



BVX AerOheat Heater

Features:

- Ultra low heat generated in cold sections.
- Electrical connections sealed inside of electrically isolated metal sheath.
- Variety of sizes and lengths possible for customer's needs.
- Reduction in heat at cold end allows moisture seals to survive even in extreme process temperatures.
- Vacuum sealing "O" rings can survive when sealed against the BVX cold section. Previous cold sections could generate enough heat to melt silicone and Viton seals.
- All welded construction to minimize any possible contamination to customers system.
- Available in stainless steel and Inconel 600 outer metal sheaths.
- BVX offered as direct replacement for traditional BXX series heater designs
- BVX heaters have been successfully used at over 100W/Square inch on the heated section.

ARI's new BVX series AerOheat heaters offers a vast improvement in heated cable to cold end efficiency. ARI's AerOheat heaters have always provided outstanding high temperature electrical heating. Today's demands in semiconductors and aerospace have driven us to take a very successful product and build upon it's current features and improve them beyond where current heaters fail.

The new BVX series of AerOheat Heaters allows the end user to focus the heat where the customer wants it. The cold section that extends away from the heated section provides only a fraction of the heating that previous heaters generated.



Old to new comparison example:

Current BXX series heaters offer a 10 to 1 ratio on heating vs cold cable. 1 Ft. of heated cable that generated 50 watts would generate 5 watts/Ft. in 1 Ft. of the cold section cable. The new BVX series heaters in the same application would generate only 0.5 to 1 watt of heat in 1 Ft. of cold section.

Customer applications benefit from the focused heat in the area where they want it without introducing heat into unwanted areas. Unwanted areas could be in the insulation barrier that surrounds the heated section, or even passing through a vacuum where heat is not wanted on the cold section.

Power connections remain much cooler when using the improved cold sections. Previous high voltage cold sections generated excessive temperatures to a point where ceramic insulations were needed at the potting adapter to lead wire. Typical moisture seals at the ends of the cold cable can withstand 250°F (121°C), and 500°F (260°C).

Environmental seals when exiting vacuum chambers are not exposed to excessive temperature generated from the cold ends of the BVX series.

Typical seal temperature ratings are:

Buna "O" ring seals are rated for 176°F. (80°C)

Viton seals are rated for 356° F. (180°C)

Silicone "O" ring seals are rated for 400°F. (200°C).

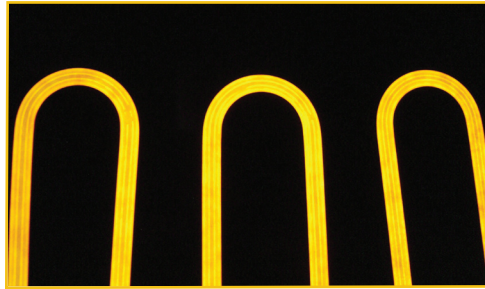
Do you need to go beyond what flexible seals can offer? No problem. Our **AerOheat heaters** offer a 100% sealed outer surface that can easily be used with standard "O" ring or conflat vacuum flange. *(Continued on back)*





Radiant heat is one of the most common methods of heat transfer in a vacuum. Electric heaters need to be over 1000°F before metal surfaces start to radiate heat away from the surface of the heater. Keeping that heat in the area of the process and away from the cold section of cable brings a new generation of efficiency to radiant vacuum process heating.

Vacuum applications act like heat traps. Until radiant temperatures are achieved the heat stays in the heater or the parts that are being heated. Sensing temperatures from metal heater surfaces in a vacuum can also be difficult.



ARI offers high temperature furnace brazing of heaters and sensors to attach directly to the metal parts. Proper heater and sensor attachment allows the parts to remain in contact in a vacuum and not rely on radiant heat transfer. Having that sensing point for feedback to the control system allows excellent repeatability for process control and management.

The BVX Heaters can be made as direct replacements for the BXX series of cable heaters currently in use around the world. Custom shapes and custom bend formations can be developed for your application requirements.

ARI offers heaters from 0.0335 inch O.D. & larger.

Custom sizes and lengths are available to meet your applications needs. Contact our sales/engineers for any questions, or pricing inquiries.

Due to the formability of the heater cable ARI can offer an incredible variety of shapes and watt densities from these shapes to put the heat where you need it in the AMOUNTS you need it in. Our engineers and model makers bring years of experience into making the complex a reality in our product.

Available Products:

Temperature Sensors

- Mineral insulated cable
- Base metal T/C cable:
 - Type E
 - Type J
 - Type K
 - Type T
- Nobel metal T/C cable:
 - Type B
 - Type R
 - Type S
- Refractory T/C cable:
 - Tungsten Rhenium
 - Type C
 - Type D
- Multipoint T/C assemblies for temperature profiling.
- Fan Junction for furnace tube temperature sensing:
- Stainless Steel Sheaths, Hastelloy-X Sheaths,
- Nuclear grade T/C's.
- RTD assemblies
- Thermowell's
- Temperature transmitters

Conductor Cable Assemblies

- MGO insulated conductor cable. 1 to 10 wire designs

Neutron Detectors

- Self Powered Neutron Detectors.

Electric Heaters

- Metal sheathed electric heater cable:
 - Stocked sizes
 - Single ended
 - Double ended
 - Custom lengths
 - Multiple circuits
 - Custom formations
 - Heated & unheated sections
 - Vacuum designs
 - High Temp. Heat Tracing
 - Furnace brazed parts
- Tubular heater assemblies.
- Flexible silicone rubber heaters.

Quality System

- ISO-9001-2000 Certified.

Testing Options / Services offered

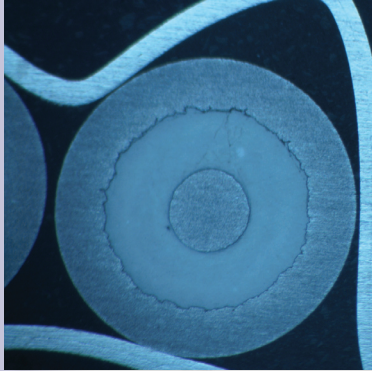
- Custom testing available:
 - X-Ray
 - Helium Leak
 - Heat Treating
 - Temperature calibration (traceable to NIST)
- Custom Furnace Brazing



Call today to talk to one of our sales engineers and find the help you need in today's demanding production environment.



TESTING SERVICES OFFERED AT ARI



ARI's own metallurgical laboratory offers analysis levels that go beyond the norm.

Internal features of the cables structure are revealed with X-Ray's that show the hidden internal structure. ARI strives to offer you the customer the newest format of digital X-rays with on site historical storage that can be retrieved at any time. Secure FTP upload for large files that eliminates the bottle neck of email file limitation.



ARI offers helium leak testing to insure the highest integrity of our products outer sheath and any attached hardware.

NIST traceable helium leak standards are maintained to insure our abilities to calibrate our system to the extremes (9 range leak standards).



We have high pressurization options (bombing) available for our cable (up to 5000 PSI).

Testing after such pressurization insures the integrity of the cable/ heaters that we produce.

