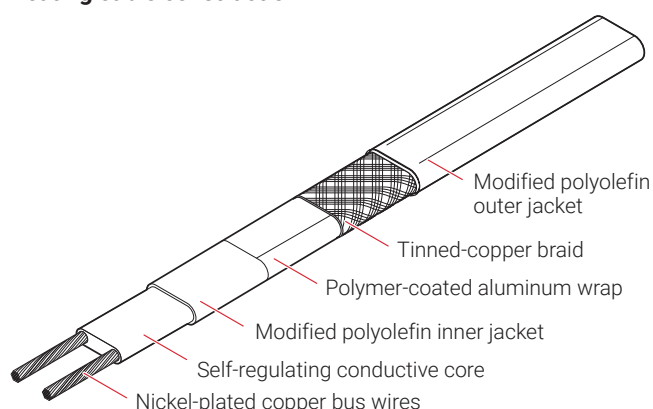


### Self-regulating heating cable for hot water temperature maintenance

#### PRODUCT OVERVIEW

##### Heating cable construction



nVent RAYCHEM HWAT self-regulating heating cables are installed on hot water supply pipes underneath standard pipe insulation. The heating cable adjusts its power output to compensate for variations in water temperature and ambient temperature. The heating cable replaces supply-pipe heat losses at the point where the heat loss occurs, thereby providing continuous, energy-efficient, hot water temperature maintenance and eliminating the need for a recirculation system.

##### Simplified design

Single-pipe nVent RAYCHEM Hot Water Temperature Maintenance Systems (HWAT) eliminate the need for designing complex recirculation systems, with their pumps, piping networks, and complicated flow balancing. Special cases, such as retrofits and multiple pressure zones, are simple to design.

##### Low installed cost

Installation of the HWAT system is simple. The heating cable can be cut to length, spliced, tee-branched, and terminated at the job site, reducing installation costs. Fewer plumbing components are needed; recirculation piping, pumps, and balancing valves are all eliminated.

##### Low operating cost

The HWAT system continuously maintains hot water temperature at every point along the supply pipe. Unlike conventional recirculation systems, HWAT systems do not require the overheating of supply water to allow for cooling. The HWAT system reduces the energy requirements of typical hot water systems with reduced heat loss from supply piping, no heat loss from recirculation piping, and no pump to run.

nVent RAYCHEM HWAT-P1 and HWAT-R2 heating cables are designed and approved for operation with the nVent RAYCHEM HWAT-ECO-GF electronic controller. The HWAT-ECO-GF provides flexible temperature control, energy savings, heat-up cycle function, BMS interface, and nine predefined programs that can be customized by the user. The nVent RAYCHEM ACS-30 controller also incorporates the features of the HWAT-ECO-GF for large systems and multiple application control. The ACS-30 only supports HWAT-R2 heating cable for hot water temperature maintenance applications.

#### SPECIFICATIONS

|                     |                             |
|---------------------|-----------------------------|
| Jacket              | Modified polyolefin         |
| Braid               | Tinned copper               |
| Bus wires           | 16 AWG nickel-plated copper |
| Supply voltage      | 120 V, 208–277 V            |
| Minimum bend radius | 0.5 in (12 mm)              |

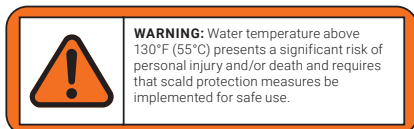
## PRODUCT CHARACTERISTICS (NOMINAL)

|                             | HWAT-P1                      | HWAT-R2                      |
|-----------------------------|------------------------------|------------------------------|
| Catalog number              |                              |                              |
| Jacket color                | Plum                         | Red                          |
| Maintain temperature range* | 105°F (40°C) to 130°F (54°C) | 105°F (40°C) to 140°F (60°C) |
| Weight                      | 230 lbs/1000 ft (0.35 kg/m)  |                              |
| Dimensions                  |                              |                              |
| Width                       | 0.72 in (18 mm)              |                              |
| Thickness                   | 0.38 in (10 mm)              |                              |

\* When designed in accordance with the HWAT System Product Selection and Design Guide

## SCALD PROTECTION

HWAT systems present an increased risk of scalding due to the high water temperature. Pay special attention to the scald warning below:



## DESIGN AND INSTALLATION

For proper design and installation, use the Design section of the HWAT System Product Selection and Design Guide (H57538) and the HWAT System Installation and Operations Manual (H57548).

## MAXIMUM CIRCUIT LENGTH FT (M)

| Breaker Size | HWAT-P1 @120 V | HWAT-R2 @208-277 V |
|--------------|----------------|--------------------|
| 10 Amp       | 125 (38)       |                    |
| 15 Amp       | 195 (59)       | 250 (75)           |
| 20 Amp       | 276 (84)       | 330 (110)          |
| 30 Amp       | 395 (120)      | 500 (150)          |

## GROUND FAULT PROTECTION

To minimize the danger of fire from sustained electrical arcing if the heating cable is damaged or improperly installed, and to comply with nVent requirements, agency certifications, and national electrical codes, 30-mA ground fault equipment protection must be used on each heating cable branch circuit. Arcing may not be stopped by conventional circuit protection.

## APPROVALS



HWAT heating cables are c-UL-us Listed, CSA Certified, and FM Approved when used with the appropriate agency-approved nVent RAYCHEM components and accessories

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