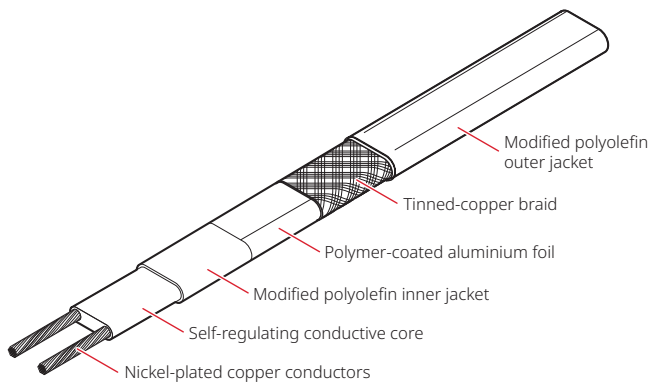


Self-regulating heating cables for hot water temperature maintenance



The Raychem HWAT self-regulating heating cables maintain the desired water temperature in a building's hot water distribution pipe network.

Positioned on the pipe underneath the insulation, the cables automatically compensate for pipe heat losses where they occur, thereby providing continuous, energy efficient, hot water temperature maintenance.

The HWAT system can be used to eliminate the recirculation system altogether or to help optimise its performance, in a hybrid approach.

In a hybrid system, recirculation loops are used on the long central pipe runs, with HWAT cables installed on all branch run outs.

Either way, a much improved solution when compared to recirculation systems.

KEY BENEFITS

HWAT System

- Improves delivery of instant hot water at the tap, compared to recirculation systems
- Environmentally friendly, with significant energy and water savings
- Simple to design and flexible, quick and easy to install
- No need for return pipe work, recirculation pumps, balancing valves or complex commissioning
- Effective operation, less maintenance, improved hygiene
- Prevention of bacterial proliferation, with
 - Water maintained at a specific temperature level
 - No return pipework and no return of cool water into the water heater
 - Thermal shock capability (HWAT-R only)
- Advanced control & monitoring, maximum energy savings
- Space saving
- Well established, worldwide

HWAT Self-Regulating Cables

- Raychem has more than 40 years experience in producing self-regulating heating cables and is ISO-9001 registered
- Designed and qualified specifically for use on hot water systems
- Tested and approved to IEC 62395 and IEEE 515.1
- Energy efficient
- Radiation cross-linked, to ensure long life expectancy
- Proven useful lifetime in excess of 40 years
- 10 year warranty
- Complete range for all building types:
 - HWAT-L for smaller projects (single family houses, flats)
 - HWAT-M for apartments and offices
 - HWAT-R for hotels, hospitals, convalescent homes
- Aluminium foil layer to protect the self-regulating core from chemical ingress

TECHNICAL DATA

| | HWAT-L | HWAT-M | HWAT-R |
|----------------------|--|--|--|
| PCN | 258015-000 | 498639-000 | 266435-000 |
| CONSTRUCTION | | | |
| Inner/outer jacket | Modified polyolefin | Modified polyolefin | Modified polyolefin |
| Outer jacket colour | Yellow | Orange | Red |
| Braid | Tinned copper | Tinned copper | Tinned copper |
| Aluminium foil layer | Yes | Yes | Yes |
| Conductors | 1.3 mm ² (16 AWG) nickel-plated copper | 1.3 mm ² (16 AWG) nickel-plated copper | 1.3 mm ² (16 AWG) nickel-plated copper |

PRODUCT DIMENSIONS AND WEIGHT (NOMINAL)

| | | | |
|-----------------|---------------|---------------|---------------|
| Max. dimensions | 13.8 x 6.8 mm | 13.7 x 7.6 mm | 16.1 x 6.7 mm |
| Weight | 0.12 kg/m | 0.12 kg/m | 0.14 kg/m |

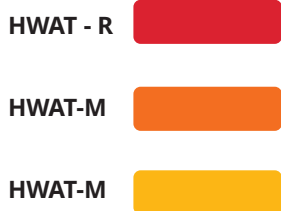
SPECIFICATIONS

| | | | |
|--|-----------------|-----------------|-----------------|
| Nominal voltage | 230 VAC | 230 VAC | 230 VAC |
| Nominal power output | 7 W/m @ 45°C | 9 W/m @ 55°C | 12 W/m @ 70°C |
| Maximum circuit length | 180 m | 100 m | 100 m |
| Circuit breaker type/size | Type C/max 20 A | Type C/max 20 A | Type C/max 20 A |
| Braid coverage | 80 % | 80 % | 80 % |
| Min. bending radius | 10 mm | 10 mm | 10 mm |
| Max. continuous exposure temperature | 65°C | 65°C | 80°C |
| Max. intermittent exposure temperature (power on - 800 h cumulative) | 85°C | 85°C | 90°C |
| Legionella thermal shock | No | No | Yes |

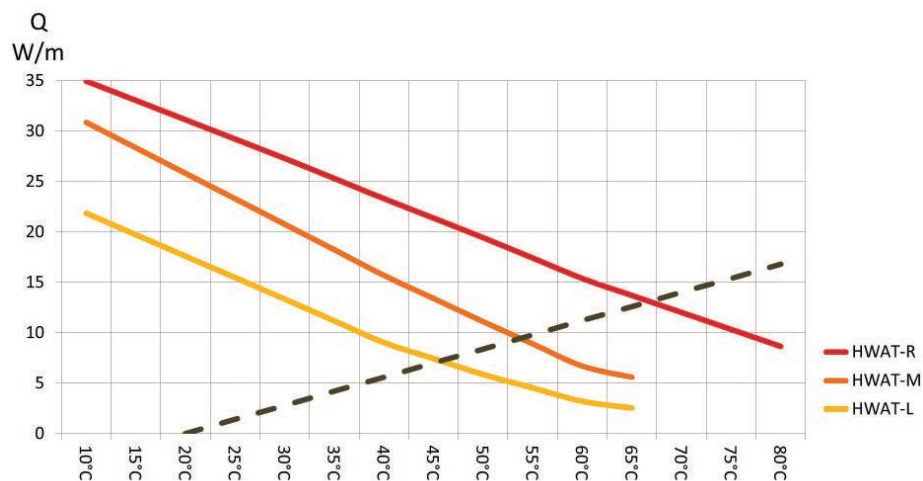
COMPATIBLE COMPONENTS AND CONTROLS

| | | | |
|----------------------------|---|---|---|
| Components | RayClic connection kits | RayClic connection kits | RayClic connection kits |
| Control units | HWAT-T55 | ACS-30 HWAT-ECO HWAT-T55 | ACS-30 HWAT-ECO HWAT-T55 |
| Approvals / Certifications | BS / ÖVE / VDE / SEV / CSTB / SVGW / DVGW / CE | BS / ÖVE / VDE / SEV / CSTB / SVGW / DVGW / CE | BS / ÖVE / VDE / SEV / CSTB / SVGW / DVGW / CE |

THERMAL OUTPUT RATING



Heating Cable Power Output



Control unit must be used for optimized temperature control.

MAXIMUM CIRCUIT LENGTH BASED ON START UP TEMP +12°C

| Circuit breaker | Voltage | Max. circuit length | | | |
|-----------------|---------|---------------------|--------|--------|--------|
| | | C 10 A | C 13 A | C 16 A | C 20 A |
| HWAT-L | 230 VAC | 80 m | 110 m | 140 m | 180 m |
| HWAT-M | 230 VAC | 50 m | 65 m | 80 m | 100 m |
| HWAT-R | 230 VAC | 50 m | 65 m | 80 m | 100 m |

CHEMELEX requires the use of a 30mA residual current device (RCD) to provide a maximum safety and protection from fire. All heating circuits have to be protected by C-type circuit breakers.

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