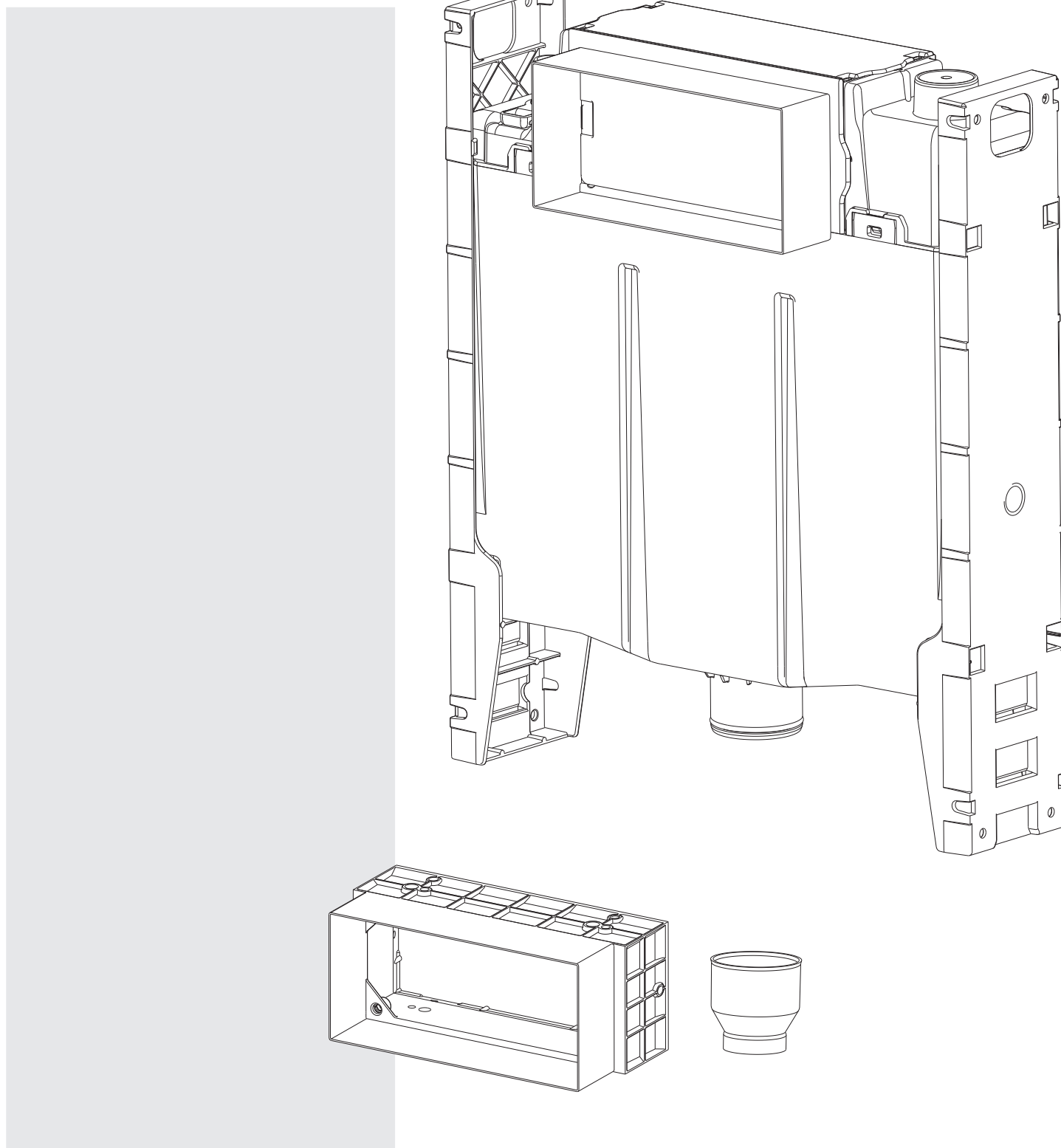


INVISI™

SERIES II

urinal concealed cistern
237002



caroma®

Installation must be in Accordance with AS/NZS 3500.1.

6 Step Easy Installation 3

Installation Requirements 3

Cistern Service Access Options 4

Button Service Access Options 5

IMPORTANT - Does your urinal flush for more than 20 seconds?..... 5

Flush Volume & Stall Setup

 Single Stall Installations 6

 Two Stall Installations 7

 Three Stall Installations 8

Installing the Cistern - **237 002**

 Inwall Access - stud wall 9

 Inwall Access - masonry wall 10

 Induct Access 11

 In Ceiling Access 12

 Custom Panel Access 13

Access Panel Variations 14

Remote Mounting Box Installation 14

Preparation for Fitout 15

Removing Internal Components through Access Window 17

Servicing - Inlet Valve 18

Servicing - Outlet Valve 19

Important Notices 20

Helplines 20

6 Step Easy Installation



Installation Requirements

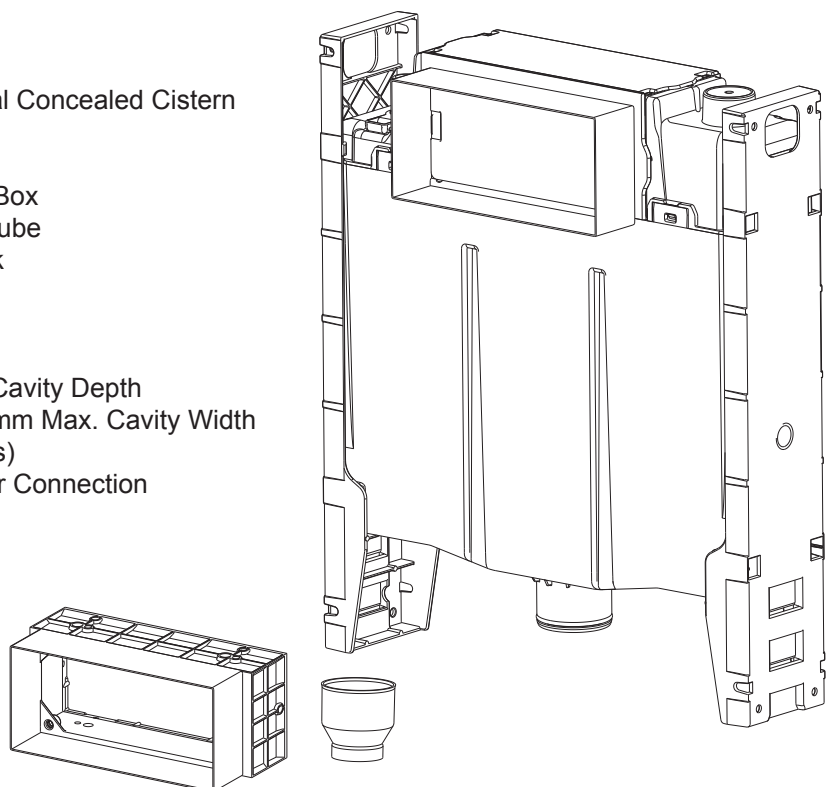
237 002 - Invisi II 1.8L Single Flush Urinal Cistern

CONTENTS

- Invisi II - 1.8L Urinal Concealed Cistern
- Mounting Brackets
- Copper Adaptor
- Remote Mounting Box
- 4m of Pneumatic Tube
- Cistern Fixing Pack

REQUIREMENTS

- 90mm Min, Inwall Cavity Depth
- 400mm Min. - 420mm Max. Cavity Width (e.g. between studs)
- 1/2 inch BSP Water Connection

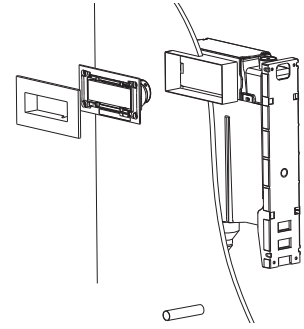


Cistern Service Access Options

Inwall Access

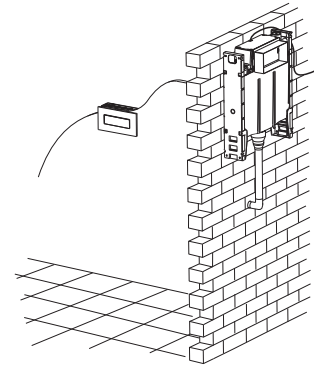
This allows access to cistern internals through the button panel window. Standard installation requires no change to product configuration.

Remote Mounting Box is supplied. Refer to page 14 for remote button panel installation.



Induct Access

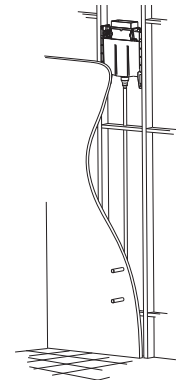
This allows access to the whole cistern. Standard installation will require the supplied Remote Mounting Box for remote button panel installation. Refer to page 14.



In Ceiling Access

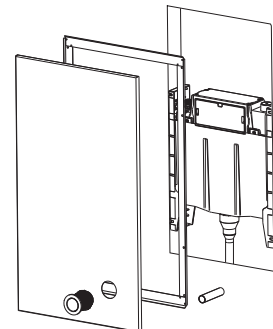
This allows access to the whole cistern or access to cistern internals through the panel window depending on installation. Standard installation will require the supplied Remote Mounting Box. Refer to page 14 for remote button panel installation.

Optional Top Access will require the access panel to be converted (refer to page 14).



Large Panel Access

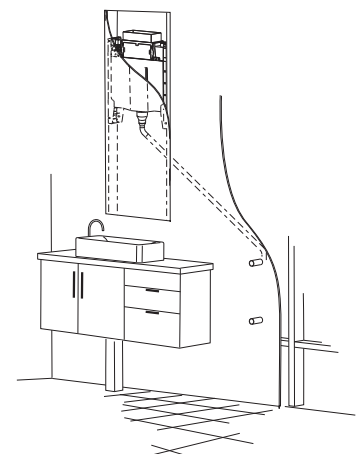
This allows access to the whole cistern. Standard installation requires no change to product configuration.



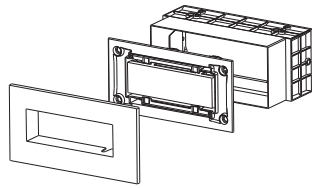
Custom Panel Access

This allows access to the whole cistern or access to cistern internals through the panel window depending on installation.

A Remote Mounting Box is supplied. Refer to page 14 for remote button panel installation.



Button Service Access Options



Remote Panel Mounting

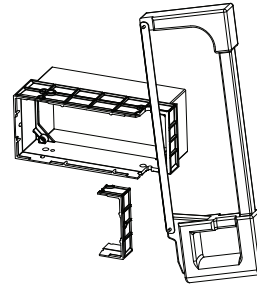
This is suitable for use with any of the button panel kits.

Suits up to 45mm cladding thickness.

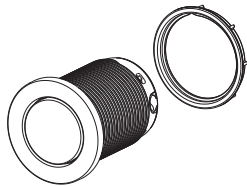
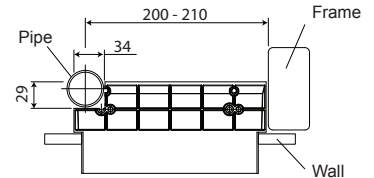
A Blanking Panel is required for inwall access to cistern internals.

INSTALLATION NOTE:

When installing between the copper pipe and the wall frame you may need to modify the Remote Mounting Box for optimum fitment.



Using a hacksaw cut away the corner adjacent to the pipe



Remote Button Mounting

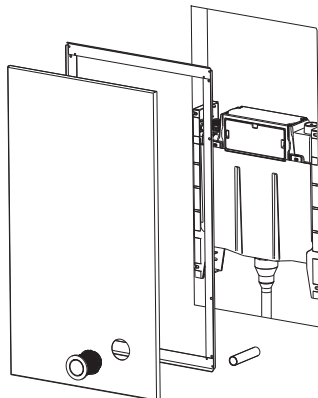
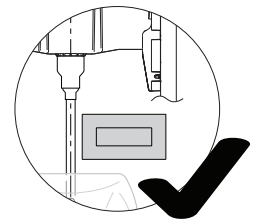
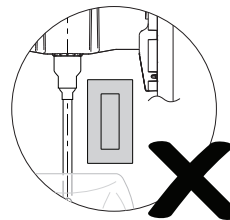
Access to the rear of the buttons must be provided for servicing.

Suitable for mounting through panels up to 55mm thick.

A Blanking Panel is required for inwall access to cistern internals.

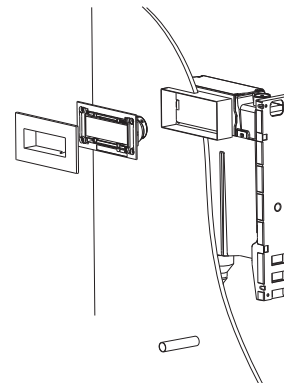
WARNING:

Do not install the Remote Mounting Box vertically



Large Button Panel

Used in combination with Round Remote Buttons allows access to the whole cistern.



Direct Panel Mounting

This is suitable for use with any of the button panel kits.

Requires a 5mm minimum - 45mm maximum cladding thickness.

Access to the cistern internals is provided through the panel window.

IMPORTANT - Does your urinal flush for more than 20 seconds?

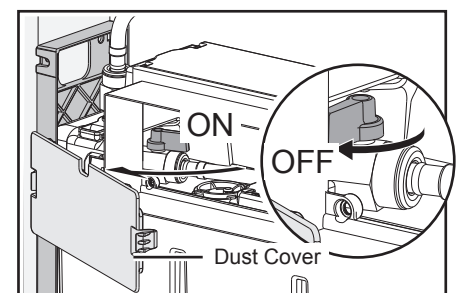
With some urinal types it is possible for the discharge rate to be slower than the refill rate. When the cistern is flushed, the water level will begin to fall until the inlet valve opens. When water is added faster than it can leave, the cistern never empties (the outlet valve remains open and the cistern runs on).

The flush volume required for each urinal stall is 1.5 - 2.5 litres. This amount of water passes relatively slowly through the spreader system of some urinals, (as slow as 2 litres/min) which is normally slower than the cistern refill rate. If a urinal installer does not consider this issue it is possible that cistern run-on will occur.

There are a number of checks to ensure that the urinal operates correctly:

1. Ensure that the flush volume is correctly adjusted for the installation.
2. Where the urinal flushes for more than 20 seconds, the inlet valve flow rate must be reduced. This is achieved by carefully adjusting the Isolating Tap to restrict the incoming flow.
3. Flush urinal several times to confirm settings.

NOTE: In some instances, particularly single stall urinals, it may be necessary to adjust the Isolation Taps flow rate **down very low** (almost to the off position).



Single Stall Installations



1.8L = Single Stall Urinal

The cistern is configured for single stall installations out of the factory.

The pneumatic tube must be connected to the full flush position.



= Full Flush Position

By adjusting the water level in the cistern up or down using the float adjustment screw located on the side of the inlet valve, the flushing volume may be fine tuned or reconfigured to any of the following flush volumes.

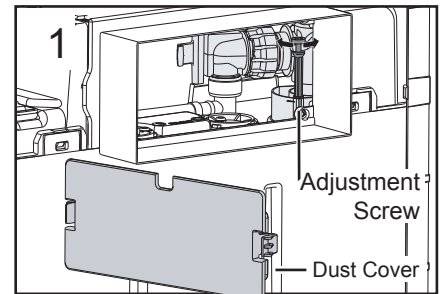
2.3L = Single Stall Urinal

1.8L = Single Stall Urinal

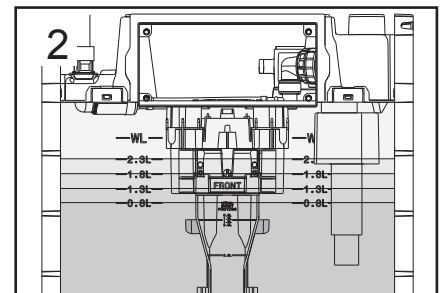
1.3L = Single Stall Urinal

0.8L = Single Stall Urinal

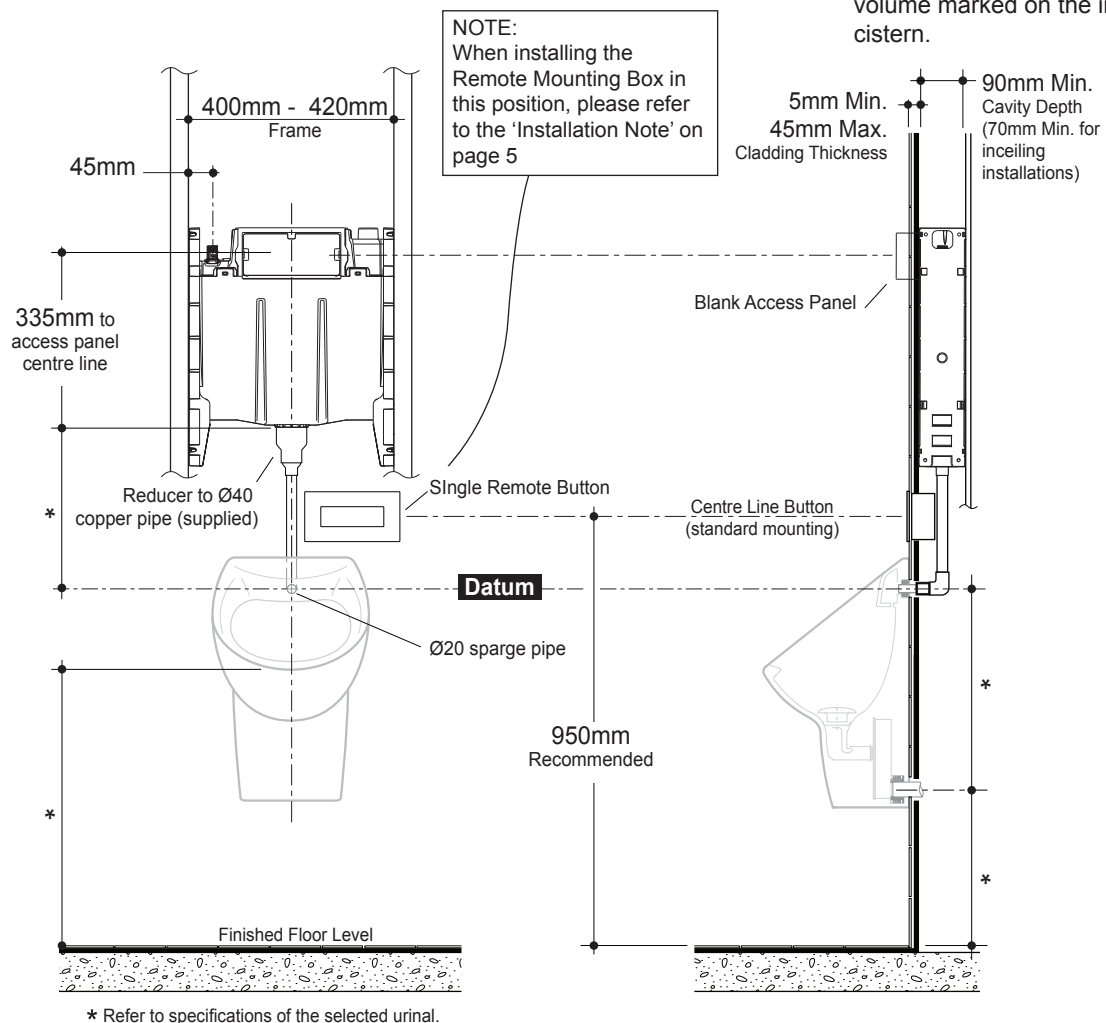
Configuring Flush Volume



Remove Dust Cover and adjust Water Level using the adjustment screw.



The Water Level should be set to correspond to your required flush volume marked on the inside of the cistern.



Two Stall Installations



3.8L = Two Stall Urinal

For two stall installations the outlet valve must first be configured by following the conversion instructions adjacent.

The water level in the cistern must then be set to the "WL" mark, using the float adjustment screw located on the side of the inlet valve.

The pneumatic tube must be connected to the full flush position.



= Full Flush Position

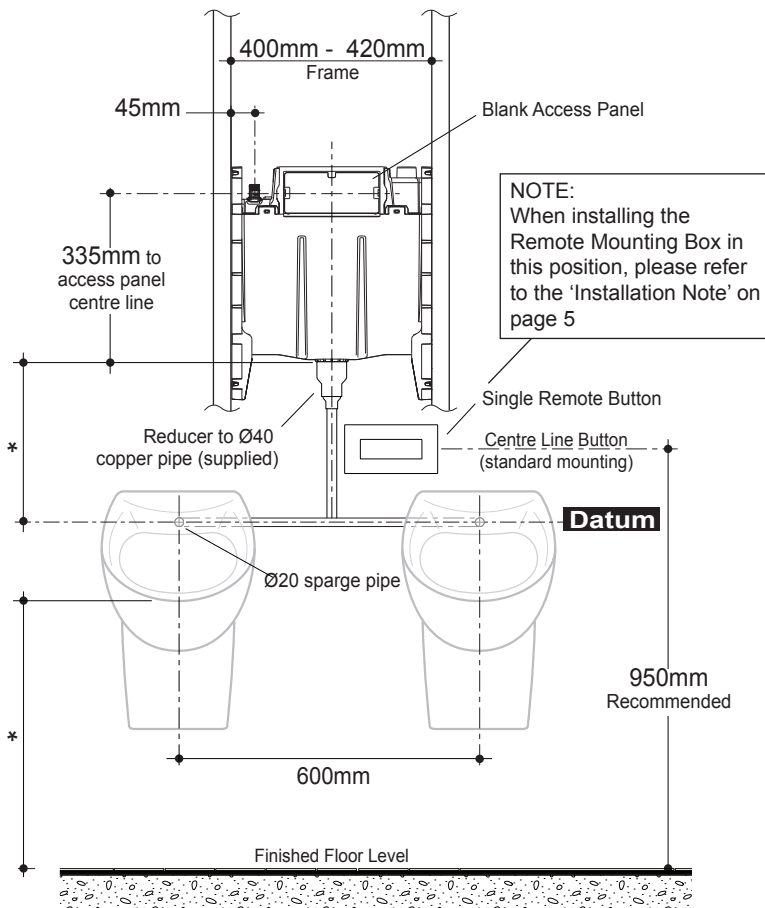
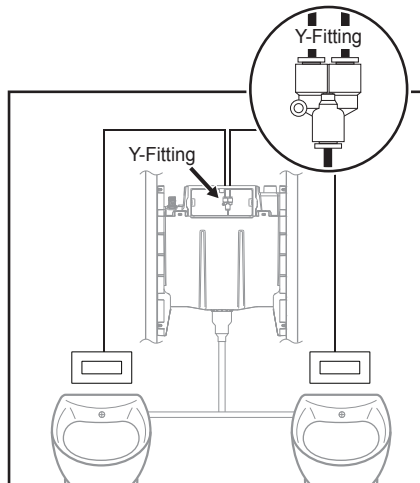
OPTION:

Where two button sets are required, an appropriate pneumatic fitting such as SMC One-touch Union 'Y' fitting Part No. KQ2U06-00 may be used.

1. Cut a 75mm piece of pneumatic tube and firmly connect between full flush position and the 'Y' fitting.

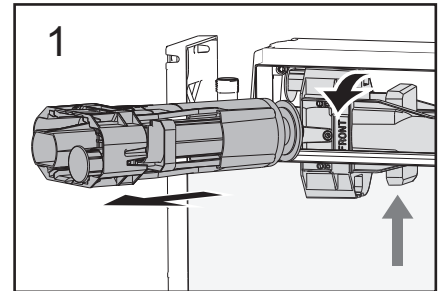
NOTE: An additional remote mounting box kit and button set will also be required.

2. Connect both button sets to the 'Y' Fitting. The total combined length of pneumatic tube must not exceed 4m. Ensure that there are no leaks.

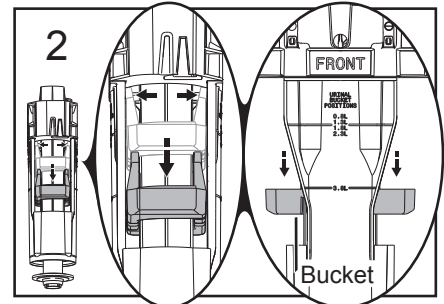


* Refer to specifications of the selected urinal.

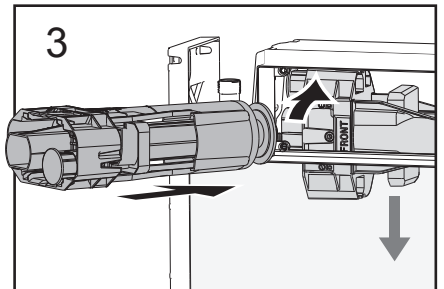
Configuring Flush Volume



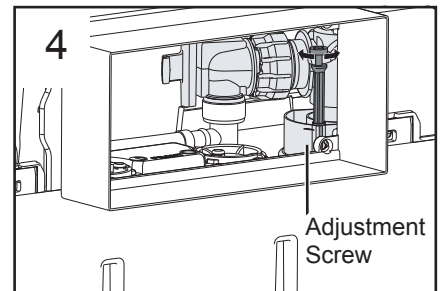
Remove Outlet Valve, refer to page 17.



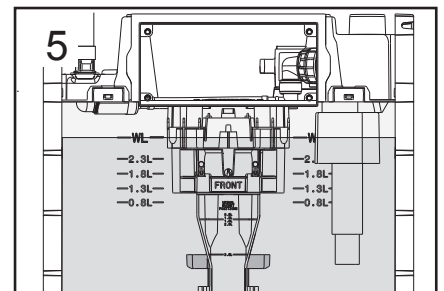
Using a screw driver lever the bucket hangers over the hooks, allowing it to sit level with the 3.8L mark on the valve.



Replace parts back into Cistern.



Set Water Level using the adjustment screw.



The Water Level should be set to the "WL" mark on the inside of the cistern.

Three Stall Installations



5.8L = Three Stall Urinal

For three stall installations the outlet valve must first be configured by following the conversion instructions adjacent.

The water level in the cistern must then be set to the "1.8L" water level mark, using the float adjustment screw located on the side of the inlet valve.

The pneumatic tube must be connected to the full flush position.



= Full Flush Position

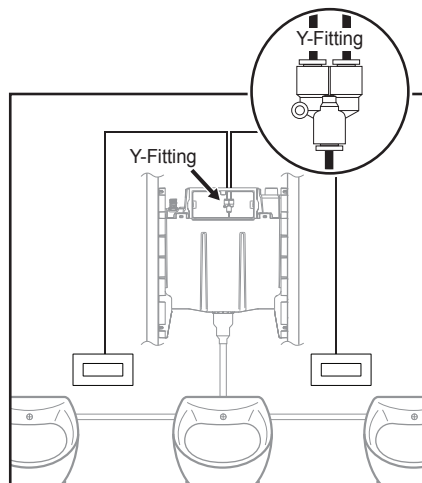
OPTION:

Where two button sets are required, an appropriate pneumatic fitting such as SMC One-touch Union 'Y' fitting Part No. KQ2U06-00 may be used.

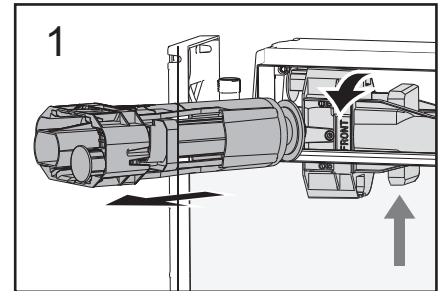
1. Cut a 75mm piece of pneumatic tube and firmly connect between full flush position and the 'Y' fitting.

NOTE: An additional remote mounting box kit and button set will also be required.

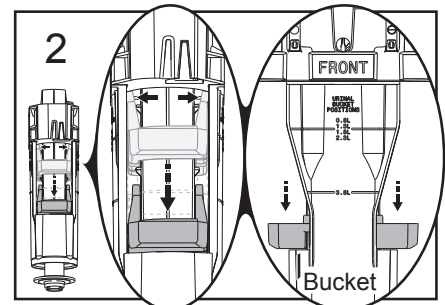
2. Connect both button sets to the 'Y' Fitting. The total combined length of pneumatic tube must not exceed 4m. Ensure that there are no leaks.



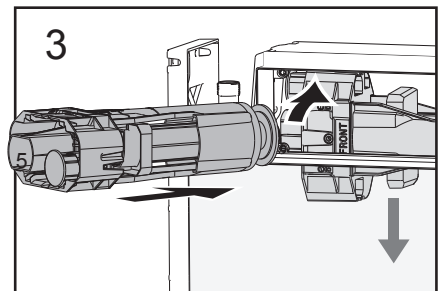
Configuring Flush Volume



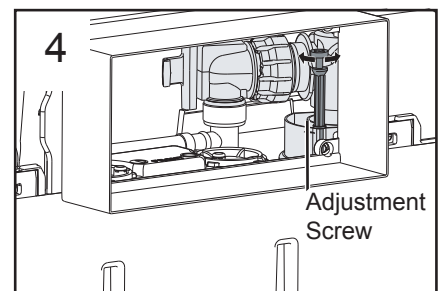
Remove Outlet Valve, refer to page 17.



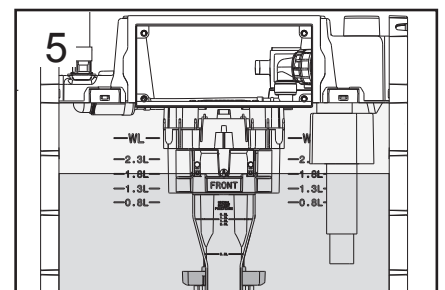
Using a screw driver lever the bucket hangers over the hooks, allowing it to sit as low as possible.



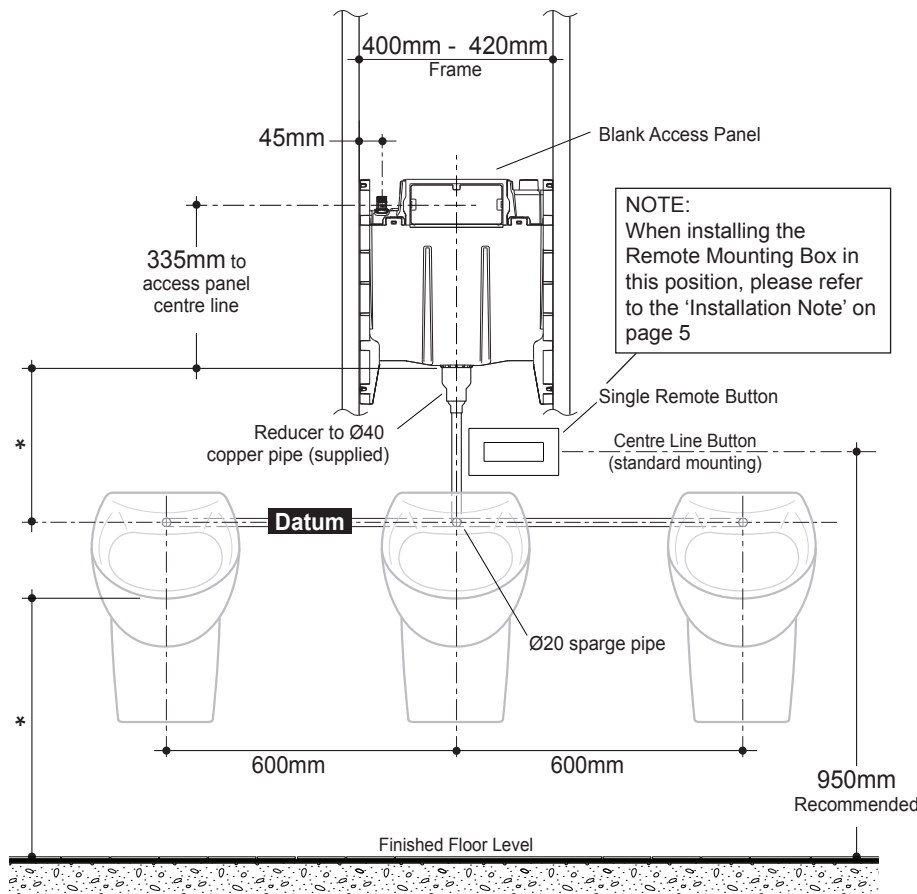
Replace parts back into Cistern.



Set Water Level using the adjustment screw.



The Water Level should be set to the "1.8L" mark on the inside of the cistern.

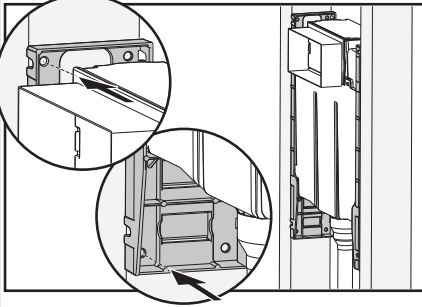


* Refer to specifications of the selected urinal.

Inwall Access - stud wall

1. Calculate the finished floor height (allowing for floor gradings and tile thickness, etc.) and add this to the known height of the selected urinal's inlet. Mark this resulting height on the stud - **This is your datum and flush pipe centre line.**

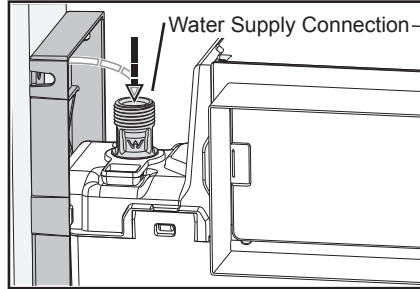
2. Screw cistern to studs via the 2 front, top and bottom holes in each mounting bracket making sure the water connection fitting is on the left hand side of cistern.



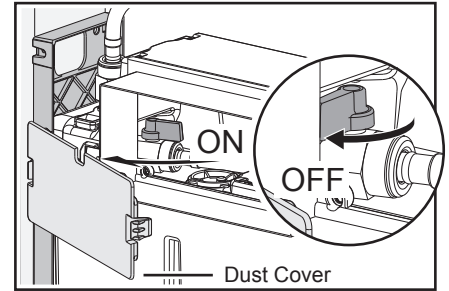
3. Fabricate flush pipe using the Copper Adaptor provided.

4. Lubricate 'O'Ring on cistern tail using soapy water and slide flush pipe on.

5. Connect the water supply.

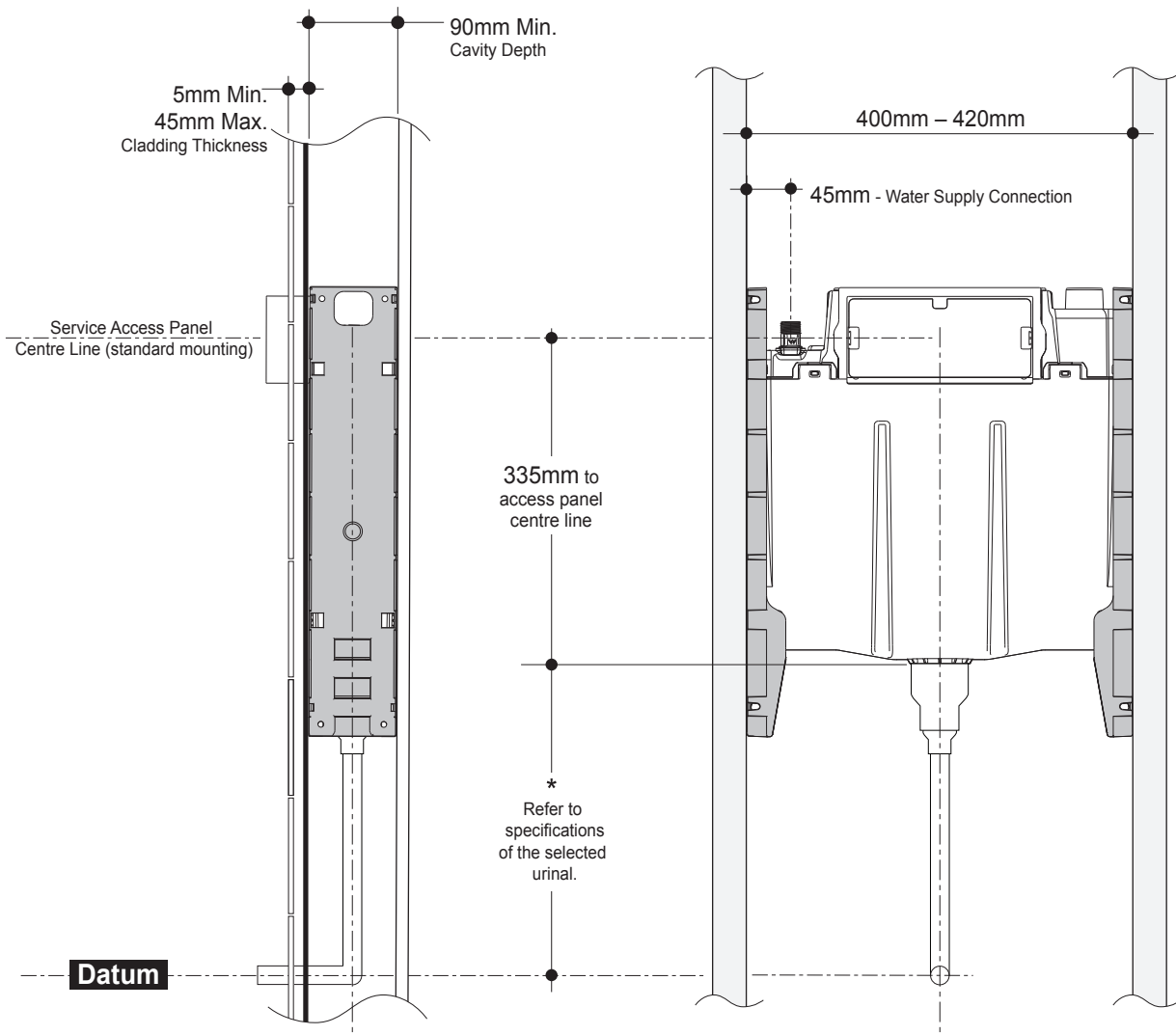


6. Remove Dust Cover, turn Isolating Tap ON, fill tank & set water level using Adjusting Screw on the inlet valve.



7. Check cistern and all joints for leaks.

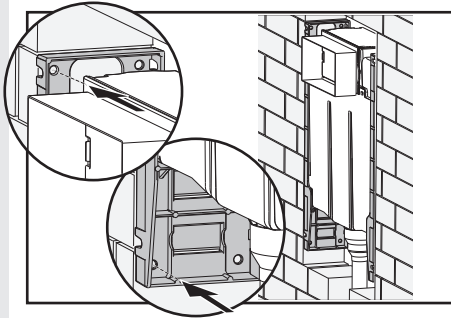
8. Turn Isolating Tap **OFF**. Continue with Preparation for Fitout on page 15.



Inwall Access - masonry wall

1. Make sure the hole for the flush pipe is at the correct height. Calculate the finished floor height (allowing for floor gradings and tile thickness, etc.) and add this to the known height of the selected urinal's inlet. Mark this resulting height on the wall - **This is your datum and flush pipe centre line.**

2. Confirm size and positioning of opening as shown is relative to your datum.

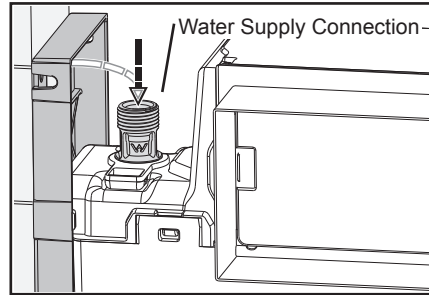


3. Screw cistern to wall via the 2 front, top and bottom holes in each mounting bracket making sure the water connection fitting is on the left hand side of cistern.

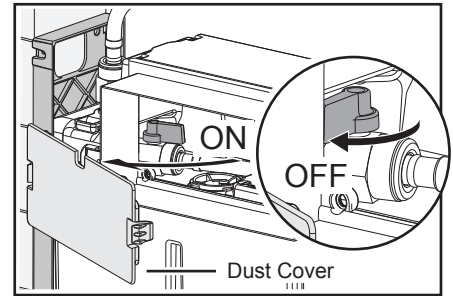
4. Fabricate flush pipe using the Copper Adaptor provided.

5. Lubricate 'O'Ring on cistern tail using soapy water and slide flush pipe on.

6. Connect the water supply.

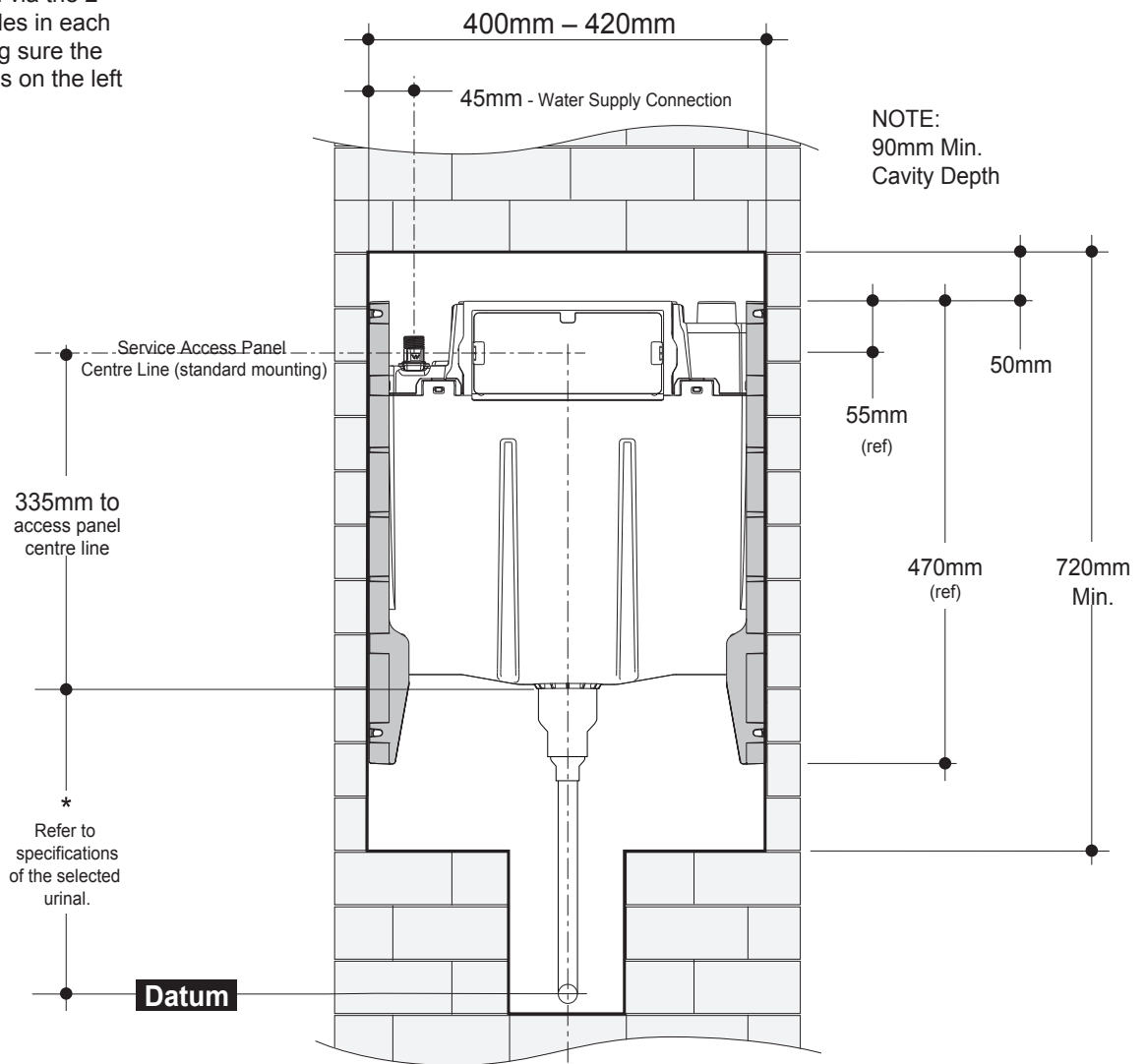


7. Remove Dust Cover, turn Isolating Tap ON, fill tank & set water level using Adjusting Screw on the inlet valve.



8. Check cistern and all joints for leaks.

9. Turn Isolating Tap OFF. Continue with Preparation for Fitout on page 15.



Induct Access

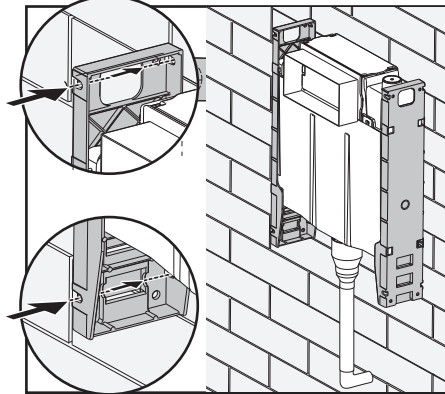
1. Calculate the finished floor height (allowing for floor gradings and tile thickness, etc.) and add this to the known height of the selected urinal's inlet. Mark this resulting height on the stud - **This is your datum and flush pipe centre line.**

2. Fabricate flush pipe using the Copper Adaptor provided.

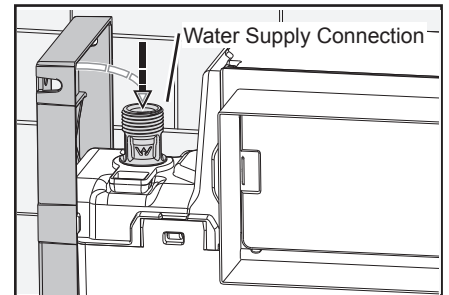
3. Drill suitable diameter hole(s) through the wall for the flush pipe(s).

4. Lubricate 'O'Ring on cistern tail using soapy water and slide flush pipe on so that it is protruding in the opposite direction from that of the Service Access Box.

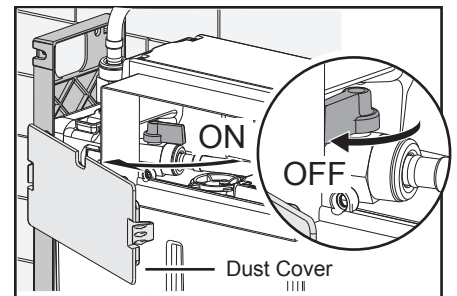
5. Place the flush pipe through hole and secure cistern to duct wall using 2 screws via holes provided in each of the mounting brackets.



6. Connect the water supply.



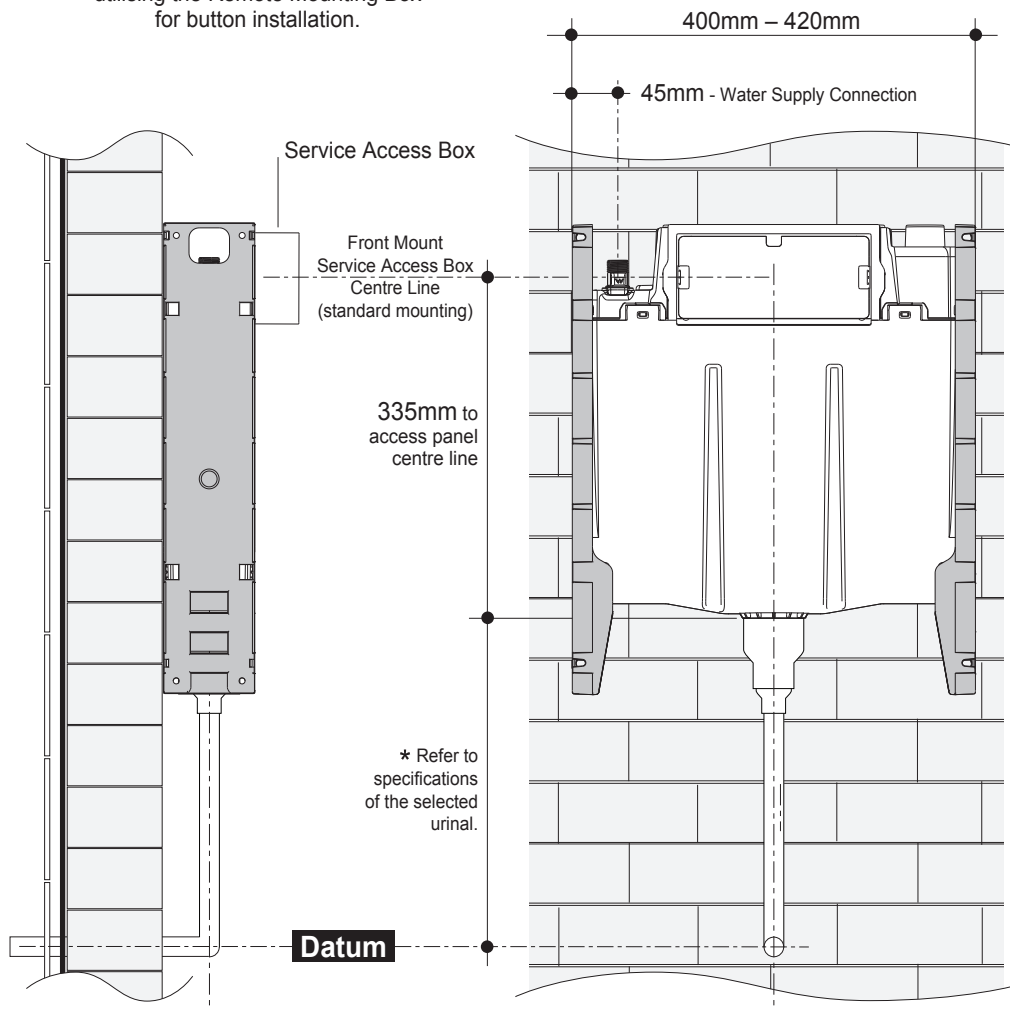
7. Remove Dust Cover, turn Isolating Tap **ON**, fill tank & set water level using Adjusting Screw on the inlet valve.



8. Check cistern and all joints for leaks.

9. Turn Isolating Tap **OFF**. Continue with Preparation for Fitout on page 15.

NOTE: For service duct access install cistern backwards with flush pipe rotated 180° and utilising the Remote Mounting Box for button installation.

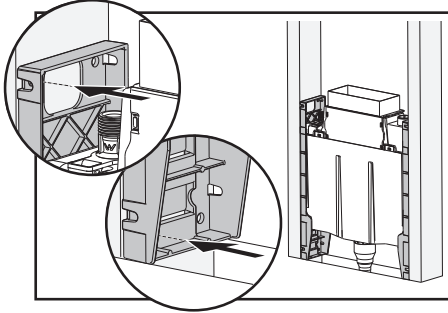


In Ceiling Access

1. Cistern can be a maximum height of 3 metres above the inlet height of the selected urinal.

2. Calculate the finished floor height (allowing for floor gradings and tile thickness, etc.) and add this to the known height of the selected urinal's inlet. Mark this resulting height on the stud - **This is your datum and flush pipe centre line.**

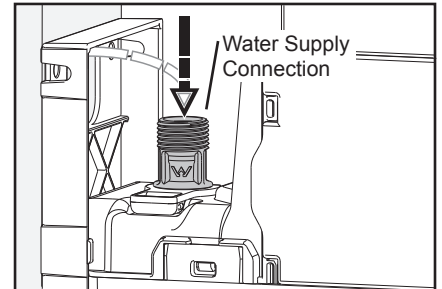
3. Screw cistern to studs via the 2 front, top and bottom holes in each mounting bracket making sure the water connection fitting is on the left hand side of cistern.
Note: Cistern may be installed on wall face (refer to page 12 - Induct Access)



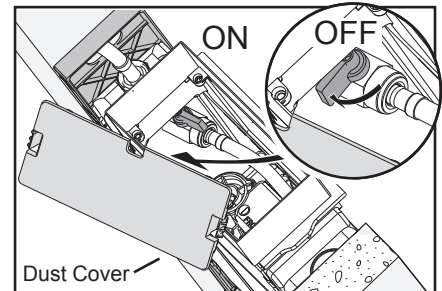
4. Fabricate flush pipe using the Copper Adaptor provided.

5. Lubricate 'O'Ring on cistern tail using soapy water and slide flush pipe on.

6. Connect the water supply.

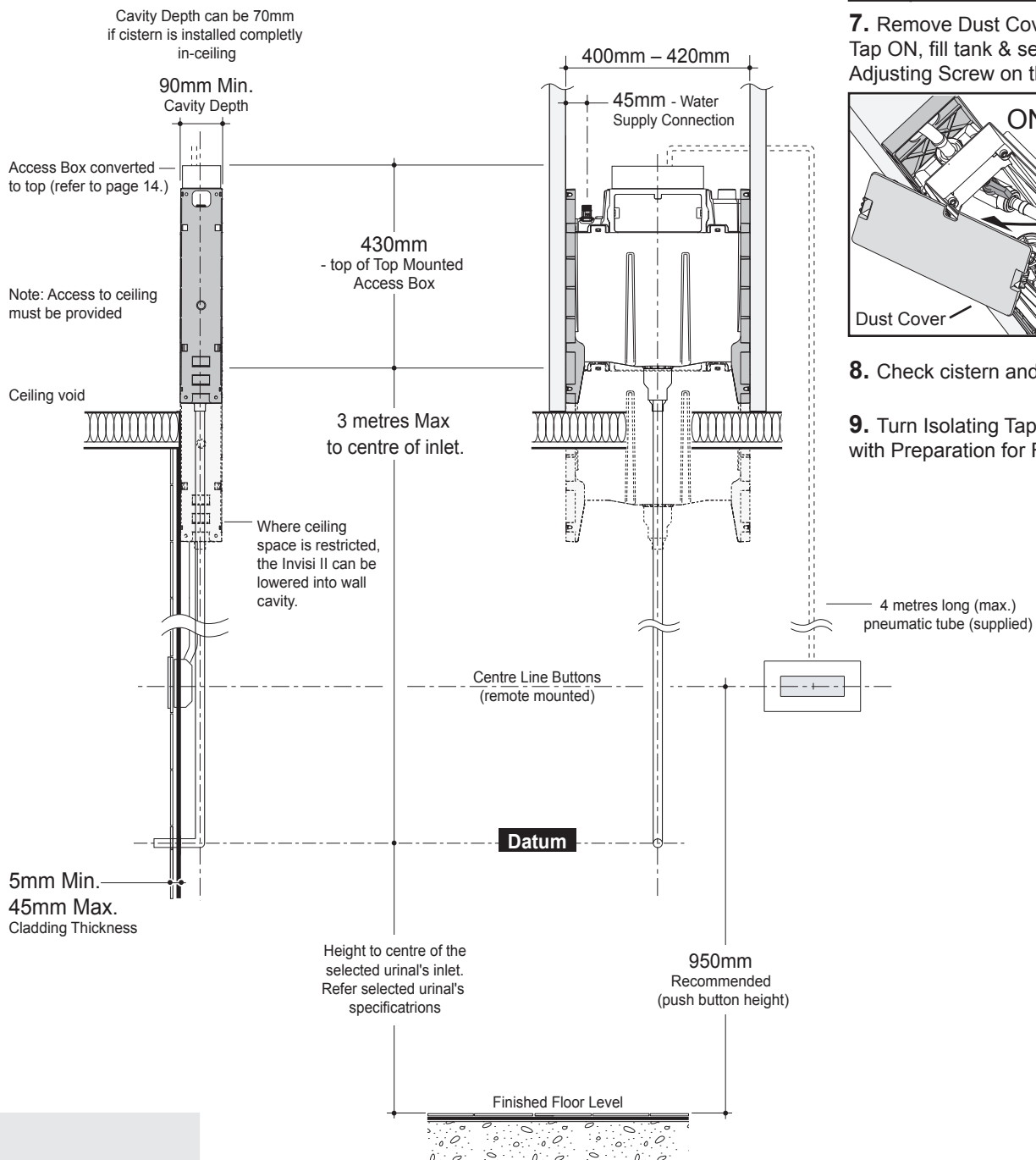


7. Remove Dust Cover, turn Isolating Tap ON, fill tank & set water level using Adjusting Screw on the inlet valve.



8. Check cistern and all joints for leaks.

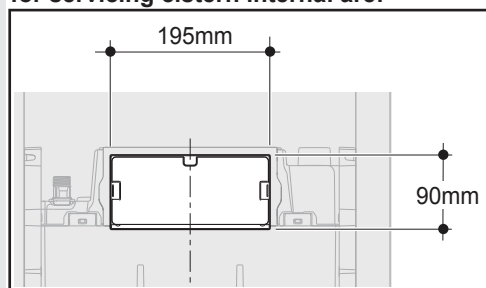
9. Turn Isolating Tap OFF. Continue with Preparation for Fitout on page 15.



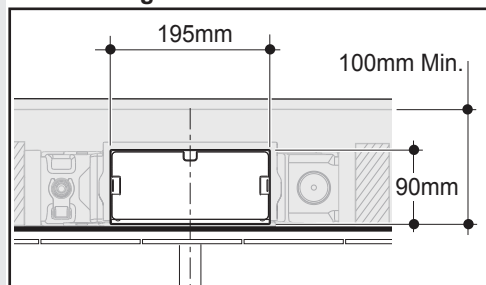
Custom Panel Access

1. The design of the custom panel is limited only by the designers imagination.
2. Cistern must be mounted using the attached Mounting Brackets. Refer to appropriate installation method on previous pages.
3. Allowances for access to at least the cistern internals if not the entire cistern must be incorporated into the design.

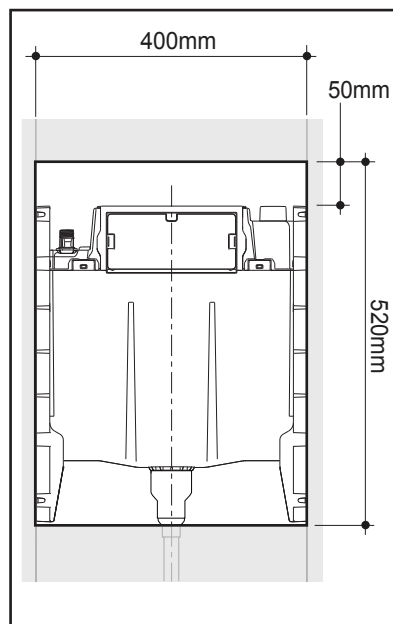
The minimum front access requirements for servicing cistern internal are:



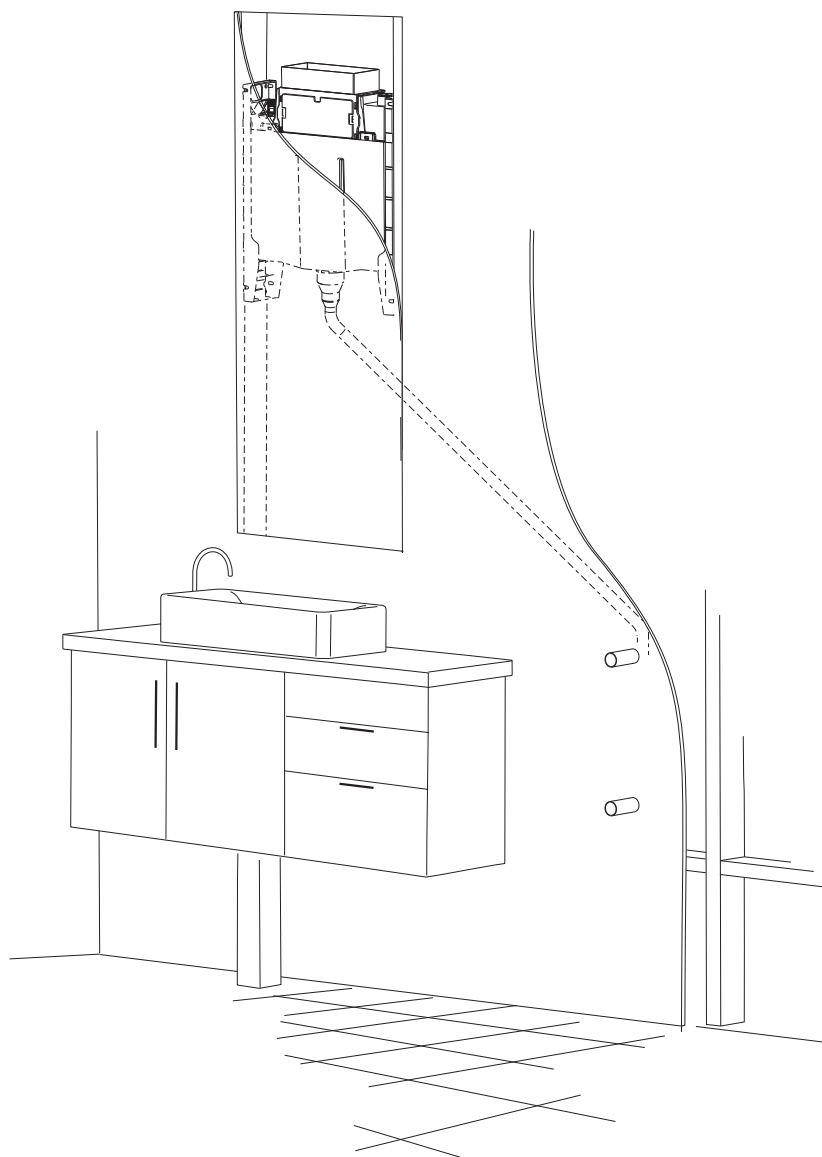
The minimum top access requirements for servicing cistern internal are:



The minimum front access requirements for cistern removal are:

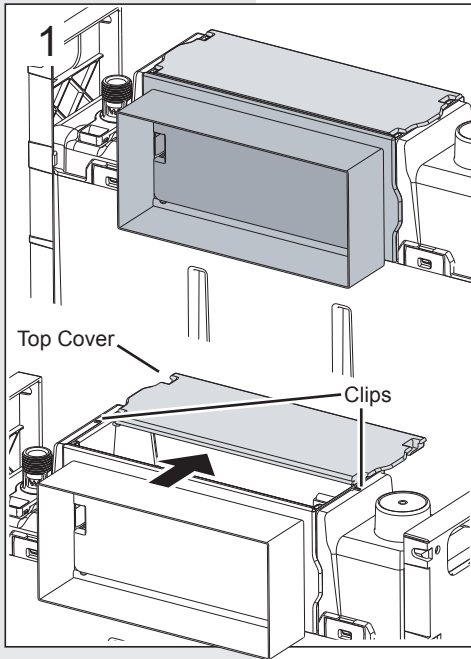


4. Check cistern and all joints for leaks.
5. Turn Isolating Tap **OFF**. Continue with Preparation for Fitout on page 15.

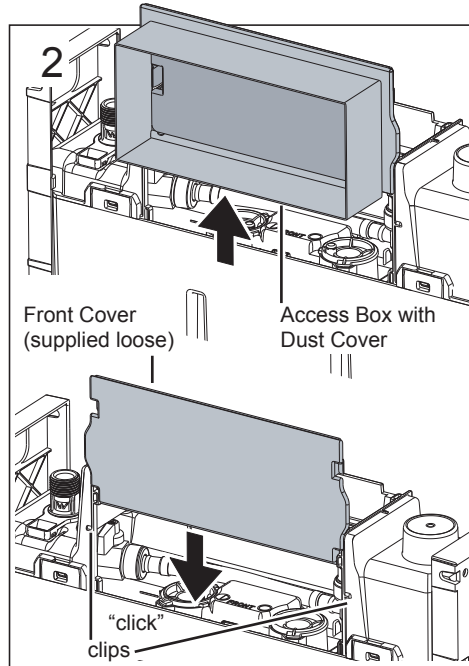


Access Panel Variations

The Cistern is supplied standard with Front Access.
For conversion from Front to Top Access follow this procedure.

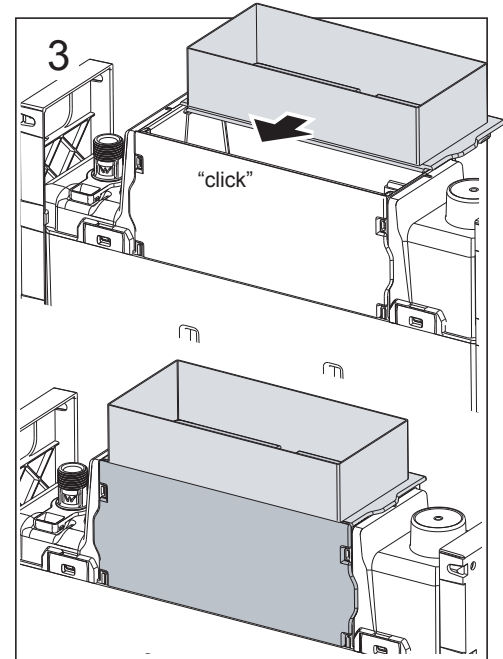


Slide the Top Panel back and off the lid. (This panel will no longer be required). There are clips at each end so the Top Panel Should be carefully levered or flexed to clear both clips.



Slide the Access Box up and off the lid. There are clips at each end so the Top Panel Should be carefully levered or flexed to clear both clips.

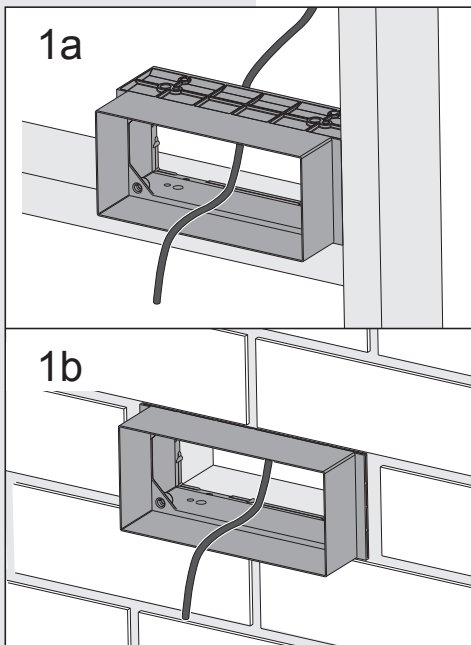
Find the Front Panel supplied loose in the pack (This panel is slightly larger than the Top Panel removed). Slide the Front Panel onto the lid ensuring it locks into position.



Slide the Access Box onto the lid ensuring the overhang tab is to the rear of the cistern and it locks into position.

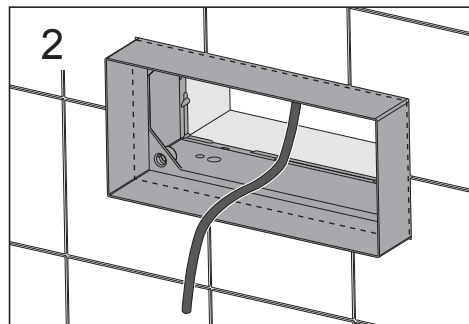
The Panel and Access Box should lock together neatly as shown.

Remote Mounting Box Installation



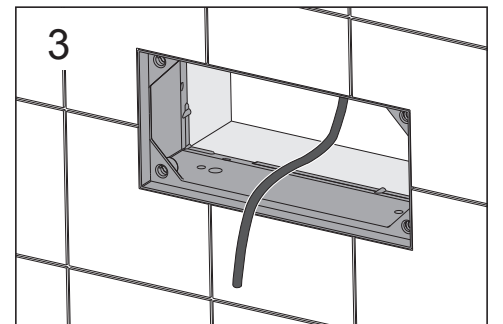
1a. The Remote Mounting Box can be fixed to timber studs using suitable fixings....

1b.or mortared into brickwork.



2. Make sure the Pneumatic Hose is accessible through the Remote Mounting Box and ensure the hose has no kinks or is not pinched in any way prior to the final cladding being added.

Once the final cladding has been added the box must be trimmed flush with the wall.

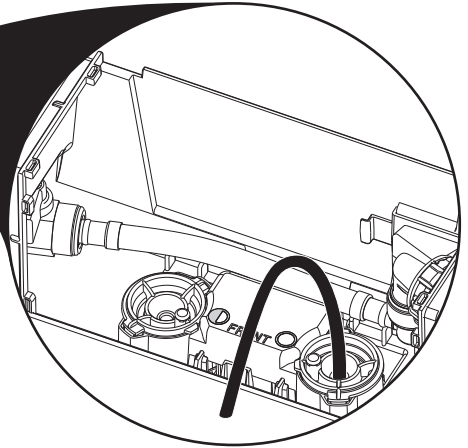
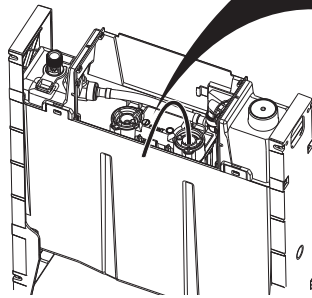


3. The Remote Mounting Box is now ready for the Button Assembly installation.

NOTE:
When installing the Remote Mounting Box, please refer to the 'Installation Note' on page 5

Pneumatic Tube Connections

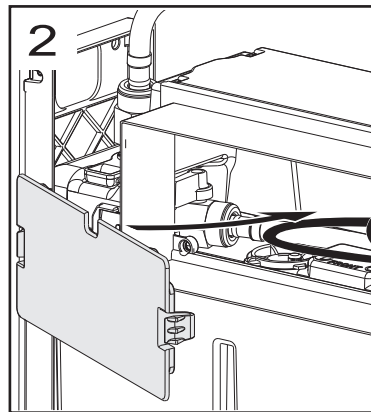
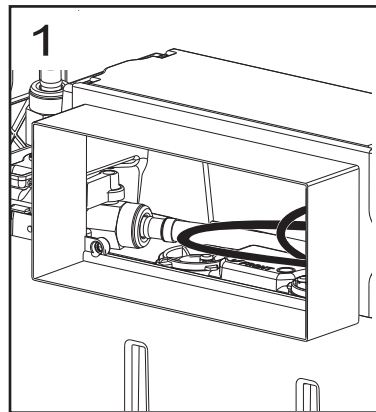
Firmly connect the pneumatic tube into the full flush position. The tube should be inserted approx. 16mm until it hits a stop.



NOTE:

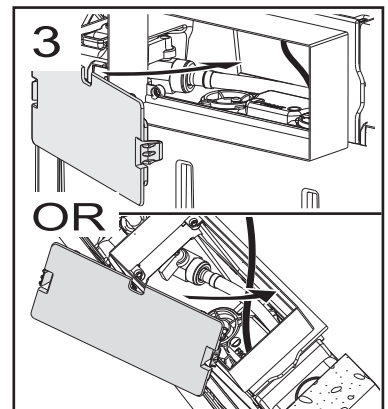
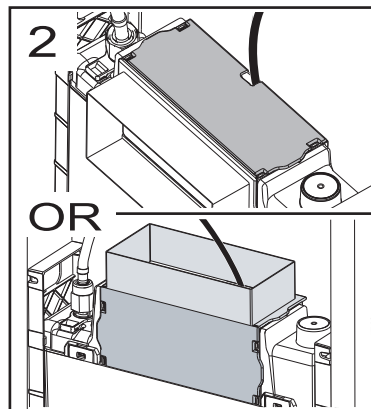
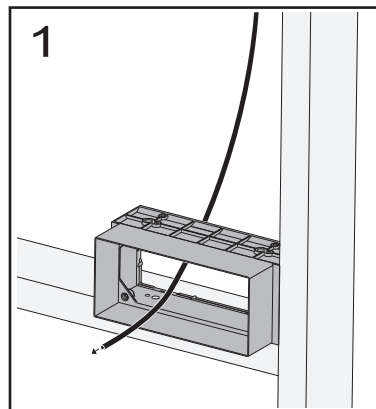
- 1.8L Urinal Cisterns are supplied with 4m length pneumatic tube.
- 4m lengths of pneumatic tube can be purchased separately Part No. 237 702.

Blanking Panel Mounting



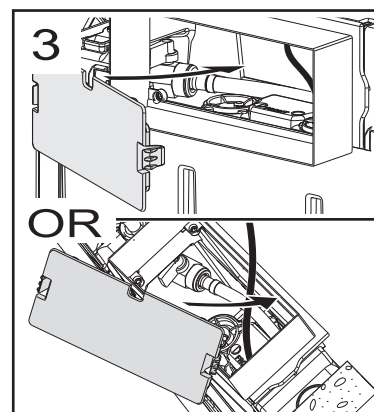
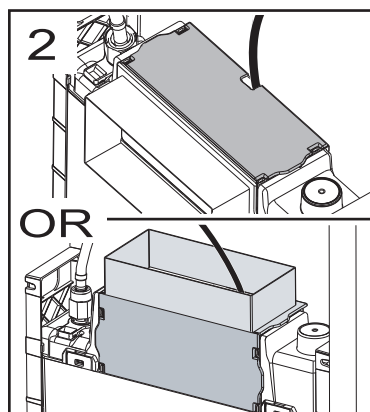
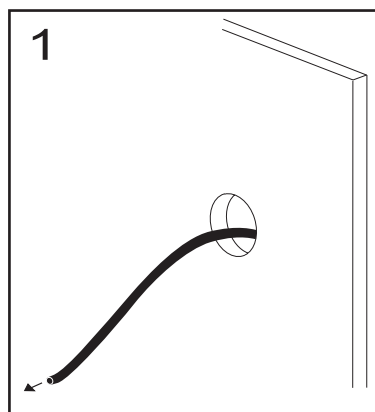
Attach the tube to the cistern as shown above. Tuck neatly back inside the Access Window and clip the dust cover panel back into position. When finishing the wall, clad and tile right up to the edge of the Access Window.

Remote Panel Mounting



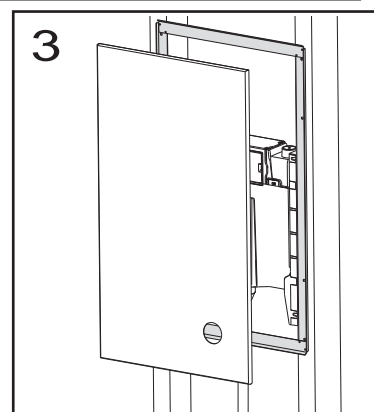
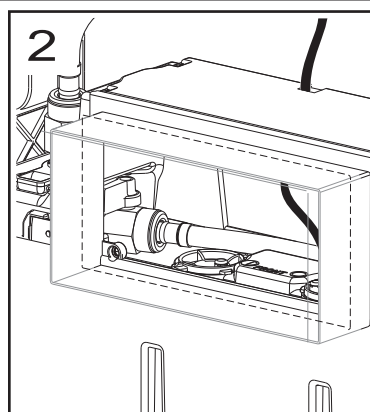
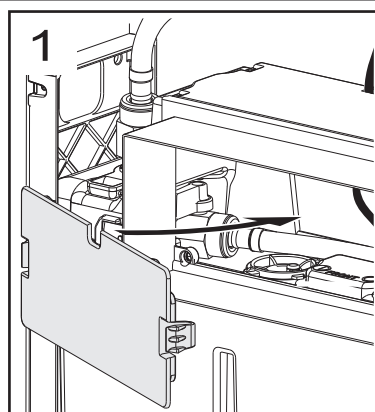
Attach the tube to the cistern as shown above. Break out tab in the Top Panel or Dust Cover Panel to allow the Tube to protrude and clip back into position. Feed the 4m length of Pneumatic Tube through the framework and out through the Mounting Box. Apply tape over end of tube to prevent any dirt from getting inside and tuck neatly back inside the Mounting Box. When finishing the wall, clad and tile right up to the edge of the Access Window and or Remote Mounting Box.

Remote Button Mounting



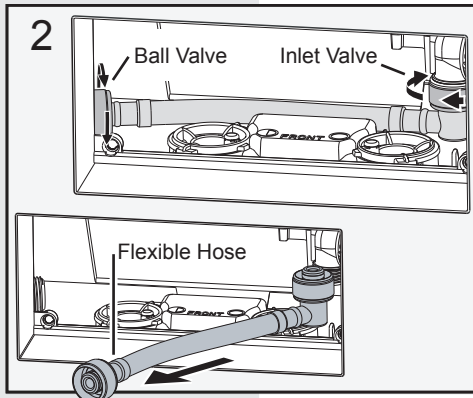
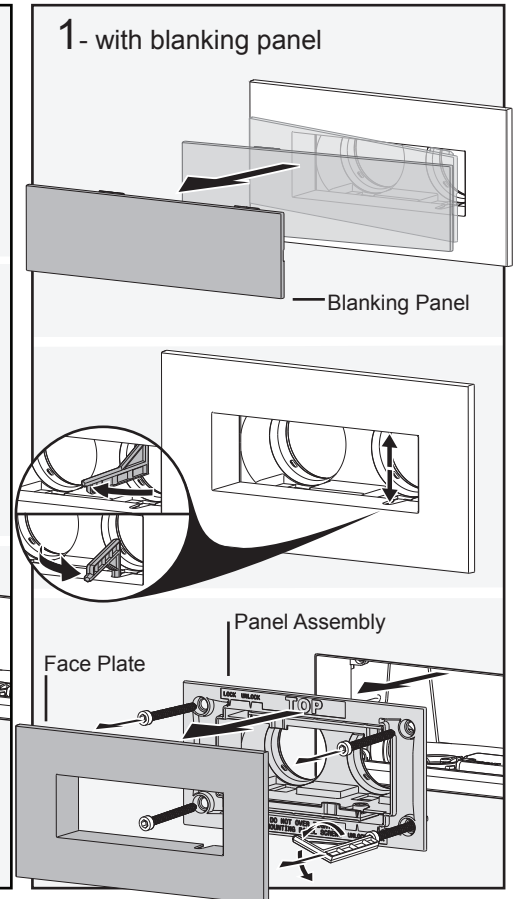
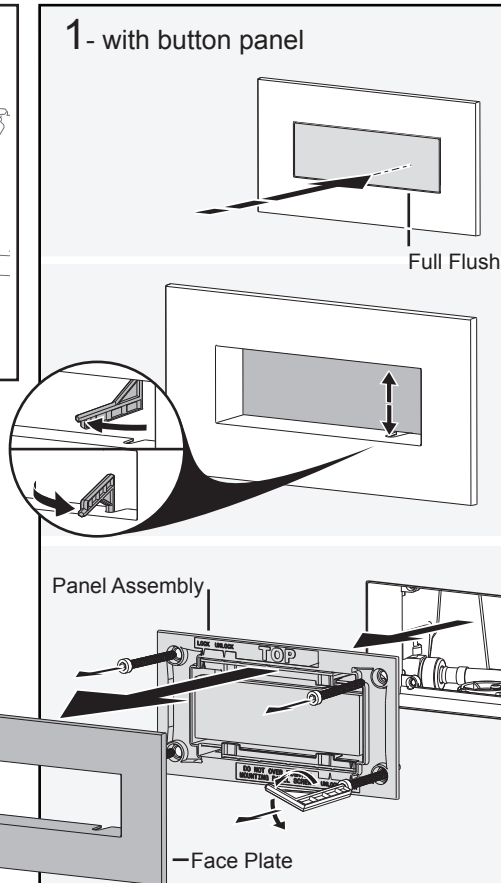
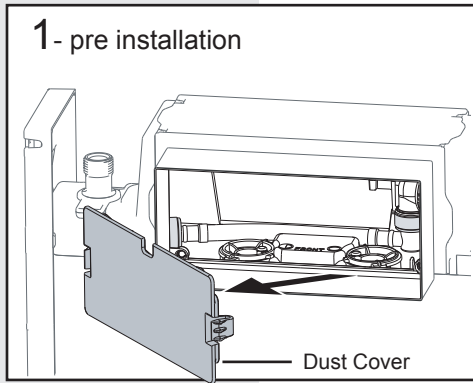
Attach the tube to the cistern as shown above. Break out tab in the Top Panel or Dust Cover Panel to allow the Tube to protrude and clip back into position. Feed Pneumatic Tube through the framework and out through the Drilled Hole. Apply tape over end of tube to prevent any dirt from getting inside and tuck neatly back inside hole.

Large Button Panel

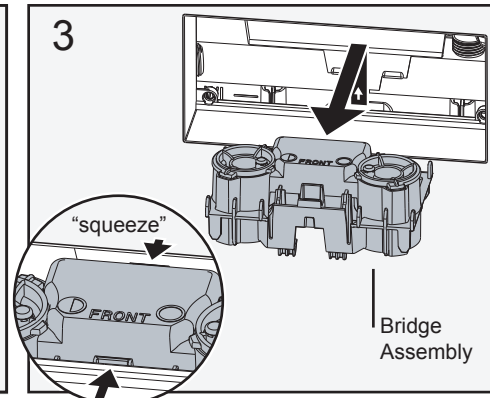


Attach the tube to the cistern as shown above. Break out tab in the Top Panel to allow the Tube to protrude and clip the Dust Cover Panel back into position. Trim the Access Window all around so it protrudes between 10-15mm from the front face of the Dust Cover Panel. Apply tape over end of tube to prevent any dirt from getting inside and tuck neatly back inside the large Access Window.

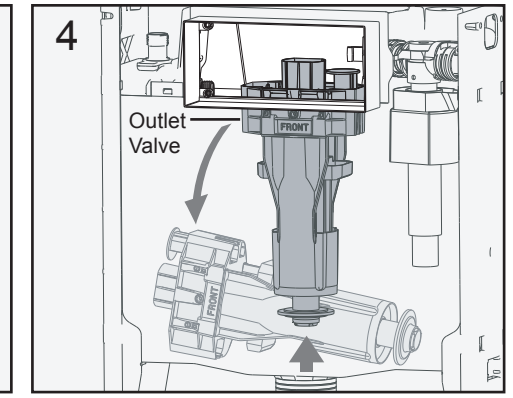
Removing Internal Components through Access Window



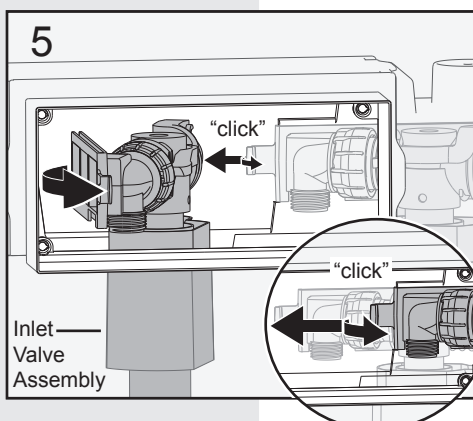
Disconnect Flexible Hose from the Inlet Valve and the Ball Valve.



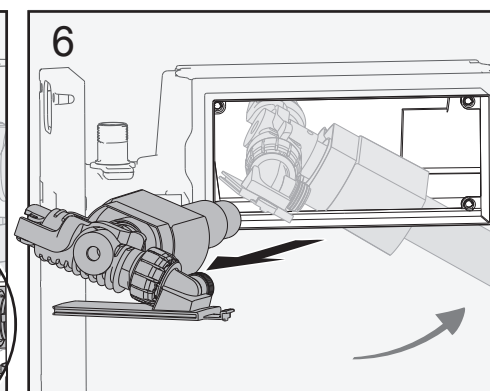
Remove the Bridge Assembly by squeezing tabs front and back to disengage from locking tabs inside the tank.



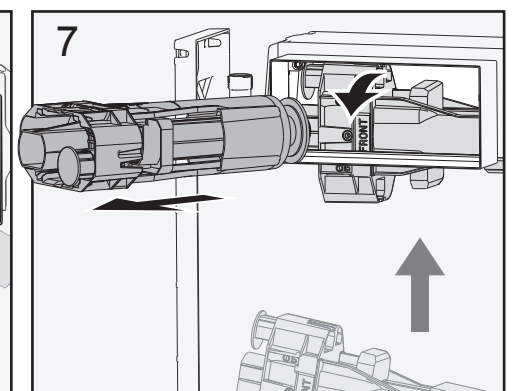
Lift the Outlet Valve to disengage from guide ribs in the base of the tank and lay over on its side.



Lift tab and slide the Inlet Valve Bracket to the left.



Rotate and remove the Inlet Valve



Lift the Outlet Valve from the base of the tank, roll forwards and rotate so the button end comes out first.
NOTE: Reverse procedure to reassemble.

Servicing Requirements

- Inlet Valve Seal may require periodic cleaning (dependant on water quality).
- procedure as defined below.

Troubleshooting Guide

- Inlet Valve is slow to fill OR fails to open ► Ensure tap is open.
- Inlet Valve fails to close ► Clean & inspect seal as described above, replace Cap Assembly & Seal if damaged.
- If any other issues arise ► Consult a plumber or Caroma After Sales Service.

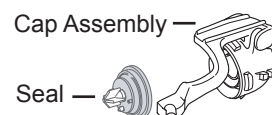
Spare Parts Information

- Caroma Invisi II Inlet Valve compatible Spare Part Kits are:

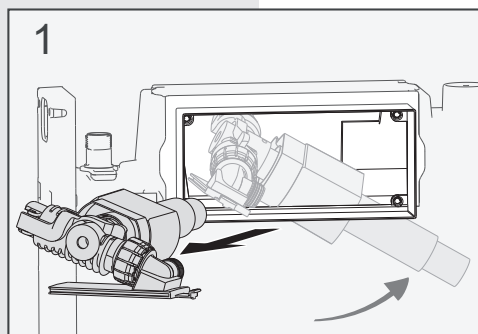
687 171 Containing - **1 x Complete Unifill Inlet Valve**
with bayonet connection

687 049 Containing - **1 x Cap Assembly**
- **1 x Seal**

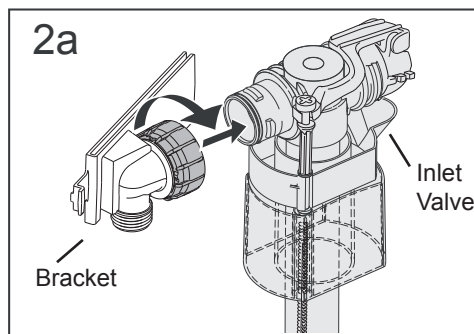
Refer to - **Maintenance & Spare Parts Instructions**



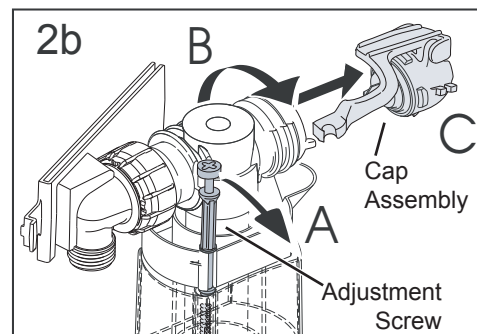
Maintenance & Spare Parts Instructions



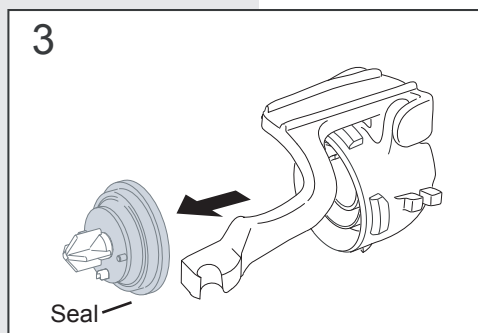
Ensure mains water is turned off and remove Inlet Valve from cistern as per the instructions on page 17.



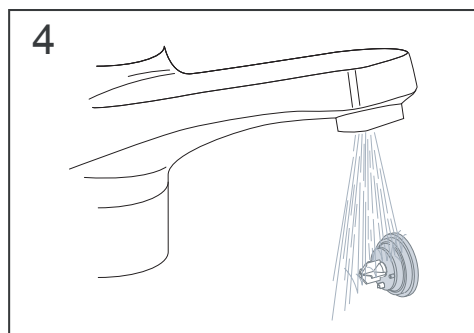
To replace complete Inlet Valve:
rotate nut & pull to disconnect it from the Bracket.



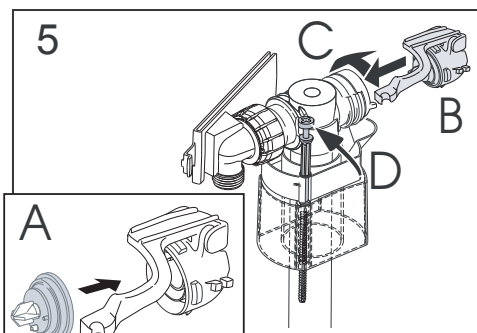
To clean and inspect seal:
unclip the Adjustment Screw, rotate & pull to remove cap assembly.



Remove seal from Cap Assembly.



Wash seal to remove any dirt and inspect for damage.



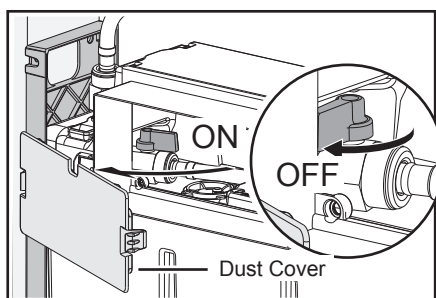
Replace seal onto cap assembly.
If necessary replace cap & Seal (Spare Part Kit 687 049)
Push & rotate to re-attach cap assembly, re-clip Adjustment Screw and refit into cistern.

Servicing Requirements

- Servicing is only required in instances where outlet valve operation is found to be faulty.

Troubleshooting Guide

- If the urinal flushes for 20 seconds or more ► 1. Ensure that the flush volume is correctly adjusted for the installation.



2. Where the urinal flushes for more than 20 seconds, the inlet valve flow rate must be reduced. This is achieved by carefully adjusting the Isolating Tap down.

3. Flush urinal several times to confirm settings.

NOTE: In some instances, particularly single stall urinals, it may be necessary to adjust the Isolation Tap **down very low** (almost to the off position).

- If Outlet Valve leaks ► Inspect seal for damage and replace if necessary.
- If short flushing ► Check pneumatic tube is pushed into the bridge and button
- If any other issues arise ► Consult a plumber or Caroma After Sales Service.

Spare Parts Information

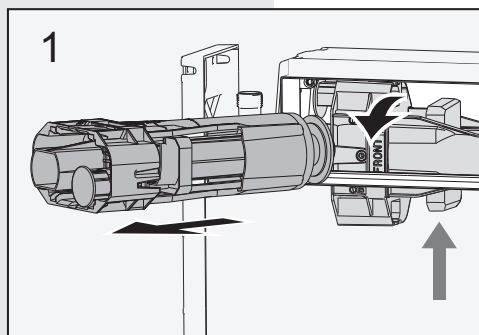
- Caroma Invisi II Outlet Valve compatible Spare Part Kits are:

237 273 Containing - **1 x Complete Urinal Outlet Valve**

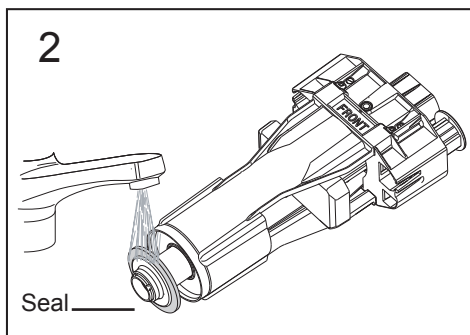
237 302 Containing - **1 x Diaphragm Seal**

Refer to - **Maintenance & Spare Parts Instructions**

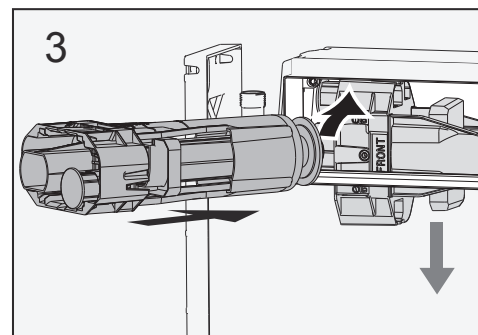
Maintenance & Spare Parts Instructions



Ensure mains water is turned off and remove Outlet Valve from cistern as per the instructions on page 17.



Wash seal to remove any dirt and inspect for damage. If necessary remove seal and replace (Spare Part Kit 237 302).



Re-assemble complete Outlet Valve and refit into cistern. Turn mains water back on, wait for cistern to fill and test both buttons to ensure they activate the outlet valve.

Important Notices

Recommended Water Supply Pressure

Water Supply pressure minimum 30 kPa - Maximum 1000 kPa.

Helplines

Australia
New Zealand
Caroma International
USA

1300 CAROMA (1300 227 662)
09 279 2700
+61 3 9926 5477
1800 605 4218

Caroma Industries Limited
ABN 35 000 189 499
Locked bag 20, Epping, NSW 2121, Australia

www.caroma.com.au
www.smartflush.com.au
www.caroma.co.nz
www.caromausa.com