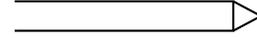


# SPECIAL JUNCTIONS **To print, right click or press ctrl + P**

To specify the following special junctions in the thermocouple part number, you may use the appropriate symbol below in place of symbol #6 on page 1-1.

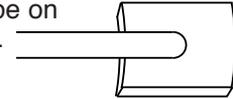
## SYMBOL SPECIAL JUNCTIONS

J Pointed tip grounded  
 K Pointed tip ungrounded  
 See page 1-15



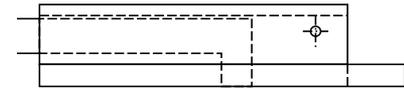
L Weld pad grounded (standard pad size 1" x 1" x 1/8" thick)  
 M Weld pad ungrounded (standard pad size 1" x 1" x 1/8" thick)  
 See page 1-14

EG: 1N1DVX... X=L 2" TUBE If curved, use X in symbol #6 and specify pipe / tube diameter and whether the sensor is mounted parallel or perpendicular to the tube on which it is to be mounted.

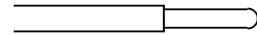


**Specify Pipe / Tube Diameter**

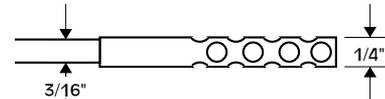
N Weld pad, removable grounded (standard pad size 1" x 2 1/4" x 1/8" thick)  
 O Weld pad, removable ungrounded (standard pad size 1" x 2 1/4" x 1/8" thick)  
 See page 1-14



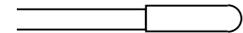
P Reduced tip grounded (specify overall length, reduced tip length and outside diameters in description)  
 Y Reduced tip ungrounded (specify overall length, reduced tip length and outside diameters in description)  
 See page 1-15



See page 1-15  
 R Gas/Air exposed  
 S Gas/Air grounded  
 T Gas/Air ungrounded  
 F Ultra fast response (40 awg kapton wire) TC only.

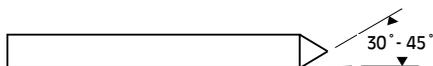


V Enlarged tip grounded (specify overall length, enlarged tip length and outside diameters in description)  
 W Enlarged tip ungrounded (specify overall length, enlarged tip length and outside diameters in description)  
 See page 1-15



# SPECIAL JUNCTIONS

## POINTED TIP



The pointed tip sensor actually acts like a “needle”, and can be inserted into an item to measure its temperature. The angle of the point is approximately 30° - 45°. This type of probe is most commonly used in the food processing and pharmaceutical industries.

This sensor can be manufactured in Types J, K, T, E, and N thermocouple calibration. Any cold end details can be selected from those listed on page 1-2 .

The conical point on this sensor is designed to penetrate into soft and semi-frozen objects. It is made from rugged stainless steel and can be manufactured with a durable plastic handle for hand held penetration and measurement, if needed.

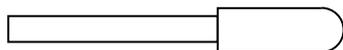
## REDUCED TIP



The reduced tip sensor is used to yield a quicker response time. The smaller diameter probe at the tip provides less mass at the sensing end, thus a faster response time.

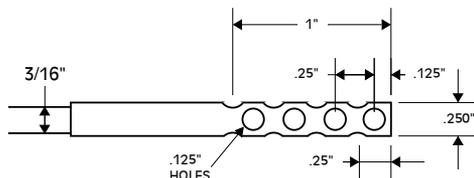
Specify desired diameter needs, large and reduced, and the lengths of both: i.e., X=Reduced tip, 1/4” x 5”, 1/8” x 1”. This sensor can be used for immersion into air or liquids. Care should be taken to assure high velocity flow and/or pressure does not exist if using a small diameter reduced tip sensor. This sensor can be manufactured in any calibrations. Cold end details can be selected from page 1-2.

## ENLARGED TIP



The enlarged tip sensor is usually used for better thermal transfer in an old well. Specify desired diameter needs, reduced and large, and the lengths of both: i.e., X=Enlarged tip, 1/4” x 6”, 1/2” x 8”. The cold end details can be specified from page 1-2 of the JMS catalog. The standard material used is 316SS.

## GAS / AIR TIP



The gas / air section of the probe is made to cover the exposed sensor measuring junction to protect the junction while still allowing air to flow thru the holes. JMS has a standard pattern of hole size and spacing as shown in the drawing above.

This stainless steel cover over the junction acts as a radiant energy shield to protect the measuring junction from radiant heat which may be emitted from a flame or heater in the process. The thermocouple tip is still exposed to air flow for fast measurement. This type of probe can be inserted into duct work, grills, and air vents. For RTD's, a type E sensor (page 3-1) is either exposed (bare) or enclosed in a 1/8” hollow tube for moisture protection. An ultra fast response type is also available.

# TUBE-SKIN SENSORS

Tube skin sensors are designed for measuring the temperature of tube walls in chemical power and petroleum industries. Power houses use this type of thermocouple on boiler and superheater requirements. The measurements are used to determine the fatigue of the tube material. For tube skin thermocouples, JMS Southeast uses sheath material which allows for proper insulation, expansion loops, and easy installation. The weld pad should match the tube material and may be used in upper temperature ranges to 2100°F. The standard weld pad dimensions are 1" x 1" x 1/8" thickness. The removable weld pad dimensions are 1" x 2 1/4" x 1/8" thickness. The pads can be curved to fit the radius of your pipe.

On installation, we recommend attaching weld pads to a surface for good thermal conduction. Avoid any currents or still places of flow in your process.

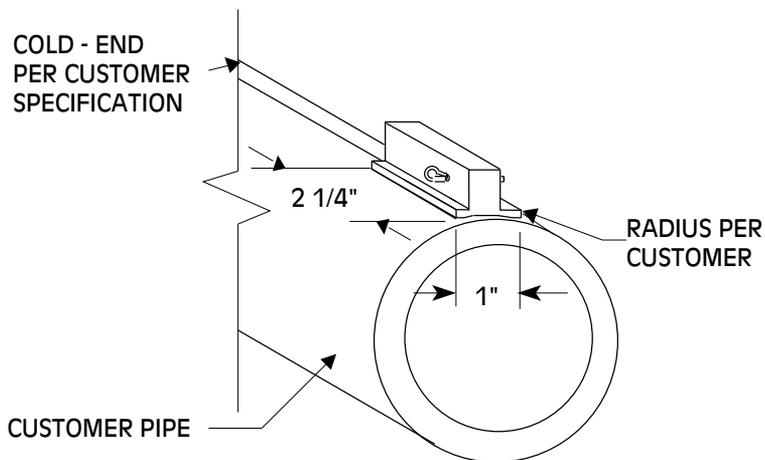
When mounting the tube skin through a furnace wall, insert the probe and mount it into the wall with a compression fitting, then slide another compression fitting onto the probe to secure the head to the cold end.

If this type of mounting is required, the extra compression fitting should be ordered as an accessory piece. The unit will be shipped with the head disassembled.

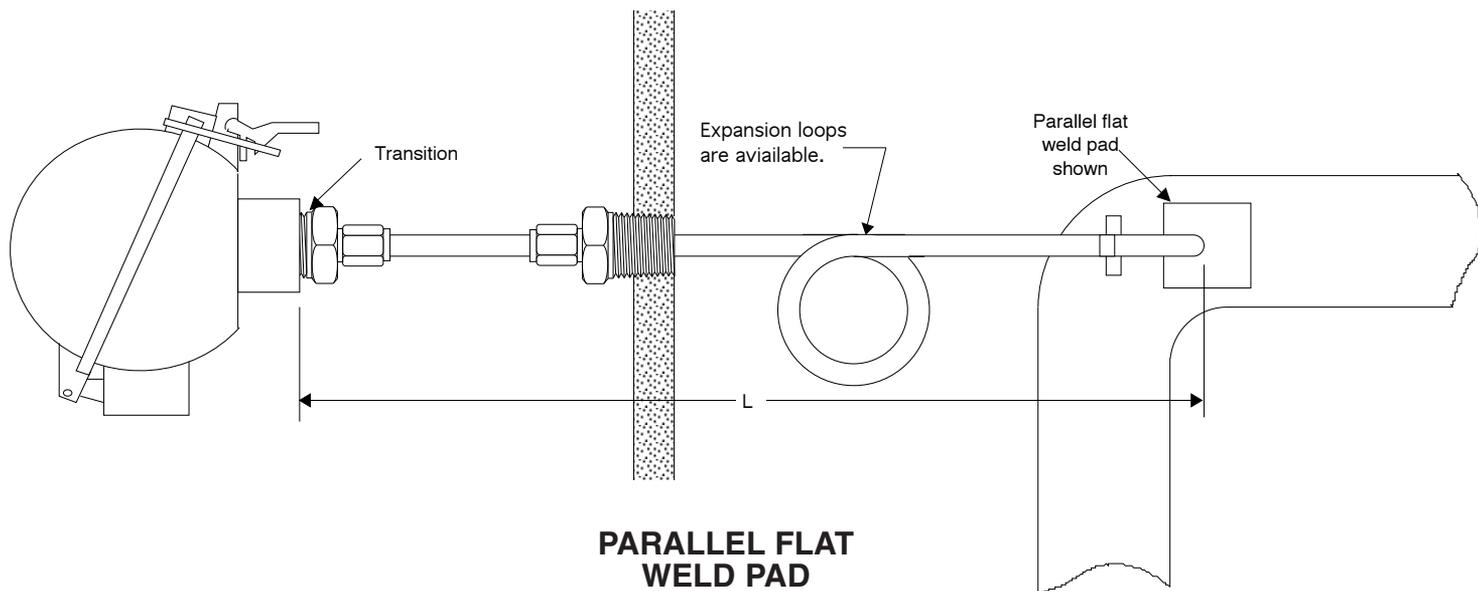
Any other mounting configuration can be specified by a drawing or in the part number description. These fitting options are listed in the ordering symbols below.

**Note:** Proprietary designs are available for removable tubeskin thermocouples. Call for assistance.

4, one hour sessions training video.  
\$1200.00 - Call for information.



**REMOVABLE WELD PAD**



**PARALLEL FLAT WELD PAD**