BriskHeat®

Your Heating Specialist Since 1949

Product Catalog, 12th Edition

Your Needs Have Been Met by BriskHeat since 1949

In 1949, BriskHeat® was founded by Retired Two Star Major General Earnest Briscoe. BriskHeat® manufactures flexible surface heating elements and controls for viscosity control, condensation prevention, process heat, and freeze protection.

A broad range of experience in solving your applications in petrochemical, semiconductor, food processing, biotech, aviation, steel, laboratory, power generation and many other industries have allowed BriskHeat® to become the **world-wide leader in flexible surface heat and heat trace applications for piping, vessels, pumps, valves, and other objects**.

Examples of Heating Solutions by BriskHeat®:

- A maintenance supervisor in Minnesota protects his company's water pipes from **freeze damage** by using BriskHeat® **Heating Tape** and **Heating Cable**.
- In Singapore, condensation and subsequent freezing of ammonia tanks upon purging create problems for the user. BriskHeat® solves these issues by providing **large heaters** that eliminate condensation.

- The Yinan Power Plant in China, Henan Province, welcomes BriskHeat® personnel to help them develop a functional yet economical **Fly-Ash Hopper Heating System** for their particulate collection system.
- Major customers in the **Semiconductor industry**, both on the End User side and the Equipment Manufacturing side rely on BriskHeat® to help prevent condensation, thus eliminating build-up in gas lines and exhaust lines.
- Major commercial airline customers world-wide rely on BriskHeat® **ACR™ Hot Bonders** and **Composite Heat Curing Blankets** to help keep their planes safely in the air.

Large project or small, high volume or low, U.S. or world-wide, BriskHeat® stands by to help you work through any surface or object heating issues you might encounter. With a staff of applications engineers experienced at helping you find the most economical solution for your needs, BriskHeat® continues to consider **you our most important customer**.

BriskHeat®

12th Edition

2- Silicone Rubber Heating Blankets / Pads

3- Drum and Pail Heaters

4- Tote Tank and IBC Heaters

5- Gas Cylinder Warmers

6- Heating Mantles for Laboratory Flasks

7- Cloth Jackets

8- Heating Cable

Self-Regulating Heating Cable

Constant-Wattage Heating Cable

Toll Free: 800-848-7673 Phone: 614-294-3376 **www.BriskHeat.com** Email: bhtsales1@briskheat.com Fax: 614-294-3807

9- Resistance Wire

10- Temperature Controls and Sensors

Composite Curing Solutions

11- Hot Bonders and Curing Blankets

Hot Bonders

Composite Heat Curing Blankets

12- Vacuum Curing / Debulking Tables

Appendix

BriskHeat® Getting Started

BriskHeat® offers a wide range of “off-the-shelf” heat trace products and “configure-to-order” solutions that fits your specific needs.

For most applications, an off-the-shelf heater works fine. Each product page will provide the necessary information to make an informed decision.

We also offer advanced engineering capabilities like three-dimensional CAD software and a Finite Element Analysis (FEA) to predict cold and hot spots.

Since we are the manufacturer of the resistance wire that goes into our surface heaters, we are able to modify the electrical characteristics (wattage, voltage, amperage, stranding, and insulation-options). This allows us to provide you the ideal solution.

Whether you choose an off-the-shelf or configure-to-order solution, it is important to have a solid grasp of the heat application. Please fill out the **General Heating Application Questionnaire on page IX** and contact a representative of BriskHeat to determine the best choice.

Understanding Heat Loss

BriskHeat products are used primarily to solve problems related to freezing, condensation, viscosity or flow issues, and process temperature control.

Determining wattage for a heating application is directly related to heat loss. Heat loss is the amount of heat given up to the surrounding atmosphere through a combination of conduction, convection, and radiation. To determine total heat losses on a given object, the following variables must be considered:

- Temperature to be maintained
- Lowest expected ambient temperature
- Properties of object (size, type, thickness, etc)
- Type and thickness of insulation
- Flow rate
- Specified heat-up time

Understanding Temperature Control

Most electrical heaters need some type of control to prevent overheating and burn-out. The type of temperature control is important to achieving a certain temperature tolerance. The number of control points is critical to temperature uniformity. BriskHeat has a wide selection of temperature controllers to compliment the heater selection.

Completing the General Heating Application Questionnaire

The General Heating Application Questionnaire located on **page IX** is used to make a heat loss calculation and know more about the environment and your particular needs. Once you have filled out the general heating application questionnaire and provided a drawing, we have the information needed to recommend a solution.

Providing a Drawing or Sketch

A drawing or sketch of the object assists us in the heat loss calculation and ensures the product fits exactly as intended. Measurements of all dimensions is needed for the best fit.

New!! **HSTAT Heating Tape with Adjustable Thermostat Control** provides both heat and control for a wide range of geometries. An economical solution ready-to-use out of the box.

Page 1-3

TOTE Wrap-Around Tote Tank / IBC Heaters solve the challenge of improving flow in caged tote tanks without contaminating or scorching the contents.

Page 4-2

Cloth Jacket Heating Systems provide the most uniform heat available. Easy-to-install and remove heater with insulation.

Page 7-1

BriskHeat® Capabilities

Here are a few examples of our capabilities. This list does not include all possibilities. Please contact your local representative about your particular application.

Temperature Variations

High temperatures

Temperature: Up to 760°C (1400°F)
Minimum Exposure Temperature: -51°C (-60°F)
Nominal Watts: 0.25 to 13 watts/in² (0.0003 to 0.0200 watts/mm²)

Environmental Variations

Wide variety

Moisture Resistance
Chemical Resistance
Flame Resistance
Radiation Resistance
Hazardous Locations
Clean room

Physical Packaging Variations

Fits your needs

Length: Virtually Unlimited
Width: 1/8" (3mm) to Any Width
Flexibility: Ability to fit any shape
Insulation: Any type and thickness
Attachments and Closures: Any; examples include springs, hook and loop fastener like VELCRO®, hook and lace, pressure sensitive adhesive.
Power Lead Type: Any; examples include TEFLON®, silicone rubber, silicone rubber with tinned copper overbraid.
Power Lead Length: Any Length
Power Connectors: Any

Electrical Specification Variations

Our heaters will work with your application

Voltage: 120, 208, 240, 277, 480, and 600VAC (Single and 3 Phase)
Dielectric Strength: Up to 4200
Grounding: Patented Ground Wire
Hazardous Locations
Nominal Watts: 0.25 to 13 watts/in² (0.0003 to 0.0200 watts/mm²)

Agency Approvals

Several including UL, CE, CSA, FM, and ATEX

BriskHeat® How to Order

Catalog Item Ordering

Locate the part number and call either us direct at **800-848-7673 (U.S. & Canada) 614-294-3376 (world-wide)** or contact your local distributor.

Application Assistance

We have over 58 years experience in solving thousands of heat applications. We have advanced engineering capabilities including three-dimensional CAD and Finitie Element Analysis (FEA) to predict cold and hot spots. In order to provide the best solution, either

- Fill out the **General Heating Application Questionnaire** found on Pages IX - X and provide a drawing or sketch **or**

- Call us at **800-848-7673 (U.S. & Canada) / 614-294-3376 (world-wide)**

Don't worry if you can not answer all of the questions in the General Heating Application Questionnaire. Contact us and we will work with you to solve the application.

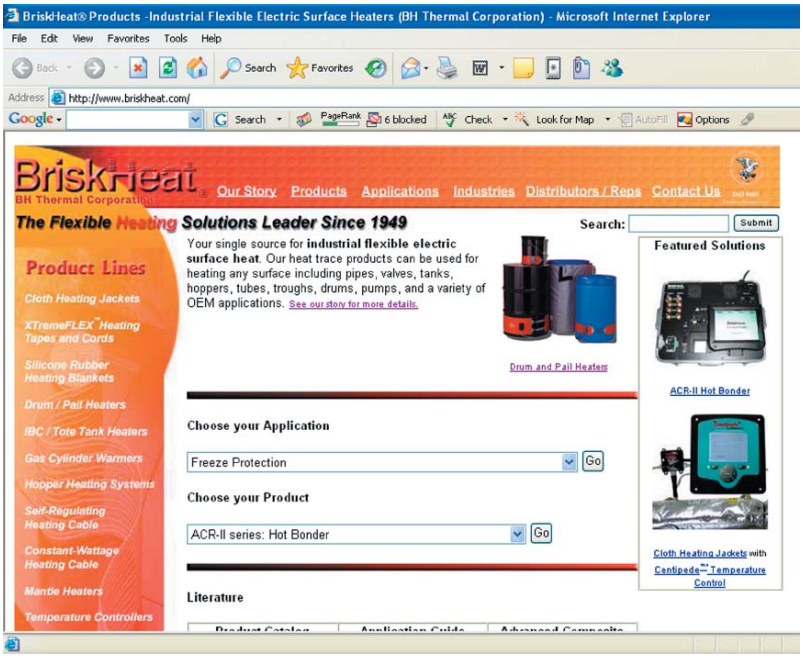
Worldwide Distribution

BriskHeat® has sales representatives and distributors located world-wide. Check www.briskheat.com to find a local representative near you.

MAJOR CREDIT CARDS ACCEPTED

800-848-7673
or
614-294-3376

Fax
614-294-3807



Most Up-to-Date Information on the Web at www.BriskHeat.com

BriskHeat® Leasing Program

This leasing program is designed to ease the upfront financial burden of new capital equipment.

Benefits:

- Flexible financing fits your budget
- Saves capital
- Lease-to-own

Amount	Term	Payment
$9,000	2 year 3 year 4 year	$500 / month $340 / month $270 / month
$12,000	2 year 3 year 4 year	$660 / month $450 / month $350 / month

Example payments are provided for illustration purposes only. Actual payment is dependant on company credit rating and other factors.

Contact BriskHeat at 1-800-848-7673 (U.S. & Canada) or 614-294-3376 for additional details and an application.

BriskHeat® General Heating Application Questionnaire: Part I

Company: _____ **Phone Number:** _____

Contact Name: _____ **Email or Fax:** _____

Address: _____

_____

Application: _____

Type of Industry: _____

Is this an OEM Application?: ☐ Yes ☐ No

PART A: OBJECT TO BE HEATED

Object that needs heat: _____

Dimensions of object: (Please include a drawing or sketch) **Unit of measurement?** _____

Cylinder:
Diameter: _____ X Length: _____

Rectangle:
Length: _____ X Width _____ X Height _____

☐ Mutiple objects with varying dimensions

Object wall thickness: _____

Are there any obstructions or clearance issues that may restrict heater placement?: ☐ Yes ☐ No
If yes, please provide documentation.

Material of Object(s): ☐ Steel ☐ Stainless Steel ☐ Non-Metal ☐ Other _____

Content: Name: _____

Flow rate: _____

Beginning state: ☐ Gas ☐ Liquid ☐ Solid **Desired ending state:** ☐ Gas ☐ Liquid ☐ Solid

PART B: ENVIRONMENT

Unit of measurement? ☐ ºC ☐ ºF

Ambient Temperature: Maximum _____ º Minimum _____ º

Environment: (check all that apply) ☐ Indoor ☐ Outdoor, Wind Speed: _____ ☐ Moisture ☐ Chemical
☐ Hazardous-Area, Class _____ Division _____ Group _____
☐ Cleanroom, Class _____ ☐ Other _____

PART C: HEAT REQUIREMENTS

Unit of measurement? ☐ ºC ☐ ºF

Starting content / object temperature: _____ º

Heat up to: _____ º, within _____ Hours

Maintain at: _____ º but never below: _____ º and never above: _____ º

Will you provide insulation?: ☐ No ☐ Yes, Type: _____ Thickness: _____

Will it cover all surfaces?: ☐ Yes ☐ No, please explain: _____

Toll Free: 800-848-7673 Phone: 614-294-3376 **www.BriskHeat.com** Email: bhtsales1@briskheat.com Fax: 614-294-3807

BriskHeat® General Heating Application Questionnaire: Part II

PART D: POWER REQUIREMENTS

Voltage: ☐ 120VAC ☐ 208VAC ☐ 240VAC ☐ 277VAC ☐ 480VAC ☐ 600VAC ☐ Other _____

Phase: ☐ Single ☐ 3 Phase (Wye) ☐ 3 Phase (Delta) ☐ Other _____

Frequency: ☐ 60Hz. ☐ 50Hz. ☐ DC ☐ Other _____

Grounded?: ☐ Yes ☐ No

Plug Preference: ☐ Please Recommend ☐ Bare Wire ☐ Plug: _____

PART E: HEATER CONSTRUCTION REQUIREMENTS

Do you have certain product specifications that must be satisfied with this heater / system? ☐ Yes ☐ No, please recommend

Product type (heating tape, heating cable, heating jacket, etc): _____

Exterior material (silicone rubber, TEFLON®, chemstat, etc): _____

Closure / attachment method (adhesive, velcro, hook and lace, etc): _____

Other specifications: _____

PART F: TEMPERATURE CONTROL REQUIREMENTS

Would you like BriskHeat® to recommend your temperature control solution?: ☐ Yes ☐ No

If no, please describe the temperature control that will be used: (type of sensor, model, etc)

_____

Distance from temperature controller to heater: _____

Do you intend to connect the temperature controller to a computer?: ☐ Yes ☐ No ☐ Do Not Know

PART G: ADDITIONAL COMMENTS

_____

_____

CUSTOMER SIGNATURE: _____

DATE: _____

Thank you for filling out this questionnaire. Please submit it to the factory or your local representative for a recommendation.

BriskHeat® XtremeFLEX® Heating Tapes

The flexible design and high temperature capability of ***XtremeFLEX***® Heating Tapes provide an ideal solution. Heating tapes can be used on any surface or body requiring fast and efficient direct contact heating, up to temperatures of 1400°F / 760°C.

Product Highlights

☑ High Temperatures and Watt Densities

- ► Rapid thermal response
- ► Up to 1400°F (760°C)
- ► Up to 13 watts / in^2 (0.020 watts / mm^2)

☑ Extremely Flexible

☑ Ideal for Short Runs

☑ Rugged and Durable

- ► Multi-stranded resistance wire
- ► Serpentine woven heating element
- ► Moisture and chemical resistance with silicone rubber sheath

☑ Wide Range of Applications

- ► Viscosity and temperature control
- ► Freeze protection
- ► Integrally heated tools
- ► Gas tubing
- ► Valves
- ► Laboratory apparatus
- ► Plastic bending
- ► External heating of dies and tools
- ► Temporary heat
- ► Hopper throat heater

HSTAT: Simple plug-and-play heater

BriskHeat® XtremeFLEX® Heating Tapes Selection Guide

Type	Maximum Exposure Temperature	Power Density watts/in² (watts/mm²)	Suitable for Electrical Conductive Surfaces	Moisture and Chemical Resistant	Integral Tie Downs	Grounded	Built-in Control
New!! HSTAT Silicone Rubber Heating Tape with Adjustable Thermostat Control	425°F (218°C)	6.0 (0.009)	✔	✔			✔
BSTS Silicone Rubber Heating Tape with Preset Thermostat	450°F (232°C)	6.0 (0.009)	✔	✔		✔	✔
BSAT Silicone Rubber Heating Tape with Time Percentage Dial Control	450°F (232°C)	6.0 (0.009)	✔	✔			✔
B00 Standard Insulated Heating Tape	900°F (482°C)	8.6 (0.013)			✔		
BW0 High Temperature Standard Insulated Heating Tape	1400°F (760°C)	13.1 (0.020)			✔		
BIH Heavy Insulated Heating Tape	900°F (482°C)	Standard: 8.6 (0.013) Wide: 5.1 (0.008)	✔		✔		
BWH High Temperature Heavy Insulated Heating Tape	1400°F (760°C)	Standard: 13.1 (0.020) Wide: 7.7 (0.012)	✔		✔		
BIH-G Grounded Heavy Insulated Heating Tape	482°F (250°C)	9.6 (0.015)	✔		✔	✔	
IFG Kapton® Heavy Insulated Heating Tape	482°F (250°C)	6.0 (0.009)	✔		✔		
BS0 Silicone Rubber Heating Tape	450°F (232°C)	4.3 (0.007)	✔	✔			
BS0-G Grounded Silicone Rubber Heating Tape	450°F (232°C)	4.3 (0.007)	✔	✔		✔	
ISR Kapton® Silicone Rubber Heating Tape	450°F (232°C)	3.0 (0.005)	✔	✔			
CTL Cut-To-Length Silicone Rubber Heating Tape	450°F (232°C)	Varies with length	✔	✔			
HTC Heating Cord	900°F (482°C)	1.8 (0.003)	✔		✔		

NOTE: All BriskHeat® Heating Tapes must be used with appropriate controls. See temperature controller section starting at 10-1 for options.

BriskHeat® XtremeFLEX® HSTAT Silicone Rubber Heating Tapes with Adjustable Thermostat Control

Product Highlights

- ✔ Useful for a wide range of applications
  - Process temperature control
  - De-icing
  - Supplemental heat
- ✔ Easy dial adjustable thermostat control sets up to 425°F (218°C)
- ✔ True heating tape: flexible down to 1/4" (25mm) diameter
- ✔ Rapid heat up
- ✔ Plug and play: eliminates electrical hard wiring
- ✔ CE 73/23/EEC. See page A-1 for more information.

Moisture and Chemical Resistant

No Additional Control Needed!

Temperatures up to

425°F (218°C)

Specifications:

- Adjustable thermostat: 50 to 425°F (10 to 218°C)
- Maximum exposure temperature: 450°F (232°C)
- Silicone rubber extruded outer sheath
- Fiberglass knitted and braided construction
- Moisture and chemical resistant
- Power density: 6.0 watts/in^2 (0.009 watts/mm^2)
- Suitable for electrically conductive surfaces
- 120 or 240VAC
- 6 feet (2m) long power cord
- 120VAC model includes NEMA 1-15 plug

Ordering Information:

HSTAT

Width in (mm)	Length in (mm)	Total Watts	Part No. 120VAC	Part No. 240VAC (No plug)
0.5 (13)	24.0 (610)	72	HSTAT051002	HSTAT052002
0.5 (13)	48.0 (1220)	144	HSTAT051004	HSTAT052004
0.5 (13)	72.0 (1830)	216	HSTAT051006	HSTAT052006
0.5 (13)	96.0 (2440)	288	HSTAT051008	HSTAT052008
0.5 (13)	120.0 (3050)	360	HSTAT051010	HSTAT052010
1.0 (25)	24.0 (610)	144	HSTAT101002	HSTAT102002
1.0 (25)	48.0 (1220)	288	HSTAT101004	HSTAT102004
1.0 (25)	72.0 (1830)	432	HSTAT101006	HSTAT102006
1.0 (25)	96.0 (2440)	576	HSTAT101008	HSTAT102008
1.0 (25)	120.0 (3050)	720	HSTAT101010	HSTAT102010
2.0 (51)	24.0 (610)	288	HSTAT201002	HSTAT202002
2.0 (51)	48.0 (1220)	576	HSTAT201004	HSTAT202004
2.0 (51)	72.0 (1830)	864	HSTAT201006	HSTAT202006
2.0 (51)	96.0 (2440)	1152	HSTAT201008	HSTAT202008
2.0 (51)	120.0 (3050)	1440	HSTAT201010	HSTAT202010
3.0 (76)	24.0 (610)	432	HSTAT301002	HSTAT302002
3.0 (76)	48.0 (1220)	864	HSTAT301004	HSTAT302004
3.0 (76)	72.0 (1830)	1296	HSTAT301006	HSTAT302006
3.0 (76)	96.0 (2440)	1440	HSTAT301008	HSTAT302008
3.0 (76)	120.0 (3050)	1440/1800	HSTAT301010	HSTAT302010

*** Plug not included on 240VAC Models**

Wrap, Set, and Heat

Valves
Pipes Lines
Bearings
Pumps
Filter Housings
Actuators
And More!!

Adhesive Tape

Provides intimate contact with surface to be heated. A heating tape essential!

Part Number	Material	Width in (mm)	Length Yards (m)	Temperature Limit
PSAT04	Fiberglass	0.5 (13)	4 (3.6)	350°F (176°C)
PSAT36A	Fiberglass	0.5 (13)	36 (32.9)	350°F (176°C)
AAT260	Aluminum	2.0 (51)	60 (54.8)	350°F (176°C)
AAT2180	Aluminum	2.0 (51)	60 (54.8)	550°F (288°C)

BriskHeat® XtremeFLEX® BSTS Silicone Rubber Heating Tapes with Preset Thermostat

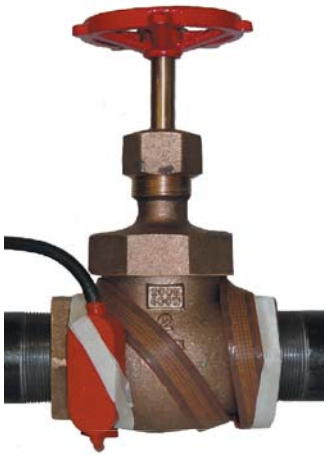
Product Highlights

- ✔ True plug and play heater
- ✔ Thermostat controlled: Ideal for freeze protection or low temperature process control solutions
- ✔ Moisture and chemical resistant
- ✔ Exceptional flexibility
- ✔ Rapid thermal response
- ✔ Grounded for your safety
- ✔ Exceptional durability
- ✔ CE 73/23/EEC. See page A-1 for more information.

Moisture and Chemical Resistant

Temperatures up to

60°F (16°C)



Specifications:

- Built-in controlling thermostat set at 60°F (16°C)
- Maximum exposure temperature: 450°F (232°C)
- Silicone rubber extruded outer sheath
- Kapton® wrapped fiberglass knitted and braided construction
- Moisture and chemical resistant
- Patented grounded heating element
- Power density: 6.0 watts/in^2 (0.009 watts/mm^2)
- Suitable for electrically conductive surfaces
- 120 or 240VAC
- 6 feet (2m) long power cord with either NEMA 5-15 or 6-15 plug

Ordering Information:

Width in (mm)	Length in (mm)	Total Watts	Part No. 120VAC	Part No. 240VAC
1 (25.4)	24 (610)	104	BSTS101002-060	N/A
1 (25.4)	48 (1220)	209	BSTS101004-060	BSTS102004-060
1 (25.4)	72 (1830)	313	BSTS101006-060	BSTS102006-060
1 (25.4)	96 (2440)	418	BSTS101008-060	BSTS102008-060
1 (25.4)	120 (3050)	522	BSTS101010-060	BSTS102010-060

Adhesive Tape

Provides intimate contact with surface to be heated. A heating tape essential!

Part Number	Material	Width in (mm)	Length Yards (m)	Temperature Limit
PSAT04	Fiberglass	0.5 (13)	4 (3.6)	350°F (176°C)
PSAT36A	Fiberglass	0.5 (13)	36 (32.9)	350°F (176°C)
AAT260	Aluminum	2.0 (51)	60 (54.8)	350°F (176°C)
AAT2180	Aluminum	2.0 (51)	60 (54.8)	550°F (288°C)

BriskHeat® XtremeFLEX® BSAT Silicone Rubber Heating Tapes with Time Percentage Dial Control

Product Highlights

- ✔ Perfect for temporary, quick, and easy heating
- ✔ Easy-to-use time percentage dial control
- ✔ Moisture and chemical resistant
- ✔ Exceptional flexibility
- ✔ Rapid thermal response
- ✔ Exceptional durability
- ✔ CE 73/23/EEC. See page A-1 for more information.

Temperatures up to

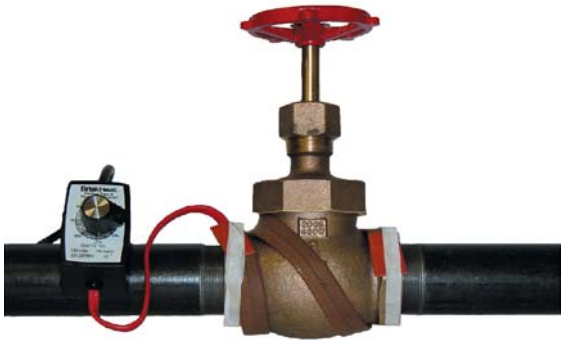
450°F (232°C)

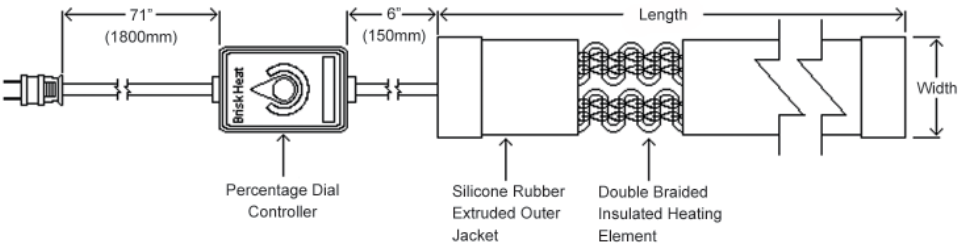
Moisture and Chemical Resistant

No Additional Control Needed!

Specifications:

- Maximum exposure temperature: 450°F (232°C)
- Silicone rubber extruded outer sheath
- Fiberglass knitted and braided construction
- Moisture and chemical resistant
- Time percentage controller built-in
- Power density: 6.0 watts/in^2 (0.009 watts/mm^2)
- Suitable for electrically conductive surfaces
- 120 or 240VAC
- 6 feet (2m) long power cord
- 120VAC model includes NEMA 1-15 plug





Ordering Information:

Width in (mm)	Length in (mm)	Total Watts	Part No. 120VAC	Part No. 240VAC (No plug)
0.5 (13)	24.0 (610)	72	BSAT051002	BSAT052002
0.5 (13)	48.0 (1220)	144	BSAT051004	BSAT052004
0.5 (13)	72.0 (1830)	216	BSAT051006	BSAT052006
0.5 (13)	96.0 (2440)	288	BSAT051008	BSAT052008
0.5 (13)	120.0 (3050)	360	BSAT051010	BSAT052010
1.0 (25)	24.0 (610)	144	BSAT101002	BSAT102002
1.0 (25)	48.0 (1220)	288	BSAT101004	BSAT102004
1.0 (25)	72.0 (1830)	432	BSAT101006	BSAT102006
1.0 (25)	96.0 (2440)	576	BSAT101008	BSAT102008
1.0 (25)	120.0 (3050)	720	BSAT101010	BSAT102010
2.0 (51)	24.0 (610)	288	BSAT201002	BSAT202002
2.0 (51)	48.0 (1220)	576	BSAT201004	BSAT202004
2.0 (51)	72.0 (1830)	864	BSAT201006	BSAT202006
2.0 (51)	96.0 (2440)	1152	BSAT201008	BSAT202008
2.0 (51)	120.0 (3050)	1440	BSAT201010	BSAT202010
3.0 (76)	24.0 (610)	432	BSAT301002	BSAT302002
3.0 (76)	48.0 (1220)	864	BSAT301004	BSAT302004
3.0 (76)	72.0 (1830)	1296	BSAT301006	BSAT302006
3.0 (76)	96.0 (2440)	1440	BSAT301008	BSAT302008
3.0 (76)	120.0 (3050)	1440/1800	BSAT301010	BSAT302010

*** Plug not included on 240VAC models**

What is a Time Percentage Dial Control?

The time percentage dial controller varies the proportion (length) of time the heater is in the “on” or “off” heating mode. The heating application will determine the actual percentage set-point required. The controller does not use a temperature sensor and therefore satisfactory operation requires occasional supervision under changing load conditions.

Adhesive Tape

Provides intimate contact with surface to be heated. A heating tape essential!

Part Number	Material	Width in (mm)	Length Yards (m)	Temperature Limit
PSAT04	Fiberglass	0.5 (13)	4 (3.6)	350°F (176°C)
PSAT36A	Fiberglass	0.5 (13)	36 (32.9)	350°F (176°C)
AAT260	Aluminum	2.0 (51)	60 (54.8)	350°F (176°C)
AAT2180	Aluminum	2.0 (51)	60 (54.8)	550°F (288°C)

BriskHeat® XtremeFLEX® B00 and BW0 Standard Insulated Heating Tapes

Product Highlights

- ✔ Excellent flexibility
- ✔ Rapid thermal response
- ✔ Exceptional durability
- ✔ Suitable for non-conductive electrical surfaces only
- ✔ Choice of power leads on same end or opposite ends
- ✔ Includes high temperature tie downs for easy installation

Temperatures up to

1400°F (760°C)

Specifications:

- Maximum exposure temperature:
  - B00 series: 900°F (482°C)
  - BW0 series:1400°F (760°C)
- Construction:
  - B00 series: fiberglass knitted and braided
  - BW0 series: Samox® knitted and braided
- Power density:
  - B00 series: 8.6 watts/in² (0.013 watts/mm²)
  - BWO series: 13.1 watts/in² (0.020 watts/mm²)
- 120 or 240VAC

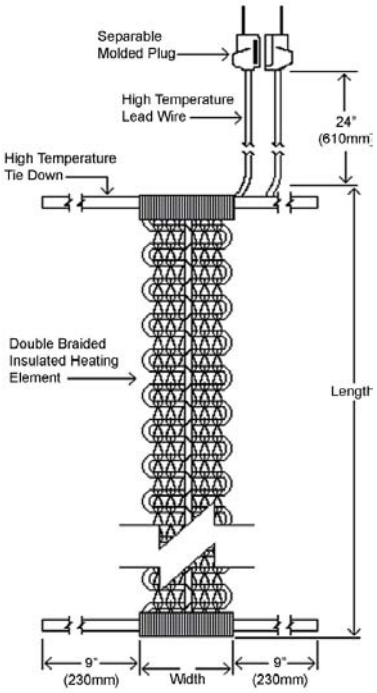
Ordering Information:

B00 series: Standard Insulated Heating Tape

Power Leads on Same End

Width in (mm)	Length in (mm)	Total Watts	Part No. 120VAC	Part No. 240VAC
0.5 (13)	24 (610)	105	B00051020L	B00052020L*
0.5 (13)	48 (1222)	210	B00051040L	B00052040L*
0.5 (13)	72 (1830)	310	B00051060L	B00052060L*
0.5 (13)	96 (2440)	420	B00051080L	B00052080L*
0.5 (13)	120 (3050)	520	B00051100L	B00052100L*
1 (25)	24 (610)	210	B00101020L	B00102020L*
1 (25)	48 (1220)	420	B00101040L	B00102040L*
1 (25)	72 (1830)	620	B00101060L	B00102060L*
1 (25)	96 (2440)	830	B00101080L	B00102080L*
1 (25)	120 (3050)	1045	N/A	B00102100L*

*** Plug not included**



BW0 series: High Temperature Standard Insulated Heating Tape

Power Leads on Same End

Width in (mm)	Length in (mm)	Total Watts	Part No. 120VAC	Part No. 240VAC
0.5 (13)	24 (610)	160	BW0051020L	BW0052020L*
0.5 (13)	48 (1220)	310	BW0051040L	BW0052040L*
0.5 (13)	72 (1830)	470	BW0051060L	BW0052060L*
0.5 (13)	96 (2440)	620	BW0051080L	BW0052080L*
0.5 (13)	120 (3050)	780	N/A	BW0052100L*
0.5 (13)	144 (3660)	940	N/A	BW0052120L*
1 (25)	24 (610)	310	BW0101020L	BW0102020L*
1 (25)	48 (1220)	620	BW0101040L	BW0102040L*
1 (25)	72 (1830)	940	N/A	BW0102060L*
1 (25)	96 (2440)	1250	N/A	BW0102080L*

*** Plug not included**

Ordering option: For a single power lead on opposite ends, remove "L" from end of part number

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

BriskHeat® XtremeFLEX® BIH and BWH Heavy Insulated Heating Tapes

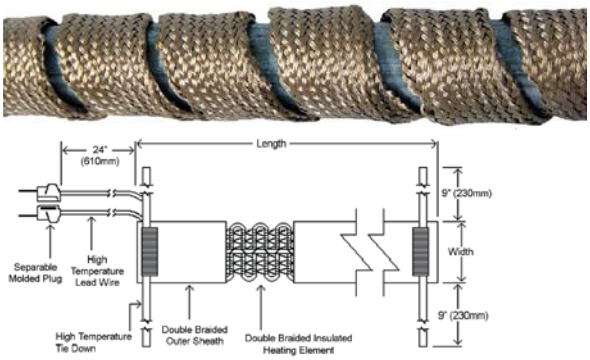
Product Highlights

- ✔ Exceptional flexibility
- ✔ Rapid thermal response
- ✔ Exceptional durability
- ✔ Suitable for electrical conductive surfaces
- ✔ Choice of power leads on same end or opposite ends
- ✔ Includes high temperature tie downs for easy installation

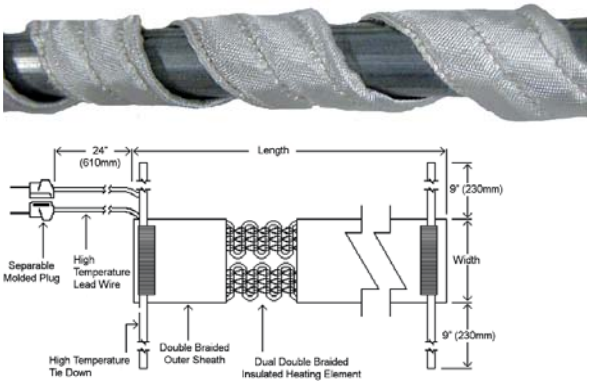
Temperatures up to

1400°F (760°C)

Standard Tape: width up to 1" (25mm)



Wide Tape: 1.75" (44mm) or greater width



Specifications:

- Maximum exposure temperature:
  - BIH series: 900°F (482°C)
  - BWH series:1400°F (760°C)
- Construction:
  - BIH series: fiberglass knitted and braided
  - BWH series: Samox® knitted and braided
- Power density:
  - BIH series: Standard: 8.6 watts/in^2 (0.013 watts/mm^2)
    Wide: 5.1 watts/in^2 (0.008 watts/mm^2)
  - BWH series: Standard: 13.1 watts/in^2 (0.020 watts/mm^2)
    Wide: 7.7 watts/in^2 (0.012 watts/mm^2)

Ordering Information:

BIH series: Heavy Insulated

Power Leads on Same End

Width in (mm)	Length in (mm)	Total Watts	Part No. 120VAC	Part No. 240VAC
0.50 (13)	24 (610)	105	BIH051020L	BIH052020L*
0.50 (13)	48 (1220)	210	BIH051040L	BIH052040L*
0.50 (13)	72 (1830)	310	BIH051060L	BIH052060L*
0.50 (13)	96 (2440)	420	BIH051080L	BIH052080L*
0.50 (13)	120 (3050)	520	BIH051100L	BIH052100L*
1.00 (25)	12 (305)	105	BIH101010L	BIH102010L*
1.00 (25)	24 (610)	210	BIH101020L	BIH102020L*
1.00 (25)	48 (1220)	420	BIH101040L	BIH102040L*
1.00 (25)	72 (1830)	620	BIH101060L	BIH102060L*
1.00 (25)	96 (2440)	830	BIH101080L	BIH102080L*
1.00 (25)	120 (3050)	1045	BIH101100L	BIH102100L*
1.75 (44)	24 (610)	209	BIH171020L	BIH172020L*
1.75 (44)	48 (1220)	418	BIH171040L	BIH172040L*
1.75 (44)	72 (1830)	627	BIH171060L	BIH172060L*
1.75 (44)	96 (2440)	836	BIH171080L	BIH172080L*
1.75 (44)	120 (3050)	1045	BIH171100L	BIH172100L*
2.50 (64)	24 (610)	313	BIH251020L	BIH252020L*
2.50 (64)	48 (1220)	627	BIH251040L	BIH252040L*
2.50 (64)	72 (1830)	940	BIH251060L	BIH252060L*
2.50 (64)	96 (2440)	1254	BIH251080L	BIH252080L*
2.50 (64)	120 (3050)	1567	BIH251100L	BIH252100L*
3.25 (83)	24 (610)	418	BIH321020L	BIH322020L*
3.25 (83)	48 (1220)	836	BIH321040L	BIH322040L*
3.25 (83)	72 (1830)	1254	BIH321060L	BIH322060L*
3.25 (83)	96 (2440)	1672	BIH321080L*	BIH322080L*
3.25 (83)	120 (3050)	2090	BIH321100L*	BIH322100L*

BWH series: High Temperature Heavy Insulated

Power Leads on Same End

Width in (mm)	Length in (mm)	Total Watts	Part No. 120VAC	Part No. 240VAC
0.50 (13)	24 (610)	156	BWH051020L	BWH052020L*
0.50 (13)	48 (1220)	313	BWH051040L	BWH052040L*
0.50 (13)	72 (1830)	470	BWH051060L	BWH052060L*
0.50 (13)	96 (2440)	627	BWH051080L	BWH052080L*
0.50 (13)	120 (3050)	783	N/A	BWH052100L*
0.50 (13)	144 (3660)	940	N/A	BWH052120L*
1.00 (25)	24 (610)	313	BWH101020L	BWH102020L*
1.00 (25)	48 (1220)	627	BWH101040L	BWH102040L*
1.00 (25)	72 (1830)	940	BWH101060L	BWH102060L*
1.00 (25)	96 (2440)	1245	BWH101080L	BWH102080L*
1.75 (44)	24 (610)	313	BWH171020L	BWH172020L*
1.75 (44)	48 (1220)	627	BWH171040L	BWH172040L*
1.75 (44)	72 (1830)	940	BWH171060L	BWH172060L*
1.75 (44)	96 (2440)	1254	BWH171080L	BWH172080L*
1.75 (44)	120 (3050)	1570	N/A	BWH172100L*
2.50 (64)	24 (610)	470	BWH251020L	BWH252020L*
2.50 (64)	48 (1220)	940	BWH251040L	BWH252040L*
2.50 (64)	72 (1830)	1411	BWH251060L	BWH252060L*
2.50 (64)	96 (2440)	1881	BWH251080L*	BWH252080L*
2.50 (64)	120 (3050)	2351	N/A	BWH252100L*
3.25 (83)	24 (610)	627	BWH321020L	BWH322020L*
3.25 (83)	48 (1220)	1254	BWH321040L	BWH322040L*
3.25 (83)	72 (1830)	1881	BWH321060L*	BWH322060L*
3.25 (83)	96 (2440)	2508	BWH321080L*	BWH322080L*
3.25 (83)	120 (3050)	3135	N/A	BWH322100L*

*** Plug not included**

Ordering option: For a single power lead on opposite ends, remove "L" from end of part number

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

BriskHeat® XtremeFLEX® BIH-G Grounded Heavy Insulated Heating Tapes

Product Highlights

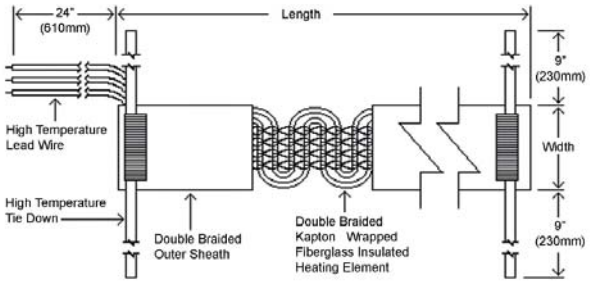
- ✔ Grounded for your safety
- ✔ Exceptional flexibility
- ✔ Rapid thermal response
- ✔ Exceptional durability
- ✔ Suitable for electrical conductive surfaces
- ✔ Includes high temperature tie downs for easy installation

Temperatures up to

482°F (250°C)

Specifications:

- Maximum exposure temperature: 482°F (250°C)
- Patented grounded heating element
- Kapton® wrapped fiberglass knitted and braided construction
- Fiberglass outer sheath
- Power density: 9.6 watts/in² (0.015 watts/mm²)
- 120 or 240VAC
- 24” (610mm) lead wire



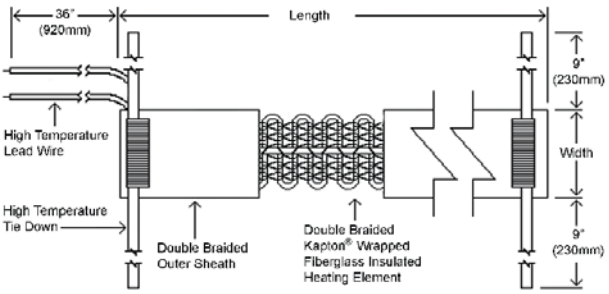
Ordering Information:

Width in (mm)	Length in (mm)	Total Watts	Part No. 120VAC	Part No. 240VAC
1 (25)	24 (610)	230	BIH101020LG	BIH102020LG
1 (25)	48 (1220)	460	BIH101040LG	BIH102040LG
1 (25)	72 (1830)	690	BIH101060LG	BIH102060LG
1 (25)	96 (2440)	920	BIH101080LG	BIH102080LG
1 (25)	120 (3050)	1150	BIH101100LG	BIH102100LG

BriskHeat® XtremeFLEX® IFG Kapton® Heavy Insulated Heating Tapes

Specifications:

- Maximum exposure temperature: 482°F (250°C)
- Kapton® wrapped fiberglass knitted and braided construction
- Fiberglass outer sheath
- Power density: 6.0 watts/in² (0.009 watts/mm²)
- Suitable for electrically conductive surfaces
- 120 or 240VAC
- Includes high temperature tie downs
- 36” (920mm) lead wire



Ordering Information:

Width in (mm)	Length in (mm)	Total Watts	Part No. 120VAC	Part No. 240VAC
1 (25)	24 (610)	144	IFG101002	IFG102002
1 (25)	48 (1220)	288	IFG101004	IFG102004
1 (25)	72 (1830)	432	IFG101006	IFG102006
1 (25)	96 (2440)	576	IFG101008	IFG102008
1 (25)	120 (3050)	720	IFG101010	IFG102010
1 (25)	144 (3660)	864	IFG101012	IFG102012

IMPORTANT: Temperature controller is required for these products. See page 10-1 for options.

BriskHeat® XtremeFLEX® BS0 Silicone Rubber Heating Tapes

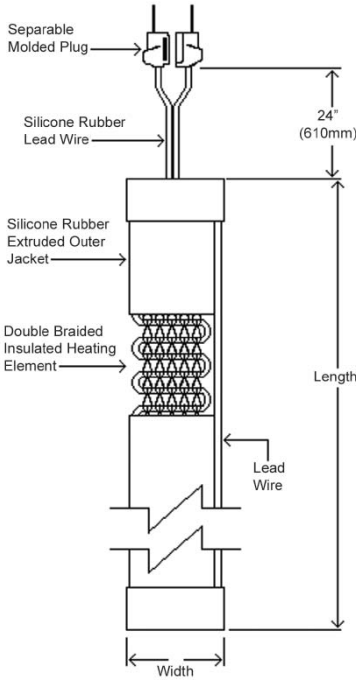
Product Highlights

- ✔ Moisture and chemical resistant
- ✔ Exceptional flexibility
- ✔ Rapid thermal response
- ✔ Exceptional durability
- ✔ Suitable for electrical conductive surfaces
- ✔ CE 73/23/EEC. See page A-1 for more information.

Moisture and Chemical Resistant

Temperatures up to

450°F (232°C)



Specifications:

- Maximum exposure temperature: 450°F (232°C)
- Silicone rubber extruded outer sheath
- Fiberglass knitted and braided construction
- Moisture and chemical resistant
- Power density: 4.3 watts/in² (0.007 watts/mm²)
- 120 or 240VAC

Ordering Information:

Power Leads on Same End

Width in (mm)	Length in (mm)	Total Watts	Part No. 120VAC	Part No. 240VAC
0.5 (13)	24 (610)	52	BS0051020L	BS0052020L*
0.5 (13)	48 (1220)	104	BS0051040L	BS0052040L*
0.5 (13)	72 (1830)	156	BS0051060L	BS0052060L*
0.5 (13)	96 (2440)	209	BS0051080L	BS0052080L*
0.5 (13)	120 (3050)	261	BS0051100L	BS0052100L*
0.5 (13)	144 (3660)	313	BS0051120L	BS0052120L*
1.0 (25)	24 (610)	104	BS0101020L	BS0102020L*
1.0 (25)	48 (1220)	209	BS0101040L	BS0102040L*
1.0 (25)	72 (1830)	313	BS0101060L	BS0102060L*
1.0 (25)	96 (2440)	418	BS0101080L	BS0102080L*
1.0 (25)	120 (3050)	522	BS0101100L	BS0102100L*
1.0 (25)	144 (3660)	627	BS0101120L	BS0102120L*
1.0 (25)	168 (4270)	731	BS0101140L	BS0102140L*
1.0 (25)	192 (4880)	836	BS0101160L	BS0102160L*
1.0 (25)	216 (5490)	940	BS0101180L	BS0102180L*
1.0 (25)	240 (6100)	1075	BS0101200L	BS0102200L*
2.0 (51)	24 (610)	209	BS0201020L	BS0202020L*
2.0 (51)	48 (1220)	418	BS0201040L	BS0202040L*
2.0 (51)	72 (1830)	627	BS0201060L	BS0202060L*
2.0 (51)	96 (2440)	836	BS0201080L	BS0202080L*
2.0 (51)	120 (3050)	1045	BS0201100L	BS0202100L*
2.0 (51)	144 (3660)	1254	BS0201120L	BS0202120L*
2.0 (51)	168 (4270)	1463	BS0201140L	BS0202140L*
2.0 (51)	192 (4880)	1627	BS0201160L	BS0202160L*
2.0 (51)	216 (5490)	1881	BS0201180L*	BS0202180L*
2.0 (51)	240 (6100)	2090	BS0201200L*	BS0202200L*

*** Plug not included**

Ordering option: For a single power lead on opposite ends, remove "L" from end of part number

Adhesive Tape

Provides intimate contact with surface to be heated. A heating tape essential!

Part Number	Material	Width in (mm)	Length Yards (m)	Temperature Limit
PSAT04	Fiberglass	0.5 (13)	4 (3.6)	350°F (176°C)
PSAT36A	Fiberglass	0.5 (13)	36 (32.9)	350°F (176°C)
AAT260	Aluminum	2.0 (51)	60 (54.8)	350°F (176°C)
AAT2180	Aluminum	2.0 (51)	60 (54.8)	550°F (288°C)

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

BriskHeat® XtremeFLEX® BS0-G Grounded Silicone Rubber Heating Tapes

Product Highlights

- ✔ Grounded for your safety
- ✔ Moisture and chemical resistant
- ✔ Exceptional flexibility
- ✔ Rapid thermal response
- ✔ Exceptional durability
- ✔ c UL us up to 302°F (150°C)
- ✔ CE 73/23/EEC. See page A-1 for more information.

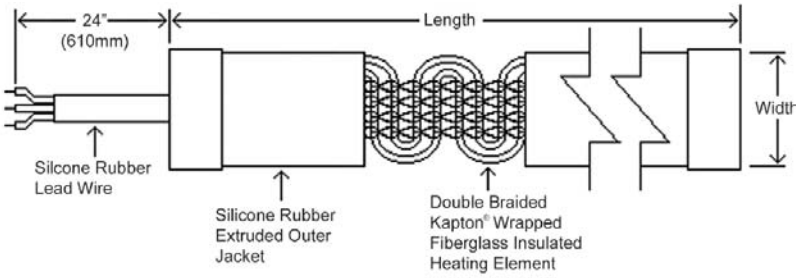
Temperatures up to

450°F (232°C)

Moisture and Chemical Resistant

Specifications:

- Maximum exposure temperature: 450°F (232°C)
- Silicone rubber extruded outer sheath
- Kapton® wrapped fiberglass knitted and braided construction
- Patented grounded heating element
- Power density: 4.3 watts/in² (0.007 watts/mm²)
- Suitable for electrically conductive surfaces
- 120 or 240VAC
- 24" (610mm) lead wire



Ordering Information:

Width in (mm)	Length in (mm)	Total Watts	Part No. 120VAC	Part No. 240VAC
1.0 (25)	24 (610)	104	BS0101020LG	N/A
1.0 (25)	48 (1220)	209	BS0101040LG	BS0102040LG
1.0 (25)	72 (1830)	313	BS0101060LG	BS0102060LG
1.0 (25)	96 (2440)	418	BS0101080LG	BS0102080LG
1.0 (25)	120 (3050)	522	BS0101100LG	BS0102100LG

Adhesive Tape

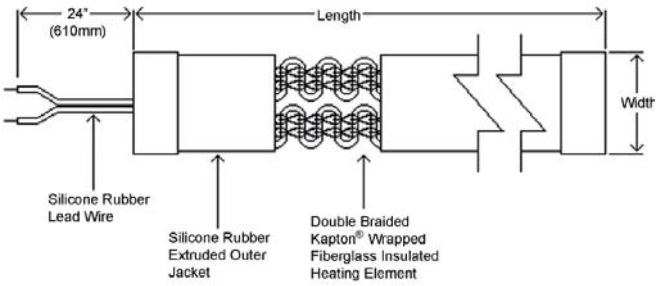
Provides intimate contact with surface to be heated. A heating tape essential!

Part Number	Material	Width in (mm)	Length Yards (m)	Temperature Limit
PSAT04	Fiberglass	0.5 (13)	4 (3.6)	350°F (176°C)
PSAT36A	Fiberglass	0.5 (13)	36 (32.9)	350°F (176°C)
AAT260	Aluminum	2.0 (51)	60 (54.8)	350°F (176°C)
AAT2180	Aluminum	2.0 (51)	60 (54.8)	550°F (288°C)

BriskHeat® XtremeFLEX® ISR Kapton® Silicone Rubber Heating Tapes

Specifications:

- Maximum exposure temperature: 450°F (232°C)
- Silicone rubber extruded outer sheath
- Kapton® wrapped fiberglass knitted and braided construction
- Moisture and chemical resistant
- Power density: 3.0 watts/in² (0.005 watts/mm²)
- Suitable for electrically conductive surfaces
- 120 or 240VAC
- 24" (610mm) lead wire
- CE 73/23/EEC. See page A-1 for more information.



Ordering Information:

Size A in (mm)	Size B in (mm)	Total Watts	Part No. 120VAC	Part No. 240VAC
1 (25)	24 (610)	72	ISR101002	ISR102002
1 (25)	48 (1220)	144	ISR101004	ISR102004
1 (25)	72 (1830)	216	ISR101006	ISR102006
1 (25)	96 (2440)	288	ISR101008	ISR102008
1 (25)	120 (3050)	360	ISR101010	ISR102010
1 (25)	144 (3660)	432	ISR101012	ISR102012

Adhesive Tape

Provides intimate contact with surface to be heated. A heating tape essential!

Part Number	Material	Width in (mm)	Length Yards (m)	Temperature Limit
PSAT04	Fiberglass	0.5 (13)	4 (3.6)	350°F (176°C)
PSAT36A	Fiberglass	0.5 (13)	36 (32.9)	350°F (176°C)
AAT260	Aluminum	2.0 (51)	60 (54.8)	350°F (176°C)
AAT2180	Aluminum	2.0 (51)	60 (54.8)	550°F (288°C)

IMPORTANT: Temperature controller is required for these products. See page 10-1 for options.

BriskHeat® XtremeFLEX® CTL Cut-To-Length Silicone Rubber Heating Tapes

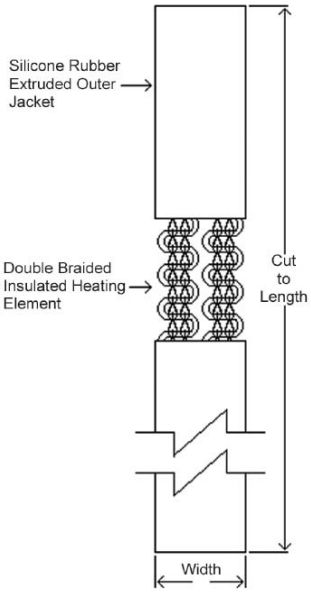
Product Highlights

- ✔ Well suited for pipeline tracing
- ✔ Can be cut-to-length at job site
- ✔ Moisture and chemical resistant
- ✔ Exceptional flexibility
- ✔ CE 73/23/EEC. See page A-1 for more information.

Temperatures up to

450°F (232°C)

Moisture and Chemical Resistant



Ordering Information:

CTL heating tape is a series heating element design; wattages and amperages vary with the tape length. To determine the actual wattage output for a given length, follow the steps in the CTL application guide on the next page.

Part Number	Ohms Per ft (m)	Volts	Min ft (m)	Max ft (m)	Width in (mm)
CTL-A	0.10 (0.328)	120VAC 240VAC	57 (17) 114 (35)	440 (143) 220 (67)	1 (25)
CTL-B	0.90 (2.953)	120VAC 240VAC	19 (6) 38 (12)	74 (23) 146 (45)	1 (25)
CTL-C	10.00 (32.808)	120VAC 240VAC	6 (2) 12 (4)	22 (7) 44 (13)	1 (25)

Available factory finished for immediate use, consult factory for details.

Adhesive Tape

Provides intimate contact with surface to be heated. A heating tape essential!

Part Number	Material	Width in (mm)	Length Yards (m)	Temperature Limit
PSAT04	Fiberglass	0.5 (13)	4 (3.6)	350°F (176°C)
PSAT36A	Fiberglass	0.5 (13)	36 (32.9)	350°F (176°C)
AAT260	Aluminum	2.0 (51)	60 (54.8)	350°F (176°C)
AAT2180	Aluminum	2.0 (51)	60 (54.8)	550°F (288°C)

IMPORTANT: Temperature controller is required for these products. See page 10-1 for options.

BriskHeat® Cut-To-Length Termination Kits

CTL-LK:
Lead Kit
- Crimp terminals
- Heavy-duty joint cover
- 8 feet of 16 AWG high temperature leads covered with insulating sleeving

Usage: Connects main power supply to heating tape.
NOTE: Requires RTV adhesive and adhesive tape.

CTL-EK:
End Kit
- Crimp terminals
- Heavy-duty joint cover

Usage: Terminates the end of the heating tape.
NOTE: Requires RTV adhesive and adhesive tape.

RTV3.0:
RTV Adhesive
Room temperature vulcanizing (RTV) high temperature silicone adhesive. 3 oz. tube

Usage: Seals connection kits.

CTL-TK:
Tee Kit
- Crimp terminals
- Heavy-duty joint covers
- 1 end kit
- 1 foot of 16 AWG high temperature leads covered with insulating sleeving

Usage: Joins three segments of heating tape.
NOTE: Requires RTV adhesive and adhesive tape.

CTL-JK:
Jumper Kit
- Heavy-duty joint cover
- 2 feet of 16 AWG high temperature leads covered with insulating sleeving

Usage: Makes a splice between segments of heating tape.
NOTE: Requires RTV adhesive and adhesive tape.

BriskHeat® Cut-To-Length Application

XtremeFLEX® Cut-to-Length Heating Tape may be used on voltages other than those listed, provided the watt density does not exceed 60 watts per foot (196.8 watts per meter).

1. Determine the total wattage required for the application. Contact your local distributor or us direct for assistance.
2. Determine the total resistance required. (Voltage^2 ÷ Wattage = Resistance)

   _____^{2} / _____ = _____
   (Applied voltage)^2 / (Total wattage) = Total resistance.

3. Determine the total length of CTL tape required.

   _____ / _____ = _____
   (Total resistance) / (Resistance per foot or meter) = Total length of tape required

   NOTE: If the total length required is less then the total length of pipe, select a lower resistance tape.

4. Ensure the power per unit length does not exceed 60 watts per foot (196.8 watts per meter).

   _____ / _____ = _____
   (Total wattage) / (Total length of tape required) = Power per unit length

5. Determine the amount of tape required per unit length of pipe.

   _____ / _____ = _____
   (Total length of tape required) / (Total length of pipe) = Tape per unit length of pipe

6. Refer to Chart 1-1 to determine the pitch factor for tape installation. Pitch factor is the distance between heat tape wraps.

Chart 1-1: Pitch Factor (Feet of Tape per Foot of Pipe)

Pitch	NPS Pipe Size																	
inches	0.5	0.75	1	1.5	2	2.5	3	4	6	8	10	12	14	16	18	20	24	30
2	1.98	2.27	2.66	3.52	4.25	5.01	5.97	7.52	10.85	13.98	17.30	20.43	22.39	25.53	28.67	31.81	38.09	47.50
3	1.52	1.69	1.92	2.46	2.93	3.43	4.05	5.07	7.27	9.35	11.56	13.64	14.95	17.04	19.13	21.22	25.40	31.68
4	1.32	1.43	1.59	1.96	2.29	2.65	3.11	3.86	5.49	7.04	8.69	10.25	11.23	12.80	14.36	15.93	19.06	23.77
5	1.21	1.29	1.40	1.68	1.93	2.21	2.56	3.15	4.43	5.67	6.98	8.23	9.00	10.25	11.50	12.76	15.26	19.02
6	1.15	1.21	1.29	1.51	1.70	1.92	2.20	2.68	3.74	4.75	5.84	6.88	7.52	8.56	9.60	10.64	12.73	15.86
7	1.11	1.16	1.22	1.39	1.55	1.72	1.96	2.35	3.24	4.11	5.03	5.92	6.47	7.36	8.25	9.14	10.92	13.61
8	1.09	1.12	1.17	1.31	1.44	1.58	1.78	2.12	2.88	3.63	4.43	5.20	5.68	6.46	7.23	8.01	9.57	11.92
9	1.07	1.10	1.14	1.25	1.36	1.48	1.65	1.94	2.60	3.26	3.97	4.64	5.07	5.76	6.45	7.14	8.52	10.60
10	1.06	1.08	1.11	1.21	1.30	1.40	1.54	1.80	2.38	2.96	3.60	4.20	4.58	5.20	5.82	6.44	7.68	9.55
11	1.05	1.07	1.10	1.17	1.25	1.34	1.46	1.68	2.20	2.72	3.30	3.84	4.19	4.75	5.30	5.87	6.99	8.69
12	SR	1.06	1.08	1.15	1.21	1.29	1.40	1.60	2.06	2.53	3.05	3.55	3.86	4.37	4.88	5.39	6.42	7.98
14	SR	SR	1.06	1.11	1.16	1.22	1.31	1.46	1.84	2.23	2.66	3.08	3.35	3.78	4.21	4.65	5.53	6.86
16	SR	SR	1.05	1.09	1.13	1.17	1.24	1.37	1.68	2.01	2.38	2.74	2.97	3.34	3.72	4.10	4.86	6.02
18	SR	SR	SR	1.07	1.10	1.14	1.19	1.30	1.56	1.84	2.16	2.48	2.68	3.01	3.34	3.67	4.35	5.37
24	SR	SR	SR	SR	1.06	1.08	1.11	1.18	1.35	1.53	1.75	1.97	2.12	2.35	2.59	2.83	3.33	4.08
30	SR	SR	SR	SR	SR	1.05	1.07	1.12	1.23	1.37	1.52	1.69	1.80	1.97	2.16	2.34	2.73	3.32
36	SR	SR	SR	SR	SR	SR	1.05	1.08	1.17	1.26	1.39	1.51	1.60	1.73	1.88	2.03	2.34	2.82
42	SR	SR	SR	SR	SR	SR	SR	1.06	1.12	1.20	1.29	1.39	1.46	1.57	1.69	1.81	2.07	2.47
48	SR	SR	SR	SR	SR	SR	SR	1.05	1.10	1.16	1.23	1.31	1.37	1.46	1.56	1.66	1.88	2.22
60	SR	SR	SR	SR	SR	SR	SR	SR	1.05	1.10	1.15	1.21	1.25	1.31	1.38	1.46	1.62	1.87
72	SR	SR	SR	SR	SR	SR	SR	SR	SR	1.07	1.11	1.15	1.18	1.23	1.28	1.33	1.46	1.66

SR = Straight Run

To determine the pitch factor:

1. Find the specific pipe size at the top.
2. Follow that column down to the specific length of tape per foot of pipe, or the next highest. Follow that row to the left most column, this is the required pitch (required space between wraps).

BriskHeat® HTC Heating Cords

Product Highlights

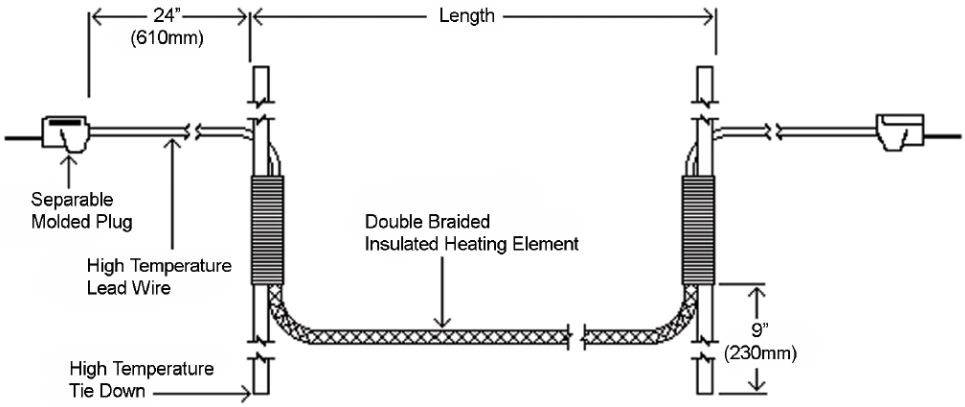
Temperatures up to

900°F (482°C)

- ✔ Designed for use on small tubes, vessels, or any place where space is limited
- ✔ Can be wrapped around objects as small as 1/8” (3mm) diameter
- ✔ Exceptional flexibility
- ✔ Rapid thermal response
- ✔ Exceptional durability: excellent for laboratory, production, or maintenance applications

Specifications:

- Maximum exposure temperature: 900°F (482°C)
- Wrap around diameters as small as 1/8” (3.2mm)
- Fiberglass knitted and braided construction
- Power density: 1.8 watts/in^2 (0.003 watts/mm^2)
- Double braided fiberglass outer sheath
- Suitable for electrical conductive surfaces
- 120VAC
- Includes high temperature tie downs



Ordering Information:

Diameter in (mm)	Length in (mm)	Total Watts	Part No.
3/16 (4.8)	36 (915)	64	HTC451001
3/16 (4.8)	72 (1829)	125	HTC451002
3/16 (4.8)	144 (3658)	260	HTC451003

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

BriskHeat® Temperature Controllers and Accessories for Heating Tapes

TTD Outdoor-Use Digital On/Off Thermocouple Temperature Controller Features:

- 120 or 240VAC
- 15 amps
- Digital On/Off controller
- Plug-in operation
- Type K thermocouple input
- Compact portable design

TS0 Portable Bulb and Capillary Temperature Controller Features:

- 120 or 240VAC
- 15 amps
- 4 foot copper bulb and capillary
- Compact portable design
- Plug-in operation

BriskONE Digital PID Thermocouple Temperature Controller Features:

- Accuracy: ±1 least significant digit
- Operating voltage 120 or 240 VAC, +10% -15%, 50-400Hz
- Rated 15 amp at 120VAC, 10 amp at 240VAC
- Type J thermocouple input
- Dual display shows set-point and actual temperature
- Programmable to either °C or °F
- Automatic tuning of PID parameters
- Auto/Manual control ability
- Compact portable design
- Simple four key user control

TB250N All-Purpose Bulb and Capillary Temperature Controller Features:

- Manually set your desired temperature
- Up to 277VAC
- 22 amp capacity
- Plug-in operation
- Can be used outdoors (Enclosure rated NEMA 3R)

For more information and choices, go to the temperature controller section starting on page 10-1.

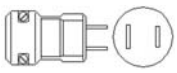
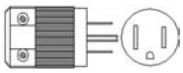
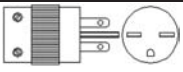
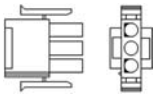
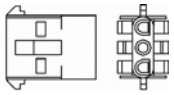
ADHESIVE MOUNTING TAPES

Part Number	Material	Width	Length		Temperature Limit
		in (mm)	Yards	Meters	
PSAT36A	Fiberglass	0.5 (13)	36	32.9	350°F (176°C)
AAT260	Aluminum	2.0 (51)	60	54.8	350°F (176°C)
AAT2180	Aluminum	2.0 (51)	60	54.8	550°F (288°C)

HIGH TEMPERATURE POWER LEAD WIRES

Part Number	Description	AWG	Length		Temperature Limit
			Feet	Meters	
HTLW16	Fiberglass insulated, nickel plated copper	16	25	7.62	900°F (482°C)
HTLW12		12	25	7.62	900°F (482°C)

POWER PLUGS

Part Number	Description	Voltage	NEMA	Amps	
10115	2P, 2W	125VAC	1-15	15	
10113	2P, 3W grounded	125VAC	5-15	15	
10478	2P, 3W grounded	250VAC	6-15	15	
CA0001	2P, 3W (pins included)	Up to 600VAC	N/A	15	
CA0002	2P, 3W (sockets included)	Up to 600VAC	N/A	15	

BriskHeat® Silicone Rubber Heating Blankets / Pads

Many industrial heating applications require heaters with the ability to resist chemicals, moisture and abusive treatment. These same applications also require rapid heat-up, steady temperature maintenance, and uniform heat distribution. For conditions such as these, BriskHeat® Silicone Rubber Heating Blankets are the best products available.

Product Highlights

☑ Uniform Heat Distribution

- ► Up to 450°F (232°C)

☑ Easy Peel 'n Stick Pressure Sensitive Adhesive Backing Option

☑ Suitable for a Large Range of Environments

- ► Moisture and chemical resistant
- ► Hazardous-area model

☑ Exceptional Durability

- ► Multi-stranded resistance wire

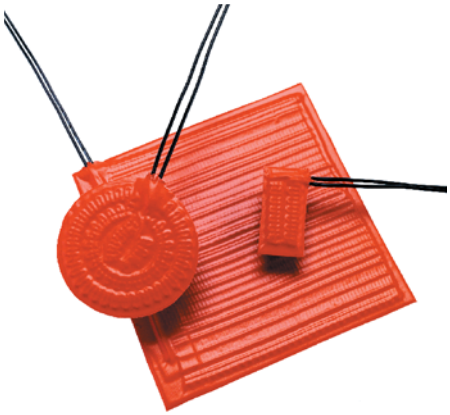
☑ Variety of Standard Sizes and Configure-to-Order Options

Configure-to-order options:

- ► Complex shapes
- ► Built-in controlling options
- ► Your choice of attachment options

☑ Wide Range of Applications

- ► Viscosity and temperature control
- ► Freeze protection
- ► Storage tanks
- ► Hoppers
- ► Enclosures / control panels
- ► Silos
- ► Conveyors
- ► Presses
- ► Vats
- ► Tank trucks
- ► Low temperature ovens



BriskHeat® Silicone Rubber Heating Blankets/Pads Selection Guide

Heating Blanket Type	SRL and SRP Silicone Rubber	SRX Hazardous-Area	SRMU Economy	SREH Enclosure/ Control Panel Heaters
Maximum Exposure Temperatures	450°F (232°C)	450°F (232°C)	450°F (232°C)	450°F (232°C)
Minimum Exposure Temperature	-60°F (-51°C)	-60°F (-51°C)	-60°F (-51°C)	0°F (-18°C)
Available Voltages	120 to 600VAC	120, 240VAC	120VAC	120VAC
Standard Power Density	1.25 or 2.5 watts/in^2 (.002 or .004 watts/mm^2)	2.5 watts/in^2 (.004 watts/mm^2)	2.5, 5, or 10 watts/in^2 (.004, .007, or .016 watts/mm^2)	4 watts/in^2 (.006 watts/mm^2)
Dielectric Strength	Over 2000 volts	Over 2000 volts	Over 2000 volts	Over 2000 volts
Adhesive Backing	Optional	Optional	Optional	N/A
Standard Power Leads	48" (1219mm) silicone rubber	12" (305mm) silicone rubber with tinned copper overbraid	12" (305mm) TEFLON® extruded	48" (1219 mm) TEFLON® extruded
Resistance to Moisture	Good	Good	Good	Good
Resistance to Chemicals	Good	Good	Good	Good
Resistance to Radiation	Good	Good	Good	Good
Suitable Locations	Ordinary	Class 1 Division 2 Group A, B, C, & D Class II Division 2, Groups F and G	Ordinary	Enclosure interiors
Silicone thickness per layer	20 mils	23 mils/25 mils	15 mils	15 mils
Silicone density per layer	21.7 oz/yd^2 (736 grams/M^2)	26 oz/yd^2 (881 grams/M^2)	16.8 oz/yd^2 (570 grams/M^2)	16.8 oz/yd^2 (570 grams/M^2)
Grounded	✔	✔		
Approvals	c UL us maximum temperature rating 358°F (181°C) CE 73/23/EEC see page A-1	FM APPROVED Class I Division 2, Groups A, B, C and D Class II Division 2, Groups F and G	CE 73/23/EEC see page A-1	CE 73/23/EEC see page A-1

NOTE: All BriskHeat® Silicone Rubber Heating Blankets must be used with appropriate controls. See temperature controller section starting at page 10-1 for options.

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BriskHeat® SRL and SRP Silicone Rubber Heating Blankets

Product Highlights

Moisture and Chemical Resistant

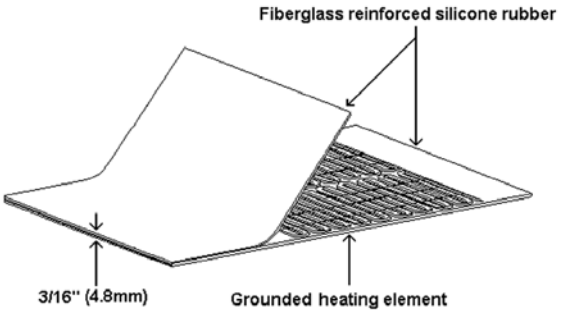
Configure-To-Order Option

Other Sizes, Shapes, Power

Temperatures up to

450°F (232°C)

- Suitable for large range of surfaces like tanks, hoppers, conveyors, silos, etc.
- Exceptional durability
- Easy peel 'n stick pressure sensitive adhesive backing option
- Grounded heating element meets NEC 427.23
- Optional high-limit thermostat to protect heater and contents being heated
- c UL us up to 358˚F (181˚C)
- CE 73/23/EEC. See page A-1 for more information.



Specifications:

- Power densities:
  SRL series(*): 2.5 watts/in² (.004 watts/mm²)
  SRP series: 1.25 watts/in² (.002 watts/mm²)
- Moisture, chemical, and radiation resistant
- Heating element is laminated between two layers of 20mil fiberglass reinforced silicone rubber
- Exposure temperature range: -60°F to 450°F (-51°C to 232°C)
- Patented grounded heating element
- Dielectric strength of over 2000 volts
- Silicone density 21.7 oz/yd² (736 grams/m²) per layer
- Silicone rubber power leads: 48" (1219mm) standard length
- 120, 208, 240, 277, 480, or 600VAC

*** Consult factory if SRL series will be used on a plastic surface**

About High-Limit Safety Thermostat:
BriskHeat® offers an optional high-limit safety thermostat to protect both the heater and the product being heated from damage if the main controlling device fails. Technical limitation may apply, especially at voltages above 277. Contact factory for more details.

Ordering Information:

Standard Sizes and Wattage

Size		Total Watts	
Width in (mm)	Length in (mm)	SRL Series: 2.5 watts/in² (.004 watts/mm²)	SRP Series: 1.25 watts/in² (.002 watts/mm²)
6 (152)	12 (305)	180	90
6 (152)	24 (610)	360	180
6 (152)	36 (914)	540	270
12 (305)	12 (305)	360	180
12 (305)	24 (610)	720	360
12 (305)	36 (914)	1080	540
18 (457)	18 (457)	810	405
18 (457)	36 (914)	1620	810
24 (610)	24 (610)	1440	720
24 (610)	36 (914)	2160	1080

Note: Plug not included

Part Number Matrix

SRL 06 12 1 P H150 -096

Product Series
SRL- (2.5 watts/in²), SRP- (1.25 watts/in²)

Length (inches)

Width (inches)

Voltage, 1-(120), 2-(240), 3-(277), 4-(480), 5-(208), 6-(600)

Pressure Sensitive Adhesive
P- (with), blank- (without)

High-Limit Safety Thermostat
H150- (150˚F / 66˚C) [recommended for plastic surfaces
H450- (450˚F / 232˚C)

Lead Length Adjustment Option
Additional lead lengths in 6" increments example:
096- (96"), blank- (standard 12")

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

BriskHeat® SRX Hazardous-Area Silicone Rubber Heating Blankets

Product Highlights

- FM APPROVED — **Class I Division 2 Groups A, B, C, and D**, **Class II Division 2, Groups F and G**
- Suitable for large range of surfaces like tanks, hoppers, conveyors, silos, etc.
- Exceptional durability
- Moisture and chemical resistant
- Easy peel 'n stick pressure sensitive adhesive backing option
- Grounded heating element meets NEC 427.23

Moisture and Chemical Resistant

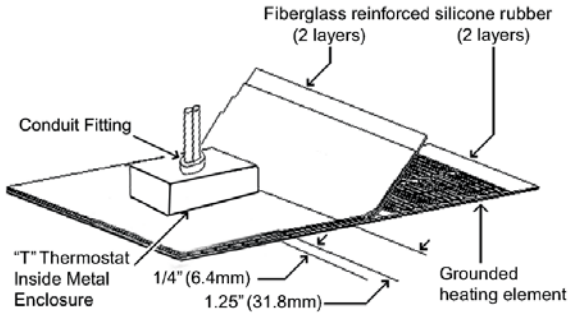
Safe for Hazardous Areas

Temperatures up to

292°F (145°C)

Specifications:

- 0.75" (19mm) conduit fitting
- High-limit thermostat designed to keep blanket below NEC article 500 T-rating
  - T3: 292°F (145°C)
  - T4A: 158°F (70°C)
- Silicone rubber power leads 12" (305mm) long
- Power density of 2.5 watts/in² (.004 watts/mm²)
- Patented grounded heating element is laminated between two layers of 23 mil and two layers 25 mil fiberglass reinforced silicone rubber
- Nominal silicone rubber density of 26 oz/yd² (881 grams/m²) per layer
- Exposure temperature range: -60°F to 400°F (-51°C to 204°C)
- Dielectric strength of over 2000 volts
- Moisture, chemical, and radiation resistant
- Suitable for use on metal surfaces
- 120 or 240VAC



Ordering Information:

Standard Sizes and Wattage

Width in (mm)	Length in (mm)	Total Watts
6 (152)	12 (305)	180
6 (152)	24 (610)	360
12 (305)	12 (305)	360
12 (305)	24 (610)	720
24 (610)	24 (610)	1440

Part Number Matrix

SRX 06 12 180 1 P T3

- Product Series: SRX- Hazardous-Area Heating Blanket
- Length (inches)
- Width (inches)
- Wattage
- Voltage: 1-(120), 2-(240)
- Pressure Sensitive Adhesive: P- (with), blank- (without)
- T-rating: T3- (T3), T4A- (T4A)

Note: Plug not included

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

BriskHeat® SRMU Economy Silicone Rubber Heating Blankets

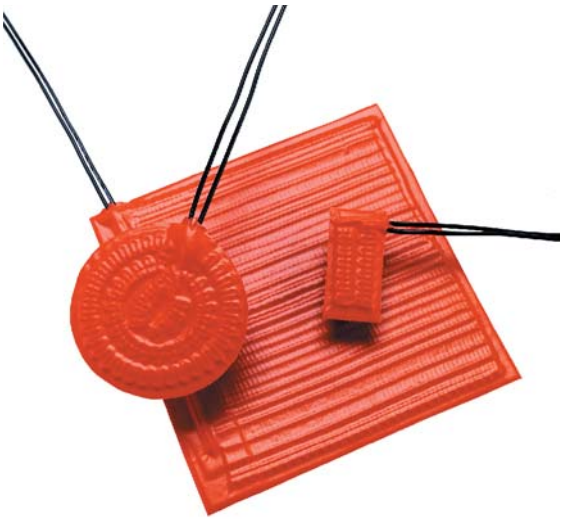
Product Highlights

- Economical choice
- Very low profile
- Easy peel 'n stick pressure sensitive adhesive backing option
- CE 73/23/EEC. See page A-1 for more information.

Moisture and Chemical Resistant

Temperatures up to

450°F (232°C)



Specifications:

- Power densities: 2.5 watts/in² (.004 watts/mm²), 5 watts/in² (.008 watts/mm²), 10 watts/in² (.016 watts/mm²)
- 120VAC
- Heating element is laminated between two layers of 15mil fiberglass reinforced silicone rubber
- Moisture, chemical, and radiation resistant
- Exposure temperature range: -60°F to 450°F (-51°C to 232°C)
- Dielectric strength of over 2000 volts
- Silicone density 16.8 oz/yd² (570 grams/m²) per layer
- TEFLON® extruded power leads: 12" (305mm) standard length

Ordering Information:

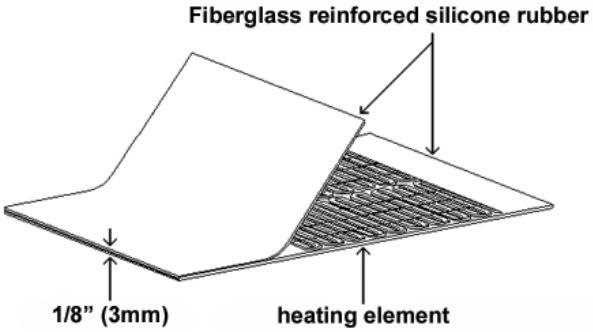
Standard Sizes and Wattage

Rectangular

Size		Total Watts		
Width in (mm)	Length in (mm)	2.5 watts/in² (.004 watts/mm²)	5 watts/in² (.008 watts/mm²)	10 watts/in² (.016 watts/mm²)
6 (152)	12 (305)	180	360	720
6 (152)	24 (610)	360	720	1440
6 (152)	36 (914)	540	1080	2160
12 (305)	12 (305)	360	720	1440
12 (305)	24 (610)	720	1440	N/A
12 (305)	36 (914)	1080	2160	N/A
18 (457)	18 (457)	810	1620	N/A
18 (457)	36 (914)	1620	N/A	N/A
24 (610)	24 (610)	1440	N/A	N/A
24 (610)	36 (914)	2160	N/A	N/A

Round

Size	Total Watts		
Diameter in (mm)	2.5 watts/in² (.004 watts/mm²)	5 watts/in² (.008 watts/mm²)	10 watts/in² (.016 watts/mm²)
6 (152)	71	140	283
12 (305)	283	565	1130



Part Number Matrix

SRMU 02 0612 P -096

Product Series — SRMU

Power Density — 02
02- (2.5 watts/in²), 05- (5 watts/in²), (10 watts/in²)

Dimensions — 0612
Rectangular, 0612- (6 x 12")
Round, 06D- (6" diameter)

Pressure Sensitive Adhesive — P
P- (with), blank- (without)

Lead Length Adjustment Option — -096
Additional lead lengths in 6" increments example:
096- (96"), blank- (standard 12")

Note: Plug not included

Other Sizes Available. Contact your local distributor or BriskHeat® for more information.

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

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BriskHeat® SREH Enclosure / Control Panel Heaters

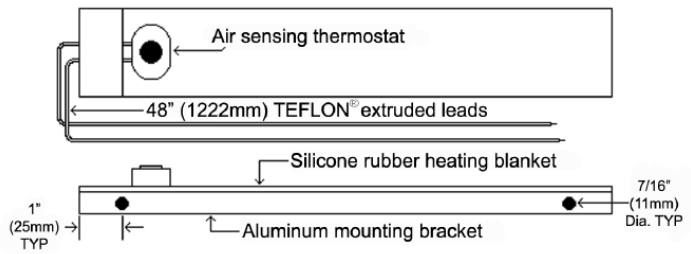
Product Highlights

- Prevents condensation or freezing of electronics located within enclosures and control panels
- Easy-to-install mounting plate
- Air sensing thermostat
- CE 73/23/EEC. See page A-1 for more information.

Moisture and Chemical Resistant

Temperatures up to

450°F (232°C)



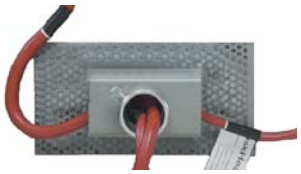
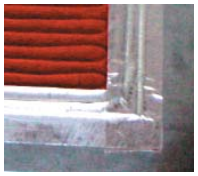
Specifications:

- Heating element is laminated between two layers of 15 mil fiberglass reinforced silicone rubber
- Silicone rubber density of 16.8 oz/yd^2 (570 grams/m^2) per layer
- Overall thickness (blanket and bracket) of 1/4" (6mm)
- Exposure temperature range: 32°F to 450°F (0°C to 232°C)
- Aluminum mounting plate comes with two 7/16" (11mm) holes for mounting
- Mount either vertically or horizontally
- Optimal control acheived by mounting vertically
- Operating voltage of 120VAC
- 48" (1219mm) TEFLON® extruded leads
- Dielectric strength of over 2000 volts
- Moisture, chemical, and radiation resistant

Ordering Information:

Width in (mm)	Length in (mm)	Total Watts	Thermostat		Part number 120VAC
			Opens	Closes	
2 (51)	6 (152)	60	without	thermostat	SREH600
2 (51)	6 (152)	60	60°F (15°C)	40°F (4°C)	SREH640
2 (51)	6 (152)	60	140°F (60°C)	110°F (43°C)	SREH6110
2 (51)	6 (152)	60	180°F (82°C)	150°F (65°C)	SREH6150
2 (51)	12 (305)	120	without	thermostat	SREH1200
2 (51)	12 (305)	120	60°F (15°C)	40°F (4°C)	SREH1240
2 (51)	12 (305)	120	140°F (60°C)	110°F (43°C)	SREH12110
2 (51)	12 (305)	120	180°F (82°C)	150°F (65°C)	SREH12150

BriskHeat® Silicone Rubber Heating Blanket Accessories

Accessory	Part Number	Usage
Strain Relief/Conduit bracket 	• SRLCB	Provides a strain relief for the blanket power wires and a mounting means for the electrical conduit.
Aluminum adhesive tape  	• AAT2180 (2” x 180’)	Maintains the heating blanket in intimate contact with the surface to be heated while adhesive cures. Temperature limit: 550°F (288°C).
Heat Conductive Putty 	• HCP1 (1lb) • HCP3 (3lb)	Used to fill any voids between blanket and surface being heated.

NOTES:

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BriskHeat® Drum and Pail Heaters

BriskHeat® Drum and Pail Heaters are designed to provide practical, efficient means of freeze protection, viscosity control, and maintenance of materials at elevated temperatures. A variety of standard sizes are combined with availability of configure-to-order designs to meet a variety of applications.

Product Highlights

- **Durable and Long Lasting**
- **Large Heater Coverage and High Wattages**
- **Grounded Heating Element**
- **Easy Adjustable Thermostat Control**
- **The Only FM Approved Hazardous-Area Silicone Rubber Drum Heater**
- **Full Coverage Drum Heaters Feature an Easy-to-Use Digital Temperature Controller with Audible / Visual alarm**
- **Full Coverage Drum Heaters and Insulators Maximize Heat Efficiency**
- **Variety of Standard Sizes and Configure-to-Order Options for Special Vessel Heaters**

- **Wide Range of Applications**
  - ► Viscosity control
  - ► Freeze protection
  - ► Temperature maintenance
  - ► Melting of solids
  - ► Heat-up drum contents to a required temperature
  - ► Thermal mixing

Toll Free: 800-848-7673 Phone: 614-294-3376 **www.BriskHeat.com** Email: bhtsales1@briskheat.com Fax: 614-294-3807

BriskHeat® Drum and Pail Heaters Selection Guide

Type	DHCS & DPCS Heavy Duty Drum Heater	DHCH & DPCH Extra Heavy Duty Drum Heater	ECONO Drum Heater	DHCX Hazardous Area Drum Heater	FGDH & FGPDH Full-Coverage Drum Heater	FGDDC Dual Zone Full-Coverage Drum Heater	FGDI Drum Insulator
Coverage Area	4" (102mm)	4" (102mm)	3.6" (91mm)	8" (203mm)	Full-Coverage	Full-Coverage	Full-Coverage
Wattage for metal 55 gallon model	1200	1200	1100	1300	1600	3200 Total (1600 Per Zone)	N/A
Silicone thickness per layer	20 mils	20 mils	15 mils	23, 25 mils	N/A	N/A	N/A
Silicone density per layer	21.7 oz/yd^2 (736 grams/m^2)	21.7 oz/yd^2 (736 grams/m^2)	16.8 oz/yd^2 (570 grams/m^2)	26 oz/yd^2 (881 grams/m^2)	N/A	N/A	N/A
Number of layers	2	3	2	4	N/A	N/A	N/A
Available voltages	120, 240VAC	120, 240VAC	120, 240VAC	120, 240VAC	120, 240VAC	240VAC	N/A
Thermostat Range	DHCS: 50-425°F (10-218°C) DPCS: 50-160°F (10-71°C)	DHCH: 50-425°F (10-218°C) DPCH: 50-160°F (10-71°C)	50-425°F (10-218°C)	T4A rating 158ºF (70ºC) or T3 rating 292ºF (145ºC)	FGDH: 50-450°F (10-232°C) FGPDH: 50-160°F (10-71°C)	FGDDC: 50-450°F (10-232°C)	N/A
Moisture Resistant	✔	✔	✔	✔			
Chemical Resistant	✔	✔	✔	✔			
Grounded	✔	✔	✔	✔	✔	✔	
Available for use with poly drums	✔	✔			✔		✔
Approvals	CE 73/23/EEC see page A-1	CE 73/23/EEC see page A-1	CE 73/23/EEC see page A-1	FM APPROVED Class I Division 2, Groups A*,B,C, and D Class II Division 2, Groups F and G *without controller	CE 73/23/EEC see page A-1	CE 73/23/EEC see page A-1	CE 73/23/EEC see page A-1

NOTE: External control is required for all BriskHeat® drum heaters purchased without controlling thermostat. See temperature control section starting at page 10-1 for more information.

BriskHeat® DHCS and DPCS Heavy Duty Drum and Pail Heater

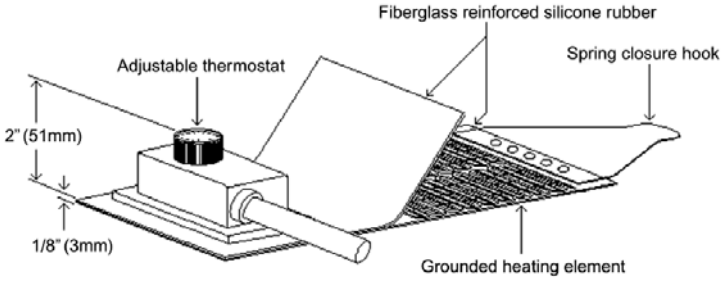
Product Highlights

- ✔ Great 4” (102mm) coverage area
- ✔ Excellent durability and flexibility
- ✔ Grounded heating element meets NEC 427.23
- ✔ Easy adjustable thermostat control
- ✔ Models for both poly and metal drums
- ✔ CE 73/23/EEC. See page A-1 for more information

Moisture and Chemical Resistant

Temperatures up to

425°F (218°C)



Specifications:

- Heating element is laminated between **two layers of 20 mil fiberglass** reinforced silicone rubber
- Silicone rubber density of 21.7 oz/yd^2 (736 grams/m^2) per layer
- Patented grounded heating element
- Dielectric strength of over 2000 volts
- Adjustable thermostat
  - 50-425°F (10-218°C) for metal
  - 50-160°F (10-71°C) for plastic
- 450°F (232°C) maximum exposure temperature on heating surface
- Moisture and chemical resistant
- Power cord 6 feet (1.8m) long
- The spring closure can be expanded 3” (76mm)

Ordering Information:

For Metal Drums/Pails (DHCS Series): High-Watt Density

Gallon (Liter) Size	Diameter in (mm)	Total Wattage	Length in (mm)	Width in (mm)	Part Number	
					120VAC	240VAC
5 (19)	11.1 (282)	550	35.0 (889)	4 (102)	DHCS10	DHCS20
15 (57)	14.0 (355)	700	44.0 (1118)	4 (102)	DHCS11	DHCS21
30 (114)	18.6 (473)	1000	58.5 (1496)	4 (102)	DHCS13	DHCS23
55 (208)	22.3 (565)	1200	70.0 (1778)	4 (102)	DHCS15	DHCS25

For Poly Drums/Pails (DPCS Series): Low-Watt Density

Gallon (Liter) Size	Diameter in (mm)	Total Wattage	Length in (mm)	Width in (mm)	Part Number	
					120VAC	240VAC
5 (19)	11.1 (282)	150	35.0 (889)	4 (102)	DPCS10	DPCS20
15 (57)	14.0 (355)	200	44.0 (1118)	4 (102)	DPCS11	DPCS21
30 (114)	18.6 (473)	250	58.5 (1496)	4 (102)	DPCS13	DPCS23
55 (208)	22.3 (565)	300	70.0 (1778)	4 (102)	DPCS15	DPCS25

120VAC models are provided with a NEMA 5-15 plug. No plug is provided with 240VAC models.

Ordering Option: Without controlling thermostat. Replace “C” with “N” in part number. External control is required with this option (see page 10-1).

BriskHeat® DHCH and DPCH Extra Heavy Duty Drum and Pail Heater

Product Highlights

- Great 4” (102mm) coverage area
- Exceptional durability and flexibility
- Grounded heating element meets NEC 427.23
- Easy adjustable thermostat control
- Models for both poly and metal drums
- CE 73/23/EEC. See page A-1 for more information.

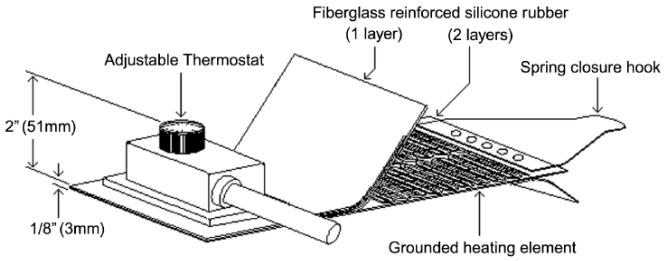
Moisture and Chemical Resistant

Temperatures up to

425°F (218°C)

Specifications:

- Heating element is laminated between **three layers of 20 mil fiberglass** reinforced silicone rubber
- Silicone rubber density of 21.7 oz/yd² (736 grams/m²) per layer
- Patented grounded heating element
- Dielectric strength of over 2000 volts
- Adjustable thermostat
  - 50-425°F (10-218°C) for metal
  - 50-160°F (10-71°C) for plastic
- 450°F (232°C) maximum exposure temperature on heating surface
- Moisture and chemical resistant
- Power cord 6 feet (1.8m) long
- Power plug:
  - 120VAC- NEMA 5-15
  - 240VAC- no plug
- The spring closure can be expanded 3” (76mm)



Ordering Information:

For Metal Drums/Pails (DHCH Series): High-Watt Density

Gallon (Liter) Size	Diameter in (mm)	Total Wattage	Length in (mm)	Width in (mm)	Part Number	
					120VAC	240VAC
5 (19)	11.1 (282)	550	35.0 (889)	4 (102)	DHCH10	DHCH20
15 (57)	14.0 (355)	700	44.0 (1118)	4 (102)	DHCH11	DHCH21
30 (114)	18.6 (473)	1000	58.5 (1496)	4 (102)	DHCH13	DHCH23
55 (208)	22.3 (565)	1200	70.0 (1778)	4 (102)	DHCH15	DHCH25

For Poly Drums/Pails (DPCH Series): Low-Watt Density

Gallon (Liter) Size	Diameter in (mm)	Total Wattage	Length in (mm)	Width in (mm)	Part Number	
					120VAC	240VAC
5 (19)	11.1 (282)	150	35.0 (889)	4 (102)	DPCH10	DPCH20
15 (57)	14.0 (355)	200	44.0 (1118)	4 (102)	DPCH11	DPCH21
30 (114)	18.6 (473)	250	58.5 (1496)	4 (102)	DPCH13	DPCH23
55 (208)	22.3 (565)	300	70.0 (1778)	4 (102)	DPCH15	DPCH25

Ordering Option: Without controlling thermostat. Replace “C” with “N” in part number. External control is required with this option (see page 10-1).

BriskHeat® ECONO Drum and Pail Heater

Product Highlights

- Good 3.6” (91mm) coverage area
- Economical choice
- Good durability and flexibility
- Grounded heating element meets NEC 427.23
- Easy adjustable thermostat control
- Designed for metal drums and pails
- CE 73/23/EEC. See page A-1 for more information.

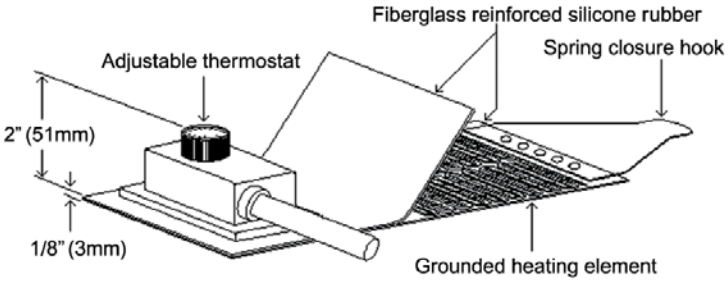
Moisture and Chemical Resistant

Temperatures up to

425°F (218°C)

Specifications:

- Heating element is laminated between **two layers of 15 mil fiberglass** reinforced silicone rubber
- Silicone rubber density of 16.8 oz/yd^2 (570 grams/m^2) per layer
- Patented grounded heating element
- Dielectric strength of over 2000 volts
- Adjustable thermostat, 50 to 425°F (10 to 218°C)
- 450°F (232°C) maximum exposure temperature on heating surface
- Moisture and chemical resistant
- Power cord 6 feet (1.8m) long
- The spring closure can be expanded 3” (76mm)



Ordering Information:

Gallon (Liter) Size	Diameter in (mm)	Total Wattage	Length in (mm)	Width in (mm)	Part Number	
					120VAC	240VAC
5 (19)	11.1 (282)	300	35.0 (889)	3.6 (92)	ECONO5-1	ECONO5-2
15 (57)	14.0 (355)	500	44.0 (1118)	3.6 (92)	ECONO15-1	ECONO15-2
30 (114)	18.6 (473)	750	58.5 (1496)	3.6 (92)	ECONO30-1	ECONO30-2
55 (208)	22.3 (565)	1100	70.0 (1778)	3.6 (92)	ECONO55-1	ECONO55-2

120VAC includes NEMA 5-15 plug / 240VAC bare wires

BriskHeat® DHCX Hazardous-Area Drum Heater

Product Highlights

Safe for Hazardous Areas

Moisture and Chemical Resistant

Temperatures up to

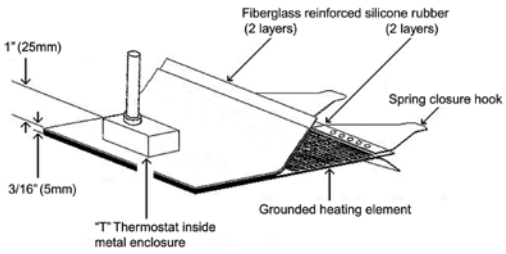
292°F (145°C)

- FM APPROVED **Class I Division 2 Groups A*, B, C, and D**
  Class II Division 2, Groups F and G
- Exceptional 8” (203mm) coverage area
- Exceptional durability and flexibility
- Moisture and chemical resistant
- Dual set-point NEMA 7 temperature controller connected to a high temperature limit indicator light
- Grounded heating element meets NEC 427.23
- Designed for metal drums

* only for drum heater without NEMA 7 temperature controller

Specifications:

- 8” (203mm) wide band
- High-limit thermostat designed to keep blanket below NEC article 500 T-rating
  T3: 292°F (145°C)
  T4A: 158°F (70°C)
- Power density of 2.5 Watts/in^2 (.004 Watts/mm^2)
- Patented grounded heating element
- Heating element is laminated between two layers of 23 mil and two layers of 25 mil fiberglass reinforced silicone rubber
- Nominal silicone rubber density of 26 oz/yd^2 (881 grams/m^2) per layer
- Attached adjustable dual set-point NEMA 7 temperature controller with power cord 6 feet (1.8m) long. One set-point is set at a high temperature limit and connected to a red indicator light. [see page 10-10 for more controller specifications]
- Blanket leads 6 feet (1.8m) long for NEMA7 controller; 1 foot (0.3M) without controller
- Leads from blanket to controller are enclosed in a liquid tight conduit
- 392°F (200°C) maximum exposure temperature on heating surface
- Moisture and chemical resistant



NEMA 7 Controller and High Temperature Limit Indicator Light

Ordering Information:

For T3 Environments

Gallon (Liter) Size	Diameter in (mm)	Total Wattage	Length in (mm)	Width in (mm)	Part Number	
					120VAC	240VAC
30 (114)	18.6 (473)	1000	58.5 (1496)	8 (203)	DHCX131000T3	DHCX231000T3
55 (208)	22.3 (565)	1300	70.0 (1778)	8 (203)	DHCX151300T3	DHCX251300T3

For T4A Environments

Gallon (Liter) Size	Diameter in (mm)	Total Wattage	Length in (mm)	Width in (mm)	Part Number	
					120VAC	240VAC
30 (114)	18.6 (473)	1000	58.5 (1496)	8 (203)	DHCX131000T4A	DHCX231000T4A
55 (208)	22.3 (565)	1300	70.0 (1778)	8 (203)	DHCX151300T4A	DHCX251300T4A

Ordering Option: Without controlling thermostat and pilot light. Replace “C” with “N” in part number. External control is required with this option.

BriskHeat® FGDH and FGDDC Full-Coverage Drum Heaters

BriskHeat® Full-Coverage Drum Heaters are designed to wrap around a drum and heat the contents while insulating to keep the heat exactly where it needs to be. Full-Coverage drum heaters combine the convenience of quick heat-up time and the precision of a digital controller to provide you with the most practical, efficient means of freeze protection, viscosity control, and maintenance of materials at elevated temperatures.

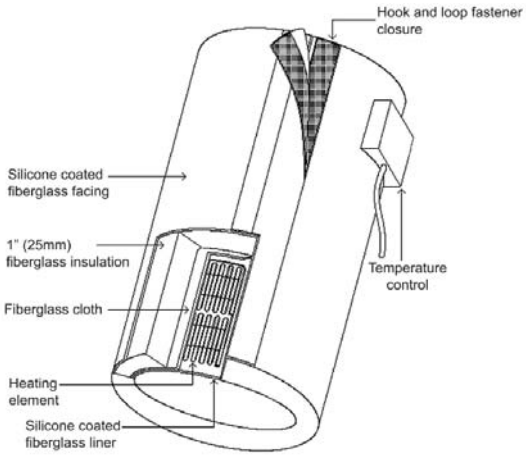
Temperatures up to

450°F (232°C)

Product Highlights

- Full-Coverage Drum Heaters are insulated to maximize heat efficiency
- Easy-to-use digital temperature controller with audible / visual alarm
- Large heater coverage and high wattages for fast heat-up
- Designed for metal and poly drums
- Grounded heating element meets NEC 427.23
- CE 73/23/EEC. See page A-1 for more information.
- Wide range of applications
  - ► Viscosity control
  - ► Freeze protection
  - ► Temperature maintenance
  - ► Melting of solids
  - ► Heat-up drum contents to a required temperature
  - ► Thermal mixing

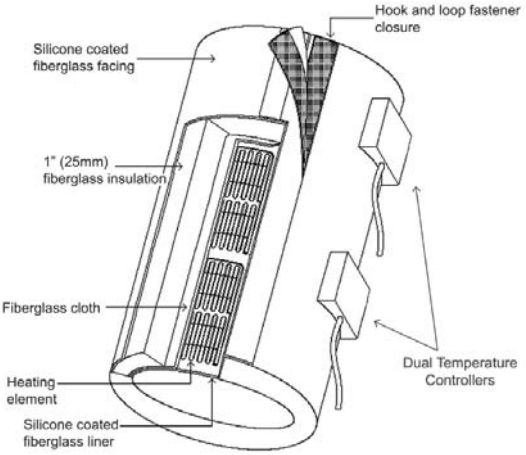
FGDH Series



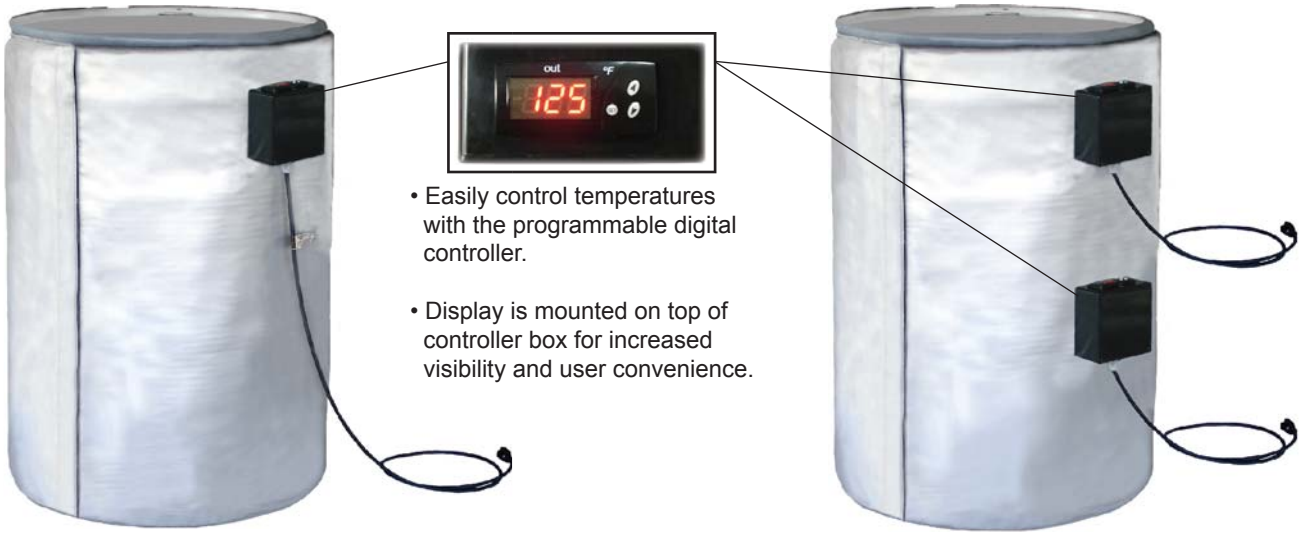
Specifications:

- Silicone impregnated cloth facing and liner
- 1" (25mm) fiberglass insulation
- Digital on / off temperature controller
  - 50 to 450°F (10 to 232°C) for metal drums
  - 50 to 160°F (10 to 71°C) for poly drums
- Heated area
  - FGDH: Lower third
  - FGPDH: Lower two thirds
  - FGDDC: Fully heated
- Patented grounded heating element
- Dielectric strength over 2000 Volts
- Closure: Hook and loop fastener like VELCRO®
- Power cord 6 feet (1.8m) long
- 500°F (260°C) maximum exposure temperature on heating surface
- Designed for use indoors

FGDDC Series



BriskHeat® FGDH and FGDDC Full-Coverage Drum Heaters



- Easily control temperatures with the programmable digital controller.
- Display is mounted on top of controller box for increased visibility and user convenience.

FGDH Series

- ✔ Good for a wide range of applications
- ✔ High wattage
  1600W for metal drums
  720W for poly drums

FGDDC Series

- ✔ Designed to quickly melt heavy solids like molasses, syrups, etc.
- ✔ Highest wattage
  3200W (1600W per zone)
- ✔ Dual zone design provides fully heated area with independent temperature control
- ✔ Designed for metal drums

Ordering Information:

For Metal Drums (FGDH and FGDDC Series)

Gallon Size	Diameter in (mm)	Number of Zones	Total Wattage	Part Number 120VAC	Part Number 240VAC
55	22.3 (565)	1	1600	FGDHC55120D	FGDHC55240D
55	22.3 (565)	2	3200	N/A	FGDDC55240D

For Poly Drums (FGPDH Series)

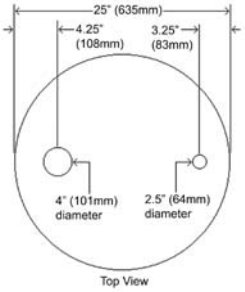
Gallon Size	Diameter in (mm)	Number of Zones	Total Wattage	Part Number 120VAC	Part Number 240VAC
55	22.3 (565)	1	770	FGPDHC55120D	FGPDHC55240D

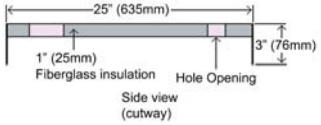
120VAC models are provided with a NEMA 5-15 plug. No plug is provided with 240VAC models.

Accessories:

Part Number	Description
FGDC55	Drum Insulation Cover for 55 gallon. Further reduces heat loss.
FGDHSTRIP	6" (152mm) wide strip that expands heater to fit up to a 24.2" (615mm) diameter drum. Strip is necessary for heater to fit around drums with removable lids.

Insulated Cover





BriskHeat® FGDI Drum Insulator

Product Highlights

- ✔ Compliments any 55 gallon (208 liter) drum heater
- ✔ Full-coverage
- ✔ Reduces heat loss

Specifications:

- Silicone impregnated cloth facing and liner
- 1” (25mm) fiberglass insulation
- Closure: Hook and loop fastener like VELCRO®
- 500°F (260°C) maximum exposure temperature on heating surface
- Designed for use indoors

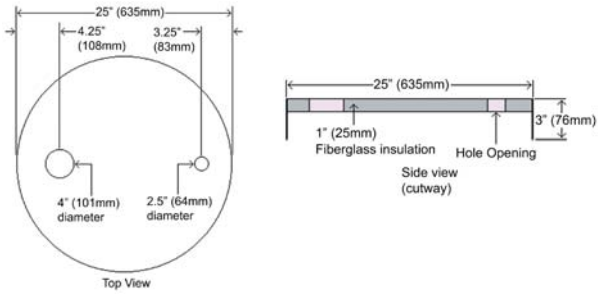
Ordering Information:

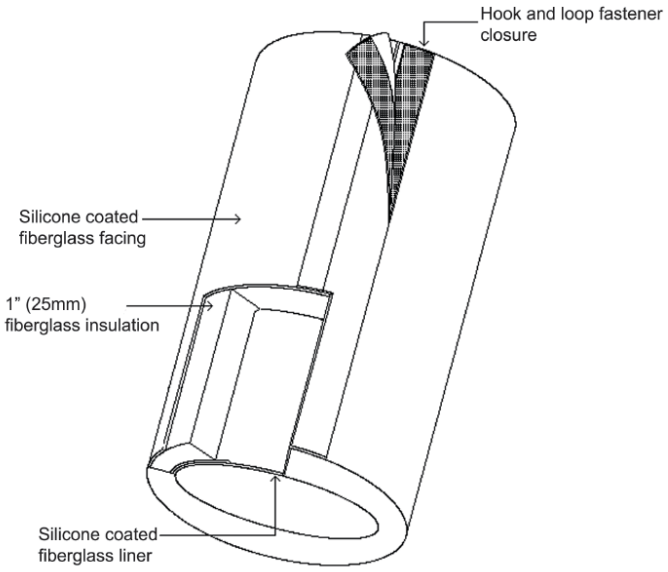
Gallon Size	Diameter in (mm)	Part Number
55	22.3 (565)	FGDI55

Optional Drum Cover Insulator

Fits on top of drum for further reducing heat loss.

Part Number	Description
FGDC55	Drum Insulation Cover for 55 gallon





NOTES:

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BriskHeat® Tote Tank and IBC Heaters

The contents in your tote tanks and intermediate bulk containers (IBCs), such as honey, molasses, or lube oil, can be slow moving and uncooperative when you need it most, especially when winter strikes. Heat allows the contents to flow at a manageable rate.

Product Highlights

✔ Two Styles: Wrap-Around Full Coverage Blanket Heater or Heating Pad that is Placed Underneath Tank / Bladder

✔ Does Not Contaminate or Scorch Your Product

✔ Durable and Long Lasting

✔ Variety of Standard Sizes and Configure-to-Order Options

✔ Wide Range of Applications

- ► Viscosity control
- ► Freeze protection
- ► Temperature maintenance
- ► Melting of solids
- ► Heat up tote tank / IBC contents to a required temperature
- ► Thermal mixing

BriskHeat® TOTE Wrap-Around Tote Tank / IBC Heater

Product Highlights

- ✔ Designed for caged, plastic, or metal tote tanks / IBCs
- ✔ Wrap-around blanket design allows you to heat a tote tank / IBC in a non-invasive way
- ✔ Does not contaminate or scorch your product
- ✔ Two separate heat zones allow you to adjust heater output when content levels lower
- ✔ CE 73/23/EEC. See page A-1 for more information.

Configure-To-Order Option

Other Sizes, Shapes, Power

Temperatures up to

160°F (71°C)*

* Maximum content temperature may vary based on application (tote tank size, contents, etc).

Fits several tote tank sizes with adjustable nylon straps and buckles.

Includes standard plug for an easy electrical connection.

Controls temperature easily with adjustable thermostats.

Protects contents and tote tank surface from heat damage with manual reset high-limit safety thermostats.

Specifications:

- Full coverage plug-and-play system
- Fits any tote tank width from 40” x 40” (1016mm x 1016mm) to 48” x 48” (1219mm x 1219mm)
- Three standard height sizes: 36” (914mm), 42” (1067mm), 48” (1220mm)
- Two separate heat zones (top and bottom)
- Adjustable thermostat: 50-160°F (10-71°C)
- Built-in manual reset high-limit safety thermostat set at 195°F (91°C) for each heat zone
- Attachment method: adjustable nylon straps with buckles (Two across the top and three around the tank)
- Silicone impregnated cloth facing and liner
- 1/4” (6mm) fiberglass insulation
- “Mouse hole” designed for spigot
- Patented ground for your safety
- 120 / 240VAC
- Total wattage: 120VAC = 1440 watts
  240VAC = 2880 watts
- Power cord 6 feet (1.8M) long with standard power plug: 120VAC = NEMA 5-15
  240VAC = NEMA 6-15
- Optional insulated top cover [reduces heat loss and accelerates heat-up]

Ordering Information:

Height in (mm)	Total Wattage 120V / 240V	Weight lb (kg)	Part Number 120VAC	Part Number 240VAC
36” (914)	1440 / 2880	34 (15)	TOTE361-ADJ	TOTE362-ADJ
42” (1067)	1440 / 2880	40 (18)	TOTE421-ADJ	TOTE422-ADJ
48” (1220)	1440 / 2880	46 (21)	TOTE481-ADJ	TOTE482-ADJ

240VAC model is strongly recommended for applications that involve heat-up and melting due to the higher wattage.

Accessories:

Part Number	Description
TOTE-TOP	Insulated top cover

BriskHeat® TTH HotPoly Tote Tank / IBC Heater System

Product Highlights

Configure-To-Order Option

Other Sizes, Shapes, Power

Temperatures up to

180°F (82°C)

- ✔ Designed for caged tote tanks / IBCs with poly bladder / tank
- ✔ Designed for outdoor use
- ✔ Does not contaminate or scorch your product
- ✔ Combines a specially designed silicone rubber heating pad and thermocouple controller

New and Improved!!

Now Designed for Outdoor Use!

How a TTH HotPoly Tote Tank / IBC Heater System Works

1. Place the TTH HotPoly heating pad in the IBC bin.

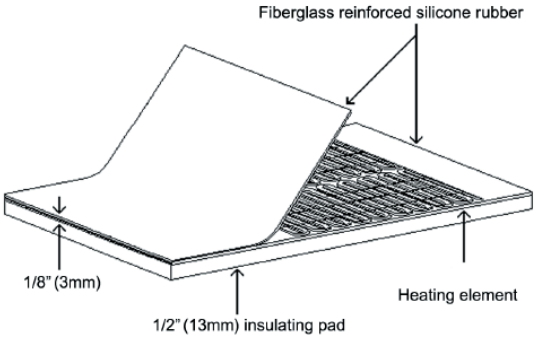
2. Place the poly tank on the heater.

3. Attach the TTH HotPoly heater to the TTD controller and it is ready for use.

Specifications:

TTH Heating Pad

- Heating element is laminated between two layers of 20 mil fiberglass reinforced silicone rubber
- Silicone rubber density of 21.7 oz/yd^2 (736 grams/m^2) per layer
- 180°F (82°C) maximum exposure temperature on heating surface
- Silicone rubber power leads 6 feet (1.8m) long
- Moisture and chemical resistant
- Type K thermocouple laminated between silicone layers with heating element
- Easy access Type K thermocouple port on side of heater cord
- CE 73/23/EEC. See page A-1 for more information.



TTD Outdoor-Use Digital On/Off Thermocouple Temperature Controller

- Designed to hang on side of cage
- 120 or 240VAC
- 15 amps
- Digital on/off controlling
- Type K thermocouple mini and standard connector input
- Operating exposure temperatures: 14 to 131°F (-10 to 55°C)
- Storage exposure temperatures: -4 to 176°F (-20 to 90°C)

(Refer to page 10-6 for more information on this product)

Ordering Information:

TTH Heating Pad

Size in (mm)	Volts	Watts	Part Number
32" x 36" (813mm x 914mm)	120	1600	TTH32361D
32" X 36" (813mm x 914mm)	240	3240	TTH32362D

TTD Temperature Controller

Part Number	Volts	Range
TTD175-K120	120	0 to 175°F
TTD175-K240	240	0 to 175°F

IMPORTANT: Temperature controller is required for this product.

NOTES:

Your *Heating* Specialist since 1949
Toll Free: 800-848-7673 Phone: 614-294-3376 **www.BriskHeat.com** Email: bhtsales1@briskheat.com Fax: 614-294-3807

BriskHeat® Gas Cylinder Warmers

Product Highlights

Certain Models

Temperatures up to

150°F (66°C)

No Additional
Control Needed!

☑ Improves Process Control and Reduces Wasted Gas That Has Condensed

- ► Creates convection current
- ► Increases pressure inside cylinder

☑ Gases Known to Benefit from This Process

- ► SF_6 ,Propane, Nitrogen, Oxygen, BCl_3, WF_6, and HF

☑ Fits Most Gas Cylinders

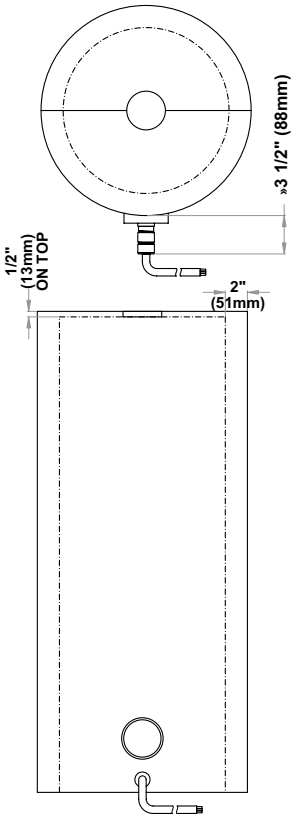
☑ Full Surface Coverage

☑ Insulation Reduces Heat Loss

☑ Models for Hazardous Locations

- ► **Class I Division 1 Groups C and D**
- ► **ATEX II 2G EEx de IIB T6**

Patent 7,015,425 B2



Specifications:

- Self-regulating grounded heating element
- Total watts: up to 150
- 150°F (66°C) maximum exposure temperature on heating surface
- Available in 120 and 240 VAC
- Frequency range: 50-60Hz
- Insulation thickness
  - Sides: 2.0” (51mm)
  - Top: 0.5” (13mm)
- Ambient temperature range: 30°F to 95°F (-1°C to 35°C)
- Closure: hook and loop fastener like VELCRO®
- Moisture and oil resistant
- Capable of being used outdoors
- Power lead type
  - Ordinary location model: SJOW cord
  - Hazardous location models: Teck 90 cable
- Power lead length: 10 feet (3m)
- Optional cylinder base insulation pad and valve cover to further reduce heat loss

Ordering Information:

Ordinary Locations and CSA Class I Division I Groups C & D
Part Number Matrix

GCW 15 43 150 1

Gas Cylinder Warmer Model
GCW- (for Ordinary Locations)
HCW- (CSA Class I Division I Groups C & D)

Diameter in inches
(Maximum 15"; Minimum 8")**

Length in inches
(Maximum 51"; Minimum 15")**

Total Wattage
50- (50 watts), 100- (100 watts), 150- (150 watts)

Voltage
1- (120VAC), 2- (240VAC)

ATEX Ex II 2G EEx de IIB T6
Part Number Matrix

HCW __- __ __ __ - ATEX

Hazardous Locations Gas Cylinder Warmer

Diameter in mm
(maximum 381mm;minimum 203mm)**

Length in mm
(maximum 1295mm; minimum 381mm)**

Total Wattage (maximum 150W)
50- (50 watts), 100- (100 watts), 150- (150 watts)

Voltage
1- (120VAC), 2- (240VAC)

ATEX approved

** NOTE: Maximum and minimum for the length and diameter will also depend on the amount of wattage needed.

Due to the nature of the heating element, there is a possibility of a high inrush current during start up at lower ambient temperatures.

Accessories

Cylinder Base Insulation Pad- Placed between cylinder and floor. Further insulates the cylinder from heatsinks such as a concrete floor.

Valve Cover- Placed on top. Reduces the amount of heat loss through the top of the cylinder.

Part Number	Description
GCWTOP	Gage/Valve Cover
GCW12B	Cylinder Base Insulation Pad for 8" (203mm) Cylinder
GCW15B	Cylinder Base Insulation Pad for 9"(229mm) Cylinder
GCW18B	Cylinder Base Insulation Pad for 15" (381) Cylinder

BriskHeat® Heating Mantles for Laboratory Flasks

BriskHeat® Heating Mantles offer uniform heat distribution for round-bottom flasks. Whether the need is a self-standing mantle, a mantle to fit in a basket ring stand, or a full coverage zippered mantle, BriskHeat® Heating Mantles provide the solution.

Product Highlights

- ✔ **Molded to Fit Round-Bottom Flasks**
- ✔ **Fits in a Basket Ring Stand or Table Top**
- ✔ **Temperatures up to 900°F (482°C)**
- ✔ **Low Watt Density**

BriskHeat® HM Lower Hemispherical Heating Mantles

Product Highlights

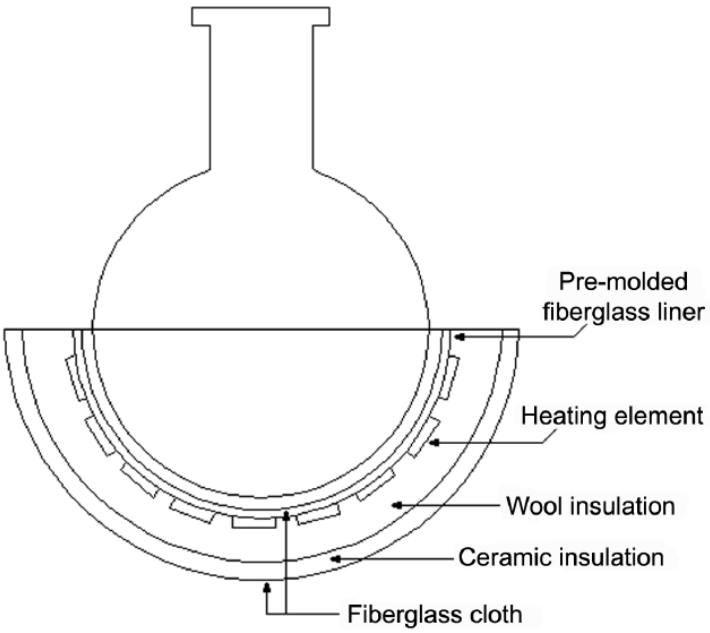
Temperatures up to

842°F (450°C)

- ✔ Ideal for use with basket ring stand
- ✔ 120VAC model includes 3” (76mm) lead wire with NEMA L1-15R connector and a 4 foot (1.2m) power adaptor cord with NEMA 1-15 plug.
- ✔ 240VAC model includes 3” (76mm) lead wire with no plug
- ✔ CSA®

Ordering Information:

Size ml	Total Watts	Part Number 120VAC	Part Number 240VAC
50	60	HM0050-HS1	HM0050-HS2
100	80	HM0100-HS1	HM0100-HS2
125	80	HM0125-HS1	HM0125-HS2
200	100	HM0200-HS1	HM0200-HS2
250	180	HM0250-HS1	HM0250-HS2
500	270	HM0500-HS1	HM0500-HS2
1000	380	HM1000-HS1	HM1000-HS2
2000	500	HM2000-HS1	HM2000-HS2
3000	500	HM3000-HS1	HM3000-HS2
5000	600	HM5000-HS1	HM5000-HS2
12000	1300	HM12000-HS1	HM12000-HS2



IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

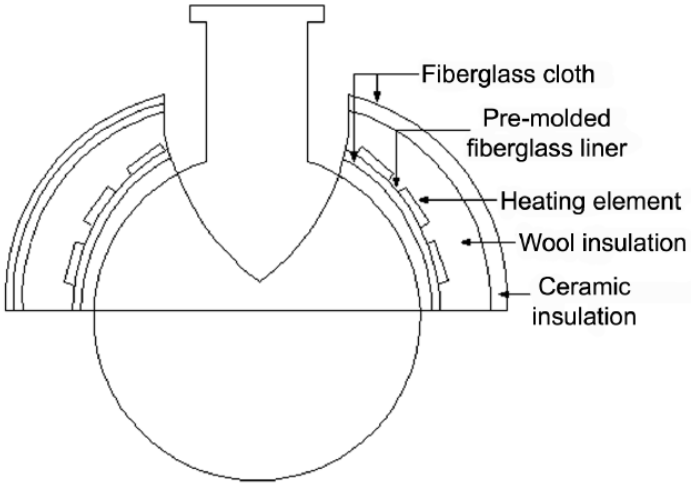
BriskHeat® HM Upper Hemispherical Heating Mantles

Product Highlights

Temperatures up to

842°F (450°C)

- Opening holds 1, 2, or 3 neck flasks on ring stand
- Ideal for preventing vapor condensation in upper half of flask
- 120VAC model includes 3” (76mm) lead wire with NEMA L1-15R connector and a 4 foot (1.2m) power adaptor cord with NEMA 1-15 plug.
- 240VAC model includes 3” (76mm) lead wire with no plug



Ordering Information:

Size ml	Total Watts	Part Number 120VAC	Part Number 240VAC
250	140	HM0250-TS1	HM0250-TS2
500	140	HM0500-TS1	HM0500-TS2
1000	140	HM1000-TS1	HM1000-TS2
2000	200	HM2000-TS1	HM2000-TS2
3000	200	HM3000-TS1	HM3000-TS2
5000	300	HM5000-TS1	HM5000-TS2

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

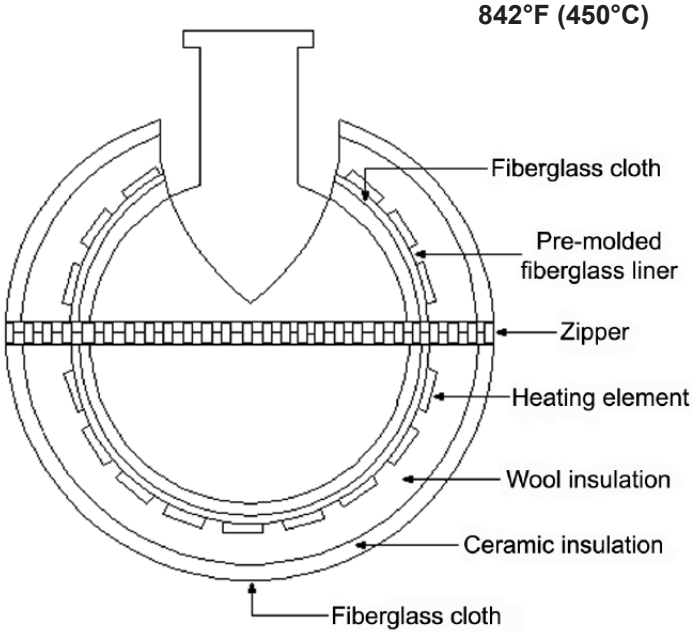
BriskHeat® HM Spherical Heating Mantles

Product Highlights

Temperatures up to

842°F (450°C)

- Opening holds 1, 2, or 3 neck flasks on ring stand
- Zipper fastens upper and lower halves together
- 120VAC model includes 3” (76mm) lead wire with NEMA L1-15R connector and a 4 foot (1.2m) power adaptor cord with NEMA 1-15 plug.
- 240VAC model includes 3” (76mm) lead wire with no plug



Ordering Information:

Size ml	Total Watts upper	Total Watts lower	Part No. 120VAC	Part No. 240VAC
500	0	270	HM0500-SS1	HM0500-SS2
1000	140	380	HM1000-SS1	HM1000-SS2
2000	200	500	HM2000-SS1	HM2000-SS2

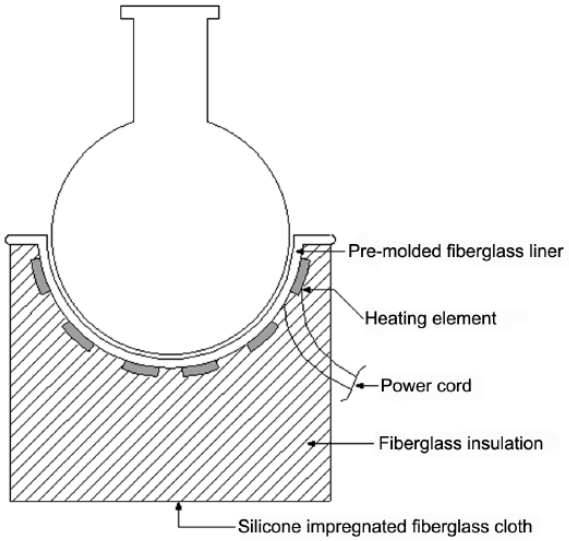
BriskHeat® HM Table Top Heating Mantles

Product Highlights

- ✔ Self-supporting: can be placed directly on counter top
- ✔ Easy viewing of flask contents
- ✔ Stackable for easy storage
- ✔ Includes 6 feet (1.8m) cord with either a NEMA 1-15 (for 120VAC) or NEMA 6-15 (for 240VAC) plug

Temperatures up to

900°F (482°C)



Ordering Information:

Size ml	Total Watts	Part Number	
		120VAC	240VAC
50	52	HM0050VF1	HM0050VF2
100	70	HM0100VF1	HM0100VF2
250	143	HM0250VF1	HM0250VF2
500	210	HM0500VF1	HM0500VF2
1000	377	HM1000VF1	HM1000VF2
2000	520	HM2000VF1	HM2000VF2
3000	550	HM3000VF1	HM3000VF2
5000	620	HM5000VF1	HM5000VF2

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

BriskHeat® Temperature Controllers for Heating Mantles

TS0 Portable Bulb and Capillary Temperature Controller Features:

- 120 or 240VAC
- 15 amps
- 4-foot copper bulb and capillary
- Compact portable design
- Plug-in operation

TP0 Portable Time Percentage Dial Temperature Controller Features:

- 120 or 240VAC
- 15 amps
- Compact portable design
- Plug-in operation

The TP0 series controller varies the proportion (length) of time a heater is in the “on” or “off” heating mode. The heating application will determine the actual percentage set point required. The controller does not use a temperature sensor and therefore satisfactory operation requires occasional supervision under changing load conditions.

BriskONE Digital PID Thermocouple Temperature Controller Features:

- Accuracy: ±1 least significant digit
- Operating voltage 120 or 240 VAC, +10% -15%, 50-400Hz
- Rated 15a @ 120VAC, 10a @ 240VAC
- Type J thermocouple input
- Dual display shows set-point and actual temperature
- Programmable to either °C or °F
- Automatic tuning of PID parameters
- Auto / manual control ability
- Compact portable design
- Simple four key user control

For more information and choices, go to the temperature controller section starting on page 10-1.

NOTES:

Your *Heating* Specialist since 1949
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BriskHeat® Cloth Jacket Heating System

BriskHeat® Cloth Heating Jackets maximize heat coverage and efficiency by providing both heat and insulation around the entire object. Cloth jackets are ideal for a wide range of applications.

Pipes / Tubing

Product Highlights

✔ Heat All Types of Geometries

► Clamps and Unistruts ► Valves ► VCR Nuts ► Pipes

✔ Exceptional Heat Uniformity and Efficiency

✔ Centipede® Temperature Control

► Fully supervised network of PID-autotuned module controllers for EACH heating jacket

✔ Designed for Your Application

► Easy-to-install and remove
► Exceptional durability and product life
► Heat objects as small as 1/4” (6mm) diameter
► Flexible design makes tough to reach objects easier to install
► Suitable for a variety of environments including cleanrooms

Tanks

Industrial Applications

► Pipe systems
► Valves
► OEM products
► Gas lines
► Pilot light reactors
► Ammonia Tanks
► Extruder components
► Pumps
► Military products
► Composite processing
► Scientific Instrumentation
► Freeze protection
► High energy physics
► Vacuum bake-out

Semiconductor Applications

► Foreline and exhaust
► Gas lines
► OEM tools
► Abatement tools
► Gas cylinder warmers
► Etch
► PECVD
► LPCVD
► Nitride
► TEOS
► Vacuum bake-out

Tough-to-Heat Objects

BriskHeat® Cloth Jacket Heating System

What are the Different Parts of a Cloth Jacket?

1. Facing (Outside)
2. Liner (Inside)
3. Insulation
4. Closure
5. Lead and Jumper Power Plug / Connector
6. Centipede® Temperature Control Connector

Which Cloth Jacket System is Right for You?

BriskHeat® offers cloth heating jackets for almost any surface heat application.

Standard Pipe Cloth Jacket Heating Systems

Page 7-4

Our most requested configuration for pipe heating systems. Ordering is as easy as selecting the right component to your pipe system.

A pipe system has many components to consider:

1. Straight sections
2. Elbows: 45° and 90°
3. Flanges
4. Unistruts
5. Tees
6. Reducers
7. Bellows
8. Valves

Match your component to the matching heating jacket (See pages 7-7 through 7-12). Contact your local BriskHeat® representative if you are not able to match your component to the correct heating jacket. Our cataloging system gets updated on a daily basis.

Combining Two Components into One Heating Jacket:
You are able to order a cloth jacket that fits a single component or a combination of two components (e.g. a 6” straight section with a 90° elbow on female jumper side). The purpose of combining components is to maximize efficiency and reduce the total cost of your cloth jacket system. See page 7-5 for further information.

More Complex Configurations:
More complex configurations can be configured-to-order to fit your system. See pages 7-15 through 7-17 for a list of materials and options. Contact your local BriskHeat® representative to get the process started.

BriskHeat® Cloth Jacket Heating System

Speciality Cloth Jacket Heating Systems

► High Peformance Gas Line Heating System

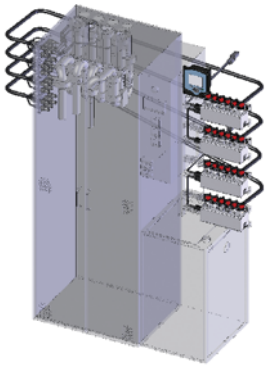
Page 7-13

Gas lines have unique characteristics such as minimal surface area that add additional challenges to temperature heat-up and maintenance. BriskHeat® high performance gas line heating systems overcome these obstacles by offering a unique heating element and engineering expertise that only BriskHeat® can offer. See why the leading Semiconductor tool OEMs have utilized this breakthrough technology.

► Abatement Tool Heating System

Page 7-14

Increase uptime and decrease maintenance downtime with a complete heating system package designed specifically for some of the most popular abatement tools like TPU and GRC.



Configure-to-Order Cloth Jackets

Page 7-15

Our standard configurations do not fit your needs? Configure-to-order jackets are designed specifically to fit your application. Let our industry-leading engineering team design the perfect jacket for your application.

Accessories for Cloth Jacket Heating Systems

Page 7-18

BriskHeat® ST-series Cloth Jacket Heating System

Product Highlights

Temperatures up to

392°F (200°C)

- ✔ Our most requested configuration
- ✔ Easy-to-install and remove reusable heat and insulation system
- ✔ Centipede®-ready*- Temperature control for each heating jacket
- ✔ Heat-up to 392°F (200°C) within 2 hours**
- ✔ Designed for up to Class 100 indoor environments
- ✔ Cool-touch outer surface
- ✔ c UL us, CE 73/23/EEC. See page A-1 for more information
- ✔ Other cloth jacket configurations available. Contact factory for more information:

  - Class 10 environments
  - Temperatures up to 1100ºF (593ºC)
  - Application-specific wattages
  - Insulation thickness
  - Different high limit thermostats

* Centipede®-ready: Includes Centipede Module power connector and built-in platinum RTD sensor. CENTMOD-F, Centipede Operator Interface, and CAT5 communication cable sold separately. See page 10-3 for more details.

** Heat-up is based on metal tubing with no flow in normal ambient conditions

Specifications:

- Outer facing: TEFLON® Grey
- Inner liner: TEFLON® Tan
- 1/4" (6mm) thick insulation
- 100 - 130VAC or 200 - 250VAC, 50-60Hz
- Dielectric strength: 1000 VDC
- Built-in high-limit safety thermostat: Set at 500°F (260°C)
- Closure: Hook and loop fastener like VELCRO®
- IP 67 four-pin (NEMA 6P equivilent) power plug and jumper designed for easy system installation
- 6" (152mm) power leads

Applications:

- ► Foreline and exhaust
- ► Etch
- ► PECVD
- ► LPCVD

Ordering Information:

ST 1 A - _ _ _

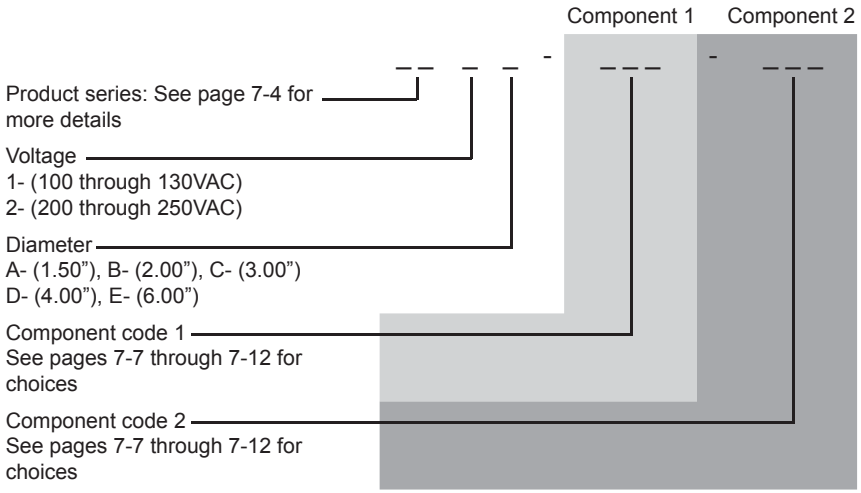
- ST-series
- Voltage
  1- (100 through 130VAC)
  2- (200 through 250VAC)
- Diameter
  A- (1.50"), B- (2.00"), C- (3.00")
  D- (4.00"), E- (6.00")
- Component code
  See pages 7-7 through 7-12 for choices

Nominal Tube Outer Diameter	
1.50"	40mm
2.00"	50mm
3.00"	80mm
4.00"	100mm
6.00"	150mm

For instructions on combining two components, see page 7-5.

BriskHeat® Combining Two Components into One Heating Jacket

Ordering Information:



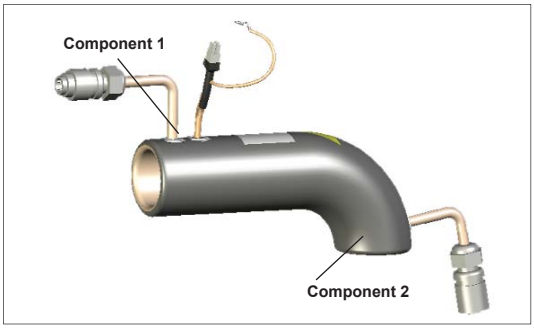
Component 1

Component 1 is located at the **male plug** (power input) side of the cloth jacket.

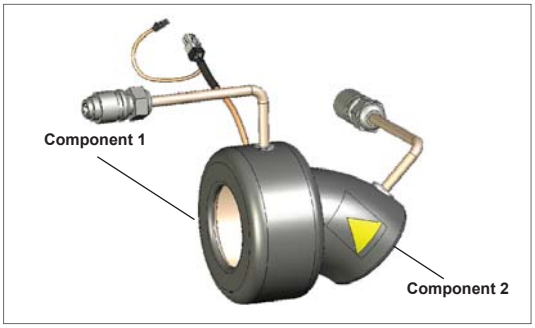
Component 2

Component 2 is located at the **female jumper** (power output) side of the cloth jacket.

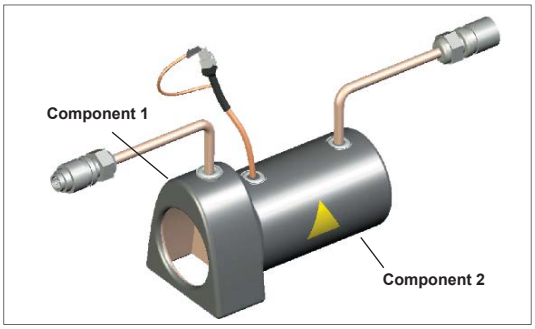
Examples of Component Combinations



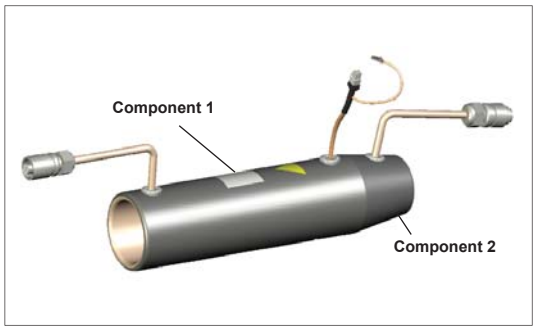
Part Number: **ST1A-080-ENA**
ST series, 100 - 130VAC, 1.50" diameter, 8" long straight section with 90º degree long radius elbow on **female jumper** side.



Part Number: **ST1A-CLA-EFA**
ST series, 100 - 130VAC, 1.50" diameter, KF pipe clamp with 45º degree long radius elbow on **female jumper** side.



Part Number: **ST1C-UNI-060**
ST series, 100 - 130VAC, 3.00" diameter, 6" long straight section with unistrut clamp on **male plug** side.



Part Number: **ST2B-100-RAA**
ST series, 200 - 277VAC, 2.00" diameter, 10" long straight section reducing to 1.50" diameter on **female jumper** side.

Several More Component Combinations to Choose From.
Reduce Your Total Cost and Maxamize Efficiency!

BriskHeat® Combining Two Components into One Heating Jacket continued

Helpful Tips on Selecting Easy-to-Install Component Combinations

Note Clearance Problems and Obstructions

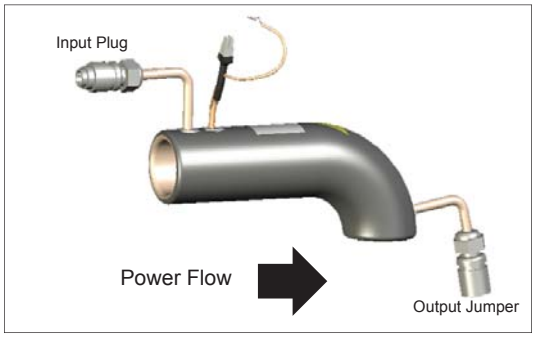
Note clearance problems and obstructions as you are selecting components to your system. Obstructions like the floor, another pipe, or cabinet wall may make it difficult to install desired cloth jacket.

Index Finger Rule: BriskHeat® cloth heating jackets will usually fit in any area that allows the thickness of your index finger.

Power Flow Direction

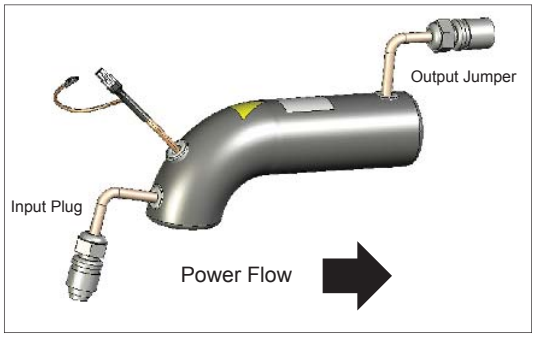
Each BriskHeat® Heating Jacket includes a power plug (input) and power jumper (output). In addition to selecting a jacket that fits geometrically to your pipe system, select a jacket that compliments the desired power flow. Examples 1 and 2 demonstrate two jackets with identical geometries with opposite power flow.

Example 1: Power flow goes from straight to elbow



Part Number: **ST1A-ENA-060**
ST series, 100 - 130VAC, 1.50” diameter, 6” long straight section with 90º degree long radius elbow on **male plug** side.

Example 2: Power flows goes from elbow to straight

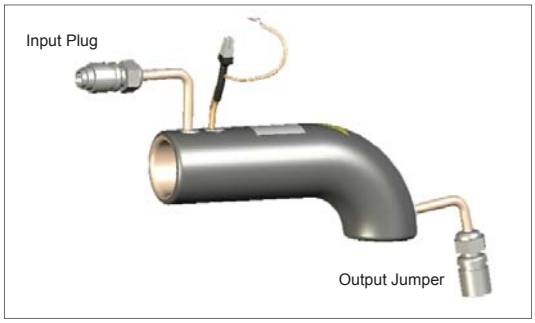


Part Number: **ST1A-060-ENA**
ST series, 100 - 130VAC, 1.50” diameter, 6” long straight section with 90º degree long radius elbow on **female jumper** side.

Vertical Dimension

BriskHeat Standard Cloth Jackets can be rotated to fit the pipe direction as long as it does not affect power flow. (See *Power Flow Direction* for more information)

Example 3: Jacket starting position



Example 4: Jacket rotated 180°

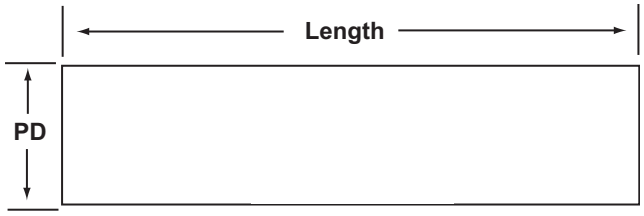
Example 3 and 4 are the same part number: **ST1A-060-ENA**

Certain component combinations do not work with our standard jacket ordering system due to the difficulties in specifying the vertical dimension. In these cases, we recommend our configure-to-order cloth jacket. See page 7-15 for information on how to order.

Examples:

- ► Two elbows
- ► Unistrut and elbow

BriskHeat® Straight Cloth Jackets



Legend:
PD=Pipe Outer Diameter

Ordering Information:

_ _ _ _ _ - 060

Product series, voltage, and outer diameter. See page 7-4 for details.

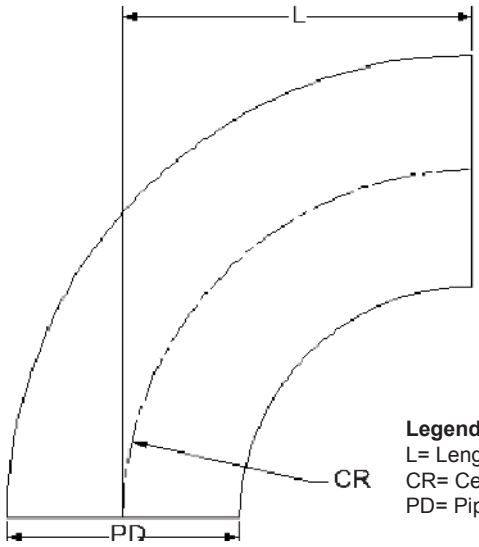
Straight Section Component Code

Length	Code
6” (152mm)	060
7” (178mm)	070
8” (203mm)	080
9” (229mm)	090
10” (254mm)	100
11” (279mm)	110
12” (305mm)	120
13” (330mm)	130
14” (356mm)	140
15” (381mm)	150
16” (406mm)	160
17” (432mm)	170
18” (457mm)	180
19” (483mm)	190
20” (508mm)	200
21” (533mm)	210
22” (558mm)	220
23” (584mm)	230
24” (610mm)	240
25” (635mm)	250
26” (660mm)	260
27” (686mm)	270

Length	Code
28” (711mm)	280
29” (737mm)	290
30” (762mm)	300
31” (787mm)	310
32” (813mm)	320
33” (838mm)	330
34” (864mm)	340
35” (889mm)	350
36” (914mm)	360
37” (940mm)	370
38” (965mm)	380
39” (991mm)	390
40” (1016mm)	400
41” (1041mm)	410
42” (1067mm)	420
43” (1092mm)	430
44” (1118mm)	440
45” (1143mm)	450
46” (1168mm)	460
47” (1194mm)	470
48” (1219mm)	480

Add another shape / component to this cloth jacket. See page 7-5 for more information.

BriskHeat® 90° Elbow Cloth Jackets



Legend:
L= Length
CR= Center Radius
PD= Pipe Outer Diameter

Ordering Information:

_ _ _ _ _ - ENA

Product series, voltage, and outer diameter. See page 7-4 for details.

90º Elbow Component Code

Description	Code
90° elbow, Long radius	ENA
90° elbow, Short radius	ENB

Jacket Measurements:

Long Radius

Long radius is defined as 1.0 to 1.5 ratio of PD to CR.

ISO Size in (mm)	PD in (mm)	Length (L) in (mm)	CR in (mm)
40	1.50 (38)	2.25 (57)	2.25 (57)
50	2.00 (51)	3.00 (76)	3.00 (76)
80	3.00 (76)	4.25 (114)	4.25 (114)
100	4.00 (102)	6.00 (152)	6.00 (152)
150	6.00 (152)	9.00 (229)	9.00 (229)

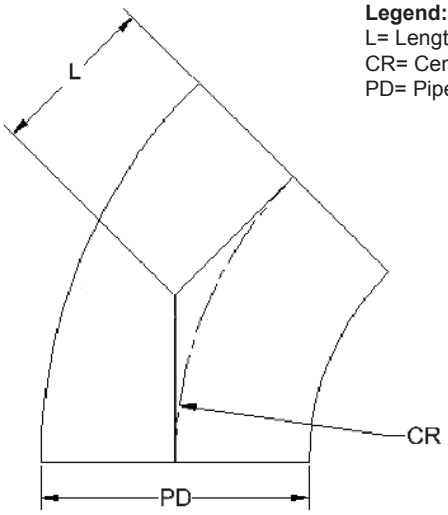
Short Radius

Short radius is defined as 1.0 to 1.0 ratio of PD to CR.

ISO Size in (mm)	PD in (mm)	Length (L) in (mm)	CR in (mm)
40	1.50 (38)	1.50 (38)	1.50 (38)
50	2.00 (51)	2.00 (51)	2.00 (51)
80	3.00 (76)	3.00 (76)	3.00 (76)
100	4.00 (102)	4.00 (102)	4.00 (102)
150	6.00 (152)	6.00 (152)	6.00 (152)

Add another shape / component to this cloth jacket. See page 7-5 for more information

BriskHeat® 45° Elbow Cloth Jackets



Legend:
L= Length
CR= Center Radius
PD= Pipe Outer Diameter

Ordering Information:

_ _ _ _ _ - EFA

Product series, voltage, and outer diameter. See page 7-4 for details.

90º Elbow Component Code

Description	Code
45° elbow, Long radius	EFA
45° elbow, Short radius	EFB

Jacket Measurements:

Long Radius

Long radius is defined as 1.0 to 1.5 ratio of PD to CR.

ISO Size in (mm)	PD in (mm)	Length (L) in (mm)	CR in (mm)
40	1.50 (38)	0.94 (16)	2.25 (57)
50	2.00 (51)	1.25 (32)	3.00 (76)
80	3.00 (76)	1.88 (48)	4.50 (114)
100	4.00 (102)	2.50 (64)	6.00 (152)
150	6.00 (152)	3.75 (95)	9.00 (229)

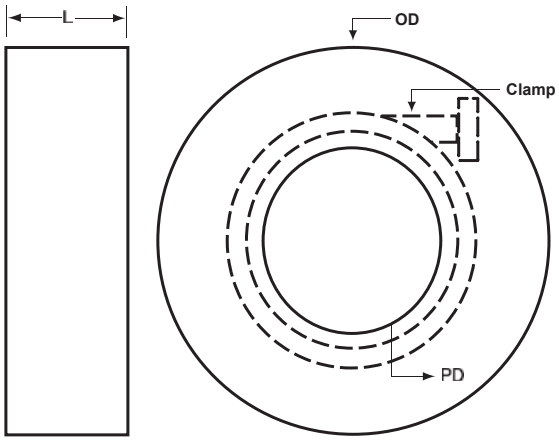
Short Radius

Short radius is defined as 1.0 to 1.0 ratio of PD to CR.

ISO Size in (mm)	PD in (mm)	Length (L) in (mm)	CR in (mm)
40	1.50 (38)	0.62 (16)	1.50 (38)
50	2.00 (51)	0.83 (21)	2.00 (51)
80	3.00 (76)	1.25 (32)	3.00 (76)
100	4.00 (102)	1.66 (42)	4.00 (102)
150	6.00 (152)	2.50 (64)	6.00 (152)

Add another shape / component to this cloth jacket. See page 7-5 for more information

BriskHeat® Pipe Clamp Cloth Jackets



Legend:
L= Length
OD= Jacket Outer Diameter
PD= Pipe Outer Diameter

Ordering Information:

_ _ _ _ _ - CLA

Product series, voltage, and outer diameter. See page 7-4 for details.

Pipe clamp component code

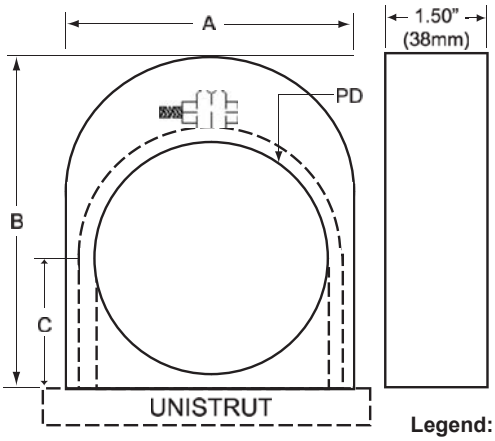
Designed for wingnut (KF) and claw clamps (CF).

Jacket Measurements:

ISO Size in (mm)	Length (L) in (mm)	PD in (mm)	OD in (mm)
40	1.00 (25)	1.50 (38)	2.94 (75)
50	1.00 (25)	2.00 (51)	4.63 (118)
80	2.13 (54)	3.00 (76)	5.75 (146)
100	2.13 (54)	4.00 (102)	6.50 (165)
150	2.13 (54)	6.00 (152)	9.25 (235)

Add another shape / component to this cloth jacket. See page 7-5 for more information

BriskHeat® Unistrut Clamp Cloth Jackets



Legend:
PD= Pipe Outer Diameter

Ordering Information:

_ _ _ _ _ - UNI

Product series, voltage, and outer diameter. See page 7-4 for details.

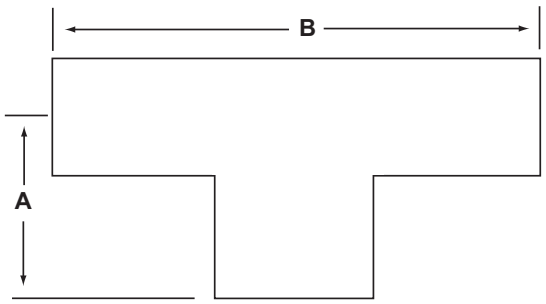
Unistrut component code

Jacket Measurements:

ISO Size in (mm)	PD in (mm)	A in (mm)	B in (mm)	C in (mm)
40	1.50 (38)	2.25 (57)	3.25 (83)	1.00 (25)
50	2.00 (51)	2.75 (70)	3.75 (95)	1.25 (32)
80	3.00 (76)	3.75 (95)	4.75 (121)	1.75 (46)
100	4.00 (102)	4.75 (121)	5.75 (146)	2.25 (57)
150	6.00 (152)	6.75 (172)	7.75 (197)	3.25 (83)

Add another shape / component to this cloth jacket. See page 7-5 for more information

BriskHeat® Tee Cloth Jackets



Ordering Information:

_ _ _ _ - T00

Product series, voltage, and outer diameter. See page 7-4 for details.

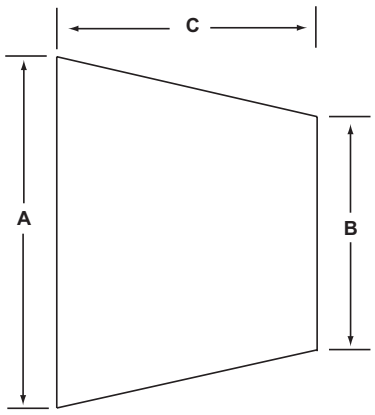
Standard tee component code

Jacket Measurements:

ISO Size in (mm)	A in (mm)	B in (mm)
40	1.50 (38)	3.00 (76)
50	2.25 (57)	4.50 (114)
80	3.00 (76)	6.00 (152)
100	3.25” (83)	6.50 (165)
150	4.50 (114)	9.00 (229)

Add another shape / component to this cloth jacket. See page 7-5 for more information

BriskHeat® Reducer Cloth Jackets



Ordering Information:

_ _ _ _ - RAA

Product series, voltage, and outer diameter. See page 7-4 for details.

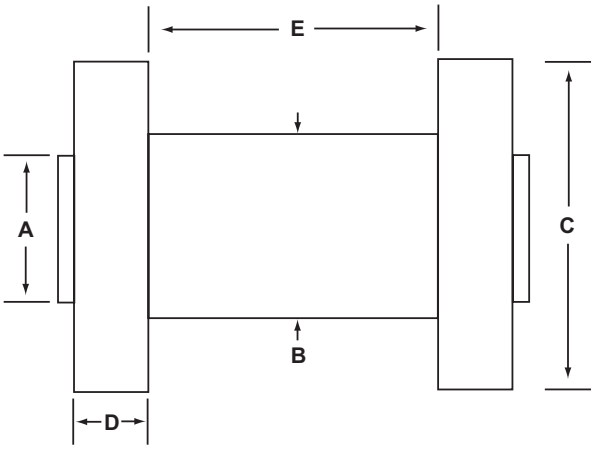
Pipe reducer component code

Jacket Measurements / Component Codes:

ISO Size in (mm)		A in (mm)	B in (mm)	C in (mm)	Component Code
Start	Finish				
50	40	2.00 (52)	1.50 (38)	1.63 (41)	RAA
80	50	3.00 (78)	2.00 (52)	2.88 (73)	RAB
100	50	4.00 (102)	2.00 (52)	2.88 (73)	RAC
100	80	4.00 (102)	3.00 (78)	2.88 (73)	RAD
150	100	6.00 (152)	4.00 (102)	5.50 (140)	RAE

Add another shape / component to this cloth jacket. See page 7-5 for more information

BriskHeat® Bellow Cloth Jackets



Ordering Information:

_ _ _ _ - B02

Product series, voltage, and outer diameter. See page 7-4 for details.

Bellow Component Code

"E" Dimension	Code
3.0" (76mm)	B00
3.5" (89mm)	B01
4.0" (102mm)	B02
4.5" (114mm)	B03
5.0" (127mm)	B04
5.5" (140mm)	B05
6.0" (152mm)	B06
6.5" (165mm)	B07
7.0" (178mm)	B08
7.5" (191mm)	B09

"E" Dimension	Code
8.0" (203mm)	B10
8.5" (216mm)	B11
9.0" (229mm)	B12
9.5" (241mm)	B13
10.0" (254mm)	B14
10.5" (267mm)	B15
11.0" (279mm)	B16
11.5" (292mm)	B17
12.0" (305mm)	B18

Jacket Measurements:

ISO Size in (mm)	A in (mm)	B in (mm)	C in (mm)	D in (mm)
40	1.50 (38)	2.00 (52)	3.75 (95)	1.00 (25)
50	2.00 (52)	2.50 (64)	4.63 (118)	1.00 (25)
80	3.00 (78)	4.00 (102)	5.75 (146)	2.13 (54)
100	4.00 (102)	5.00 (127)	6.50 (165)	2.13 (54)
150	6.00 (152)	7.00 (178)	9.00 (229)	2.13 (54)

Add another shape / component to this cloth jacket. See page 7-5 for more information

BriskHeat® High Performance Gas Line Cloth Jackets

Product Highlights

Temperatures up to

500°F (260°C)

- Industy-leading heat uniformity across entire weldment
- Reduce condensation in gas lines
- Diameters as small as 1/4” (6mm)
- Centipede®-ready*- Temperature control for each heating jacket
- Easy-to-install and remove reusable heat and insulation system
- Control temperatures up to 500°F (260°C)
- Suitable for up to Class 10 cleanroom indoor environments
- Cool-touch outer surface
- c UL us, CE 73/23/EEC. See page A-1 for more information

* Centipede®-ready: Includes Centipede Module power connector and built-in platinum RTD sensor. CENTMOD-F, Centipede Operator Interface, and CAT5 communication cable sold separately. See page 10-3 for more details.

Specifications:

- Outer facing: Choice of TEFLON® Grey or Aluminum
- Inner liner: Choice of TEFLON® Cleanroom White or Chemstat
- 1/4” (6mm) thick insulation
- Application-specific wattage
- Built-in high-limit safety thermostat
- Closure: Hook and loop fastener like VELCRO®

Applications:

- ► Semiconductor OEM gas lines
- ► Laboratory gas lines

Ordering Information:

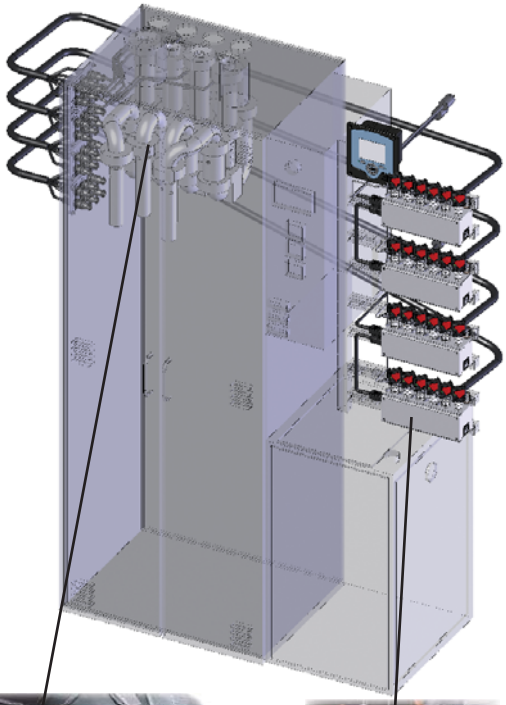
High performance gas line cloth jackets are designed specifically for your application. Contact your local BriskHeat® representative to get the process started.

BriskHeat® Gas Abatement Tool Heating System

Product Highlights

New!!

- Complete system that includes everything you need to reduce condensation and build-up in gas abatement tools: heaters, controls, accessories
- Increase tool uptime
- Reduce maintenance cost and decrease frequency of cleans
- Only gas abatement tool heating system that heats every pipe component: Valves, bellows, elbows, clamps, etc
- High temperature uniformity
- Centipede® included: Complete supervised network of PID temperature controllers for EACH heating jacket
- Easily monitor performance with easy-to-use operator interface
- Suitable for up to Class 10 cleanroom indoor environments
- c UL us, CE 73/23/EEC. See page A-1 for more information.



Heating Jackets:
All components are heated for maximum efficiency and temperature uniformity

Centipede® Control Panel:
Easily monitor and program all heating jackets

Applications:

- ► Thermal Processing Unit (TPU)
- ► Gas Reactor Column (GRC)

Specifications:

Heaters

- Outer jacket facing: TEFLON® Grey
- Inner jacket liner: TEFLON® Grey
- 1/4” (6mm) thick insulation
- 120 VAC, 50-60Hz
- Dielectric strength: 1000 VDC
- Built-in high-limit safety thermostat: Set at 392°F (200°C)
- Closure: Hook and loop fastener like VELCRO®

Controls

- Fully supervised network of PID temperature controllers for EACH heating jacket
- All Centipede® modules and operator interface mounted conveniently next to cabinet
- Platinum RTD sensor
- Additional Centipede® specifications found on page 10-3

General

- Plugs into standard wall outlet: NEMA 5-15

Ordering Information:

Contact your local BriskHeat® representative for more information.

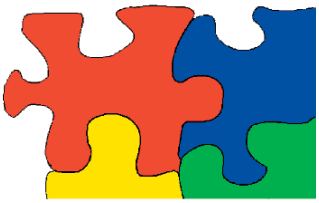
BriskHeat® Configure-to-Order Cloth Jackets

Product Highlights

Temperatures up to

1100°F (593°C)

- ☑ Heat geometries that are unavailable with standard cloth jacket product offering
- ☑ Application-specific wattages
- ☑ Wide range of materials and options available to match your application
- ☑ Temperatures up to 1100ºF (593ºC)
- ☑ Utilize industry-leading engineering services



Ordering Information:

Contact your local BriskHeat® representative to get the process started.

Configure-to-Order Cloth Jacket Options

Liner and Facing Material: Liner is the layer between the object to be heated and insulation. Facing is the outer shell of the jacket. Your environment determines the best liner and facing.

☐ TEFLON® Grey- Standard facing material. Exposure temperatures up to 500°F (260°C). Up to Class 10 environments.

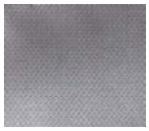
☐ TEFLON® Tan- Standard liner material. Exposure temperatures up to 500°F (260°C). Up to Class 100 environments.

☐ TEFLON® Cleanroom White- Exposure temperatures up to 500°F (260°C). Up to Class 10 environments.

TEFLON® is a registered Trademark of DuPont used under license.

☐ Chemstat- For cleanroom class 10 environments. Exposure temperatures up to 392°F (200°C).

☐ High Temperature (Samox®)- Can handle the highest temperature. Exposure temperature up to 1100°F (593°C). Up to Class 100 environments.



☐ Grey Silicone Cloth- Adds moisture and chemical resistance. Exposure temperature up to 450°F (232°C).

☐ Aluminum- Facing material option. Exposure temperature up to 400°F (204°C).

☐ Fiberglass Cloth- Liner material option. Exposure temperature up to 800°F (426°C). Up to Class 100 environments.

Insulation Thickness:

☐ Fits your application

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

BriskHeat® Configure-to-Order Cloth Jackets

Jacket Configurations continued

Type of Closure:

☐ Hook and Loop Fastener like VELCRO®-	Exposure temperature up to 280°F (138°C).
☐ Mid-Temperature Hook and Loop Fastener like VELCRO®-	Exposure temperature up to 450°F (230°C).
☐ High-Temperature Hook and Loop Fastener like VELCRO®-	Exposure temperature up to 800°F (426°C).
☐ Hook and Lace-	Similar to the hook and lace of a work boot and is used when additional strength is needed to hold the jacket in place.
☐ Grommets-	Can be used when bolts or weld studs are needed to hold the jacket to the surface.

Power Configuration

Voltage:

☐ 120VAC ☐ 208VAC ☐ 240VAC ☐ 480VAC ☐ 600VAC ☐ Other

Phase:

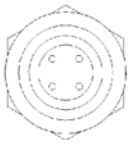
☐ Single ☐ 3 Phase (Wye) ☐ 3 Phase (Delta)

Frequency:

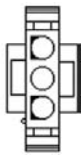
☐ 60 Hz. ☐ 50 Hz. ☐ DC

Lead and Jumper Power Plug / Connector

☐ IP 67 Four-Pin
(NEMA 6P equivilent)



☐ Amp Mate-N-Lock
(3 Prong)



☐ 125VAC Twist Lock
(NEMA ML-2)

☐ 250VAC Twist Lock
(NEMA L6-15)

☐ Other- please specify ☐ None / Bare Wire

Temperature Control

☐ **Centipede® Temperature Control System**

- ► Controls each heating jacket
- ► Compact autotuned-PID temperature controller
- ► Platinum RTD
- ► Dual LED light
- ► Networked together with CAT5 communication cable
- ► Control and monitor the entire system from an easy to use operator interface

See page 10-3 for further details.

BriskHeat® Configure-to-Order Cloth Jackets

Jacket Configurations continued

☐ **Built-in Controlling Thermostat**

Thermostats can be installed to act as the primary temperature control device. The use of controlling thermostats eliminates the need for external control. It should be noted that controlling thermostats have a limited life span and precision. (Not available above 277VAC)

- 180°F (82°C), 30°F (17°C) differential
- 248°F (120°C), 50°F (28°C) differential
- 302°F (150°C), 50°F (28°C) differential
- 347°F (175°C), 50°F (28°C) differential
- Other

☐ **Field Replaceable Controlling Thermostat** *(Patent 6,710,312)*

Heating jacket can be configured to allow easy access to built-in controlling thermostat. (see photo)

☐ **Other External Temperature Control**

See temperature controller section starting at page 10-1 for options.

Temperature Sensor

Sensor Types- Sensor can be built-in heating jacket or be applied separately.

☐ Platinum RTD with Centipede® Control Option ☐ Type J Thermocouple ☐ Type K Thermocouple

☐ Thermistor ☐ Other- please specify

Safety Features

Built-In High-Limit Thermostat

Standard heating jacket option. Used to prevent over-temperature conditions in the event of main controller failure. Select a thermostat that is approximately 20% higher than the required operating temperature, yet low enough to avoid damage to the system in the event of controller failure. (Not available above 400VAC)

☐ 248°F (120°C), 50°F (28°C) differential ☐ 302°F (150°C), 50°F (28°C) differential

☐ 347°F (175°C), 50°F (28°C) differential ☐ 392°F (200°C), 50°F (28°C) differential

☐ 500°F (260°C), 100°F (56°C) differential ☐ Other

Built-In Low-Limit Thermostat

Used to indicate a low temperature condition. If required, a thermostat can be installed to to provide a dry contact to be used as an alarm signal via a separate cord. (Not available above 277VAC)

☐ 180°F (82°C), 30°F (17°C) differential ☐ 248°F (120°C), 50°F (28°C) differential ☐ Other

Grounded Heating Element

Patented grounded heating element is recommended for temperature usage up to 482°F (250°C).

Approvals

☐ c UL us ☐ CE 73/23/EEC. See page A-1 for more information.

BriskHeat® Accessories for Cloth Jackets

Centipede® Accessories

Module

Part Number	Description
CENTMOD-F	Centipede® Module Unit

CENTMOD-F

Operator Interface: Program and monitor up to 40 modules

Part Number	Description
CENTOPI-2	Centipede® Operator Interface: Includes a 25ft (7.6m) communication cable and power cable
CENTOEMOI	Centipede® Operator Interface without display

CENTOPI-2

CAT5 Communication Cable

Part Number	Length
CENTCOM-001	1ft (0.3m)
CENTCOM-002	2ft (0.6m)
CENTCOM-003	3ft (0.9m)
CENTCOM-004	4ft (1.2m)
CENTCOM-005	5ft (1.5m)
CENTCOM-010	10ft (3.0m)
CENTCOM-014	14ft (4.3m)
CENTCOM-025	25ft (7.6m)

RTD Sensor

Part Number	Length
CENTRTD-001	1ft (0.3m)
CENTRTD-002	2ft (0.6m)
CENTRTD-003	3ft (0.9m)
CENTRTD-004	4ft (1.2m)


CENTOEMOI

Module Power Supply

Part Number	Description
CENTPWR	12-24VDC Power Supply for Modules with NEMA 5-15 plug. Required when Operator Interface is not used with Module(s).


CENTPWR
(Centipede® Module sold separately)

Data Logging PC Software

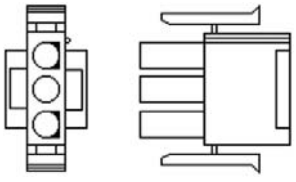
Part Number	Description
SWCENTDLV100	Centipede® Data Logger Version 1.0

Communicating with an External Computer Instruction Manual

Part Number	Description
41082-01	Communicating with an External Computer Instructions

AMP Mate-N-Lock Termination plug

This plug is required to cap off the jumper of the LAST jacket in a series, to prevent accidental contact with the power leads.

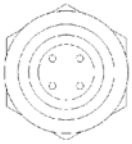


Part Number	Description
40914	3 prong AMP Mate-N-Lock

BriskHeat® Accessories for Cloth Jackets

Input Power cords:

Silicone rubber (SO) cord with choice of connector and receptacle. Contact factory for other styles.



IP 67 Four-Pin: Female Connector to Heating Jacket

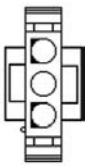
Male Plug To Power Source	Part Number	Length (ft)
 125V NEMA 5-15 15 amps	PB1205-6B	5
	PB1210-6B	10
	PB1225-6B	25

Male Plug To Power Source	Part Number	Length (ft)
 250V NEMA 6-15 15 amps	PB4205-6C	5
	PB4210-6C	10
	PB4225-6C	25

Male Plug To Power Source	Part Number	Length (ft)
 125V Twist Lock NEMA ML-2 15 amps	PB1205-6G	5
	PB1210-6G	10
	PB1225-6G	25

Male Plug To Power Source	Part Number	Length (ft)
 250V Twist Lock NEMA L6-15 15 amps	PB4205-6T	5
	PB4210-6T	10
	PB4225-6T	25

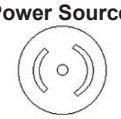
Male Plug To Power Source	Part Number	Length (ft)
Bare Wire	PB4205-6V	5
	PB4210-6V	10
	PB4225-6V	25



AMP Mate-N-Lock: Female Connector to Heating Jacket

Male Plug To Power Source	Part Number	Length (ft)
 125V NEMA 5-15 15 amps	PB1205-LB	5
	PB1210-LB	10
	PB1225-LB	25

Male Plug To Power Source	Part Number	Length (ft)
 250V NEMA 6-15 15 amps	PB4205-LC	5
	PB4210-LC	10
	PB4225-LC	25

Male Plug To Power Source	Part Number	Length (ft)
 125V Twist Lock NEMA ML-2 15 amps	PB1205-LG	5
	PB1210-LG	10
	PB1225-LG	25

Male Plug To Power Source	Part Number	Length (ft)
 250V Twist Lock NEMA L6-15 15 amps	PB4205-LT	5
	PB4210-LT	10
	PB4225-LT	25

Male Plug To Power Source	Part Number	Length (ft)
Bare Wire	PB4205-LV	5
	PB4210-LV	10
	PB4225-LV	25

BriskHeat® Accessories for Cloth Jackets

125VAC NEMA ML-2 Twist Lock: Female Connector to Heating Jacket

Male Plug To Power Source	Part Number	Length (ft)
 125V NEMA 5-15 15 amps	PB1205-CB	5
	PB1210-CB	10
	PB1225-CB	25

Male Plug To Power Source	Part Number	Length (ft)
 125V Twist Lock NEMA ML-2 15 amps	PB1205-CG	5
	PB1210-CG	10
	PB1225-CG	25

Male Plug To Power Source	Part Number	Length (ft)
Bare Wire	PB4205-CV	5
	PB4210-CV	10
	PB4225-CV	25

250VAC Twist Lock: Female Connector to Heating Jacket

Male Plug To Power Source	Part Number	Length (ft)
 250V NEMA 6-15 15 amps	PB4205-RC	5
	PB4210-RC	10
	PB4225-RC	25

Male Plug To Power Source	Part Number	Length (ft)
 250V Twist Lock NEMA L6-15 15 amps	PB4205-RT	5
	PB4210-RT	10
	PB4225-RT	25

Male Plug To Power Source	Part Number	Length (ft)
Bare Wire	PB4205-RV	5
	PB4210-RV	10
	PB4225-RV	25

Thermocouples:

All thermocouples and thermocouple extensions are made of 24 AWG fiberglass insulated wire and comes with a mini connector.

Type J thermocouples

Part Number	Length (ft)
TAJN05-AA	5
TAJN10-AA	10
TAJN25-AA	25

Type J thermocouple extensions

Part Number	Length (ft)
TAJN05-AD	5
TAJN10-AD	10
TAJN25-AD	25

Type K thermocouples

Part Number	Length (ft)
TAKN05-DA	5
TAKN10-DA	10
TAKN25-DA	25

Type K thermocouple extensions

Part Number	Length (ft)
TAKN05-DF	5
TAKN10-DF	10
TAKN25-DF	25

BriskHeat® Self-Regulating Heating Cable

Product Highlights

- **Automatically Adjusts Heat Output Based on Surface Temperature**
- **Can Be Safely Overlapped and Insulated**
- **Ideal for Long Runs**
- **Can Be Cut-to-Length at Job Site**

- **Temperatures up to 250°F (121°C)**
- **Meets NEC 427-23 and IEEE Std 515-2004**
- **Several Agency Approvals**
  - ► , , and FM APPROVED

- **Wide Range of Applications**
  - ► Freeze protection
  - ► Viscosity control
  - ► Low temperature process maintenance
  - ► Roof and gutter
  - ► Ordinary locations
  - ► Hazardous locations

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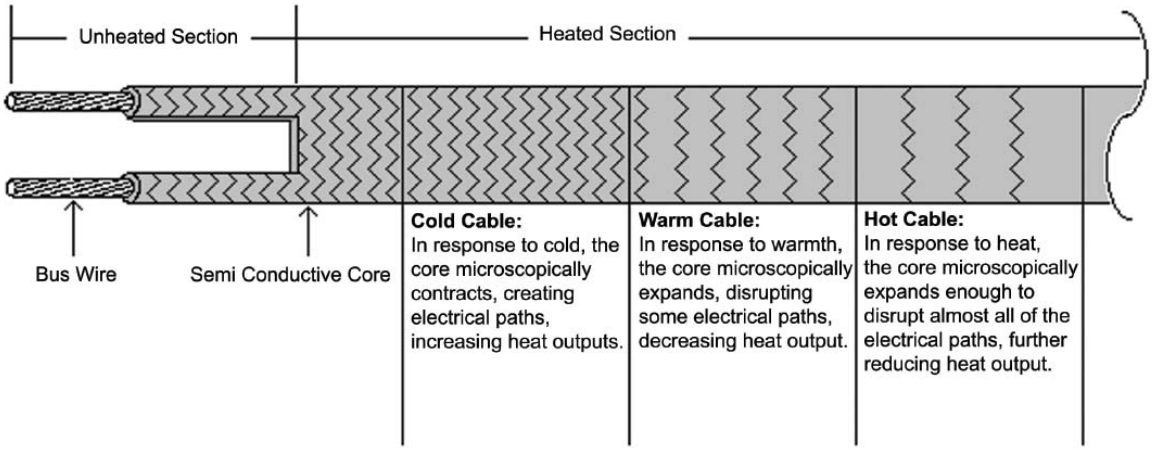
BriskHeat® Self-Regulating Heating Cable Selection Guide

BriskHeat® Self Regulating Heating Cable	SL Self-Regulating Heating Cable	SLM Mid-Temperature Self-Regulating Heating Cable
Maximum Exposure Temperature	150°F (66°C)	250°F (121°C)
Available Voltage	120 or 240VAC	120 or 240VAC
Available Wattage	3, 5, 8, & 10 W/ft	5, 10, & 15 W/ft
Automatically adjusts heat output based on surface temperature	✔	✔
Can be safely overlapped and insulated	✔	✔
Moisture, chemical, and flame resistant	✔	✔
Approvals	UL, CSA, FM APPROVED, T6, T5 Rated	UL, CSA, FM APPROVED, T3 Rated

NOTE: For best results, BriskHeat® Self-Regulating Heating Cable should be used with an appropriate temperature control. See temperature controller section starting at page 10-1 for a complete selection of temperature controllers.

How Self-Regulating Cable Works



The semi-conductive core material contains a graphite network, which allows electricity to flow from one bus wire to the other. When the core is dense and colder, there are many paths for electricity to take through the graphite network, producing more heat.

Since the core material expands as it heats, the graphite network is elongated, disrupting some of the paths. More and more paths are disrupted as heating continues until the system reaches self-controlled thermal stability. When the core material cools it contracts, reconnecting some of the electrical paths in the graphite network, and more equivalent heat is produced.

This temperature response occurs independently at each point along the heater. If an externally produced high temperature occurs next to a low temperature in the cable, each section of heating cable will adjust its own heat output in relation to its own local requirements.

BriskHeat® SL Self-Regulating Heating Cable

Product Highlights

- ✔ Automatically adjusts heat output based on surface temperature
- ✔ No temperature controller is necessary*
- ✔ Can be safely overlapped and insulated
- ✔ Ideal for freeze protection and low temperature process maintenance

* If a specific process temperature is required, a temperature controller is necessary

Safe for Hazardous Areas

Moisture and Chemical Resistant

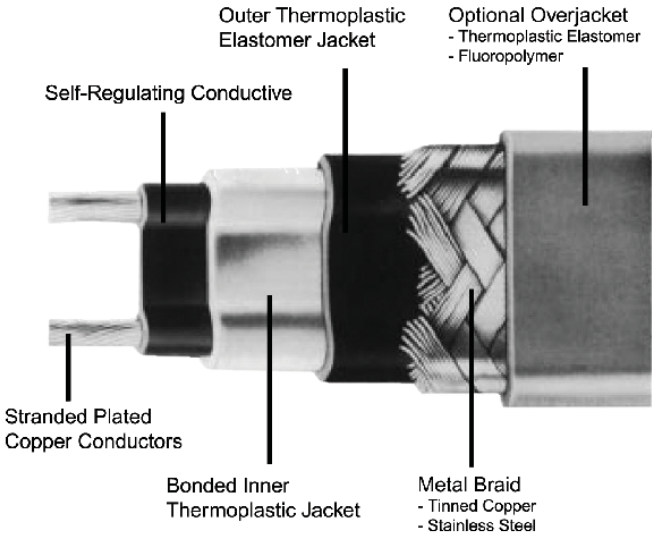
Temperatures up to

150°F (66°C)

Specifications:

- Maximum exposure temperature is 150°F (66°C)
- 3, 5, 8, or 10 watts/ft
- Moisture, chemical, and flame resistant
- 16AWG bus wires
- T-Rating**
  - T6: 3 and 5 watts/ft
  - T5: 8 and 10 watts/ft

** Electrical equipment T-rating codes define the maximum surface temperature that equipment will reach. It is used in hazardous (classified) area applications.



Approvals:*

cULus LISTED
Ordinary Locations
Hazardous (Classified) Locations
Class I, Division 2, Groups A, B, C, D
Class II, Division 2, Groups F, G
Class III, Division 2

CSA
Ordinary Locations
Hazardous (Classified) Locations
Class I, Division 2, Groups B, C, D
Class II, Division 2, Groups E, F, G

FM APPROVED
Ordinary Locations
Hazardous (Classified) Locations
Class I, Division 2, Groups B, C, D
Class II and III, Division 2, Group G

Approvals valid only when used with appropriate heating cable and installation accessories, and installed in accordance with all applicable instructions, codes, and regulations.

* SL-SS approved for ordinary locations only

Outer Layer Options

Product Type	Description	Dimensions	Shipping Weight per 500-foot (152m) spool	Purpose
SL-B	Tinned Copper Metal Braid	0.20" x 0.45" (5 x 11mm)	40 lb. (18Kg)	Ordinary applications
SL-BP	Tinned Copper Metal Braid with Thermoplastic Elastomer Overjacket	0.24" x 0.47" (6 x 12mm)	48 lb. (22Kg)	For use in weak chemical environments (i.e. weak acids)
SL-BF	Tinned Copper Metal Braid with Fluoropolymer Overjacket	0.25" x 0.49" (6 x 12mm)	48 lb. (22Kg)	For use in strong chemical environments (i.e. strong acids)
SL-SS New!!	Stainless Steel Metal Braid	0.20" x 0.45" (5 x 11mm)	40 lb. (18Kg)	More resistant to rusting and corrosion than SL-B.

BriskHeat® SL Self-Regulating Heating Cable continued

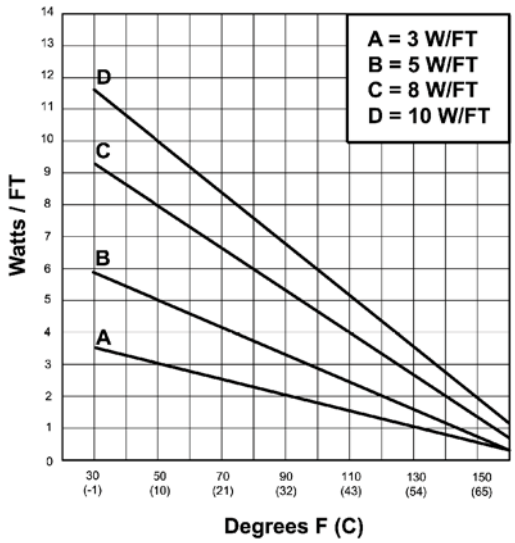
Specification / Application Information:

Maximum Circuit Length in Feet Vs. Circuit Breaker Size

Heat Cable Type	Circuit Breaker Size	Start-up Temperature		
		50°F (10°C)	0°F (-20°C)	-20°F (-40°C)
SL-3-120	15 amp	325	230	205
	20 amp	-	305	275
	30 amp	-	325	325
SL-3-240	15 amp	650	460	410
	20 amp	-	620	550
	30 amp	-	650	650
SL-5-120	15 amp	225	155	135
	20 amp	270	205	180
	30 amp	-	270	270
SL-5-240	15 amp	460	310	275
	20 amp	540	415	370
	30 amp	-	540	540
SL-8-120	15 amp	145	100	90
	20 amp	195	130	115
	30 amp	210	195	175
	40 amp	-	210	210
SL-8-240	15 amp	295	200	175
	20 amp	390	265	235
	30 amp	420	395	350
	40 amp	-	420	420
SL-10-120	15 amp	115	85	75
	20 amp	150	110	100
	30 amp	180	155	145
	40 amp	-	180	180
SL-10-240	15 amp	230	165	150
	20 amp	305	220	195
	30 amp	360	325	290
	40 amp	-	360	360

Note: Special consideration must be given for the circuit breaker due to the high initial in-rush currents.

Heat Output (Watts per Foot)



Voltage Adjustment

Product Type	Adjustment Multiplier					
	208 VAC		220 VAC		277 VAC	
	Power	Length	Power	Length	Power	Length
SL-3-240	0.76	0.93	0.85	0.96	1.27	1.07
SL-5-240	0.79	0.93	0.87	0.96	1.24	1.07
SL-8-240	0.84	0.93	0.90	0.96	1.19	1.08
SL-10-240	0.86	0.93	0.92	0.96	1.16	1.09

Ordering Information:

Part Number Matrix

SL 3 120 BF

Self-Regulating Cable:

Watts / ft:
3- (3), 5- (5), 8- (8), 10- (10)

Voltage:
120- (120VAC), 240- (240VAC)

Outer Layer:
B- (Tinned Copper Metal Braid)
BP- (Tinned Copper Metal Braid with Thermoplastic Elastomer Overjacket)
BF- (Tinned Copper Metal Braid with Fluoropolymer Overjacket)
SS- (Stainless Steel Metal Braid)

Standard Power Connection / Termination Kits

Part Number	Description
SLUC-1	Universal Connection Kit
SLSK-5	Splice Kit
SLET-2	End Seal Kit
SLPT-2	Power Termination Kit

Accessories

Part Number	Description
AAT260 AAT2180	Aluminum Adhesive Tape: 2" x 180' (51mm x 55m). Temp Limit: 350°F (176°C) 2" x 180' (51mm x 55m). Temp Limit: 550°F (288°C)
BCLCAB	Electrical heat trace warning label. Required by code for every 10ft (3m) of pipe.
BPSCAB2-6	Stainless steel pipe straps used to secure pipe standoff to pipe. Adjustable from 2" to 6" (51 x 152mm)
HCP1 HCP3	Heat Conductive Putty. Used to fill voids between cable and pipe surface: 1 lb. (0.5kg) 3 lb. (1.4kg)
PSAT36A	Pressure Sensitive Fiberglass Adhesive Tape. 0.5" x 108' (13mm x 38m). Temp Limit: 350°F(176°C)
RTV3.0	Silicone sealant used to seal lead pouches, end pouches, and pipe standoffs. 3 oz. (89ml)
SLJB-2	Non-Metallic Junction Box, 5" X 5" X 2", NEMA 4X. Recommended for SLUC-1 and SLRPC-1.

See page 8-16 for details and a complete list of accessories.

See page 8-7 through 8-8 for roof and gutter power connection / termination kits, monitor light kits, and complete details on standard kits.

BriskHeat® SLM Mid-Temperature Self-Regulating Heating Cable

Product Highlights

- Automatically adjusts heat output based on surface temperature
- No temperature controller is necessary*
- Can be safely overlapped and insulated
- Ideal for freeze protection and low temperature process maintenance

* If a specific process temperature is required, a temperature controller is necessary

Safe for Hazardous Areas

Moisture and Chemical Resistant

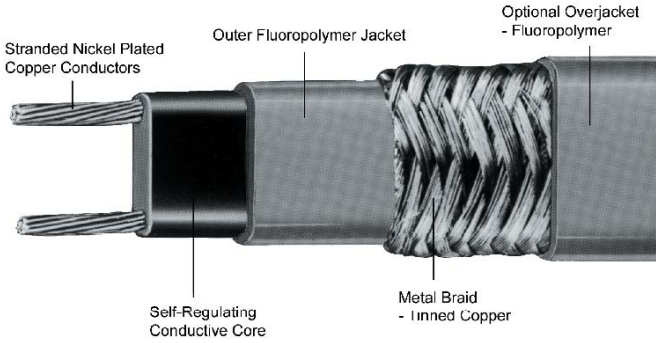
Temperatures up to

250°F (121°C)

Specifications:

- Maximum exposure temperature is 250°F (121°C)
- 5, 10, 15 watts/ft
- Moisture, chemical, and flame resistant
- 16AWG bus wires
- T-Rating: T3**

** Electrical equipment T-rating codes define the maximum surface temperature that equipment will reach. It is used in hazardous (classified) area applications.



Approvals:

cULus LISTED
Ordinary Locations
Hazardous (Classified) Locations
Class I, Division 2, Groups A, B, C, D
Class II, Division 2, Groups F, G
Class III, Division 2

CSA
Ordinary Locations
Hazardous (Classified) Locations
Class I, Division 2, Groups B, C, D
Class II, Division 2, Groups E, F, G

FM APPROVED
Ordinary Locations
Hazardous (Classified) Locations
Class I, Division 2, Groups B, C, D
Class II and III, Division 2, Group G

Approvals valid only when used with appropriate heating cable and installation accessories, and installed in accordance with all applicable instructions, codes, and regulations.

Outer Layer Options

Product Type	Description	Dimensions	Shipping Weight per 500-foot (152m) spool	Purpose
SLM-B	Tinned Copper Metal Braid	0.15" x 0.40" (4 x 10mm)	43 lb. (19Kg)	Ordinary applications
SLM-BF	Tinned Copper Metal Braid with Fluoropolymer Overjacket	0.20" x 0.40" (5 x 10mm)	50 lb. (23Kg)	For use in strong chemical environments (i.e. strong acids)

BriskHeat® SLM Mid-Temperature Self-Regulating Heating Cable continued

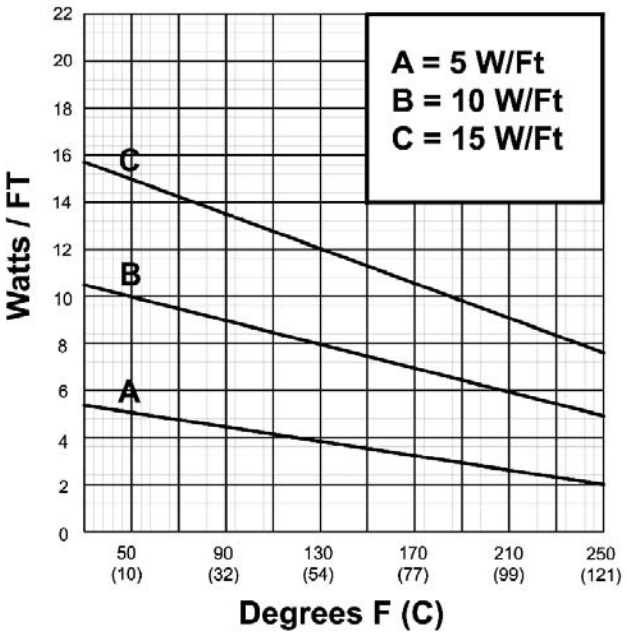
Specification / Application Information:

Maximum Circuit Length in Feet Vs. Circuit Breaker Size

Heat Cable Type	Circuit Breaker Size	Maximum Length (Ft)	
		120VAC	240VAC
SLM-5	15 amp	185	385
	20 amp	245	500
	30 amp	310	620
SLM-10	15 amp	115	225
	20 amp	150	300
	30 amp	190	375
SLM-15	15 amp	80	160
	20 amp	110	215
	30 amp	135	270

Note:
- Special consideration must be given for the circuit breaker due to the high initial in-rush currents.
- Maximum lengths are based on start-up temperatures between -20°F to 50°F (-29°C to 10°C)

Heat Output (Watts per Foot)



Voltage Adjustment

Product Type	Adjustment Multiplier					
	208 VAC		220 VAC		277 VAC	
	Power	Length	Power	Length	Power	Length
SLM-5-240	0.76	0.93	0.85	0.96	1.29	1.07
SLM-10-240	0.80	0.93	0.88	0.96	1.23	1.07
SLM-15-240	0.83	0.93	0.89	0.96	1.19	1.02

Ordering Information:

Part Number Matrix

SLM 5 120 BF

Self-Regulating Cable:

Watts / ft:
5- (5), 10- (10),15- (15),

Voltage:
120- (120VAC), 240- (240VAC)

Outer Layer:
B- (Tinned Copper Metal Braid)
BF- (Tinned Copper Metal Braid with Fluoropolymer Overjacket)

Standard Power Connection / Termination Kits

Part Number	Description
SLUC-1	Universal Connection Kit
SLSK-5	Splice Kit
SLET-2	End Seal Kit
SLPT-2	Power Termination Kit

Accessories

Part Number	Description
AAT260 AAT2180	Aluminum Adhesive Tape: 2" x 180' (51mm x 55m). Temp Limit: 350°F (176°C) 2" x 180' (51mm x 55m). Temp Limit: 550°F (288°C)
BCLCAB	Electrical heat trace warning label. Required by code for every 10ft (3m) of pipe.
BPSCAB2-6	Stainless steel pipe straps used to secure pipe standoff to pipe. Adjustable from 2" to 6" (51 x 152mm)
HCP1 HCP3	Heat Conductive Putty. Used to fill voids between cable and pipe surface: 1 lb. (0.5kg) 3 lb. (1.4kg)
PSAT36A	Pressure Sensitive Fiberglass Adhesive Tape. 0.5" x 108' (13mm x 38m). Temp Limit: 350°F(176°C)
RTV3.0	Silicone sealant used to seal lead pouches, end pouches, and pipe standoffs. 3 oz. (89ml)
SLJB-2	Non-Metallic Junction Box, 5" X 5" X 2", NEMA 4X. Recommended for SLUC-1 and SLRPC-1.

See page 8-16 for details and a complete list of accessories.

See page 8-7 through 8-8 for monitor light kits and complete details on standard power connection / termination kits.

BriskHeat® Connection / Termination Kits for Self-Regulating Cable

KITS	USAGE
SLUC-1: Universal Connection Kit 1 Conduit Locknut 1 Universal Sealing Grommet 1 Overjacket Sealing Grommet 1 Pipe Standoff 1 Tube of Silicone, 0.25oz (7g) 6 Wire Nuts 1 Roll of Fiberglass Tape, 12ft (3.7M) 2 Power Terminations 1 Box Adapter 1 Gasket 2 End Seals 2 Pipe Clamps 1 Uninsulated Splice Connector	Enough to complete: Two end terminations and one input connection, or one input power splice. Good for any heating cable smaller than 0.44" (11mm) diameter. *NOTE*: Requires a junction box. **New and Improved!!** **Now Easier to Install!**
SLJB-2: Junction Box	Non-Metallic Junction Box, 5" X 5" X 2", NEMA 4X. Recommended for SLUC-1 and SLRPC-1.
SLSK-5: Splice Kit 5 Wire Ties 5 Mastic Strips 5 Uninsulated Splice Connectors 10 Insulated Splice Connectors 5 Shrink tubes, 0.50" (13mm) diameter, 6" (152mm) length 5 Shrink tubes, 0.63" (16mm) diameter, 9" (229mm) length	Enough to complete: Five inline splices, or Five tee splices.
SLET-2: End Seal Kit 2 End Seals 1 Tube of Sealant, 0.25oz (7g)	Enough to complete: Two end terminations.
SLPT-2: Power Termination Kit 2 Power Terminations 1 Tube of Sealant, 0.25oz (7g)	Enough to complete: Two power terminations.
MLK: Monitor Light Kit 1 NEMA 4X (IP66) Junction Box 1 Conduit Locknut 1 Sealing Grommet 1 Pipe Stand-off 1 Caution Label 1 Light Assembly 1 Power Termination 1 Box Adapter 1 Gasket 1 Tube of Silicone, 0.25oz (7g) 2 Pipe Clamps 3 Gaskets (soft)	Enough to complete: Provides a LED end of circuit indication for SL and SLM heating cables. FM APPROVED , Ordinary Locations Hazardous (Classified) Locations Class I, Division 2, Groups A, B, C, D Class I, Zone 2, Group IIC Class II, Division 1, 2, Groups E, F, G Class III, Division 1, 2

Part Number	Voltage
MLK120	120VAC
MLK208	208VAC
MLK240	240VAC
MLK277	277VAC

BriskHeat® SL Roof and Gutter Kits and Accessories

KITS	USAGE
SLRPC-1: Roof and Gutter Power Connection Kit 1 Cable Connector, 0.75” NPT thread 1 Conduit Locknut 1 Sealing Ring with Stainless Steel Retainer 2 Wire Nuts 2 Warning Labels 1 Shrink Tube, 0.5” (12mm) diameter, 3” (76mm) length 2 Shrink Tubes, 0.5” (12mm) diameter, 2” (51mm) length 2 Shrink Tubes, 0.125” (3mm) diameter, 1” (25mm) length	Enough to complete: Provides a watertight entry into a junction box. Two end terminations and one input connection. Designed for SL-BP cable. *NOTE*: Requires a junction box.
SLJB-2: Junction Box	Non-Metallic Junction Box, 5” X 5” X 2”, NEMA 4X. Recommended for SLRPC-1 and SLUC-1.
SLROOFET-5: Roof and Gutter End Seal Kit 5 Shrink Tubes, 0.5” (12mm) diameter, 3” (76mm) length 5 Shrink Tubes, 0.5” (12mm) diameter, 2” (51mm) length	Enough to complete: Five end terminations. Designed for SL-BP cable.
SLROOFPT-5: Roof and Gutter Power End Seal Kit 10 Shrink Tubes, 0.125” (3mm) diameter, 1” (25mm) length 5 Shrink Tubes, 0.5” (12mm) diameter, 2” (51mm) length	Enough to complete: Five power end terminations. Designed for SL-BP cable.
SLROOFSK-5: Roof and Gutter Splice Kit 5 Shrink Tubes, 0.5” (12mm) diameter, 6” (152mm) length 5 Shrink Tubes, 1.1” (25mm) diameter, 9” (229mm) length 5 Uninsulated splice connectors 10 Insulated splice connectors	Enough to complete: Five in-line splices. Designed for SL-BP cable.
SLROOFRC-25: Roof Clips 25 Roof Clips	Description: Designed to fasten SL-BP cable to most types of roof and gutter materials.
SLROOFDH-5: Downspout Hanger Kit 5 Hanger Wires 10 Screws 5 Protective Tubing 10 Hanger Clamps 10 Nuts	Description: Five complete downspout hangers. Designed for SL-BP cable.

BriskHeat® Constant-Wattage Heating Cable

Product Highlights

- **Precise and Constant Temperatures**
- **Temperatures up to 500°F (260°C)**
- **Ideal for Long Runs**
- **Can Be Cut-to-Length at Job Site**
- **Tension Wrapping Holds Resistance Wire in Place, Even Under Extreme Bending**

- **Temperature Controller Required**
- **Meets NEC 427-23 and IEEE Std 515 RU**
- **Agency Approvals**
  - FM APPROVED, SA, CE

- **Wide Range of Applications**
  - Freeze protection
  - Viscosity control
  - Low to high temperature control
  - Process maintenance
  - Ordinary locations
  - Hazardous locations

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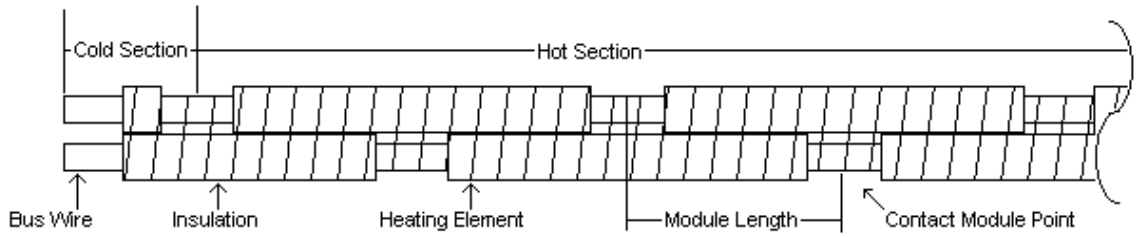
BriskHeat® Constant-Wattage Heating Cable Selection Guide

BriskHeat® Constant-Wattage Heating Cables	FE General Purpose Heating Cable	KE Harsh Environment Heating Cable	KM Kapton®/ Fiberglass Heating Cable	KK High Temperature Heating Cable
Maximum Exposure Temperature	400°F (204°C)	500°F (260°C)	500°F (260°C)	500°F (260°C)
Available Voltages	120, 208, 240, 277, 480VAC	120, 208, 240, 277, 480VAC	120, 208, 240, 277, 480VAC	120, 208, 240, 277, 480VAC
Available Wattages	3, 5, 8, & 12 W/ft	4, 8, & 12 W/ft	4, 8 & 12 W/ft	4, 8, 12, & 18 W/ft
Nominal Dimensions	0.2 x 0.3in (5 x 8mm) 12AWG	0.2 x 0.3in (5 x 8mm) 12AWG	0.2 x 0.3in (5 x 8mm) 16AWG, 12AWG	0.2 x 0.3in (5 x 8mm) 12AWG
Weight per 500 Foot (152m) Spool	40lb (18kg)	41lb (19kg)	37lb (17kg) 16AWG or 45lb. (20kg) 12AWG	30lb (14kg)
Dielectric Strength	Over 2000 volts	Over 2000 volts	Over 2000 volts	Over 2000 Volts
Resistance to Moisture	Excellent	Excellent	Good	Good
Resistance to Chemicals	Excellent	Excellent	Good	Good
Resistance to Flame	Outstanding	Excellent	Outstanding	Excellent
Resistance to Radiation	Fair to good	Fair to good	Good	Outstanding *Flexible after exposure to 10^9 RADS*

NOTE: All BriskHeat® Constant-Wattage Heating Cables must be used with appropriate temperature control. See temperature control section starting at page 10-1 for more information.

How Constant-Wattage Cable Works



Constant-Wattage cable uses a fixed resistance wire wrapped around two main conductors (bus wires). At specific intervals the insulation is removed from the bus wires, forming the Contact Module Points.

These Contact Module Points are staggered along the length of the cable. This creates consistent heating circuits know as the Module Length. When power is applied to the bus wires each *complete* Module Length heats at the rated wattage output.

The incomplete Module Lengths, at the beginning and end of each cable, do not heat. This allows the "Cold" ends to be safely placed inside of a controller or junction box.

BriskHeat® FE General Purpose Constant-Wattage Heating Cable

Product Highlights

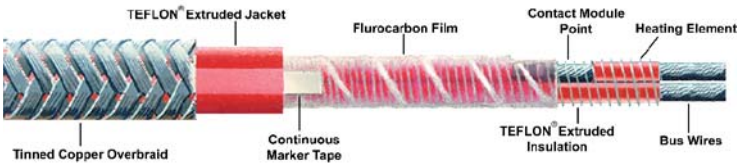
- ✔ Temperatures up to 400°F (204°C)
- ✔ Power remains constant regardless of temperature
- ✔ Can be cut-to-length at job site
- ✔ Ideal for wide range of general purpose applications:
  - Mid-range process temperature control for food and chemical processing
  - Water lines
  - Fire protection systems
  - Fuel oil
  - Condensate return
  - Hot water lines
  - Lines periodically purged with 250 psig steam

Safe for Hazardous Areas

Moisture and Chemical Resistant

Temperatures up to

400°F (204°C)



Specifications:

- Maximum exposure temperature is 400°F (204°C)
- Moisture, chemical, flame, and radiation resistant
- 12AWG bus wires
- Dimensions 0.2” x 0.3” (5 x 8mm)
- 40lb (18kg) per 500-foot (152m) spool

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Approvals:

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Ordinary Locations
Hazardous Locations:
Class I, Division 2, Groups B, C, & D
Class II, Division 2, Groups F, & G
Class III, Division 2

Ordinary locations
(120, 240VAC only)

Approvals valid only when used with appropriate heating cable and installation accessories, and installed in accordance with all applicable instructions, codes, and regulations.

Ordering Information:

Part Number Matrix

FECAB 3 120 B

TEFLON® FEP Cable:

Watts / ft:
3- (3), 5- (5), 8- (8), 12- (12)

Voltage:
120- (120), 208- (208), 240- (240), 277- (277), 480- (480)

Braid Type:
B- (tinned copper metal braid), SS- (stainless steel overbraid)

FE Connection / Termination Kits

Part Number	Description
FECABUC	Universal Connection / Termination Kit
FECABKC	Lead / End Seal Kit
FECABSK	Splice Kit
FECABLP	Lead Pouch
FECABEP	End Pouch

Maximum Circuit Length in ft (m)

Cable	120VAC	208VAC	240VAC	277VAC	480VAC
3 watts/ ft (10 watts/ m)	360 (110)	625 (191)	720 (220)	N/A	1440 (439)
5 watts/ ft (16 watts/ m)	275 (84)	477 (145)	550 (168)	N/A	1100 (335)
8 watts/ ft (26 watts/ m)	220 (67)	381 (116)	440 (134)	508 (155)	880 (268)
12 watts/ ft (39 watts/ m)	180 (55	312 (95)	360 (110)	416 (127)	720 (220)

Circuit Module Length in ft (m)

Cable Type	120VAC	208VAC	240VAC	277VAC	480VAC
3 watts/ ft (10 watts/ m)	2.0 (0.6)	4.0 (1.2)	4.0 (1.2)	N/A	8.0 (2.4)
5 watts/ ft (16 watts/ m)	2.0 (0.6)	4.0 (1.2)	3.0 (0.9)	N/A	6.0 (1.8)
8 watts/ ft (26 watts/ m)	2.0 (0.6)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	6.0 (1.8)
12 watts/ ft (39 watts/ m)	2.0 (0.6)	6.0 (1.8)	2.0 (0.6)	4.0 (1.2)	4.0 (1.2)

When ordering, please allow a minimum of 1 module length extra for terminations.

Accessories

Part Number	Description
AAT260 AAT2180	Aluminum Adhesive Tape: 2” x 180’ (51mm x 55m). Temp Limit: 350°F (176°C) 2” x 180’ (51mm x 55m). Temp Limit: 550°F (288°C)
BCLCAB	Electrical heat trace warning label. Required by code for every 10ft (3m) of pipe.
BPSCAB2-6	Stainless steel pipe straps used to secure pipe standoff to pipe. Adjustable from 2” to 6” (51 x 152mm)
HCP1 HCP3	Heat Conductive Putty. Used to fill voids between cable and pipe surface: 1 lb. (0.5kg) 3 lb. (1.4kg)
PSAT36A	Pressure Sensitive Fiberglass Adhesive Tape. Size: 0.5” x 108’ (13mm x 38m). Temp Limit: 350°F (176°C)
RTV3.0	Silicone sealant used to seal lead pouches, end pouches, and pipe standoffs. 3 oz. (89ml)
JBACAB001 JBACAB002	Metalic Junction Box with cover and gasket: Single hub Double hub

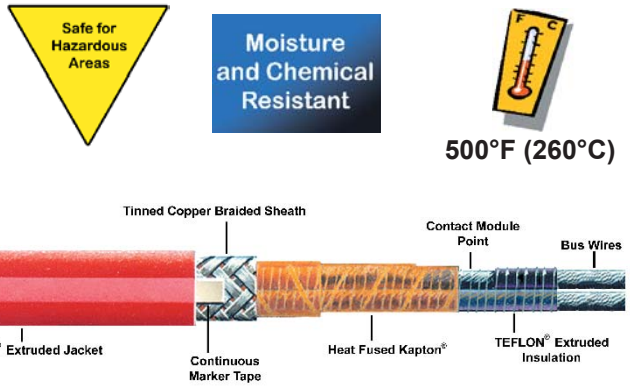
See page 8-15 through 8-16 for complete details on power connection / termination kits, monitor light kits, and accessories.

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

BriskHeat® KE Harsh Environment Constant-Wattage Heating Cable

Product Highlights

- ✔ Temperatures up to 500°F (260°C)
- ✔ Power remains constant regardless of temperature
- ✔ Can be cut-to-length at job site
- ✔ Ideal for a wide range of applications in corrosive environments:
  - Freeze protection
  - Viscosity control
  - High temperature process control
  - Asphalt plants
  - Oil refineries
  - Mines
  - Chemical and petrochemical processing areas
  - Other explosive and corrosive atmospheres
  - Severe arctic cold



Specifications:

- Maximum exposure temperature is 500°F (260°C)
- Moisture, chemical, flame, and radiation resistant
- 12AWG bus wires
- Dimensions 0.2” x 0.3” (5 x 8 mm)
- 41lb. (19kg.) per 500-foot (152m)

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Approvals:

FM APPROVED

Ordinary Locations
Hazardous Locations:
Class I, Division 2, Groups B, C, & D
Class II, Division 2, Groups F, & G
Class III, Division 2

Approvals valid only when used with appropriate heating cable and installation accessories, and installed in accordance with all applicable instructions, codes, and regulations.

Ordering Information:

Part Number Matrix

KECAB 4 120

Kapton® / TEFLON® Cable:

Watts / ft:
4- (4), 8- (8), 12- (12)

Voltage:
120- (120), 208- (208), 240- (240), 277- (277), 480- (480)

KE Connection / Termination Kits

Part Number	Description
KCABUC	Universal Connection / Termination Kit
KCABKC	Lead / End Seal Kit
KCABSK	Splice Kit
KCABLP	Lead Pouch
KCABEP	End Pouch

Maximum Circuit Length in ft (m)

Cable Type	120VAC	208VAC	240VAC	277VAC	480VAC
4 watts/ ft (13 watts/ m)	310 (95)	537 (164)	620 (189)	716 (218)	1240 (378)
8 watts/ ft (26 watts/ m)	220 (67)	381 (116)	440 (134)	508 (155)	880 (268)
12 watts/ ft (39 watts/ m)	180 (55)	312 (95)	360 (110)	416 (127)	720 (220)

Circuit Module Length in ft (m)

Cable Type	120VAC	208VAC	240VAC	277VAC	480VAC
4 watts/ ft (13 watts/ m)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	8.0 (2.4)
8 watts/ ft (26 watts/ m)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	6.0 (1.8)
12 watts/ ft (39 watts/ m)	2.0 (0.6)	6.0 (1.8)	4.0 (1.2)	4.0 (1.2)	6.0 (1.8)

When ordering, please allow a minimum of 1 module length extra for terminations.

Accessories

Part Number	Description
AAT260 AAT2180	Aluminum Adhesive Tape: 2” x 180’ (51mm x 55m). Temp Limit: 350°F (176°C) 2” x 180’ (51mm x 55m). Temp Limit: 550°F (288°C)
BCLCAB	Electrical heat trace warning label. Required by code for every 10ft (3m) of pipe.
BPSCAB2-6	Stainless steel pipe straps used to secure pipe standoff to pipe. Adjustable from 2” to 6” (51 x 152mm)
HCP1 HCP3	Heat Conductive Putty. Used to fill voids between cable and pipe surface: 1 lb. (0.5kg) 3 lb. (1.4kg)
PSAT36A	Pressure Sensitive Fiberglass Adhesive Tape. Size: 0.5” x 108’ (13mm x 38m). Temp Limit: 350°F (176°C)
RTV3.0	Silicone sealant used to seal lead pouches, end pouches, and pipe standoffs. 3 oz. (89ml)
JBACAB001 JBACAB002	Metalic Junction Box with cover and gasket: Single hub Double hub

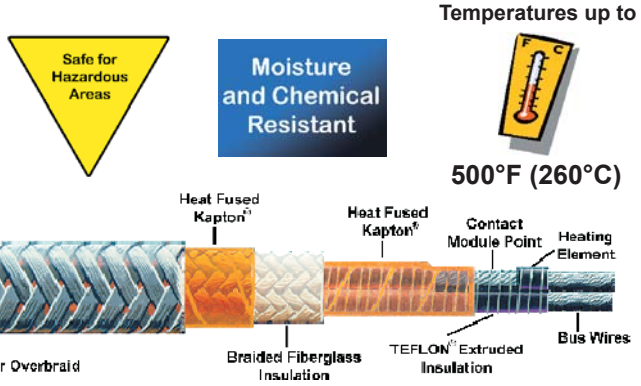
See page 8-15 through 8-16 for complete details on power connection / termination kits, monitor light kits, and accessories.

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

BriskHeat® KM Kapton® / Fiberglass Constant-Wattage Heating Cable

Product Highlights

- ✔ Temperatures up to 500°F (260°C)
- ✔ Power remains constant regardless of temperature
- ✔ Can be cut-to-length at job site
- ✔ 16 or 12AWG bus wires
- ✔ Ideal for a wide range of applications:
  - Freeze protection
  - Viscosity control
  - High temperature process control
  - Power plants
  - Oil refineries
  - Water treatment plants
  - Food processing plants
  - Other explosive atmospheres



Specifications:

- Maximum exposure temperature is 500°F (260°C)
- Moisture, chemical, flame and radiation resistant
- 12 or 16AWG bus wires
- Dimensions: 0.2" x 0.3" (5 x 8mm)
- Weight per 500-foot (152m) spool:
  16AWG cable: 37 lb (17kg)
  12AWG cable: 45 lb (20kg)

Approvals:

FM APPROVED

Ordinary Locations
Hazardous Locations:
Class I, Division 2, Groups B, C, & D
Class II, Division 2, Groups F, & G
Class III, Division 2

Approvals valid only when used with appropriate heating cable and installation accessories, and installed in accordance with all applicable instructions, codes, and regulations.

Maximum Circuit Length in ft (m)

Cable Type	120VAC	208VAC	240VAC	277VAC	480VAC
4 watts/ft 16AWG (13 watts/ m)	190 (58)	329 (100)	380 (116)	439 (134)	760 (232)
4 watts/ft 12AWG (13 watts/ m)	310 (94)	537 (164)	620 (189)	716 (218)	1240 (378)
8 watts/ ft 16AWG (26 watts/ m)	112 (34)	194 (59)	224 (68)	259 (79)	448 (137)
8 watts/ ft 12AWG (26 watts/ m)	220 (67)	381 (116)	440 (134)	508 (155)	880 (268)
12 watts/ ft 12AWG (39 watts/ m)	180 (55)	312 (95)	360 (110)	416 (127)	720 (219)

Circuit Module Length in ft (m)

Cable Type	120VAC	208VAC	240VAC	277VAC	480VAC
4 watts/ft 16AWG (13 watts/ m)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	8.0 (2.4)
4 watts/ft 12AWG (13 watts/ m)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	8.0 (2.4)
8 watts/ ft 16AWG (26 watts/ m)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	6.0 (1.8)
8 watts/ ft 12AWG (26 watts/ m)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	6.0 (1.8)
12 watts/ ft 12AWG (39 watts/ m)	4.0 (1.2)	6.0 (1.8)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)

When ordering, please allow a minimum of 1 module length extra for terminations.

Ordering Information:

Part Number Matrix

KMCAB 8 120 12

Kapton® / Fiberglass Cable:

Watts / ft:
4- (4), 8- (8), 12- (12)

Voltage:
120- (120), 208- (208), 240- (240), 277- (277), 480- (480)

Bus Gauge:
12- (12AWG), 16- (16AWG)

KM Connection / Termination Kits

Part Number	Description
KCABUC	Universal Connection / Termination Kit
KCABKC	Lead / End Seal Kit
KCABSK	Splice Kit
KCABLP	Lead Pouch
KCABEP	End Pouch

Accessories

Part Number	Description
AAT260 AAT2180	Aluminum Adhesive Tape: 2" x 180' (51mm x 55m). Temp Limit: 350°F (176°C) 2" x 180' (51mm x 55m). Temp Limit: 550°F (288°C)
BCLCAB	Electrical heat trace warning label. Required by code for every 10ft (3m) of pipe.
BPSCAB2-6	Stainless steel pipe straps used to secure pipe standoff to pipe. Adjustable from 2" to 6" (51 x 152mm)
HCP1 HCP3	Heat Conductive Putty. Used to fill voids between cable and pipe surface: 1 lb. (0.5kg) 3 lb. (1.4kg)
PSAT36A	Pressure Sensitive Fiberglass Adhesive Tape. Size: 0.5" x 108' (13mm x 38m). Temp Limit: 350°F (176°C)
RTV3.0	Silicone sealant used to seal lead pouches, end pouches, and pipe standoffs. 3 oz. (89ml)
JBACAB001 JBACAB002	Metalic Junction Box with cover and gasket: Single hub Double hub

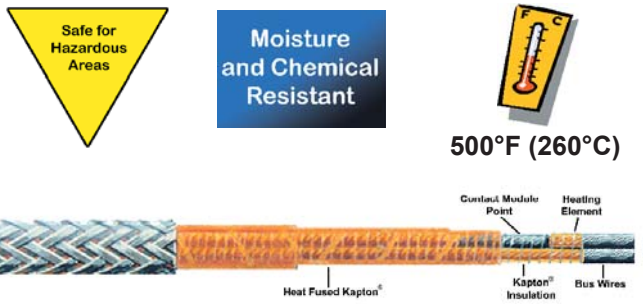
See page 8-15 through 8-16 for complete details on power connection / termination kits, monitor light kits, and accessories.

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

BriskHeat® KK High Temperature Constant-Wattage Heating Cable

Product Highlights

- ✔ Temperatures up to 500°F (260°C)
- ✔ Power remains constant regardless of temperature
- ✔ Can be cut-to-length at job site
- ✔ Ideal for a wide range of high temperature applications:
  - Viscosity control
  - Asphalt lines
  - Heavy oil lines
  - Nuclear environments
  - Locations where halogens are not permitted
  - Process lines subject to high pressure steam blow down



Specifications:

- Maximum exposure temperature is 500°F (260°C)
- Moisture, chemical, flame, and radiation resistant
- 12AWG bus wires
- Dimensions 0.2” x 0.3” (5 x 8mm)
- 30 lb. (14Kg) per 500-foot (152m) spool

Approvals:

FM APPROVED

Ordinary Locations
Hazardous Locations:
Class I, Division 2, Groups B, C, & D
Class II, Division 2, Groups F, & G
Class III, Division 2

Approvals valid only when used with appropriate heating cable and installation accessories, and installed in accordance with all applicable instructions, codes, and regulations.

Maximum Circuit Length in ft (m)

Cable Type	120VAC	208VAC	240VAC	277VAC	480VAC
4 watts/ ft 12AWG (13 watts/ m)	310 (94)	537 (164)	620 (189)	716 (218)	1240 (378)
8 watts/ ft 12AWG (26 watts/ m)	220 (67)	381 (116)	440 (134)	508 (155)	880 (268)
12 watts/ ft 12AWG (39 watts/ m)	180 (55)	312 (95)	360 (110)	416 (127)	720 (220)
18 watts/ ft 12AWG (59 watts/ m)	120 (37)	208 (63)	240 (73)	277 (84)	480 (146)

Circuit Module Length in ft (m)

Cable Type	120VAC	208VAC	240VAC	277VAC	480VAC
4 watts/ ft 12AWG (13 watts/ m)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	8.0 (2.4)
8 watts/ ft 12AWG (26 watts/ m)	2.0 (0.6)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	6.0 (1.8)
12 watts/ ft 12AWG (39 watts/ m)	2.0 (0.6)	4.0 (1.2)	4.0 (1.2)	4.0 (1.2)	7.0 (2.1)
18 watts/ ft 12AWG (59 watts/ m)	1.75 (0.5)	3.0 (0.9)	3.5 (1.1)	4.0 (1.2)	5.5 (1.7)

When ordering, please allow a minimum of 1 module length extra for terminations.

Ordering Information:

Part Number Matrix

KKCAB 8 120

Kapton® / Kapton® Cable:

Watts / ft:
4- (4), 8- (8), 12- (12), 18- (18)

Voltage:
120- (120), 208- (208), 240- (240), 277- (277), 480- (480)

KK Connection / Termination Kits

Part Number	Description
KCABUC	Universal Connection / Termination Kit
KCABKC	Lead / End Seal Kit
KCABSK	Splice Kit
KCABLP	Lead Pouch
KCABEP	End Pouch

Accessories

Part Number	Description
AAT260 AAT2180	Aluminum Adhesive Tape: 2” x 180’ (51mm x 55m). Temp Limit: 350°F (176°C) 2” x 180’ (51mm x 55m). Temp Limit: 550°F (288°C)
BCLCAB	Electrical heat trace warning label. Required by code for every 10ft (3m) of pipe.
BPSCAB2-6	Stainless steel pipe straps used to secure pipe standoff to pipe. Adjustable from 2” to 6” (51 x 152mm)
HCP1 HCP3	Heat Conductive Putty. Used to fill voids between cable and pipe surface: 1 lb. (0.5kg) 3 lb. (1.4kg)
PSAT36A	Pressure Sensitive Fiberglass Adhesive Tape. Size: 0.5” x 108’ (13mm x 38m). Temp Limit: 350°F (176°C)
RTV3.0	Silicone sealant used to seal lead pouches, end pouches, and pipe standoffs. 3 oz. (89ml)
JBACAB001 JBACAB002	Metalic Junction Box with cover and gasket: Single hub Double hub

See page 8-15 through 8-16 for complete details on power connection / termination kits, monitor light kits, and accessories.

IMPORTANT: Temperature controller is required for this product. See page 10-1 for options.

BriskHeat® FE Connection / Termination Kits

Image of FECABUC

FECABUC:
Universal Connection/Termination Kit.
- 1-1" NPT Pipe standoff
- 2-Ring terminals
- 3-Wire nuts
- 2-Crimp barrels
- 3-Lead pouches
- 2-End pouches
- 1-Caution label
- 6-Shrink tubes
- 1- Panhead screw
- 1-3 oz. tube RTV sealant
- 2- Pipe straps

Enough to complete:
Two end terminations and one power input connection, or one power input splice.
NOTE: Requires a double hub junction box.

FECABKC:
Lead/ End Termination Kit
- 5-Lead pouches
- 5-End pouches
- 10-Shrink tubes

Enough to complete:
Five lead and end terminations.

FECABSK:
Splice Kit.
- 3-Lead pouches
- 3-Shrink tubes
- 3-Crimp barrels
- 3-Ring terminals
- 1-3 oz. Tube RTV sealant
- 1-Caution label
- 1-End pouch

Enough to complete:
One in line splice or one tee splice.
NOTE: Requires Pipe standoff, pipe straps, single hub junction box, and RTV silicone.

FECABLP:
Lead Termination Kit.
- 1-Lead pouch
- 1-Shrink tube

Enough to complete:
One lead termination.

FECABEP:
End Termination Kit.
- 1-End pouch
- 1-Shrink tube

Enough to complete:
One end termination.

BriskHeat® KE, KM, KK Connection / Termination Kits

Image of KCABUC

KCABUC:
Universal Connection/Termination Kit.
- 1-1" NPT pipe standoff
- 2-Ring terminals
- 3-Wire nuts
- 3-Lead pouches
- 2-End pouches
- 1-3 oz. Tube RTV sealant
- 1-Caution label

Enough to complete:
Two end terminations and one power input connection, or one power input splice.
NOTE: Requires double hub junction box and pipe straps.

KCABKC:
Lead/ End Termination Kit
- 5-Lead pouches
- 5-End pouches
- 1-3 oz. Tube RTV sealant

Enough to complete:
Five lead and end terminations.

KCABSK:
Splice Kit.
- 3-Lead Pouches
- 1-End pouch
- 3-Crimp barrels
- 3-Ring terminals
- 1-3 oz. Tube RTV sealant
- 1-Caution label

Enough to complete:
One in line splice or one tee splice.
NOTE: Requires pipe standoff, pipe straps, and single hub junction box.

KCABLP:
Lead Termination Kit.
- 1-Lead pouch

Enough to complete:
One lead termination.
NOTE: Requires RTV silicone.

KCABEP:
End Termination Kit.
- 1-End pouch

Enough to complete: One lead termination.
NOTE: Requires RTV silicone.

Toll Free: 800-848-7673 Phone: 614-294-3376 **www.BriskHeat.com** Email: bhtsales1@briskheat.com Fax: 614-294-3807

BriskHeat® Heating Cable Accessories

Adhesive Tape

Helps to isolate the cable from the insulation and provides intimate contact with surface to be heated.

Part Number	Description
PSAT36	Pressure Sensitive Fiberglass Adhesive Tape: Size: 0.5” x 108’ (13mm x 38m) Temp Limit: 350°F (176°C)
AAT260	Aluminum Adhesive Tape: Size: 2” x 180’ (51mm x 55m) Temp Limit: 350°F (176°C)
AAT2180	Aluminum Adhesive Tape: Size: 2” x 180’ (51mm x 55m) Temp Limit: 550°F (288°C)

Caution Label

Required by code for every 10ft (3m) of pipe.

Part Number	Description
BCLCAB	Electrical heat trace warning label

Heat Conductive Putty

Used to fill voids between cable and pipe surface.

Part Number	Description
HCP1	Size: 1 lb. (0.5kg)
HCP3	Size: 3 lb. (1.4kg)

Junction Box (FE, KE, KM, and KK Cable)

Metalic junction box with 1” (25mm) thread and cover with gasket (suitable for use in wet locations with gasket when cover is closed).

Part Number	Description
JBACAB001	Single hub
JBACAB002	Double hub

Monitor Light Kit

Provides an end of circuit continuity indication for all types of heating cable. For use in ordinary locations.

Part Number	Description
MLK1001	Single hub; 120VAC
MLK2001	Single hub; 240VAC
MLK1002	Double hub; 120VAC
MLK2002	Double hub; 240VAC
MLBCAB001	120VAC replacement bulb
40180	240VAC replacement bulb

Pipe Standoff

Cast aluminum fitting.

Part Number	Description
PSOCAB010	1.00” thread

Pipe Straps

Stainless steel pipe straps used to secure pipe standoff to pipe.

Part Number	Description
BPSCAB2-6	Adjustable from 2” to 6” (51 x 152mm)

RTV Sealant

Silicone sealant used to seal lead pouches, end pouches, and pipe standoffs.

Part Number	Description
RTV3.0	3 oz. (89ml)

Junction Box (SL and SLM Cable)

Non-Metalic Junction box, 5” X 5” X 2”, NEMA 4X. Recommended for SLUC-1 and SLRPC-1 Kits.

Part Number	Description
SLJB-2	Double hub

Monitor Light Kit

Provides a LED end of circuit continuity indication for all types of heating cable. Suitable for use in hazardous area and ordinary locations.

Part Number	Description
MLK120	Single hub; 120VAC
MLK208	Single hub; 208VAC
MLK240	Single hub; 240VAC
MLK277	Single hub; 277VAC

FM APPROVED

Ordinary Locations
Hazardous (Classified) Locations
Class I, Division 2, Groups A, B, C, D
Class I, Zone 2, Group IIC
Class II, Division 1, 2, Groups E, F, G
Class III, Division 1, 2

BriskHeat® Pipe Tracing Application Guide

Any object that is hotter than its surroundings will lose that heat at a specific rate. This is known as **heat loss**. The purpose of heat trace cable is to replace heat faster than it is lost. The information below will assist in determining the amount of heat required for a specific application.

To determine the amount of power to maintain a specific pipe temperature the information below must first be determined.

Heat Loss Factors:

- Diameter of pipe
- Length of pipe
- Temperature to be maintained
- Minimum possible ambient temperature
- Insulation type
- Insulation thickness

NOTE: This is for temperature maintenance only. If it is necessary to raise the temperature of a pipe please consult your local distributor or BriskHeat.

Example:

- Diameter of pipe: ***2"***
- Length of pipe: ***100'***
- Temperature to be maintained: ***150°F***
- Minimum possible ambient temperature: ***20°F***
- Insulation type: ***Cellular glass***
- Insulation thickness: ***1"***

After the information has been determined follow the steps below to determine the watts per foot needed for your application. The example provided above will assist in following each step.

1. Determine the pipe temperature difference. This is known as the delta T (ΔT).

   _____ - _____ = _____
   (Temperature to be maintained) - (Minimum ambient temperature) = ΔT.
   Example: 50°F – (-20°F) = 70°F
2. Refer to Chart 1, Heat Loss Chart for Pipes, and determine the required watts per linear foot. This is done by finding the intersection of the ΔT and the pipe diameter at the given insulation thickness.

   Example: 2" pipe, 1" insulation, 70°F ΔT = 4.6 watts per foot.

   NOTE: Because the ΔT of 70°F is not on the chart the next highest of 75°F must be used.
3. Using Chart 2, Insulation Factor, determine the insulation adjustment factor.

   Example: 50°F maintenance temperature, Cellular glass insulation = 1.53
4. Determine the adjusted heat loss.

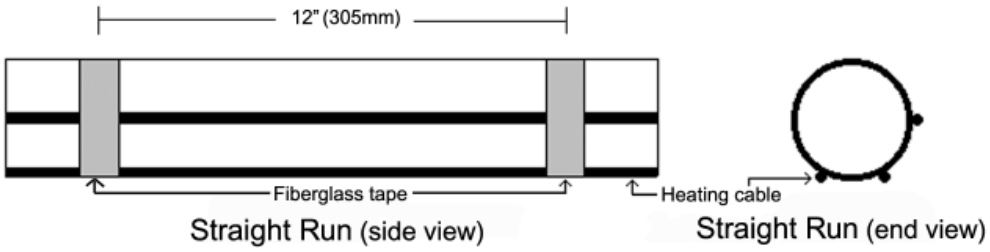
   _____ X _____ = _____
   (Watts per foot) X (Insulation adjustment factor) = Adjusted heat loss.
   Example: 4.6 x 1.53 = 7.04
5. Select cable.

   a) Select a cable with a watt per foot rating higher then the required wattage. If this option is chosen skip steps 6 and 7.

   Example: 7.04 watts required, 8 watt or higher cable can be used.

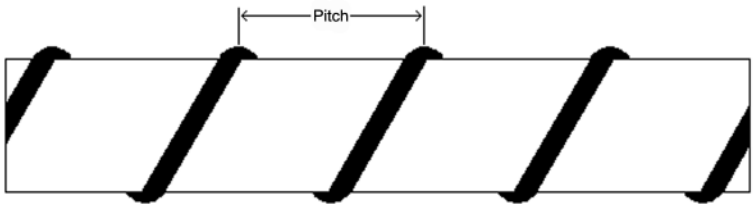
   NOTE: For best results on pipes larger then 4", multiple straight runs or spiral wrapping should be used instead of a single straight run.

   b) Multiple straight runs of cable. If this option is chosen skip steps 6 and 7.
   Example: 7.04 watts required, 2 straight runs of 4 watts cable can be used



c) Spiral wrap lower wattage cable around the pipe.

Example: 4 watt cable can be wrapped with a 5" pitch (see step 6 & 7)



Spiral wrap

6. If spiral wrapping is chosen; determine the required amount of cable per foot of pipe.

_____ / _____ = _____
(Adjusted heat loss) / (Cable watts per foot) = Required cable per foot of pipe.
Example: 7.04 / 4 = 1.76

7. Using Chart 4, Wrap Factor (page 6-17), determine the required pitch (space between wraps).

Example: 2" pipe, 1.76 feet of cable per foot of pipe = 5" pitch

NOTE: Because the cable ratio of 1.76 is not on the chart the next highest of 1.93 must be used.

8. Determine the total amount of cable required for the pipe.

_____ X _____ = _____
(Length of pipe) X (Required cable per foot of pipe) = Cable required for pipe.
Example: 50' x 1.93 = 96.5 feet of cable

9. Determine the heat loss for valves or pipe supports

a) Refer to Chart 3 and determine the valve multiplication factor.

_____ X _____ = _____
(Adjusted heat loss) X (Valve multiplication) = Heat loss for valves
Example: For 1 gate valve on 2" pipe, 1.76 x 1.92 = 3.38

10. Determine the additional cable required.

_____ / _____ = _____
(Adjusted heat loss for valves) / (Cable watts per foot) = Cable required for valves.
Example: 3.38 / 4 = 0.845 additional feet of cable required.

11. Determine the total amount of cable required for the pipe and valves.

_____ + _____ = _____
(Cable required for pipe) + (Cable required for valves) = Cable for pipes and valves
Example: 96.5 + 0.845 = 97.345

12. Round the total amount of cable required up to the nearest number divisible by the cable module length.

Example: 97.345 must be increased to 98 to be evenly divided by 2, 98 / 2 = 49 module lengths

13. Add a minimum of 1 extra module length for terminations, or two feet for Self-Regulating cable.
Example: 98 feet + 2 foot module length = 100 feet of cable required for proper installation.

BriskHeat® Pipe Tracing Application Charts

Chart 1: Heat Loss Chart for Pipes (watts per linear foot)

How to read this chart

1. Find the insulation thickness in the right column.
2. Find the specific pipe size at the top.
3. Find the ΔT in the left column.
4. Find where these three values intersect in the body of the table, this is the required watts per foot.

ΔT	NPS Pipe Size																			INSUL. THICK.
	.25	.5	.75	1.0	1.5	2.0	2.5	3	4	6	8	10	12	14	16	18	20	24	30	
25	0.6	0.7	0.8	1.0	1.2	1.5	1.7	2.0	2.4	3.3	4.2	5.2	6.0	6.6	7.5	8.4	9.2	11.0	13.6	
50	1.2	1.5	1.7	2.0	2.5	3.0	3.4	4.0	4.9	6.9	8.7	10.6	12.4	13.5	15.3	17.1	18.9	22.5	28.0	
75	1.8	2.3	2.6	3.0	3.9	4.6	5.3	6.2	7.6	10.6	13.3	16.3	19.1	20.8	23.6	26.3	29.1	34.7	43.0	
100	2.5	3.2	3.6	4.2	5.3	6.3	7.2	8.4	10.4	14.4	18.2	22.2	26.0	28.4	32.2	36.0	39.8	47.3	58.7	
125	3.2	4.0	4.6	5.3	6.8	8.0	9.3	10.8	13.3	18.5	23.3	28.5	33.3	36.4	41.2	46.0	50.9	60.6	75.1	
150	3.9	5.0	5.7	6.5	8.4	9.8	11.4	13.3	16.3	22.7	28.6	35.0	40.9	44.6	50.6	56.5	62.5	74.4	92.2	
175	4.7	5.9	6.8	7.8	10.0	11.7	13.6	15.8	19.4	27.0	34.2	41.7	48.8	53.3	60.4	67.5	74.6	88.7	110.0	
200	5.5	6.9	7.9	9.1	11.7	13.7	15.9	18.5	22.7	31.6	39.9	48.7	57.0	62.2	70.5	78.8	87.1	103.7	128.5	1 IN.
225	6.3	8.0	9.1	10.5	13.4	15.8	18.2	21.2	26.1	36.3	45.9	56.0	65.5	71.5	81.0	90.6	100.1	119.1	147.7	
250	7.1	9.0	10.3	11.9	15.2	17.9	20.7	24.1	29.6	41.2	52.0	63.5	74.3	81.1	91.9	102.7	113.5	135.2	167.6	
275	8.0	10.1	11.6	13.3	17.1	20.1	23.2	27.1	33.2	46.2	58.4	71.3	83.5	91.1	103.2	115.3	127.5	151.7	188.1	
300	8.9	11.3	12.9	14.9	19.0	22.4	25.8	30.1	37.0	51.5	65.0	79.4	92.9	101.3	114.8	128.4	141.9	168.9	209.4	
325	9.8	12.5	14.2	16.4	21.0	24.7	28.6	33.3	40.8	56.8	71.8	87.7	102.6	111.9	126.9	141.8	156.7	186.5	231.3	
350	10.8	13.7	15.6	18.0	23.1	27.1	31.3	36.5	44.8	62.4	78.8	96.2	112.6	122.9	139.3	155.7	172.0	204.8	253.9	
375	11.8	15.0	17.1	19.7	25.2	29.6	34.2	39.9	48.9	68.1	86.1	105.1	123.0	134.2	152.0	169.9	187.8	223.5	277.1	
400	12.8	16.3	18.5	21.4	27.4	32.2	37.2	43.3	53.2	74.0	93.5	114.2	133.6	145.8	165.2	184.6	204.0	242.9	301.1	
25	0.5	0.6	0.7	0.8	0.9	1.1	1.3	1.4	1.7	2.4	3.0	3.6	4.2	4.6	5.2	5.8	6.4	7.5	9.3	
50	1.0	1.2	1.4	1.6	1.9	2.2	2.6	3.0	3.6	4.9	6.1	7.4	8.6	9.4	10.6	11.8	13.0	15.5	19.1	
75	1.5	1.9	2.1	2.4	3.0	3.5	3.9	4.5	5.5	7.5	9.4	11.4	13.3	14.4	16.3	18.2	20.0	23.8	29.4	
100	2.1	2.5	2.9	3.3	4.1	4.7	5.4	6.2	7.5	10.3	12.8	15.5	18.1	19.7	22.2	24.8	27.3	32.4	40.1	
125	2.6	3.3	3.7	4.2	5.2	6.0	6.9	7.9	9.6	13.1	16.4	19.9	23.2	25.2	28.5	31.7	35.0	41.5	51.3	
150	3.2	4.0	4.5	5.1	6.4	7.4	8.5	9.7	11.8	16.1	20.1	24.4	28.4	30.9	34.9	38.9	42.9	50.9	62.9	
175	3.9	4.8	5.4	6.1	7.6	8.8	10.1	11.6	14.1	19.2	24.0	29.1	33.9	36.9	41.6	46.4	51.2	60.7	75.0	
200	4.5	5.6	6.3	7.1	8.9	10.3	11.8	13.6	16.4	22.4	28.0	34.0	39.6	43.0	48.6	54.2	59.7	70.9	87.6	
225	5.2	6.4	7.2	8.2	10.2	11.8	13.5	15.6	18.9	25.8	32.2	39.0	45.4	49.4	55.8	62.2	68.6	81.4	100.6	1.5 IN.
250	5.9	7.2	8.1	9.3	11.6	13.4	15.3	17.7	21.4	29.2	36.5	44.3	51.5	56.1	63.3	70.6	77.8	92.3	114.1	
275	6.6	8.1	9.1	10.4	13.0	15.1	17.2	19.8	24.0	32.8	41.0	49.7	57.8	62.9	71.1	79.2	87.3	103.6	128.0	
300	7.3	9.0	10.5	11.6	14.5	16.8	19.2	22.1	26.7	36.5	45.6	55.3	54.3	70.0	79.1	88.1	97.2	115.3	142.4	
325	8.1	10.0	11.2	12.8	16.0	18.5	21.2	24.4	29.5	40.3	50.4	51.0	71.0	77.3	87.3	97.3	107.3	127.3	157.2	
350	8.9	11.0	12.3	14.0	17.5	20.3	23.2	26.7	32.4	44.2	55.3	67.0	78.0	84.8	95.8	106.8	117.7	139.7	172.6	
375	9.7	12.0	13.5	15.3	19.1	22.2	25.3	29.2	35.3	48.3	60.3	73.1	85.1	92.6	104.6	116.5	128.5	152.4	188.3	
400	10.5	13.0	14.6	16.6	20.8	24.1	27.5	31.7	38.4	52.4	65.5	79.4	92.4	100.5	113.6	126.6	139.6	165.6	204.5	
25	0.4	0.5	0.6	0.6	0.8	0.9	1.0	1.2	1.4	1.9	2.4	2.8	3.3	3.6	4.0	4.5	4.9	5.8	7.1	
50	0.9	1.1	1.2	1.3	1.6	1.9	2.1	2.4	2.9	3.9	4.8	5.8	6.7	7.3	8.2	9.1	10.1	11.9	14.6	
75	1.3	1.6	1.8	2.0	2.5	2.9	3.3	3.7	4.4	6.0	7.4	8.9	10.3	11.2	12.6	14.0	15.5	18.3	22.5	
100	1.8	2.2	2.5	2.8	3.4	2.9	4.4	5.1	6.1	8.2	10.1	12.2	14.1	15.3	17.2	19.2	21.1	24.9	30.7	
125	2.3	2.8	3.2	3.6	4.4	5.0	5.7	6.5	7.8	10.4	12.9	15.6	18.0	19.6	22.1	24.5	27.0	31.9	39.3	
150	2.9	3.5	3.9	4.4	5.4	6.2	7.0	8.0	9.5	12.8	15.9	19.1	22.1	24.0	27.1	30.1	33.1	39.2	48.2	
175	3.4	4.1	4.6	5.2	6.4	7.3	8.3	9.5	11.4	15.3	18.9	22.8	26.4	28.7	32.3	35.9	39.5	46.7	57.5	
200	4.0	4.8	5.4	6.1	7.5	8.6	9.7	11.1	13.3	17.9	22.1	26.6	30.8	33.5	37.7	41.9	46.1	54.5	67.1	
225	4.6	5.6	6.2	7.0	8.6	9.9	11.2	12.7	15.2	20.5	25.4	30.6	35.4	38.5	43.3	48.1	53.0	62.6	77.1	2 IN.
250	5.2	6.3	7.0	7.9	9.7	11.2	12.6	14.4	17.3	23.3	28.8	34.7	40.2	43.6	49.1	54.6	60.1	71.1	87.5	
275	5.8	7.1	7.9	8.9	10.9	12.5	14.2	16.2	19.4	26.1	32.3	38.9	45.1	49.0	55.1	61.3	67.4	79.7	98.2	
300	6.5	7.9	8.8	9.9	12.2	14.0	15.8	18.0	21.6	29.1	36.0	43.3	50.2	54.5	61.3	68.2	75.0	88.7	109.2	
325	7.2	8.7	9.7	10.9	13.4	15.4	17.5	19.9	23.9	32.1	39.8	47.8	55.4	60.2	67.7	75.3	82.9	98.0	120.7	
350	7.9	9.6	10.7	12.0	14.7	16.9	19.2	21.9	26.2	35.2	43.6	52.5	60.8	66.0	74.4	82.7	91.0	107.6	132.4	
375	8.6	10.4	11.6	13.1	16.1	18.5	20.9	23.9	28.6	38.5	47.6	57.3	66.4	72.1	81.2	90.2	99.3	117.4	144.5	
400	9.3	11.3	12.6	14.2	17.5	20.1	22.7	25.9	31.0	41.8	51.7	62.2	72.1	78.3	88.2	98.0	107.8	127.5	157.0	
25	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.6	2.0	2.4	2.7	2.9	3.3	3.7	4.0	4.7	5.8	
50	0.8	1.0	1.1	1.2	1.4	1.6	1.8	2.1	2.5	3.3	4.0	4.8	5.6	6.0	6.8	7.5	8.2	9.7	11.9	
75	1.2	1.5	1.6	1.8	2.2	2.5	2.8	3.2	3.8	5.0	6.2	7.4	8.5	9.2	10.4	11.5	12.6	14.9	18.3	
100	1.7	2.0	2.2	2.5	3.0	3.4	3.8	4.4	5.2	6.9	8.4	10.1	11.6	12.6	14.2	15.7	17.3	20.3	25.0	
125	2.1	2.6	2.8	3.2	3.8	4.4	4.9	5.6	6.6	8.8	10.8	12.9	14.9	16.1	18.1	20.1	22.1	26.0	31.9	
150	2.6	3.1	3.5	3.9	4.7	5.4	6.0	6.8	8.1	10.8	13.2	15.8	18.3	19.8	22.2	24.6	27.1	31.9	39.2	
175	3.1	3.7	4.1	4.6	5.6	6.4	7.2	8.1	9.7	12.8	15.8	18.9	21.8	23.6	26.5	29.4	32.3	38.0	46.7	
200	3.6	4.4	4.8	5.4	6.6	7.5	8.4	9.5	11.3	15.0	18.4	22.0	25.4	27.5	30.9	34.3	37.7	44.4	54.5	
225	4.2	5.0	5.6	6.2	7.5	8.6	9.6	10.9	13.0	17.2	21.1	25.3	29.2	21.6	35.5	39.4	43.2	51.0	62.6	2.5 IN.
250	4.7	5.7	6.3	7.0	8.5	9.7	10.9	12.4	14.7	19.5	24.0	28.7	33.1	35.8	40.2	44.6	49.0	57.8	70.9	
275	5.3	6.4	7.1	7.9	9.6	10.9	12.3	13.9	16.5	21.9	26.9	32.2	37.1	40.2	45.2	50.1	55.0	64.9	79.6	
300	5.9	7.1	7.9	8.8	10.7	12.1	13.6	15.5	18.3	24.4	29.9	35.8	41.3	44.7	50.2	55.7	61.2	72.1	88.5	
325	6.5	7.8	8.7	9.7	11.8	13.4	15.1	17.1	20.2	26.9	33.0	39.5	45.6	49.4	55.5	61.5	67.6	79.6	97.7	
350	7.2	8.6	9.5	10.6	12.9	14.7	16.5	18.7	22.2	29.5	36.3	43.4	50.0	54.2	60.9	67.5	74.1	87.4	107.2	
375	7.8	9.4	10.4	11.6	14.1	16.0	18.0	20.4	24.2	32.2	39.6	47.3	45.6	59.1	66.4	73.6	80.9	95.4	117.0	
400	8.5	10.2	11.3	12.6	15.3	17.4	19.6	22.2	26.3	35.0	43.0	51.4	59.3	64.2	72.1	80.0	87.8	103.5	127.1	
25	0.4	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.1	1.4	1.7	2.0	2.3	2.5	2.8	3.1	3.4	4.0	4.9	
50	0.7	0.9	1.0	1.1	1.3	1.5	1.6	1.9	2.2	2.9	3.5	4.2	4.8	5.2	5.8	6.4	7.0	8.3	10.1	
75	1.1	1.4	1.5	1.7	2.0	2.3	2.5	2.8	3.3	4.4	5.4	6.4	7.3	7.9	8.9	9.8	10.8	12.7	15.5	
100	1.6	1.9	2.0	2.3	2.7	3.1	3.4	3.9	4.6	6.0	7.3	8.7	10.0	10.8	12.1	13.4	14.7	17.3	21.2	
125	2.0	2.4	2.6	2.9	3.5	3.9	4.4	5.0	5.8	7.7	9.4	11.1	12.8	13.8	15.5	17.2	18.8	22.1	27.1	
150	2.4	2.9	3.2	3.6	4.3	4.8	5.4	6.1	7.2	9.4	11.5	13.7	15.7	17.0	19.0	21.1	23.1	27.1	33.2	
175	2.9	3.5	3.8	4.2	5.1	5.8	6.4	7.3	8.5	11.2	13.7	16.3	18.7	20.2	22.7	25.1	27.5	32.3	39.6	
200	3.4	4.0	4.5	4.9	5.9	6.7	7.5	8.5	10.0	13.1	16.0	19.0	21.9	23.6	26.5	29.3	32.1	37.8	46.2	
225	3.9	4.6	5.1	5.7	6.8	7.7	8.6	9.7	11.5	15.0	18.4	21.8	25.1	27.1	30.4	33.6	36.9	43.4	53.1	3 IN.
250	4.4	5.3	5.8	6.4	7.7	8.8	9.8	11.0	13.0	17.1	20.8	24.8	28.5	30.8	34.5	38.1	41.8	49.2	60.2	
275	5.0	5.9	6.5	7.2	8.7	9.8	11.0	12.4	14.6	19.1	23.4	27.8	31.9	34.5	38.7	42.8	46.9	55.2	67.5	
300	5.5	6.6	7.2	8.0	9.7	10.9	12.2	13.8	16.2	21.3	26.0	30.9	35.5	38.4	43.0	47.6	52.2	61.4	75.1	
325	6.1	7.3	8.0	8.9	10.7	12.1	13.5	15.2	17.9	23.5	28.7	34.1	39.2	42.4	47.5	52.6	57.6	67.7	82.9	
350	6.7	8.0	8.8	9.7	11.7	13.2	14.8	16.7	19.6	25.8	31.5	37.5	43.1	46.5	52.1	57.7	63.2	74.3	91.0	
375	7.3	8.7	9.6	10.6	12.8	14.5	16.2	18.2	21.4	28.2	34.4	40.9	47.0	50.8	56.9	62.9	69.0	81.1	99.3	
400	7.9	9.4	10.4	11.6	13.9	15.7	17.5	19.8	23.3	30.6	37.3	44.4	51.0	55.2	61.8	68.4	74.9	88.1	107.8	

10% safety factor has been added for contingencies.

Chart 2: Insulation Factor

How to read this chart

1. Find the specific insulation type at the right.
2. Find the specific temperature to be maintained or the next highest at the top.
3. Find where the insulation and the temperature intersect in the body of the table, this is the insulation factor.

Insulation Material	Temperature to be Maintained (°F) 50	100	150	200	250	300	400	500	600
Fiberglass	1	1	1	1	1	1	1	1	1
Cellular glass	1.53	1.50	1.48	1.44	1.42	1.40	1.36	1.34	1.32
Calcium silicate	1.47	1.47	1.45	1.44	1.41	1.39	1.34	1.32	1.30
Polyurethane	0.60	0.60	0.58	0.57	Temperature exceeds recommended limit.				

NOTE: All insulation factors were determined based on leading insulation manufacturers specifications.

Chart 3: Heat Loss Multiplication Factors for Valves

How to read this chart

1. Find the specific valve type at the right.
2. Find the specific pipe size at the top.
3. Find where the valve type and the pipe size intersect in the body of the table, this is the heat loss multiplication factor.

NPS Pipe Size	0.5	0.75	1	1.25	1.5	2	2.5	3	3.5	4	6	8	10	12	14	16	18	20	24
Gate Valve	0.52	0.78	1.00	1.33	1.70	1.92	2.00	2.40	2.62	2.92	3.84	4.66	5.51	6.25	7.07	7.91	8.84	9.57	11.09
Globe Valve	0.49	0.74	0.95	1.26	1.62	1.82	1.90	2.28	2.49	2.77	3.65	4.43	5.23	5.94	6.72	7.51	8.40	9.09	10.54
Ball Valve	0.36	0.55	0.70	0.93	1.19	1.34	1.40	1.68	1.83	2.04	2.69	3.26	3.86	4.38	4.95	5.54	6.19	6.70	7.76
Butterfly Valve	0.31	0.47	0.60	0.80	1.02	1.15	1.20	1.44	1.57	1.75	2.30	2.80	3.31	3.75	4.24	4.75	5.30	5.74	6.65
Pipe Supports	0.26	0.39	0.50	0.67	0.85	0.96	1.00	1.20	1.31	1.46	1.92	2.33	2.76	3.13	3.54	3.96	4.42	4.79	5.55

Chart 4: Wrap Factor (Feet of Cable per Foot of Pipe)

How to read this chart

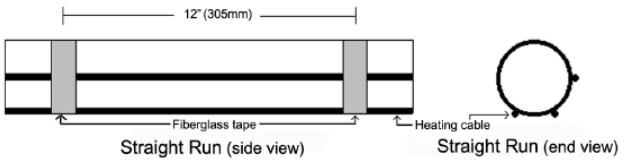
1. Find the specific pipe size at the top.
2. Follow that column down to the specific wattage required or the next highest.
3. Follow that row to the left most column, this is the required pitch.

Pitch inches	NPS Pipe Size 0.5	0.75	1	1.5	2	2.5	3	4	6	8	10	12	14	16	18	20	24	30
2	1.98	2.27	2.66	3.52	4.25	5.01	5.97	7.52	10.85	13.98	17.30	20.43	22.39	25.53	28.67	31.81	38.09	47.50
3	1.52	1.69	1.92	2.46	2.93	3.43	4.05	5.07	7.27	9.35	11.56	13.64	14.95	17.04	19.13	21.22	25.40	31.68
4	1.32	1.43	1.59	1.96	2.29	2.65	3.11	3.86	5.49	7.04	8.69	10.25	11.23	12.80	14.36	15.93	19.06	23.77
5	1.21	1.29	1.40	1.68	1.93	2.21	2.56	3.15	4.43	5.67	6.98	8.23	9.00	10.25	11.50	12.76	15.26	19.02
6	1.15	1.21	1.29	1.51	1.70	1.92	2.20	2.68	3.74	4.75	5.84	6.88	7.52	8.56	9.60	10.64	12.73	15.86
7	1.11	1.16	1.22	1.39	1.55	1.72	1.96	2.35	3.24	4.11	5.03	5.92	6.47	7.36	8.25	9.14	10.92	13.61
8	1.09	1.12	1.17	1.31	1.44	1.58	1.78	2.12	2.88	3.63	4.43	5.20	5.68	6.46	7.23	8.01	9.57	11.92
9	1.07	1.10	1.14	1.25	1.36	1.48	1.65	1.94	2.60	3.26	3.97	4.64	5.07	5.76	6.45	7.14	8.52	10.60
10	1.06	1.08	1.11	1.21	1.30	1.40	1.54	1.80	2.38	2.96	3.60	4.20	4.58	5.20	5.82	6.44	7.68	9.55
11	1.05	1.07	1.10	1.17	1.25	1.34	1.46	1.68	2.20	2.72	3.30	3.84	4.19	4.75	5.30	5.87	6.99	8.69
12	SR	1.06	1.08	1.15	1.21	1.29	1.40	1.60	2.06	2.53	3.05	3.55	3.86	4.37	4.88	5.39	6.42	7.98
14	SR	SR	1.06	1.11	1.16	1.22	1.31	1.46	1.84	2.23	2.66	3.08	3.35	3.78	4.21	4.65	5.53	6.86
16	SR	SR	1.05	1.09	1.13	1.17	1.24	1.37	1.68	2.01	2.38	2.74	2.97	3.34	3.72	4.10	4.86	6.02
18	SR	SR	SR	1.07	1.10	1.14	1.19	1.30	1.56	1.84	2.16	2.48	2.68	3.01	3.34	3.67	4.35	5.37
24	SR	SR	SR	SR	1.06	1.08	1.11	1.18	1.35	1.53	1.75	1.97	2.12	2.35	2.59	2.83	3.33	4.08
30	SR	SR	SR	SR	SR	1.05	1.07	1.12	1.23	1.37	1.52	1.69	1.80	1.97	2.16	2.34	2.73	3.32
36	SR	SR	SR	SR	SR	SR	1.05	1.08	1.17	1.26	1.39	1.51	1.60	1.73	1.88	2.03	2.34	2.82
42	SR	SR	SR	SR	SR	SR	SR	1.06	1.12	1.20	1.29	1.39	1.46	1.57	1.69	1.81	2.07	2.47
48	SR	SR	SR	SR	SR	SR	SR	1.05	1.10	1.16	1.23	1.31	1.37	1.46	1.56	1.66	1.88	2.22
60	SR	SR	SR	SR	SR	SR	SR	SR	1.05	1.10	1.15	1.21	1.25	1.31	1.38	1.46	1.62	1.87
72	SR	SR	SR	SR	SR	SR	SR	SR	SR	1.07	1.11	1.15	1.18	1.23	1.28	1.33	1.46	1.66

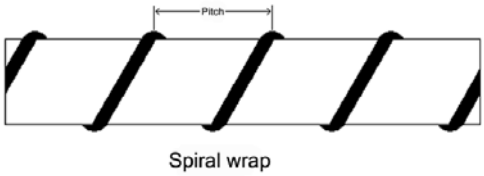
SR = Straight Run

BriskHeat® Pipe Tracing Application: Heating Cable Installation Details

Heating Cable Wrapping Techniques

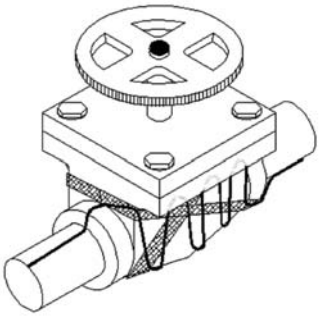


Straight Run

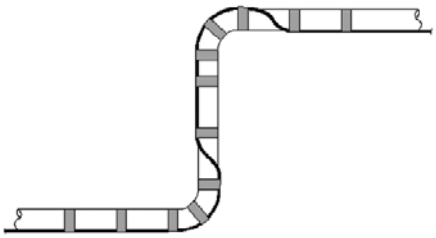


Spiral Wrapped

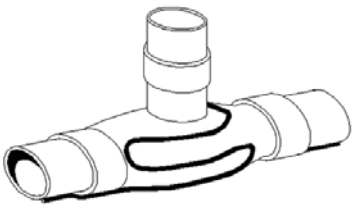
Heating Cable Placement on Different Types of Objects



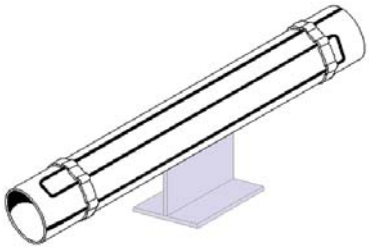
Valve



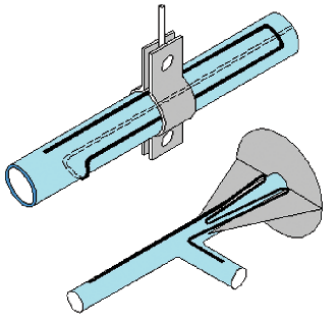
Elbow



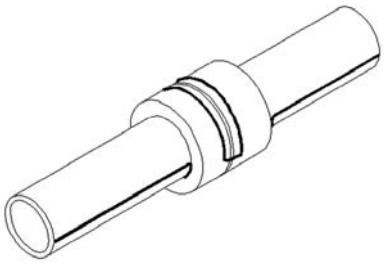
Blind Tee



Pipe Support

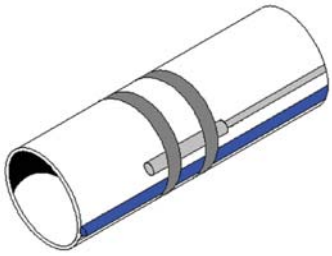


Support

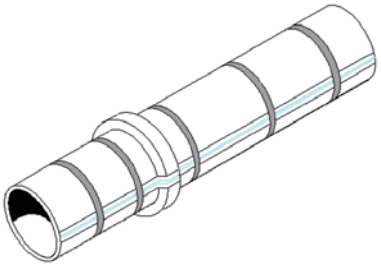


Flange Body

Accessory Placement



Temperature Sensor



Adhesive Tape

NOTES:

Your *Heating* Specialist since 1949
Toll Free: 800-848-7673 Phone: 614-294-3376 **www.BriskHeat.com** Email: bhtsales1@briskheat.com Fax: 614-294-3807

BriskHeat® Resistance Wire

Product Highlights

Temperatures up to

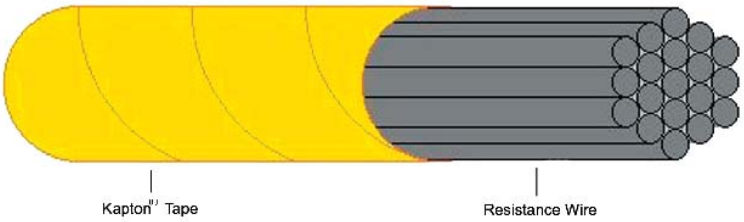
1100°F (593°C)

- ✔ **Same Wire We Use to Manufacture our High Quality Heating Element**
- ✔ **Multi-Stranded Construction Provides Greater Flexibility Than Solid Strand Wires**
- ✔ **Flexible up to a 1/16” (1.6mm) Radius**
- ✔ **Three Types of Resistance Wires to Solve Multiple OEM Heating Applications**

RWK Kapton® Insulated Resistance Wire:

Specifications:

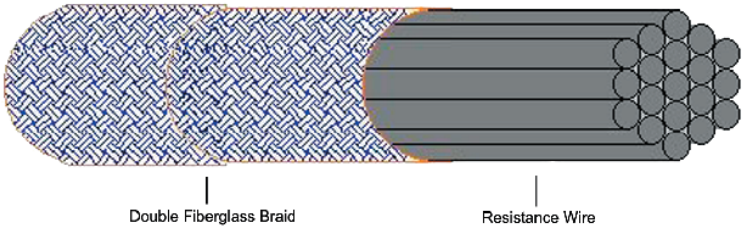
- 482°F (250°C) Continuous Exposure Temperature
- Insulation type:1 mil Kapton® polyamide film with 50% overlap
- Insulation thickness: 2 mil
- Dielectric Strength 4200VDC @ 300°F (149°C)
- Suitable for use on conductive surfaces
- 500ft (152m) or 1000ft (305m) spools
-



RWF Fiberglass Insulated Resistance Wire:

Specifications:

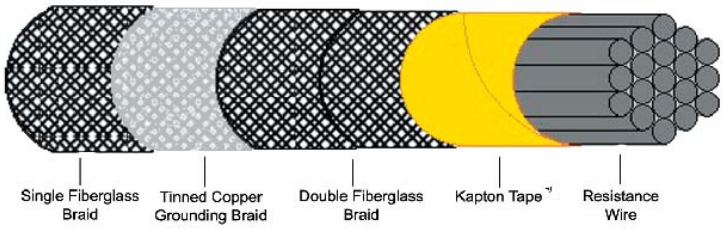
- 1100°F (593°C) continuous exposure temperature
- Insulation type: Two layers of 8 mil diameter strands of fiberglass yarn
- Dielectric strength 300VDC @ 300°F (149°C)
- Not suitable for conductive surfaces
- Optional TEFLON® coating provides anti-fraying and abrasion resistance
- 500ft (152m) or 1000ft (305m) spools



RWG Grounded Resistance Wire:

Specifications:

- 482°F (250°C) continuous exposure temperature
- Patented grounded braid through entire length of heating element
- Insulation type:1 mil Kapton® polyamide film with 50% overlap
- Insulation thickness: 2 mil
- Two layers of 8 mil diameter fiberglass braided over Kapton®
- Dielectric strength 4200VDC @ 300°F (149°C)
- Suitable for use on conductive surfaces
- Optional TEFLON® coating provides anti-fraying and abrasion resistance
- 500ft (152m) or 1000ft (305m) spools
-



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BriskHeat® Resistance Wire Ordering Information

Ordering Information

When specifying resistance wire, it is important to consider all aspects of the application and of the wire. For example, if the application is on a conductive surface, wire type RWF should not be chosen. Also, if the application requires constant temperatures of 350°F (176°C), then alloy J should not be chosen. Call your local distributor or BriskHeat® direct for application assistance.

Part Number Guide

RWG 18 C - 4.899 T A

Resistance Wire Type:
RWK- (Kapton® Insulated), RWF- (Fiberglass Insulated), RWG- (Grounded)

Number of Strands:
(see below tables)

Alloy Type:
(see below tables)

Resistance per Foot:
(see below tables)

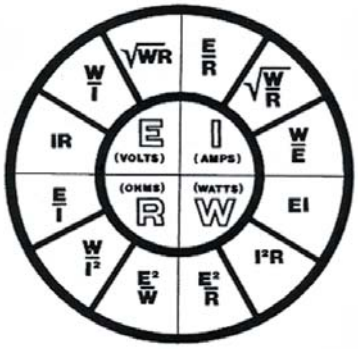
Optional Coating:
T- (TEFLON®) [RWF and RWG only], Blank- (None)

Spool Size:
A- (500ft), B- (1000ft)

Alloy Specifications

Alloy Type	Gauge/ Strand	Max Exposure Temperature	Ohms/FT/ Strand	Composition
A	43	1650°F (899°C)	175.00	71.75% FE, 22% CR, 5.75% AL, 0.5% CO
B	41	1650°F (899°C)	115.31	71.75% FE, 22% CR, 5.75% AL, 0.5% CO
C	40	1650°F (899°C)	88.18	71.75% FE, 22% CR, 5.75% AL, 0.5% CO
D	40	1650°F (899°C)	70.24	60% N, 15% CR, 25% FE
E	39	1650°F (899°C)	55.10	60% N, 15% CR, 25% FE
F	37	1650°F (899°C)	33.33	60% N, 15% CR, 25% FE
G	37	450°F (232°C)	14.52	55% CO, 45% N
H	37	1000°F (538°C)	8.88	78% CO, 22% N
I	37	797°F (425°C)	4.44	88% CO, 12% N
J	36	300°F (149°C)	0.48	90% CO (core), 10% N (cladding)

Ohm's Law



Resistance Per Foot

Number of Strands	Alloy Type									
	A	B	C	D	E	F	G	H	I	J
5	35.000	23.062	17.636	14.048	11.020	6.666	2.904	1.776	0.888	0.096
6	29.167	19.218	14.697	11.707	9.183	5.555	2.420	1.480	0.740	0.080
7	25.000	16.473	12.597	10.034	7.871	4.761	2.074	1.269	0.634	0.069
8	21.875	14.414	11.023	8.780	6.888	4.166	1.815	1.110	0.555	0.060
9	19.444	12.812	9.798	7.804	6.122	3.703	1.613	0.987	0.493	0.053
10	17.500	11.531	8.818	7.024	5.510	3.333	1.452	0.888	0.444	0.048
11	15.909	10.483	8.016	6.385	5.009	3.030	1.320	0.807	0.404	0.044
12	14.583	9.609	7.348	5.853	4.592	2.778	1.210	0.740	0.370	0.040
13	13.462	8.870	6.783	5.403	4.238	2.564	1.117	0.683	0.342	0.037
14	12.500	8.236	6.299	5.017	3.936	2.381	1.037	0.634	0.317	0.034
15	11.667	7.687	5.879	4.683	3.673	2.222	0.968	0.592	0.296	0.032
16	10.938	7.207	5.511	4.390	3.444	2.083	0.908	0.555	0.278	0.030
17	10.294	6.783	5.187	4.132	3.241	1.961	0.854	0.522	0.261	0.028
18	9.722	6.406	4.899	3.902	3.061	1.852	0.807	0.493	0.247	0.027
19	9.211	6.069	4.641	3.697	2.900	1.754	0.764	0.467	0.234	0.025
20	8.750	5.766	4.409	3.512	2.755	1.667	0.726	0.444	0.222	0.024
21	8.333	5.491	4.199	3.345	2.624	1.587	0.691	0.423	0.211	0.023
22	7.955	5.241	4.008	3.193	2.505	1.515	0.660	0.404	0.202	0.022
23	7.609	5.013	3.834	3.054	2.396	1.449	0.631	0.386	0.193	0.021
24	7.292	4.805	3.674	2.927	2.296	1.389	0.605	0.370	0.185	0.020
25	7.000	4.612	3.527	2.810	2.204	1.333	0.581	0.355	0.178	0.019
26	6.731	4.435	3.392	2.702	2.119	1.282	0.558	0.342	0.171	0.018
27	6.481	4.271	3.266	2.601	2.041	1.234	0.538	0.329	0.164	0.018
28	6.250	4.118	3.149	2.509	1.968	1.190	0.519	0.317	0.159	0.017
29	6.034	3.976	3.041	2.422	1.900	1.149	0.501	0.306	0.153	0.017
30	5.833	3.844	2.939	2.341	1.837	1.111	0.484	0.296	0.148	0.016

NOTE: Resistance tolerance is +/- 8%

Resistance wire should not be used to produce greater than 15 watts per inch (25 mm).

BriskHeat® Temperature Controllers

All applications that require heat must be controlled. To meet this requirement, BriskHeat® provides control options ranging from bimetal thermostats to a network of digital PID temperature controllers for a heating system.

Product Highlights

✔ Wide Range of Temperature Controllers

- ► Centipede®: up to a 40-zone network of compact digital temperature controllers
- ► Digital outdoor-use
- ► Thermocouple sensing
- ► Bimetal thermostat
- ► Bulb and capillary sensing
- ► Much more!

✔ Wide Range of Options

- ► Automatic tuning of PID parameters
- ► Ramp/Soak
- ► RS-232 / RS-485 communications
- ► Much more!

✔ Complete Units Available "Off-the-Shelf" ready for Immediate Use or "Configured-to-Order" to meet Specific Controlling Needs

Centipede® Temperature Control System

TB4000
Bulb and Capillary

Outdoor-Use digital On/Off Temperature Controller

TD100
Automatic On/Off Thermostat

MPC
Multi-Point PID Thermocouple

BriskHeat® Temperature Controllers Selection Guide

BriskHeat® Controller Type	Available Voltages	Available Amps	NEMA	Approvals	Display Type	Sensor Type	Temperature Range °F (°C)
Centipede® Temperature Control System	85 to 264	4.5 amps per zone; maximum 40 zones		c UL us, CE, c UL us LISTED Process Control Equipment 29DP	Multi Line Digital	RTD Platinum 100 ohm, DIN 385 curve, Class B	32 to 662 (0 to 350)
TTD Outdoor-Use Digital On/Off Temperature Controller	120, 240	15			Programmable Digital	K Type Thermocouple (mini and standard)	0 to 175 (-17 to 79) 0 to 500 (-17 to 260) 0 to 999 (-17 to 538)
TC4X Digital Temperature Controller with NEMA 4X Enclosure	120, 240	15, 10	4X	UL	One Line Digital	A99BB Type PTC	-30 to 212 (-34 to 100)
BriskONE Digital PID Thermocouple	120, 240	15, 10			Two Line Digital	J Type Thermocouple	32 to 1400 (0 to 760)
MPC Multi-Point PID Thermocouple	120, 208, 240, 277, or 480	15 amps per zone; maximum 10 zones		CE, c UL us LISTED	Two Line Digital	J Type Thermocouple	32 to 1400 (0 to 760)
TD101 Automatic On/Off Thermostat Control	Up to 277	25		FM APPROVED Class I Division 2 (with conduit fitting)	N/A	Surface	Preset On / Off 35 (2) / 50 (10) 45 (7) / 60 (16) 60 (16) / 75 (24) 90 (32) / 105 (41) 185 (85) / 200 (93)
TB250N All-Purpose Bulb and Capillary	Up to 277	22	3R	UL	Set Point Dial	Tinned Copper Thermal Bulb	0 to 150 (-17 to 66) 100 to 250 (38 to 121) 200 to 350 (93 to177)
TB4000/5000 Bulb and Capillary Temp. Controller	120, 240, 277, 480	22, 50, 100	4X		Set Point Dial	304 SS Thermal Bulb	0 to 150 (-17 to 66) 50 to 300 (10 to 149) 150 to 650 (66 to 343)
TB110N Hazardous-Area Bulb and Capillary	Up to 480	22	7 & 9	UL Hazardous	Set Point Dial	304 SS Thermal Bulb	15 to 140 (-9 to 60) 25 to 325 (-4 to 163) 300 to 650 (148 to 343)
TB261N Ambient Sensing Capillary	Up to 277	22	4X	UL	Set Point Dial	Ambient Sensing Thermal Bulb	20 to 110 (-7 to 43)
TS0 Portable Bulb and Capillary	120, 240	15			Set Point Dial	Copper Thermal Bulb	60 to 250 (16 to 121) 150 to 550 (66 to 288)
TP0 Portable Time Percentage Dial	120, 240	15			Set Point Dial	N/A	0 to 100% of cycle time

BriskHeat® Centipede® Temperature Control System

Product Highlights

Centipede® by BriskHeat®

- **Provides a Temperature Controller for EACH Heater in a System**
- **Network up to 40 Zones with CAT5 Communication Cable**
- **Easy Monitoring at One Central Location**
- **Most Uniform Temperature Control**
- **Platinum RTD**
- **Capable of Communicating with an External Computer**

BriskHeat® Centipede® Temperature Control System: Module

Product Highlights

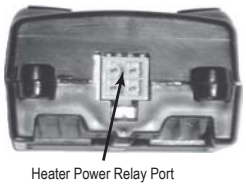
- Compact 2” (51mm) PID-autotuned temperature controller
- Network up to 40 modules together with CAT5 communication cable
- Platinum RTD sensor
- Monitor and program modules with operator interface or use stand-alone with module power supply
- Available factory pre-set upon request
- c UL us , CE

Specifications:

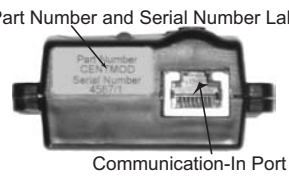
- PID-autotuned control. Receives set-point through communication link and stored in nonvolatile memory (retains settings if power is interupted)
- Automatically assigned zone addresses
- Temperature sensor: RTD Platinum 100 ohm, DIN 385 curve, class B
- Sensor accuracy: ±0.55°F (0.30°C)
- Temperature control range: 32 to 662°F (0 to 350°C)
- Dimensions: 2” x 2” x 1” (51mm x 51mm x 25mm)
- Weight: 0.13lb (59g)
- Dual color LED: red and green. Red indicates fault
- Input power: 12 to 24 volts DC, 0.04A max supplied through CAT5 communication cable
- Output relay: solid state, 277VAC max, 50-60hz, 4.5A max
- Module communication: Modbus through CAT5 communication cable
- Maximum CAT5 communication cable length: 500ft (152m)
- Environmental temperature: 32 to 122°F (0 to 50°C) at 3.5A, [100°F (38°C) maximum at 4.5A]
- Storage temperature: 0 to 185°F (-18 to 85°C)
- Ambient humidity: 5 to 95% (non condensing)

BriskHeat® Centipede® Temperature Control System: Module

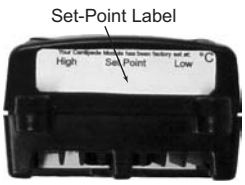
Front View



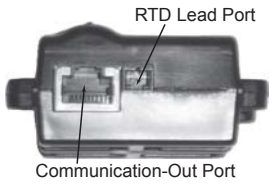
Bottom View



Left Side View



Top View



Right Side View

Ordering Information:

Part Number	Description
CENTMOD-F	Centipede® Module Unit

BriskHeat® Centipede® Temperature Control System: Operator Interface

Product Highlights

- ✔ Monitors and edits a network of up to 40 modules / zones
- ✔ Global or individual programming
- ✔ Capable of communicating with an external computer
- ✔ With or without display

CENTOPI-2


CENTOEMOI

Specifications:

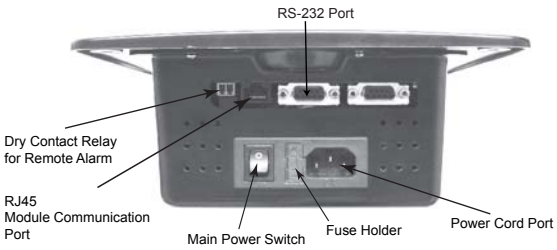
- Monitors and edits up to 40 modules/zones: displays actual temperature, RTD status, set-point, high-limit alarm setting, and low-limit alarm setting
- Ability to change settings individually or globally across system
- Temperature setting range: 32-662°F (0-350°C)
- All temperatures displayed in °C
- Dry contact master alarm relay: Up to 277VAC, Up to 30VDC, 5A (normally open)
- Power consumption: 18 watts maximum with no modules; 50 watts maximum with 40 modules
- Output power: 12 volts DC at 3A through CAT5 communication cable
- Communication with modules: Modbus through CAT5 communication cable
- Communication with external computer: RS-232
- Maximum CAT5 communication cable length: 500ft (152m)
- Environment temperature range: 32 to 100°F (0 to 38°C)
- Storage temperature range:0 to 185°F (-18 to 85°C)
- Ambient humidity: 5-95% (non condensing)

BriskHeat® Centipede® Temperature Control System: Operator Interface

Operator Interface with Display (CENTOPI-2)

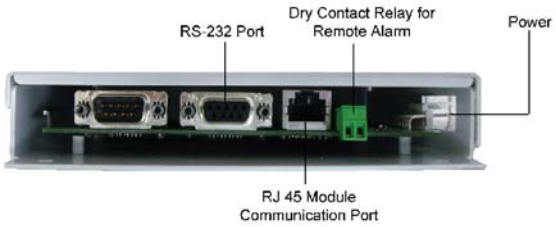
Front View

- Plug-and-play operator interface
- Universal input power: 100 to 240VAC, 47 to 440Hz; fuse-protected for safety
- Screen size: 4” x 3” (102mm x 76mm)
- 320 x 240 pixel LCD with keypad input
- Dual color LEDs: red and green. Red indicates fault
- Dimensions: 7” x 7” x 4” (178mm x 178mm x 102mm)
- Weight: 2.13lb (0.97kg)
- c UL us LISTED, CE Process Control Equipment 29DP



Bottom View

Operator Interface without Display (CENTOEMOI)



- No display: communicates with external computer via RS-232 port
- Input power: 12 to 24DC; requires Molex 6-pin power connector shell Part #09-50-8063 and pins Part # 08-52-0072 (not included)
- Dimensions: 7.50” x 6.54” x 1.16” (191mm x 166mm x 29mm)
- Weight: 1lb (0.45kg)
- Four 0.19” (5mm) diameter holes for mounting

Ordering Information:

Part Number	Description
CENTOPI-2	Centipede® Operator Interface: Includes a 25ft (7.6m) communication cable and power cable
CENTOEMOI	Centipede® Operator Interface without display

Accessories:

CAT5 Communication Cable

Part Number	Length
CENTCOM-001	1ft (0.3m)
CENTCOM-002	2ft (0.6m)
CENTCOM-003	3ft (0.9m)
CENTCOM-004	4ft (1.2m)
CENTCOM-005	5ft (1.5m)
CENTCOM-010	10ft (3.0m)
CENTCOM-014	14ft (4.3m)
CENTCOM-025	25ft (7.6m)

RTD Sensor

Part Number	Length
CENTRTD-001	1ft (0.3m)
CENTRTD-002	2ft (0.6m)
CENTRTD-003	3ft (0.9m)
CENTRTD-004	4ft (1.2m)

CENTPWR
(Centipede® Module sold separately)

Data Logging PC Software

Part Number	Description
SWCENTDLV100	Centipede® Data Logger Version 1.0

Communicating with an External Computer Instruction Manual

Part Number	Description
41082-01	Communicating with an External Computer Instructions

Module Power Supply

Part Number	Description
CENTPWR	12-24VDC Power Supply for Modules with NEMA 5-15 plug. Required when Operator Interface is not used with Module(s).

BriskHeat® TTD Outdoor-Use Digital On/Off Thermocouple Temperature Controller

Product Highlights

- ✔ Easy-to-use digital controller with audible alarm
- ✔ Self contained, plug and play design
- ✔ Designed for outdoor and indoor general purpose applications
- ✔ Type K thermocouple input

Specifications:

- 120 or 240VAC
- 15 amps
- Digital on/off controller
- Units in °F
- Audible alarm
- Type K thermocouple mini and standard connector input*
- Average accuracy of ±1% FS
- Resolution: 1°
- Hystersis: 5°
- Suitable for outdoor use (must be mounted vertically)
- Operating exposure temperatures: 14 to 131°F (-10 to 55°C)
- Storage exposure temperatures: -4 to 176°F (-20 to 80°C)
- Input power cord 6 feet (1.8m) long with standard plug
  - -120VAC: NEMA 5-15
  - -240VAC: NEMA 6-15
- Output receptacle:
  - IP 67 four-pin (NEMA 6P equivilent) [plug assembly included]
- Mounting feet included

** Thermocouple sold separately*

Front View Side View

Bottom View

Ordering Information:

Part Number	Volts	Range
TTD175-K120	120	0 to 175°F
TTD175-K240	240	0 to 175°F
TTD500-K120	120	0 to 500°F
TTD500-K240	240	0 to 500°F
TTD999-K120	120	0 to 999°F
TTD999-K240	240	0 to 999°F

Type K Thermocouple with mini connector

Outdoor use: TEFLON® sleeving. Temperatures up to 500°F (260°C)

Part Number	Length (ft)
TCKN05-DA	5
TCKN10-DA	10

Indoor use: Fiberglass sleeving. Temperatures up to 800°F (426°C)

Part Number	Length (ft)
TAKN05-DA	5
TAKN10-DA	10

Accessories:

Part Number	Description
11646	Replacement IP 67 four-pin (NEMA 6P equivilent) output male plug assembly
TTDBRACKET	Mounting bracket kit for TTH HotPoly tote tank heaters

BriskHeat® TC4X Digital Temperature Controller in NEMA4X Enclosure

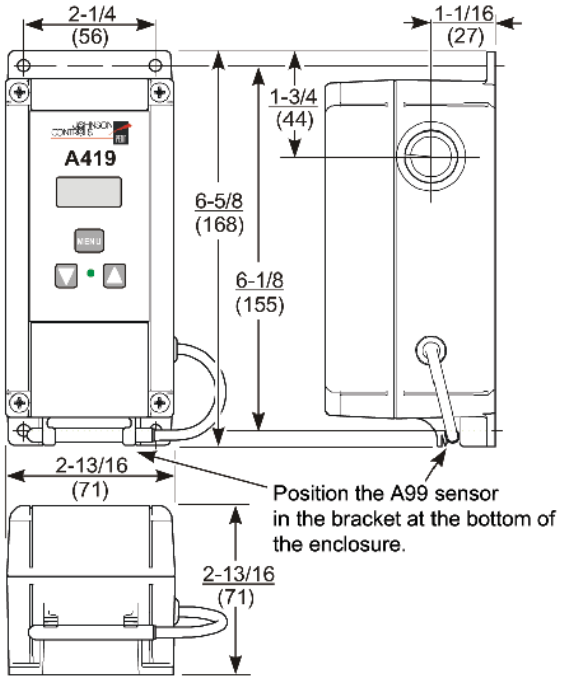
Product Highlights

- Simple digital controller suitable for outdoors
- Temperature control on heat tracing, freeze protection, and process maintenance applications
- Temperature range: -30 to 212ºF (-34 to 100ºC)
- A99BB type sensor
- UL

Specifications:

- Single-stage, electronic temperature control with a single-pole, double throw (SPDT) output relay
- NEMA 4X* watertight, corrosion-resistant enclosure
- 120/240VAC, 60Hz
- 15 amps at 120VAC, 10 amps at 240VAC
- Set-point range is -30 to 212ºF (-34 to 100ºC)
- Accuracy ±3% of reading
- Wide temperature differential adjustment range: 1 to 30ºF or ºC
- Adjustable anti-short cycle delay: 0 to 12 minutes in 1-minute increments
- Switch-activated temperature offset function
- Easy-to-read liquid crystal display (LCD) for viewing temperature and status
- LED indicates the controller's output relay On/Off status
- Lockable front panel touchpad
- A99BB type PTC sensor, extendable length
- Remote sensing capability
- Interchangeable sensors

* requires NEMA4X rated fitting for electrical wiring (not included)



Ordering Information:

Part Number	Volts	Range	Sensor Lead Length
TC4X-1	120/240VAC	-30 to 212ºF (-34 to 100ºC)	9" (229mm)
TC4X-2	120/240VAC	-30 to 212ºF (-34 to 100ºC)	78" (1981mm)

Accessories:

Part Number	Description
40031-05	3/8" (19mm) diameter watertight conduit fitting suitable for NEMA 4 and 6 enclosures. Fits cable 0.114" to 0.395" (3 to 10mm) diameter.

BriskHeat® BriskONE Single-Zone Digital PID Thermocouple Temperature Controller

Product Highlights

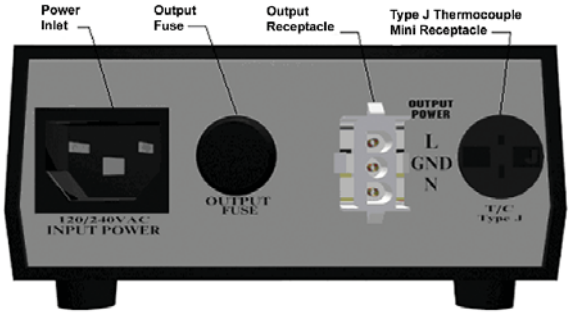
- ✔ Portable, plug and play design
- ✔ Simple four-key user control
- ✔ Operating temperature range: 32 to 1400°F (0 to 760°C)
- ✔ Type J thermocouple sensor input
- ✔ For indoor general purpose applications

Specifications:

- Unit size: 7.6”L x 5.0”W x 2.5”H (194mm x 127mm x 64mm)
- Operating range 32 to 1400°F (0 to 760°C)
- Type J thermocouple mini connector input*
- Accuracy: ±0.25% of reading ±1 least significant digit
- Dual display shows set-point and actual process temperature
- Automatic tuning of PID parameters
- Programmable to either °C or °F
- Operating voltage: 120 / 240VAC, +10% to 15%, 50 to 400hz
- Exposure temperature range: 14 to 122°F (-10 to 50°C)
- Fuzzy logic reduces overshoot on startup
- Heater break protection
- Sensor break protection with average output option to continue process heating
- Auto / manual control ability
- 16 segment ramp/soak
- User programmable alarm types
- Program security lock levels
- Fused output
- 6 feet (1.8m) power cord with standard plug
  - 120VAC = NEMA 5-15
  - 240VAC = NEMA 6-15
- Includes mating AMP Mate-N-Lock power connector
- Optional unistrut mounting bracket

** Thermocouple sold separately*

Front View



Rear View

Ordering Information:

Part Number	Voltage	Amps
BRISKONE1	120VAC	15
BRISKONE2	240VAC	10

Thermocouples:

Type J thermocouple 24 AWG fiberglass insulated wire with mini connector.

Part Number	Length ft (m)
TAJN05-AA	5 (1.5)
TAJN10-AA	10 (3.0)
TAJN25-AA	25 (7.6)

Accessories:

Part Number	Description
40909-01	Unistrut mounting bracket
PB1201-BR	Converts AMP Mate-N-Lock output receptacle to NEMA 5-15R (120VAC)
PB4201-ER	Converts AMP Mate-N-Lock output receptacle to NEMA 6-15R (240VAC)

BriskHeat® MPC Multi-Point Digital PID Temperature Controller

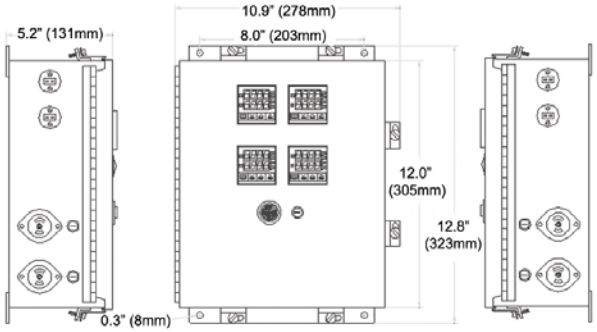
Product Highlights

- Several configuration choices
- 1 to 10 independent control zones
- Designed for indoor general purpose applications
- PID autotuned control
- c UL us LISTED , CE

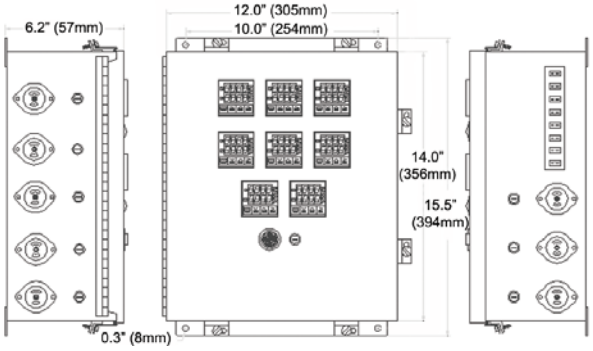
Specifications:

- Operating voltages of 120, 208, 240, or 480VAC
- Rated 15 amps per zone
- Individually fused outputs
- Operating range 32-1400°F (0-760°C)
- Maximum controller exposure temperature 14°F to 122°F (-10°C to 50°C)
- Simple three-key user control
- User programmable alarm types
- Visual indication of alarm conditions
- Program security lock levels
- Accuracy: ±0.5% of reading ±1 least significant digit
- Type J thermocouple mini connector input*
- Dual display shows set point and actual temperature for each zone
- Programmable to either °C or °F
- Automatic tuning of PID parameters
- Loop break and sensor break protection
- Auto / manual control ability
- Ramp / soak
- Output receptacle:
  - 120VAC: NEMA ML-2R
  - 240 & 208VAC: NEMA L6-15R
- Optional audible alarm, RS-485 port, and remote alarm (dry contact SPDT with 3-prong receptacle and mating connector)

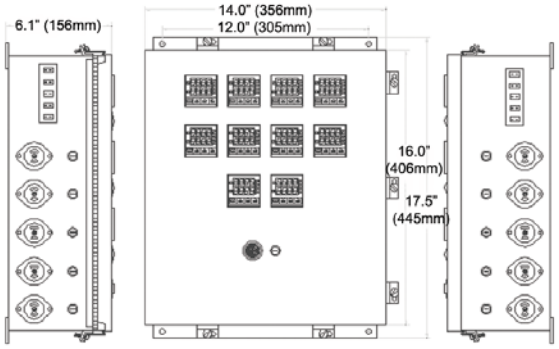
** Thermocouple sold separately*



1-4 zones



5-8 zones



9-10 zones

Ordering Information:

MPC 2 2 3 N R N

- Product series
- Input Voltage
  1- (120), 2- (240), 4- (480), 5- (208), 6- (240 3 phase), 8- (480 3 phase), 9- (208 3 phase)
- Output Voltage (single phase only)
  1- (120), 2- (240), 5- (208)
- Number of Zones
  1- (1), 2- (2), 3- (3), 4- (4), 5- (5), 6- (6), 7- (7), 8- (8), 9- (9), 10- (10)
- Alarm Options
  A- (Audible), C- (Remote), B- (Both), N- (None)
- Output Connector Type
  R- (Twist Lock Receptacle)
- RS-485 Communication
  N- (No RS-485), R- (with RS-485)

Thermocouple:

Part Number	Length (ft)
TAJN05-AA	5
TAJN10-AA	10
TAJN25-AA	25

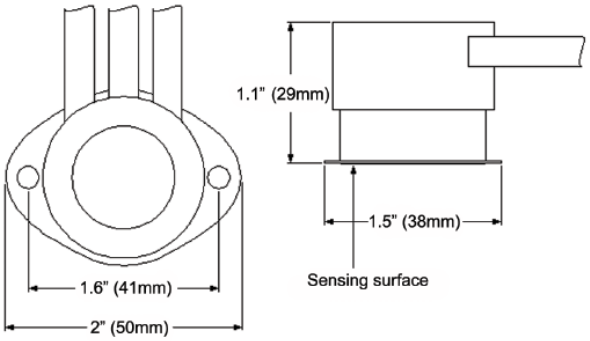
BriskHeat® TD101 Automatic On/Off Thermostat Control

Product Highlights

- Remote control thermostat for individual circuits requiring a weatherproof device
- Typical uses:
  - Temperature control on heat tracing and process fluid system applications
  - External alarm or an over temperature limit switch in conjunction with another control system
- Numerous temperature range choices to fit your application
- Mounts to surface
- Suitable for a Class I Division 2 hazardous-area with conduit fitting

FM APPROVED

Class I Division 2
(with conduit fitting)



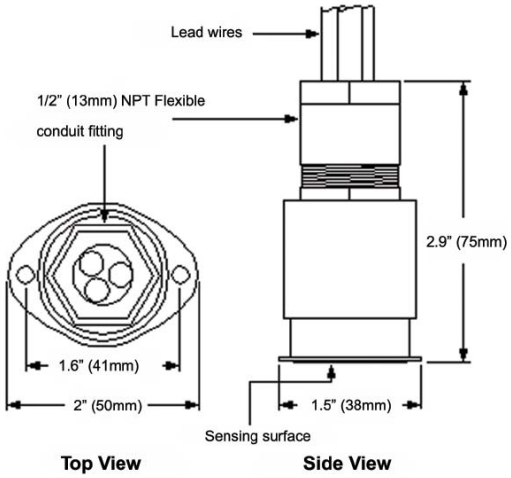
TD101N series

Specifications:

- Single pole double throw (SPDT)
- Temperature sensitive bimetal disc
- Average accuracy of ±15°F (8°C)
- Hermetically sealed housing
- Rated:
  - 25 Amps, up to 277VAC (UR)
  - 25 Amps, up to 240VAC (CSA)
- Maximum exposure temperature 221°F (105°C)
- Surface mount
- Power leads 4 feet (1.2m) long
- Integral 0.50” (13mm) NPT flexible conduit fitting (TD101X series)

Ordering Information:

Part Number		Volts	Amps	Settings	
TD101N	TD101X with conduit fitting			On °F (°C)	Off °F (°C)
TD101N-050	TD101X-050	Up to 277	25	35 (2)	50 (10)
TD101N-060	TD101X-060	Up to 277	25	45 (7)	60 (16)
TD101N-075	TD101X-075	Up to 277	25	60 (16)	75 (24)
TD101N-105	TD101X-105	Up to 277	25	90 (32)	105 (41)
TD101N-200	TD101X-200	Up to 277	25	185 (85)	200 (93)



TD101X series (with conduit fitting)

Your *Heating* Specialist since 1949
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BriskHeat® TB250N All-Purpose Bulb and Capillary Temperature Controller

Product Highlights

- Suitable for outdoor use
- Temperature control on heat tracing, freeze protection, and process maintenance applications
- Manually set your desired temperature
- Bulb and capillary
- Three temperature range choices to fit your application

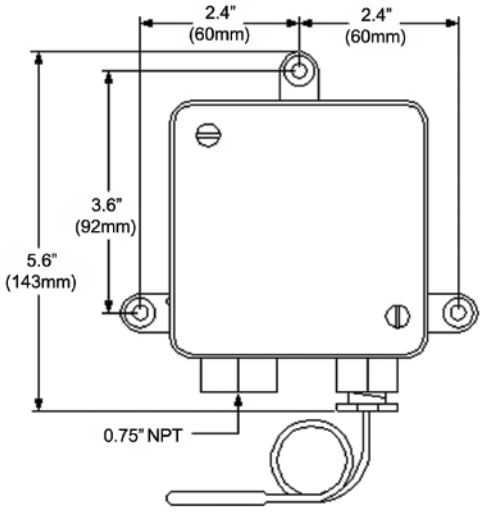
Set-point dial protected within a NEMA 3R enclosure

Specifications:

- Rated 22 amps up to 277VAC
- Differential 6°F (3°C)
- Average accuracy of ±5°F (3°C)
- Enclosure NEMA 3R rated, for outdoor use
- Maximum controller exposure temperatures: -40 to 160°F (-40 to 71°C)
- Tinned copper bulb and capillary, 10 feet (3m) long
- Single pole double throw (SPDT) contacts

Bulb Dimensions

Part Number	Diameter		Length	
	Inches	mm	Inches	mm
TB250N-150	19/64	7.5	2 1/2	63.5
TB250N-250	19/64	7.5	2 1/2	63.5
TB250N-350	3/8	9.5	2 1/4	57.2



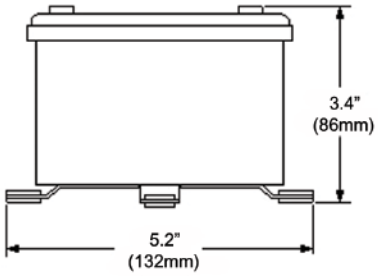
Front View

Ordering Information:

Part number	Volts	Amps	Range
TB250N-150	Up to 277	22	0 to 150°F (-17 to 66°C)
TB250N-250	Up to 277	22	100 to 250°F (38 to 121°C)
TB250N-350	Up to 277	22	200 to 350°F (93 to 177°C)

Accessories:

Part number	Description
TB250N-2BW	½" NPT x 2.8" copper bulb well, for 150 & 250
TB250N-1BW	½" NPT x 2.3" copper bulb well, for 350



Top View

BriskHeat® TB4000 / 5000 Bulb and Capillary Temperature Controller

Product Highlights

- ✔ Several configuration choices
- ✔ Suitable for outdoor use
- ✔ Manually set your desired temperature
- ✔ Bulb and capillary

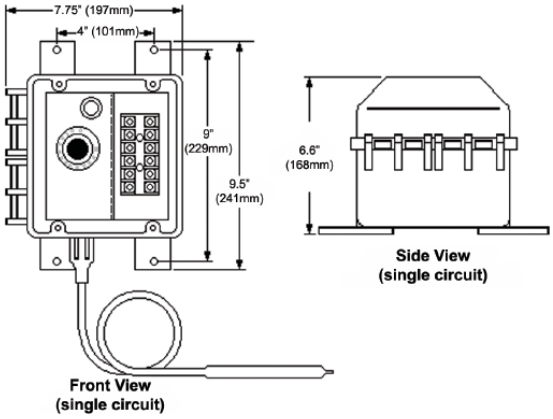
Control panel with Set-point dials protected within a NEMA 4X enclosure

Specifications:

- Four control configurations:
  - Single zone
  - Single zone with low or high limit alarm
  - Single zone with high-limit cutout
  - Dual zone
- Available amps:
  - 22 amps per zone with no contactors
  - 50 amps per zone with contactors
- 120, 240, 277, or 480VAC
- Differential 2% full scale
- Average accuracy of ±5°F (3°C)
- Enclosure NEMA 4X rated for outdoor use
- Maximum controller exposure temperatures: -40 to 160°F (-40 to 71°C)
- 304 stainless steel bulb and capillary, 10 feet (3m) long

Bulb Dimensions

Temperature Range	Diameter		Length	
	Inches	mm	Inches	mm
0 to 150°F	3/8	10	6 7/8	175
50 to 300°F	3/8	10	4 3/8	111
150 to 650°F	3/8	10	3 5/8	92



Single zone with no contactors
6” x 6” x 6” (152 x 152 x 152mm)

Ordering Information:

Part Number Matrix

TB 4 4 1 2 - 150

Product series
TB- (Bulb and Capillary)

Type of NEMA 4X Enclosure
4- (Plastic), 5- (Metal)

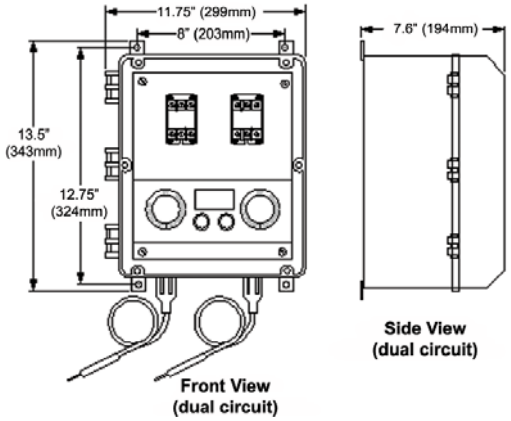
Control Options
1- (Single Zone)
2- (Single with Low or High Temperature Alarm)
3- (Single with High Limit Cutout)
4- (Dual Zone)

Contactor / Amp Capacity
0- (No contactor / 22 amps)
1- (One contactor / 50 amps)
2- (Two contactor / 50 amps each)

Voltage
1-(120), 2-(240), 3-(277), 4-(480)

Range
150- (0 to 150°F [-17 to 66°C])
300- (50 to 300°F [10 to 149°C])
650- (150 to 650°F [66 to 343°C])

** Only one temperature range per controller*



All other configurations
12” x 10” x 7” (305 x 254 x 178mm)

Accessories:

Part number	Description
TB4000-BW	3/4” NPT x 7” stainless bulb well

BriskHeat® TB110 Hazardous-Area Bulb and Capillary Temperature Controller

Product Highlights

- Suitable for hazardous-area environments

  Class I Division 1 & 2 Group B, C, D
  Class II Division 2 Group E, F, G
  Class III

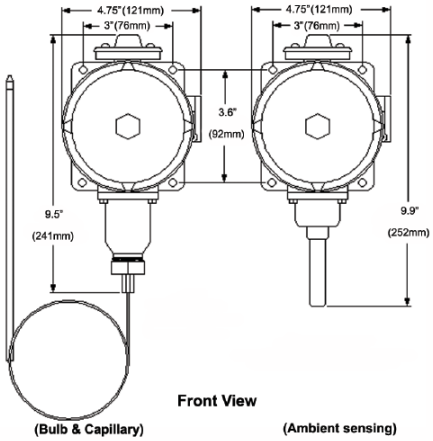
  Class I Division 1 & 2 Group B, C, D
  Class II Division 2 Group E, F, G
  Class III

- Temperature control on heat tracing, freeze protection, and process maintenance applications
- Bulb and capillary
- Numerous temperature range choices to fit your application

Set-point dial protected within a NEMA 7 & 9 enclosure

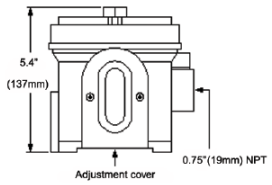
Specifications:

- Rated 22 amps up to 480VAC
- 304 Stainless Steel Bulb and Capillary, 10 feet (3m) long (remote sensing only)
- Single pole double throw (SPDT) contacts
- Enclosure rated NEMA 7 & 9, for hazardous areas
- Differential 6°F (3°C)
- Average accuracy of ±5°F (3°C)
- Maximum controller exposure temperatures -40 to 160°F (-40 to 71°C)
- Repeatability 1% of range



Bulb Dimensions

Part Number	Diameter		Length	
	inches	mm	inches	mm
TB110N-140	9/16	14.3	2 11/16	68.3
TB111N-325	1/4	6.4	10 1/4	200.4
TB113N-650	1/4	6.4	12 1/2	317.5
TB112N-325	1/4	6.4	10 1/4	200.4
TB114N-650	1/4	6.4	12 1/2	317.5



Top View

Ordering Information:

Single set-point control

Part number	Volts	Amps	Range
TB111N-325	Up to 480	22	25 to 325°F (-4 to163°C)
TB113N-650	Up to 480	22	300 to 650°F (148 to 343°C)

Ambient sensing

Part number	Volts	Amps	Range
TB110N-140	Up to 480	22	15 to 140°F (-9 to 60°C)

Dual set-point control

Part number	Volts	Amps	Range
TB112N-325	Up to 480	22	25 to 325°F (-4 to163°C)
TB114N-650	Up to 480	22	300 to 650°F (148 to 343°C)

The Dual controller has two independent set-point dials and two independent SPDT contacts allowing two different temperature set-points.

Accessories:

Part number	Description
TB110N-BW	½" NPT brass bulb well
TB110N-BWS	½" NPT stainless steel bulb well

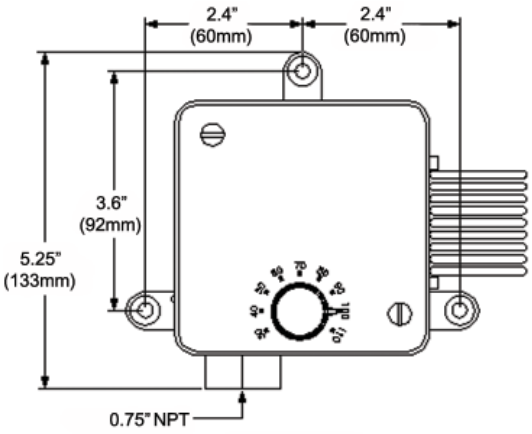
BriskHeat® TB261N Ambient Sensing Capillary Temperature Controller

Product Highlights

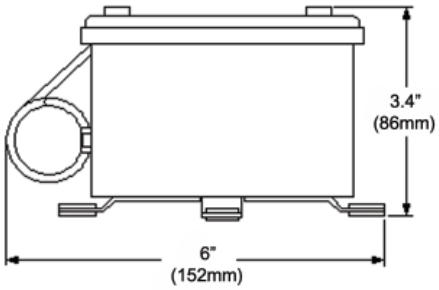
- Controls based on ambient conditions
- Suitable for outdoor use
- Manually set your desired temperature
- UL

Specifications:

- Rated 22 Amps up to 277VAC
- Differential 3ºF (1.6ºC)
- Single Pole Double Throw (SPDT) contacts
- Enclosure rated NEMA 4X, for outdoor use
- Maximum controller exposure temperatures: -40 to 160°F (-40 to 71°C)
- Ambient sensing capillary
- Corrosion resistant vinyl coated capillary sensor



Front View



Top View

Ordering Information:

Part number	Volts	Amps	Range
TB261N-110	Up to 277	22	20 to 110°F (-7 to 43°C)

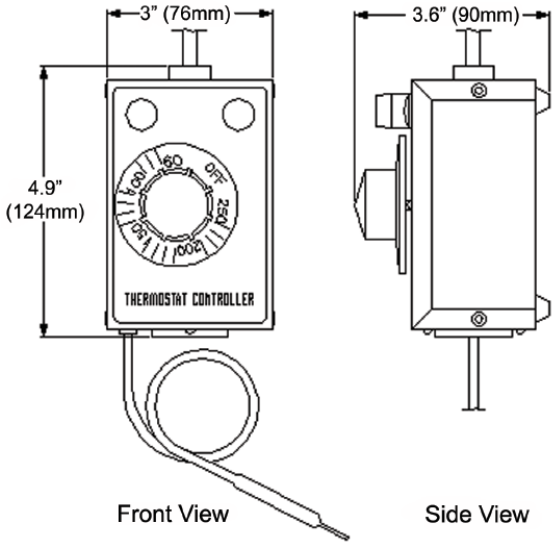
BriskHeat® TS0 Portable Bulb and Capillary Temperature Controller

Product Highlights

- Portable, plug-and-play design
- For indoor general purpose applications
- Manually set your desired temperature
- Bulb and capillary control
- Two temperature range choices to fit your application

Specifications:

- 120 or 240VAC
- Differential 6°F (3°C)
- Average accuracy of ±5°F (3°C)
- Maximum controller exposure temperatures: -40 to 160°F (-40 to 71°C)
- Copper bulb and capillary, 4 feet (1.2m) long
- Input power cord 6 feet (1.8m) long with standard plug
  - -120VAC: NEMA 5-15
  - -240VAC: NEMA 6-15
- Output receptacle:
  - -120VAC: NEMA 5-15R
  - -240VAC: NEMA 6-15R



Bulb Dimensions

Part Number	Diameter		Length	
	Inches	mm	Inches	mm
TS0991-250	3/8	10	4	102
TS0991-550	3/8	10	4	102
TS0992-250	3/8	10	4	102
TS0992-550	3/8	10	4	102

Ordering Information:

Part number	Volts	Amps	Range
TS0991-250	120	15	60 to 250°F (16 to 121°C)
TS0991-550	120	15	150 to 550°F (66 to 288°C)
TS0992-250	240	15	60 to 250°F (16 to 121°C)
TS0992-550	240	15	150 to 550°F (66 to 288°C)

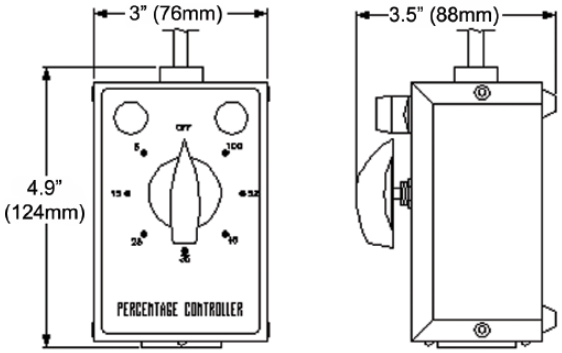
BriskHeat® TP0 Portable Time Percentage Dial Temperature Controller

Product Highlights

- ✔ Portable, plug and play design
- ✔ For indoor general purpose applications
- ✔ Manually set your desired temperature
- ✔ Time percentage control

What is Time Percentage Control?

Time percentage control varies the proportion (length) of time the heater is in the “on” or “off” heating mode. The heating application will determine the actual percentage set-point required. The controller does not use a temperature sensor and therefore satisfactory operation requires occasional supervision under changing load conditions.



Top View Side View

Specifications:

- 120 or 240VAC
- Maximum controller exposure temperatures: -40 to 160°F (-40 to 71°C)
- Input power cord 6 feet (1.8m) long with standard plug
  - -120VAC: NEMA 5-15
  - -240VAC: NEMA 6-15
- Output receptacle:
  - -120VAC: NEMA 5-15R
  - -240VAC: NEMA 6-15R

Ordering Information:

Part number	Volts	Amps	Range
TP0941-000	120	15	5-100%
TP0942-000	240	15	5-100%

BriskHeat® ACR™II Hot Bonder

BriskHeat® ACR II Hot Bonders control the heat and vacuum for on-the-spot composite and metal bond repairs. BriskHeat® offers cutting-edge technology like a USB data port for easy data transfer and easy-to-navigate software on a full-color touchscreen. Packaged in an easy-to-cary case that holds your ACR II hot bonder, composite heat curing blankets, vacuum hoses, and accessories.

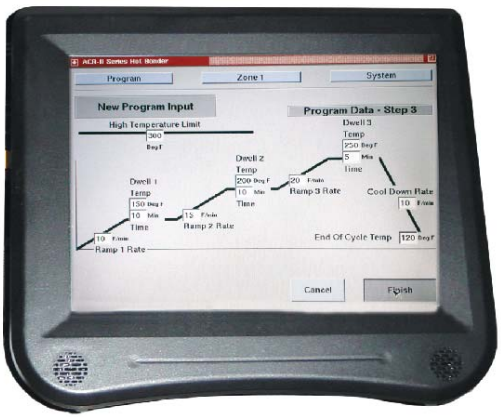
ACR II Hot Bonder

Controls Heat and Vacuum for On-the-Spot Composite and Metal Bond Repairs

► Aviation ► Marine ► Wind Turbines ►And More

- ✔ **Easy-to-Use Software On a Full Color Touchscreen**
- ✔ **Easy Data Transfer with USB Flash Disk (Thumb Drive)**
- ✔ **Single or Dual Zone Models**
- ✔ **Models Designed for Hazardous / Flight Line Environments**
- ✔ **All BriskHeat® Composite Heat Curing Blankets Have a 2 Year Warranty**

USB Flash Disk
(Thumb Drive) Included



Full Color Touchscreen

ACR II Hot Bonder

Composite Heat Curing Blankets

BriskHeat® ACR™II Hot Bonder

Simple Data Transfer with USB Port

- Transfer post cure data to your PC.
- Analyze your data on most spreadsheet and word processor programs including Microsoft® Excel® and Word®
- Eliminates the need for hot bonder tape printer. Print on standard 8½" x 11" paper from your computer
- Transfer your programs from one bonder to another
- Update your bonder with the latest software version for FREE at www.briskheat.com

Perform maintenance using ACR II Hot Bonder

Save post cure data on USB flash disk (Thumb drive)

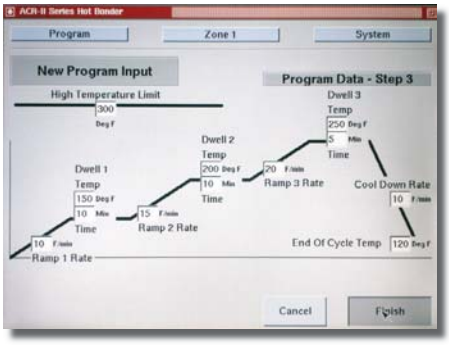
Transfer post cure Data via USB Port

Analyze, review, and edit post cure data on your Personal Computer

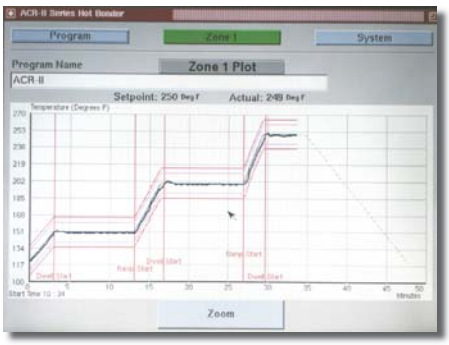
Easy-To-Use Software on a Full-Color Touchscreen

- Easy-to-follow menu choices
- Stores up to 30 programs on hot bonder
- Retains history of last 12 cures
- Advanced administrative functions including a system high temperature limit
- Allows you to perform several operations at once
- Multiple levels of password protection

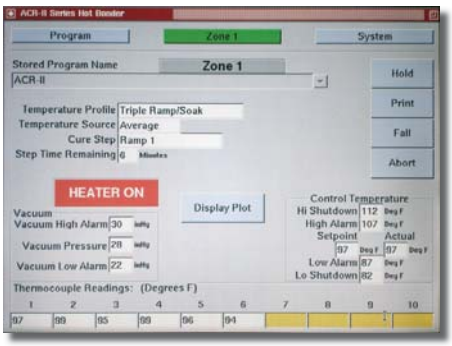
Cure recipes can be edited on hot bonder or on included BriskHeat® Recipe Data Editor for Windows® software



Customize inputs for temperature, vacuum, time, etc. and save up to 30 cure programs for easy repeatability.



View recorded data of curing cycles from your hot bonder display or transfer to your personal computer.



Monitor real-time status of curing cycle and make adjustments as necessary to your application.

Features That You Need

- ► Easy-to-cary case holds your ACR II Hot Bonder, heating blankets, vacuum hoses, and accessories
- ► 1400° F (760°C) maximum temperature control
- ► 10 thermocouple sensors per zone
- ► Accepts both standard and mini type J thermocouple connectors
- ► Built-in vacuum pump or vacuum venturi models
- ► Universal voltage: 100-130VAC, 200-240VAC
- ► Programmable to either standard or metric units
- ► Pre-programmed with English and German languages

BriskHeat® ACR™II Hot Bonder

Which Hot Bonder Is Right For You?

There are many different styles of hot bonders from which to choose. This guide makes choosing your new hot bonder easy.

1. What type of environment will your hot bonder be used in?

BriskHeat® offers both an ordinary locations hot bonder and a hot bonder that is designed to be in hazardous or flight line environments.

2. Do you require one or two zones?

Single zone: This type of hot bonder allows you to utilize 10 thermocouple sensor points and one area of vacuum.

Dual zone: This type of hot bonder allows you to control either...
- Two independent zones with 10 thermocouple sensor points each
- One zone with 20 thermocouple sensor points

Two areas of vacuum can be controlled independently with a dual zone hot bonder allowing you to perform two jobs at the same time.

3. Would you like to have a built-in vacuum pump or use a vacuum venturi?

Vacuum Venturi: By utilizing external compressed air, the vacuum venturi can achieve 27-28in HG at 5.7scfm. 80-150 psig is required per venturi for optimal performance. Two vacuum venturis are used for dual zone models to have independent control.

Vacuum Pump: Requires no outside equipment to achieve 27-28in HG at 0.9 scfm. The built-in vacuum pump adds approximately 13-15lb (6-7kg) of weight to your unit.
(Not available on models designed for hazardous / flight line environments)

ACR II Hot Bonder
Controls heat and vacuum pressure

SR Curing Blankets (see page 11-9)
¼" (6mm) bend radius

SRV Curing Blankets (see page 11-10)
Provide heat and vacuum pressure

BriskHeat® ACR™II Hot Bonder

Specifications

General

- 10.4” (264mm) touch screen with easy-to-use interface
- Input ground fault interrupter breaker protected
- Audible and visual alarms for high and low temperature / vacuum limits
- USB port for data transfer (USB flash disk included)
- Digital data logger: prints and records real-time status of cure including program parameters
  (Printer not included with models designed for hazardous / flight line environments)
- CE 73/23/EC (low voltage directive) and 89/336/EC (EMC directive) for part numbers ACR-IIN1E30 and ACR-IIN1V30

Power

- Input Voltage: 100-130VAC, 200-240VAC
- MAINS supply voltage fluctuations up to ±10% of the nominal voltage
- Transient over voltages typically found on a Category II power source: i.e. a lighting circuit.
- Frequency: 50-60Hz
- 30 amps maximum per zone
- Output cord receptacle: NEMA L14-30R

Vacuum

- Pressure: 27-28 in Hg (13.26-13.75PSI)
- Flow:
  5.7 scfm (Vacuum Venturi)
  0.9 scfm (Vacuum Pump)
- Ability to manually adjust pressure for each zone

Temperature Control

- Cures up to 1400°F (760°C)
- 10 thermocouple sensor inputs per zone
- Accepts standard and mini type J thermocouple connectors

Patent 6,976,519

Environment

- Intended for use in dry environments. Do not expose to spray
- Altitude up to 6562ft (2,000m)
- Storage temperature range: -4 to 140°F (-20 to 60°C)
- Operating temperature range: 41 to 104°F (5 to 40°C)
- Maximum relative humidity:
  80% for temperatures up to 88ºF (31ºC) decreasing linearly to 50% relative to humidity at 104ºF (40ºC)
- Pollution degree 2 (normally only non-conductive pollution occurs, however a temporary conductivity caused by condensation must be expected)

Maximum Heating Ability of BriskHeat® ACR II Hot Bonders

Vacuum Pump Models

Volts	Amp	Maximum Watts	Watts per in²	Maximum Heating Area (in²)	Standard Blanket Size
120	30	2760	5	552	23” x 23” (584mm x 584mm)
240	30	5520	5	1104	33” x 33” (838mm x 838mm)

Vacuum Venturi Models

Volts	Amp	Maximum Watts	Watts per in²	Maximum Heating Area (in²)	Standard Blanket Size
120	30	3360	5	672	25” x 25” (635mm x 635mm)
240	30	6720	5	1344	36” x 36” (914mm x 914mm)

BriskHeat® ACR™II Hot Bonder

Ordering Information:

ACR II Hot Bonder Kits

Part Number		Environment Designed for	Number of Zones	Vacuum	Unit Size with Lid	Unit Weight with Lid
120VAC	240VAC					
ACR-IIN1V30SR01	ACR-IIN1V30SR03	Ordinary	1	Venturi	20” x 16” x 12.5” (508 x 406 x 318mm)	32lb (15kg)
ACR-IIN2V30SR02	ACR-IIN2V30SR04	Ordinary	2	Venturi	24” x 19” x 12.5” (610 x 483 x 318mm)	35lb (16kg)
ACR-IIN1E30SR01	ACR-IIN1E30SR03	Ordinary	1	Built-in Pump	20” x 16” x 12.5” (508 x 406 x 318mm)	45lb (20kg)
ACR-IIN2E30SR02	ACR-IIN2E30SR04	Ordinary	2	Built-in Pump	24” x 19” x 12.5” (610 x 483 x 318mm)	58lb (26kg)

* For military ordering information please contact BriskHeat or visit website www.briskheat.com for NSNs.

* For models designed for hazardous / flightline environments please contact BriskHeat.

All ACR II Hot Bonder Kits Include:

- ACR II series Hot Bonder unit
- 10” x 10” SR series composite heat curing blanket (1 per zone)
- 12” x 12” SR series composite heat curing blanket (1 per zone)
- 16” x 16” SR series composite heat curing blanket (1 per zone)
- 10ft (3m) vacuum hoses (2 per zone)
- 10ft (3m) input power cord (1 per zone)
- 10ft (3m) heater output power cord (1 per zone)
- USB flash disk
- Cure recipe software
- Type J thermocouples (10 per zone)
- Vacuum bag feed-throughs (2 per zone)
- Printer ribbon and paper

ACR II Hot Bonder

10” x 10” SR heat curing blanket (1 per zone)

12” x 12” SR heat curing blanket (1 per zone)

16” x 16” SR heat curing blanket (1 per zone)

Accessories:

Part Number	Description
20950	Venturi pump
49758-35	Vacuum gage
11510	5 pack type J thermocouples rated to 425°F (218°C), 72” (1,829mm) with mini connector
11510-01	Type J thermocouple 10ft (3m) extension rated to 425°F (218°C) with mini connectors
11510-02	5 pack high temperature type J thermocouples rated to 900°F (480°C), 72” (1,829mm) with mini connector
11510-03	Type J thermocouple 10ft (3m) extension rated to 900°F (480°C) with mini connectors
20936	Heater output cord: 10ft (3m) (for blankets with “C” style [NEMA L14-30] plug)
20938	Vacuum hose: 10ft (3m)
20931	Vacuum bag feed-through
40795-01	1 roll printer paper
40795-02	Printer ribbon

BriskHeat® TT8300 Table Top Temperature Controllers

Product Highlights

- ✔ Portable, lightweight, and self-contained unit
- ✔ Simple four-key user control
- ✔ Ideal for traditional vacuum bag repair of metal bonded and composite epoxy structures
- ✔ Compatible with all styles of BriskHeat® composite heat curing blankets. Select “B” style plug.

Specifications:

- 400ºF maximum temperature control
- 14 programmable alarm types
- Visual and audible alarms
- Automatic tuning of PID parameters
- Accuracy ±1 least significant digit
- Choice of operating voltage of 120VAC or 240VAC, +10% to 15%. 50-400Hz
- Rated at 20 amps at 120 or 240VAC
- Fused output
- Type J thermocouple input
- Dual display shows set-point and actual temperature
- 6 feet (1.8m) long power cord with standard plug
  - 120VAC: NEMA 5-20
  - 240VAC: NEMA 6-20
- Standard type J thermocouple jack
- 20’ type J thermocouple included with controller
- Programmable to either ºC or ºF
- Fuzzy logic reduces overshoot on startup
- Heater break protection
- Sensor break protection
- Auto / manual control ability
- Program security lock levels
- Output receptacle: Type 3330 twist lock 3 pole 3 wire delta (compatible with “B” style plug)

The TT8300 series temperature controller provides a variety of user programmable alarm functions including high limit cutout and loop break alarms. The adjustable high limit cutout alarms prevent over heating while the loop break alarms are designed to detect heater and thermocouple failure.

The optional vacuum venturi system operates from shop air. The vacuum system will develop up to 28inHg (711mmHg) with a flow rate of 5.7 scfm. The vacuum system comes with a pressure regulator, vacuum gage, and pressure gage.

Ordering Information:

Part Number	Description
TT8301-S16	TT8300 series temperature controller: 120VAC
TT8302-S16	TT8300 series temperature controller: 240VAC
TT8305-S16	TT8300 series temperature controller: 240VAC 3 phase
TT8301-S18	TT8300 series temperature controller with vacuum venturi system: 120VAC
TT8302-S18	TT8300 series temperature controller with vacuum venturi system: 240VAC
TT8301-S20	TT8300 series temperature controller with eight-segment ramp / soak control: 120VAC
TT8302-S20	TT8300 series temperature controller with eight-segment ramp / soak control: 240VAC
TT8301-S21	TT8300 series temperature controller with eight-segment ramp / soak control and vacuum venturi system : 120VAC
TT8302-S21	TT8300 series temperature controller with eight-segment ramp / soak control and vacuum venturi system : 240VAC

BriskHeat® Composite Heat Curing Blankets

Product Highlights

Not Your Average Curing Blanket!
Can you hang 45lbs (20kg) from your power cord?

✔ Two Year Warranty

- ► BriskHeat's durable design reduces common failure points
- ► Eliminate the hassle of frequently replacing curing blankets
- ► Lower life cycle costs

✔ No Vacuum Bagging

- ► Special SRV series curing blanket is a heater AND reusable vacuum bag
- ► Save valuable time in set-up and clean-up
- ► Reduce consumable costs with no bags to bag

✔ Highly Flexible

- ► Bend up to a 1/4" (6mm) radius
- ► Perfect for leading and trailing edge cure applications

✔ Achieve High Temperatures

- ► Up to 1100°F (593°C)

✔ Variety of Standard Sizes and Configure-to-Order Options

- ► Sizes
- ► Shapes

Radome

Molded Shapes

Virtually Any Shape!

- ► Plugs and connectors compatible with your current equipment
- ► Different watt densities
- ► Optional Finite Element Analysis (FEA) to predict cold and hot spots
- ► Thermocouples or other temperature sensors built-in
- ► Cool-touch insulation pad to keep heat in and protect user
- ► Built-in high limit devices

Replacing Consumable Curing Blankets

Using Vacuum Bags

You Get More for Your Money at BriskHeat!

BriskHeat® Composite Heat Curing Blankets Selection Guide

Product Series	SR	SRV	SRL5	FGH	SXH
Product Name	Extra Flexible Composite Heat Curing Blanket	Composite Heat Curing Blanket with EASYSeal™ Vacuum Technology	Composite Heat Curing Blanket	High Temperature Cloth Composite Heat Curing Blanket	High Temperature Cloth Composite Heat Curing Blanket
Product Photo					
Maximum Temperature	450°F (232°C)	450°F (232°C)	450°F (232°C)	800°F (425°C)	1100°F (593°C)
Standard Power Density	5 watts/in² (0.008watts/mm²)	5 watts/in² (0.008watts/mm²)	5 watts/in² (0.008watts/mm²)	7 watts/in² (0.011watts/mm²)	13 watts/in² (0.020watts/mm²)
Radius Flexibility	¼" (6mm)	With seal: 3" (76mm) Without seal: ¼" (6mm)	3" (76mm)	1" (25mm)	1" (25mm)
Standard Voltage	120, 240	120, 240	120, 240	120, 240	120, 240
Dielectric Strength	over 2000VAC	over 2000VAC	over 2000VAC	over 2000VAC	over 2000VAC
Standard Shapes	Square, Round	Square, Round	Square, Round	Square	Square
Standard Lead Length	6ft (1.8m)	6ft (1.8m)	6ft (1.8m)	6ft (1.8m)	6ft (1.8m)
Resistant to Chemical and Moisture	✔	✔	✔		
No Vacuum Bagging Required		✔			

NOTE: All BriskHeat® Composite Heat Curing Blankets must be used with appropriate control.

BriskHeat® SR Extra Flexible Composite Heat Curing Blankets

Product Highlights

Moisture and Chemical Resistant

Configure-To-Order Option

Other Sizes, Shapes, Power

Temperatures up to

450°F (232°C)

- ✔ Two year warranty
- ✔ Highly flexible: ideal for leading and trailing edges
- ✔ Quick, efficient, non-stress producing heat up to 450°F (232°C)
- ✔ Use on horizontal and vertical surfaces and on sharp radii surfaces without removing the damaged section
- ✔ Compatible with ACR-II series hot bonder and your current equipment
- ✔ CE 73/23/EEC. See page A-1 for more information.

Specifications:

- Flexibility up to 1/4" (6mm) radii
- Smooth surface against repair
- Heating element laminated between two layers of non-reinforced silicone rubber, 66 mil thick with a density of 66 oz/yd^2 (2237 grams/m^2)
- 450°F (232°C) maximum exposure temperature
- Power density of 5 watts/in^2 (0.008 watts/mm^2)
- Dielectric strength of over 2000 volts
- Moisture, chemical, and radiation resistant
- Strain relief built through entire edge of blanket for increased durability
- Power cord 6 feet (1.8m) long with choice of power plug

Ordering Information:

Standard Sizes and Wattage

Rectangular

Width in (mm)	Length in (mm)	Total Watts
6 (152)	6 (152)	180
6 (152)	12 (305)	360
6 (152)	24 (610)	720
8 (203)	8 (203)	320
10 (254)	10 (254)	500
12 (305)	12 (305)	720
12 (305)	24 (610)	1440
16 (406)	16 (406)	1280
18 (457)	18 (457)	1620
24 (610)	24 (610)	2880

Round

Diameter in (mm)	Total Watts
4 (102)	65
6 (152)	140
8 (203)	250
10 (254)	395
12 (305)	565
14 (356)	770
16 (406)	1005

Part Number Matrix

SR 5 120 06X12 C

- Product Series
- Watt Density, 5-(5 watts/in^2)
- Voltage, 120-(120VAC), 240-(240VAC)
- Dimensions
  Rectangular, 06X12-(6 x 12")
  Round, 12D-(12" diameter)
- Power Plug

See page 11-13 for complete selection.

Not Your Average Curing Blanket!
Can you hang 45lbs (20kg) from your power cord?

IMPORTANT: Temperature controller is required for this product. See page 11-1 for options.

BriskHeat® SRV Composite Heat Curing Blankets with EASYSeal™ Vacuum Technology

Product Highlights

- Both a heater and a reusable vacuum bag
- Two year warranty
- Highly flexible
- Quick, efficient, non-stress producing heat up to 450°F (232°C)
- Use on horizontal and vertical surfaces and on complex contoured surfaces without removing the damaged section
- Compatible with ACR-II series hot bonder and your current equipment
- CE 73/23/EEC. See page A-1 for more information.

Configure-To-Order Option

Other Sizes, Shapes, Power

Temperatures up to

450°F (232°C)

Moisture and Chemical Resistant

No Sealant Tape or Vacuum Bag Necessary!

Specifications:

- Vacuum ports built into blanket eliminates the need for vacuum bagging materials
- Blanket seal added around edge eliminates the need for tacky / sealant tape
- Flexibility:
  - With blanket seal: 3" (76mm) radii
  - Without blanket seal: 1/4" (6mm) radii
- Smooth surface against repair
- Heating element laminated between two layers of non-reinforced silicone rubber, 66 mil thick with a density of 66 oz/yd^2 (2237 grams/m^2)
- 450°F (232°C) maximum exposure temperature
- Power density of 5 watts/in^2 (0.008 watts/mm^2)
- Dielectric strength of over 2000 volts
- Moisture, chemical, and radiation resistant
- Strain relief built through entire edge of blanket for increased durability
- Power cord 6 feet (1.8m) long with choice of power plug

Perfect for leading and trailing edges without blanket seal.

Ordering Information:

Standard Sizes and Wattage

Heated Area		Blanket Size		Total Watts
Width in (mm)	Length in (mm)	Width in (mm)	Length in (mm)	
6 (152)	6 (152)	9 (229)	12 (305)	180
6 (152)	12 (305)	9 (229)	18 (457)	360
6 (152)	24 (610)	9 (229)	30 (762)	720
8 (203)	8 (203)	11 (279)	14 (356)	320
10 (254)	10 (254)	13 (330)	16 (406)	500
12 (305)	12 (305)	15 (381)	18 (457)	720
12 (305)	24 (610)	15 (381)	30 (762)	1440
16 (406)	16 (406)	19 (483)	22 (559)	1280
18 (457)	18 (457)	21 (533)	24 (610)	1620
24 (610)	24 (610)	27 (686)	30 (762)	2880

Heated Area	Blanket Size	Total Watts
Diameter in (mm)	Diameter in (mm)	
6 (152)	12 (305)	140
8 (203)	14 (356)	250
10 (254)	16 (406)	395
12 (305)	18 (457)	565
16 (406)	22 (559)	1005
20 (508)	26 (660)	1570
24 (610)	30 (762)	2270

Preparation is Easy as 1, 2 , 3

1: Prepare surface for repair.

2: Vacuum seal heating blanket to surface instantly.

3: Apply optional cool-touch insulation mat and cure.

Part Number Matrix

SRV 5 120 12X12 S C

- Product Series
- Watt Density, 5-(5 watts/in^2)
- Voltage, 120-(120VAC), 240-(240VAC)
- Heated Area Dimensions
  Rectangular, 12X12-(12 x 12") / Round, 12D-(12" diameter)
- Blanket Seal, S-(with Seal), Blank-(No Seal)
- Power Plug

See page 11-13 for complete selection.

IMPORTANT: Temperature controller is required for this product. See page 11-1 for options.

Your *Heating* Specialist since 1949
Toll Free: 800-848-7673 Phone: 614-294-3376 **www.BriskHeat.com** Email: bhtsales1@briskheat.com Fax: 614-294-3807

BriskHeat® SRL5 Composite Heat Curing Blankets

Configure-To-Order Option

Other Sizes, Shapes, Power

Temperatures up to

450°F (232°C)

Moisture and Chemical Resistant

Product Highlights

- Two year warranty
- Quick, efficient, non-stress producing heat up to 450°F (232°C)
- Use on horizontal and vertical surfaces and on moderately contoured surfaces without removing the damaged section
- Compatible with ACR-II series hot bonder and your current equipment
- Designed for metal bonding
- CE 73/23/EEC. See page A-1 for more information.

Specifications:

- Flexible up to a 3" (76mm) radius
- Heating element laminated between two layers of reinforced silicone rubber, 20 mil thick with a density of 22 oz/yd^2 (746 grams/m^2)
- 450°F (232°C) maximum exposure temperature
- Power density of 5 watts/in^2 (0.008 watts/mm^2)
- Dielectric strength of over 2000 volts
- Moisture, chemical, and radiation resistant
- Strain relief built through entire edge of blanket for increased durability
- Power cord 6 feet (1.8m) long with choice of power plug

Ordering Information:

Standard Sizes and Wattage

Rectangular

Width in (mm)	Length in (mm)	Total Watts
6 (152)	6 (152)	180
6 (152)	12 (305)	360
6 (152)	24 (610)	720
8 (203)	8 (203)	320
10 (254)	10 (254)	500
12 (305)	12 (305)	720
12 (305)	24 (610)	1440
16 (406)	16 (406)	1280
18 (457)	18 (457)	1620
24 (610)	24 (610)	2880

Part Number Matrix

SRL 5 120 06X12 C

Product Series

Watt Density, 5-(5 watts/in^2)

Voltage, 120-(120VAC), 240-(240VAC)

Dimensions
Rectangular, 06X12-(6 x 12")
Round, 12D-(12" diameter)

Power Plug

See page 11-13 for complete selection.

IMPORTANT: Temperature controller is required for this product. See page 11-1 for options.

BriskHeat® FGH and SXH High Temperature Composite Heat Curing Blankets

Product Highlights

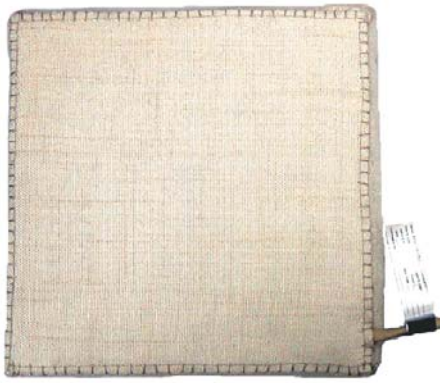
Configure-To-Order Option

Other Sizes, Shapes, Power

Temperatures up to

1100°F (593°C)

- Designed for use with the newer high temperature thermoplastic and polymide composite materials
- Highly flexible up to a 1” (25mm) radius
- Compatible with ACR-II series hot bonder and your current equipment
- CE 73/23/EEC. See page A-1 for more information.



Specifications:

- Heating element and a 1” (25mm) layer of high-density fiberglass is covered in an abrasion resistant fiberglass cloth (FGH) or Samox® cloth (SXH series)
- Maximum exposure temperature:
  FGH series: 800°F (425°C)
  SXH series: 1100°F (593°C)
- Power density:
  FGH series: 7 watts/in² (0.011 watts/mm²)
  SXH series: 13 watts/in² (0.020 watts/mm²)
- Dielectric strength of over 2000 volts
- Power cord 6 feet (1.8m) long with choice of power plug
- Requires high temperature type J thermocouples. See page 11-3.

Ordering Information:

Standard Sizes and Wattage

FGH series

Width in (mm)	Length in (mm)	Total Watts
6 (152)	6 (152)	255
6 (152)	12 (305)	504
6 (152)	24 (610)	1008
8 (203)	8 (203)	448
10 (254)	10 (254)	700
12 (305)	12 (305)	1008
12 (305)	24 (610)	2016
16 (406)	16 (406)	1792
18 (457)	18 (457)	2268
24 (610)	24 (610)	4032

SXH series

Width in (mm)	Length in (mm)	Total Watts
6 (152)	6 (152)	468
6 (152)	12 (305)	936
6 (152)	24 (610)	1872
8 (203)	8 (203)	832
10 (254)	10 (254)	1300
12 (305)	12 (305)	1872
12 (305)	24 (610)	3744
16 (406)	16 (406)	3328
18 (457)	18 (457)	4212

Note: Some high wattage models may not be available in 120VAC due to high amperage requirements

Part Number Matrix

FGH 06X12 1 C

Product Series
FGH-(800°F), SXH-(1100°F)

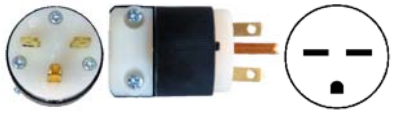
Dimensions, 06X12-(6 x 12”)

Voltage, 1-(120VAC), 2-(240VAC)

Power Plug
See page 11-13 for complete selection.

IMPORTANT: Temperature controller is required for this product. See page 11-1 for options.

BriskHeat® Plugs for Composite Heat Curing Blankets

Description	Image	NEMA	Voltage	Amps	Ground	Approval	Plug Part Number	Blanket Plug Part Number Suffix
Bare Wires		N/A	N/A	N/A	N/A		N/A	A
Twist Lock 3 Pole 3 Wire Delta		N/A	125/250	30A	No	UL	10108	B
Twist Lock 3 Pole 4 Wire		L14-30	250	30A	Yes	UL, CSA	11270	C
Straight Blade 2 Pole 3 Wire		5-15	125	15A	Yes	UL, CSA	10113	D
Straight Blade 2 Pole 3 Wire		6-15	250	15A	Yes	UL, CSA	10478	E
Twist Lock 2 Pole 3 Wire		L5-30	125	30A	Yes	UL, CSA	40712	F
Twist Lock 2 Pole 3 Wire		L6-30	250	30A	Yes	UL, CSA	10814	G
3 Pole CPC (Circular Plastic Connector)		N/A	250	30A	Yes		20937-01	H
Hazardous Area Raintight Turn and Pull (4 pin)		N/A	480	30A	Yes	Class I Division 1 & 2, Groups D*	41024-02	I
Hazardous Area Raintight Turn and Pull (3 pin)		N/A	480	30A	Yes	Class I Division 1 & 2, Groups D*	11008-01	J

* Suitable for hazardous areas due to the presence of gasoline or other gases or vapors of equivalent hazard (comparable to N.E.C. Class I, Group D), where construction and test procedures are required to meet applicable sections of MIL-E-5272C and MIL-E-4970A

NOTES:

The Flexible *Heating* Solutions Leader since 1949
Toll Free: 800-848-7673 Phone: 614-294-3376 **www.BriskHeat.com** Email: bhtsales1@briskheat.com Fax: 614-294-2672

BriskHeat® VT Vacuum Curing / Debulking Table

Reduce Cycle Times For

- Vacuum Curing, Molding, or Bonding
- Hot Drape Forming
- Ply Compaction and Debulking

Temperatures up to

400°F (204°C)

New and Improved!!

Product Highlights

- Heat and Vacuum Pressure in One Easy Step
- Fast and Easy One-Step Set-Up for Advanced Cure Cycles
- Precise Control of Ramp Rate, Soak Time & Temperature, and Cooling Rate
- Heated / Cooled Lid and Automatic Vacuum Control for Advanced cure Cycles
- Eliminates Expense of Manual Bagging Lay-Ups
- Replace Costly and Inefficient Autoclaves
- 360° Table Access for Complex Objects / Parts
- Easy-to-Use Interface Reduces Operator Costs
- Configure-to-Order for Your Application

360° Table Access

USB Port for Easy Data Transfer

Touch Screen Control Panel

BriskHeat® VT Vacuum Curing / Debulking Table

Which Vacuum Table is right for you?

Closed Heated / Cooled Lid

- For objects / parts up to 15” (381mm) heights
- Applies top-heat for advanced cures (Hot drape forming etc.)
- Quickly cools materials reducing cycle times
- Cures and debulks large or small objects with multiple profiles and shapes
- Integrates into “Lean Cell” manufacturing
- CPU controlled

Open Lid

- For larger objects / parts with high aspect ratios
- Debulks large objects with multiple profiles and shapes
- Cures objects up to 2” (51mm) heights
- CPU or DIN controlled

Closed Insulated Lid

- For low profile objects / parts up to 1” (25mm) heights
- Traps heat for faster cure cycles
- Cures and debulks
- CPU or DIN controlled

How would you like your table controlled?

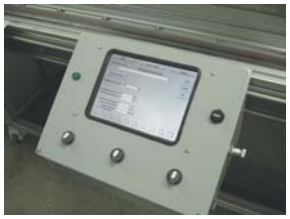
DIN Type Temperature Controller

- Curing temperatures up to 400ºF (204ºC)*
- Dual display shows set point and actual process temperature
- Automatic tuning of PID parameters
- Programmable to either ºC or ºF
- Programmable audible alarm types
- Program security lock levels
- Sensor break protection
- Multiple ramp / soak steps

DIN Control Panel

CPU Temperature / Vacuum Controller with Touch Screen Interface and USB Port

- Curing temperatures up to 400ºF (204ºC)*
- Programmable automatic on / off vacuum control within cycles
- Up to 20 Type J thermocouple inputs
- Easy-to-Use touch screen interface
- Post cure download via USB memory stick
- Automatic tuning of PID parameters
- Programmable to either ºC or ºF
- Multiple audible alarm option settings
- Multiple levels of password protected security locks
- Sensor break protection
- 15 precision controlled ramp / soak steps (PID controlled)



Touch Screen Control Panel

USB Port for Easy Data Transfer

* Achieve temperatures up to 600°F on vacuum tables without lid (manual bagging lay-up required).

BriskHeat® VT Vacuum Curing / Debulking Table

General Specifications:

Heater
- Highly durable and uniform multi-stranded heating element
- Heater break protection

Vacuum System
- 2 stage electric oil-less rocker piston vacuum pump
- Pressure: 27-28in Hg (13.26 - 13.75 PSI)
- Flow: 5.0 scfm (142 L/m)

Power
- Choice of 3-phase 200, 208, 240, 277, or 480VAC
- All systems are fuse protected

Lid
- Safety interlocked push buttons ensure both hands are on the operating console while the lid is in motion
- Dual ball screw actuators for positive lid movement
- High tear strength, reversion resistant silicone rubber reusable vacuum bag
- Vacuum bag elongation factor: 800%

Ordering Information:

BriskHeat® vacuum curing / debulking tables are configured specifically for your application. Contact your local representative or BriskHeat® for more details. For lease options see page VIII for more information.

Standard Table Sizes

Table Size in (cm)	Vacuum Table Design		
	Heated / Cooled Lid	Open Lid	Closed Insulated Lid
48 x 48 (122 x 122)		✔	✔
48 x 72 (122 x 183)		✔	✔
48 x 96 (122 x 244)		✔	✔
72 x 72 (183 x 183)	✔	✔	✔
72 x 108 (183 x 274)	✔	✔	✔
72 x 144 (183 x 366)	✔	✔	✔

NOTES:

BriskHeat® Appendix A: About CE

All heating elements, thermal blankets, and other resistance heating products manufactured and sold by Briskheat® are designed in conformance with European standards EN 60519-1 Safety in Electroheat installations, Part 1, General Requirements and EN 60519-2 Safety in Electroheat installations, Part 2, Particular requirements for resistance heating equipment. They are classified in accordance with the methodology described in the standards, and marked consistent with the requirements of the standards.

NOTE: All BriskHeat resistive heater elements complies with the Low Voltage Directive (73/23/EEC) only. Heater elements are passive to Electromagnetic Compatibility Disturbances, and EMC has not been evaluated. End users or system integrators are responsible to ensure their complete system meets all EMC requirements. For laboratory applications, contact factory.

Use the following table as a guide to...
1. Understand the classification system
2. Properly apply BriskHeat's heating products
3. Understand steps necessary for the installer to increase the level of protection, if necessary.

The CE classification system splits heating products into three categories. Class 0 incorporates no protection into the heating product. Class 1 incorporates one level of protection for over-temperature. Class 2 includes active control and over-temperature measures.

Class	Protection method	Protection means	Comment
0	None	None	Normally used with attended operation and/or non hazardous charge.
1	Thermal cutout, or pre-selected temperature controller.	Resettable thermostat, one-time thermal fuse/limiter, or integrated temperature controller.	Resettable thermostat may be manual or automatic.
2	Pre-set thermal limit, and pre-selected temperature controller	Pre-set limit device is a high-limit device and may be auto or manual resettable or one-time thermal fuse. Controller maintains temperature within pre-set limits with no operator intervention.	The pre-set limit device is intended to be an over-temperature control to protect against primary control or heater failure.

Resistive heating elements by themselves are generally incorporated into a temperature control system that delivers heat into a process with the goal of providing safe and effective delivery of heat into the load or charge.

The installer can increase the level of protection of any heater by adding appropriate limits and or controls as shown in the above table. For example, a Class 1 heater can be upgraded to a Class 2 heating system by adding a second temperature regulating device (e.g. controller using RTD's or a regulating thermostat).

BriskHeat® Appendix B: Glossary of Terms

Ampere – Unit of current (flow) (I)=E/R

AC – Alternating current.

Ampacity – The current-carrying capacity of the conductor under stated thermal conditions.*

Conductor – A conductor is the current-carrying, non-heat producing component of a heating element.*

Conduction – The transfer of energy within or between two bodies in physical contact.

Convection – The movement of a mass with its associated energy (liquid or gas) from one location to another.

DC – Direct Current.

Dielectric Strength – The ability of the electrical insulation to withstand an applied voltage.

Dielectric Breakdown – Dielectric breakdown is the voltage at which the dielectric strength of the insulating material falls below an acceptable level.*

Element – An element is a resistor encased in an acceptable insulating material covered with a protective sheath.

Ground – A conducting connection between an electrical circuit or equipment and the earth or some conducting body that serves in place of the earth.*

Hazardous Location – Locations are classified depending on the properties of the flammable vapors, or gases, or combustible dusts, or fibers which may be present and the likelihood that a flammable or combustible concentration or quantity is present.*

Heat – Heat is energy in transition, or transfer, from one body to another by virtue of temperature difference existing between the bodies.

Heater – A heater is a completed, usable assembly containing one or more elements.

Heat of Fusion – Heat necessary to change solid to liquid.

Heat of vaporization – Heat necessary to change solid to gas.

Hertz – Unit of frequency of charge reversal for alternating current.

Hi-Pot – A high voltage quality assurance test performed on electrical components and systems.

Impedance Heat – A system in which heat is generated in a pipeline or vessel wall by causing current to flow through the pipeline or vessel wall by direct connection to an AC voltage source from a dual-winding transformer.

Insulation – Electrical insulation is the dielectric material surrounding the resistor and/or conductor in order to electrically isolate the current-carrying components from ground or other components.* Thermal insulation is any material that retards the transfer of heat to the environment or other components.

Insulation Resistance – Insulation resistance is the ability of the insulation to resist the percentage of current.*

Leakage – The undesirable passage of current flow through or over the surface of an insulator.

Leakage Current – the total electrical current flow from the resistor through or around the insulation to a point external to the resistor when the element is energized.*

OHM – The electrical unit of resistance (R) R=E/I

Parallel Circuit – A circuit in which the identical voltage is presented to all components and the current divides among the components according to the resistance or the impedance of components.

Radiation – The transfer of energy from one body to another through space by electromagnetic wave phenomena.

Rating – rating is the performance characteristic of an element or heater and is normally expressed in power output (watts) for a specific input voltage.

Resistor – A resistor is the heat-producing component of an element.*

Series Circuit – A circuit in which the components are arranged end to end to form a single path for current.

Single Phase – A system energized from a single alternating voltage.

Specific Heat – The heat energy in Btu's required to change the temperature of one pound of a substance by 1°F.

Specific Gravity (Gas) – The ratio of the density of a gas to the density of air at 60°F and 14.7 PSIA.

Specific Gravity (Liquid) – The ratio of the density of a liquid to the density of water at 60°F and 14.7 PSIA.

Thermal Resistance – The property that opposes the flow of heat (energy) through the material.

Terminal – A terminal is the device or point at which external power is connected.*

Three Phase – A system energized from three substantially equal voltages that differ in phase by one-third cycle or 120°.

Volt – Unit of electrical pressure. 1 volt is the amount of pressure that will cause one ampere of current in one OHM of resistance (E) E=IR

Watt – Unit of electrical power. One watt is equivalent to the power represented by one ampere of current under a pressure of one volt. (W) W=EI

Watt Density – Watt density is the output of the element or the resistor in watts per square inch of surface. On heating cable elements, watt density is expressed in watts per foot of cable.*

Wattage rating Tolerance – wattage output tolerance is the acceptable manufacturer's wattage variation allowed from rated wattage at rated voltage.*

* NEMA Standard

BriskHeat® Appendix C: NEMA Enclosure Standards

The purpose of this section is to provide general information on the definitions of NEMA Enclosure Types to architects, engineers, installers, inspectors and other interested parties. [For more detailed and complete information, NEMA Standards Publication 250-2003, "*Enclosures for Electrical Equipment (1000 Volts Maximum)*" should be consulted.

Non-Hazardous Locations

In Non-Hazardous Locations, the specific enclosure Types, their applications, and the environmental conditions they are designed to protect against, **when completely and properly installed**, are as follows:

Table 1: Comparison of Specific Applications of Enclosures for Indoor Nonhazardous Locations *[From NEMA 250-2003]*

Provides a Degree of Protection Against the Following Conditions	Type of Enclosure									
	1 *	2 *	4	4X	5	6	6P	12	12K	13
Access to hazardous parts	X	X	X	X	X	X	X	X	X	X
Ingress of solid foreign objects (falling dirt)	X	X	X	X	X	X	X	X	X	X
Ingress of water (Dripping and light splashing)	...	X	X	X	X	X	X	X	X	X
Ingress of solid foreign objects (Circulating dust, lint, fibers, and flyings **)	...	...	X	X	...	X	X	X	X	X
Ingress of solid foreign objects (Settling airborne dust, lint, fibers, and flyings **)	...	...	X	X	X	X	X	X	X	X
Ingress of water (Hosedown and splashing water)	...	...	X	X	...	X	X	...	...	...
Oil and coolant seepage	...	...	...	..	...	...	...	X	X	X
Oil or coolant spraying and splashing	...	...	...	...	...	...	...	...	...	X
Corrosive agents	...	...	...	X	...	...	X	...	...	...
Ingress of water (Occasional temporary submersion)	...	...	...	...	...	X	X	...	...	...
Ingress of water (Occasional prolonged submersion)	...	...	...	...	...	...	X	...	...	...

* These enclosures may be ventilated.
** These fibers and flyings are nonhazardous materials and are not considered Class III type ignitable fibers or combustible flyings. For Class III type ignitable fibers or combustible flyings see the National Electrical Code, Article 500.

Table 2: Comparison of Specific Applications of Enclosures for Outdoor Nonhazardous Locations *[From NEMA 250-2003]*

Provides a Degree of Protection Against the Following Conditions	Type of Enclosure									
	3	3X	3R*	3RX*	3S	3SX	4	4X	6	6P
Access to hazardous parts	X	X	X	X	X	X	X	X	X	X
Ingress of water (Rain, snow, and sleet **)	X	X	X	X	X	X	X	X	X	X
Sleet ***	...	...	...	...	X	X	...	...	...	...
Ingress of solid foreign objects (Windblown dust, lint, fibers, and flyings)	X	X	...	...	X	X	X	X	X	X
Ingress of water (Hosedown)	...	...	...	...	...	...	X	X	X	X
Corrosive agents	...	X	...	X	...	X	...	X	...	X
Ingress of water (Occasional temporary submersion)	...	...	...	...	...	...	...	...	X	X
Ingress of water (Occasional prolonged submersion)	...	...	...	...	...	...	...	...	...	X

* These enclosures may be ventilated.
** External operating mechanisms are not required to be operable when the enclosure is ice covered.
*** External operating mechanisms are operable when the enclosure is ice covered.

BriskHeat® Appendix C: NEMA Enclosure Standards continued

Hazardous Locations

In Hazardous Locations**, when completely and properly installed and maintained**, Type 7 and 10 enclosures are designed to contain an internal explosion without causing an external hazard. Type 8 enclosures are designed to prevent combustion through the use of oil-immersed equipment. Type 9 enclosures are designed to prevent the ignition of combustible dust.

Type 7 Enclosures constructed for indoor use in hazardous (classified) locations classified as Class I, Division 1, Groups A, B, C, or D as defined in NFPA 70.

Type 8 Enclosures constructed for either indoor or outdoor use in hazardous (classified) locations classified as Class I, Division 1, Groups A, B, C, and D as defined in NFPA 70.

Type 9 Enclosures constructed for indoor use in hazardous (classified) locations classified as Class II, Division 1, Groups E, F, or G as defined in NFPA 70.

Type 10 Enclosures constructed to meet the requirements of the Mine Safety and Health Administration, 30 CFR, Part 18.

Table 3: Comparison of Specific Applications of Enclosures for Indoor Hazardous Locations
[From NEMA 250-2003]

If the installation is outdoors and/or additional protection is required by Table 1 and Table 2, a combination-type enclosure is required.

Provides a Degree of Protection Against Atmospheres Typically Containing (See NFPA 497M for Complete Listing)	Class	Enclosure Types 7 and 8, Class I Groups **				Enclosure Type 9, Class II Groups			
		A	B	C	D	E	F	G	10
Acetylene	I	X	...	...	...	...	...	...	...
Hydrogen, manufactured gas	I	...	X	...	...	...	...	...	...
Diethyl ether, ethylene, cyclopropane	I	...	...	X	...	...	...	...	...
Gasoline, hexane, butane, naphtha, propane, acetone, toluene, isoprene	I	...	...	...	X	...	...	...	...
Metal dust	II	...	...	...	...	X	...	...	...
Carbon black, coal dust, coke dust	II	...	...	...	...	...	X	...	...
Flour, starch, grain dust	II	...	...	...	...	...	...	X	...
Fibers, flyings *	III	...	...	...	...	...	...	X	...
Methane with or without coal dust	MSHA	...	...	...	...	...	...	...	X

* For Class III type ignitable fibers or combustible flyings see the National Electrical Code, Article 500.
** Due to the characteristics of the gas, vapor, or dust, a product suitable for one Class or Group may not be suitable for another Class or Group unless marked on the product.

Converting Common NEMA Enclosure Standards to IEC Enclosure Standards

IEC Publication 60529 Classification of Degrees of Protection Provided by Enclosures provides a system for specifying the enclosures of electrical equipment on the basis of the degree of protection provided by the enclosure. IEC 60529 does not specify degrees of protection against mechanical damage of equipment, risk of explosions, or conditions such as moisture (produced for example by condensation), corrosive vapors, fungus, or vermin. The NEMA Standard for Enclosures for Electrical Equipment does test for environmental conditions such as corrosion, rust, icing, oil, and coolants. For this reason, and because the test and evaluations for other characteristics are not identical, the IEC Enclosure Classification Designations cannot be exactly equated with the enclosure Type numbers in this Standard.

- NEMA 4 and 4X is equivilent to IP66
- NEMA 12 is equivilent to IP52

BriskHeat® Appendix D: Patents and Trademarks

Patents:

ACR-II Hot Bonders, are patented by BH Thermal Corporation.
BriskHeat Grounded Heating Elements, are patented by BH Thermal Corporation.
Field Replaceable Controlling Thermostats, are patented by BH Thermal Corporation.
Gas Cylinder Warmers, are patented by BH Thermal Corporation.

Trademarks:

BH Thermal®, is a registered trademark of BH Thermal Corporation.

Brisk Heat®, is a registered trademark of BH Thermal Corporation.

BriskHeat®, is a registered trademark of BH Thermal Corporation.

Centipede®, is a registered trademark of BH Thermal Corporation.

Chemstat®, is a registered trademark of Stern and Stern Industries, Inc.

Kapton®, is a registered trademark of E. I. DuPont Company.

Samox®, is a registered trademark of BH Thermal Corporation.

TEFLON®, is a registered trademark of DuPont used under license.

VELCRO®, is a registered trademark of Velcro U.S.A.

XtremeFLEX®, is a registered trademark of BH Thermal Corporation.

BriskHeat® Appendix E: Terms and Conditions

STANDARD TERMS AND CONDITIONS OF SALE

Sales Contract

1. Sale of any equipment, parts, or services described or referred to in any quotation, proposal, bid or similar communication at the quoted prices is expressly condition upon the terms and conditions set forth below. Any order for or any statement of intent to purchase any such equipment, parts, or service, or any direction to proceed with engineering, procurement, manufacture or shipment, shall constitute assent to said terms and conditions and a representation that the Customer is solvent. Any additional or different terms or conditions set forth in any such communication from the Customer are hereby objected to by BH Thermal and shall not be effective or binding unless assented to in writing by authorized representative of BH Thermal.

Terms

2. Customer will be invoiced for the full purchase price of equipment, parts, and services upon delivery of same. All cable shipments within ±10% will be considered complete. Minimum billing will be $150.00 per order.
3. Unless otherwise specifically agreed to in a writing signed by BH Thermal, full payment is due 30 days from days from date of invoice.
4. BH Thermal reserves the right to invoice for partial shipments unless specifically stated that no partials are allowed by the Customer.
5. BH Thermal reserves the right to assess a monthly service charge of one and one-half percent (1½%) of the amount of any past due invoice.

Prices

6. Prices quoted will remain in effect 60 days from date of quotation unless otherwise specifically provided.
7. Upon receipt of invoices and in accordance with the terms set forth in paragraph 3, Customer will pay BH Thermal, in addition to the purchase price, amounts equal to any and all freight charges and any and all taxes, however designated, including state and local privilege, excise, sales and franchise taxes.
8. Unless specifically stated, the prices quoted by BH Thermal shall not include delivery charges.

Delivery

9. All shipping dates are subject to confirmation at the time the Customer's purchase order is received by BH Thermal and will be based on BH Thermal's shipping commitments at that time.

Time for Dispatch of Goods

10. Shipping dates are quoted in good faith. If, after receipt of the Customer's purchase order, BH Thermal shall have quoted a time which goods will be dispatched or work completed, that time shall begin to run from the date upon which BH Thermal receives all information, drawings or other material which, in its opinion, are necessary to enable it to proceed with the work. All such quoted times, shall be extended by as long as BH Thermal considers reasonably necessary if any delay in dispatching the goods or completing the work shall be due, in whole or in part, to instructions or lack of instructions from the Customer; non-delivery of material by other parties; or fire, strike, civil or military authority, war, hostilities, governmental action, foreign or domestic embargoes, seizure, act of God, insurrection, failure of suppliers to make delivery as scheduled, or any other causes whatsoever beyond the reasonable control of BH Thermal, whether affecting transportation or production of said equipment, parts or services, or any one or more components used in or connected with production of equipment, parts, or service. BH Thermal shall not be liable for any loss or damage due to any such delay in or failure to make delivery.
11. In the event that Customer in writing requests a delay in the shipping date or requests in writing deferred delivery after BH Thermal has placed Customer's order with BH Thermal's suppliers, BH Thermal shall, upon completion of such equipment, place it in storage for a reasonable length of time. After storage for a period of three (3) months, Customer's order will be shipped. In such event, the storage date shall be deemed to be the date of delivery. In the event of delayed shipping date or deferred delivery, BH Thermal reserves the right to revise the prices charged the Customer as BH Thermal, in its sole discretion, deems reasonable necessary. Orders may not be canceled except upon BH Thermal's written approval which shall be subject to the Purchaser's payment of BH Thermal's reasonable cancellation charges. Such charges shall include all reasonable costs incurred by BH Thermal in preparing to meet the Purchaser's anticipated delivery schedule. These include, without limitation, commitments by BH Thermal to its suppliers, and the cost of inventory (raw materials, work in progress, and finished goods) allocated to the Purchaser's order together with a reasonable allowance for prorated expenses and anticipated profits.
12. Unless otherwise specified, all transportation charges will be prepaid by BH Thermal and billed to the Customer. Shipment will normally be made via the most economical means and routing consistent with the handling requirements for the type of equipment involved. BH Thermal reserves the right to select the means of transportation and the routing.

Warranty

13. Warranty. The BH Thermal Corporation (hereinafter referred as ("BH Thermal") warrants to the original purchaser for the period of eighteen (18) months from date of shipment or twelve (12) months from date of installation, whichever comes first, that the products manufactured by BH Thermal: (A) conform to the description and specifications as set forth in BH Thermal's current catalogue or in the quotation and drawings submitted by BH Thermal: and (B) are free from defects in materials and workmanship under prescribed use and service.
Remedy. BH Thermal's obligation and the exclusive remedy under this warranty shall be limited to the repair or replacement, at BH Thermal's option, of any parts of the product which may prove defective under prescribed use and service within eighteen (18) months from date of shipment or twelve (12) months from date of installation, whichever comes first, and which, following BH Thermal's examination, is determined by BH Thermals to be defective under conditions described herein: provided, BH Thermal has, at its option, a representative of BH Thermal present at start-up. BH Thermal shall not be liable for any incidental, consequential or special damages arising from any breach of warranty, breach of contract, negligence, or any other legal theory, including but not limited to, loss of use of parts or equipment or any associated equipment, cost of capital, cost of any substitute equipment, facilities or services, overhead, downtime costs, or claims of customer of purchaser for such damages. This remedy does not include labor costs for installation or removal of the equipment or parts covered by this warranty, and BH Thermal shall not be responsible for such labor costs.
Limitation. This warranty shall not apply to any product or part thereof which has been subject to accident, negligence, alteration, damage during shipment, improper service, abuse, or misuse, including but not limited to use beyond rated capacity. BH Thermal makes no warranty whatsoever with respect to accessories or parts not supplied or manufactured by BH Thermal. BH Thermal's obligation under this warranty shall be conditioned upon BH Thermal's receiving written notice of any defect within fifteen (15) days after its discovery, and, at BH Thermal's option, return of such equipment or parts prepaid to its factory at 1055 Gibbard Ave., Columbus, Ohio 43201.
Disclaimer. **BH THERMAL MAKES NO WARRANTY WHATSOEVER, EXPRESS OR IMPLIED, EXCEPT AS IS EXPRESSLY SET FORTH ABOVE. NO AGENT, EMPLOYEE OR REPRESENTATIVE OF BH THRMAL HAS ANY AUTHORITY TO BIND BH THERMAL TO ANY AFFIRMATION, REPRESENTATION OR WARRANTY COVERING THE SALE OF ANY PRODUCT, AND UNLESS SUCH AFFIRMATION, REPRESENTATION OR WARRANTY MADE BY AN AGENT, EMPLOYEE OR RERESENTATIVE IS SPECIFICALLY ENDORSED IN WRITING BY BH THERMAL, IT SHALL NOT BE ENFORCEABLE BY ANY BUYER. BH THERMAL MAKES NO EXPRESS OR IMPLED WARRANTY OF MERCHANTABILITY AND NO EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE, EXCEPT AS IS EXPRESSLY SET FORTH ABOVE. BH THERMAL SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTIAL OR SPECIAL DAMAGES.**
This warranty allocates risk between the purchaser and BH Thermal as authorized by the Uniform Commercial Code and other applicable law.

Returning Of Product

14. Authorization and shipping instructions for the return of any product must be obtained by the Purchaser from BH Thermal before returning the product. Product must be returned with complete identification in accordance with our return goods authorization instructions or it will be refused and returned at Purchaser's expense. If a Purchaser requests authorization to return product for reasons of his/her own, a restocking charge will apply. No returned goods will be restocked for credit if not a stock item.

Cancellation

15. Following BH Thermal's receipt of the Customer's purchase order, such order may not be cancelled without the written consent of BH Thermal. BH Thermal shall have the absolute right to cancel and refuse to complete the order:
    (1) if, at any time, all terms and conditions governing this order are not strictly complied with by the Customer.
    (2) if, the Customer shall make or offer to make any arrangement or composition with creditors or commit any act of bankruptcy, or if, being a limited company, the Customer shall go into liquidation, whether compulsory or voluntary, not being a voluntary liquidation for the purpose of amalgamation or reconstruction, or suffer the appointment of a receiver if its undertaking, property or assets of any
    part thereof,
    (3) if, at any time, the Customer becomes bankrupt, or insolvent, or, if legal process shall be levied upon any of Customer's property, or,
    (4) if the Customer fails to post security within twenty-one (21) days after BH Thermal has requested same based on a good faith-doubt of the Customer's ability to make prompt payment. In the event of such a cancellation, and without prejudice to BH Thermal's other remedies, BH Thermal shall have the right to indemnification for any or all cost incurred to the date of cancellation in performing the order (including the cost of any engineering studies and/or special patterns) and for the loss of profit resulting from such cancellation. BH Thermal shall have the right, at it's option, to waive its rights to indemnification with regard to any item scheduled for completion within sixty (60) days following the date of cancellation and to complete such items and request full payment for same. BH Thermal shall have no responsibility or liability to the Customer except for the return of any excess of the Customer's partial payments on the order less the foregoing costs and loss of profit.

Substitutes and Modification

16. BH Thermal may modify or substitute goods provided the modified or substituted goods comply with applicable specifications.

Inspection and Acceptance

17. The goods covered by this contract shall be deemed finally inspected and accepted within two (2) weeks from the date of shipment unless written notice of rejection or any claim is delivered to BH Thermal within that period. Acceptance as aforesaid shall constitute acknowledgment of full performance by BH Thermal of all its obligations hereunder except as further stated under the paragraph entitled "Warranties," "Remedies" and "Damages".

Contract

18. In accordance with paragraph 1 above, these Standard terms and Conditions are intended by the parties as a final expression of their agreement and as complete and exclusive statement of the terms of any agreement. No agent, employee, or representative of BH Thermal has any authority to bind BH Thermal to any affirmation representation or warranty concerning the product sold other than as stated in these Standard Terms and Conditions.
19. Any agreement between BH Thermal and Customer can be modified or rescinded only by a writing signed by both of the parties or their duly authorized agents.
20. Remedies of Customer provided herein are the exclusive and sole remedies of Customer.

Correction of Errors

21. BH Thermal reserves the right to correct any obvious errors in specifications or prices.