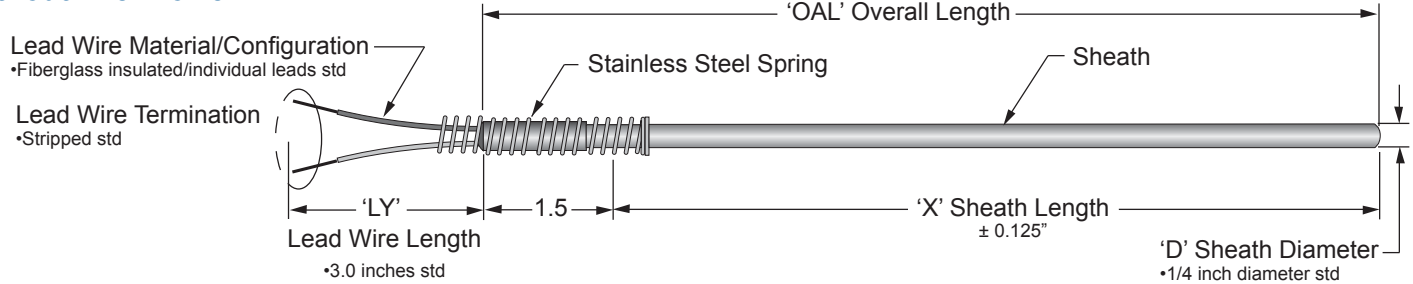


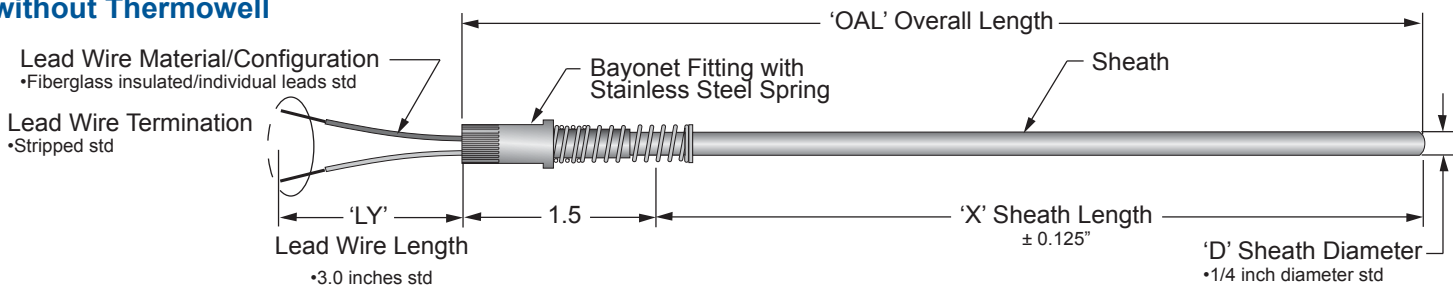
'C' and 'K' Style Spring Loaded Sensors

Specifications

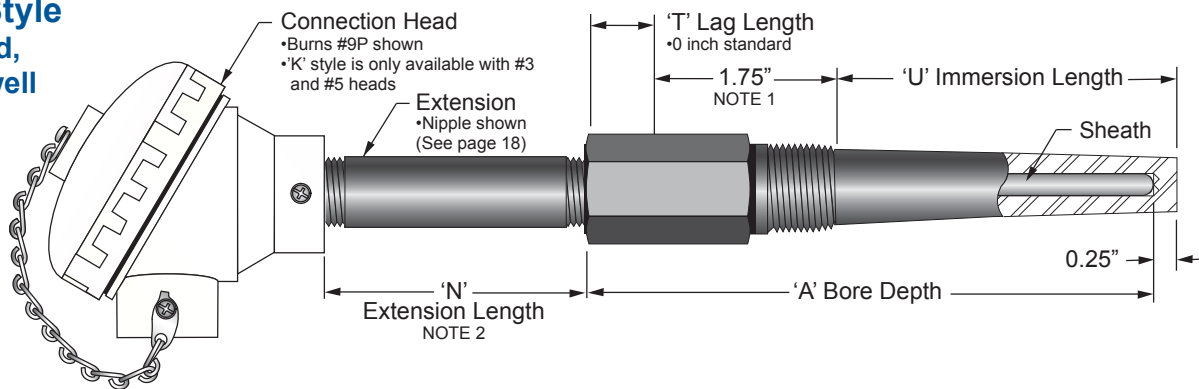
'C' Style Spring Loaded, without Thermowell



'K' Style Spring Loaded, without Thermowell



'C' and 'K' Style Spring Loaded, with Thermowell



NOTE: All Dimensions in inches.

'C' Style Application

Assembly allows easy removal of the sensor through the connection head. No wrenches required.

'K' Style Application

Similar to the 'C' Style but with the addition of a 1/4 turn twist lock fitting for even easier removal of the sensor. Add longer leads and it makes calibration checks possible with no tools required. Works with #3 and #5 connection heads only.

NOTE 1: 1.75 inch length is used on threaded and socket weld thermowells; a 2.25 inch length is used with flanged wells

NOTE 2: When a 'C' style assembly is ordered with a transmitter the actual 'N', nominal extension length, will be 1/2" long than specified.

C	Spring Loaded Sensor for Thermowell Applications
K	Spring Loaded Sensor with Bayonet Fitting for Thermowell Applications, mates with #3 or #5 head only

Thermocouple Type		Sheath Material
E	Chromel/Constantan (leadwire code = purple+, red-)	316 SS
J	Iron/Constantan (leadwire code = white+, red-)	316 SS
K	Chromel/Alumel (leadwire code = yellow+, red-)	Inconel® 600
N	Nicrosil/Nisil (leadwire code = orange+, red-)	Inconel® 600
T	Copper/Constantan (leadwire code = blue+, red-)	316 SS

D	Single, Ungrounded
E	Single, Grounded
F	Duplex, Ungrounded
G	Duplex, Grounded

Sensor/Head Connection

1C	Cast Iron Head, 'C' style only	1/2" NPT
2A	Aluminum Head, 'C' style only	1/2" NPT
2E	Aluminum Head, Epoxy Coated, 'C' style only	1/2" NPT
3A	Aluminum Head with Water Proof Kit, 'K' style only	1/2" NPT
3E	Aluminum Head, Epoxy Coated with Water Proof Kit, 'K' style only	1/2" NPT
5A	Aluminum Head, 'K' style only	1/2" NPT
5E	Aluminum Head, Epoxy Coated, 'K' style only	1/2" NPT
9P	Polypropylene Head, White, 'C' style only	1/2" NPT
14S	Stainless Steel Head, 'C' style only	1/2" NPT
N	No Connection Head	

Standard 'N' Extension Length

1A	Galvanized Nipple	3 inches
2A	304 SS Nipple	3 inches
3A	316 SS Nipple	3 inches
1B	Galvanized Nipple Union Nipple	3 inches
2B	304 SS Nipple Union Nipple	3 inches
3B	316 SS Nipple Union Nipple	3 inches
N	No Extension	0 inches

035	3.5 inch (minimum length)
060	6.0 inch
090	9.0 inch
120	12.0 inch
150	15.0 inch
180	18.0 inch
XXX	Specify 'X' Length in inches for X ≤ 99.9". XXXX for > 99.9" (150"=1500)

Basic Order Codes

(Leave blank if not required)

Options Transmitter

See pages 17–19

Thermocouple Specifications, page 4
Common Options, pages 17 – 19
Connection Head Descriptions, page 20

Length Codes	For Threaded & Socket Wells	For Flanged Wells
'X' Sheath Length	$X = OAL - 1.5$	$X + OAL - 1.5$
'U' Immersion Length	$X = N + A$	$X + N + A$
'OAL' Overall Length	$X = N + U + T + 1.5$	$X + N + U + T + 2$
'N' Extension Length	$A = U + T + 1.5$	$A = U + T + 2$
'A' Well Bore Depth		
'T' Well Lag Length		

This diagram illustrates the components of a 'C' Style Sensor assembly. The assembly includes a Burns No. 2A Aluminum Connection Head, a 'C' Style Sensor, an Extension, and a Thermowell. The sensor is shown inserted into the head, with the extension and thermowell extending from the head. A chain is attached to the head for lifting. The diagram also shows the 'X' Length of the extension and thermowell.

NOTE 1: See our Connection Head Supplement for all available connection heads and full details.
NOTE 2: For sensor sheath lengths 'X' greater than 200 inches contact Burns Customer Service.

Sensor Style

C	Spring Loaded Sensor for Thermowell Applications
K	Spring Loaded Sensor with Bayonet Fitting for Thermowell Applications. mates with #3 and #5 heads only

Thermocouple Type

E	Chromel/Constantan (leadwire code = purple+, red-)
J	Iron/Constantan (leadwire code = white+, red-)
K	Chromel/Alumel (leadwire code = yellow+, red-)
N	Nicrosil/Nisil (leadwire code = orange+, red-)
T	Copper/Constantan (leadwire code = blue+, red-)

Sheath Material

316 SS
316 SS
Inconel® 600
Inconel® 600
316 SS

Thermocouple Junction Configuration

D	Single, Ungrounded
E	Single, Grounded
F	Duplex, Ungrounded
G	Duplex, Grounded

Connection Head (See NOTE 1)

1C	Cast Iron Head, 'C' style only
2A	Aluminum Head, 'C' style only
2E	Aluminum Head, Epoxy Coated, 'C' style only
3A	Aluminum Head with Water Proof Kit, 'K' style only
3E	Aluminum Head, Epoxy Coated with Water Proof Kit, 'K' style only
5A	Aluminum Head, 'K' style only
5E	Aluminum Head, Epoxy Coated, 'K' style only
9P	Polypropylene Head, White, 'C' style only
14S	Stainless Steel Head, 'C' style only
N	No Connection Head

Sensor/Head Connection

1/2" NPT
1/2" NPT
1/2" NPT
1/2" NPT
1/2" NPT
1/2" NPT
1/2" NPT
1/2" NPT

Extension Type (See Illustrations - page 18)

1A	Galvanized Nipple
2A	304 SS Nipple
3A	316 SS Nipple
1B	Galvanized Nipple Union Nipple
2B	304 SS Nipple Union Nipple
3B	316 SS Nipple Union Nipple
N	No Extension

Standard 'N' Extension Length

3 inches
3 inches
3 inches
3 inches
3 inches
3 inches
0 inches

'U' Immersion Length (See NOTE 2)

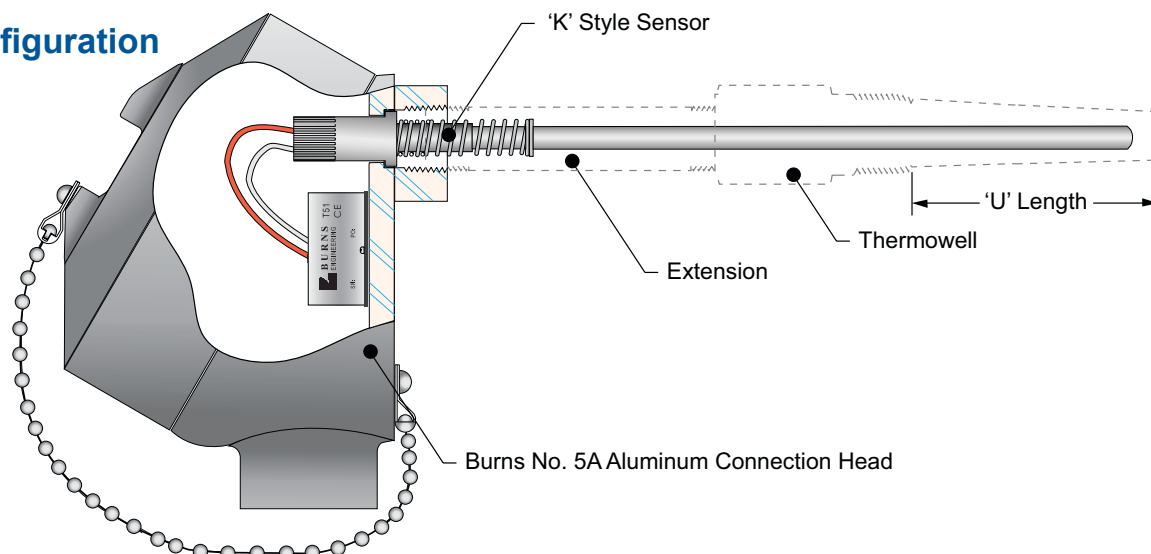
025	2.5 inch (minimum)
040	4.0 inch
045	4.5 inch
070	7.0 inch
075	7.5 inch
100	10.0 inch
105	10.5 inch
135	13.5 inch
160	16.0 inch
UUU	Specify "U" Immersion Length in inches.

100						
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Basic Order Codes

Required basic order codes continued on next page

Example Configuration



NOTE 2: For Thermowells with Bore Depths ('A') greater than 42 inches contact Burns Customer Service. Long length wells can be constructed from welded bar stock segments or from pipe. Specifics of the application must be verified to ensure the thermowell design meets your process needs.

Thermowell Type (See NOTE 3)

Threaded Thermowells

Socket Weld Thermowells

Flanged Thermowells

Sanitary Thermowells (1/2" NPT, 16 AMP Cap)

TS15	Tapered Sanitary, 1 1/2" Sanitary Cap
TS20	Tapered Sanitary, 2" Sanitary Cap
TS25	Tapered Sanitary, 2 1/2" Sanitary Cap
RS15	Reduced Tip Sanitary, 1 1/2" Sanitary Cap
RS20	Reduced Tip Sanitary, 2" Sanitary Cap
RS25	Reduced Tip Sanitary, 2 1/2" Sanitary Cap
SS15	Straight Sanitary, 1 1/2" Sanitary Cap
SS20	Straight Sanitary, 2" Sanitary Cap
SS25	Straight Sanitary, 2 1/2" Sanitary Cap

Thermowell Material

02	304 Stainless Steel
03	316 Stainless Steel
04	Carbon Steel
05	304L Stainless Steel
06	316L Stainless Steel
07	Hastelloy® C276
08	Chrome-Moly
09	Aluminum 6061 T6
10	Monel™
11	PTFE
12	Inconel® 600
13	Brass
14	Titanium

(Leave Options blank if not required)

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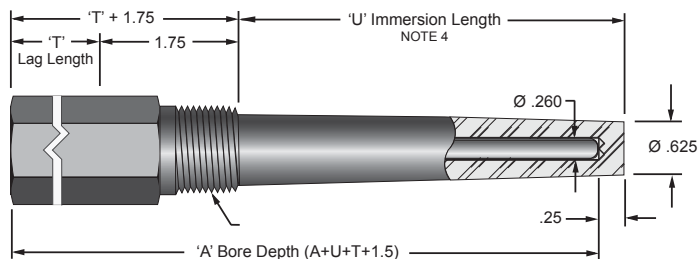
Explosion Proof
(NOTE 5)

Options

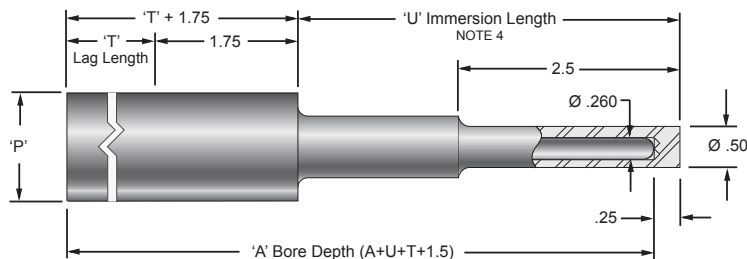
Transmitter

See pages 17–19

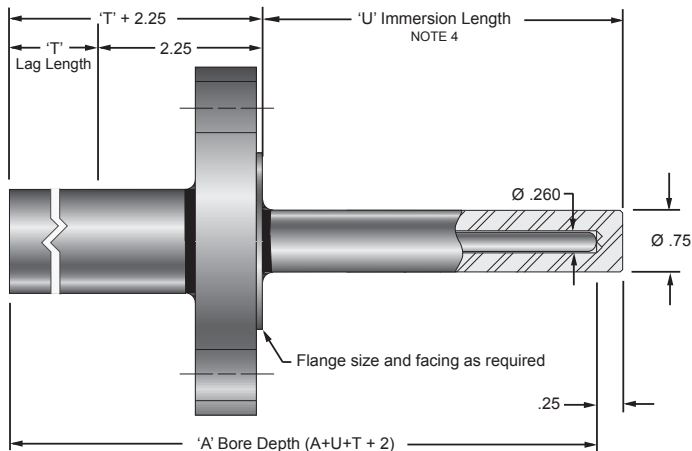
(TT) Threaded Thermowell shown with Tapered Stem



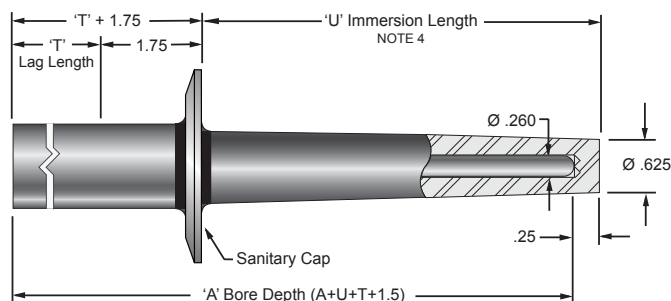
(RW) Socket Weld Thermowell shown with Reduced Tip Stem



(SF) Flanged Thermowell shown with Straight Stem



(TS) Sanitary Thermowell shown with Tapered Stem



NOTE 5: For FM explosion proof approved assembly, enter 'AFM' code. See page 3 for ratings and [drawing # 18938](#) for approved product structure details.