



(1) **EU-TYPE EXAMINATION CERTIFICATE**  
 (Translation)

(2) Equipment or Protective Systems Intended for Use in  
 Potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

**PTB 21 ATEX 1003 X**

**Issue: 3**

(4) Product: Raychem HTV Range of Self-Regulating Trace Heating Systems  
 Type aHTVb-CT

(5) Manufacturer: nVent Thermal Belgium NV

(6) Address: Romeinse straat 14, 3001 Leuven, Belgium

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential Test Report PTB Ex 23-13020.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN IEC 60079-0:2018; EN IEC 60079-7:2015+A1:2018; EN 60079-18:2015+Cor.2018;  
 EN 60079-30-1:2017; EN 60079-31:2014**

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:



**II 2 G Ex eb mb 60079-30-1 IIC T6...T2 Gb**




**II 2 D Ex tb 60079-30-1 IIIC T85°C...T215°C Db**

Konformitätsbewertungsstelle, Sektor Explosionsschutz

Braunschweig, May 15, 2023

On behalf of PTB

*D. Markus*  
 Dr.-Ing. D. Markus  
 Direktor und Professor



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EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

(13)

## SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 21 ATEX 1003 X, Issue: 3**

(15) Description of Product

The Raychem HTV Range of Self-Regulating Trace Heating Systems consists of the aHTVb-CT self-regulating heating cable, associated junction and connection kits and special cable glands. The application covers industrial freeze protection up to temperature maintenance processes with a high maximum exposure temperature. The maximum withstand temperature of the heating cable is up to +260 °C (max. continuous operating temperature is +205 °C).

Any of the products in the range may be considered as part of a stabilized or control design system. In such systems the design is based upon of nVent proprietary software such as Trace Calc Pro, TRACERLYNX and software based on the same data and algorithms. These designs may carry temperature classes other than those described and are marked with the actual maximum temperature and the appropriate T class in parenthesis.

Nomenclature

aHTVb-CT

a: Output density, W/ft at 10°C: 3, 5, 8, 10, 12, 15, 20, 28

b: Voltage: 1 (120 Vac: 90~130 Vac) or 2 (240 Vac: 190~277 Vac)

Technical details

max. Ambient temperature range*	-60 °C to +56 °C	with S-40 and E-40
	-55 °C to +56 °C	with JBx-100-xx, T-100 and E-100-X
	-55 °C to +56 °C	with C25-100, C25-21, C25-100-Metal, C25-100-Metal-NP, C25-100-Metal-SS, C3/4-100-Metal, C3/4-100-Metal-NP, C3/4-100-Metal-SS, C75-100-A
	-40 °C to +40 °C	with E-100-L-X and JBx-100-L-xx
max. operating temperature	+205 °C	
max. withstand temperature	+260 °C (Power 'on' / 'off')	
min. start up temperature	-60 °C	
min. installation temperature*	-60 °C	
min. bending radius	12.7 mm at -60 °C	
max. rated voltage	130 Vac / 277 Vac	
max. rated circuit current	40 A	

\* The temperature range for the installed assembly results from the temperature rating with the most restrictive temperature range.

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**SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 21 ATEX 1003 X, Issue: 3**

The following temperature classes are assigned by the product classification approach:

Trace Heater	T class	Trace Heater	T class
3HTV1-CT	180 °C (T3)	3HTV2-CT	180 °C (T3)
5HTV1-CT	T3	5HTV2-CT	T3
8HTV1-CT	T3	8HTV2-CT	T3
10HTV1-CT	T3	10HTV2-CT	T3
12HTV1-CT	T3	12HTV2-CT	T3
15HTV1-CT	T3	15HTV2-CT	T3
20HTV1-CT	215 °C (T2)	20HTV2-CT	215 °C (T2)
		28HTV2-CT	240 °C (T2)

Modifications

Including a new trace heating cable 28HTV2-CT

(16) Test Report PTB Ex 23-13020

(17) Specific conditions of use

1. Raychem HTV 'Range of Heating Cables must be installed using nVent Thermal LLC's JBM-100-E, JBM-100-A, JBM-100-EP, JBM-100-L-E, JBM-100-L-A, JBM-100-L-EP, JBS-100-E, JBS-100-A, JBS-100-EP, JBS-100-L-E, JBS-100-L-A, JBS-100-L-EP, JBU-100-E, JBU-100-A, JBU-100-EP, JBU-100-L-E, JBU-100-L-A, JBU-100-L-EP, T-100, E-100-E, E-100-A, E-100-L-E, E-100-L-A, C25-100, C25- 21, C25-100-METAL, C25-100-METAL-NP, C25-100-METAL-SS, C3/4-100-METAL, C3/4-100-METAL-NP, C3/4-100-METAL-SS, C75-100-A, Connection Kits and S-40 and E-40 Integral Components. Refer to the installation instructions to reduce the potential of an electrostatic charging hazard on the enclosures of the connection kits.
2. Any unconnected heating cable end must be sealed with a nVent approved end seal.
3. The instructions of the manufacturer have to be followed at all times.
4. The supply to the heating unit must be terminated in a suitably certified terminal enclosure

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

Konformitätsbewertungsstelle, Sektor Explosionsschutz

Braunschweig, May 15, 2023

On behalf of PTB

Dr.-Ing. D. Markus  
 Direktor und Prof.

