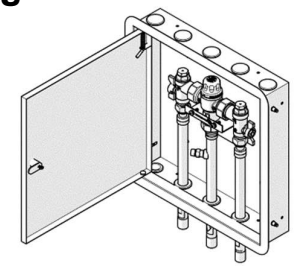
CliniMix® TMV 1500 Lead Safe™ ½" Thermostatic Mixing Valve in SS Cabinet

PRODUCT CODES

- **201.10.70.10**
- **201.11.70.10**
- **201.13.70.10**

Lead Free
AS 4032.1
WMKA1593



SPECIFICATIONS

- CliniMix® Thermostatic Mixing Valve Cabinet assemblies are designed to protect users from scalding or cold water shock by providing tempered water to the desired outlets.
- This stainless steel hinged cabinet kit is a lockable cabinet with 20mm copper fittings which allows secure installation and safe, simple maintenance of thermostatic mixing valve.
- Flat faced connections allow removal of the valve without disturbing the pipework.
- In the event of either hot or cold water supply failure the valve will shut down.
- Units come complete with right angle isolating ball valve, non-return valve and strainer assemblies.
- Can be installed in any configuration with the water outlet in the horizontal or vertical position, and inlet connections can be rotated to suit inlet pipework.
- Complies with the requirements of AS/NZS 4032.1 – Thermostatic Mixing Valves.

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

TABLE OF CONTENTS

1.0 DESCRIPTION

This manual covers the CliniMix® TMV 1500 Lead Safe™ TMV SS Cabinet Assembly. This product is designed to provide tempered water to the desired outlets. This mixing valve cabinet assembly is supplied with integral isolating valves, strainers and check valves and is provided with a facility for thermal disinfecting of the cold inlet side and mixed water outlet.

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

2.0 TECHNICAL DATA

MIXED OUTLET TEMPERATURE		
Factory Preset Temperature (°C)		43 +/- 2
Adjustable Temperature Range (°C)		35 – 50
INLET TEMPERATURES		
Cold Supply (°C)	Min	5
	Max	30
Hot Supply (°C)	Min	55
	Max	90
Hot to Mix Temp Differential (°C)	Min	10
Cold to Mix Temp Differential (°C)	Min	5
Nominal Flow Rate (LPM)	Min	4
DYNAMIC INLET PRESSURES		
Hot and Cold Inlet Pressures	Min	20
	Max	600
STATIC INLET PRESSURE		
Hot and Cold Inlet Pressures (kPa)	Max	1600
INLET PRESSURE RATIO		
Supply Pressure Loss Ratio	Max	10:1
Recommended Supply Pressure Variation (Hot:Cold or Cold:Hot)		±10%
Minimum Flow Rate to Ensure Stable Operation		4 L/min

NOTE 1: For optimum operation it is recommended that the hot and cold water supply pressure be balanced to within +/- 10%

NOTE 2: Notwithstanding the above, compliance with AS/NZS3500 must be maintained.

3.0 SAFETY

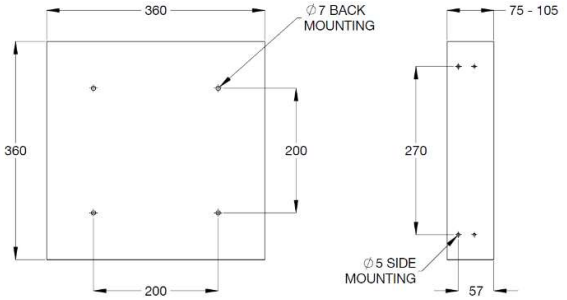
The CliniMix® TMV 1500 Lead Safe™ TMV SS Cabinet Assembly is a high-performance valve designed to give stable and dependable operation, provided it is installed, commissioned, operated and maintained as per the recommendations outlined in this manual. It should be noted, however, that this valve should 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.

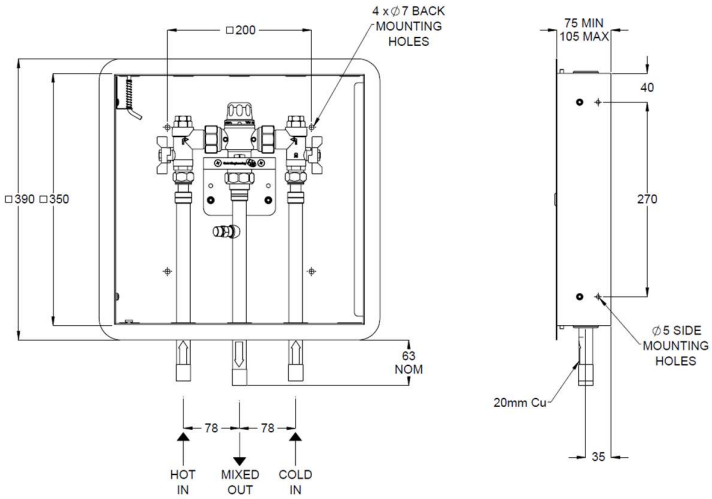
4.0 DIMENSIONS

- Cabinet to suit rough-in wall opening area 360mm width x 360mm height x minimum 75mm maximum 105mm depth.
- Cabinet secured using back mount or side mount.
- Measure and mark the cabinet mounting hole locations as per the dimensions shown in below mounting details image.

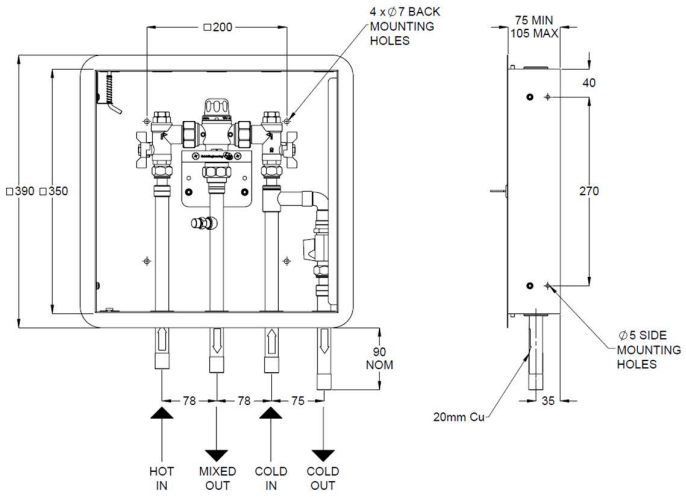
Suitable fasteners will need to be sourced by the installer.



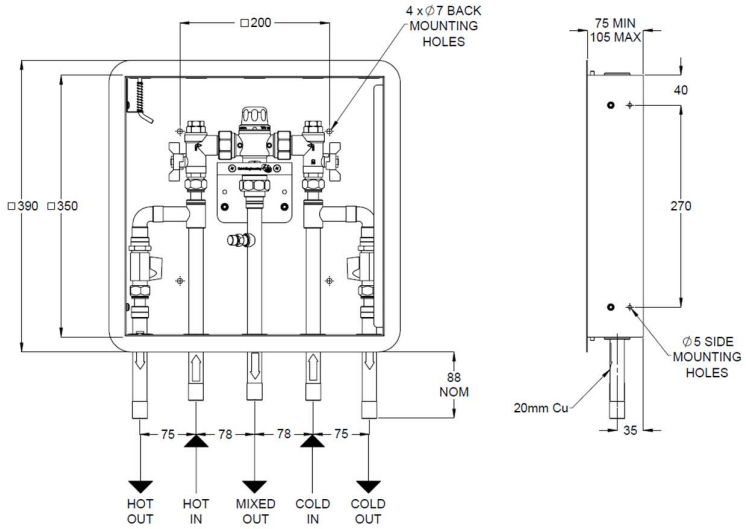
Back Mount **Side Mount**



201.10.70.10 – *CliniMix® TMV 1500 Lead Safe™ ½" Thermostatic Mixing Valve in SS Cabinet*



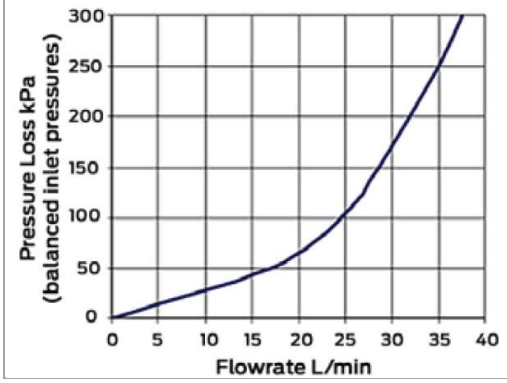
201.11.70.10 – *CliniMix® TMV 1500 Lead Safe™ ½" Thermostatic Mixing Valve with Cold Bypass in SS Cabinet*



201.13.70.10 – *CliniMix® TMV 1500 Lead Safe™ ½" Thermostatic Mixing Valve w/ Cold & Hot Bypass in SS Cabinet*

5.0 FLOW SIZING GRAPH

The Galvin Engineering CliniMix® Thermostatic Mixing Valve is suitable for many applications. The Pressure Loss Characteristic for Mixed Outlet Flow rate versus Balanced Inlet Pressure is shown in the graph below. It is important that the valve is not oversized for its intended application.



NOTE: To ensure optimum performance the minimum outlet flow of the TMV during operation should be at least 4 litres/minute.

It is important that the valve is sized such that the flow rates from the outlets are not less than those listed AS/NZS 3500.1

The pipe-work between the TMV and the system must be sized in accordance with AS/NZS 3500.1 to ensure the water velocity in the pipe-work is within the allowed limit.

If the TMV is to be installed and operated under unequal inlet pressures, the lower inlet pressure determines the outlet flow rate. However, for optimum performance and stability it is recommended that the TMV be installed with balanced dynamic inlet pressures (+/- 10%).

6.0 WATER SUPPLY CONDITIONS

6.1 SCOPE OF USE

This mixing valve cabinet assembly is manufactured to the highest standards and has approval to AS4032.1 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 below must be observed and commissioning, maintenance, temperature adjustment, and on-going servicing provided in **201.70.11.09 Install** from www.galvinengineering.com.au must be followed.

6.2 SUPPLY PRESSURE REQUIREMENTS

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

For optimum operation it is recommended that the hot and cold water supply pressure be balanced to within +/- 10%.

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

If there is a risk that the dynamic inlet pressures exceed 600 kPa, a suitable pressure reducing valve must be fitted upstream of the inlet fitting.

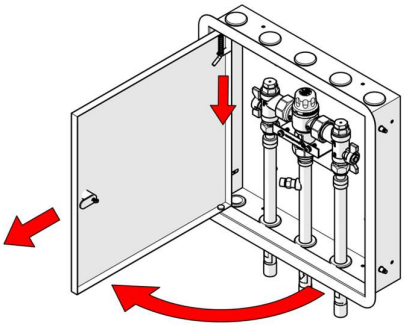
If there is a risk that the hot water supply temperature exceeds 90°C, a suitable temperature limiting valve must be fitted upstream of the inlet fitting.

Working Temperature Range (°C)	Min	5
	Max	90
Working Pressure Range (kPa)	Min	20
	Max	600
Maximum Static Pressure (kPa)		1600
Permitted Supply Pressure Variation	Max	10:1

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.

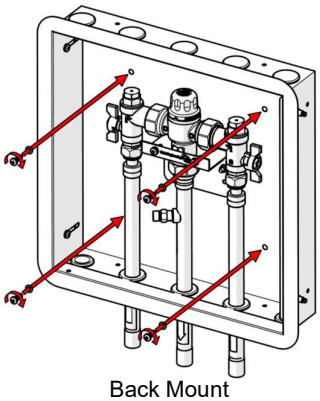
7.0 INSTALLATION

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.*

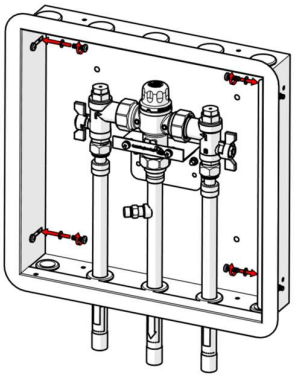


1. Remove cabinet door

1. Open the cabinet door
2. Pull hinge down to allow removal of the door. Remove the door from cabinet.



Back Mount

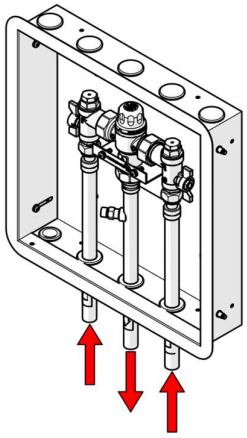


Side Mount

2. Secure the cabinet

- Insert cabinet into wall opening.
- Mount cabinet in wall using four fasteners, only securing hand tight.
- If side mounting, make sure door frame has clearance and can slide after fastening the cabinet.

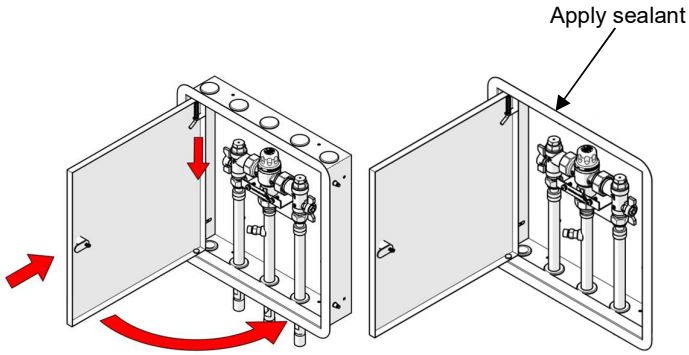
Note: The cabinet must be mounted with four fasteners for stability and strength. This is critical, failure to do this may void the warranty.



3. Connect water lines

- Before connecting to water lines, all lines must be flushed
- Remove protective vinyl cap from copper tubes.
- Join each copper tube to the correct main water line, taking note of flow direction arrows. Use suitable copper joining methods, ensuring no flash sits inside the pipeline, this will cause damage to the valves.

Note: The Galvin Engineering CliniMix Thermostatic Mixing Valve must be installed by a licensed plumber. 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.



4. Testing and operation

- Adjust the door door frame until it sits flush with the wall. Completely tighten mounting fasteners and apply sealant if necessary.
- Turn on hot and cold water supply.
- Check for any leaks
- Carry out commissioning procedure as per 201.70.11.09 installation instructions.
- Check temperature of water is correct. If not, see temperature adjustment in **201.70.11.09** installation instructions available from www.galvinengineering.com.au.
- Fit hinged door back into cabinet and lock with supplied key. Ensure instructions are placed in the cabinet for future service and maintenance record.

For commissioning, maintenance, temperature adjustment, spare parts and on-going servicing information refer to **201.70.11.09 Install** from www.galvinengineering.com.au.

8.0 TROUBLESHOOTING

PROBLEM	CAUSE	RECTIFICATION
The desired mixed water temperature cannot be obtained.	– Hot and cold supplies are fitted to the wrong connections – Valve contains debris. – Strainers contain debris.	– Ensure the valve has the Hot/Cold supplies fitted to the correct connections. – Clean valve ensuring debris is removed and components are not damaged. – Clean strainers ensuring debris is removed. – Check non return device is not jammed. Clean if necessary.
The valve will not shut down during testing.	– The hot to mix temperature differential is not high enough. – Sealing seat is damaged or fouled by debris	– Raise hot water temperature. – Replace piston O-rings – Clean seat. – Replace element assembly
Mix temperature unstable.	– Debris is fouling valve. – Flow rate below 4 L/min. – Strainers are fouled. – Systems may be fluctuating outside valve parameters	– Clean the valve ensuring that all debris is removed and components are not damaged. – Rectify any pressure deterioration. – Clean strainers – Check system pressure; install pressure control valves to ensure inlet conditions are within limit
Mix temperature changing over time.	– Inlet conditions (pressures or temperatures) are fluctuating, – Strainers contain debris.	– Install suitable pressure control valves to ensure inlet conditions are within range. – Clean strainers ensuring debris is removed.
Either full hot or cold flowing from the outlet fixture.	– Valve is incorrectly set. – Hot/Cold water has migrated to other inlet.	– Adjust mix temperature between 35 – 48 Degrees Celsius as required. – Replace faulty non-return valves
No flow from the valve outlet.	– Hot or cold water failure. – Strainers are fouled	– Valve functioning correctly. Restore inlet supplies and check mix temperature. – Clean strainer.
Flow rate reduced or fluctuating	– Valve or inlet fittings fouled by debris. – Dynamic inlet pressures are not within those recommended limits.	– Check valve and inlet fittings for blockages. – Ensure the dynamic inlet pressures are nominally balanced to within +/- 10%
Mixed water temperature too hot or cold.	– Valve has been tampered with. – Valve incorrectly set. – Inlet temperatures are not within specified limits.	– Readjust valve to required set temperature. – Readjust valve to required set temperature. – Ensure inlet temperatures are within the specified limits.
Valve is noisy.	– Water velocity above velocity requirements of AS3500.1.	– Reduce water velocity.

9.0 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.

10.0 APPENDIX

Galvin Engineering Thermostatic Mixing Valve or Tempering 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 ☐ Tempering 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 or Tempering 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 or Tempering 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 or Tempering 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: _____