



Swing Door Operator

DORMA ED 200

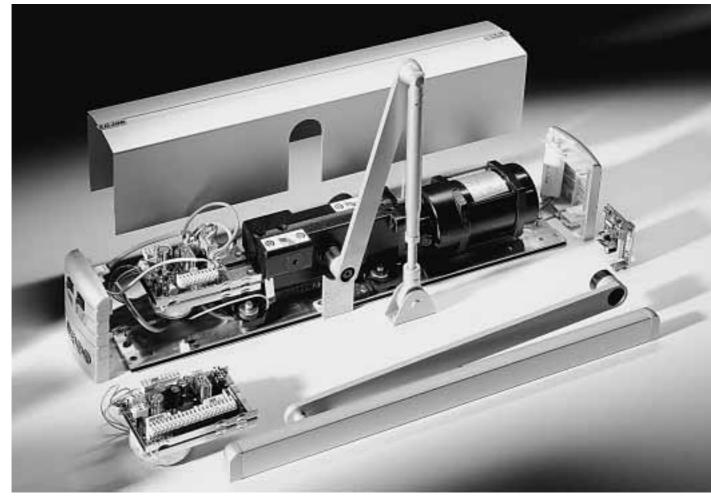
Universal application, simple installation, reliable function

As a powerful automatic electro-hydraulic swing door operator, the DORMA ED 200 is suitable for standard and for large and heavy doors. It can be adapted to a wide range of applications and mounting requirements and offers numerous adjustable features. When the permanent open function is activated, the door is held open by a solenoid valve in a way which ensures absolute stability and operational silence. The Softline cover can be extended to the full door width providing an optical elegant solution. The DORMA ED 200 - available up to size EN 7 - is also suitable for fire and smoke doors, even with its permanent open function.

Double-leaf doors may also be equipped with an integrated door coordinator (ED 200 ESR) which, when viewed from the outside, is concealed behind the cover. It can also be installed in emergency exits and escape routes. It can likewise be combined with access control systems.









Features and benefits

- Two variants (EN 4–6, EN 7), to suit all applications
- One variant for both door directions and mounting positions (hinge (pull) side/opposite hinge (push) side)
- Quick and easy mounting thanks to two auxiliary screws and plugconnected cabling
- Reliable function even in the case of heavy-use doors and entrances exposed to various weather conditions. Optimum adaptability to individual requirements – e.g. in hospitals, homes for the elderly, facilities for the disabled, restaurants, security areas and laboratories.
- Numerous control options
- Integrated door coordinator for double-leaf doors
- Operator available either with control board A or B





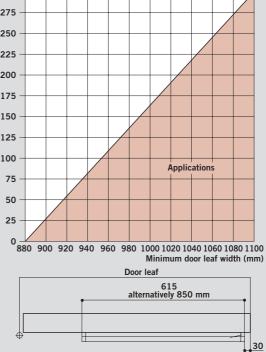
Applications	Applications ED 200 mounted on hinge (pull)		
Single- and double-leaf standard o	loors	Lintel depth (mm)	
Single- and double-leaf fire and si		280	
(only with standard arm)		275	+
Opening width for single-leaf door	s (Door leaf width) ¹⁾	250	_
Operator variant EN 4-6			
with standard arm	590 mm to 1400 mm	225	
with slide channel (mounting		200	
on the hinge [pull] side)	880 mm to 1400 mm ²⁾	175	1
with slide channel (mounting on		150	
the opposite hinge [push] side)	800 mm to 1400 mm		
with parallel arm	680 mm to 1400 mm	125	
Operator variant EN 7		100	Appli
with standard arm	750 mm to 1600 mm	75	Appli
with slide channel (mounting		50	
on the hinge [pull] side)	880 mm to 1600 mm ¹⁾		
with slide channel (mounting on		25	
the opposite hinge [push] side)	800 mm to 1600 mm	0 880 900 920 940 960 980 1000 1	020.1
with parallel arm 680 mm to 1600 mm			num d
Opening width for double-leaf doo	rs ²⁾	Door leaf	
(for applications with symmetric d	oor leaf widths)	alternativ	515 ely 85
Operator variant EN 4-6			
with standard arm	1284 mm to 2800 mm		
with slide channel (mounting		\	
on the hinge [pull] side)	1750 mm to 2800 mm ¹⁾		
with slide channel (mounting on		Technical data of the drive unit	
the opposite hinge [push] side)	1600 mm to 2800 mm]	
with parallel arm	1360 mm to 2800 mm	 Closing force (2 operator types) 	
Operator variant EN 7			
with standard arm	1284 mm to 3200 mm	Dimensions Height	
with slide channel (mounting		Depth	
on the hinge [pull] side)	1750 mm to 3200 mm ¹⁾	Width	
with slide channel (mounting on		Continuous/extended cover for single-	
the opposite hinge [push] side)	1600 mm to 3200 mm	and double-leaf door operators	
with parallel arm	1360 mm to 2800 mm	Weight per operator	
Door leaf weight, max.	250 kg	One operator variant for mounting	
Lintel depth	-	on the hinge (pull) and opposite	
with standard arm	-40 mm to 500 mm	hinge (push) side, and LH (ISO 6)	
with slide channel (mounting		and RH (ISO 5) doors	
on the hinge [pull] side) $-20 \text{ mm to } 280 \text{ mm}^2$		Power consumption, max.	
with slide channel (mounting on		Supply voltage	
the opposite hinge (push) side)		Power supply for external	
with parallel arm	-40 mm to 160 mm	accessories	
1) Door widths beyond the above-	L	with control board A	8

1) Door widths beyond the above-mentioned ranges on demand!

2) Attention! Please consider the minimum door leaf width according to the above diagram. Additionally a special slide channel or a mounting

position different from the drawings in this brochure could be required. Special solutions on demand!

side with slide channel

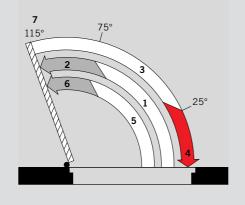


Technical data of the drive unit	
Closing force (2 operator types)	EN 4 – 6 (adjustable)
	EN 7 (fixed)
Dimensions Height	106 mm
Depth	133 mm
Width	665 mm
Continuous/extended cover for single-	
and double-leaf door operators	0
Weight per operator	18 kg
One operator variant for mounting	
on the hinge (pull) and opposite	
hinge (push) side, and LH (ISO 6)	
and RH (ISO 5) doors	•
Power consumption, max.	250 W
Supply voltage	230 V, 50/60 Hz
Power supply for external	
accessories	
with control board A	800 mA at 12 V AC;
	400 mA at 12-24 V DC
with control board B	1500 mm at 12 V AC;
	800 mA at 12-24 V DC
Stabilized power supply	
(e.g. for smoke detectors)	
with control board A	-
with control board B	100 mA at 24 V DC
Class of protection	IP 20
TÜV type-approved	•
Compliant with the Low Voltage	
Directive and the EMC Directive	•
Manufactured to ISO 9000	•



Adjustable parameters of the driving phase	
Opening angle, max.	
with standard arm	115°
with slide channel	
(mounting on the hinge [pull] side)	90°
with slide channel (mounting on the	
opposite hinge [push] side)	90°
with parallel arm	90°
Adjustable opening time	≥ 1,5 s
Adjustable closing time	≥ 3 s
Adjustable hold open time	0 s – 30 s
Adjustable backcheck	•
Adjustable delayed action	•
Adjustable wall blanking for safety sensors	•

Functions and adjustment possibilities



- **1** Adjustable opening speed
- **2** Adjustable backcheck
- 1 + 2 Adjustable opening time
- **3** Adjustable closing speed
- 4 Adjustable delayed action
- **3 + 4** Adjustable closing time
- **5** Easy manual operation with bypass valve
- 6 Backcheck range for manual operation
- **7** Adjustable opening angle, adjustable hold open time

*With control board B and without Push&Go modul: The integrated standard Push&Go function only activates the door when it is closed!

	Operator A	Operator B
Off	•	•
Automatic	•	•
Permanent open	•	•
Exit only	-	•
Nurse-bed-function for double-leaf doors (only in combination with special module SM 206)	•	•
Special functions		
Airlock function (only in combi- nation with door reed contact TK)	•	•
Timed airlock function (only in combination with special module SM 208 and door reed contact TK)	•	•
Night-/bank function	_	•
Push&Go function (only in com- bination with Push&Go module)	•	•*
Flip-flop-function (only in com- bination with special module SM 202)	•	•
Door closer function under cut-out conditions	•	•

Prepared for connection of the following access	ories
Standard arm, slide channel, parallel arm	•
DORMA IRS-2-33/70/90/120 infrared safety	
sensors (mounting on the hinge [pull] and	
opposite hinge [push] side)	۲
Door locking device	٠
Electric strikes (fail-safe/fail-secure principle)	٠
DORMA SVP emergency exit motor lock	
with self-locking action	٠
Access control system (DORMA AutoSwitch)	٠
Module for connection to EIB building	
control system	۲
Activators	
(Pushbutton, Radar movement detector)	•
Radio remote control	٠
External program switch (integrated 3-position	
program switch as standard)	•
Smoke detectors also with integrated power pack	
In a such in a time with a suctor the sound A	

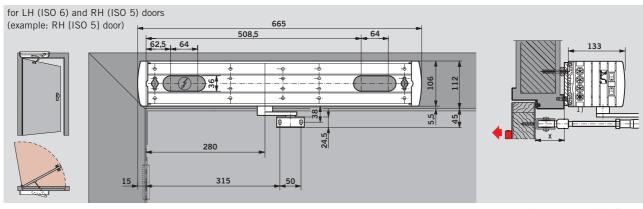
In combination with control board A

1 x lintel-mounted RMZ 2 when bottom edge of lintel to bottom edge of smoke-sealed ceiling < 1 m In addition: 2 x ceiling-mounted RM or RM-S when bottom edge of lintel to bottom edge of smoke-sealed ceiling > 1 m

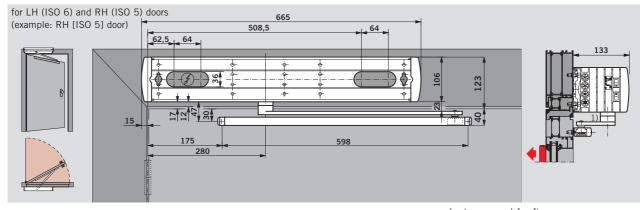
In combination with control board B

1 x lintel-mounted RM-ED or RM when bottom edge of lintel to bottom edge of smoke-sealed ceiling < 1 m In addition: 2 x ceiling-mounted RM or RM-S when bottom edge of lintel to bottom edge of smoke-sealed ceiling > 1 m

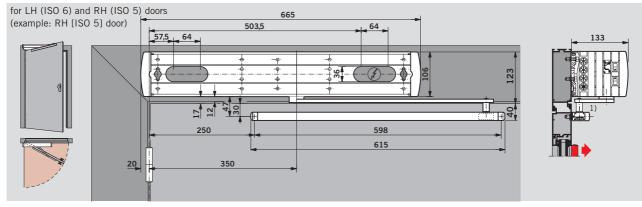
Mounting on the opposite hinge (push) side with standard arm



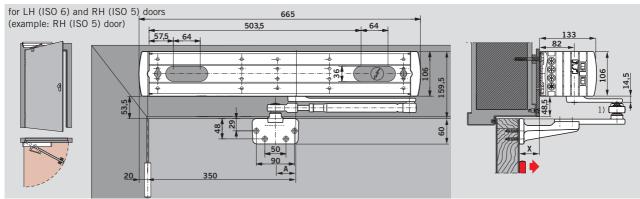
Mounting on the opposite hinge (push) side with slide channel (not approved for fire and smoke doors) (not approved for fire and smoke doors)



Mounting on the hinge (pull) side with slide channel (not approved for fire and smoke doors) (not approved for fire and smoke doors)



Mounting on the hinge (pull) side with parallel arm

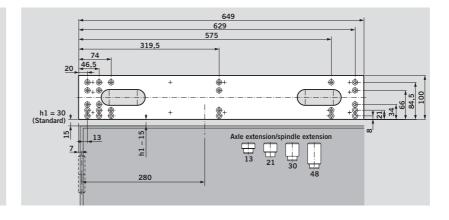




Mounting plates

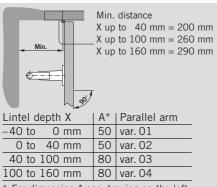
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	4		629 575		-
	•	319,5	5/5		
	74	515,5			
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(Standard) 2 8	13	12,5	Axle ext	ension/spindle extension	m
Ζ,		280			
				30	

Lintel depth X	Standard arm	
-40 to 120 mm	var. 01	
80 to 240 mm	var. 02	
240 to 360 mm	var. 03	
360 to 500 mm	var. 04*	
 ¹⁾optional axle extension (see page 17) * maximum axle extension : 48 mm, maximum closing force: EN 6 maximum door leaf weight: 120 kg 		

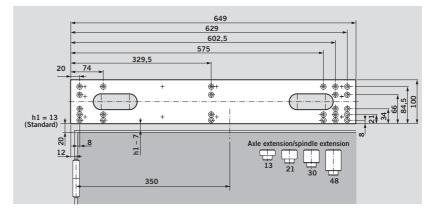


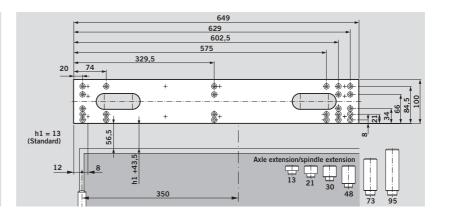
Lintel depth: 0 mm ¹⁾ optional axle extension (see page 17)

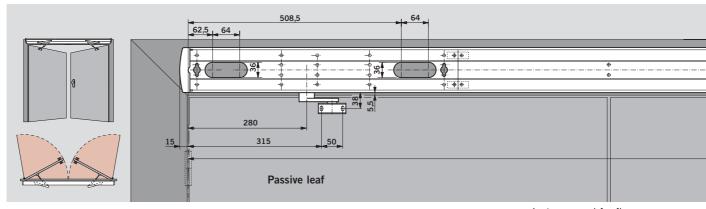
Lintel depth: - 20 mm to 280 mm (Attention! Please consider the minimum door leaf width according to the diagram on page 4) ¹⁾ optional axle extension (see page 17)



* For dimension A see drawing on the left

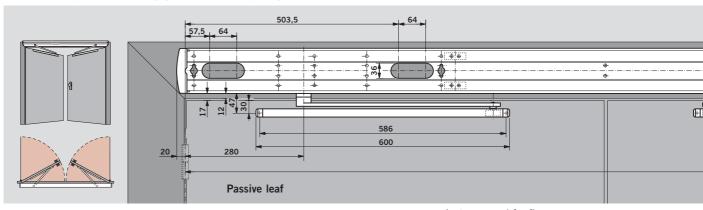




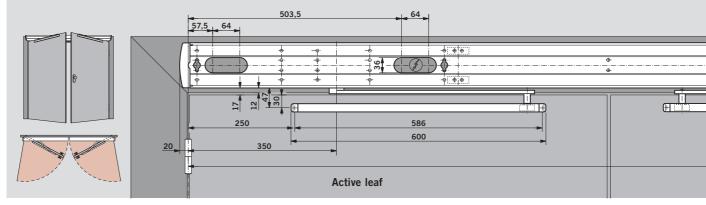


Mounting on the opposite hinge (push) side with standard arm

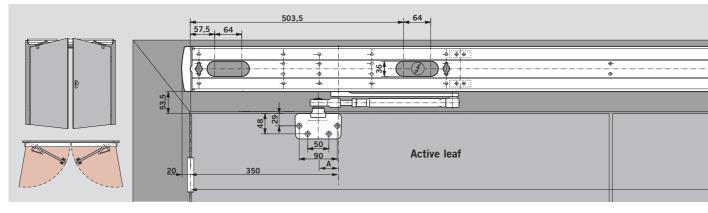
Mounting on the opposite hinge (push) side with slide channel (not approved for fire and smoke doors) (not approved for fire and smoke doors)



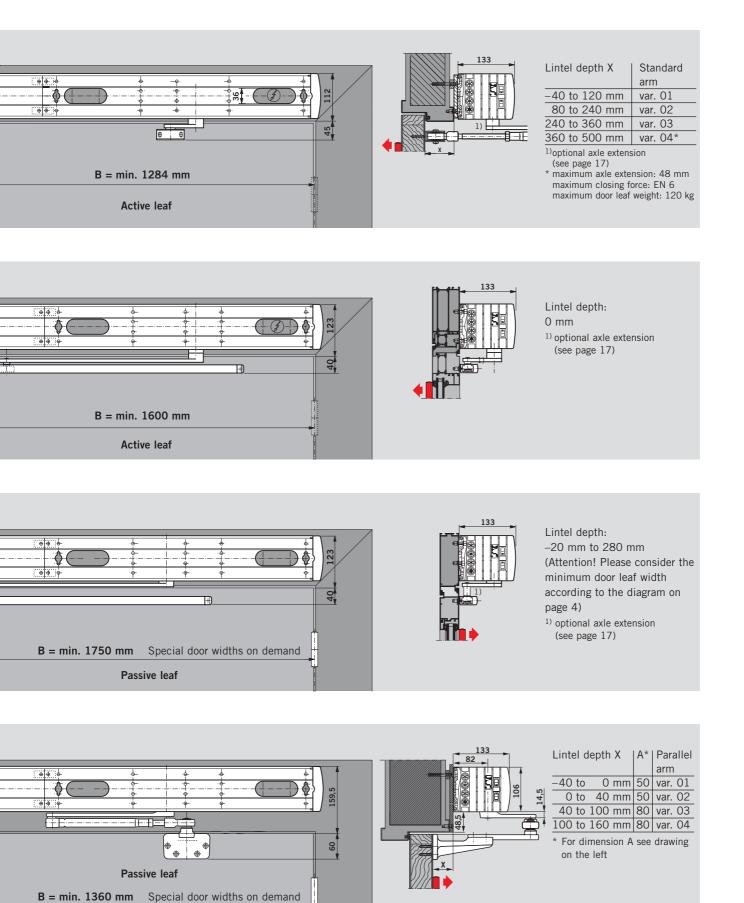
Mounting on the hinge (pull) side with slide channel (not approved for fire and smoke doors)

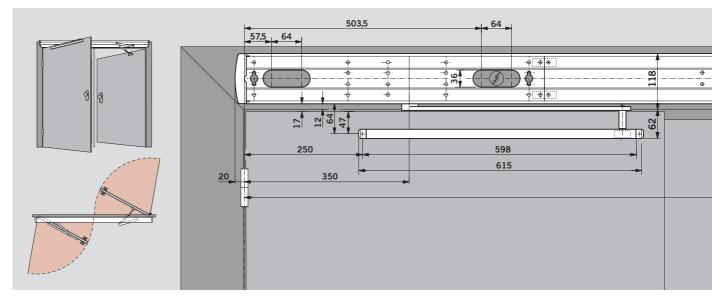


Mounting on the hinge (pull) side with parallel arm







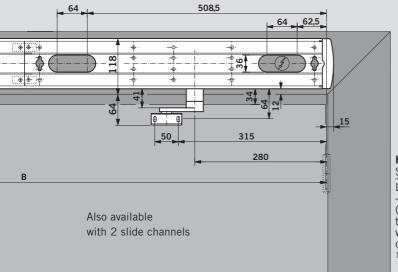


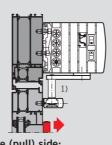
Mounting on the hinge (pull) and opposite hinge (push) side (not approved for fire and smoke doors)

The decisive advantage of the double-door "contraflow traffic" lies in the fact that each door leaf controls just one direction, so separating the ingress and egress flows as users enter or leave the building or area. There is also the advantage that passage through the doors takes place immediately because they always open in the walking direction. This application is therefore especially suitable for doors in which there is a constant or occasionally heavy flow of users like the entrances to department stores, leisure facilities and administration buildings, but also for the kitchen entrances of large restaurants and hotels. The two swing door operators operate individually: The drive unit of each operator controls all the parameters, such as opening, closing and hold open times, and also the functions triggered by the safety sensors.

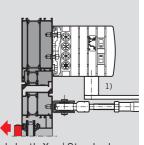








Hinge (pull) side: Slide channel, pulling Lintel depth: -20 mm to 280 mm (Attention! Please consider the minimum door leaf width according to the diagram on page 4) ¹⁾ optional axle extension (see page 17)

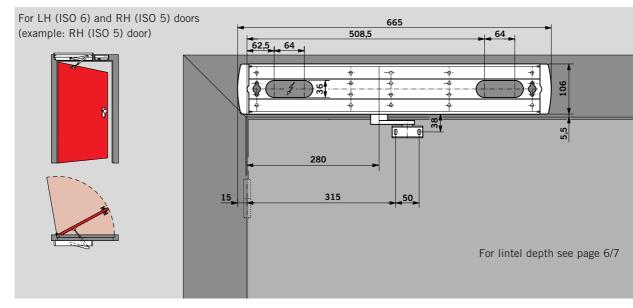


Lintel depth X Standard arm -40 to 120 mm var. 01 80 to 240 mm var. 02 240 to 360 mm var. 03 360 to 500 mm var. 04* ¹⁾optional axle extension (see page 17) * maximum axle extension: 48 mm maximum closing force: EN maximum door leaf weight: 120 kg



Mounting on the opposite hinge (push) side with standard arm

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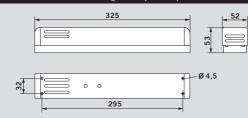
In the case of fire and smoke doors, the ED 200 is always fixed on the opposite hinge (push) side with a standard arm. Such systems are referred to as hold open systems. Compliant with the German guidelines governing hold open systems issued by the German Institute for Civil Engineering DIBt (Berlin), hold open systems must always consist of the 4 following components:

- 1. Activator (complied with by RMZ 2, RM-ED,
- RM or RM-S) 2. Pushbutton (with "Tür schließen" wording)
- 3. Power supply and
- 4.Hold open system
- (3. and 4. complied with by ED 200 or RMZ 2).

The ED 200 is approved for the automation of fire and smoke doors both with control board A and board B. In contrast to control board B, which itself secures the stabilized power supply of the smoke detectors, control board A must be equipped with a smoke detector with integrated power pack (RMZ 2) in order to secure the stabilized power supply. Please refer to the chart on page 5 for all possible combinations of operators and

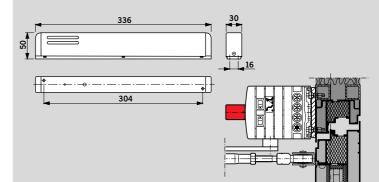
DORMA smoke detectors. The connection of smoke detectors, supplied by others, is also possible. The number of smoke detectors normally depends on the distance between the bottom edge of the lintel and the bottom edge of the smoke-sealed ceiling. Please see page 13 for number and positioning of smoke detectors. Depending on requirements, individual or several electric strikes can be connected which must operate in accordance with the fail-secure principle. In addition, it must be ensured that they are installed in the correct (approved) position. For all components of this system, including the electric strikes, approvals must be obtained in accordance with the German Institute for Civil Engineering (DIBt).

Smoke detector with integrated power pack DORMA RMZ 2



The DORMA RMZ 2 smoke detector consists of an optical smoke detector for lintel mounting and an integrated stabilized power pack. The equipment includes connections for other smoke detectors (DORMA RM, RM-S), a floating changeover contact, a connection for a manual release device and an operating status indicator. The RMZ 2 must not be mounted on the cover of the DORMA ED 200.

Smoke detector DORMA RM-ED



The DORMA RM-ED is an optical smoke detector which is suitable for lintel mounting in combination with the ED 200 control

board B. Due to its low height of 30 mm, the RM-ED can be mounted directly on the operator.



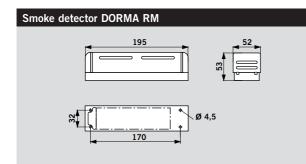
F Approval Certification

The DORMA ED 200 automatic swing door operator is approved in Germany by the MPA (State Material Testing Authority) NRW Dortmund in accordance with DIN 18263, Part 4, and is subject to third-party quality assurance verification. In combination with the DORMA RMZ 2 smoke detector with integrated power pack and DORMA smoke detectors, it is approved by the German Institute for Civil Engineering DIBt (Berlin) for use on single- and doubleleaf fire and smoke doors provided that this is allowed by the approval certificate for the door concerned. The DORMA ED 200 has been tested and approved as hold open system for singleand double-leaf doors in accordance with the German guidelines governing hold open systems.

The DORMA RMZ 2 smoke detector with integrated power pack as well as the smoke detectors DORMA RM-ED, RM and RM-S are approved by the German Institute for Civil Engineering DIBt (Berlin) and are subject to third-party quality assurance verification.

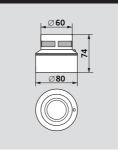
Number and positioning of smoke detectors

1 Lintel-mounted detector 1 Lintel-mounted detector max. 0,1 m NO Does the door width exceed 2 Ceiling-mounted detectors¹² 2 Ceiling-mounted detectors¹⁾ 3,0 m? 0,6 - 2,4 m NO YES 230 V --- [230 V ↔-- 💭 F Does the distance between the bottom edge of the ceiling and the 2 Ceiling-mounted detectors + 1 Lintel-mounted detector¹⁾ 2 Ceiling-mounted detectors + 1 Lintel-mounted detector¹⁾ bottom edge of the lintel exceed 1,0 m on one or on both side/s of the door? 0,6-2,4 m 0,6-2.4 é 0 30 V max. 0,1 m YES ٩ł ¹⁾ For opening widths beyond 4 m further smoke detectors are required

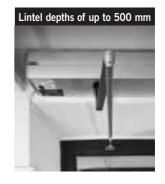


The DORMA RM is a universal optical smoke detector designed both for lintel and ceiling mounting. It is connected to a DORMA RMZ 2 smoke detector with integrated power pack or a DORMA ED 200 swing door operator with control board B. The equipment includes connections for other DORMA RM smoke detectors, a connection for a manual release device and an operating status indicator.

Smoke detector DORMA RM-S



The DORMA RM-S is an optical smoke detector, which is suitable for ceiling mounting in combination with the DORMA ED 200.

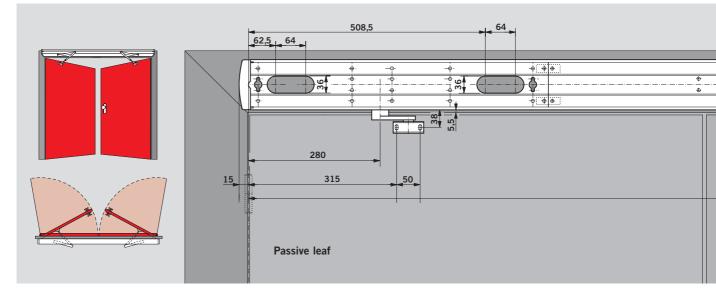


Fire and smoke doors with lintel depths of up to 500 mm may also be equipped with the ED 200 swing door operator, as it is also approved by the German Institute for Civil Engineering DIBt with standard arm variant 04.

Mounting on the opposite hinge (push) side with standard arm

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(Drawing for ED 200 and ED 200 ESR)



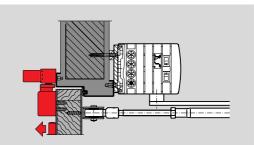
The ED 200 is always mounted on the opposite hinge (push) side of single- and doubleleaf fire and smoke doors with standard arm (see page 12/13). The two operators, which are concealed behind the continuous cover, operate according to the master-slave principle: The active leaf operator controls all the parameters (e.g. hold open time) and also the functions actuated by the safety sensors (IRS-2). Both operators are fed internally by an external power supply. In the event of a fire, the door can be activated by the DORMA RM-ED, RM and RM-S smoke detectors (see page 5, 12/13). The connection of smoke detectors supplied by others is also possible.

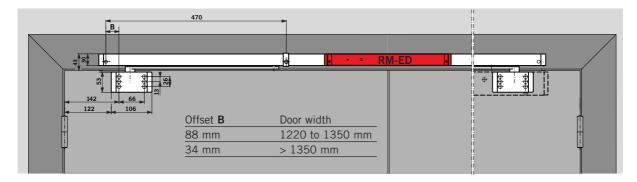
Door coordinator

According to EN 1158, a double-leaf swing door operator must be equipped with a mechanical door coordinator. The purpose of the door coordinator is to ensure that even under cutout conditions the two door leaves close in a correct sequence (passive leaf before active leaf), so producing a tight barrier seal. The DORMA ED 200 can be equipped either with an integrated or an external door coordinator.

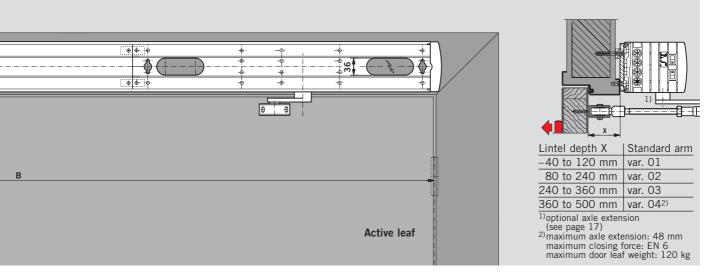
Standard version: ED 200 with external slide channel door coordinator DORMA G 93 GSR

The standard version of the ED 200 swing door operator is equipped with the external slide channel door coordinator G 93 GSR mounted on the hinge (pull) side with two pivot blocks. The RM-ED smoke detector can be mounted directly on the slide channel. As an alternative, the G 93 GSR slide channel door coordinator may also be connected to the ED 200 (active leaf) in connection with a door closer (passive leaf). See page 16 for "Partially automated double-leaf doors".









Comfort version: ED 200 ESR swing door operator with integrated door coordinator

The ED 200 ESR swing door operator with integrated door coordinator combines perfect technical reliability with maximum visual attractiveness.

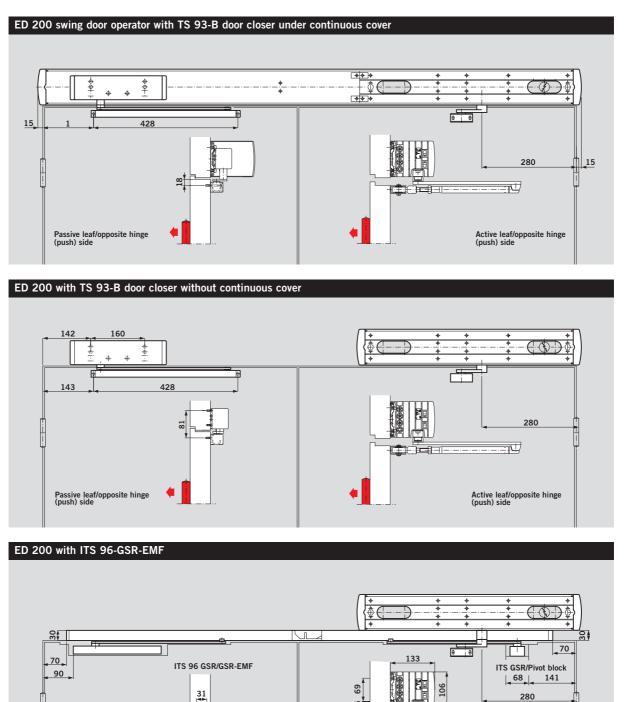
The pre-assembled door coordinator is concealed behind the continuous cover of the double-leaf swing door operator. Therefore no additional slide channels and pivot blocks on the hinge (pull) side are required. In contrast to the standard version, the comfort version ED 200 ESR with integrated door coordinator saves time and money due to the fact that no further mounting of the door coordinator is required.

The ED 200 ESR swing door operator with integrated door coordinator offers perfect functional safety and maximum visual attractiveness with minimum mounting and servicing cost.



Cut-price solutions for double-leaf doors (standard doors; fire and smoke doors)

The ED 200 swing door operator in combination with a door closer is a cut-price solution for double-leaf swing doors where normally only one door leaf, the active door leaf, is used. While the ED 200 swing door operator controls the active leaf, the passive leaf is equipped with a door closer. Depending on requirements, the passive leaf may be opened either manually or by a hold open system. In the case of fire and smoke doors, the external door coordinator ensures that the correct sequence of the closing action remains intact even under cut-out conditions. The complete system must be planned as hold open system (see page 12/13).



Active leaf

Passive leaf



Optional axle extension for variable height increase of ED 200 swing door operators			
with standard arm	Height H mm	D mm	Y mm
ED 200	13 21	6 14	30 38
	30 48	23 41	47 65
	73 95	66 88	90 112
with slide channel			
	13 21 30 48	14 22 31 49	47 55 64 82
with parallel arm	13		53,5
	21 30 48		61,5 70,5 88,5
	73 95		113,5 135,5

DORMA ED 200 for buildings designed for the aged and the disabled

Thanks to its wide range of adjustment and connection possibilities, the DORMA ED 200 swing door operator, with its smooth, highly reliable operation is ideal for the automation of specialpurpose doors. In particular, it can be used to optimise

In order to enter the rest room, the user has to operate the externally positioned pushbutton (3). This releases the electric strike (10) that operates in accordance with the fail-safe principle. The DORMA ED 200 swing door operator (11) then receives an actuating signal and opens the door following a short delay. On expiry of the preset hold open time, the DORMA ED 200 (11) closes the door, which is then locked.

Once inside the restroom, the user switches off the external pushbutton (3) using the switch/pushbutton (7), at the same time switching on the occupied light located on the outside (5). facilities in buildings designed for the aged and the disabled. A typical example is the access to a rest room equipped in accordance with DIN 18 024/25.

The signal lamp (9) inside the rest room also lights up for confirmation purposes. In order to leave the rest room, the switch/pushbutton (7) is first operated. This releases the pushbutton (3) and switches off the occupied lamp (5). The signal lamp (9) inside the rest room also goes out. At the same time, the electric strike (10) is activated and a delayed opening signal is transmitted to the ED 200 (11). In the event of an emergency, the user can operate the emergency switch (8) from the inside in order to deactivate the electric strike (10) so that the door can be activated from the outside. At the same time the audible

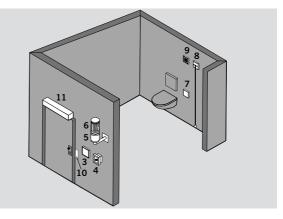


signal transmitter (6) is switched on; further operation of the emergency switch (8) switches it off again. By operating the emergency pushbutton (4) located behind the emergency break glass on the outside, the electric strike (10) can be switched off and the



door can be opened manually. In the event of a power failure, the electric strike (10) is switched off to allow access.

Sensors ensure that the sweep range of the door is effectively protected.



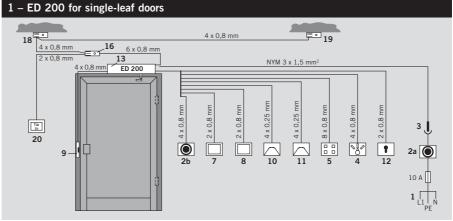
Connections 1 to 3

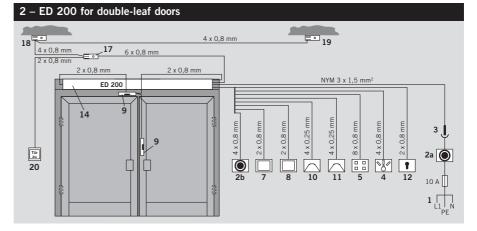
- 1 Feeder
- 2a Emergency pushbutton Function: Emergency off

- 2b Emergency pushbutton Function: Emergency stop
- 3 Two-pole-and-earth socket
- 4 Mechanical PGS external program switch
- 5 Electronic PGS external program switch
- 6 Pushbutton
- 7 Pushbutton, inside
- 8 Pushbutton, outside
- 9 Door locking device
- 10 Radar, inside
- 11 Radar, outside
- 12 Key switch
- 13 ED 200
- 14 ED 200 with continuous cover
- 15 ED 200 for "contraflow traffic"
- 16 With control board A: RMZ-2 smoke detector with integral power pack. With control board B: **RM-ED** smoke detector
- 17 RM-ED smoke detector
- 18 RM smoke detector, opposite hinge (push) side
- 19 RM smoke detector, hinge (pull) side
- 20 Manual release switch, with "Tür schließen" wording

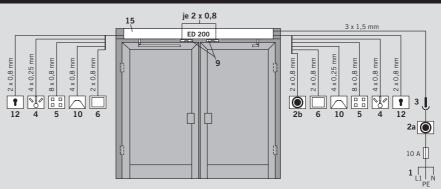
Connections 4

- 1 Feeder: 230 V, 50/60 Hz
- 2 Two-pole-and-earth socket (by others)
- 3 Junction box (by others)
- 4 DORMA ED 200
- 5 Fail-safe lock, 24 V DC
- 6 Alarm siren with signal lamp (red)
- 7 Palm pushbutton with disabled symbol
- 8 Concealed/flush-mounted emergency pushbutton, located behind emergency break glass
- 9 Concealed/flush-mounted signal lamp (red)
- 10 Concealed/flush-mounted palm switch, with "open/locked" wording
- 11 flush-mounted pull switch, for emergency opening
- 12 Auxiliary drive unit, housed in external cover

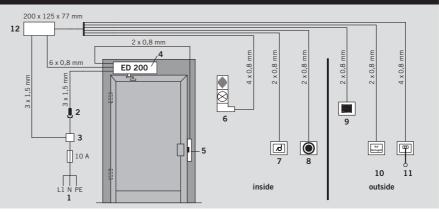




3 - ED 200 for "contraflow traffic"



4 - ED 200 for rest rooms for the disabled





Application of the ED 200 swing door operator in smoke and heat ventilation systems

Smoke and heat ventilation systems are applied in preventing fire protection with the following objectives:

- To evacuate smoke and heat in the event of a fire.
- To keep emergency exits and escape routes free from smoke and gas.
- To create a smoke-free layer and to facilitate fire fighting.
- They can also be used for ventilation purposes (air supply/air withdrawal).
- To open air outlets like windows and dome lights in the event of a fire.
- Automatic and remote activation.
- To supply and to withdraw air.

A smoke and heat ventilation system consists of a smoke outlet, fire detectors, a control unit and an air supply opening. In smoke and heat ventilation systems, the ED 200 is mounted to doors serving as air supply openings. These doors are designed to create a balance between the air inflow and the outflow of gas in the roof area of the building (e. g. windows). The following system solutions are approved as air supply openings:

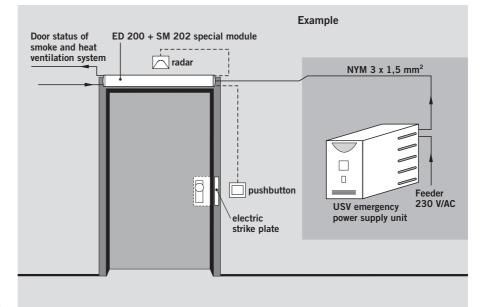
1.ED 200 with USV emergency power supply unit

2.ED 200 Inverse

(see page 20 for "Mechanical opening under cut-out conditions")

ED 200 with USV emergency power supply unit

The drawing shows an example for an air supply opening. In contrast to smoke and heat ventilation systems, equipped with the ED 200 Inverse, the ED 200 operates in daily use (without activation of the smoke and heat ventilation system) as properly and reliable as usually, which allows also heavy usage of the door. On activation of the smoke and heat ventilation system (floating opening contact), the ED 200 opens the door which remains open until the smoke and heat ventilation system has been reset. In order to ensure this function for a certain period of time even under cut-out conditions, the ED 200 is equipped with an emergency power supply unit integrated in its 230 V-wiring. In addition to the emergency power supply unit, the system is equipped with a power overload protection. If the power consumption falls



below an admissible value, the emergency power supply unit switches to emergency mode within 20 ms.

The following components must be installed when using the ED 200 in the air supply opening of a heat and smoke ventilation system:



 Emergency power supply unit MT 700 USV



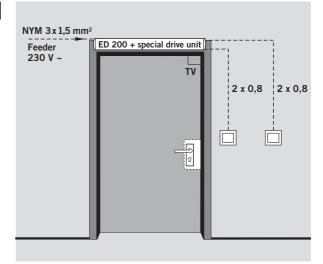
• Special module SM 202

ED 200 Inverse (mechanical opening under cut-out conditions)

The ED 200 Inverse is especially suitable for large buildings such as airports, theatres or congress centres. In the event of an emergency, the ED 200 activates doors even under cut-out conditions in order to make escape routes available. For this application, the operating principle of the ED 200 is reversed: The operator actuates the door to open by using the energy stored in the integrated door closer, then the door is closed by

motor power. The opening width must be limited by an external door stop. In contrast to the ED 200 with emergency power supply unit, the ED 200 Inverse cannot be connected to a radar motion detector; it is activated via pushbutton. The ED 200 Inverse can parform 2 different

can perform 3 different operating principles.



System solution 1

Timed closing action. The ED 200 Inverse is activated via pushbutton and opens the door for an adjustable hold open time from 0 to 100 s. On expiry of this period, the door is closed automatically. The following components are required for this system solution:

- Operator variant ED 200 Inverse
- Special module SM 202
- Door locking device TV 200
- Pushbutton for activation

System solution 2

Flip-flop-function (positively activated closing action) Pressing the pushbutton institutes the ED 200 to open the door. The door remains open until the door closing is activated by pressing the pushbutton again. The following components are required for this system solution:

- Operator variant ED 200 Inverse
- Special module SM 202
- Door locking device TV 200
- Pushbutton for activation

System solution 3

DORMA TMS door management system (for emergency exits and escape routes). The ED 200 is approved for installation in emergency exits and escape routes when controlled by the DORMA TMS door management system. In the event of an emergency, the door terminal institutes the door to open. The following components are required for this system solution:

- Operator variant ED 200 Inverse
- Special module SM 202
- Door locking device TV-DCW
- Door terminal TL-TMS

Summary

The ED 200 Inverse can be instituted to open a door via: • Pushbutton

- Power failure
- Emergency pushbutton
- Smoke detector
- A higher-level fire
- detection system or hazard warning system
- Activation from central control position



TV 200 electrical locking device



TL-TMS door terminal



SM 202 special module



Emergency exit control system

The door is normally locked (DORMA TV 200, TV 500). Operation of the emergency pushbutton in the DORMA TL door terminal causes the locking mechanism to be de-energized and released, and also the deadbolt and latch of the DORMA SVP 200 emergency exit motor lock to be withdrawn and enabled respectively. At the same time the system emits an alarm and the DORMA ED 200 receives an opening signal. Authorized users may unlock the door with the DORMA TL key switch/button or via DORMA access control systems. If the DORMA RM smoke detector responds, the DORMA TV electrical locking device is unlocked, the DORMA SVP 2000 emergency exit motor lock with self-locking action is locked and the DORMA ED 200 is de-energized. These actions ensure that the fire protection characteristics of the door are maintained.

If activated from a central control position, the TV electrical locking device and the SVP 2000 emergency exit motor lock are unlocked and the ED 200 opens the door. MPA (German Material Testing Authority) VdS (insurance) approval certificates for use in emergency exits and escape routes have been issued for this system.

The following components are required:

- DORMA ED 200 swing door operator
- TL-G TMS door terminal with TL-S TMS control board
- TV 200, TV 200 DCW electrical locking device
- SVP 2000 emergency exit motor lock with selflocking action
- SVP-S DCW motor lock control module
- SVP-A ... motor lock cable
- flush-mounted cable loop KÜ ST 32 DCW key button
- DCW junction box
- I/O DCW module

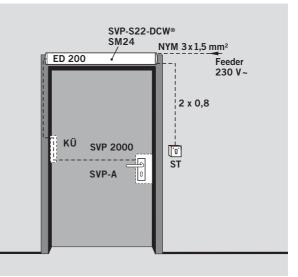
Insurance lock

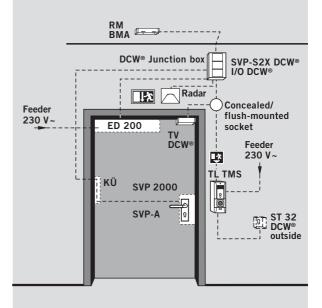
When closed, the door is locked by the DORMA SVP 2000 emergency exit motor lock with self-locking action (insurance lock). The door can be opened and closed from the inside at any time, with unlocking action of the DORMA SVP 2000 and the delayed activation of the DORMA ED 200 being initiated either manually or by active detectors as required. Activation control from a central position is also possible. Authorized users may be granted access from the outside. Once the door is closed, the insurance lock is reinstated fully automatically as the DORMA SVP 2000 automatically throws the bolt after each closing cycle. The DORMA

SVP-S22 motor lock control module is installed under the extended cover of the ED 200 for activation control of the DORMA SVP 2000.

The following components are required:

- ED 200 swing door operator
- SVP 2000 emergency exit motor lock with selflocking action
- SVP-S22 DCW motor lock control module
- SM 24 special module for stabilized power supply
- SVP-A ... motor lock cable
- Concealed/flush-mounted cable loop KÜ
- Activator







The DORMA IRS-2 safety sensor is a monitoring module designed to safeguard the sweep range of automatic swing doors. It can be mounted travelling on the hinge (pull) and opposite hinge (push) side of the door. If mounted on the opposite hinge (push) side, the DORMA IRS-2 safety sensor acts as an activator to open the door in the close range of the door. As soon as an object is located on



this side of the door, the door is reopened automatically due to a new activating impulse given by the safety sensor. In case that the safety sensor on the hinge (pull) side is activated, the automatic opening action of the door is stopped in order to avoid collisions with objects in the scanning range of the IRS-2 safety sensor. The technical principle of the safety sensor ensures that people and objects are



detected at the same time. The scanning range of the IRS-2 is adjustable and infrared light is used to safeguard the driving phase of the door. As an active infrared sensor, the IRS-2 detects all static and moving objects, e. g. items or people, within its scanning range. The IRS-2 is available in different lengths and with a variable number of infrared sensors. Depending on the door width, DORMA

STOP

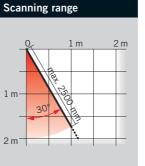
recommends to select the longest-possible IRS-2 safety sensor variant with a maximum number of integrated infrared sensors as the scanning range grows in line with the number of infrared sensors. This ensures the maximum safety of the swing door.

Benefits and features

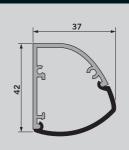
- Available in the following lengths: 330, 700, 900 and 1200 mm
- Suitable for LH (ISO 6) and RH (ISO 5) doors
- Mounting on the hinge (pull) and opposite hinge (push) side
- Suitable as opening activator for automatic doors

• Ideal activating sensor for confined situations due to its small scanning range

- May serve as travelling opening protection for swing doors
- Monitoring of crushingand shearing edges



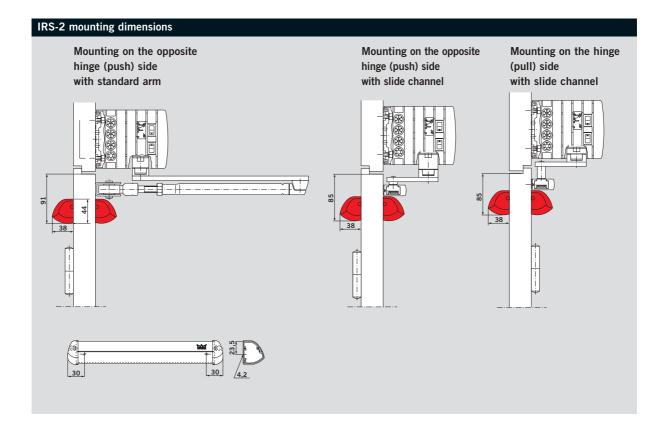
Cross section



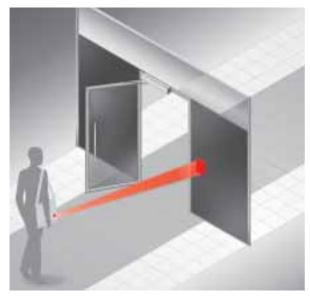
IRS-2 infrared safety sensor variants

	Number of integrated safety sensors	Length of safety sensor
IRS-2-33	1	330 mm
IRS-2-70	1	700 mm
IRS-2-90	2	900 mm
IRS-2-120/2	2	1200 mm
IRS-2-120/3	3	1200 mm





DORMA AutoSwitch



The DORMA AutoSwitch system enables automatic doors to be activated on a hands-free basis. The control unit detects the presence of the AutoSwitch transponder-key from a distance of up to 3 m and emits a signal to activate the operator. The system also offers an access control capability where entry is limited to transponder holders only.



Components of the DORMA AutoSwitch hands-free door activating and access control system: Control unit (mounted close to the door), standard transponder key for door activation, and programmingtransponder-key.

A selection from our broad range of automatic system accessories:



"Merkur" radar motion detector



Electronic program switch EPS-D for swing door operators



Radio transmitter RC-T HandHeld



RC-R radio receiver

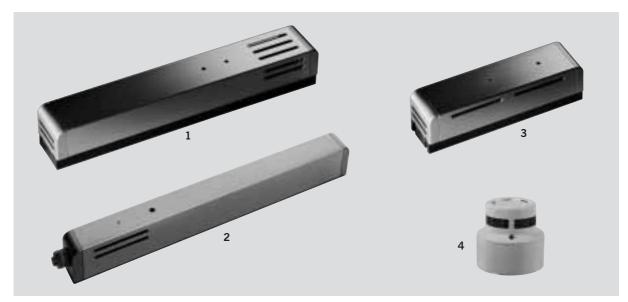




Large-area pushbutton, surface- or flush-mounted, with our without "open door" wording (surface-mounted version also available with integrated radio remote transmitter)



System 55



For fire and smoke doors: Smoke detector with integrated power pack RMZ 2 (1), smoke detector RM-ED (2), smoke detector RM (3) and smoke detector RM-S (4)

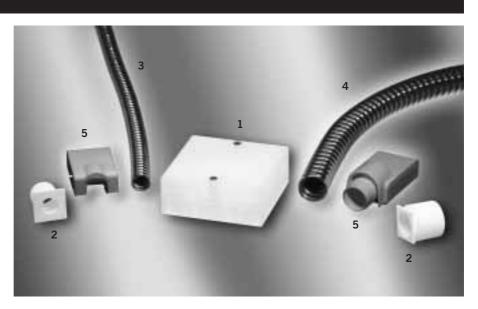


Cable loop KÜ-CD

The DORMA KÜ-CD cable loop offers the ideal solution for the door leaf fixing options of the CD operator. The combination of

- Junction box (1)
- Junction box accessories(2)
- Cable loop (inner diameter 12 mm) (3)
- Cable loop (inner diameter 20 mm) (4)
- Adapter-unit (5)

enables elegant concealment of all the requisite cabling connecting the operator to the supply.



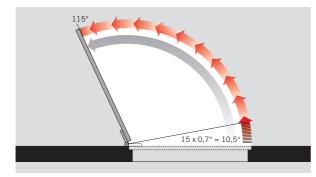
Electronic control unit Push&Go

The ED 200 (with control board A and B) is also available with the electronic control unit Push&Go, which can easily be retrofitted as an accessory. Just push slightly and the door leaf opens automatically, thus even heavy doors can be operated without any effort. Inhibitions not least older people might have when it comes to modern technology are being removed. In contrast to radar or infrared-controlled door systems, the comfort version ensures that heavy-used doors and entrances are not opened unnecessarily. Push&Go is the appropriate alternative

for locations with insufficient space for radar or pushbutton activation. Where fire doors are retrofitted with Push&Go, the fail-safe lock need not be exchanged. An additional incremental encoder ensures that the Push&Go system can be activated from any opening angle. Furthermore, the sensitivity of the system is adjustable in 15 levels. If the door hits an obstacle during its closing action, it will be reopened immediately. As no additional wiring is required, Push&Go is the economical alternative to a radar-controlled system.

Application and benefits

- In contrast to radar or infrared-operated door systems, the ED 200 Push&Go prevents heavyused doors from being opened unnecessarily
- Ideal solution for locations with insufficient space for radar or pushbutton activation
- Even heavy doors can be opened manually with the support of Push&Go
- It minimizes the inhibition thresholds of older people
 Activation from any
- opening angle
- The ED 200 (with control board A and B) can easily be retrofitted with Push&Go
 Adjustable sensitivity
- (15 levels)
- Safety function: the opening action is reversed as soon as the door hits an obstacle





Automatic electro-hydraulic swing door operator DORMA ED 200, compliant with the most recent versions of guidelines for power-operated windows, doors and gates, German code of practice BGR 232 (former ZH 1/494), accident prevention regulations, EMC directive (CE symbol) and VDE regulations. Quality-assured manufacture to ISO 9000.

Door parameters:

• Door width: from 590 mm to 1600 mm

- Door leaf weight: up to 250 kg
- Lintel depth from -40 mm to 500 mm
- Maximum opening angle: 115°
- Adjustable opening time of at least 1,5 s
- Adjustable closing time of at least 3 s
- Adjustable hold open time from 0 s to 30 s
- Door closer function under cut-out conditions
- Adjustable closing force EN 4-6; EN 7 according to EN 1154
- Operator dimensions (height x depth x width/length) 106 mm x 133 mm x 665 mm
- Function programs: OFF AUTOMATIC PERMANENT OPEN – EXIT ONLY (100% ED)
- Supply voltage: 230 V AC, 50/60 Hz, plug-connected cabling
- Maximum power supply for external accessories: 1500 mA at 12 V AC; 800 mA at 12-24 V DC
- Mounting on hinge (pull) and opposite hinge (push) side, door leaf and lintel
- Power transmission using slide channel system and standard arm

Operator colour	Standard: () Silver () RAL 9016 Special colours: () RAL required:
Extended cover	() Total length of operator mm
Mounting position	 () Lintel-mounting on the opposite hinge (push) side with standard arm, pushing, lintel depth mm () Lintel-mounting on the opposite hinge (push) side with slide channel, pushing, lintel depth mm () Lintel-mounting on the hinge (pull) side with slide channel, pulling, lintel depth mm

Door width mm

Program switch In addition:	 (integrated 3-position program switch as standard; Function: OFF, AUTOMATIC, PERMANENT OPEN) () external PGS program switch Design () concealed/flush-mounted () surface-mounted () lockable () with additional EXIT ONLY function 	
Special module	 () "Push&Go" as activator from any angle, triggered by pushing the door leaf 	
Activator	[] Pushbutton nos. [] Radar movement detector nos.	
Safety	 (Safety sensors to safeguard the sweep range of the door according to BGR 232) IRS-2 safety sensor for mounting on the hinge (pull) and opposite hinge (push) side () Length 330 mm nos. () Length 700 mm nos. () Length 900 mm nos. () Length 1200 mm nos. 	
Emergency pushbutton mounted close to the door in		

Emergency pushbutton mounted close to the door in accordance with DIN VDE

Function	() Emergency stop
	() Emergency off
Design	() concealed/flush-mounted

() surface-mounted

[]]

Services

- [] Installation
- [] Commissioning
- [] Maintenance contract



Automatic electro-hydraulic swing door operator DORMA ED 200, compliant with the most recent versions of guidelines for power-operated windows, doors and gates, German code of practice BGR 232 (former ZH 1/494), accident prevention regulations, EMC directive (CE symbol) and VDE regulations. Quality-assured manufacture to ISO 9000.

Door parameters:

• Door width: from 1284 mm to 3200 mm

- Door leaf weight: up to 250 kg
- Lintel depth from -40 mm to 500 mm
- Maximum opening angle: 115°
- Adjustable opening time of at least 1,5 s
- Adjustable closing time of at least 3 s
- Adjustable hold open time from 0 s to 30 s
- Door closer function under cut-out conditions
- Adjustable closing force EN 4-6; EN 7 according to EN 1154
- Operator dimensions (height x depth x width/length) 106 mm x 133 mm x 665 mm
- Function programs: OFF AUTOMATIC PERMANENT OPEN - EXIT ONLY (100% ED)
- Supply voltage: 230 V AC, 50/60 Hz, plug-connected cabling
- Maximum power supply for external accessories: 1500 mA at 12 V AC; 800 mA at 12-24 V DC
- Mounting on hinge (pull) and opposite hinge (push) side and lintel
- Power transmission using slide channel system and standard arm

Operator colour	Standard: () Silver () RAL 9016 Special colours: () RAL required:
Extended cover	() Total length of operator mm
Mounting position	 () Lintel-mounting on the opposite hinge (push) side with standard arm, pushing, lintel depth mm () Lintel-mounting on the opposite hinge (push) side with slide channel, pushing, lintel depth mm () Lintel-mounting on the hinge (pull) side with slide channel, pulling, lintel depth mm

Door width mm

Program switch In addition:	 (integrated 3-position program switch as standard; Function: OFF, AUTOMATIC, PERMANENT OPEN) () external PGS program switch Design () concealed/flush-mounted () surface-mounted () lockable () with additional EXIT ONLY function
Special module	 () "Push&Go" as activator from any angle, triggered by pushing the door leaf
Activator	[] Pushbutton nos. [] Radar movement detector nos.
Safety	 (Safety sensors to safeguard the sweep range of the door according to BGR 232) IRS-2 safety sensor for mounting on the hinge (pull) and opposite hinge (push) side () Length 330 mm nos. () Length 700 mm nos. () Length 900 mm nos. () Length 1200 mm nos.
Emergency pushb	utton mounted close to the door in

Emergency pushbutton mounted close to the door in accordance with DIN VDE

Function	() Emergency stop
	() Emergency off
Design	() concealed/flush-mounted
	() surface-mounted

[] Installation

Services

- [] Commissioning
- [] Maintenance contract

Automatic electro-hydraulic swing door operator DORMA ED 200, tested and approved in accordance with DIN 18263, part 4, compliant with the most recent versions of guidelines for power-operated windows, doors and gates, German code of practice BGR 232 (former ZH 1/494), accident prevention regulations, EMC directive (CE symbol) and VDE regulations. Quality-assured manufacture to ISO 9000. Please consider the respective approval certificates issued by the door manufacturers.

Door parameters:

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- Adjustable opening time of at least 1,5 s
- Adjustable closing time of at least 3 s
- Adjustable hold open time from 0 s to 30 s
- Door closer function under cut-out conditions
- Adjustable closing force EN 4-6; EN 7 according to EN 1154
- Operator dimensions (height x depth x width/length) 106 mm x 133 mm x 665 mm
- Function programs: OFF AUTOMATIC PERMANENT OPEN – EXIT ONLY (100% ED)
- Supply voltage: 230 V AC, 50/60 Hz, plug-connected cabling
- Maximum power supply for external accessories: 1500 mA at 12 V AC; 800 mA at 12-24 V DC
- Mounting on opposite hinge (push) side and lintel
- Power transmission using standard arm

Operator colour	Standard: () Silver () RAL 9016 Special colours: () RAL required:	
Extended cover	() Total length of operator mm	S
Mounting position	 () Lintel-mounting on the opposite hinge (push) side with standard arm, pushing, lintel depth mm 	
Hold open system	 I open system (required components in accordance with the German guidelines governing hold open systems) () Pushbutton with "Tür schließen" wordingnos. Design () concealed/flush-mounted () surface-mounted () Smoke detector () Lintel-mounted smoke detectornos. () Ceiling-mounted smoke detectornos. 	

Door width

..... mm

Program switch (integrated 3-position program switch as standard; Function: OFF, AUTOMATIC, PERMANENT OPEN) In addition: () external PGS program switch with **EXIT ONLY function** Design () concealed/flush-mounted () surface-mounted () lockable () with additional EXIT ONLY function Special module () "Push&Go" as activator from any angle, triggered by pushing the door leaf Activator [] Pushbutton nos. [] Radar movement detector nos. Safety (Safety sensors to safeguard the sweep range of the door according to BGR 232) IRS-2 safety sensor for mounting on the hinge (pull) and opposite hinge (push) side () Length 330 mm nos. () Length 700 mm nos. () Length 900 mm nos. () Length 1200 mm nos. Emergency pushbutton mounted close to the door in accordance with DIN VDE Function () Emergency stop () Emergency off Design () concealed/flush-mounted () surface-mounted

- Services [] Installation
 - [] Commissioning. In accordance with the German guidelines governing hold open systems, issued by the German Institute for Civil Engineering (DIBt), commissioning must be effected at the same time as the official acceptance of the system.
 - [] Maintenance contract



Automatic electro-hydraulic swing door operator DORMA ED 200, tested and approved in accordance with DIN 18263, part 4, compliant with the most recent versions of guidelines for power-operated windows, doors and gates, German code of practice BGR 232 (former ZH 1/494), accident prevention regulations, EMC directive (CE symbol) and VDE regulations. Quality-assured manufacture to ISO 9000. Please consider the respective approval certificates issued by the door manufacturers.

Door parameters:

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- Maximum opening angle: 115°
- Adjustable opening time of at least 1,5 s
- Adjustable closing time of at least 3 s
- Adjustable hold open time from 0 s to 30 s
- Door closer function under cut-out conditions
- Adjustable closing force EN 4-6; EN 7 according to FN 1154
- Operator dimensions (height x depth x width/length) 106 mm x 133 mm x 665 mm
- Function programs: OFF AUTOMATIC PERMANENT OPEN - EXIT ONLY (100% ED)
- Supply voltage: 230 V AC, 50/60 Hz, plug-connected cabling
- Maximum power supply for external accessories: 1500 mA at 12 V AC; 800 mA at 12-24 V DC
- Mounting on the opposite hinge (push) side and lintel
- Power transmission using standard arm

Operator colour	Standard: () Silver () RAL 9016 Special colours: () RAL required:	Safety	(Safety sensors to safegua range of the door accordin IRS-2 safety sensor for me hinge (pull) and opposite
Extended cover	() Total length of operator mm		side () Length 330 mm
	 () Lintel-mounting on the opposite hinge (push) side with standard arm, pushing, lintel depth mm (required components in accordance with 		() Length 700 mm () Length 900 mm () Length 1200 mm
	 the German guidelines governing hold open systems) () Pushbutton with "Tür schließen" wordingnos. Design () concealed/flush-mounted () surface-mounted () Smoke detector 	Emergency pushbo accordance with D	utton mounted close to the DIN VDE Function () Emergency () Emergency Design () concealed/ () surface-mo
	 () Lintel-mounted smoke detectornos. () Ceiling-mounted smoke detectornos. 	Services	 [] Installation [] Commissioning. In acc the guidelines governi systems issued by the Institute for Civil Engi

() DORMA G 93 GSR external door coordinator, mounted on the hinge (pull) side Door width mm Program switch (integrated 3-position program switch as standard; Function: OFF, AUTOMATIC, PERMANENT OPEN) In addition: () external PGS program switch with **EXIT ONLY** function Design () concealed/flush-mounted () surface-mounted () lockable () with additional EXIT ONLY function () "Push&Go" as activator from any Special module angle, triggered by pushing the door leaf Activator [] Pushbutton nos. [] Radar movement detector nos. ard the sweep ing to BGR 232) nounting on the hinge (push) ... nos. ... nos. ... nos. ... nos. e door in cy stop cv off d/flush-mounted nounted

Door coordinator In accordance with EN 1158, the system

() DORMA ED 200 ESR,

the cover of the operator

Variant

must be equipped with a door coordinator.

for double-leaf doors with integrated

door coordinator concealed behind

() DORMA G 96 GSR slide channel door

coordinator, integrated in the door leaf

- ccordance with ning hold open e German gineering (DIBt), commissioning must be effected at the same time as the official acceptance.
 - [] Maintenance contract

Automatic electro-hydraulic swing door operator DORMA ED 200, compliant with the most recent versions of guidelines for power-operated windows, doors and gates, German code of practice BGR 232 (former ZH 1/494), accident prevention regulations, EMC directive (CE symbol) and VDE regulations. Quality-assured manufacture to ISO 9000.

Door parameters:

• Door width: from 590 mm to 1600 mm

- Door leaf weight: up to 250 kg
- Lintel depth from -40 mm to 500 mm
- Maximum opening angle: 115°
- Adjustable opening time of at least 1,5 s
- Adjustable closing time of at least 3 s
- Adjustable hold open time from 0 s to 30 s
- Door closer function under cut-out conditions
- Adjustable closing force EN 4-6; EN 7 according to EN 1154
- Operator dimensions (height x depth x width/length) 106 mm x 133 mm x 665 mm
- Function programs: OFF AUTOMATIC PERMANENT OPEN – EXIT ONLY (100% ED)
- Supply voltage: 230 V AC, 50/60 Hz, plug-connected cabling
- Maximum power supply for external accessories: 1500 mA at 12 V AC; 800 mA at 12-24 V DC
- Mounting on the hinge (pull) and opposite hinge (push) side, door leaf and lintel
- Power transmission using slide channel system and standard arm

Operator colour	Standard: () Silver () RAL 9016 Special colours: () RAL required:
Extended cover	() Total length of operator mm
Mounting position	 () Lintel-mounting on the opposite hinge (push) side with standard arm, pushing, lintel depth mm () Lintel-mounting on the opposite hinge (push) side with slide channel, pushing, lintel depth mm () Lintel-mounting on the hinge (pull) side with slide channel, pulling, lintel depth mm

Door width mm

Program switch	 (integrated 3-position program switch as standard, Function: OFF, AUTOMATIC, PERMANENT OPEN) () external PGS program switch Design () concealed/flush-mounted () surface-mounted () lockable () with additional EXIT ONLY function
Special module	() "Push&Go" as activator from any angle, triggered by pushing the door leaf
System compone Outside	 ents () Pushbutton with disabled symbol () Audible signal transmitter () Occupied light (red) () Emergency pushbutton () concealed/flush-mounted () surface-mounted () behind emergency break glass
Inside	() Pushbutton with "open/locked" wording() Occupied light() Emergency pull switch
Electric strike	() Fail-safe design
Safety	 (Safety sensors to safeguard the sweep range of the door according to BGR 232) IRS-2 safety sensor for mounting on the hinge (pull) and opposite hinge (push) side () Length 330 mm nos. () Length 700 mm nos. () Length 900 mm nos. () Length 1200 mm nos.
Services	[] Installation[] Commissioning[] Maintenance contract



Automatic electro-hydraulic swing door operator DORMA ED 200, tested and approved for application as air supply opening of heat and smoke ventilation systems, compliant with the most recent versions of guidelines for power-operated windows, doors and gates, German code of practice BGR 232 (former ZH 1/494), accident prevention regulations, EMC directive (CE symbol) and VDE regulations. Quality-assured manufacture to ISO 9000.

Door parameters:

• Door width: from 590 mm to 1600 mm

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- Door closer function under cut-out conditions
- Adjustable closing force EN 4-6; EN 7 according to EN 1154
- Operator dimensions (height x depth x width/length) 106 mm x 133 mm x 665 mm
- Function programs: OFF AUTOMATIC PERMANENT OPEN – EXIT ONLY (100% ED)
- Supply voltage: 230 V AC, 50/60 Hz, plug-connected cabling
- Maximum power supply for external accessories: 1500 mA at 12 V AC; 800 mA at 12-24 V DC
- Mounting on the hinge (pull) and opposite hinge (push) side, door leaf and lintel
- Power transmission using slide channel system and standard arm

Function

A NO contact (fitted by others) institutes the ED 200 to open the air supply opening of the smoke and heat ventilation system. The air supply opening remains open until the smoke and heat ventilation system has been reset, then the operator resumes its preset function. An emergency power supply unit (fitted by others) ensures that the preset function is resumed after the smoke and heat ventilation system has been activated.

Operator colour	Standard: () Silver () RAL 9016 Special colours: () RAL required:
Extended cover	() Total length of operator mm
Mounting position	 () Lintel-mounting on the opposite hinge (push) side with standard arm pushing, lintel depth mm () Lintel-mounting on the opposite hinge (push) side with slide channel, pushing, lintel depth mm
	 Lintel-mounting on the hinge (pull) side with slide channel, pulling, lintel depth mm

..... mm

Door width

Program switch	(Integrated 3-position program switch as standard; Function: OFF, AUTOMATIC, PERMANENT OPEN)
In addition:	 () external PGS program switch Design () concealed/flush-mounted () surface-mounted () lockable () with additional EXIT ONLY function
Emergency power supply	() DORMA USV MT 700 emergency power supply unit
Special module	 () "Push&Go" as activator from any angle, triggered by pushing the door leaf
Activator	[] Pushbutton nos.[] Radar movement detector nos.
Safety	(Safety sensors to safeguard the sweep range of the door according to BGR 232) IRS-2 safety sensor for mounting on the hinge (pull) and opposite hinge (push) side
	 () Length 330 mm nos. () Length 700 mm nos. () Length 900 mm nos. () Length 1200 mm nos.

Program switch (integrated 3-position program switch as

Emergency pushbutton mounted close to the door in accordance with DIN VDE

Function	() Emergency stop
	() Emergency off
Design	() concealed/flush-mounted
	() surface-mounted

Services

- [] Installation
- [] Commissioning
- [] Maintenance contract





www.dorma.com











Automatic Division worldwide

DORMA GmbH + Co. KG Breckerfelder Str. 42–48 D-58256 Ennepetal Phone +49 23 33/7 93-0 Fax +49 23 33/7 93-4 95

Region Australia AUS, NZ

Australia DORMA BWN Automatics Pty. Ltd. Phone +61 3 97964111 www.dorma.com.au

New Zealand DORMA BWN Automatics Pty. Ltd. Phone +61 3 97964111 www.dorma.com.au

Region Central Europe D, NL, B, LX, CH

Germany Automatic D Phone +49 2333 793-0 www.dorma.de

Netherlands DORMA van Duin Nederland BV Phone +31 344 640640 www.dorma.be/en

Belgium DORMA Foquin N.V./S.A. Phone +32 50 451570 www.dorma.be/en

Luxembourg Luxembourg Subsidiary Automatic Phone +49 2333 793-216 www.dorma.de

Switzerland DORMA Türautomatik AG Phone +41 71 8864646 www.dorma.ch

Region Emerging Markets P, RUS, UA, BG, GR, TR, IND, IL, RSA Poland DORMA Polska Sp. z o.o. Phone +48 22 8238809

www.dorma.pl Russia Representative Office in Russia Phone +7 095 2581225

www.dorma.com Ukrain DORMA Representation Ukraine Phone +380 44 2443897 www.dorma.com

Bulgaria ALU KÖNIG STAHL EOOD Phone +359 2 9807889 www.dorma.com

Greece DORMA Representation Greece Phone: +30 21 09944388 www.dorma.com

Turkey DORMA Kapi Kontrolleri Ltd. Sti Phone: +90 216 3600056 www.dorma.com

India DORMA Door Controls India Phone +91 442 8585097 www.dorma.com

Israel DORMA GmbH + Co. KG Phone +49 2333 793-0 www.dorma.com

South Afrika DORMA Door Controls (Pty.) Ltd Phone +27 11 8300280 www.dorma.com

Region Far East SGP, HK, VRC, RC, MAL, RI, RP, ROK, VN, J Singapore DORMA Emerald Entrance Systems Pte Ltd Phone +65 459 5733 www.dorma.com.sg

Hong Kong DORMA Door Controls Pte. Ltd. Phone +852 25034632 www.dorma.com.sg China

DORMA Door Controls (Suzhou) Co. Ltd. Phone +86 512 676 12481 www.dorma.com.sg

Taiwan DORMA Door Controls Pte. Ltd. Phone +886 2 9182987 www.dorma.com.sg

Malaysia DORMA Emerald Entrance Systems Pte Ltd Phone +65 459 5733

www.dorma.com.sg

Indonesia DORMA Emerald Entrance Systems Pte Ltd Pte Ltd Phone +65 459 5733 www.dorma.com.sg

South Korea

DORMA Emerald Entrance Systems Pte Ltd Phone +65 459 5733 www.dorma.com.sg

Philippines DORMA Door Controls Pte. Ltd. Phone +632 893 40778 www.dorma.com.sg

Vietnam DORMA Emerald Entrance Systems

Pte Ltd Phone +65 459 5733 www.dorma.com.sg Japan DORMA Emerald Entrance Systems

Pte Ltd Phone +65 459 5733 www.dorma.com.sg

France DORMA Accueil S. A. S. Phone +33 4 79348924 www.dorma.fr

Region Gulf

Saudi Arabia, Bahrain, Kuwait, Egypt, Syria, Jordan, Lebanon, Iran DORMA ARABIA Automatic Doors Ltd. Kingdom of Saudi Arabia Phone +966 3 847 2394 www.dorma.com

United Arab Emirates, Oman, Qatar DORMA Middle East LLC Dubai Phone +971 4 282 4424

www.dorma.com

Region North America USA. CDN. MEX

LISA DORMA Automatics Inc. Phone +1 301 390-3600 www.dorma-usa.com

Canada DORMA Door Controls Phone +1 905 6701281 www.dorma.com

Mexico DORMA México, S. de R.L. de C.V. Phone +52 55 5272 6937 www.dorma.com

Region Scanbalt N, S, DK, FIN, LV, EST, LT

Norway DORMA Norge AS Phone +47 23 176800 www.dorma.no

Sweden DORMA Sverige AB Phone +46 31 289520 www.dorma.se

Denmark DORMA Danmark A/S Phone +45 44 943077 www.dorma.com Finland DORMA Finland Oy Phone +358 9 8789130 www.dorma.fi

Latvia DORMA Finland Oy Phone +358 9 8789130 www.dorma.fi

Estonia DORMA Representation Estonia Phone +372 6707064 www.dorma.com Lithuania

DORMA Norge AS Phone +47 23 176800 www.dorma.com

Region South America BR, RA

Brazil DORMA Sistemas de Controles Phone +55 11 41913244 www.dorma.com.br

Argentina DORMA Sistemas de Controles para Portas Ltda Phone +54 11 45051032 www.dorma.com

Region South-East Europe A, H, CZ, CS, HR, SLO, RO

Austria DORMA AKS Automatic GmbH Phone +43 6225 8636-0 www.dorma.at

Hungary DORMA AKS Automatic GmbH Phone +36 1 2065127 or 2058058 www.dorma.com

Czech Republik DORMA dverní technika CR, s.r.o. Phone +420 2 671321-78 or -79 www.dorma.com

Slovakia DORMA Slovensko spol. s.r.o. Phone +421 2 50221 283 www.dorma.com

Croatia DORMA Representation Croatia Phone +385 1 2305040 www.dorma.com

Slovenia DORMA Representation Slovenia Phone +386 2 5 30 20 10 www.dorma.com

Romania DORMA Representation Romania Phone +40 2 13 30 05 68 www.dorma.com

Region South Europe

Italy DORMA Italiana S.r.I. Phone: +30 039 244031 www.dorma.it

Spain DORMA Ibérica, S.A. Phone +34 91 8757851 www.dorma.es Portugal

DORMA Portugal para Portas, Lda. Phone +351 252 860 490 www.dorma.com

Region UK/Ireland GB. IRL

DORMA UK Limited Phone +44 1462 477600 www.dorma-uk.co.uk

Ireland DORMA Ireland Limited Phone +353 1 295 8280 www.dorma.com 051

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Region France