

Flexible silicone rubber heating belts for metal drums



Safety instructions for all industrial silicone rubber belt heaters described in this catalogue section

General conditions

- 1- Read the user manual before any use
- 2- Protect the power supply circuit by a differential circuit breaker of 20mA sensitivity, with rating adapted to the model that must be connected to it.
- 3- This power supply circuit must be carried out by a qualified electrician and according to the local standards in force.
- 4- The earth circuit must be compliant and connected.
- 5- Check that power supply voltage is the same than printed on the heater.
- 6- Don't use silicone rubber heaters with surface power higher than 0.2 W/cm^2 on plastic surfaces.
- 7- The heater must be disconnected during installation or de-installation.
- 8- The heater must be stored in a dry place and protected from rodents and other animals during periods when it is not used.
- 9- Do not cut or punch the surface
- 10- These appliances are not suitable for permanent outdoor use, and must be protected from rain, dust and condensation.
- 11- Silicone heaters are not suitable for prolonged exposure to oils.
- 12- These devices are not suitable for use in flammable or explosive areas.

Additional instructions for heating belts

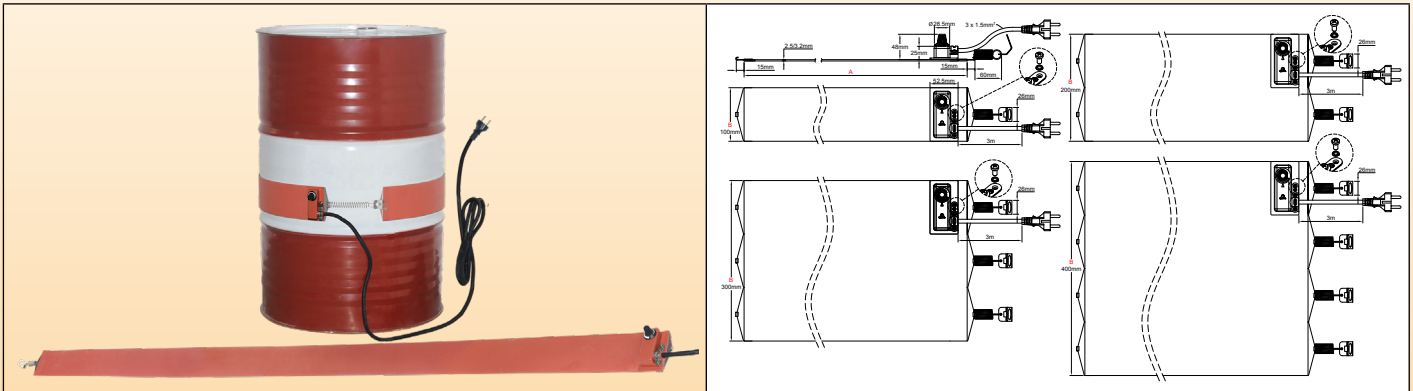
- 13- Use a silicone heater adapted to the size of the container
- 14- Use the ground terminal located at the cord input in the heater to connect the metal containers to the grounding conductor.
- 15- The heater must be immediately disconnected when the container is empty.
- 16- The heater must be disconnected when filling the container.
- 17- The container must be in communication with the atmospheric pressure to avoid the increase of its internal pressure and its explosion by dilation or boiling of the products which it contains. This setting at atmospheric pressure may for example be performed by unscrewing or removing a plug located in the upper part of the container. The use of a temperature sensor and /or stirrer using this upper orifice for their fastenings must not completely close this orifice.
- 18- Do not operate above rated safety temperature of the product, which is under its boiling temperature. (This temperature must be checked before connecting the device).
- 19- The silicone heater must be in contact with the surface of the container to be heated, without superimposing heating parts. The superposition of two heating parts doubles the surface power and can cause melting of the silicone heater and initiate a fire in the most severe cases.
- 20- Fix tightly the belt on the container with the springs. The belt must not slip by its own weight. Do not extend springs more than 100% of their original length. If the gap between the 2 ends of the belt is too big for the spring, extend the spring with a chain or a cord. If the gap between the 2 ends is too short to have a good grip on the container, it is possible to insert the belt hook between 2 coils of the spring.
- 21- Container surface must be clean and not greasy.
- 22- The silicone rubber band heater must be placed below the level of the fluid, and never on an empty section of the container
- 23- Position the silicone heater so that it is in perfect contact with the largest possible cylindrical surface of the container.
- 24- Never position the silicone heating belts on the hoops of the drums.
- 25- Do not wrap on handles, fittings, taps, legs, plugs, rivets, screws or any surface irregularity.
- 26- Never immerse the belt in liquids or water. It is not immersion proof. If it must be cleaned, disconnect from power supply before cleaning and clean it with soft tissue.
- 27- Do not use on square or rectangular recipients with sharp angles. Angles must have a radius greater than 20mm.

NT3000SPH036A



Silicone rubber heating belts for metal drums, with **surface mounted bimetal thermostat**

Containers material	Maximum temperature	Tightening	Thermostat	Silicone thickness (mm)	Type
Metal only	200°C	Hooks and springs	Creep action adjustable bimetal thermostat	2,5 (3,2)	9AF



Main features

Silicone belt heaters are made of fiberglass reinforced laminated silicone rubber sheets, vulcanized together through heat and high pressure on both sides of an embedded specially formed heating wire element. Fiberglass-reinforced silicone rubber gives the 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).

This series is distinguished by the use of a bimetal thermostat mounted on the surface of the heating part, in a compact and economical design.

Other general particularities of these heaters are:

- Not affected by vibration or flexing,
- Lightweight,
- Comply with UL94-VO (flame retardant) and ROHS,
- Low smoke and low Toxicity,
- Silicone is non-toxic, and moisture and chemical resistant.
- Very thin profile.

Main Applications

Combining high power density with flexibility silicone heating belts are a simple and economical solution for heating metal drums.

They bring and maintain products to the consistency required for their use. Some typical applications 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,
- Maintain polyester resin at 20-25°C (70-80°F) for spray and pour equipment.

Technical Features

Clamping on drums: By spring and hook lock-up that allows adjusting the band to the drum diameter; change position to the right place as content levels fluctuate; and also keeps the band tight to the drum surface, providing good thermal contact. Clamping force of each spring is from 1 to 3DaN in the recommended drums diameter range. The spring is equipped with a pull ring for easy installation and removing of the belt.

Length (Dimension A): Designed to be used on standard container diameters. Consult factory if a custom size is requested.

Width (dimension B): 100mm (4"). **Heating belts must always be applied on cylindrical surfaces without hoops or ribs.**

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

Ingress protection: IP54.

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

Voltage: 220-240VAC.

Power tolerance: $\pm 10\%$ at 20°C

Temperature control:

Single pole bimetal thermostat, adjustable from 20°C to 150°C (50~300°F) or from 50 to 200°C (120~390°F). Creep action contact, rating 1500W, 110 and 230V. This low rating limits the possible width of these belts to 100mm

Power density:

- 0.75 w/cm² (4.8 w/inch²), for usual applications.
- 1 w/cm² (6.5 w/inch²) for fast heating applications



Silicone rubber heating belts for metal drums, with **surface mounted bimetal thermostat**

Thickness of the flexible silicone foil: 2.5mm. (Optional 3.2mm, for heavy duty applications requiring strong mechanical strength and reinforced 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. See technical introduction.

Dielectric Strength: 1750V AC.

Insulation resistance: ≥ 10 Megohms.

Operating temperature:

The temperature controlled by the thermostat is that of the **heating surface**. The temperature of the heated product is generally much lower than that of the surface and depends mainly on the surface power (W/cm^2), the quality of the thermal contact with the container, the viscosity, heat capacity and thermal conductivity of the heated product, the good positioning of the heating belt, the set point value, and room temperature

You can find in the technical introduction examples of the temperatures reached by silicone heating belts. They represent the temperature that may reach the heating belt if it is not correctly installed (for example: poor thermal contact, empty container or improperly temperature controlled).

Connection cable:

Insulated rubber power supply cable, for industrial environments, 3 x 1mm² length 3m, Euro plug. UL plug on request.

Options:

- 3.2mm reinforced thickness.
- Power supply 110/115V
- Power cord with industrial plug 2-pole + earth 16A CEE (IEC60309)
- Surface temperature limiter.
- Grounded mesh wire shield layer
- Power density reduced to 0.2 W/cm^2 (1.3 $w/inch^2$) for plastic containers. In this power density, models in 200 and 300mm width can be made
- Outside thermal insulation by silicone foam layer.

Safety standards:

The heaters have been designed in compliance with EEC Low Voltage Directive (LVD) 2006/95/EC and EMC directive 2004/108/EC. They must be installed in accordance with all local applicable instructions, codes, and regulations.

Main parts numbers in 220/240V, width 100mm, with 3 meters cord and euro plug*

(See the technical introduction for the liquids heating time)

Container Liters (Gallons)	Part number with 30-150°C (50-300°F) thermostat****	Part number with 50-200°C (120-390°F) thermostat***	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length	Power density W/cm^2 (W/in^2)	Power**
57~60 (16)	9AFB8E1102855C30	9AFB8W1102855C30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	550
57~60 (16)	9AFBBE1102874C30	9AFBBW1102874C30	356-373 (14-14.7)	1020 (40.1)	1 (6.5)	740
110~120 (30)	9AFB8E1135875C30	9AFB8W1135875C30	463-480 (18.2-18.9)	1350 (53.1)	0,75 (4.8)	750
110~120 (30)	9AFBBE11358A0C30	9AFBBW11358A0C30	463-480 (18.2-18.9)	1350 (53.1)	1 (6.5)	1000
208~210 (55)	9AFB8E1169895C30	9AFB8W1169895C30	571-588 (22.5-23.2)	1690 (66.5)	0.75 (4.8)	950
208~210 (55)	9AFBBE11698A3C30	9AFBBW11698A3C30	571-588 (22.5-23.2)	1690 (66.5)	1 (6.5)	1300

* Cord with UL plug instead of Euro plug, replace C30 by D30 in the Part number.

** Values above 1500W are not compatible with the 6,5A 230V rating of the single pole thermostat.

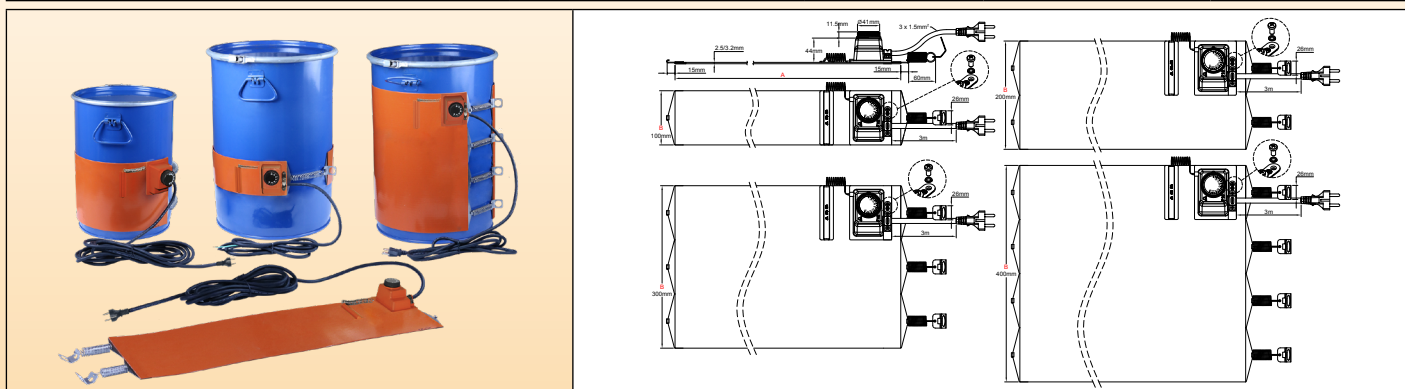
*** Thermostat knob is not printed in degrees.

**** 3.2mm reinforced thickness, replace FB by FC in the Part number.



Silicone rubber heating belts for metal drums, with surface mounted bulb and capillary thermostat

Containers material	Maximum temperature	Tightening	Thermostat	Silicone thickness (mm)	Type
Metal only	200°C	Hooks and springs	Bulb and capillary	2,5 (3,2)	9AB



Main features

Silicone belt heaters are made of fiberglass reinforced laminated silicone rubber sheets, vulcanized together through heat and high pressure on both sides of an embedded specially formed heating wire element. Fiberglass-reinforced silicone rubber gives the heater dimensional stability without sacrificing flexibility.

Silicone is used because of its high temperature resistance (Constant temperature up to 200°C (390°F), high thermal conductivity ($\sim 7 \cdot 10^{-4} \text{ W/cm.K}$) and good electrical insulation properties ($\sim 12 \text{ KV/mm}$)

This series is distinguished by the use of a conventional thermostat mounted on the surface of the heating part, in a compact and economical design.

Other general particularities of these heaters are:

- Not affected by vibration or flexing,
- Lightweight,
- Comply with UL94-VO (flame retardant) and ROHS,- Low smoke and low Toxicity,
- Silicone is non-toxic, and moisture and chemical resistant,
- Very thin profile.

Main Applications

Combining high power density with flexibility silicone heating belts are a simple and economical solution for heating metal drums.

They bring and maintain products to the consistency required for their use. Some typical applications 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,
- Maintain polyester resin at 20-25°C (70-80°F) for spray and pour equipment.

Technical Features

Clamping on drums: By spring and hook lock-up that allows adjusting the band to the drum diameter; change position to the right place as content levels fluctuate; and also keeps the band tight to the drum surface, providing good thermal contact. Clamping force of each spring is from 1 to 3DaN in the recommended drums diameter range. The spring is equipped with a pull ring for easy installation and removing of the belt.

Length (Dimension A): designed to be used on standard container diameters. Consult factory if a custom size is requested.

Width (dimension B): 100mm (4"), 200mm (8") 300mm (12"), and 400 mm (16"). **Heating belts must always be applied on cylindrical surfaces without hoops or ribs.**

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

Ingress protection: IP54.

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

Voltage: 220-240VAC.

Power tolerance: $\pm 10\%$ at 20°C

Temperature control:

Single pole bulb and capillary thermostat, adjustable from 20°C to 110°C (+50~230°F) or from 50 to 200°C (120-390°F).

Rating 16A 230V.

Power density:

- 0.75 w/cm² (4.8 w/inch²), for usual applications.
- 1 w/cm² (6.5 w/inch²) for fast heating applications

Thickness of the flexible silicone foil: 2.5mm. (Optional 3.2mm, for heavy duty applications requiring strong mechanical strength and reinforced insulation).

Quality control routine tests: Each element is 100% tested for continuity, resistance and insulation. Tests are made



Silicone rubber heating belts for metal drums, with surface mounted bulb and capillary thermostat

according to EN 60335-1 and EN 50106 standards. See technical introduction.

Dielectric Strength: 1750V AC.

Insulation resistance: ≥ 10 Megohms.

Operating temperature:

The temperature controlled by the thermostat is that of the heating surface. The temperature of the heated product is generally much lower than that of the surface and depends mainly on the surface power (W/cm²), the quality of the thermal contact with the container, the viscosity, heat capacity and thermal conductivity of the heated product, the good positioning of the heating belt, the set point value, and room temperature (See technical introduction).

You can find in the technical introduction examples of the temperatures reached by silicone heating belts. They represent the temperature that may reach the heating belt if it is not correctly installed (for example: poor thermal contact, empty container or improperly temperature controlled).

Connection cable:

Insulated rubber power supply cable, for industrial environments, 3 x 1.5mm² length 3m, Euro plug. UL plug on request.

Options:

- 3.2mm reinforced thickness.
- Power supply 110/115V
- Power cord with industrial plug 2-pole + earth 16A CEE (IEC60309)
- Surface temperature limiter.
- Grounded mesh wire shield layer
- Power density reduced to 0.2 W/cm² (1.3 w/inch²) for plastic containers
- Outside thermal insulation by silicone foam layer.

Safety standards:

The heaters have been designed in compliance with EEC Low Voltage Directive (LVD) 2006/95/EC and EMC directive 2004/108/EC. They must be installed in accordance with all local applicable instructions, codes, and regulations.

Main parts numbers in 220/240V with 3 meters cord and euro plug*

(See the technical introduction for the liquids heating time)

Belt width B = 100mm						
Container Liters (Gallons)	Part number with 30-110°C (50-230°F) Thermostat	Part number with 50-200°C (120-390°F) Thermostat	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length mm (inch)	Power density W/cm ² (W/in ²)	Power Watts
57~60 (16)	9ABB8G1102855F30	9ABB8L1102855F30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	550
57~60 (16)	9ABBBG1102874F30	9ABBBL1102874F30	356-373 (14-14.7)	1020 (40.1)	1 (6.5)	740
110~120 (30)	9ABB8G1135875F30	9ABB8L1135875F30	463-480 (18.2-18.9)	1350 (53.1)	0,75 (4.8)	750
110~120 (30)	9ABBBG11358A0F30	9ABBBL11358A0F30	463-480 (18.2-18.9)	1350 (53.1)	1 (6.5)	1000
208~210 (55)	9ABB8G1169895F30	9ABB8L1169895F30	571-588 (22.5-23.2)	1690 (66.5)	0,75 (4.8)	950
208~210 (55)	9ABBBG11698A3F30	9ABBBL11698A3F30	571-588 (22.5-23.2)	1690 (66.5)	1 (6.5)	1300
Belt width B = 200mm						
Container Liters (Gallons)	Part number with 30-110°C (50-230°F) Thermostat	Part number with 50-200°C (120-390°F) Thermostat	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length mm (inch)	Power density W/cm ² (W/in ²)	Power Watts
57~60 (16)	9ABB8G21028A3F30	9ABB8L21028A3F30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	1300
57~60 (16)	9ABBBG21028A7F30	9ABBBL21028A7F30	356-373 (14-14.7)	1020 (40.1)	1 (6.5)	1700
110~120 (30)	9ABB8G21358A7F30	9ABB8L21358A7F30	463-480 (18.2-18.9)	1350 (53.1)	0,75 (4.8)	1700
110~120 (30)	9ABBBG21358B3F30	9ABBBL21358B3F30	463-480 (18.2-18.9)	1350 (53.1)	1 (6.5)	2300
208~210 (55)	9ABB8G21698B2F30	9ABB8L21698B2F30	571-588 (22.5-23.2)	1690 (66.5)	0,75 (4.8)	2200
208~210 (55)	9ABBBG21698B9F30	9ABBBL21698B9F30	571-588 (22.5-23.2)	1690 (66.5)	1 (6.5)	2900
Belt width B = 300mm						
Container Liters (Gallons)	Part number with 30-110°C (50-230°F) Thermostat	Part number with 50-200°C (120-390°F) Thermostat	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length mm (inch)	Power density W/cm ² (W/in ²)	Power Watts
57~60 (16)	9ABB8G31028B0F30	9ABB8L31028B0F30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	2000
57~60 (16)	9ABBBG31028B7F30	9ABBBL31028B7F30	356-373 (14-14.7)	1020 (40.1)	1 (6.5)	2700
110~120 (30)	9ABB8G31358B7F30	9ABB8L31358B7F30	463-480 (18.2-18.9)	1350 (53.1)	0,75 (4.8)	2700
110~120 (30)	9ABBBG31358C6F30	9ABBBL31358C6F30	463-480 (18.2-18.9)	1350 (53.1)	1 (6.5)	3600
Belt width B = 400mm						
Container Liters (Gallons)	Part number with 30-110°C (50-230°F) Thermostat	Part number with 50-200°C (120-390°F) Thermostat	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length mm (inch)	Power density W/cm ² (W/in ²)	Power Watts
57~60 (16)	9ABB8G41028B8F30	9ABB8L41028B8F30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	2800**

* Cord with UL plug instead of Euro plug, replace F30 by E30 in the Part number.

** Values above 3600W are not compatible with the 16A 230V rating of the single pole thermostat.

*** Thermostat knob printed in °F instead of °C, replace G by F or L by K in the Part number.

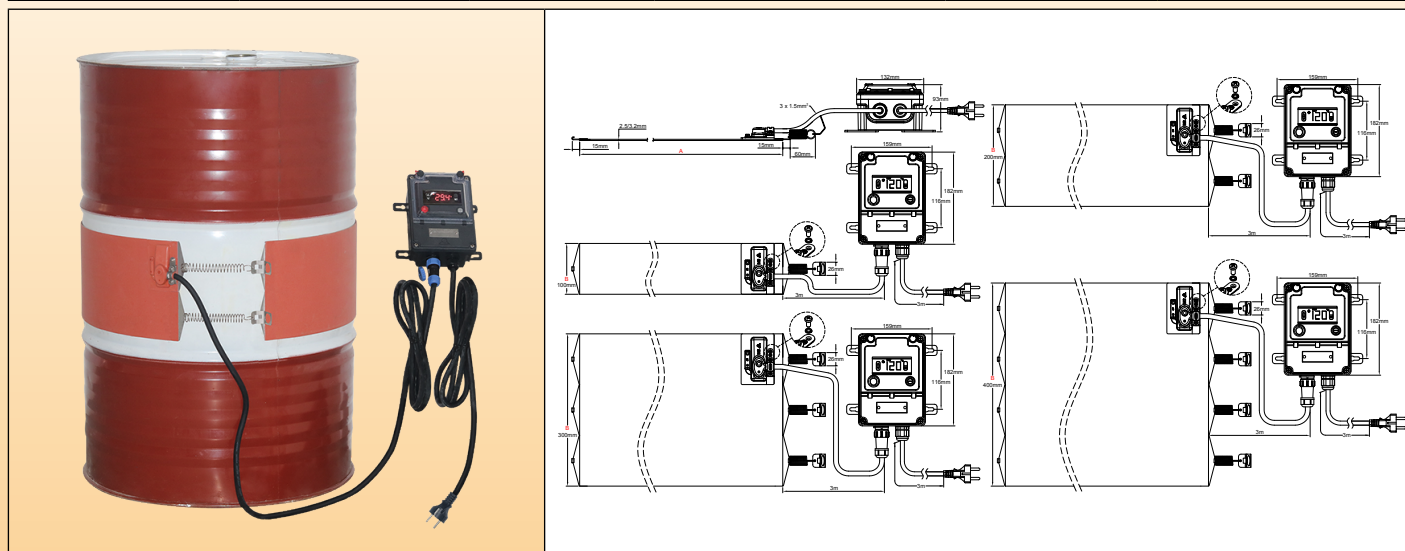
**** 3.2mm reinforced thickness, replace 9ABB by 9ABC in the Part number.

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice



Silicone rubber heating belts for metal drums, with remote electronic control, on-off action, 0-120°C or 0-200°C

Containers material	Maximum temperature	Tightening	Thermostat	Silicone thickness (mm)	Type
Metal only	120°C 200°C	Hooks and springs	Remote electronic temperature control, on-off action	2,5 (3,2)	9AC



Main features

Silicone rubber belt heaters are made of fiberglass reinforced laminated silicone rubber sheets, vulcanized together through heat and high pressure on both sides of an embedded specially formed heating wire element. Fiberglass-reinforced silicone rubber gives the heater dimensional stability without sacrificing flexibility.

Silicone is used because of its high temperature resistance (Constant 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)

This series is distinguished by the use of a remote electronic control system, on-off action, with digital display of the measured value, connection by waterproof connector for easy disconnection of the heater, and IP65 ingress protection class for the whole assembly. This allows its use in most of industrial applications.

Other general particularities of these flexible silicone heaters are:

- Not affected by vibration or flexing,
- Lightweight,
- Comply with UL94-VO (flame retardant) and ROHS,
- Low smoke and low Toxicity,
- Silicone is non-toxic, and moisture and chemical resistant
- Very thin profile

Main Applications

Combining high power density with flexibility silicone heating belts are a simple and economical solution for heating metal drums.

They bring and maintain products to the consistency required for their use. Some typical applications 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,
- Maintain polyester resin at 20-25°C (70-80°F) for spray and pour equipment.

Technical Features

Clamping on drums: By spring and hook lock-up that allows adjusting the band to the drum diameter; change position to the right place as content levels fluctuate; and also keeps the band tight to the drum surface, providing good thermal contact. Clamping force of each spring is from 1 to 3DaN in the recommended drums diameter range. The spring is equipped with a pull ring for easy installation and removing of the belt.

Length (Dimension A): designed to be used on standard container diameters. Consult factory if a custom size is requested.

Width (dimension B): 100mm (4"), 200mm (8") 300mm (12"), and 400 mm (16"). **Heating belts must always be applied on cylindrical surfaces without hoops or ribs.**

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

Ingress protection: IP65.

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



Silicone rubber heating belts for metal drums, with remote electronic control, on-off action, 0-120°C or 0-200°C

Voltage: 220-240VAC.

Power tolerance: ±10% at 20°C

Temperature control:

By electronic controller with digital display, On-Off action, set point adjustment range up to 120°C (NTC sensor), or 200°C (Pt100 sensor), relay output, located in an independent **waterproof** housing, **designed for wall mounting**. It is connected to the flexible silicone rubber heater by a cable equipped with a 5-pin **waterproof quick connector**, facilitating the connection and disconnection with the heater. It controls the temperature by means of a probe placed under a silicone boot on the outer surface of the heater.

Rating 16A 230V.

The setting of this temperature controller is extremely simple.

Power density:

- 0.75 w/cm² (4.8 w/inch²), for usual applications.

- 1 w/cm² (6.5 w/inch²) for fast heating applications

Thickness of the flexible silicone foil: 2.5mm. (Optional 3.2mm, for heavy duty applications requiring strong mechanical strength and reinforced 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. See technical introduction.

Dielectric Strength: 1750V AC.

Insulation resistance: ≥ 10 Megohms.

Operating temperature:

The temperature measured by the electronic controller is that of the heating surface. The temperature of the heated product is generally much lower than that of the surface and depends mainly on the surface power (W/cm²), the quality of the thermal contact with the container, the viscosity, heat capacity and thermal conductivity of the heated product, the good positioning of the heating belt, the set point value, and room temperature (See technical introduction).

You can find in the technical introduction examples of the temperatures reached by silicone heating belts. They represent the temperature that may reach the heating belt if it is not correctly installed (for example: poor thermal contact, empty container or improperly temperature controlled).

Connection cable:

Insulated rubber power supply cable, for industrial environments, 3 x 1.5mm² length 3m, Euro plug. UL plug on request.

Options:

- 3.2mm reinforced thickness.

- Power supply 110/115V.

- Power cord with industrial plug 2-pole + earth 16A CEE (IEC60309)

- Surface temperature limiter.

- Grounded mesh wire layer.

- **Power density reduced to 0.2 W/cm² (1.3 w/inch²) for plastic containers.**

- Outside thermal insulation by silicone foam layer.

Safety standards:

The heaters have been designed in compliance with EEC Low Voltage Directive (LVD) 2006/95/EC and EMC directive 2004/108/EC. They must be installed in accordance with all local applicable instructions, codes, and regulations.

Main parts numbers in 220/240V with 3 meters cords and euro plug*

(See the technical introduction for the liquids heating time)

Belt width B = 100mm						
Container Liters (Gallons)	Part number with temperature controller adjustable up to 120°C (250°F)	Part number with temperature controller adjustable up to 200°C (390°F)	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length mm (inch)	Power density W/cm ² (W/in ²)	Power Watts
57~60 (16)	9ACB8A1102855F30	9ACB8B1102855F30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	550
57~60 (16)	9ACBBA1102874F30	9ACBBB1102874F30	356-373 (14-14.7)	1020 (40.1)	1 (6.5)	740
110~120 (30)	9ACB8A1135875F30	9ACB8B1135875F30	463-480 (18.2-18.9)	1350 (53.1)	0,75 (4.8)	750
110~120 (30)	9ACBBA11358A0F30	9ACBBB11358A0F30	463-480 (18.2-18.9)	1350 (53.1)	1 (6.5)	1000
208~210 (55)	9ACB8A1169895F30	9ACB8B1169895F30	571-588 (22.5-23.2)	1690 (66.5)	0.75 (4.8)	950
208~210 (55)	9ACBBA11698A3F30	9ACBBB11698A3F30	571-588 (22.5-23.2)	1690 (66.5)	1 (6.5)	1300
Belt width B = 200mm						
Container Liters (Gallons)	Part number with temperature controller adjustable up to 120°C (250°F)	Part number with temperature controller adjustable up to 200°C (390°F)	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length mm (inch)	Power density W/cm ² (W/in ²)	Power Watts
57~60 (16)	9ACB8A21028A3F30	9ACB8B21028A3F30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	1300
57~60 (16)	9ACBBA21028A7F30	9ACBBB21028A7F30	356-373 (14-14.7)	1020 (40.1)	1 (6.5)	1700
110~120 (30)	9ACB8A21358A7F30	9ACB8B21358A7F30	463-480 (18.2-18.9)	1350 (53.1)	0,75 (4.8)	1700
110~120 (30)	9ACBBA21358B3F30	9ACBBB21358B3F30	463-480 (18.2-18.9)	1350 (53.1)	1 (6.5)	2300
208~210 (55)	9ACB8A21698B2F30	9ACB8B21698B2F30	571-588 (22.5-23.2)	1690 (66.5)	0,75 (4.8)	2200
208~210 (55)	9ACBBA21698B9F30	9ACBBB21698B9F30	571-588 (22.5-23.2)	1690 (66.5)	1 (6.5)	2900



Silicone rubber heating belts for metal drums, with **remote electronic control, on-off action, 0-120°C or 0-200°C**

Because of permanent improvement of our products, drawings, descriptions, features used on these data sheets are for guidance only and can be modified without prior advice

Belt width B = 300mm						
Container Liters (Gallons)	Part number with temperature controller adjustable up to 120°C (250°F)	Part number with temperature controller adjustable up to 200°C (390°F)	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length mm (inch)	Power density W/cm ² (W/in ²)	Power Watts
57~60 (16)	9ACB8A31028B0F30	9ACB8B31028B0F30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	2000
57~60 (16)	9ACBBA31028B7F30	9ACBBB31028B7F30	356-373 (14-14.7)	1020 (40.1)	1 (6.5)	2700
110~120 (30)	9ACB8A31358B7F30	9ACB8B31358B7F30	463-480 (18.2-18.9)	1350 (53.1)	0,75 (4.8)	2700
110~120 (30)	9ACBBA31358C6F30	9ACBBB31358C6F30	463-480 (18.2-18.9)	1350 (53.1)	1 (6.5)	3600**
Belt width B = 400mm						
Container Liters (Gallons)	Part number with temperature controller adjustable up to 120°C (250°F)	Part number with temperature controller adjustable up to 200°C (390°F)	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length mm (inch)	Power density W/cm ² (W/in ²)	Power Watts
57~60 (16)	9ACB8A41028B8F30	9ACB8B41028B8F30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	2800**

* Cord with UL plug instead of Euro plug, replace F30 by E30 in the Part number.

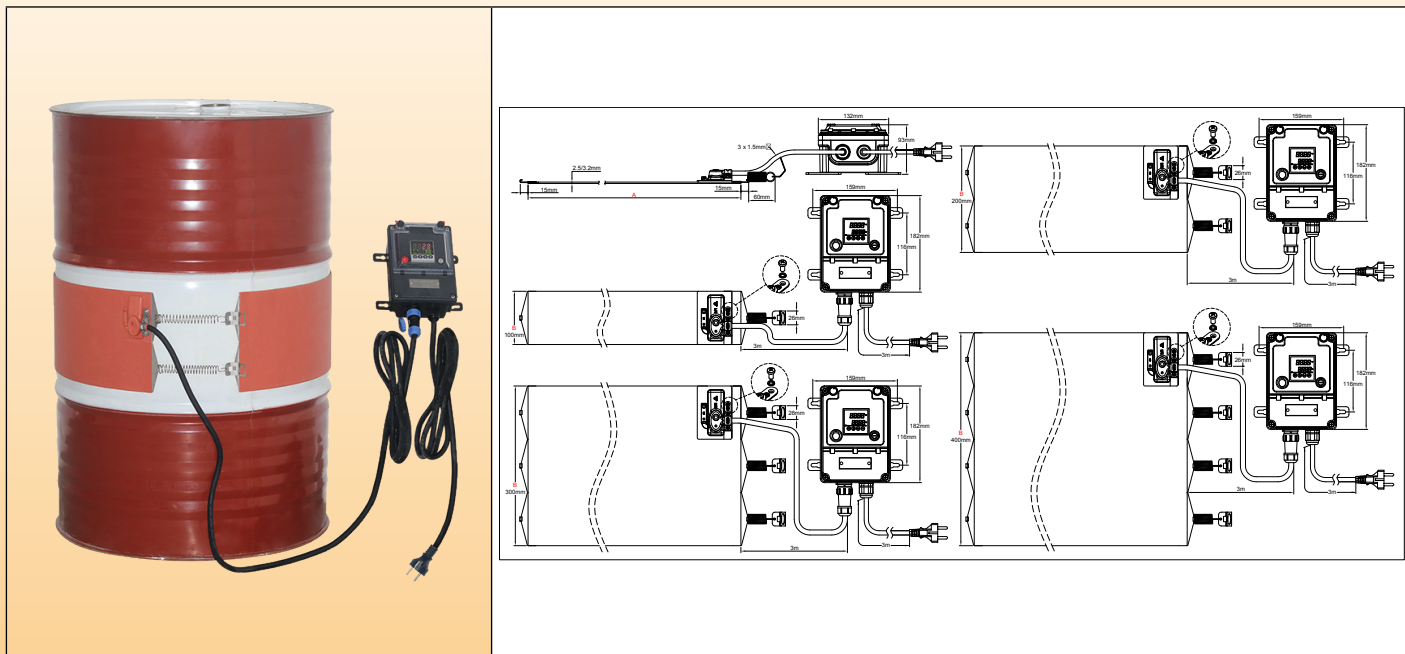
** Values above 3600W are not compatible with the 16A 230V rating of the electronic controller.

*** 3.2mm reinforced thickness, replace 9ACB by 9ACC in the Part number.



Silicone rubber heating belts for metal drums, with remote electronic control, PID action, 0-200°C

Containers material	Maximum temperature	Tightening	Thermostat	Silicone thickness (mm)	Type
Metal only	200°C	Hooks and springs	Remote electronic temperature control, double display, PID action, SSR output	2,5 (3,2)	9AQ



Main features

Silicone rubber belt heaters are made of fiberglass reinforced laminated silicone rubber sheets, vulcanized together through heat and high pressure on both sides of an embedded specially formed heating wire element. Fiberglass-reinforced silicone rubber gives the heater dimensional stability without sacrificing flexibility.

Silicone is used because of its high temperature resistance (Constant 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).

This series is distinguished by the use of a remote electronic control system, on-off action, with digital display of the measured value, connection by waterproof connector for easy disconnection of the heater, and IP65 ingress protection class for the whole assembly. This allows its use in industrial applications when a precise and without overheat temperature control is requested.

Other general particularities of these flexible silicone heaters are:

- Not affected by vibration or flexing,
- Lightweight,
- Comply with UL94-VO (flame retardant) and ROHS,
- Low smoke and low Toxicity,
- Silicone is non-toxic, and moisture and chemical resistant.
- Very thin profile.

Main Applications

Combining high power density with flexibility silicone heating belts are a simple and economical solution for heating metal drums.

They bring and maintain products to the consistency required for their use. Some typical applications 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,
- Maintain polyester resin at 20-25°C (70-80°F) for spray and pour equipment.

Technical Features

Clamping on drums: By spring and hook lock-up that allows adjusting the band to the drum diameter; change position to the right place as content levels fluctuate; and also keeps the band tight to the drum surface, providing good thermal contact. Clamping force of each spring is from 1 to 3DaN in the recommended drums diameter range. The spring is equipped with a pull ring for easy installation and removing of the belt.

Length (Dimension A): designed to be used on standard container diameters. Consult factory if a custom size is requested.

Width (dimension B): 100mm (4"), 200mm (8") 300mm (12"), and 400 mm (16"). Heating belts must always be applied on cylindrical surfaces without hoops or ribs.

Silicone rubber heating belts for metal drums, with remote electronic control, PID action, 0-200°C

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

Ingress protection: IP65.

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

Voltage: 220-240VAC.

Power tolerance: ±10% at 20°C

Temperature control: Controller with double display, of process value and of set-point, located in an independent **waterproof** housing, **designed for wall mounting**. It is connected to the flexible silicone rubber heater by a cable equipped with a 5-pin **waterproof quick connector**, facilitating the connection and disconnection with the heater. It controls the temperature by means of a probe placed under a silicone boot on the outer surface of the heater.

Action: PID with automatic parameters adjustment by auto-tune function.

Sensor input: Pt100

Power output: solid state relay, maximum 16A 230V.

Alarm: 3A 230V relay.

Display: 4 digits display configurable in °C or °F

Power supply: AC 220-230V 50-60Hz.

Accuracy: ±1°C (±2°F) or 0.3% ES± one digit.

Self-testing: open sensor circuit.

Ambient temperature: -10 to 60°C, 20 to 85% relative humidity, non-condensing.

Temperature display range: Configurable

Resolution: 0.1°

Read instruction manual before the setting of this temperature controller.

Power density:

- 0.75 w/cm² (4.8 w/inch²), for usual applications.

- 1 w/cm² (6.5 w/inch²) for fast heating applications

Thickness of the flexible silicone foil: 2.5mm. (Optional 3.2mm, for heavy duty applications requiring strong mechanical strength and reinforced 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. See technical introduction.

Dielectric Strength: 1750V AC.

Insulation resistance: ≥ 10 Megohms.

Operating temperature:

The temperature measured by the electronic controller is that of the heating surface. The temperature of the heated product is generally much lower than that of the surface and depends mainly on the surface power (W/cm²), the quality of the thermal contact with the container, the viscosity, heat capacity and thermal conductivity of the heated product, the good positioning of the heating belt, the set point value, and room temperature (See technical introduction).

You can find in the technical introduction examples of the temperatures reached by silicone heating belts. They represent the temperature that may reach the heating belt if it is not correctly installed (for example: poor thermal contact, empty container or improperly temperature controlled).

Connection cable:

Insulated rubber power supply cable, for industrial environments, 3 x 1.5mm² length 3m, Euro plug. UL plug on request.

Options:

- Power density reduced to 0.2 W/cm² (1.3 w/inch²) for plastic containers

- 3.2mm reinforced thickness.

- Power supply 110/115V

- Power cord with industrial plug 2-pole + earth 16A CEE (IEC60309)

- Surface temperature limiter.

- Grounded metal mesh layer.

- Outside thermal insulation by silicone foam layer.

Safety standards:

The heaters have been designed in compliance with EEC Low Voltage Directive (LVD) 2006/95/EC and EMC directive 2004/108/EC. They must be installed in accordance with all local applicable instructions, codes, and regulations.

Main parts numbers in 220/240V with 3 meters cords and euro plug*

(See the technical introduction for the liquids heating time)

Belt width B = 100mm					
Container Liters (Gallons)	Part number with temperature controller adjustable up to 200°C (390°F)	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length mm (inch)	Power density W/cm ² (W/in ²)	Power Watts
57~60 (16)	9AQB8C1102855F30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	550
57~60 (16)	9AQB8C1102874F30	356-373 (14-14.7)	1020 (40.1)	1 (6.5)	740
110~120 (30)	9AQB8C1135875F30	463-480 (18.2-18.9)	1350 (53.1)	0,75 (4.8)	750
110~120 (30)	9AQB8C11358A0F30	463-480 (18.2-18.9)	1350 (53.1)	1 (6.5)	1000
208~210 (55)	9AQB8C1169895F30	571-588 (22.5-23.2)	1690 (66.5)	0.75 (4.8)	950
208~210 (55)	9AQB8C11698A3F30	571-588 (22.5-23.2)	1690 (66.5)	1 (6.5)	1300



Contact us

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Cat25-2-5-11

Silicone rubber heating belts for metal drums, with **remote electronic control, PID action, 0-200°C**

Belt width B = 200mm					
Container Liters (Gallons)	Part number with temperature controller adjustable up to 200°C (390°F)	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length	Power density W/cm ² (W/in ²)	Power Watts
57~60 (16)	9AQB8C21028A3F30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	1300
57~60 (16)	9AQB8C21028A7F30	356-373 (14-14.7)	1020 (40.1)	1 (6.5)	1700
110~120 (30)	9AQB8C21358A7F30	463-480 (18.2-18.9)	1350 (53.1)	0,75 (4.8)	1700
110~120 (30)	9AQB8C21358B3F30	463-480 (18.2-18.9)	1350 (53.1)	1 (6.5)	2300
208~210 (55)	9AQB8C21698B2F30	571-588 (22.5-23.2)	1690 (66.5)	0,75 (4.8)	2200
208~210 (55)	9AQB8C21698B9F30	571-588 (22.5-23.2)	1690 (66.5)	1 (6.5)	2900
Belt width B = 300mm					
Container Liters (Gallons)	Part number with temperature controller adjustable up to 200°C (390°F)	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length mm (inch)	Power density W/cm ² (W/in ²)	Power Watts
57~60 (16)	9AQB8C31028B0F30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	2000
57~60 (16)	9AQB8C31028B7F30	356-373 (14-14.7)	1020 (40.1)	1 (6.5)	2700
110~120 (30)	9AQB8C31358B7F30	463-480 (18.2-18.9)	1350 (53.1)	0,75 (4.8)	2700
110~120 (30)	9AQB8C31358C6F30	463-480 (18.2-18.9)	1350 (53.1)	1 (6.5)	3600**
Belt width B = 400mm					
Container Liters (Gallons)	Part number with temperature controller adjustable up to 200°C (390°F)	High and low limits of acceptable diameter (measured at no-hoops or no-ribs place) mm (inch)	A Length mm (inch)	Power density W/cm ² (W/in ²)	Power Watts
57~60 (16)	9AQB8C41028B8F30	356-373 (14-14.7)	1020 (40.1)	0,75 (4.8)	2800**

* Cord with UL plug instead of Euro plug, replace F30 by E30 in the Part number.

** Values above 3600W are not compatible with the 16A 230V rating of the electronic controller.

*** 3.2mm reinforced thickness, replace 9AQB by 9AQC in the Part number.

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