



APPRAISAL REPORT

CS for doors - April 2018



TABLE OF CONTENTS

APPENDIX

EXECUTIVE SUMMARY		p. 3
INTRODUCTION	ſ	p. 4
PRIMARY USER OBSERVATIONS	p. 5	-10
Door visibility	·····	p. 5
Door operation		p. 6
Door handles and hardware		p. 7-8
Accessible toilet doors	p.	9-10

p. 11-14

EXECUTIVE SUMMARY

This is an expert opinion report in support of how a door hardware range, CL400 ADA Magnetic complies with the New Zealand Standard NZS4121:2001: Design for Access and Mobility. This expert opinion has been commissioned by CS for Doors, manufacturer of the CL400 ADA Magnetic door hardware.

CL400 Magnetic door hardware is a range of modern architectural hardware for sliding doors designed by CS Group. The range is suitable for residential or light commercial use in internal situations where medium security is required. The CL400 ADA Magnetic range has been designed to be easily interchanged with any existing CL400 handle. The intention is to provide flexible retrofit options for building owners looking to retrofit over existing handles with door hardware meeting the requirements of disabled tenants.

Lifemark® supported by the New Zealand Blind Foundation undertook primary user reviews on the CL400 ADA Magnetic range and this report outlines observations on the functionality and performance of the door hardware from these reviews with an opinion towards how the door hardware would meet the requirements of persons with disabilities based on compliance with NZS4121:2001.

Our expert opinion is that two of the three handle options, off-set and black handle, within the CL400 ADA Magnetic range provide suitable design options able to support compliance to NZS4121:2001.

A tactile label developed and approved in conjunction with the Blind Foundation that will make the door hardware easily usable for persons with visual impairments will be supplied with each product sold.

This review recognises the importance of correct positioning of the door hardware to ensure compliance with NZS4121:2001 guidelines. CS for Doors have followed best practice recommendations highlighted as part of this review and installation instructions supplied with the off-set and black handle product include guidelines on positioning of the door handles and the tactile indicator label to ensure compliance once installed.

Whilst the intention of the range is to be suited to residential and light commercial use it is our opinion that the CL400 ADA Magnetic range could be used in all situations where compliance to NZS4121:2001 is required.

INTRODUCTION

The CL400 ADA Magnetic door hardware range provides a range of modern architectural hardware suitable for residential or light commercial use in internal situations where medium security is required.

Three handle options have been proposed for the CL400 ADA Magnetic range: straight handle, offset handle and a black handle option. These handles will be available in a range of finishes with custom finishes available by special order.

A primary user based review of the door hardware has been undertaken by Lifemark® with the support of the New Zealand Blind Foundation in respect to providing an expert opinion in regard to how the door hardware complies with New Zealand standard NZS4121:2001 which covers the provision for access for the use of people with disabilities within public and commercial buildings.

All handle options within the CL400 ADA Magnetic Range have been reviewed and observations have been provided which for ease of interpretation we have aligned against the related clause within NZS4121:2001.

Some Best Practice Recommendations were provided as part of this review both in ensuring compliance to NZS4121:2001 once the product is installed and in a wider goal relating to usability, liveability, safety and adaptability. Some of these best practice recommendations relating to the installation of the product have been incorporated by CS for Doors into the installation instructions supplied with the product.

Lifemark® is a social enterprise agency that promotes Universal Design within the built environment across New Zealand. It has worked in this sector since 2006 providing support and guidance in the design of buildings and products to improve usability for the entire population, including for (but not limited to) young and growing families, people of all ages who experience temporary injury or illness, those with mobility, visual or cognitive impairments, and the growing ageing population.

Door Visibility

NZS4121:2001 CLAUSES REVIEWED

- **4.10.4.1 (a)** Door hardware to provide contrast in lightness darkness of colour with the door itself.
- **C4.10.1 (a)** Door hardware to be easily identified against the background with minimum of visual clutter.

Expert Opinion in respect to compliance to NZS4121:2001

	Complia	Compliance based on Handle Options		
NZS4121:2001	Off-set	Straight	Black	
4.10.4.1 (a)	Yes	Yes	Yes	
C4.10.1(a)	Yes	Yes	Yes	

DOOR VISIBILITY: PRIMARY USER OBSERVATIONS IN SUPPORT OF COMPLIANCE TO NZS4121:2001

- 1. The CL400 Ada Magnetic Door Hardware will be available in a range of 5 finishes. (Satin chrome, matte chrome, bright chrome, satin nickel and oil rubbed bronze) which provide options to deliver good levels of contrast between door furniture and the door in compliance with NZS4121:2001.
- 2. The locking mechanism is contained within the face plate of the door hardware and when installed will provide minimal visual clutter against background of door. All handle options will be easily distinguishable on the door in compliance with NZS4121:2001.

Door Operation

NZS4121:2001 CLAUSES REVIEWED

- 4.11.2 A door should be able to be opened with one hand.
- **7.3.1** The minimum clear width of a doorway shall be 760mm when the door is fully open.
- **7.3.5** The force required to push or pull open a non-fire door shall not exceed 22N for a sliding door.

Expert Opinion in respect to compliance to NZS4121:2001

	Compliance based on Handle Options		
NZS4121:2001	Off-set	Straight	Black
4.11.2	Yes	Yes	Yes
7.3.1	Yes	Yes	Yes
7.3.5	Yes	Yes	Yes

DOOR OPERATION: PRIMARY USER OBSERVATIONS IN SUPPORT OF COMPLIANCE TO NZS4121:2001

- 1. All handle options are usable and provide a means to easily open the door with one hand, including use by persons with restricted hand movement in compliance with NZS4121:2001.
- 2. The provision of the minimum clear width of a doorway is necessary to achieve compliance to NZS4121:2001. In line with Best Practice recommendations installation instructions provided with all purchased off-set and black handle product provide guidance on the provision of minimum clear walk through requirements to achieve compliance. (Ref Appendix, CL400 ADA Magnetic Installation Instructions for: CL400 Magnetic Bi-Parting ADA Privacy Handles, CL400 ADA Magnetic Bi-Parting Passage (Magnetic Latching) Handles, CAVILOCK CL400 ADA Magnetic Privacy Handle, CAVILOCK CL400 ADA Magnetic Passage Handle.)
- 3. The force required to pull the door shut and open the door was measured at 1N which complies with NZS4121:2001.

Door Handles and Hardware

NZS4121:2001 CLAUSES REVIEWED

- **7.3.7 (a)** Hardware should be positioned between 900 and 1200mm above the finished floor level.
- **7.3.7 (b)** Door handles and related hardware and accessories to provide operating locks and latches with lever action and the end of the handle returned toward the door.
- 7.3.7 (c) The door opening pressure to be the minimum required push or pull to open a non-fire door and shall not exceed 22N for a sliding door.
- **C7.3.7** Door handles to provide an adequate grip for people with limited or reduced hand function.

Expert Opinion in respect to compliance to NZS4121:2001

	Compliance based on Handle Options		
NZS4121:2001	Off-set	Straight	Black
7.3.7.(a)	Yes	Yes	Yes
7.3.7.(b)	Yes	Yes	Yes
7.3.7.(c)	Yes	Yes	Yes
C7.3.7	Yes	Yes	Yes

DOOR HANDLES & HARDWARE: PRIMARY USER OBSERVATIONS IN SUPPORT OF COMPLIANCE TO NZS4121:2001

- 1. Door hardware must be installed so handles are between 900 and 1200mm above the finished floor level to achieve compliance to NZS4121:2001
 - In line with best Practice recommendations installation instructions provided with all purchased off-set and black handle product provide guidance on positioning of the handles from the floor to the centre of the handle required to achieve compliance. (Ref Appendix, CL400 ADA Magnetic Installation Instructions for: CL400 Magnetic Bi-Parting ADA Privacy Handles, CL400 ADA Magnetic Bi-Parting Passage (Magnetic Latching) Handles, CAVILOCK CL400 ADA Magnetic Privacy Handle, CAVILOCK CL400 ADA Magnetic Passage Handle.).

- 2. The locking mechanism is activated by pulling the handle downward to lock and upward to unlock. The handle fully returns to the door at both ends and complies with NZS4121:2001.
- 3. The force required to pull the door shut and open the door was measured at 1N which complies with NZS4121:2001. The downward and upward force to lock and unlock the door was measured at 1N which complies with NZS4121:2001. It was noted that the force to unlock and lock the door can be adjusted prior to installation using manufacturer's instructions.
- 4. Primary user tests conducted of the CL400 ADA Magnetic range confirmed the design of the handle would be easily usable for people with limited hand movement and would comply with NZS4121:2001

Accessible Toilet Doors

NZS4121:2001 CLAUSES REVIEWED

- 10.5.5 (a) All doors serving toilet facilities to provide a suitable indicator bolt of suitable size and simplicity of operation to be readily usable by those with limited hand movement.
- 10.5.5 (b) All doors serving toilet facilities to be able to be opened from outside in an emergency.
- D1.3.4 (f) Doors and related hardware shall be easily usable.
- D2.1 (c) & 4.3 (d) People with disabilities shall be able to carry out normal activities and processes.

Expert Opinion in respect to compliance to NZS4121:2001

	Complia	Compliance based on Handle Options		
NZS4121:2001	Off-set	Straight	Black	
10.5.5 (a)	Yes	No	Yes	
10.5.5 (b)	Yes	Yes	Yes	
D1.3.4 (f)	Yes	Yes	Yes	
D2.1 (c) & 4.3 (d)	Yes	Yes	Yes	

^{*}Requires design change modification to ensure compliance to NZS4121:2001.

ACCESSIBLE TOILET DOORS: PRIMARY USER OBSERVATIONS IN SUPPORT OF COMPLIANCE TO NZS4121:2001

The locking mechanism of the CL400 ADA Magnetic is operated through an easily graspable handle which is pulled down to lock and up to unlock. The handle will be readily usable for persons with limited hand movement including those with arthritis. A minimum of 45mm clear space must be provided from the edge of handle to the door jamb to provide for usability by persons with limited hand movement. (Ref Appendix NZS4121:2001, Figure 20 – Clear width of doorway.)

 When closed the straight handle option will not provide the required minimum clear space of 45mm between handles and door jamb and cannot achieve compliance in line with NZS4121:2001 (Refer Appendix NZS4121:2001, Figure 20 – Clear width of doorway and photo #1, CL400 ADA Magnetic Straight Handle.)

- In line with Best Practice Recommendation installation Instructions provided with all purchased offset and black handle product provide guidance in respect to the provision of required clear space from edge of the pull handle to achieve compliance.
 (Ref Appendix, CL400 ADA Magnetic Installation Instructions for: CL400 Magnetic Bi-Parting ADA Privacy Handles, CL400 ADA Magnetic Bi-Parting Passage (Magnetic Latching) Handles, CAVILOCK CL400 ADA Magnetic Privacy Handle, CAVILOCK CL400 ADA Magnetic Passage Handle.)
- 3. An emergency release feature is provided to the locking mechanism allowing the door to be opened in an emergency in compliance with NZS4121:2001.
- 4. The locking mechanism of the CL400 ADA Magnetic is required to be **readily usable to comply with NZS4121:2001.**
 - The locking mechanism was reasonably intuitive for persons with mobility impairments and those without visual impairments.
 - In line with Best Practice recommendations a tactile label developed and approved by the Blind Foundation must be supplied with each off-set and black handle product sold to provide a tactile indicator for persons with visual impairments on locking and unlocking the door. Installation instructions supplied with all purchased product provide detailed guidance in respect to the positioning of these labels necessary to achieve compliance. (Ref Appendix, CL400 ADA Magnetic Installation Instructions for: CL400 Magnetic Bi-Parting ADA Privacy Handles, CL400 ADA Magnetic Bi-Parting Passage (Magnetic Latching) Handles, CAVILOCK CL400 ADA Magnetic Privacy Handle, CAVILOCK CL400 ADA Magnetic Passage Handle.)

*CL100 Lavilock™ is a code compliant commercial toilet locking mechanism currently used for sliding doors. Familiarity with the CL100 Lavilock™ lever style locking mechanism was observed to contribute negatively to the ease of use of the CL400 ADA Magnetic for people with visual impairments. As familiarity of the CL400 ADA Magnetic increases over time this may reduce the need for additional indicators to ensure it is readily usable for everyone including persons with vision impairments.

- 5. Colour red/ green indicators on both sides of the door hardware show that and the door is locked/ unlocked. A primary user review observed:
 - The colour indicator panel to the outside of the door was more readily visible where the handle was offset in both the offset handle and black handle option although all handle options would comply with NZS4121:2001. Further Design Recommendation: to increase the size of colour indicator panels to both sides of the locking mechanism to make it more readily usable for everyone including, but not limited to, persons with vision impairments.)

Appendix:



Photo 1, CL400 ADA Magnetic – Straight Handle



Photo 2, CL400 ADA Magnetic – Offset Handle



Photo 3, CL400 ADA Magnetic – Black Handle

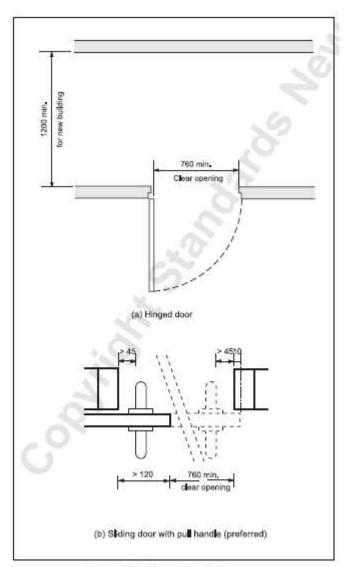


Figure 20 - Clear width of doorway

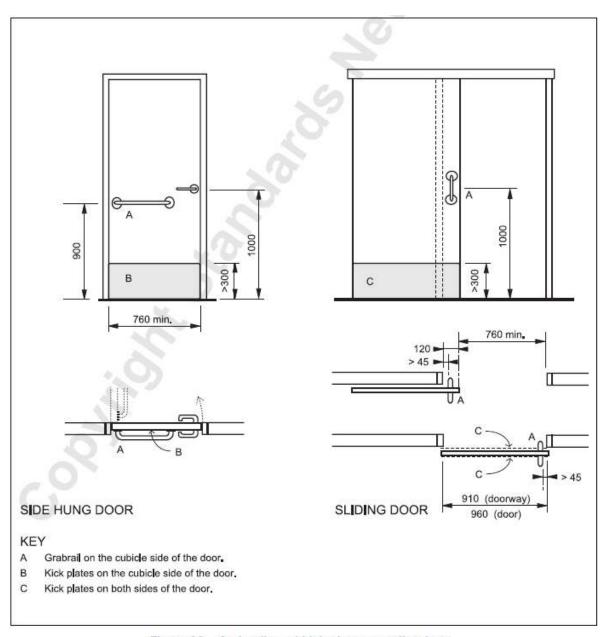
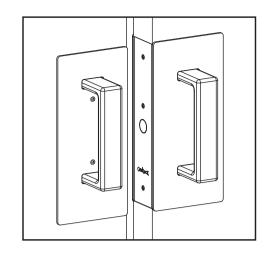


Figure 28 - Grab rails and kick plates on toilet doors



Before you Start:

- 1. These handles have been manufactured to specifications which cannot be altered by the installer. These include
- a Handle type: the CL400 ADA handle is available in Passage, Privacy and Bi-Parting versions. You have purchased the Bi-Parting Passage (Magnetic Latching) version.
- **b** Configuration: the Passage handle configurations include; Passage Magnetic Latching and
- Door thickness range: There are four different door thickness ranges: 34-40mm, 40-46mm, 46-52mm and 52-58mm (1-3/8" to 1-9/16", 1-5/8" to 1-3/4", 1-13/16" to 2" and 2-1/16" to 2-1/4"). Handles for thicker doors are available on request.

Refer to the information printed on the Side Handle and Chassis boxes to ensure you have purchased the handles with the correct specifications for your situation. If the specifications are incorrect you will need to exchange the handles.

- 2. Component drawings have been provided. Please familiarise yourself with the components and check the package to ensure nothing is missing.
- 3. To ensure the handles latch accurately, it is essential that both doors are adjusted for height and are parallel with each other when closed before installing the handles.
- 4. The CL400 is a metric handle. Accurate measurements are shown in millimetres. Conversions to inches are approximate.
- NZS4121:2001: To comply with NZS4121:2001 the centre of the handles should be positioned between 900mm and 1200mm (1000mm optimal) above finished floor level. There must be a minimum clear walk through of 760mm (Aust. 850mm). There must be a 45mm clear space from edge of pull handle to door jamb when the doors are fully open. Consult local standards for guidelines relating to the

USA ADA (American Disabilities Act) Guidelines: Handle should be positioned between 34 - 48" above finished floor level. Allow a minimum of four inches for the protrusion of the door in the open position. This can be achieved by using track stops or blocking in the back of the pocket. Consult local standards for guidelines relating to the specific project.

Component Drawings - Bi-Parting Mate Straight handle option shown. **Bi-Parting Side Handle Box** i (2) Bi-Parting Side Handle (Left) Bi-Parting Side Handle (Right) **Bi-Parting Chassis Box Bi-Parting Face Plate** h (3) **Bi-Parting Chassis**

IMPORTANT: Install THIS handle FIRST

Tools (contained in Bi-Parting Chassis Box) CL400 Allen Key

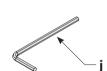
Magnet

Chassis Mounting Screws (2)

Face Plate Screws (3)

Handle Joining Screws (2)

Side Handle to Chassis Screws (6)



WARNING: THE BI-PARTING CHASSIS CONTAINS A STRONG MAGNET

IRON FILINGS - Magnets will attract shavings from iron or ferrous metals which may be hard to remove. Keep magnets a safe distance away from these materials.

DANGER FOR CHILDREN - Magnets may cause serious injury if swallowed. Keep out of reach of children. CRUSHING, BLISTERS AND CUTS - Fingers may become caught between magnets resulting in crushing,

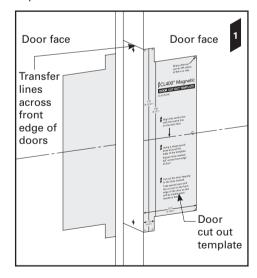
BREAKING OR CHIPPING - It is possible that magnets could chip or shatter on contact with other hard materials, resulting in chips flying off at high speed into someone's eye. Chips can also be very sharp - treat them as you would broken glass.

MAGNETICALLY SENSITIVE ITEMS - Keep a safe distance between the magnet and all objects that can be damaged by magnetism (e.g. mechanical watches, pacemakers, cell phones etc.). DISPOSAL - Magnets should be disposed of carefully and in accordance with your local regulations.

Door Preparation

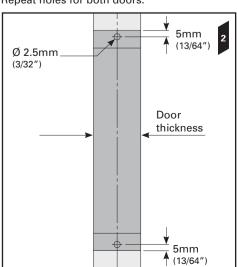
1. Mark a line on the face of the doors where the centre of the handles are to be positioned.

Align the centre line on the door cut out template with the centre line on the door. Follow the instructions on the template. Repeat cut out for both doors.



2. Mark two holes in the centre of the door thickness in the positions shown. Using these marks, drill two 2.5mm (3/32") diameter holes to a depth of 35mm (1-3/8").

Repeat holes for both doors.



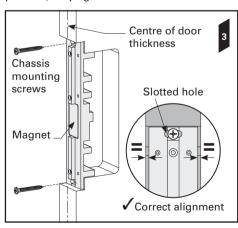
Fitting the Bi-Parting Mate

3. The Bi-Parting chassis contains a strong magnet. Read the warning on page 2 before continuing.

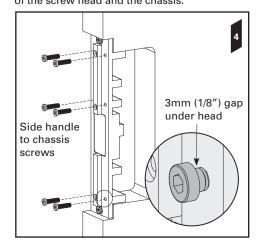
Remove the Bi-Parting chassis from its packaging. Remove the face plate screw and face plate from the chassis.

Align the chassis with the centre of the door thickness. Screw the chassis to the door (using the two *chassis mounting screws*) through the slotted holes at the top and bottom of the chassis. DO NOT fully tighten the screws.

Realign the chassis with the centre of the door thickness. When happy with the chassis position, fully tighten the screws.

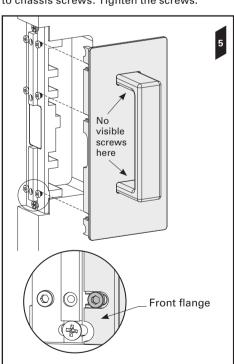


4. Fit the 6x side handle to chassis screws. Leave a 3mm gap (1/8") between the underside of the screw head and the chassis.

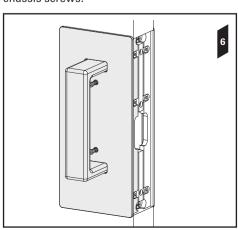


Fitting the Bi-Parting Mate

5. Select the *Bi-Parting side handle* that has no visible fasteners (see diagram 5). Fit it to the chassis by sliding the front flange of the handle under the heads of the 3x side handle to chassis screws. Tighten the screws.

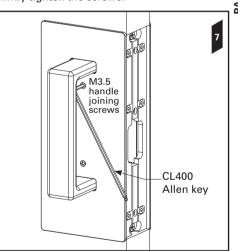


6. Fit the remaining Bi-Parting side handle to the chassis and tighten the 3x side handle to chassis screws.

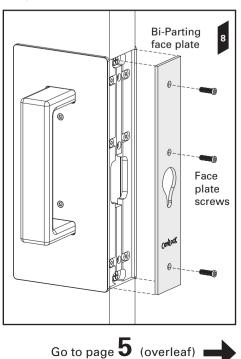


7. Use the ball end of the CL400 Allen key to tighten the 2x handle joining

Use the other end of the Allen key to firmly tighten the screws.



8. Fit the *Bi-Parting face plate* to the chassis using the 3x face plate screws.





Straight handle option shown.

Tools (contained in Passage Chassis Box)

Side Handle to Chassis Screws (6)

Face Plate Screws (3)

Handle Joining Screws (2)

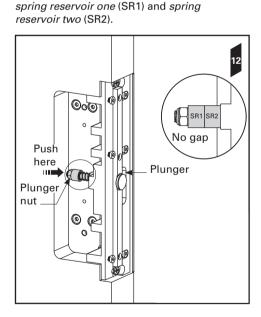
Plunger Adjustment Spanners (2)



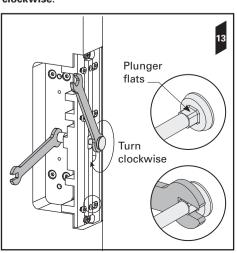
Adjusting the Plunger 12. Manually push the *plunger* in the passage chassis forward until there is no gap between

Now turn the spanner anti clockwise half a

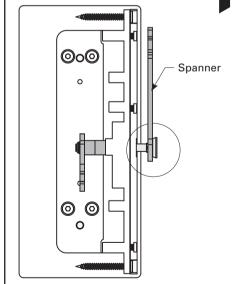
The plunger should now be adjusted correctly. Slide the doors closed and check that they latch. Adjust if necessary.

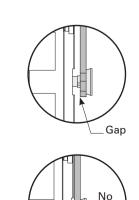


13. Two identical spanners have been supplied. Restrain the plunger nut using the large end of one of the supplied spanners. Place the small end of the second spanner across the flats under the head of the plunger. Keep the spanner restraining the plunger nut stationary while turning the second spanner clockwise.



14. Continue to turn the spanner until there is no longer a gap between the spanner and the chassis.





gap

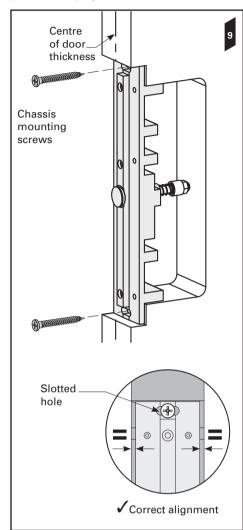
Use the other end of the Allen key to fully tighten the screws. It is important that they are tight. M3.5 handle joining screws CL400 Allen key

Fitting the Passage Handle

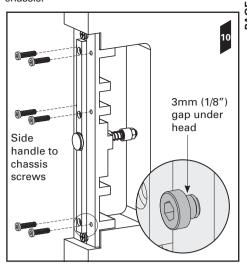
9. Remove the *passage chassis* from its packaging. Remove the face plate screw and face plate from the chassis.

Align the chassis with the centre of the door thickness. Screw the chassis to the door (using the two chassis mounting screws) through the slotted holes at the top and bottom of the chassis. DO NOT fully tighten the screws.

Realign the chassis with the centre of the door thickness. When happy with the chassis position, fully tighten the screws.

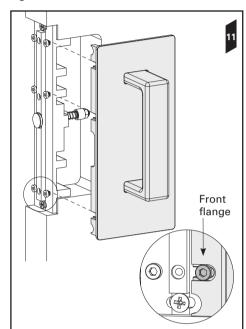


10. Fit the 6x side handle to chassis screws. Leave a 3mm gap (1/8") between the underside of the screw head and the chassis.



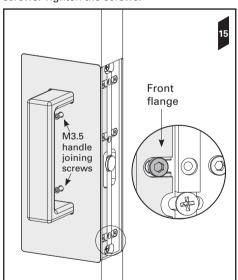
11. Fit the passage side handle (with no visible fasteners) to the chassis by sliding the front flange of the handle under the heads of the 3x side handle to chassis screws.

Tighten the screws.



Fitting the Remaining Side Handle

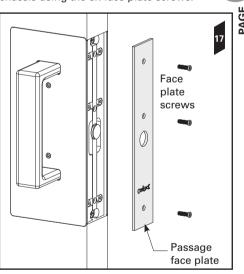
15. Fit the remaining passage side handle (with visible M3.5 screws fitted) to the chassis (using the 3x side handle to chassis screws) by sliding the front flange of the handle under the heads of the three screws. Tighten the screws.



16. Use the ball end of the CL400 Allen key to fasten the 2x M3.5 screws as tight as possible.

Fitting the Face Plate

17. Fit the passage face plate to the chassis using the 3x face plate screws.



MAGNETIC (O.D. 2013) ADA PASSAGE BIF INSTRUCTIONS. 61231/CL405ZA922 - 02.2018 All copyright and other property in this document is reserved by Cavity Sliders Limited. Details and specifications are subject to change without notice. Whilst all care is taken to ensure the accuracy of all information, no responsibility will be accepted for any errors or omissions. ® CS FOR DOORS, CS CAVITY SLIDERS and CAVILOCK are Registered Trademarks. Patents pending.





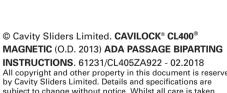
Recyclable Packaging

www.csfordoors.co.nz www.cavitysliders.com.au

Mt Wellington Auckland, NZ

Auckland Head Office

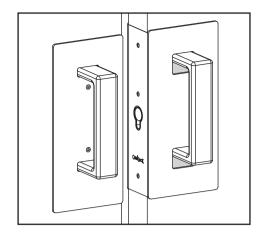
T +64 9 276 0800 F +64 9 276 2525 www.cavitysliders.com info@csfordoors.co.nz







5 - 7 Rakino Way



Before you Start:

Handles

- These handles have been manufactured to specifications which cannot be altered by the installer. These include:
- **a** Handle type: the CL400 ADA handle is available in *Passage, Privacy* and *Bi-Parting* versions. You have purchased the *Bi-Parting Privacy* version.
- **b** Configuration: the Privacy handle configurations include; Snib/Snib, Snib One Side and Snib/Emergency.
- c Door thickness range: There are four different door thickness ranges: 34-40mm, 40-46mm, 46-52mm and 52-58mm (1-3/8" to 1-9/16", 1-5/8" to 1-3/4", 1-13/16" to 2" and 2-1/16" to 2-1/4"). Handles for thicker doors are available on request.
- d Security: the CL400 handle varies in security depending on the version and configuration. The CL400 ADA Bi-Parting Privacy configuration provides low level security. It is important to note that the CL400 handle should not be installed in situations where a high level of security is required, e.g. external entry points or high security internal doorways.
 Refer to the information printed on the Side Handle and Chassis boxes to ensure you have
- Refer to the information printed on the *Side Handle* and *Chassis* boxes to ensure you have purchased handles with the correct specifications for your situation. If the specifications are incorrect you will need to exchange the handles.

 2. Component drawings have been provided. Please familiarise yourself with the components and
- check the package to ensure nothing is missing. Note: Components may vary slightly between configurations.3. To ensure the handles latch accurately, it is essential that both doors are adjusted for height and

are parallel with each other when closed before installing the handles.

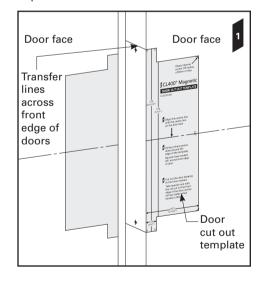
- 4. The CL400 is a metric handle. Accurate measurements are shown in millimetres. Conversions to inches are approximate.
- 5. NZS4121:2001: To comply with NZS4121:2001 the centre of the handles should be positioned between 900mm and 1200mm (1000mm optimal) above finished floor level. There must be a minimum clear walk through of 760mm (Aust. 850mm). There must be a 45mm clear space from edge of pull handle to door jamb when the doors are fully open. The supplied 'Down to Lock' label must be positioned as close as possible to the locking handle. Consult local standards for guidelines relating to the specific

USA ADA (American Disabilities Act) Guidelines: Handle should be positioned between 34 - 48" above finished floor level. Allow a minimum of four inches for the protrusion of the door in the open position. This can be achieved by using track stops or blocking in the back of the pocket. Consult local standards for guidelines relating to the specific project.

Door Preparation

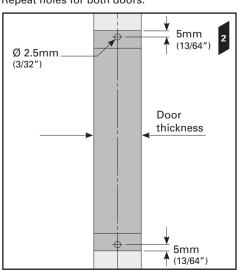
1. Mark a line on the face of the doors where the centre of the handles are to be positioned.

Align the centre line on the *door cut out template* with the centre line on the door. Follow the instructions on the template. Repeat cut out for both doors.



2. Mark two holes in the centre of the door thickness in the positions shown. Using these marks, drill two 2.5mm (3/32") diameter holes to a depth of 35mm (1-3/8").

Repeat holes for both doors.



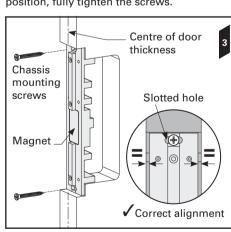
Fitting the Bi-Parting Mate

3. The Bi-Parting chassis contains a strong magnet. Read the warning on page 2 before continuing.

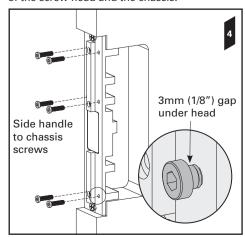
Remove the *Bi-Parting chassis* from its packaging. Remove the *face plate screw* and *face plate* from the chassis.

Align the chassis with the centre of the door thickness. Screw the chassis to the door (using the two *chassis mounting screws*) through the slotted holes at the top and bottom of the chassis. **DO NOT** fully tighten the screws.

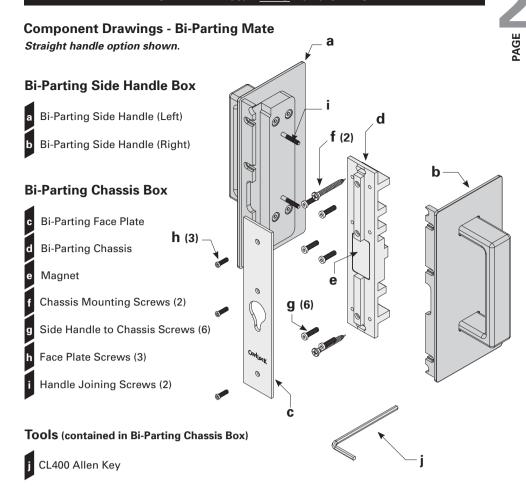
Realign the chassis with the centre of the door thickness. When happy with the chassis position, fully tighten the screws.



4. Fit the 6x *side handle to chassis screws.* **Leave a 3mm gap** (1/8") between the underside of the screw head and the chassis.



IMPORTANT: Install THIS handle FIRST



WARNING: THE BI-PARTING CHASSIS CONTAINS A STRONG MAGNET

IRON FILINGS - Magnets will attract shavings from iron or ferrous metals which may be hard to remove. Keep magnets a safe distance away from these materials.

DANGER FOR CHILDREN - Magnets may cause serious injury if swallowed. Keep out of reach of children.

CRUSHING, BLISTERS AND CUTS - Fingers may become caught between magnets resulting in crushing, blisters or cuts.

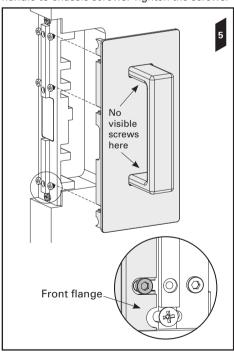
BREAKING OR CHIPPING - It is possible that magnets could chip or shatter on contact with other hard materials, resulting in chips flying off at high speed into someone's eye. Chips can also be very sharp - treat them as you would broken glass.

MAGNETICALLY SENSITIVE ITEMS - Keep a safe distance between the magnet and all objects that can be damaged by magnetism (e.g. mechanical watches, pacemakers, cell phones etc.). DISPOSAL - Magnets should be disposed of carefully and in accordance with your local regulations.

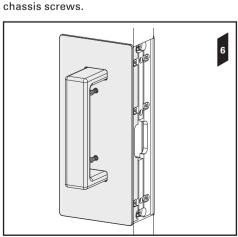
Fitting the Bi-Parting Mate

5. Select the *Bi-Parting side handle* that has no visible fasteners (see diagram 5).

Fit it to the chassis by sliding the front flange of the handle under the heads of the 3x side handle to chassis screws. Tighten the screws.

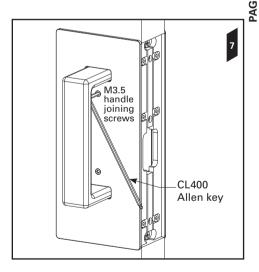


6. Fit the remaining Bi-Parting side handle to the chassis and tighten the 3x side handle to chassis screws

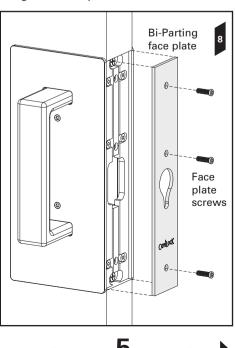


7. Use the ball end of the *CL400 Allen key* to tighten the 2x handle joining screws.

Use the other end of the Allen key to firmly tighten the screws.

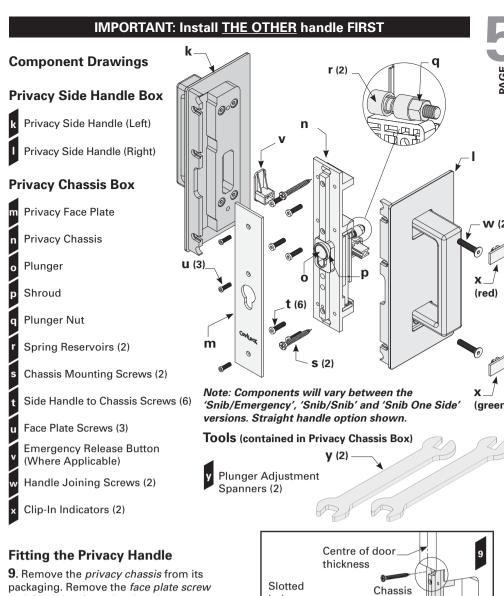


8. Fit the *Bi-Parting face plate* to the chassis using the 3x *face plate screws*.



Go to page **5** (overleaf)





hole

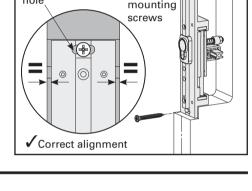
and face plate from the chassis.

Align the chassis with the centre of the door thickness. Screw the chassis to the door (using the two chassis mounting screws) through the slotted holes at the top and bottom of the chassis. DO NOT fully tighten the screws.

Realign the chassis with the centre of the door thickness. When happy with the chassis position, fully tighten the screws.

Go to page **O**



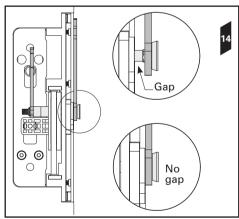


Adjusting the Plunger

14. Continue to turn the spanner until there is no longer a gap between the spanner and the chassis

Now turn the spanner anti clockwise half a turn.

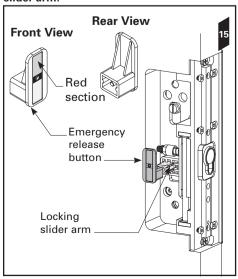
The plunger should now be adjusted correctly. Slide the doors closed and check that they latch. Adjust if necessary.



Fitting Emergency Release

15. If installing a snib/snib privacy proceed to Step 17, otherwise, fit the emergency release button (with the spring attached) over the locking slider arm.

Note: the locking slider arm may have been pre-cut depending on the width of the door. The drawing below demonstrates a cut slider arm.

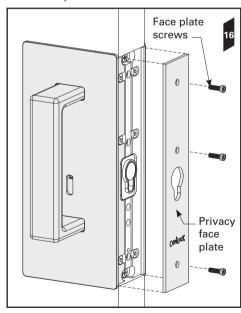


Fitting the Remaining Side Handle and Face Plate

16. Fit the remaining privacy side handle to the chassis by sliding the front flange of the handle under the heads of the 3x side handle to chassis screws.

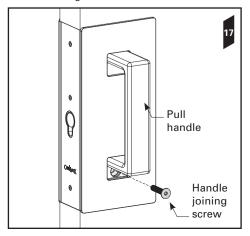
Tighten the screws.

Fit the privacy face plate to the chassis using the 3x face plate screws.



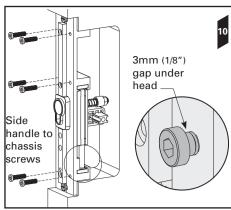
Fixing the Side Handle

17. With the pull handle in the 'unlocked' position, insert one of the handle joining screws through the bottom hole in the side handle and tighten.

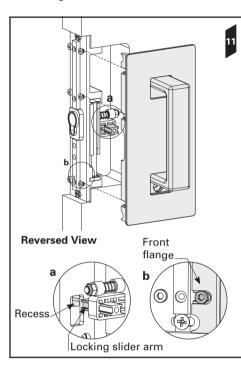


Fitting the Privacy Handle

10. Fit the six side handle to chassis screws. Leave a 3mm gap (1/8") between the underside of the screw head and the chassis.

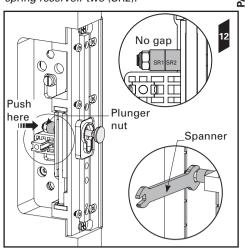


- 11. Fit the privacy side handle containing the snib latch to the chassis as follows (if installing a snib/snib privacy handle install **ONE** of the side handles only):
- a. Align the recess in the back of the snib button with the arm of the locking slider.
- b. Slide the front flange of the handle under the heads of the 3x side handle to chassis screws. Tighten the screws.

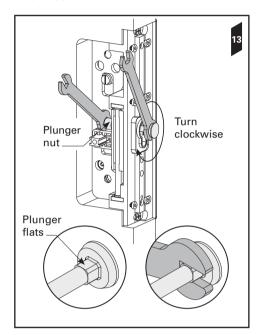


Adjusting the Plunger

12. Manually push the plunger in the privacy chassis forward until there is no gap between spring reservoir one (SR1) and spring reservoir two (SR2).



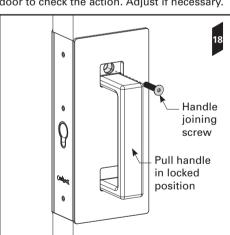
13. Two identical spanners have been supplied. Restrain the plunger nut using the large end of one of the supplied spanners. Place the small end of the second spanner across the flats under the head of the plunger. Keep the spanner restraining the plunger nut stationary while turning the second spanner clockwise.



Fixing the Side Handle

18. Close the door and lock the handle by pushing the pull handle downwards. Insert the second handle joining screw through the top hole and tighten.

While the door is closed, lock and unlock the door to check the action. Adjust if necessary.

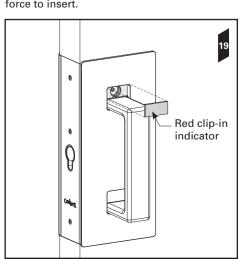


Fitting the Clip-in Indicator

Warning: it is very important that you follow the next instructions carefully as the clip-in indicator cannot be easily removed once installed.

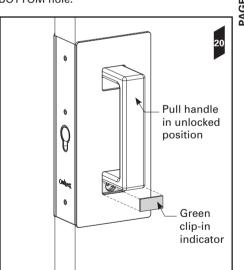
19. With the pull handle down in the 'locked' position, insert the RED clip-in indicator into the TOP hole.

Note: the indicator is designed to remain in place permanently and may require some force to insert.



Fitting the Clip-in Indicator

20. Lift the pull handle up to unlock it. Insert the GREEN clip-in indicator into the BOTTOM hole.



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Handles & Locks for Sliding Doors



Mt Wellington Auckland, NZ

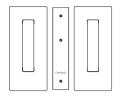
Cavity Sliders Limited

Auckland Head Office 5 - 7 Rakino Way

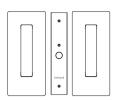
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Installation Instructions for CAVILOCK CL400 **ADA Magnetic Passage Handle**

CL400 ADA Non-Latching Passage Handle



CL400 ADA Magnetic Latching Passage Handle



CL400 ADA Bi-Parting Passage (Non Latching)



Before you Start:

- 1. This handle has been manufactured to specifications which cannot be altered by the installer. These include Handle type, Configuration, Handing and Door thickness range. Refer to the information printed on the Side Handle and Chassis boxes to ensure you have purchased a handle with the correct specifications for your situation. If the specifications are incorrect you will need to exchange the handle.
- 2. Component drawings have been provided. Please familiarise yourself with the components and check the package to ensure nothing is missing. Note: Components may vary slightly between configurations.
- 3. To ensure the handle latches accurately, it is essential that the door is adjusted for height and is parallel with the closing jamb when closed before installing the handle and striker.
- 4. This is a metric handle. Accurate measurements are shown in millimetres. Conversions to inches are approximate.
- NZS4121:2001: To comply with NZS4121:2001 the offset handle option must be used. The centre of the handle should be positioned between 900mm and 1200mm (1000mm optimal) above finished floor level. The door needs to be at least 910mm wide (Aust. 1050mm) to allow minimum clear walk through of 760mm (Aust. 850mm). There must be a 45mm clear space from edge of pull handle to the nearest door jamb when the door is both fully open and completely closed. A flat closing jamb is recommended. Consult local standards for guidelines relating to the specific project.

USA ADA (American Disabilities Act) Guidelines: Handle should be positioned between 34 - 48" above finished floor level. Allow a minimum of four inches for the protrusion of the door in the open position. This can be achieved by using track stops or blocking in the back of the pocket. Consult local standards for guidelines relating to the specific project.

WARNING: THE STRIKER CONTAINS A STRONG MAGNET

IRON FILINGS - Magnets will attract shavings from iron or ferrous metals which may be hard to remove. Keep the striker a safe distance away from these materials.

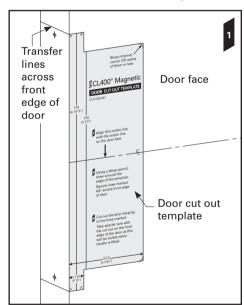
DANGER FOR CHILDREN - Magnets may cause serious injury if swallowed. Keep out of reach of children. CRUSHING, BLISTERS AND CUTS - Fingers may become caught between magnets resulting in crushing,

BREAKING OR CHIPPING - It is possible that magnets could chip or shatter on contact with other hard materials, resulting in chips flying off at high speed into someone's eye. Chips can also be very sharp treat them as you would broken glass.

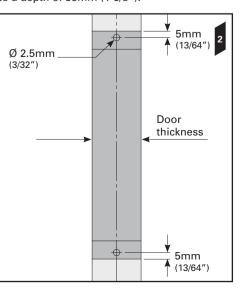
MAGNETICALLY SENSITIVE ITEMS - Keep a safe distance between the magnet and all objects that can be damaged by magnetism (e.g. mechanical watches, pacemakers, cell phones etc.). **DISPOSAL** - Magnets should be disposed of carefully and in accordance with your local regulations.

Door Preparation

1. Mark a line on the face of the door where the centre of the handle is to be positioned. Align the centre line on the door cut out template with the centre line on the door. Follow the instructions on the template.



2. Mark two holes in the centre of the door thickness in the positions shown. Using these marks, drill two 2.5mm (3/32") diameter holes to a depth of 35mm (1-3/8").

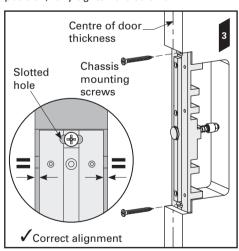


Fitting the Chassis

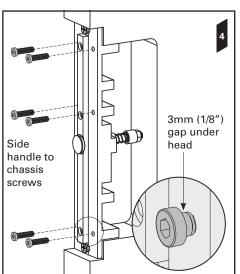
3. Remove the face plate screw and face plate from the chassis. Align the chassis with the centre of the door thickness.

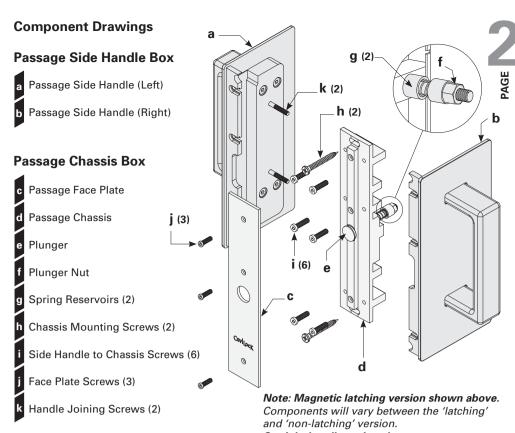
Screw the chassis to the door (using the 2x chassis mounting screws) through the slotted holes at the top and bottom of the chassis. DO NOT fully tighten the screws.

Realign the chassis with the centre of the door thickness. When happy with the chassis position, fully tighten the screws.



4. Fit the 6x side handle to chassis screws. Leave a 3mm gap (1/8") between the underside of the screw head and the chassis.





Straight handle option shown. Striker Box (magnetic latching version only) Striker Nuts (2) Striker Body Striker Mounting Wood Screws (4) Passage Striker Face Plate Striker Face Plate Screws (2)

Tools (contained in Passage Chassis Box)

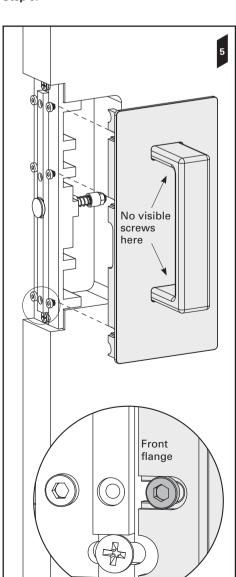
Plunger Adjustment Spanners (2) CL400 Allen Key



Fitting the First Side Handle

5. Select the *passage side handle* that has no visible screws (see diagram 5). Fit it to the chassis by sliding the front flange of the handle under the heads of the 3x side handle to chassis screws. Tighten the screws.

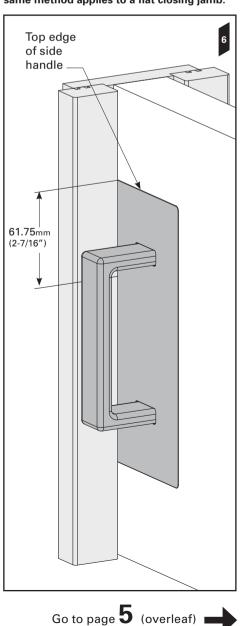
If you are fitting a Non-Latching or Bi-Parting handle, skip to Step 16; otherwise continue to



Fitting the Striker

6. Close the door and mark a horizontal line on the closing jamb 61.75mm (2-7/16") down from the top edge of the side handle.

Note: these instructions are demonstrated on a recessed closing jamb, however, the same method applies to a flat closing jamb.

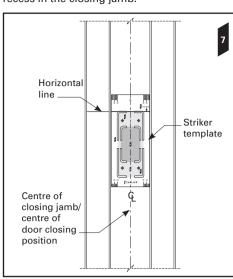




Fitting the Striker

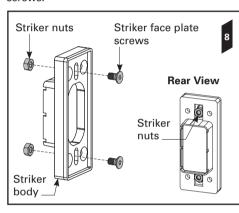
7. Open the door. Transfer the horizontal line across the centre of the closing jamb. This line represents the top of the striker cut out.

A double-sided striker cut out template has been provided. Use the 'FLUSH striker template' and instructions to router out the recess in the closing jamb.



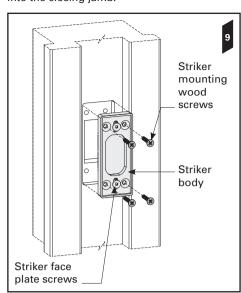
8. Remove the *striker* from its box. Remove the striker face plate from the striker body. Insert the 2x striker nuts into the recess in the back of the striker body.

Insert the 2x striker face plate screws through the slot in the front face of the striker body and into the striker nuts. Loosely tighten the screws

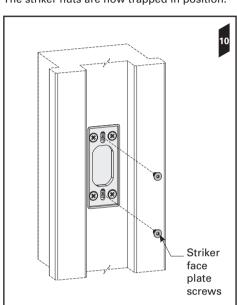


9. Insert the striker body, with the striker face plate screws and the striker nuts attached, into the cut out in the closing

Screw the 4x striker mounting wood screws into the closing jamb.

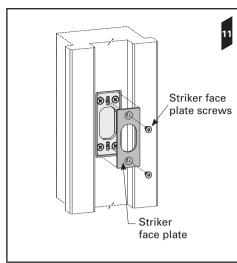


10. Remove the striker face plate screws. The striker nuts are now trapped in position.



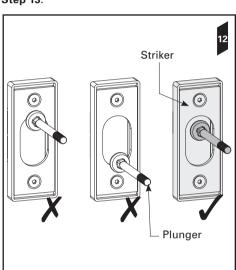
Fitting the Striker

11. Position the striker face plate in the centre of the striker body - this may need to be adjusted in the steps following. Insert the striker face plate screws and loosely tighten.



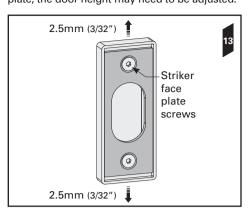
12. Close the door. When the striker is fitted correctly the magnet will draw the plunger forward. If this does not happen the striker is misaligned with the plunger (see below).

If the alignment is correct, tighten the screws and skip to Step 14; otherwise continue to Step 13.



13. The striker allows 2.5mm (3/32") of adjustment in each direction when the striker face plate is fitted in the centre of the striker body.

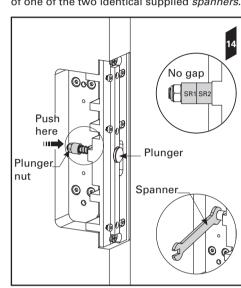
To adjust the face plate position, loosen the striker face plate screws slightly and adjust the face plate up or down to allow the plunger to penetrate the striker face plate. If the plunger still fails to penetrate the striker face plate, the door height may need to be adjusted.



Adjusting the Plunger

14. Manually push the plunger forward until there is no gap between spring reservoir one (SR1) and spring reservoir two (SR2).

Restrain the *plunger nut* using the **large** end of one of the two identical supplied spanners.



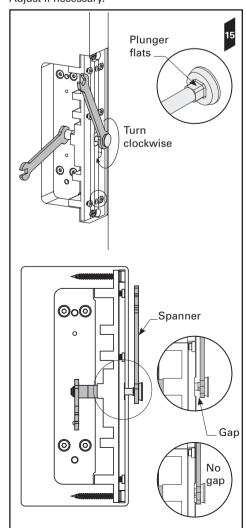
Adjusting the Plunger

15. Place the small end of the second spanner across the flats under the head of the plunger. Keep the spanner restraining the plunger nut stationary while turning the second spanner clockwise

Continue to turn the spanner until there is no longer a gap between the spanner and the

Now turn the spanner anti clockwise half a turn. The plunger should now be adjusted correctly. Slide the door closed to check.

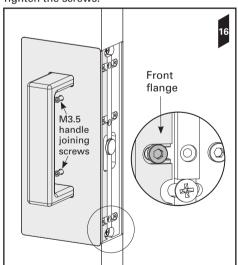
Adjust if necessary.



Fitting the Remaining Side Handle

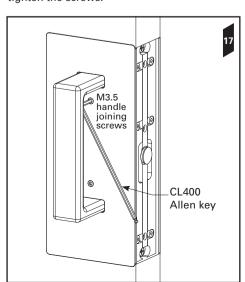
16. Fit the remaining side handle (with visible handle joining screws fitted) to the chassis by sliding the front flange of the handle under the heads of the 3x side handle to chassis screws.

Tighten the screws.



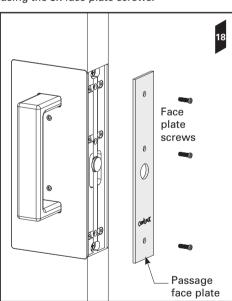
17. Use the ball end of the *CL400 Allen key* to tighten the 2x handle joining screws.

Use the other end of the Allen key to firmly tighten the screws.



Fitting the Face Plate

18. Fit the passage face plate to the chassis using the 3x face plate screws.



Bi-Parting Handles

19. If you are installing a CL400 Bi-Parting -Passage (Non Latching) handle, both handles are the same and you can simply repeat the Passage Handle installation instructions for the second door.

Ignore any reference to the striker or plunger.

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Packaging

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T +64 9 276 0800 F +64 9 276 2525 CL400 ADA Snib/Snib







Before you Start:

- 1. This handle has been manufactured to specifications which cannot be altered by the installer. These include Handle type, Configuration, Handing and Door thickness range. Refer to the information printed on the Side Handle and Chassis boxes to ensure you have purchased a handle with the correct specifications for your situation. If the specifications are incorrect you will need to exchange the handle.
- 2. Security: the CL400 handle varies in security depending on the version and configuration. Handles supplied with a raised shroud provide a greater level of security than those with a flush shroud, however, it is important to note that the CL400 handle should not be installed in situations where a high level of security is required, e.g. external entry points or high security internal doorways

3. Component drawings have been provided. Please familiarise yourself with

Components may vary slightly between configurations.

the components and check the package to ensure nothing is missing. Note:





offers a greater

- 4. To ensure the handle latches accurately, it is essential that the door is adjusted for height and is parallel with the closing jamb when closed before installing the handle and striker.
- 5. This is a metric handle. Accurate measurements are shown in millimetres. Conversions to inches are
- 6. NZS4121:2001: To comply with NZS4121:2001 the offset handle option must be used. The centre of the handle should be positioned between 900mm and 1200mm (1000mm optimal) above finished floor level. The door needs to be at least 910mm wide (Aust. 1050mm) to allow minimum clear walk through of 760mm (Aust.) 850mm). There must be a 45mm clear space from edge of pull handle to the nearest door jamb when the door is both fully open and completely closed. A flat closing jamb is recommended. The supplied 'Down to Lock' label must be positioned as close as possible to the handle. Consult local standards for guidelines relating to

USA ADA (American Disabilities Act) Guidelines: Handle should be positioned between 34 - 48" above finished floor level. Allow a minimum of four inches for the protrusion of the door in the open position. This can be achieved by using track stops or blocking in the back of the pocket. Consult local standards for guidelines relating to the specific project.



WARNING: THE STRIKER CONTAINS A STRONG MAGNET

IRON FILINGS - Magnets will attract shavings from iron or ferrous metals which may be hard to remove. Keep the striker a safe distance away from these materials.

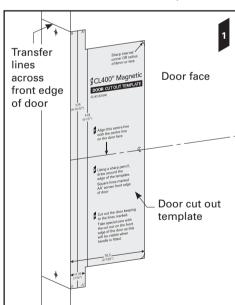
DANGER FOR CHILDREN - Magnets may cause serious injury if swallowed. Keep out of reach of children. CRUSHING, BLISTERS AND CUTS - Fingers may become caught between magnets resulting in crushing,

BREAKING OR CHIPPING - It is possible that magnets could chip or shatter on contact with other hard materials, resulting in chips flying off at high speed into someone's eye. Chips can also be very sharp treat them as you would broken glass.

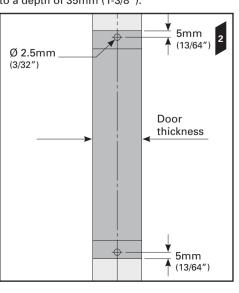
MAGNETICALLY SENSITIVE ITEMS - Keep a safe distance between the magnet and all objects that can be damaged by magnetism (e.g. mechanical watches, pacemakers, cell phones etc.). DISPOSAL - Magnets should be disposed of carefully and in accordance with your local regulations.

Door Preparation

1. Mark a line on the face of the door where the centre of the handle is to be positioned. Align the centre line on the door cut out template with the centre line on the door. Follow the instructions on the template.



2. Mark two holes in the centre of the door thickness in the positions shown. Using these marks, drill two 2.5mm (3/32") diameter holes to a depth of 35mm (1-3/8").

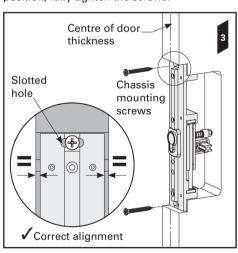


Fitting the Chassis

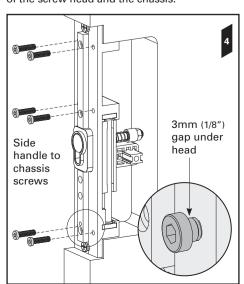
3. Remove the face plate screw and face plate from the chassis. Align the chassis with the centre of the door thickness.

Screw the chassis to the door (using the 2x chassis mounting screws) through the slotted holes at the top and bottom of the chassis. DO NOT fully tighten the screws.

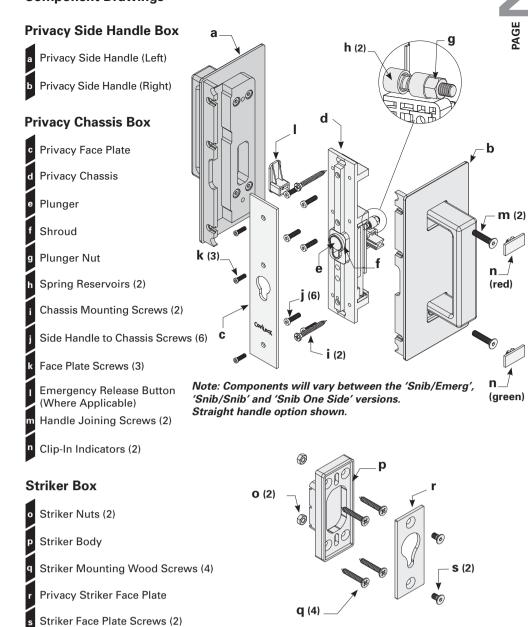
Realign the chassis with the centre of the door thickness. When happy with the chassis position, fully tighten the screws.



4. Fit the 6x side handle to chassis screws. Leave a 3mm gap (1/8") between the underside of the screw head and the chassis.



Component Drawings



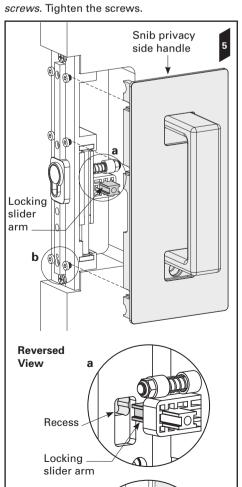
Fitting the First Side Handle

CL400 Allen Key

Tools (contained in Privacy Chassis Box)

Plunger Adjustment Spanners (2)

- **5**. Fit the *snib* privacy side handle to the chassis as follows (if installing a snib/snib privacy handle install ONE of the side handles
- a. Align the recess in the back of the snib button with the arm of the locking slider.
- b. Slide the front flange of the handle under the heads of the 3x side handle to chassis screws. Tighten the screws.



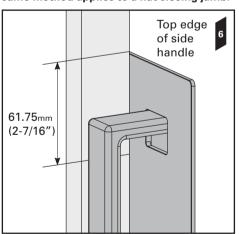
flange

 (\bigcirc)

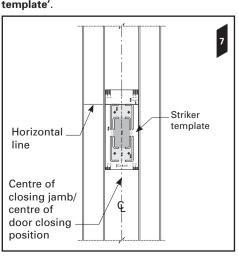
Fitting the Striker

6. Close the door and mark a horizontal line on the closing jamb 61.75mm (2-7/16") down from the top edge of the side handle.

Note: these instructions are demonstrated on a recessed closing jamb, however, the same method applies to a flat closing jamb.



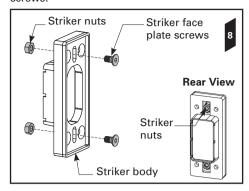
- 7. Open the door. Transfer the horizontal line line represents the top of the striker cut out.
- A double-sided striker cut out template has
- Use template labelled 'FLUSH striker template'.



Go to page 5 (overleaf)

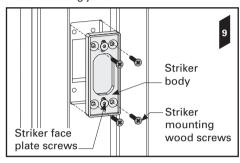


Insert the 2x striker face plate screws through the slot in the front face of the striker body and into the striker nuts. Loosely tighten the screws.

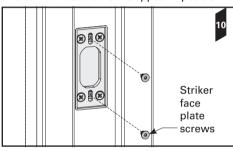


9. Insert the striker body, with the striker face plate screws and the striker nuts attached, into the cut out in the closing jamb.

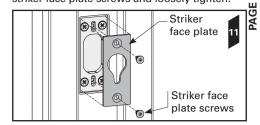
Screw the 4x striker mounting wood screws into the closing jamb.



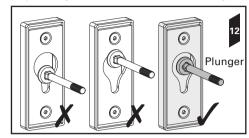
10. Remove the striker face plate screws. The striker nuts are now trapped in position.



11. Position the striker face plate in the centre of the striker body - this may need to be adjusted in the steps following. Insert the striker face plate screws and loosely tighten.

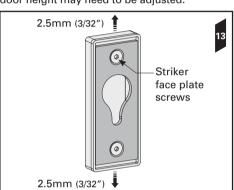


12. Close the door. When the striker is fitted correctly the magnet will draw the plunger forward. If this does not happen the striker is misaligned with the plunger (see below). If the alignment is correct, tighten the screws and skip to Step 14; otherwise continue to Step 13.



13. The striker allows 2.5mm (3/32") of adjustment in each direction when the striker face plate is fitted in the centre of the striker

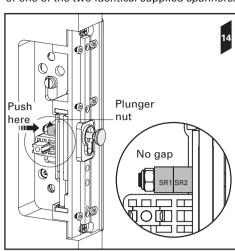
To adjust the face plate position, loosen the striker face plate screws slightly and adjust the face plate up or down to allow the plunger to penetrate the striker face plate. If the plunger still fails to penetrate the striker face plate, the door height may need to be adjusted.



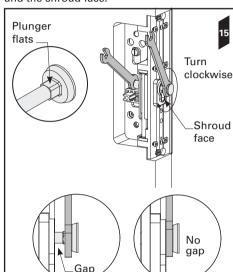
Adjusting the Plunger

14. Manually push the *plunger* forward until there is no gap between spring reservoir one (SR1) and spring reservoir two (SR2).

Restrain the *plunger nut* using the **large** end of one of the two identical supplied spanners.



15. Place the small end of the second spanner across the flats under the head of the plunger. Keep the spanner restraining the plunger nut stationary while turning the second spanner clockwise. Continue to turn the spanner until there is no longer a gap between the spanner and the shroud face.

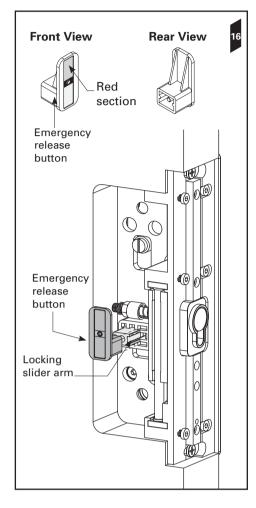


Now turn the spanner anti clockwise half a turn. The plunger should now be adjusted correctly. Slide the door closed to check that it latches. If the snib button is hard to push down or the plunger doesn't engage with the striker, adjust as

Fitting Emergency Release

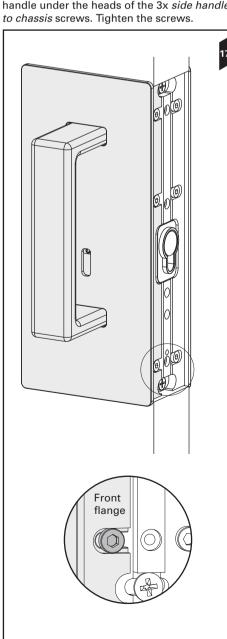
16. If installing a snib/snib or a snib one side privacy handle proceed to Step 17, otherwise, fit the emergency release button (with the spring attached) over the locking slider arm.

Note: the locking slider arm may have been pre-cut depending on the width of the door. The drawing below demonstrates a cut slider arm.



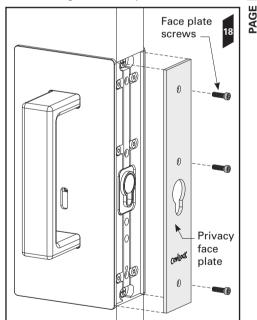
Fitting the Remaining Side Handle

17. Fit the remaining side handle to the chassis by sliding the front flange of the handle under the heads of the 3x side handle



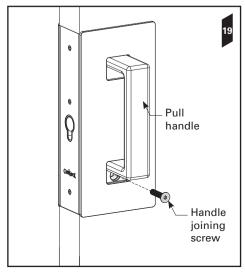
Fitting the Face Plate

18. Fit the privacy face plate to the chassis using the 3x face plate screws.



Fixing the Side Handle

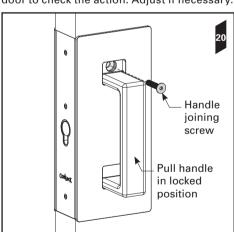
19. With the pull handle in the 'unlocked' position, insert one of the handle joining screws through the bottom hole in the side handle and tighten.



Fixing the Side Handle

20. Close the door and push the pull handle down into the 'locked' position. Insert the second handle joining screw through the top hole and tighten.

While the door is closed, lock and unlock the door to check the action. Adjust if necessary,

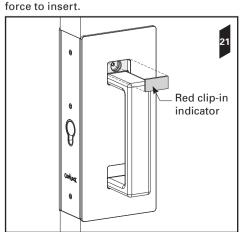


Fitting the Clip-in Indicator

Warning: it is very important that you follow the next instructions carefully as the clip-in indicator cannot be easily removed once installed.

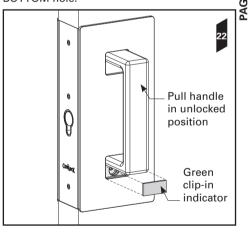
21. With the pull handle down in the 'locked' position, insert the RED clip-in indicator into the TOP hole.

Note: the indicator is designed to remain in place permanently and may require some



Fitting the Clip-in Indicator

22. Lift the pull handle up to unlock it. Insert the GREEN clip-in indicator into the BOTTOM hole.



23. If installing a handle with snib both sides, fit the clip-in indicators to both sides

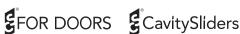
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Handles & Locks for Sliding Doors





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