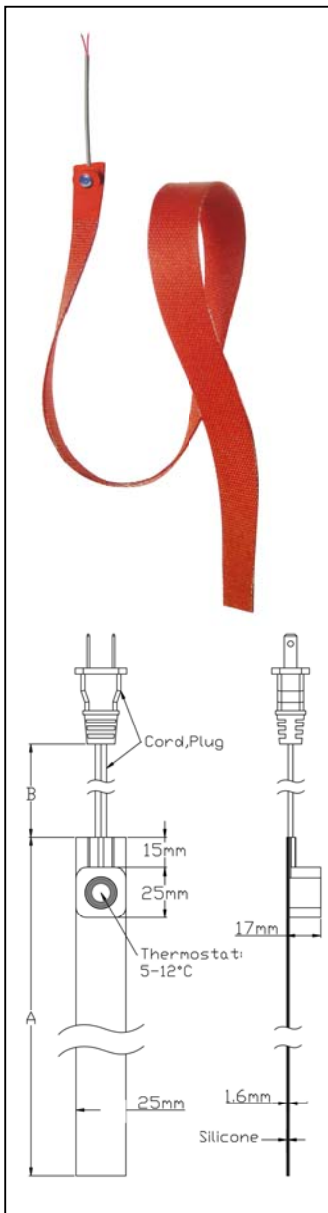




### DIMENSIONS



### MAIN FEATURES

ULTIMHEAT silicone heating elements are made of laminated silicone rubber sheets, vulcanized together through heat and high pressure on both sides of an embedded wire wound heating element. Fiberglass-reinforced silicone rubber gives heater dimensional stability without sacrificing flexibility. Silicone is used because of its high temperature resistance (permanent temperature up to 200°C (390°F), high thermal conductivity (~7 10<sup>-4</sup> W/cm.K) and good electrical insulation properties (~12KV/mm) A fiberglass grid, which is visible under the surface, reinforces the silicone rubber sheets. The wire wound heating element web covers the entire surface of the heater. This construction makes silicone rubber heaters an ideal solution to the requirements of many low and medium temperature applications with small sizes or complicated pattern. Their flat shape and small thickness make them highly appreciated for small diameter pipes, without need to modify the existing foam insulation.

### MAIN APPLICATIONS

Silicone flexible band deicing heaters are designed to provide freeze protection to metallic and plastic piping, valves, pumps, water meters and are usually wrapped around the equipments or fixed axially under the pipe insulation foam with cable ties or adhesive tape. We recommend 10 mm thickness insulation foam for pipes up to 24 mm and 20 mm for diameters over this size.

### TECHNICAL FEATURES

**Length(A on drawing):** 800 mm to 2000 mm,+/- 5 mm (32" to 80" +/- 3/16)

**Width:** 25 mm +/- 1.5 mm (1"+/- 1/16)

**Standard heater thickness without adhesive, cable output and thermostat over-molding not included:** 1.60 mm +/- 0.15 mm (0.065 inch +/- 0.005") \Add 0.1 mm (0.005") to above dimensions for adhesive foil backing.

**Maximum total thickness over cable output:** 4.6 mm

**Maximum total thickness over thermostat:** 17 mm Silicone foil minimum bending radius: 0.125" (3.2 mm)

**Standard Weight:** 0.24 gr/cm<sup>2</sup> 240 g/m<sup>2</sup> (8 oz./ft<sup>2</sup>) + cable and thermostat

**Ingress protection:** IP65

**Maximum operating temperature\*:** the silicone foil can withstand peak 230 °C (446 °F), continuous: 200 °C (390 °F), but these temperatures cannot be reached if these heaters are used on water pipes and according to installation instructions

**Minimum ambient temperature on the heater:** -60 °C (-80 °F)\*

\*These maximum and minimum temperatures apply to silicone heaters only.

Restriction apply for controls and cables

**Voltage:** 12V to 240VAC

**Resistance tolerance:** -5%/+10% (tighter tolerances are achievable)

**Power tolerance:** -10% to + 5%

**Watt density:** The limitation factor is the heating foil and pipe maximum acceptable temperature. This temperature is dependent upon three factors:

- Temperature exchange with ambient or surface
- The maximum operating temperature
- Heater temperature control

#### Standard watt density:

-0.05 w/cm<sup>2</sup> (0.32 w/inch<sup>2</sup>).

-0.1 w/cm<sup>2</sup> (0.64 w/inch<sup>2</sup>). **Warning:** When used on plastic pipes or foam insulated pipes, do not use higher than 0.1w/cm<sup>2</sup> (0.64 w/ inch<sup>2</sup>) watt density to avoid melting plastic pipes or pipe foam insulation.

-0.2 w/cm<sup>2</sup> (1.3 w/inch<sup>2</sup>).

**Built in thermostat:** They are equipped with one ambient temperature thermostat, which will start heating automatically when ambient temperature goes down to 5 °C +/- 3 °C. Thermostat sensing surface must be outside insulation.

**Quality control routine tests:** Each element is 100% tested for continuity, resistance and insulation. Tests are made according to EN 60335-1 and EN 50106 standards

# Made by Ultimheat



# ULTIMHEAT WEB CATALOG

## 9AD-Anti Freeze Band Heaters P2/3



**Dielectric Strength:** 1500V AC, 2s, 0.5 mA (single insulation models) or the typical approval agency recommendation of 2 x input voltage +1000 volts.

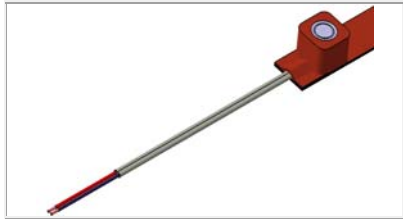


**Insulation resistance:** More than 10 Mohms

**Surface temperature:** Temperature that the silicone rubber heater will attain when suspended in still air at 70 °F (20°C) depends of the watt density.

Surface temperature after stabilization /watt density													
W/cm <sup>2</sup>	0.05	0.10	0.15	0.20	0.30	0.40	0.45	0.50	0.60	0.70	0.8	0.9	1.0
Stabilization Temperature °C	40	70	90	105	135	165	175	190	210	230	250	260	270
W/inch <sup>2</sup>	0.32	0.64	0.97	1.3	1.9	2.6	2.9	3.2	3.9	4.8	5.2	5.8	6.5
Stabilization Temperature °F	104	158	194	221	275	329	320	347	410	446	482	500	518

**Electrical connection:** HO3VVH2F – 2 x 0.5 mm<sup>2</sup> (equivalent to AWG 20), PVC insulated cable, maximum voltage 300V, flexible stranded plated copper wire, with or without over-molded plug. Length 1 meter. Temperature limits on the cable: -5+60°C.

### Electrical connection options

		
2 x 0.5 mm <sup>2</sup> (AWG20) Flat cable without plug	2 x AWG 20 Flat cable with UL plug	HO3VVH2F – 2 x 0.5 mm <sup>2</sup> Flat cable with 2.5 A Euro plug

### MAIN REFERENCES

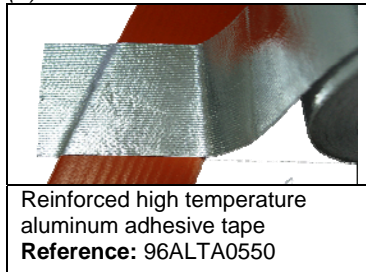
**5°C Ambient disc thermostat, 1m PVC insulated cable, horizontal output, 0.05 to 0.2 w/cm<sup>2</sup> (0.32 to 1.3 w/inch<sup>2</sup>)**

**0.05 w/cm<sup>2</sup> (0.32 w/inch<sup>2</sup>).**

Drawings Available at: <http://www.ultimheat.com/blueink/Anti%20freeze.html>

References	Width mm	Width inches	Length mm	Length inches	Power Watts	voltage	Cable style
9ADC25H08009FB00	25	1,0	800	31,5	9	220/230	2 x 0,5 mm <sup>2</sup> , H03-VVH2, no plug
9ADC25J08012FB00	25	1,0	1000	39,4	12	220/230	2 x 0,5 mm <sup>2</sup> , H03-VVH2, no plug
9ADC25O08018FB00	25	1,0	1500	59,1	18	220/230	2 x 0,5 mm <sup>2</sup> , H03-VVH2, no plug
9ADC25T08024FB00	25	1,0	2000	78,7	24	220/230	2 x 0,5 mm <sup>2</sup> , H03-VVH2, no plug
9ADC25H05009FT00	25	1,0	800	31,5	9	110/115	2 x AWG20 cable, PVC insulated, style 2664, no plug
9ADC25J05012FT00	25	1,0	1000	39,4	12	110/115	2 x AWG20 cable, PVC insulated, style 2664, no plug
9ADC25O05018FT00	25	1,0	1500	59,1	18	110/115	2 x AWG20 cable, PVC insulated, style 2664, no plug
9ADC25T05024FT00	25	1,0	2000	78,7	24	110/115	2 x AWG20 cable, PVC insulated, style 2664, no plug

**Adhesive backside:** for application on various surfaces such as glass, steel, plastic *replace the last character (0) by (A)*



Reinforced high temperature aluminum adhesive tape  
**Reference:** 96ALTA0550

# Made by Ultimheat



# ULTIMHEAT WEB CATALOG

## 9AD-Anti Freeze Band Heaters P3/3



0.1 w/cm<sup>2</sup> (0.64 w/inch<sup>2</sup>).

Drawings Available at: <http://www.ultimheat.com/blueink/Anti%20freeze.html>

References	Width mm	Width inches	Length mm	Length inches	Power Watts	voltage	Cable style
9ADC25H08019FB00	25	1,0	800	31,5	19	220/230	2 x 0,5 mm <sup>2</sup> , H03-VVH2, no plug
9ADC25J08024FB00	25	1,0	1000	39,4	24	220/230	2 x 0,5 mm <sup>2</sup> , H03-VVH2, no plug
9ADC25O08036FB00	25	1,0	1500	59,1	36	220/230	2 x 0,5 mm <sup>2</sup> , H03-VVH2, no plug
9ADC25T08049FB00	25	1,0	2000	78,7	49	220/230	2 x 0,5 mm <sup>2</sup> , H03-VVH2, no plug
9ADC25H05019FT00	25	1,0	800	31,5	19	110/115	2 x AWG20 cable, PVC insulated, style 2664, no plug
9ADC25J05024FT00	25	1,0	1000	39,4	24	110/115	2 x AWG20 cable, PVC insulated, style 2664, no plug
9ADC25O05036FT00	25	1,0	1500	59,1	36	110/115	2 x AWG20 cable, PVC insulated, style 2664, no plug
9ADC25T05049FT00	25	1,0	2000	78,7	49	110/115	2 x AWG20 cable, PVC insulated, style 2664, no plug

0.2 w/cm<sup>2</sup> (1.3 w/inch<sup>2</sup>).

**Warning: Not recommended on most of plastic pipes or surfaces**

Drawings Available at: <http://www.ultimheat.com/blueink/Anti%20freeze.html>

References	Width mm	Width inches	Length mm	Length inches	Power Watts	voltage	Cable style
9ADC25H08038FB00	25	1,0	800	31,5	38	220/230	2 x 0,5 mm <sup>2</sup> , H03-VVH2, no plug
9ADC25J08048FB00	25	1,0	1000	39,4	48	220/230	2 x 0,5 mm <sup>2</sup> , H03-VVH2, no plug
9ADC25O08073FB00	25	1,0	1500	59,1	73	220/230	2 x 0,5 mm <sup>2</sup> , H03-VVH2, no plug
9ADC25T08098FB00	25	1,0	2000	78,7	98	220/230	2 x 0,5 mm <sup>2</sup> , H03-VVH2, no plug
9ADC25H05038FT00	25	1,0	800	31,5	38	110/115	2 x AWG20 cable, PVC insulated, style 2664, no plug
9ADC25J05048FT00	25	1,0	1000	39,4	48	110/115	2 x AWG20 cable, PVC insulated, style 2664, no plug
9ADC25O05073FT00	25	1,0	1500	59,1	73	110/115	2 x AWG20 cable, PVC insulated, style 2664, no plug
9ADC25T05098FT00	25	1,0	2000	78,7	98	110/115	2 x AWG20 cable, PVC insulated, style 2664, no plug

*Adhesive backside:* for application on various surfaces such as glass, steel, plastic *replace the last character (0) by (A)*

**Warning:**

- Silicone rubber heaters are not suitable for: radiation, vacuum, or prolonged exposure to oil
- When these bands are used on thermally insulated pipes, they must be installed under the insulation and always in contact with the pipe surface. We recommend fixing them on the equipment with armed adhesive tape or cable ties

**Design Services:**

Our experienced designers can assist in your design efforts to build a surface heater specifically for your application. In addition, we can look to optimize your current element designs and recommend proper watt densities, controls and element construction. We will conduct a thorough design review and present a proposal and quotation, followed by sample elements upon approval. We also provide testing services and gather agency approvals to verify and ensure that the element construction and design will be optimal for your application.

**Custom designs Protection:**

We protect your intellectual property in confidential fashion. Many of our large clients and ongoing projects are protected with **NDA**'s.

Information given for guidance only - Pour information uniquement

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