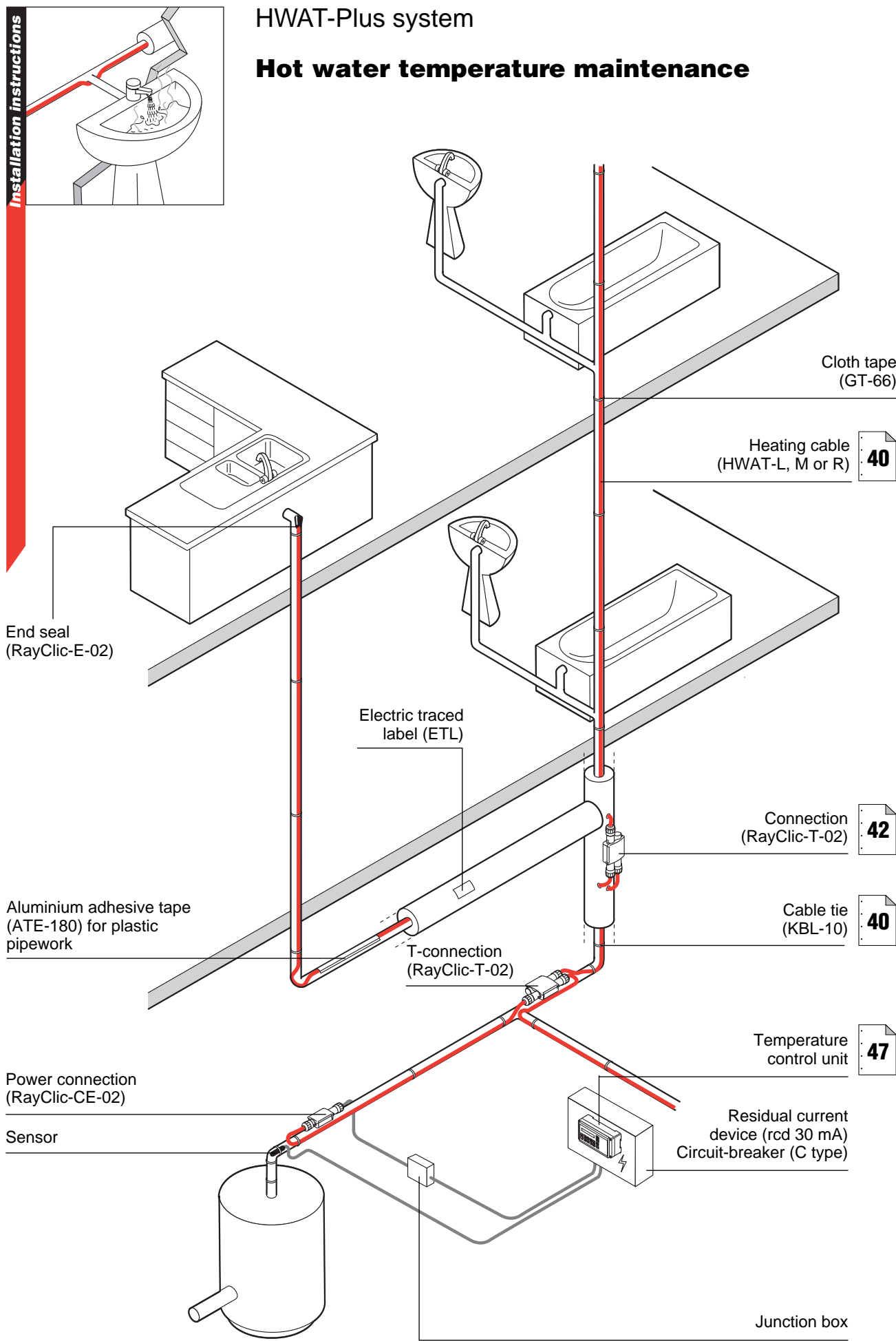
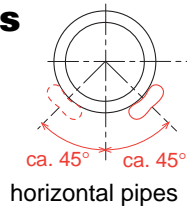


HWAT-Plus system

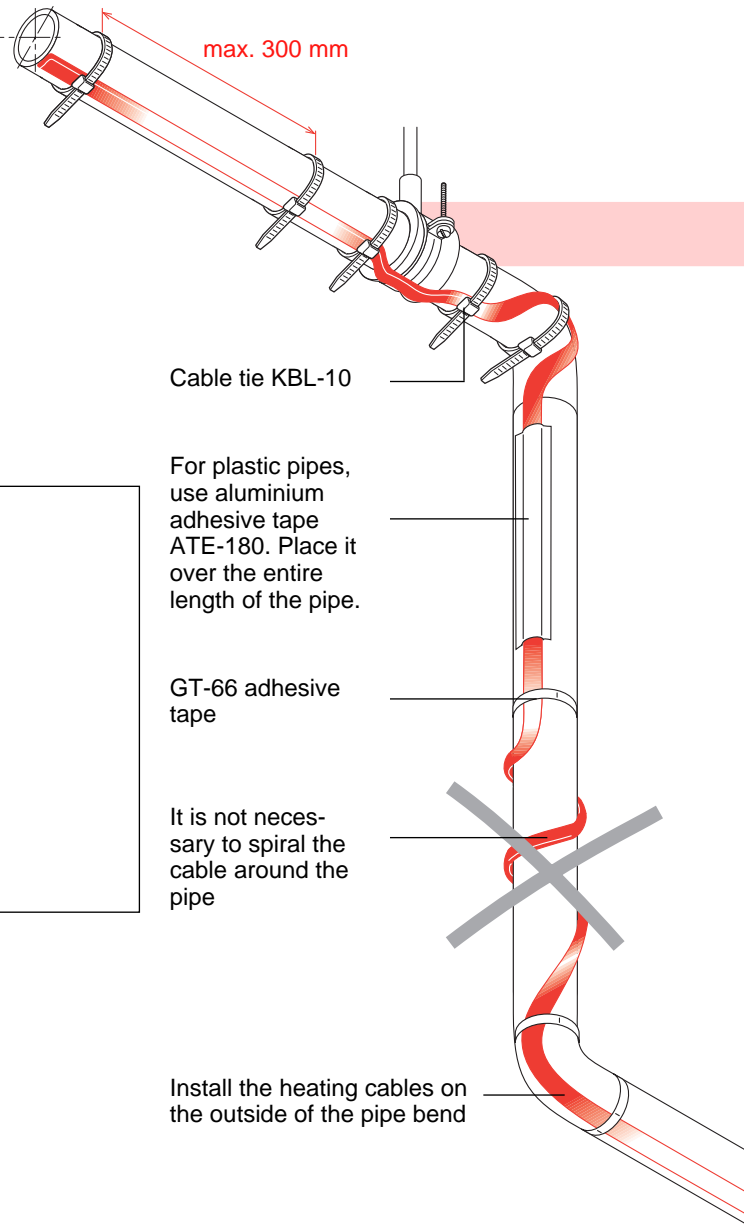
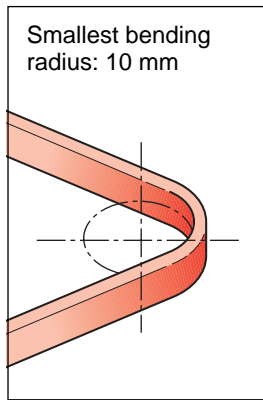
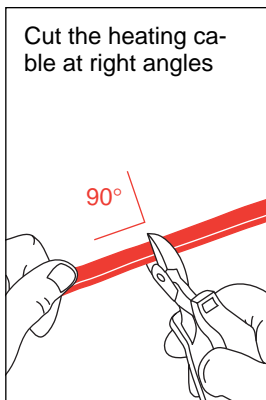
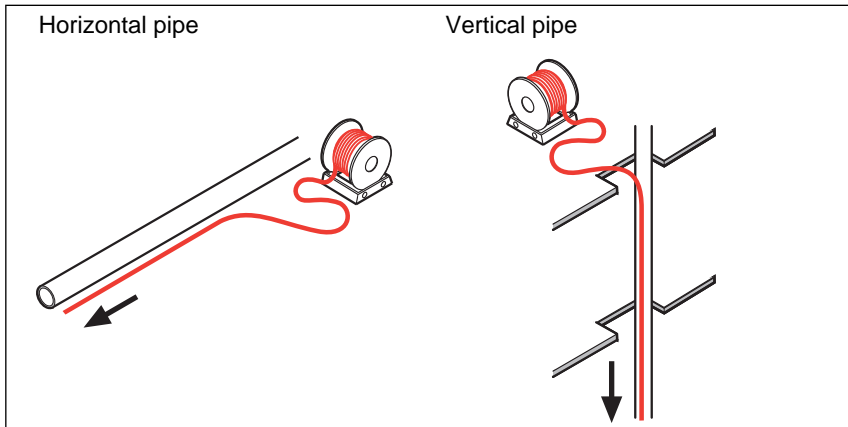
Hot water temperature maintenance



Installation instructions for HWAT and WinterGard cables

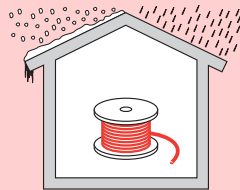


- The heating cable should be installed in a straight line on the pipework.
- Lay on dry surfaces
- Minimum installation temperature: -10°C



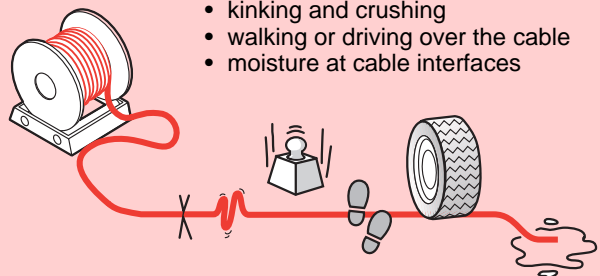
Installation of Raychem self-regulating heating cables

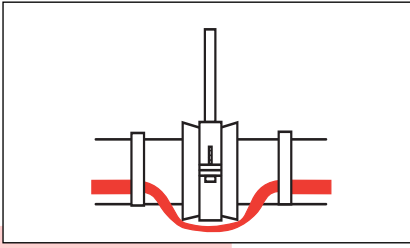
Store in a dry and clean place
Temperature range: -40°C to $+60^{\circ}\text{C}$
Protect any cable ends with an end seal



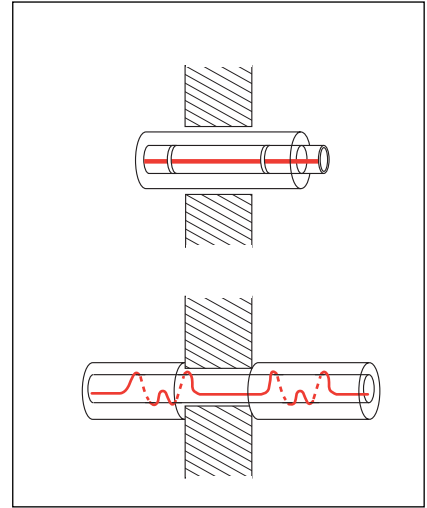
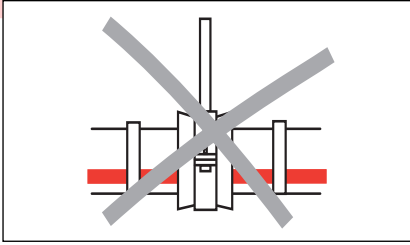
Avoid:

- sharp edges
- high tractive force
- kinking and crushing
- walking or driving over the cable
- moisture at cable interfaces



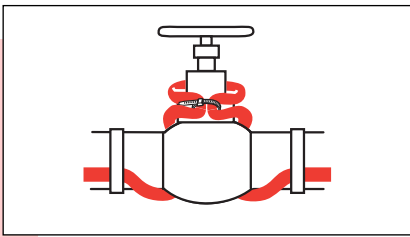


- Run the cable over pipe suspensions
- Do not clamp the cable



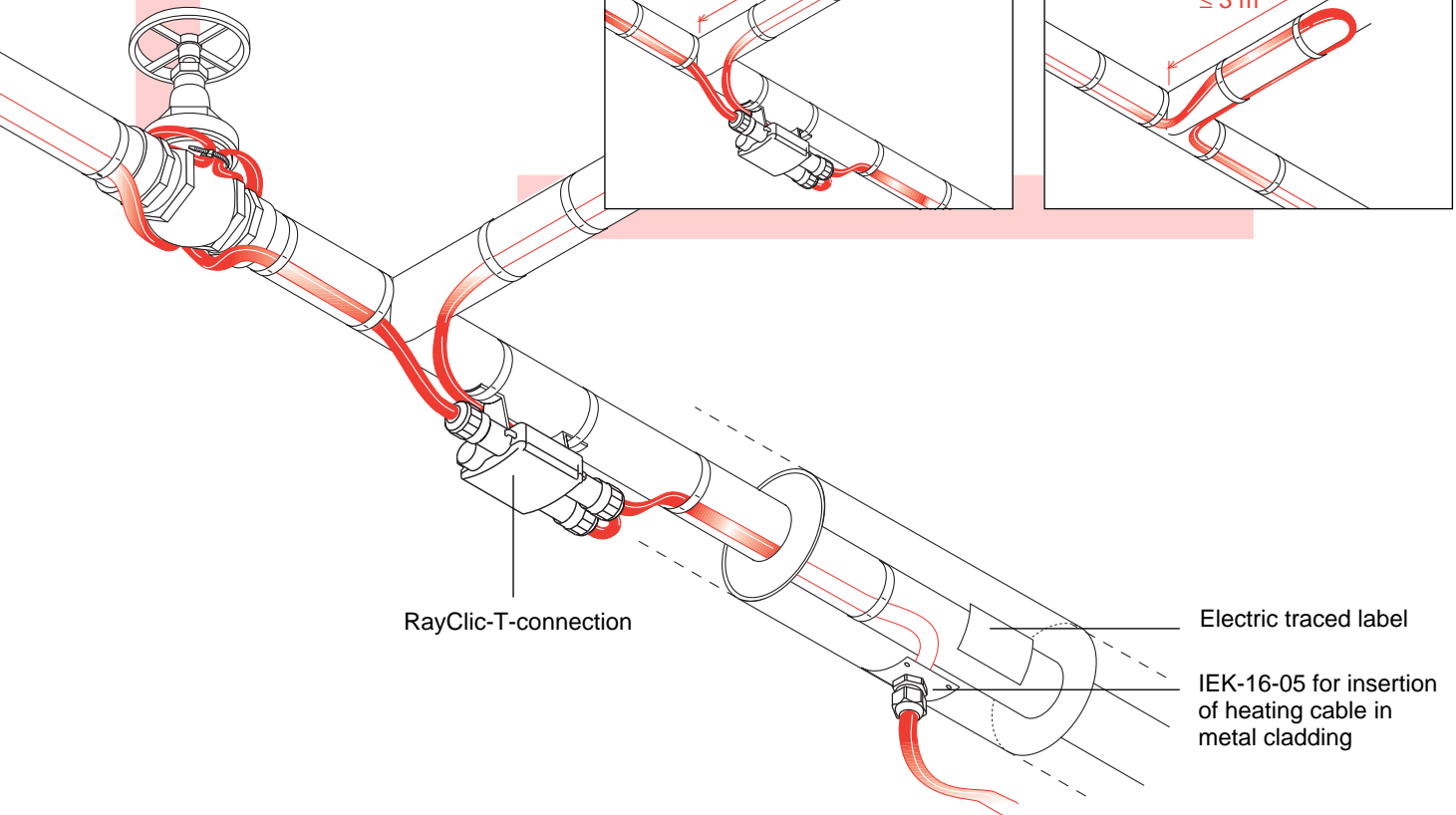
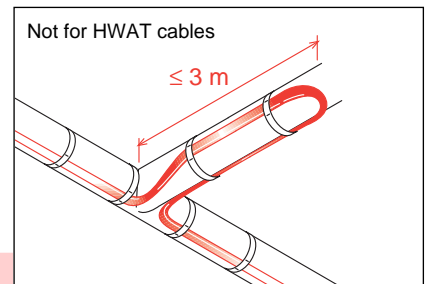
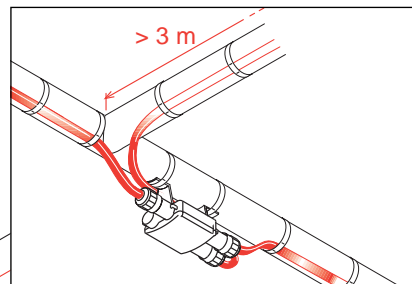
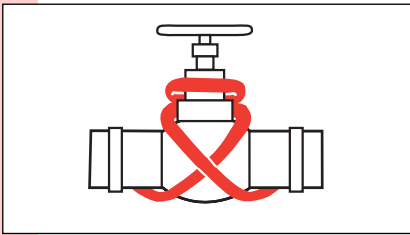
Wall/Floor transit

The thickness of thermal insulation must be continuous otherwise compensate by adding heating cable.



Frost protection at valves:

- Valves up to 2" (DN 50): lay the temperature maintenance and frost protection heating cables in a straight line
- From 2": lay as shown
- Always insulate valves



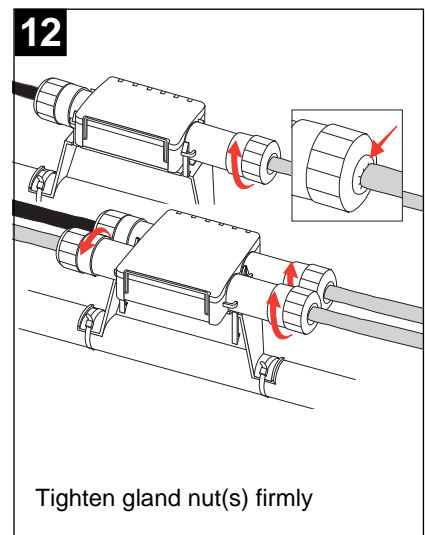
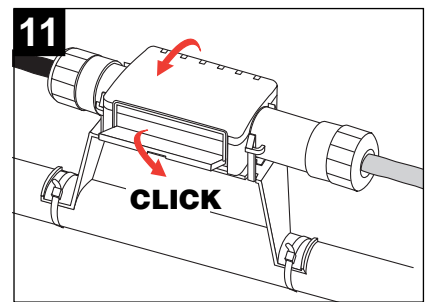
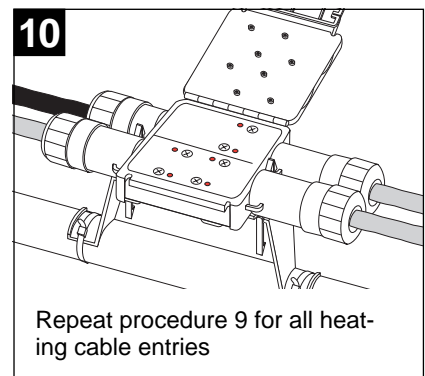
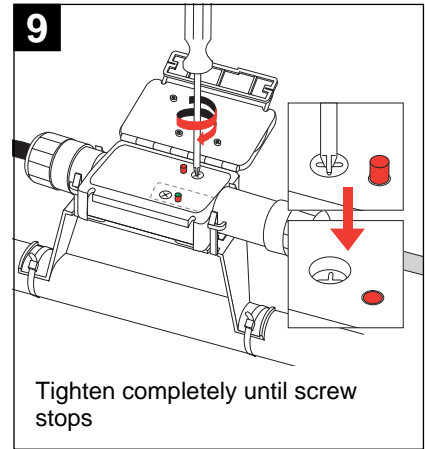
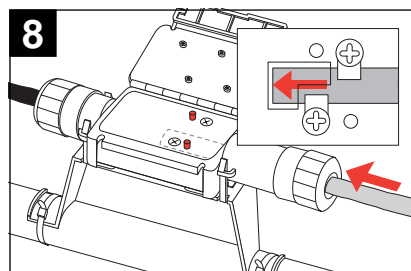
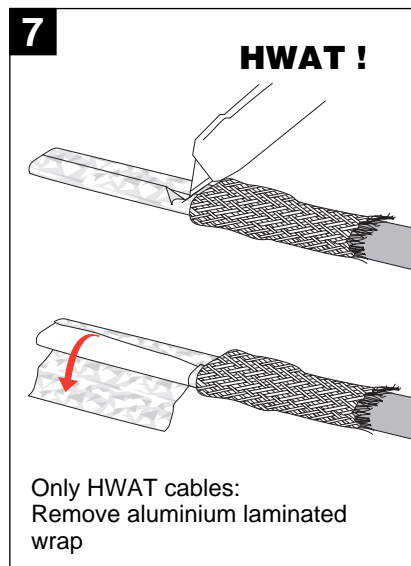
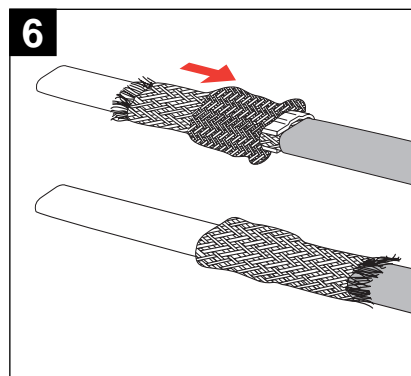
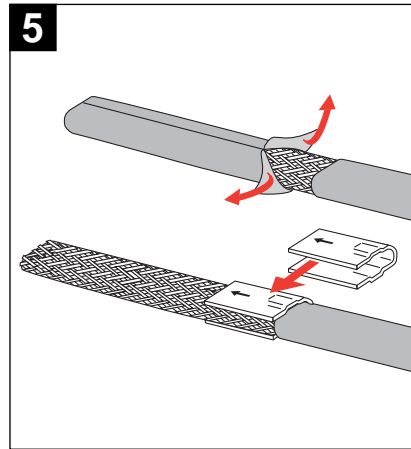
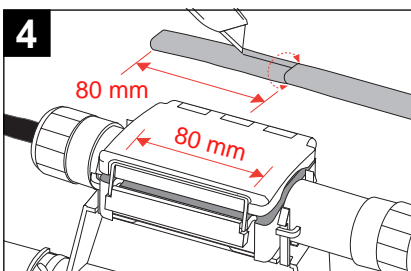
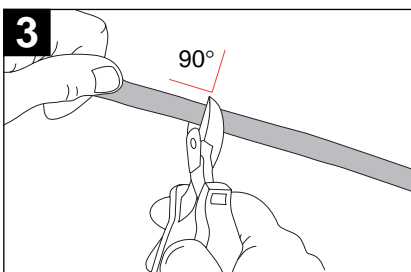
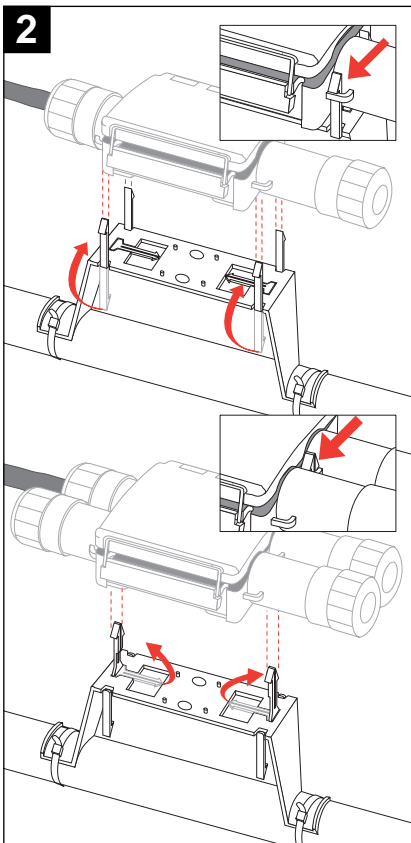
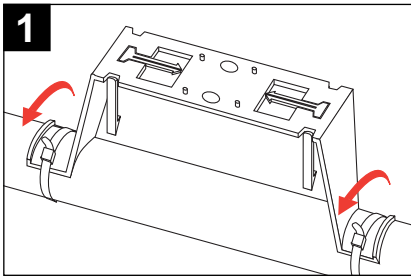
RayClic-T-connection

Electric traced label

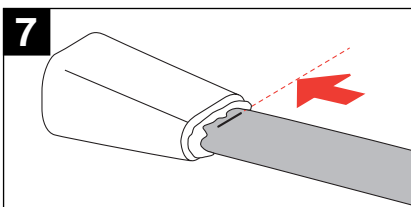
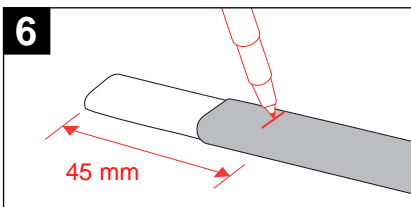
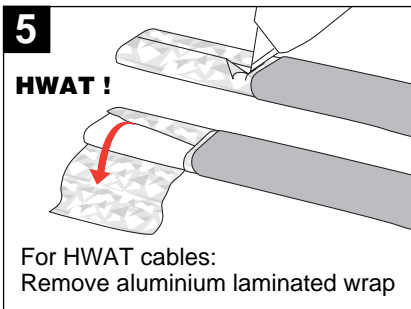
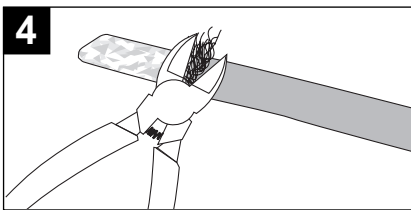
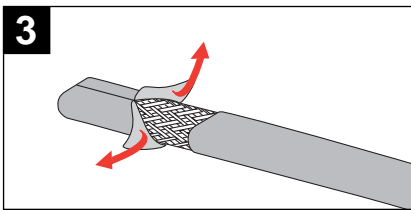
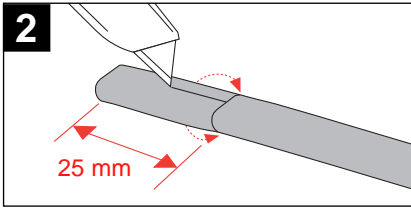
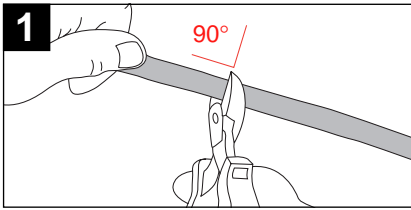
IEK-16-05 for insertion of heating cable in metal cladding

Installation instructions for RayClic fast connection systems and end seals

Connections



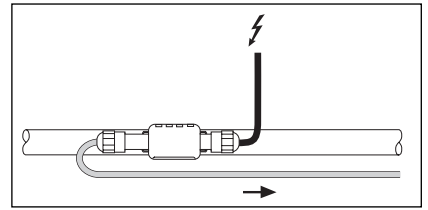
End seals



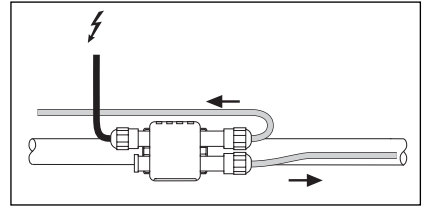
Use only in combination with the following Raychem self-regulating heating cables: HWAT-L, HWAT-M, HWAT-R, IceStop GM-2X, WinterGard FS-A-2X, FS-B-2X.

For WinterGard FS-C-2X and BTV types, use heat-shrinkable products.

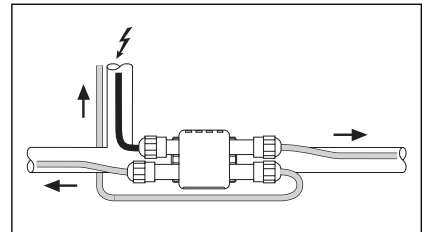
What type of RayClic do you need?



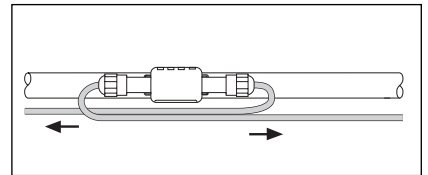
RayClic-CE-02 power connection



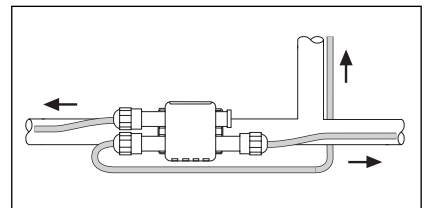
RayClic-PS-02 power connection for 2 cables



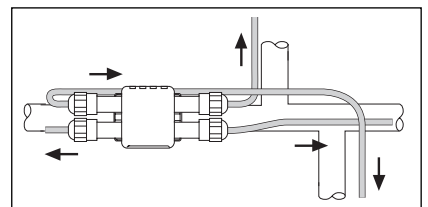
RayClic-PT-02 power connection for 3 cables



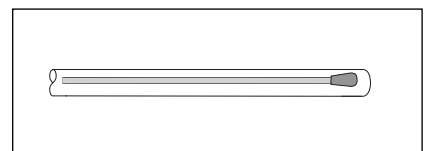
RayClic-S-02 splice



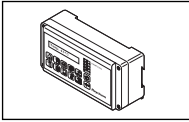
RayClic-T-02 T-connection



RayClic-X-02 4-way connection

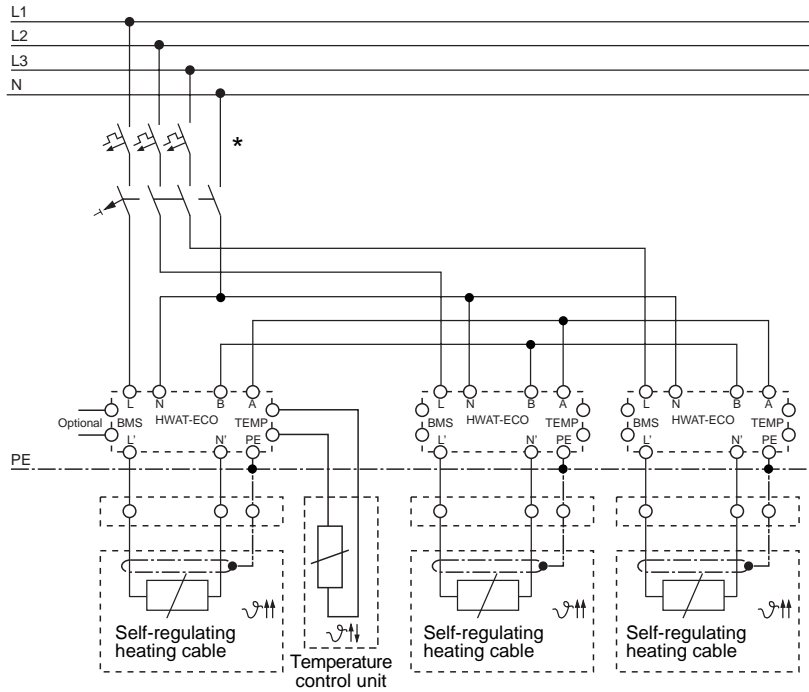


RayClic-E-02 end seal



Wiring diagram for HWAT-Plus system with HWAT-ECO temperature control unit

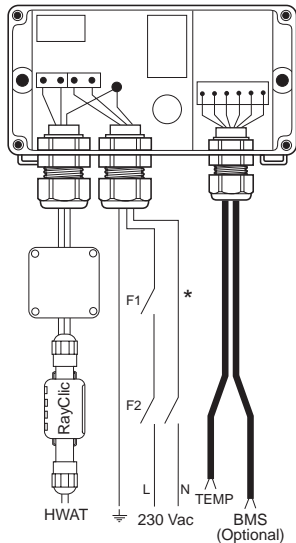
Wiring diagram for HWAT-R/HWAT-M with temperature control unit HWAT-ECO



* Two- or four-pole electrical protection by circuit-breaker may be needed for local circumstances, standards and regulations

HWAT-ECO Temperature control unit

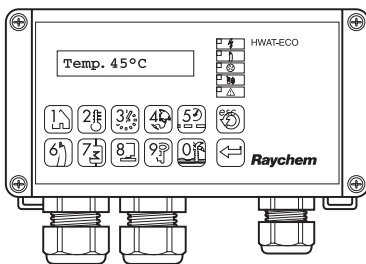
HWAT-ECO Temperature control unit



F1 = Circuit-breaker (C type) 20 A

F2 = rcd 30 mA

* = Double-pole electrical protection may be needed for local circumstances, standards and regulations



1. Electrical connection: See diagram

2. Programming:

The HWAT-ECO has 9 different building specific time/ temperature programmes. These programmes are based on Raychem's long experience for optimum comfort and energy saving. For user specific changes in the programming, the Edit timer programme can be used*.

In most cases this Quick installation guide will be enough to get the HWAT-ECO working most satisfactory. Please follow the next list for a quick installation:

After power On the Display will blink the following line:

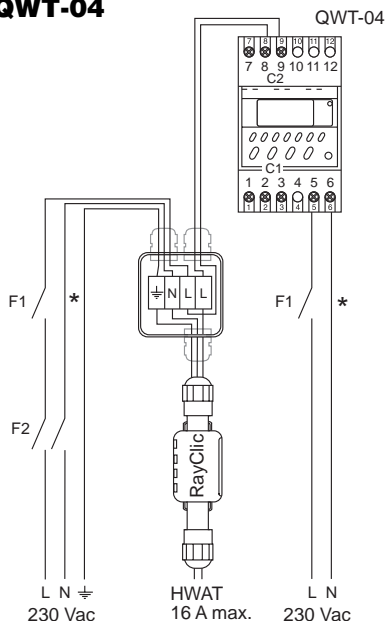
01-01-1998 00:00

1. Press Key (3) and enter the correct month, date, year, hours and minutes.
2. Press Key (4) three times to select the language.
3. Press Key (6) several times until the correct type of heating cable is displayed.
4. Press Enter to confirm the heating cable choice.
5. Now enter the length of the connected heating cable by pressing the number keys.
6. Press Enter to confirm the heating cable length.
7. Now enter the ambient temperature of the heating cable. Default is 20°C and values of 10 up to 25°C are accepted.
8. Press Enter to confirm the ambient temperature.
9. Look for the correct building programme (See table below) in the Appendix of the HWAT-ECO installation manual supplied with the unit.
10. Press Key (1) until the correct programme shows on the display and press Enter to confirm.
11. The display will now show the Time/Date and after 5 seconds the display will show the temperature of the current timer block. The error light and buzzer should be off.

Programme name	Building type
Programme 0	Constant temperature ($\pm 55^{\circ}\text{C}$)
Programme 1	Apartment block
Programme 2	Family home
Programme 3	Prison / Barracks
Programme 4	Hospital
Programme 5	Nursing home
Programme 6	Hotel
Programme 7	Sports centre / Swimming pool
Programme 8	Convalescent home

* Increased risk of scalding during thermal disinfection cycle; by default sunday from 00:00 to 03:00.

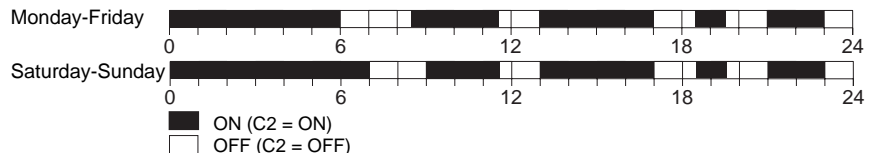
QWT-04



1. Electrical connection: See diagram

2. Programming

If you only operate the system with the timer QWT-04, you must change the programming of the timer.



Important note:

Summer/winter settings must be programmed manually.

F1 = Circuit-breaker (C type) 16 A max

F2 = rcd 30 mA

* = Double-pole electrical protection may be needed for local circumstances, standards and regulations