HEATING ACCESSORIES AND CONSUMABLES

Ceramic Pad Heating Element

The flexible ceramic pad (FCP) heater is manufactured by multi-strand quality 80/20 Nichrome heating wire through passages within interlocking ceramic beads, complete with two electrically insulated camlock, which is protected from being heated by cold pure nickel wire that connects the heating wire.

The alumina ceramic beads are made of sintered 95% Alumina ceramics , **suitable for** high-temperature resistance, excellent insulating properties, and efficient thermal conductivity and heat transfer which provides FCP heaters with exceptional electrical insulating thermal shock resistance and thermal conductivity qualities. It can be used up to fifty times at an ambient temperature of 105^0 C.

Industry we serve

- Offshore/Onshore Oil and gas industries
- Power Generating stations
- Refineries, Fabrication and Welding shops
- Ship Building and Repair
  Pulp Mills etc

Applications

- Longitudinal – seam welded bends
- Circumferential welded joint
- All kinds of pipes and tanks
- Connecting pieces
- Flange welding

4 Bank Channel Heater

Alumina Ceramic Beads

Brass Camlock Connector

Ceramic Pad Heating Element

Flexible Ceramic Pad Heater (FCPs) – 60V Heaters

Universal Code	Size (W x L) (mm x mm)	Rating (kW)	Current (amp)	Voltage(volt)
UCP – 3	75 x 670	2.7	45	60
UCP – 4	100 x 505	2.7	45	60
UCP – 6	150 x 335	2.7	45	60
UCP – 8	205 x 250	2.7	45	60
UCP – 10	255 x 210	2.7	45	60
UCP – 12	305 x 165	2.7	45	60
UCP – 15	380 x 145	2.7	45	60
UCP – 16	410 x 125	2.7	45	60
UCP – 18	460 x 125	2.7	45	60
UCP – 21	535 x 105	2.7	45	60
UCP – 24	610 x 85	2.7	45	60
UCP – 26	650 x 85	2.7	45	60

Flexible Ceramic Pad Heater (FCPs) – 80V heaters

Universal Code	Size (W x L) (mm x mm)	Rating (kW)	Current (amp)	Voltage(volt)
UCP – 3	75 x 991	3.6	45	80
UCP – 4	102 x 737	3.6	45	80
UCP – 6	152 x 501	3.6	45	80
UCP – 8	203 x 368	3.6	45	80
UCP – 10	254 x 368	3.6	45	80
UCP – 12	305 x 248	3.6	45	80
UCP – 15	380 x 203	3.6	45	80
UCP – 18	457 x 165	3.6	45	80
UCP – 21	535 x 145	3.6	45	80
UCP – 24	610 x 125	3.6	45	80
UCP – 29	740 x 100	3.6	45	80
UCP – 33	840 x 85	3.6	45	80
UCP – 36	915 x 80	3.6	45	80

We can customize as well. The maximum size can be up to 48

Tank Track Heater

Universal Code	Size (W x L) (mm x mm)	Voltage (V)	Power (Kw)
UPCTTH60	75 x 670	60	2.7
UPCTTH80	75 x 940	80	3.6

220V, 240V & 255V – Ceramic Pad Heater

Universal Code	Size (W x L) (mm x mm)	Voltage (V)	Power (Kw)
UPC255115	710 x 336	255	11.5
UPC240108	660 x 336	240	10.8
UPC220996	10 x 336	220	9.9

Alumina Ceramic Beads

95% Alumina Ceramic Beads from HeatMent™ are manufactured by dry press method and are sintered at temperatures up to 1650°C. All the material is prepared by "RESISTEK", a sister company of HeatMent™. The production is under the careful material selection of high-grade alumina spray drying granulation from what we call calcinated alumina, thus the stability is maximumly ensured. It enjoys high-temperature resistance, excellent insulating properties, and efficient thermal conductivity and heat transfer.

Thanks to their excellent characteristics, the ceramic beads are widely used as components of ceramic heating pads in the operation of pre and post–weld heat treatment, welding process, stress-relieving, and other heat-resistance-environment.

Technical Data

- Alumina Content: 95%
- Bulk Density Fired: 3.65-3.70g/cm^3
- Grain Size: 6um
- Mohs Hardness: 9
- Rockwell Hardness: 78(R45N)
- Compressive Strength: 2000MPa
- Flexural Strength: 320 Mpa (ASTMC1161, 3point)
- Young's Modulus: 325 Gpa
- Thermal Conductivity: 21W/m^3

Available Ceramic Beads for Heaters

- Main Body Bead (with Hole)
- Male End Bead (with Hole)
- Female End Bead (with Hole)
- Small & Large Tail Bead
- Tank Track Heater Bead (with Hole)
- Channel Heater Bead
- Finger Heater Beads

Connectors

Brass Camlock Connectors

60A Male Brass Camlock Connector with Sleeve and Pin
60A Female Brass Camlock Connector with Sleeve and Pin
60A High Temp. Male Brass Camlock Connector with Sleeve and Pin
60A High Temp. Female Brass Camlock Connector with Sleeve and Pin
60A Female Panel Mounted Camlock Connector
60A Male Camlock Connector

300A Male Brass Camlock Connector with Sleeve and Pin
300A Female Brass Camlock Connector with Sleeve and Pin
300A High Temp. Male Brass Camlock Connector with Sleeve and Pin
300A High Temp. Female Brass Camlock Connector with Sleeve and Pin
300A Female Panel Mounted Camlock Connector
300A Male Panel Mounted Camlock Connector

Panel Mounted Brass Camlock Connectors Complete

300A Female Panel Mounted Brass Camlock Connector
60A Female Panel Mounted Brass Camlock Connector

German DINSE System – Welding Cable Plugs and sockets

10-25mm^2 Welding Cable Plug and Sockets
35-50mm^2 Welding Cable Plug and Sockets
50-70mm^2 Welding Cable Plug and Sockets
70-95mm^2 Welding Cable Plug and Sockets

K Type T/C Connectors – In-Line type

Material: Thermoplastic, Ceramic
Plug Pin: Solid and hollow pins are available
Color: Yellow, Green, White

K Type Panel Mounted Socket

Material: Thermoplastic
Plug Pin: hollow pin
Color: Yellow, Green

Heater Wire

Nichrome Heating Wire

Material: NiCr80/20, NiCr60/16
Specification: Overall Diameter: 2.8 mm
No of Strands: 19 Strands, 19/0.55-0.56mm
For 37 Strands, 37/0.37mm
Packing: 500m/roll

Cold Tail Wire

Material: Pure Nickle
Specification: Overall Diameter: 3.0 mm
No of Strands: 19 Strands, 19/0.61mm
Packing: 500m/roll, 100m/roll

Heater Repair Kit

Material: Pure Nickle
Specification: Overall Diameter: 3.0 mm
No of Strands: 19 Strands, 19/0.61mm
Packing: 500m/roll, 100m/roll

Thermocouple Wires & Compensating Cable

Type K Thermocouple Wires

Type K thermocouple wire, insulated with high-temperature glass braid, is used to convert the thermal energy at the hot junction of the thermocouple to an electrical mV signal which can then be used by temperature control and recording instruments to accurately record and control the temperature of the item being heat treated.

- Type K – Grade A, Accuracy +/- 1.1°C
- Two core conductors insulated by glass fibre twisted together.
- Material: 1/0.71mm NiCr& 1/0.71mm NiSi, 1/0.65mm NiCr& 1/0.65mm NiSi
- Max Working Temperature: 800°C
- Conforms to Standard: GB/T 2614-2010, BSEN 60584-2, ASTM E230-1993, ANSI MC96.1-1982, IEC 584-2:1982
- Jacket Colour: Red (-)/ Yellow (+))

Packing: Come in 100m/roll

Type K Thermocouple Wires

- Grade A, Accuracy +/- 1.5°C
- Laid flat heat – resistant PVC covered conductors with an overall sheath of PVC (-25 ~ 105°C)
- Material: 2 x 7/0.2mm NiCr/NiSi
- Max Working Temperature: 1200°C
- Conforms to Standard: BS 4937 Part 30, 1993

ASTM E230-1993
ISA MC96.1-1982
IEC 584-2:1982.mod
IEC 584-2:1982
IEC 584-2:1982

- Jacket Colour: Outer: Green;

Inner: Green (-) and white (+)
Packing: Come in 100m/roll

Type K Thermocouple Compensating Cable

•PVC double insulated
•Materials: 2 x 13/0.2mm Copper/Constantan
•Max Working Temperature: (-25 ~ 105°C)
•Conforms to Standard: ASTM E230-1993
ISA MC96.1-1982, IEC 584-2:1982. mod, IEC 584-2:1982, IEC 584-2:1982
•Jacket Colour: Outer: Red,
Inner: Blue + White / Green + White
Packing: Come in 100m/roll

Tripple Cables & Splitter Cables

PWHT Heating Cable

Our heavy-duty flexible heating cable is designed with 100% copper for superior performance and double insulation for maximum durability. It offers excellent flexibility, ensuring long-lasting heating applications. Built to carry the required current efficiently, the cable's robust insulation allows for easy maneuvering by the operator during the heating process.

Jacket: HOFR NBR, Double insulated rubber
Standard Specifications: BS-EN 50525-2-81
Color: Orange Outer Insulation, White Inner Insulation
Packing: 100mm/rolls

Key Spare Power Cables

Power Source to Splitter Cable

1. Tripple Cable Sets:

•16mm² 135A welding cable, 300A camlock, Type K compensating cable, STD thermocouple connectors
•25mm² 185A welding cable, 300A camlock, Type K compensating cable, STD thermocouple connectors

Lenth: 25m, 30m

2. Single Power Cable:

- 16mm² 135A welding cable, 300A camlock
- 25mm² 185A welding cable, 300A camlock

Splitter Cable to heater

Material: 16mm² 135A welding cable
25mm² 185A welding cable
60A female camlock connector
300A male camlock connector

Specifications:

- 2-way splitter cable set
- 3-way splitter cable set
- 4-way splitter cable set

Single Power Cable

Tripple Cable Set

Splitter Cable

Temperature Measurement – Analogue Recorder (Chino Make)

Temperature Recorder

The 12-channel analogue Chino temperature recorder opposite has been selected as ideal for the rigors of site heat treatment. The recorder design is potentiometric, self-compensating for ambient temperature, and operates over the temperature range of 0-1200°C.

The recorder also can be housed within a rugged steel casing and is fitted with rear polarised socket connections for the widely used Type K thermocouple to compensate lead connections, to prevent reading errors. A flying lead is also fitted to the rear of the case for the 110VAC input power from the heat treatment transformer.

Analogue Temperature Recorder
Model: EH100-12

The internal power supply and chart drive switches are readily accessible. The chart drive can be varied to suit the heat treatment specification or conditions. The temperature charts extend for up to 400 hours for a chart speed of 50mm/hour. The scale and chart are illuminated.

Analogue Recorder Specification
(Chino Make)

Temperature Recorder with steel case and T/C socket panel

Overall Dimensions	360mmW x 360mmH x 445mmL
Weight	17kg (without case)
Scale Length	180mm
Accuracy	0.6% input span
Balancing Time	2 s
Input Voltage	100-240V.A.C., 50/60Hz
Types of Thermocouple	Type K
Chart Dimensions	200mm W x 20m fanfold
Channel	12
Stamping Interval	6 s (50Hz); 5 s(60Hz)
Stamping System	Dot Printing
Ambient Temperature	10°C to +50°C

Consumables

Ink Bottle

Chart Paper

Inkpad Case

Ink Felts (Sponge - Packet)

6 Channel Auto Programmer (Advanced)

Specification – UA-6000

Overall dimensions	29cm W x 43cm H x 26cm L
Weight (cased)	8 kg
No. of control channels	6
Display	Graphic LCD panel, 128x64 pixel
Buttons	8-blue/green silicone rubber
Input Voltage	95-253V rms., 48/62 Hz
Types of thermocouples	Type K (standard)
Units	°C or °F: hours
Resolution	0.1°C measurement, 1°C display
Cycle time	20 seconds
Hold Band	1, 2 or 3times proportional band
Hold Type	Below only or above/below
Set Point	Manual or auto
Manual set point	0-1200°C in 1°C increments
Heating rate	0-1000°C/hour in 1°C increments
Soak temperature	0-1200°C in 1°C increments
Soak time	1-100 hours in 0.1 hr increments
Cooling rate	0-1000°C/hour in 1°C increments
Ambient conditions	0°C to +60°C, 5-95% rel. humidity

Accurate and reliable temperature control is essential in heat treatment processes, requiring the same careful attention as every other component of the heating system—such as heater and circuit layout, temperature-recording instrumentation, thermocouple specification and attachment, and the proper interconnection of compensating or extension leads.

To address this critical need, Universal Hi-Tech Equipment's has selected well-proven automatic temperature programmer units. Whether heat treatments are conducted on-site or in workshops, the equipment used must be convenient, robust, and portable.

Thermocouple Attachment Unit

Operation Include:

01.
Remove loose scales or rust using a wire brush or another suitable method.

02.
Clean a small area, no more than 100mm from the attachment point, to expose bright metal for the return magnet.

03.
Set the output to approximately 80% of the maximum.

04.
Push back the insulation on the thermocouple conductor wire to expose 5mm of bare wire.

05.
Grip the conductor wire 4mm from the end with pliers, then firmly touch the wire end to the attachment point at a 90° angle.

06.
Press the discharge button.

Dimensions	180Hx289 L x95W
Weight	4kg
Max operating voltage	60V
Charge Voltage	110 or 240V A.C.
Discharge energy	20-40 Joules
T/couple types	Type K
Standard Wire size	0.711mm dia
Approx no. of applications before re-charge	450

07.
Gently bend the wire through a 90° angle, 3-4mm above the surface. If the weld is sound, repeat for the second conductor wire, ensuring the welds are approximately 5mm apart.

Heat Treatment Machine Spare Parts

Main Transformer MCB

Cooling FAN

K Type Female Connector

Female Panel Mounted Camlock

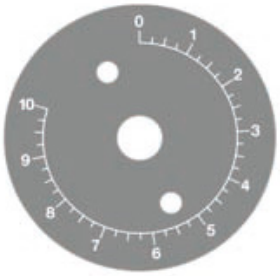
Albright Contactor

Albright Contactors Repair Kit

Auto Programmer Socket

Single Phase Auxilliary Socket

Energy Regulator



Dial Plate

PID Programmer
UA - 100

SS Wire Mesh

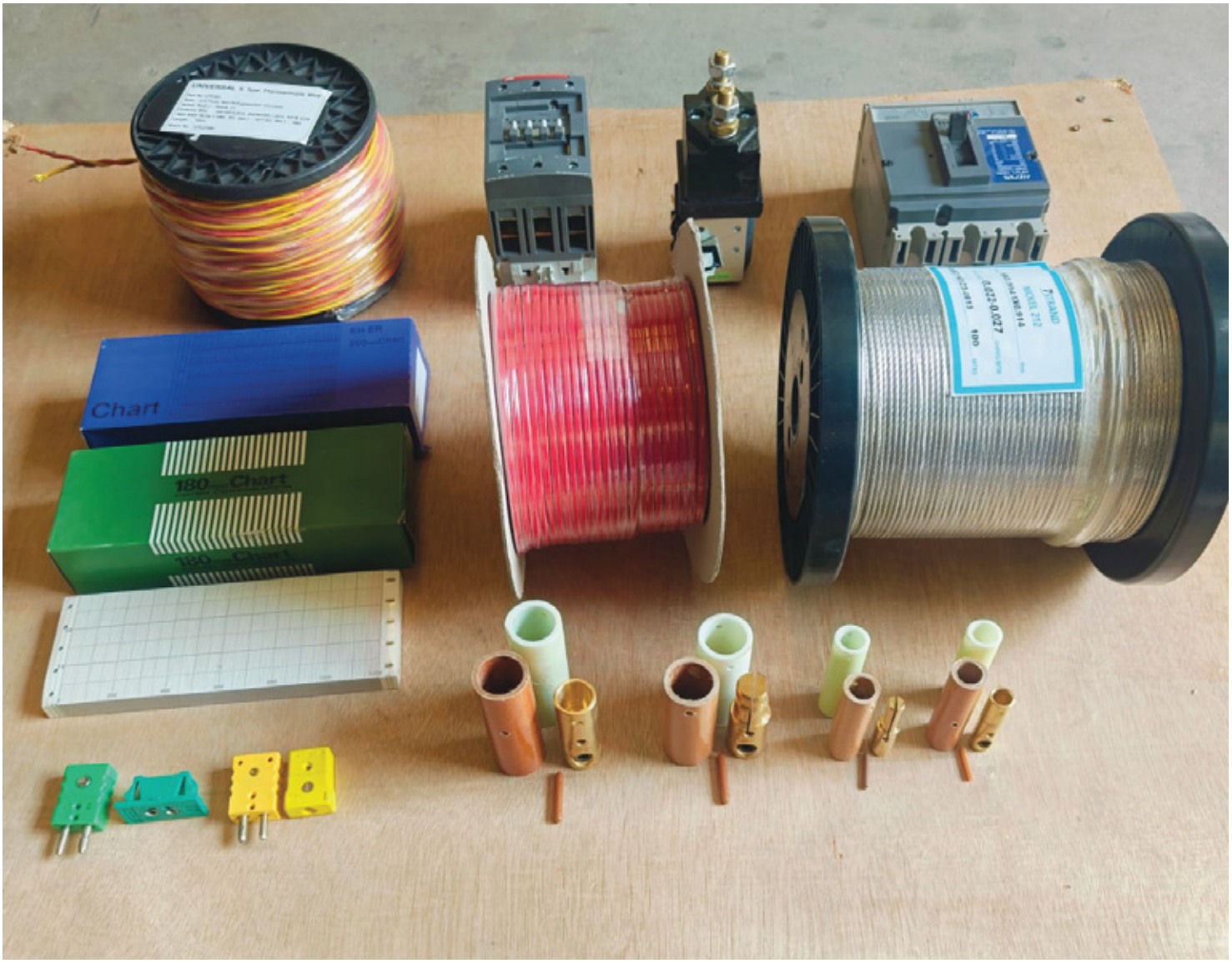
Strip Tightening Machines

SS Branding Strips

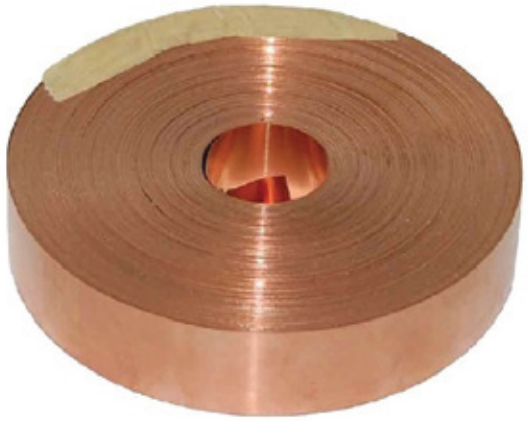
Binding Iron Wire

SS Buckles

Key PWHT Consumables



Copper Shim



Features:

- **Thermal Conductivity:** Excellent thermal conductivity, making it ideal for applications requiring efficient heat transfer.
- **Electrical Conductivity:** High electrical conductivity, useful in electrical and electronic applications.
- **Corrosion Resistance:** Resistant to corrosion, providing durability and long-term performance.
- **Machinability:** Easy to machine and shape, allowing for precise fitting and adjustment.
- **Strength and Flexibility:** Offers a balance of strength and flexibility, suitable for various mechanical and structural uses.
- **Thinness:** Available in various thicknesses, enabling fine adjustments and precision in applications.

Moly Slip

Features:

- **Lubrication:** Provides excellent lubrication for reducing friction and wear between metal surfaces.
- **High-Temperature Resistance:** Maintains performance at high temperatures, making it suitable for use in demanding conditions.
- **Anti-Seize Properties:** Prevents seizing and galling of metal components, facilitating easier disassembly.
- **Corrosion Protection:** Offers protection against corrosion and oxidation, extending the life of components.
- **Chemical Resistance:** Resists various chemicals and oils, ensuring reliable performance in diverse environments.
- **Easy Application:** Can be applied easily to threaded and non-threaded surfaces for effective lubrication and protection.

Ceramic Fiber Blanket

Features:

- **Highly Versatile:** Suitable for a wide range of high-temperature applications.
- **Constructed from Ceramic Fibers:** Known for exceptional thermal insulation properties.
- **Energy Savings:** Helps reduce energy consumption by minimizing heat loss.
- **Enhanced Safety:** Provides improved safety in high-temperature processes.

Thermocouple Putty

Features:

- **Thermal Conductivity:** Facilitates efficient heat transfer between the thermocouple and the surface being measured.
- **Constructed from Ceramic Fibers:** Known for exceptional thermal insulation properties.
- **Energy Savings:** Helps reduce energy consumption by minimizing heat loss.
- **Enhanced Safety:** Provides improved safety in high-temperature processes.