

## **ALUMINUM CAST-IN HEATERS**



Max. Watt density: 50 W/Sq. inch.  
Max. surface temp. 300 Deg. C.

In plate or bent shape as per requirement. Consist of tubular type heating element with adequate watt density gives better surface contact & quicker heat transfer.

- Extruders & presses of thermoplastic machinery, Plates for rubber presses, Packing machinery.

## CARTRIDGE HEATERS (HIGH & MEDIUM WATT DENSITY)



Max. Watt density: 10 W to 160 W/Sq. inch,  
Max. surface temp. 800 Deg. C.

Can be fabricated as per requirement, in different diameters, lengths & supply Voltages (from 12 to 460 Volts), with or without thermocouple. Having variety of terminal types (leads, screw type or pin type). Heater sheath materials depends upon temperature requirement (may be of incoloy, inconel, stainless steel or brass). It is advisable to use high Watt density heater through Thyristor Controller.

- Heating of dies, moulds, packaging machines.

## **CERAMIC KNUCKLE INSULATED BAND & SQUARE HEATERS**



Max. Watt density: 40 W/Sq. inch.  
Max. surface temp. 700 Deg. C.

Spirally wound heating coil insulated with ceramic insulators and covered with SS sheet made as per required sizes with terminal connections & fixing clamps.

- Plastic processing machinery.



## **CERAMIC KNUCKLE INSULATED BAND HEATERS WITH PERFORATED JACKET**

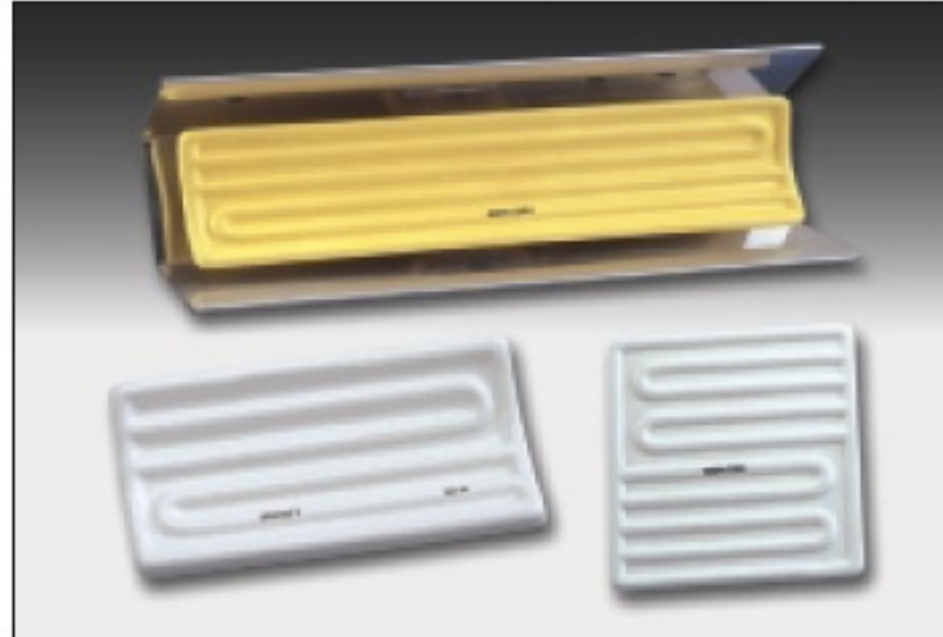


Max. Watt density: 40 W/Sq. inch.  
Max. temp. up to 700 Deg. C.

Ceramic Knuckles Heaters withstand very high temperature and it is much rugged in compare to micanite insulating sheet. Heater will have double jacket. Inner jacket will prevent radiated heat loss and outer jacket will keep hot surface hidden inside and will not give scorching effect if touched mistakenly. So, it is much safer for the machine operator. This Jacketed heater will save power considerable, by preventing heat loss. It heats the job more quickly & efficiently, this increases productivity and decreases loss of time.

- Heat cylinders / barrels of plastic processing machinery / soft metal melting pots/ Vessels / where the heaters are installed without cover and in visible manner.

## **CERAMIC SEALED INFRARED HEATERS**



Max. Watt density: 44 W/Sq. inch.

Max. temp. up to 800 Deg. C. Wave length: 3 to 4 microns.

Special ceramic body, medium wavelength radiation, emitting external surface. Can be made in curved or flat shape as per the following sizes: (in mm)  
245 x 60 - 250 W to 1 KW, 122 x 60 - 125 to 500 W, 122 x 122 - 250 W to 1 KW,  
70 x 60 - 150 Watts. Available with built-in thermocouple and Reflectors with fixing clips for easy installations.

- Thermoforming & thermo welding machines, Industrial drying, curing processes of various types where continuous heating is required.

## **STRIP & FINNED HEATERS**



Max. Watt density: 35 W/Sq. inch.

Consist of refractory insulated heating element, covered with zinc plated MS or SS sheet with fixing holes. Finned heaters for more coverage of surface area.

- Air Heating purpose. Finned heaters are used where high velocity of air to be heated.

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## FIBRE GLASS HEATING TAPE



Max. Watt density: 5 W/Sq. inch.  
Max. surface temp. up to 150 Deg. C.

Helical heating coil insulated with fibre glass sleeve & tape suitable for max. 150 Deg. C. skin temperature. It will have terminal leads with ceramic connector at either end.

- To heat viscous fluids by wrapping it around pipe, flasks, beakers etc. Anti-condensation applications in motor, generator sets etc.

## **HALF & FULLY SHEATHED RING HEATERS**



Max. Watt density: 58 W/Sq. inch.  
Max. surface temp. 650 Deg. C.

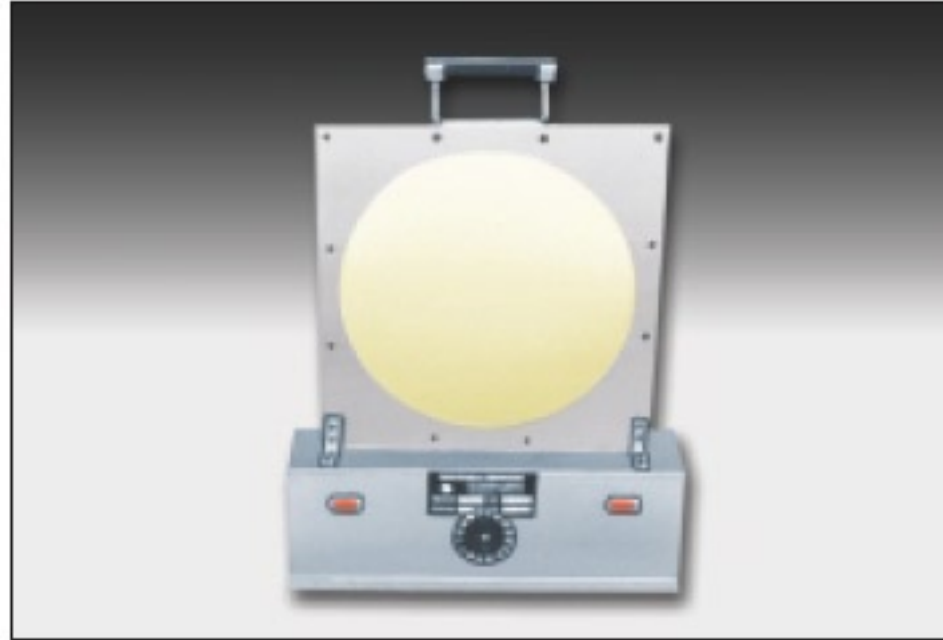
**HALF SHEATHED** : Eight convenient sizes. Consist of MgO insulated heating coil with terminal studs. Being sheathed in one side only, it has very little residual heat.

**FULLY SHEATHED** : Used where chances of falling liquid on it and where atmosphere contain more humidity.

- Heating of Dies, moulds, packaging machines. Soft metal melting etc.



## **HEATING MIRRORS**



Max. surface temp. 250 Deg. C.

Thick aluminum Plate sheathed mica insulated heaters as per required sizes.

- Homogenous welding of plastic pipes & fittings.

## **OPEN CARTRIDGE HEATERS**



Max. Watt density: 30 W/Sq. inch.  
Max. surface temp. 400 Deg. C.

They are available in various diameters and lengths as per customers' specifications. However the standard diameters are from 8 mm OD to 75 mm OD. They can be designed for vertical as well as horizontal installation with required heating and non-heating zones.

- Open Cartridge Heaters are widely used as immersion heaters or as air heater selecting appropriate sheath materials for heating various types of chemicals, oils & water OR air & gases.

## **MICA INSULATED NOZZLE, BAND, STRIP, PLATE, SQUARE & RING HEATERS**



Max. Watt density: 35 W/Sq. inch.  
Max. surface temp. 300 Deg. C.

Mica insulated Heaters consist of electric resistant ribbon / round wire element covered with zinc plated MS, Brass or SS sheet with clamps. Size & terminal connections as per requirement.

- Low cost electric heating of plastic processing, rubber vulcanizing, Drums, Barrels & cylinders etc.



## MICRO TUBULAR COILED HEATER



Max. Watt density: 95 W/Sq. inch.  
Max. surface temperature up to 700 Deg. C. (1300 Deg. F).

- \* A very wide contact surface results in exceptionally high levels of thermal conductivity towards the body that needs to be heated.
- \* Wide range of possible shapes & heavy-duty construction results in very high resistance to mechanical shocks. Heaters can be incorporated in to brass or aluminum casting.
- Heating of Plastic injection nozzles. Aerospace, railway, chemical, metalworking, food industry, glass & paper industry, automotive, packing & medical industry.

## **OPEN CARTRIDGE HEATERS**



Max. Watt density: 30 W/Sq. inch.  
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They are available in various diameters and lengths as per customers' specifications. However the standard diameters are from 8 mm OD to 75 mm OD. They can be designed for vertical as well as horizontal installation with required heating and non-heating zones.

- Open Cartridge Heaters are widely used as immersion heaters or as air heater selecting appropriate sheath materials for heating various types of chemicals, oils & water OR air & gases.

## **QUARTZ INFRARED HEATING MODULES & PANELS**



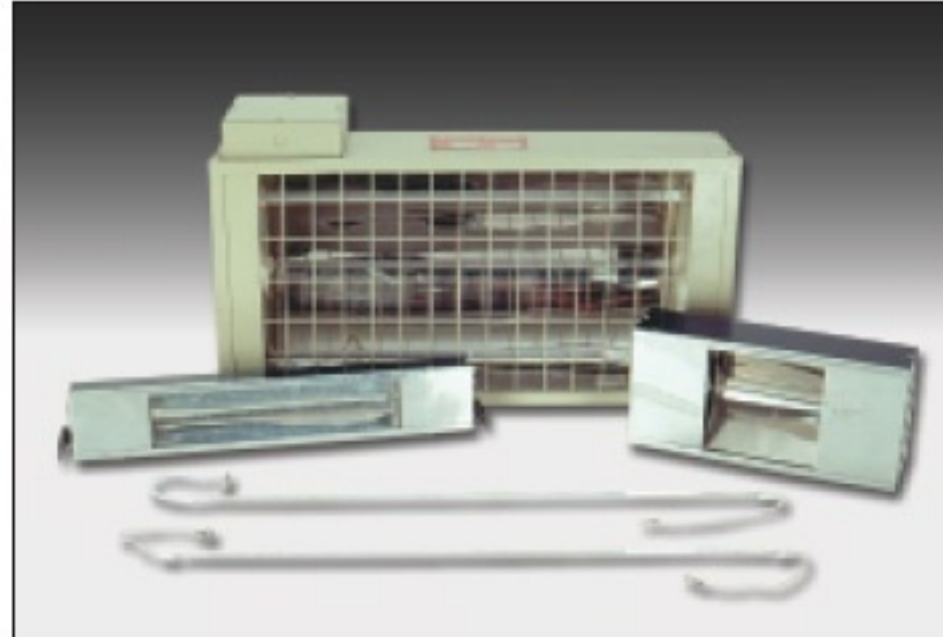
Max. Watt density: 30 W/Sq. inch.  
Max. surface temp. 870 Deg. C. Wave length: 2.55 microns.

Medium wavelength radiation. \* The most preferred source of heat when rapid heater response is needed. \* Comprises of series of quartz tube sheathed heating element within highly reflective steel housing. Available in overall sizes  
of modules (in mm) 248 x 62, 125 x 62, 62 x 62, 248 x 117, 125 x 125.  
(150 to 1250 Watts).

- Various industrial heating application, drying, curing, softening etc.



## **SHORT WAVE INFRARED HEATERS & MODULES**



Max. Watt density: 100 W/linear inch.  
Max. surface temp. up to 1500 Deg. C.  
Wave length : 1.16 microns.

Tungsten filament consists in quartz tube sealed with inert gas having terminal leads at both the ends. It can be housed in metal box with reflector as per requirement.

- High speed heating / drying / softening applications.

## **STRAIGHT & SHAPED TUBULAR HEATERS**

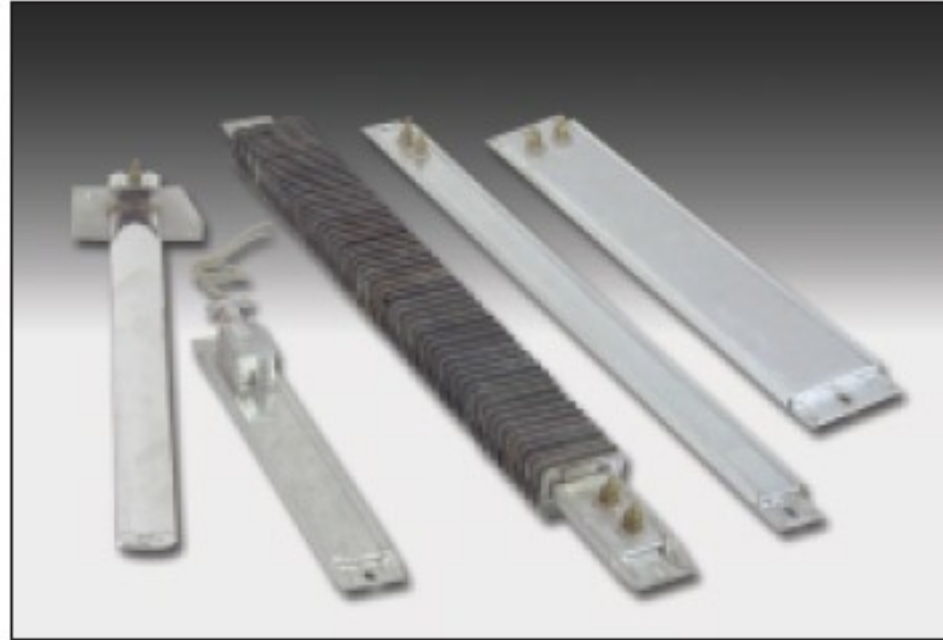


Max. Watt density: 40 W/Sq. inch.

Versatile in shape & loading. Sheath material suitable to the application and temperature.

- Variety of heating applications.

## **STRIP & FINNED HEATERS**



Max. Watt density: 35 W/Sq. inch.

Consist of refractory insulated heating element, covered with zinc plated MS or SS sheet with fixing holes. Finned heaters for more coverage of surface area.

- Air Heating purpose. Finned heaters are used where high velocity of air to be heated.



## **TEMPERATURE SENSORS**



Thermocouples & thermoresistances mineral oxide insulation (MgO) with grounded or ungrounded junctions. Sheathes & types available for all temperatures. Special shapes & fittings can be offered on request.

- Measuring of temperature through Electronic Temp. Controller indicator.

## **TUBULAR HEATERS (WITH OR WITHOUT FINNS)**



Max. Watt density: 40W/Sq. inch., Max. surface temp. 650 Deg. C.

Sheathed in Incoloy / Chrome steel tube. Consist of MgO compacted heating element. Made as per required sizes and shapes.

- Industrial air heating applications of various types. Also suitable for heating dies & moulds.