



PRODUCT SPECIFICATIONS

# VSX™ -HT

## SELF-REGULATING HEATING CABLE

### APPLICATION

High performance VSX-HT self-regulating heating cables are designed specifically for process temperature maintenance or freeze protection where high maintain temperatures or high temperature exposures are required. VSX-HT withstands the temperature exposures associated with steam purging.

The heat output of VSX-HT cable varies in response to the surrounding temperature by reducing its thermal output with increasing temperature and can be overlapped without temperature upset damage to the cable.

VSX-HT cables are certified for use in ordinary (nonclassified) areas and in potentially explosive atmospheres in accordance with the ATEX Directive and the IEC Ex Scheme.

### RATINGS

Available Watt densities.....	15, 32, 48, 64 W/m at 10°C
Nominal supply voltage <sup>1</sup> .....	230 Vac
Maximum maintenance temperature .....	200°C
Maximum continuous exposure temperature	
Intermittent power-on or off.....	250°C
Minimum installation temperature .....	-60°C
Minimum bend radius	
@ -15°C .....	10 mm
@ -60°C .....	32 mm
T-rating <sup>2</sup>	
15 and 32 W/m .....	T3 200°C
48 and 64 W/m .....	T2 230°C
Based on stabilised design <sup>3</sup> .....	T2 to T6

### Notes

1. Cable may be energised at other voltages; contact Thermon for design assistance.
2. T-rating per internationally recognised testing agency guidelines.
3. Thermon heating cables are approved for the listed T-ratings using the stabilised design method. This enables the cable to operate in hazardous areas without limiting thermostats. The T-rating may be determined using CompuTrace® Electric Heat Tracing Design Software or contact Thermon for design assistance.
4. Information on additional accessories to complete a heater circuit installation and to comply with approval requirements can be found in the "Self-Regulating Cables Systems Accessories" product specification sheet (Form TEP0010U).



### CONSTRUCTION

- 1 Nickel-plated copper bus wires (2.1 mm<sup>2</sup>)
- 2 Semiconductive heating matrix and fluoropolymer dielectric insulation
- 3 Nickel-plated copper braid
- 4 Fluoropolymer overjacket provides additional protection to cable and braid where exposure to chemicals or corrosives is expected.

### BASIC ACCESSORIES<sup>4</sup>

Thermon offers system accessories designed specifically for rapid, trouble-free installation of Thermon heating cables.

All cables require a connection kit to comply with approval requirements. Information on accessories to complete a heater circuit installation can be found in the "Heating Cable Systems Accessories" product specification sheet (Form TEP0010U).

Hot end terminations > 220°C must be completed using the Terminator DS/DE, ZS/ZE, DE-B, ZE-B kits.

### Note:

- "D" Kits Division 2 and Zone 2 Areas
- "Z" Kits Zone 1 Areas



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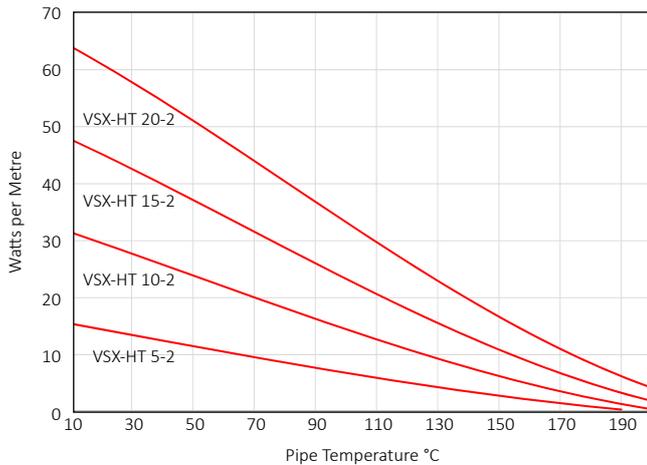
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### POWER OUTPUT CURVES

The power outputs shown apply to cable installed on insulated metallic pipe (using the procedures outlined in IEC/IEEE 60079-30-1) at the service voltages stated below. For use on other service voltages, contact Thermon.

Product Type 230 Vac Nominal	Power Output at 10°C W/m
VSX-HT 5-2	15
VSX-HT 10-2	32
VSX-HT 15-2	48
VSX-HT 20-2	64

VSX-HT at 230 Vac



### CERTIFICATIONS/APPROVALS



Certificate FM 18ATEX0009X  
In accordance with the ATEX Directive 2014/34/EU



International Electrotechnical Commission  
IEC Certification Scheme for Explosive Atmospheres  
FMG 18.0002X



Factory Mutual Research  
Ordinary and Hazardous (Classified) Locations

VSX-HT has additional hazardous area approvals including:  
DNV • Lloyd's • JIS • CCE/CMRS • GGTN • CSA • TR CU • TR-Fire  
ABS • CIMFR • CQST • CLASS NK • JIS • KOSHA RM RS • TIIS  
Contact Thermon for latest status of approvals and specific information.

### CIRCUIT BREAKER SIZING AND TYPE <sup>1</sup>

Maximum circuit lengths for various circuit breaker amperages are shown below. Circuit breaker sizing and earth-fault protection should be based on applicable local codes. For information on design and performance on other voltages, contact Thermon.

Earth-fault protection of equipment should be provided for each branch circuit supplying electric heating equipment.

#### Type B Circuit Breakers

Product Type	230 Vac Service Voltage	Start-Up Temperature <sup>2</sup> °C	Max. Circuit Length <sup>3</sup> vs. Breaker Size - Meters			
			16A	25A	32A	40A
VSX-HT 5-2	230	10	98	167	203	203
		0	98	167	203	203
		-20	98	167	203	203
		-40	98	167	203	203
VSX-HT 10-2	230	10	64	105	144	144
		0	64	105	144	144
		-20	63	105	144	144
		-40	59	98	144	144
VSX-HT 15-2	230	10	40	65	86	114
		0	39	62	82	109
		-20	36	58	76	101
		-40	34	54	72	94
VSX-HT 20-2	230	10	28	45	60	77
		0	28	44	57	74
		-20	26	41	53	69
		-40	24	39	51	65

#### Type C Circuit Breakers

Product Type	230 Vac Service Voltage	Start-Up Temperature <sup>2</sup> °C	Max. Circuit Length <sup>3</sup> vs. Breaker Size - Meters			
			16A	25A	32A	40A
VSX-HT 5-2	230	10	98	167	203	203
		0	98	167	203	203
		-20	98	167	203	203
		-40	98	167	203	203
VSX-HT 10-2	230	10	64	105	144	163
		0	64	105	144	163
		-20	64	105	144	163
		-40	62	103	144	163
VSX-HT 15-2	230	10	46	76	102	139
		0	46	76	102	139
		-20	44	72	97	132
		-40	42	68	91	124
VSX-HT 20-2	230	10	36	58	77	102
		0	35	56	74	98
		-20	32	52	69	91
		-40	31	49	65	85

### Notes

- Maximum circuit lengths shown are based on an instantaneous trip current characteristic per IEC 60898 at the referenced start-up temperature and a 10°C maintenance temperature. For maximum circuit lengths with other trip current characteristics contact Thermon.
- While a heat tracing system is generally designed to keep the contents of a pipe at the desired maintain temperature, the cable may be energized at lower temperatures. For design data with lower start-up temperatures than represented above contact Thermon for design assistance.
- The maximum circuit length is for one continuous length of cable, not the sum of segments of cable. Refer to CompuTrace® design software or contact Thermon for current loading of segments..