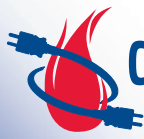
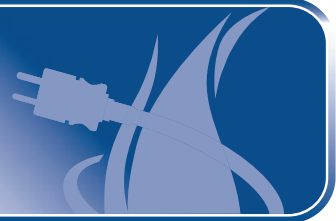


Base Metal Thermocouples



CLEVELAND ELECTRIC LABORATORIES

Thermocouples & Sensing Solutions since 1920



Base Metal Elements (BME)

- Industrial base metal elements and assemblies designed for the most severe environments
- Styles selected by temperature range, ambient atmosphere, and media conditions
- Select sizes and configurations based upon application requirements
- Select by the need for accuracy and speed of response

Type K – Due to its reliability and accuracy, Type K is used extensively at temperatures of up to 2300°F. It is good practice to always protect this type of thermocouple with a suitable metal or ceramic protection tube, especially in reducing atmospheres. In oxidizing atmospheres and when other conditions are suitable, tube protection is not always necessary; however, protection is recommended for cleanliness and general mechanical protection. Recommended temperature range is 32°F to 2300°F.

Type J – This element may be used, protected or unprotected, where there is a deficiency of free oxygen. To maintain cleanliness and generally longer life, a protection tube is recommended. Because Type J wire will oxidize rapidly at temperatures over 1000°F, it is recommended that larger gauge wire be used to compensate. Recommended temperature range is 32°F to 1400°F.

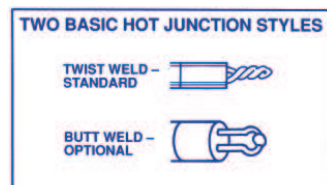
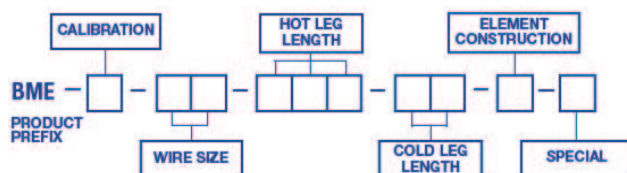
Type T – Useable in oxidizing, reducing or inert atmospheres, as well as vacuum applications. Not subject to corrosion in moist

atmospheres. Recommended temperature range is -328°F to 700°F, but can be used to -454°F.

Type E – This thermocouple is suitable for use in temperatures up to 1652°F in a vacuum, inert, mildly oxidizing or reducing atmosphere. Recommended temperature range is 32°F to 1600°F.

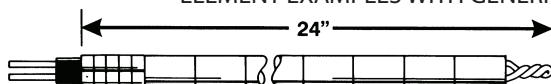
Type N – This thermocouple is used primarily at high temperatures of up to 2300°F.

To order an element, use Specification Codes below to assemble a complete Ordering Number.



CALIBRATION	WIRE SIZE	HOT LEG LENGTH	COLD LEG LENGTH	ELEMENT CONSTRUCTION	SPECIAL
K - Chromel-Alumel J - Iron-Constantan T - Copper-Constantan E - Chromel-Constantan N - Nicrosil-Nisil M - Ni-Ni Moly	08 - 8 AWG 11 - 11 AWG 14 - 14 AWG 16 - 16 AWG 18 - 18 AWG 20 - 20 AWG 22 - 22 AWG 24 - 24 AWG 30 - 30 AWG	Specify from 000" to 999"	Specify from 00" to 99"	A - Straight SGL Element Insul. C - 90° Angle Element w/Insul. D - Bare Wire Element F - Straight Dual Element w/Insul. G - Angle Dual Element w/Insul. H - SGL One-Hole Ins Per Wire S - E-808-1 Ins	0 - None B - Butt Weld C - Lot Certification D - Dual Element E - Individual Certification 2 - Dual / Lot Certified 3 - Butt Weld / Lot Certified 4 - Dual Butt Weld / Lot Certified X - Special (Consult Factory)

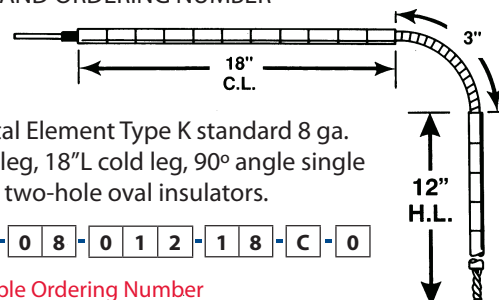
ELEMENT EXAMPLES WITH GENERIC DESCRIPTION AND ORDERING NUMBER



Base Metal Element Type K standard 8 ga. 24" L straight, single element, two-hole oval insulators.

BME **K-08-024-00-A-0**

Example Ordering Number



Base Metal Element Type K standard 8 ga. 12" L hot leg, 18" L cold leg, 90° angle single element, two-hole oval insulators.

BME **K-08-012-18-C-0**

Example Ordering Number