

Raas Heat Tech



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RAAS HEAT TECH is a well-known Company highly immersed in manufacturing supplying of high-quality, feature-rich electric heater, custom built heater, Industrial Quartz Products and industrial temperature controllers. Our wide range of product include Infrared Heater, High Density Cartridge Heater, Casting Heater, Hot Runner Heater, Linear Sensors, Thermocouples, PID Controllers, Temperature Controllers, Power Controller, Control Panel and Industrial Quartz Glass for Heater Assembly. These products are made with the aid of sophisticated technology underneath the administration of deft designers who have massive proficiency in this sphere. The products offered by us are obtainable in several sizes, technicalities and provisions as per the variegated demands of our customers.



We have a crew of devoted and adroit executives who are the most important assets of our firm. All our executives are recruited on the basis of their sphere proficiency, creativity and skills. Personnel working with us work in close harmony with each other and guarantee steady organizational development. By using their knowledge and skills, we are quickly growing our business across the nation and adding new clientele in our current list. Also, we conduct different seminars, workshops and development program for our employees in order to boost their knowledge & skills.



Strengths

- Professional business conduct
- Strong emphasis on quality is at the heart of all offerings
- Supported by a team of technocrats & expert engineers
- Service & support related to heaters
- Custom configurations & development of heaters and temperature controllers
- Wide distribution network
- Time bound delivery

Services

Raas Heat Tech offer a host of services to assist our customers from the project planning stage to the commissioning of the project. We offer consultancy on projects our services shall include:

- Counselling and expert advice on viability of project.
- Project report and detailed project Plan.
- Design of project lay out.
- Detailed technical specifications of the Heater for Machine and other utilities required.
- Delivery of the Heater to the project site.
- Installation testing and commissioning of the Heater for machines.
- Trial production runs.
- Fine-tuning and commencement of commercial production.
- Post production counselling and market information and feedback.





SHORT WAVE INFRARED HEATER

Short Wave IR Lamp transmits heat in the form of electromagnetic waves at a velocity of approximately 3,00,000 Km/Sec i.e., at the speed of light. These lamps are not only the fastest in transmitting heat but are most suitable for specific applications involving vacuum technology and dust free (clean room) conditions. Infrared (IR) heating provides significant advantages over conventional heating, including reduced heating time, uniform heating, reduced quality losses versatile, simple, and compact equipment, and significant energy saving. Infrared heating can be applied to various processing operations such as starching, curing, drying, etc.

REFLECTOR: The Reflector are used to better efficiency and target on material through all transmission rays energy emitted by Infrared Lamp.

The High Efficient Reflector are as following:

- GOLD REFLECTOR:** It is a Layer of Gold which is deposited on the layer of Infrared Glass Tube able to reflect more than 90% of IR radiation to achieve the maximum working temperature of about 600°C.
- WHITE REFLECTOR :** It is a Ceramic layer fixed on the infrared Glass tube to reflect, emits reflects about 70% of radiation as compared to gold it is less effective to the material. It can withstand upto 900°C.
- RUBY REFLECTOR:** it is use mitigate the Infrared Radiation intensity of the filament. It is fixed all over the SW IR lamp in combination with another reflector.

ADVANTAGES:

- Improved energy transmission on material
- Reliable heating
- Possible to obtain an additional distance irradiated energy.

APPLICATIONS:

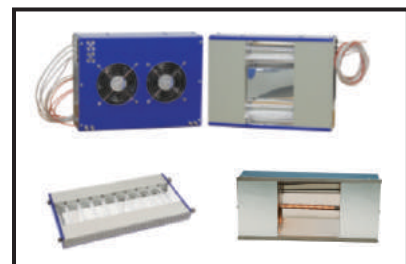
- ❖ In Stretch PET Bottles Machines ❖ Paint Shops ❖ Powder Coating Ovens ❖ Screen Pad Printing
- ❖ Curing ❖ Drying ❖ Printing Ink Drying, ❖ Offset Machines ❖ Trolley Type Short wave IR Modules.



Standard Available Sizes

Sr. No.	HL (mm)	OL (mm)	Wattage (W)	Voltage (V)
1	127	212	500	240
2	254	348	1000	240
3	406	500	1600	240
4	406	500	1600	415
5	508	626	2000	240
6	508	626	2000	415
7	635	728	2500	415
8	508	626	3000	240
9	765	875	3000	415
10	1020	1120	2000	240

Short Wave IR Heating Module





MEDIUM WAVE QUARTZ INFRARED HEATER

Quartz Heaters consist of a helically wound resistance coil housed in a pure vitreous silica fused quartz tube. The Quartz tubing is terminated with specially designed ceramic insulating caps which are securely fastened to the quartz tube with high temperature cement providing excellent support to the power connecting termination. Quartz Heaters are designed to be used in a horizontal position only. Quartz Heaters are available in various diameters like 8,10,12,15,19 mm & lengths from 300 to 1500 mm. Twin Tube quartz heater available in dimensions of size 11 x 23 mm & 15 x 33 mm length from 300 to 2500 mm.

FEATURES:

- Quartz Infrared Heater is available in diameters of 8,10,12, 15 and 19 mm
- Available in lengths from 300 mm to 1500 mm
- Can be used only in horizontal position.
- Fitted with specially designed heating coil to ensure longer life
- Least maintenance required.



APPLICATIONS:

- ❖ In Textile Industry ❖ Printing Ink Curing Modules ❖ Heating IR Tunnel Systems ❖ Drying of IR Conveyor
- Food Industry Products ❖ WAP Dryer Modules ❖ Automobile Industry ❖ Paintshops ❖ Curing
- ❖ Heater Dryer Systems and many more.

TWIN TUBE QUARTZ IR EMITTERS WITH GOLD COATING

Plating is done on quartz tube over 180°. These heaters reflect the radiant energy through the opening area only, improving element efficiency by as much as 20% compare to without gold plating heater. Energy cost savings are realized. Reflectors are often not needed. Surrounding work area temperatures are cooler. These heaters are also available with and without gold plating.



MW QUARTZ IR HEATING MODULES

A resistance wire is enclosed in a small diameter quartz tube running parallel to each other and mounted in a special housing. The two sizes are designed to be installed in the same dimensional spacing as the ceramic infrared elements. IR heating modules half are available in different wattages from 125 to 650 watt and IR heating modules full are available from 250to1000watt.

FEATURES

- Good radiant efficiency upto 80%
- Very rapid Heat-up, Cool-down time 30 to 60 seconds
- Watt density upto 40 watts/sq.inch
- Infrared wavelength Range from 2.5 to 3.0 m
- Lower power consumption

APPLICATIONS

- ❖ Thermo forming ❖ Plastic forming
- ❖ Shrink packaging tunnels ❖ Laminating
- ❖ Curing rubber ❖ Drying textiles





QUARTZ GLASS CLEAR QUARTZ TUBE

Raas Heat Tech is specialized in Industrial Quartz Glass Products & Quartz Accessories. Quartz Glass tubes both transparent clear tube & translucent milky tubes.

Glass tube have purity, good spectral transmission, well controlled dimension and lower OH. Quartz has a nominal purity of 99.99%.

These are highly resistive to thermal shock due to extremely low co-efficient of thermal expansion.

These Quartz tubes have excellent electrical strength that remain highly stable with temperature variation.

We have regular stock of Transparent Clear Quartz Tube, Translucent Milky tubes, Quartz Rod, Quartz Plate, One End Closed Quartz Tube, Quartz Crucibles etc.

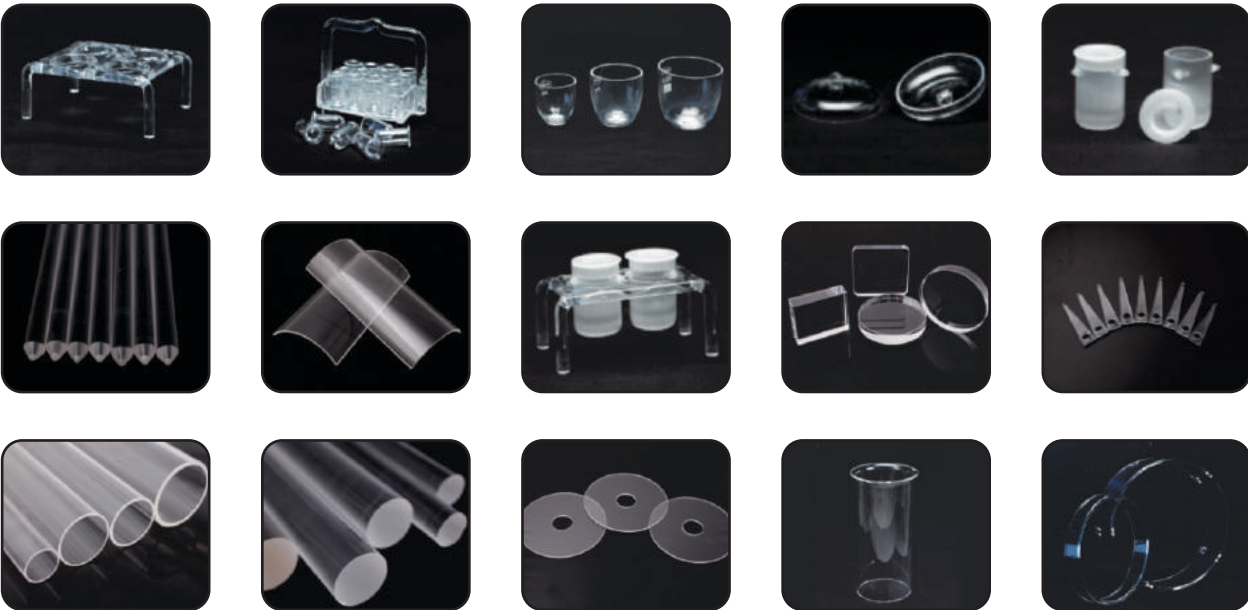
We also have Quartz fabrication unit where we can fabricate infrared heaters, Quartz tubes of any shape and other Quartz items according to requirement.

The clear quartz glass tubes are obtained through the use of different types of raw materials like natural or synthetic quartz sand. Quartz glass tube have ultra high purity, good spectral transmission, well controlled dimensions and lower(OH) Hydroxyl.

These are highly resistance to thermal shock due to extremely Low Co-efficient of thermal expansion.

These Quartz Tubes have excellent electrical strength that remains highly stable with temperature variation.

These Quartz tubes are available from 2 mm inside diameter to 200 mm outside diameter up to 3000 mm length. And the quartz plates are also available from 1 mm to 6 mm thickness.



Clear Quartz Glass Chemical Composition Analysis

SiO ₂	Al	Fe	Ca	Mg	Cu	Mn	B	K	Na	Li
>99.9%	20	0.4	0.5	---	0.01	---	0.2	1	1.5	1.4

UV transmittance is over 85%.

Physical Properties

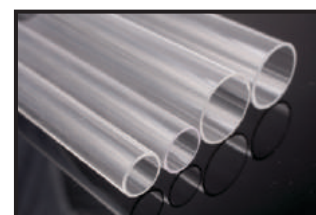
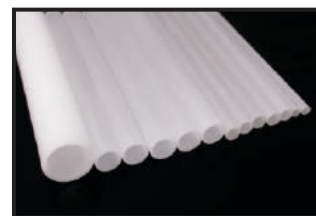
Properties	Standard Values	Remark
Density	2.21 x 10 ³ kg/m ²	Thermal stability: three times from 1100°C to 20°C, no crack. Heat at 1100°C for one hour without discoloration.
Hardness	580KHN ₁₀₀	
Tensile strength	4.9x10 ⁷ Pa(N/m ²)	
Comprehensive strength	> 1.1x10 ⁹ Pa	
Coefficient of thermal expansion (20°C-300°C)	5.5x10 ⁻⁷ cm/cm °C	
Thermal conductivity (20°C)	1.4W/m°C	
Specific heat (20°C)	680 J/kg°C	
Softening point	1680°C	
Annealing temperature	1050°C	

Material Key properties of Quartz Tube:

- Near zero thermal expansion
- Exceptionally good thermal shock resistance
- Very good chemical inertness
- Can be lapped and polished to fine finishes
- Low dielectric constant
- Low dielectric loss
- Good UV transparency

Quartz tube dimensions in milky and transparent:

DIA (MM)					
Sr. No.	ID	OD	Length (mm)	Thickness (mm)	Tolerance
1	2	4	1240	1	±0.3
2	4	6	1240	1	±0.3
3	5	7	1240	1	±0.3
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68	8	12	1240	2	±0.3
67	95	100	1240	2.5	±1.0
68	100	105	1240	2.5	±1.5
69	105	110	1240	2.5	±1.5
70	122	130	1240	4	±2.0



CERAMIC INFRARED HEATER

FSR SERIES (Proved Quality)

- ◆ 245 mm x 60 mm - 250 W to 1000 W
- ◆ 122 mm x 60 mm -125 W to 500 W
- ◆ 60 mm x 60 mm - 60 W to 250 W typ.
up to 720°C max. 64.0 kW/m² 2-10 μm



FSR Series
High Quality
Robustness



HTS Series
High Efficiency
Low running costs

HTS SERIES (ENERGY SAVING)

- ◆ 122 mm x 122 mm - 250 W to 1000 W
- ◆ 245 mm x 60 mm -250 W to 1000 W
- ◆ 122 mm x 60 mm-125 W to 500 W
- ◆ 60 mm x 60 mm - 60W to 250W typ.
up to 860°C max.64.0kW/m² 2-10μm



SHTS Series
Highest Watt-Density
Most powerful



HSR Series
High Speed
Quick reaction

FSF SERIES

- ◆ 122 mm x 122 mm - 250 W to 1000 W
- ◆ 245 mm x 60 mm - 250 W to 1000 W
- ◆ 122 mm x 60 mm -125 W to 500 W
- ◆ 60 mm x 60 mm - 60 W to 250 W
max. 64,0 kW/m² typ.upto720°C



RFS Series
High Flexibility
For round panels



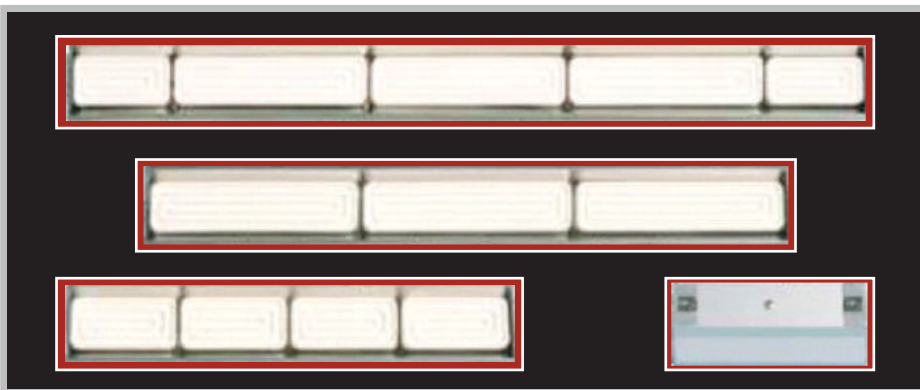
IRS Series
High Precision
Linear heating

EBF SERIES (ENERGY SAVING)

- ◆ 100 mm x 250 to
- ◆ 100 mm x 1250 mm
- ◆ Other lengths on request typ. up to 860°C max. 48.0 kW/m²
2-10 μm

BSI SERIES (IR SYSTEM)

125 mm x 250 mm to 1000 mm x 1500 mm
Other sizes on request typ. up to 860°C
max. 64.0 kW/m²
2-10 μm



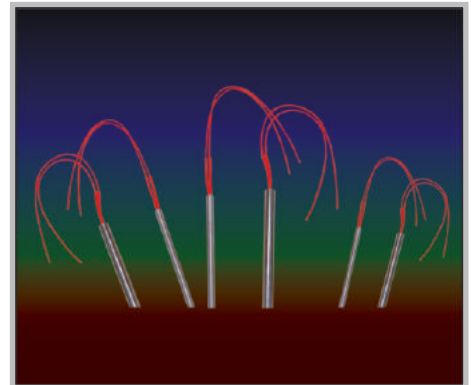


CARTRIDGE HEATERS

Raas Heat Tech offers Cartridge Heater both High watt and Low watt Density. These heaters are designed for a long life and outstanding performance.

ORDERING INFORMATION:

- ◆ Diameter
- ◆ Length
- ◆ Wattage
- ◆ Voltage
- ◆ Wire lead length
- ◆ Inbuilt Thermocouple required or not
- ◆ Termination type



HIGH WATT DENSITY CARTRIDGE HEATER:

The Construction of this type varies from Low Watt Density Cartridge Heater in two aspects. The space between Ceramic bricks & the tube filled with selected grain size of high purity Magnesium Oxide (MgO). This is swaged to an extent of producing excellent heat transfer capability and dielectric strength and long life.

The tube used to house the ceramic brick arrangement is of SS 316 sheath or In coloy 800 with maximum watt density of 12 Watt/sq.cm.

LOW WATT DENSITY CARTRIDGE HEATER:

Coil is made up of helically wound coil of Nickel Chrome wire. This coil is passed through specially designed circular ceramic bricks in such a way that it is evenly stretched to form stacks of ceramic bricks. This arrangement is housed in a tube of SS 304 Sheath with maximum Watt density of 4 Watt/sq.cm.

APPLICATION:

Cartridge heaters can be specified to meet the demand of special Application:

- ❖ Moulds & Dies
- ❖ Labeling Machines.
- ❖ Packaging Equipment
- ❖ Laminating Equipment
- ❖ Heating liquids & gases



CERAMIC BAND HEATERS

Raas Heat Tech offers ceramic band heaters which are specifically designed and manufactured to meet the ever increasing demand for energy conservation and to improve operation efficiency. The Ceramic Band Heaters transmit heat through both conduction and radiation. The construction is helically wound resistance coil of Nickel chrome wire. This coil is passed through the holes in specially designed ceramic bricks in such a way that the coil is evenly stretched and flexible ceramic heating mat gets formed.

This mat is covered with insulating fiber wool for eliminating heat emission on outer side of the band. Serrated cylindrical stainless steel housing is used to enclose the heating mat along with insulation wool.

This makes the heater very flexible and very easy to install. We can manufacture the heaters with maximum watt density of 7 watt per square centimeter with maximum temperature 760°C.

These are also available with browser. The heaters are without insulation materials and blowers are installed on the outer side of the heater.

The ceramic band heaters can be fitted with termination of customers of customers choice.

DESIGN FEATURE:

- Energy saving
- Minimal heat loss
- Built-in thermal insulation
- Uniform temperature
- Maximum flexibility for easy installation
- Longer heater life

ORDERING INFORMATION:

- ◆ Wattage
- ◆ Voltage
- ◆ Phase - 1 Phase / 3 Phase
- ◆ Inside Diameter
- ◆ Width
- ◆ Lead wire Type
- ◆ Lead wire Length
- ◆ Thermocouple Location
- ◆ Construction-one piece/Two piece
- ◆ Lead wire Insulation - Fiber Glass Sleeving - BMS Braided metal Sleeve- Avmour Type
- ◆ Clamping - Screw Terminals - Euro Plug-

APPLICATIONS:

- ❖ Blow Moulding
- ❖ Injection molding
- ❖ Film Extruders
- ❖ Plastic & Rubber processing
- ❖ Heating pipes
- ❖ Extrusion Bannes & Dies
- ❖ Heating Barrels of plastic Injection Moulding Machines & Extruders.
- ❖ Die & Die holders heating of plastic Extrudes & Blow Moulding Machines
- ❖ Heat Treating of pipes
- ❖ Any application requiring heat applied to a cylindrical surface.
- ❖ Wire and cable Industry



TYPE OF TERMINATIONS



Ceramic Band General Purpose Terminal Boxes



Ceramic Band Clamping Variations Spring Loaded



Ceramic Band Terminations (Screw Terminals)



Ceramic Band Heater with Inside SS Cover



MICA BAND HEATERS

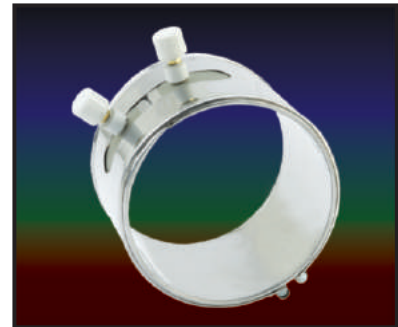
Rass Heat Tech offers Mica Band Heaters which are made of precisely wound resistance element for quickly transfer of heat. The mica band heaters are specifically designed with closed ends to protect against contamination.

DESIGN FEATURE:

- ◆ Constructed by using best natural mica
- ◆ Flexibility to incorporate hole and contacts
- ◆ Faster heating time compare to other heater
- ◆ Most economical among all heaters.

ELECTRICAL AND MECHANICAL RATING:

Minimum Width ----- 15.9 mm
 Minimum inside Diameter ----20 mm
 Nominal Watt Density -----3-4 W/cm2
 Maximum Voltage-----480 VAC
 Maximum recommended Voltage-240VAC Maximum Amper10Amp
 ResistanceTolerance-----+10%,-5%
 WattageTolerance-----+5%,-10%



SEALED MICA BANDH EATERS:

FEATURES: These heater are used in nozzle where there is a lot of material leakage. Because of its compact design the heater is not affected by any material leakage. It is a plastic proof heating element. The heater is designed to provide optimal heat distribution in a compact space.

AIR COOLED BLOWER HEATERS:

These are used in extrusion processes where heating & cooling is required. Ceramic band Heater is covered with as perforated SS body & blower is designed for use on plastic extrusion machine. The blower will be used for cooling. The air enters the shroud and circulates around the ceramic band heaters & the barrel. Thereby removes the heat from the heater & the process and exits from the opposite of entrance port.

- Maximum Diameter110 mm & width 80 mm
- Various Clamping
- Inbuilt Thermocouple possible

TYPE OF TERMINATIONS



Screw Terminal



Covered
Screw Terminal



Plug & Socket



TUBULAR AIR HEATERS

These are the most versatile of all electric heating elements capable of being formed into virtually any configurations. The coils are made up of helically wound coil of Nickel Chrome wire which is housed in a tube of SS304 Sheath. The space between the coil & tube is filled with specifically selected grain size of high purity Magnesium Oxide (MgO).

This increases thermal conductivity, dielectric strength & heater life. The filled tube is then evenly compressed in swaging machine such that the diameter of the tube gets reduced. This holds the coil firmly in the center of the tube.

The terminals are SS screw type. Each end of the coil is welded to the screw's inner end which remains covered in the tube and the other end of the screw protrudes outside the tube which is to be connected to the power supply.



ORDERING INFORMATION:

- Sheath material Diameter Overall Length Heated Length
- Wattages & Voltages Bend formation type & dimensions Finmaterial & diameter
- Thermostat if required Flange Dimensions

Standard Diameter available 7mm, 8mm & 11mm with M4 or M6 threaded stud terminal with Ceramic Insulator.

APPLICATION:

- ❖ Air Heating ❖ Forming machines ❖ Immersion in liquids ❖ Hot runner moulds
- ❖ Oven and Dryers ❖ Dish Washer ❖ Sterilizing Equipment ❖ Oil Water and Solvents
- ❖ Immersion Heater

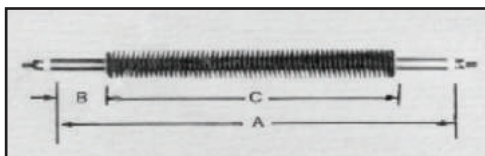
DESIGN FEATURES

- ◆ Resistance Tolerance +10%, - 5%
- ◆ Wattage Tolerance +5%, -10%
- ◆ Maximum Sheath Temp SS---650°C, Copper---200°C, Incoloy---875°C
- ◆ Maximum Voltage 480 V AC
- ◆ Maximum current 40 Amp

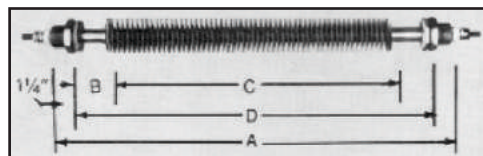


DIFFERENT TYPES

TYPE 1



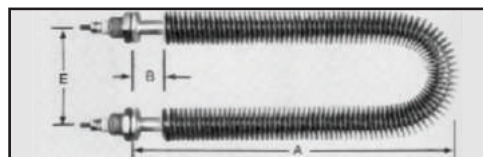
TYPE 3



TYPE 2



TYPE 4





DIFFERENT TYPES OF HEATERS

IMMERSION HEATERS

Tubular immersion heating elements are formed into hairpin that are brazed to flange of size “1.5”, 2”, 2.5” or 3” in brass or SS material. Temperature can be controlled by using thermostat if required.

These heaters are used where liquids are to be heated directly by immersion of heater. Here maximum watt density of 8 watt/ sq. cm is obtained. Virtually 100% energy efficiency is achieved as all heat is generated within the liquid or process.

Various mounting options like screwed flanged and side mountings are possible. These are used in lot of applications like Hot water storage tanks, preheating of oil process air equipment, boiler equipment etc.

SINGLE ENDED TUBULAR HEATER

These heaters are available with termination at one end, which helps in easy wiring & installation. Finned tubular heaters are available in Steel Sheath with steel fins. Single ended tubular heaters are economical alternative to cartridge heaters.

HIGH TEMPERATURE AIR DUCT HEATERS

Air Duct Heaters are used in many Ovens where forced air application is needed. Temperature of 6500 C is attained. The application include are recirculating ovens, converting ovens from gas or oil combustion, curing ovens, heat treating, annealing etc.

TITANIUM IMMERSION HEATERS

These heaters are used in acidic liquids. The design is for installing in the topofa tank with heated portion directly immersed in the liquid along the side or at the bottom. The mounting design provides easy removal of the heater and ample working space inside the tank. A wide selection of Kwrating, shapes and mounting types are available to suit many different types of application.

CIRCULATION HEATERS

These heaters are used in forced or natural circulation system to heat flowing gases or liquids. Flanged immersion heater, vessel, insulation, terminal enclosure, mounting bradeets and inlet and outlet connections are provided. Thermostat is provided for temperature controlling.

FINNED TUBULAR HEATERS

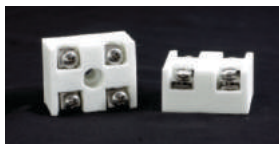
Finned Tubular provide rapid and fast heat transfer for Air heating application. These heaters are highly effective in industrial and commercial application where hot air is required. These are constructed by mounting fins in SS or MS Sheath on normal tubular heaters.

ACCESSORIES

CERAMIC HEATER CONNECTORS

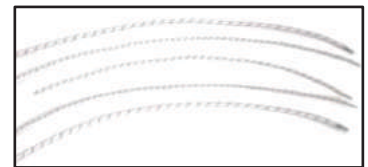
Ceramic Heater connectors with open type, closed type and T-Type busbar supports are available in our range of accessories and are mainly used for heaters. These multipole connector have stainless steel contacts. These connectors are used at sites where the operating environment sets high demands on the heat resistance of the connector.

The connectors available in range of 5 Amps to 30 Amps.



HEATER WIRES

We have two different types of Heater Wire namely Fibre glass Wire & Teflon Wires with different sizes. Our Heater Wires can withstand high temperature. Heater Wire can be used in Heaters, Ovens & wherever heating connection required with Excellent Ductility, Minimum Distortion, High Conductivity, Durability etc.



STAINLESS STEEL CLAMPS

Stainless Steel Clamps used to hold or install on both end of Quartz or Quartz Tubes. It can be mounted on ceramic cap or ceramic holders or Quartz Tubes. Stainless Steel Clamps can be supplied with or without ceramic bush and adjustment hardware.



CERAMIC CAPS

Ceramic Caps or Ceramic Holders are used in manufacturing of Infrared Heaters & ceramic caps can be mounted at each end of infrared heaters. We have different types and models. High temperature ceramic caps suitable for quartz tube outer diameter of 10mm, 12mm, 15mm, 19mm & Quartz Twin Tube of 11x23 & 15x33.



HIGH TEMPERATURE PLUGS

These high temperature plugs are used for connecting a power supply to a heating element. We supply them as a straight or right angle design for fitting options.

They are suitable for 3 to 35A and voltages from 220 to 600V. They have a maximum working temperature of 500°C and are manufactured from aluminium and silicone with 2 x 6 mm connection hole and a spring strain relief.





CONTROL SYSTEMS AND CONTROLLERS

Raas Heat Tech offer a uniquely designed Digital Power Controller, power controlling device that is configured with imported solid - state current control cascade unit, which is powered by single phase supply.

FEATURES:

- ◆ Compact design, suitable for control panel flush mounting with panel, having a cutout size of 90mm x 90mm and 72mm x 72mm
- ◆ Supply voltage indication feature.
Input: 220 +/- 10% volts, 50 Hz.
- ◆ Output: 16Amps, 25 Amps or 40 Amps rated output, with required connected load of equipment arranged in series.
- ◆ Output Terminal: for Phase/Neutral and two terminals for Series Load to be connected, which can be heaters & equipment.
- ◆ Adequate capacity heat sink is provided.
- ◆ Configured with imported solid-state current control cascade unit.
- ◆ Precise & smooth % of supply voltage adjustment.
- ◆ Configured with digital read-out indication for % supply of voltage.

APPLICATIONS:

- ❖ Compact design having 96mm x 96mm x 1 50mm & 96mm x 96mm x 65mm standard casing
- ❖ Smooth & attractive surface finish for flush mounting, which enables lucrative yet
- ❖ Manageable control device





www.raasheattech.com

LOCATION



Factory : Plot No. C/19, Vicco Naka, MIDC Phase 1, Dombivli (E) 421203, Dist. Thane.

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