

SL CYLINDER THERM D Selflimiting Heater



1 Application

The self-limiting electric conduction heater CYLINDER THERM is designed to heat stainless steel bottles and their contents.

One specific application might be analysing applications: the heating of the stainless steel oil sample bottles and their contents.

The CYLINDER THERM heater heats through conduction and its' large contact surface with the stainless steel bottle brings the heat into the sample much faster then through convection, hot air. The conduction heating principle is simple, reliable and economical. Conduction of heat through metal is more efficient than heating by means of air and much faster.

2 Special Features & Advantages

- Energy saving
- Self limiting, no fusible link or limiter
- Requires little space

3 Performance

A conduction heater requires considerably less power than a finned convection heater, as the heat conducting qualities of metal are much better than those of air. The air surrounding the whole installation in the enclosure serves as additional insulation.

4 Technical Data

Type of Protection (Gas)	II 2 G Ex d IIC T4
Type of Protection (Dust)	II 2 D Ex tD A21 IP65 T135°C
EC Examination Cert.	PTB 02 ATEX 1116 X
EC Scheme Certificate	IECEX PTB 07.0055X
Ingress Protection	IP 68
Ambient temperature	-50 to +180°C
Material	seawater-proof aluminium, black anodized

All INTERTEC explosion-proof heaters can also be supplied

- to American NEC standard (CSA/ NRTL/ FM/ UL).
Ordering Example: SL CYLINDER THERM CLA T3 D
- as Bi-Standard (see datasheet HD608).



Picture 1:
SL Cylindertherm DPA T3 D (D=Double cut outs)



Picture 2:
SL Cylindertherm DPA T3 S (S=Single cut out)

5 Types (Other types upon request.)

Explosion-proof Models	SL CYLINDER THERM ...			
	DPA T3 D DPA T3 S	DLA T3 D DLA T3 S	DPA T4 D DPA T4 S	DLA T4 D DLA T4 S
Temp. Class	T3		T4	
Nominal Voltage	110 V to 265 V			
Nominal Power	150 W	80 W	100 W	50 W

Non Explosion-proof Models	SL CYLINDER THERM ...			
	NLA 50 D NLA 50 S	NLA 80 D NLA 80 S	NPA 100 D NPA 100 S	NPA 150 D NPA 150 S
Nominal Voltage	110 V to 265 V			
Nominal Power	50 W	80 W	100 W	150 W

6 Options

AM	Failure alarm opens at < 5°C
3M	Connection cable 3 m long

Not all options can be combined.

Ordering example:

SL CYLINDER THERM DPA T3 S

SL CYLINDER THERM NPA 150 D 3M



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7 Temperature management

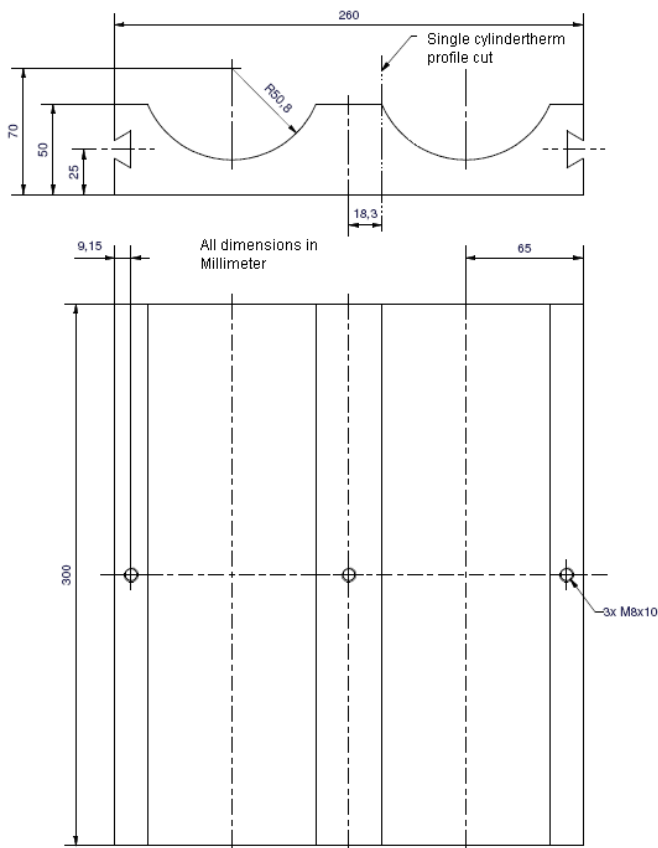
As the heater is self-limiting, it can operate without a temperature controller.

For applications which do not require a high temperature tolerance, the TAE or TS bi-metallic thermostat (data sheet HD223) is a good solution.

Should a high temperature accuracy be requested, the SMART heating system (data sheet HD128) should be used.

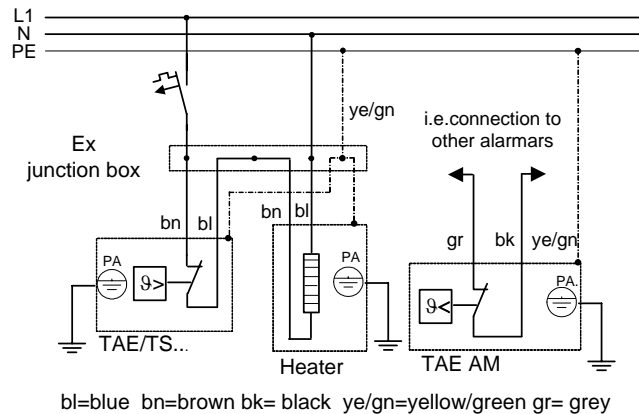
Self Limiting heaters should not be controlled by electronic controllers.

8 Dimensions



The profile can be individually machined to fit different cylinders.

9 Electric Wiring with a TS thermostat



10 Mounting

The CYLINDER THERM heater dissipates the heat by conduction and can be mounted in any position.

The Cylindertherm heater has M8 threads on both sides of the sample bottle cut out. Further details such as fastening of the sample bottle are left to the individual customer or can be arranged in cooperation with Intertec.

11 The heater cartridge

Inside the heater, there is a PTC heater cartridge. PTC-elements (**P**ositive **T**emperature **C**oefficient) raise their electric resistance with rising temperature. High resistance means low heating power. The heating power gets very low at high temperatures so that the temperature cannot exceed the maximum temperature of the respective temperature class.

Further, the PTC-elements exhibit a varistor effect. They control their resistance according to the supply voltage being used. The nominal power supply voltage may be 100 V to 265 V with the same heater.

The in rush current may be 8 – 10 times greater as the nominal current during the first 1-2 seconds after power on.