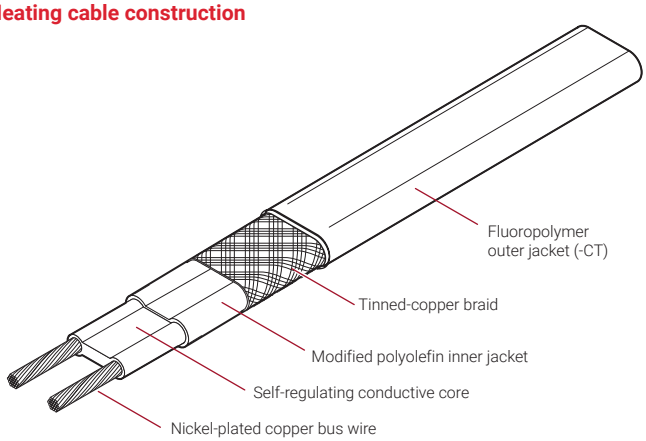
HBTV

SELF-REGULATING HEATING CABLES FOR ELECTRICAL FREEZE PROTECTION IN C1D1 HAZARDOUS LOCATIONS

Heating cable construction



10 YEAR Product warranty

PRODUCT OVERVIEW

The nVent RAYCHEM HBTV family of self-regulating heating cables provides the solution to freeze-protection and process-temperature maintenance applications for CID1 areas. HBTV heating cables maintain process temperatures up to 150°F (65°C) and can withstand intermittent exposure to temperatures up to 185°F (85°C). The cables are configured for use in CID1 areas, including areas where corrosives may be present.

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

APPLICATION

Area classification	Hazardous locations
Traced surface type	Metal and plastic
Chemical resistance	Organic and aqueous inorganic chemicals and corrosives

SUPPLY VOLTAGE

HBTV1	100–130 Vac
HBTV2	200–277 Vac

TEMPERATURE RATING

Maximum maintain or continuous exposure temperature (power on)	150°F (65°C)
Maximum intermittent exposure temperature, 1000 hours (power on or off)	185°F (85°C)
Minimum installation temperature	–40°F (–40°C)

TEMPERATURE ID NUMBER (T-RATING)

T6: 185°F (85°C)
Temperature ID numbers are consistent with North America national electrical codes.

APPROVALS

(1) All Class I, Div. 1 designs must be reviewed by the manufacturer.

Hazardous Locations

FM APPROVED

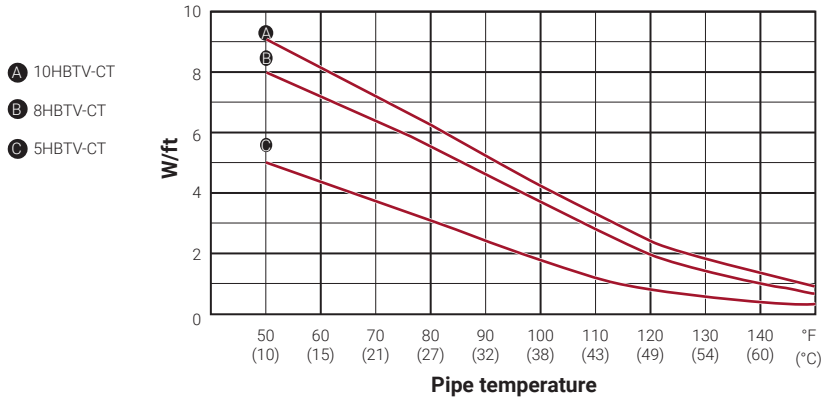
Class I, Div. 1[(1)], Groups B, C, D
Class II, Div. 1, Groups E, F, G
Class III

DESIGN AND INSTALLATION

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

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

	Adjustment factors	
	Power output	Circuit length
208 V		
5HBTV2-CT	0.85	0.94
8HBTV2-CT	0.89	0.92
10HBTV2-CT	0.89	0.92
277 V		
5HBTV2-CT	1.12	1.09
8HBTV2-CT	1.08	1.11
10HBTV2-CT	1.08	1.11



Note: Note: To choose the correct heating cable for your application, use the Design section of the nVent Products & Services Catalogue (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	15 A	20 A	30 A	40 A
5HBTV-CT	50°F	(10°C)	230	270	270	270	460	540	540	540
	0°F	(−18°C)	140	190	270	270	285	380	540	540
	−20°F	(−29°C)	125	165	250	270	250	330	500	540
	−40°F	(−40°C)	110	145	220	270	220	295	440	540
8HBTV-CT	50°F	(10°C)	150	200	210	210	300	400	420	420
	0°F	(−18°C)	100	130	200	210	200	265	400	420
	−20°F	(−29°C)	85	115	175	210	175	235	350	420
	−40°F	(−40°C)	80	105	155	210	155	210	315	420
10HBTV-CT	50°F	(10°C)	120	160	180	180	240	315	360	360
	0°F	(−18°C)	80	110	160	180	160	215	325	360
	−20°F	(−29°C)	70	95	140	180	145	190	285	360
	−40°F	(−40°C)	65	85	125	170	125	170	255	340

PRODUCT CHARACTERISTICS

	5HBTV-CT	8HBTV-CT, 10HBTV-CT
Minimum bend radius	@68°F (20°C): 0.5 in (12.7 mm)	@68°F (20°C): 0.5 in (12.7 mm)
Weight (lb per 10 ft, nominal)	0.7	1.0
Bus wire size	16 AWG	16 AWG
Outer jacket color	Black	Black
Heating cable dimensions	0.46 in x 0.25 in (11.7 mm x 6.35 mm)	0.65 in x 0.26 in (16.5 mm x 6.6 mm)

ORDERING DETAILS

Description	Part number
5HBTV1-CT	264861-000
8HBTV1-CT	340733-000
10HBTV1-CT	435195-000

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 RAYCHEM control and monitoring systems meet the ground-fault protection requirement.

North America
Tel +1.800.545.6258
Fax +1.800.527.5703
thermal.info@nvent.com

Europe, Middle East, Africa
Tel +32.16.213.511
Fax +32.16.213.603
thermal.info@nvent.com

Asia Pacific
Tel +86.21.2412.1688
Fax +86.21.5426.2937
cn.thermal.info@nvent.com

Latin America
Tel +1.713.868.4800
Fax +1.713.868.2333
thermal.info@nvent.com