

INDUSTRIAL THERMOCOUPLES

| A | CODE | HEAD EXTENSION |
|---|------|------------------------------|
| | 2 | NIPPLE (NOTE 1) |
| | 4 | NIPPLE/UNION/NIPPLE (NOTE 1) |

| B | CONNECTION HEAD | | | NEMA |
|---|-----------------|--------------------------------------|---|-------|
| | CODE | MATERIAL | TYPE | |
| | AN | ALUMINUM | WATER PROOF | 4 |
| | SN | STAINLESS STEEL | WATER PROOF, CORROSION RESISTANT | 4, 4X |
| | AE | ALUMINUM | EXPLOSION PROOF (NOTE 2) | 4 |
| | SE | STAINLESS STEEL | EXPLOSION PROOF, CORROSION RESISTANT (NOTE 2) | 4, 4X |
| | XD | ALUMINUM | EXPLOSION PROOF, FM, CSA APPROVED (NOTES 2 & 3) | 4, 4X |
| | A | CAST IRON | WEATHER PROOF, RUGGED | |
| | L | POLYPROPYLENE | WEATHER PROOF, LIGHT WEIGHT | |
| | AX | ALUMINUM, LARGE DEVICE, EPOXY COATED | EXPLOSION PROOF, ATEX APPROVED (NOTE 3) | 4 |

| C | CODE | CONDUIT OPENING | D | CODE | TUBE OPENING | E | CODE | "A" LENGTH |
|---|------|-----------------|---|------|--------------|---|------|------------|
| | | 1/2 or 3/4NPT | | | 1/2NPT | | | IN INCHES |

| F | CODE | | ELEMENT CONSTRUCTION | | | |
|---|--------|---------|----------------------|-----------------|--------------|---------------|
| | SINGLE | DUPLEX | DIAMETER | WIRE SIZE (AWG) | INSULATION | SPRING LOADED |
| | ASL18 | ADSL18 | 1/8" | 24 | MgO-SHEATH | YES |
| | A316 | AD316 | 3/16" | 20 | MgO-SHEATH | NO |
| | ASL316 | ADSL316 | 3/16" | 20 | MgO-SHEATH | YES |
| | A14 | AD14 | 1/4" | 18 | MgO-SHEATH | NO |
| | ASL14 | ADSL14 | 1/4" | 18 | MgO-SHEATH | YES |
| | AS16 | AD516 | 5/16" | 16 | MgO-SHEATH | NO |
| | ASL516 | ADSL516 | 5/16" | 16 | MgO-SHEATH | YES |
| | A38 | AD38 | 3/8" | 15 | MgO-SHEATH | NO |
| | ASL38 | ADSL38 | 3/8" | 15 | MgO-SHEATH | YES |
| | B14 | BD14 | .325" | 14 | CERAMIC BEAD | NO |
| | B20 | BD20 | .183" | 20 | CERAMIC BEAD | NO |

| G | CODE | | CALIBRATION |
|---|----------|------------------|--|
| | STANDARD | SPECIAL (NOTE 4) | |
| | J | JJ | IRON (+) vs CONSTANTAN (-) |
| | K | KK | CHROMEL (+) vs ALUMEL (-) |
| | T | TT | COPPER (+) vs CONSTANTAN (-) |
| | E | EE | CHROMEL (+) vs CONSTANTAN (-) |
| | N | NN | NICROSIL (+) vs NISIL (-) |
| | - | KKS | CHROMEL (+) vs ALUMEL (-) (NOTE 5) |
| | - | EES | CHROMEL (+) vs CONSTANTAN (-) (NOTE 5) |

| H | CODE | | MEASURING JUNCTION |
|---|------|---|---|
| | G | U | |
| | G | | SINGLE GROUNDED, GROUNDED TO SHEATH |
| | U | | SINGLE UNGROUNDED, ISOLATED FROM SHEATH |
| | DG | | DUPLEX GROUNDED, GROUNDED TO SHEATH |
| | DU | | DUPLEX UNGROUNDED, ISOLATED FROM SHEATH |

| J | CODE | ELEMENT SHEATH MATERIAL | STANDARD CALIBRATIONS (NOTE 6) |
|---|------|-------------------------|--------------------------------|
| | | P | 304 STN. STL. |
| | Q | 316 STN. STL. | J, K, T, E, N |
| | R | 310 STN. STL. | J, K, E |
| | J | INCONEL 600 | K, N, KKS, EES (NOTE 5) |

DROP CODE WHEN USING CERAMIC BEADED ELEMENTS

| K | WELL TYPE | | | |
|---|-----------|------|------|------|
| | CODE | OD-1 | OD-2 | ID |
| | 47 | .750 | .875 | .385 |
| | 48 | .750 | .875 | .260 |

| L | CODE | WELL MATERIAL |
|---|--------|-----------------------------|
| | | P |
| | Q | 310 STAINLESS STEEL |
| | R | 316 STAINLESS STEEL |
| | PLorRL | 304or316 S. S. (LOW CARBON) |
| | N | CARBON STEEL |
| | J | INCONEL 600 |
| | H | HASTELLOY C276 |

| M | CODE | "F" LENGTH |
|---|------|------------------------|
| | | IN INCHES (2.25" STD.) |

| N | CODE | "U" LENGTH |
|---|------|------------|
| | | IN INCHES |

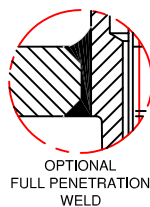
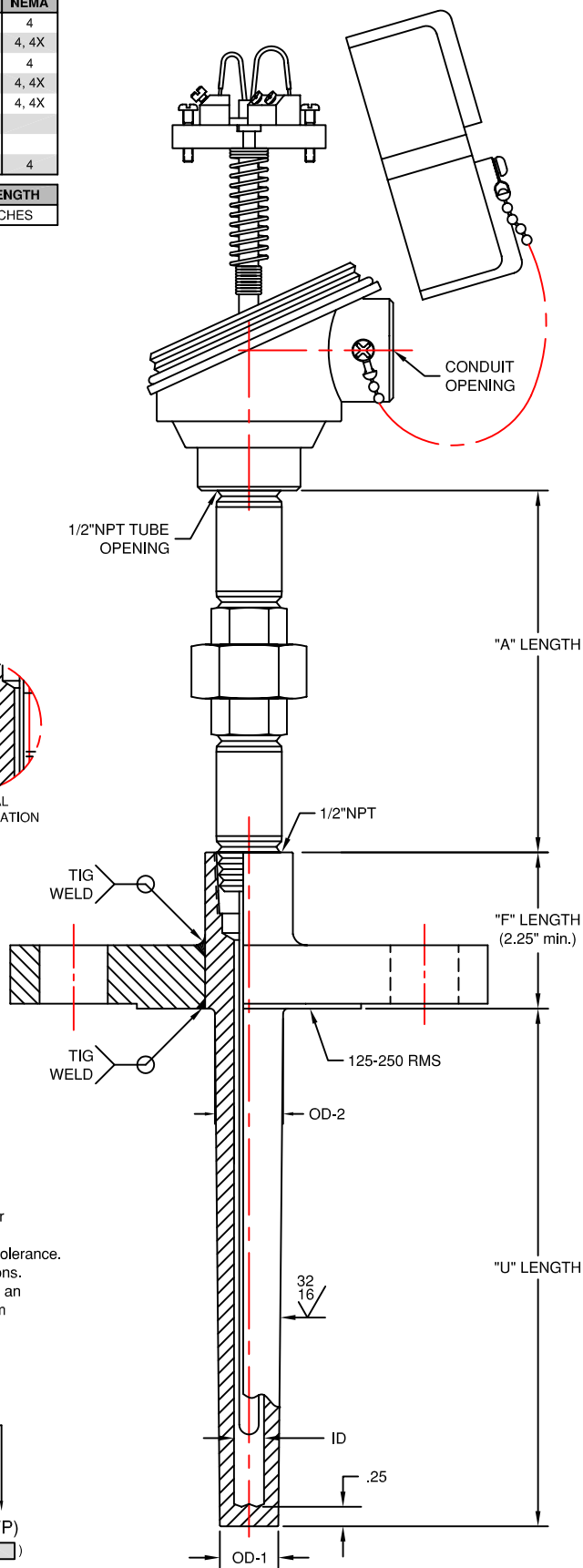
| P | CODE | FLANGE SIZE |
|---|------|-------------|
| | | SPECIFY |

| Q | CODE | FLANGE RATING |
|---|------|---------------|
| | | SPECIFY |

| R | CODE | FLANGE TYPE |
|---|------|-----------------|
| | | FF |
| | RF | RAISED FACE |
| | RJ | RING TYPE JOINT |

EXAMPLE: 4 AE 3/4 - 1/2 - 6 - ASL14 J G P - 47 R 2.25 - 12 - 1.5 - 300 RF (N) (FP)

A B C D E F G H J K L M N P Q R L



Notes:

- Standard Nipples - Steel, Schedule 40. Standard Unions - Black Malleable Iron, 150#. OPTIONAL STAINLESS STEEL Nipples - 304 or 316 Stainless Steel, Schedule 40 or 80. Unions - 304 or 316 Stainless Steel. Example Ordering Code: 4AE 3/4 1/2 6(R or R80).
- Rated NEC class 1, Groups B, C and D.
- ATEX approved EEx d IIC, T6.
- Meets or exceeds Special Initial Calibration Tolerances per ANSI MC96.1-1982 and ASTM E230-1993
- KKS & EES denotes stabilized thermocouple and special tolerance.
- Contact factory for other calibration and sheath combinations.
- For an item that does not fall within the catalog description an (SP) can be added to the ordering code as part of a custom construction.

OPTIONAL FULL PENETRATION WELD
USE ONLY IF FLANGE MATERIAL IS NOT THE SAME AS WELL MATERIAL



TEMPERATURE MEASUREMENT DESIGNER'S GUIDE
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SECTION INTC

DRILLED FLANGED WELL ASSEMBLIES TAPERED CONSTRUCTION

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