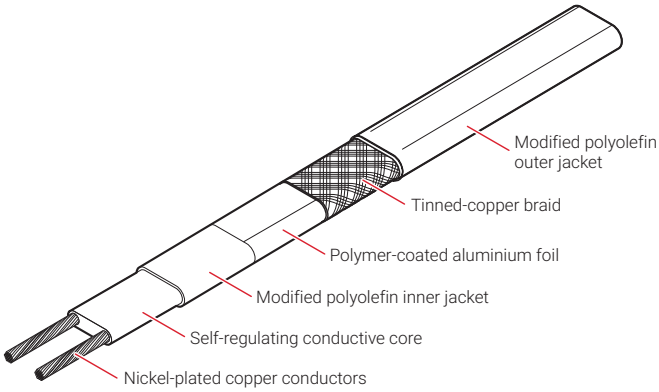
HWAT- L-M-R

CONNECT AND PROTECT

Self-regulating heating cables for hot water temperature maintenance



The nVent 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

- nVent 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

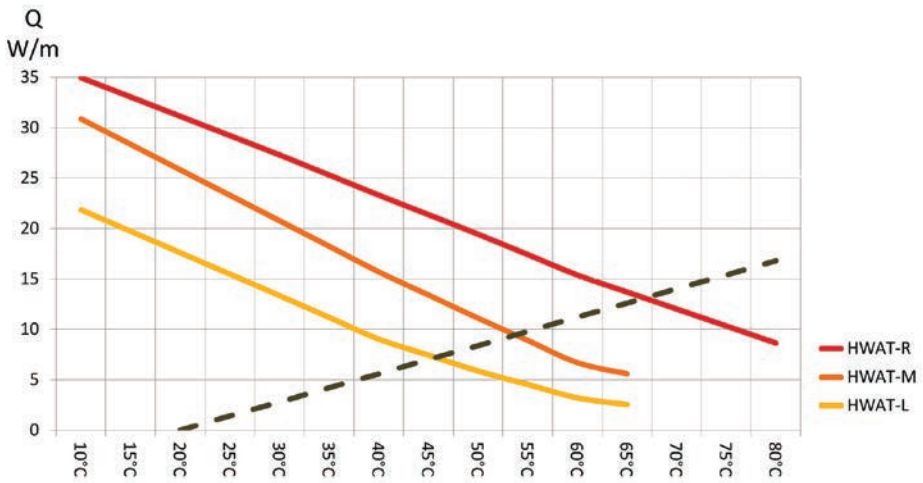
THERMAL OUTPUT RATING

HWAT - R

HWAT-M

HWAT-M

Heating Cable Power Output



Control unit must be used for optimized temperature control.

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

	Voltage	Max. circuit length			
Circuit breaker		**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

nVent 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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