



ED 100

Low energy swing
door operator

A leader in design and function

Automatic doors provide a means of opening and closing doors without the need for physical effort. For many people who lack physical ability or who are encumbered by, for example shopping or push chairs, heavy manual doors can be a barrier to access. With the ED 100, DORMA has developed a Low Energy swing door operator designed to remove this barrier and provide easy and safe access for all users. The unit offers a range of operating modes which enable the door to be opened under power when required and used as a conventional manual swing door at all other times. The ED 100 opens the door at precisely controlled speeds and forces assuring safety for all users. In the majority of applications, the ED 100 does not require additional safety equipment. It is not only extremely safe but is substantially less expensive than traditional automatic swing door operators. The combination of low operating noise levels and the compact Contur design ensures the ED 100 will integrate into the most sensitive of environments.



Benefits:

- Elegant visual appearance: DORMA Contur design provides an operator height of only 70mm.
- Low noise levels through multi-stage gearing.
- Efficient closing due to an electronic latching action enabling the motor to support the spring to overcome doors seals, room to room pressure differentials and wind loads.
- Optional additional safety: Compatible with IRS safety sensors where applications are for particularly vulnerable users.
- Optional integrated door co-ordinator to ensure the correct closing of rebated double doors.
- Suitable for 60 minute fire rated doors for both push and pull application.

DORMA and the Environment:

DORMA takes its responsibilities seriously to minimise impact on the environment in all aspects of its activities. This philosophy has remained a key driver throughout the development of the DORMA ED 100.

- We have attached particular importance to using as little material as possible, and have managed to reduce by almost 40% the required material compared to our previous generation of low energy door operators. The low weight has a positive effect on the shipping of the goods and thus reduces unnecessary CO₂ emissions.
- Even the best operator will require replacement one day; however, we are even prepared for this time as all applied components are recyclable.
- The ED 100 along with all DORMA swing door operators provides sufficient force reserves. Even when the system is used to the maximum the operator will always try to open and close the door perfectly within the statutory limits. DORMA swing door operators contribute to avoiding the loss of heat thereby contributing towards reducing a building's carbon footprint.
- Where required, IRS safety sensors consume significant amounts of power over a 24 hour period when mains power is not turned off – as is the case in the vast majority of buildings. The ED 100 offers an integrated EMS Energy Saving Mode function which allows the sensors to be switched to standby to minimise unnecessary power consumption which offers an energy saving of up to 30%.
- The DORMA ED 100 mainly closes via spring force. However, thanks to its direct drive, the motor automatically switches on to provide support when required. This ensures that the door always reaches its closed position which assists on minimising energy loss.

Required operating conditions	
Ambient temperature	-15° to +50° C
Only suitable for dry environments	Relative humidity max. 93 %
Power supply	230 V AC 50 Hz +/- 10 % 115 V AC 60 Hz +/- 10 %

General specifications	
Dimensions (W x H x D)	685 x 70 x 130 mm
Min. distance between hinges (double-leaf systems)	1,450 mm
Min. distance between hinges for ESR (double-leaf systems)	1,450 mm
Weight of single-leaf version	12 kg
Power supply for external accessories	24 V DC +/- 10 %, 1.5 A

Parameters	
Opening angle	Max. 110°
Latching action	Adjustable from 7° – 0°
Hold-open time	30 seconds
Hold-open time Blocking behaviour with Night-/Bank Function	Reversing/Door closer function
Locking feedback contact	Motor lock/Electric strike
Working point of wind load control	Total load of max. 50 Nm
Voltage-independent braking circuit	Adjustable via potentiometer
Electronic latching action pulse	Force adjustable

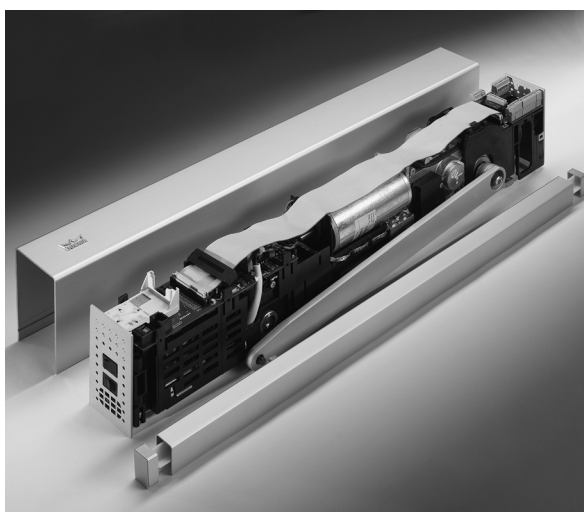
Integrated functions		
LED status indicator	green red yellow	- Operating voltage indicator - Malfunction - Service interval expired
Integrated program switch	OFF AUTOMATIC PERMANENT OPEN EXIT ONLY (OPTIONAL – only for single-leaf systems)	
User interface with information display	Status indicator and parameterisation	
Update interface	Firmware update	
TMP – Temperature Management Program	Temperature-related overload protection	
IDC – Initial Drive Control	Driving phase optimisation	
Cycle counter	0 – 1,000,000 (reasonably subdivided)	

Inputs, terminals max. 1.5 mm ²	
Potential-free activator	Inside and outside
Energised activator	Max. 24 V DC/AC +/- 10%
Night-/Bank (key switch)	Normally open contact
Safety sensor	Opening side and closing side
Test signal for safety sensor	Opening side and closing side
Emergency-Off pushbutton/ Lock switch	Normally closed contact

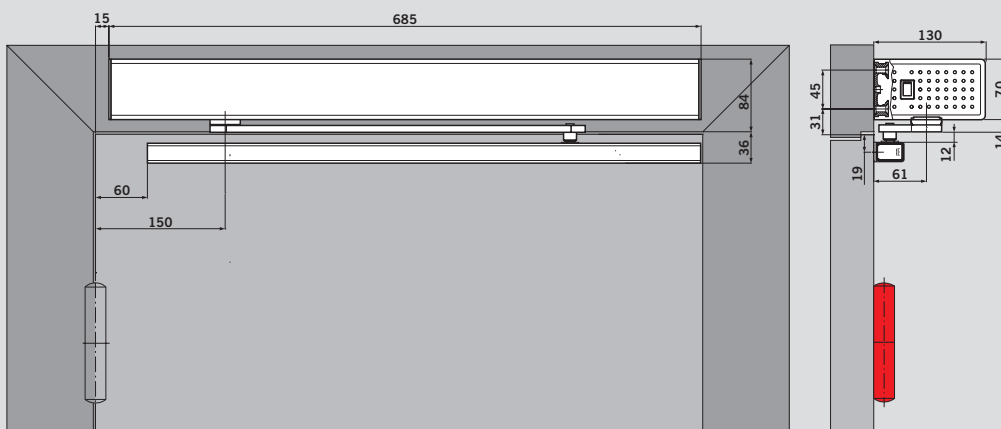
Outputs, terminals max. 1.5 mm ²	
Potential-free door status contact	Door closed Door open

ED 100	
Power consumption	120 Watts
Closing force EN 1154	EN 2–4, adjustable
Max. door-leaf weight for lintel depths of up to 300 mm	100 kg
Door-leaf width for single-leaf version	700–1,100 mm hinged 770–1,100 mm pivoted*
Door-leaf width for double-leaf version	1,450–2,200 mm hinged 1,590–2,200 mm pivoted*
Max. opening speed	25°/second
Max. closing speed	25°/second
Axle extension	30 mm
Lintel depth for slide channel	+/- 30 mm
Lintel depth for standard arm	0–300 mm

* Based on 70 mm pivot centres.

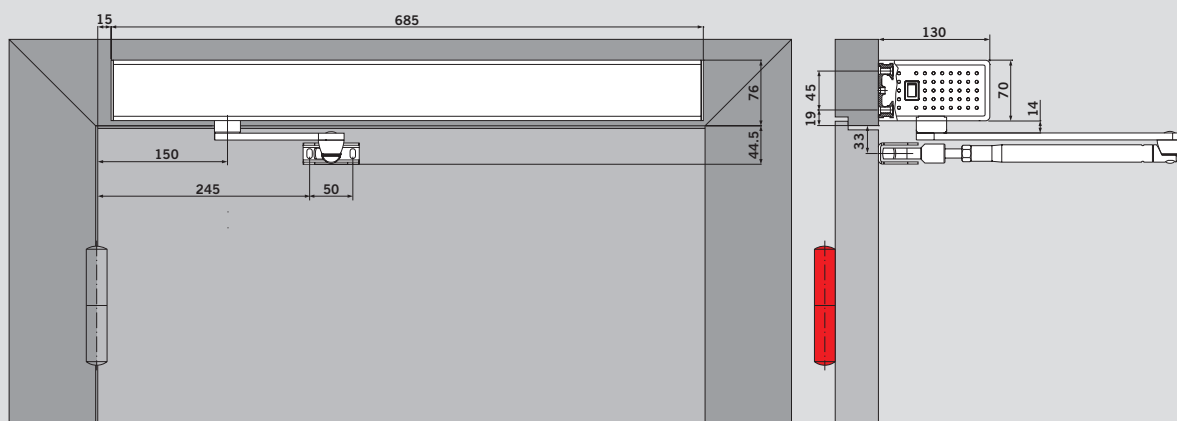


View: BASIC cover, pull-version, 12.5 mm drive arm pin



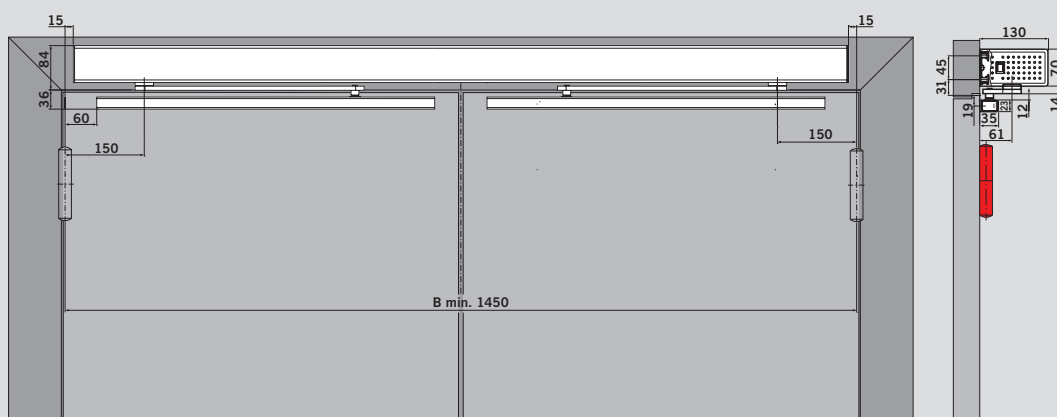
Standard axle extension

View: BASIC cover, push-version



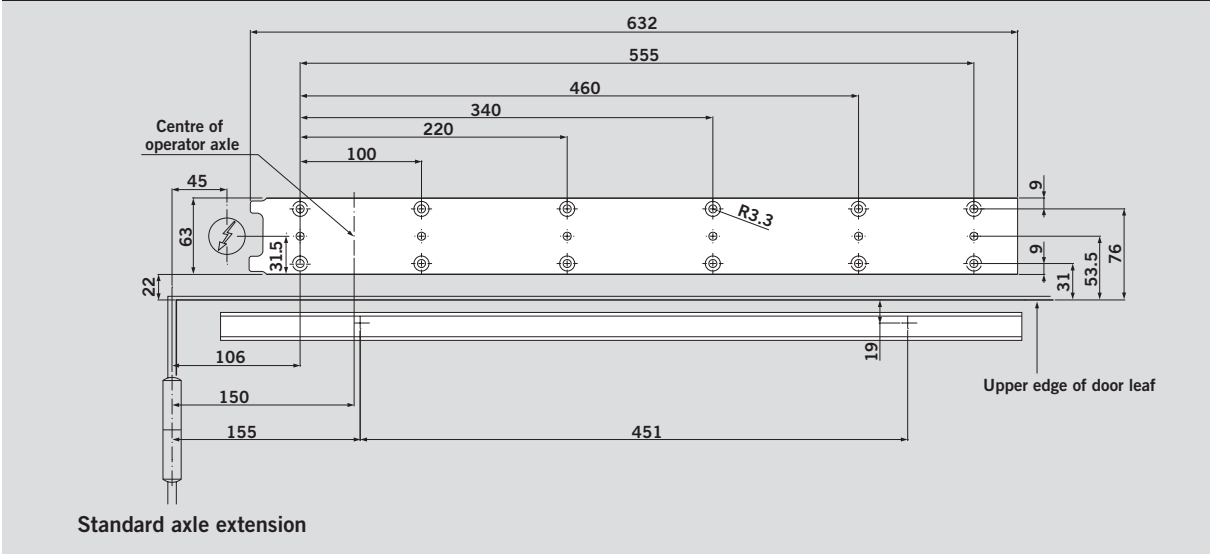
Standard axle extension

View: CONTINUOUS cover, pull-version, 12.5 mm drive arm pin

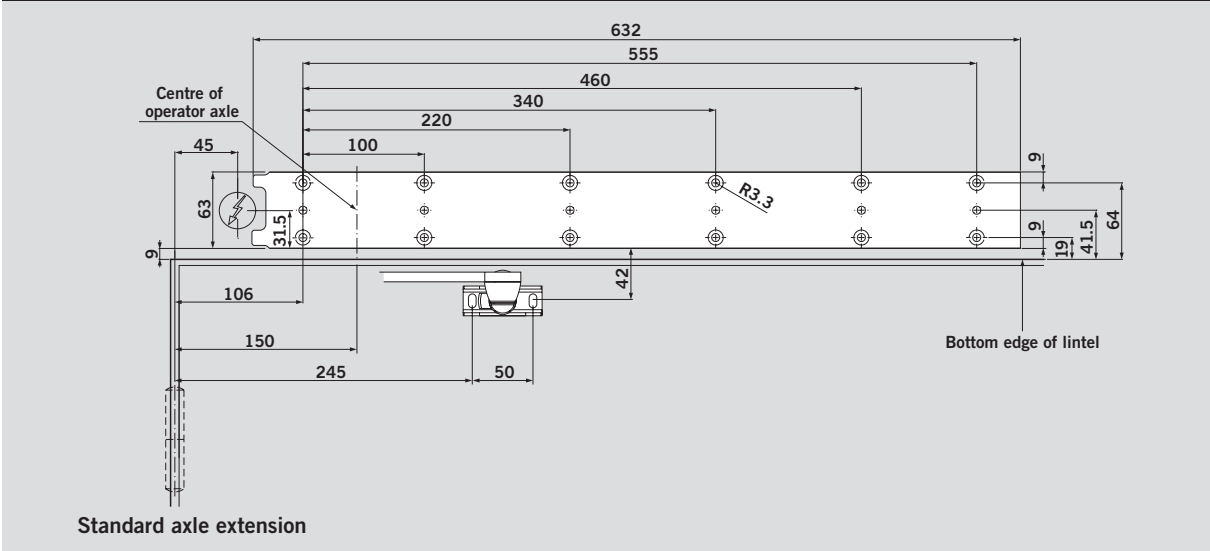


Standard axle extension

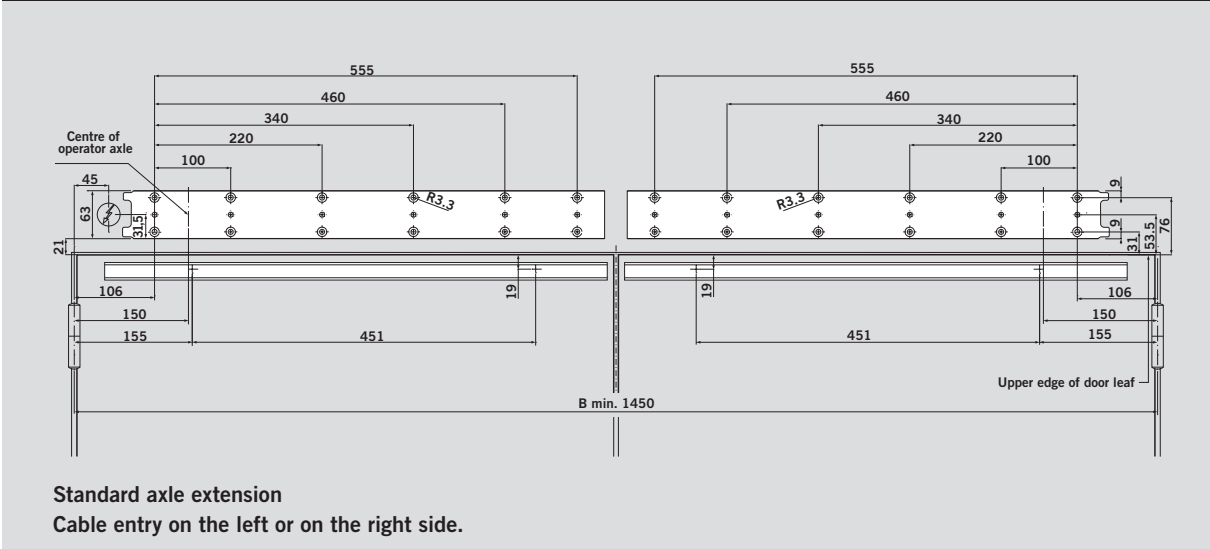
Drilling template: BASIC cover, pull-version, 12.5 mm drive arm pin



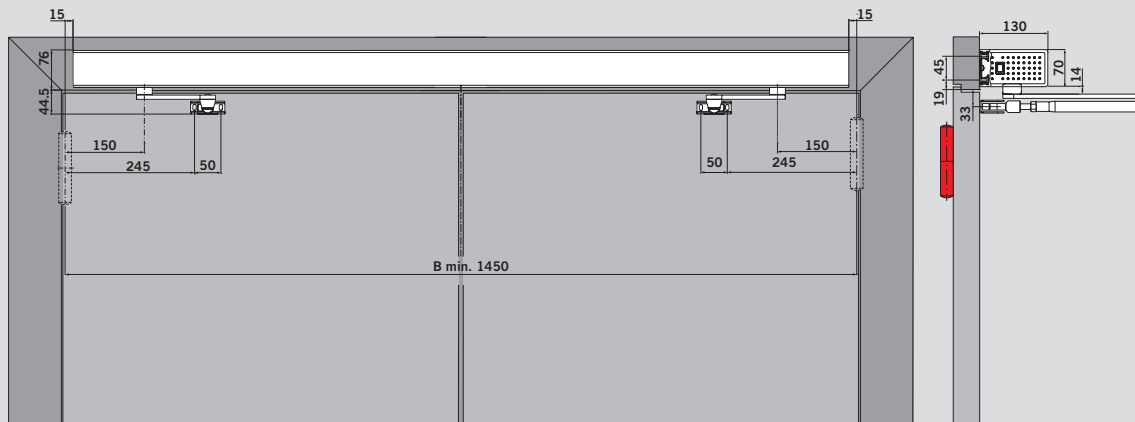
Drilling template: BASIC cover, push-version



Drilling template: CONTINUOUS cover, pull-version, 12.5 mm drive arm pin



View: CONTINUOUS cover, push-version



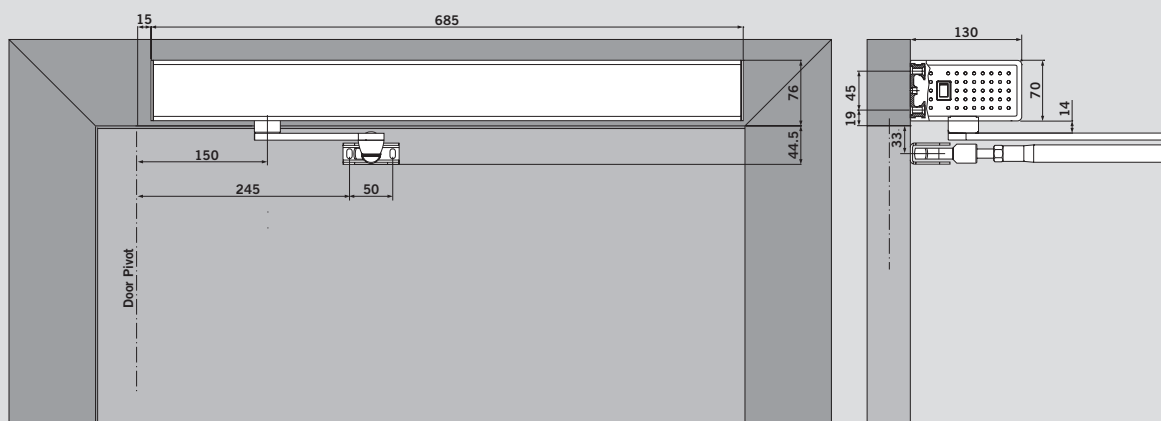
Standard axle extension

View: BASIC cover, pull-version, 25 mm drive arm pin, pivoted door



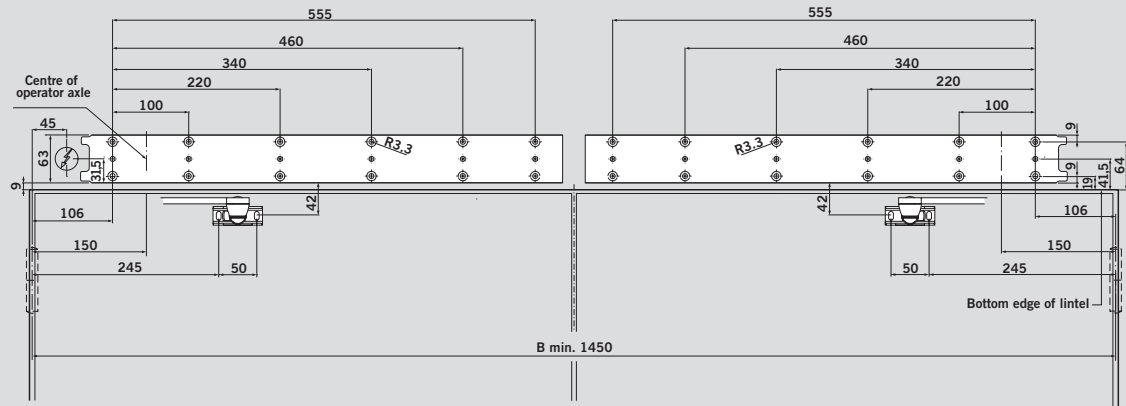
Standard axle extension

View: BASIC cover, push-version, pivoted door



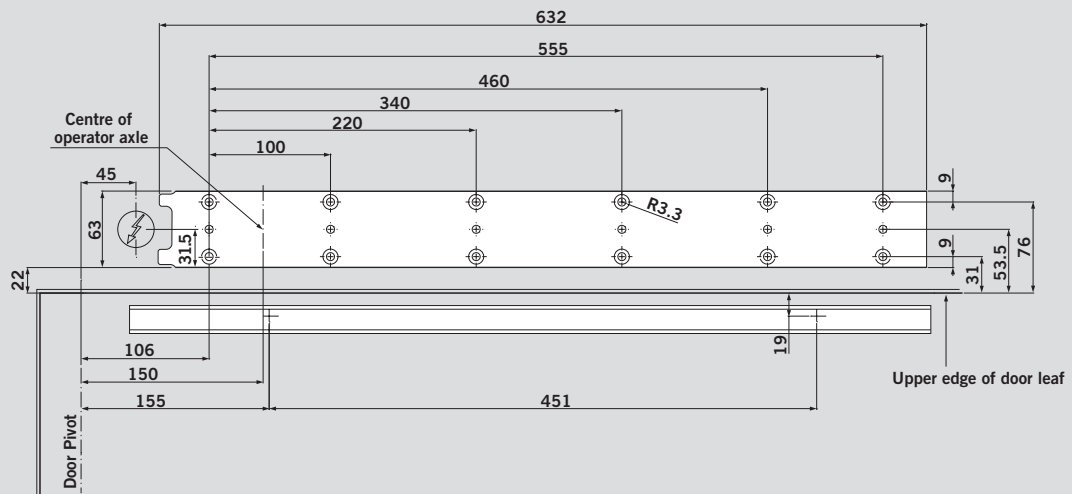
Standard axle extension

Drilling template: CONTINUOUS cover, push-version



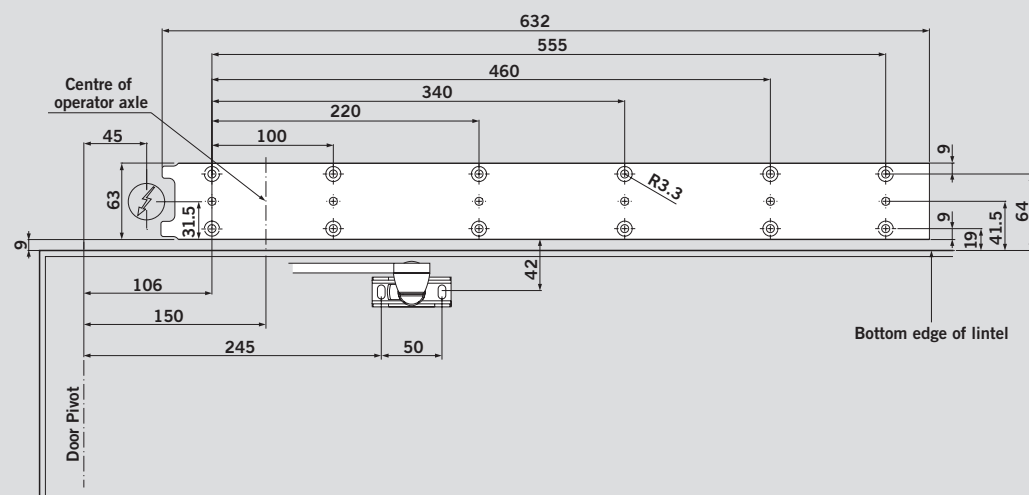
Standard axle extension
Cable entry on the left or on the right side.

Drilling template: BASIC cover, pull-version, 25 mm drive arm pin, pivoted door



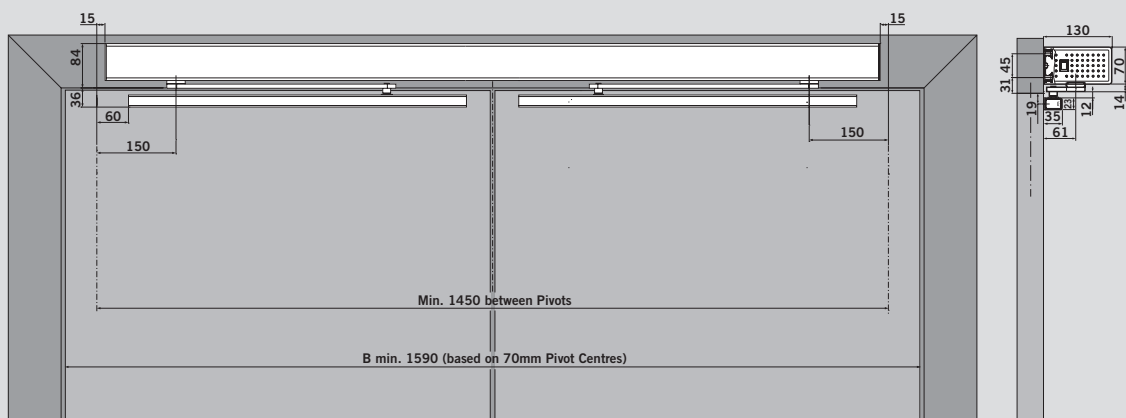
Standard axle extension

Drilling template: BASIC cover, push-version, pivoted door



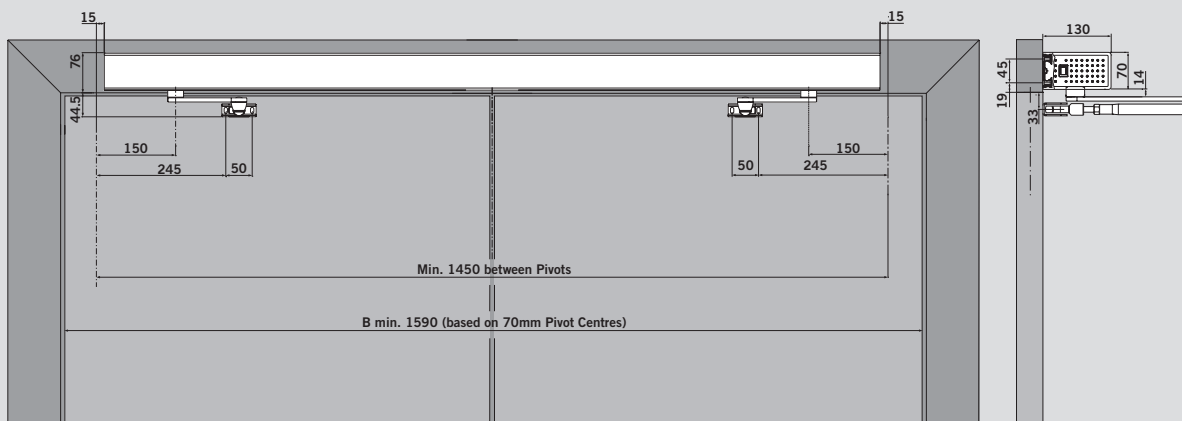
Standard axle extension

View: CONTINUOUS cover, pull-version, 12.5 mm drive arm pin, pivoted door



Standard axle extension

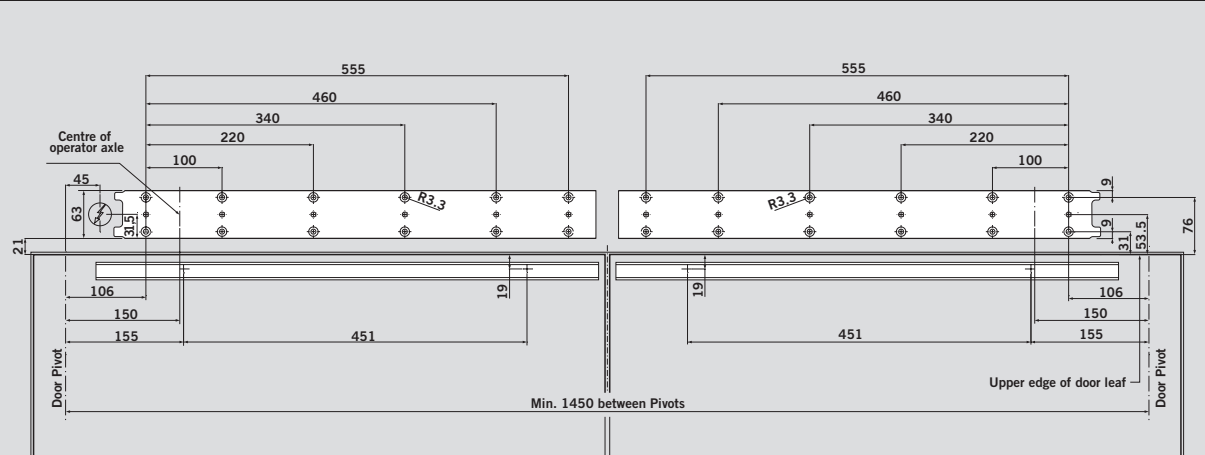
View: CONTINUOUS cover, push-version, pivoted door



Standard axle extension

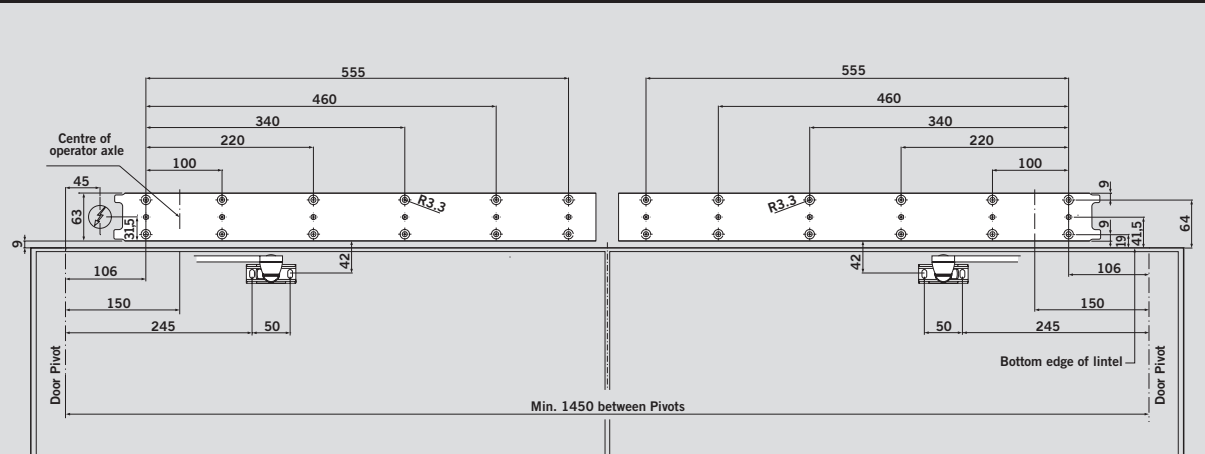


Drilling template: CONTINUOUS cover, pull-version, 12.5 mm drive arm pin, pivoted door



Standard axle extension
Cable entry on the left or on the right side.

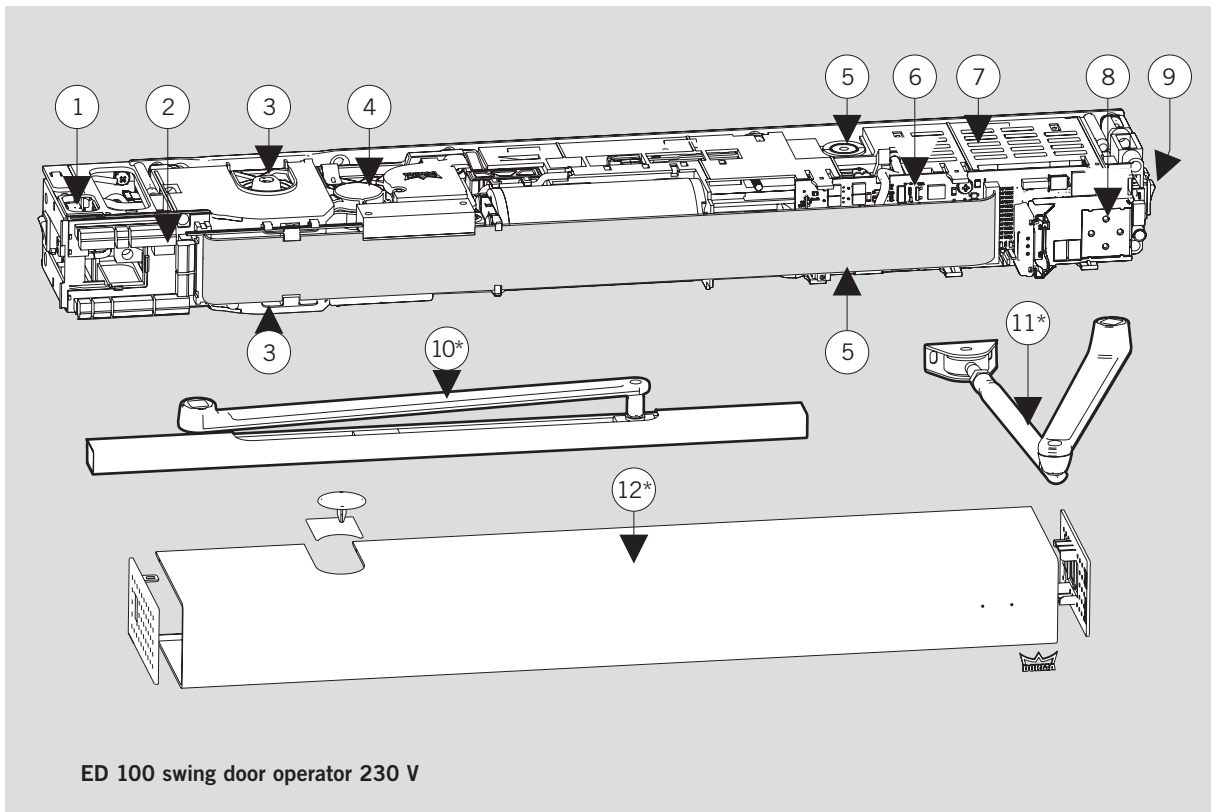
Drilling template: CONTINUOUS cover, push-version, pivoted door



Standard axle extension
Cable entry on the left or on the right side.



System setup



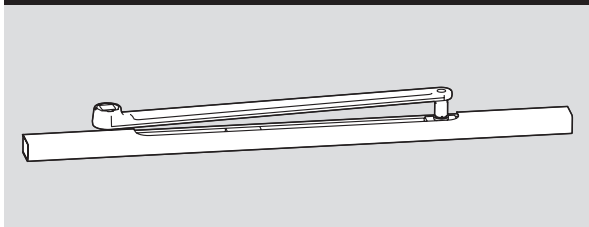
ED 100 swing door operator 230 V

The example system is equipped with all possible components. It is selected in accordance with the door-leaf width and the door-leaf weight.

- | | | | |
|------------------------------------|-------------------------------|---|----------------------|
| ① Mains connection | ⑤ Adjustment of closing force | ⑩ User interface with information display | *supplied separately |
| ② Connection unit | ⑥ Control unit | ⑪ Internal program switch | |
| ③ Axle connection on both sides | ⑦ Switching power supply unit | ⑫ Slide channel (Set)* | |
| ④ Drive system (motor/gear/spring) | | ⑬ Standard arm* | |
| | | ⑭ Complete cover* | |

Arm

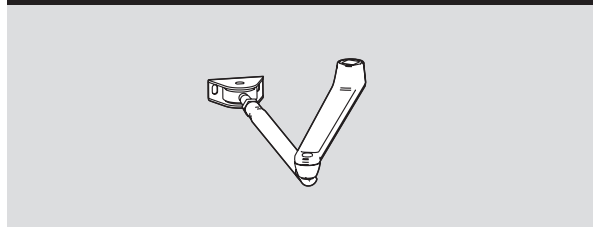
ED slide channel set – pull-version



The slide channel set is suitable for doors with a door-leaf width of 1,100 mm for the ED 100.

The maximum lintel depth amounts to +/- 30 mm.

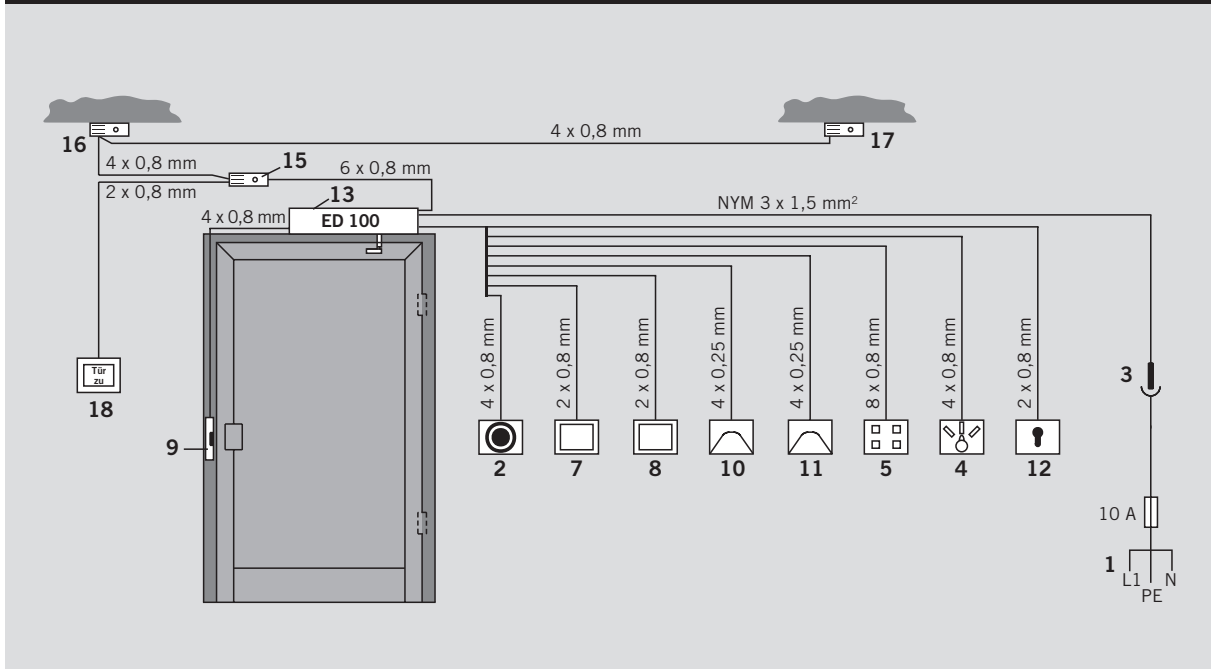
ED standard arm 225 – push-version



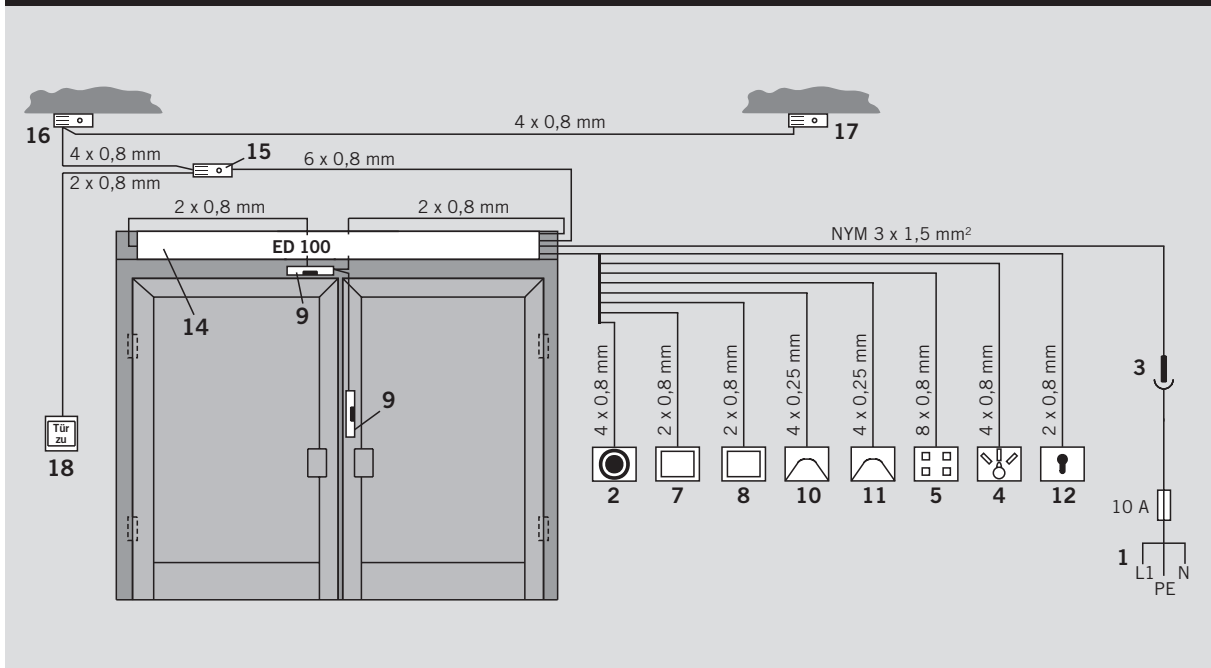
The standard arm is suitable for lintel depths of up to 225 mm, admissible door-leaf width of 1,100 mm.

For lintel depths from 0 to 225 mm

ED 100, single-leaf doors



ED 100, double-leaf doors



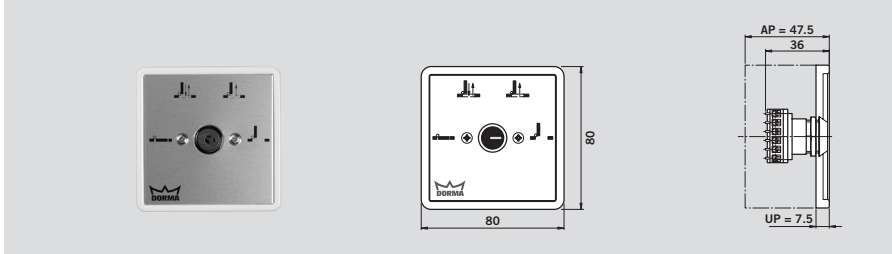
Connections

- | | | | |
|---|----------------------------------|---|---------------------------------------|
| 1 Power supply | 6 Pushbutton | 12 Key switch | 17 RM-N smoke detector, hinge side |
| 2 Emergency pushbutton, function: Emergency Off | 7 Pushbutton, inside | 13 ED 100 | 18 Optional manual release pushbutton |
| 3 Two-pole-and-earth socket | 8 Pushbutton, outside | 14 ED 100 with continuous cover | |
| 4 External PGS, mechanical | 9 Locking device | 15 RM-ED smoke detector | |
| 5 External PGS, electronic | 10 Radar motion detector, inside | 16 RM-N smoke detector, opposite hinge side | |
| | 11 Remote actuation | | |

OPTIONS

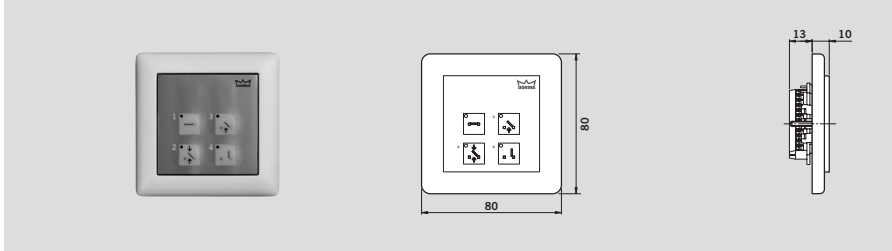
Program switches

PG-D3



Program switch PG-D3
4-position, lockable, aluminium, white, flush-mounted version, Gira S-Color

EPS-D



EPS-D full-electronic program switch
In System 55 design, 4-position, lockable via code or additional TL-ST S55 key switch, membrane keypad, aluminium-coloured, white, flush-mounted version

ESR – Integrated door coordinator

The ESR set is installed inside the double-leaf operator on site. It is available as an individual

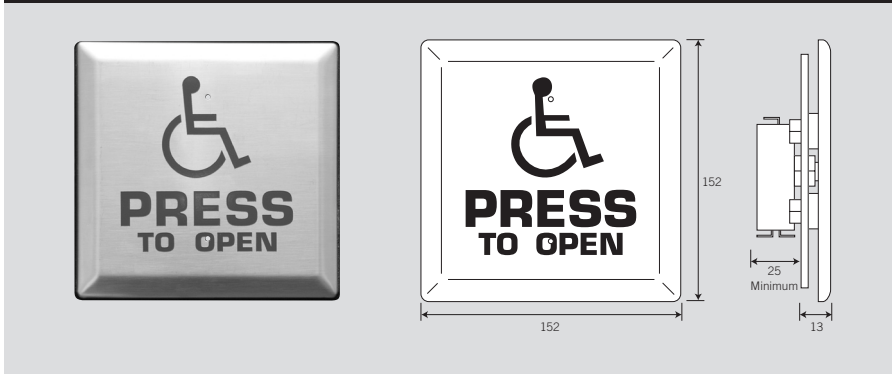
component and is easy to install. The system works similar to a drum brake and thereby ensures the proper

functioning of the system. Its brake works on the motor shaft of the operator on the active door leaf and

transfers the switching signal via a shaft.

Stainless steel push pads

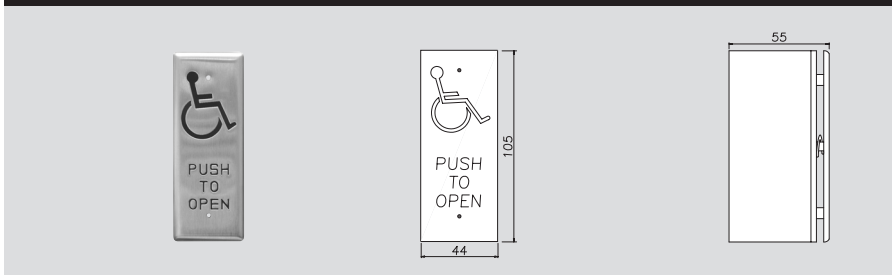
Push pads



With wheelchair logo
150mm x 150mm
Flush/surface mounting versions available

Wireless with wheelchair logo
150mm x 150mm
Flush/surface mounting versions available

Mullion switch



Mullion switch with wheelchair logo
100mm x 45mm
For fitting on barrier
Flush/surface versions available

Safety barriers

Framed 'F' type safety barriers

B.S. 7036 – The British Standard which covers safety at automatic doors for pedestrian use states: If the door can be approached from the side a barrier should be installed to prevent users from walking into the path of the door during its opening cycle. DORMA offer the following range of barriers to ensure compliance



Framed 'F' type with glass infill.

Silver painted aluminium frame. 10mm toughened glass infill.

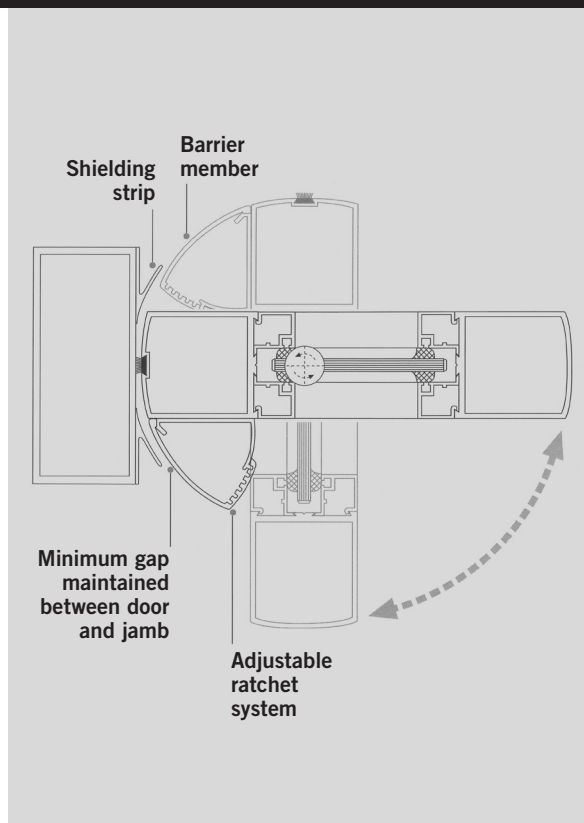
Framed 'F' type with solid infill.

Silver painted aluminium frame. Silver painted aluminium sheet infill

Back edge protection

Pivotsafe and Hingsafe

British Standard 7036 – the code of practice which covers safety at automatic doors for pedestrian use states: During the opening cycle of a swing door a potential finger trap is created by the construction, the position of the pivot point or by other features. Such hazards should be overcome by the installation of a device which either fills the finger trap or minimises the gap so as not to create a hazard. To ensure that installations carried out by DORMA meet the strictest safety standards we offer a range of options suitable for the majority of door types.



Pivotsafe for pivoted doors.

Aluminium. Available in anodised or RAL painted finishes. Suitable for conventional doors with pivot centres between 50mm and 75mm

Hingsafe for hinged doors.

UVPC. Available in either white or brown.





DORMA infrared safety sensors are active infrared sensors and designed to detect all static and moving obstructions, either people or objects, within their detection range. On the opposite hinge side,



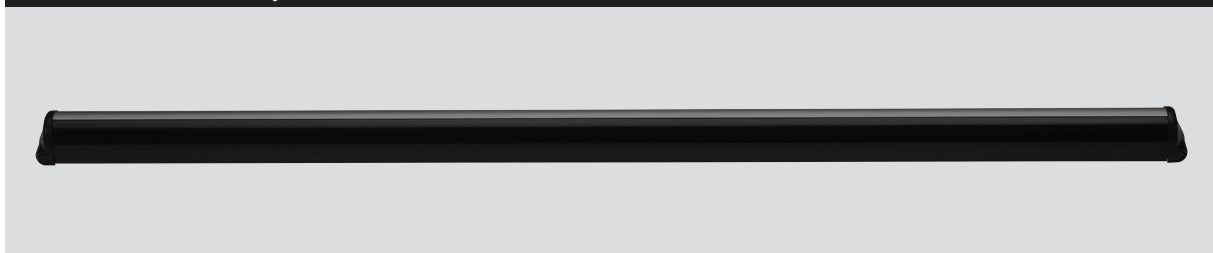
the infrared safety sensor fulfils the function of an activator, which means that the sensor will institute the door to reverse and open as soon as an obstruction is detected in the course of a closing cycle. Then the hold-



open times starts anew. On the hinge side, the infrared safety sensor will interrupt the automatic movement of the door whenever it detects an obstruction; the door closes on expiry of the adjusted hold-open

time. DORMA infrared safety sensors are available in different lengths and may be supplied in the same colour as the operator.

IRS-4 active infrared safety sensor



IRS-4 active infrared safety sensor

Colour

IRS-4 233 With one sensor, length: 330 mm
 IRS-4 290 With two sensors, length: 900 mm

black coloured
 black coloured

ESM Energy Saving Mode

The Energy Saving Mode is available when the IRS-4 is installed in combination

with the ED 100 swing door operator. The sensors automatically switch to

Stand-By Mode as soon as the program switch at the operator is adjusted to OFF.

Specifications

Single

- Manufacturer and reference: DORMA ED 100 Low Energy Swing Door Operator
- Drawing reference:
- Number required:
- Electromechanical automatic low energy drive unit consisting of a DC motor, multi-stage gearing, spring and modular designed electronic control system incorporated within 70mm deep aluminium Contur designed housing.
- Continuously variable spring opening and closing force via integral bevel gearing.
- Adjustable electronic control system to overcome door seals or latch action locking devices during the closing cycle.
- Switchable control system to overcome wind load or pressure differentials during the closing cycle.
- Automatic closing by adjustable spring independent of main power
- In the event of power failure door reverts to spring controlled manual operation
- Steplessly adjustable closing force EN 1154 between EN 2 – 4
- Opening speed adjustable between 4 – 25 Degrees / Second
- Hold open time adjustable between 0 and 30 seconds
- 3 position mode switch (off, automatic, hold open)
- DORMA IRS 290 safety sensors with Powersave function fitted to opening side of door leaf (Option)
- ESM Energy Saving Mode. The IRS-4 sensors automatically switch to stand-By Mode as soon as the program switch on the operator is switched to Off.
- DORMA IRS-4 safety sensors with Powersave function fitted to safe side of door leaf (Option)
- Standard push action drive arms (Option).
- Channel slide pull action drive arms (Option).
- Hard wired wall switch actuation (150mm x 150mm) satin stainless steel (Option)
- Wireless wall switch actuation (150mm x 150mm) satin stainless steel complete with radio control (Option).
- Hand held fob actuation complete with radio controlled receiver incorporated within operator housing (Option)
- Dorma 'F' type extruded aluminium framed safety barrier with toughened glass infill's installed along the line of doors in the open position (Option).
- DORMA Pivotsafe anti finger trap device (Option)
- DORMA Hingesafe anti finger trap device (Option)
- Finish: Silver Anodised Aluminium (Option)
- Polyester powder coated to a standard RAL colour (Option)
- The installation shall comply fully with BS 7036 (The Code of Practice for Safety at Powered Doors for Pedestrian use).
- The manufacturer engineers shall carry out installation
- The electrical contractor shall provide a 240-volt AC mains spur to the left-hand side of the opening above and on the same face that each drive unit is fitted. The spur must be switched and fused with a central flex outlet faceplate. A 10 amp residual circuit breaker at the main board and a 5-amp fuse at the spur shall protect the circuit.

Pair

- Manufacturer and reference: DORMA ED 100 Low Energy Swing Door Operator
- Drawing reference:
- Number required:
- Electromechanical automatic low energy drive units consisting of a DC motor, multi-stage gearing, spring and modular designed electronic control system incorporated within 70mm deep aluminium Contur designed continuous housing.
- Continuously variable spring opening and closing force via integral bevel gearing.
- Adjustable electronic control system to overcome doors seals or latch action locking devices during the closing cycle.
- Switchable control system to overcome wind load or pressure differentials during the closing cycle.
- Automatic closing by adjustable spring independent of main power
- In the event of power failure door reverts to spring controlled manual operation
- Steplessly adjustable closing force EN 1154 between EN 2 - 4
- Opening speed adjustable between 4 - 25 Degrees / Second
- Hold open time adjustable between 0 and 30 seconds
- 3 position mode switch (off, automatic, hold open)
- DORMA IRS 290 safety sensors with Powersave fitted to opening side of each door leaf (Option)
- ESM Energy Saving Mode. The IRS-4 sensors automatically switch to stand-By Mode as soon as the program switch on the operator is switched to Off.
- DORMA IRS-4 safety sensors with Powersave fitted to safe side of each door leaf (Option)
- Standard push action drive arms (Option).
- Channel slide pull action drive arms (Option).
- Hard wired wall switch actuation (150mm x 150mm) satin stainless steel (Option)
- Wireless wall switch actuation (150mm x 150mm) satin stainless steel complete with radio control (Option).
- Hand held fob actuation complete with radio controlled receiver incorporated within operator housing (Option)
- Dorma 'F' type extruded aluminium framed safety barrier with toughened glass infill's installed along the line of doors in the open position (Option).
- DORMA Pivotsafe anti finger trap device (Option)
- DORMA Hingesafe anti finger trap device (Option)
- Finish: Silver Anodised Aluminium (Option)
- Polyester powder coated to a standard RAL colour (Option)
- The installation shall comply fully with BS 7036 (The Code of Practice for Safety at Powered Doors for Pedestrian use).
- The manufacturer engineers shall carry out installation
- The electrical contractor shall provide a 240-volt AC mains spur to the left-hand side of the opening above and on the same face that each drive unit is fitted. The spur must be switched and fused with a central flex outlet faceplate. A 10 amp residual circuit breaker at the main board and a 5-amp fuse at the spur shall protect the circuit.



Automatic



Door Control



**Glass Fittings
and Accessories**



Movable Walls



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