Hospital sliding door operator

DORMA ES 400

ES 400 – the compact operator, especially suitable for application in hospitals

As a compact and innovative sliding door operator, the DORMA ES 400 is especially suitable for application in hospitals, institutes or laboratories. Thanks to its simple and low-maintenance design, it guarantees easy handling and reliable function as well as a long life cycle

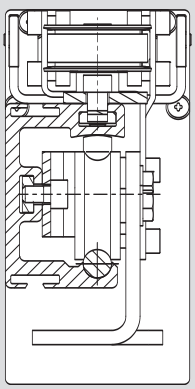
For single- and double-leaf doors
The DORMA ES **410** effortlessly operates single-leaf doors with a weight of up to 200 kg at a passage width of up to 3 m, while the DORMA ES **420** is especially suitable for double-leaf doors with a door leaf weight of up to 2 x 125 kg.
Thanks to their high operating dynamic, both operators guarantee a smooth function combined with excellent operating characteristics.

The respective risk assesment will show which safety devices according to DIN 18650 (Germany) are required.
German type approval according to DIN 18650: 21201004.

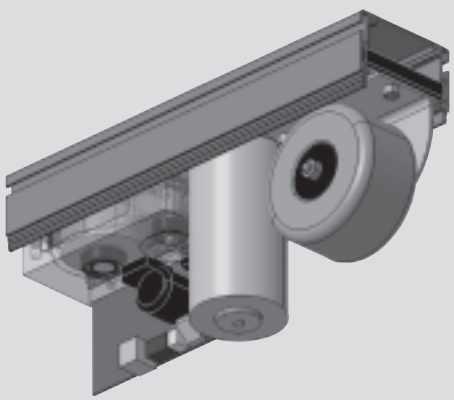
Features and benefits

- Compact design
- Excellent operating dynamic
- Applicable for heavy doors in stainless steel design
- Self-learning
- Parameterisation via software
- Push & Go function
- Separate input for control via fire detection system
- Integrated airlock function for up to 3 door sets
- Automatic changeover to manual closing

Cross section



Drive unit



Door parameters	ES 400
Single-leaf sliding door	
– Clear passage width (LW)	700 – 3000 mm
– Max. weight per door leaf	1 x 200 kg
Double-leaf sliding door	
– Clear passage width (LW)	800 – 3000 mm
– Max. weight per door leaf	2 x 125 kg

Technical Data	
Height	132 mm
Installation depth	65 mm
Max. opening and closing force 150 N	x
Opening speed (adjustable)	10 – 50 cm/s
Closing speed (adjustable)	10 – 50 cm/s
Hold-open time	
– Partial open	0 – 60 sec.
– Bed-function	0 – 60 sec.
Supply voltage, frequency	230 V, 50/60 Hz
Power consumption	180 W
Class of protection	IP 20
Temperature range	0° to 40°
Compliant with the Low Voltage Directive	x
Manufactured to ISO 9001:2000	x

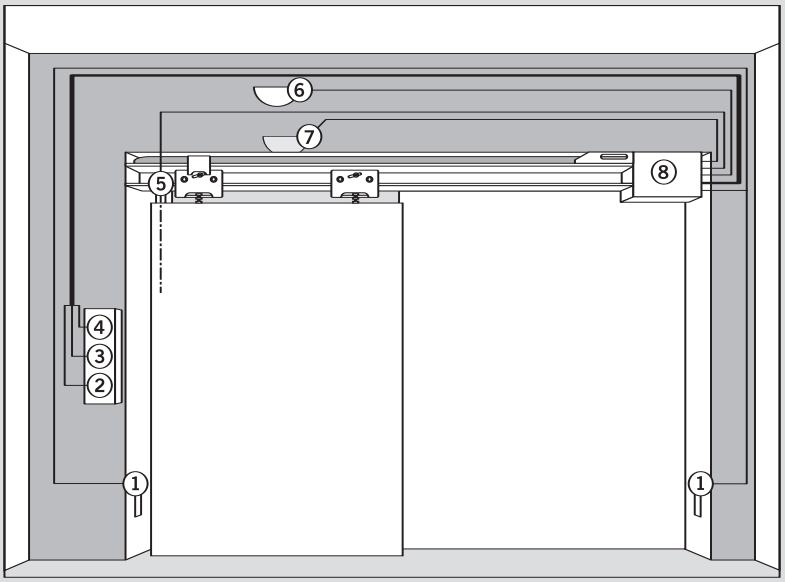
Control unit	
Microprocessor controls	x
Function programs	
– Off	x
– Permanent open	x
– Nurse-function (partial open)	x
– Bed-function (complete open)	x
– Changeover (Open/Closed)	x
Self-learning	x
Automatic reversing	x
Light barriers (max. 2 pairs)	x
24 V-output for external appliances	x

Accessories	
Light barriers	X
Emergency power supply unit USV	X

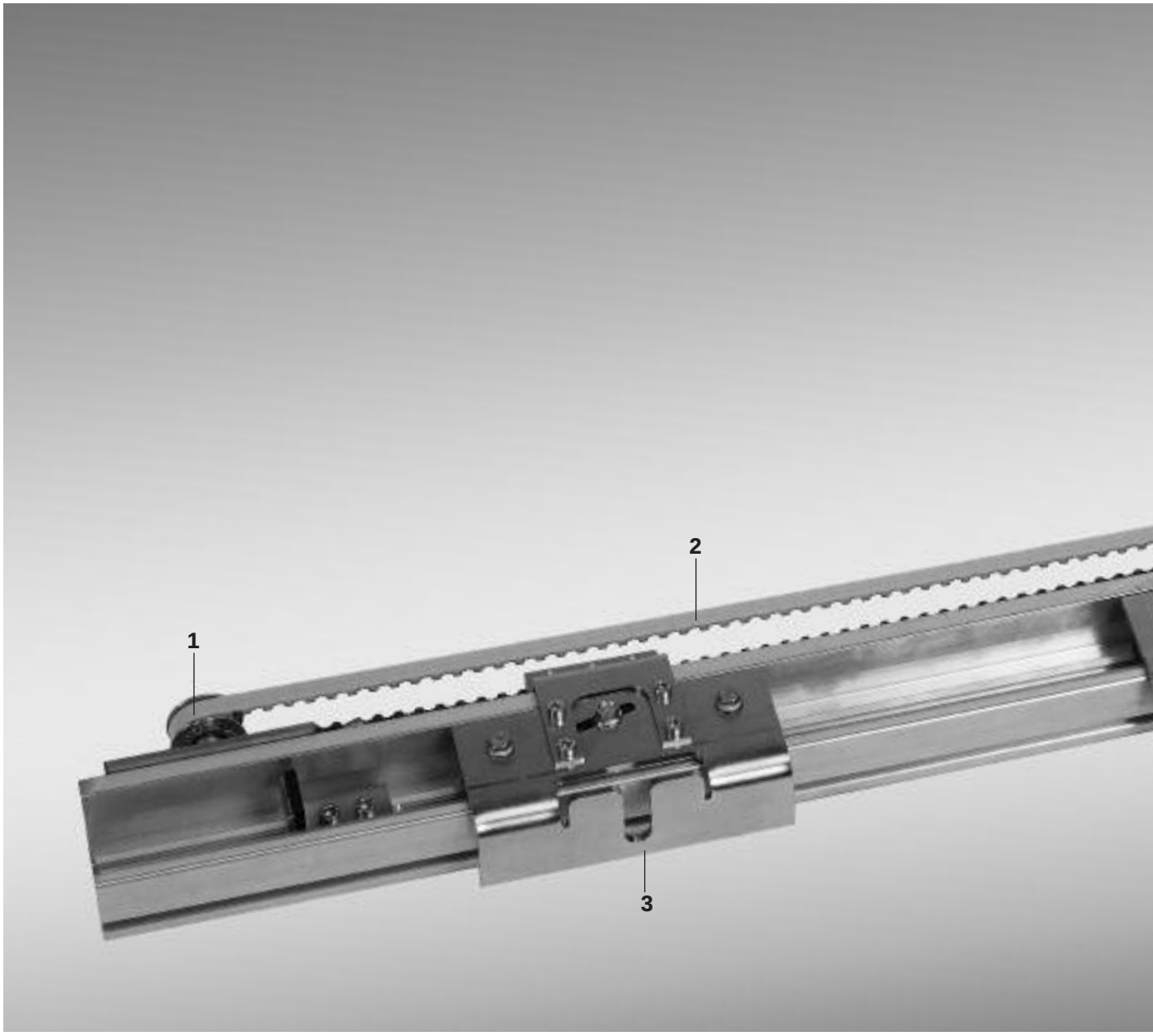
For structural heights of less than 2500 mm, a protective cover has to be installed by others.

x Standard
X Optional

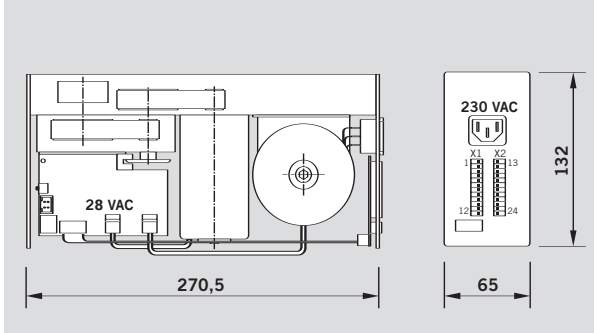
Connections



System component	System cable
① Light barrier / Safety sensor	4 x 0,5
② Activator “Open”	2 x 0,5
③ Activator “Partial open”	2 x 0,5
④ Activator “Permanent open”	2 x 0,5
⑤ Latch bolt contact	2 x 0,5
blocks connections	1 bis 6
⑥ External motion detector	4 x 0,5
⑦ Internal motion detector	4 x 0,5
⑧ Control unit	

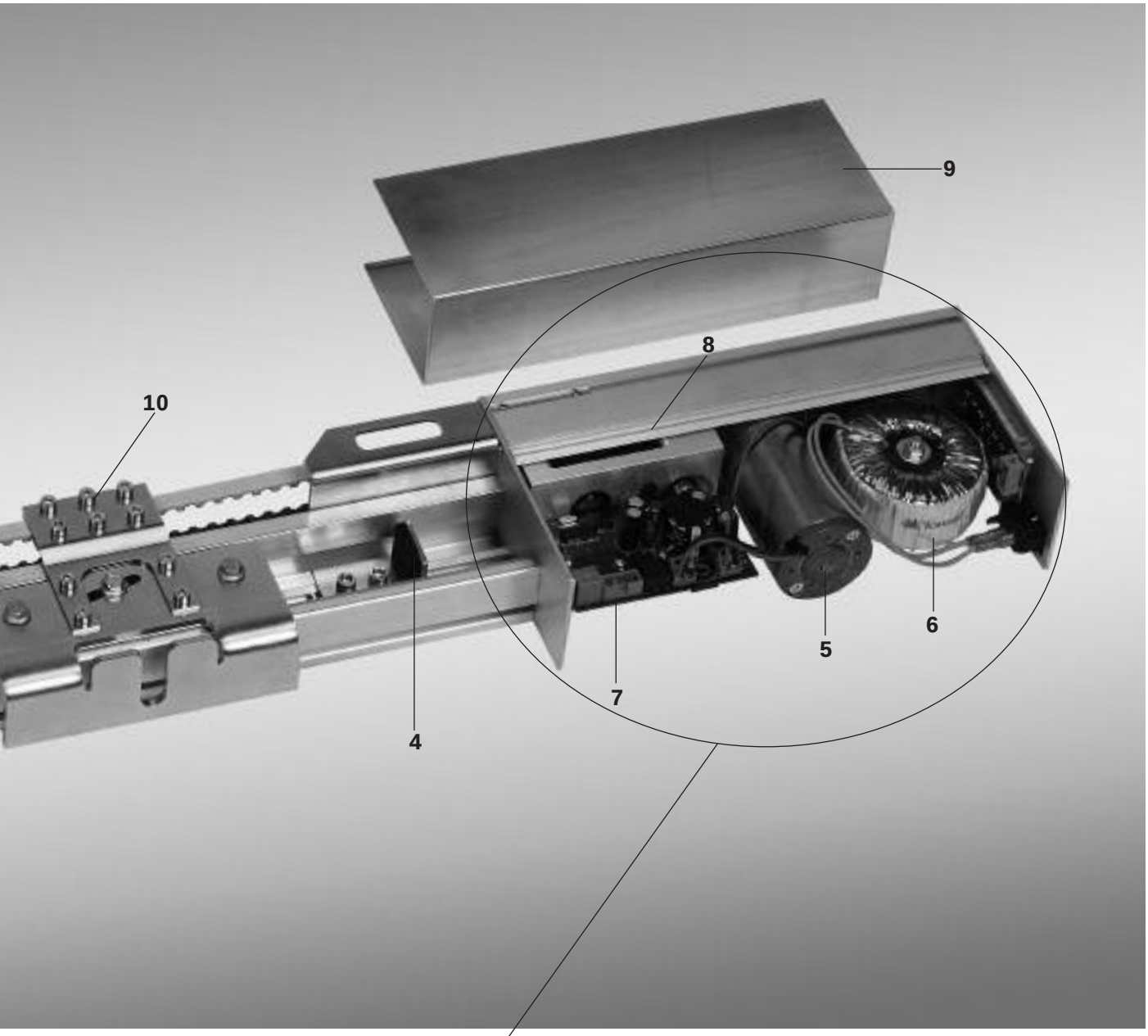


Control unit



Thanks to its especially compact design, the operator may be installed in all buildings with standard doorframes.

Parameter setting via PDA or PC software.



The core piece of the ES 400:
The prefabricated **drive unit** consists of all required electrical components and is tested individually thus facilitating the assembly and maintenance of the operator.

Components

1 Return pulley
2 Toothed belt
3 Carrier head
4 End stop
10 Carrier

Drive unit
5 Motor
6 Transformer
7 Control unit
8 Gear
9 Housing

Large-size pushbutton

Large-size, palm and elbow pushbuttons

Designation	Specification	Order No
Large-size pushbutton	silver anodised CO, for flush/surface mounting, 304 x 80 mm	90410015

Large-size pushbutton (switch and switch pad must be combined)

Designation	Specification	Installation system	Order No
Large-size pushbutton	incl. box for flush mounting, without switch pad, incl. switch, 224 x 82 mm	Jung	5095531332
Large-size pushbutton	incl. box for surface mounting, without switch pad, incl. 2 switches, paint sprayed for aluminium effect, 224 x 82 x 44 mm	Jung	05095231332
Switch pad	Aluminium, for flush/surface mounting, 214 x 70 mm	Jung	05095431332

Switch pad

Neutral

Disabled symbol

Complete

Permanent open

Partial open
Nurse function

Lock and unlock

Stainless steel pushbuttons (Component system)

Centre insert consisting of switch pad and frame must be combined and ordered.

Designation	Specification	Installation system	Order No
Centre insert*	centre insert, pushbutton with changeover contact single-pole, flush mounting		5157633332
Frame*	single, stainless steel 81 x 81 mm	stainless steel	5157833332
Switch pads	neutral	stainless steel	5157233332
	Disabled symbol	stainless steel	5157433332
	Complete opening for Automatic function “bed-function”	stainless steel	5157533332
	Permanent complete opening for “permanent open” function	stainless steel	5157333332
	Partial opening for “nurse-function”	stainless steel	5157133332
	To lock and unlock, used in rest rooms for disabled people in combination with a pushbutton, lock symbols for locked, unlocked	stainless steel	5156933332
Sealing kit IP 44*	Sealing kit IP 44 (only for stainless steel range)	stainless steel	5157733332

Box for surface mounting for stainless steel range

Designation	Specification	Installation system	Order No
Box for surface mounting*	single, paint sprayed for stainless steel effect	stainless steel	5119633332

* without picture

Special pushbuttons

Designation	Specification	Order No
Foot pushbutton	Foot pushbutton in heavy design with black plastic housing. Mushroom-style pushbutton with a diameter of 94 mm. Impact resistant plastic for application in heavily used areas, class of protection IP 67.	
	Equipped with NO contact, 98 x 83 x 85 mm (height x length x width)	5026931332

Foot pushbutton (Mushroom pushbutton)

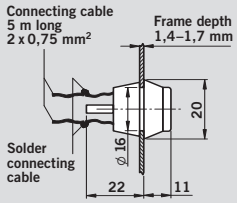
Designation	Specification	Order No
Pull switch ZT	10 A, 380 V DC, IP 65, incl. fixing brackets, draw cable, plastic ball end, surface mounting	90410020

Pull switch

Jamb-concealed pushbutton

Designation	Specification	Order No	Order No
Pushbutton	single-pole closing device for snap-in mounting, frame depth 1,4 – 1,7 mm		
	colour	**excl. cable**	**incl. cable 5 m 2 x 0,75 mm**
	grey	5020633332	90410021
	black*	5043833332	90410022
	orange*	5043933332	90410023
	white*	5132833332	90410024

Jamb-concealed pushbutton



Code switch CT 4/1 (Keypad and electronics module have to be combined)

Designation	Specification	Order No
	The CT 4/1 code switch is a modern and safe alternative to common key switches. The CT is ready for use after two simple programming steps. The data is transferred coded and is thus protected against manipulation. The evaluation unit must be ordered separately 230 V/50 Hz, 1,5 VA, 1 x UM power-free relay contact 8 A, 250 V, Connections: max. 2,5 mm	
MTB 4/1	Metal pushbutton for entering the opening code and for programming purposes, surface mounting, 75 x 75 x 11,5 mm	5079331332
EB 4/1*	Electronics module, incl. connecting cable 2 m, plastic housing, black, surface mounting	5063431332

MTB 4/1

* without picture

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