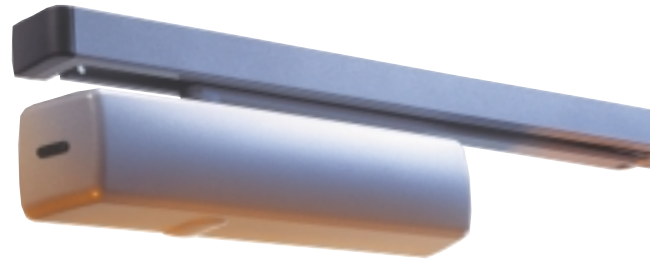


ABLOY[®] FIRE DOOR CLOSING SYSTEMS

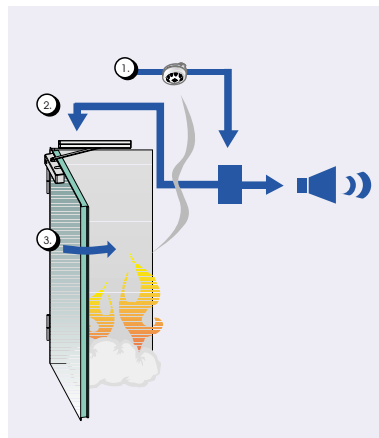


ABLOY® FIRE DOOR



It is vital for fire doors to close in the event of fire. The fire door must close and latch automatically in order to limit the spread of smoke and fire into the other parts of the building. During daytime the normal use of fire doors requires the doors to remain open.

ABLOY® fire door closing systems guarantee easy access and convenience for use in the day time as well as maximum security in the event of fire. **ABLOY®** fire door closing systems are composed of reliable and compatible components that enable building up a safe, individual solution for each application.



An example of the operation and main components of a fire door closing system

If fire doors are held open they must close in the break out of a fire, so that smoke and flames can be retained and not spread throughout the building. The smoke detector (1) reacts to smoke and activates the alarm to the hold open device of the door (2). The door closer (3) controls the door to close and latch into the shut position.

Products

Single door function



ABLOY® FD440 electrohydraulic hold open device



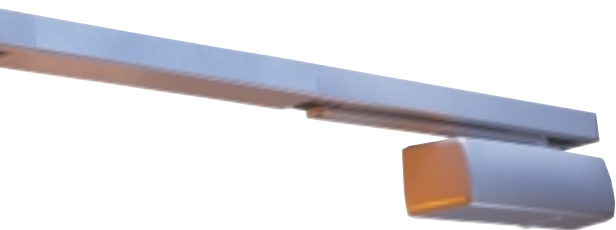
ABLOY® FD450 electromechanical hold open device

Double door function



ABLOY® FD451 mechanical coordinator, **ABLOY®** FD452-454 electromechanical hold open device

CLOSING SYSTEMS



Features and arguments

- slim design
- low consumption: max. current 60 mA (24 VDC +/- 15 %) per hold open device
- one product fits all doors regardless of the door width
- flexibility in installation
 - easy to install to narrow frames
 - vertical adjustment
 - closing side installation available with the help of a small accessory set, which is easy to add to the standard product
- new hold open device
 - easy to install with adjustable angle (80°...130°)
 - hold open strength can be adjusted during the installation
- new coordinator
 - holds the active door open independently when the inactive door has been opened
 - hold open angle can range up to 150°
 - guarantees the doors closing in the correct order with accurate closing times

Colours

ABLOY® fire door closing systems are available in several painted colours: silver, white, brass, brown and black. Other RAL colours available on request.



Silver



White (RAL9010)



Brass



Brown



Black (RAL9005)





ABLOY® FIRE DOOR CLOSING SYSTEMS

System 1

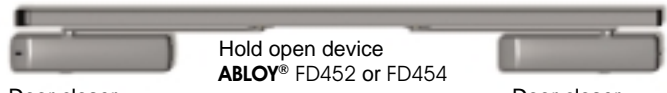
Single door



Door closer **ABLOY® DC250**

Hold open device
ABLOY® FD450

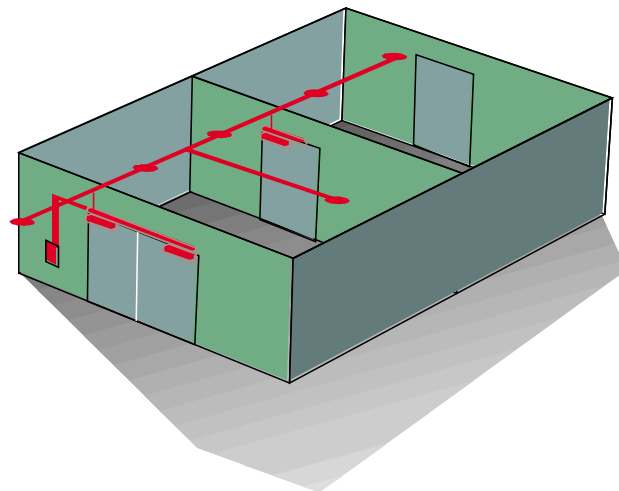
Double door



Door closer
ABLOY® DC250

Hold open device
ABLOY® FD452 or FD454

Door closer
ABLOY® DC250



Control unit
ABLOY® 7400



Smoke detector
ABLOY® 7451 or 7452



Suitable for controlling up to four fire doors (FD450) when a local alarm and / or connection to a centralised fire alarm is required. Separate wiring for smoke detectors and door hold open devices. When fitted with battery back-up (7404), doors only close in fire conditions. The double door system has a built in co-ordinator.

| | |
|-------------------------|---|
| ABLOY® DC250 | Door closer for single or double doors system without arm. |
| ABLOY® FD450 | Electromechanical hold open device for single door system with arm |
| ABLOY® FD452 | Two electromechanical hold open devices for double door systems including coordinator and arms |
| ABLOY® FD454 | Electromechanical hold open device for inactive door in double door system incl. coordinator and arms |
| ABLOY® 7400 | Control unit |
| ABLOY® 7451/7452 | Optical/ ionization smoke detector |
| ABLOY® 7462/7463 | Door release button surface/ mortice |



System 2

Single door



Door closer **ABLOY®** DC250

Hold open device
ABLOY® FD450

Double door

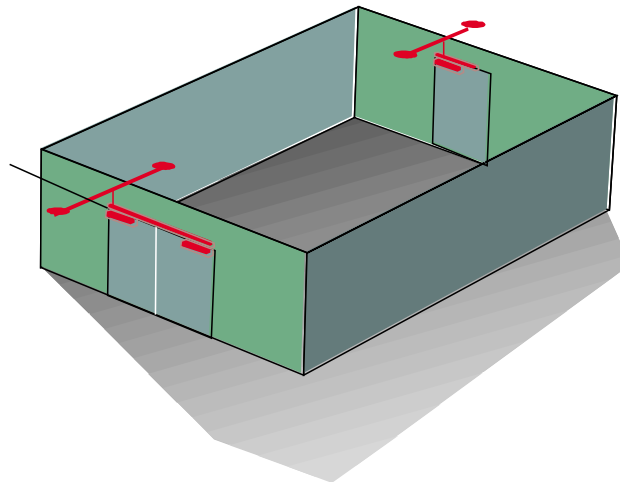
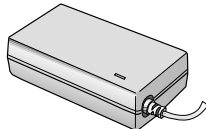


Door closer
ABLOY® DC250

Hold open device
ABLOY® FD452 or FD454

Door closer
ABLOY® DC250

Power supply
ABLOY® EA701



Smoke detector
ABLOY® 7451 or 7452
+ relay 7453



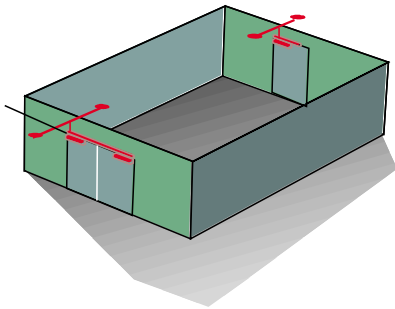
Suitable for local control of one or more doors (max 7/FD450). Doors will also close when the main power is interrupted. The double door system has a built in door co-ordinator.

| | |
|-------------------------|---|
| ABLOY® DC250 | Door closer for single or double doors system without arm. |
| ABLOY® FD450 | Electromechanical hold open device for single door system with arm |
| ABLOY® FD452 | Two electromechanical hold open devices for double door system including coordinator and arms |
| ABLOY® FD454 | Electromechanical hold open device for inactive door in double door system incl. coordinator and arms |
| ABLOY® EA701 | Power supply |
| ABLOY® 7451/7452 | Optical/ ionization smoke detector |
| ABLOY® 7453 | Relay |
| ABLOY® 7462/7463 | Door release button surface/mortice |

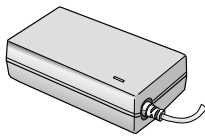


System 3

Smoke detector
ABLOY® 7451 or 7452



Control unit **ABLOY®** 7400 **or** Power supply **ABLOY®** EA701



ABLOY® 7438



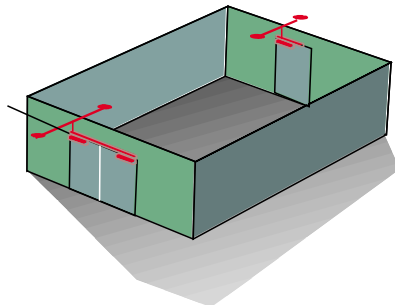
ABLOY® 7439

| | |
|-----------------------------|--------------------------------------|
| ABLOY® DC250 | Door closer |
| ABLOY® FD451 | Mechanical coordinator (double door) |
| ABLOY® DC194 | Sliding arm (single door) |
| ABLOY® EA701 or 7400 | Power supply or control unit |
| ABLOY® 7451 or 7452 | Smoke detector |
| ABLOY® 7453 | Relay when using 8551 |
| ABLOY® 7438, 7439 | Wall magnets |
| ABLOY® 7462/7463 | Door release button |

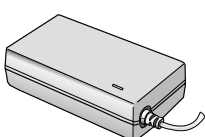
Sliding door closer system for applications with hold open position up to 170°. The double door system has a built in co-ordinator. Suitable for controlling several fire doors when using the **ABLOY®** 7400. With the **ABLOY®** EA701 the system is suitable for local control of several fire doors.

System 4

Smoke detector
ABLOY® 7451 or 7452



Control unit **ABLOY®** 7400 **or** Power supply **ABLOY®** EA701



ABLOY® 7439



ABLOY® 7438

| | |
|-----------------------------|--------------------------------------|
| ABLOY® DC235, DC240 | Door closer |
| ABLOY® 7199 | Standard arm |
| ABLOY® EA701 or 7400 | Power supply or control unit |
| ABLOY® 7451 or 7452 | Smoke detector |
| ABLOY® 7453 | Relay when using 8551 |
| ABLOY® 7438, 7439 | Wall magnets |
| ABLOY® 7462/7463 | Door release button |
| ABLOY® 7420-7422 | Mechanical coordinator (double door) |

As system 3 but with door closer and standard arm. For applications up to 180 degree hold open position. Suitable for controlling several fire doors when using the **ABLOY®** 7400. With the **ABLOY®** EA701 the system is suitable for local control of several fire doors.



System 5

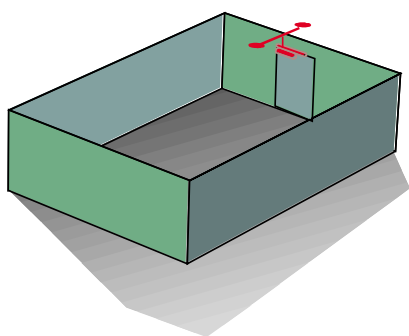
Smoke detector
ABLOY® 7451 or 7452



Free swing arm
ABLOY® FD494 or FD499



Hold open device
ABLOY® FD440

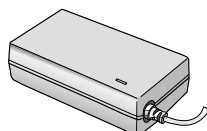


Control unit
ABLOY® 7400



or

Power supply
ABLOY® EA701



ABLOY® FD440

Electrohydraulic hold open device

ABLOY® FD494 or FD499

Free swing sliding arm or free swing standard arm

ABLOY® 7400 or EA701

Control unit or power supply

ABLOY® 7451 or 7452

Smoke detector

ABLOY® 7453

Relay when using EA701

ABLOY® FD140

Connection box when hold open device installed to door

When using free swing arms FD494 or FD499, **ABLOY®** FD440 is particularly useful for applications where the door is in frequent use and the opening resistance of a door closer may be too heavy, like kindergartens, schools, retirement homes and day centres. **ABLOY®** FD440 can also be used as a normal hold open device with arms 7199 and DC194.

System 5 is suitable for controlling several fire doors (2 x FD440 + 4 x 7451/7452) when using the **ABLOY®** 7400. With the **ABLOY®** EA701 the system is suitable for local control of several fire doors.

How to order

When ordering, please specify

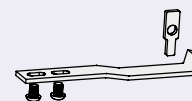
- product number and colour for the fire door closing system (including arm and sliding rail), e.g. **ABLOY®** FD450 silver.



- product number and colour for the door closer, e.g. **ABLOY®** DC250 brass.



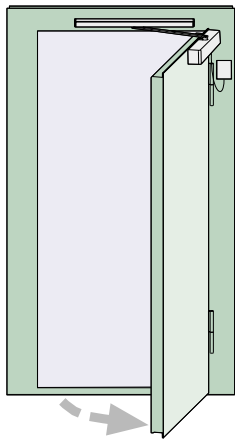
- product number and colour for the mounting plate and closing side installation set if needed, e.g. **ABLOY®** FD100 white.



Note: All three components must be ordered separately.

Operation

ABLOY® FD440 Electrohydraulic hold open device

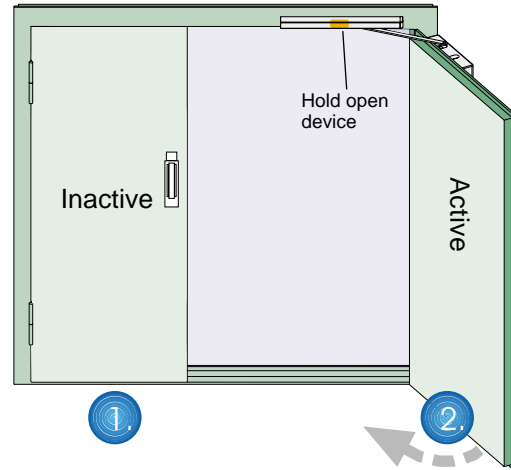


Min. approx. 70°

With free swing arms the first opening after the power is switched on is like with a normal door closer. The door is opened to the desired angle to determine the opening angle for later use (min. approx. 70°). The opening angle can also be increased later simply by pushing the door further.

After the first opening the free swing function enables the door to be opened and closed freely, without any resistance. When the power is switched off, i.e. when the smoke detectors react to smoke, the door closes always regardless of the door position. Current consumption 90 mA (24VDC).

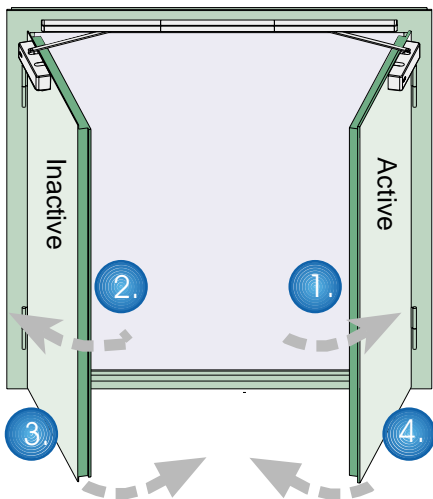
ABLOY® FD450 Hold open for active door



The inactive door is normally closed (1) and remains open only if someone holds it open. When the power is switched off, e.g. when smoke detectors react to

smoke, the active door closes. Hold open angle for active door can be adjusted from 80° to 130°. Power consumption 1 x 60 mA.

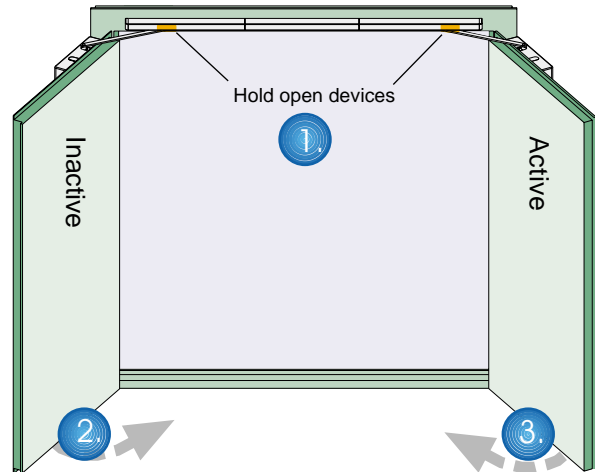
ABLOY® FD451 Mechanical co-ordinator



During the day the doors are normally closed and the active door is used as passage door. If both doors need to stay open, the active door must be opened first (1), after which the inactive door can be opened (2). The co-ordinator holds the active door

in the desired angle during the time the inactive door is open. The inactive door stays open only if someone holds it or a wall magnet is used. When the inactive door is closed (3), the active door starts to close (4).

ABLOY® FD452 Two electro-mechanical hold open devices

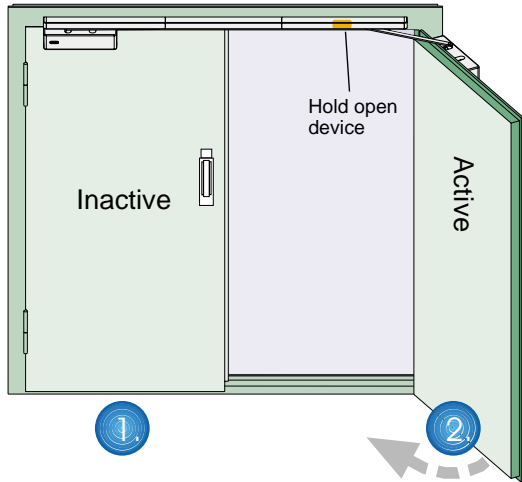


The doors are held open by the hold-open devices in the selected angle (1). When the power is switched off, e.g. when the smoke detectors react to smoke, the doors close so that the inactive

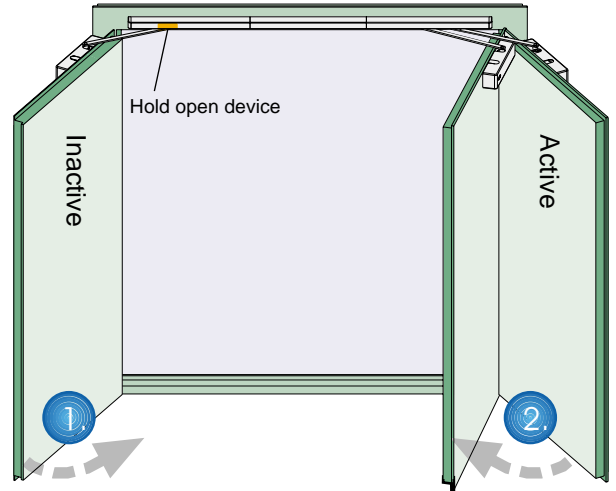
door closes first (2), and when it is completely closed the active door starts to close (3). Hold open angle for both doors can be adjusted from 80° to 130°. Power consumption 2 x 60 mA.

The above solutions can be installed on the closing side of the door with the help of a small accessory set **ABLOY® FD100** (see page 9).

ABLOY® FD454 Hold open for active door



ABLOY® FD454 Hold open for both doors



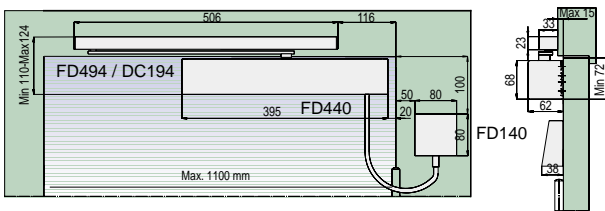
The inactive door is normally closed (1) and remains open only if someone holds it open. When the power is switched off, e.g. when smoke detectors react to smoke, the active door closes. Hold open angle for active door can be adjusted from 80° to 130°. Power consumption 1 x 60 mA.

During the day both doors are normally held open. The inactive door is held open by the hold open device in the angle determined during the installation. The active door is held open by the co-ordinator. The hold open angle of the active door is adjustable (up to 150°). When the power is switched off, e.g. when the smoke detectors react to smoke, the passive door closes first (1), and when it is completely closed, the active door starts to close (2). Power consumption 1x 60 mA.

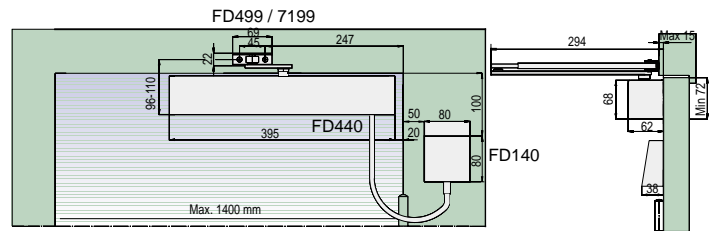
Dimensions

ABLOY® FD440

Opening side installation on door

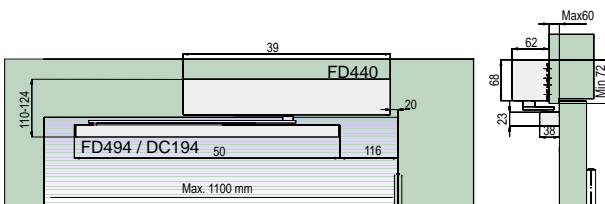


FD440 + FD494 / DC194 + FD140

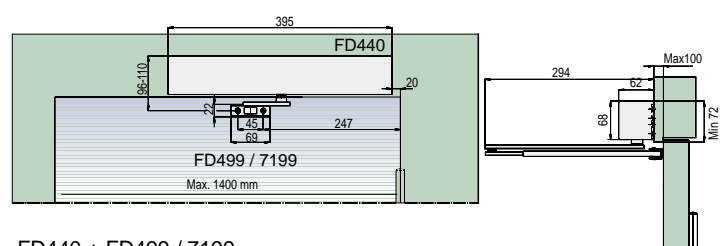


FD440 + FD499 / 7199 + FD140

Closing side installation on door frame



FD440 + FD494 / DC194

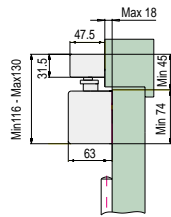
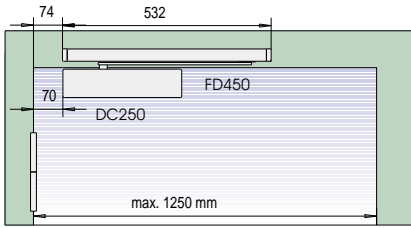


FD440 + FD499 / 7199

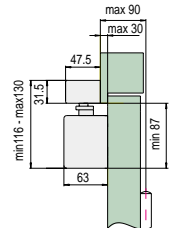
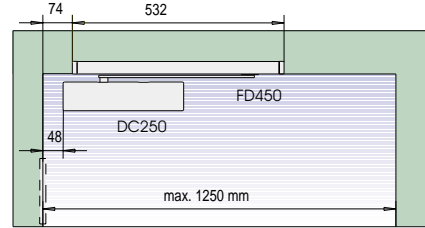
Dimensions

ABLOY® FD450

Opening side

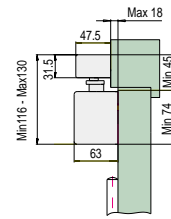
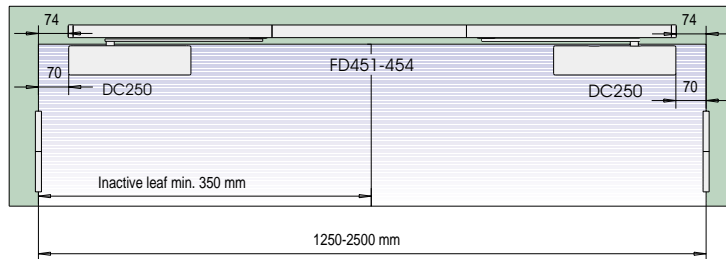


Closing side

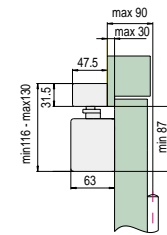
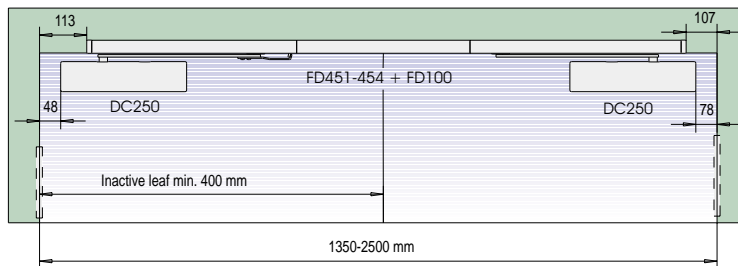


ABLOY® FD451-454

Opening side

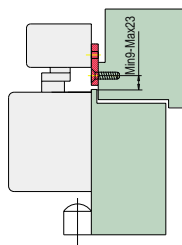


Closing side

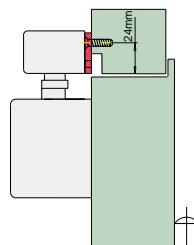


Mounting plate installation examples for ABLOY® FD450 and FD451-454

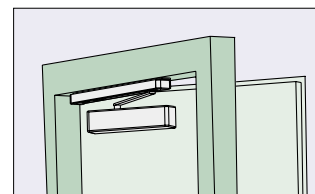
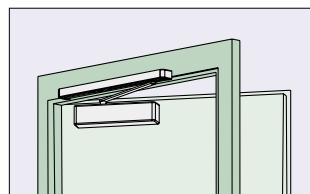
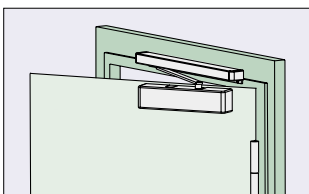
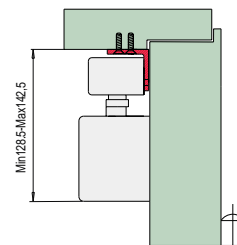
DC103 opening side



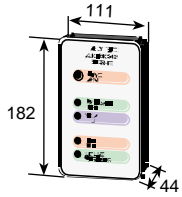
DC103 closing side



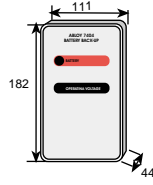
DC105 (+DC109) closing side



Components



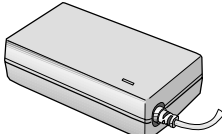
Control unit **ABLOY® 7400**
 - power supply 230 AC
 - Output voltage 24VDC
 - Max. current 300 mA



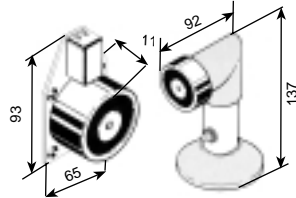
Battery back-up
ABLOY® 7404
 - Capacity 0,7 Ah



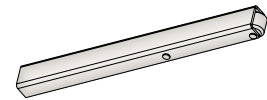
Smoke detectors
ABLOY® 7451 (optical)
ABLOY® 7452 (ionisation)
 - Operating voltage 15-30mA
 - Current when triggered 25mA
 - Operating temperature -20°...+60°C
 Relay **ABLOY® 7453**



ABLOY® EA701
 - Power supply 230 AC
 - Output voltage 24VDC
 - Max. current 2,5A



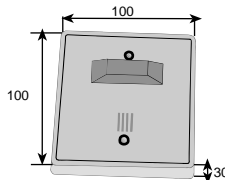
Wall magnets **ABLOY® 7438, 7439**
 - operating voltage 24VDC
 - normal current 16mA
 - hold open force 500 N



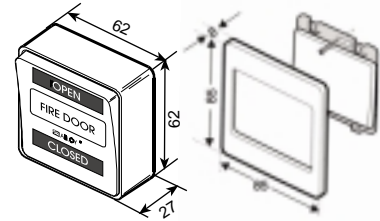
Carry bar **ABLOY® FD101**
 - enables the correct closing sequence of the doors



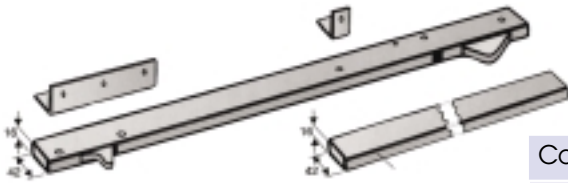
Automatic flush bolt 5741145
 - used in double door systems for locking the passive door leaf



Alarm **ABLOY® 7461**
 - sound and light



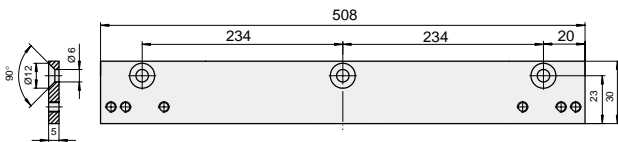
Door release buttons
ABLOY® 7462 (surface)
ABLOY® 7463 (mortice)



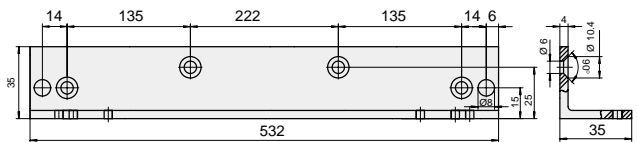
Mechanical coordinators
ABLOY® 7420-7422
 - ensure that double doors close correctly

| Coordinator | 7420 | 7421 | 7422 |
|---------------------------|----------|-----------|---------|
| Length | 813 | 1320 | 1525 |
| Door opening | 860-1360 | 1360-2450 | 2450- |
| Max. width of active door | 700 mm | 1200 mm | 1400 mm |

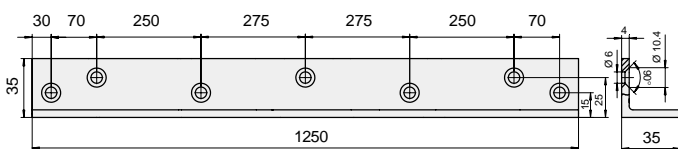
Accessories



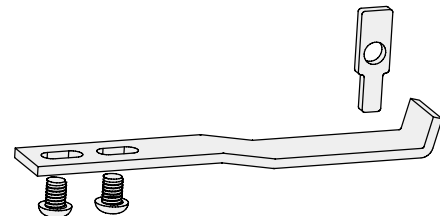
Plain mounting plate DC103 for single or double doors



Angle mounting plate DC105 for single or double doors



Angle mounting plate DC109 for double doors



Accessory set FD100 for closing side installation

ABLOY® – the sign for security



The quality and environmental systems used by Abloy Oy guarantee that customers can be certain of **ABLOY®** quality in every field. We received our first Quality System Certificate - SFS-EN ISO 9001 - in 1989. Just eight years later, Abloy Oy was one of the first companies in Finland to be granted an SFS-EN-ISO 14001 Environmental System Certificate.

Our products are designed and manufactured not only to provide high levels of security, but also to be reliable, user-friendly and aesthetically pleasing. **ABLOY®** is your sign for security.



ABLOY® is a registered trademark of Abloy Oy, one of the leading manufacturers of locks, locking systems and architectural hardware and the world's leading developer of products in the field of electromechanical lock technology.

The unique **ABLOY®** detainer disc cylinder mechanism has several advantages over conventional locking mechanisms. Ever since its invention in 1907, it has been a symbol of high security and superior performance.

Our range consists of electromechanical locks, cam locks, padlocks, office furniture locks, rim locks, lock cases, cylinders for different types of mortice locks, door closers, door automatics and architectural hardware. **ABLOY®** locking solutions for every application are available from our world-wide network of distributors.

Customer-oriented development, combined with our long experience and extensive security expertise, mean that **ABLOY®** security solutions employ the very latest technology to meet your needs.



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Abloy Oy
Wahlforssinkatu 20
P.O. Box 108
FIN-80101 JOENSUU
FINLAND
Tel. +358 13 2501
Fax +358 13 250 2209

