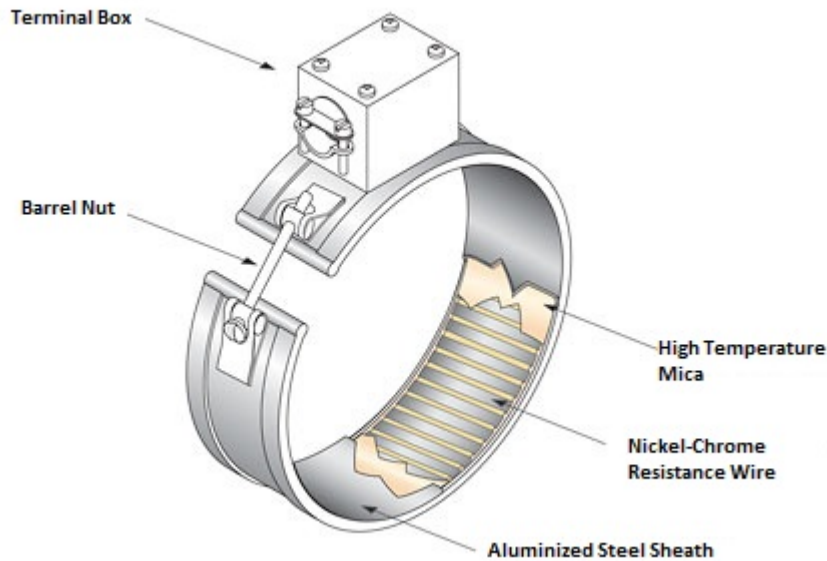


HEATERS & SENSORS INC.

## Mica Band Heaters



### Features

- Efficient, Reliable and Economical Solution
- Maximum 900 °F Operating Temperatures
- Build according to custom specifications
- Holes and cut-outs are available
- Broad range of Clamping and Terminal Types

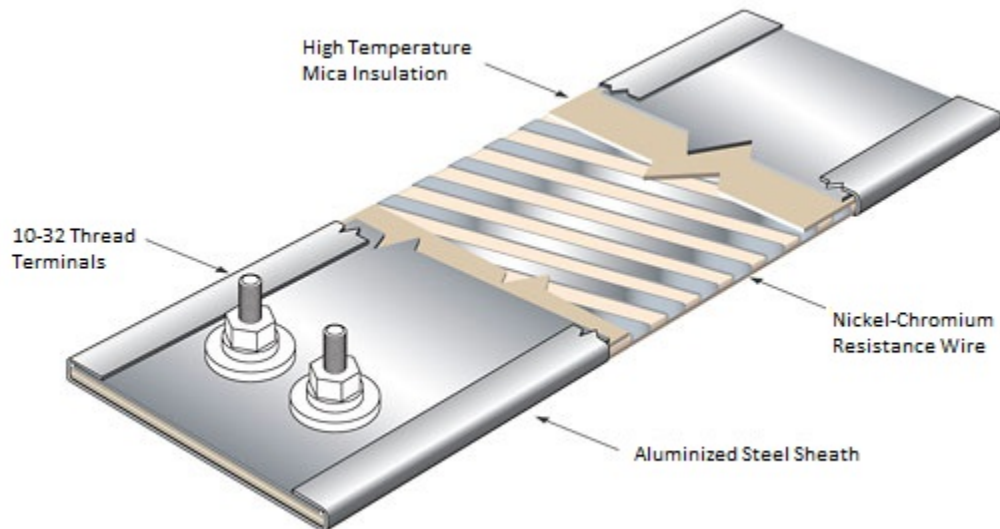
### Description

We provide special mica band heaters capable of 900 °F Operating Temperatures which is required temperatures in many plastic, packaging and medical laboratories. The construction normally involves a high temperature mica sheet uniformly wound with Nickel-chrome resistance wire housed in aluminized steel sheath for maximum heat transfer. Clamping and terminals have various option.

### Applications

- Injection Molding Machines
- Plastic Extruders
- Blow-Molding Machines
- Medical Laboratory Tests
- Cylinders, Drums, Pipes & Holding Tank Heating

## Mica Strip Heaters



### Features

- Efficient, Reliable and Economical Solution
- Maximum 800 °F Operating Temperatures
- Build according to custom specifications
- Holes and cut-outs are available
- Broad range of Terminal Types

### Description

We provide special mica band heaters capable of 800 °F Operating Temperatures which is required temperatures in many plastic, packaging and medical laboratories. The construction normally involves a high temperature mica sheet uniformly wound with Nickel-chrome resistance wire housed in aluminized steel sheath for maximum heat transfer. Clamping and terminals have various option.

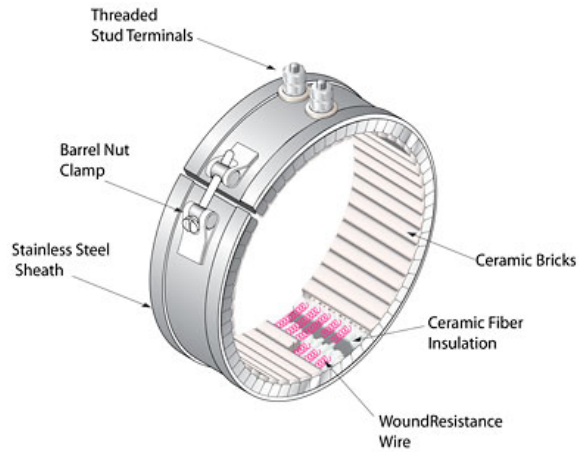
### Applications

- Injection Molding Machines
- Plastic Extruders
- Blow-Molding Machines
- Medical Laboratory Tests
- Packaging Industries
- Cylinders, Drums, Pipes & Holding Tank Heating

## Ceramic Band Heaters

### Features

- Built-in Thermal Insulation
- 1500 °F Operating Temperatures
- Energy Efficient
- Long Life Heater
- Uniform Heat
- Build according to custom specifications
- Flexible for easy installation



### Specifications

**Insulation:** 1/4" thick ceramic fiber insulation

**Sizes:** Minimum 2" Diameter & 1" wide and up

**Terminals:** Post Terminals Standard (1/4"-20 Thread or custom thread)

**Sheath:** Corrosion Resistant Stainless Steel

**Lock-Up:** Barrel Nut Standard (Optional Flange)

**Standard Gap:** 1/4" when tightened

**Wall Thickness:** 11/32" (+1/32", -.00)

**Temperature:** Up to 1500 °F

**Watt Density:** Up to 60W/Sq. in.

**Voltage:** Up to 480 V (Single or three phase)

**Resistance Tolerance:** +10%-5%

**Wattage Tolerance:** +5%-10%

### Constructions

Ceramic Band Heaters consists of helically wound Nickel-Chrome heating coil, evenly stretched and precisely stretched inside the insulating ceramic bricks to create uniform heating. 1/4" thick Ceramic fiber insulation gives minimum heat loss. Sensor holes can be provided according to requirement.

## Cartridge Heaters

### Features

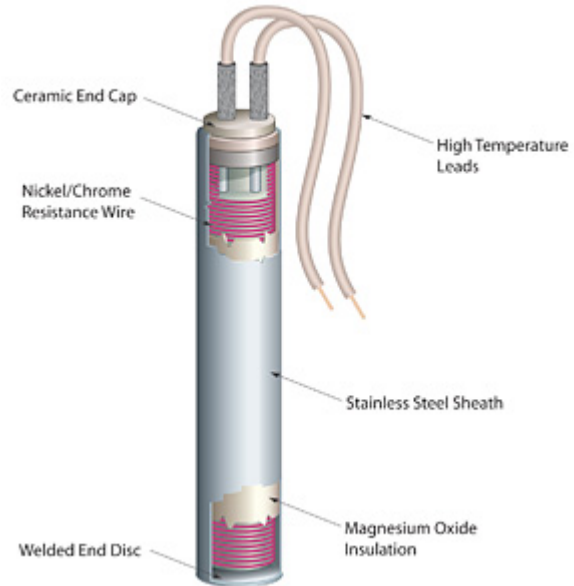
- Swaged Cartridge Heaters
- Exceptional Heat Transfer Characteristics
- Welded end disc prevents contaminations
- Efficient Heat Transfer
- Optional Built-in Thermocouple
- Maximum 1400 °F Operating Temperatures
- Various lead options

### Specifications

- Diameter Tolerance 0.002"
- Length Tolerance 2%
- Wattage Tolerance +5%, -10%
- Camber Tolerance 0.025"

### Construction

Nickel-chromium resistance wire is precisely wound on high purity magnesium oxide cores and filler materials swaged inside stainless steel sheath. Compacted design gives maximum heat transfer. Nickel-chromium resistance wire gives maximum heater life. High temperature lead wires or nickel pins are swaged into the heater. End discs are welded to prevent contamination.



## Coil Heaters

### Features

- Can be used for quick heating and cooling
- Standard sizes available with various cross sections
- Various watt Density option available
- Design for evenly distributed heat
- Precision fit on Hot Runner Nozzle
- Highly Non-corrosive
- Accuracy fit on hot runner spouts



### Application

- Hot runner nozzle & Bushing
- Pipe forming
- Tube extrusion

### Description

Coil heaters are an advance concept of thermal engineering which has a construction similar to high watt density cartridge heaters. The basic concept of these heaters consists of compacted MgO, high temperature Nickel-chrome resistance wire and chrome nickel steel tube. These heaters also known as high performance tubular heaters or cable heaters. These heaters can be constructed with or without built in thermocouple.

SD heaters & Controllers produces Coil Heaters that guarantee the best as for multiple applications and executions. The essential development of these heaters comprises of compacted MgO, High Temperature Nickel-Chrome Resistance Wire and Nickel-Chrome Tube. These heaters can be built with or without inherent thermocouples. They are generally utilized on hot runner spouts and manifolds.

## Micro Tubular Coil Heaters

### Features

- Can be used for quick heating and cooling
- Staggered cold leads
- Robust construction
- Very high resistance to mechanical shocks
- Maximum 1250 °F Operating Temperatures

### Specifications

- Voltage: Up to 240V
- Watt Density: Max. 100W/Sq. inch
- Surface Temp: Max. 1250 °F
- Thermocouple: Available
- Diameter Tolerance:  $\pm 0.15\text{mm}$
- Length Tolerance:  $\pm 5\%$
- Wattage Tolerance:  $\pm 10\%$



### Applications

- Injection Molding Nozzle
- Hot Runner Nozzle & Bushing
- Packaging Industries
- Thin Walled Container Moulds

### Description

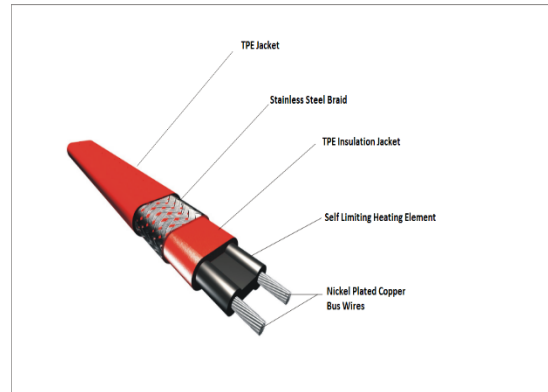
Micro Tubular Coil heaters are manufactured in round, square or rectangular section to guarantee the greatest thermal exchange keeping an excellent efficiency and good reliability. High Temperature Nickel-Chrome Resistance wire is uniformly distributed in a compacted MgO insulation, inside Nickel-Chrome Sheath. These heaters are annealed after manufacturing. These heaters can be manufactured with built in thermocouple J or K type.

## Self-Regulating Heating Cable

Self-Regulating Heating Cable is also known as Heat Trace Cable amongst the industry. It is used for a wide range of applications for freeze protection including pipes, valves, tanks, roofs, gutter and much more.

### Features

- Self-Regulating or Constant-Wattage Heating Cable
- Ideal for long run on pipes and vessels
- Customizable length
- Maximum 500 °F Operating Temperatures
- Saves energy
- Low installation cost



### Applications

- Freeze Protection
- Viscosity Control
- Low to High Temperature Process Maintenance
- Any location including Hazardous Location

Output (W/Ft @ 50 °C)	Volts	Part Number
3	120	SRHC120V03W
3	240	SRHC240V03W
5	120	SRHC120V05W
5	240	SRHC240V05W
8	120	SRHC120V08W
8	240	SRHC240V08W
10	120	SRHC120V10W
10	240	SRHC240V10W



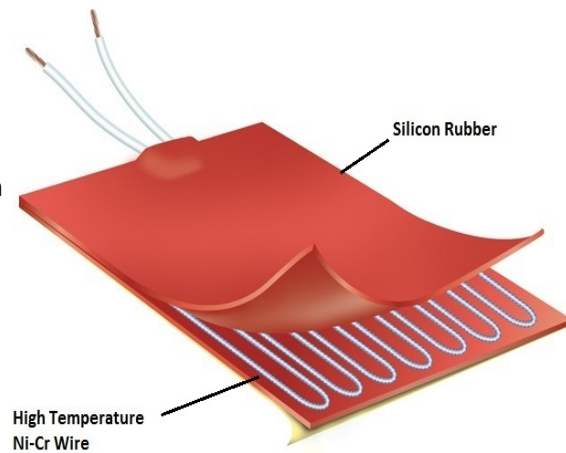
## Silicon Rubber Heater

### Features

- Designed in the exact shape and size
- Standard designs are available in stock
- Moisture, Chemicals and Acid Resistant Silicon

### Applications

- Freeze Protection
- Medical Equipment
- Semi-Conductor Processing Equipment
- Condensation Prevention



### Description

Silicon Rubber Heaters are flexible and lightweight heaters which are able to withstand temperatures up to 450 °F. Our premium quality products have high dielectric strength that is resistant to moisture, chemicals and acids found in various industrial plants / place. Our experience allows us to make complex shapes and meet the exact requirements of your application. Silicon Rubber Heaters are rugged, thin, flexible and maintain dimensional stability. Holes and cut-outs are available according to requirements. These heaters can be manufactured with built in thermocouple J or K type.

### Applications

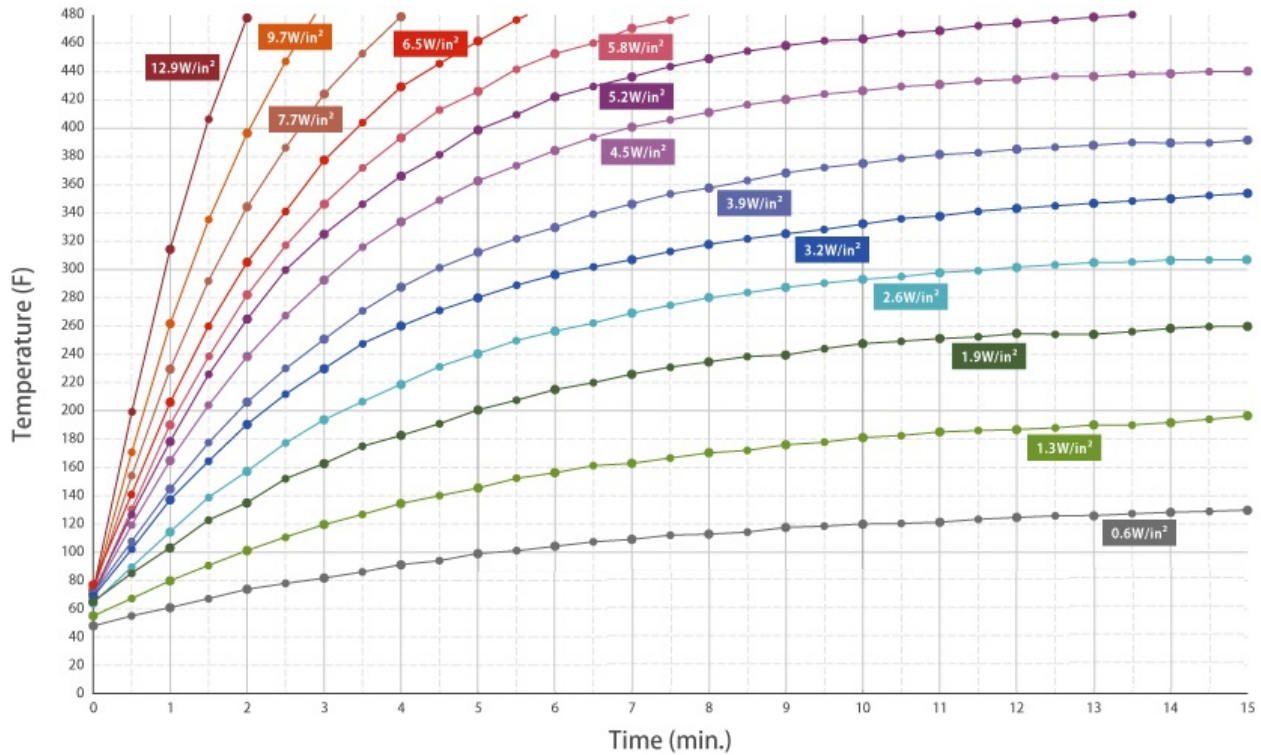
- Freeze Protection
- Aerospace
- Automotive
- Heated Press
- Drum Heating
- Autoclaves

### Data Sheet

- Structure: Heating Element Vulcanized between two layers of Silicon Rubber
- Insulation: Fiberglass reinforced Silicon Rubber
- Heating Element: Nickel – Chrome Heating Wire
- Supply Voltage: 0 – 400 V
- Max. Temp: 500 °F
- Standard Thickness: 1.5mm
- Flammability: Flame Retardant
- Moisture: Moisture Proof
- Power Leads: High Temperature PTFE or Silicon Insulated Leads

# Silicon Heater Design Data

## Heater Temperature Rise in Still Air

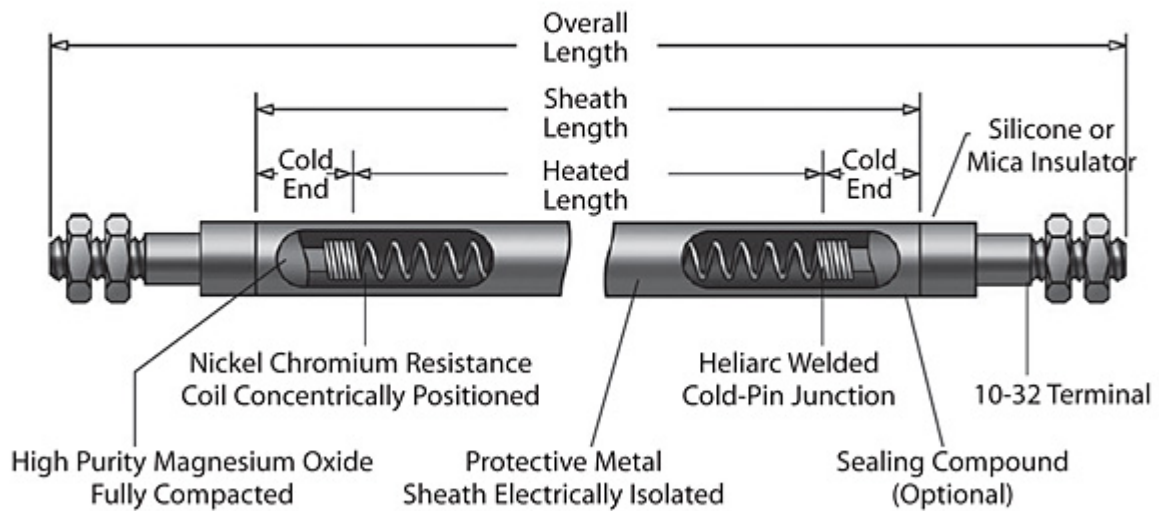


### Stock List

Width (in)	Length (in)	Watts	120V Part #	240V Part #
1	2	10	SRH101002010	SRH201002010
1	3	15	SRH101003015	SRH201003015
1	4	20	SRH101004020	SRH201004020
1	5	25	SRH101005025	SRH201005025

## Tubular Heater

### Tubular Elements: Features and Components



### Features

- Swaged for good Electrical Insulation
- Uniform Thermal Heat
- Water Proof
- Low Maintenance
- Copper or Stainless Steel Terminals

### Applications

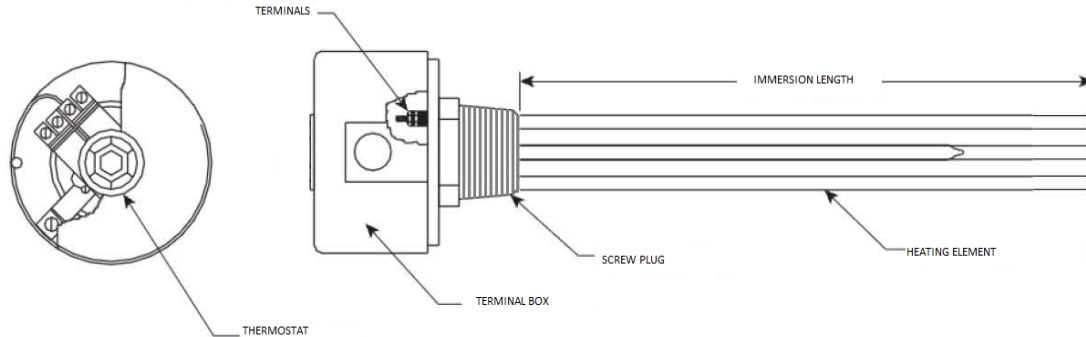
- Water, Liquid and Air Heating
- Viscous Oil & Storage Tanks
- Vessels
- Chemical Industries
- Electroplating Industries

### Description

Tubular Heaters have the longest life span of any heater. A heating coil is inserted into a Stainless Steel Sheath, and MgO powder is used to fill the spaces between sheath and heating coil to create tubular shaped construction.

The heater is used in variety of applications due to its flexible shape, which is one of its major features. It is widely used in many fields to heat both gas and liquid.

## Screw Plug Heater



### Features

- Swaged for good Electrical Insulation
- High – Temperature Applications
- Brazed or Welded end construction
- Compact Design
- Rugged construction
- Long Life Metal Sheath
- Provide wiring box for electrical connection
- Multiple elements in one screw plug heater
- High, Medium or Low watt density for various processes

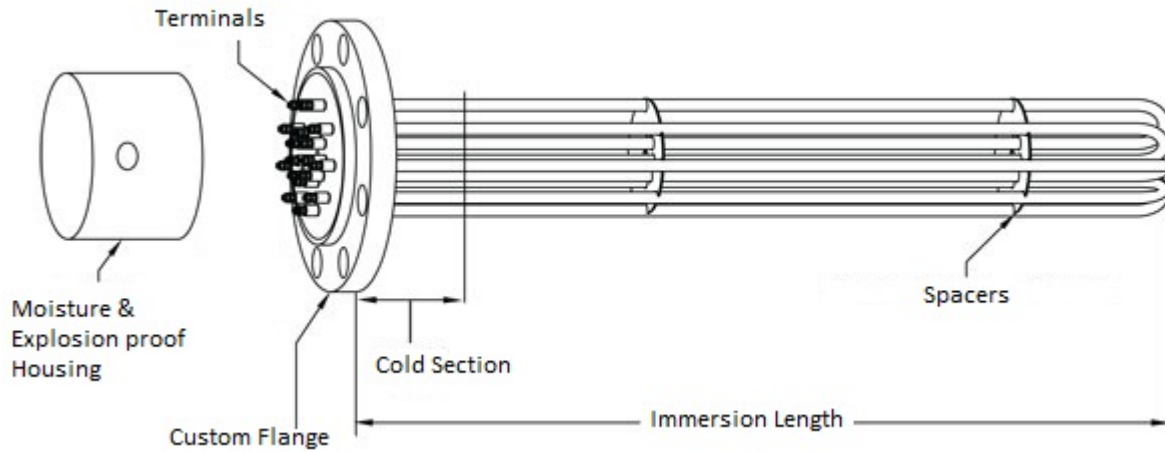
### Application

- Hot Runner Mould System
- Ovens & Dryers
- Packaging Machinery
- Engineering Industries
- Plastic Processing Machinery

### Description

Screw Plug Immersion Heaters consist of tubular elements welded or brazed into a threaded screw plug which can then be inserted into a threaded opening in a tank wall or through a mating full or half coupling. The electric heating elements are constructed with high quality Nickel – Chrome resistance Wire, centered in Stainless Steel Tube and insulated with high purity compacted MgO. The element tube material varies according to specific requirements. The Elements are either welded or brazed to a threaded boss, which is available in a variety of materials to suit the application.

## Flanged Heater



### Features

- Rugged Construction
- Swaged for good Electrical Insulation
- ASA Carbon Steel Flange ranges from 3" – 14"
- Moisture or explosion resistant terminal enclosure
- Thermowell for replaceable thermostat bulb
- Superior Chemical Resistance

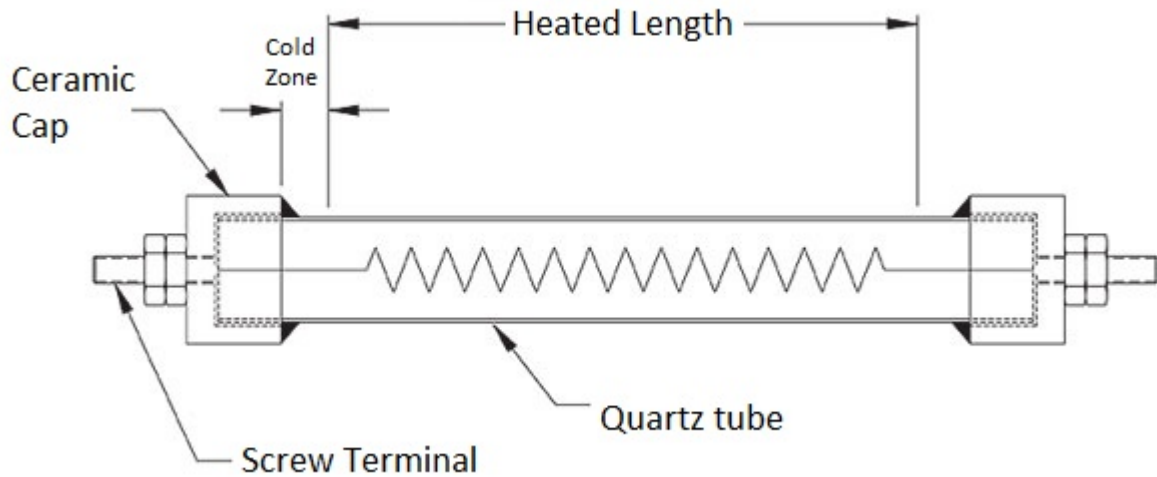
### Application

- Hot Runner Mould System
- Hot Water Storage Tank
- Warming Equipment
- Food Processing Equipment
- Boiler Equipment
- Freeze protection of any Fluid

### Description

Flanged Immersion Heaters are manufactured with highly compacted tubular heaters which are bent U-Shape and welded or brazed onto a Flanges of various shapes and sizes. Flange heaters enable high heating performance within the smallest space. They are commonly used in many chemical, petroleum and water based applications.

## Quartz Tube Radiant Heaters



### Features

- Compact and versatile
- Quick heat and cool down response
- Clean heat energy
- Lower power consumption
- High Operating Temperature

### Application

- Shrink Packaging
- Laminating
- Fusing Plastics
- Thermal Copying Equipment
- Vulcanizing Rubber

### Description

Quartz Radiant Heaters are designed for applications that require infrared radiant heating. Quartz Radiant Heaters consists of helically wound Nickel – Chrome coil housed in a pure Quartz Tube. It is terminated with specially designed ceramic insulating caps.

## Ceramic Infrared Heaters



### Features

- Nickel – Chrome Resistance Wire
- Corrosion and Oxidation resistant
- Useful wavelength range (2-10 microns)
- Operating Temperature 550 °F to 1400 °F
- Average Operating Life up to 20,000 hours (depending on condition)

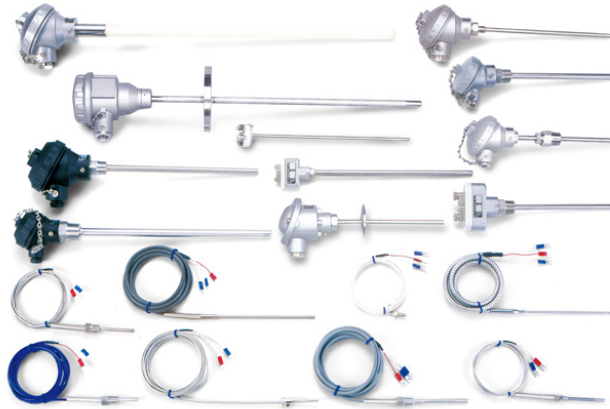
### Application

- Thermoforming and Vacuum Forming
- Hot Stamping
- Heat Therapy

### Description

Ceramic Infrared Heaters are efficient, robust heaters which provide long wave infrared radiation. They are used in diverse range of industrial processes. Most plastics and many other materials absorb infrared wave best in this range.

# Thermocouples






## Features

A Thermocouple is an electric device consisting of two different conductors forming electrical junctions at a different temperatures. A Thermocouple produces a temperature-dependant voltage as a result of thermoelectric effect, and this voltage can be interpreted to measure temperature.

Commercial thermocouples are inexpensive, interchangeable, are supplied with standard connectors, and can measure a wide range of temperatures. In contrast to most other methods of temperature measurement, thermocouples are self-powered and require no external form of excitation.

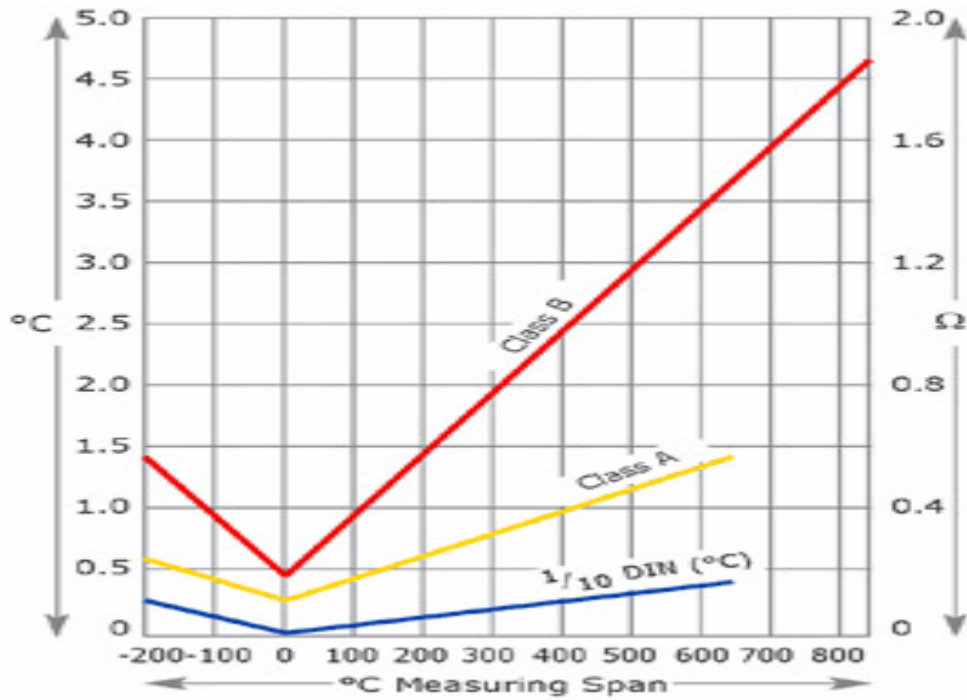
Thermocouples are widely used in science and industry; application include temperature measurement of kilns, gas turbine exhaust, diesel engines, and other industrial processes.

## Junction Styles

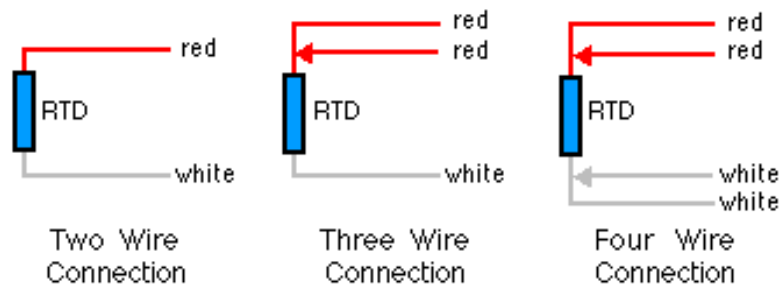
- |   | <u>Junction</u> |   |
|---|-----------------|---|
| <ul style="list-style-type: none"> <li>● <b>Grounded:</b> With Single or dual element, this type provides fast response with protection from the process.</li> </ul>            | G – Grounded    |  |
| <ul style="list-style-type: none"> <li>● <b>Un-Grounded:</b> Improved protection from interference that may be picked up by the sheath. Response time may be slower.</li> </ul> | U – Ungrounded  |  |
| <ul style="list-style-type: none"> <li>● <b>Exposed:</b> Very fast response time. Not suitable for many processes because of corrosion.</li> </ul>                              | E – Exposed     |  |



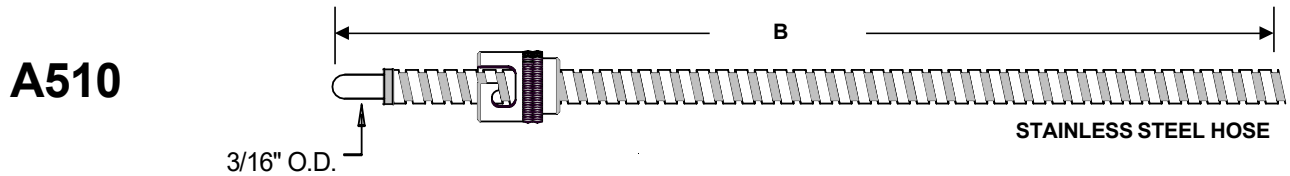
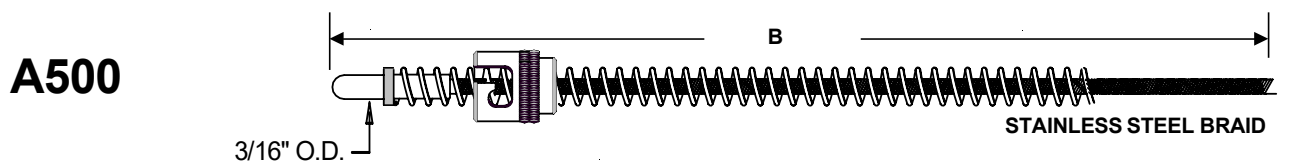
## RTD Tolerance Chart



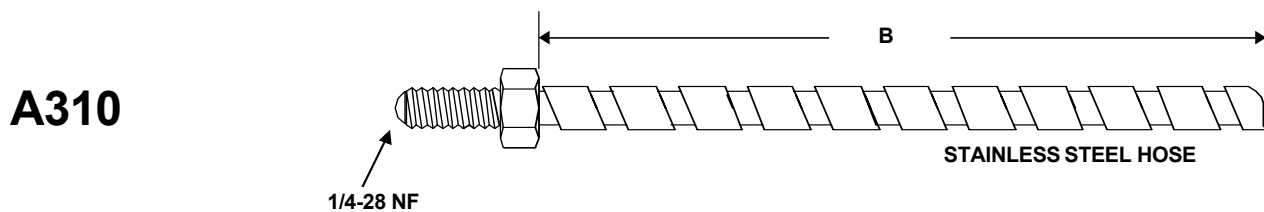
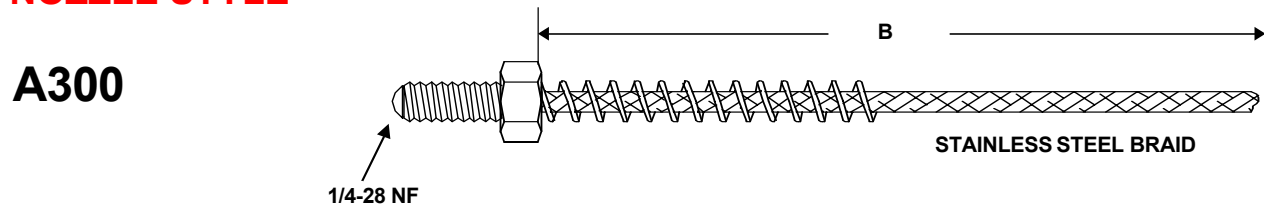
## RTD WIRE CONFIGURATION:



## ADJUSTABLE BAYONET STYLE THERMOCOUPLES AND RTDs



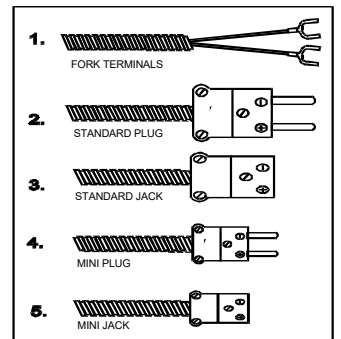
### NOZZLE STYLE



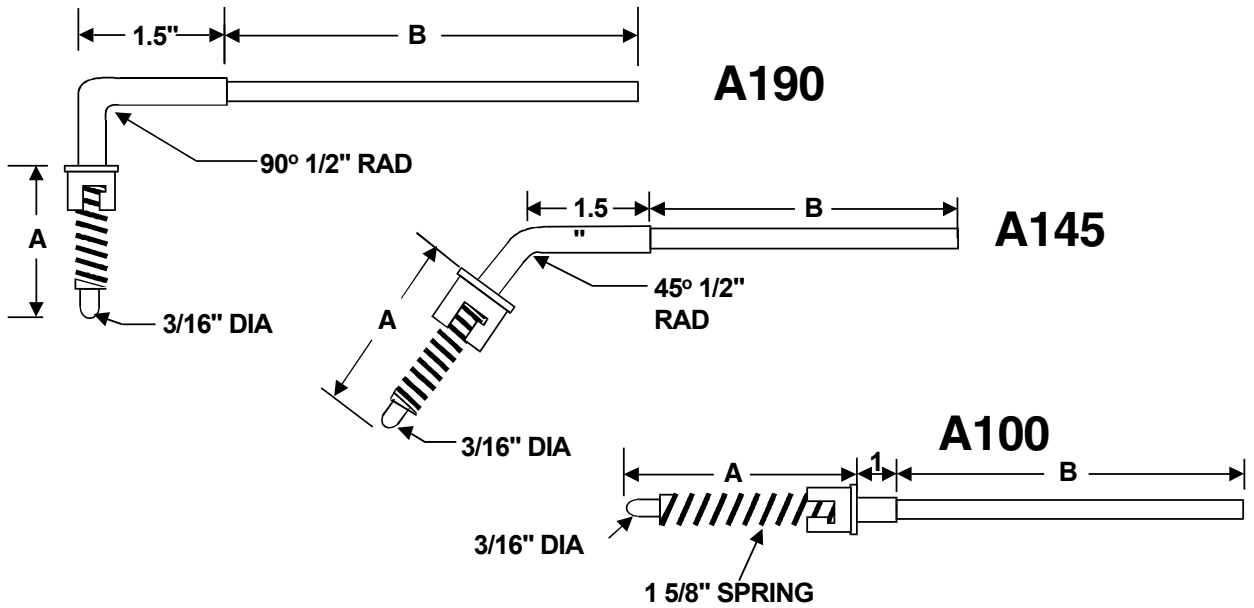
### HOW TO ORDER

<p>A500</p> <p>A510</p> <p>A300</p> <p>A310</p>	<p>□</p> <p>1</p>	<p>□</p> <p>2</p>	<p>□</p> <p>3</p>	<p>□</p> <p>4</p>	<p><b>TYPE</b></p> <p>J</p> <p>K</p> <p>RTD</p>	<p><b>"B" (INCH)</b></p> <p>48</p> <p>60</p> <p>72</p> <p>96</p> <p>120</p>	<p><b>TERMINAL</b></p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p>	<p><b>OPTION</b></p> <p>U - UNGROUNDED</p> <p>M - METRIC DOUBLEUSLOT C</p> <p>X - SPECIAL</p> <p>C - NIST TRACABLE</p> <p>B - 1/8" NPT x 7/8" BAYONET ADAPTER</p>
---	-------------------	-------------------	-------------------	-------------------	---	---	---	---

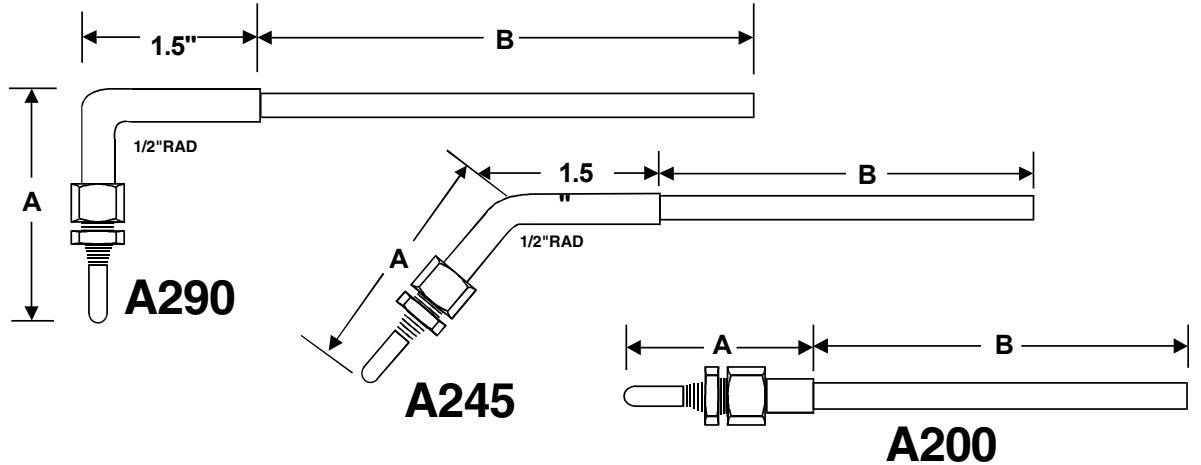
#### TERMINATIONS



## FIXED BAYONET THERMOCOUPLES AND RTDs



## FIXED COMPRESSION THERMOCOUPLES AND RTDs



### HOW TO ORDER

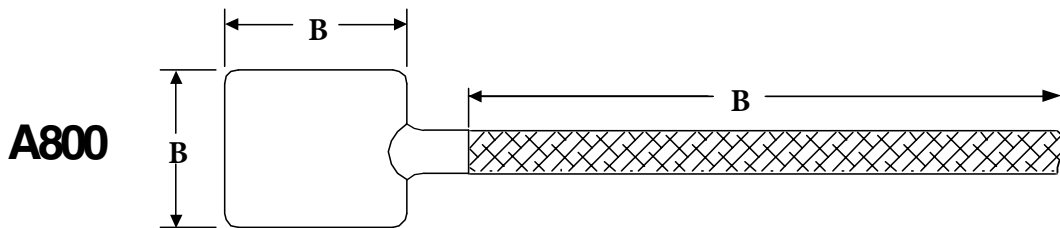
<b>A100</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>A145</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>A190</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2	3	4	5	6
	TYPE	"A"	"B"	TERM	LEADS	OPTIONS
	J			1	↓	U - UNGROUNDED
	K			2		X - SPECIAL
	T			3		B - 1/8" NPT x 7/8" L BAYONET ADAPTER
	RTD					C - NIST TRACABLE
						M - METRIC CAP
						F - FIBERGLASS
						B - SS BRAID
						H - SS HOSE
						T - TEFLON
						FS - FIBERGLASS STRANDED

<b>A200</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>A245</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>A290</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1	2A	2B	3	4	5	6
	TYPE	DIA	"A"	"B"	TERM	LEADS	OPTIONS
	J	1/8"			1	↓	U - UNGROUNDED
	K	3/16"			2		X - SPECIAL
	T	1/4"			3		N - NONE
	RTD	SPECIAL			4		C - NIST TRACABLE
					5		
							F - FIBERGLASS
							B - SS BRAID
							H - SS HOSE
							T - TEFLON
							FS - FIBERGLASS STRANDED
							N - NO FITTING
							S2 - 1/2" SS NPT
							S4 - 1/4" SS NPT
							S8 - 1/8" SS NPT
							B2 - 1/2" BRASS NPT
							B4 - 1/4" BRASS NPT
							B8 - 1/8" BRASS NPT

## RING TERMINAL THERMOCOUPLE



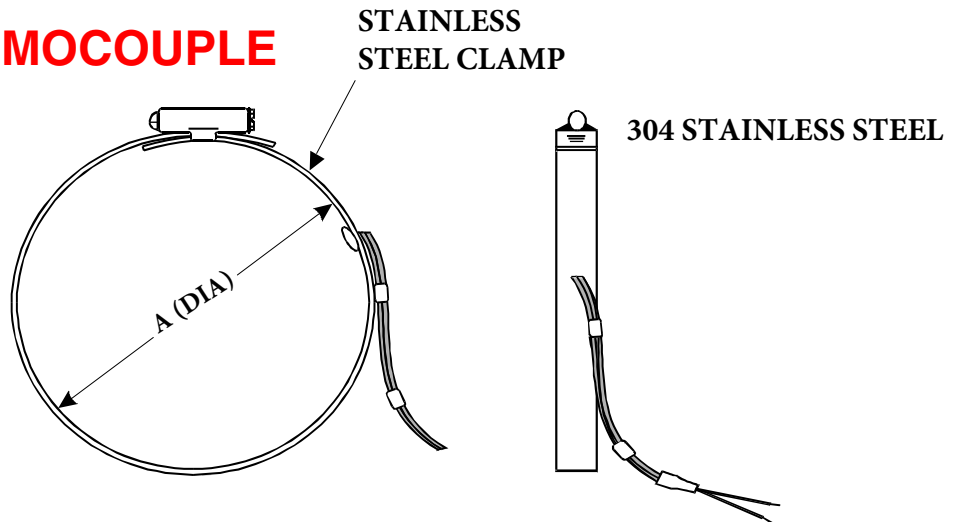
## SHIM STOCK THERMOCOUPLES



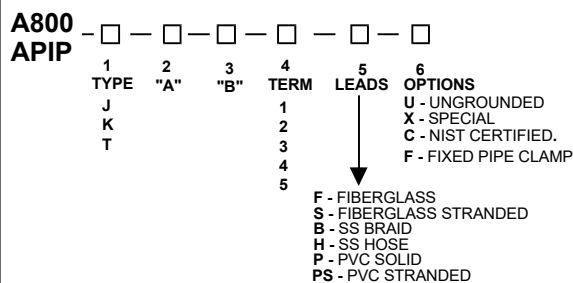
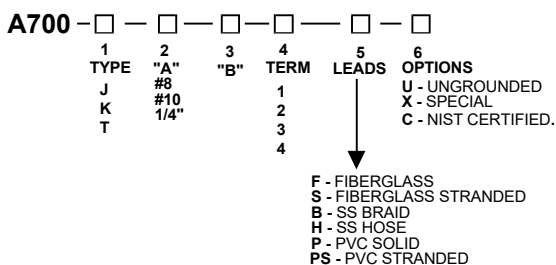
## PIPE CLAMP THERMOCOUPLE

**APIP**

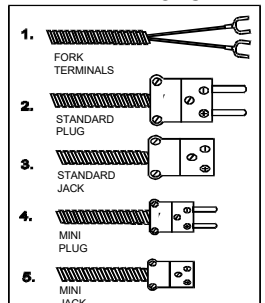
SIZE CODE	RANGE
22	0.22" to 0.62"
31	0.31" to 0.87"
56	0.56" to 1.25"
110	1.10" to 2.00"
155	1.55" to 2.50"
280	2.80" to 3.75"



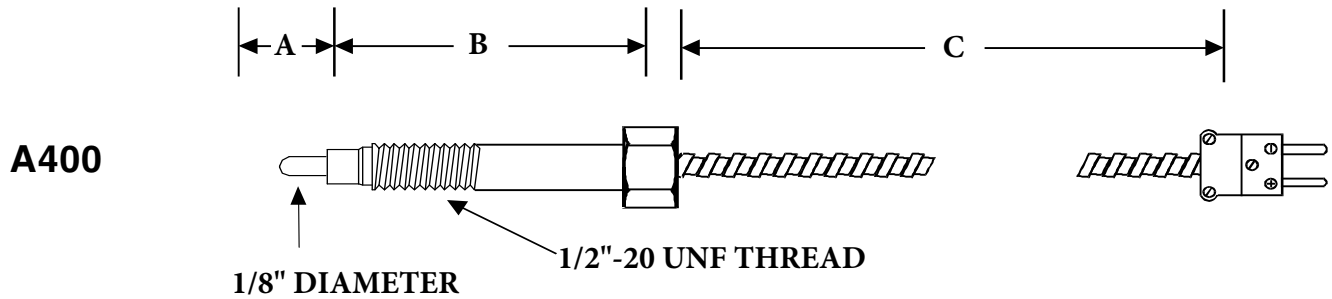
## HOW TO ORDER



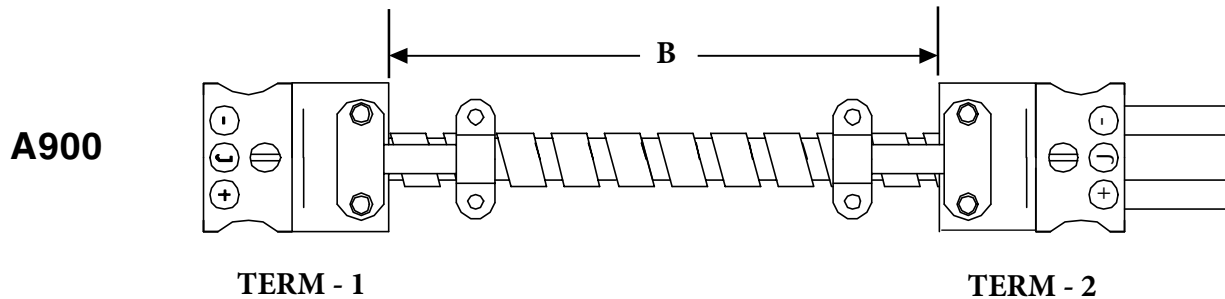
### TERMINATIONS



**PLASTIC MELT THERMOCOUPLES & RTDs**



**EXTENSION CABLES**



**HOW TO ORDER**

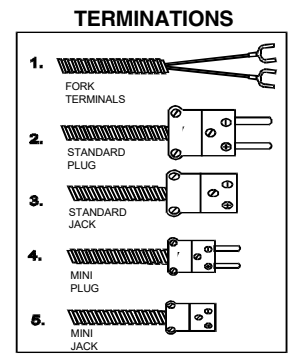
**A400** - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

1	2	3	4	5	5	6
TYPE	"A"	"B"	"C"	TERM	LEADS	OPTIONS
J	0"	3"		1	↓	U - UNGROUNDED
K	1/4"	6"		2		X - SPECIAL
T	CUSTOM	9"		3		C - NIST TRACEABLE
		12"		4		
				5		

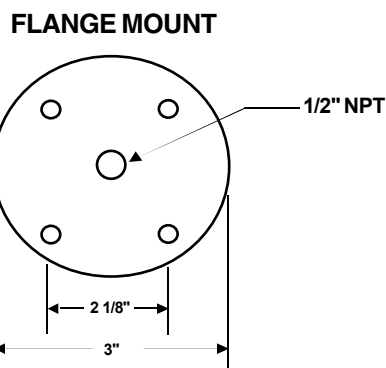
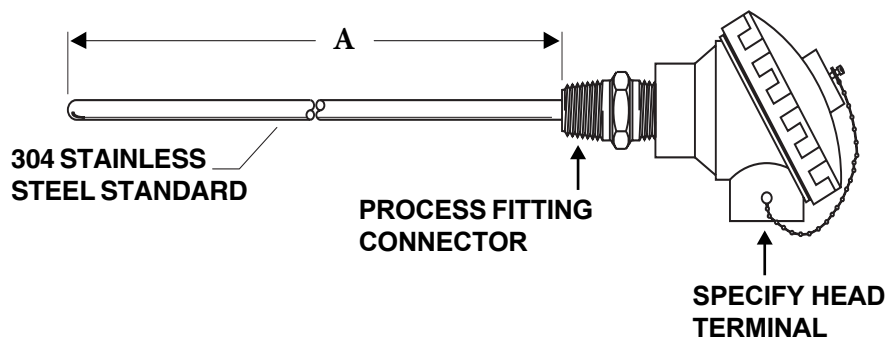
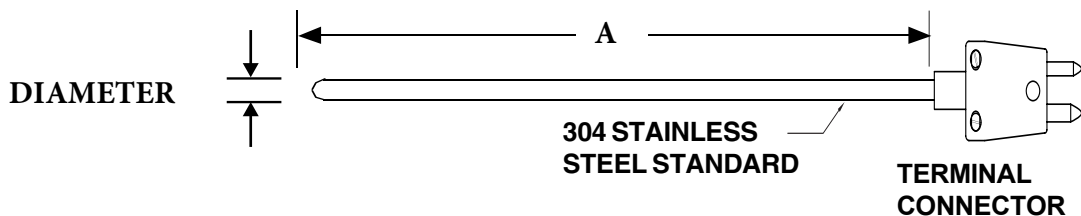
N - NONES  
 FS - FIBERGLASS STRANDED  
 F - FIBERGLASS  
 H - SS HOSE  
 B - SS BRAID

**A900** - [ ] - [ ] - [ ] - [ ] - [ ]

1	2	3	4	5
TYPE	"A"	LEADS	TERM-1	TERM-2
		↓		
		B - SS BRAID		
		FS - FIBERGLASS STRANDED		
		F - FIBERGLASS		
		H - SS HOSE		
		P - PVC SOLID		
		PS - PVC STRANDED		



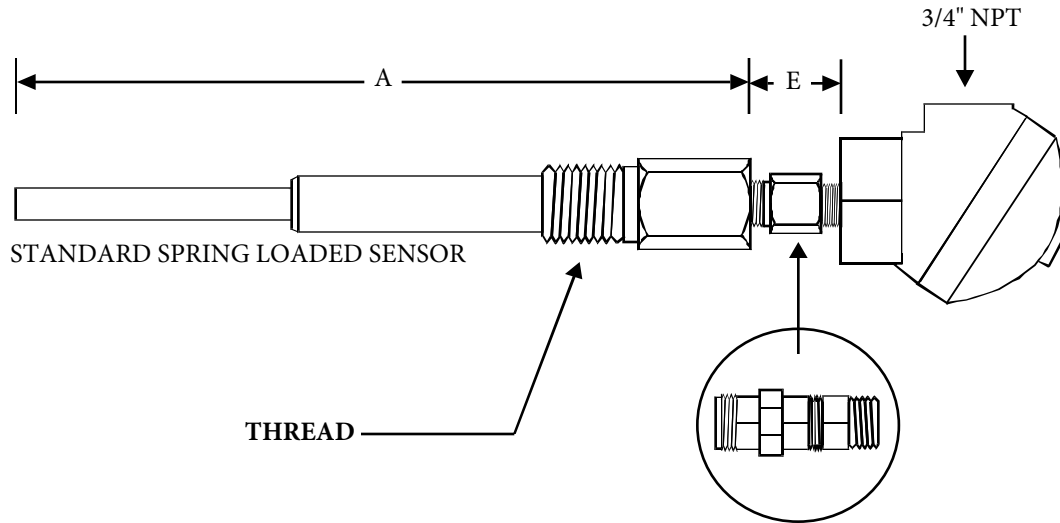
## MgO INSULATED THERMOCOUPLE & RTDs



## HOW TO ORDER

A5100	TYPE	"A"	DIAMETER	JUNCTION	TERMINATION	PROCESS CONNECT	OPTIONS
J	JJ - DUPLEX		1/16"	E - EXPOSED	P - MALE PLUG	N - NONE	S - SPRING LOADED
K	KK - DUPLEX		1/8"	G - GROUNDED	F - FEMALE JACK	B2 - 1/2" BRASS NPT	T - TRANSMITTER (RANGE)
T	TT - DUPLEX		3/16"	U - UNGROUNDED	I - CAST IRON	S2 - 1/2" STEEL NPT	1600 - INCONEL 600
RT2	RTD2 - DUPLEX (200°C)		1/4"	3 - 3 WIRE	L - L/G CAST ALU	SS2 - 1/2" SS NPT	1800 - INCONEL 800
SPECIAL			5/16"	4 - 4 WIRE	AS - SMALL CAST ALU	B4 - 1/4" BRASS NPT	316 - 316 SS
RT4	RTD4 - DUPLEX (400°C)		3/8"		PL - PLASTIC	S4 - 1/4" STEEL NPT	N - NO TERM BLOCK
					ALE - CAST ALU EXPLOSION	SS4 - 1/4" SS NPT	TRANSMITTER READY
					FDA - FDA COMPLAINT PLASTIC	FL - FLANGE MOUNT	C - NIST TRACABLE
					E - EPOXY COATED ALUMINIUM		
					FDAF - FDA COMPLAINT FLIP TOP		

**THERMOCOUPLE & RTD ASSEMBLIES**



**THERMOWELLS IN STOCK**

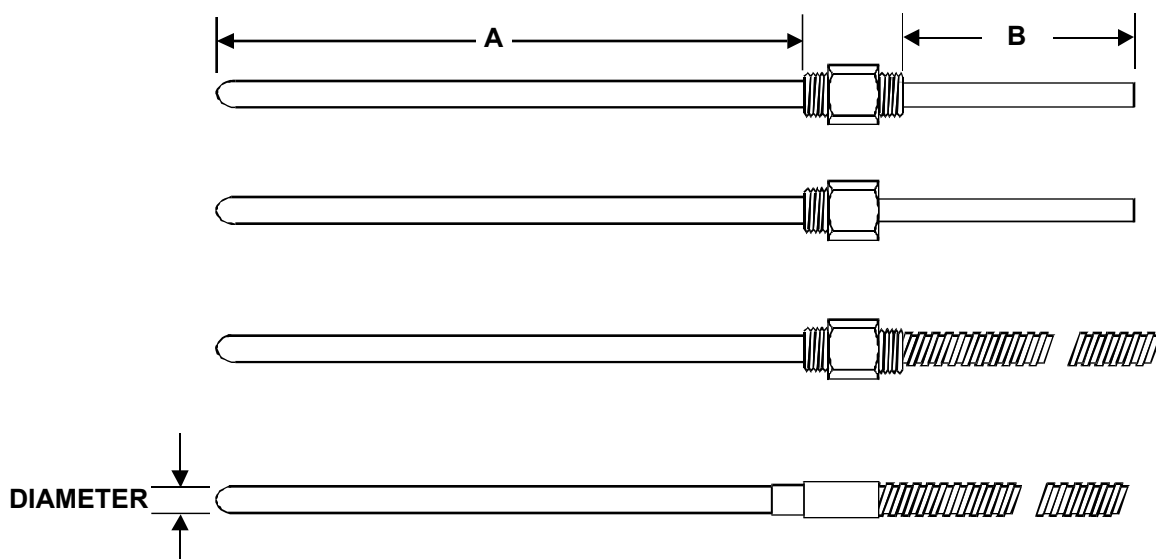
MATERIAL	STEM (A")	PROCESS (in)
304 SS	2.5"	1/2"
304 SS	4"	1/2"
304 SS	6"	1/2"
304 SS	9"	1/2"
304 SS	4"	3/4"
304 SS	6"	3/4"
304 SS	9"	3/4"
304 SS	12"	3/4"
316 SS	4"	1/2"
316 SS	6"	1/2"
316 SS	9"	1/2"
316 SS	6"	3/4"
316 SS	9"	3/4"
BRASS	4"	1/2"
BRASS	6"	1/2"
BRASS	9"	1/2"
BRASS	6"	3/4"
BRASS	9"	3/4"

**HOW TO ORDER**

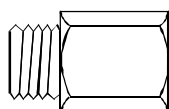
**A4900** —  —  —  —  —  —  —  —

<b>SENSOR</b>	<b>A (in)</b>	<b>MATERIAL</b>	<b>E (in)</b>	<b>THREAD</b>	<b>JUNCTION</b>	<b>HEAD MATERIAL</b>	<b>OPTIONS</b>
J	4"	B - BRASS	1" - STANDARD	1/2"	E - EXPOSED	I - CAST IRON	T - TRANSMITTER (RANGE)
JJ - DUPLEX	6"	S - 304SS	4"	3/4"	G - GROUNDED	AL - ALUMINIUM CAST LARGE	U - SEPERATE UNION & NIPPLE
K	8"	S6 - 316SS	6"	SPECIAL	U - UNGROUNDED	AS - ALUMINIUM CAST SMALL	C - NIST TRACABLE
KK - DUPLEX	10"	SPECIAL	8"		3 - 3 WIRE	PL - PLASTIC	N - NO TERMINAL BLOCK
T	SPECIAL		10"		4 - 4 WIRE	ALE - ALUMINIUM CAST EXPLOSION	
TT - DUPLEX			SPECIAL			FDA - FDA COMPLIANT PLASTIC	
RTD (200° C)						E - EPOXY COATED ALUMINIUM	
RTDD - DUPLEX (200° C)						FDAF - FDA COMPLIANT FLIP TOP	
SPECIAL							
RT4 (400° C)							
RT44 - DUPLEX (400° C)							

**MgO INSULATED THERMOCOUPLE & RTDs - EXTENSION STYLE**

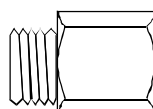


**304 STAINLESS STEEL STANDARD  
STANDARD POTTING - 350°F**



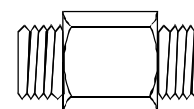
**HEX BUSHING - PROCESS THREAD**

- SD1 - 1/8" NPT STAINLESS
- SD2 - 1/4" NPT STAINLESS
- SD3 - 1/2" NPT STAINLESS
- SD4 - 3/4" NPT STAINLESS
- BD1 - 1/8" NPT BRASS
- BD2 - 1/4" NPT BRASS
- BD3 - 1/2" NPT BRASS
- BD4 - 3/4" NPT BRASS



**HEX BUSHING - INSTRUMENT  
THREAD**

- SB1 - 1/8" NPT STAINLESS
- SB2 - 1/4" NPT STAINLESS
- SB3 - 1/2" NPT STAINLESS
- SB4 - 3/4" NPT STAINLESS
- BB1 - 1/8" NPT BRASS
- BB2 - 1/4" NPT BRASS
- BB3 - 1/2" NPT BRASS
- BB4 - 3/4" NPT BRASS

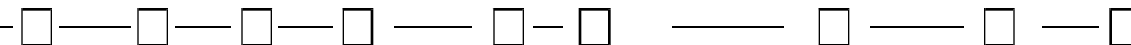


**HEX COUPLING**

- SS1 - 1/4" NPT STAINLESS
- SS2 - 1/2" NPT STAINLESS
- S1 - 1/4" NPT STEEL
- S2 - 1/2" NPT STEEL

**HOW TO ORDER**

A5200

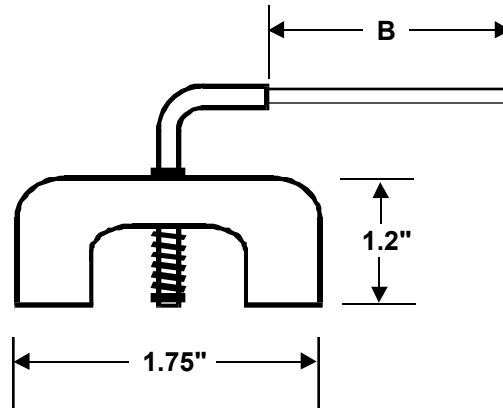


SENSOR	A	DIAMETER	JUNCTION	B (in)	WIRE	TERMINATION	FITTINGS	OPTIONS
J		1/16"	E - EXPOSED		GB - FIBERGLASS	P - MALE PLUG	N - NONE	1600 - INCONEL 600
JJ - DUPLEX		1/8"	G - GROUNDED		SB - SS BRAID	F - FEMALE JACK	SEE ABOVE	1800 - INCOLOY 800
K		3/16"	U - UNGROUNDED		FH - FLEX HOSE	MP - MINI PLUG		316 - 316 SS
KK - DUPLEX		1/4"	3 - 3 WIRE		TT - TEFLON STRANDED	MF - MINI JACK		C - NIST CERTIFIED
T		5/16"	4 - 4 WIRE		P - PVC SOLID	SL - SPADE LUGS		H - 1500°F POTTING CERAMIC
TT - DUPLEX		3/8"			PS - PVC STRANDED	ST - STRIP LEADS		NM - NON MI DESIGN
RTD (200° C)								
RTDD - DUPLEX (200° C)								
SPECIAL								
RT4 (400° C)								
RT44 - DUPLEX (400° C)								



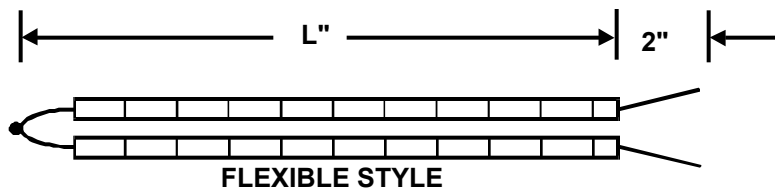
## MAGNET STYLE THERMOCOUPLE

AMAG

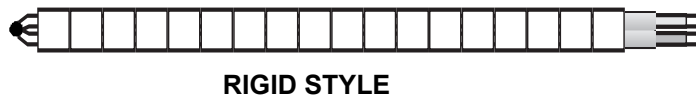


## THERMOCOUPLE ELEMENTS

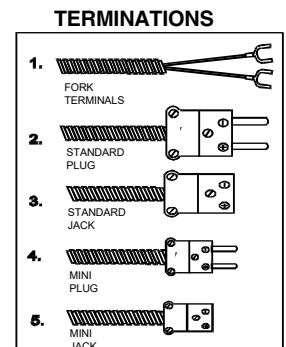
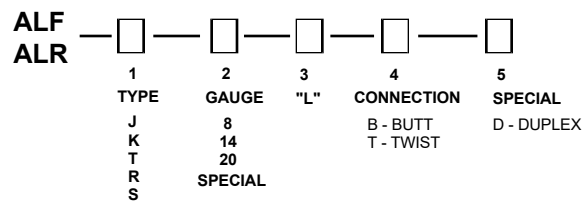
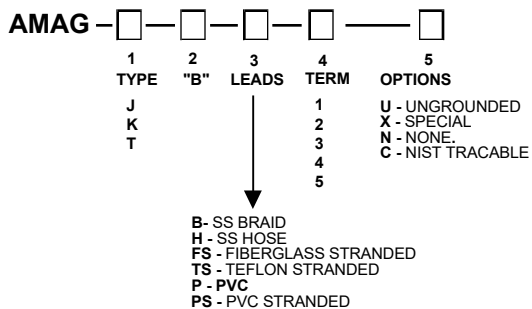
ALF



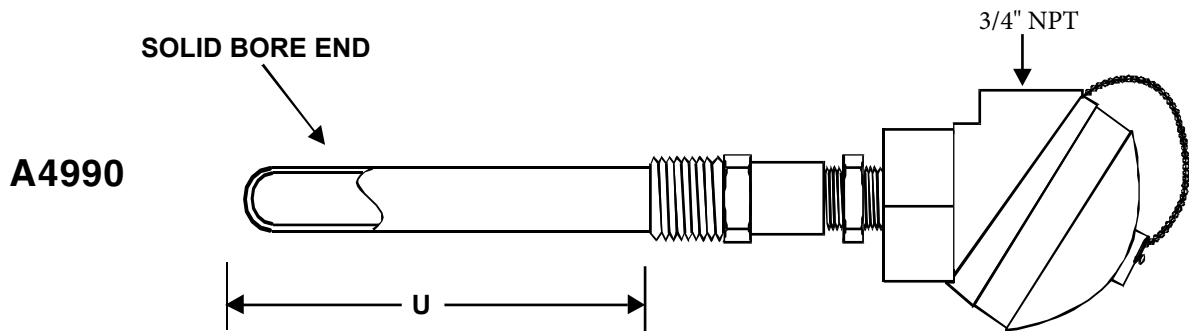
ALR



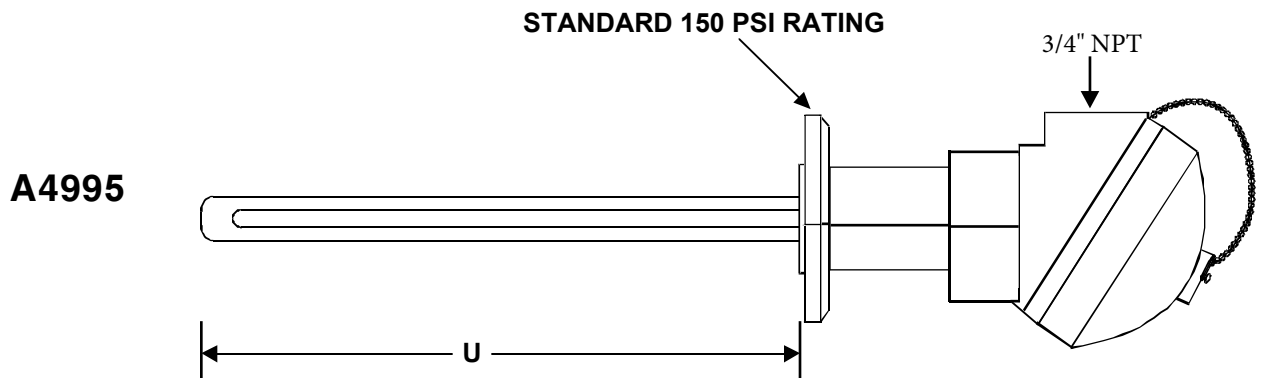
## HOW TO ORDER



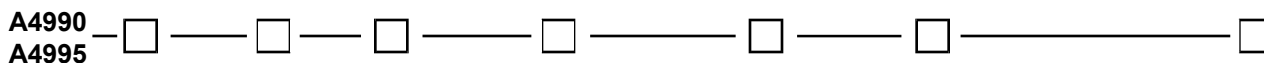
**PIPE WELL THERMOCOUPLE & RTD ASSEMBLIES**



**FLANGE THERMOWELL SENSOR ASSEMBLIES**

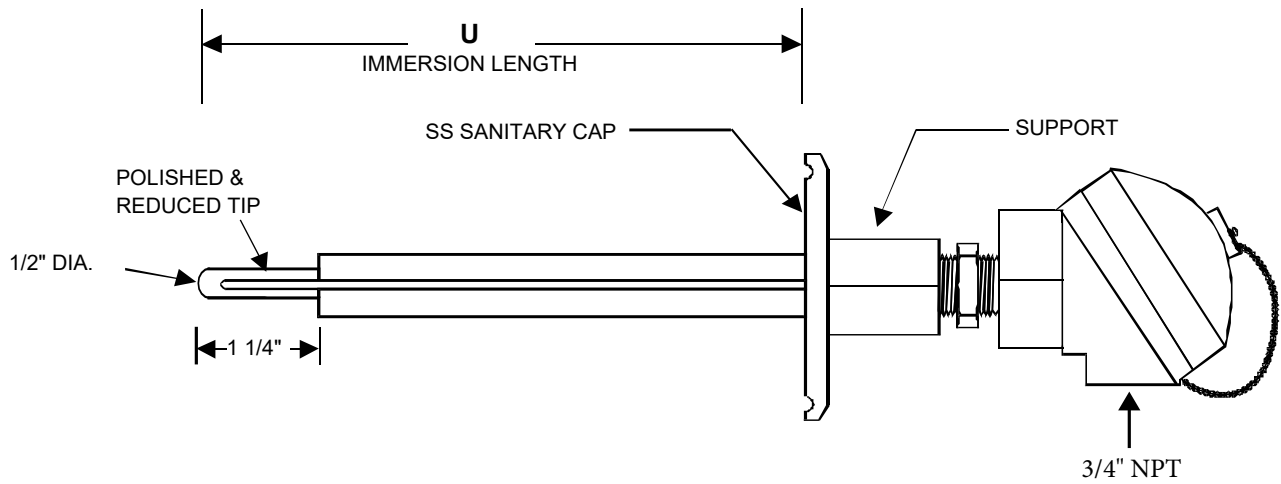


**HOW TO ORDER**

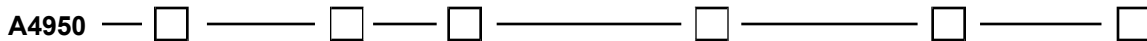


SENSOR	U (in)	MATERIAL	THREAD / FLANGE	JUNCTION	HEAD MATERIAL	OPTIONS
J	4"	ST - STEEL	1/4"	G - GROUNDED	I - CAST IRON	S - SPRING LOADED
JJ - DUPLEX	6"	S - 304 SS	1/2"	U - UNGROUNDED	AL - LARGE CAST ALUMINIUM	T - TRANSMITTER (RANGE)
K	8"	S6 - 316 SS	3/4"	3 - 3 WIRE	AS - SMALL CAST ALUMINIUM	1600 - INCONEL 600
KK - DUPLEX	10"	I600 - INCONEL 600	1.0"	4 - 4 WIRE	PL - PLASTIC HEAD	1800 - INCONEL 800
T	SPECIAL	I800 - INCOLOY 800	1F - 1" FLANGE		PL - PLASTIC HEAD	316 - 316 SS
TT - DUPLEX		SPECIAL	1.5F - 1.5" FLANGE		ALE - CAST ALU. EXPLOSION	N - NO TERM BLOCK
RTD (200° C)			2F - 2" FLANGE		FDA - FDA COMPLIANT PLASTIC	TRANSMITTER READY
RTDD - DUPLEX (200° C)					E - EPOXY COATED ALUMINIUM	C - NIST TRACABLE
SPECIAL					FDAF - FDA COMPLIANT FLIP TOP	
RT4 (400° C)						
RT44 - DUPLEX (400° C)						

**SANITARY TRI-CLAMP ASSEMBLIES**



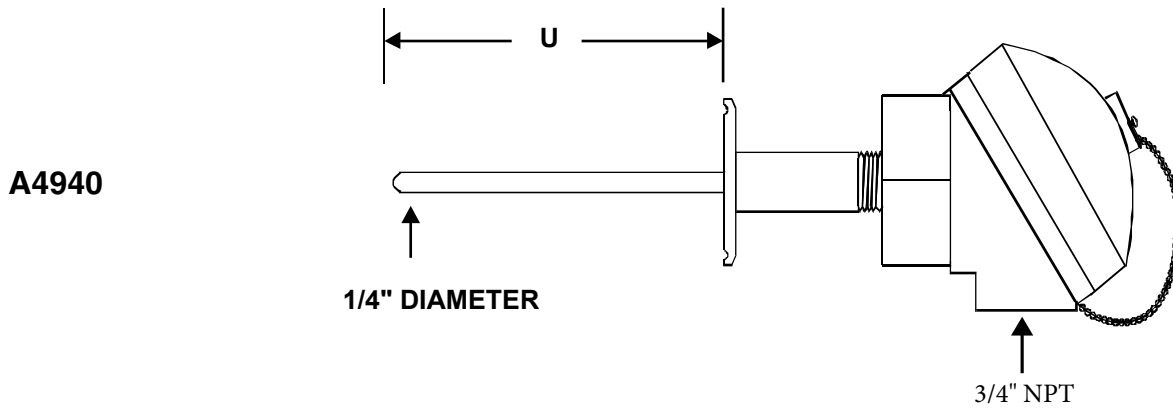
**HOW TO ORDER**



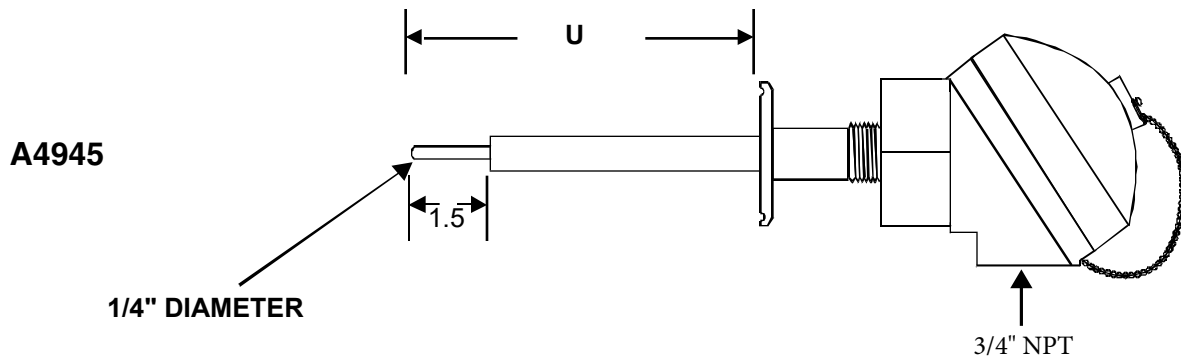
A4950

SENSOR	U (in)	JUNCTION	HEAD MATERIAL	CAP SIZE	OPTIONS
J	4"	G - GROUNDED	I - CAST IRON	1.5"	T - TRANSMITTER (RANGE)
JJ - DUPLEX	6"	U - UNGROUNDED	AL - LARGE CAST ALUMINIUM	2"	S - SPRING LOADED
K	8"	3 - 3 WIRE	AS - SMALL CAST ALUMINIUM	3"	U - UNION & NIPPLE
KK - DUPLEX	10"	4 - 4 WIRE	PL - PLASTIC HEAD	4"	C - NIST TRACEABLE
T	SPECIAL		ALE - CAST ALU. EXPLOSION		N - NO TERMINAL BLOCK
TT - DUPLEX			FDA - FDA COMPLIANT PLASTIC		TRANSMITTER READY
RTD (200° C)			E - EPOXY COATED ALUMINIUM		
RTDD - DUPLEX (200° C)			FDAF - FDA COMPLIANT FLIP TOP		
SPECIAL					
RT4 (400° C)					
RT44 - DUPLEX (400° C)					

**CIP SANITARY CONNECTED RTDs**

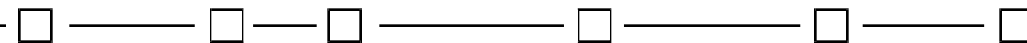


**CIP SANITARY REDUCED TIP RTD'S**



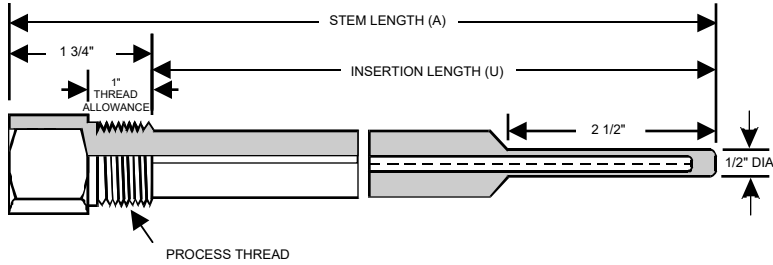
**HOW TO ORDER**

A4940  
A4945



SENSOR	U (in)	JUNCTION	HEAD MATERIAL	CAP SIZE	OPTIONS
J	4"	G - GROUNDED	AL - LARGE CAST	1.5"	T - TRANSMITTER (RANGE)
JJ - DUPLEX	6"	U - UNGROUNDED	ALUMINIUM PL - PLASTIC	2"	U - UNION & NIPPLE
K	8"	3 - 3 WIRE	HEAD	3"	C - NIST TRACEABLE
KK - DUPLEX	10"	4 - 4 WIRE	FDA - FDA COMPLIANT	4"	N - NO TERMINAM BLOCK
T	SPECIAL		PLASTIC E - EPOXY		TRANSMITTER READY
TT - DUPLEX			COATED ALUMINIUM FDAF -		
RTD (200° C)			FDA COMPLIANT FLIP TOP		
RTDD - DUPLEX (200° C)					
SPECIAL					
RT4 (400° C)					
RT44 - DUPLEX (400° C)					

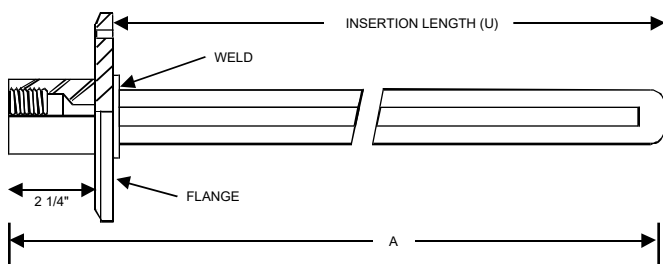
**DRILLED THERMOWELL - THREAD CONNECTION  
T-SERIES**



T —  —  —  —

MATERIAL	STEM A (in)	PROCESS CONNECT	INST. CONNECT
B - BRASS	2"	1/2 - 1/2" NPT	1/2 - 1/2" NPT
S - SS304	4"	3/4 - 3/4" NPT	3/4 - 3/4" NPT
S6 - SS316	6"	1 - 1" NPT	SPECIAL
SPECIAL	9"	SPECIAL	

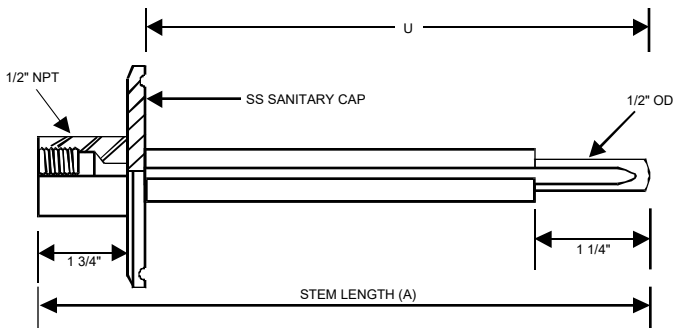
**DRILLED THERMOWELL - FLANGED CONNECTION  
TF-SERIES**



TF —  —  —  —  —

MATERIAL	STEM A (in)	FLANGE	INST. CONNECT	PRESSURE RATING
S - SS304	2"	1"	1/2"	150 PSI
S6 - SS316	4"	1 1/2"	3/4"	300 PSI
SPECIAL	6"	2"	1"	600 PSI
	9"	SPECIAL		

**SANITARY TRI-CLAMP THERMOWELL  
SAN-SERIES**



SAN —  —

CAP SIZE	STEM A (in)
1.5"	4"
2"	6"
2.5"	7.5"
3"	SPECIAL
SPECIAL	

## Melt Pressure Transducers for extruders

### Introduction

**TP100** Series Melt Pressure Transducer is a fluid filled capillary design. This tried and proven design provides an electronic signal which is proportional to the measured pressure, and allows the transducer to operate at a process temperature up to 750°F (400°C). The electronics of each transducer is a Wheatstone Bridge strain gauge insuring high accuracy and reliability.

The TP100 Series Melt Pressure Transducer comes with 6" rigid stem and 6 pin Bayonet connector. PT100 series is the most common style melt pressure transducer configuration.

### Features:

Pressure Ranges: 0-10,000 psi (metric range available)  
 Mounting: 1/2-20 UNF mounting thread  
 Diaphragm: Standard Inconel  
 Temperatures: Diaphragm 750°F (400°C)  
 Electronics 225°F (107°C)  
 Accuracy: +/- 0.5% Combined Error  
 Connector: 6 pin Bayonet Connector  
 (8 pin option available)  
 Output: 3.3 mV/V (2.5mV/V option available)  
 Excitation Volt: 10VDC - recommended  
 Calibration: 80% output calibration

### TP100 Series



### Benefits

- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- Rigid stem makes installation fast and easy
- Reliable, repeatable and accurate pressure measurements
- wide variety of pressure ranges
- One year warranty

### Ordering Guide

<b>TP1 X</b>	<b>X</b>	<b>- P X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>0</b> - 6"stem	<b>1</b> - 3.3mV/V	<b>1</b>	<b>M</b> - Psi x 1000	<b>S</b> - 6 pin Bayonet	<b>S</b> - Standard Inconel	<b>-</b> - 1/2"-20UNF
<b>9</b> - 9"stem	<b>2</b> - 2.5mV/V	<b>1.5</b>	<b>B</b> - Bar x 100	<b>G</b> - 6 pin Screw	<b>C</b> - Chromium Nitride	<b>M18</b> - M18x1.5
<b>1</b> - 12"stem		<b>3</b>	<b>P</b> - MPa	<b>8</b> - 8 pin Screw	<b>T</b> - Titanium Nitride	<b>M10</b> - M10x1.0
		<b>5</b>	<b>K</b> - kg/cm2	<b>N</b> - 1/2"NPT+ 36" Teflon	<b>I</b> - Inconel Tip + Threads	<b>.25</b> - 0.25% Accuracy
		<b>7.5</b>			<b>H</b> - Hastelloy	<b>E</b> - Epoxy Filled Can
		<b>10</b>			<b>D</b> - Diamond Particulate	<b>W</b> - Tig Welded Can with Epoxy
		<b>15</b>				
		<b>20</b>				

## Melt Pressure Transducers for extruders

### Introduction

**TP200** Series Melt Pressure Transducer is a fluid filled capillary design. This tried and proven design provides an electronic signal which is proportional to the measured pressure, and allows the transducer to operate at a process temperature up to 750°F (400°C). The electronics of each transducer is a Wheatstone Bridge strain gauge insuring high accuracy and reliability.

The TP200 Series Melt Pressure Transducer, has a 6" rigid stem along with 18" of fluid filled flex capillary for optimal thermal isolation. The PT200 series is the most common style melt pressure transducer configuration.

### Features:

Pressure Ranges: 0-10,000 psi (metric range available)  
 Mounting: 1/2-20 UNF mounting thread  
 Diaphragm: Standard Inconel  
 Temperatures: Diaphragm 750°F (400°C)  
 Electronics 225°F (107°C)  
 Accuracy: +/- 0.5% Combined Error  
 Connector: 6 pin Bayonet Connector  
 (8 pin option available)  
 Output: 3.3 mV/V (2.5mV/V option available)  
 Excitation Volt: 10VDC - recommended  
 Calibration: 80% output calibration

TP200 Series



### Benefits

- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- 18" of flexible capillary with stainless armor for optimum thermal isolation
- Reliable, repeatable and accurate pressure measurements
- Ease of installation and calibration
- wide variety of pressure ranges
- One year warranty

### Ordering Guide

<b>TP2 X</b>	<b>X</b>	<b>- P X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>0</b> - 6"stem + 18"Flex	<b>1</b> - 3.3mV/V	<b>1</b>	<b>M</b> - Psi x 1000	<b>S</b> - 6 pin Bayonet	<b>S</b> - Standard Inconel	<b>-</b> - 1/2"-20UNF
<b>1</b> - 12"stem + 18"Flex	<b>2</b> - 2.5mV/V	<b>1.5</b>	<b>B</b> - Bar x 100	<b>G</b> - 6 pin Screw	<b>C</b> - Chromium Nitride	<b>M18</b> - M18x1.5
<b>3</b> - 6"stem + 30"Flex		<b>3</b>	<b>P</b> - MPa	<b>8</b> - 8 pin Screw	<b>T</b> - Titanium Nitride	<b>M10</b> - M10x1.0
<b>4</b> - 12"stem + 30"Flex		<b>5</b>	<b>K</b> - kg/cm2	<b>N</b> - 1/2"NPT+ 36" Teflon	<b>I</b> - Inconel Tip + Threads	<b>.25</b> - 0.25% Accuracy
<b>8</b> - 8"stem + 18"Flex		<b>7.5</b>			<b>H</b> - Hastelloy	<b>E</b> - Epoxy Filled Can
<b>9</b> - 9"stem + 18"Flex		<b>10</b>			<b>D</b> - Diamond Particulate	<b>W</b> - Tig Welded Can with Epoxy
		<b>15</b>				
		<b>20</b>				

## Melt Pressure Transducers for extruders

### Introduction

**TPX** Series Melt Pressure Transducer is a fluid filled capillary design. This tried and proven design provides an electronic signal which is proportional to the measured pressure, and allows the transducer to operate at a process temperature up to 750°F (400°C). The electronics of each transducer is a Wheatstone Bridge strain gauge insuring high accuracy and reliability.

The TPX Series Melt Pressure Transducer, has a 6" rigid stem along with 18" of fluid filled flex capillary for optimal thermal isolation. The temperature sensor is mounted behind the diaphragm which provides melt pressure and temperature from a single hole. The PTX series is the most common style melt pressure transducer configuration.

### Features:

Pressure Ranges: 0-10,000 psi (metric range available)  
 Mounting: 1/2-20 UNF mounting thread  
 Diaphragm: Standard Inconel  
 Temperatures: Diaphragm 750°F (400°C)  
 Electronics 225°F (107°C)  
 Accuracy: +/- 0.5% Combined Error  
 Connector: 6 pin Bayonet Connector  
 (8 pin option available)  
 Output: 3.3 mV/V (2.5mV/V option available)  
 Excitation Volt: 10VDC - recommended  
 Calibration: 80% output calibration

### TPX Series



### Benefits

- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- Optional Temperature sensor to provide melt pressure and temperature from a single hole
- Reliable, repeatable and accurate pressure measurements
- Ease of installation and calibration
- wide variety of pressure ranges
- One year warranty

### Ordering Guide

<b>TPX</b>	<b>X</b>	<b>X</b>	<b>- P X X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>J</b> - T/c J	<b>0</b> - 6"stem + 18"Flex	<b>1</b> - 3.3mV/V	<b>1</b>	<b>M</b> - Psi x 1000	<b>S</b> - 6 pin Bayonet	<b>S</b> - Standard Inconel
<b>K</b> - T/c K	<b>1</b> - 12"stem + 18"Flex	<b>2</b> - 2.5mV/V	<b>1.5</b>	<b>B</b> - Bar x 100	<b>G</b> - 6 pin Screw	<b>C</b> - Chromium Nitride
<b>P</b> - PT100	<b>3</b> - 6"stem + 30"Flex		<b>3</b>	<b>P</b> - MPa	<b>8</b> - 8 pin Screw	<b>T</b> - Titanium Nitride
	<b>4</b> - 12"stem + 30"Flex		<b>5</b>	<b>K</b> - kg/cm2	<b>N</b> - 1/2"NPT+ 36" Teflon	<b>I</b> - Inconel Tip + Threads
	<b>8</b> - 8"stem + 18"Flex		<b>7.5</b>			<b>H</b> - Hastelloy
	<b>9</b> - 9"stem + 18"Flex		<b>10</b>			<b>D</b> - Diamond Particulate
			<b>15</b>			
			<b>20</b>			
						<b>-</b> - 1/2"-20UNF
						<b>M18</b> - M18x1.5
						<b>M10</b> - M10x1.0
						<b>.25</b> - 0.25% Accuracy
						<b>E</b> - Epoxy Filled Can
						<b>W</b> - Tig Welded Can with Epoxy



# Melt Pressure Transmitters

## Introduction

**TT100** Series Melt Pressure Transducer is a fluid filled capillary design. This tried and proven design provides an electronic signal which is proportional to the measured pressure, and allows the transducer to operate at a process temperature up to 750°F (400°C). The electronics of each transducer is a Wheatstone Bridge strain gauge insuring high accuracy and reliability.

The TT100 Series Melt Pressure Transducer comes with 6" rigid stem and 6 pin Bayonet connector. TT100 series is the most common style melt pressure transducer configuration.

## Features:

- Pressure Ranges: 0-15,000 psi (metric range available)
- Mounting: 1/2-20 UNF mounting thread
- Diaphragm: Standard Inconel
- Temperatures: Diaphragm 750°F (400°C)  
Electronics 225°F (107°C)
- Accuracy: +/- 0.5% Combined Error
- Connector: 6 pin Bayonet Connector  
(8 pin option available)
- Output: 4-20mA or 0-10 VDC
- Excitation Volt: 24VDC - recommended
- Calibration: 80% output calibration

## TT100 Series



## Benefits

- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- Rigid stem makes installation fast and easy
- Reliable, repeatable and accurate pressure measurements
- Zero and Span adjustment
- wide variety of pressure ranges
- One year warranty

## Ordering Guide

<b>TT1 X</b>	<b>X</b>	<b>- P X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
0 - 6"stem	4 - 4-20mA	1	M - Psi x 1000	S - 6 pin Bayonet	S - Standard Inconel	- - 1/2"-20UNF
9 - 9"stem	5 - 0-5VDC	1.5	B - Bar x 100	G - 6 pin Screw	C - Chromium Nitride	M18 - M18x1.5
1 - 12"stem	6 - 1-5VDC	3	P - MPa	8 - 8 pin Screw	T - Titanium Nitride	M10 - M10x1.0
	7 - 0-10VDC	5	K - kg/cm2	N - 1/2"NPT+ 36" Teflon	I - Inconel Tip + Threads	.25 - 0.25% Accuracy
		7.5			H - Hastelloy	E - Epoxy Filled Can
		10			D - Diamond Particulate	W - Tig Welded Can with Epoxy
		15				

## Melt Pressure Transmitters

### Introduction

**TT200** Series Melt Pressure Transducer is a fluid filled capillary design. This tried and proven design provides an electronic signal which is proportional to the measured pressure, and allows the transducer to operate at a process temperature up to 750°F (400°C). The electronics of each transducer is a Wheatstone Bridge strain gauge insuring high accuracy and reliability.

The TT200 Series Melt Pressure Transducer, has a 6" rigid stem along with 18" of fluid filled flex capillary for optimal thermal isolation. The TT200 series is the most common style melt pressure transducer configuration.

### Features:

Pressure Ranges: 0-15,000 psi (metric range available)

Mounting: 1/2-20 UNF mounting thread

Diaphragm: Standard Inconel

Temperatures: Diaphragm 750°F (400°C)  
Electronics 225°F (107°C)

Accuracy: +/- 0.5% Combined Error

Connector: 6 pin Bayonet Connector  
(8 pin option available)

Output: 4-20 mA or 0-10 VDC

Excitation Volt: 24VDC - recommended

Calibration: 80% output calibration

### TT200 Series



### Benefits

- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- 18" of flexible capillary with stainless armor for optimum thermal isolation
- Reliable, repeatable and accurate pressure measurements
- Zero and Span adjustment
- Ease of installation and calibration
- wide variety of pressure ranges
- One year warranty

### Ordering Guide

<b>TT2 X</b>	<b>X</b>	<b>- P X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>0</b> - 6"stem + 18"Flex	<b>4</b> - 4-20mA	<b>1</b>	<b>M</b> - Psi x 1000	<b>S</b> - 6 pin Bayonet	<b>S</b> - Standard Inconel	<b>-</b> - 1/2"-20UNF
<b>1</b> - 12"stem + 18"Flex	<b>5</b> - 0-5VDC	<b>1.5</b>	<b>B</b> - Bar x 100	<b>G</b> - 6 pin Screw	<b>C</b> - Chromium Nitride	<b>M18</b> - M18x1.5
<b>3</b> - 6"stem + 30"Flex	<b>6</b> - 1-5VDC	<b>3</b>	<b>P</b> - MPa	<b>8</b> - 8 pin Screw	<b>T</b> - Titanium Nitride	<b>M10</b> - M10x1.0
<b>4</b> - 12"stem + 30"Flex	<b>7</b> - 0-10VDC	<b>5</b>	<b>K</b> - kg/cm2	<b>N</b> - 1/2"NPT+ 36" Teflon	<b>I</b> - Inconel Tip + Threads	<b>.25</b> - 0.25% Accuracy
<b>8</b> - 8"stem + 18"Flex		<b>7.5</b>			<b>H</b> - Hastelloy	<b>E</b> - Epoxy Filled Can
<b>9</b> - 9"stem + 18"Flex		<b>10</b>			<b>D</b> - Diamond Particulate	<b>W</b> - Tig Welded Can with Epoxy
		<b>15</b>				

# Melt Pressure Transmitters

## Introduction

**TTX** Series Melt Pressure Transducer is a fluid filled capillary design. This tried and proven design provides an electronic signal which is proportional to the measured pressure, and allows the transducer to operate at a process temperature up to 750°F (400°C). The electronics of each transducer is a Wheatstone Bridge strain gauge insuring high accuracy and reliability. The TTX Series Melt Pressure Transducer, has a 6" rigid stem along with 18" of fluid filled flex capillary for optimal thermal isolation. The temperature sensor is mounted behind the diaphragm which provides melt pressure and temperature from a single hole. The TTX series is the most common style melt pressure transducer configuration.

## Features:

Pressure Ranges: 0-15,000 psi (metric range available)  
 Mounting: 1/2"-20 UNF mounting thread  
 Diaphragm: Standard Inconel  
 Temperatures: Diaphragm 750°F (400°C)  
 Electronics 225°F (107°C)  
 Accuracy: +/- 0.5% Combined Error  
 Connector: 6 pin Bayonet Connector  
 (8 pin option available)  
 Output: 4-20 mA or 0-10 VDC  
 Excitation Volt: 24 VDC - recommended  
 Calibration: 80% output calibration

## TTX Series



## Benefits

- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- Optional Temperature sensor to provide melt pressure and temperature from a single hole
- Reliable, repeatable and accurate pressure measurements
- Zero and Span adjustment
- Ease of installation and calibration
- wide variety of pressure ranges
- One year warranty

## Ordering Guide

<b>TTX</b>	<b>X</b>	<b>X</b>	<b>- P X X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>J</b> - T/c J	<b>0</b> - 6"stem + 18"Flex	<b>4</b> - 4-20mA	<b>1</b>	<b>M</b> - Psi x 1000	<b>S</b> - 6 pin Bayonet	<b>S</b> - Standard Inconel
<b>K</b> - T/c K	<b>1</b> - 12"stem + 18"Flex	<b>5</b> - 0-5VDC	<b>1.5</b>	<b>B</b> - Bar x 100	<b>G</b> - 6 pin Screw	<b>C</b> - Chromium Nitride
<b>P</b> - PT100	<b>3</b> - 6"stem + 30"Flex	<b>6</b> - 1-5VDC	<b>3</b>	<b>P</b> - MPa	<b>8</b> - 8 pin Screw	<b>T</b> - Titanium Nitride
	<b>4</b> - 12"stem + 30"Flex	<b>7</b> - 0-10VDC	<b>5</b>	<b>K</b> - kg/cm2	<b>N</b> - 1/2"NPT+ 36" Teflon	<b>I</b> - Inconel Tip + Threads
	<b>8</b> - 8"stem + 18"Flex		<b>7.5</b>			<b>H</b> - Hastelloy
	<b>9</b> - 9"stem + 18"Flex		<b>10</b>			<b>D</b> - Diamond Particulate
			<b>15</b>			<b>W</b> - Tig Welded Can with Epoxy
						<b>-</b> - 1/2"-20UNF
						<b>M18</b> - M18x1.5
						<b>M10</b> - M10x1.0
						<b>.25</b> - 0.25% Accuracy
						<b>E</b> - Epoxy Filled Can

## Mercury Free Transducers / Transmitters

### Introduction

**TF100** Series Melt Pressure Transducer is a oil filled capillary designed specially for food, packaging and medical processing applications. This series of Melt Pressure Transducers utilize four active arm Wheatstone Bridge strain gauge insuring high accuracy and reliability. The TF100 Series Melt Pressure Transducer comes with 6" rigid stem and 6 pin Bayonet connector.

### Features:

Pressure Ranges: 0-10,000 psi (metric range available)  
 Mounting: 1/2-20 UNF mounting thread  
 Diaphragm: Standard Inconel  
 Temperatures: Diaphragm 615°F (323°C)  
 Electronics 225°F (107°C)  
 Accuracy: +/- 0.5% Combined Error  
 Connector: 6 pin Bayonet Connector  
 (8 pin option available)  
 Output: 3.3 mV/V  
 Excitation Volt: 10VDC - recommended  
 Calibration: 80% output calibration

### TF100 Series



### Benefits

- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- Rigid stem makes installation fast and easy
- Reliable, repeatable and accurate pressure measurements
- wide variety of pressure ranges
- One year warranty

### Ordering Guide

<b>TF1 X</b>	<b>X</b>	<b>- P X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>0</b> - 6"stem	<b>1</b> - 3.3mV/V	<b>1</b>	<b>M</b> - Psi x 1000	<b>S</b> - 6 pin Bayonet	<b>S</b> - Standard Inconel	<b>-</b> - 1/2"-20UNF
<b>9</b> - 9"stem	<b>2</b> - 2.5mV/V	<b>1.5</b>	<b>B</b> - Bar x 100	<b>G</b> - 6 pin Screw	<b>C</b> - Chromium Nitride	<b>M18</b> - M18x1.5
<b>1</b> - 12"stem	<b>4</b> - 4-20mA	<b>3</b>	<b>P</b> - MPa	<b>8</b> - 8 pin Screw	<b>T</b> - Titanium Nitride	<b>M10</b> - M10x1.0
	<b>5</b> - 0-5VDC	<b>5</b>		<b>4</b> - 4 pin DIN	<b>I</b> - Inconel Tip + Threads	<b>.25</b> - 0.25% Accuracy
	<b>7</b> - 0-10VDC	<b>7.5</b>			<b>H</b> - Hastelloy	
		<b>10</b>			<b>D</b> - Diamond Particulate	
		<b>15</b>				
		<b>20</b>				

## Mercury Free Transducers / Transmitters

### Introduction

**TF200** Series Melt Pressure Transducer is a oil filled capillary designed specially for food, packaging and medical processing applications. This series of Melt Pressure Transducers utilize four active arm Wheatstone Bridge strain gauge insuring high accuracy and reliability.

The TF200 Series Melt Pressure Transducer comes with 6" rigid stem along with 18" flexible capillary with SS armor coating and 6 pin Bayonet connector.

### Features:

Pressure Ranges: 0-10,000 psi (metric range available)  
 Mounting: 1/2-20 UNF mounting thread  
 Diaphragm: Standard Inconel  
 Temperatures: Diaphragm 615°F (323°C)  
 Electronics 225°F (107°C)  
 Accuracy: +/- 0.5% Combined Error  
 Connector: 6 pin Bayonet Connector  
 (8 pin option available)  
 Output: 3.3 mV/V  
 Excitation Volt: 10VDC - recommended  
 Calibration: 80% output calibration

TF200 Series



### Benefits

- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- 18" of flexible capillary with stainless armor for optimum thermal isolation
- Reliable, repeatable and accurate pressure measurements
- Ease of installation and calibration
- wide variety of pressure ranges
- One year warranty

### Ordering Guide

<b>TF2 X</b>	<b>X</b>	<b>- P X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>0</b> - 6"stem + 18"Flex	<b>1</b> - 3.3mV/V	<b>1</b>	<b>M</b> - Psi x 1000	<b>S</b> - 6 pin Bayonet	<b>S</b> - Standard Inconel	<b>-</b> - 1/2"-20UNF
<b>1</b> - 12"stem + 18"Flex	<b>2</b> - 2.5mV/V	<b>1.5</b>	<b>B</b> - Bar x 100	<b>G</b> - 6 pin Screw	<b>C</b> - Chromium Nitride	<b>M18</b> - M18x1.5
<b>3</b> - 6"stem + 30"Flex	<b>4</b> - 4-20mA	<b>3</b>	<b>P</b> - MPa	<b>8</b> - 8 pin Screw	<b>T</b> - Titanium Nitride	<b>M10</b> - M10x1.0
<b>4</b> - 12"stem + 30"Flex	<b>5</b> - 0-5VDC	<b>5</b>		<b>4</b> - 4pin DIN	<b>I</b> - Inconel Tip + Threads	<b>.25</b> - 0.25% Accuracy
<b>8</b> - 8"stem + 18"Flex	<b>7</b> - 0-10VDC	<b>7.5</b>			<b>H</b> - Hastelloy	
<b>9</b> - 9"stem + 18"Flex		<b>10</b>			<b>D</b> - Diamond Particulate	
		<b>15</b>				
		<b>20</b>				

## Mercury Free Transducers / Transmitters

### Introduction

**TFX** Series Melt Pressure Transducer is a oil filled capillary designed specially for food, packaging and medical processing applications. This series of Melt Pressure Transducers utilize four active arm Wheatstone Bridge strain gauge insuring high accuracy and reliability.

The TFX Series Melt Pressure Transducer comes with 6" rigid stem along with 18" flexible capillary with SS armor coating and 6 pin Bayonet connector. The temperature sensor is mounted behind the diaphragm which provides melt pressure and temperature from a single hole.

### Features:

Pressure Ranges: 0-10,000 psi (metric range available)  
 Mounting: 1/2-20 UNF mounting thread  
 Diaphragm: Standard Inconel  
 Temperatures: Diaphragm 6150°F (323°C)  
 Electronics 225°F (107°C)  
 Accuracy: +/- 0.5% Combined Error  
 Connector: 6 pin Bayonet Connector  
 (8 pin option available)  
 Output: 3.3 mV/V  
 Excitation Volt: 10VDC - recommended  
 Calibration: 80% output calibration

### TFX Series



### Benefits

- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- Optional Temperature sensor to provide melt pressure and temperature from a single hole
- Reliable, repeatable and accurate pressure measurements
- Ease of installation and calibration
- wide variety of pressure ranges
- One year warranty

### Ordering Guide

<b>TFX</b>	<b>X</b>	<b>X</b>	<b>- P X X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>J</b> - T/c J	<b>0</b> - 6"stem + 18"Flex	<b>1</b> - 3.3mV/V	<b>1</b>	<b>M</b> - Psi x 1000	<b>S</b> - 6 pin Bayonet	<b>S</b> - Standard Inconel
<b>K</b> - T/c K	<b>1</b> - 12"stem + 18"Flex	<b>2</b> - 2.5mV/V	<b>1.5</b>	<b>B</b> - Bar x 100	<b>G</b> - 6 pin Screw	<b>C</b> - Chromium Nitride
<b>P</b> - PT100	<b>3</b> - 6"stem + 30"Flex	<b>4</b> - 4-20mA	<b>3</b>	<b>P</b> - MPa	<b>8</b> - 8 pin Screw	<b>T</b> - Titanium Nitride
	<b>4</b> - 12"stem + 30"Flex	<b>5</b> - 0-5VDC	<b>5</b>		<b>4</b> - 4 pin DIN	<b>I</b> - Inconel Tip + Threads
	<b>8</b> - 8"stem + 18"Flex	<b>7</b> - 0-10VDC	<b>7.5</b>			<b>H</b> - Hastelloy
	<b>9</b> - 9"stem + 18"Flex		<b>10</b>			<b>D</b> - Diamond Particulate
			<b>15</b>			<b>-</b> - 1/2"-20UNF
			<b>20</b>			<b>M18</b> - M18x1.5
						<b>M10</b> - M10x1.0
						<b>.25</b> - 0.25% Accuracy

## Melt Pressure Transducers - NAK Series

### Introduction

**TK100** Series Melt Pressure Transducer is a NAK filled capillary designed specially for food, packaging and medical processing applications. This series of Melt Pressure Transducers utilize four active arm Wheatstone Bridge strain gauge insuring high accuracy and reliability. The TK100 Series Melt Pressure Transducer comes with 6" rigid stem and 6 pin Bayonet connector.

### Features:

Pressure Ranges: 0-10,000 psi (metric range available)  
 Mounting: 1/2-20 UNF mounting thread  
 Diaphragm: Standard Inconel  
 Temperatures: Diaphragm 615°F (323°C)  
 Electronics 225°F (107°C)  
 Accuracy: +/- 0.5% Combined Error  
 Connector: 6 pin Bayonet Connector  
 (8 pin option available)  
 Output: 3.3 mV/V  
 Excitation Volt: 10VDC - recommended  
 Calibration: 80% output calibration

TK100 Series



### Benefits

- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- Rigid stem makes installation fast and easy
- Reliable, repeatable and accurate pressure measurements
- wide variety of pressure ranges
- One year warranty

### Ordering Guide

<b>TK1 X</b>	<b>X</b>	<b>- P X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>0</b> - 6"stem	<b>1</b> - 3.3mV/V	<b>1</b>	<b>M</b> - Psi x 1000	<b>S</b> - 6 pin Bayonet	<b>S</b> - Standard Inconel	<b>-</b> - 1/2"-20UNF
<b>9</b> - 9"stem	<b>2</b> - 2.5mV/V	<b>1.5</b>	<b>B</b> - Bar x 100	<b>G</b> - 6 pin Screw	<b>C</b> - Chromium Nitride	<b>M18</b> - M18x1.5
<b>1</b> - 12"stem	<b>4</b> - 4-20mA	<b>3</b>	<b>P</b> - MPa	<b>8</b> - 8 pin Screw	<b>T</b> - Titanium Nitride	<b>M10</b> - M10x1.0
	<b>5</b> - 0-5VDC	<b>5</b>		<b>B</b> - BC Wiring	<b>H</b> - Hastelloy	<b>.25</b> - 0.25% Accuracy
	<b>7</b> - 0-10VDC	<b>7.5</b>			<b>D</b> - Diamond Particulate	
		<b>10</b>				
		<b>15</b>				
		<b>20</b>				

## Melt Pressure Transducers - NAK Series

### Introduction

**TK200** Series Melt Pressure Transducer is a oil filled capillary designed specially for food, packaging and medical processing applications. This series of Melt Pressure Transducers utilize four active arm Wheatstone Bridge strain gauge insuring high accuracy and reliability.

The TK200 Series Melt Pressure Transducer comes with 6" rigid stem along with 18" flexible capillary with SS armor coating and 6 pin Bayonet connector.

### Features:

Pressure Ranges: 0-10,000 psi (metric range available)  
 Mounting: 1/2"-20 UNF mounting thread  
 Diaphragm: Standard Inconel  
 Temperatures: Diaphragm 615°F (323°C)  
 Electronics 225°F (107°C)  
 Accuracy: +/- 0.5% Combined Error  
 Connector: 6 pin Bayonet Connector  
 (8 pin option available)  
 Output: 3.3 mV/V  
 Excitation Volt: 10VDC - recommended  
 Calibration: 80% output calibration

TK200 Series



### Benefits

- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- 18" of flexible capillary with stainless armor for optimum thermal isolation
- Reliable, repeatable and accurate pressure measurements
- Ease of installation and calibration
- wide variety of pressure ranges
- One year warranty

### Ordering Guide

<b>TK2 X</b>	<b>X</b>	<b>- P X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
0 - 6"stem + 18"Flex	1 - 3.3mV/V	1	M - Psi x 1000	S - 6 pin Bayonet	S - Standard Inconel	- - 1/2"-20UNF
1 - 12"stem + 18"Flex	2 - 2.5mV/V	1.5	B - Bar x 100	G - 6 pin Screw	C - Chromium Nitride	M18 - M18x1.5
3 - 6"stem + 30"Flex	4 - 4-20mA	3	P - MPa	8 - 8 pin Screw	T - Titanium Nitride	M10 - M10x1.0
4 - 12"stem + 30"Flex	5 - 0-5VDC	5		B - BC Wiring	H - Hastelloy	.25 - 0.25% Accuracy
8 - 8"stem + 18"Flex		7.5			D - Diamond Particulate	
9 - 9"stem + 18"Flex	7 - 0-10VDC	10				
		15				
		20				



## Melt Pressure Transducers - NAK Series

### Introduction

**TKX** Series Melt Pressure Transducer is a oil filled capillary designed specially for food, packaging and medical processing applications. This series of Melt Pressure Transducers utilize four active arm Wheatstone Bridge strain gauge insuring high accuracy and reliability.

The TKX Series Melt Pressure Transducer comes with 6" rigid stem along with 18" flexible capillary with SS armor coating and 6 pin Bayonet connector. The temperature sensor is mounted behind the diaphragm which provides melt pressure and temperature from a single hole.

### Features:

Pressure Ranges: 0-10,000 psi (metric range available)  
 Mounting: 1/2-20 UNF mounting thread  
 Diaphragm: Standard Inconel  
 Temperatures: Diaphragm 6150°F (323°C)  
 Electronics 225°F (107°C)  
 Accuracy: +/- 0.5% Combined Error  
 Connector: 6 pin Bayonet Connector  
 (8 pin option available)  
 Output: 3.3 mV/V  
 Excitation Volt: 10VDC - recommended  
 Calibration: 80% output calibration

### TKX Series



### Benefits

- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- Optional Temperature sensor to provide melt pressure and temperature from a single hole
- Reliable, repeatable and accurate pressure measurements
- Ease of installation and calibration
- wide variety of pressure ranges
- One year warranty

### Ordering Guide

<b>TKX</b>	<b>X</b>	<b>X</b>	<b>- P X X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>J</b> - T/c J	<b>0</b> - 6"stem + 18"Flex	<b>1</b> - 3.3mV/V	<b>1</b>	<b>M</b> - Psi x 1000	<b>S</b> - 6 pin Bayonet	<b>S</b> - Standard Inconel	- - 1/2"-20UNF
<b>K</b> - T/c K	<b>1</b> - 12"stem + 18"Flex	<b>2</b> - 2.5mV/V	<b>1.5</b>	<b>B</b> - Bar x 100	<b>G</b> - 6 pin Screw	<b>C</b> - Chromium Nitride	<b>M18</b> - M18x1.5
<b>P</b> - PT100	<b>3</b> - 6"stem + 30"Flex	<b>4</b> - 4-20mA	<b>3</b>	<b>P</b> - MPa	<b>8</b> - 8 pin Screw	<b>T</b> - Titanium Nitride	<b>M10</b> - M10x1.0
	<b>4</b> - 12"stem + 30"Flex	<b>5</b> - 0-5VDC	<b>5</b>		<b>B</b> - BC Wiring	<b>H</b> - Hastelloy	<b>.25</b> - 0.25% Accuracy
	<b>8</b> - 8"stem + 18"Flex	<b>7</b> - 0-10VDC	<b>7.5</b>			<b>D</b> - Diamond Particulate	
	<b>9</b> - 9"stem + 18"Flex		<b>10</b>				
			<b>15</b>				
			<b>20</b>				

## Narrow Transducers / Transmitters

### Introduction

**TN100** Series Melt Pressure Transducer is a fluid filled capillary design. This tried and proven design provides an electronic signal which is proportional to the measured pressure, and allows the transducer to operate at a process temperature up to 750°F (400°C). The electronics of each transducer is a Wheatstone Bridge strain gauge insuring high accuracy and reliability.

The TN100 Series Melt Pressure Transducer is designed for space restricted areas. This transducer features 1/2-20 UNF thread with jam nut & 28" of flexible capillary.

### Features:

Pressure Ranges: 0-10,000 psi (metric range available)  
 Mounting: 1/2-20 UNF mounting thread + jam nut  
 Diaphragm: Standard Inconel  
 Temperatures: Diaphragm 750°F (400°C)  
 Electronics 225°F (107°C)  
 Accuracy: +/- 0.5% Combined Error  
 Connector: 6 pin Bayonet Connector  
 (8 pin option available)  
 Output: 3.3 mV/V  
 Excitation Volt: 10VDC - recommended  
 Calibration: 80% output calibration

### TN100 Series



### Benefits

- Significant price/performance advantage over competitor’s models + Direct replacement for competitor’s models
- Good for space restricted areas or for nozzle melt pressure measurement on injection molding machines
- Reliable, repeatable and accurate pressure measurements
- Ease of installation and calibration
- wide variety of pressure ranges
- One year warranty

### Ordering Guide

<b>TN1 X</b>	<b>X</b>	<b>- P X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>0</b> - 28"Flex	<b>1</b> - 3.3mV/V	<b>1</b>	<b>M</b> - Psi x 1000	<b>S</b> - 6 pin Bayonet	<b>S</b> - Standard Inconel	<b>-</b> - 1/2"-20UNF
<b>1</b> - 60"Flex	<b>2</b> - 2.5mV/V	<b>1.5</b>	<b>B</b> - Bar x 100	<b>G</b> - 6 pin Screw	<b>C</b> - Chromium Nitride	<b>M18</b> - M18x1.5
	<b>4</b> - 4-20mA	<b>3</b>	<b>P</b> - MPa	<b>8</b> - 8 pin Screw	<b>T</b> - Titanium Nitride	<b>M10</b> - M10x1.0
	<b>5</b> - 0-5VDC	<b>5</b>			<b>I</b> - Inconel Tip + Threads	<b>.25</b> - 0.25% Accuracy
	<b>7</b> - 0-10VDC	<b>7.5</b>			<b>H</b> - Hastelloy	<b>F</b> - Mercury Free
		<b>10</b>			<b>D</b> - Diamond Particulate	
		<b>15</b>				
		<b>20</b>				

## Narrow Transducers / Transmitters

### Introduction

**TN200** Series Melt Pressure Transducer is a fluid filled capillary design. This tried and proven design provides an electronic signal which is proportional to the measured pressure, and allows the transducer to operate at a process temperature up to 750°F (400°C). The electronics of each transducer is a Wheatstone Bridge strain gauge insuring high accuracy and reliability.

The TN200 Series Melt Pressure Transducer is designed for space restricted areas. This transducer features an exposed 10" bare capillary, 1/2-20 UNF thread with jam nut & 18" of flexible capillary with armor.

### Features:

Pressure Ranges: 0-10,000 psi (metric range available)  
 Mounting: 1/2-20 UNF mounting thread + jam nut  
 Diaphragm: Standard Inconel  
 Temperatures: Diaphragm 750°F (400°C)  
 Electronics 225°F (107°C)  
 Accuracy: +/- 0.5% Combined Error  
 Connector: 6 pin Bayonet Connector  
 (8 pin option available)  
 Output: 3.3 mV/V  
 Excitation Volt: 10VDC - recommended  
 Calibration: 80% output calibration

TN200 Series



### Benefits

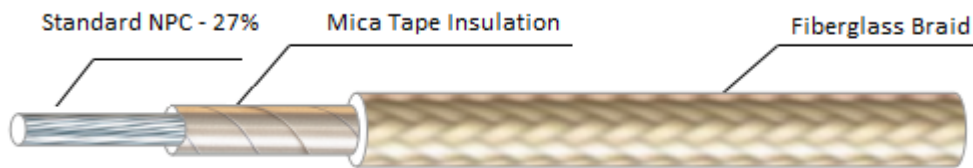
- Significant price/performance advantage over competitor's models
- Direct replacement for competitor's models
- Exposed Capillary allows 1/8" bend radius for mounting in tight spaces.
- Reliable, repeatable and accurate pressure measurements
- Ease of installation and calibration
- wide variety of pressure ranges
- One year warranty

### Ordering Guide

<b>TN2 X</b>	<b>X</b>	<b>- P X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>0</b> - 10" Bare + 18"Flex	<b>1</b> - 3.3mV/V	<b>1</b>	<b>M</b> - Psi x 1000	<b>S</b> - 6 pin Bayonet	<b>S</b> - Standard Inconel	<b>-</b> - 1/2"-20UNF
<b>1</b> - 10" Bare + 30"Flex	<b>2</b> - 2.5mV/V	<b>1.5</b>	<b>B</b> - Bar x 100	<b>G</b> - 6 pin Screw	<b>C</b> - Chromium Nitride	<b>M18</b> - M18x1.5
	<b>4</b> - 4-20mA	<b>3</b>	<b>P</b> - MPa	<b>8</b> - 8 pin Screw	<b>T</b> - Titanium Nitride	<b>M10</b> - M10x1.0
	<b>5</b> - 0-5VDC	<b>5</b>			<b>I</b> - Inconel Tip + Threads	<b>.25</b> - 0.25% Accuracy
	<b>7</b> - 0-10VDC	<b>7.5</b>			<b>H</b> - Hastelloy	<b>F</b> - Mercury Free
		<b>10</b>			<b>D</b> - Diamond Particulate	
		<b>15</b>				
		<b>20</b>				

## ACCESSORIES

### High Temperature Wires



#### Specifications

- Single Conductor
- Nickel Clad Copper Conductor (27% Nickel)
- Mica Insulation
- High Temperature Fiberglass Braid
- 450 °C / 850 °F Temperature Rating
- 600 V Voltage Rating
- Stranded

#### Stock List

Part #	AWG	Temperature	Volatage
MGT – 20	20	450 °C / 850 °F	600 V
MGT – 18	18	450 °C / 850 °F	600 V
MGT – 16	16	450 °C / 850 °F	600 V
MGT – 14	14	450 °C / 850 °F	600 V
MGT – 12	12		
MGT – 10	10		
MGT – 8	8		

## TGGT wires



### Stock List

Part #	AWG	Temperature	Volatage
TGGT – 20	20	250 °C / 482 °F	600 V
TGGT – 18	18	250 °C / 482 °F	600 V
TGGT – 16	16	250 °C / 482 °F	600 V
TGGT - 14	14	250 °C / 482 °F	600 V

## Silicone Tear Resistant Wire











SIHF is a special 180 °C / 355 °F cable. SHIF multi-core cable for use in areas where insulation is subjected to extreme temperature changes. SIHF cables are designed with a tear – resistant silicone jacket.

### Stock List

Part #	AWG	Conductors	Outer Diameter (in)	Weight / 1000 m (KG)
SIHF – 18/3	18	3	0.268	43
SIHF – 18/4	18	4	0.307	56
SIHF – 16/3	16	3		
SIHF – 16/4	16	4		
SIHF – 14/3	14	3		
SIHF – 14/4	14	4		
SIHF – 12/3	12	3		
SIHF – 12/4	12	4		

## High Temperature Accessories

<p><b>Ring Terminals</b></p> <p>High Temperature Ring Terminals are made from Steel with Nickel plating which provides excellent performance under high temperature up to 900 °F / 482 °C.</p>	
<p><b>Fork Terminals</b></p> <p>High Temperature Ring Terminals are made from Steel with Nickel plating which provides excellent performance under high temperature up to 900 °F / 482 °C.</p>	
<p><b>Butt Connectors</b></p> <p>High Temperature Ring Terminals are made from Steel with Nickel plating which provides excellent performance under high temperature up to 900 °F / 482 °C.</p>	
<p><b>Quick Connect (Female)</b></p> <p>High Temperature Ring Terminals are made from Steel with Nickel plating which provides excellent performance under high temperature up to 900 °F / 482 °C.</p>	
<p><b>Quick Connect (Male)</b></p> <p>High Temperature Ring Terminals are made from Steel with Nickel plating which provides excellent performance under high temperature up to 900 °F / 482 °C.</p>	
<p><b>Ceramic Twist Connectors</b></p> <p>High Temperature Ceramic Twist Connectors are made from Ceramic which provides excellent performance under high temperatures. They are normally used to fasten two or more electrical conductors.</p>	
<p><b>Fiberglass Tape</b></p> <p>High Temperature Fiberglass Tapes are made from Fiberglass substrate. It withstands high temperature to 500 °F. They are normally used for electrical wrap.</p>	
<p><b>Ceramic Terminal Covers</b></p> <p>High Temperature Ceramic Terminal Covers are made from Ceramic which provides excellent performance under high temperature. It is widely use with post terminals on the Strip &amp; Finned Heaters. They are designed to protect exposed live terminals.</p>	

## 2 Pin European Connectors

**Ceramic / Aluminium**

**Silicone**

**Bakelite / Aluminium**



## 3 Pin European Connectors

**Ceramic / Aluminium**

## Lead Wire Protection

**Stainless Steel Armour**



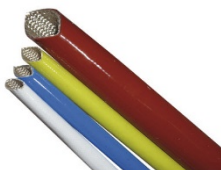
They are made of two configurations or constructions, commonly called Square Lock (SL) & Fully Inter Lock (FL). Square Lock armour is produced from a continuous metal strip and locking one strip with another strip. It is commonly used as a protective covering for electrical wiring.

**Fiberglass Slewing**



It is commonly used as a protective covering for electrical wiring and made of Fiberglass braid. Its working temperature range is between -60 °C and +450 °C. It has self-extinguishing flammability. It is highly flexible and also offers mechanical resistance as well as UV resistance.

**Silicon Coated Fiberglass Slewing**



It is commonly used as a protective covering for electrical wiring. Fiberglass braided sleeving is coated with silicone rubber. Its working temperature range is between -60 °C and +250 °C. It has self-extinguishing flammability. It also offers mechanical resistance as well as UV resistance.

## Rupture Discs (Burst Plugs)

### Features

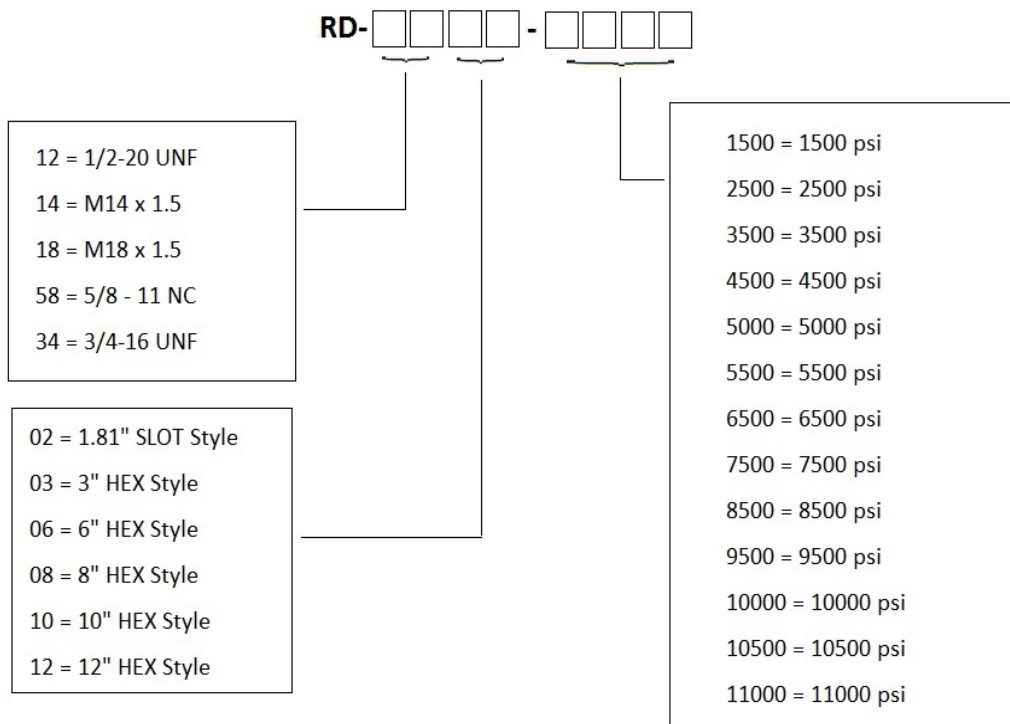
- Leak tight
- One piece Stainless Steel Body
- Disc flush with pressure vessel wall
- Low installation and maintenance cost
- Accuracy of  $\pm 5\%$
- Pressure tested at rated burst pressure and temperature



### Description

Extruder Rupture Disc (ERD) is a high performance pressure relief device primarily designed for overpressure protection of the plastic extrusion process. Extruder Rupture Discs consists of a threaded body with a conventional rupture disc welded to the end.

### Ordering Guide:





## Thermocouple Bayonet Adaptors



### Features

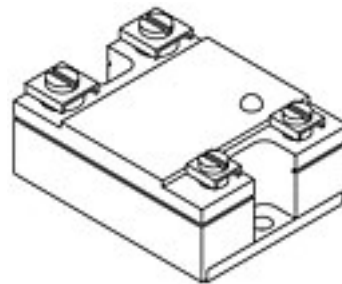
- Nickel Plated Brass
- 1/8" NPT Thread

BAYONET ADAPTORS: Ni Plated Brass			BAYONET ADAPTORS: SS304		
Part #	Length	Material	Part #	Length	Material
BA-078	7/8"	Ni Plated Brass	BA-078-SS	7/8"	SS304
BA-100	1"	Ni Plated Brass	BA-100-SS	1"	SS304
BA-114	1-1/4"	Ni Plated Brass	BA-114-SS	1-1/4"	SS304
BA-138	1-3/8"	Ni Plated Brass	BA-138-SS	1-3/8"	SS304
BA-112	1-1/2"	Ni Plated Brass	BA-112-SS	1-1/2"	SS304
BA-200	2"	Ni Plated Brass	BA-200-SS	2"	SS304
BA-214	2-1/4"	Ni Plated Brass	BA-214-SS	2-1/4"	SS304
BA-212	2-1/2"	Ni Plated Brass	BA-212-SS	2-1/2"	SS304
BA-300	3"	Ni Plated Brass	BA-300-SS	3"	SS304
BA-312	3-1/2"	Ni Plated Brass	BA-312-SS	3-1/2"	SS304

## Solid State Relays

### Features

- Provides High Speed, High Frequency switching operation
- Generate very little noise
- No operational noise
- No contact failure
- LED Power indicator



### Applications

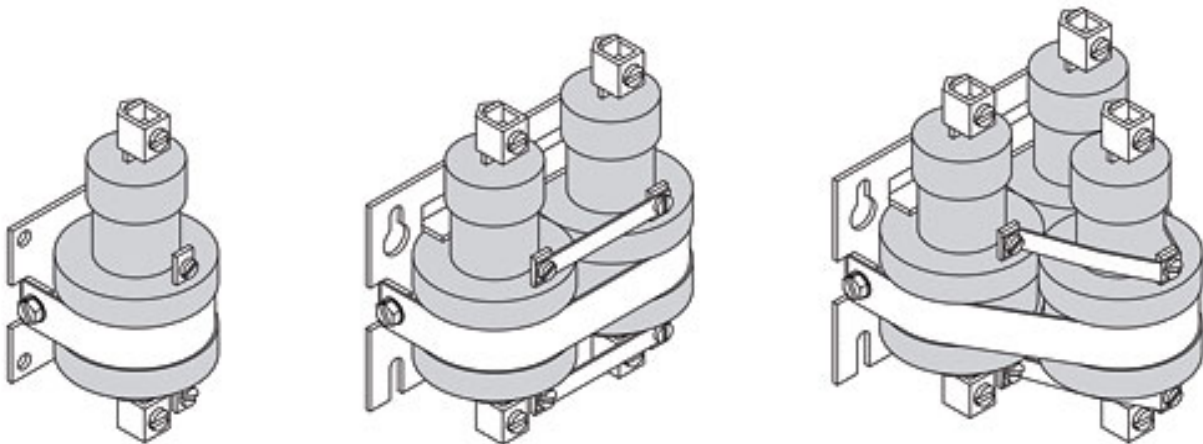
- Heating control in food industries
- Lighting control in warehouse and commercial places
- Motion control for conveyor belts, solenoid and valve control

### Description

A Solid – State Relay (SSR) is an electronic switching device that switches on or off when a small external voltage is applied across its control terminals. SSR consists of a sensor which responds to appropriate input, a solid – state electronic switching device which switches power to the load circuitry, and a coupling mechanism to enable the control signal to activate this switch without mechanical parts. The relays are designed to switch either AC or DC to the load. It serves the same function as an electromechanical relay, but has no moving parts.

Packaged solid-state relays use power semiconductor devices such as thyristors and transistors, to switch currents up to around a hundred amperes. Solid-state relays have fast switching speeds compared with electromechanical relays, and have no physical contacts to wear out. Application of solid-state relays must consider their lower ability to withstand momentary overload, compared with electromechanical contacts, and their higher "on" state resistance. Unlike an electromechanical relay, a solid-state relay provides only limited switching arrangements.

## Contactors / Electromechanical (Mercury Filled) Relays

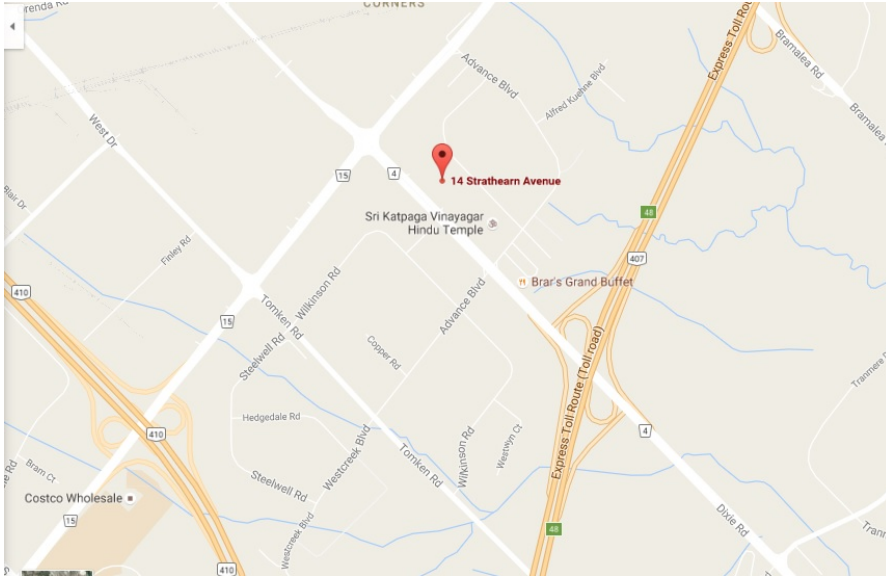


A contactor is an electrical component that is similar to a relay in many regards, but that is typically used in much larger scale applications and, thus, has many features that distinguish it from a standard relay. In most cases, a **contactor** is designed specifically with high current usage in mind.

Another unique factor that separates contactors from relays is the fact that relays can typically be employed in either of two configurations: normally open or normally closed. Most contactors are designed to be used in only the normally open position. There are variations, but this is the norm. Circuit breakers, different from both, are normally closed, but open up when dangerous conditions on the circuit to which they are affixed manifest.

Contactors are not always, but oftentimes are, quite a bit larger than relays in terms of their physical size. Contactors can get large enough to require heavy equipment to move from place to place and install.

## LOCATION:



## ADDRESS:

**HEATERS & SENSORS INC.**

**14 Strathearn Ave, Unit # 26**

**Brampton,**

**Ontario**

**Canada - L6T 4P4**

**Ph # 905-499-0045**

**WWW.HEATERSANDSENSORS.COM**