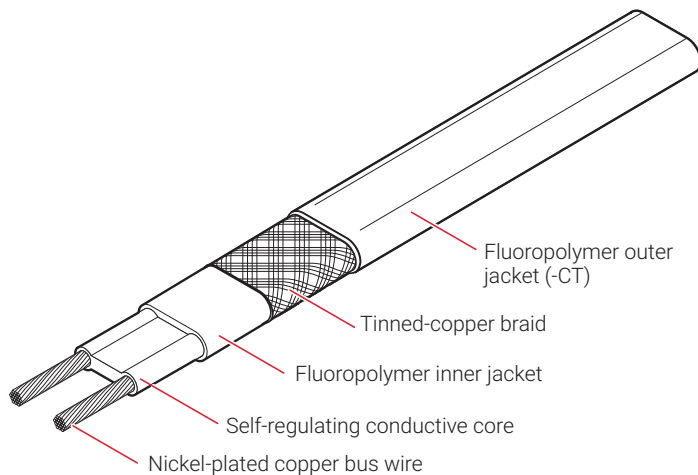


Self-regulating heating cables Electrical process temperature maintenance for both nonhazardous and hazardous locations

PRODUCT OVERVIEW



Heating cable construction

The nVent RAYCHEM QTVR family of self-regulating heating cables is designed for pipe heat tracing in industrial applications. QTVR heating cables can provide process-temperature maintenance up to 225°F (110°C) and can also be used for freeze protection in systems having high heat loss. The heating cables are configured for use in nonhazardous and hazardous locations, including areas where corrosives may be present.

QTVR cables meet the requirements of the U.S. National Electrical Code and the Canadian Electrical Code. For additional information, contact your nVent representative or call (800) 545-6258.



APPLICATION

Area classification	Nonhazardous and hazardous locations
Traced surface type	Metal and some plastics For use on plastic pipes, refer to TraceCalc Pro design software.
Chemical resistance	Organic and aqueous inorganic chemicals and corrosives






SUPPLY VOLTAGE

QTVR1	100–130 Vac
QTVR2	200–277 Vac

SPECIFICATIONS

Maximum maintain or continuous exposure temperature (power on/off)	225°F (110°C)
Maximum intermittent exposure temperature (power on/off)	225°F (110°C)
Temperature classification	T4: 275°F (135°C) Temperature ID numbers are consistent with North America national electrical codes.
Minimum installation temperature	-76°F (-60°C)
Minimum bend radius	-76°F (-60°C) ≤ T < -4°F (-20°C): 2" (51 mm) -4°F (-20°C) ≤ T < 14°F (-10°C): 1.4" (35 mm) 14°F (-10°C) ≤ T < 32°F (0°C): 1" (25 mm) 32°F (0°C) ≤ T < 50°F (+10°C): 0.8" (20 mm) T ≥ 50°F (+10°C): 0.5" (12.7 mm)
Bus wire size	16AWG 10QTVR1-CT, 10QTVR2-CT, 15QTVR2-CT 14AWG 15QTVR1-CT, 20QTVR1-CT, 20QTVR2-CT
Outer jacket color	Brown

APPROVALS

	Hazardous Locations	Zone Approvals
IECEX IECEx BAS 20.0013X Ex 60079-30-1 eb IIC T4 Gb or Ex 60079-30-1 eb mb IIC T4 Gb Ex 60079-30-1 tb IIIC T130°C or Ex 60079-30-1 mb tb IIIC T130°C Tmin -60°C	 Class I, Div. 2, Groups A, B, C, D Class II, Div. 2, Groups F, G Class III Tmin -40°C	 CLI, ZN1, AEx e II T4 Tmin -40°C
	 Class I, Div. 1 and 2, Groups A, B, C, D Class II, Div. 1 and 2, Groups E, F, G Class III - WS for Canada	 Ex 60079-30-1 IIC T4 Gb Ex 60079-30-1 IIIC T135°C Db Class I Zone 1 AEx eb IIC T4 Gb Zone 21 AEx tb IIIC T135°C Db -WS for Canada
	 IEx 09.0006X Ex eb IIC T4 Gb Ex eb mb IIC T4 Gb	

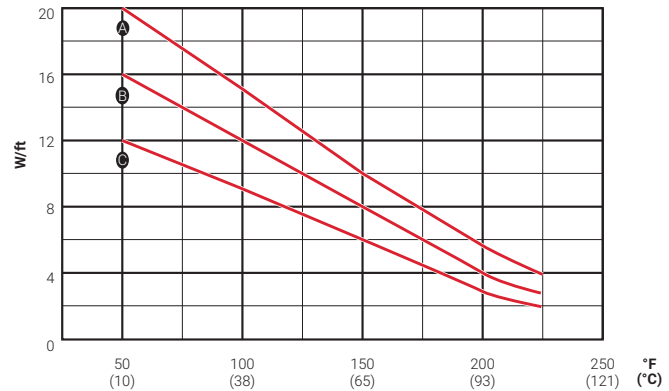
DESIGN AND INSTALLATION

For proper design and installation, use TraceCalc Pro design software or the Design section of the Industrial Heat Tracing Products & Services Catalog (H56550). Also, refer to the nVent Installation and Maintenance Manual (H57274). Literature is available via the nVent web site, nVent.com.

NOMINAL POWER OUTPUT RATING ON METAL PIPES AT 120 V / 240 V

	Adjustment factors	
	Power output	Circuit length
208 V	0.78	0.94
10QTVR2-CT	0.85	0.94
15QTVR2-CT	0.91	0.91
20QTVR2-CT	0.9	0.91
277 V		
10QTVR2-CT	1.18	1.06
15QTVR2-CT	1.09	1.1
20QTVR2-CT	1.07	1.11

- Ⓐ 20QTVR-CT
- Ⓑ 15QTVR-CT
- Ⓒ 10QTVR-CT



Note: To choose the correct heating cable for your application, use the Design section of the Industrial Heat Tracing Products & Services Catalog (H56550). For more detailed information, use TraceCalc Pro design software.

MAXIMUM CIRCUIT LENGTHS BASED ON CIRCUIT BREAKER SIZES

	Ambient temperature at start-up		Maximum circuit length (in feet) per circuit breaker									
			120 V					240 V				
			15 A	20 A	30 A	40 A	50 A	15 A	20 A	30 A	40 A	50 A
10QTVR-CT	50°F	(10°C)	100	130	195	195	†	200	265	390	390	†
	0°F	(-18°C)	80	105	160	195	†	160	210	320	390	†
	-20°F	(-29°C)	70	95	145	195	†	145	195	295	390	†
	-40°F	(-40°C)	65	90	135	180	†	135	180	275	365	†
15QTVR-CT	50°F	(10°C)	75	100	150	200	220	160	210	320	340	†
	0°F	(-18°C)	60	80	120	160	200	125	170	255	340	†
	-20°F	(-29°C)	55	70	110	145	185	115	155	235	315	†
	-40°F	(-40°C)	50	65	100	135	170	110	145	220	290	†
20QTVR-CT	50°F	(10°C)	60	80	120	160	195	120	160	240	320	390
	0°F	(-18°C)	45	60	95	125	160	95	125	190	255	320
	-20°F	(-29°C)	40	55	85	115	145	85	115	175	235	295
	-40°F	(-40°C)	40	55	80	110	135	80	110	165	220	275

† Not permitted

PRODUCT DIMENSIONS AND WEIGHT

	10QTVR1-CT, 10QTVR2-CT, 15QTVR2-CT	15QTVR1-CT, 20QTVR1-CT, 20QTVR2-CT
Weight	85 lbs/1000 ft (126 g/m)	121 lbs/1000 ft (180 g/m)
Width x Thickness (nominal)	0.465 x 0.177 in (11.8 x 4.5 mm)	0.551 x 0.201 in (14.0 x 5.1 mm)

ORDERING DETAILS

Description	Part number
10QTVR1-CT	259951-000
15QTVR1-CT	148345-000
20QTVR1-CT	498703-000

Description	Part number
10QTVR2-CT	391991-000
15QTVR2-CT	040615-000
20QTVR2-CT	988967-000

CONNECTION KITS

nVent offers a full range of connection kits for power connections, splices, and end seals. These connection kits must be used to ensure proper functioning of the product and compliance with warranty, code, and approvals requirements.

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 the requirements of nVent, agency certifications, and national electrical codes, ground-fault equipment protection must be used on each heating cable branch circuit. Arcing may not be stopped by conventional circuit protection. Many nVent RAYCHEM control and monitoring systems meet the ground-fault protection requirement.

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