

Silicone wire wound heaters



Applications:

We supply silicone wire wound heaters for a multitude of applications including industrial catering, battery warming, telecommunications, laboratory equipment, snow melting, anti condensation and GRP pipe curing systems. The uses for Wire Wound heaters are extensive as they can suit many applications requiring surface heating up to 250°C. Manufactured to customer specifications they can be made in a wide range of shapes and sizes. Using robust materials and uniquely designed elements wire wound heaters are ideal for applications where high flexibility and durability is required.

- **Wire Wound Technology**
- **Precise Even Heating**
- **Flexible & Lightweight**
- **Moisture & Chemical Resistant**
- **IP64 or IP65 Protection**
- **Wide Temperature Range –60°C to 250°C**
- **UL & VDE Approval Available**
- **Low Smoke & Low Toxicity options Available**
- **Low Set Up Costs**
- **Full Design & Manufacturing Service**



Distributor in Poland

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Technical Data

Construction:

Using evenly spaced resistance wires laminated between sheets of silicone, wire wound heater mats are ideal for prototyping or problem solving applications. These heaters can be manufactured to Double Insulated and IP65 Construction.

Characteristics:

Wire wound heaters have good resistance to the following; weather & ageing, fungus & bacteria, acetone, alcohol, formic acid, brake fluid, acetic acid, greases, hydrochloric acid 10%, sulphuric Acid 10%, waxes and plasticisers. In addition to this the heaters have adequate gas permeability and good steam resistance up 130°C and 2.5 Bar respectively.

Health & Safety:

Wire wound heaters are intended for use in industrial electric apparatus. They correspond to the BS EN 60335-1:2012. The heater has to be operated in accordance with these standard and regulations and should be installed on an electrical system protected by a residual current circuit breaker.

Technical Data	
Max Dimensions	Width - 940mm Length - 3000mm
Thicknesses	1.1mm - 3.0mm
Temperature Ranges	-60°C - 250°C (Non Adhesive) -30°C - 180°C (Self Adhesive)
Power Rating	Variable (Dependant on application)
Thermal Conductivity	0.22 (Watt/Metre/K)

	Kapton	Silicone Wire Wound	Silicone Etch Foil
Temperature Range	-269°C to 200°C	-60°C to 250°C	-60°C to 230°C
Thickness Range	0.2mm to 0.3mm	1.1mm to 3mm	0.8mm to 1.5mm
Maximum Possible Size	285mm x 550mm	940mm x 3000mm	595mm x 2500mm
UL & VDE Approval Available		✓	✓
Suitable for High Quantity Runs	✓		✓
Low Smoke Low Toxicity Available		✓	✓

Pre-formed silicone heaters



Applications:

In applications where a heater mat is required to fit small diameter pipe-work a more precise fit can be obtained by using the pre-formed option. We can form and vulcanize silicone heaters to fit the full or partial circumference of any pipe diameter between 10-200mm. These heaters can be supplied with separate straps for fixing or can be permanently installed using room temperature vulcanising silicone adhesive or self adhesive systems. We can also offer insulation foam that would be bonded to the spine of the heater, to help avoid potential losses without the risk of damaging the foam at very small diameters.

- Etch Foil & Wire Wound Technology
- Precise Even Heating
- Flexible & Lightweight
- Moisture & Chemical Resistant
- IP64 or IP65 Protection
- Wide Temperature Range -60°C to 200°C
- UL & VDE Approval Available
- Low Smoke & Low Toxicity Options Available
- Custom Design
- Full Design & Manufacturing Service



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Technical Data

Construction:

Using evenly spaced resistance wires or chemically etched foil tracks laminated between sheets of silicone, pre-formed heaters are constructed for heating small diameter pipes. Formed to a specific diameter and providing a precise fit these heaters are easy to install and provide accurate heating for a variety of pipe heating applications.

Characteristics:

Pre-formed silicone heaters have good resistance to the following; weather & ageing, fungus & bacteria, acetone, alcohol, formic acid, brake fluid, acetic acid, greases, hydrochloric acid 10%, sulphuric acid 10%, waxes and plasticisers. In addition to this the heaters have adequate gas permeability and good steam resistance up 130°C and 2.5 Bar respectively.

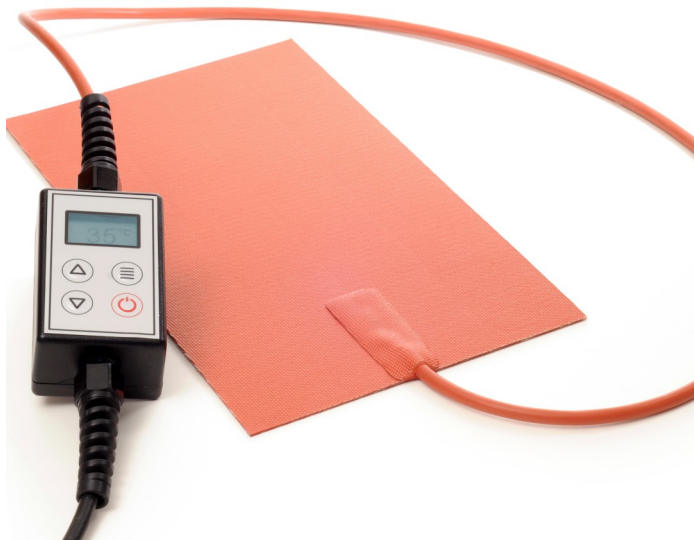
Health & Safety:

Pre-formed heaters are intended for use in industrial electric apparatus. They correspond to the BS EN 60335-1:2012. The heater has to be operated in accordance with these standard and regulations and should be installed on an electrical system protected by a residual current circuit breaker.

Technical Data	
Min Diameter	10mm
Max Diameter	200mm
Thickness	1.5mm – 2.2mm
Temperature Ranges	-60°C - 260°C
Power Rating	Variable (Dependant on application)
Thermal Conductivity	0.22 (Watt/Metre/K)

	Kapton	Silicone Wire Wound	Silicone Etch Foil	Silicone Pre-Formed
Temperature Range	-269°C to 200°C	-60°C to 260°C	-60°C to 200°C	-60°C –260°C
Thickness Range	0.2mm to 0.3mm	1.1mm to 3mm	0.8mm to 1.5mm	1.5mm to 2.2mm
Maximum Possible Size	285mm x 550mm	940mm x 3000mm	595mm x 2500mm	200mm Diameter
UL & VDE Approval Available		✓	✓	✓
Suitable for High Quantity Runs	✓		✓	✓
Low Smoke Low Toxicity Available		✓	✓	✓

Digital thermostat



For accurate process control and real time temperature feedback, we can now offer a digital thermostat in a compact enclosure that can be surface mounted or built inline on our wide range of products.

The digital thermostat will offer the advantages of direct display of the heater operating temperature with set point adjustability within the pre-programmed range and user adjustable parameters of hysteresis, offset and units ($^{\circ}\text{C}$ or $^{\circ}\text{F}$).

Additionally the thermostat features a timer mode that will switch the heating off after a programmed time period and the timer can be formatted to start immediately or once the heater has reached the set point temperature.

For better control accuracy of the process temperature, the digital thermostat can be supplied with an external temperature probe for insertion into the process itself.

Key features

- Large illuminated LCD display
- Tough thick wall ABS enclosure
- Fail safe on sensor open circuit
- IP rating is IP62
- Large membrane keypad
- User adjustable hysteresis and temperature offset
- Cycle timer with user defined delayed start

Digital controller product code : HCL5536



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Technical Data

Operation

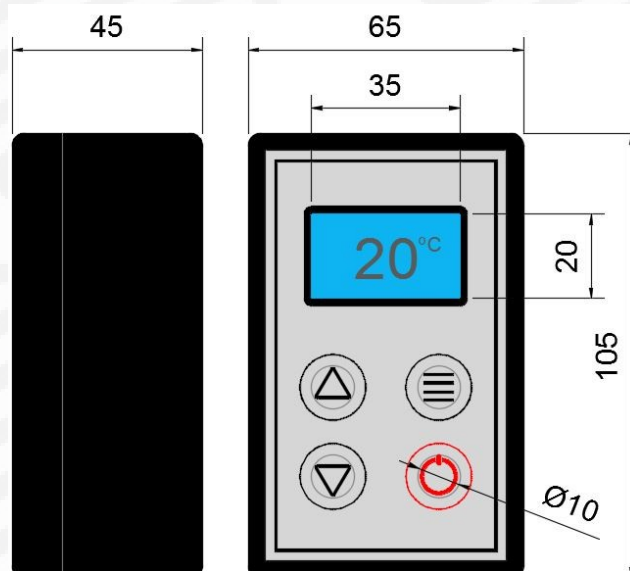
- User programmable temperature set point within factory pre-set range
- User programmable hysteresis
- User programmable delayed start and cycle timer
- User adjustable temperature offset
- Relay contact protection circuitry giving increased relay life

Applications

- Container heaters, surface mounted & in line
- Silicone heaters, surface mounted & in line
- Stand alone controller

Approvals (independently tested)

- EN61326-1:2013 Class B / EN55011:2009, A1 / EN61000-3-2:2006, A1, A2 / EN61326-1:2013 / EN61000-4-2:2009 / EN61000-4-3:2006, A1, A2 / EN61000-4-4:2012 / EN61000-4-5:2014 / EN61000-4-6:2014 / EN61000-4-11:2004



For detailed programming information see instruction manual

	Digital Thermostat	Analogue Controller	Capillary Thermostat
Temperature range (C)	Programmable 0 to 300	Fixed 0 to 200	Fixed 0 to 40 / 0 to 90 / 0 to 120 / 0 to 150
Hysteresis	Programmable 1 to 10°C	3°C	4°C +/- 2°C
Cycle lifetime	>1,000,000 @ 16 Amps	100,000 @ 16 Amps	100,000 @ 16 Amps
Input Voltage	90V to 230V AC	110V / 230V AC models	12 V to 230 V AC
Sensor type	PT100	PT100	Capillary bulb
Max amps	16 Amps	16 Amps	16 Amps
Temperature units	°C and °F	°C	°C