

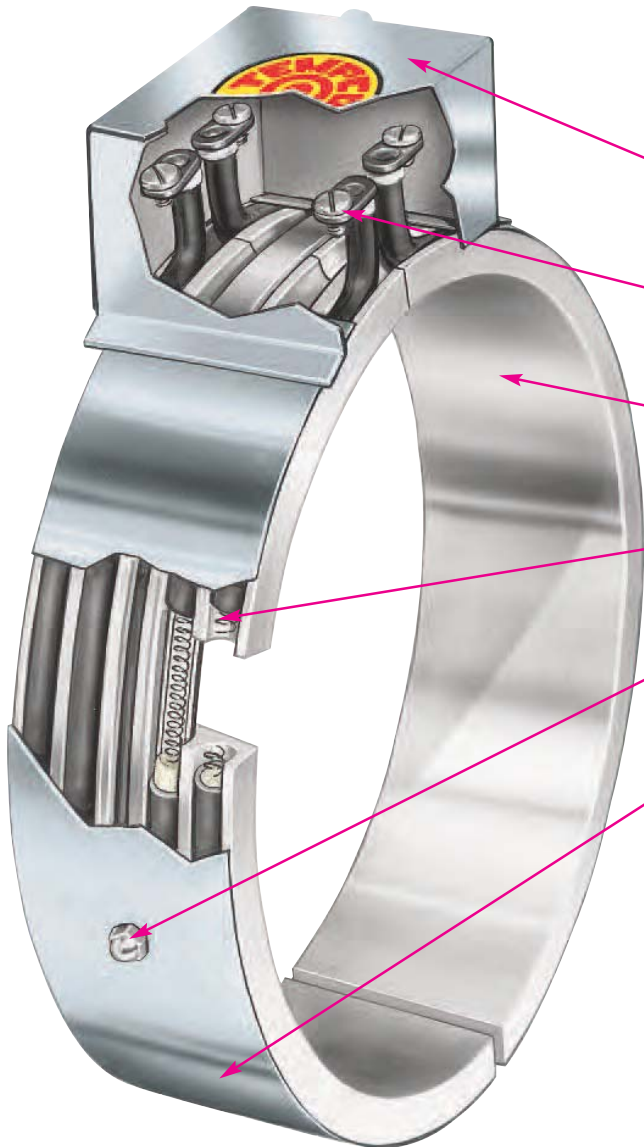
Band Heaters

Maxiband Heaters

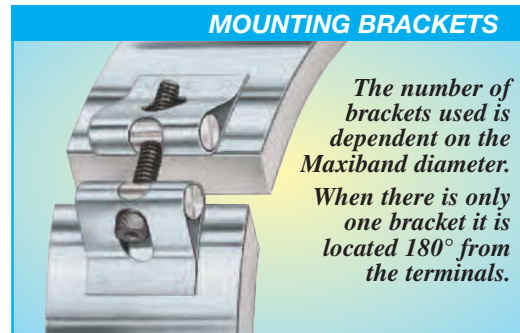


Maxiband®

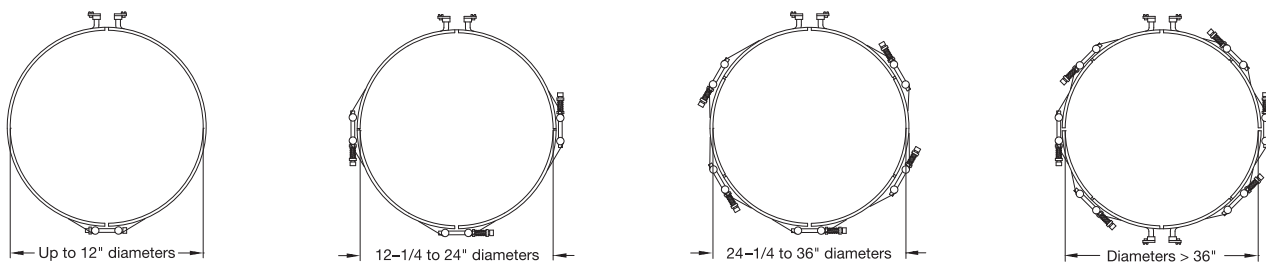
The Most Sought After Band Heater



- A** General purpose terminal box offers excellent protection to the exposed terminals. To simplify electrical wiring, the box has two 1/2" trade size knockouts that will accept standard conduit or flexible armor cable connectors.
- B** Right-angle terminal lugs with 10-32 binding head screws provide ease of electrical wiring.
- C** The channels in the specially designed extruded aluminum track have been precisely sized to accept a .315 diameter tubular heating element, and provide an excellent heat sink for rapid heat transfer and good temperature uniformity.
- D** Ruggedly constructed .315 diameter tubular heating elements are the heat source for Maxiband Heaters, providing excellent life and long, trouble-free service.
- E** Crown nuts are located at 90° from the ends that fasten the clamping strap to the aluminum track, keeping the entire assembly together, providing ease of installation.
- F** The strap is made from a Low Thermal Expansion Alloy. It hinges at the terminal end to allow for easy installation. Specially designed mounting brackets with 1/4"-20 socket cap screws, located 180° from the terminal end, provide the clamping force required to tightly draw the heater assembly to the cylinder being heated.



Typical Maxiband Clamping





Band Heaters

Maxiband®

Maxiband® Heaters

Design Features

- * *Quick Installation*
- * *Rugged, Durable Construction*
- * *Contamination Proof*
- * *Various Lead Terminations*
- * *Exceptionally Long Life*
- * *Excellent Heat Transfer*
- * *Excellent Temperature Uniformity*

Heat and Liquid Cool Maxibands (MXB)

Stainless steel tubing for liquid cooling is placed in the additional channels of the aluminum track next to the tubular heater. The overall low mass construction and high thermal conductivity of the aluminum provides extremely uniform surface temperatures and rapid cooling cycles.

Cool Only Maxibands (MXC)

Stainless steel tubing for liquid cooling is placed in the aluminum track.

Construction Characteristics

Maxiband heaters are manufactured in five standard widths: 3/4", 1-1/2", 2-1/2", 3", and 4". They are available in a full range of standard diameters; construction variations for heating only, heat and cool, and cooling only; electrical ratings and a complete arrangement of various types of terminations to accommodate your specific application. For heating only standard sizes and ratings, see pages 1-82 through 1-86.

Maxiband MXB heaters, with heat and liquid cooling capabilities, incorporate stainless steel tubing placed in the additional channels of the aluminum track next to the tubular heater. The overall low mass construction and high thermal conductivity of the aluminum provides extremely uniform surface temperatures and rapid cooling cycles.

The low thermal expansion strap securely fastened to the aluminum track segments provides a built-in hinge, keeping both halves together at all times, making handling and installation easier. Specially designed integral mounting brackets are welded to the strap, providing the clamping force required to draw the heater assembly evenly and tightly to the cylinder.

Designed for Durability and Trouble-Free Service

Tempco has been manufacturing Maxiband heaters since 1975. The Maxiband is a high quality, durable band heater providing more efficient heating and cooling as well as a longer life compared to other types of band heaters. Due to the rugged construction characteristics of this type of band heater, Maxiband has proven to be extremely valuable and has become the most sought after band heater of its type for plastic injection molding machines, extruders, and blow molding equipment. The initial cost is easily absorbed by the sharp reduction in downtime and labor costs involved in replacing burned-out, less efficient band heaters.

The straps are equipped with clamping brackets with 1/4"-20 socket head cap screws. On Maxibands exceeding 12" in diameter, spring-loaded screws provide the essential clamping force required in large diameter Maxibands to maintain positive contact with the cylinder being heated. On very large diameter Maxibands, the tubular element required becomes excessively long; therefore, two elements per half are used, each tubular element heating a 90° section of a Maxiband heater. In this case, two terminal boxes are required. A typical application for this type of Maxiband construction is heating the die heads of plastic blown film processing machines.

Maxiband heaters are constructed as sets. Each half consists of one tubular heating element and one aluminum track segment. The tubular heaters are always rated at half the total wattage of the set and full rated voltage. For better configuration on larger diameter cylinders, Maxibands exceeding 12" in diameter have the aluminum track segments in quadrants (see page 1-80 for details).

PERFORMANCE RATINGS

Maximum Temperature: 650°F (350°C)

Nominal Watt Density: 35 W/in² (5.4 W/cm²)

ELECTRICAL RATINGS

Maximum Voltage: 277VAC per half

Maximum Wattage: Depends on diameter and number of elements used

Maximum Amperage: 30 amps per circuit

Resistance Tolerance: +10%, -5%

Wattage Tolerance: +5%, -10%

STANDARD GAP

Up to 11" ID—1/4" gap. As the diameter increases, the gap will also increase accordingly in order to accommodate the thermal expansion of the aluminum track.

HEATER THICKNESS — 1/2"

PHYSICAL SIZE CONSTRUCTION LIMITATIONS

Minimum Inside Diameter: 3-1/2" (Due to manufacturing constraints, some wattages/voltages may not be available in smaller heater sizes.)

Available Heater Widths

Maxiband Type	3/4"	1-1/2"	2-1/2"	3"	4"
Heating Only	•	•	•	•	•
Heat and Cool	N/A	N/A	•	•	•
Cooling Only	•	•	•	•	•

Cooling Tube Specifications

Heater Width	3/4"	1-1/2"	2-1/2"	3"	4"
Cooling Tube Diameter	3/8"	3/8"	3/8"	3/8"	3/8"
Cooling Tube Extension	4"	4"	4"	4"	4"
Cooling Tube Material	Stainless Steel				

Holes

Heater Width	3/4"	1-1/2"	2-1/2"	3"	4"
Maximum Size Hole	N/A	7/16"	7/16"	9/16"	9/16"

Hole is located in center of heater width; see page 8-17 for mounting hole location guidelines. For special hole arrangements, supply Tempco with a detailed drawing of your requirements.



Maxiband Terminal Lug Termination

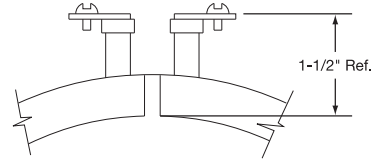


Type S—Standard Terminal Lugs

Terminal Lugs with 10-32 binding head screws.



Note: Standard on all Maxiband heaters unless otherwise specified.



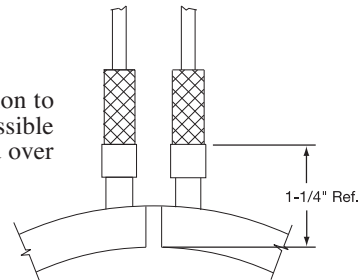
Abrasion Resistant Lead Terminations



Type W3—Wire Braid Leads

Stainless Steel Wire Braid provides strength and protection to the lead wire's insulation and offers sharp bending not possible with armor cable. The standard leads are 20" of wire braid over 24" of flexible leads.

If longer leads are required, specify when ordering.

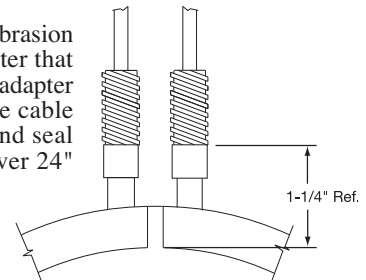


Type R1—Armor Cable Leads

Armor Cable provides excellent protection against abrasion and contaminants. The cable exits through an adapter that encapsulates both elements' ends on each half. The adapter tube is tack welded to the heating element and the cable is crimped to the adapter for maximum security and seal protection. The standard leads are 20" of cable over 24" of flexible leads.

If longer leads are required, specify when ordering.

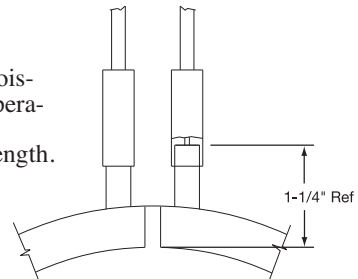
- Type R1A — Galvanized Armor Cable
- Type R1B — Stainless Steel Armor Cable



Type TS—Leads with Contamination Seal

Teflon® shrinkdown sleeving provides a good moisture and contamination seal. The maximum temperature allowed at the Teflon® seal sleeve is 500°F (260°C). The standard flexible leads are 24" in length.

If longer leads are required, specify when ordering.



CONTINUED

Band Heaters



Terminations

Maxiband Terminal Protection Terminations

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Type EP—Explosion and Moisture Resistant Box

Maxiband heaters can be made with an explosion/moisture resistant box brazed on to the heater.



Explosion resistant terminal housings are intended to provide containment of an explosion in the enclosure only. No portion of the heater assembly outside the enclosure is covered under this NEMA rating.

Abnormal use of a heater which results in excessive temperature can create hazardous conditions such as a fire. Never perform any type of service nor remove the housing cover prior to disconnecting all electrical power to the heater.

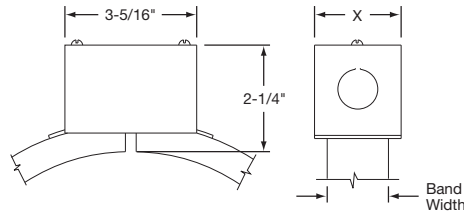
Type C3□—General Purpose Terminal Boxes

Terminal Boxes provide a simple and economical way to eliminate all live exposed terminals and electrical wiring that can be a potential hazard. The boxes have a 1/2" trade size knockout (actual diameter 7/8") for standard connectors. The standard termination is Type S, Terminal Lugs. Heaters can be factory prewired with high temperature lead wire, armor cable or stainless steel wire braid.

- C3A**—Standard box only
- C3B**—w/galvanized armor
- C3C**—w/stainless steel armor
- C3D**—w/wire braid

Band Width "X"

1-1/2"	.....	1-7/8"
2-1/2"	.....	2-7/8"
3"	.....	3-3/8"
4"	.....	4-3/8"



Type P2□—Quick Disconnect High Temperature Plug

Quick Disconnect Plug assemblies are highly recommended to provide the simplest and safest way to apply power to band heater installations.

- P2A**—Box and cup only
- P2B**—w/straight plug
- P2C**—w/str. plug and galvanized cable
- P2D**—w/str. plug and SS cable
- P2E**—w/str. plug and wire braid

Plug Electrical Ratings

2-Pole 3-Wire Grounding

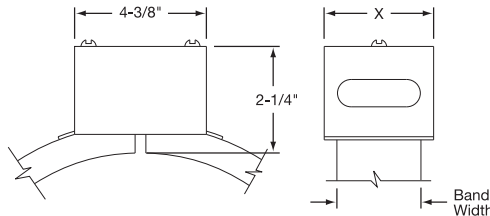
Max. Amps: 16

Max. Volts: 250 VAC

Max. Temperature: 572°F (300°C)

Band Width "X"

1-1/2"	.....	1-7/8"
2-1/2"	.....	2-7/8"
3"	.....	3-3/8"
4"	.....	4-3/8"





Band Heaters

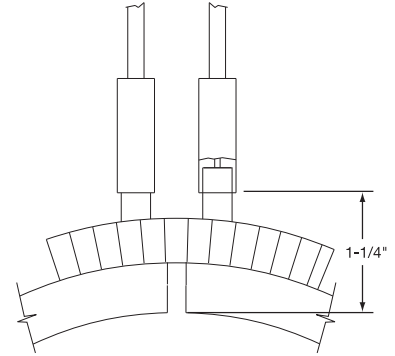
Maxiband®

Maxiband Special Construction Variations



Type EC—Insulated Shroud

Insulated Shroud provides energy savings. Available on all Maxiband widths except 3/4". The shrouds are a separate component part and fit over the Maxiband heater. Insulated shrouds to cover entire heat zones are available and are made to customer specifications. When ordering or for quoting, supply Tempco with a detailed drawing outlining your requirements.



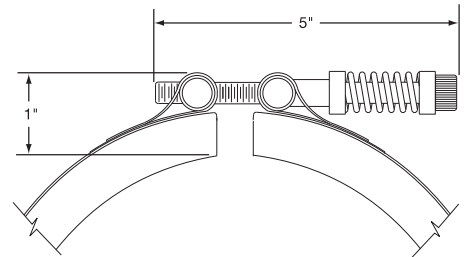
Terminal Protection



Type SL—Spring-Loaded Clamping

On Maxiband heaters over 12" in diameter, the aluminum tracks are in segments for better configuration, and the straps are equipped with two or more Spring-Loaded Clamping Brackets. For excessively large diameters, four tubular heaters will be used, each heating a 90° section of the total diameter. When terminal boxes are required, two boxes will be used.

NOTE: See page 1-80 for clamping quantity and location details.



Type RC—Reverse Construction

Reverse Maxibands lend themselves to heating cylindrical surfaces from the inside out.

The specially designed internal brackets exert pressure to both heater halves to assure good contact against the inside diameter of the part being heated. Reverse HLC Maxiband minimum OD is 5-1/2".

Made strictly to customer specifications.

Due to size/construction restrictions, some termination styles are not possible.

Consult Tempco with your requirements.

Band Heaters

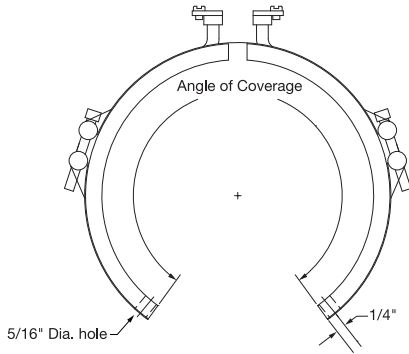


Construction Variations

Maxiband Special Construction Variations

Partial Coverage

Partial coverage band heaters are normally required when holes and cutouts will not allow the heater to sufficiently clear the machine obstructions. The preferred method of construction is the 2-Piece Maxiband Heater with Built-In Brackets. The heater is screwed down to the cylinder at the ends and the Built-In Brackets pull the heater tightly against the cylinder being heated. It is available with all types of construction and termination variations. When ordering provide the angle of coverage from center to center of the mounting screw holes as shown.



Additional Maxiband Heater Optional Features

Electrical Variations

Dual Voltage — Maxiband heaters can be designed using series/parallel circuits for dual voltage applications. Whether the heater is run on the higher or lower voltage, the wattage will be the same. Dual Voltage is available on all Maxiband heater widths except 3/4".

Ground Terminal or Lead — For those applications requiring a separate ground terminal or lead attached to the heater. A Ground Terminal or Lead is available on any construction or termination variation.

Lead Variations

Electrical Plugs — Industry standard NEMA twist lock electrical connectors are available. The plugs can be attached to fiberglass leads, armor cable or wire braid. Electrical Plugs can be added to any clamping, construction or termination variation.

Terminal Lugs — Various types of crimp terminals can be attached to the heater leads to make wiring into applications quick and easy. High temperature 1200°F (649°C) ring terminals and nylon or PVC insulated terminals are available. Spade, ring, and right-angle or straight quick disconnect type terminals can be attached to the leads.

Extra Cooling Tube Length — The standard cooling tube length is 4". Longer lengths can be provided; please specify when ordering.

Type SC—Square or Rectangular

Square or Rectangular heaters, normally used for heating dies on plastic extruders, are made in a two-piece construction for better clamping and to provide good surface contact. Made strictly to customer specifications. When ordering or for quotation purposes, supply a detailed drawing or sample part.

Consult Tempco with your requirements.





Maxiband "MXB" Heat & Cool with Built-In Cooling Tubes

Maxiband heaters have an exceptionally long operating heater life when compared to other types of band heaters. Highly recommended whenever applicable as an economical alternative to more expensive cast-in aluminum heat and cool band heaters. Available in three different widths: 2-1/2", 3", and 4".

Minimum Inside Diameter: 5".

Consult Tempco if smaller ID is required.

For **complete specifications and terminations** see pages 1-87 through 1-90.

For **cooling tube fittings**, see page 3-52 in the Cast-In Band Heater Section.

Design Features

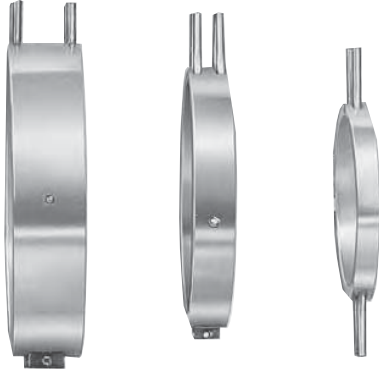
- * *Rugged Durable Construction*
- * *Withstands Vibration*
- * *Excellent Temperature Uniformity*
- * *Excellent Heat Transfer*
- * *Contamination Resistant*



CONTINUED 



Maxiband “MXC” Cool Only *with* Built-In Cooling Tubes



Maxiband MXC Bands are made for cooling only and are available in five standard widths: 3/4", 1-1/2", 2-1/2", 3", and 4". For 3/4" and 1-1/2" wide MXC bands the ends of the stainless steel cooling tubes exit 180° apart. Complete Maxiband specifications can be found on page 1-81.

Minimum Inside Diameter: 5".

Consult Tempco if smaller ID is required.

For **optional cooling tube fittings**, see page 3-52 in the Cast-In Band Heater Section.

Cooling Tube Specifications

Band Width	3/4"	1-1/2"	2-1/2"	3"	4"
Cooling Tube Diameter	3/8"	3/8"	3/8"	3/8"	3/8"
Cooling Tube Extension	4"	4"	4"	4"	4"
Cooling Tube Material	Stainless Steel				



Optional Reverse Construction

Reverse MXC Maxibands lend themselves to cooling cylindrical surfaces from the inside out.

The specially designed internal brackets exert pressure to both heater halves to assure good contact against the inside diameter of the part being cooled. Reverse MXC Maxiband minimum OD is 8". Consult Tempco if smaller OD is required.

Made strictly to customer specifications.

Consult Tempco with your requirements.