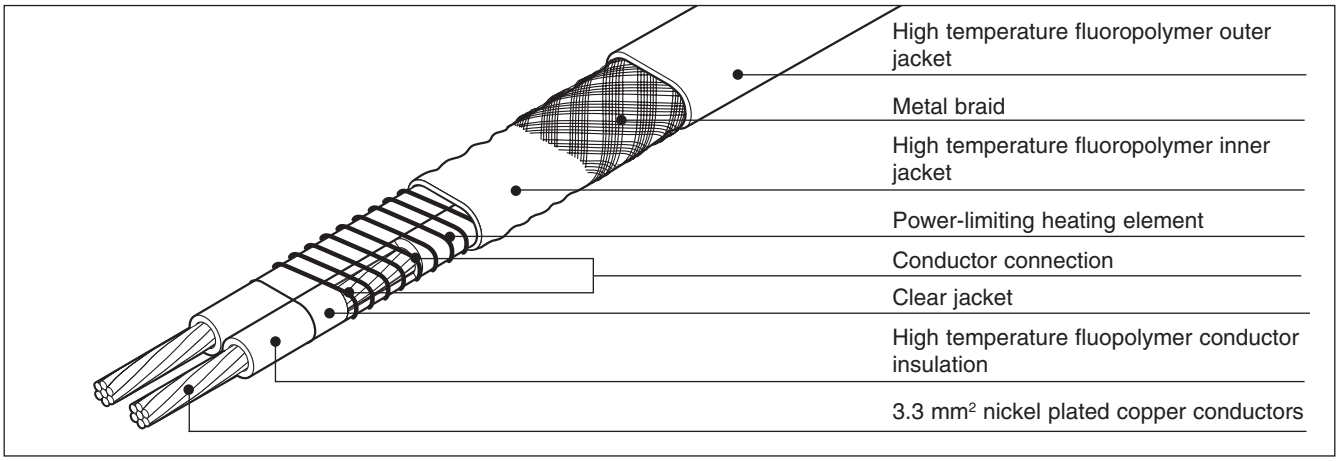
⟨Ex⟩ High-temperature power-limiting heating cable

VPL is a family of power limiting heating cables designed for pipe and equipment heat-tracing in industrial applications. VPL can be used for frost protection and process temperature maintenance requiring high power output and/or high temperature exposure. VPL can provide process temperature maintenance up to 230°C and can withstand routine steam purges and temperature exposure to 250°C with power off.
Power-limiting cables are parallel heaters formed by a coiled resistor alloy heating element wrapped around two parallel conductors. The distance between conductor contact points forms the heating zone length. This parallel construction allows it to be cut to length and terminated on site. The power output of VPL heating cables decreases with increasing temperature. VPL heating cables can be overlapped. The relatively flat power temperature curve of VPL ensures a low start-up current and high output at elevated temperatures. VPL cables are approved for use in hazardous areas. Approvals are listed below.

Heating cable construction



Application	
Area classification	Hazardous, Zone 1, Zone 2 (Gas), Zone 21, Zone 22 (Dust) Ordinary
Traced surface type	Carbon steel Stainless steel Painted or unpainted metal
Chemical resistance	Organics and corrosives For aggressive organics and corrosives consult your local Tyco Thermal Controls representative
Supply voltage	230 or 254 Vac (Contact your local Tyco Thermal Controls representative for data on other voltages)
Approvals	The VPL heating cable is approved for use in hazardous areas by Baseefa 2001 Ltd. BAS00ATEX2163X ⟨Ex⟩ II 2 GD Ex es II T* * By design

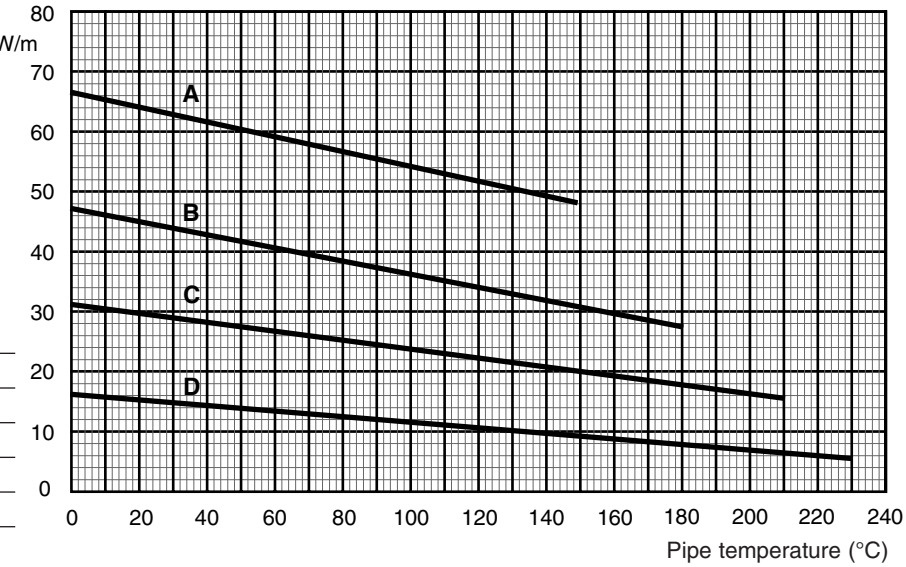
Specifications

Maximum maintain temperature (continuous power on)	**Cable**	**230V**	**254V**
	5VPL2-CT	230°C	225°C
	10VPL2-CT	210°C	200°C
	15VPL2-CT	180°C	145°C
	20VPL2-CT	150°C	Not allowed
Max. exposure temperature (continuous power off)	250°C		
Temperature classification	To be established using the principles of stabilized design. Use TraceCalc design software or contact Tyco Thermal Controls for assistance.		
Minimum installation temperature	–60°C		
Minimum bend radius	at –60°C: 20 mm		

Thermal output rating

Nominal power output rating on metal pipes at 230 V

A 20VPL-CT
B 15VPL-CT
C 10VPL-CT
D 5VPL-CT



To choose the correct heating cable for your application use the TraceCalc design software.

Adjustment Factors for 254V

	Power Output	Circuit Length
5VPL2-CT	1.20	1.05
10VPL2-CT	1.19	1.04
15VPL2-CT	1.19	1.04
20VPL2-CT	Not allowed	

	5VPL2-CT	10VPL2-CT	15VPL2-CT	20VPL2-CT
Nominal power output (W/m at 10°C)	15	30	45	61
Product dimensions (nominal) and weight				
Thickness (mm)	7.9	7.9	7.9	7.9
Width (mm)	11.7	11.7	11.7	11.7
Nominal cold lead/ heating zone length (mm)	1219	914	610	508
Weight (g/m)	200	200	200	200

Maximum circuit length based on type 'C' circuit breakers according to EN 60898

230V		5VPL2-CT	10VPL2-CT	15VPL2-CT	20VPL2-CT
Electrical protection sizing	Start-up temperature	Maximum heating cable length per circuit (m)			
16A	–20°C	195	100	70	50
	+10°C	215	110	75	55
25A	–20°C	220	155	105	80
	+10°C	220	155	115	85
32A	–20°C	220	155	130	100
	+10°C	220	155	130	110
40A	–20°C	220	155	130	110
	+10°C	220	155	130	110

The above numbers are for circuit length estimation only. For more detailed information please use the Tyco Thermal Controls TraceCalc software or contact your local Tyco Thermal Controls representative.
Tyco Thermal Controls requires the use of a 30 mA residual current device to provide maximum safety and protection from fire. Where design results in a higher leakage current, a maximum 300 mA residual current device may be used. All safety aspects need to be proven.

Ordering details

Part description	5VPL2-CT	10VPL2-CT	15VPL2-CT	20VPL2-CT
Part No.	451828-000	892652-000	068380-000	589252-000

Components Tyco Thermal Controls offers a full range of components for power connections, splices and end seals. These components must be used to ensure proper functioning of the product and compliance with electrical requirements.