

Pipe Cover Kit for Aluminium Shower Panels with In-Line Thermal Disinfection Unit (ILTDU) Fitted INSTALLATION INSTRUCTIONS

Installation requirements and specifications

Note that this Pipe Cover Kit is **ONLY** suitable for the Horne Range of **Aluminium** Shower Panels.

There are two different lengths of Pipe Cover Kit available for Aluminium Shower Panels – 465mm long and 940mm long. Please ensure that you have the appropriate length for your application.

Ensure that you have been supplied with the correct Pipe Cover Kit and that the Pipe Cover is long enough to fully cover the gap between the panel and the ceiling.

Fit the Aluminium Shower Panel to the wall in accordance with the Installation Instructions supplied.

Identify the components of the pipe cover kit by comparing the contents with the drawing shown on Page 4.

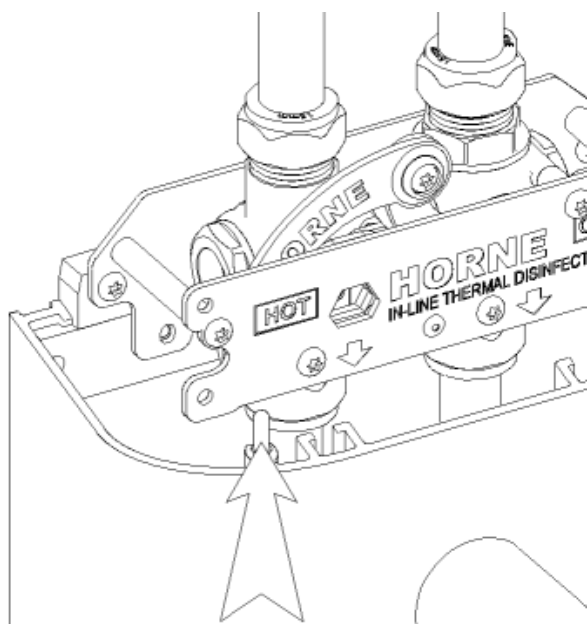


Fig. 1

Put the two Alignment Pins into the circular recesses in the Channel Section of the Shower Panel. See Fig. 1.

Place the silicone Interface Gasket onto the top of the Shower Panel, noting that it only fits one way, and that the rectangular guides engage with the rectangular recesses in the Channel Section of the Shower Panel. See Fig. 2.

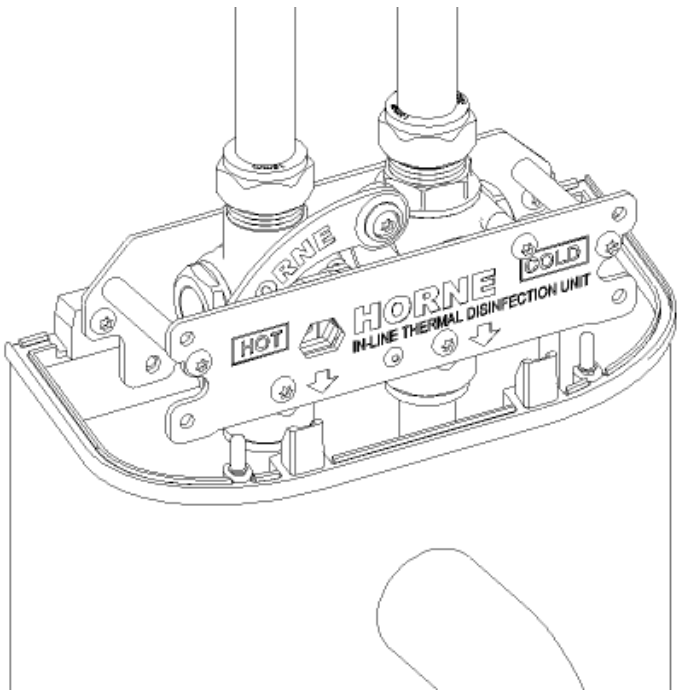


Fig. 2

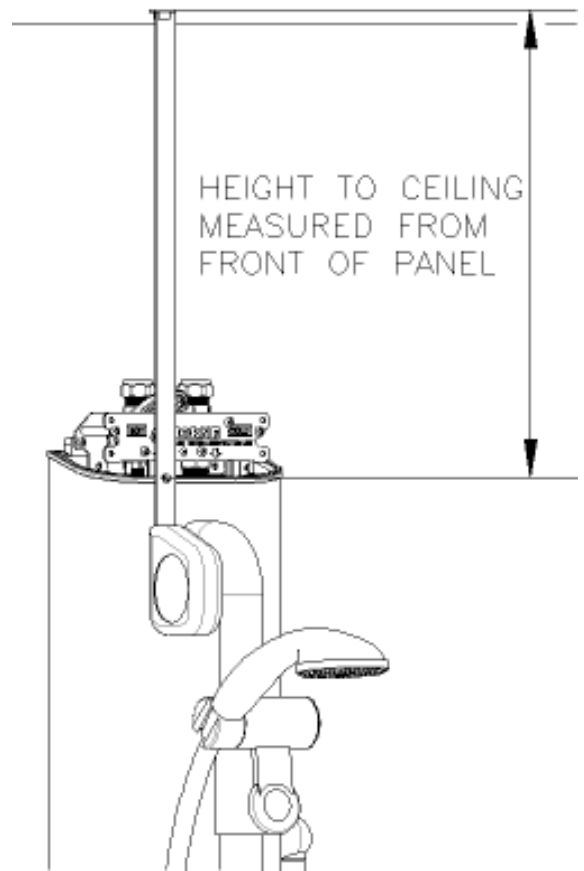


Fig. 3

Slide the Pipe Cover down into place, engaging with both the Alignment Pins and the Interface Gasket. If there are multiple cover sections, this should be repeated, ensuring the bottom section includes the key hole for ILTDU operation and leaving the section with the 90° end cut closest to the ceiling. If the Pipe Cover(s) is too long to do this, then measure the distance between the ceiling and the panel and cut the square **TOP** end of the Pipe Cover to make the Pipe Cover 15mm **SHORTER** than the measured distance, using a saw suitable for use with aluminium. See Fig. 3 and 4.

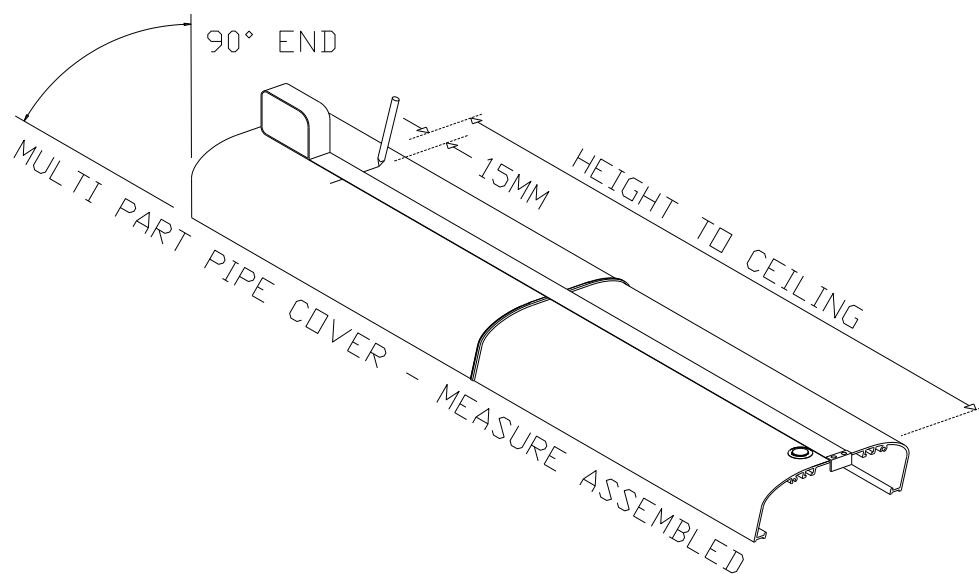


Fig. 4

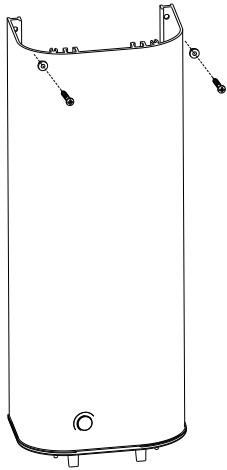


Fig 5.

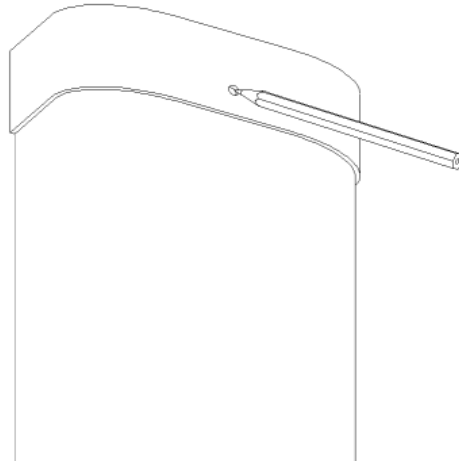


Fig 6.

For multi-section pipe covers, the intermediate lengths should be secured to the wall using the mounting holes available at the angled top cut.

Install the lowest section with gasket and alignment pins, atop the mounted shower panel. Mark off the mounting points and then secure the lower cover portion to the wall with supplied screws and bushes, using wall plugs where necessary. See Fig. 5

Slide the Pipe Cover (or top sections thereof) down into place and check for fit. The top of the Pipe Cover should be approx. 15mm from the ceiling when pressed firmly into place. Position the Saddle over the top of the Pipe Cover and against the ceiling with the hole in its lower position. Mark through the hole in the Saddle onto the Pipe Cover. See Fig. 6.

Remove the Saddle and drill the Pipe Cover with a 7 mm drill where marked. See Fig. 7.

Replace the Saddle and Pipe Cover and put in the screw to mark the wall. Ensure the mark made, **is with the screw perpendicular to the panel**. If appropriate, drill the wall to take the screw, or fit appropriate wall plugs. **N.B. Make sure that no debris enters the ILTDU during this if the pipe drops have not been installed.**

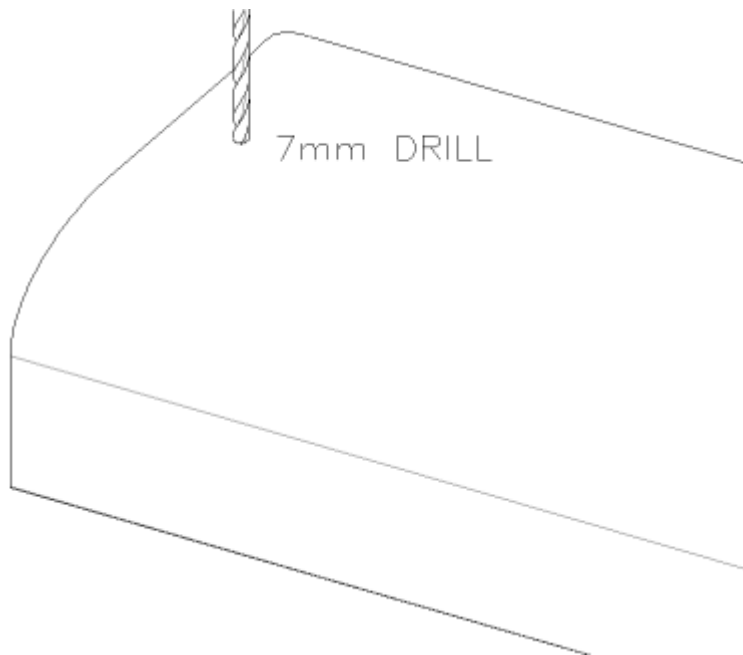
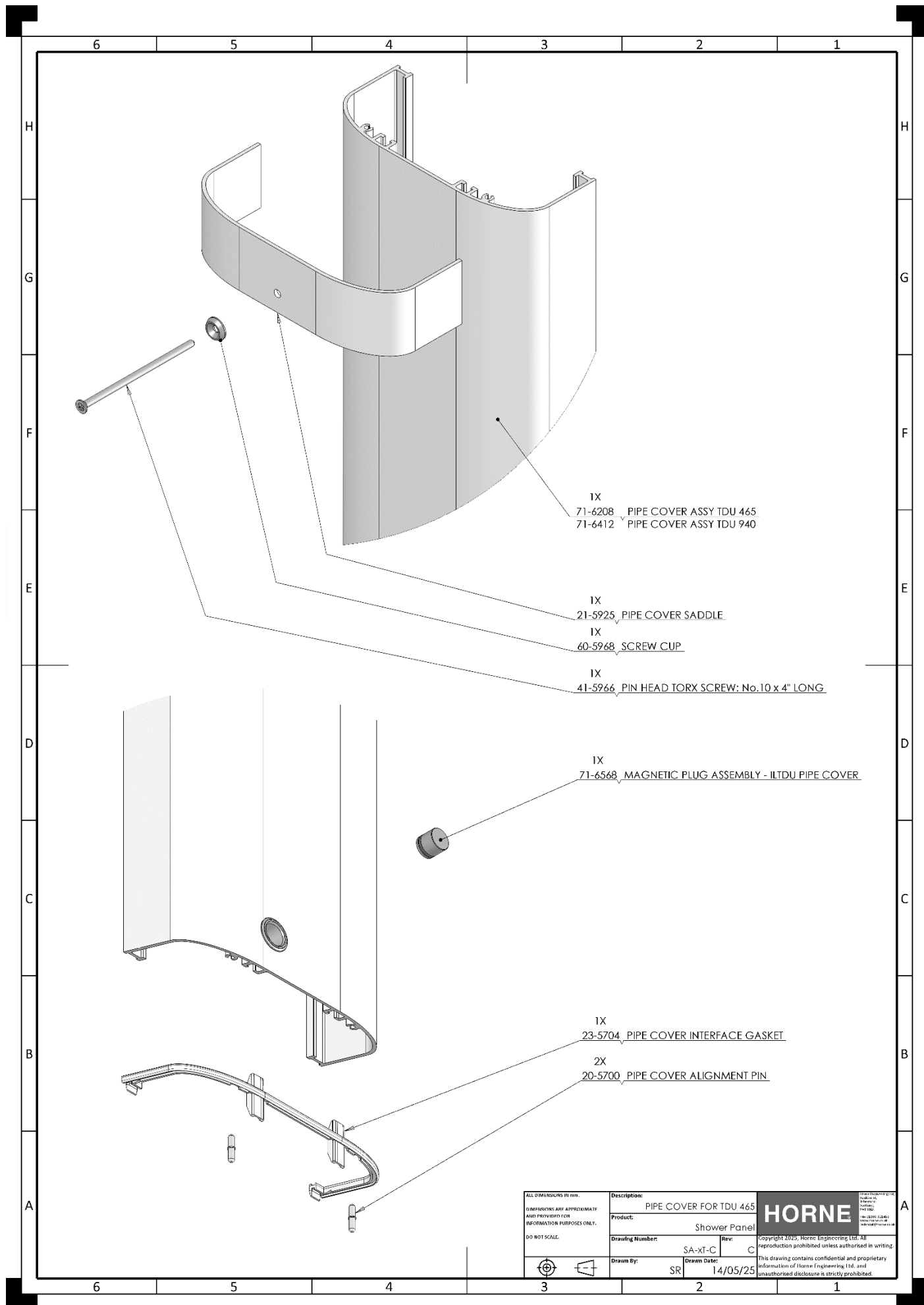


Fig. 7.

Finally, assemble the saddle to the cover by putting the Pin-Torx Security Screw through the Screw Cup, Saddle and Pipe Cover. **Do not over-tighten the Pin-Torx screw or the Saddle edges will splay out and give a poor appearance.** Silicone sealer can be used at the joint edges if required.

The drawing on Page 4 shows the exploded assembly view of the Pipe Cover and Saddle installation. *Note that pipe cover assemblies with multiple sections, will have multiples of some of the items listed.*



OPERATING INSTRUCTIONS ADDENDUM

In-Line Thermal Disinfection Unit (ILTDU) Integrated with Horne Thermostatic Shower Panels.

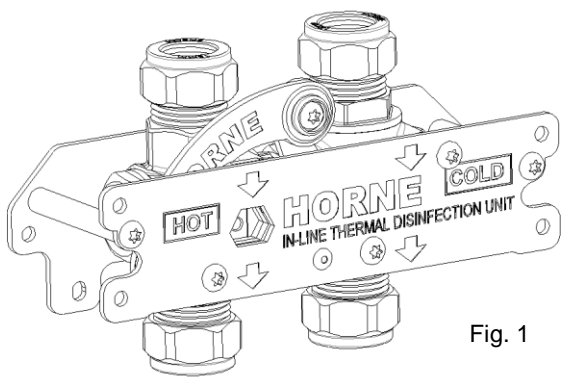


Fig. 1

Overview

The HORNE In-Line Thermal Disinfection Unit (ILTDU), shown in Fig.1, when supplied as an integrated component within a Horne shower panel, provides a simple and convenient way to pass hot water, at system hot water temperature through the entire product, in order to thermally disinfect all downstream pipework and fittings up to and including the shower outlet.

When integrated as part of a Horne shower panel, the ILTDU is mounted on top of the panel, and is concealed when the supplied ILTDU specific pipe cover is installed. Actuation with the operating key is facilitated by an access hole in the pipe cover, so there is no requirement to remove it for the disinfection operation. A safety blanking plug is supplied to cover the access hole (Part No. 71-6568); it is removed with the Magnet accessory (Part No. 43-6569) when thermal disinfection is to be undertaken.

- **LOCAL RISK ASSESSMENT SHOULD ALWAYS PREVAIL IN DICTATING THE PARAMETERS FOR DISINFECTION.** In absence of this, a hot water temperature of 60.0°C or greater, and duration of at least 10 minutes may be used as a starting point. Disinfection efficacy reduces significantly at temperatures below 60.0°C. Calibrated thermometers are a necessity.

How it works

The HORNE ILTDU directs system Hot & Cold Water to the corresponding Hot & Cold inlets of a mixing device, when in “passive” mode. However, when deliberately switched to “Disinfecting mode”, the ILTDU re-directs HOT water to the COLD inlet of the mixing device, via the interconnecting COLD pipework. This bypasses the temperature control function of thermostatic devices, allowing HOT water to flow from the outlet at elevated temperature. This disinfects all system components and pipework between the ILTDU and the water outlet.

Passive Mode Disinfecting Mode

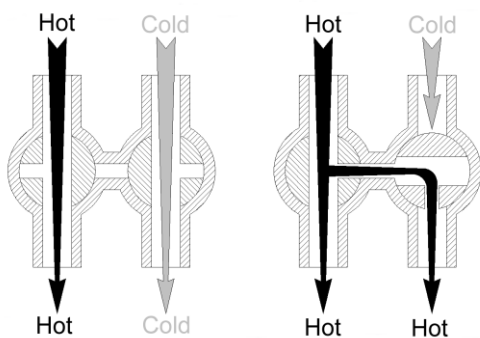


Fig. 2

The HORNE ILTDU has two operating modes – PASSIVE and DISINFECTING (Fig. 2). In PASSIVE mode, the ILTDU passes the hot and cold water supplies straight through to the mixing device and the mixing device operates normally.

Only the Horne ILTDU specific OPERATING KEY (Part No 6236) can be used to switch between PASSIVE and DISINFECTING modes. A single clockwise half turn of the OPERATING KEY activates DISINFECTING mode. This synchronously operates two 3-way ball valves to divert the hot water supply to both the HOT and COLD outlets of the HORNE ILTDU.

The outlet is run and this rapidly results in the pipework downstream of the HORNE ILTDU, the mixing device and the Outlet Fitting all being raised to system hot water temperature.

WARNING: Scalding water at system hot water temperature will discharge from the outlet fed by the mixing device during disinfection and so suitable safety precautions must be taken to reduce the risk of scalding, or damage to sanitary ware, etc.

The OPERATING KEY is specially shaped and interlocked such that it cannot be removed from the ILTDU while the ILTDU is in DISINFECTING mode. The OPERATING KEY has a large red warning triangle chained on to it. This serves as a local visual reminder on the ILTDU that it is being used in DISINFECTING mode

and that safety precautions should be taken. A replacement key should be sought if the warning triangle is missing.

After passing hot water through the mixing device for the desired period, the OPERATING KEY is turned back to its original position and the key is removed from the ILTDU. Removal of the OPERATING KEY from the ILTDU confirms that the ILTDU is in PASSIVE mode and that disinfection has ceased.

It should be noted that disinfection is a completely separate process from cleaning, and this ILTDU only disinfects components using system hot water. An elevated velocity flush should also be undertaken to help clean the treated system and get rid of any loosened biofilm.

Connect up the supplies, Leak-Test, and Commission the ILTDU

Ensure that the installation is free from leaks and then commission the ILTDU as follows:

- Check that the ILTDU is connected exactly as shown in Fig. 3. It is essential for correct operation that the supply and outlet connection indications are observed.
- Before inserting the OPERATING KEY, open the supplies and run the outlet until normal temperature at the outlet is reached. Measure and record this temperature.
- Insert the OPERATING KEY into the ACCESS SLOT on the ILTDU front plate through access hole in the pipe cover, removing the pipe cover keyhole safety plug with a magnet (Part No. 43-6569) where necessary.
- Turn the OPERATING KEY exactly a half turn clockwise, until you feel the mechanism reaching the end stop. The short leg of the OPERATING KEY should now be pointing upwards (towards the supply pipework).

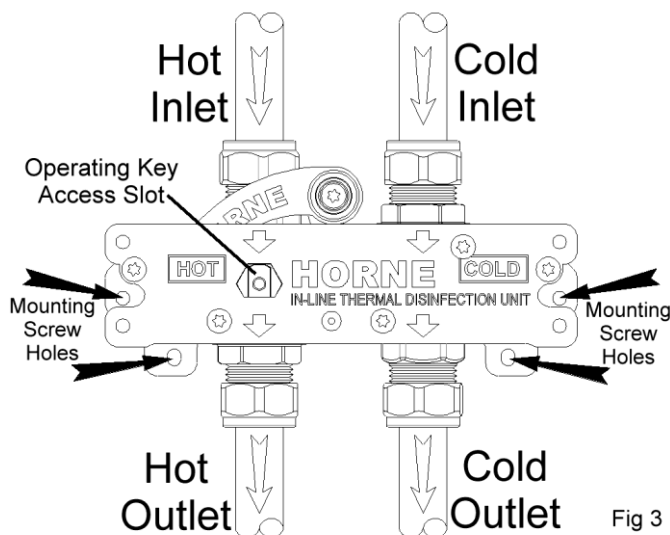


Fig 3

- The OPERATING KEY cannot be removed from the ILTDU in this position. This is intentional, to prevent the ILTDU from being accidentally left in the DISINFECTING MODE.

- Measure the water temperature at the outlet and ensure that it is at system hot water temperature. **Note that if the hot water system cannot achieve 60.0°C, it is unlikely that effective disinfection will be achievable within a reasonable timescale.**

- Turn the OPERATING KEY back half a turn anti-clockwise against the end stop, remove the key and replace the safety plug, if fitted. Ensure that the temperature at the outlet rapidly returns to the set temperature recorded prior to disinfection.
- Perform a cold water isolation test on the shower to ensure that it is still providing scald protection.
- ALWAYS remove the OPERATING KEY from the HORNE ILTDU when the device is in the PASSIVE MODE. Do NOT leave the OPERATING KEY in the device when in PASSIVE mode.

The HORNE ILTDU is now commissioned.

Using the HORNE ILTDU

Before the ILTDU is used, a local risk assessment should be undertaken to establish:

- Any bacterial load present and the most appropriate time/temperature regime to deal with it.
- The scalding risk and how to minimise it during disinfection.
- Any necessary precautions to protect sanitaryware from the hot water.
- The most appropriate frequency for a disinfection routine to be scheduled.

The use of the HORNE ILTDU as integrated with a HORNE Shower Panel will now be described.

- Ensure that the Hot Water Temperature available is consistent with that recommended by the local risk assessment. Note that a **minimum of 60.0°C** is normally required for disinfection.
- Ensure that no unauthorised or vulnerable people are able to access the shower while the disinfection process is underway.
- Perform a cold water isolation test on the shower panel being disinfected. If the cold water isolation test is satisfactory then proceed with the disinfection procedure. If the TMV does not pass the test, then address that, before proceeding, by following normal maintenance procedures for the TMV. These are described in the Instructions for the Shower Panel.
- Fully turn on the shower, and then insert the OPERATING KEY into the HORNE ILTDU, removing the pipe cover keyhole safety plug with a magnet (Part No. 43-6569) where necessary. Turn the OPERATING KEY one half turn clockwise, against the end stop. The OPERATING KEY will remain in the HORNE ILTDU during this time – it cannot be removed.
- The red warning triangle attached to the OPERATING KEY serves as a highly visible reminder that the ILTDU is in DISINFECTING MODE. For this reason, do not use the OPERATING KEY without the warning triangle attached.
- **Note: Do NOT remove the Shower Hose or the Shower Handset during thermal disinfection; it is vital that each of these parts is fully thermally disinfected.**
- **Thermal disinfection should be applied to all wetted components to be effective. If any kind of filter is fitted to the outlet, advice should be sought from the filter manufacturer as to whether their product can withstand appropriate disinfection temperatures.**
- Measure the temperature of the water coming out of the shower head. This should rise to system hot water temperature. When it reaches the minimum temperature recommended by the local risk assessment, start timing, and permit the water to run for the required duration. Measure the temperature during this time to ensure that the temperature is maintained at the required high level. If the temperature does not reach the required level, or is not maintained at the required level, stop the process and address the water temperature. Satisfactory disinfection cannot be assured otherwise.
- After the water has run for the required time at the required temperature, turn the OPERATING KEY one half turn anti-clockwise back to its original position, again against the end stop; remove the key and replace the safety plug, if fitted. Always remove the OPERATING KEY whenever the ILTDU is returned to the PASSIVE mode. Do not leave the OPERATING KEY in the ILTDU when it is in PASSIVE mode.
- Let the shower run for a few minutes and monitor the temperature to make sure the water temperature returns to a safe and comfortable limit.
- Perform a cold water isolation test on the TMV and ensure that it closes off the hot water supply, and is thus still capable of preventing scalding, then check that the correct mixed water temperature is re-established. If the TMV does not pass the cold water isolation test, perform regular maintenance operations on the TMV, and do not allow use of the shower panel until the TMV satisfactorily prevents hot water flow on isolation of the cold inlet.
- Record the parameters of the disinfection process on a record sheet (see page 8 of this document, or download a customisable sheet from www.horne.co.uk)
- Note that disinfecting is a separate process from cleaning. This process will disinfect the TMV and pipework, but will not, in itself, clean the system. It is advisable to perform an elevated velocity flushing procedure, using an appropriate Horne Flushing Kit for the Shower, to encourage the reduction of biofilm and debris if present. The use of a Horne Flushing Kit permits full-bore flushing and bypasses flow regulators within the panel in order to achieve the maximum water velocity possible.

Maintenance

The HORNE ILTDU has no user serviceable parts, and does not require any ongoing maintenance, other than occasional cleaning and lubrication of the metal link mechanism with SILICONE oil, to prevent friction in operation. If the ILTDU fails to work properly, it should be replaced. No attempt should be made to disassemble the ILTDU.

If the OPERATING KEY is lost, do not attempt to operate the ILTDU without it. It will not operate satisfactorily, the ILTDU could be damaged, and it is dangerous. Replacement Keys (Part No 6236) can be ordered from Horne Engineering Ltd (contact details on front cover).

The Horne ILTDU is patented. EU Patent No. EP2948716

RECORD SHEET for HORNE In-Line Thermal Disinfection Unit (ILTDU)
(Integral to Horne TSV1 Shower Panel)

In-Service Usage Record			
Establishment: Location of ILTDU: Shower Outlet protected:			

Date:	Facilities Operator	Elevated velocity flush carried out too?	Yes/No
Temperature measured at outlet during thermal disinfection: °C	Duration of thermal Disinfection: mins	cfu count before use: (if appropriate)	cfu count after use: (if appropriate)

Date:	Facilities Operator:	Elevated velocity flush carried out too?	Yes/No
Temperature measured at outlet during thermal disinfection: °C	Duration of thermal Disinfection: mins	cfu count before use: (if appropriate)	cfu count after use: (if appropriate)

Date:	Facilities Operator:	Elevated velocity flush carried out too?	Yes/No
Temperature measured at outlet during thermal disinfection: °C	Duration of thermal Disinfection: mins	cfu count before use: (if appropriate)	cfu count after use: (if appropriate)

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Date:	Facilities Operator :	Elevated velocity flush carried out too?	Yes/No
Temperature measured at outlet during thermal disinfection: °C	Duration of thermal Disinfection: mins	cfu count before use: (if appropriate)	cfu count after use: (if appropriate)

(Note: Photocopy this page, or download from: www.horne.co.uk)