

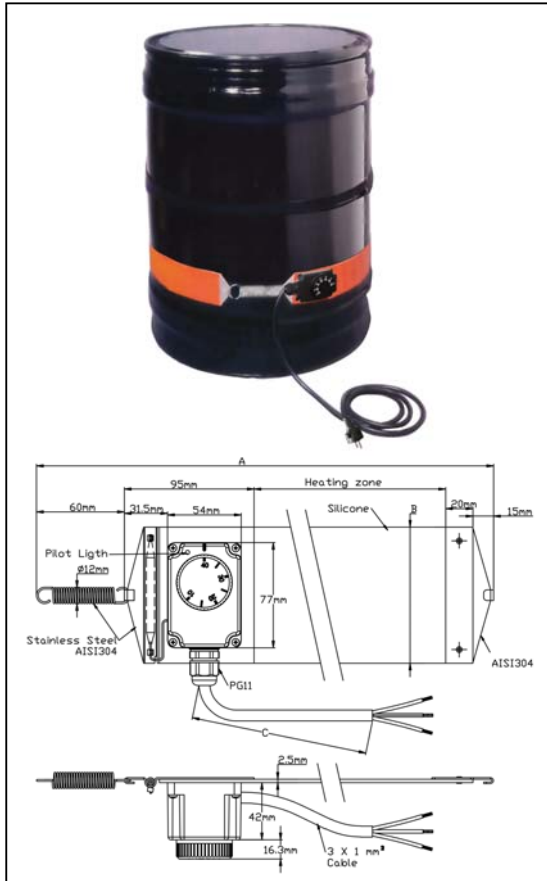


ULTIMHEAT WEB CATALOG

9AB-Silicone Band Drum Heaters P1/3



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 $\sim 7 \cdot 10^{-4}$ W/cm.K and good electrical insulation properties ~ 12 KV/mm A fiberglass grid, which is visible under the surface, reinforces the silicone rubber sheets. The wire wound heating element web covers most of surface of the heater. This construction makes silicone rubber heaters an ideal solution to the requirements of many low and medium temperature applications, which do not conform to the shapes, sizes and dimensions of band, strip, cartridge, tubular and coil heaters.

Other general particularities of these heaters are:

- Not affected by vibration or flexing,
- Precise heating and lightweight
- Comply to UL94-VO (flame retardant) and ROHS
- Low Smoke and Low Toxicity
- Silicone is non-toxic, and moisture and chemical resistant

MAIN APPLICATION

The band style drum heater is an easy way to heat up drum contents and can be used on plastic or metal drums. One or more band heater can be used on the same drum. Silicone rubber drum heaters keep products at temperatures or consistencies for handling in process. Their uniform heating prevents scorching or degradation of the contents.

Typical examples are:

- Consistency control of paints, oils, greases, fats, molasses, adhesives, plastics, mastics, resins, syrups
- Freeze protection
- Maintaining liquid temperatures at 45-65°C (115-150° F) in food industry water purification systems
- Maintaining viscosity of chemical binder in sand casting mold operation
- Maintain polyester resin at 20-25°C (70-80° F) for spay and pour equipment

TECHNICAL FEATURES

Location on the drum: The silicone rubber band heater must be placed below the level of the fluid.

Fixing: By a spring lock-up that allows adjusting the band to the drum diameter, change position to the right place when content levels fluctuate, and also press the band on the drum surface, providing good thermal contact.

Length (dimension A on drawing): designed to be used on main containers diameters. Consult factory if a special diameter is requested.

Width (dimension B on drawing): in standard 100mm (4 ") and 150 mm (6"), on special order

Silicone foil minimum bending radius: 0.125" (3.2 mm)

Ingress protection: IP51

Maximum operating temperature on the silicone band: Warning: When improperly used or installed, the silicone band heater surface temperature can reach 230 °C (446°F)

This maximum temperature should never been reached in normal use, when the band heater is correctly in contact with the drum and the temperature control thermostat adjusted to the right value.

Minimum ambient temperature: -10 °C (+15 °F)

Voltage: 115 or 230VAC

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

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Power tolerance: -10% to + 5%

Heating Element: Silicone insulated spiral wound resistance element

Control: Electronic temperature control is provided by mechanical thermostat with set point adjustment from +10°C to +110°C (+15~230°F), with a power supply on pilot light . The thermostat knob has an internal adjustable stop that allows to limit the maximum or minimum set point

Control housing: IP51, 77x54x42 mm with p611 cable gland output

Power Cable: The heater is supplied in standard with a 2 meters cable, 3 x 1mm². On request it can be supplied with UL or Euro plug cords.

Health and Safety standards: The heaters have been designed in compliance with EEC Low Voltage Directive (LVD) 2006/95/EC and EMC directive 2004/108/EC and CE marked accordingly.

They must be installed in accordance with all local applicable instructions, codes, and regulations.

Standard watt density:

- 0.2 w/cm² (1.3 w/inch²) for plastic containers
- 0.8 w/cm² (5.2 w/inch²) for steel containers
- 0.95 w/cm² (6.15 w/inch²) for steel containers (exceptional uses)

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

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. Below 5.2 w/inch², (0.8 w/cm²), the temperature will rise during some minutes and stabilize at a temperature below the critical 500 °F (260°C) which is the highest technically acceptable surface temperature.

Surface temperature after stabilization /watt density													
W/cm ²	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 ²	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

Warning:

- Silicone rubber heaters are not suitable for: radiation, vacuum, or prolonged exposure to oil
- Power to the band heater must be disconnected when the container is empty
- Power to the band heater must be disconnected when the container is being filled
- Power to the band heater must be disconnected during installation or removal of the heater itself.
- The band heater must be operated in a dry environment
- The container must be vented to avoid build up of internal pressure.
- These heaters are not suitable for outdoor use, and must be protected from rain, dust and condensation.
- These heaters are not suitable for use in flammable or explosive areas
- Do not operate heater above safety rated temperature (This temperature depends of the heated liquid, and must be checked before connecting the heater to any power supply)
- Use specified sized heater with same sized container
- Read installation instruction before use

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.

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MAIN REFERENCES

Width 100 mm, 10-100°C bulb and capillary thermostat, 2 meters cord without plug

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

Reference	Description	w/cm ²	Drum Dia mm +/- 12 mm	Drum Dia (inch), +/- 0.5"	total length mm (A)	Length inches	Power Watts	V.AC
9ABNA0H78140KB00	5-gallon (19 liter) plastic pail	0,2	290	11,4	871	34,3	140	220/230
9ABNA0H78560KB00	5-gallon (19 liter) metal pail	0,8	290	11,4	871	34,3	560	220/230
9ABNA0J18180KB00	15-gallon (57 liter) plastic drum	0,2	356	14,0	1078	42,4	180	220/230
9ABNA0J18730KB00	15-gallon (57 liter) steel drum	0,8	356	14,0	1078	42,4	730	220/230
9ABNA0N08250KB00	30-gallon (114 liter) plastic drum	0,2	460	18,1	1404	55,3	250	220/230
9ABNA0N08990KB00	30-gallon (114 liter) steel drum	0,8	460	18,1	1404	55,3	990	220/230
9ABNA0Q58320KB00	55-gallon (208 liter) plastic drum	0,2	570	22,4	1750	68,9	320	220/230
9ABNA0Q58A25KB00	55-gallon (208 liter) steel drum	0,8	570	22,4	1750	68,9	1250	220/230
9ABNA0Q58A50KB00	High power Heater for 55-gallon (208 liter) steel drum	0,95	570	22,4	1750	68,9	1500	220/230
9ABNA0H75140KB00	5-gallon (19 liter) plastic pail	0,3	290	11,4	871	34,3	140	110 /115
9ABNA0H75560KB00	5-gallon (19 liter) metal pail	0,8	290	11,4	871	34,3	560	110 /115
9ABNA0J15180KB00	15-gallon (57 liter) plastic drum	0,2	356	14,0	1078	42,4	180	110 /115
9ABNA0J18730KB00	15-gallon (57 liter) steel drum	0,8	356	14,0	1078	42,4	730	110 /115
9ABNA0N05250KB00	30-gallon (114 liter) plastic drum	0,2	460	18,1	1404	55,3	250	110 /115
9ABNA0N05990KB00	30-gallon (114 liter) steel drum	0,8	460	18,1	1404	55,3	990	110 /115
9ABNA0Q55320KB00	55-gallon (208 liter) plastic drum	0,2	570	22,4	1750	68,9	320	110 /115
9ABNA0Q55A25KB00	55-gallon (208 liter) steel drum	0,8	570	22,4	1750	68,9	1250	110 /115
9ABNA0Q55A50KB00	High power heater for 55-gallon (208 liter) steel drum	0,95	570	22,4	1750	68,9	1500	110 /115

Warning: these heating values have been optimized to apply maximum 0.2W/cm² on the plastic container heated surface and 0.8W/cm² on the steel containers surface. The reduced value of 0.2 W/cm² is also recommended for low temperature heating or low temperature resistant liquids. The 0.95 W/cm² model must be carefully used as temperature it can reach if improperly installed is higher than silicone band temperature resistance.

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