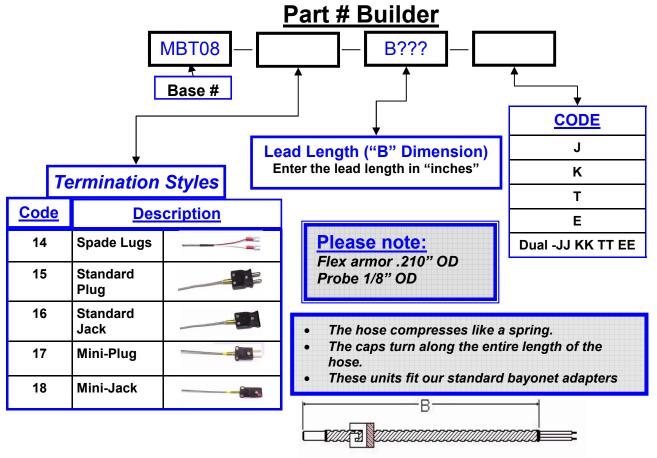


Miniature Adjustable Length Flex-Armor Bayonet Style



Notes:

- -Stainless steel construction with 24-gauge stranded fiberglass insulated wire.
- -The probe tip is 1/8" diameter and our standard unit is approximately ½" long but can be made longer.
- -Adapters are NOT furnished with the thermocouples and must be ordered separately. (See page 27) Optional Notes:
- Add "Z175" to the end of part # for no spade lugs
- -For other wire construction types, consult a sales engineer.
- -Add "U" to the end of the part # for ungrounded

Example: MBT08-14-B48-J

The example calls out a 1/8" OD, miniature adjustable type, 48" long mini armor cable, type "J" calibration, grounded junction, with 3" leads and spade lugs.



Adjustable Length Spring Bayonet Style Part # Builder BT08 BR79 Lead Length ("B" Dimension) Enter the lead length in "inches"

	T	ermination Styles			
<u>Code</u>		<u>Description</u>			
1		Spade Lugs			
2		Standard Plug			
3		Standard Jack			

Description:

Fits hole depth from 1" to 10".
Cap turns along 12" spring.
Forms to most angles.
Wire is stainless steel braid overfiberglass

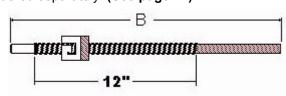
CODE J K T E Dual -JJ KK TT EE

Construction Notes:

- -Stainless steel construction with 20 gauge stranded fiberglass wire.
- -The probe tip is 3/16" diameter and our standard unit is approximately 3/8" long but can be made longer
- -Units come standard with grounded junction.
- -Adapters are NOT furnished with the thermocouples and must be ordered separately. (See page 27)

Optional Notes:

- -For other wire construction types, consult a sales engineer.
- -For 6" spring add option **Z165** at end of part number
- -12mm & 15mm metric caps also available (See page 31)
- Add "Z175" to the end of part # for no spade lugs



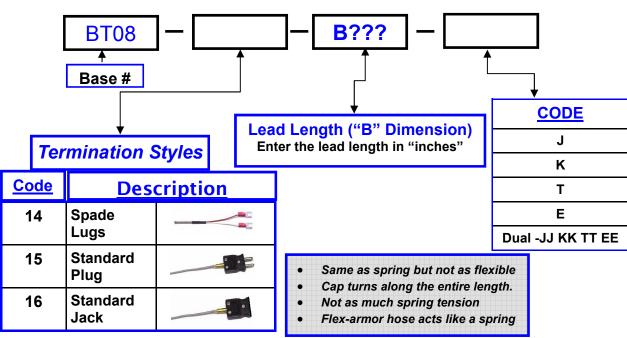
Example: BT08-1-B48-J

The example calls out a 3/16" OD, spring type adjustable style, split leads with spade lugs, 48" long stainless braided leads, Type "J" calibration, grounded junction.



Adjustable Length Flex-Armor Bayonet Style

Part # Builder



Construction Notes:

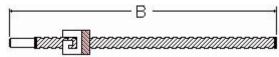
- -Stainless steel construction with 20-gauge fiberglass insulated wire stranded.
- -Probe tip is 3/16" diameter tube and is approximately 3/8" long.
- -Thermocouples are furnished grounded.
- -Adapters are NOT furnished with thermocouple and must be ordered separately. (see pg. 27)

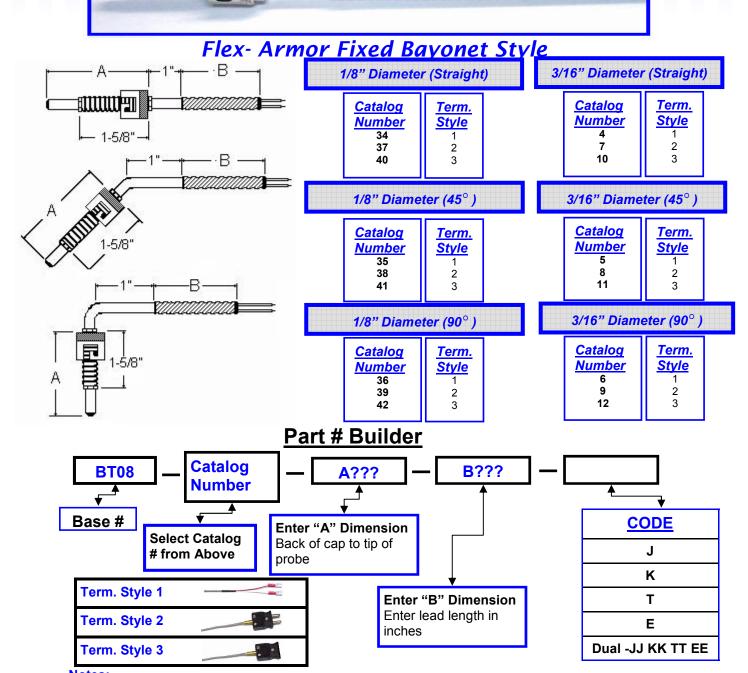
Optional Notes:

- -For other wire constructions types, consult a sales engineer.
- -For 12mm metric cap add option "H436" to the end of the part number.
- Add "Z175" to the end of part # for no spade lugs

Example: BT08-14-B48-J

The example calls out a 3/16"OD, adjustable length 48" long flex armor cable, type "J" calibration, grounded junction, with 4" leads and spade lugs.

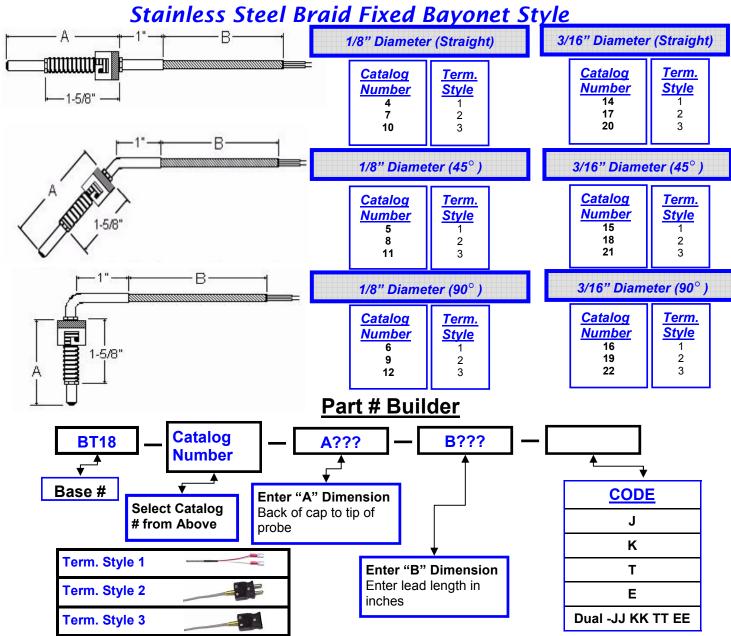




- Notes:
- -24 gauge wire is used for 1/8" diameter
- -20 gauge wire is used for 3/16" diameter
- -Other internal wire construction available
- -Adapters are NOT furnished with thermocouples and must be ordered separately.
- Add "Z175" to the end of part # for no spade lugs

Example: BT08-4-A4-B48-J



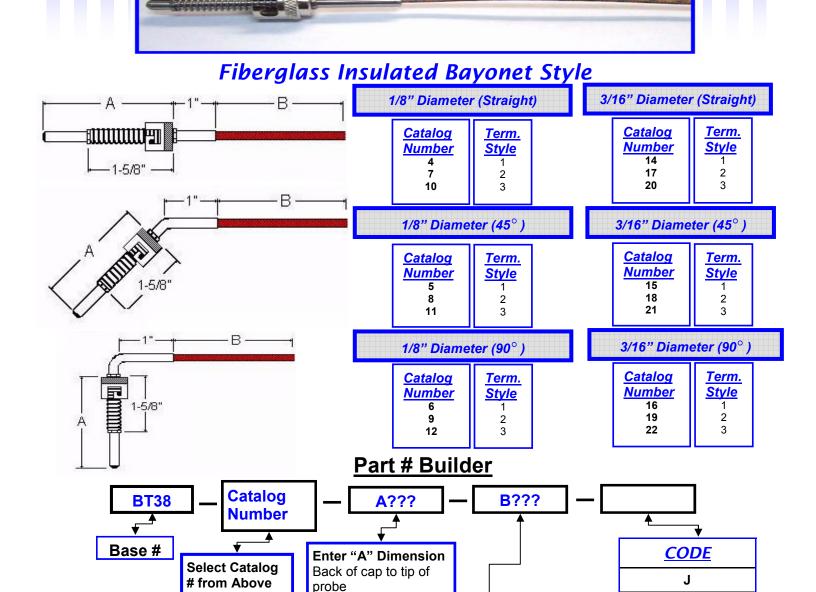


Notes:

- -24 gauge wire is used for 1/8" diameter
- -20 gauge wire is used for 3/16" diameter
- -Other internal wire construction available
- -Adapters are NOT furnished with thermocouples and must be ordered separately.
- Add "Z175" to the end of part # for no spade lugs

Example: BT18-14-A4-B48-J

This example calls out a 3/16 OD, stainless steel braid bayonet style thermocouple with a 4" insertion length, and 48" of stainless steel braid leads, type J.



Notes:

Term. Style 1

Term. Style 2

Term. Style 3

- -24 gauge wire used in 1/8" diameter
- -20 gauge wire used in 3/16" diameter
- -Adapters are NOT furnished with thermocouples and must be ordered separately
- Add "Z175" to the end of part # for no spade lugs

Example: BT38-14-A4-B48-J

This example calls out a fiberglass insulated fixed bayonet style thermocouple with a 3/16"OD probe, 4" insertion length, 48" of fiberglass lead, type J

Enter "B" Dimension

Enter lead length in

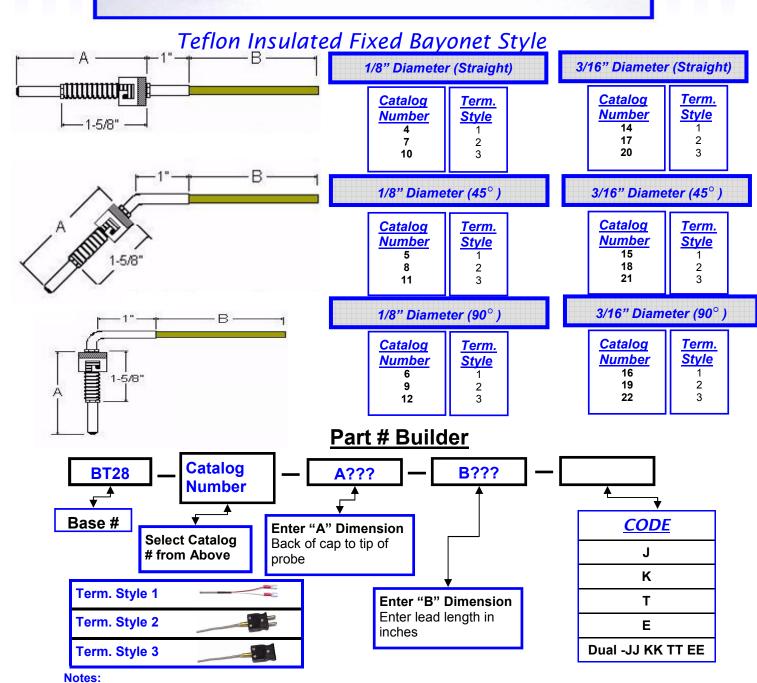
inches

Κ

T

Ε

Dual -JJ KK TT EE

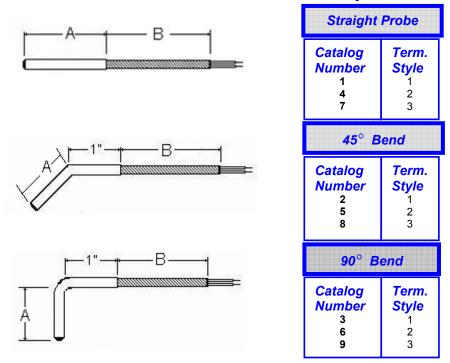


- Notes:
- -24 gauge wire is used for 1/8" diameter
- -20 gauge wire is used for 3/16" diameter
- -Other internal wire construction available
- -Adapters are NOT furnished with thermocouples and must be ordered separately.
- Add "Z175" to the end of part # for no spade lugs

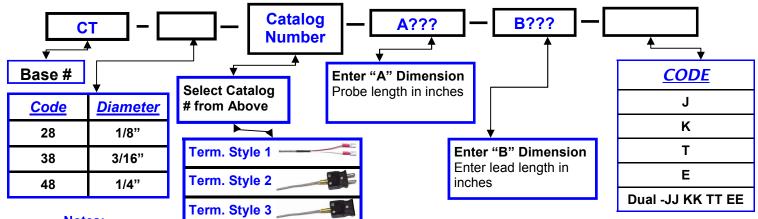
Example: BT28-14-A4-B48-J



Stainless Steel Braid Style



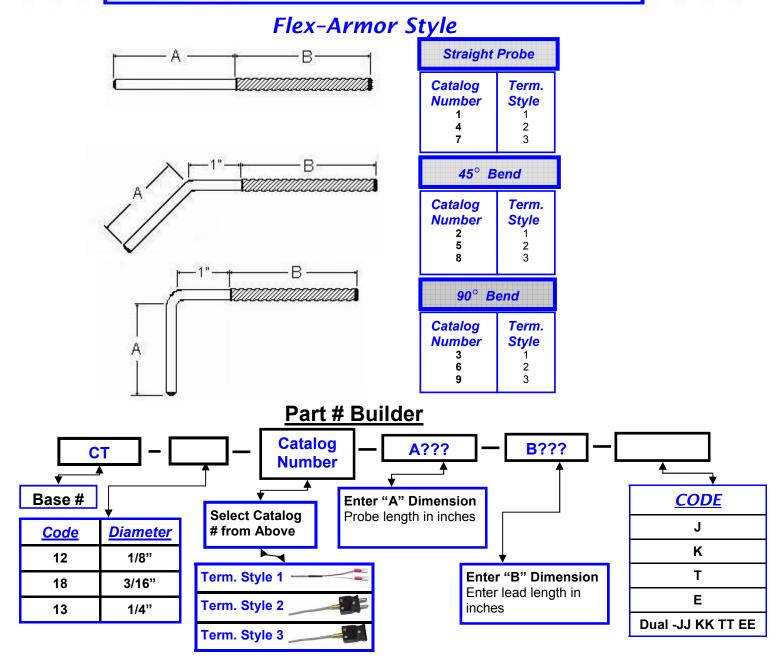
Part # Builder



Notes:

- -24 gauge wire is used for 1/8" diameter
- -20 gauge wire is used for 3/16" diameter
- -Other internal wire construction available
- -Compression fittings are NOT furnished with thermocouples and must be ordered separately.
- Add "Z175" to the end of part # for no spade lugs

Example: CT38-14-A4-B48-J



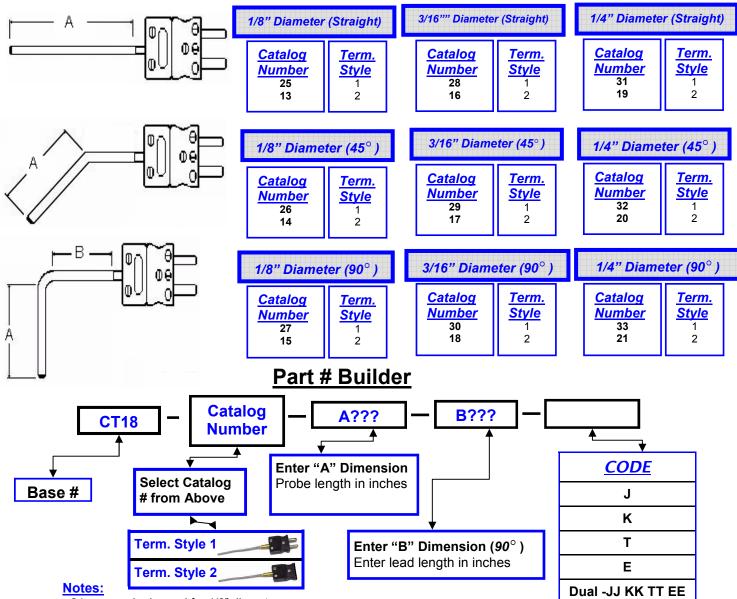
Notes:

- -24 gauge wire is used for 1/8" diameter
- -20 gauge wire is used for 3/16" diameter
- -Other internal wire construction available
- -Compression fittings are NOT furnished with thermocouples and must be ordered separately.
- Add "Z175" to the end of part # for no spade lugs

Example: CT38-14-A4-B48-J

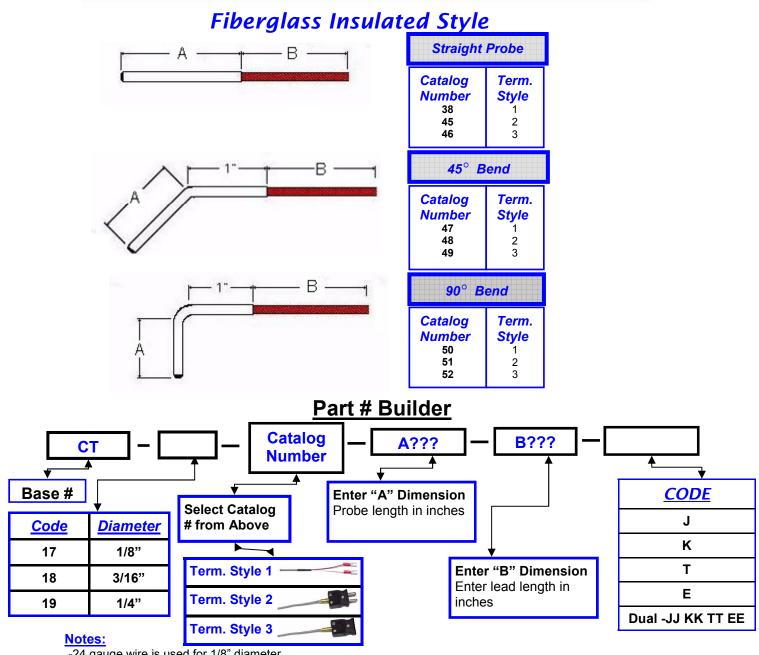


Rigid Style Tube & Wire



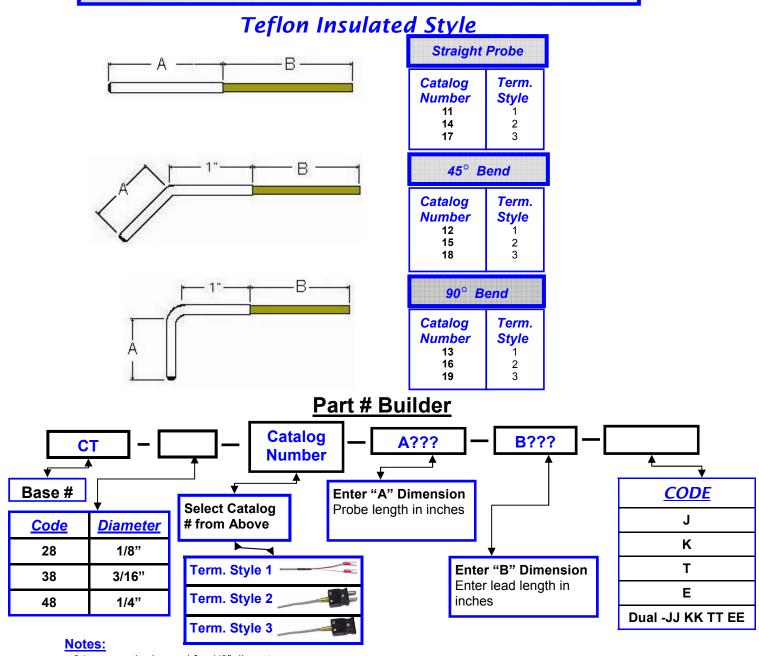
- -24 gauge wire is used for 1/8" diameter
- -20 gauge wire is used for 3/16" diameter
- -Other internal wire construction available
- -Compression fittings are NOT furnished with thermocouples and must be ordered separately.
- Add "Z175" to the end of part # for no spade lugs

Example: CT38-14-A4-B48-J



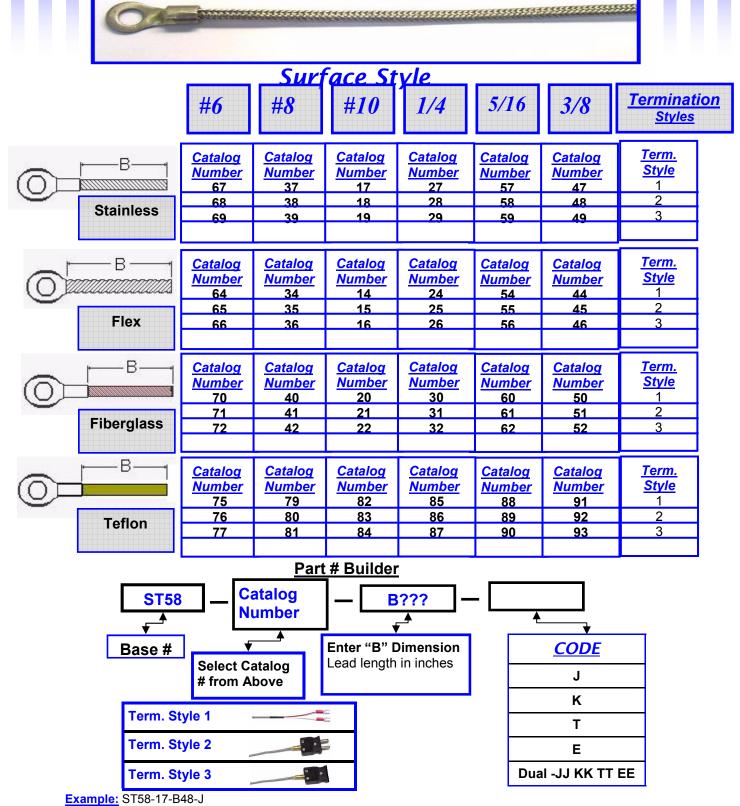
- -24 gauge wire is used for 1/8" diameter
- -20 gauge wire is used for 3/16" diameter
- -Other internal wire construction available
- -Compression fittings are NOT furnished with thermocouples and must be ordered separately.
- Add "Z175" to the end of part # for no spade lugs

Example: CT38-14-A4-B48-J

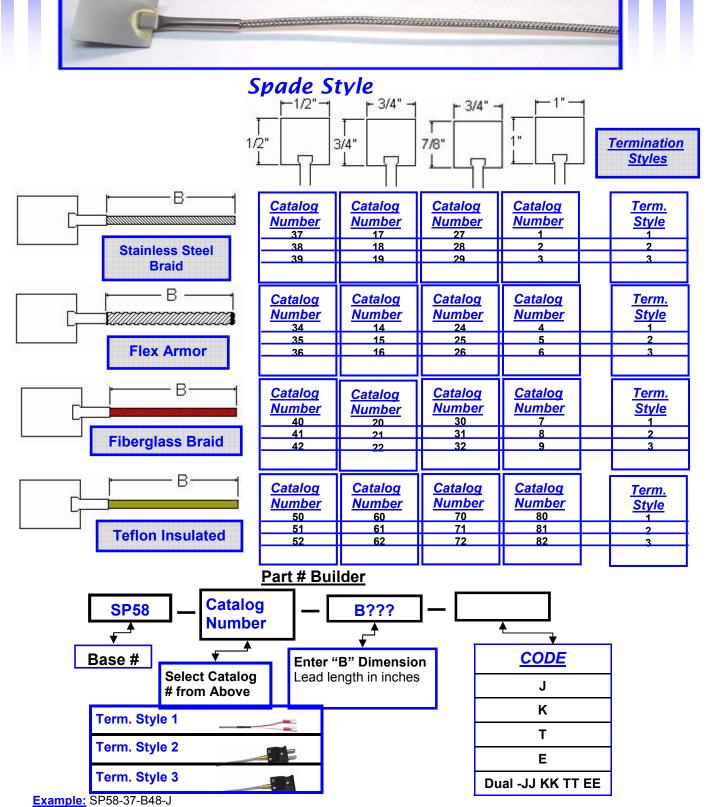


- -24 gauge wire is used for 1/8" diameter
- -20 gauge wire is used for 3/16" diameter
- -Other internal wire construction available
- -Compression fittings are NOT furnished with thermocouples and must be ordered separately.
- Add "Z175" to the end of part # for no spade lugs

Example: CT38-14-A4-B48-J

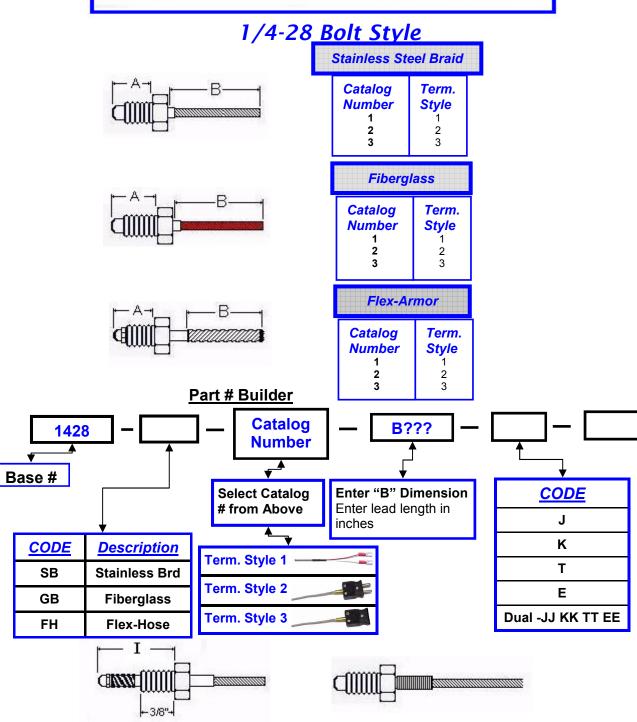


This example calls out a surface or "ring" style thermocouple, with a #10 screw hole, 48" of stainless steel braid, type J. - Add "Z175" to the end of part # for no spade lugs



This example calls out a spade type thermocouple, the spade dimension is 1/2" x 1/2", 48" stainless steel braid leads, type J, grounded.-Add "Z175" to the end of part # for no spade lugs





Special Spring Type
Add "S" to the end of part #

Strain Relief Type: Add <u>"Z342"</u> to end of

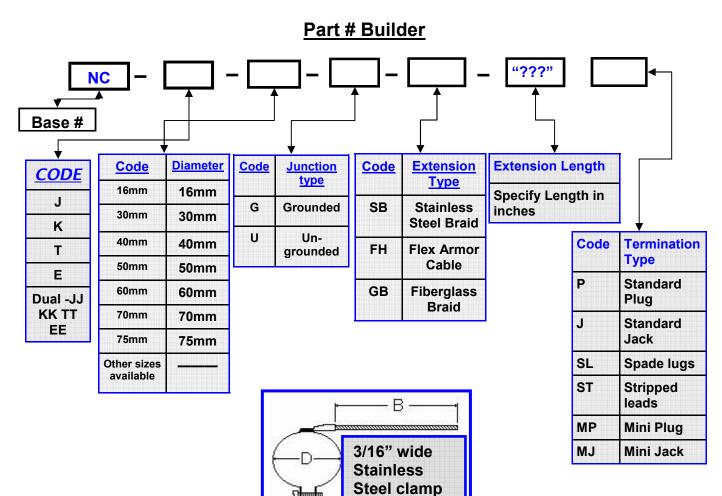
Other Bolt Sizes: 1/4-20, 6mmx1 pitch, 8mmx1.25 pitch

Example- 1428SB-1-B48-J

Example- 1428SB-1-B48-J-S (Special Spring type) Specify "I" dimension



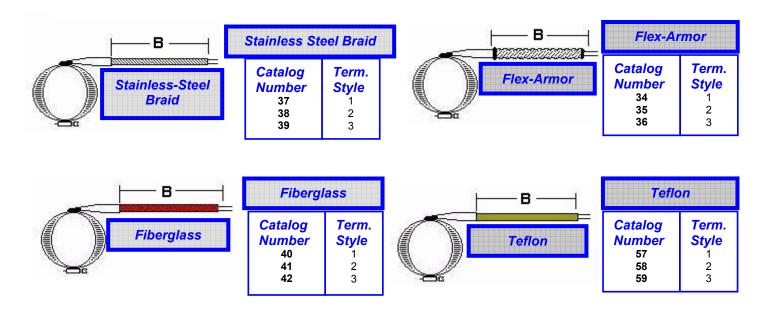
Nozzle Clamp Style

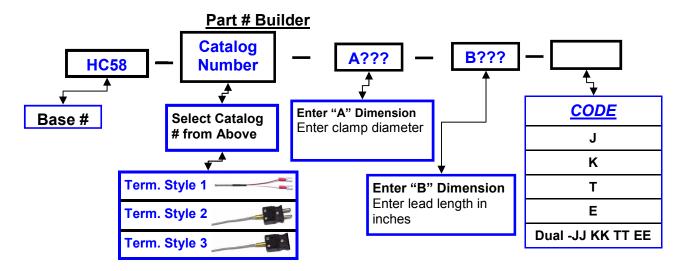


Example: NC-J-40MM-G-SB48-P
This is a 40mm ID nozzle clamp, 48"
of Stainless Steel Braid, with a
standard male plug.



Adjustable Hose Clamp





Notes: For the "A" dimension, simply specify the inside diameter of the hose clamp

- Add "Z175" to the end of part # for no spade lugs

Example: HC58-37-A2-B48

This example calls out a hose-clamp style thermocouple



Hose Clamp with attached Bayonet Adapter

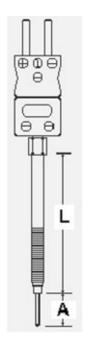
Example: HC58-A1.5-BA-1

Notes:

- -For the "A" dimension, simply specify the inside diameter of the hose clamp
- -Choose from our wide variety of bayonet adapters on pg. 27
- -If you don't see what you need, please contact your local representative



Meltbolt Rigid Style



Fiberglass Insulated	Mineral Insulated	"A" length	"L Length
Catalog Number	Catalog Number	Probe Length	Bolt Length
MT28-1	MT28-1M	Flush	3"
MT28-2	MT28-2M	1/4"	3"
MT28-3	MT28-3M	1/2"	3"
MT28-4	MT28-4M	3/4"	3"
MT28-5	MT285M	1"	3"
MT28-6	MT28-6M	Flush	6"
MT28-7	MT28-7M	1/4"	6"
MT28-8	MT28-8M	1/2"	6"
MT28-9	MT28-9M	3/4"	6"
MT28-10	MT28-10M	1"	6"

Other Bolt Sizes and Probe lengths available

When building a part number:

Specify:

- 1) Catalog number
- 2) Specify "A" dimension (see diagram)
- 3) Specify "L" dimension (see diagram)
- 4) ISA calibration

Notes:

- -Calibration is ISA standard grade type "J", others can be furnished on request.
- -Thermocouple junction is grounded, for ungrounded, add "U"
- -For adjustable length melt bolts (see pg. 21)

Optional Notes:

Consult ECS for.....

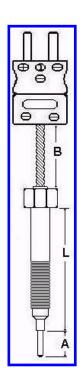
- -Other "A" (probe) lengths and or "L" (bolt) lengths
- -Larger tip diameters

Example: MT28-1-A0-L3-J

This example calls out a rigid style meltbolt thermocouple, 3" long, flush tip, grounded junction, type J.



Meltbolt Extension Style



Mellbuit Extension Style					
Fiberglass Insulated	Mineral Insulated	"A" length	"L Length		
Catalog Number	Catalog Number	Probe Length	Bolt Length		
MT28-21	MT28-21M	Flush	3"		
MT28-22	MT28-22M	1/4"	3"		
MT28-23	MT28-23M	1/2"	3"		
MT28-24	MT28-24M	3/4"	3"		
MT28-25	MT28-25M	1"	3"		
MT28-26	MT28-26M	Flush	6"		
MT28-27	MT28-27M	1/4"	6"		
MT28-28	MT28-28M	1/2"	6"		
MT28-29	MT28-29M	3/4"	6"		
MT28-30	MT28-30M	1"	6"		

Other Bolt Sizes and Probe lengths available

When building a part number:

Specify:

- 1) Catalog number
- 2) Specify "A" dimension (see diagram)
- 3) Specify "L" dimension (see diagram)
- 4) Specify "B" length, Standard is 4"
- 5) ISA calibration

Notes:

- -Calibration is ISA standard grade type "J", others can be furnished on request.
- -Thermocouple junction is grounded, for ungrounded, add "U"

Optional Notes:

Consult ECS for.....

- -Other "A" (probe) lengths and or "L"(bolt) lengths
- -Larger tip diameters

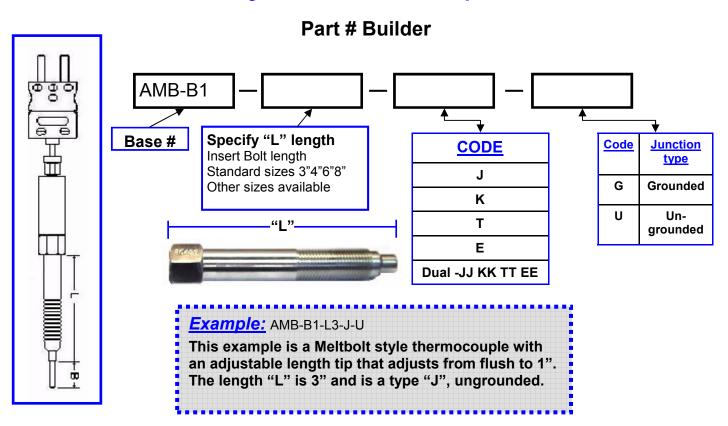
Example: MT28-21-A0-L3-J

.......

This example calls out a flush tip, 3" meltbolt, with 4" of flex-armor hose, type J, with a grounded junction, and standard male plug



Adjustable Meltbolt Style

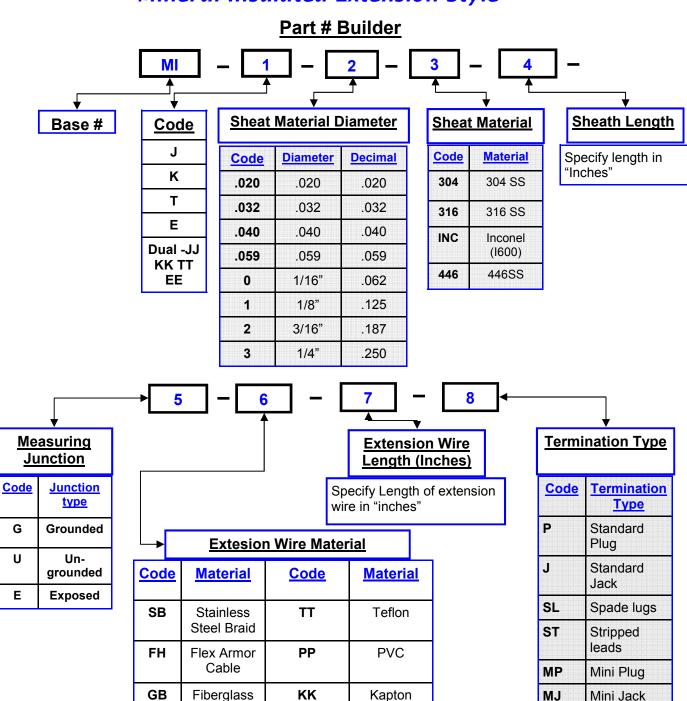


Notes:

- -Thermocouple junction is typically grounded for this type, for "ungrounded" add "U" at the end of the part number.
- -This thermocouple adjusts from a flush tip to a 1" tip.



Mineral Insulated Extension Style



Braid

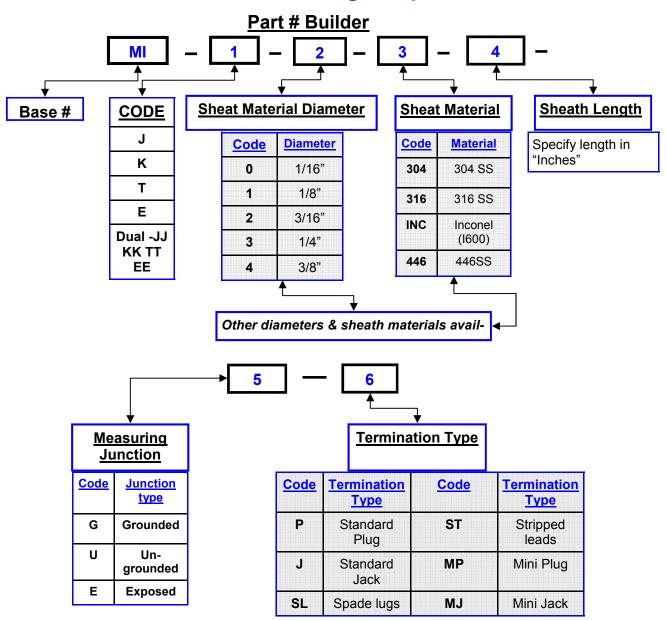
G

U

Ε



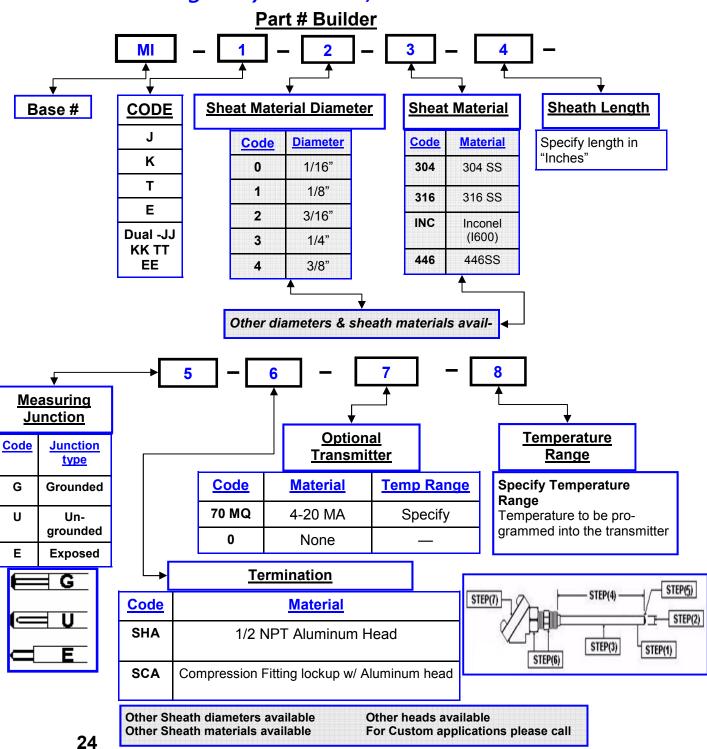
Mineral Insulated Rigid Style





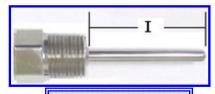


Rigid Style MGO w/Head





Attached Thermocouple Fittings



Hex Bushings

Description	<u>Material</u>
1/8" NPT	Stainless
1/4" NPT	Stainless
1/2" NPT	Stainless
3/4" NPT	Stainless
1/8" NPT	Brass
1/4" NPT	Brass
1/2" NPT	Brass
3/4" NPT	Brass
	1/8" NPT 1/4" NPT 1/2" NPT 3/4" NPT 1/8" NPT 1/4" NPT 1/2" NPT

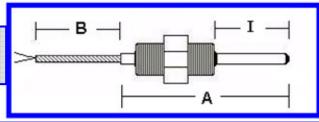


Hex Couplings

Code SC1 SC2 SC3 SC4 BC1 BC2 BC3	Description 1/8" NPT 1/4" NPT 1/2" NPT 3/4" NPT 1/8" NPT 1/4" NPT 1/2" NPT	Material Stainless Stainless Stainless Stainless Brass Brass Brass Brass
BC3	1/2" NPT	Brass
BC4	3/4" NPT	Brass

Example: CT38-1-A4-B48-J-SC2-I2"

SEE PAGE 8 FOR THERMOCOUPLE INFORMATION

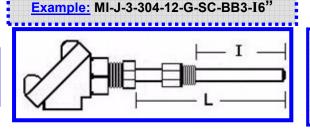


Note:

Most fittings can be attached to any probe. See pages: 8,9,10,11,12

NOTE: This example calls out a compression type thermocouple with and overall probe length ("A") of 4", 48" of stainless steel braid ("B"), type J. It has a 1/4" NPT coupling with and insertion depth ("I") of 2"

SEE PAGE 22 FOR THERMOCOUPLE INFORMATION



Note:

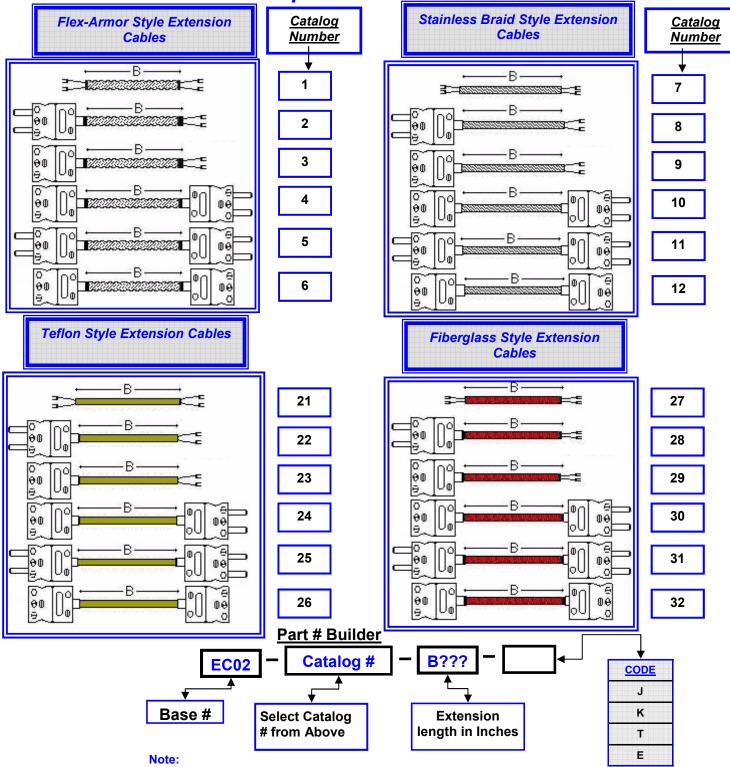
Most fittings can be attached to any probe.

See pages: 27

NOTE: This example calls out a mineral insulated thermocouple, type J, 1/4" diameter, composed of 304 stainless steel. The overall length of the probe ("L") is 12 ", it is a grounded unit, with a brass bushing, 1/2" NPT, with an insertion length ("I") of 6".







- We have other extension material available

Thermocouple Accessories

Bayonet Adapters

Compression Fit-





<u>Code</u>	<u>Length</u>	<u>Thread</u>
BA-1	7/8"	(1/8-27 NPT)
BA-2	7/8"	3/8-24
BA-3	1-1/2"	(1/8-27 NPT)
BA-4	1-1/2"	3/8-24
BA-5	2-1/2"	(1/8-27 NPT)
BA-6	2-1/2"	3/8-24
BA-7	3-1/2"	(1/8-27 NPT)
BA-8	3-1/2"	3/8-24

Code	Tube "OD"	Thread	<u>Material</u>
CF-1	1/8"	1/8"-27NPT	Brass
CF-2	1/8"	1/8"-27NPT	Stainless
CF-3	3/16"	1/8"-27NPT	Brass
CF-4	3/16"	1/8"-27NPT	Stainless
CF-5	1/4"	1/4"-18NPT	Brass
CF-6	1/4"	1/4"-18NPT	Stainless

Compression fittings slip over tip for mounting and sealing into vessels

Thermocouple Wire

Catalog #	<u>Gauge</u>	<u>Type</u>	<u>Wire</u>	<u>Conductor</u> <u>Insulation</u>	<u>Overall Insulation</u>
TW-1	20	J	STRANDED	FIBERGLASS	FIBERGLASS
TW-2	20	J	STRANDED	FIBERGLASS	STAINLESS BRAID
TW-3	24	J	SOLID	FIBERGLASS	FIBERGLASS
TW-4	20	J	SOLID	TEFLON	TEFLON
TW-5	20	J	SOLID	FIBERGLASS	FIBERGLASS
TW-6	20	K	SOLID	FIBERGLASS	FIBERGLASS
TW-7	24	K	SOLID	FIBERGLASS	FIBERGLASS
TW-8	20	Т	SOLID	FIBERGLASS	FIBERGLASS
TW-9	24	Т	SOLID	FIBERGLASS	FIBERGLASS
TW-10	20	Е	SOLID	FIBERGLASS	FIBERGLASS
TW-11	20	K	SOLID	FIBERGLASS	STAINLESS BRAID
TW-12	20	K	STRANDED	FIBERGLASS	FIBERGLASS
TW-13	24	K	SOLID	FIBERGLASS	STAINLESS BRAID
TW-14	20	KX	SOLID	PVC	PVC
TW-15	16	KX	SOLID	PVC	PVC
TW-16	20	JX	SOLID	PVC	PVC

Note: We have several other wire types available and in stock. If you don't see what you need above please don't hesitate to call us



Standard Thermocouple Plugs and JacksWhen ordering ECS plugs and jacks..... TP= Male plug, TJ= Female jack

Type	Color
J	Black
K	Yellow
T	Blue
R\S	Green
E	Purple
	J K T R\S

Type J K T R\S E	Color Black Yellow Blue Green Purple
E	Purple
	J K T R\S



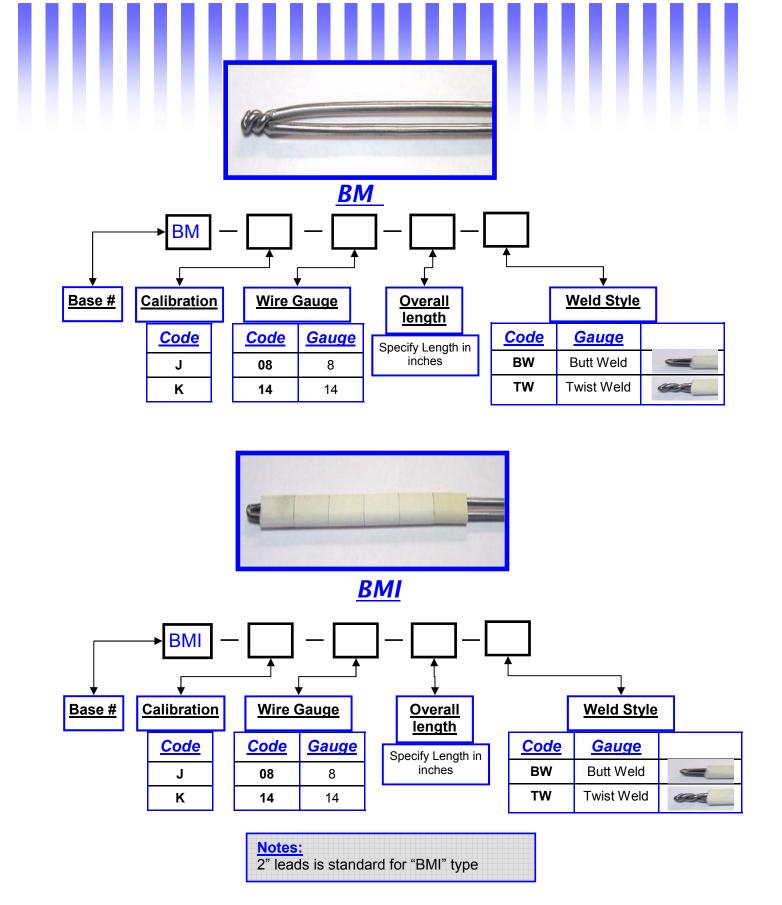
Mini Thermocouple Plugs and Jacks When ordering ECS plugs and jacks....."M" is mini, TP= Male plug, TJ= Female jack

Code TP-1M TP-2M	Type J K	Color Black Yellow
TP-2M TP-3M TP-4M	Ť	Blue
TP-5M	R\S E	Green Purple

Code	Type	Color
TJ-1M	J	Black
TJ-2M	K	Yellow
TJ-3M	Τ	Blue
TJ-4M	R\S	Green
TJ-5M	Ε	Purple
		*

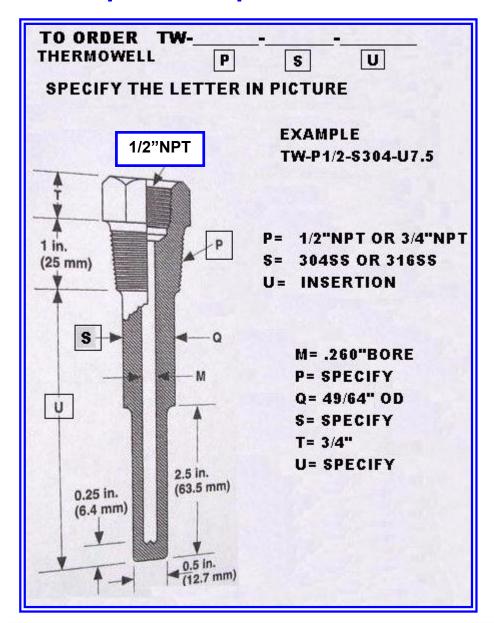
NOTES:

- These are just a few of our most popular types of plugs
- If there is a type of plug or jack that you don't see above please contact a representative.
- There are many other thermocouple plugs and jacks available.





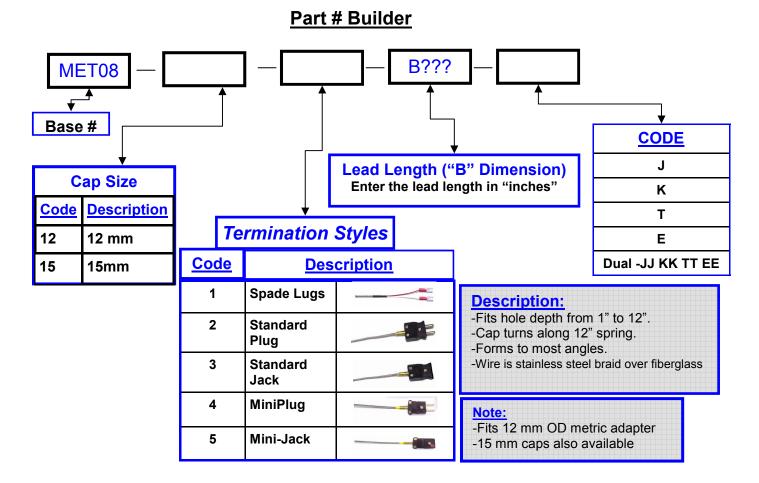
Tapered Step Thermowell



Note: The following dimensions are fixed. "M" (.260 Bore) "Q" (49/64"OD This is Standard) "T" (3/4" Height of the Hex) Just Specify: "P,S,and U" dimensions.



12-mm Metric Adjustable length Spring Bayonet Style



Notes:

- -Stainless steel construction with 20-gauge stranded fiberglass insulated wire.
- -The probe tip is 3/16" diameter and our standard unit is approximately 3/8" long but can be made longer.
- -Adapters are NOT furnished with the thermocouples and must be ordered separately. (See page 27)
- -The locking cap on this unit has a double "J" slot

Optional Notes:

For other wire construction types, consult a sales engineer.

Add "U" to the end of the part # for ungrounded

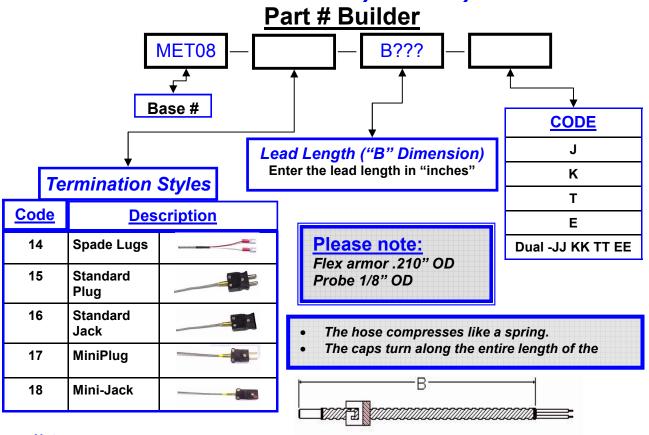
- Add "Z175" to the end of part # for no spade lugs

Example: MET08-1-B48-J

The example calls out a metric adjustable length spring bayonet style, split leads with spade lugs, 48" long stainless steel braided leads, type "J" calibration, grounded junction



12mm MetricMiniature Adjustable Length Flex-Armor Bayonet Style



Notes:

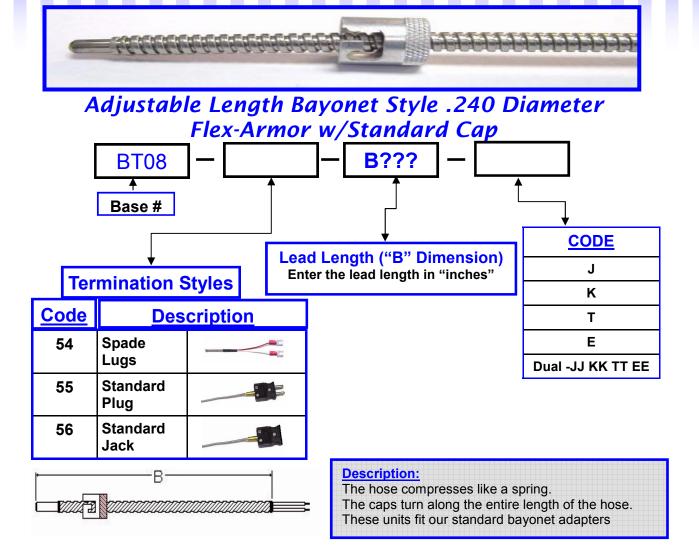
- -Stainless steel construction with 24-gauge stranded fiberglass insulated wire.
- -The probe tip is 1/8" diameter and our standard unit is approximately ½" long but can be made longer.
- -Adapters are NOT furnished with the thermocouples and must be ordered separately. (See page 27)
- -Fits 12 mm OD metric adapter(2 "J" slots)

Optional Notes:

- -For other wire construction types, consult a sales engineer.
- -Add "U" to the end of the part # for ungrounded
- Add "Z175" to the end of part # for no spade lugs

Example: MET08-14-B48-J

The example calls out a 1/8" OD, miniature adjustable type, 48" long mini armor cable, type "J" calibration, grounded junction, with 3" leads and spade lugs.



Construction Notes:

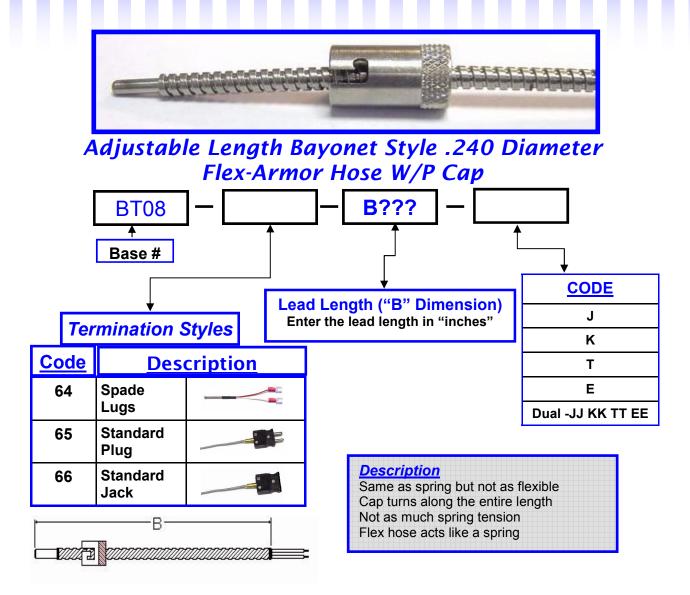
- -Stainless steel construction with 20-gauge fiberglass insulated wire stranded.
- -Probe tip is 4-mm diameter tube and is approximately 3/8" long.
- -Thermocouples are furnished grounded.
- -Adapters are NOT furnished with thermocouple and must be ordered separately.

Optional Notes:

- -For other wire constructions types, consult a sales engineer.
- -For 12mm metric cap consult
- -Please call representative if you do not see what you need above
- Add "Z175" to the end of part # for no spade lugs

Example: BT08-54-B48-J

The example calls out a .240 OD adjustable length flex armor bayonet style, 48" leads, Type "J" calibration, grounded junction, with 4" leads and spade lugs.



Construction Notes:

- -Stainless steel construction with 20-gauge fiberglass insulated wire stranded.
- -Probe tip is 4-mm diameter tube and is approximately 3/8" long.
- -Thermocouples are furnished grounded.
- -Adapters are NOT furnished with thermocouple and must be ordered separately.

Optional Notes:

- -For other wire constructions types, consult a sales engineer.
- -Please call your representative if you do not see what you need above
- Add "Z175" to the end of part # for no spade lugs

Example: BT08-64-B48-J

The example calls out a .240 adjustable length flex armor bayonet style, 48" leads, Type "J" calibration, grounded junction, with 3" leads and spade lugs.