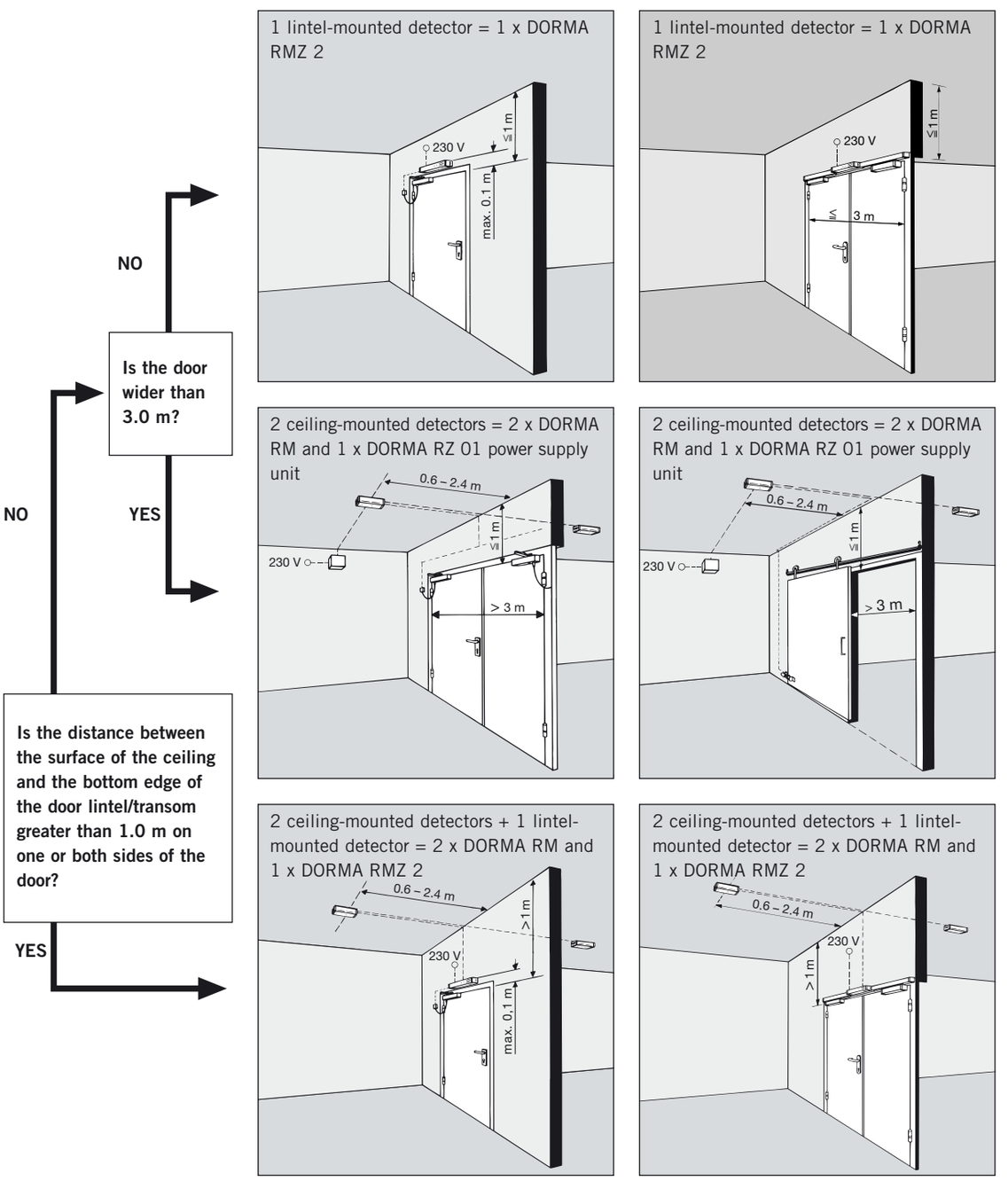
Hold-open systems for unrestricted traffic flow
Constantly closed doors constitute enormous hindrances that impede the operational flow in administrative buildings, hospitals, hotels and many other institutions. Consequently, hold-open systems have been developed as special accessories that enable the doors to be held permanently open under normal conditions.

When is a special approval required?
Today's architecture prefers even fire and smoke check doors to be created on the basis of systems that contain no optically disruptive additional components and that are thus as inconspicuous as possible. Such a solution is the concealed cam-action door closer system DORMA ITS 96 in which the closer body and the slide channel are completely integrated in the door leaf and door frame. Installation automatically means modification to the door structure, which is why the door itself must be approved for combination with the DORMA ITS 96. This also applies to double doors with door coordinators.

Smoke check doors and similar barriers
It is invariably the case when a fire breaks out that the unavoidable smoke that accompanies it is far more dangerous than the blaze itself. Most victims of fires succumb to the effects of the smoke before ever coming into contact with the flames, and much of the property damage caused is attributable in the first instance to smoke development. Consequently, the containment of smoke propagation through the provision of smoke barriers is just as important as flame protection in preventive fire protection.

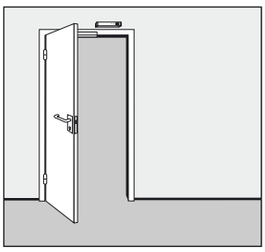
Door closers for smoke check doors
As in the case of fire doors, smoke check doors must also be designed to be self-closing and equipped with corresponding hydraulically controlled closing devices, i.e. overhead door closers or floor springs. Logically, these closing devices are aligned to the requirements of EN 1154 so that overhead door closers and floor springs approved for fire doors are also suitable for smoke check doors.

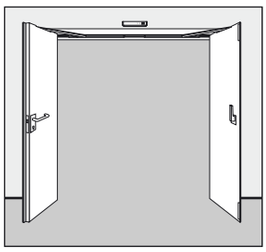
Recommendation for determining the number and arrangement of smoke detectors



Combination examples

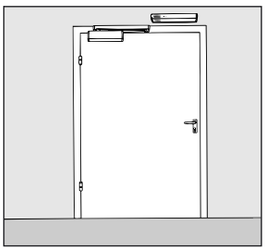
DORMA ITS 96 EMF
Concealed cam-action door closer system with electro-magnetic hold-open.
Power input: 1.4 W
+ DORMA RMZ 2

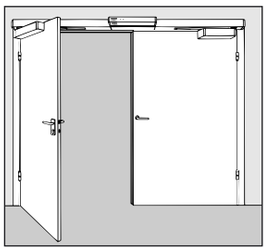




DORMA ITS 96 GSR
Concealed cam-action door closer system with door coordinator and electro-mechanical hold-open for double doors.
Power input: 2.8 W
+ DORMA RMZ 2

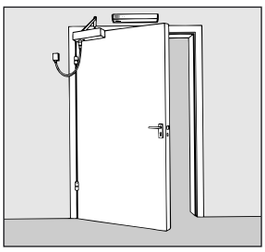
DORMA TS 93 EMF
Cam-action door closer system with electro-mechanical hold-open.
Power input: 1.4 W
+ DORMA RMZ 2

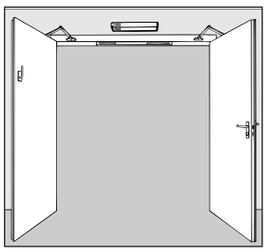




DORMA TS 93 GSR-EMF
Cam-action door closer system with electro-mechanical hold-open.
Power input: 1.4 W
(ITS 93 GSR-EMF 2 = 2.8 W)
+ DORMA RMZ 2

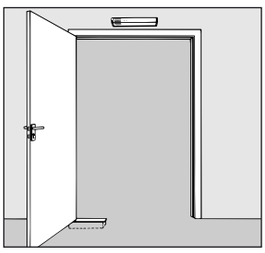
DORMA TS 73 EMF
Projecting-arm door closer with electro-hydraulic hold-open
Power input: 2 W
+ DORMA RMZ 2

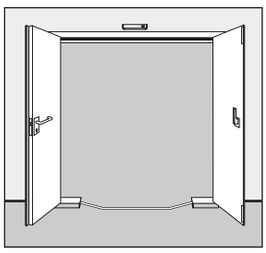




DORMA SR 391 or 393
Door coordinator with electro-magnet for double doors.
Power input: 1.6 W
Door closers:
DORMA TS 73 EMF-S (4.0 W) and EMF or DORMA BTS 80 EMB/S (4.6 W) and EMB
+ DORMA RMZ 2

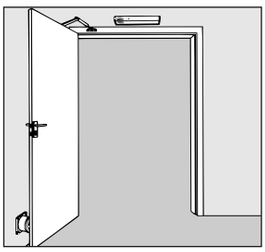
DORMA BTS 80 EMB
Floor spring with electro-hydraulic hold-open.
Power input: 2.3 W
(with free-swing function: BTS 80 FLB)
+ DORMA RMZ 2
DORMA HT

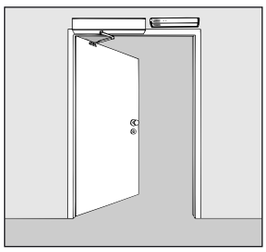




DORMA BTS 80 BSR-EMB
Floor spring system with door coordinator and electro-mechanical hold-open for double doors.
Power input: 1.6 W
(BTS 80 BSR-EMB 2 = 3.2 W)
+ DORMA RMZ 2

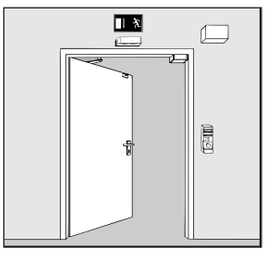
DORMA EM, MA
Electro-magnet and armature plate.
Power input: 1.5 W
Door closers:
DORMA ITS 96, TS 93, TS 83, TS 73 V or BTS 80 F
+ DORMA RMZ 2





DORMA ED 200 (automatic swing door operator)
For single and double doors.
Own power supply unit.
+ DORMA RMZ 2

DORMA emergency exit control systems
Smoke detector combined with an electro-magnetic door locking device that it releases in the event of a fire. Own power supply
+ DORMA RMZ 2



The DORMA RMZ 2 lintel-mounted smoke detector and the DORMA RM ceiling-mounted smoke detector are designed for optimum combination with all DORMA products manufactured for preventive fire protection and emergency exit security.

Specification texts for OGRO door furniture and fittings

ZS project sets

OGRO project set to DIN 18255; 5 year guarantee; stabilising bushing in maintenance-free OGRO plain steel bearing with spring clip system for snap-action, secure insertion of the lever handles; remains permanently in the mounted position; minimal rattle due to flexibly located OGRO adapter ring; metal backplates with supporting steel lugs and permanently secure fixings concealed on both sides.

OGRO lever handle ZS 8 ...

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

Aluminium
Colour F _____
F1 Silver (natural)
F2 Champagne
F3 Gold
F4 Bronze
F5 Dark bronze

Type of set:
Standard set
(lever handles both sides)
Mixed set
(external knob fixed dead, internal lever handle)
WC set

Accessories:
Roses and escutcheons
Short backplates
Long backplates
Square backplates

ZS project sets for fire and smoke check doors

OGRO project set to DIN 18273; for fire and smoke check doors; 5 year guarantee; stabilising bushing in maintenance-free OGRO plain steel bearing with spring clip system for snap-action, secure insertion of the lever handles; remains permanently in the mounted position; minimal rattle due to flexibly located OGRO adapter ring; metal backplates with supporting steel lugs and permanently secure fixings concealed on both sides.

OGRO lever handle ZS 8 ... FS

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

Aluminium
Colour F _____
F1 Silver (natural)
F2 Champagne
F3 Gold
F4 Bronze
F5 Dark bronze

Type of set:
Standard set
(lever handles both sides)
Mixed set
(external knob fixed dead, internal lever handle)

Accessories:
Roses and escutcheons
Short backplates
Long backplates
Square backplates

ZS project sets for narrow-stile doors (metal-framed doors)

OGRO door handle sets for narrow-stile doors; 5 year guarantee; stabilising bushing in maintenance-free OGRO plain steel bearing with spring clip system for snap-action, secure insertion of the lever handles; remains permanently in the mounted position; minimal rattle due to flexibly located OGRO adapter ring; metal roses with or without springing.

OGRO lever handle ZS 8 ...

OGRO lever handle ZS 8 ... FS
for fire and smoke check doors

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

Aluminium
Colour F _____
F1 Silver (natural)
F2 Champagne
F3 Gold
F4 Bronze
F5 Dark bronze

Type of set:
Standard set
(lever handles both sides)
Mixed set
(external knob fixed dead, internal lever handle)

ZK sets for residential applications

OGRO residential door handle sets to DIN 18255; stabilising bushing in maintenance-free OGRO plain plastic bearing with circlip fixing for snap-action, secure insertion of the lever handles; plastic backplates with supporting lugs and fixings concealed on both sides

OGRO lever handle model ZS 8 ...
with ZK roses or ZK backplates

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

Aluminium
Colour F _____
F1 Silver (natural)
F2 Champagne
F3 Gold
F4 Bronze
F5 Dark bronze

Type of set:
Standard set
(lever handles both sides)
Mixed set
(external knob fixed dead, internal lever handle)

Accessories:
Roses and escutcheons
Short backplates
Long backplates

Pull handles

OGRO pull handles as flexible socket-connected (female) parts; comprehensive range of fixing accessories for one-sided or back-to-back mounting on all types of door; surface finish coordinated to that of the lever handles.

OGRO pull handle model TG 9 ...
with fixing type TG 2 ...

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

Aluminium
Colour F _____
F1 Silver (natural)
F2 Champagne
F3 Gold
F4 Bronze
F5 Dark bronze

Window handles

OGRO window handles, securely bushed with stable pin/circlip connection; with choice of oval or rectangular rose; with concealed fixings; with 10 mm support lugs (also available with 12 mm lugs and without lugs); with 7 mm square spindle, 30 mm projection; surface finish coordinated to that of the OGRO lever handles.

OGRO window handle FE 4 ...

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

Aluminium
Colour F _____
F1 Silver (natural)
F2 Champagne
F3 Gold
F4 Bronze
F5 Dark bronze

Rose:
SO (oval)
SU (rectangular)

Hinges BA-X and BA-N

OGRO hinges with high-performance ball bearings (also for fire doors) or plastic axial bearings, both giving high load capacities; surface finish coordinated with that of the OGRO lever handles; all project hinges offer infinite 3D adjustability on appropriate mountings (by others); additional stabilisation with optional support lugs.

Stainless steel
Satin finish (matt-brushed)
Mirror-polished

For steel, timber or aluminium frames with VX mounting element:
OGRO hinge BA-X 1 ...

For steel frames with VN mounting element or V welding pocket, and also for timber doors:
OGRO hinge BA-N 1 ...

Mortise locks

Narrow-stile locks

Page 176

771 DORMA internal door lock
With rotating latch head, non-handed.
Technical specifications to DIN 18251-1, Class 3 (2);
EN 12209 in preparation.
Sealed, zinc-plated lock case, latch and bolt nickel-plated.
Bolt projection, double-throw, 20 mm (bathroom/WC 10 mm),
8 mm square steel follower mounted in drawn steel bushes.
Forend finish: Satin-brushed stainless steel
Backset 55 mm
Lock type
( ) Europrofile cylinder, with night latch, 72 mm centres (771)
( ) Warded lever, no night latch, 72 mm centres, with one key, nickel-plated (773)
( ) Bathroom/WC, 78 mm centres, 8 mm bathroom follower (775)
Forend width
( ) 20 mm ( ) 24 mm
Forend design
( ) Radiused ( ) Square ends

771

Page 177

752-F DORMA mortise lock with latch and bolt of steel
For project doors, with rotating latch head, non-handed.
Technical specifications to DIN 18251-1, Class 3;
EN 12209 in preparation.
Sealed, zinc-plated lock case,
latch and bolt of steel, nickel-plated.
Bolt projection, double-throw, 20 mm; 8 mm square steel follower mounted in drawn steel bushes.
Forend finish: Satin-brushed stainless steel
Backset 55 mm
Lock type: Europrofile cylinder with night latch
Forend width
( ) 20 mm ( ) 24 mm
Forend design
752-F ( ) Radiused ( ) Square ends

Page 178

151 DORMA project lock
For project doors, with rotating latch head, non-handed.
Technical specifications to DIN 18251-1, Class 3 (2);
EN 12209 in preparation.
Sealed, zinc-plated lock case, latch and bolt nickel-plated.
Bolt projection, double-throw, 20 mm (bathroom/WC 10 mm);
special bronze-bushed self-adjusting 8 mm square clamp follower
Forend finish: Satin-brushed stainless steel
Lock type
( ) Europrofile cylinder with night latch, 72 mm centres (151)
( ) Warded lever, without night latch, 72 mm centres, with one key, nickel-plated (161)
( ) Bathroom/WC, 78 mm centres, 8 mm bathroom follower (191)
Backset
( ) 55 mm ( ) 60 mm ( ) 65 mm
Forend width
( ) 20 mm ( ) 24 mm
Forend design
151 ( ) Radiused ( ) Square ends

Page 179

115 DORMA project latch lock
For project doors, with rotating latch head, non-handed.
Technical specifications to DIN 18251-1, Class 3;
EN 12209 in preparation
Sealed, zinc-plated lock case, latch nickel-plated.
Special bronze-bushed, self-adjusting 8 mm square clamp follower
Forend finish: Satin-brushed stainless steel
Lock type
( ) Europrofile cylinder without night latch (115)
( ) Europrofile cylinder with night latch, 72 mm centres (116)
Backset
( ) 55 mm ( ) 60 mm ( ) 65 mm
Forend width
( ) 20 mm ( ) 24 mm
Forend design
115 ( ) Radiused ( ) Square ends

Page 180

132 DORMA project lock
For project doors, non-handed. Technical specifications to DIN 18251-1, Class 3;
EN 12209 in preparation.
Sealed, zinc-plated lock case, bolt nickel-plated.
Bolt projection, double-throw, 20 mm
Forend finish: Satin-brushed stainless steel
Lock type: Europrofile cylinder
Backset
( ) 55 mm ( ) 60 mm ( ) 65 mm
Forend width
( ) 20 mm ( ) 24 mm
Forend design
( ) Radiused ( ) Square ends

132

Page 181

180 DORMA locks for fire and smoke check doors
RH or LH handed.
Specifications to DIN 18250; EN 12209 in preparation.
Sealed, zinc-plated lock case, latch and bolt of steel, nickel-plated.
Bolt projection, double-throw, 22 mm; 9 mm square steel follower.
Forend finish: Satin-brushed stainless steel
Lock type
( ) Europrofile cylinder with night latch, 72 mm centres (180)
( ) Europrofile cylinder with emergency escape latch function, 72 mm centres (181), CE EN 179
( ) Europrofile cylinder with permanent emergency exit release function (split follower); escape function in the door outward opening direction, 72 mm centres (182), CE EN 179
Backset
( ) 55 mm ( ) 65 mm ( ) 100 mm
Forend width
( ) 20 mm radiused ( ) 24 mm radiused
Door handing
( ) RH/ISO 5 ( ) LH/ISO 6

180

Page 182

952.0 DORMA narrow-stile lock with latch and bolt
For narrow-stile internal and entrance doors, with rotating latch head, non-handed.
Specifications to DIN 18251-2, Class 3; EN 12209 in preparation.
Sealed, zinc-plated lock case, latch and bolt nickel-plated.
Bolt with anti-saw protection.
Bolt projection, single-throw, 20 mm; 8 mm square follower.
Forend design: Satin-brushed stainless steel, 24 mm, square ends
Lock type: Europrofile cylinder with night latch, 92 mm centres
Backset
( ) 25 mm ( ) 30 mm ( ) 35 mm
( ) 40 mm ( ) 45 mm

952.0

Page 183

985.0 DORMA narrow-stile lock with roller catch and bolt
For narrow-stile internal and entrance doors, with adjustable roller catch.
Technical specifications to DIN 18251-2, Class 3; EN 12209 in preparation.
Sealed, zinc-plated lock case, roller catch and bolt nickel-plated.
Bolt with anti-saw protection.
Bolt projection, single-throw, 20 mm
Forend design: Satin-brushed stainless steel, 24 mm, square ends
Lock type: Europrofile cylinder (92 mm centres)
Backset
( ) 25 mm ( ) 30 mm ( ) 35 mm
( ) 40 mm ( ) 45 mm

985.0

Page 184

917.0 DORMA narrow-stile deadlock
For narrow-stile internal and entrance doors, non-handed.
Specifications to DIN 18251-2, Class 3; EN 12209 in preparation.
Sealed, zinc-plated lock case, bolt nickel-plated.
Bolt with anti-saw protection.
Bolt projection, single-throw, 20 mm
Forend design: Satin-brushed stainless steel, 24 mm, square ends
Lock type: Europrofile cylinder
Backset
( ) 25 mm ( ) 30 mm ( ) 35 mm
( ) 40 mm ( ) 45 mm

917.0

Page 185

936.0 DORMA narrow-stile latch lock
For narrow-stile internal and entrance doors, with rotating latch head, non-handed.
Specifications to DIN 18251-2, Class 3; EN 12209 in preparation.
Sealed, zinc-plated lock case, latch nickel-plated with 8 mm square follower.
Forend design: Satin-brushed stainless steel, 24 mm, square ends
Backset
( ) 25 mm ( ) 30 mm ( ) 35 mm
( ) 40 mm ( ) 45 mm

936.0

Specification texts for the DORMA Panic Hardware system

Page 192/193

PHA200F/single

PHA 2000 F – single-leaf
DORMA PHA 2000 F, "Pushbar" panic exit device for single-leaf doors, to EN 1125, with modular 1, 2 or 3-point locking. Latch and keeper of steel, with safety override. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door widths up to 1300 mm and door heights up to 2270 mm. Electrical unlocking by electric strike possible; optional microswitch system. PHA 2000 F suitable for combination with DORMA PHT 3900 external fitting. Approved for use on DIN fire and smoke check doors (Germany only). Other approvals on request.
Colour:
( ) silver ( ) black/red

Page 192/193

PHA200F/double

PHA 2000 F – double-leaf
DORMA PHA 2000 F, "Pushbar" panic exit device for double-leaf doors, to EN 1125. Combination of 1 and 2-point or 2 and 2-point locking, modular, for flush-closing and over-rebated doors. Latch and keeper of steel, with safety override. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door widths up to 1300 mm and door heights up to 2270 mm. Electrical unlocking by electric strike possible; optional microswitch system. PHA 2000 F suitable for combination with DORMA PHT 3900 external fitting. Approved for use on DIN fire and smoke check doors (Germany only). Other approvals on request.
Colour:
( ) silver ( ) black/red

Page 192/193

PHA2000/single

PHA 2000 – single-leaf
DORMA PHA 2000, "Pushbar" panic exit device for single-leaf doors, to EN 1125, with modular 1, 2 or 3-point locking; 2-point locking as standard. Latch of zinc pressure diecasting and keeper of zinc, with dogging device. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door widths up to 1300 mm and door heights up to 3400 mm. Electrical unlocking by electric strike possible; optional microswitch system. PHA 2000 suitable for combination with DORMA PHT 3900 external fitting.
Colour:
( ) silver ( ) black/red

Page 192/193

PHA2000/double

PHA 2000 – double-leaf
DORMA PHA 2000 F, "Pushbar" panic exit device for double-leaf doors, to EN 1125. Combination of 1 and 2-point or 2 and 2-point locking, modular or standard, for flush-closing and over-rebated doors. Latch of zinc pressure diecasting and keeper of zinc, with dogging device. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door widths up to 1300 mm and door heights up to 3400 mm. Electrical unlocking by electric strike possible; optional microswitch system. PHA 2000 suitable for combination with DORMA PHT 3900 external fitting.
Colour:
( ) silver ( ) black/red

Page 192/193

PHA

Microswitch PHA
DORMA microswitch PHA for actuation of visual or audible signals. Contact rating: max. 48 V DC, max. 3 A. Suitable for use with the PHA 2000 components PHA 2101, 2102, 2201.

Page 192/193

PHB 3000 F – single-leaf
DORMA PHA 3000 F, "Touchbar" panic exit device for single-leaf doors, to EN 1125, with modular 1, 2 or 3-point locking. Latch and keeper of steel, with safety override. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door widths up to 1300 mm and door heights up to 2265 mm. Electrical unlocking by electric strike possible; optional microswitch system. PHB 3000 F suitable for combination with DORMA PHT 3900 external fitting. Approved for use on DIN fire and smoke check doors (Germany only). Other approvals on request.
Colour:

PHB3000F/single

( ) silver ( ) black/red

Page 192/193

PHB 3000 F – double-leaf
DORMA PHB 3000 F, "Touchbar" panic exit device for double-leaf doors, to EN 1125. Combination of 1 and 2-point or 2 and 2-point locking, modular, for flush-closing and over-rebated doors. Latch and keeper of steel, with safety override. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door widths up to 1300 mm and door heights up to 2265 mm. Electrical unlocking by electric strike possible; optional microswitch system. PHB 3000 F suitable for combination with DORMA PHT 3900 external fitting. Approved for use on DIN fire and smoke check doors (Germany only). Other approvals on request.
Colour:

PHB3000F/double

( ) silver ( ) black/red

Page 192/193

PHB 3000 – single-leaf
DORMA PHB 3000, "Touchbar" panic exit device for single-leaf doors, to EN 1125, with modular 1, 2 or 3-point locking; 1-point locking as standard. Latch and keeper of steel, with safety override and dogging device. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door widths up to 1300 mm and door heights up to 3200 mm. Electrical unlocking by electric strike possible; optional microswitch system. PHB 3000 suitable for combination with DORMA PHT 3900 external fitting.
Colour:

PHB3000/single

( ) silver ( ) black/red

Page 192/193

PHB 3000 – double-leaf
DORMA PHB 3000, "Touchbar" panic exit device for double-leaf doors, to EN 1125. Combination of 1 and 2-point or 2 and 2-point locking, modular or standard, for flush-closing and over-rebated doors. Latch and keeper of steel, with safety override and dogging device. Non-handed (i.e. suitable for ISO 5 and ISO 6 doors). For door widths up to 1300 mm and door heights up to 3400 mm. Electrical unlocking by electric strike possible; optional microswitch system. PHB 3000 suitable for combination with DORMA PHT 3900 external fitting.
Colour:

PHB3000/double

( ) silver ( ) black/red

Page 192/193

Microswitch PHB
DORMA microswitch PHB for actuation of visual or audible signals. Contact rating: max. 48 V DC, max. 3 A. Suitable for use with the PHB 3000 components PHB 3101, 3102, 3103, 3104, 3105.

PHB

Page 195 PHT3901	**PHT 3901** External fitting with OGRO bespoke lever handle, for standard doors. With spindle for door leaf thicknesses up to 60 mm (105 mm option). pierced and prepared for Europrofile half cylinder.
PHT3903	**PHT 3903** External fitting with OGRO bespoke lever handle, for standard doors. With spindle for door leaf thicknesses up to 60 mm. (105 mm option), non-lockable.
PHT3905F	**PHT 3905 F** External fitting with OGRO bespoke lever handle, for fire and smoke check doors. With spindle for door leaf thicknesses up to 60 mm (105 mm option), pierced and prepared for Europrofile half cylinder.
PHT3902	**PHT 3902** External fitting with knob, for standard doors. With spindle for door leaf thicknesses up to 60 mm (105 mm option), pierced and prepared for Europrofile half cylinder.
PHT3904	**PHT 3904** External fitting with knob, for standard doors. With spindle for door leaf thicknesses up to 60 mm (105 mm option), non-lockable.

DORMA

Door Control division worldwide

Central Europe
DORMA GmbH + Co. KG
Breckerfelder Str. 42–48
D-58256 Ennepetal
Phone +49 2333 793-0
Fax +49 2333 793-495

Australia
DORMA Door Controls Pty. Ltd.
52 Abbott Road
Hallam/Victoria 3803
Australia
Phone +61 3 97963555
Fax +61 3 97963955

Emerging Markets
DORMA GmbH + Co. KG
Breckerfelder Str. 42–48
D-58256 Ennepetal
Phone +49 2333 793-0
Fax +49 2333 793-495

Far East
DORMA Door Controls Pte. Ltd.
No. 2 Jalan Terusan,
Jurong
Singapore 619285
Phone +65 6268 7633
Fax +65 6265 7914

France
DORMA France S.A.S.
Europarc
42, rue Eugène Dupuis
F-94046 Créteil
Phone +33 1 41942400
Fax +33 1 41942401

Gulf
DORMA Gulf Door Controls FZE
Jebel Ali Free Zone,
Roundabout 8,
Unit VC 02
Dubai, United Arab Emirates
Phone +971 48 839014
Fax +971 48 839015

North America
DORMA Architectural Hardware
DORMA Drive, Drawer AC
Reamstown, PA 17567
Phone +1 800 523 8483
Fax +1 800 274 9724

Scanbalt
DORMA Danmark A/S
Sindalvej 6–8
DK-2610 Rødovre
Phone +45 44 543000
Fax +45 44 949504

South Africa
DORMA Door Controls (Pty.) Ltd.
Kings Court, 4A Mineral Crescent
ZA-2000 Crown/Gauteng
Johannesburg
Phone +27 11 8300280
Fax +27 11 8300291

South America
DORMA Sistemas de Controles
para Portas Ltda.
Av. Piracema, 1400
Centro Empresarial Tambore
CEP 06400 Barueri/
São Paulo, Brasil
Phone +55 11 41913244
Fax +55 11 41912193

South-East Europe
DORMA AUSTRIA GmbH
Pebering Strass 22
A-5301 Eugendorf
Phone +43 6225 28488
Fax +43 6225 28491

South Europe
DORMA Italiana S.r.l.
Via. A. Canova 44/46
I-20035 Lissone (MI)
Phone +39 039 244031
Fax +39 039 24403310

DORMA Ibérica, S.A.
Camino San Martin de la Vega, 4
E-28500 Arganda del Rey (Madrid)
Phone +34 91 8757850
Fax +34 91 8757881

UK/Ireland
DORMA UK Ltd.
Door Controls Division
Wilbury Way
GB-Hitchin
Hertfordshire SG4 0AB
Phone +44 1462 477600
Fax +44 1462 477601

WN 052 395 51532, GB, 14, IPF, 07/04

4 021226 289822

www.dorma.com

DORMA Door Control

DORMA

Door Control