SENSEWELL INSTRUMENTS PVT. LTD.

An ISO 9001 : 2015 Certified Company

Heating Blankets | Flexible Pad & Jacket Heaters | Curing Equipments (HAG)| Heat Tracing Cable & Accessories

- **SENSEWELL (established in 2002)** is a strong technology based highly professional manufacturing company of Curing Process Equipment's & Specialty in Electrical Heating Textile Technology (Unit-III) having an excellent track record for high state-of-art quality equipment's in the industry.

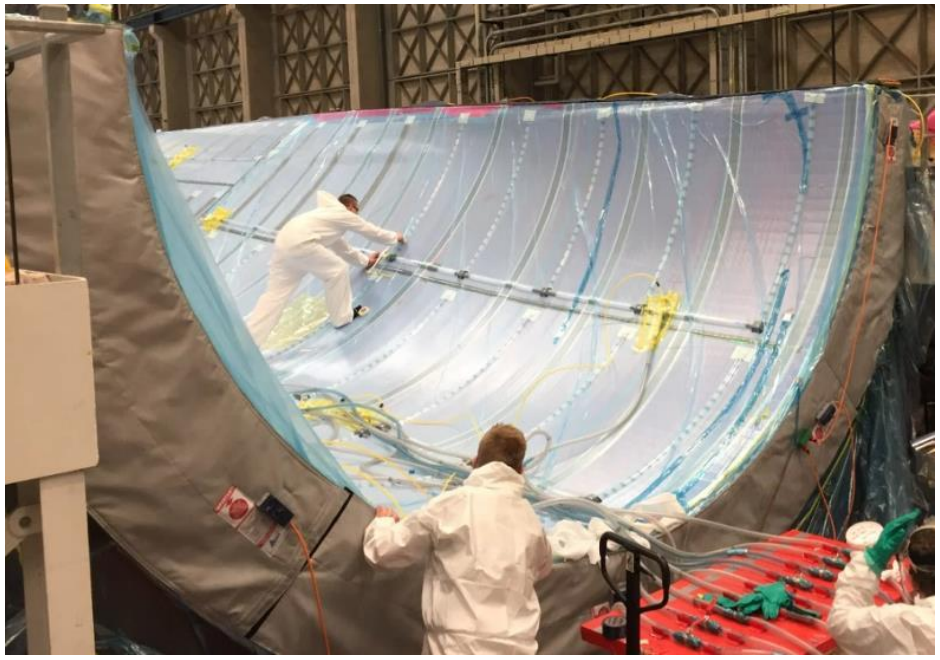
Unit - I

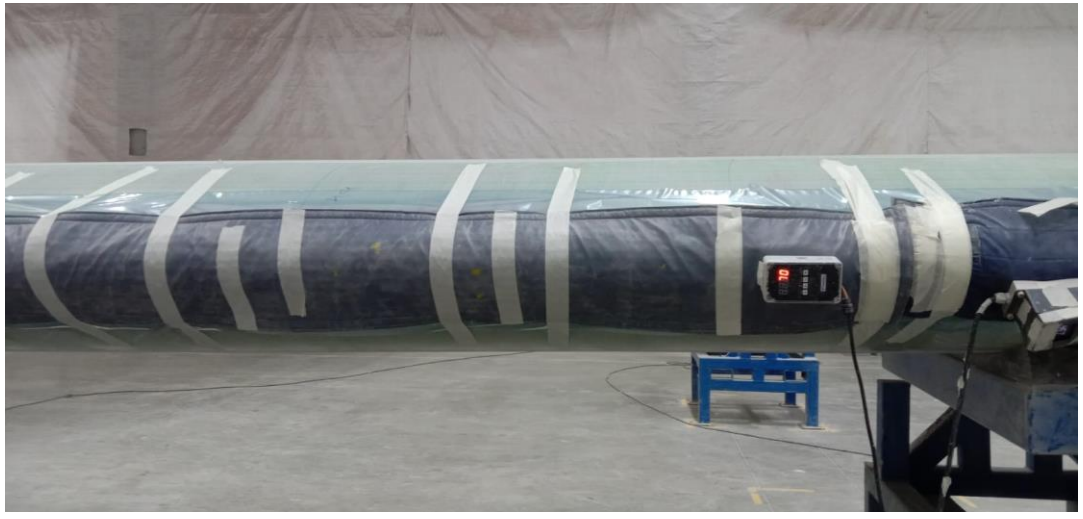
Unit - II

Unit - III

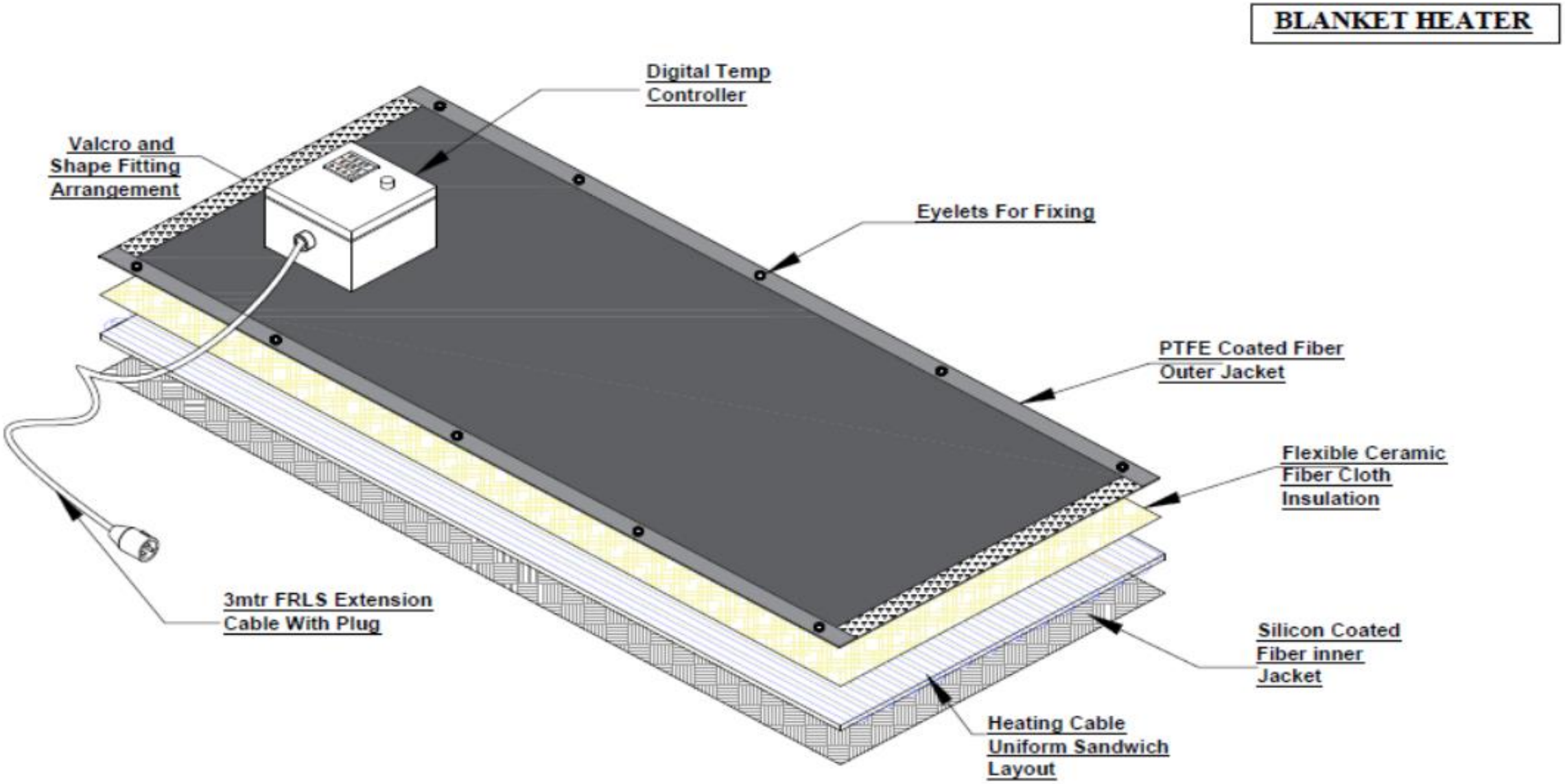
1. APPLICATION OF HEATING BLANKETS IN VARIOUS INDUSTRIES

- Mould Pre-Heating
- Mould Heating (Curing)
- Flange Heating
- Post Heating (Curing)
- Leading Edge (LE)
- Trailing Edge (TE)
- Foot Lamination
- Inside Lamination
- Wind Turbine Blades Production
- Wind Turbine Blades Repair
- Epoxy Curing
- FRP Curing
- Carbon Fibre Curing





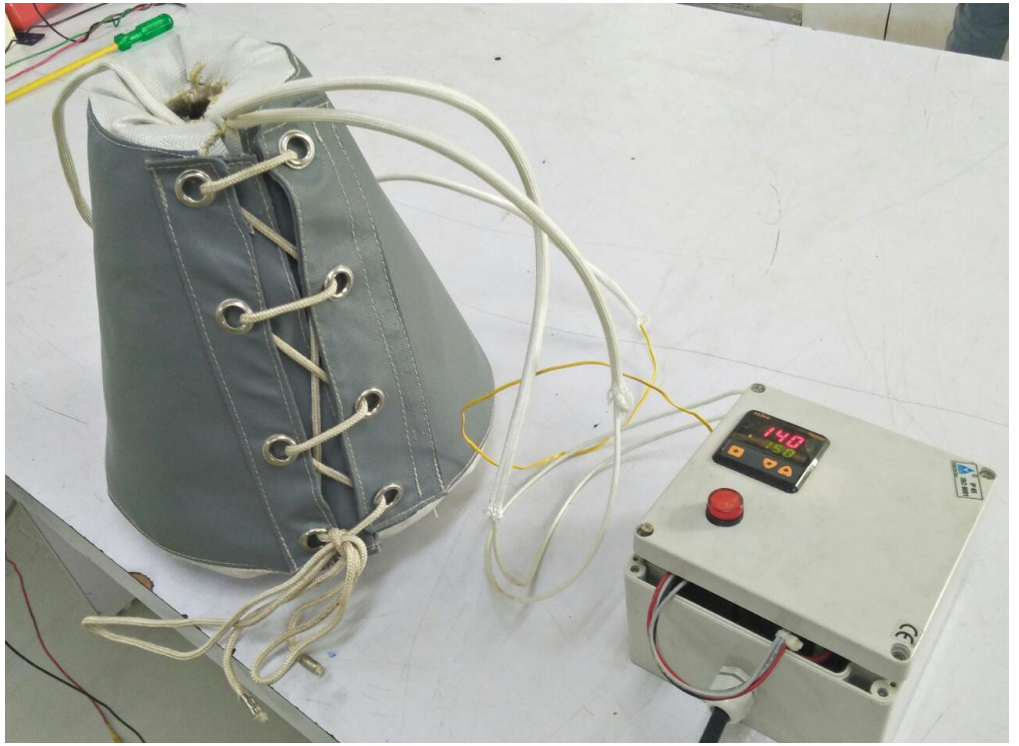
CONSTRUCTION OF HEATING BLANKETS



2. FLEXIBLE JACKET HEATERS, PAD HEATERS, IBC CONTAINERS & DRUM HEATERS

SPECIFICATIONS OF ELECTRIC HEATING BLANKET :

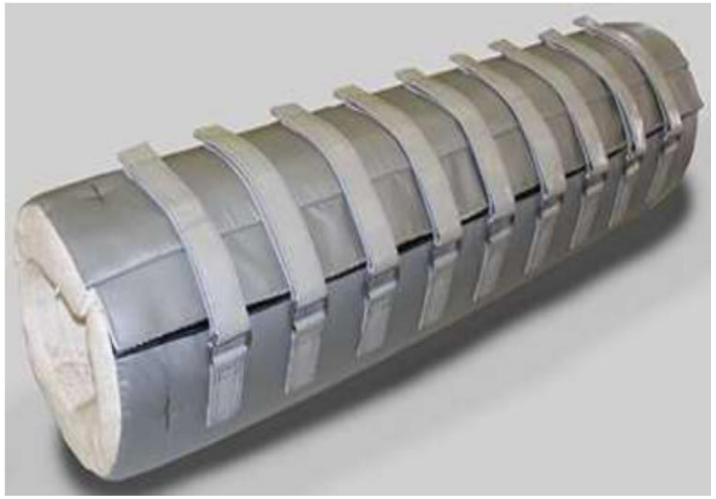
- Voltage: 12v, 24v, 110v, 230v/240v (in 1Ø phase) & 380v & 415v (in 3Ø phase)
- Rated power: 100-6000W/ meter² (according to the user's different needs can be customized)
- Design Temperature: Up to 700°C along with various Heating Cable & Textile Combination
- Temperature: Adjustable type (Digital with various configuration)
- Rated current: 1A~50A
- Heating area: Std. & Customized
- Product size: Std. & Customized
- Blanket shapes : Customized unique shapes



Note: We are also manufacturing various Insulation Blankets up to 700°C in various shapes and combinations.

ADVANTAGES:

- Integrated type
- Customised size and shape
- Good flexibility
- Uniform heating
- Built-in overheat safety thermostat control.
- Large range, high power, fast heating.
- High insulation performance of all material
- Easy to install and remove, safer and adjustable
- Long life heating cable with various insulation & construction
- Full coverage heating and insulation, high thermal and heating efficiency

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3. HOT AIR BLOWER
(HEATING – COOLING EQUIPMENT)

Flow Rate : 50 m3/hr to 25000 m3/hr
Temperature : 50 degc to 500 degc

Features:-

- Easy Operation
- Low Maintenance
- Long Life
- Low Capital Cost
- High Accuracy of Temperature Control
- Recycling
- Auto Damper Open/Close
- Using Multiple Safety Devices
- Optional Thyristor/SSR Switching
- Optional PLC HMI Operation

Application :-

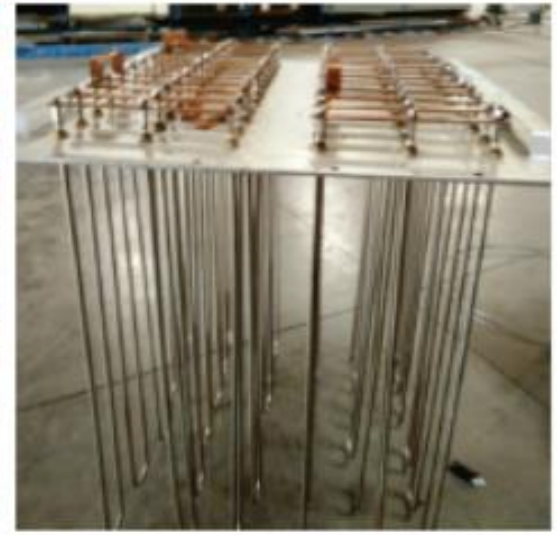
- Heating of the FRP resin
- Anticake for plasticizer
- Hopper drying sterilization
- Drying after printing
- Drying centrifugal
- Heating & drying IC
- Drying copper iron wire
- Heating & drying gas canisters
- Heating of the bearing
- Drying after varnish was dipped to the transformer

Application :-

- Drying absorbents
- Softening of the chocolate material
- Compressed air to super heating
- Drying sky boots, ice skates, etc.
- Aging for the semiconductor
- Food process industry
- Cryo tank/vessel moisture removing
- Drying of wheat & red bean etc.
- Heating & drying inside iron vinyl pipe

Application :-

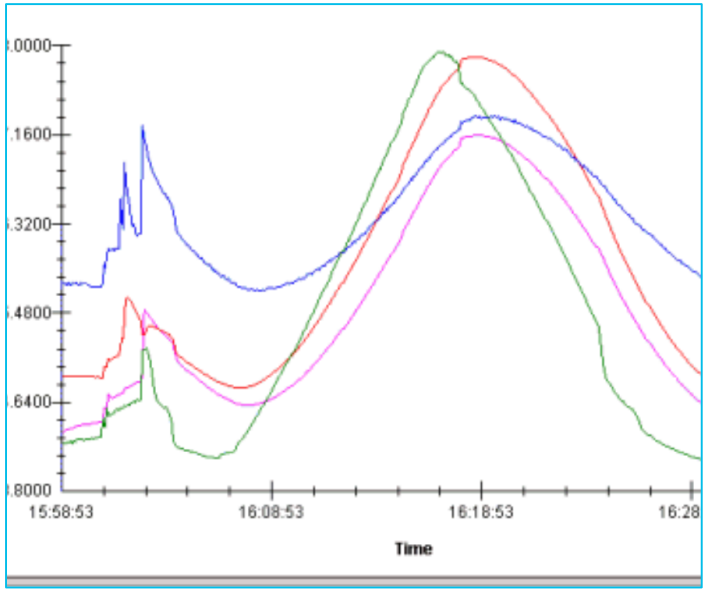
- Wind blade pre-heating
- Paint drying
- Die pre-heating
- Welding flux heating
- Chemical drum heating
- Drying of pipe ID
- Drying of sugar
- Drying of AHU & FBD
- All special purpose heating & drying



4. DATA LOGGER

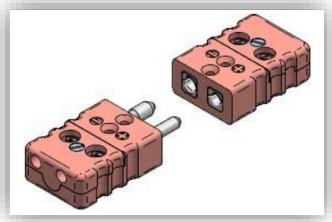
TECHNICAL SPECIFICATIONS	
No. of analogue channels	8,16, 32 input models
Universal Input	Yes
Voltage ranges	0-5 Vdc Single ended
Current ranges	0-20mA, 4-20mA.
Thermocouple Ranges:	0 to 1200 C - J type o 0 to 1372 C - K type o
Differential & Single Ended	0 to 1300 C - N type o 0 to 1768 C - R type o 0 to 1768 C - S type o 0 to 400 C - T type
Pt100/1000, 2-wire , 3-wire	-200 to 300oC
Internal reference temperature	-50 to 150oC
Alarm Outputs	2 RS range of relay for Hi / low.
A/D Resolution Accuracy	12 bit successive approximation 0.1% FSD of range.
Clock Resolution Accuracy	1s/10ppm Normal mode- each input sampled at a maximum rate of 1reading per second.
Historical trends	No
Data Scaling	Yes

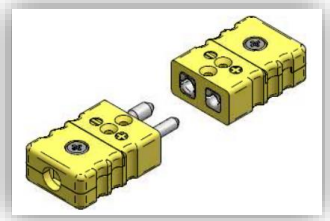
Data Statistics	Yes from within Data acquisition PC software
Memory Internal	512 KB
Display	8 & 16 CH -3.5 inch multicolour TFT graphial display with LED backlit. 32 CH 7 inch resolution 320 x 240 pixels.
Display	4 tactile push button keypad
Internal Battery for storage	One 3V Lithium cell, easily replaceable.
Battery life	Up to 5 years
External Power required	230Vac Single phase AC mains.
Sensor Power Output	Not provided
Networking	Not provided /LAN-32 CH
USB Port	USB 2.0 (Optional)
Serial Communication port	RS-232 or RS-485
PC Setup	Yes, with dedicated data acquisition software
Front Panel setup	
Stored setups	2
Operating temperature	-20 to 55oC
Dimensions-32 CH	2 Models, w-218 x H-135 x D-60 mm, Weight 0.5 kg OR W-96 X H-96 X D-150mm
Panel cutout	W-203 x H-118 mm OR W-92 x H-92

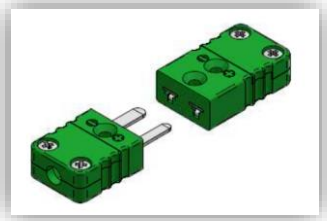


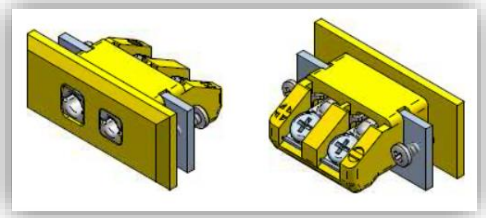
SINGLE & DUAL CHANNEL DATA LOGGER

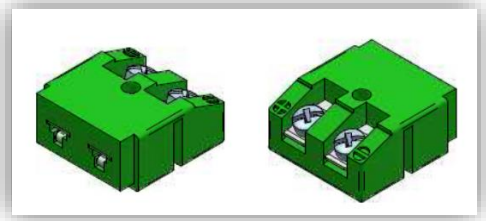
5. THERMOCOUPLE CONNECTORS & EXTENSION CABLES

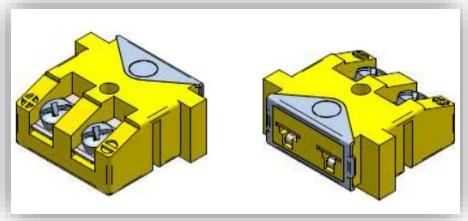


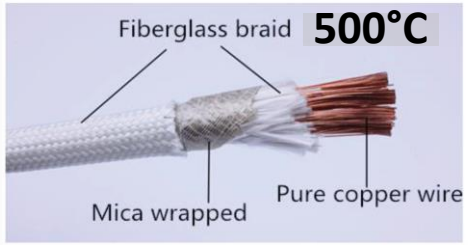


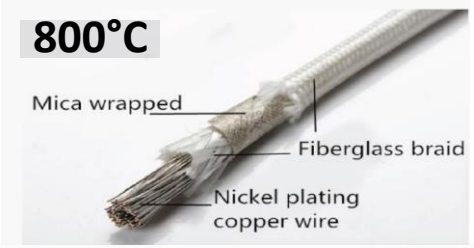


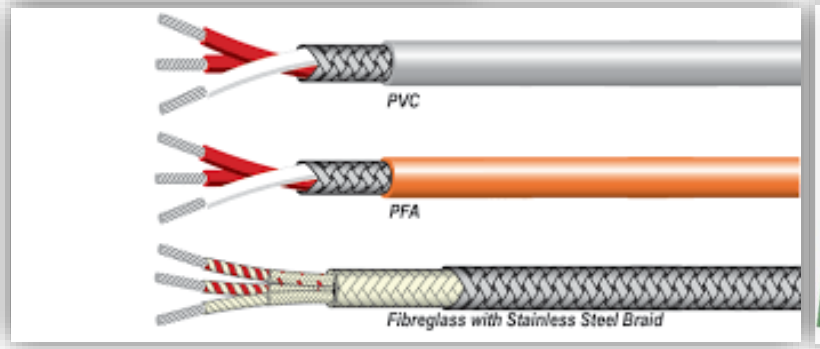


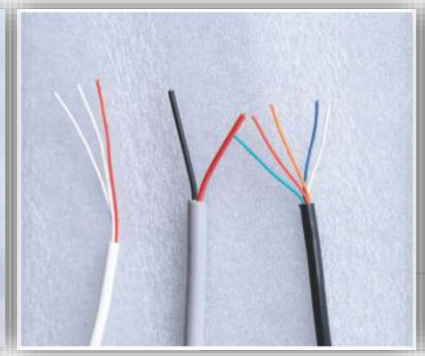


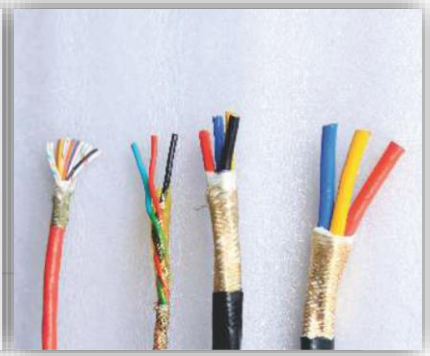












6.1 EX-PROOF/ATEX HEAT TRACING CABLES (HTP)

HTP

Features

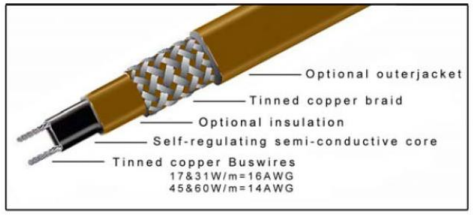
- Energy efficient, automatically varies its power output in response to pipe temperature changes.
- Easy to install, can be cut to any length(up to max circuit length) required on site with no wasted cable.
- Lower installed cost than steam tracing, less maintenance expense and less downtime.
- No overheat or burnout even when wrapped over Itself (overlapped).
- Suitable for use in non-hazardous, hazardous and corrosive environments.
- Jiahong power connection, splice, tee and end seal kit will reduce installation time.

Description

HTP increasing or decreasing the heat output in a self-regulating way depending on the change of the ambient temperature, so a thermostat may not necessary in some applications and it will never overheat or burnout even when wrapped over itself (overlapped). With optional outerjacket, the heating cable is resistant to watery and inorganic chemicals and protect against abrasion and impact damage . HTP is suitable for use in explosion-hazardous areas up to a maximally admissible work-piece temperature of +110℃. Jiahong provide termination, power connection, splice, tee and end seal kit will reduce installation time and require no speical skills or tools.

Appliance

HTP is UL listed self-regulating parallel heating cable (heating tape) is designed for pipe heat tracing in industrial applications, it is configured for use in hazardous and non-hazardous locations, including areas where corrosives may be present. It can provide process-temperture maintenance up to 110℃(230℉) and it can also be used for frost protection of large pipes and freeze protection in systems having high heat loss.



Options

-HTP…C Tinned copper braid provide additional mechanical protection and a positive ground path.

-HTP…CR Flame retardant thermoplastic overjacket protect against certain inorganic chemical solutions, it also protect against abrasion and impact damage.

-HTP…CT High Temperature Fluoropolymer overjacket are used for exposure to organic or corrosive solutions or vapours may bepresent.

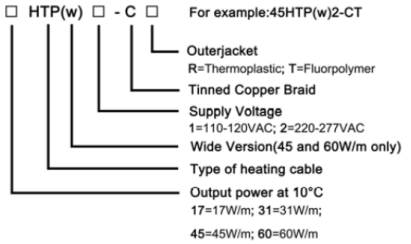
Technical date

Service voltage	110-120V,220-277V
Maximum maintain or continuous exposure temperture(power on)	+110℃(230℉)
Maximum intermittent exposure Temperture, 1000 hours(power on or off)	+135℃(275℉)
Minimum installation temperture	-30℃(-22℉)
Protective braid resisitance	< 18.2Ω/km
Bus wire gauge	16AWG(17&31W/m) 14 AWG (45&60W/m)
Approvals	

Dimension and weight

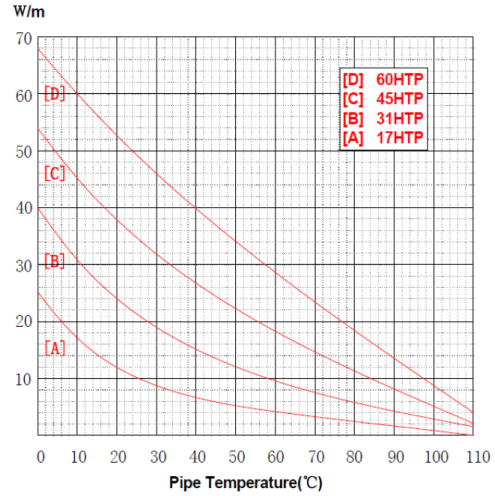
Type	Dimension	Min.bending radius	Weight (kg/100m)
-HTP…C	12.0*4.4	26mm	9.5
-HTP…CR	13.6*6.0	36mm	11.0
-HTP…CT	12.4*4.8	28mm	13.9
-HTPw…C	13.9*5.0	30mm	13.0
-HTPw…CR	15.5*6.6	39mm	16.9
-HTPw…CT	13.3*5.4	32mm	17.2

Product ordering information



Power output curves

Nominal power output at 230V when HTP installed on insulated metal pipes.



Maximium length(m) vs circuit breaker size

Minimum Start-up temperature	CB size Amps	17HTP 230V ft	17HTP 230V m	31HTP 230V ft	31HTP 230V m	45HTP 230V ft	45HTP 230V m	60HTP 230V ft	60HTP 230V m
10℃(50℉)	10	220	67	150	46	114	35	101	31
	16	265	81	200	61	187	57	164	50
	20	390	119	265	81	239	73	203	62
	30	420	128	347	106	308	94	262	80
	40	420	128	347	106	308	94	300	91
0℃(32℉)	10	160	49	145	44	101	31	82	25
	16	210	64	190	58	173	53	144	44
	20	320	98	295	90	216	66	180	55
	30	390	119	360	110	265	81	229	70
	40	390	119	350	106	265	81	255	78
-20℃(-4℉)	16	195	59	160	49	114	35	101	31
	20	295	90	249	76	141	43	134	41
	30	365	111	311	95	180	55	167	67
	40	340	104	311	95	160	49	220	51
-40℃(-40℉)	16	180	55	140	43	108	33	98	30
	20	275	84	200	61	137	42	121	37
	30	360	110	280	86	173	53	147	45
	40	330	101	260	79	160	49	190	58

6.2 EX-PROOF/ATEX HEAT TRACING CABLES (HTS)

HTS

Features

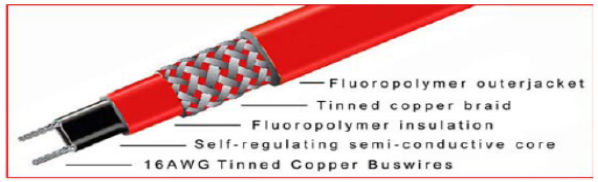
- Energy efficient, automatically varies its power output in response to pipe temperature changes.
- Easy to install, can be cut to any length(up to max circuit length) required on site with no wasted cable.
- Lower installed cost than steam tracing, less maintenance expense and less downtime.
- No overheat or burnout even when wrapped over itself(overlapped).
- Suitable for use in non-hazardous, hazardous and corrosive environments.
- Jiahong power connection, splice, tee and end seal kit will reduce installation time.

Description

HTS increasing or decreasing the heat output in a self-regulating way depending on the change of the ambient temperature,so a thermostat may not necessary in some applications and it will never overheat or burnout even when wrapped over itself(overlapped). With optional outerjacket, the heating cable is resistant to watery and inorganic chemicals and protect against abrasion and impact damage. HTS is suitable for use in explosion-hazardous areas up to a maximally admissible work-piece temperature of +150℃. Jiahong provide termination, power connection, splice, tee and end seal kit will reduce installation time and require no speical skills or tools.

Appliance

HTS is an industrial grade, self-regulating parallel heating cable (heating tape) to BS6351 Grade 22 that can be used for applications ranging from process heating or maintenance of temperture up to 150℃. It can be used in hazardous and non-hazardous locations, including areas where corrosives may be present.



Options

-HTS...C Tinned copper braid provide additional mechanical protection and a positive ground path.

-HTS...CT High Temperature Fluoropolymer overjacket are used for exposure to organic or corrosive solutions or vapours may be present.

Technical date

Service voltage	110-120V,220-277V
Maximum maintain or continuous exposure temperture(power on)	+120℃ (248℉)
Maximum intermittent exposure Temperture, 1000 hours(power on or off)	+200℃ (392℉)
Minimum installation temperture	-30℃ (-22℉)
Protective braid resisitance	< 18.2Ω/km
Bus wire gauge	16AWG
Approvals	

Dimension and weight

Type	Dimension	Min.bending radius	Weight (kg/100m)
-HTS...C	9.2×3.6mm	21mm	11.2
-HTS...CT	10.2×4.6mm	27mm	14.0

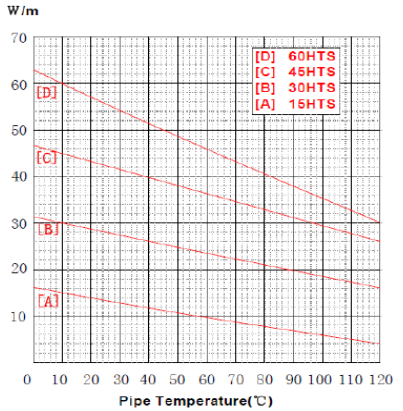
Product ordering information

☐ HTS ☐ - C ☐ For example:60HTS2-CT

- Outerjacket T=Fluorpolymer
- Tinned Copper Braid
- Supply Voltage 1=110-120VAC; 2=220-277VAC
- Type of heating cable
- Output power at 10°C

Power output curves

Nominal power output at 230V when HTS installed on insulated metal pipes.



Maximium length(m) vs circuit breaker size

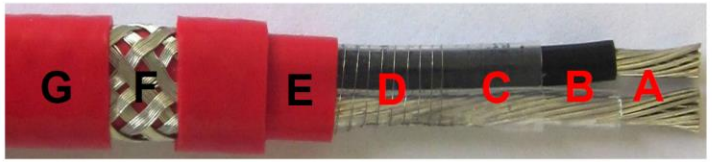
Minimum Start-up temperature	CB size	15HTS 230V		30HTS 230V		45HTS 230V		60HTS 230V	
	Amps	ft	m	ft	m	ft	m	ft	m
10℃(50℉)	10	240	73	146	45	100	31	77	23
	16	360	109	236	72	150	46	115	35
	20	479	146	295	89	200	61	150	46
	30	518	158	440	134	285	87	230	70
	40	531	162	510	155	380	116	306	93
0℃(32℉)	10	220	67	138	42	93	28	70	21
	16	350	106	220	67	130	39	110	34
	20	430	130	280	85	180	55	142	43
	30	490	150	400	122	270	82	210	64
	40	510	155	480	146	350	107	286	87
-20℃(-4℉)	10	210	64	130	39	83	25	67	20
	16	315	96	195	59	125	38	100	30
	20	380	115	260	79	165	50	135	41
	30	480	146	364	111	250	76	200	122
	40	500	152	440	134	335	110	265	81
-40℃(-40℉)	10	180	54	116	35	80	24	63	19
	16	285	87	175	53	120	36	95	29
	20	360	38	235	72	160	49	125	38
	30	450	108	350	107	240	73	190	58
	40	480	146	460	140	320	97	250	76

6.3 EX-PROOF/ATEX CONSTANT WATTAGE CABLE (FCW)

FCW

Constant Wattage heating cable

FCW-11
FCW-22
FCW-33
FCW-45



Features

- Uniform Thermal Output
- Accurate, Easy to Control and Monitor
- Low Energy Cost
- No Inrush at Any Ambient
- Industrial/Process and Commercial/Construction Applications
- Flexible to Most Any Configuration
- Fluoropolymer Jacket
- Maximum Exposure Temperature, Power Off, 400℉ (205℃)
- 11,22,33 and 45 W/m
- 230V

Description

FCW is a constant wattage parallel circuit heating cable designed for pipe and equipment heat-tracing in industrial applications. This family offers an economical alternative to our self-regulating heating cables but requires more skill for installation and also requires more advanced control and monitoring systems.

The heating cables are zone parallel heaters constructed from a heating element wrapped around two parallel conductors. The distance between conductor contact points forms the heating zone length. The parallel construction allows it to be cut-to-length and terminated in the field. FCW heating cables can withstand routine steam purges and temperature exposure to 205℃ power off.

Construction

A Twin 12 AWG Copper Buss Wires — Provide reliable, consistent electrical current.
B FEP Insulation Jacket — Electrically insulates buss wires.
C Pairing Jacket — Secures two buss wires together and provides wrapping surface for Nichrome wire.
D Nickel Chromium Wire — Heating component of the cable.
E FEP Insulation — Rugged outer sheath protects heating cable, assures longer service life, and provides protection against environmental application hazards.
F Tinned Copper Braid — Plated copper braid increases robust construction, provides ground path and provides additional protection in any location.
G FEP Overjacket — Fluoropolymer overjacket, over the braid, provides protection from most aqueous and chemically corrosive solutions.

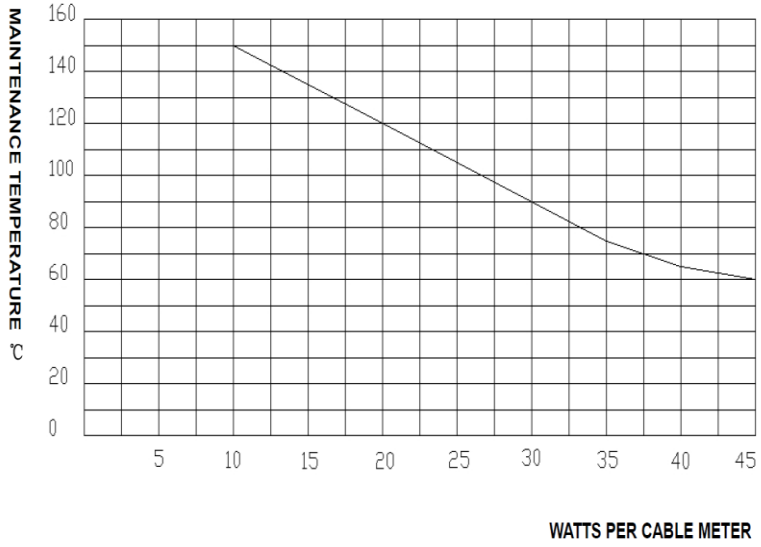
Approvals

PCEC	CE11.5016U Exe IIC Gb/DIP A22 IP65
IECEx	IECEx LCI 11.0071U EX e IIC Gb Ex t IIIC Db IP65
ATEX	LCIE 11 ATEX 3094 U Ⓔx II 2 GD EX e IIC Gb Ex t IIIC Db IP65

Specifications

Area classification	Hazardous, Zone 1, Zone 2 (Gas), Zone 21, Zone 22 (Dust) Ordinary
Traced surface type	Carbon steel Stainless steel Painted or unpainted metal
Chemical resistance	Organics and corrosives
Supply voltage	230Vac
Minimum installation temperature	-40℃
Minimum bend radius	50 mm

Maximum Allowable Wattage Based on Maintenance Temperature:



Performance and Rating Data:

Catalog Number	Service Voltage	Output W/m	Maximum Length/m	Max. Maintenance Temperature/℃	Max. Exposure Temperature/℃
FCW-10	220	10.0	210	150	205
	230	11.0	210	150	205
	240	11.9	210	150	205
FCW-20	220	20.0	180	120	205
	230	22.0	180	115	205
	240	23.8	180	110	205
FCW-30	220	30.0	150	90	205
	230	33.0	150	80	205
	240	35.7	150	75	205
FCW-40	220	40.0	140	65	205
	230	45.0	140	60	205
	240	47.6	140	——	205

Performance and Rating Data:

Catalog Number	Service Voltage	Output W/m	MAX. CIRCUIT LENGTH (M) BY CIRCUIT BREAKER SIZE		
			15A	20A	30A
FCW-10	220	10.0	210	——	——
	230	11.0	210	——	——
	240	11.9	210	——	——
FCW-20	220	20.0	165	180	——
	230	22.0	155	180	——
	240	23.8	150	180	——
FCW-30	220	30.0	110	145	150
	230	33.0	105	140	150
	240	35.7	100	135	150
FCW-40	220	40.0	80	110	140
	230	45.0	78	105	140
	240	47.6	75	100	140

6.4 MI HEATING CABLE

INTRODUCTION

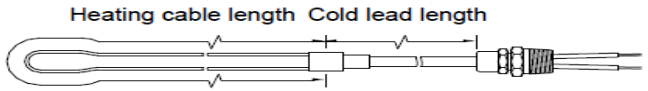
The MISS range of stainless steel sheathed Mineral Insulated (MI) heating cable has been developed to meet the specific need for a cable having a high temperature capability and electrical resistance values needed for long circuit lengths. To meet the requirement, It's combined a stainless steal sheath with heating conductors to enable an operating temperature of 600℃ with resistance values from 28000Ω/km down to 19.2Ω/km.MI cables have excellent mechanical strength and are resistant to corrosion. They are series resistance heaters which must be designed to provide the required heat output.

CABLE CONSTRUCTION
APPLICATIONS

Nuclear Industry--- Sodium loops	Building Industry ---Bitumen/asphalt heating
Metal Forming Industry ---Melting of low melt alloys	Tank/vessel Heating
Underfloor heating	

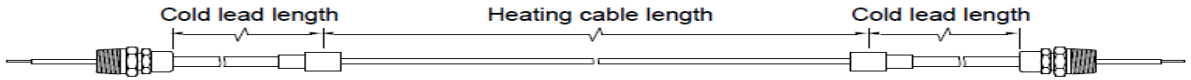
TABLE 1 CABLE CONFIGURATIONS

Design A



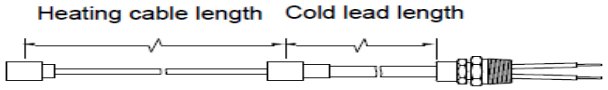
Design A: for single condutor cables only

Design B



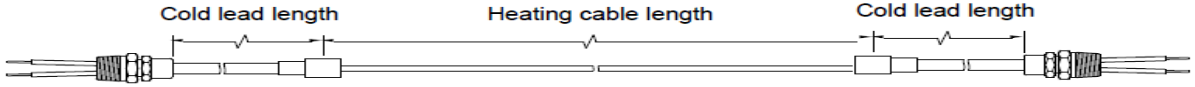
Design B: for single condutor cables only

Design D



Design D: for dual condutor cables only

Design E



Design E: for dual condutor cables only

Design D is our standard.
Ex-Proof Enclosure
Capacity : 200 Watt/Mtr.
Cold Zone : 1 Mtr.
Hot Zone : 5 Mtr. , 10 Mtr. , 15 Mtr. & 20 Mtr. (Standard Lengths)

7. HEAT TRACING CABLE ACCESSORIES & EX-PROOF/NON EX-PROOF PANELS

(Thyristor/SSR Control Panels)

Fiber Glass Heating Tape (400/500°C)

Quartz Heating Tape (800/900°C)

Silicone Heating Tape (200°C)

Mounting clamps

End Cap

Glass Adhesive Tape

Aluminum Tape

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