



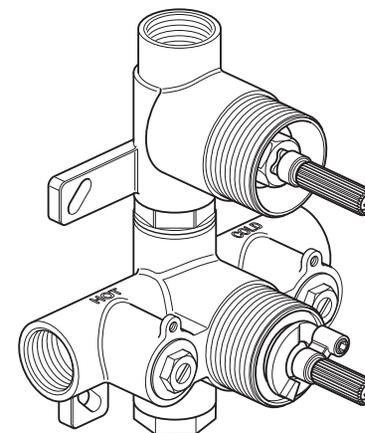
where inspiration flows



## Installation Guide

This instruction booklet covers model:  
CEL-148D/RO, CEL-148D/SQ, ELE-148D, LIF-148D, MIX-148D,  
NOT-148D, ORI-148D, PHA-148D, PHO-148D.

CON-048D-BR



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www.vado.com

Keep for future reference



## Important - please read

Please read these instructions carefully before starting installation and keep for future reference.

Remove all packaging and check the product for missing parts or damage before starting installation.

Any alterations made to this product and fittings may infringe water regulations and will invalidate the guarantee.

The installation must comply with all Local/National Water Supply Authority Regulations/Byelaws and Building and Plumbing Regulations.

To be installed in accordance with BS EN806.

We strongly recommend that you use a qualified and registered plumber.

## General installation

This fitting is a mixing device and therefore operating pressures (hot and cold supply) should be kept as balanced as possible in order to assure optimum efficiency.

When installed, the fitting must comply with the requirements of the Water Supply (Water Fittings) Regulations 1999 and Scottish Byelaws 2004.

For further information, contact the Water Regulations department of your local water supplier (see the WRAS website [www.wras.co.uk](http://www.wras.co.uk) for details) or the Water Regulations Advisory Scheme by email ([info@wras.co.uk](mailto:info@wras.co.uk)) or telephone: 01495848454.

Before making any inlet pipe connections, all supply pipes MUST be thoroughly flushed to remove debris. Failure to do so could result in damage or low flow from the mixer unit.

The fitting of strainers is recommended as close as practicable to the water supply inlets of the thermostatic mixing valve.

If the concealed valve is connected to pipework that is fixed by soldering, it is essential the concealed valve is protected to prevent the check valves, thermostatic cartridge and headworks being exposed to elevated temperatures which can cause internal damage.

**Please note:** if installing in an enclosed environment, access should be left for servicing and maintenance. No costs relating to inadequate access can be accepted.

## Operating Specifications

### Operating Pressure

Minimum operating pressure for shower **0.2 bar**

Minimum operating pressure for bath **1 bar**

Maximum operating pressure **5 bar**

## Notes

## Operating specifications

### Conditions of use for Type 2 valves

	High Pressure
Maximum Static Pressure (Bar)	10
Flow Pressure, Hot & Cold (Bar)	0.5 to 5
Hot Supply Temperature (°C)	55 to 65
Cold Supply Temperature (°C)	Equal to or Less than 25

**Note:** Valves operating outside these conditions cannot be guaranteed by the Scheme to operate as Type 2 valves.

If a water supply is fed by gravity then the supply pressure should be verified to ensure the conditions of use are appropriate for the valve.

### Approvals & Application

**NSF approval number: NSF1912**

This thermostatic mixing valve has been independently tested by NSF and certified as meeting the requirements of the BS EN1111 specification under the TMV2 scheme as being suitable for use on the following designations: HP-S-T.

### Recommended outlet temperatures

The NSF TMV scheme recommends the following mixed water outlet temperature for use in all premises:

44° C for bath fill but see notes below;

41° C for showers;

41° C for washbasins;

38° C for bidets.

The mixed water temperatures must never exceed 46° C.

The maximum mixed water temperature can be 2° C above the recommended maximum set outlet temperatures.

### Note:

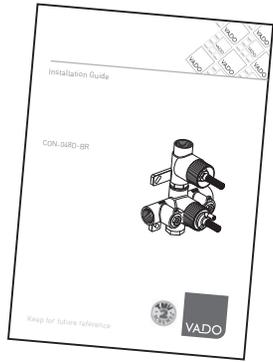
46° C is the maximum mixed water temperature from the bath tap. The maximum temperature takes account of the allowable temperature tolerances inherent in thermostatic mixing valves and temperature losses in metal baths.

**It is not a safe bathing temperature for adults or children.**

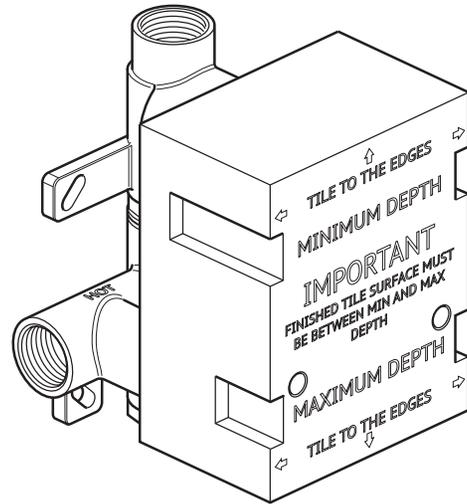
The British Burns Association recommends 37° to 37.5° C as a comfortable bathing temperature for children. In premises covered by the Care Standards ACT 2000, The maximum mixed water outlet temperature is 43° C.

The thermostatic mixing valve will be installed in such a position that maintenance of the TMV and its valves and the commissioning and testing of the TMV can be undertaken.

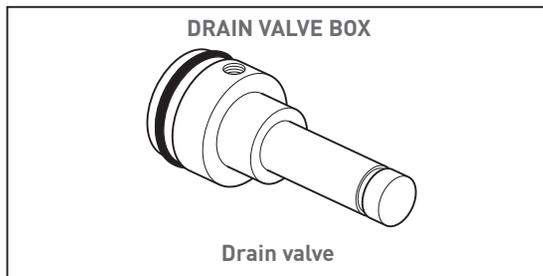
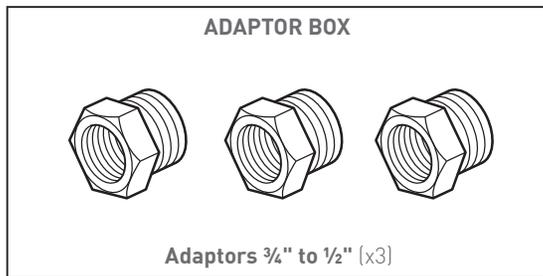
## Contents of Packaging



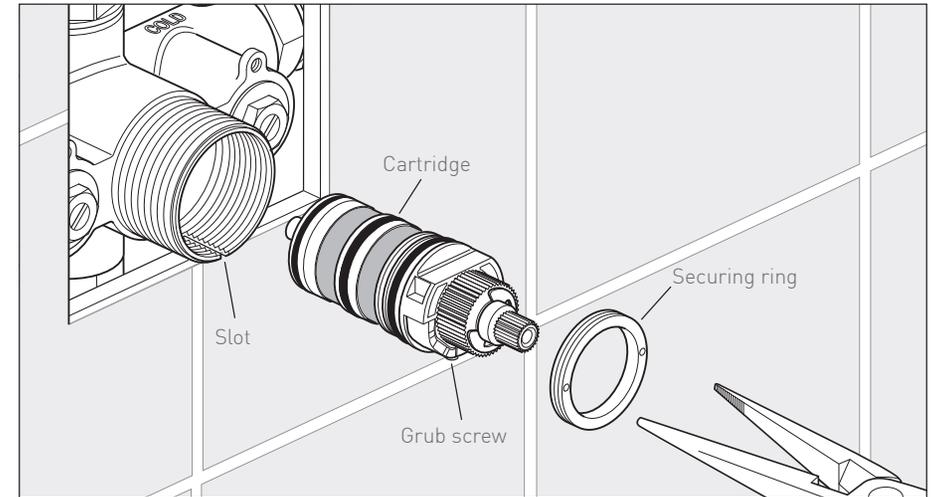
Installation guide



Valve body  
(with mortar guard)

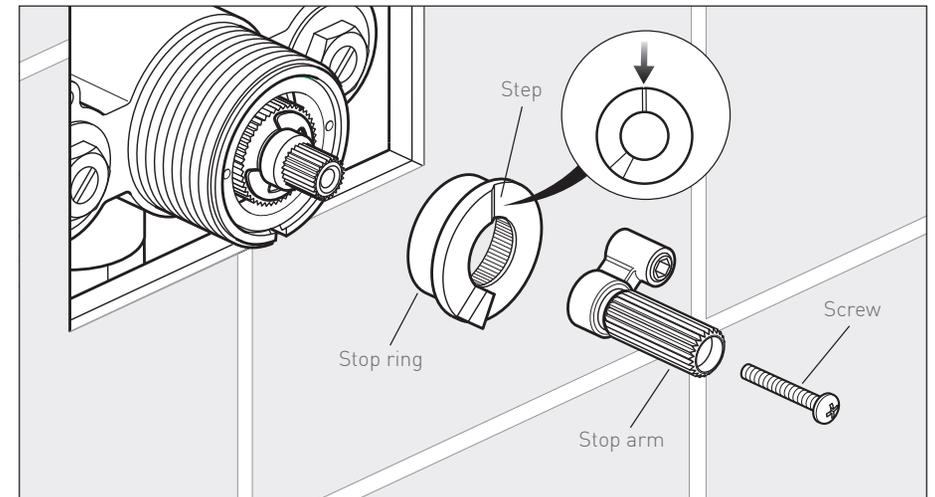


## Installation



Push the cartridge into the body, align the grub screw with the slot and continue to push the cartridge all the way in.

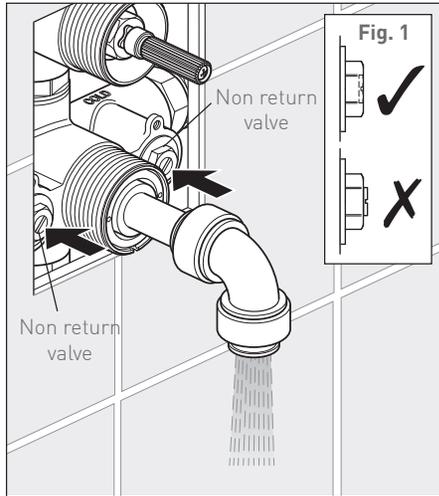
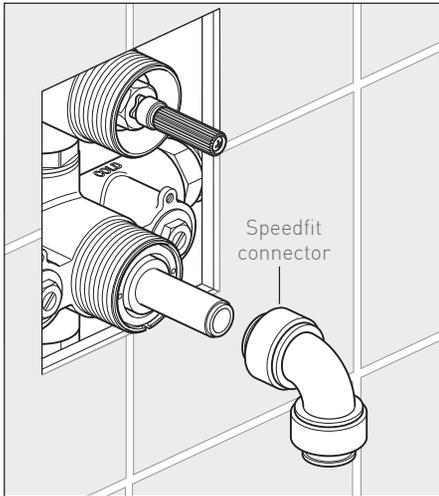
Fit the securing ring and tighten using a pair of long-nosed pliers



Push the stop ring onto the splines of the cartridge, making sure that the step on the stop ring is at 12 o'clock.

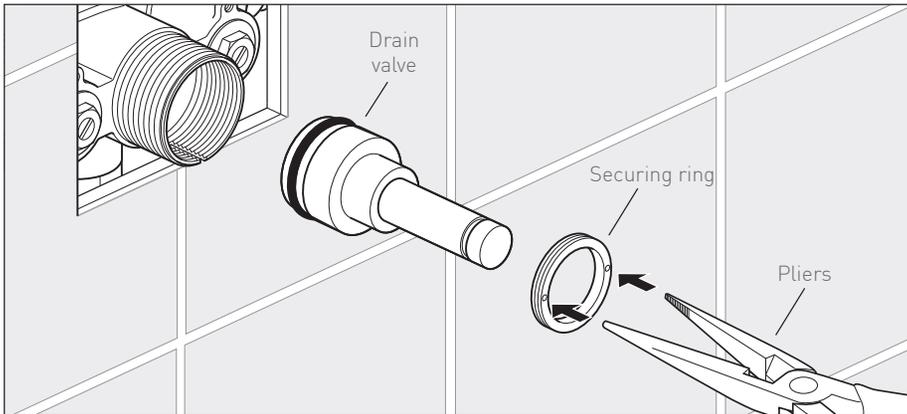
Slide the stop arm on and secure in position with the screw.

## Installation



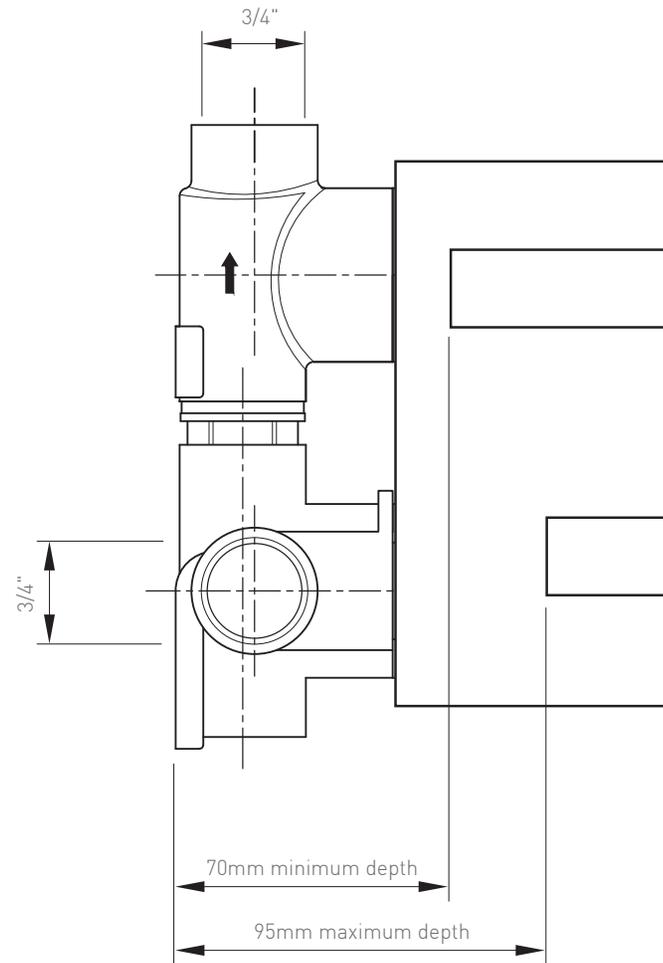
We recommend to push a speedfit connector (not supplied) over the drain, and place a bucket underneath. If a speedfit connector is not being used, carefully hold a bucket underneath the drain valve.

Turn on at the mains, open both non return valves and allow the debris and water to drain. When loosening the non return valve do not unscrew further than the face of the nut **(see Fig. 1)**. After approximately two minutes of flushing the pipe work and product close both non return valves. Do not overtighten.

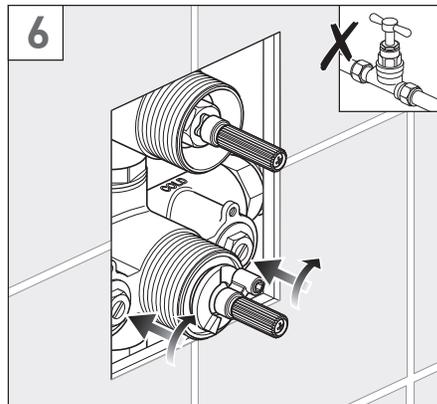
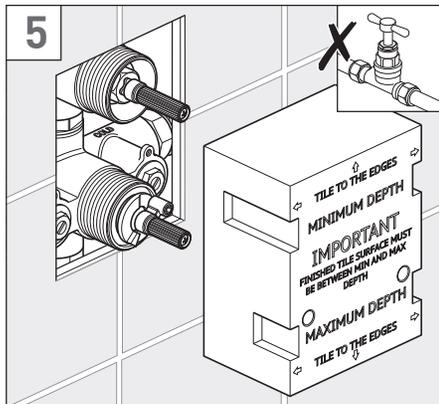
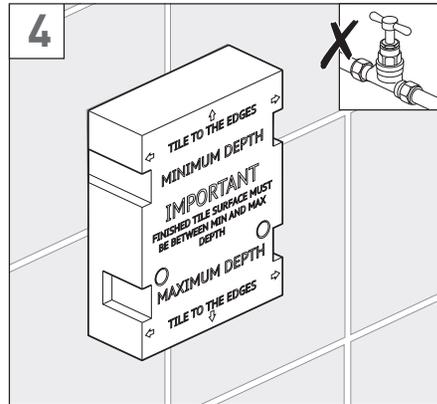
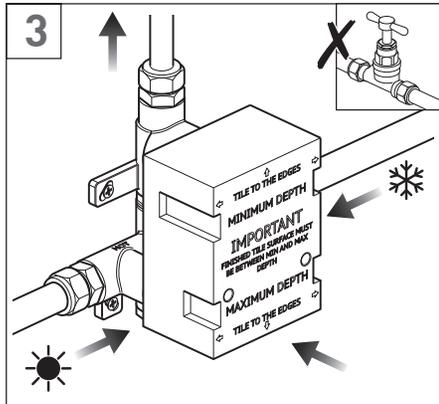
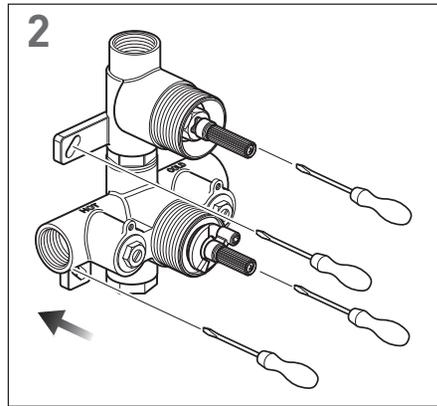
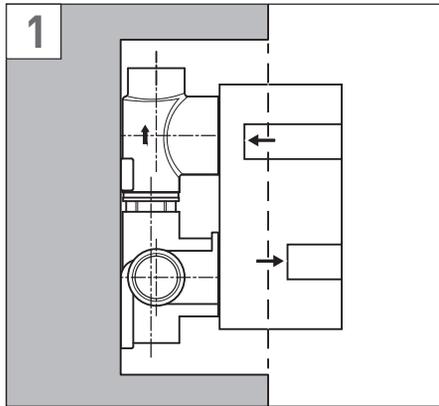


Remove the speedfit connector. Using a pair of long-nosed pliers unscrew the securing ring and remove. Pull the drain valve out from the body

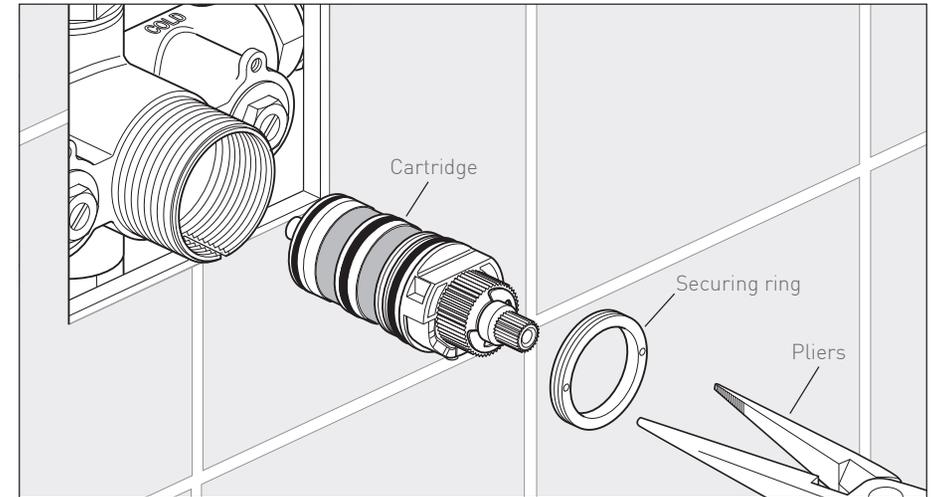
## Valve dimensions



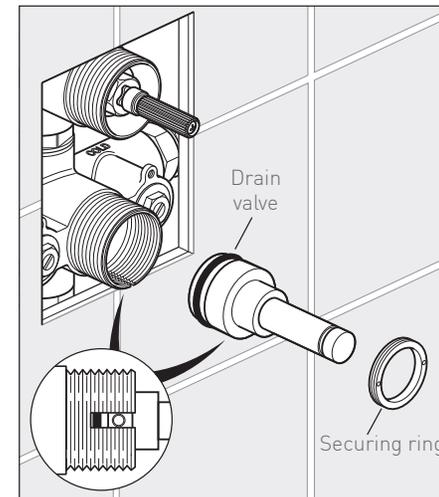
## Installation - Quick guide



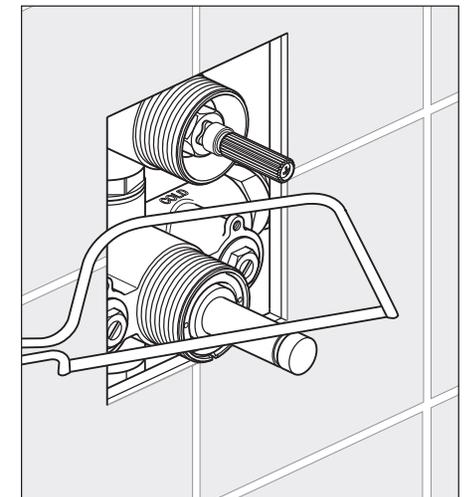
## Installation



**Important:** ensure the hot and cold water supplies have been isolated.  
Using a pair of long-nosed pliers unscrew the securing ring and remove.  
Pull the cartridge out from the body

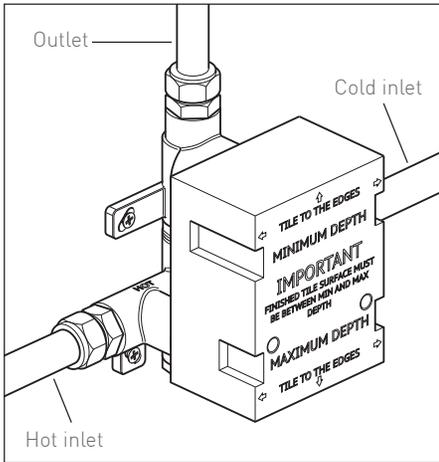


Push drain valve into the body, replace the securing ring and tighten.

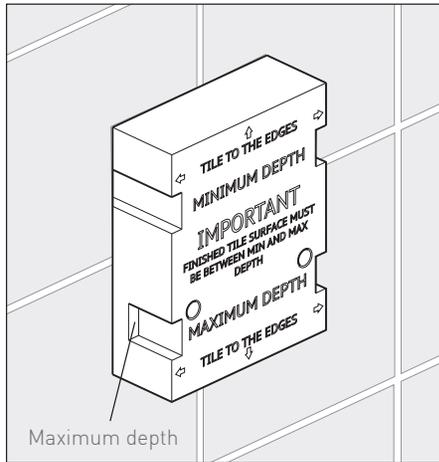


Using a suitable tool, cut the end off the drain through the easy cut section.

# Installation

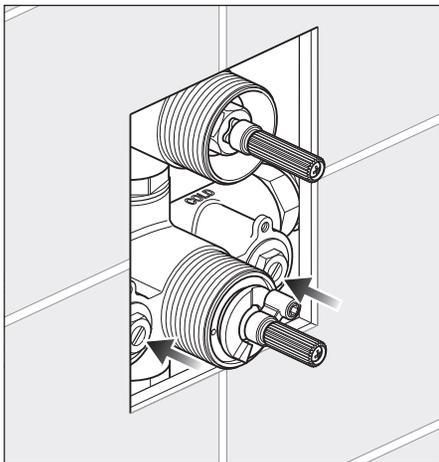


Use the supplied adapters if required. Connect hot supply to the lower left inlet and cold supply to the lower right inlet. Connect the top outlet to the desired channel.

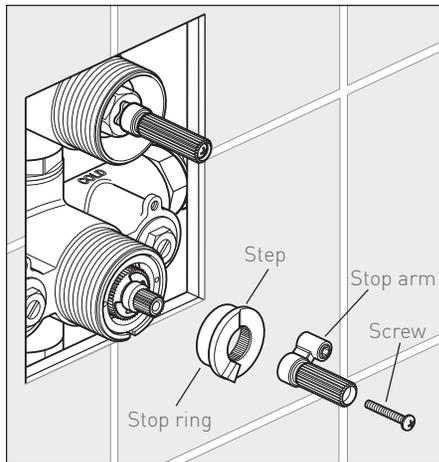


Finish the wall by tiling up to the mortar guard, keep the final finished wall surface between the min and max marks.

Unscrew the 2 mortar guard screws and remove from the wall.

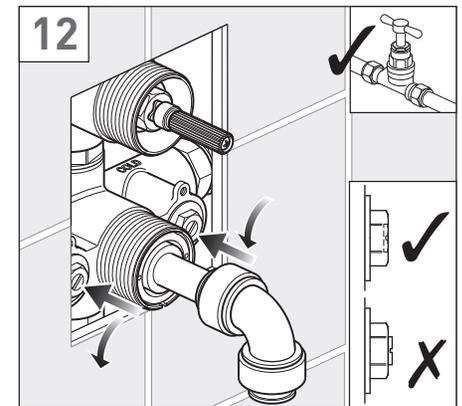
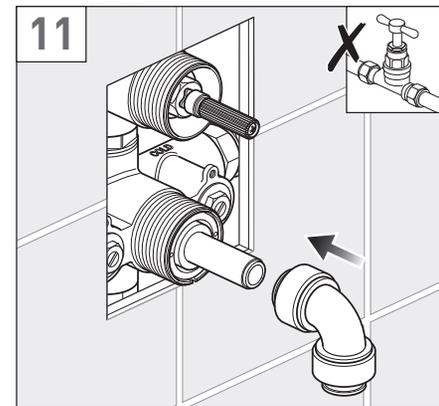
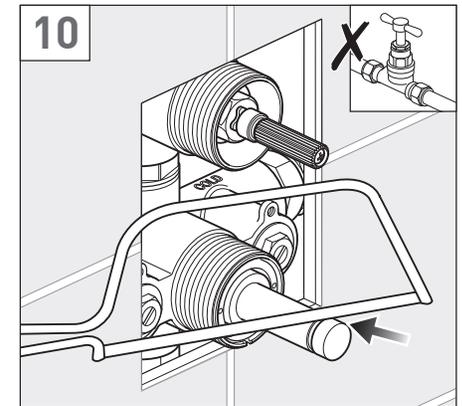
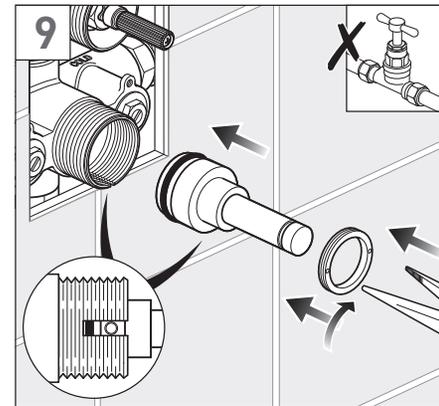
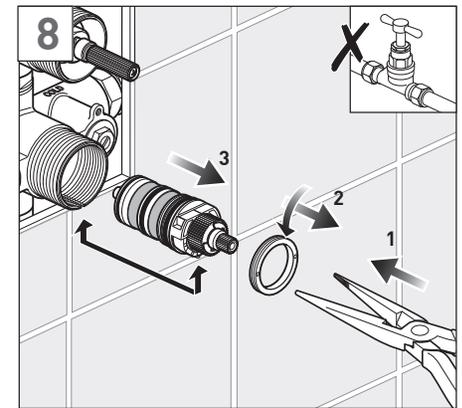
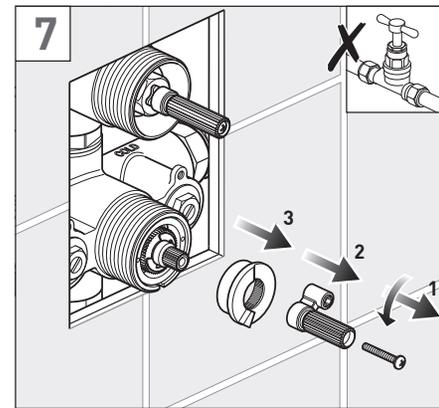


Turn off both non return valves by turning clockwise, do not overtighten.

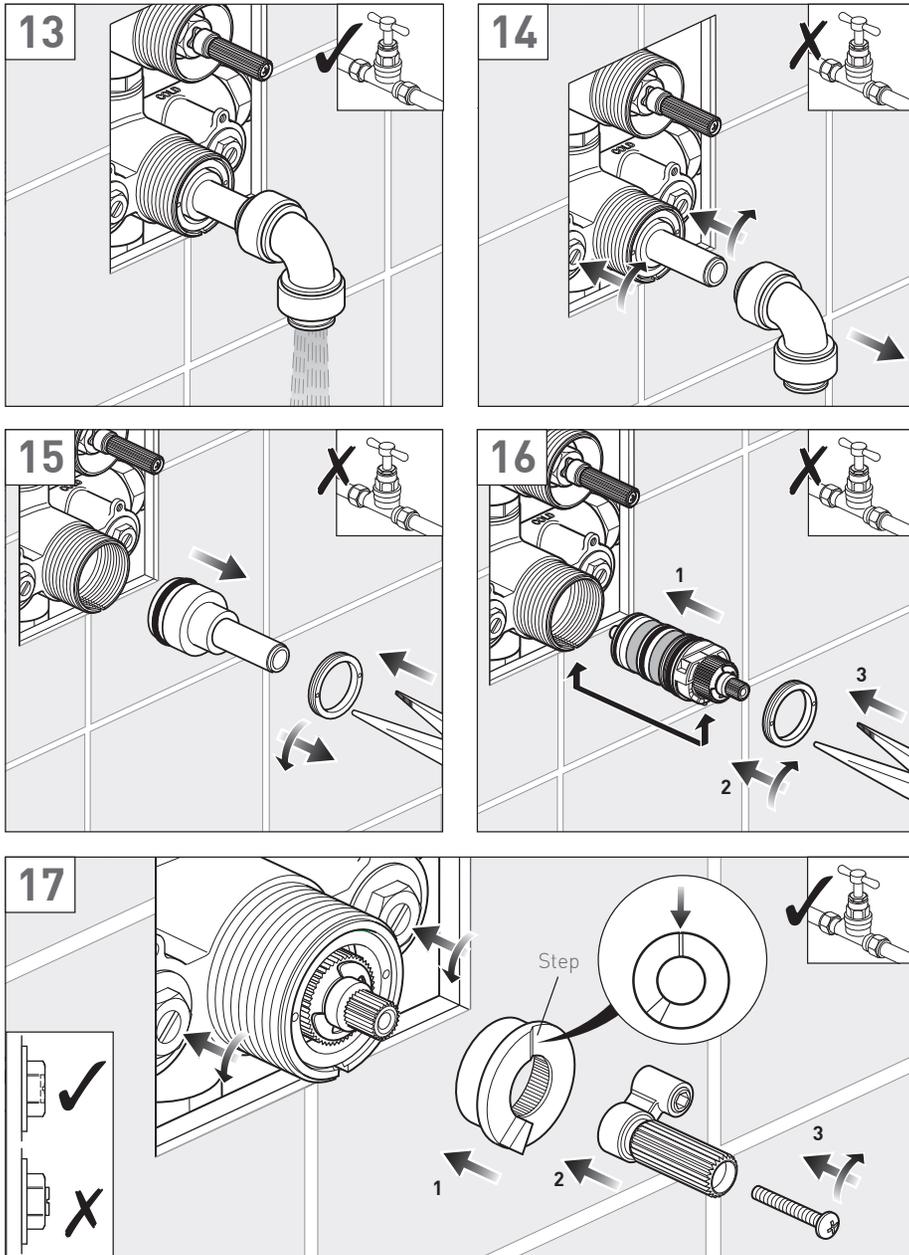


Remove the screw from the temperature stop arm and pull off. Pull off the stop ring (note the position of the step).

# Installation - Quick guide



## Installation - Quick guide

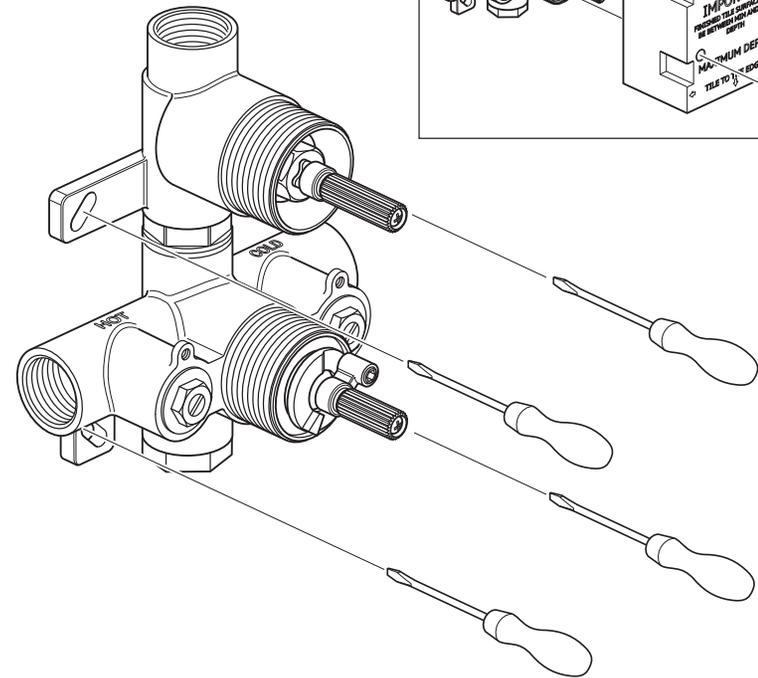
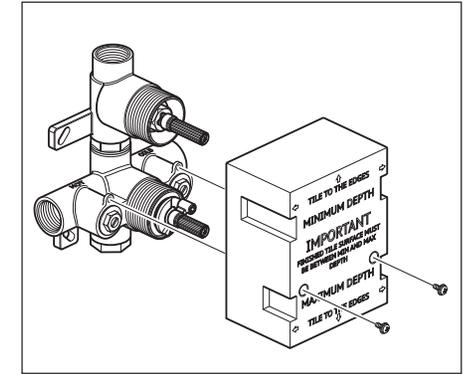


## Installation

### Mortar guard

During and after installation protect the parts by leaving the mortar guard on the valve to avoid damage to internal parts.

Remove the mortar guard by releasing the two screws and pulling off.



**Warning!** Please check for any hidden cables and pipes before drilling holes in the wall.

The back of the valve must be set into the wall between (70mm minimum - 95mm maximum) from the face of the finished wall.

Select the position for the shower valve and offer the shower valve to the wall, make sure the valve is vertical with a level and fixed to a flat surface, mark the 4 fixing points with a suitable pencil.

Secure using suitable fixings.

Replace the mortar guard and secure in position with the two screws.



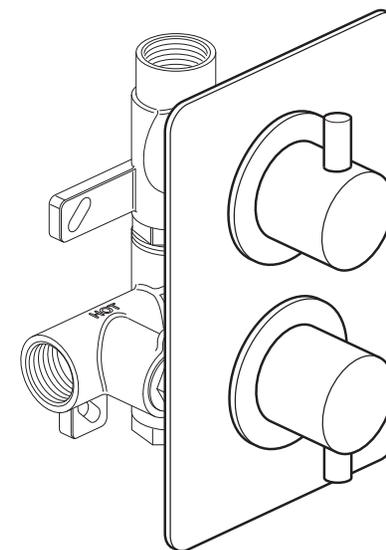
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### TRIM-KIT



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The fitting of strainers is recommended as close as practicable to the water supply inlets of the thermostatic mixing valve.

Please take great care when installing this mixer not to damage its surface.

If the concealed valve is connected to pipework that is fixed by soldering, it is essential the concealed valve is protected to prevent the check valves, thermostatic cartridge and headworks being exposed to elevated temperatures which can cause internal damage.

**Please note:** if installing in an enclosed environment, access should be left for servicing and maintenance. No costs relating to inadequate access can be accepted.

## Operating Specifications

### Operating Pressure

Minimum operating pressure for shower **0.2 bar**

Minimum operating pressure for bath **1 bar**

Maximum operating pressure **5 bar**

## Notes

## Handle installation

**NOTE:** For illustrative purposes only the Celsius handles and cover plate is shown below. Please follow the same procedure to install the other handles.

### Flow control handle (top).

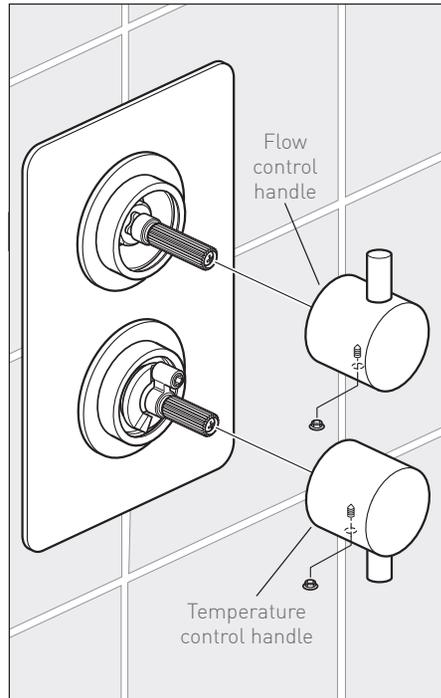
Carefully slide the flow control handle onto the splines of the top valve, with the lever at 12 o'clock. Secure the handle with the grub screw on the underside using the supplied hex key.

Push on the screw cover cap.

### Temperature control handle (bottom).

Carefully slide the temperature control handle onto the splines of the bottom valve, with the lever at 6 o'clock. Be careful not to turn the spline of the valve. Secure the handle with the grub screw on the underside using the supplied hex key.

Push on the screw cover cap.



## Operating specifications

### Conditions of use for Type 2 valves

	High Pressure
Maximum Static Pressure (Bar)	10
Flow Pressure, Hot & Cold (Bar)	0.5 to 5
Hot Supply Temperature (°C)	55 to 65
Cold Supply Temperature (°C)	Equal to or Less than 25

**Note:** Valves operating outside these conditions cannot be guaranteed by the Scheme to operate as Type 2 valves.

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### Approvals & Application

**NSF approval number: NSF1912**

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### Recommended outlet temperatures

The NSF TMV scheme recommends the following mixed water outlet temperature for use in all premises:

44° C for bath fill but see notes below;

41° C for showers;

41° C for washbasins;

38° C for bidets.

The mixed water temperatures must never exceed 46° C.

The maximum mixed water temperature can be 2° C above the recommended maximum set outlet temperatures.

### Note:

46° C is the maximum mixed water temperature from the bath tap. The maximum temperature takes account of the allowable temperature tolerances inherent in thermostatic mixing valves and temperature losses in metal baths.

**It is not a safe bathing temperature for adults or children.**

The British Burns Association recommends 37° to 37.5° C as a comfortable bathing temperature for children. In premises covered by the Care Standards ACT 2000, The maximum mixed water outlet temperature is 43° C.

The thermostatic mixing valve will be installed in such a position that maintenance of the TMV and its valves and the commissioning and testing of the TMV can be undertaken.

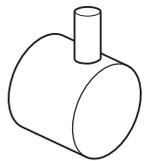
## Contents of Packaging

For illustrational purposes, the Celsius plate and handles are shown.

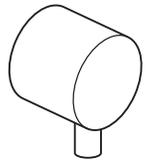


**Installation guide & User manual**

### HANDLE BOX



**Flow Handle**  
(in cotton bag)

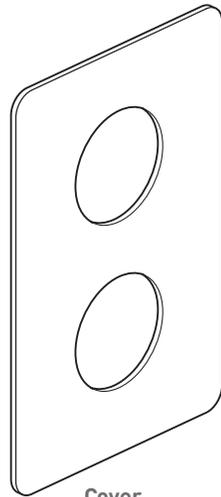


**Temperature Handle**  
(in cotton bag)



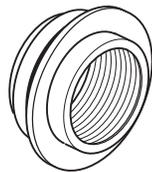
**Cover caps Hex key**  
(in plastic bag)

### COVER BOX

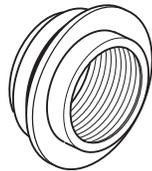


**Cover**  
(in cotton bag)

### SHROUD BOX

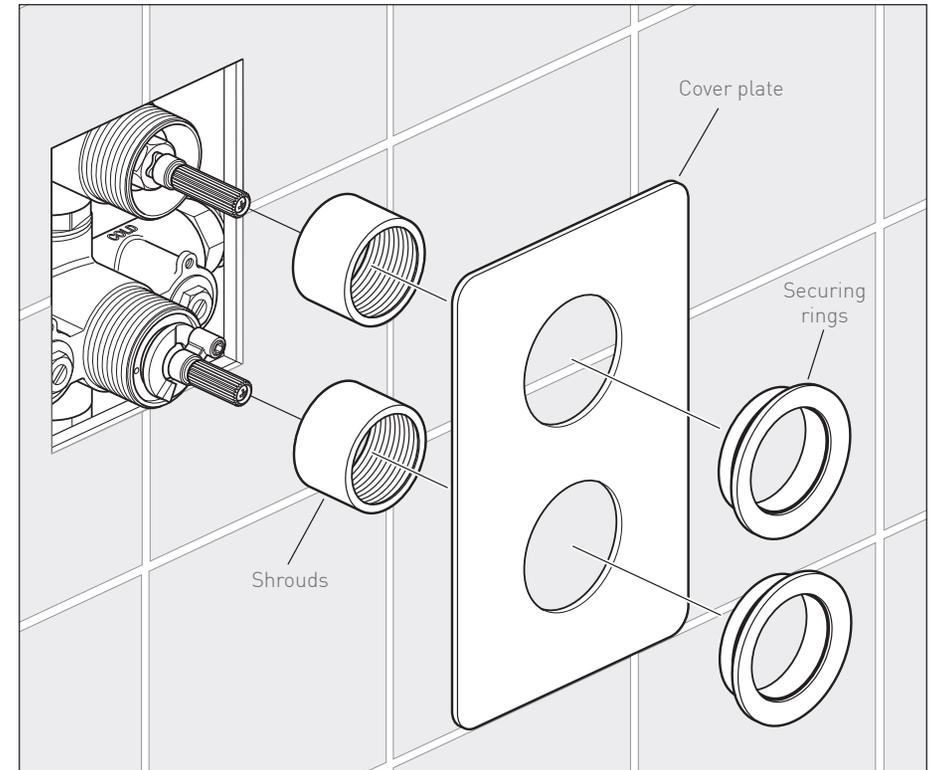


**Shroud & Securing ring**  
(in cotton bag)



**Shroud & Securing ring**  
(in cotton bag)

## Installation



Screw shrouds on ensuring they sit proud of the finished wall. The shrouds can be turned/adjusted to achieve this.

Carefully place the cover plate over the shrouds, once the plate is flush with the wall, secure with securing rings.

# Commissioning

Please check the following:

1. The designation of the thermostatic mixing valve matches the application.
2. The supply pressures are within the valves operating range.
3. The supply temperatures are within the valves operating range.
4. Isolating valves (and strainers preferred) are provided.

If all these conditions are met, proceed to set the temperature as stipulated within these installation instructions.

**Note: mix water temperature at terminal fitting should never exceed 46° C.**

The valve has been factory set under balance pressures and hot water supply at 65°C. When your specific operating conditions are significantly different from the above, the temperature of the water may vary from the setting.

When the difference is too great, you can adjust the calibration of the valve to suit individual requirements of the installation:

1. Check the temperature of the water being delivered from the outlet with a thermometer, when the stop arm is located at 12 o'clock.

**Note:** temperature readings should be taken at normal flow rate after allowing for the system to stabilise.

2. If the temperature is not 38°C proceed to reset the calibration as follows:  
Remove the stop arm **(see Fig. 1)**.

Ensure the step on the stop ring is located at 12 o'clock **(see Fig. 2)**

Do not remove the plastic stop ring. Turn the spline of the thermostatic valve clockwise to decrease the temperature and anti-clockwise to increase the temperature until 38°C is achieved at outlet.

**Note:** the sensing part of the thermometer probe must be fully submerged in the water that is to be tested.

Replace the stop arm making sure that the arm is against the step **(see Fig. 3)**

When the handle is attached (see page 9) ensure the temperature does not exceed 46°C when turned entirely anti-clockwise.

Your valve setting is now commissioned.

Fig. 1

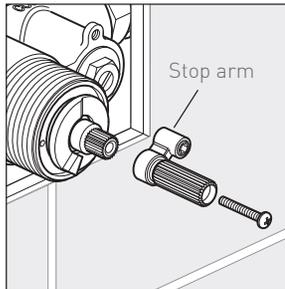


Fig. 2

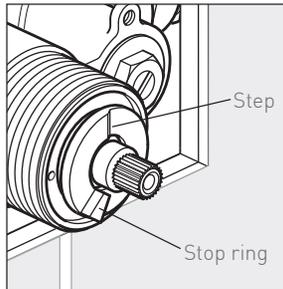
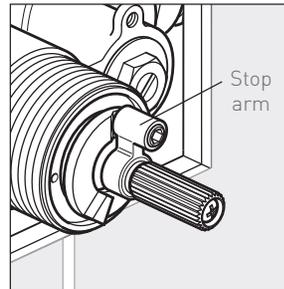
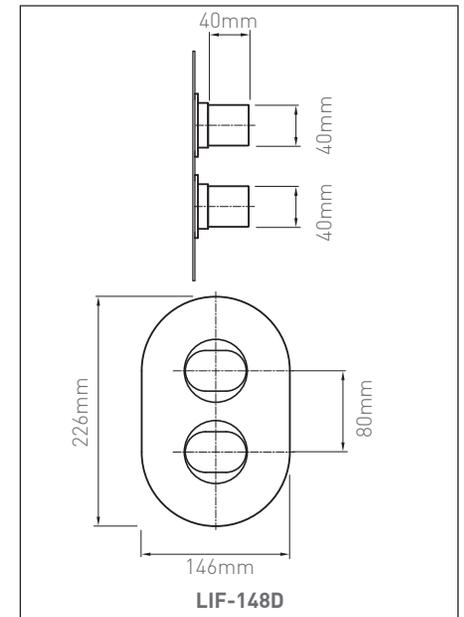
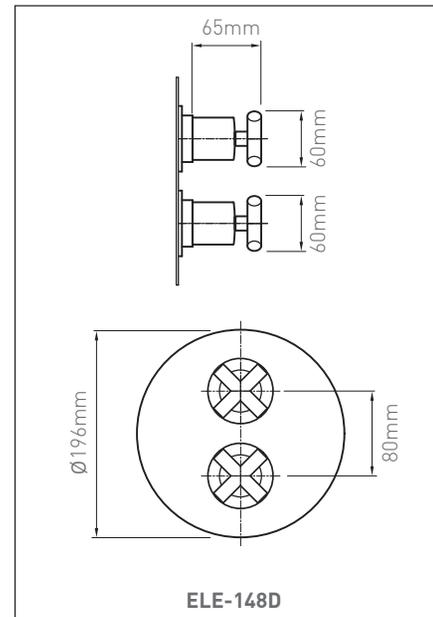
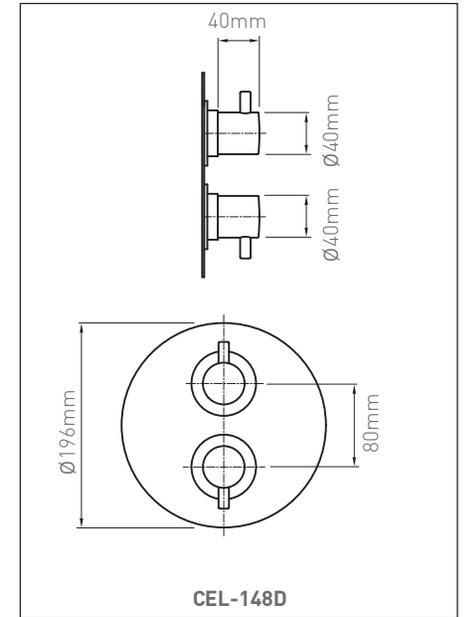
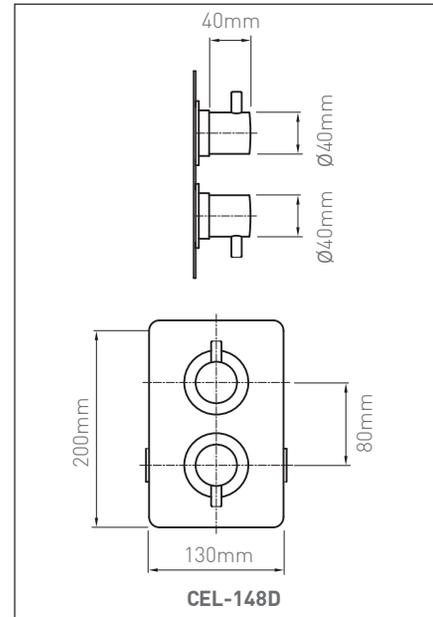


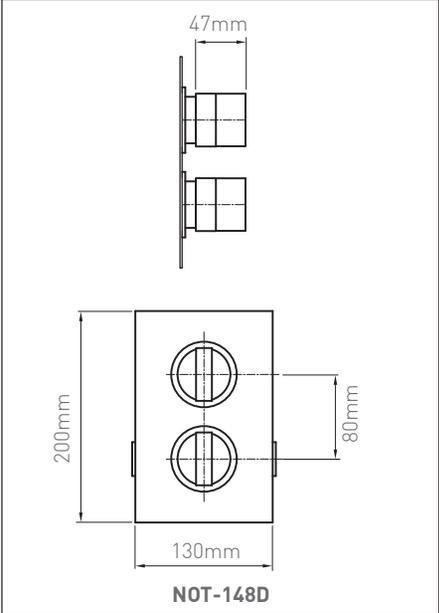
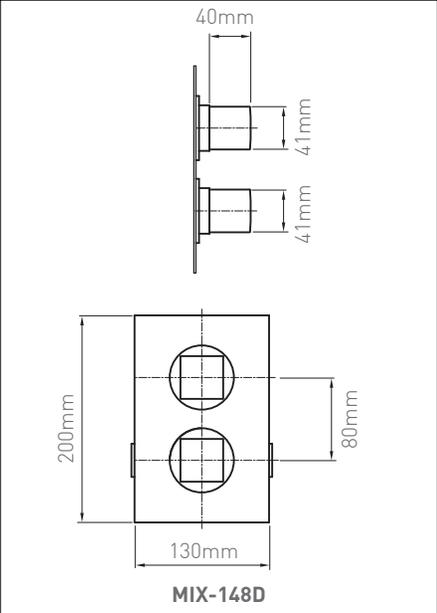
Fig. 3



# Dimensions



# Dimensions



# Dimensions

