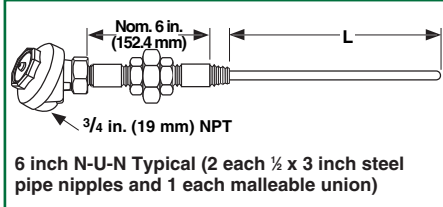


# Thermocouples

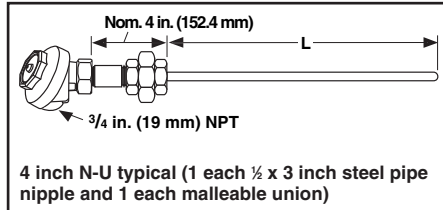
## Mineral Insulated

### For Use With Thermowells Style AT

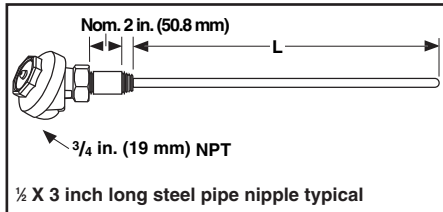
Type 1



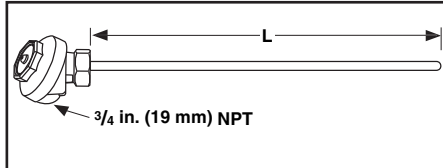
Type 2



Type 3



Type 4



**Note:** For a complete sensor, add thermowell part number to the 15-digit AT part number. For sheath length use "AR" (as required) and factory will determine correct length. See thermowell section, pages 144 to 146.

**Custom Ordering Information**—Items in **Bolded Green Type** are preferred with shorter lead times.

|   |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
|---|-------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
|   | <b>1</b>                      | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> | <b>11</b> | <b>12</b> | <b>13</b> | <b>14</b> | <b>15</b> |
|   | <b>A</b>                      | <b>T</b> | <b>J</b> |          |          | <b>0</b> |          |          |          |           |           |           |           |           | <b>0</b>  |
| <b>3. Sheath O.D. (inch)</b>  | _____                         |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| J = 0.250   |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>4. Connection Head</b>   | _____                         |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| C = Polypropylene (1/2 inch NPT thermocouple opening only)                    |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| D = Small cast iron   |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>E = Small aluminum</b>   |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| H = Explosion proof (1/2 inch NPT and 3/4 inch NPT thermocouple opening only) |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>5. Cold End Configuration</b>  | _____                         |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>1 = Type 1, six inch nipple-union-nipple</b>                               |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| 2 = Type 2, four inch nipple-union  |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| 3 = Type 3, three inch nipple   |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| 4 = Type 4, no extensions   |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| Note: Steel nipple and unions are standard.                                   |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>6. Enter "0"</b>   | _____                         |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>7. Sheath Material</b>   | _____                         |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| A = 304 SS  |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>F = 316 SS</b>   |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>Q = Alloy 600 (Type K)</b>   |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>8-9. Sheath Length "L" (whole inch)</b>                                    | _____                         |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| Available lengths: 01 to 99, over 99 consult factory                          |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>10. Sheath Length "L" (fractional inch)</b>                                | _____                         |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| 0 = Not required, complete assembly   |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| 1 = 1/8      3 = 3/8      5 = 5/8      7 = 7/8                                |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| 2 = 1/4      4 = 1/2      6 = 3/4   |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>11. Junction</b>   | _____                         |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
|   | Grounded      Ungrounded      |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| Single  | <b>G</b> <b>U</b>             |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| Dual, isolated  | —      W                      |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>12. Calibration</b>  | _____                         |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
|   | E      J      K      N      T |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| Standard limits   | E <b>J</b> <b>K</b> N      T  |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| Special limits  | 2      3      4      —      8 |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>13. Enter "0"</b>  | _____                         |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>14. Spring-Loading</b>   | _____                         |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>Y = Yes</b>  |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| N = No  |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>15. Special Requirements</b>   | _____                         |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| <b>0 = None</b>   |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |
| X = Special requirements, consult factory                                     |                               |          |          |          |          |          |          |          |          |           |           |           |           |           |           |



See the hardware section, pages 156 to 157, for a complete description of Watlow connection heads.