



LOCK UP WITH LOCKWOOD®



714/726 Hydraulic Door Closers



714/726 Smooth Action
Slide Arm Series



726 Electro Mechanical
Fire Door Control System

Door Closer Selection Guide

Selection of door closer size is judged in two ways.

Firstly, does the door closer have the strength to effectively close the door against unexpected air pressures?

Secondly, is the door closer oversized for the application and therefore affecting the ease of operation?

Efficiency of the door closer also has a major bearing on the ease of operation.

For optimum performance it is essential that a highly efficient door closer of the correct size is selected.

In the past, selection of the correct door closer size for a particular application has been, at best, an educated guess.

The introduction of spring strength adjustability, allowing fine tuning of strength on site, has certainly simplified this task but not removed all of the guesswork. With more architects and engineers becoming conscious of the problems caused by incorrect selection of door closer strength, it has become the responsibility of manufacturers to provide better technical information, such as closing torque and efficiency on their products.

The following charts have been produced by Lockwood to cover most conditions.

If you have an unusual application which you feel requires special consideration, please forward all relevant information to your local Lockwood office and we will be happy to advise the best door control for the application.

FIRE RATED

Fire doors and pressurised stairwells pose significant challenges in ensuring closing and latching of fire doors. The problems are created by differential air pressures resulting from airconditioning systems, either on one or the other side of the door. To achieve complete fire safety, fire doors must latch securely at all times. If this performance is not achieved, the stairwell may be unsafe, and in the event of fire, loss of life and property may occur. Correct selection of door hardware is of paramount importance in ensuring that the appropriate operating standards are met.

Fire doors which open into a pressurised stairwell must meet the following criteria:

- the door must close against a pressure differential between the airconditioned floor area and non-airconditioned stairwell;
- the door must latch securely every time it closes;
- the door must be able to be opened with a force not exceeding 110N when the stairwell is pressurised; and
- the door must be protected from damage when it is opened by means of a backcheck action which is built into the door closer.

Notes

Always round up to the next door width (ie. for 870 mm door use 950 mm).

If parallel arm installation, then use next door width line (ie. for 830 mm door use 950 mm). For internal doors deduct approximately 10% from actual door width.

This chart is based on normal climactic conditions (ie. pressure differential of 30Pa or wind speed of 15 knots).

If more severe conditions are expected then use the next door width or consult the Lockwood office in your location.

When specifying parallel arm and slide rail functions, allowance should be made for the following power loss:

Parallel Arm Mounting

approximately 20 per cent loss.

Slide Rail Mounting

approximately 30 per cent loss.

Power Selection Chart

This chart will be most useful in selecting the correct door closer.

Simply identify the dimensions of the appropriate door and read off the recommended door closer.

The chart is intended as a guide only and as such the following variations should be taken into account when making your selection:

Environmental factors such as the effect of wind or airconditioning pressures.

An unsheltered external door is a door on which prevailing wind gusts will directly produce a "sail area" affect.

A sheltered external door is a door way which is protected by a wind break or wall, which acts as a barrier against direct wind gusts.

Closer Selection Chart

Door Width Height: up to 2340 max. Interior Exterior		Maximum Door Weight	Closer Size	Minimum Closing Torque
850	800	25 kg	1	9 Nm
950	850	32 kg	2	13 Nm
1100	950	55 kg	3	18 Nm
1250	1030	68 kg	4	26 Nm
1400	1130	82 kg	5	37 Nm
1530	1230	90 kg	6	54 Nm

All dimensions are in millimetres.

Movement Curve

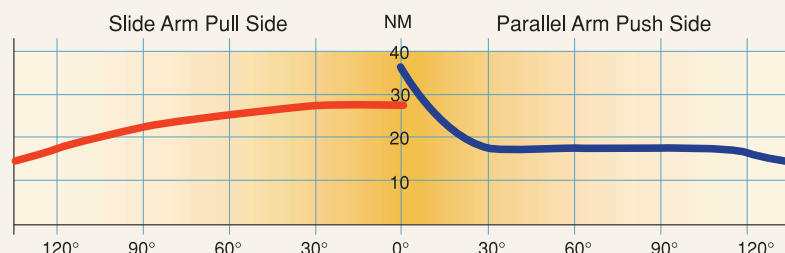


 Slide arm pull side

 Parallel arm push side

Note: Movement curve represents approximate forces required to operate a size 4 door closer.

Note: The illustration is an approximation based on one set of parameters. Any change to these parameters will result in a variation of performance.



714/726 Series Features & Specifications

Controls

Independent hydraulic valves control, door closing speed, latching speed, backcheck intensity and, when applicable, delay period.

Adjustable Closing Power

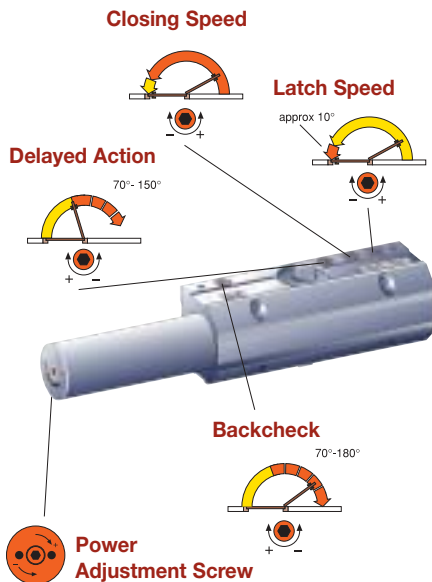
Closing power is adjustable for a size range of 1-4 (714 Series) and 2-6 (726 Series).

All door closers are factory preset to: 714 size 2, 726 size 4.

To adjust closer power: Using hex key supplied, rotate adjusting screw located in end cap clockwise to increase power and anticlockwise to reduce power.

Backcheck

Backcheck is a standard feature of this series. Backcheck cushions or slows the opening movement of the door prior to reaching final open position. Backcheck intensity is adjustable to allow for door size, door weight and closing power. It is mandatory on all fire doors.



Delayed Action

Delayed action is a feature which holds the door in the open position for a number of seconds before closing action commences. Such doors are particularly suitable for use by the disabled and aged. It is of particular importance in hospitals and other institutions where a free passage for wheel chairs, stretcher patients, food trolleys and other equipment is a requirement. Doors fitted with delayed action closers will delay at any position between 70° and 150° of door opening.

A special delayed action unit is required for parallel arm (push side) – see ordering procedure.

714/726 Series Limiting Dimensions

The Australian fire door code approves the use of delayed action closers on fire doors.

Door opening 90°

delay approximately five to 60 seconds.

Door opening 120°

delay approximately 15 to 250 seconds.

Door opening 150°

delay approximately 60 to 400 seconds.

Handing

All Lockwood Arrow 714/726 Series Door Closers are non-handed, therefore final assemblies are suitable for clockwise or anticlockwise opening doors.

Materials

Extruded aluminium body. Alloy steel rack and pinion mechanism operated by silicon chrome steel alloy springs and stainless steel arms. Fully formed stainless steel or brass cover.

Overload Protection

Pressure relief valves are fitted to all units. Opening or closing the door with excessive force will activate the pressure relief valve reducing the hydraulic pressure and preventing damage to the door closer.

Hold-Open Feature

Hold-open feature is available for each application.

Standard Hold-Open

The hold-open device is located on the link arm and is activated by a cam. The position of the cam is adjustable to suit the desired hold-open position.

The operation of the hold-open device does not limit the angle to which the door may be opened, as the door may be pushed past the hold-open position without affecting its operation. A firm push or pull on the door will release the hold-open device.

An additional feature of the Lockwood hold-open is a convenient switch to turn the hold-open feature on or off when required, e.g., if the door is only required to be held open infrequently (store room door), then the hold-open feature can be switched on for that time and switched off after which leaves the door to be used as a normal passage door. Not permissible on fire door assemblies.

Electromagnetic Release Device (EMC & EMCD)

When an electromagnetic release device is energised the door is held open by an electromagnet incorporated into the unit and wired into an electrical circuit. Interruption detected by the sensor device to the circuit by action or power failure will allow the door to close automatically.

The double door unit (EMCD) incorporates a built in door co-ordination. To enable double

rebated doors to close in the correct sequence. Suitable for fire door assemblies when connected to an alarm system.

Slide Arm Hold-Open

Slide arm hold-open consists of a formed clip situated in the slide rail. A roller situated on the closer arm tracks in the slide channel and engages the formed clip in the hold-open position.

The hold-open clip is positioned in the channel in either of four hold-open positions. A firm push or pull on the door releases the hold-open. Not permissible on fire door assemblies.

Door Stops

Floor or wall mounted door stops should be fitted to prevent possible damage to the door unit or surrounds where a door may be subject to violent opening; to stop a door from being forced past the position where the arms are fully extended; or to stop a door at a specific position to clear feature walls, glass panels, furniture, etc.

Sequence Selectors

When a pair of rebated doors are fitted with the door closers it is essential that the doors close in their correct sequence.

This closing sequence is achieved by the installation of a sequence selector.

Note: Not required on EMCD units.



Lockwood 714/726 Series Hydraulic Door Closers have been successfully fire tested up to 4 hours (depending on type of fire door) on fire door assemblies in accordance with Australian Standard AS1905.1:1997 - Part 1: Fire resistant doorsets.

Certification

Lockwood 714/726 Series Hydraulic Door Closers have been successfully tested and approved on door assemblies in accordance with European Standard EN1154.

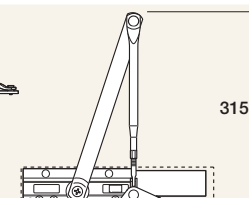
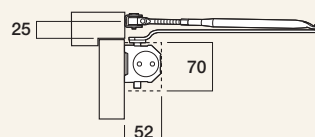
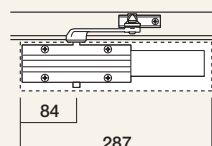
Standard Functions

- Regular arm.
- Parallel arm.
- Top jamb mount.
- Hold-open.
- Delayed action.
- Slide arm.
- Electromagnetic release.

Standard Finishes

Satin Stainless Steel	SSS
Polished Stainless Steel	PSS
Bright Gold	GLD
Brown – Baked Enamel Finish	BRN
White – Baked Enamel Finish	WHT
Black – Baked Enamel Finish	BLK

Other finishes available on application.



714/726 Series Quick Reference Selection Chart

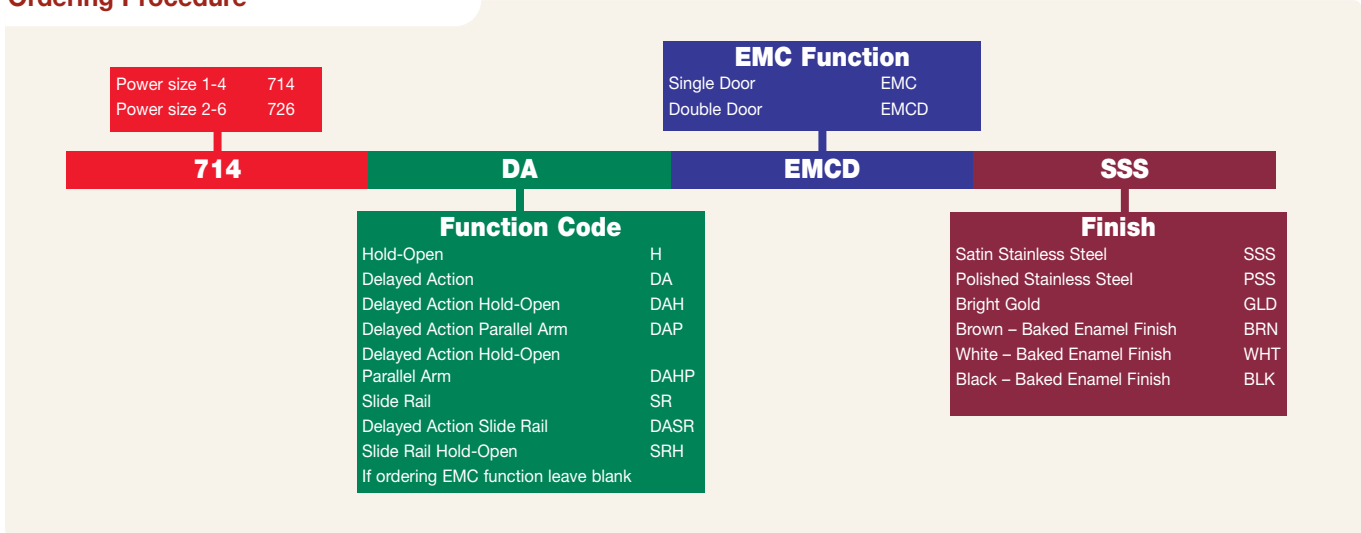
	Standard Mounting		Slide Arm	
	Pull Side	Push Side	Pull Side	Push Side
Standard Version	714 726	714 726	714SR 726SR	714SR 726SR
Over-door Mounting	X	714 726	X	714SR 726SR
Delayed Action	714DA 726DA	714DAP 726DAP	714DASR 726DASR	714DASR 726DASR
Hold-Open	714H 726H	714H 726H	714SRH 726SRH	714SRH 726SRH
Delayed Action Hold-Open	714DAH 726DAH	714DAHP 726DAHP	714DAHSR 726DAHSR	714DAHSR 726DAHSR
Electro Mechanical Control	X	X	726EMC	726EMC
Double Door Electro Mechanical Control	X	X	726EMCD	726EMCD

The basic door closer as supplied is non hold-open, non-handed, suitable for regular arm, parallel arm or top jamb mounting as described above. Add required finish to your selection.

Handing

714/726 Series Door Closers are non-handed, therefore final assemblies are suitable for clockwise or anticlockwise opening doors.

Ordering Procedure



714/726 Door Closer Series

Description

A range of adjustable power door closer units suitable for architectural and commercial applications.

Features & Specifications

The 714/726 Series features include size 1-4 adjustable power, adjustable backcheck intensity, speed controls and overload protection.

The 726 Series features include size 2-6 adjustable power, adjustable backcheck intensity, speed controls and overload protection.



Lockwood 714/726 Series Hydraulic Door Closers have been successfully fire tested up to 4 hours (depending on type of fire door) on fire door assemblies in accordance with Australian Standard AS1905.1:1997 - Part 1: Fire resistant doorsets.

The standard 714/726 door closer as supplied is non hold-open, non handed, suitable for regular arm, parallel arm or top jamb mounting as described below. Hold-open function includes parallel arm.

Certification

Lockwood 714/726 Series Hydraulic Door Closers have been successfully tested and approved on door assemblies in accordance with European Standard EN1154.

Standard Finishes

Satin Stainless Steel	SSS
Polished Stainless Steel	PSS
Bright Gold	GLD
Brown	BRN
White	WHT
Black	BLK

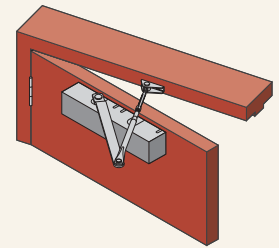
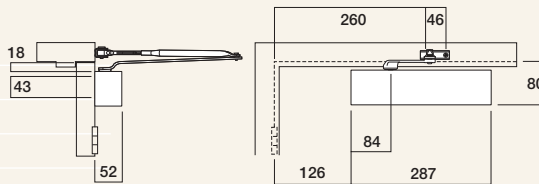


Standard Arm

Closer installed on pull side of door.
Standard mounting position permits door opening of 180°.
If hold-open is installed the hold-open range is 80° to 165°.

Part Numbers

Non hold-open	714/726
Hold-open	714/726H
Delayed action	714/726DA
Delayed action hold-open	714/726DAH

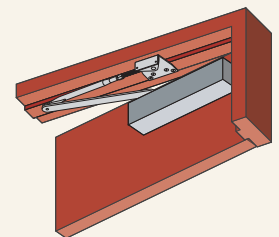
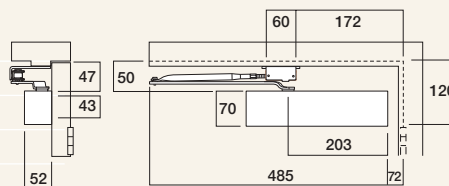


Parallel Arm

Closer installed on push side of door.
Standard mounting position permits door opening of 180°.
If hold-open is installed the hold-open range is 80° to 165°.

Part Numbers

Non hold-open	714/726
Hold-open	714/726H
Delayed action	714/726DAP
Delayed action hold-open	714/726DAHP

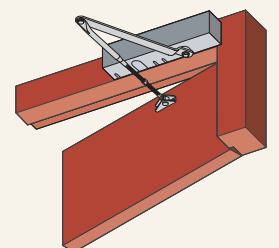
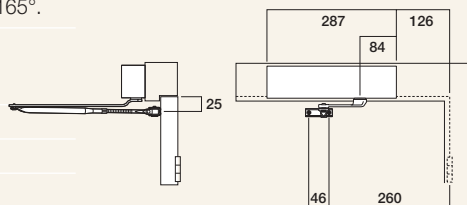


Over-Door Mounting

Closer installed on push side of door, and top rail where conditions do not allow parallel mounting.
Standard mounting position permits door opening of 180°.
If hold-open is installed the hold-open range is 90° to 165°.

Part Numbers

Non hold-open	714/726
Hold-open	714/726H
Delayed action	714/726DA
Delayed action hold-open	714/726DAH



714/726 Smooth Action Slide Arm Series

The Smooth Action 714/726 Slide Arm Series Door Closer permits smoother opening by way of reducing power as the door opens. Ideally suited for schools, hospitals or doors where children, disabled or the aged may enter.

Features & Specifications



Lockwood 714/726 Series Hydraulic Door Closers have been successfully fire tested up to 4 hours (depending on type of fire door) on fire door assemblies in accordance with Australian Standard AS1905.1:1997 - Part 1: Fire resistant doorsets.

Certification

Lockwood 714/726 Series Hydraulic Door Closers have been successfully tested and approved on door assemblies in accordance with European Standard EN1154.

Standard Finishes

Satin Stainless Steel	SSS
Polished Stainless Steel	PSS
Bright Gold	GLD
Brown	BRN
White	WHT
Black	BLK



Slide Arm Pull Side

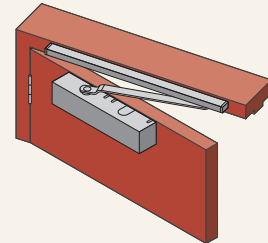
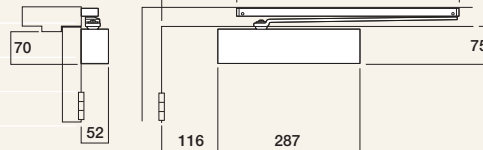
Closer installed on pull side of door.

Standard mounting position permits non hold-open door opening to 165°.

When hold-open is installed, the opening angle (hold-open) can be set to approximately 95°, 100°, 110° or 120°.

Part Numbers

Non hold-open	714/726SR
Hold-open	714/726SRH
Delayed action	714/726DASR
Delayed action hold-open	714/726DAHSR



Slide Arm Push Side

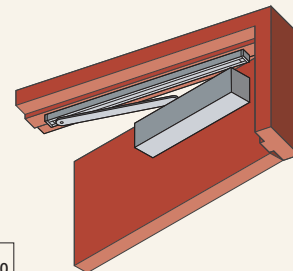
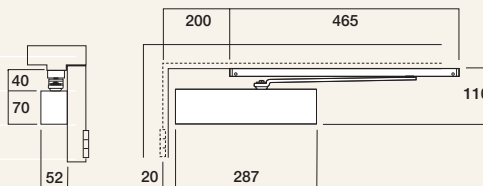
Closer installed on push side of door.

Standard mounting position permits non hold-open door opening to 120°.

When hold-open is installed, the opening angle (hold-open) can be set to approximately 85°, 90°, 95° or 100°.

Part Numbers

Non hold-open	714/726SR
Hold-open	714/726SRH
Delayed action	714/726DASR
Delayed action hold-open	714/726DAHSR



Slide Arm Over-Door Mounting

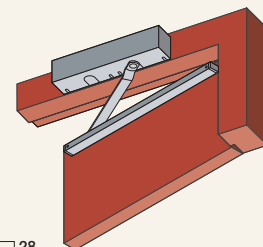
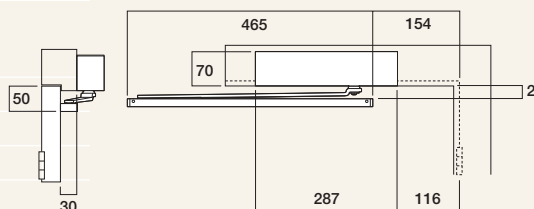
Closer installed on push side of door.

Standard mounting position permits non hold-open door opening to 145°.

When hold-open is installed, the opening angle (hold-open) can be set to approximately 90°, 95°, 100° or 110°.

Part Numbers

Non hold-open	714/726SR
Hold-open	714/726SRH
Delayed action	714/726DASR
Delayed action hold-open	714/726DAHSR



714/726 Heavy Duty Selectable Hold-Open Arm

Description

Surface mounted on push or pull side of door. To hold the door open at any angle until the hold-open function is positively released by a slight pull action.

Features & Specifications

The 714/726 Heavy Duty Selectable Hold-Open Arm has standard and parallel mounting and features a convenient switch to engage or disengage the hold-open device.

The arm unit is zinc die cast with a forged steel main arm, sintered metal cam with a baked enamel finish.



Selectable Hold-Open Feature

An additional feature of the Lockwood hold-open is a convenient switch to turn the hold-open feature on or off when required, e.g., if door is only required to be held open infrequently (store room door), then the hold-open feature can be switched on for that time and switched off after which leaves the door to be used as a normal passage door.

Part Number (Arm Only)

SP726-224



ON



OFF

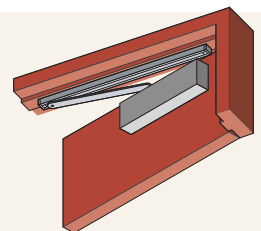
Slide Arm with Hold-Open

Hold-open angles pull side 90°, 100°, 110°, 120°.

Hold-open angles push side 85°, 90°, 95°, 100°.

Hold-open angles over-door 85°, 90°, 100°, 110°.

Example shown push side.



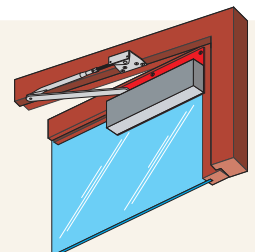
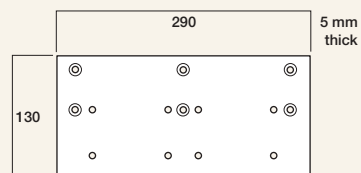
Drop Plate

Drop plate is available for fixing to doors with a small top rail. Four drilled and tapped holes are provided for easy installation of door closer.

Fitting of drop plate does not lower the position of door closer.

Part Number

726-180SIL



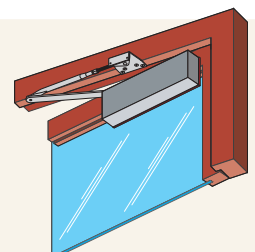
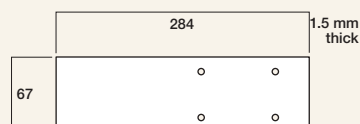
Glass Door Trim Plate

When a closer is mounted to a glazed door the closer may project below the top rail.

To enhance the appearance as seen through the glass, a trim plate is available that conceals the back of the closer.

Part Number

726-173SSS



Lockwood Electro Mechanical Door Control Systems

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 fire into the other parts of the building. During daytime the normal use of a fire door may require the doors to remain open.

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

Major Features

Design

Compact modern design to suit both single and double door installations.

Flexibility In Installation

- easy to install in narrow frames (40 mm).
- one unit suits both push side or pull side.

Door Sizes

- single door applications minimum 350 mm, maximum 1250 mm.
- double door applications minimum 1350 mm, maximum 2500 mm.



Offset To Door Stop

- pull side - maximum 18 mm.
- push side - maximum 30 mm.
- maximum distance between face of architrave and centre line of hinge is 90 mm.

Hold-Open Device

- easy to install with adjustable angles (90° to 130°).
- hold-open strength can be adjusted during the installation.

Opening Angles

Maximum opening angle

- Push Side, 120°.
- Pull Side, 130°.

Electrical Specifications

24V DC ± 15%. Low consumption: max. current 60mA per hold-open device.

Co-ordinator (Double Doors)

When a pair of rebated doors are fitted with the door closers it is essential that the doors close in their correct sequence.

- built in sequence selector holds the inactive door open independently until the active door has closed.
- guarantees the doors closing in the correct order with accurate closing times.



The Lockwood Electro magnetic Door Control System have been successfully fire tested up to 4 hours (depending on type of fire door) on fire door assemblies in accordance with Australian Standard AS1905.1:1997 - Part 1: Fire resistant doorsets.

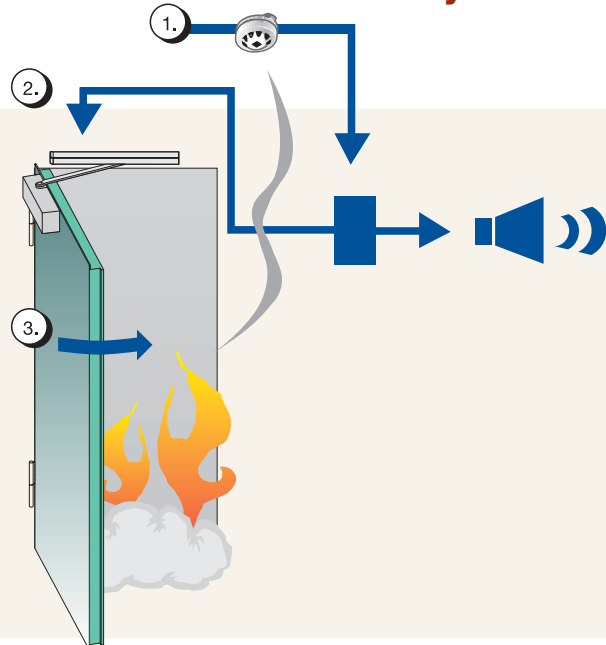
Lockwood Electro Mechanical Door Control Systems

Fire Door Closing System

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

If fire doors are held open they must close at the break out of 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 switch off the hold-open device of the door (2) The door closer (3) controls the door to close and latch into the shut position.



Ordering Procedures

726 Series

726	EMC Single Door Unit	SSS
	EMCD Double Door Unit with Door Co-ordinator	PSS
		GLD
		BRN

Lockwood Electro Mechanical Door Control Systems

726 Series

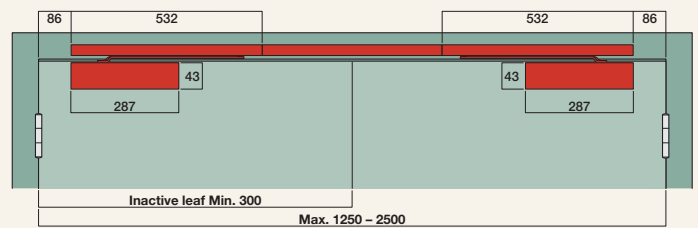
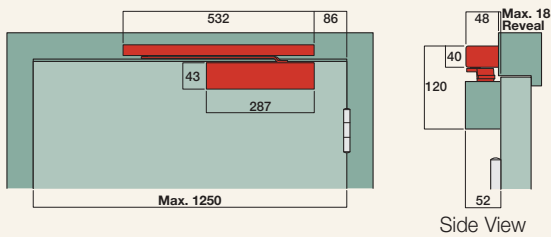
Single Door Function



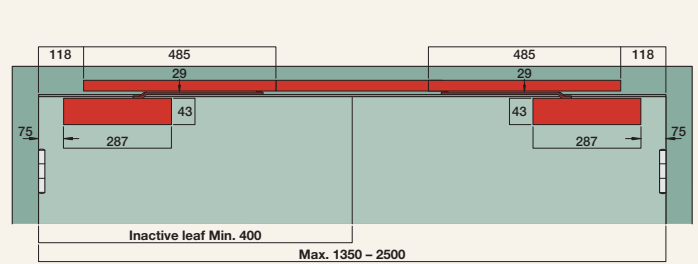
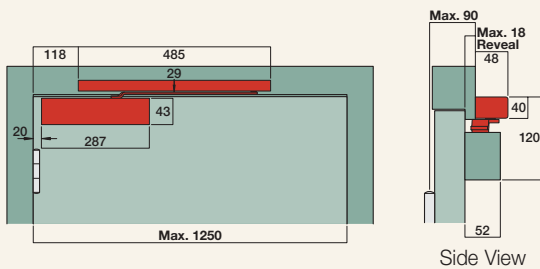
Double Door Function



Limiting Dimensions - Pull Side / Right Hand Door

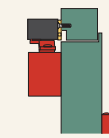
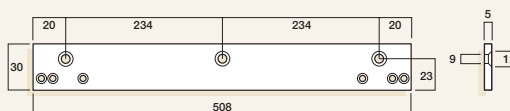
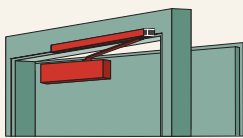


Limiting Dimensions - Push Side / Right Hand Door

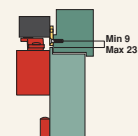
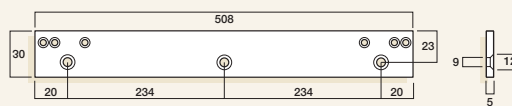
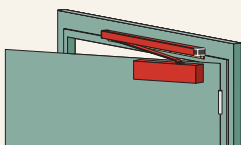


726 Series Accessory Installation Examples

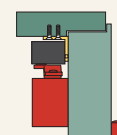
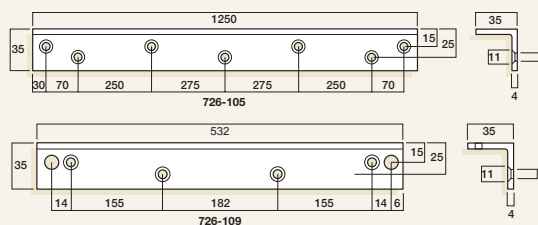
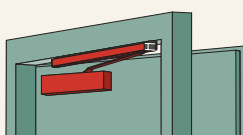
Flat mounting plate 726-103 for single doors (Double doors X 2)



Flat mounting plate 726-103 for single doors (Double doors X 2)



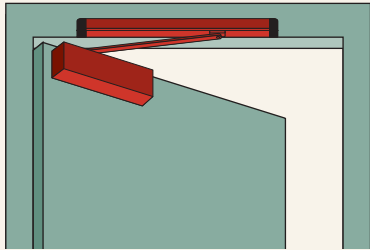
Angle mounting plate 726-105 for single doors (Double doors: 2 X 726-105 plus centre piece 726-109)



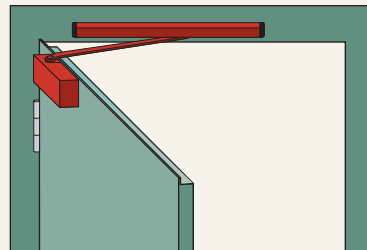
Lockwood Electro Mechanical Door Control Systems

Single Door Operation

During the day the door is normally closed or operated as a passage door. If the door needs to stay open, the hold-open device holds the door open at the desired angle. On interruption to the power supply (i.e. smoke detector alarm or remote button) the door will close.



Push Side Max. Opening Angle 130°



Pull Side Max. Opening Angle 130°

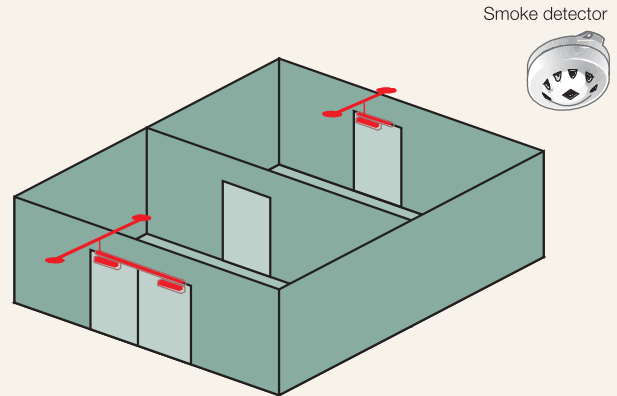
System 1

Single - Simple Installation

Can be used in a simple installation using a smoke detector and/or break glass unit. Door releases when power is removed from the electro mechanical unit. Unit can also be wired to a remote switch or remote control for convenient closing.

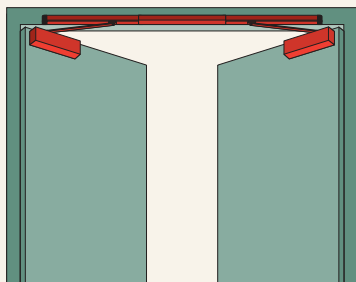
Electrical Specifications

24V DC ± 15%. Low consumption: max. current 60mA per hold-open device.

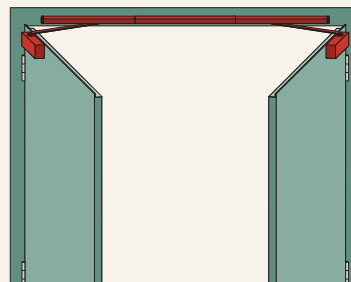


Double Door Operation

During the day both doors are normally held open. The inactive door is held open by the hold-open device at the angle determined during the installation. The active door is held open by the co-ordinator. When the power is switched off, eg. when the smoke detectors react to smoke, the inactive door closes first, and when it is completely closed, the active door closes.



Push Side Max. Opening Angle 130°



Pull Side Max. Opening Angle 130°

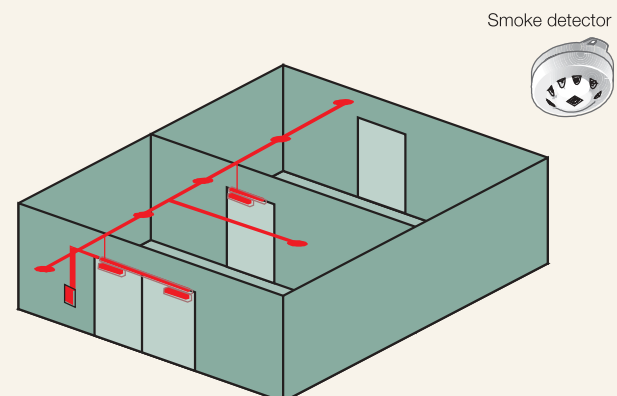
System 2

Double - Multiple Units

Suitable for local control of one or more doors. Doors will also close when the main power is interrupted. The double door system has a built in door co-ordinator. Can be used in a centralised control setup and wired back to a fire control panel or a building management system. Door releases when power is removed from the electro mechanical unit. Unit can also be wired to a remote switch or remote control for convenient closing.

Electrical Specifications

24V DC ± 15%. Low consumption: max. current 60mA per hold-open device.





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Contact the Export Department,
Australia for details.

Worldwide Distributors

Contact the Export Department,
Australia for details.



Lockwood Guarantee

Lockwood Security Products Pty Limited ("Lockwood") guarantees its products against defects in workmanship and materials. If within the normal working life of a product it is found to be defective, Lockwood will supply the same or an equivalent product free of charge.

All electrical components used in our products are guaranteed for a period of five years from the date of manufacture. Lockwood however, assumes no liability under this guarantee for the following:

1. Improper installation or failure to follow fitting instructions.
2. Failure due to improper maintenance or fair wear and tear.
3. Indirect or consequential loss or damage.
4. Cost of removal and/or replacement.

5. Cost of freight and/or travelling time.

6. The plated finishes, Florentine Bronze, Architectural Bronze, Polished Brass, Gold and Satin Brass are classified as soft finishes. As deterioration is possible under some climatic conditions, these finishes are excluded from this guarantee.

7. Any modification to a product as supplied, or repairs, unless authorised by Lockwood.

8. Use of replacement parts other than authorised parts.

9. Malfunction or failure of the product due to the use of non-genuine Lockwood parts.

Nothing in the Lockwood guarantee excludes, restricts or modifies any condition, warranty, right or liability implied or protected by law where to do so would render the Guarantee, or any part of it, void.

