

DORMA

Automatic Sliding Door Operator ES 90



DORMA ES 90 - Advantages



- ▶ Profiles with mechanical and electronic elements to suit all types of drive
- ▶ Low-noise operation (as standard)
- ▶ Basic control module with two extension modules and hand terminal
- ▶ Special profiles for structural support assemblies, connections and door leaves

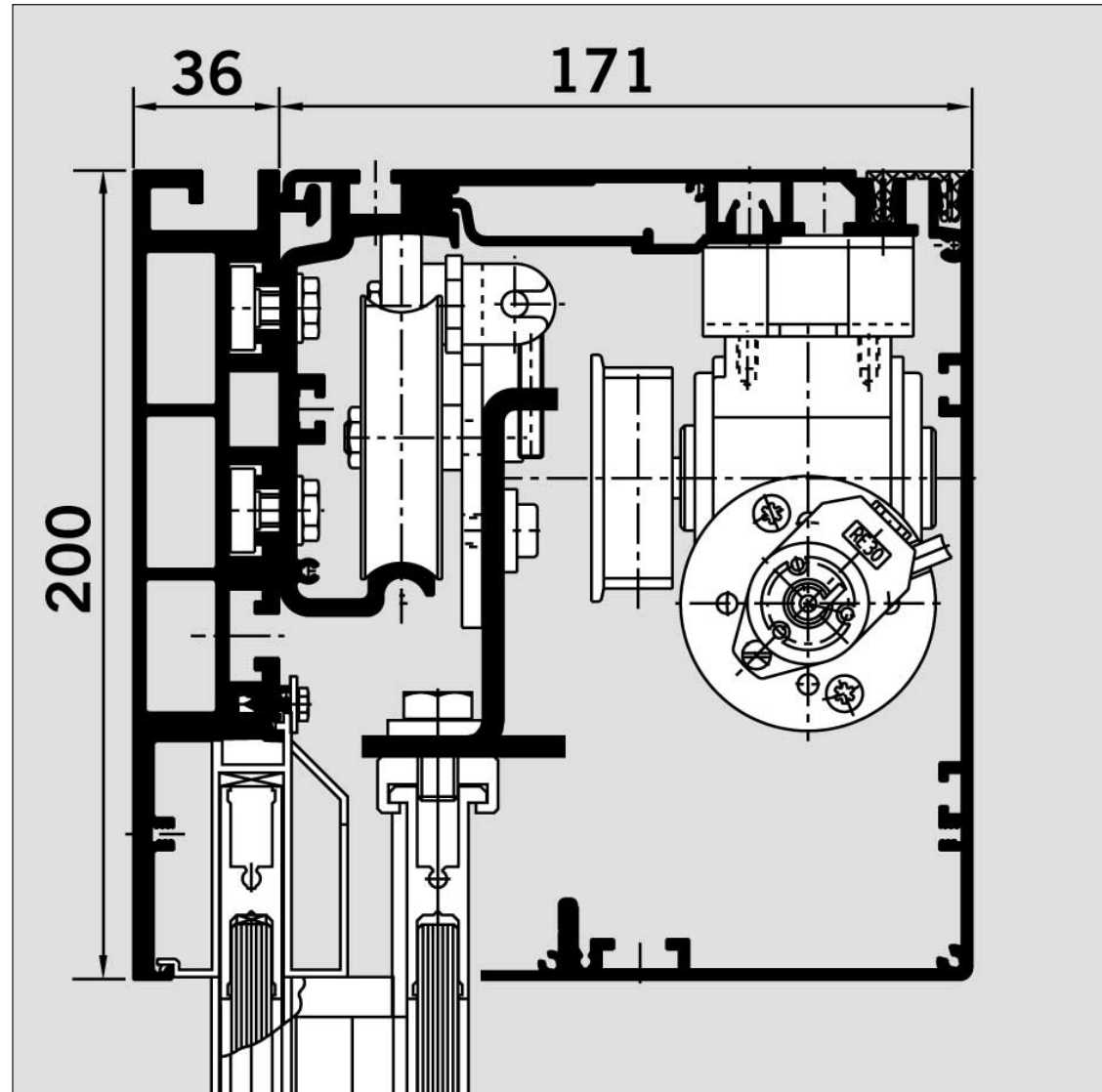


DORMA ES 90 - Cross-Section and Profiles



DORMA ES 90

- ▶ Standard operator with low-noise track rail

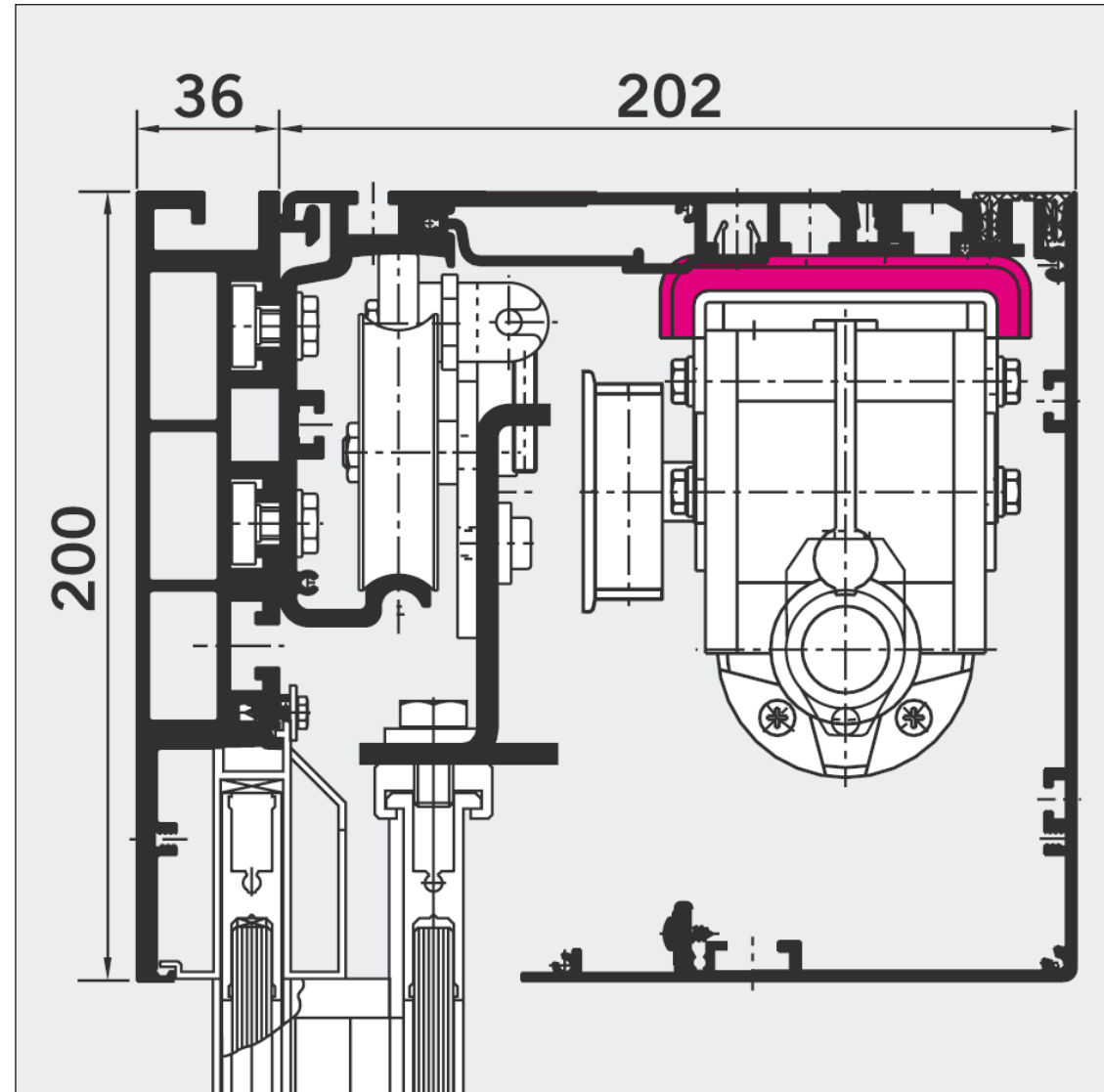


DORMA ES 90 - Cross-Section and Profiles



DORMA ES 90 E

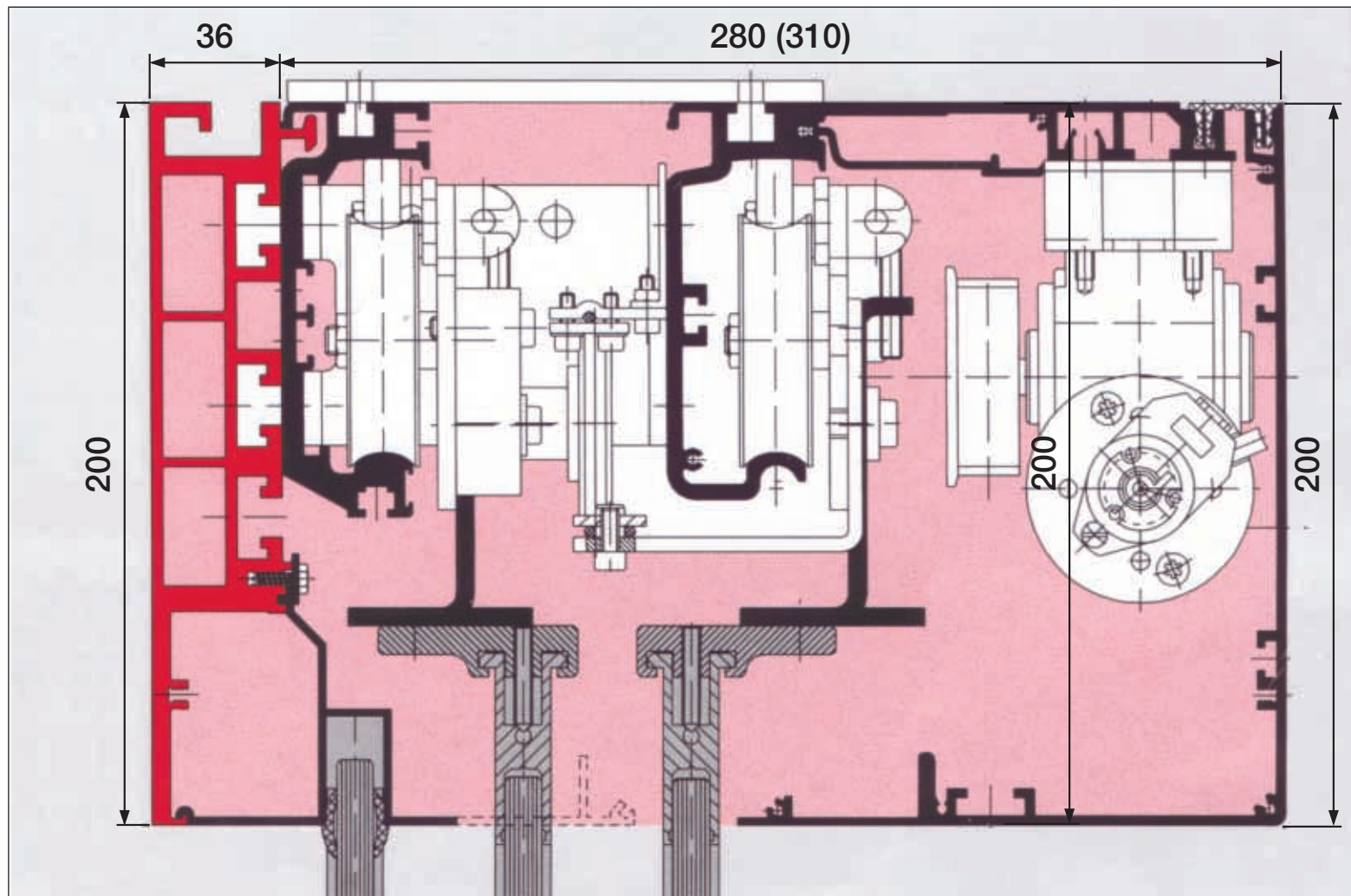
- ▶ Standard operator with low-noise track profile, sound-insulated motor fixing and more powerful motor



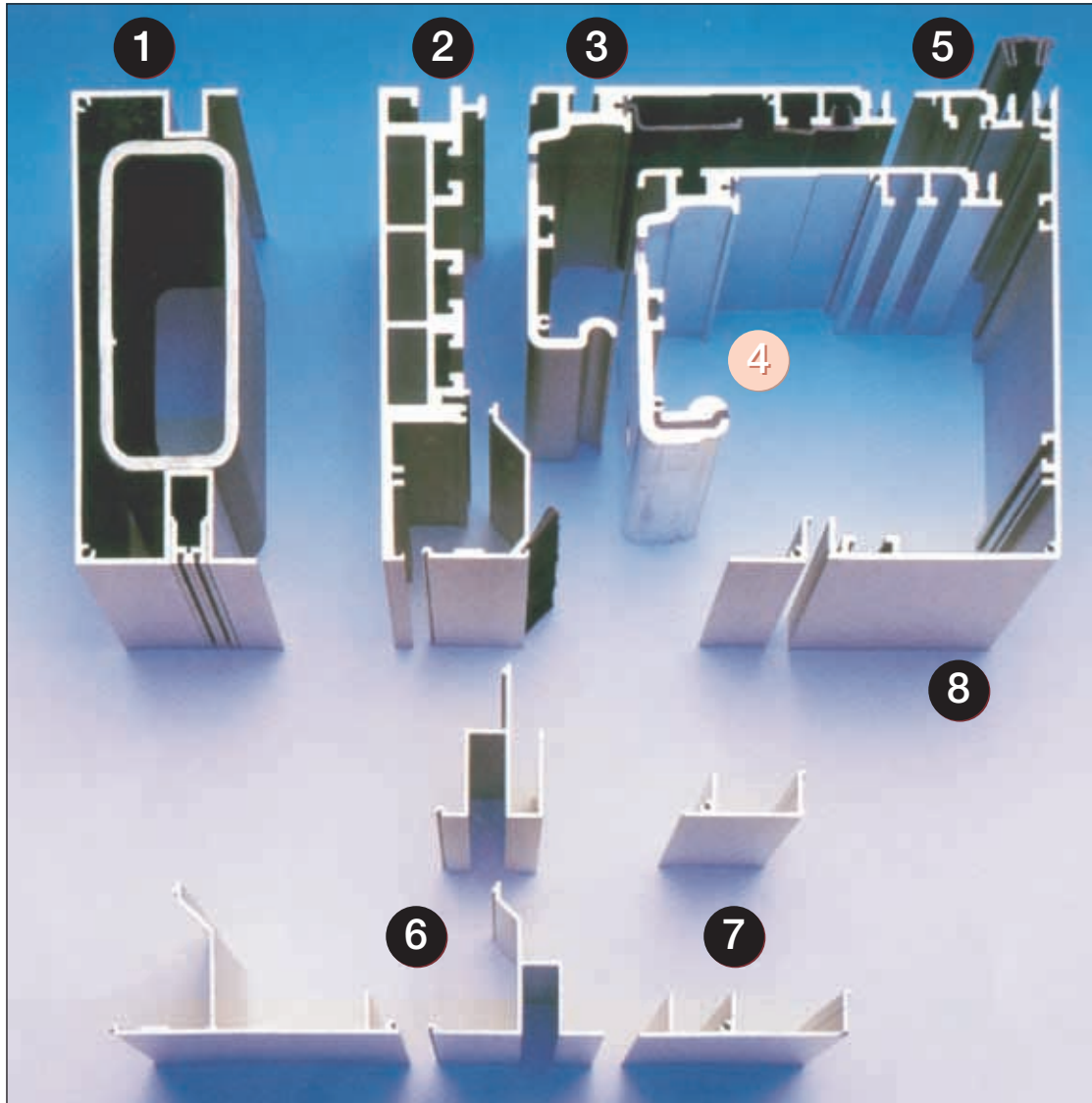
DORMA ES 90 - Use of Profiles



DORMA ES 90 T

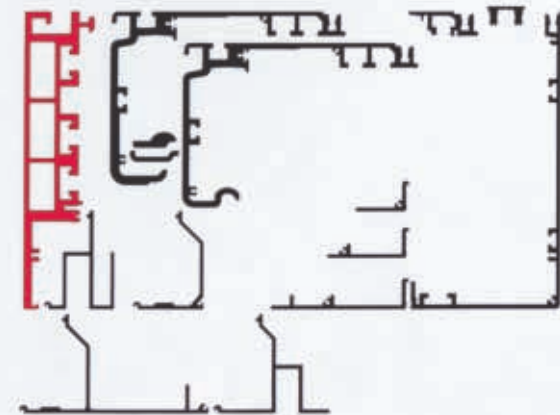


DORMA ES 90 - Special Profiles

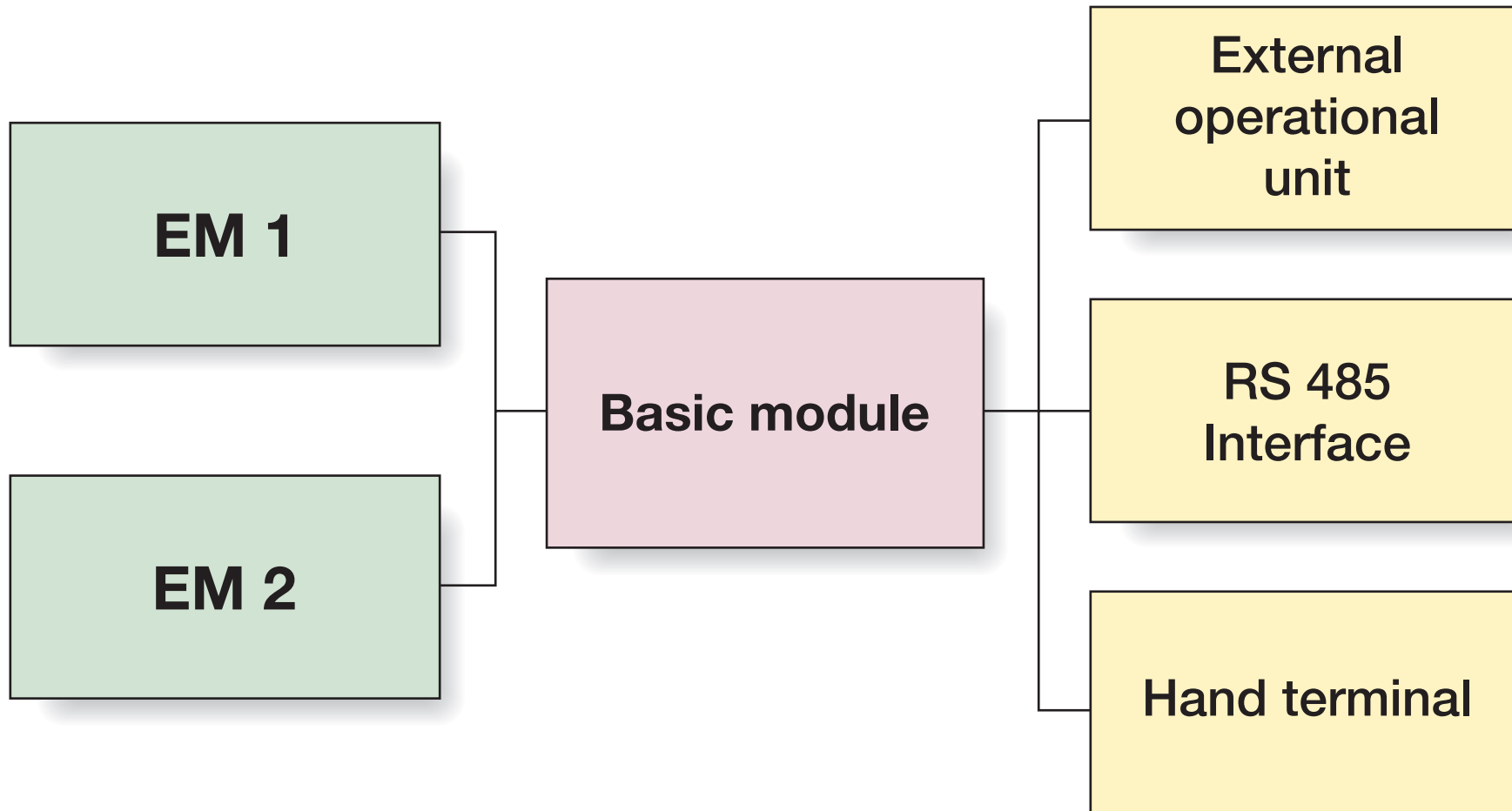


- 1 MSH girder with cover
- 2 Aluminium girder
- 3 DORMA ES 90 profile/ES 90 T profile
- 4 DORMA ES 100 profile
- 5 Expansion profiles
- 6 Cover profile
- 7 Adapter profile
- 8 Internal cover

Special profiles for structural support assemblies, connections and door leaves



- ▶ Individual control configurations using expansion modules and operational controls



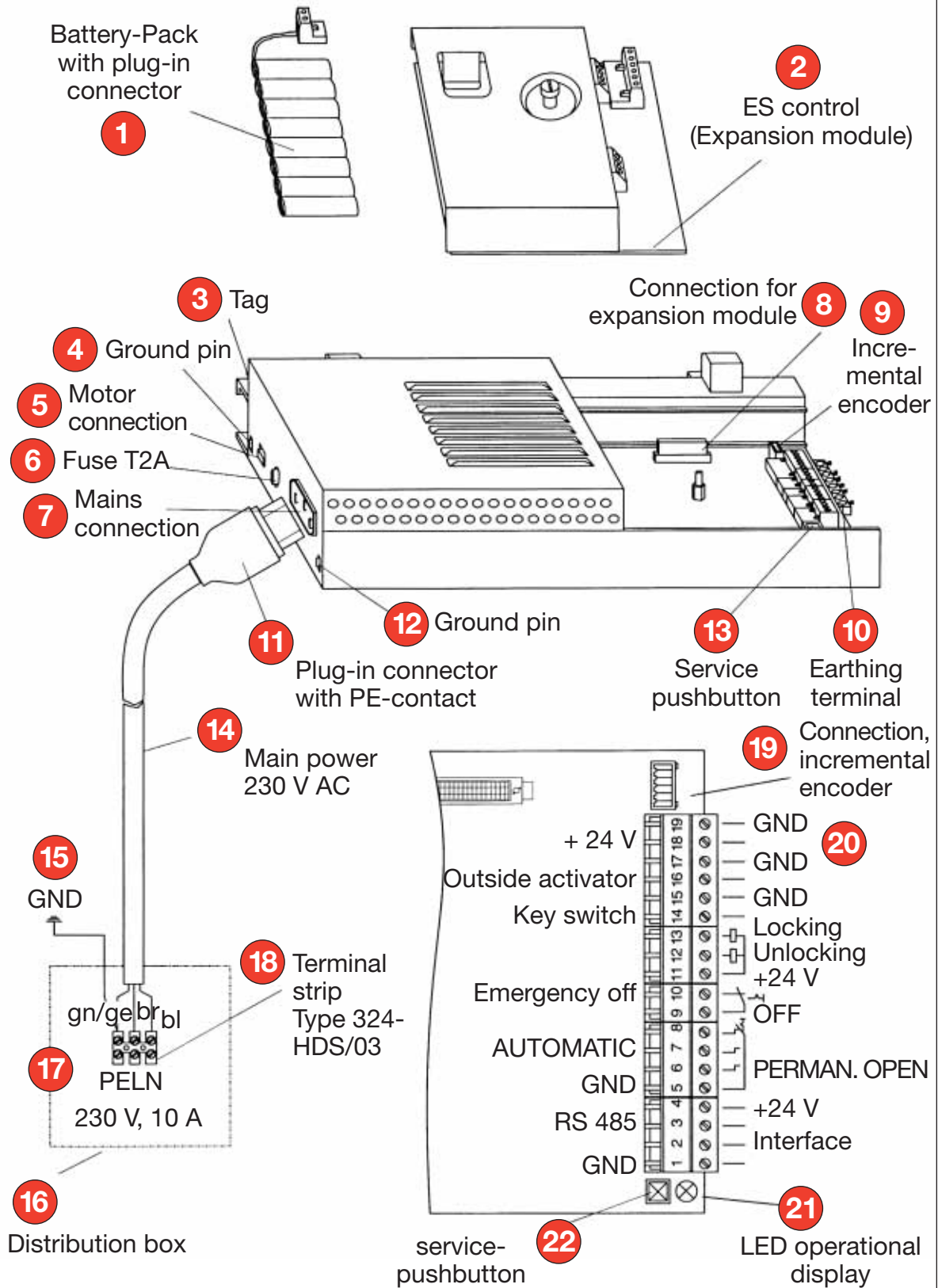
DORMA ES 90 - Components Basic Module



- 1 Track and fixing profiles
- 2 Carrier head
- 3 Door fixing
- 4 Motor with decoder
- 5 Track rail

- 6 Return pulley
- 7 Basic module, control with integrated power supply unit and multiway connector for optional expansion modules
- 8 Stopper

ES control (basic module)



DORMA ES 90

Basic Module + Expansion Module



EM1

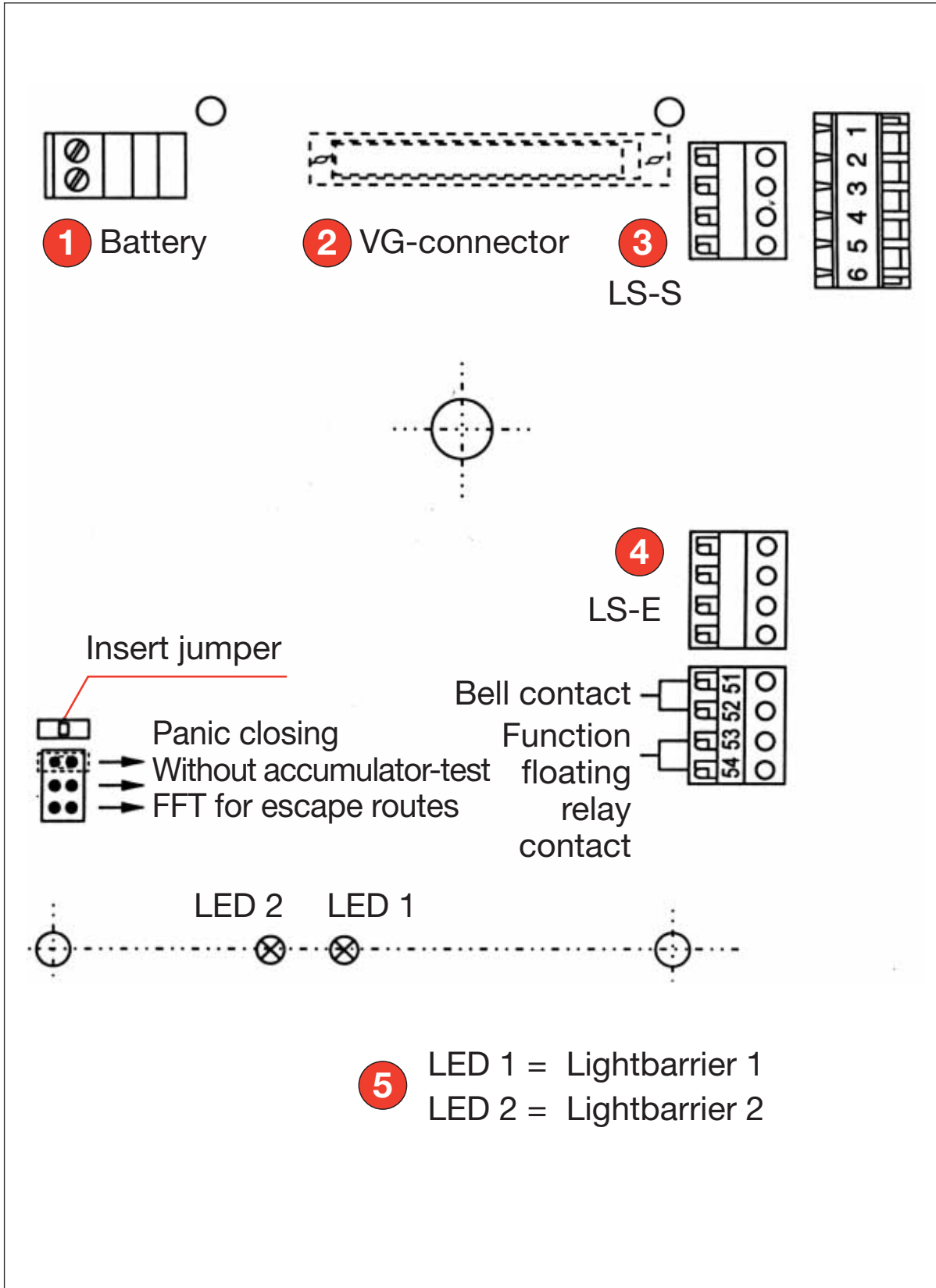
- Exit only
- Partial opening, freely selectable opening width, self-regulating partial opening
- Mains-free opening via battery pack
- Photo-electric light barrier control (light barriers = optional feature)
- Battery pack (optional)
- Emergency unlocking via battery pack

EM 2

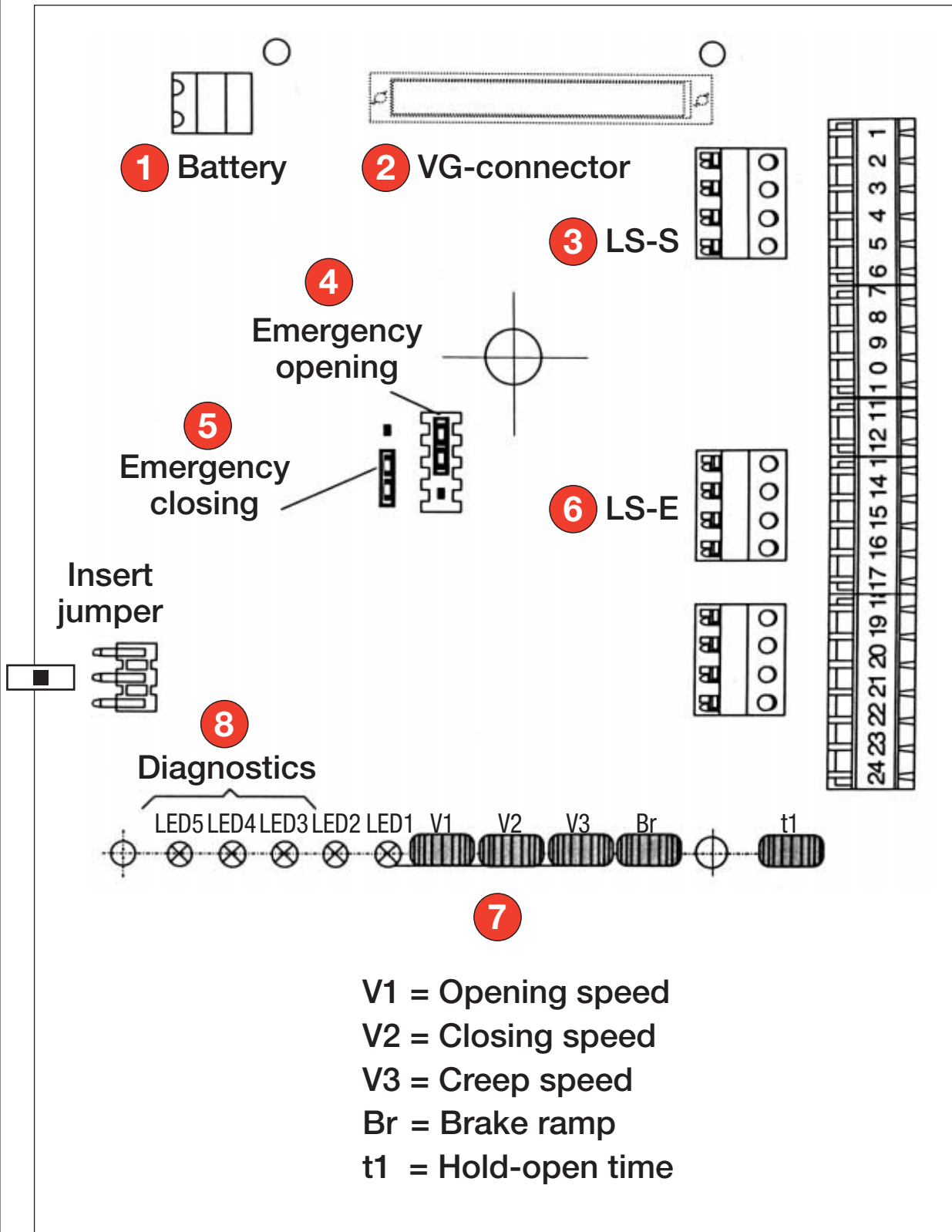
The EM 2 includes all the features of EM 1 plus:

- Pharmacy control (optional)
- Two-door interlock control
- Visual fault indicator
- Connection for emergency power supply module (optional)
- Potentiometer adjustment
- Main and secondary closing edge safety control (with optional indicator)
- Bell connection
- Mains-free closing or opening via battery pack

Expansion module 1 (EM 1)



Expansion module 2 (EM 2)



DORMA ES 90 - Door Parameter/Technical Data



Door parameter

Opening width, single leaf	700 - 3000 mm
Opening width, double leaf	800 - 3000 mm*
Opening width, four-leaf	--
Max. door weight, single leaf	150 kg
Max. door weight, double leaf	2 x 100 kg
Max. door weight, four-leaf	--
Type-approved/CE	●

Technical Data

Dimensions of operator unit	
- Length	max. 6100 mm
- Depth	171 mm
- Height	200 mm
Power supply	230 V/50 - 60 Hz
External power supply	24 V DC/ 2A
Max. power input	360 W
Average consumption	45 W/h

● Yes -- No ○ Option

* Opening widths greater than 3000 mm on application

DORMA ES 90

Control Module/Additional Equipment



Control module

Control	Microprocessor	
Programme		
- Off - Automatic - Permanent open		●
- Partial opening	} EM 1	○
- Self-regulating partial opening		○
- Exit only		○
- Exit only partial opening		○
Parameters adjustable		
Adjustable opening and closing force, in N		●
Adjustable opening speed for each door leaf	10 - 60 cm/s	
Adjustable closing speed for each door leaf	10 - 55 cm/s	
Adjustable creep speed	3 - 9 cm/s	
Adjustable hold open time	0 - 180 s	
Night/bank control (code card reader)		●
Signal pulse extension for code card readers/key-operated switches		●
Automatic reverse cycle		●

Self teaching	●
Floating contact (EM 2)	○
Bus-compatible	●

Additional Equipment

Electro-mechanical locking	○
Manual unlocking	○
Lock/door status signalling	○
Light barriers (self-testing)	○
Mains-free opening	○
Battery pack (monitored)	○
Two-door interlock control	○
Emergency power supply module	○
Pharmacy control	○
Visual fault indicator	○
Mains-free closing/opening	○

● Yes -- No ○ Option

DORMA ES 90 E - Door Parameter/Technical Data



Door parameter

Opening width, single leaf	800 - 3000 mm
Opening width, double leaf	800 - 3000 mm*
Opening width, four-leaf	--
Max. door weight, single leaf	200 kg
Max. door weight, double leaf	2 x 130 kg
Max. door weight, four-leaf	--
Type-approved/CE	●

Technical data

Dimensions of operator unit	
- Length	6100 mm
- Depth	202 mm
- Height	200 mm
Power supply	230 V/50 - 60 Hz
External Power supply	24 V DC/ 2A
Max. Power input	360 W
Average consumption	45 W/h

● Yes -- No ○ Option

* Opening widths greater than 3000 mm on application

DORMA ES 90 E

Control Module/Additional Equipment



Control module

Control	Microprocessor	
Programme		
- Off - Automatic - Permanent open		●
- Partial opening	} EM 1	○
- Self-regulating partial opening		○
- Exit only		○
- Exit only partial opening		○
Parameters adjustable		
Adjustable opening and closing force, in N		●
Adjustable opening speed for each door leaf	10 - 75 cm/s	
Adjustable closing speed for each door leaf	10 - 55 cm/s	
Adjustable creep speed	3 - 9 cm/s	
Adjustable hold open time	0 - 180 s	
Night/bank control (code card reader)		●
Signal pulse extension for code card readers/key-operated switches		●
Automatic reverse cycle		●

Self teaching	●
Floating contact (EM 2)	○
Bus-compatible	●

Additional Equipment

Electro-mechanical locking	○
Manual unlocking	○
Lock/door status signalling	○
Light barriers (self-testing)	○
Mains-free opening	○
Battery pack (monitored)	○
Two-door interlock control	○
Emergency power supply module	○
Pharmacy control	○
Visual fault indicator	○
Mains-free closing/opening	○

● Yes -- No ○ Option

DORMA ES 90 T - Door Parameter/Technical Data



Door parameter

Opening width, single leaf	--
Opening width, double leaf	800 - 2000 mm
Opening width, four-leaf	1400 - 2000 mm
Max door weight, single leaf	--
Max door weight, double leaf	2 x 100 kg
Max door weight, four-leaf	4 x 75 kg
Type-approved/CE	●

Technical data

Dimensions of operator unit	
- Length	6100 mm
- Depth	280 mm
- Height	200 mm
Power supply	230 V/50 - 60 Hz
External power supply	24 V DC/ 2A
Max. power input	360 W
Average consumption	45 W/h

● Yes -- No ○ Option

DORMA ES 90 T

Control Module/Additional Equipment



Control module

Control	Microprocessor	
Programme		
- Off - Automatic - Permanent open		●
- Partial opening	} EM 1	○
- Self-regulating partial opening		○
- Exit only		○
- Exit only partial opening		○
Parameters adjustable		
Adjustable opening and closing force, in N		●
Adjustable opening speed for each door leaf	10 - 60 cm/s	
Adjustable closing speed for each door leaf	10 - 55 cm/s	
Adjustable creep speed	3 - 9 cm/s	
Adjustable hold open time	0 - 180 s	
Night/bank control (code card reader)		●
Signal pulse extension for code card readers/key-operated switches		●
Automatic reverse cycle		●

Self teaching	●
Floating contact (EM 2)	○
Bus-compatible	●

Additional Equipment

Electro-mechanical locking	○
Manual unlocking	○
Lock/door status signalling	○
Light barriers (self-testing)	○
Mains-free opening	○
Battery pack (monitored)	○
Two-door interlock control	○
Emergency power supply module	○
Pharmacy control	○
Visual fault indicator	○
Mains-free closing/opening	○

● Yes -- No ○ Option

DORMA ES 90 TE

Door Parameter/Technical Data



Door parameter

Opening width, single leaf	--
Opening width, double leaf	800 - 2000 mm
Opening width, four-leaf	1400 - 4000 mm
Max. door weight, single leaf	--
Max. door weight, double leaf	2 x 100 kg
Max. door weight, four-leaf	4 x 75 kg
Type-approved/CE	●

Technical data

Dimensions of operator unit	
- Length	6100 mm
- Depth	310 mm
- Height	200 mm
Power supply	230 V/50 - 60 Hz
External power supply	24 V DC/ 2A
Max. power input	360 W
Average consumption	45 W/h

● Yes -- No ○ Option

DORMA ES 90 TE

Control Module/Additional Equipment



Control module

Control	Microprocessor	
Programme		
- Off - Automatic - Permanent open		●
- Partial opening	} EM 1	○
- Self-regulating partial opening		○
- Exit only		○
- Exit only partial opening		○
Parameters adjustable		
Adjustable opening and closing force, in N		●
Adjustable opening speed for each door leaf	10 - 75 cm/s	
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Adjustable creep speed	3 - 9 cm/s	
Adjustable hold open time	0 - 180 s	
Night/bank control (code card reader)		●
Signal pulse extension for code card readers/key-operated switches		●
Automatic reverse cycle		●

Self teaching	●
Floating contact (EM 2)	○
Bus-compatible	●

Additional Equipment

Electro-mechanical locking	○
Manual unlocking	○
Lock/door status signalling	○
Light barriers (self-testing)	○
Mains-free opening	○
Battery pack (monitored)	○
Two-door interlock control	○
Emergency power supply module	○
Pharmacy control	○
Visual fault indicator	○
Mains-free closing/opening	○

● Yes -- No ○ Option

DORMA ES 90 - Accessories



Hand terminal

- ▶ Fast and problem-free commissioning of DORMA sliding doors
- ▶ Adjustment of basic parameters
- ▶ Simple and reliable diagnostics in the event of malfunctions
- ▶ Plain text display



Radar movement detector "Eagle"

- ▶ Non-directional sensitive (Eagle 1)
- ▶ Directional sensitive (Eagle 2)
- ▶ Adjustment by remote control
- ▶ Any combination of radar motion detectors
- ▶ No effect on pacemakers (low output power of just approx. 2 mW)
- ▶ Strong housing
- ▶ Option: weather cap
- ▶ Available in black, white and silver



RK 70

- ▶ Non-directional sensitive (Eagle 1)
- ▶ Directional sensitive (Eagle 2)
- ▶ Strong housing
- ▶ Option: weather cap
- ▶ Available in black, white and silver
- ▶ Any combination of radar motion detectors
- ▶ No effect on pacemakers (low output power of approx. 2 mW)



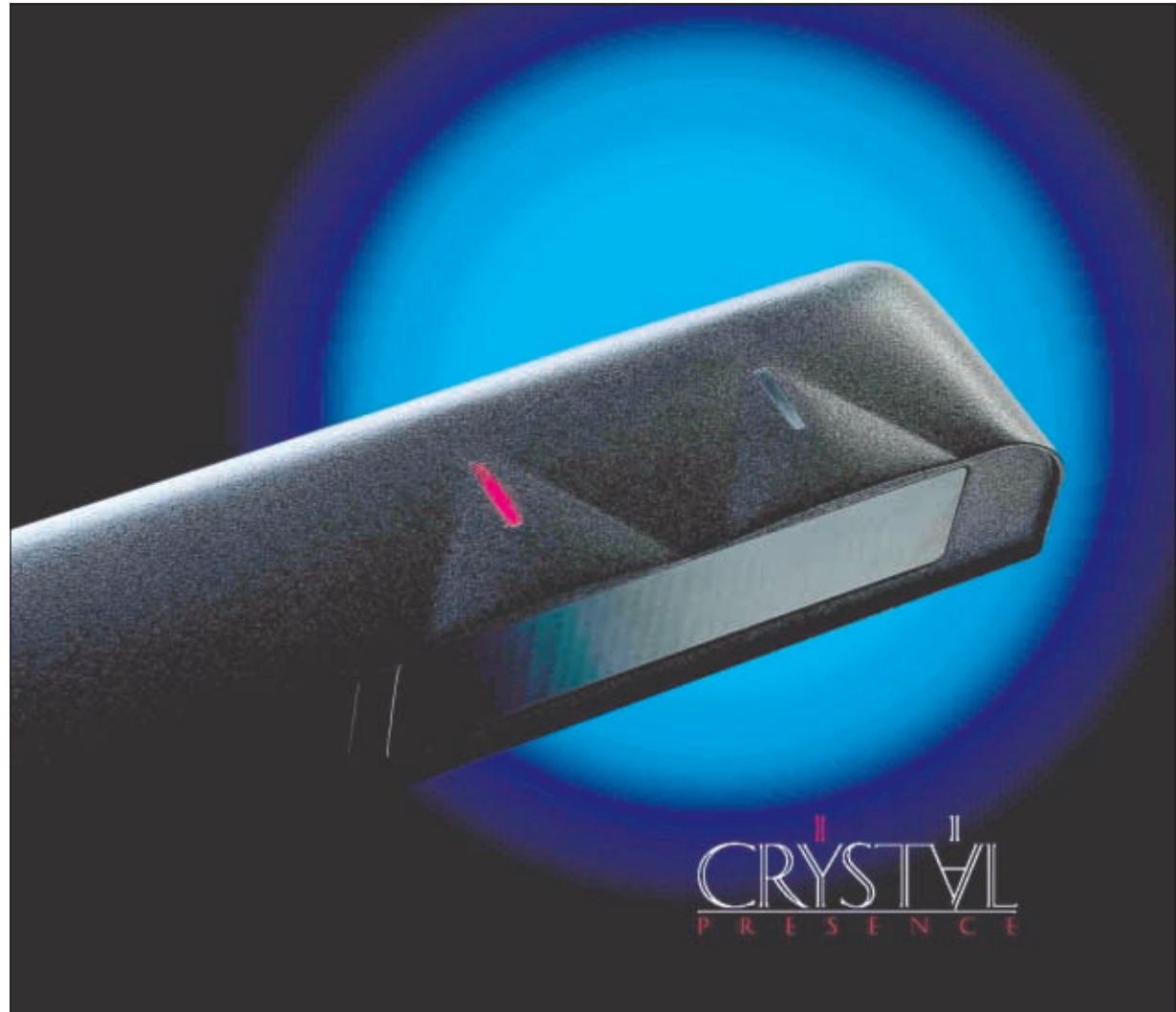
RK 30

- ▶ RK 31 C-P/31
standard
- ▶ RK 31 C-PWH/31
standard with
weather cap
- ▶ RK 33 C-P/31
directional sensitive
- ▶ RK 31 C-SEWH/79
self-monitoring
for FST-operators



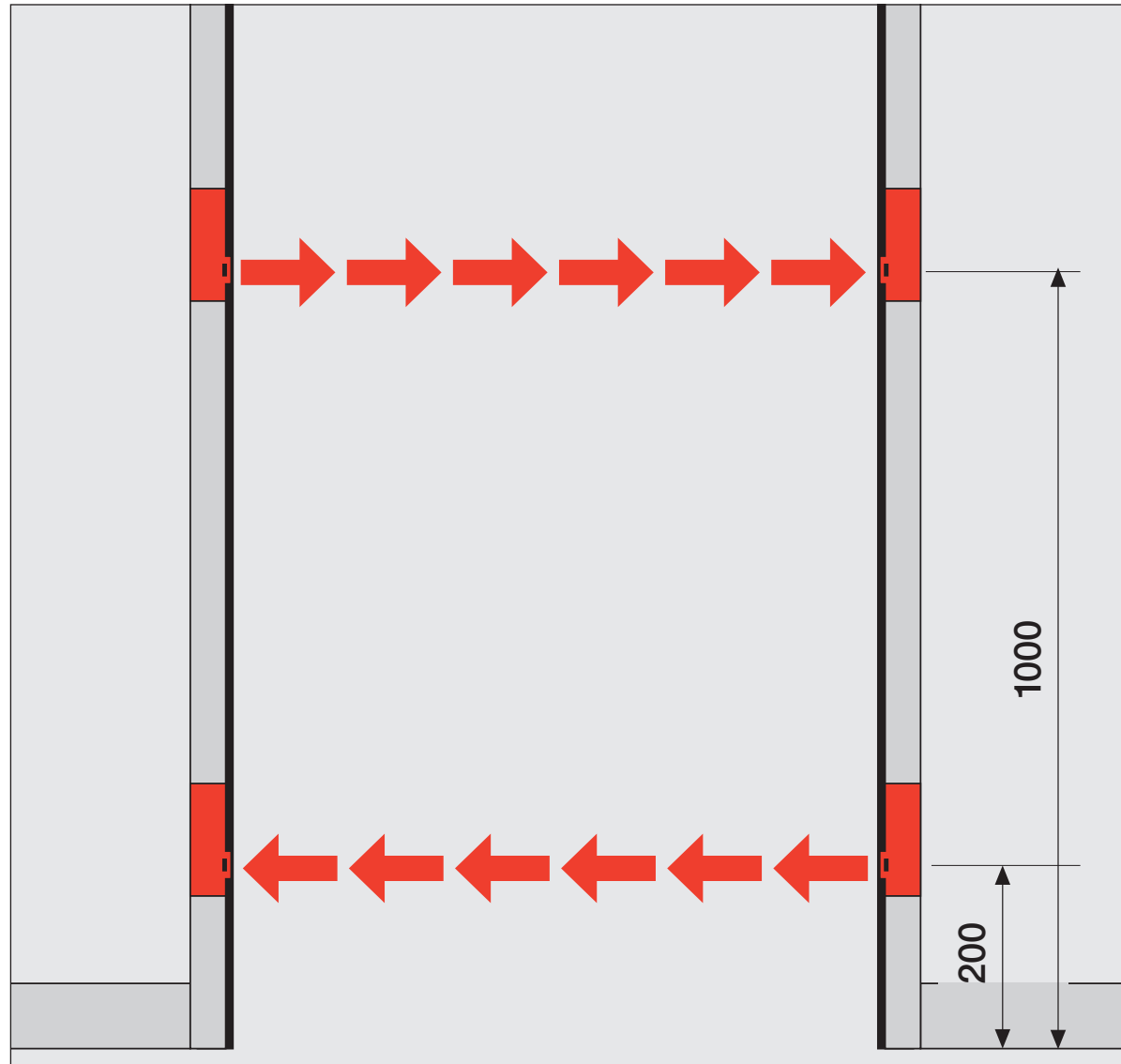
Crystal Presence

- ▶ Long lasting presence detection
- ▶ Adjustable detection area
- ▶ Esthetic design
- ▶ Easy fitting
- ▶ Vandalism proof
- ▶ 3 standard colours
- ▶ Digital electronic
- ▶ Large variety of adjustments



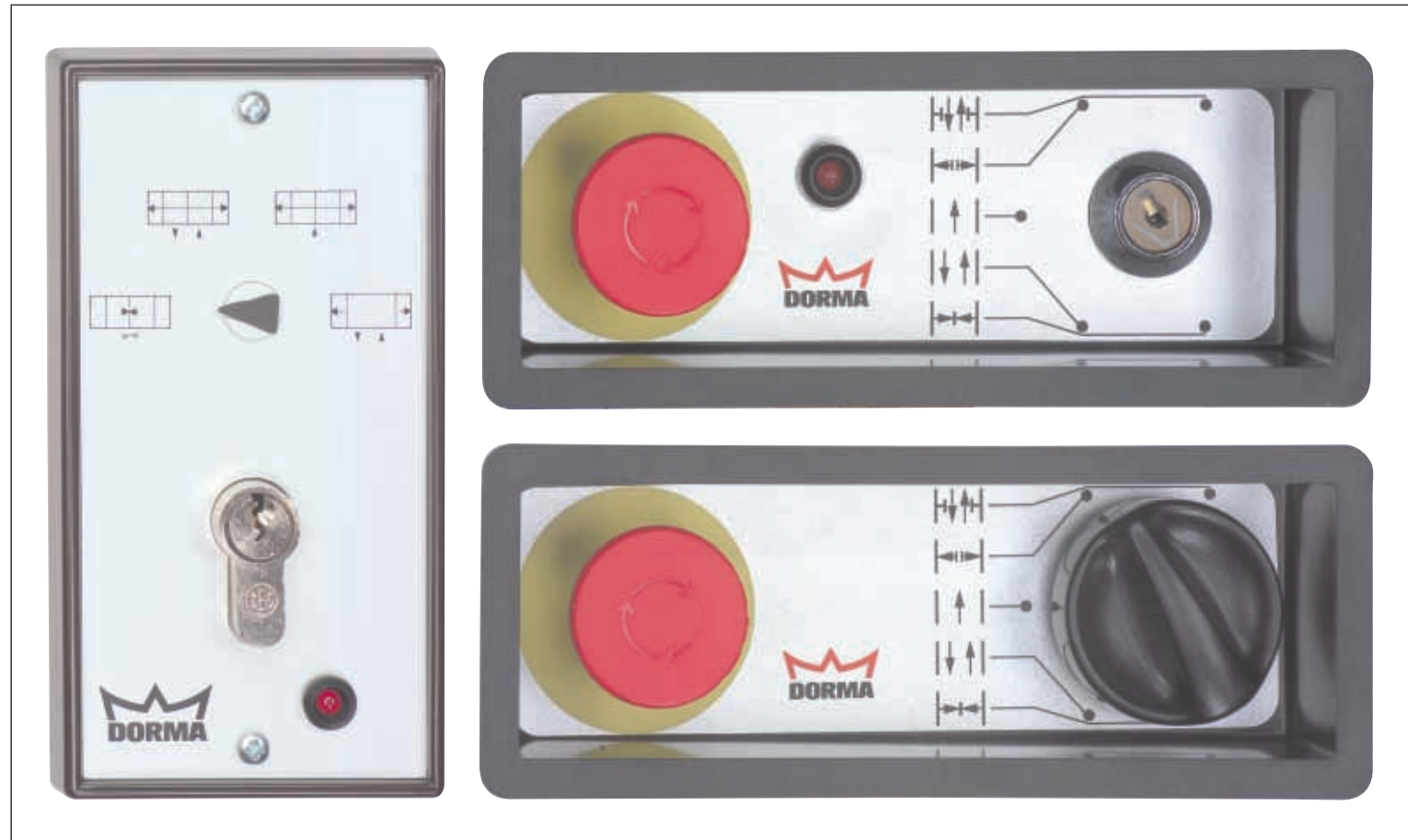
Light barriers

- ▶ Operation based on the reflected light principle
- ▶ Additional safety protection in the closing area; installed 0.2 and 1.0 m above floor level



Programme switches

- ▶ Internal/external installation
- ▶ Flush or surface installation
- ▶ Lockable



DORMA ES 90 - Accessories



Switches/pushbuttons

- ▶ Flush or surface installation
- ▶ Stainless steel models
- ▶ Water-resistant models



DORMA ES 90 - Wiring Diagram



The external emergency off switch must be fitted near the door. Max. cable length 50 m. May be laid with the program switch in a single cable. Maximum cable length to the external

program switch is 50 m. If laid with other cables, the external program switch cable must be screened (e. g. LIYCY 6 x 0,25 mm² flexible, manufacturer: Lapp)

