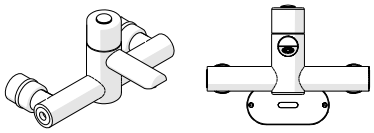
CliniMix® Lead Safe™ Wall Mounted Thermostatic Progressive Basin Mixer - Proximity Sensor

PRODUCT CODE:

- **100.30.79.00**



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1.0 INTRODUCTION

The CliniMix® Lead Safe™ Wall Mounted Thermostatic Progressive Basin Mixer - Proximity Sensor is a high-performance thermostatic mixing valve suitable for a wide range of applications. The valve is designed to comply with ‘AS4032. Thermostatic Mixing Valves - Materials, Design and Performance Requirements’. The mixing valve has the following features:

- Complies with the requirements of AS4032.4 – Thermostatic Mixing Valves.
- Provides high stability of mixed water temperature even under changing inlet conditions.
- Ensures rapid shut down of mixed outlet flow in the event of hot or cold water supply failure.
- Designed for quick and simple in-situ servicing.
- Suitable for installation into AS3500 compliant systems with hot water temperature as low as 55°Celsius.
- Fitted with tamper resistant temperature adjustment mechanism.
- Cool touch, non-conductive design in the hot side of the body, which minimises the risk of burns.
- Round smooth design to facilitate easy cleaning.
- Self-draining spout design.
- Unique hygiene flush feature for in-situ disinfection.

WARNINGS: Special attention to be paid on notes, photos, images, or drawings of assembly steps marked with the warning symbol.

2.0 SAFETY

The CliniMix® Thermostatic Progressive Mixing Valve is a high-performance valve designed to give stable and dependable operation, provided it is installed, commissioned, operated and maintained as per the recommendations outlined in this manual. It should be noted however that this valve should not be considered as an alternative to adequate supervision and duty of care during its use and operation.

Note: The mixing valve, inlet controls, pipe work and the surrounding area may become hot when installed which may cause burn injuries. Precautions should be taken to ensure that these surfaces cannot cause such injuries.

3.0 DESCRIPTION

This manual covers the CliniMix® Wall Mounted Thermostatic Progressive mixers with proximity sensor. These are designed to provide water in stable temperature for hand washing. This mixing valve is supplied with integral isolating valves, strainers, check valves and flow regulators and is provided with a facility for thermal disinfecting of the cold inlet side and mixed water outlet for the wall mounted version only.

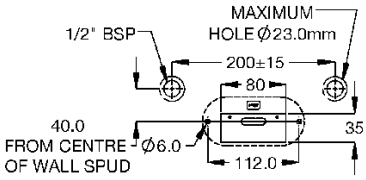
The hot side of the body and the inlet is insulated to ensure the body surface is maintained at a safe temperature when the fitting is in operation.

Avoid using heat for soldering near the mixer inlets to prevent damage to internal components.

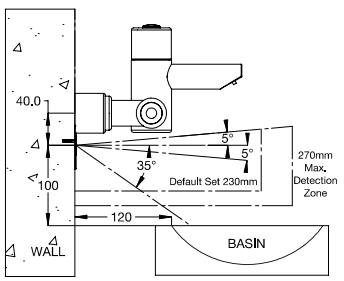
4.0 DIMENSIONS

- The rough in details have been provided to show correct fitment of the Progressive Mixer (see below image).
- A cavity must be supplied to fit sensor on the back of faceplate as shown, minimum 20mm deep.
- Drill 2 x mounting ∅6.0x30 deep holes, location as shown.

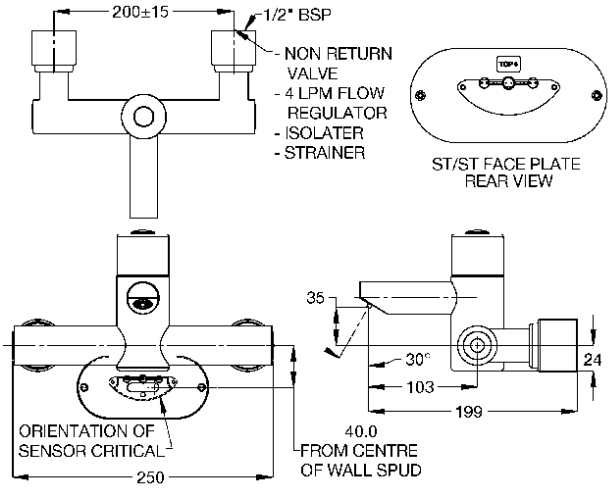
Note: Maximum spud length to be 15mm. See below image position of sensor from basin.



ROUGH IN DIMENSION



TYPICAL INSTALLATION VIEW



4.1 TECHNICAL DATA			
Inlet			½" BSP – Female
Outlet			Flow Straightener
Headwork			Thermostatic mixing valve
Mains Powered (Transformer)	Input		90 – 264V - 47/63Hz 0.15A
	Output		6.75V DC – 0.5A
	Cable length		0.7m
Battery Powered			N/A
Solenoid	Input Voltage		6.75V DC
	Power Consumption		-
	Cable length		3.2m
	Connection	Inlet	1/2" BSP - Female
		Outlet	1/2" BSP - Male
	Pressure Range (kPa)	Min	30
		Max	1000
	Temperature (°C)	Min	5
		Max	80
Finish			Chrome
***NOTE:** Galvin Engineering continually strive to improve their products. Specifications may change without notice.*			

Table 1. Technical information

4.2 SENSOR DETAILS	
• Input Voltage	6.75V DC – 0.5A
• Cable length	3.2m
• Sensor function	Standard washbasin (with proximity sensor)
• Preset line purge feature interval:	72 hours after last flush, water flow duration 1 min
• Preset continuous run:	10 min

5.0 WATER SUPPLY CONDITIONS

5.1 INTRODUCTION

This progressive sequential thermostatic mixer with proximity sensor is manufactured to the highest standards and has approval to AS4032.4 which permits it to be installed in healthcare establishments such as hospitals, nursing homes and residential care homes. When installed in healthcare establishments the supply conditions detailed in Table 2 must be observed and the commissioning and servicing requirements detailed on section 9 & 10 must be followed.

5.2 SUPPLY PRESSURE REQUIREMENTS

This mixer is designed to be installed on all types of plumbing systems.

Hot and cold water supply pressures should be reasonably balanced; however, the mixer will function within specification on unequal pressures up to 10:1.

The mixer has integral isolating valves which permit servicing of the strainer, check valve/flow regulator and thermostatic cartridge. They are also used for thermal disinfection.

The minimum pressure for the correct thermal operation is 20kPa. However, to achieve an acceptable flow performance at very low pressures it may be necessary to remove the combined check valve and flow regulators and replace them with simple check valves to facilitate thermal disinfection.

Working Temperature Range (°C)	Min	5
	Max	80
Minimum Temperature Differential (between the supply and the outlet temperature) (°C)	Min	10
Adjustable Temperature Range (°C)	Min	35
	Max	48
Working Pressure Range (kPa)	Min	20
	Max	500
Permitted Supply Pressure Variation		10:1
Factory Set Thermostatic Temperature (°C)		41
Maximum Thermostatic Temperature (°C)		48
Minimum Flowrate for Stable Outlet Temperature (LPM)		6
Nominal Flowrate (LPM)		8

Table 2. Water supply conditions

Note: Tapware must be installed in accordance with the provisions of AS/NZS 3500. Installations not complying with AS/NZS 3500 may void the product and performance warranty provisions.

6.0 INSTALLATION

The CliniMix® Thermostatic Progressive Mixing Valves must be installed using the appropriate Standard, Code of Practice and legislation application to each state and following the details outlined in this section.

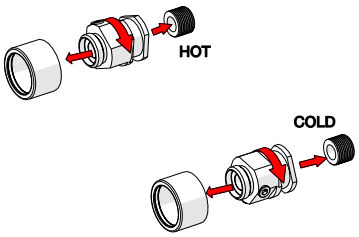
The CliniMix® Thermostatic Progressive Mixing Valves must be installed by a licensed plumber, or where applicable, a licensed plumber who has undertaken T.A.F.E. training in Thermostatic Mixing Valves.

Note: To effectively control microbial hazards during system design, installation, commissioning and maintenance, the requirements outlined in AS/NZS 3666 and local legislation shall be adhered to.

If the valve is not installed correctly then it will not function correctly and may put the user in danger. It may also void the warranty of the valve.

Prior to the installation of the valve, the system must be checked to ensure that the system operating conditions fall within the recommended operating range of CliniMix® Progressive Thermostatic Mixing Valve. If the hot water supply temperature is greater than 80° Celsius, the valve may be damaged. If the temperature of the hot water will rise above 80° Celsius a suitable temperature limiting valve must be fitted to the hot water supply, prior to the inlet fittings. This temperature limiting valve must be installed as per the manufacturer's instructions. It is important that both inlet dynamic supply pressures are 500kPa or less. If either supply pressure exceeds 500kPa then a suitable pressure reducing valve must be fitted prior to the inlet control valve to reduce the pressure to an acceptable limit.
These pressure reducing valves must be installed as per the manufacturer's instructions. To achieve optimum performance from the valve it is recommended that the inlet pressures are balanced to within 10% of each other.
The water quality conditions should be checked to ensure they do not exceed the limits as listed in AS3500.4, Section 3.7.1. If they do exceed these limits, then it will be necessary to install a water softener or water treatment device.

INSTALLATION COMPLIANCE: *Galvin Engineering products must be installed in accordance with these installation instructions and in accordance with AS/NZS 3500, the PCA and your local regulatory requirements. Water and/or electrical supply conditions must also comply to the applicable national and/or state standards. Failing to comply with these provisions shall void the product warranty and may affect the performance of the product.*



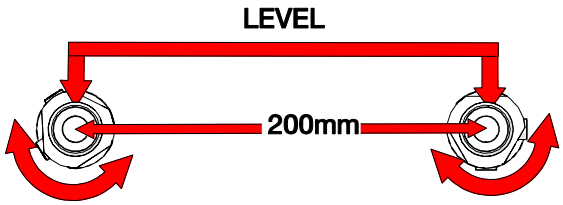
1. Fit isolator connector

- Ensure 1/2” male hot and cold water supply outlets are positioned as per mounting details (section 4.0) at the desired height and location above the basin/sink.

Note: Hot supply should be on the left when facing the wall

Remove both isolator connectors from box.

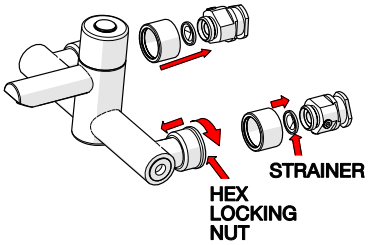
- Remove chromed sleeve from the connectors
- Apply thread tape to the male threaded outlets and fit the isolator connectors.



2. Adjust the connectors

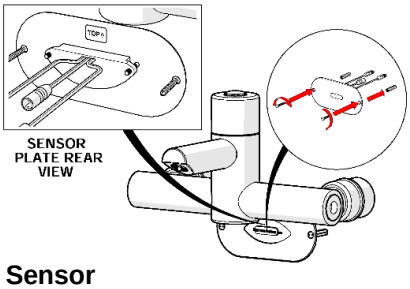
- The isolator connectors are offset to provide +/- 15mm of rotational adjustment.
- With the use of a spirit level and tape measure, you are required to
  - Position the back of the bases within 3mm of the finished wall and;
  - Ensure the bases are level and;
  - Achieve 200mm centre to centre of the connectors

Note: The use of thread tape is recommended to ensure bases stay in the required position and are water tight.



3. Fit progressive mixer

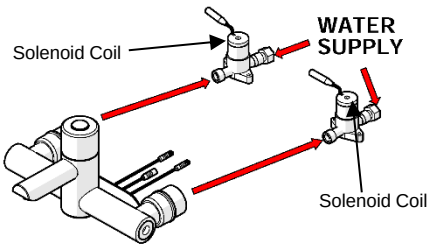
- Fit chrome sleeves to fitted isolator connectors.
- Tighten loose nuts on the body to the isolator connectors already on the wall ensuring the strainer seal is in between. Do not over tighten.



4. Secure Sensor

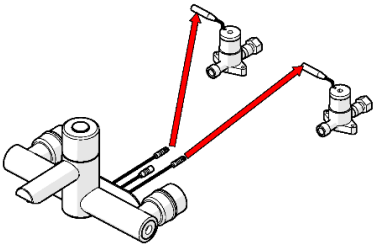
- Install the proximity sensor to the wall
- Ensure correct orientation of the sensor, It is critical (see back of the face plate for orientation arrow)

Do not remove the black label in front of sensor faceplate until the tap is to be commissioned.



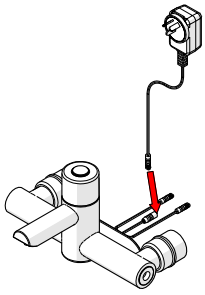
5. Fit solenoids

- Connect solenoids to the tap and mains water line.
- Fix the solenoid in position ensuring that the solenoid coil is not facing downwards.
- Ensure water is connected to correct inlet as marked on tap.



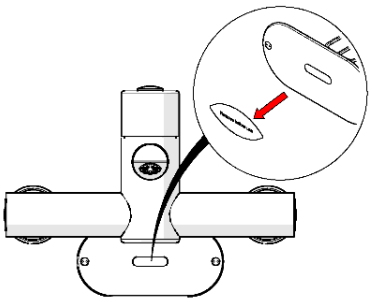
6. Connect solenoids

- Connect the solenoids to the sensor.
- The unit is supplied with a 3 x 3.2metre extension leads for connecting to transformer, solenoid, and sensor.



7. Connect transformer

- Do not remove the black label in front of sensor faceplate until the tap is to be commissioned.
- Connect the transformer to the sensor.



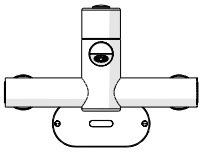
8. Testing and operation

- Turn on hot and cold water supply and power to the transformer.
- Remove black label.
- Start sensor; Refer to the Sensor Setting Instructions table (section 8.0) – **First startup and set electronic settings for tap.**
- Check for any leaks.
- Commission tap as per section 9.0.

7.0 OPERATION

The proximity sensor starts the water flow.

The delivered water to the factory set thermostatic temperature of approximately 41°C.



8.0 SENSOR SETTING INSTRUCTIONS

Signs and symbols					
	◎	Touch function		Hand/object within sensor area	
	💧💧💧	Water flows		1	LED flashes Green
	~~💧💧💧~~	Water flow stop		2	LED flashes Red
	H – hours / min. – minutes / sec. - seconds				

FUNCTION	PROCEDURE	FEEDBACK SIGNAL	INFORMATION	DEFAULT	SETTING RANGE Via IQUA Touch
First startup After installation	1x ✋ app. 4 sec. till	💧💧💧	Remove hand/object from sensor area	-.	-
	wait	2 + 💧💧💧	2 2x/sec., keep out of sensor area		
	wait till	1 1x	Confirmation, ready for operation		
Temporary off «Cleaning mode» Activate	1x ◎ app. 2 sec. till	1 1x	Extended function mode is active	2 min.	
	2x ◎ a app. 0.5 sec	2	2 Pulsing during active function		
Temporary off Stop	1x ◎ app. 2 sec.	1 1x	Manual stop		
	or automatic	1 1x	Automatic after preset time		
Continuous run Activate	1x ◎ app. 2 sec. till	1 1x	Extended function mode is active	5 min.	0.5-20 min. (in 0.5 steps) min.
	1x ◎ minimum 3 sec. (max. 5 sec.)	💧💧💧	Water flows after releasing		
Continuous run Stop	1x ◎ app. 2 sec.	~~💧💧💧~~ XXX	Manual stop		
	or automatic	XXX 💧💧💧	Automatic after preset time		
line purge feature activate / deactivate << Automatic flush on set interval>> (time of waterflow: 3 min)	1x ◎ app. 2 sec. till	1 1x	extended function mode is active	12h	Off 12 h 24 h 48 h
	1x ◎ app. 25 sec. till	2 1x - 4x	2 1x= off, 2 2x=12h, 2 3x= 24h, 2 4x= 48h ignore flashes after 5 sec. and 10 sec. – keep touched till 2 1x - 4x after app. 25 sec., releasing defines interval		
	Wait till	1 1x	Confirmation, ready for operation		
restart electronics	1x ◎ app. 2 sec. till	1 1x	extended function mode is active		
	2x ◎ a app. 0,5 sec	2	2 pulsing during active function		
	1x ◎ app. 5 sec. till	2 4x	2 1x/sec.		
	Release and wait till	2 + 💧💧💧	2 1x/sec., keep out of sensor area		
	Wait till	1 1x	confirmation, ready for operation		

9.0 COMMISSIONING

Do not remove the black label in front of sensor faceplate until the tap is to be commissioned.

Initial Test for Correct Operation

The following must be checked to ensure the correct performance of the progressive thermostatic mixer:

- the supply pressures and temperatures are within the range of operating pressures and temperatures for the thermostatic valve.
- the supply temperatures are within the range permitted for the unit.

Please record the testing done during the commissioning and record the temperature of the hot and cold-water supplies and the temperature of the mixed water at the full hot setting.

A calibrated digital thermometer having rapid response time with maximum temperature hold will be required to check and set the outlet mixed temperature of the mixer.

To Commission

To test the temperature, open the valve and allow the mixed heated water to flow for at least 30 to 60 seconds so the temperature can stabilise before taking a temperature reading at the outlet with a digital thermometer. The flow rate should be at least 4L/min.

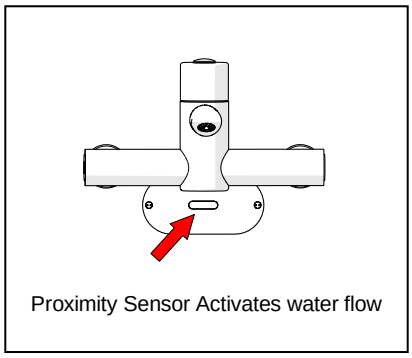
The temperature should be taken close to the mixer's outlet and if the outlet temperature requires adjustment then follow the temperature adjustment in the installation instructions.

Shut Down Test

Once the correct outlet temperature has been achieved, the valves internal mechanism should be exercised at least 3 times by alternately shutting off the hot and cold supplies while the mixer is set in the full hot position.

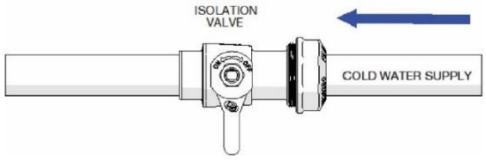
Shut Down Test 1

With the mixer still on and with both supplies turned on, allow the mixed water temperature to stabilise for at least 15 seconds and note the outlet temperature. While holding a digital thermometer in the outlet flow, quickly isolate the cold water supply to the valve



Proximity Sensor Activates water flow

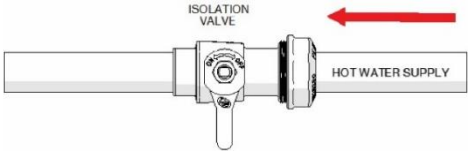
The outlet flow should quickly reduce to less than 0.75L/min following the isolation as defined in AS4032.1. Recording the temperature should continue after isolation and should not exceed the maximum temperature set out in the applicable standard or code of practice for each state.



Restore the cold-water supply to the valve. After the mixed water temperature has stabilised note the outlet temperature ensuring the outlet temperature has re-established. The time taken to stabilise the temperature should not exceed the maximum time set out in the applicable standard or code of practice for each state.

Shut Down Test 2

With the mixer still set in full hot position and with both supplies turned on allow the flow to stabilise for at least 15 seconds and record the temperature. Quickly isolate the hot water supply to the valve.



The outlet flow should quickly reduce to be less than 0.75L/min following the isolation as defined in AS4032.1. The volume of mixed water discharged for a period of between 5-35 seconds should be measured and should not exceed the maximum volume set out in AS4032.1 or code of practice for each state.

Restore the hot water supply to the valve and measure and record the outlet temperature after the mixed water temperature has stabilised. The time taken to stabilise the temperature should not exceed the maximum time set out in the applicable standard or code of practice for each state.

Ensure that all details of the Commissioning Report are completed, and a copy is kept with the installer and owner of the premises.

The valve is now commissioned, and it can be used within the technical limits of operation.

NOTE: In some installations, certain types of tapware devices such as flick mixers and solenoid valves are used. The water pressure may be seen to spike outside that recommended for the valve, during rapid shut off conditions with these types of devices. Even if the spike only lasts a split second it is still considered to be outside the operating conditions and may cause the valve to operate incorrectly. In the event that this does occur, measures must be taken to control the spike, such as the installation of an inline pressure reducing valve directly before the valve inlets.

To ensure that the mixing valve operates correctly, it is necessary that the pipe-work is thoroughly flushed with clean water before the valve is installed. This will remove any physical contaminants from the pipe-work, ensuring trouble-free operation. During the flushing procedure, care should be taken to prevent water damage occurring to the surrounding area.

It is a requirement of AS3500.4.2 that “Each thermostatic mixing valve shall have an isolating stop tap/valve, line strainer and non-return valve fitted to the hot and cold water supply lines”. The inlet fittings supplied with each TMV will ensure this requirement is met. If the CliniMix® Progressive Thermostatic Mixing Valve is to be installed without the supplied inlet control valves then it will be necessary to install a separate isolating valve, non-return valve and strainer to both inlets to the valve.

Strainers must be fitted to prevent any particulate contamination from entering the valve. These strainers should be 60 mesh stainless steel (0.250mm). Isolating valves are required so that the water supply to the valve can be isolated when servicing is required. Non-return devices must also be fitted to both the hot and cold inlets to prevent cross-contamination.

Ensure that the test plugs in the top of the inlet fittings are tight.

The valve should be installed so it can be easily accessed for maintenance or servicing.

During installation or servicing, heat must not be applied near the mixing valve or inlet fittings, as this will damage the valve and inlet fittings internals. Failure to comply with this requirement will damage the valve and fittings. It will put the user at risk and it will void the warranty of the valve.

Note: The CliniMix® Thermostatic Progressive Mixing Valve is intended mainly for use in applications with set temperatures below 45° Celsius. When installed at higher set temperature, the performance may be less than specified in AS4032.4. In such situations consideration should be given to the question of whether an alternative device, i.e. a tempering valve approved to AS4032.2 would provide a greater margin for safety in reducing scalding accidents.

10.0 SERVICING

The need for servicing is normally identified as a result of the regular performance testing.

Application	Maximum mixed water temperature during normal operation	Permitted maximum temperature rise recorded during site testing
Washbasin	41°C	45°C

Table 3 A guide to maximum temperature sets. Please refer to AS3500 for temperature settings

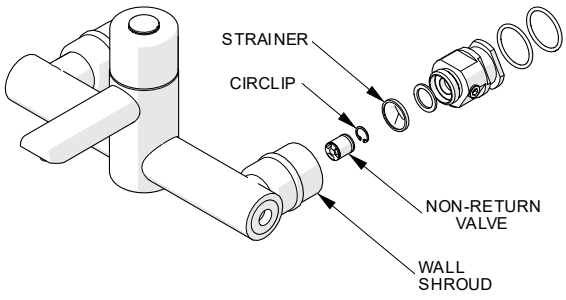
10.1 Frequency of Regular Servicing

The purpose of servicing regularly is to monitor any changes in performance due to changes in either the system or the product. This may highlight the need to adjust either the supply system or the product. These products should be checked at 6 to 8 weeks and again at 12 to 15 weeks after commissioning. The results are to be compared against original commissioning settings.
If there are no significant changes at the mixed temperature outlet then a 6 monthly servicing cycle may be adopted. Otherwise, servicing checks should be carried out more frequently (e.g. every 4 months).
Follow the recommended maintenance procedures detailed in section 10.
During servicing, note the following:

1. Repeat the procedure of recording and checking supply temperatures. (The same type of measuring equipment should be used)
2. If the temperature has changed significantly from the previously recorded valves, the following should be checked:
   a. All in-line or integral valve filters are clear of obstruction.
   b. All in-line or integral check valves are clean and working properly to prevent backflow.
   c. Any isolating valves are fully open.
   d. The thermostat is free of debris
3. When satisfied with the mixed outlet temperatures re-record the temperatures.

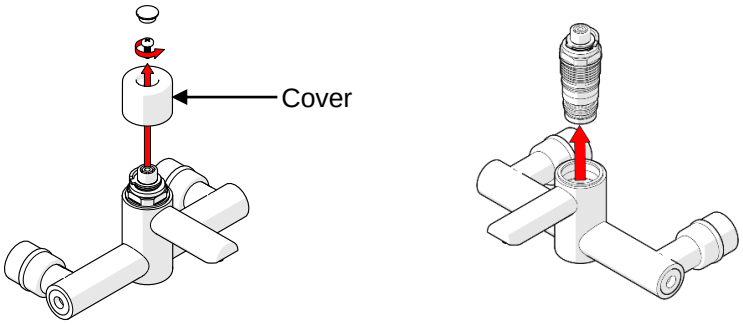
10.2 General Servicing

General Servicing of the CliniMix® Wall Mounted Thermostatic Progressive Basin Mixer - Proximity Sensor



1. Strainer and Non-Return Valves

- Ensure both the hot and cold water supplies have been isolated. Remove power from proximity sensor to ensure water supplies have been isolated correctly and no water flows.
- Slide the cover sleeves forward (to the body).
- Unscrew the brass union using metric spanner 30mm. Remove strainers then using circlip pliers, remove clips from both fittings. Remove the non-return valves.
- The strainers and non-return valves should be cleaned with a dilute water solution of suitable de-scaling solvent (such as CLR), checked for physical damage and then thoroughly rinsed with clean water.
- Replace any broken filters or faulty non-return valves.
- Re-fit strainers and non-return valves.



2. Thermostatic Cartridge

- Ensure both the hot and cold water supplies have been isolated.
- Open the mixer to ensure water supplies have been isolated and no water flows from the outlet.
- Using a spanner or deep socket on the brass headwork turn the cartridge in the counter clockwise fashion until it reached the end of its threads and then pull it out of the mixer body.
- Remove the cartridge by hand and clean all components thoroughly. Inspect components for damage. If components are damaged, the cartridge must be replaced.
- The cleaned cartridge (or a new cartridge, if this is required) can now be re-installed, by screwing into the mixer body until it reaches a firm stop and tightened. Re-fit the cover, and re-commission the mixer (as per commissioning procedure).
- When service is complete, slowly open the cold water isolation valve and inspect mixer body for leaks. Repeat with hot water isolation valves. Commence commissioning process.

Annual Maintenance Procedure

- Every 12 months the thermostatic mixer must be inspected & tested. The valve should be inspected for leaks or water damage and appropriate action taken if required.
- Carry out the general servicing of the valve as set out in this document
- A thermal shut down test is performed (Shut Down Test 1 and 2 as set out in this document), and the temperature is reset as required.
- If the valve fails to shut down or fails to maintain its set temperature, then refer to Troubleshooting section.

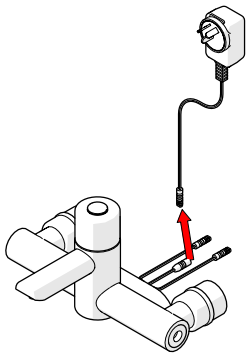
5 Year Maintenance Procedure

- Every five years the thermostatic mixer needs to have a full service carried out. This service consists of the same procedure as the ‘Annual Maintenance Procedure’ listed plus the thermostatic mixer cartridge must be replaced.
- After replacing the thermostatic mixer cartridge, a thermal shut down test is performed, and the temperature re-set as required. If the valve fails to shut down or fails to maintain its set temperature, then refer to the troubleshooting section.
- Once the 5 yearly maintenance procedure is complete, the thermostatic mixer should then be commissioned as per instructions.

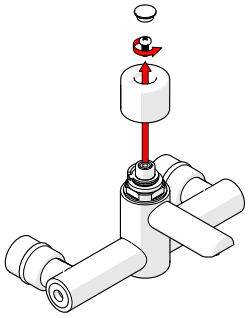
11.0 MAINTENANCE

When installed as an AS/NZS 4032.4 application it is a requirement that the commissioning (Section 9) and maintenance procedures (Section 11) are carried out before use.

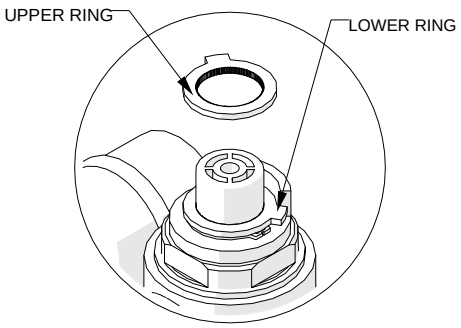
11.1 Adjustment of the mix temperature:



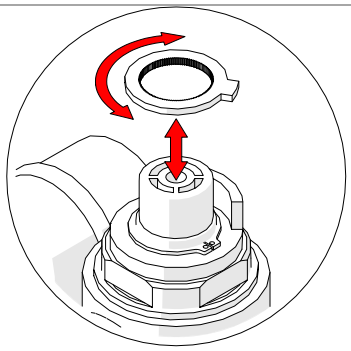
1. Turn off both the hot and cold water supply. Disable mains power supply from proximity sensor.



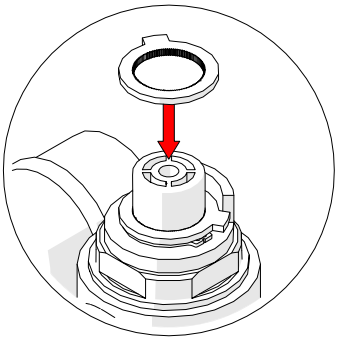
2. Remove top cap, screw and cover.



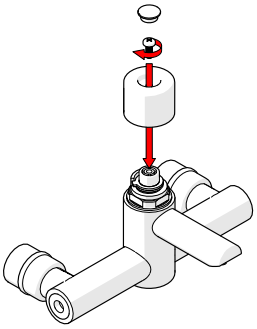
3. The setting rings are located either side of the tap stop, to stop movement of the tap spindle.



4. Remove both rings and turn tap spindle till desired temperature is achieved.

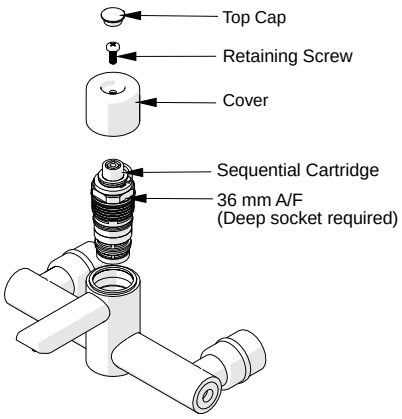


5. Reposition both rings on either side at the tap stop so that the tap spindle cannot move.



6. Refit the cover, the screw and the top cap.

11.2 Removal and inspection of cartridge



1. After checking that supply conditions are within the specified parameters (see table 1), if the fitting malfunctions or should the test results fail to fall within the specified limits consider replacing the cartridge with a new one. See 11.3 Important notes on debris.
2. Isolate the fitting by turning the isolating valves anti-clockwise (viewed facing the isolation valve).
3. Remove the cover as described in 11.2. Unscrew the cartridge from the body with a 36mm AF deep socket. Inspect cartridge for damage.
4. Replace cartridge if necessary and reassemble cartridge into body. The replacement cartridge should be tightened to a torque of 15Nm.
5. Set the temperature as per steps 4-5 in section 11.1.
6. After fitting the new cartridge start the test procedure from Section 9.0 on Commissioning. Record the mix temperature.

11.3 Important notes on debris

Although this product is protected by built-in filters, debris can still find its way to the thermostat housing area. This can happen during servicing for example. Remove cartridge (see Section 11.2) and carry out an inspection.

11.4 Maintenance cleaning

On a regular basis the anti-splash nozzle should be inspected and cleaned if necessary. This should be done immediately before sterilizing is carried out.

In areas where lime scale build-up is prevalent this will have to be removed. An inhibited proprietary scale solvent can be used such a kettle descaling solvent, but it is important to follow the manufacturer's guidelines. After descaling it is important to rinse the parts thoroughly in clean water. Clean carefully and do not use abrasive materials or scrapers.

12.0 DISINFECTION

This fitting is equipped with a disinfecting feature, which allows an engineer to feed water from the hot inlet via a temporary by-pass hose* into the cold inlet. This hot water then passes through the cold inlet, the thermostatic mixing chamber and out through the mixed water outlet. The temporary bypass hose is inserted into special valve connectors in the inlet tails normally concealed by the shrouds.

Safety Note: Care should be taken when carrying out the following procedure to avoid contact with hot water and hot surfaces. We recommend the use of protective hand wear.

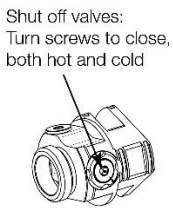
To disinfect the fitting proceed as follows:

1. Slide forward the wall shrouds.
2. Set sensor for continuous run and time required (see section 8.0).
3. Isolate both inlets by turning the isolation valves anti-clockwise (see picture 1 below).
4. Unscrew the two plugs (see picture 2 below) and fit the two G 3/8'' x G 1/8'' fittings from the Disinfection kit (WM-PMDK). Fit the supplied flexi-hose between these fittings (see pictures 3 and 4 below).
5. Now turn the hot isolation valve clockwise (see picture 5 below).
6. Turn on the mixer. Hot water will now pass from the hot inlet, through the by-pass hose into the cold inlet and into the thermostatic mixing chamber and spout.
7. Once the desired disinfection time is complete, isolate the hot water supply (see picture 5 below).
8. Remove hose and nipples and refit plugs (see pictures 6, 7 and 8 below). Turn on water supply (see picture 9 below) and reset sensor for correct operation. **Warning:** hose will be hot after disinfection process, remove with caution.

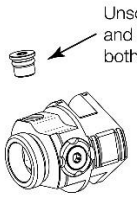
See Table 4 below for a guide to disinfection temperatures v/s time:

Temperature	Disinfection Time
60 degrees Celsius	30 Minutes
65 degrees Celsius	15 Minutes
70 degrees Celsius	10 Minutes

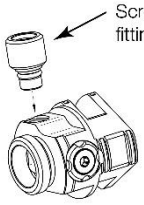
1.



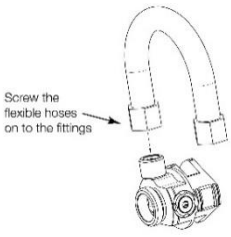
2.



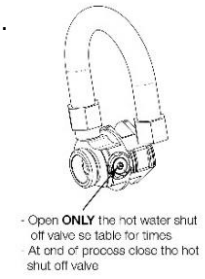
3.



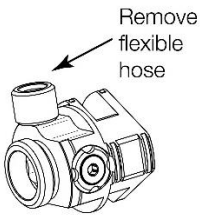
4.



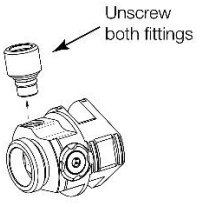
5.



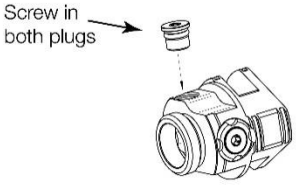
6.



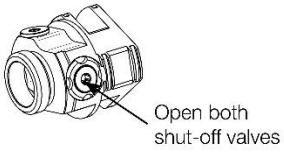
7.



8.



9.



13.0 ISOLATING VALVES

Isolation valves facilitate 4 activities:

1. Cleaning strainers & check valves
2. Servicing the cartridge
3. Disinfection
4. Audit cold water isolation test

Strainers

To ensure trouble free operation of the fitting, the strainer elements should be checked and cleaned in accordance with the commissioning and servicing guide (See section 9 and 10).

To access the strainer element, first slide forward the shrouds and close the isolation valves. Unscrew the connection nut using metric spanner 30mm and detach the unit from the wall. See section 10.2 for the assembly drawing to locate the strainer. The strainer element should be washed with clean water and refitted.

14.0 WARRANTY

Galvin Engineering products are covered under our Manufacturer's Warranty. Galvin Engineering products must be installed in accordance with the installation instructions and in accordance with AS 3500 and NCC Volume Three, relevant Australian Standards and local authorities applicable to product being installed. Water and electrical supply conditions must also comply to the applicable national and/or state standards, failing to comply with these provisions may void the product warranty and affect performance of the product.

Please visit www.galvinengineering.com.au to view the full warranty, our Installation Compliance and Maintenance & Cleaning information as well as any other additional information.

15.0 TROUBLESHOOTING

PROBLEM	CAUSE	RECTIFICATION
Sensor Not Responding	– Damaged or scratched lens – Sensor length to short – Lead damaged – No power – Waving hand too fast – Transformer faulty	– Replace the sensor unit – Adjust beam to correct length. – Replace connected item. – Check power is on – Slow down the action in front of the sensor – Replace transformer
False Activation	– Sensor length too long – Reflection from a light source	– Adjust sensor length to correct length – Re-align sensor or shield light source
The desired mixed water temperature cannot be obtained, or valve is difficult to set. .	– Hot and cold supplies are fitted to the wrong connections – Thermostatic cartridge contains debris or is damaged – Strainers contain debris – Non-return devices are damaged	– Refit the valve with Hot/Cold supplies fitted to the correct connections – Clean the Cartridge ensuring that all debris is removed, and components are not damage. Replace if necessary – Clean strainers ensuring debris is removed – Check non-return device is not jammed. Clean it if necessary – Check for airlocks in the water supply
When the water is set at cold, the blended temperature is too hot	– Hot & Cold water supply connections are installed in reverse.	– Refit the valve with Hot/Cold supplies fitted to the correct connections
The thermostatic mixing valve will not shut down	– The hot to mix temperature differential is not 10°C or greater – Thermostatic cartridge contains debris or is damaged – Non-return devices are damaged	– Raise hot water temperature – Clean the cartridge ensuring that all debris is not jammed. Clean if necessary
Mix temperature unstable	– Flow rate below 6 L/min – Thermostatic cartridge contains debris or is damaged – Strainers contain debris – Non-return devices are damaged	– Rectify any pressure deterioration – Clean the cartridge ensuring that all debris is removed and components are not damaged. Replace if necessary – Clean strainers ensuring debris is removed – Check non-return device is not jammed. Clean if necessary
Mix temperature changing over time	– Inlet conditions (pressure or temperatures) are fluctuating – Strainers contain debris	– Install suitable pressure control valves to ensure inlet conditions – Clean strainers ensuring debris is removed
Either full hot or cold flowing from outlet fixture	– The upper temperature ring is incorrectly set – Hot/Cold water has migrated to another inlet – No flow from Hot and Cold supplies – damaged check valves – Refer also to fault/symptom 1 & 2	– Re-set temperature to between 35-46°C as required – Replace faulty check valves
Water is not flowing from outlet	– Hot or cold water failure – Thermostatic cartridge contains debris or damage – Strainers contain debris	– Remove aerator and clean then reinstall – Restore inlet supplies and check mix temperature – Clean the cartridge ensuring that all debris is removed and components are not damaged. Replace if necessary – Clean strainers

16.0 APPENDIX

Galvin Engineering Thermostatic Mixing Valve

Commissioning Report and/or Maintenance Report

Note:
1. Please use a separate form for each valve.
2. The original copy of the report is to be given to the owner/occupier and retained on site for a minimum of 7 years.

Cross off appropriate box ☐

Thermostatic Mixing Valve ☐

Commissioning Report ☐ Maintenance Report ☐

Name of Establishment: _____

Address of Establishment: _____

Phone Number: _____ Date: _____ Work Order #: _____

Contact Person: _____ Make & Model of Hot Water System:_____ _____

Temperature of Hot Water to the Valve: _____ Temperature of Cold Water to the Valve: _____

Hot Water Pressure: _____kPa Cold Water Pressure: _____kPa

Make of Mixing Valve: _____ Model No: _____ Size: _____

Valve Location/Building: _____

Valve Identification No: _____

Total No of Valves on the Site/Building: _____

No of Outlets Serviced by this Valve: Baths ( ) Basins ( ) Showers ( )

Other Outlets - Details _____

Valves Installed to the requirements of:

The NSW Code of Practice Plumbing and Drainage	Yes	No
The HOSPLAN Code of Practice for Thermostatic Mixing Valves in Health Care Facilities	Yes	No
The Valves manufacturers requirements	Yes	No
AS4032.3	Yes	No
The specifications and drawings for the project	Yes	No
The Local Water Supply or Authority	Yes	No

If No, give details and actions taken:

_____

Galvin Engineering Thermostatic Mixing Valve Commissioning Report and/or Maintenance Report

Test Results

Valve considered satisfactory for use: Yes ☐ No ☐

If No, state the reason and action taken:

_____

_____

_____

Commissioning Work

It is hereby certified that all the commissioning work has been carried out by the undersigned in accordance with the requirements of the Codes of Practice indicated prior.

Date of Valve Commissioned: _____

Name of Licensed Plumber: _____ License/Cert No: _____

License Plumbers Signature: _____

Telephone No. _____

Owner/occupiers signature: _____Date: _____

Date of Initial Service Due: _____

Galvin Engineering Thermostatic Mixing Valve Commissioning Report

Valve Location/Building : _____

Room or Area: _____

Work Order No.: _____

Warm Water Outlet Fixture No.	***Name/Type/Size and location of Outlet Fixture (Bath, Shower, Basin, Other)**	**Flow rate of Design Water (LPS)**		**Temp of Warm Water (C)**	
		One Outlet in Use	****All Req'd Outlets in Use**	**One Outlet in Use**	****All Req'd Outlets in Use**
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					

*Give details of brand and model designation.

** Commensurate with the design flow rate for the mixing valve.

Note: An accurate digital thermometer is necessary for the temperature measurements

Prescribed temperature range for warm water _____ C to _____C

Thermal shutdown at both minimum and maximum design flow rates

(Passed/Failed) Yes ☐ No ☐ Name of Plumber: _____

License/Cert No. _____

Licensee's Signature: _____ Date: _____

Telephone Number: _____

Galvin Engineering Thermostatic Mixing Valve Commissioning/Maintenance Report

The following information is to be provided by the site manager/owner/occupier.

Valve size and installation recommended by : _____

Valves supplied by: _____

Date of Installation: _____ Drawing No. _____

Service Manual on Site: Yes ☐ No ☐

Commissioning Tests for new installation or valve replacement. Yes ☐

This set of testing procedures and report received and witnessed by (Print Name): _____

_____

Temperature setting at completion of commissioning _____ C

Position: _____Signature: _____
Date:_____

Maintenance Tests. Yes ☐

Date of Previous Service: _____

Previous Service carried out by: _____

Reason for Maintenance Tests: _____

This Test and report Witnessed by: _____

The valve has been operating/performing satisfactorily for the previous 12 months: Yes ☐ No ☐

Comment on monthly Temperature Tests carried out by the owner_____

_____

Temperature setting at time of completion: _____C

Current Report received and witnessed by:

Name: _____

Position: _____

Signature: _____ Date: _____

Within Australia: 1300 514 074 Outside Australia: P: +61 (0)8 9338 2344
F: +61 (0)8 9338 2340
sales@galvinengineering.com.au
www.galvinengineering.com.au
ABN: 78 008 719 382
PERTH I SYDNEY I MELBOURNE I BRISBANE I ADELAIDE