



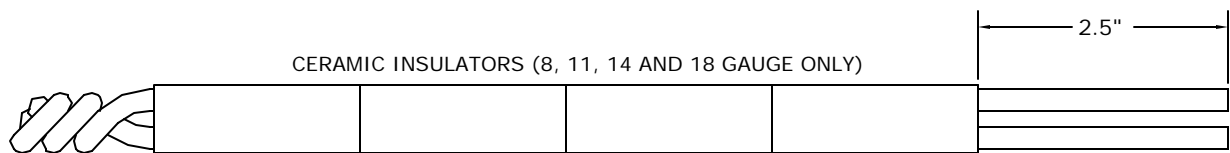
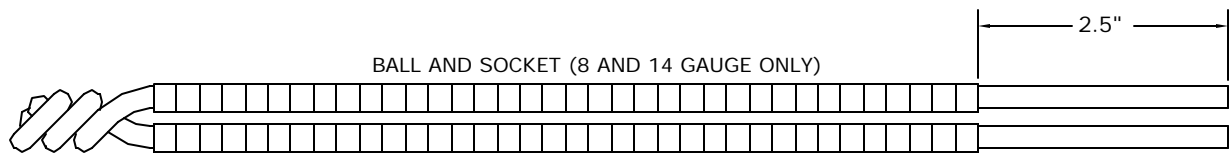
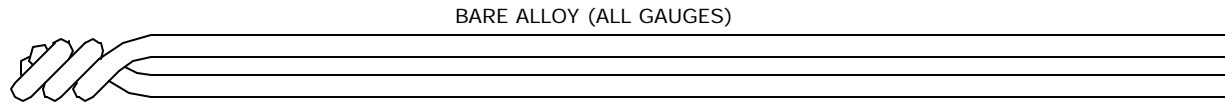
Thermal Manufacturing Solutions

Section C

Industrial Thermocouples and RTDs

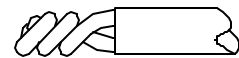
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STRAIGHT BASE METAL THERMOCOUPLE ELEMENTS

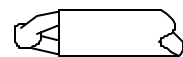


Straight base metal thermocouple elements are designed as replacement elements for use in protection tube assemblies. Various calibrations, gauges, insulator styles and junctions are available.

TWIST AND WELD



BUTT WELD



INSULATED JUNCTION



STRAIGHT BASE METAL THERMOCOUPLE ELEMENTS

COMPLETE ORDER NUMBER

1 - 2 - 3 - 4 - 5

1. CALIBRATION	
CODE	DESCRIPTION
J	TYPE J, SINGLE
K	TYPE K, SINGLE
N	TYPE N, SINGLE
JJ	TYPE J, DUAL
KK	TYPE K, DUAL
NN	TYPE N, DUAL

2. WIRE GAUGE	
CODE	DESCRIPTION
8	8 GAUGE (J, K AND N ONLY)
11	11 GAUGE (J AND K ONLY)
14	14 GAUGE (J, K AND N ONLY)
20	20 GAUGE (J AND K ONLY)

3. INSULATION	
CODE	DESCRIPTION
00	NO INSULATORS, BARE ALLOY
B	B - BALL AND SOCKET
CI	CI - CERAMIC INSULATOR, TWO HOLE, OVAL
J, K, AND N SUPPLIED WITH REFRACTORY INSULATORS (2475°F MAX.)	

4. LENGTH (IN INCHES)	
CODE	DESCRIPTION
012	12" LONG
018	18" LONG
024	24" LONG
030	30" LONG
036	36" LONG
XXX	SPECIFY (IN 1" INCREMENTS)
ACTUAL LENGTH PROVIDED IS 2.5" LONGER THAN SPECIFIED TO ALLOW FOR TERMINAL CONNECTIONS	

5. OPTIONS	
CODE	DESCRIPTION
1	TWIST AND WELDED JUNCTION
2	BUTT WELDED JUNCTION
341	SINGLE TERMINAL BLOCK
342	DUPLEX TERMINAL BLOCK
L	ISOLATED JUNCTION
AA	OTHER (DESCRIBE)

EXAMPLE PART NUMBER: K8CI-012-1

K8CI = TYPE K, 8 GAUGE, CERAMIC INSULATORS

012 = 12" LONG

1 = TWIST AND WELDED JUNCTION

ANGLE BASE METAL THERMOCOUPLE ELEMENTS

COMPLETE ORDER NUMBER

1 2 - 3 - 4 - 5 - 6

1. CALIBRATION	
CODE	DESCRIPTION
J	TYPE J, SINGLE
K	TYPE K, SINGLE
N	TYPE N, SINGLE
JJ	TYPE J, DUAL
KK	TYPE K, DUAL
NN	TYPE N, DUAL

2. WIRE GAUGE	
CODE	DESCRIPTION
8	8 GAUGE (J, K AND N)
11	11 GAUGE (J AND K ONLY)
14	14 GAUGE (J, K AND N)

3. INSULATION	
CODE	DESCRIPTION
00	NO INSULATORS, BARE ALLOY
B	B - BALL AND SOCKET
CI	CI - CERAMIC INSULATOR, TWO HOLE, OVAL
J, K, AND N SUPPLIED WITH REFRACTORY INSULATORS (2475°F MAX.)	

4. HOT LENGTH (IN INCHES)	
CODE	DESCRIPTION
012	12" LONG
018	18" LONG
024	24" LONG
030	30" LONG
036	36" LONG
XXX	SPECIFY (IN 1" INCREMENTS)

5. COLD LENGTH (IN INCHES)	
CODE	DESCRIPTION
012	12" LONG
018	18" LONG
024	24" LONG
030	30" LONG
036	36" LONG
XXX	SPECIFY (IN 1" INCREMENTS)
ACTUAL LENGTH PROVIDED IS 2.5" LONGER THAN SPECIFIED TO ALLOW FOR TERMINAL CONNECTIONS	

6. OPTIONS	
CODE	DESCRIPTION
1	TWIST AND WELDED JUNCTION
2	BUTT WELDED JUNCTION
341	SINGLE TERMINAL BLOCK
342	DUPLEX TERMINAL BLOCK
L	ISOLATED JUNCTION
AA	OTHER (DESCRIBE)

EXAMPLE PART NUMBER: K8CI-012-24-1

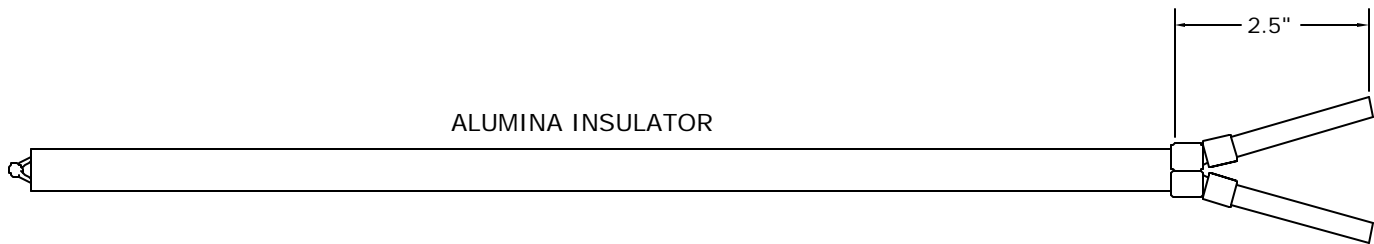
K8CI = TYPE K, 8 GAUGE, CERAMIC INSULATORS

012 = 12" LONG HOT LEG

024 = 24" LONG COLD LEG

1 = TWIST AND WELDED JUNCTION

STRAIGHT NOBLE METAL THERMOCOUPLE ELEMENTS



Noble metal thermocouple elements are designed as replacement elements for use in high temperature protection tube assemblies. Various calibrations, gauges, insulator styles and junctions are available.

STRAIGHT NOBLE METAL THERMOCOUPLE ELEMENTS

COMPLETE ORDER NUMBER

1 2 - 3 - 4 - 5

5. OPTIONS	
CODE	DESCRIPTION
2	BUTT WELDED JUNCTION
341	SINGLE TERMINAL BLOCK
342	DUPLEX TERMINAL BLOCK
L	ISOLATED JUNCTION
AA	OTHER (DESCRIBE)

4. LENGTH (IN INCHES)	
CODE	DESCRIPTION
012	12" LONG
018	18" LONG
024	24" LONG
030	30" LONG
036	36" LONG
XXX	SPECIFY (IN 1" INCREMENTS)
ACTUAL LENGTH PROVIDED IS 2.5" LONGER THAN SPECIFIED TO ALLOW FOR TERMINAL CONNECTIONS	

3. INSULATION	
CODE	DESCRIPTION
00	NO INSULATORS, BARE ALLOY
CI	CI - CERAMIC INSULATOR, TWO HOLE, OVAL
SUPPLIED WITH 99.7% ALUMINA INSULATORS - 3400°F MAX. (1871° C)	

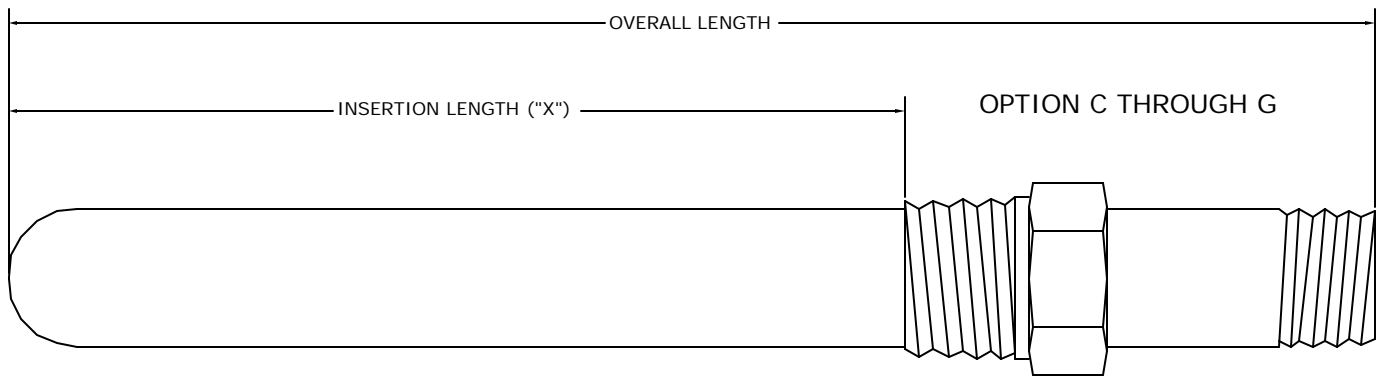
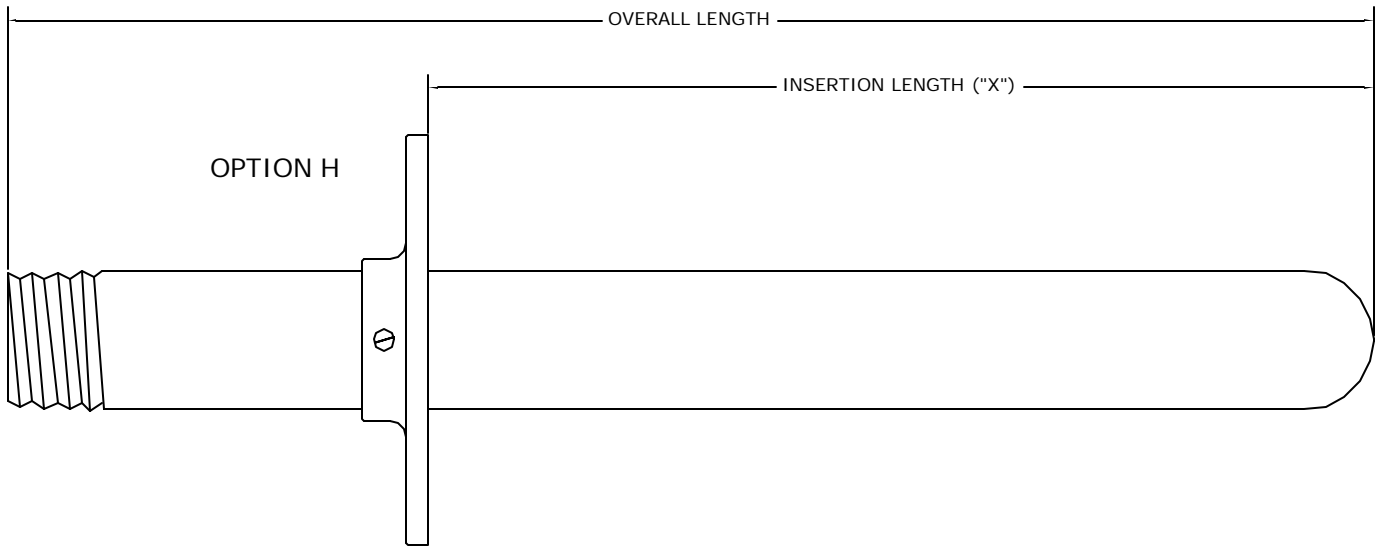
2. WIRE GAUGE	
CODE	DESCRIPTION
24	24 GAUGE (B, R AND S)
26	26 GAUGE (R AND S ONLY)

1. CALIBRATION	
CODE	DESCRIPTION
B	TYPE B, SINGLE
R	TYPE R, SINGLE
S	TYPE S, SINGLE
BB	TYPE B, DUAL
RR	TYPE R, DUAL
SS	TYPE S, DUAL

EXAMPLE PART NUMBER: R26CI-012-2

R26CI = TYPE R, 26 GAUGE, ALUMINA INSULATOR
 012 = 12" LONG
 2 = BUTT WELDED JUNCTION

METAL PROTECTION TUBES



The metal protection tubes found on these pages are replacement protection tubes for Acrolab's complete metal protection tube thermocouple assemblies. Acrolab offers a variety of materials to suit your application requirements as well as numerous options for mounting, etc...

METAL PROTECTION TUBES

COMPLETE ORDER NUMBER



1. SCH. 40 PIPE ALLOY AND SIZE				
CODE	MATERIAL	ID	OD	NPT
5-50	446 SS	0.622"	0.840"	1/2"
5-75	446 SS	0.824"	1.050"	3/4"
6-25	CARBON STEEL	0.364"	0.540"	1/2"
6-50	CARBON STEEL	0.622"	0.840"	1/2"
6-75	CARBON STEEL	0.824"	1.050"	3/4"
6-100	CARBON STEEL	1.049"	1.315"	1"
7-50	INCONEL 601	0.622"	0.840"	1/2"
7-75	INCONEL 601	0.824"	1.050"	3/4"
7-100	INCONEL 601	1.049"	1.315"	1"
8-25	316 SS	0.364"	0.840"	1/2"
8-50	316 SS	0.622"	1.050"	1/2"
8-75	316 SS	0.824"	1.050"	3/4"
11-75	CAST IRON	1.049"	0.840"	1"
12-75	LT-1 METAL CERAMIC	0.625"	1.625"	3/4"
13-75	SILICONE NITRIDE	0.625"	1.125"	3/4"
14-75	REFRACTORY COATED	0.493"	1.500"	3/4"
15-75	HEXOLOY	0.500"	0.750"	3/4"
16-75	VESUVIUS	0.824"	2.000"	3/4"

4. OPTIONS	
A	OPEN END (CLOSED END STANDARD)
AA	OTHER (SPECIFY)
B	INTERNAL GROUND SCREW IN HEAD
C(X)	1/2" NPT WELDED STEEL BUSHING (ONLY ON 0.25" SIZE PIPES)
D(X)	3/4" NPT WELDED STEEL BUSHING (ONLY ON 0.50" SIZE PIPES)
E(X)	1" NPT WELDED STEEL BUSHING (ONLY ON 0.50" AND 0.75" SIZE PIPES)
F(X)	1 1/8" NPT WELDED STEEL BUSHING (ONLY ON 0.50", 0.75" AND 1.0" SIZE PIPES)
G(X)	1 1/2" NPT WELDED STEEL BUSHING (ONLY ON 0.50", 0.75" AND 1.0" SIZE PIPES)
H	ADJUSTABLE STEEL FLANGE
K	CAST ALUMINUM WEATHERPROOF HEAD
L	THERMOCOUPLE INSULATED FROM TUBE
M	SEPCIAL LIMITS OF ERROR
P	STEEL UNION AND NIPPLES TO CONNECT HEAD TO PROTECTION TUBE
SS	STAINLESS STEEL BUSHING
V	SS UNION AND NIPPLES TO CONNECT HEAD TO PROTECTION TUBE
W	PROTECTICE WHITE EPOXY COATING ON HEAD
X	CSA APPROVED EXPLOSION PROOF HEAD

2. OVERALL PIPE LENGTH	
CODE	LENGTH
06	6.0" OVERALL LENGTH
12	12.0" OVERALL LENGTH
18	18.0" OVERALL LENGTH
24	24.0" OVERALL LENGTH
30	30.0" OVERALL LENGTH
36	36.0" OVERALL LENGTH
XX	SPECIFY OTHER LENGTH

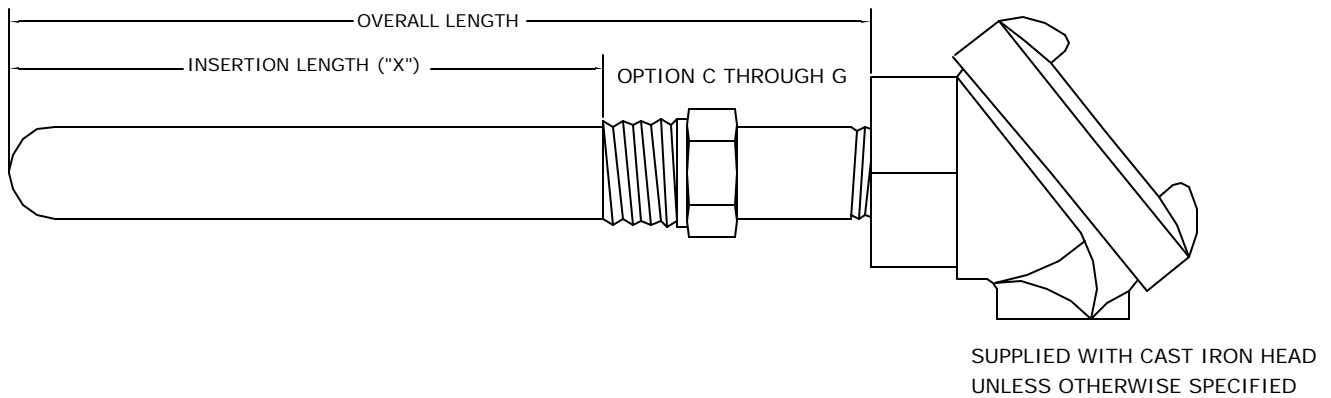
EXAMPLE PART NUMBER: 7-50-24-D(18)

7-50 = 3/4" SCH. 40 INCONEL 601 PROTECTION TUBE

24 = 24" OVERALL LENGTH

D(18) = 3/4" NPT BUSHING WELDED AT 18" INSERTION LENGTH

STRAIGHT THERMOCOUPLE ASSEMBLIES WITH METAL PROTECTION TUBES



Acrolab's straight metal protection tube thermocouple assemblies are designed for a wide variety of medium to high temperature, corrosive and non corrosive industrial applications. Various pipe diameters and lengths are available as well as many options for mounting, etc...

STRAIGHT THERMOCOUPLE ASSEMBLIES WITH METAL PROTECTION TUBES

COMPLETE ORDER
NUMBER



1. CALIBRATION	
CODE	DESCRIPTION
J	TYPE J, SINGLE
K	TYPE K, SINGLE
N	TYPE N, SINGLE
JJ	TYPE J, DUAL
KK	TYPE K DUAL
NN	TYPE NN, DUAL

2. WIRE GAUGE	
CODE	DESCRIPTION
8	8 GAUGE (J, K AND N ONLY)
11	11 GAUGE (J AND K ONLY)
14	14 GAUGE (J, K AND N ONLY)

4. OVERALL PIPE LENGTH	
CODE	LENGTH
06	6.0" OVERALL LENGTH
12	12.0" OVERALL LENGTH
18	18.0" OVERALL LENGTH
24	24.0" OVERALL LENGTH
30	30.0" OVERALL LENGTH
36	36.0" OVERALL LENGTH
XX	SPECIFY OTHER LENGTH

3. SCH. 40 PIPE ALLOY AND SIZE				
CODE	MATERIAL	ID	OD	NPT
5-50	446 SS	0.622"	0.840"	1/2"
5-75	446 SS	0.824"	1.050"	3/4"
6-25	CARBON STEEL	0.364"	0.540"	1/2"
6-50	CARBON STEEL	0.622"	0.840"	1/2"
6-75	CARBON STEEL	0.824"	1.050"	3/4"
6-100	CARBON STEEL	1.049"	1.315"	1"
7-50	INCONEL 601	0.622"	0.840"	1/2"
7-75	INCONEL 601	0.824"	1.050"	3/4"
7-100	INCONEL 601	1.049"	1.315"	1"
8-25	316 SS	0.364"	0.840"	1/2"
8-50	316 SS	0.622"	1.050"	1/2"
8-75	316 SS	0.824"	1.050"	3/4"
11-75	CAST IRON	1.049"	0.840"	1"
12-75	LT-1 METAL CERAMIC	0.625"	1.625"	3/4"
13-75	SILICONE NITRIDE	0.625"	1.125"	3/4"
14-75	REFRACTORY COATED	0.493"	1.500"	3/4"
15-75	HEXOLOY	0.500"	0.750"	3/4"
16-75	VESUVIUS	0.824"	2.000"	3/4"

5. OPTIONS	
A	OPEN END (CLOSED END STANDARD)
AA	OTHER (SPECIFY)
B	INTERNAL GROUND SCREW IN HEAD
C(X)	1/2" NPT WELDED STEEL BUSHING (ONLY ON 0.25" SIZE PIPES)
D(X)	3/4" NPT WELDED STEEL BUSHING (ONLY ON 0.50" SIZE PIPES)
E(X)	1" NPT WELDED STEEL BUSHING (ONLY ON 0.50" AND 0.75" SIZE PIPES)
F(X)	1 1/8" NPT WELDED STEEL BUSHING (ONLY ON 0.50", 0.75" AND 1.0" SIZE PIPES)
G(X)	1 1/2" NPT WELDED STEEL BUSHING (ONLY ON 0.50", 0.75" AND 1.0" SIZE PIPES)
H	ADJUSTABLE STEEL FLANGE
K	CAST ALUMINUM WEATHERPROOF HEAD
L	THERMOCOUPLE INSULATED FROM TUBE
M	SPECIAL LIMITS OF ERROR
P	STEEL UNION AND NIPPLES TO CONNECT HEAD TO PROTECTION TUBE
SS	STAINLESS STEEL BUSHING
V	SS UNION AND NIPPLES TO CONNECT HEAD TO PROTECTION TUBE
W	PROTECTICE WHITE EPOXY COATING ON HEAD
X	CSA APPROVED EXPLOSION PROOF HEAD

EXAMPLE PART NUMBER: K8-7-50-024-K

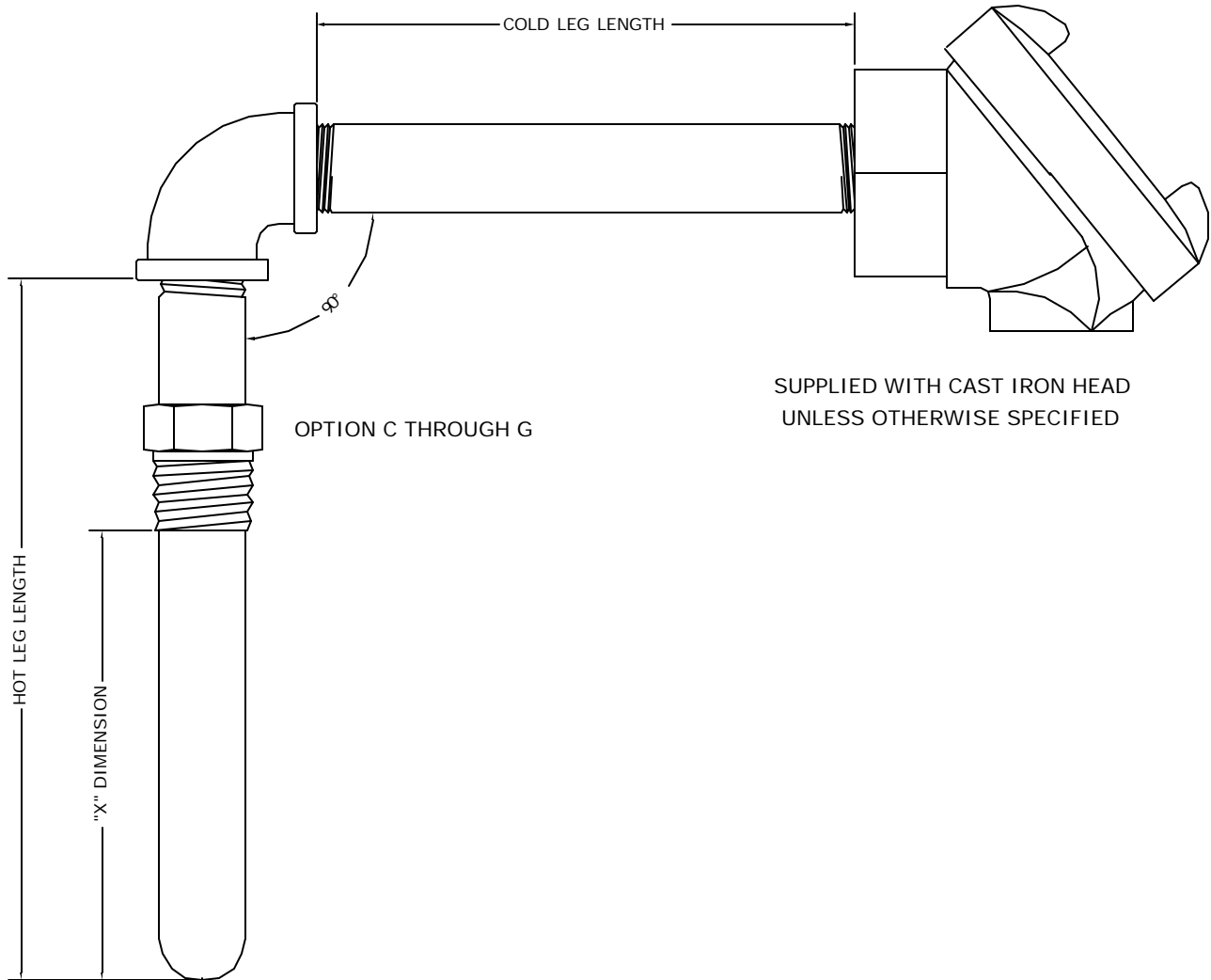
K8 = TYPE K, 8 GAUGE

7-50 = INCONEL 601 PROTECTION TUBE, 1/2" PIPE

024 = 24" LONG

K = CAST ALUMINUM WEATHERPROOF HEAD

ANGLE THERMOCOUPLE ASSEMBLIES WITH METAL PROTECTION TUBES



Angle thermocouples are designed for over-the-side temperature measurement. Various protection tube materials are available as well as the common thermocouple calibrations. A variety of mounting options as well as terminations are available.

ANGLE THERMOCOUPLE ASSEMBLIES WITH METAL PROTECTION TUBES

COMPLETE ORDER
NUMBER

1 - 2 - 3 - 4 - 5

1. CALIBRATION	
CODE	DESCRIPTION
J	TYPE J, SINGLE
K	TYPE K, SINGLE
R	TYPE R, SINGLE
S	TYPE S, DUAL
JJ	TYPE J, DUAL
KK	TYPE K DUAL
RR	TYPE R, DUAL
SS	TYPE S, DUAL

3. HOT LEG LENGTH	
CODE	LENGTH
06	6.0" OVERALL LENGTH
12	12.0" OVERALL LENGTH
18	18.0" OVERALL LENGTH
24	24.0" OVERALL LENGTH
30	30.0" OVERALL LENGTH
36	36.0" OVERALL LENGTH
XX	SPECIFY OTHER LENGTH

4. COLD LEG LENGTH	
CODE	LENGTH
06	6.0" OVERALL LENGTH
12	12.0" OVERALL LENGTH
18	18.0" OVERALL LENGTH
24	24.0" OVERALL LENGTH
30	30.0" OVERALL LENGTH
36	36.0" OVERALL LENGTH
XX	SPECIFY OTHER LENGTH

2. SCH. 40 PIPE ALLOY AND SIZE				
CODE	MATERIAL	ID	OD	NPT
5-50	446 SS	0.622"	0.840"	1/2"
5-75	446 SS	0.824"	1.050"	3/4"
6-25	CARBON STEEL	0.364"	0.540"	1/2"
6-50	CARBON STEEL	0.622"	0.840"	1/2"
6-75	CARBON STEEL	0.824"	1.050"	3/4"
6-100	CARBON STEEL	1.049"	1.315"	1"
7-50	INCONEL 601	0.622"	0.840"	1/2"
7-75	INCONEL 601	0.824"	1.050"	3/4"
7-100	INCONEL 601	1.049"	1.315"	1"
8-25	316 SS	0.364"	0.840"	1/2"
8-50	316 SS	0.622"	1.050"	1/2"
8-75	316 SS	0.824"	1.050"	3/4"
11-75	CAST IRON	1.049"	0.840"	1"
12-75	LT-1 METAL CERAMIC	0.625"	1.625"	3/4"
13-75	SILICONE NITRIDE	0.625"	1.125"	3/4"
14-75	REFRACTORY COATED	0.493"	1.500"	3/4"
15-75	HEXOLOY	0.500"	0.750"	3/4"
16-75	VESUVIUS	0.824"	2.000"	3/4"

5. OPTIONS	
A	OPEN END (CLOSED END STANDARD)
AA	OTHER (SPECIFY)
B	INTERNAL GROUND SCREW IN HEAD
C(X)	1/2" NPT WELDED STEEL BUSHING (ONLY ON 0.25" SIZE PIPES)
D(X)	3/4" NPT WELDED STEEL BUSHING (ONLY ON 0.50" SIZE PIPES)
E(X)	1" NPT WELDED STEEL BUSHING (ONLY ON 0.50" AND 0.75" SIZE PIPES)
F(X)	1 1/8" NPT WELDED STEEL BUSHING (ONLY ON 0.50", 0.75" AND 1.0" SIZE PIPES)
G(X)	1 1/2" NPT WELDED STEEL BUSHING (ONLY ON 0.50", 0.75" AND 1.0" SIZE PIPES)
H	ADJUSTABLE STEEL FLANGE
K	CAST ALUMINUM WEATHERPROOF HEAD
L	THERMOCOUPLE INSULATED FROM TUBE
M	SPECIAL LIMITS OF ERROR
P	STEEL UNION AND NIPPLES TO CONNECT HEAD TO PROTECTION TUBE
SS	STAINLESS STEEL BUSHING
V	SS UNION AND NIPPLES TO CONNECT HEAD TO PROTECTION TUBE
W	PROTECTICE WHITE EPOXY COATING ON HEAD
X	CSA APPROVED EXPLOSION PROOF HEAD

EXAMPLE PART NUMBER: K8-7-50-024-012-K

K8 = TYPE K, 8 GAUGE

7-50 = INCONEL 601 PROTECTION TUBE, 1/2" PIPE

024 = 24" LONG HOT LEG

012 = 12" LONG COLD LEG

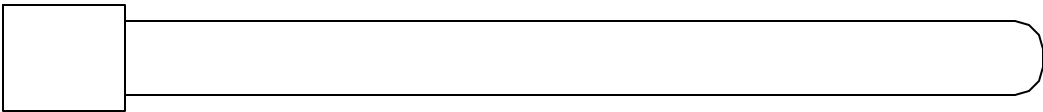
K = CAST ALUMINUM WEATHERPROOF HEAD

STRAIGHT CERAMIC PROTECTION TUBES

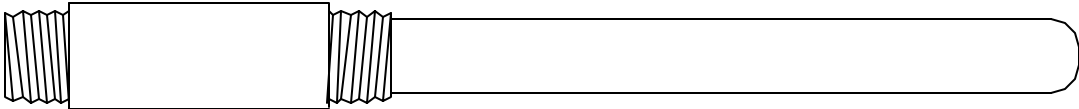
Plain



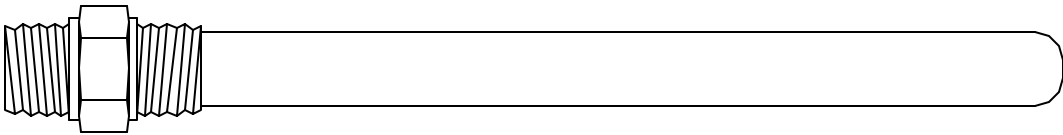
Collar



Nipple



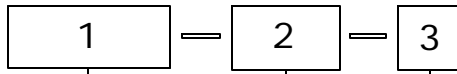
Hex Fitting



The mullite and alumina protection tubes found on these pages are direct replacements for Acrolab's ceramic protection tube thermocouple assemblies. They are available in a wide variety of lengths and diameters and have the same mounting options as the complete assemblies do.

STRAIGHT CERAMIC PROTECTION TUBES

COMPLETE ORDER NUMBER



2. TUBE "X" LENGTH	
CODE	DESCRIPTION
12	12" OVERALL LENGTH
18	18" OVERALL LENGTH
24	24" OVERALL LENGTH
30	30" OVERALL LENGTH
36	36" OVERALL LENGTH
48	48" OVERALL LENGTH
SPECIFY OTHER LENGTHS IN 1" INCREMENTS	

3. OPTIONS	
CODE	DESCRIPTION
8	316 SS NIPPLE OR HEX TUBE FITTING
NT	NO PROCESS MTG. THREADS ON PIPE NIPPLE

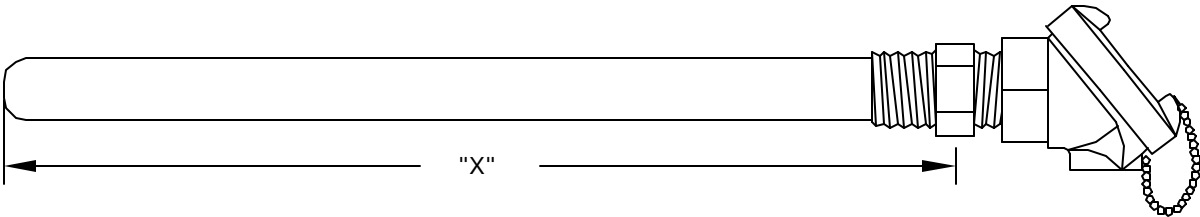
1. TUBE MATERIAL					
CODE		TUBE SIZE		FITTING SIZE	FITTING TYPE
MULLITE	ALUMINA	ID	OD	PROCESS THREAD	DESCRIPTION
16AH	17AH	1/4"	3/8"	1/2" NPT	STEEL HEX. FITTING
16A1	17A1	1/4"	3/8"	1/2" NPT	1" LONG NIPPLE
16A4	17A4	1/4"	3/8"	1/2" NPT	4" LONG NIPPLE
16A(X)	17A(X)	1/4"	3/8"	1/2" NPT	(X)" LONG NIPPLE (SPECIFY)
16AF	17AF	1/4"	3/8"	NONE	7/8" OD X 2" BRASS FERRULE
16A	17A	1/4"	3/8"	NONE	PLAIN TUBE
16AC		1/4"	3/8"	NONE	5/8" OD X 1/2" LONG COLLAR
16BH	17BH	7/16"	11/16"	3/4" NPT	STEEL HEX. FITTING
16B1	17B1	7/16"	11/16"	3/4" NPT	1" LONG NIPPLE
16B4	17B4	7/16"	11/16"	3/4" NPT	4" LONG NIPPLE
16B(X)	17B(X)	7/16"	11/16"	3/4" NPT	(X)" LONG NIPPLE (SPECIFY)
16BF	17AB	7/16"	11/16"	NONE	7/8" OD X 2" BRASS FERRULE
16B	17B	7/16"	11/16"	NONE	PLAIN TUBE
16BC		7/16"	11/16"	NONE	1" OD X 1/2" LONG COLLAR
16CH	17CH	1/2"	3/4"	3/4" NPT	STEEL HEX. FITTING
16C1	17C1	1/2"	3/4"	3/4" NPT	1" LONG NIPPLE
16C4	17C4	1/2"	3/4"	3/4" NPT	4" LONG NIPPLE
16C(X)	17C(X)	1/2"	3/4"	3/4" NPT	(X)" LONG NIPPLE (SPECIFY)
16C	17C	1/2"	3/4"	NONE	PLAIN TUBE
16CC		1/2"	3/4"	NONE	1 1/8" OD X 1/2" LONG COLLAR
16DH	17DH	5/8"	7/8"	1" NPT	STEEL HEX. FITTING
16D1	17D1	5/8"	7/8"	1" NPT	1" LONG NIPPLE
16D(X)	17D(X)	5/8"	7/8"	1" NPT	(X)" LONG NIPPLE (SPECIFY)
16D	17D	5/8"	7/8"	NONE	PLAIN TUBE
16EH	17EH	1"	1 1/4"	1 1/4" NPT	STEEL HEX. FITTING
16E1	17E1	1"	1 1/4"	1 1/4" NPT	1" LONG NIPPLE
16E(X)	17E(X)	1"	1 1/4"	1 1/4" NPT	(X)" LONG NIPPLE (SPECIFY)
16E	17E	1"	NONE	NONE	PLAIN TUBE
SILICON CARBIDE					
18J-(X)		1"	1 3/4"		WITH COLLAR
18JC-(X)		1"	1 3/4"		WITHOUT COLLAR

EXAMPLE PART NUMBER: 16CH-024

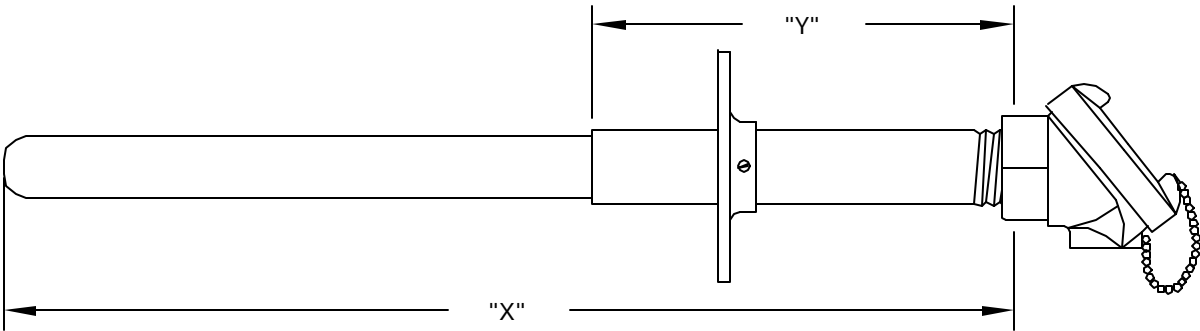
16C1 = 1/2" ID X 11/16" OD MULLITE TUBE
WITH 1" LONG STEEL NIPPLE
024 = 24" OVERALL LENGTH

STRAIGHT THERMOCOUPLE ASSEMBLIES WITH CERAMIC PROTECTION TUBES

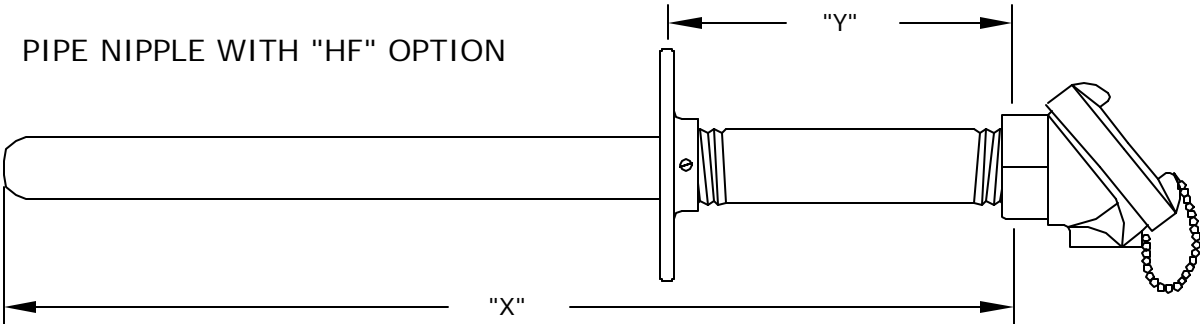
HEX FITTING



PIPE NIPPLE WITH "H" OPTION



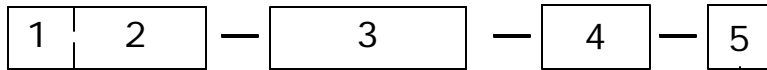
PIPE NIPPLE WITH "HF" OPTION



Acrolab's straight thermocouple assemblies with mullite or alumina protection tubes are commonly used in high temperature process heating applications. They are available in a variety of lengths, diameters and mounting options.

STRAIGHT THERMOCOUPLE ASSEMBLIES WITH CERAMIC PROTECTION TUBES

COMPLETE ORDER
NUMBER



1. CALIBRATION	
CODE	DESCRIPTION
B	SINGLE, TYPE B
K	SINGLE, TYPE K
N	SINGLE, TYPE N
R	SINGLE, TYPE R
S	SINGLE, TYPE S
BB	DUAL, TYPE B
KK	DUAL, TYPE K
NN	DUAL, TYPE N
RR	DUAL, TYPE R
SS	DUAL, TYPE S

2. GAUGE	
CODE	DESCRIPTION
8	TYPE K & N ONLY. 16C, 16D OR 16E TUBES ONLY
11	TYPE K ONLY. 16B, 16C, 16D OR 16E TUBES ONLY
14	TYPE N ONLY
24	TYPE B, R OR S ONLY
26	TYPE R OR S ONLY

4. TUBE "X" LENGTH	
CODE	DESCRIPTION
12	12" OVERALL LENGTH
18	18" OVERALL LENGTH
24	24" OVERALL LENGTH
30	30" OVERALL LENGTH
36	36" OVERALL LENGTH
48	48" OVERALL LENGTH
SPECIFY OTHER LENGTHS IN 1" INCREMENTS	

5. OPTIONS	
CODE	DESCRIPTION
A	OPEN END (CLOSED END STANDARD)
B	HEAD WITH INTERNAL GROUND SCREW
H	ADJUSTABLE STEEL FLANGE
HF	THREADED FLANGE ON NIPPLE
I	OTHER (SPECIFY)
K	WEATHERPROOF ALUMINUM HEAD
M	SPECIAL LIMITS OF ERROR WIRE
NT	NO PROCESS THREADS ON PIPE NIPPLE
P	STEEL UNION AND NIPPLES TO CONNECT HEAD TO PROTECTION TUBE
V	STAINLESS STEEL UNION AND NIPPLES
W	PROTECTIVE WHITE EPOXY COATING ON HEAD
X	EXPLOSION PROOF HEAD

3. TUBE MATERIAL					
CODE		TUBE SIZE		FITTING SIZE	FITTING TYPE
MULLITE	ALUMINA	ID	OD	PROCESS THREAD	DESCRIPTION
16AH	17AH	1/4"	3/8"	1/2" NPT	STEEL HEX. FITTING
16A1	17A1	1/4"	3/8"	1/2" NPT	1" LONG NIPPLE
16A4	17A4	1/4"	3/8"	1/2" NPT	4" LONG NIPPLE
16A(X)	17A(X)	1/4"	3/8"	1/2" NPT	(X)" LONG NIPPLE (SPECIFY)
16AF	17AF	1/4"	3/8"	NONE	7/8" OD X 2" BRASS FERRULE
16A	17A	1/4"	3/8"	NONE	PLAIN TUBE
16AC		1/4"	3/8"	NONE	5/8" OD X 1/2" LONG COLLAR
16BH	17BH	7/16"	11/16"	3/4" NPT	STEEL HEX. FITTING
16B1	17B1	7/16"	11/16"	3/4" NPT	1" LONG NIPPLE
16B4	17B4	7/16"	11/16"	3/4" NPT	4" LONG NIPPLE
16B(X)	17B(X)	7/16"	11/16"	3/4" NPT	(X)" LONG NIPPLE (SPECIFY)
16BF	17BF	7/16"	11/16"	NONE	7/8" OD X 2" BRASS FERRULE
16B	17B	7/16"	11/16"	NONE	PLAIN TUBE
16BC		7/16"	11/16"	NONE	1" OD X 1/2" LONG COLLAR
16CH	17CH	1/2"	3/4"	3/4" NPT	STEEL HEX. FITTING
16C1	17C1	1/2"	3/4"	3/4" NPT	1" LONG NIPPLE
16C4	17C4	1/2"	3/4"	3/4" NPT	4" LONG NIPPLE
16C(X)	17C(X)	1/2"	3/4"	3/4" NPT	(X)" LONG NIPPLE (SPECIFY)
16C	17C	1/2"	3/4"	NONE	PLAIN TUBE
16CC		1/2"	3/4"	NONE	1 1/8" OD X 1/2" LONG COLLAR
16DH	17DH	5/8"	7/8"	1" NPT	STEEL HEX. FITTING
16D1	17D1	5/8"	7/8"	1" NPT	1" LONG NIPPLE
16D(X)	17D(X)	5/8"	7/8"	1" NPT	(X)" LONG NIPPLE (SPECIFY)
16D	17D	5/8"	7/8"	NONE	PLAIN TUBE
16EH	17EH	1"	1 1/4"	1 1/4" NPT	STEEL HEX. FITTING
16E1	17E1	1"	1 1/4"	1 1/4" NPT	1" LONG NIPPLE
16E(X)	17E(X)	1"	1 1/4"	1 1/4" NPT	(X)" LONG NIPPLE (SPECIFY)
16E	17E	1"	NONE	NONE	PLAIN TUBE
SILICON CARBIDE					
18J-(X)		1"	1 3/4"		WITH COLLAR
18JC-(X)		1"	1 3/4"		WITHOUT COLLAR

EXAMPLE PART NUMBER: K14-16C1-018-K

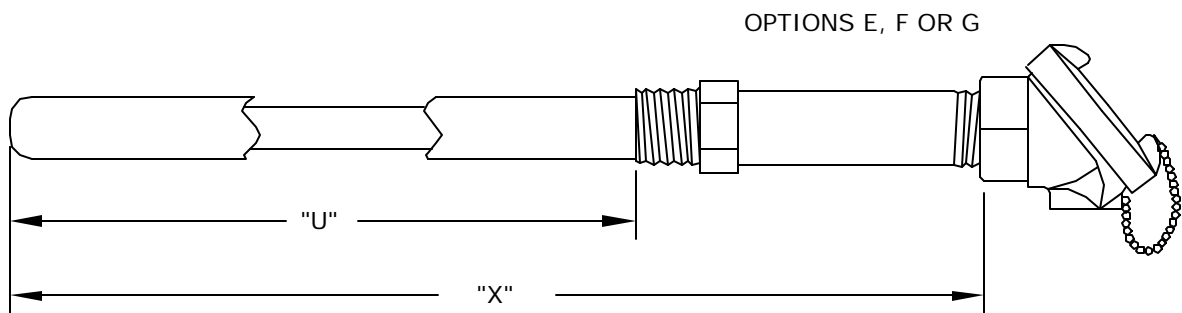
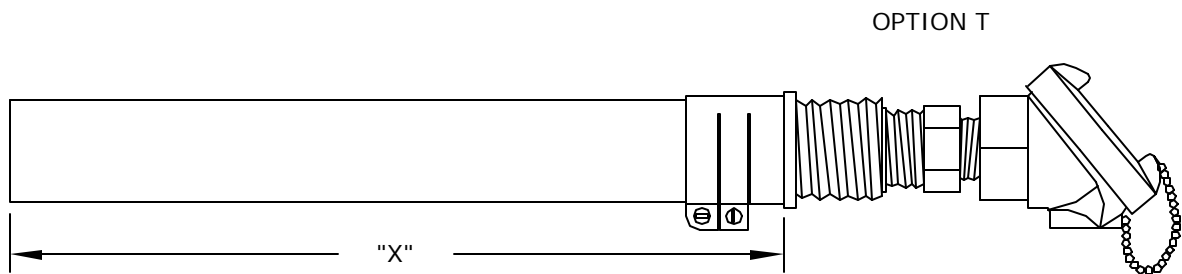
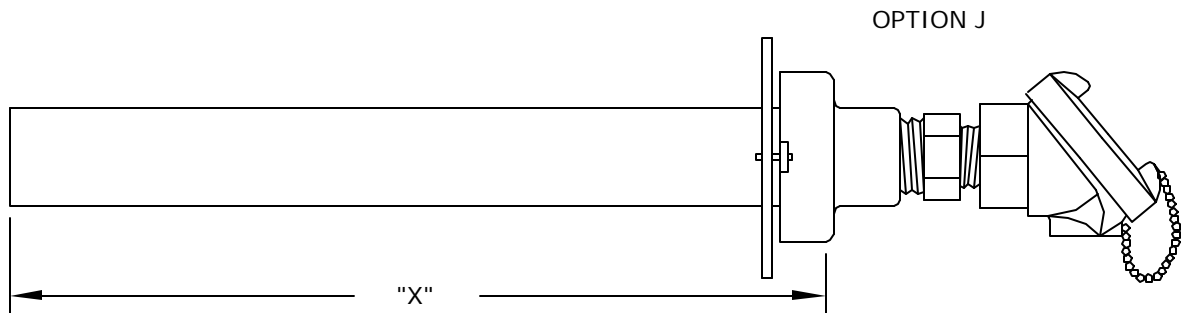
K14 = TYPE K, 14 GAUGE

16C1 = MULLITE, 3/4" OD, 1" LONG NIPPLE

018 = 18" INSERTION

K = WEATHERPROOF CAST ALUMINUM HEAD

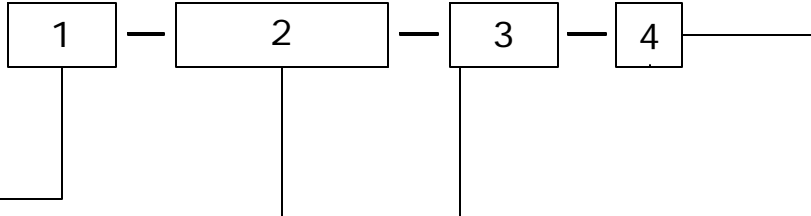
STRAIGHT THERMOCOUPLE ASSEMBLIES WITH DOUBLE PROTECTION TUBES



Acrolab's double protection tube assemblies all come equipped with a ceramic inner protection tube, and a variety of ceramic, metal alloy or composite material outer protection tube. They are used in a variety of high temperature process heating applications.

STRAIGHT THERMOCOUPLE ASSEMBLIES WITH DOUBLE PROTECTION TUBES

COMPLETE ORDER NUMBER



3. TUBE "X" LENGTH	
CODE	DESCRIPTION
12	12" OVERALL LENGTH
18	18" OVERALL LENGTH
24	24" OVERALL LENGTH
30	30" OVERALL LENGTH
36	36" OVERALL LENGTH
48	48" OVERALL LENGTH
SPECIFY OTHER LENGTHS IN 1" INCREMENTS	

4. OPTIONS	
CODE	DESCRIPTION
B	HEAD WITH INTERNAL GROUND SCREW
E	(X) 1" NPT WELDED STEEL BUSHING (ONLY 0.75" SIZE TUBES)
F	(X) 1 1/4" NPT WELDED STEEL BUSHING (ONLY 0.75" SIZE TUBES)
G	(X) 1 1/2" NPT WELDED STEEL BUSHING (ONLY 0.75" SIZE TUBES)
H	ADJUSTABLE STEEL FLANGE
I	SPECIAL CONSTRUCTION (DESCRIBE)
J	FIXED FLANGE
K	WEATHERPROOF HEAD - ALUMINUM
M	SPECIAL LIMITS OF ERROR
N	OPEN TYPE TERMINAL HEAD (FOR P-R RH T/C ONLY)
P	STEEL UNION AND NIPPLES TO CONNECT HEAD TO PROTECTION TUBE
T	CLAMP ASSEMBLY
V	STAINLESS STEEL UNION AND NIPPLES
W	PROTECTIVE WHITE EPOXY COATING ON HEAD (2 mil.)
X	EXPLOSION PROOF HEAD - CSA APPROVED

2. TYPE				
CODE	INNER	OUTER	OD	MOUNTING FITTING TYPE & LENGTH
16A1-16B1	MULLITE	MULLITE	11/16"	3/4" NPT x 1 1/2" LONG NIPPLE
16A1-16B4	MULLITE	MULLITE	11/16"	3/4" NPT x 4" LONG NIPPLE
16A1-16B(Y)	MULLITE	MULLITE	11/16"	3/4" NPT x (X)" LONG NIPPLE
16A-16BH	MULLITE	MULLITE	11/16"	3/4" NPT x 1/2" NPT HEX. NIPPLE
16A-12-75	MULLITE	LT-1	7/8"	NONE, OR TABLE 3 OPTIONS E, F OR G
16BH-18J	MULLITE	SILICON CARBIDE	1 3/4"	NONE, OR TABLE 3 OPTIONS H, J OR T
16B-7-75	MULLITE	INCONEL 601	1.050"	NONE, OR TABLE 3 OPTIONS E, F, G OR H
17A1-17B1	ALUMINA	ALUMINA	11/16"	3/4" NPT x 1 1/2" LONG NIPPLE
17A1-17B4	ALUMINA	ALUMINA	11/16"	3/4" NPT x 4" LONG NIPPLE
17A1-17B(Y)	ALUMINA	ALUMINA	11/16"	3/4" NPT x (X)" LONG NIPPLE
17A-17BH	ALUMINA	ALUMINA	11/16"	3/4" NPT x 1/2" NPT HEX. NIPPLE
17A-12-75	ALUMINA	LT-1	7/8"	NONE, OR TABLE 3 OPTIONS E, F OR G
17BH-18J	ALUMINA	SILICON CARBIDE	1 3/4"	NONE, OR TABLE 3 OPTIONS E, F, G OR H

1. THERMOCOUPLE
B24
R24
R26
S24
S26

EXAMPLE PART NUMBER: S24-16A1-16B1-24-H

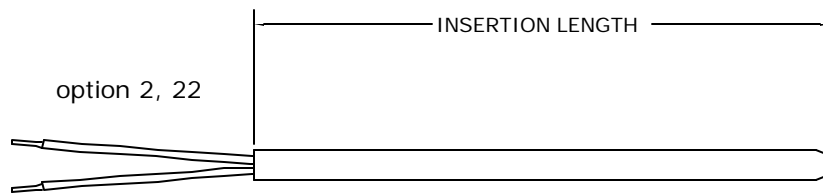
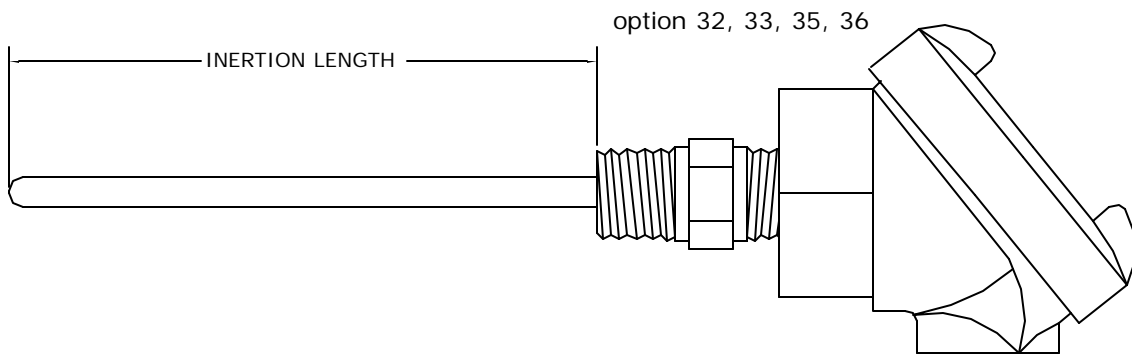
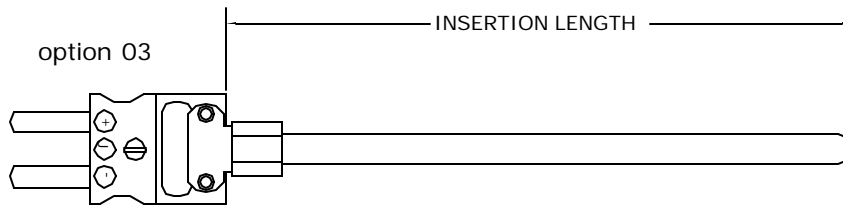
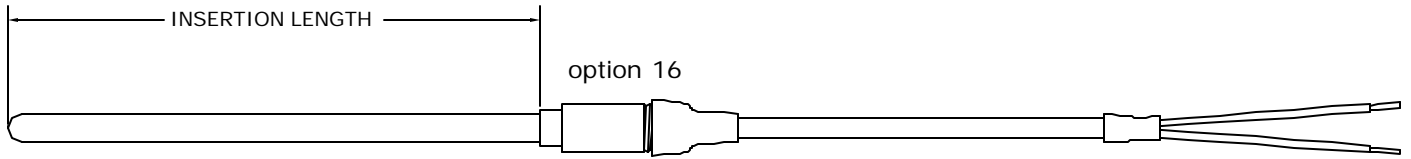
S24 = TYPE S, 24 GAUGE

16A1-16B1 = MULLITE INNER, MULLITE OUTER PROTECTION TUBE, 3/4" NPT X 1.5" LONG NIPPLE

24 = 24" LONG PROTECTION TUBE

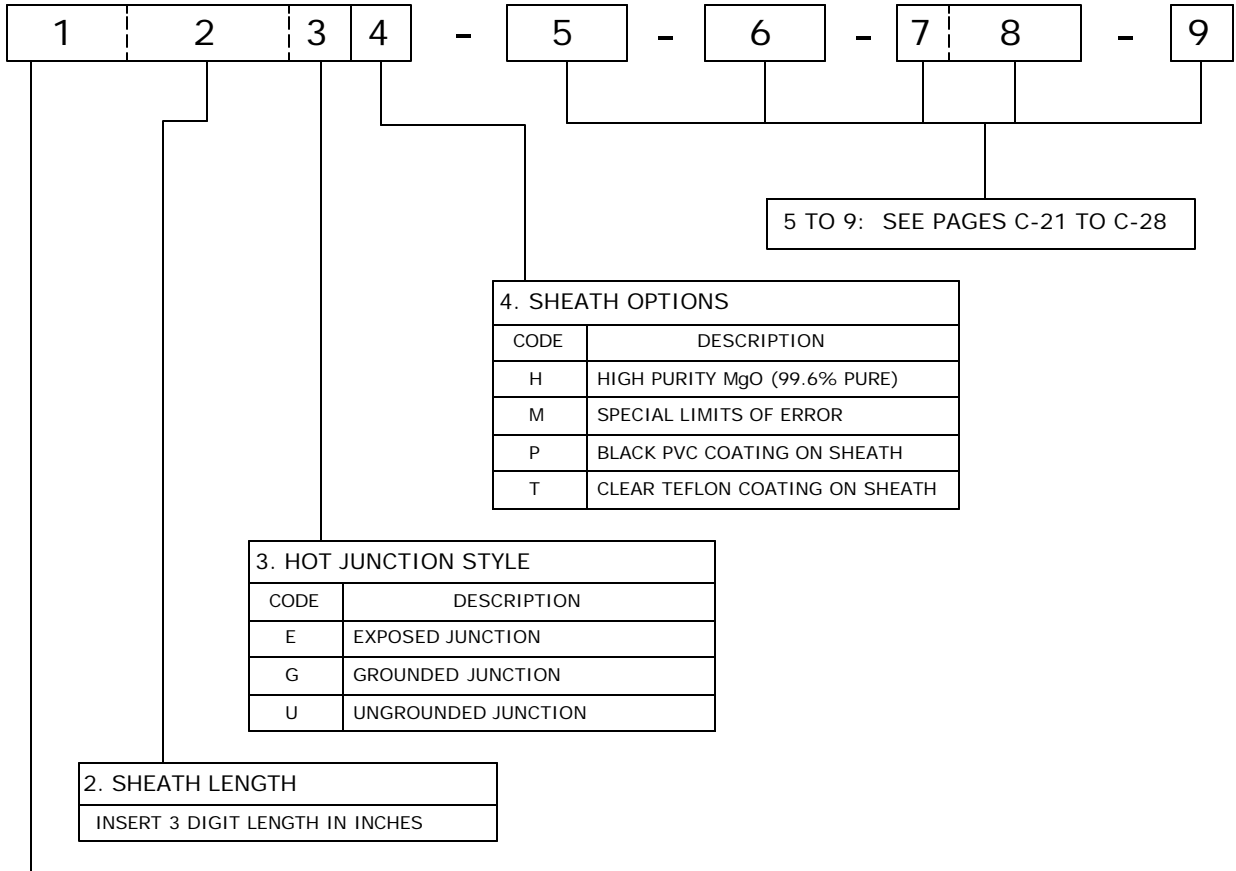
H = ADJUSTABLE STEEL FLANGE

MgO THERMOCOUPLES



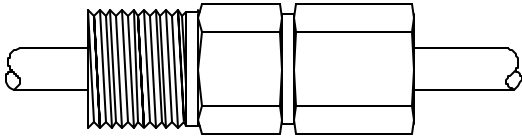
Acrolab's Magnesium Oxide (MgO) thermocouples are manufactured using standard purity (96%) Magnesium Oxide mineral insulation in a fully annealed metal sheath. They are available in diameters of 0.032" to 3/8" OD and are extremely flexible. The following pages will aid you in selecting a MgO Thermocouple to suit your application's needs.

MgO THERMOCOUPLES [1 to 4]

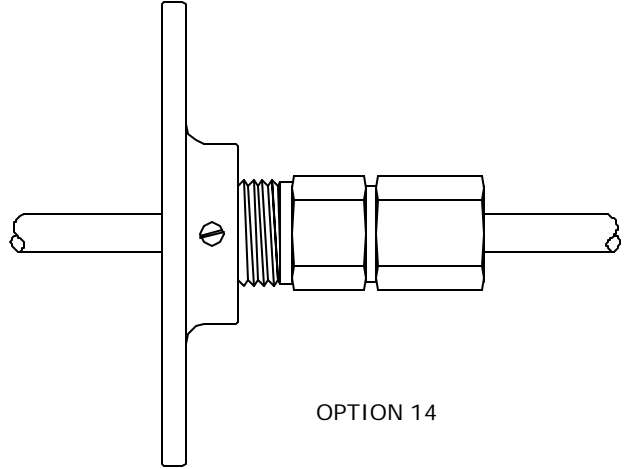


1. CALIBRATION, TUBE DIAMETER AND MATERIAL								
CALIBRATION	MATERIAL	0.032" OD	0.040" OD	1/16" OD	1/8" OD	3/16" OD	1/4" OD	3/8" OD
SINGLE ORDER CODE NUMBERS								
E	316 SS	N/A	N/A	E18	E28	E38	E48	E68
J	316 SS	J008	J08	J18	J28	J38	J48	J58
J	INCONEL 600	J007	J07	J17	J27	J37	J47	J67
K	310SS	N/A	N/A	K14	K24	K34	K44	K64
K	316 SS	K008	K08	K18	K28	K38	K48	K68
K	446 SS	N/A	N/A	N/A	N/A	N/A	K45	K65
K	INCONEL 600	K007	K07	K17	K27	K37	K47	K67
N	INCONEL 600	N/A	N/A	N17	N27	N37	N47	N67
T	316 SS	N/A	N/A	T18	T28	T38	T48	T68
DUAL ORDER CODE NUMBERS								
E	316 SS	N/A	N/A	EE18	EE28	EE38	EE48	EE68
J	316 SS	N/A	N/A	JJ18	JJ28	JJ38	JJ48	JJ48
J	INCONEL 600	N/A	N/A	JJ17	JJ27	JJ37	JJ47	JJ67
K	310SS	N/A	N/A	N/A	KK24	KK34	KK44	KK64
K	316 SS	N/A	N/A	KK18	KK28	KK38	KK48	KK68
K	446 SS	N/A	N/A	N/A	N/A	N/A	KK45	KK65
K	INCONEL 600	N/A	N/A	KK17	KK28	KK38	KK48	KK68
N	INCONEL 600	N/A	N/A	N/A	NN27	NN37	NN47	NN67
T	316 SS	N/A	N/A	TT18	TT28	TT38	TT48	TT68

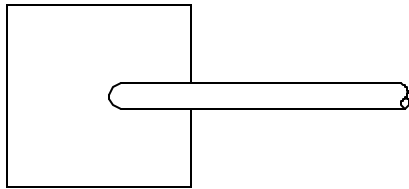
MgO THERMOCOUPLES [5]



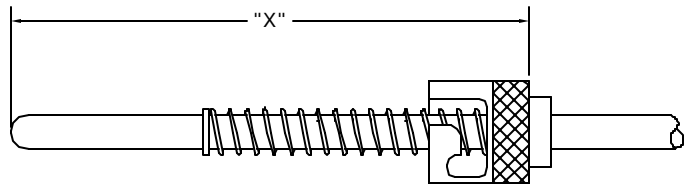
OPTIONS 02 TO 15, 19 AND 25



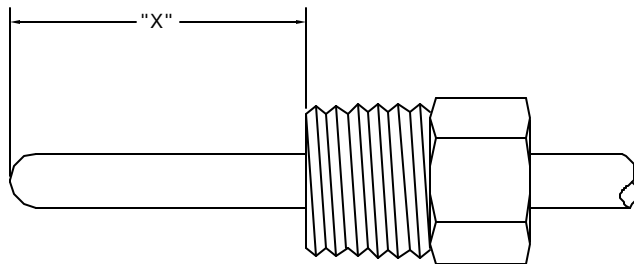
OPTION 14



OPTION 18

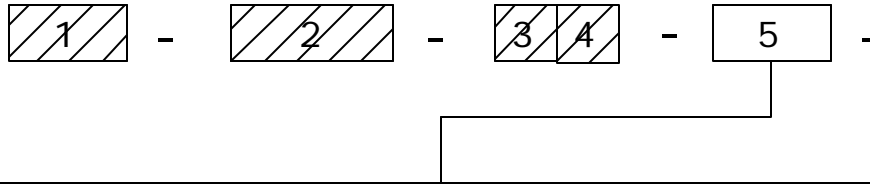


OPTION 20(X)



OPTIONS 21(X) TO 25(X)

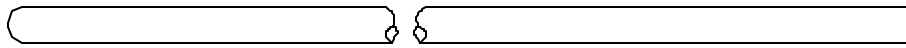
MgO THERMOCOUPLES [5]



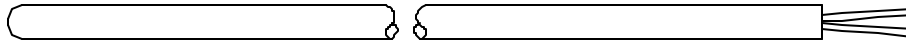
5. ELEMENT FITTING		
CODE	FITTING TYPE	DESCRIPTION
00	NO ELEMENT MOUNTING FITTING	
01	STAINLESS STEEL, ONE TIME ADJUSTABLE COMPRESSION FITTING	1/8" NPT, STAINLESS STEEL FERRULE
02	STAINLESS STEEL, ONE TIME ADJUSTABLE COMPRESSION FITTING	1/2" NPT, STAINLESS STEEL FERRULE
05	STAINLESS STEEL, ONE TIME ADJUSTABLE COMPRESSION FITTING	1/4" NPT, STAINLESS STEEL FERRULE
09	STAINLESS STEEL, RE-ADJUSTABLE COMPRESSION FITTING	1/8" NPT, LAVA PACKING GLAND
12	STAINLESS STEEL, RE-ADJUSTABLE COMPRESSION FITTING	1/8" NPT, TEFLON FERRULE
14	ADJUSTABLE STEEL FLANGE WITH BRASS COMPRESSION FITTING	3.5" OUTSIDE DIAMETER
15	BRASS, ADJUSTABLE COMPRESSION FITTING	1/8" NPT, BRASS FERRULE
18	304 STAINLESS STEEL WELD PAD (1" X 1" X 1/8" THICK STANDARD)	1/8" NPT, BRASS FERRULE
19	BRASS, ADJUSTABLE SPRING LOADED WELL FITTING	1/2" NPT, STAINLESS STEEL FERRULE
25	BRASS, ADJUSTABLE COMPRESSION FITTING	1/4" NPT, BRASS FERRULE
20(X)	BAYONET CAP AND SPRING (SPECIFY "X" DIMENSION)	AVAILABLE FOR 1/8" AND 3/16" DIAMETER SHEATHS
21(X)	FIXED STAINLESS STEEL BUSHING (SPECIFY "X" DIMENSION)	1/8" NPT, AVAILABLE FOR 1/16", 1/8", 3/16" AND 1/4" OD SHEATHS ONLY
23(X)	FIXED STAINLESS STEEL BUSHING (SPECIFY "X" DIMENSION)	1/4" NPT, AVAILABLE FOR 1/16", 1/8", 3/16" AND 1/4" OD SHEATHS ONLY
24(X)	FIXED STAINLESS STEEL BUSHING (SPECIFY "X" DIMENSION)	1/2" NPT, AVAILABLE FOR 1/8", 3/16", 1/4" AND 3/8" OD SHEATHS
25(X)	FIXED STAINLESS STEEL BUSHING (SPECIFY "X" DIMENSION)	3/4" NPT, AVAILABLE FOR 1/8", 3/16", 1/4" AND 3/8" OD SHEATHS
AA	SPECIAL FITTING, DESCRIBE	

MgO THERMOCOUPLES [6]

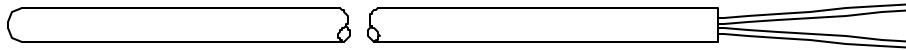
SHEATH TERMINATIONS



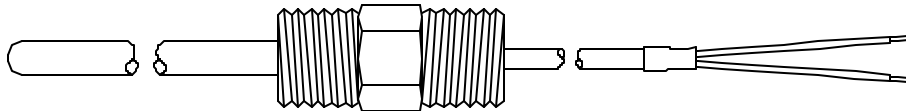
OPTION 01



OPTION 02

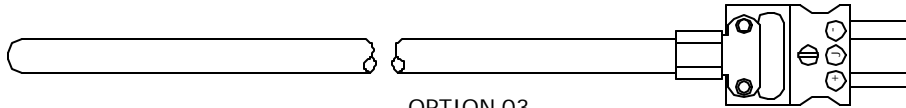


OPTION 22

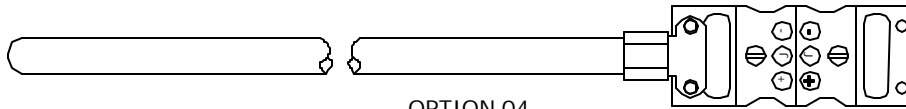


OPTIONS 37 AND 38

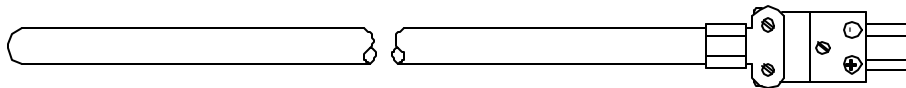
PLUG AND JACK TERMINATIONS



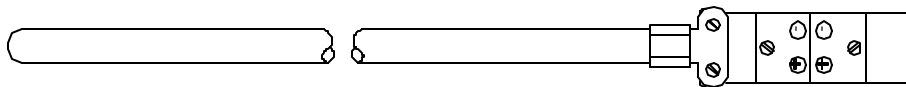
OPTION 03



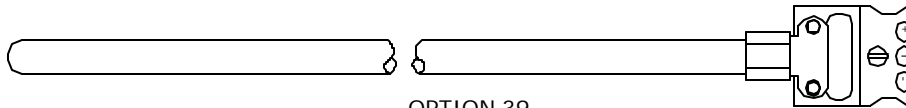
OPTION 04



OPTION 05



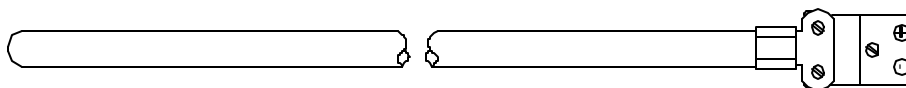
OPTION 06



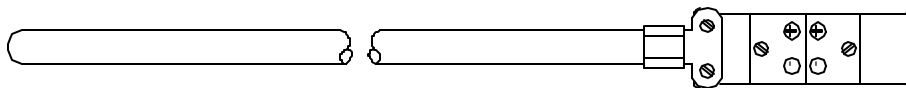
OPTION 39



OPTION 40

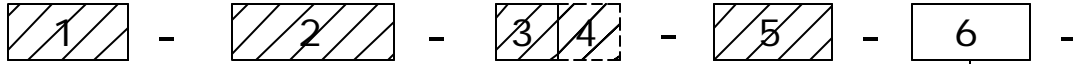


OPTION 41



OPTION 42

MgO THERMOCOUPLES [6]

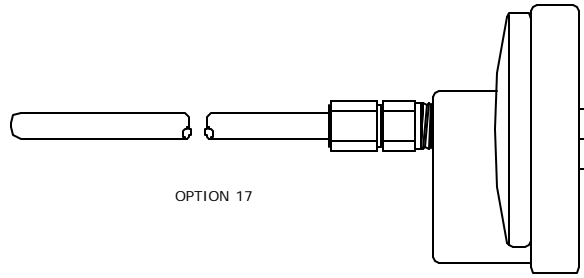


6A. SHEATH TERMINATIONS	
CODE	DESCRIPTION
01	SQUARED END
02	1" STRIPPED LEADS
22	3" STRIPPED LEADS
37	1/2" NPT STEEX HEX. FITTING WITH 3" STRIPPED LEADS
38	1/2" NPT STAINLESS STEEX HEX. FITTING WITH 3" STRIPPED LEADS

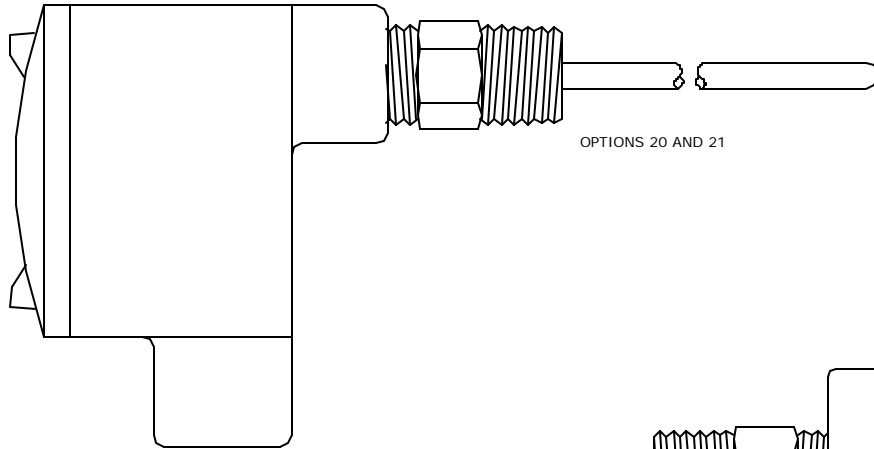
6B. PLUG & JACK TERMINATIONS	
CODE	DESCRIPTION
03	STANDARD SIZE PLUG 1/16" THROUGH 1/4" OD SHEATH ONLY
04	STANDARD SIZE PLUG WITH MATING JACK
05	MINIATURE SIZE PLUG 1/16" THROUGH 3/16" OD SHEATH ONLY
06	MINIATURE SIZE PLUG WITH MATING JACK
39	STANDARD SIZE JACK 1/16" THROUGH 1/4" OD SHEATHS ONLY
40	STANDARD SIZE JACK WITH MATING PLUG
41	MINIATURE SIZE JACK 1/16" THROUGH 1/4" SHEATH ONLY
42	MINIATURE SIZE JACK WITH MATING PLUG
AA	SPECIAL FITTING (DESCRIBE)

MgO THERMOCOUPLES [6]

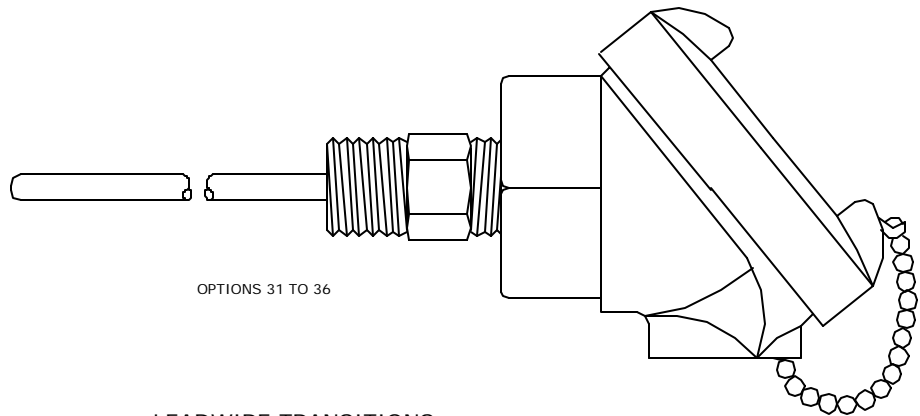
HEAD TERMINATIONS



OPTION 17

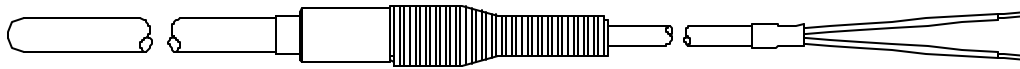


OPTIONS 20 AND 21

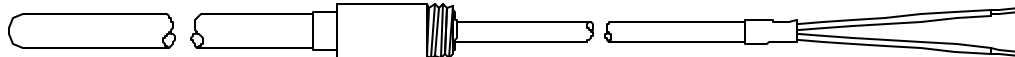


OPTIONS 31 TO 36

LEADWIRE TRANSITIONS



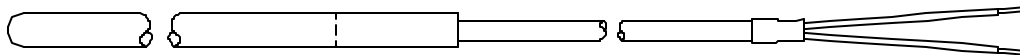
OPTION 15



OPTION 15H

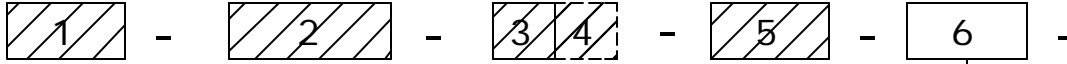


OPTION 16



OPTION 19

MgO THERMOCOUPLES [6]



6C. HEAD TERMINATIONS	
CODE	DESCRIPTION
17	MINIATURE PLASTIC HEAD, 1/4" NPT PROCESS AND CONDUIT OPENEINGS
20	CSA APPROVED EXPLOSION PROOF HEAD WITH 1/2" NPT STEEL HEX. FITTING
21	CSA APPROVED EXPLOSION PROOF HEAD WITH 1/2" NPT SS HEX. FITTING
31	CAST ALUMINUM SCREW COVER HEAD WITH NO PROCESS THREAD
32	CAST ALUMINUM SCREW COVER HEAD WITH 1/2" NPT STEEL HEX. FITTING
33	CAST ALUMINUM SCREW COVER HEAD WITH 1/2" NPT SS HEX. FITTING
34	CAST IRON SCREW COVER HEAD WITH NO PROCESS THREAD
35	CAST IRON SCREW COVER HEAD WITH 1/2" NPT STEEL HEX. FITTING
36	CAST IRON SCREW COVER HEAD WITH 1/2" NPT SS HEX. FITTING
TR	HEAD MOUNTED TRANSMITTER (DETAILS TO BE GIVEN)

6D. LEADWIRE TRANSITIONS	
CODE	DESCRIPTION
15	EXTENSION LEADWIRE TRANSITION FITTING AND RELIEF SPRING
15H	HIGH TEMPERATURE TRANSITION FITTING
16	EXTENSION LEADWIRE TRANSITION FITTING SEALED WITH HEAT SHRINK
19	INLINE TRANSITION FITTING
BB	SPECIAL TERMINATION (DESCRIBE)

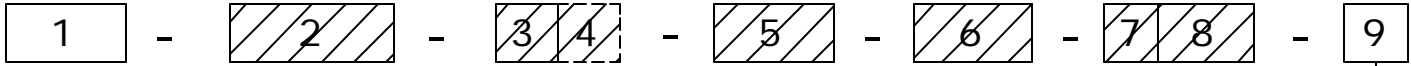
MgO THERMOCOUPLES [7,8]



7. EXTENSION LEADWIRE							
CODE	DESCRIPTION	AVAILABLE CALIBRATIONS					TEMP. RATING
		J	K	T	E	N	
1	FIBERGLASS INSULATION - SOLID CONDUCTOR	*	*	*	*	*	900° F
2	FEP TEFLON INSULATION - STRANDED CONDUCTOR - SS ARMOUR	*	*	*	*		400° F
3	HI-TEMP FIBERGLASS INSULATION - SOLID CONDUCTOR	*	*				1300° F
4	FIBERGLASS INSULATION - STRANDED CONDUCTOR - SS ARMOUR	*	*	*	*		900° F
5	FEP TEFLON INSULATION - STRANDED CONDUCTOR	*	*	*	*		900° F
6	POLYVINYL INSULATION - STRANDED CONDUCTOR	*	*	*	*		221° F
7	EXTREME HI-TEMP CERAMIC FIBER - SOLID CONDUCTOR		*				2200° F
8	FIBERGLASS INSULATION - STRANDED CONDUCTOR	*	*	*	*		900° F
9	FIBERGLASS INSULATION - STRANDED CONDUCTOR - STAINLESS STEEL OVERBRAID	*	*				900° F
CC	SPECIAL LEADWIRE, DESCRIBE						

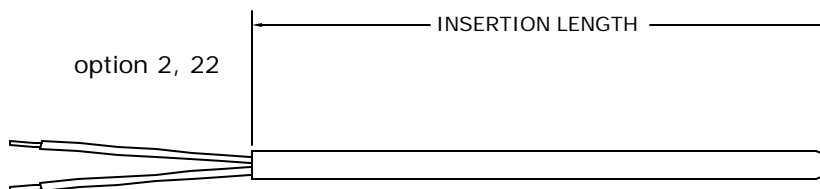
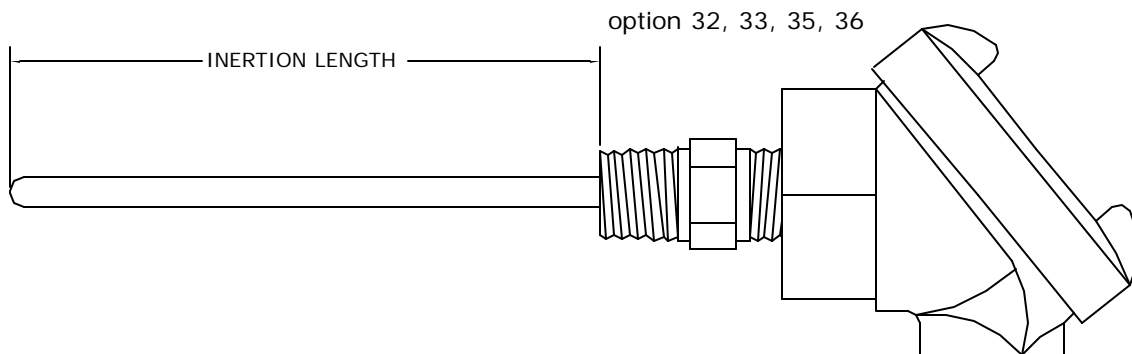
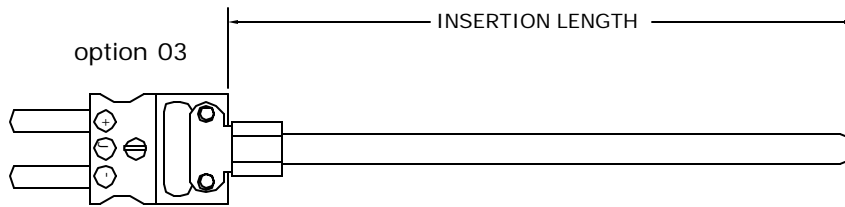
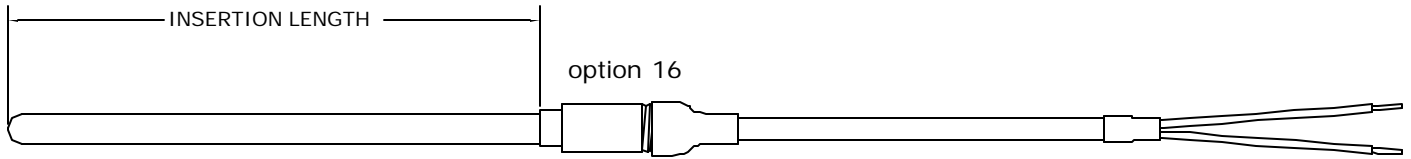
8. LEADWIRE LENGTH
INSERT 3 DIGIT LENGTH IN INCHES

MgO THERMOCOUPLES [9]



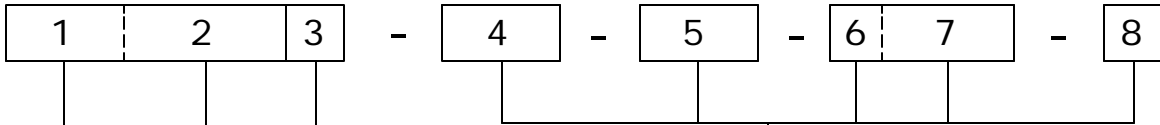
9. EXTENSION WIRE TERMINATIONS	
CODE	DESCRIPTION
1	LEADS NOT STRIPPED
2	LEADS STRIPPED 4"
3	LEADS STRIPPED 4" WITH SPADE LUGS
4	STANDARD SIZE MALE PLUG
5	STANDARD SIZE MALE PLUG WITH MATING FEMALE JACK
6	MINIATURE MALE PLUG
7	MINIATURE MALE PLUG WITH MATING FEMALE JACK
8	12" SPLIT LEADS WITH 2" STRIPPED LEADS WITH SPADE LUGS AND 1/2" BX CONNECTOR
9	STANDARD SIZE FEMALE JACK
10	STANDARD SIZE FEMALE JACK WITH MATING MALE PLUG
11	MINIATURE FEMALE JACK
12	MINIATURE FEMALE JACK WITH MATING MALE PLUG
13	STANDARD SIZE 3-PIN MALE PLUG
14	STANDARD SIZE 3-PIN FEMALE JACK
15	STANDARD SIZE 3-PIN MALE PLUG WITH MATING FEMALE JACK
16	STANDARD SIZE 3-PIN FEMALE JACK WITH MATING MALE PLUG

RESISTANCE TEMPERATURE DETECTORS



Acrolab's Resistance Temperature Detector's are available in the same styles as our thermocouples are. Standard accuracy is 0.3%, but are available in 0.01% for more accuracy. Standard temperature RTD's are designed and built to be moisture resistant, where as high temperature RTD's generally are not. Acrolab's RTD's are built with a 316SS sheath as standard.

RESISTANCE TEMPERATURE DETECTORS [1 to 3]



4 TO 8: SEE PAGES C-33 TO C-40

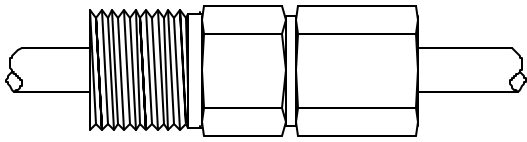
4. SHEATH AND OTHER OPTIONS	
CODE	DESCRIPTION
A	HIGH ACCURACY BULB (±0.01% ACCURACY)
C	FIRST RESPONSE COPPER SHEATH
H	HIGH TEMP BULB (400°F / 204°C) (± 0.1% ACCURACY ONLY)
P	BLACK PVC COATING ON SHEATH
T	CLEAR TEFLON COATING ON SHEATH

2. SHEATH LENGTH
INSERT 3 DIGIT LENGTH IN INCHES

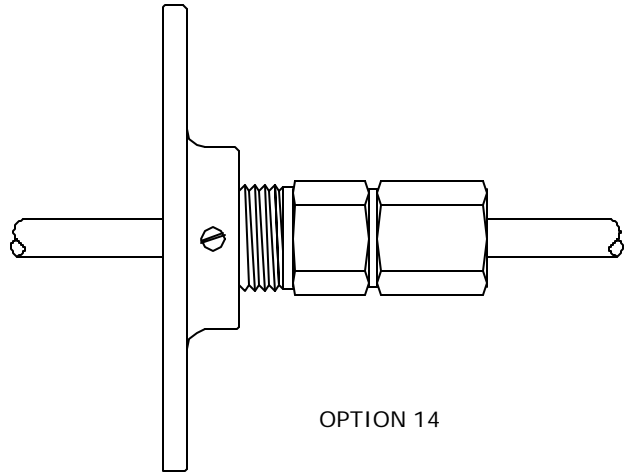
1. CALIBRATION, TUBE DIAMETER AND MATERIAL					
ACCURACY AT 0° C	MATERIAL	1/8" OD	3/16" OD	1/4" OD	3/8" OD
SINGLE ORDER CODE NUMBERS					
± .03%	316 SS	RTD28	RTD38	RTD48	RTD68
DUAL ORDER CODE NUMBERS					
± .03%	316 SS	RTD/RTD28	RTD/RTD38	RTD/RTD48	RTD/RTD68

*RTDs COME STANDARD AS 3-WIRE (2 RED, 1 WHITE),
2 AND 4 WIRE ARE AVAILABLE UPON REQUESTED

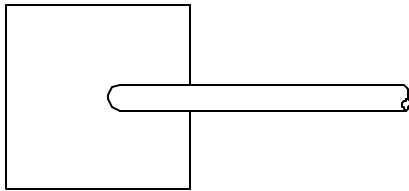
RESISTANCE TEMPERATURE DETECTORS [4]



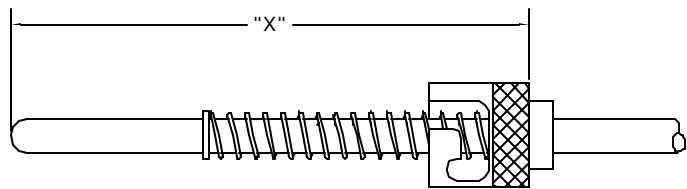
OPTIONS 02 TO 15, 19 AND 25



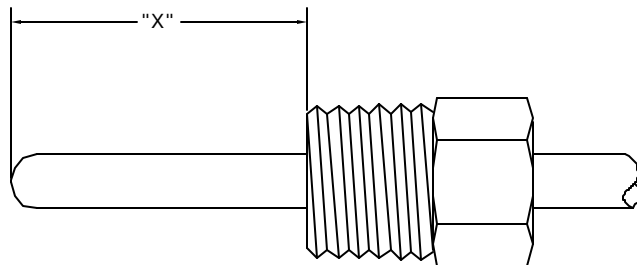
OPTION 14



OPTION 18

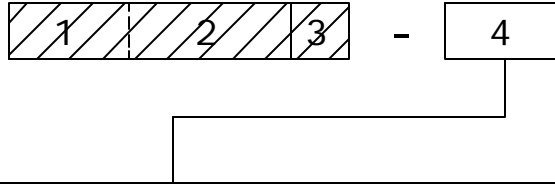


OPTION 20(X)



OPTIONS 21(X) TO 25(X)

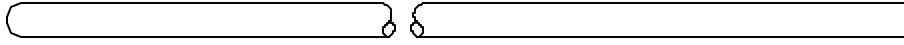
RESISTANCE TEMPERATURE DETECTORS [4]



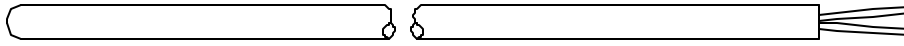
5. ELEMENT FITTING		
CODE	FITTING TYPE	DESCRIPTION
00	NO ELEMENT MOUNTING FITTING	
01	STAINLESS STEEL, ONE TIME ADJUSTABLE COMPRESSION FITTING	1/8" NPT, STAINLESS STEEL FERRULE
02	STAINLESS STEEL, ONE TIME ADJUSTABLE COMPRESSION FITTING	1/2" NPT, STAINLESS STEEL FERRULE
05	STAINLESS STEEL, ONE TIME ADJUSTABLE COMPRESSION FITTING	1/4" NPT, STAINLESS STEEL FERRULE
09	STAINLESS STEEL, RE-ADJUSTABLE COMPRESSION FITTING	1/8" NPT, LAVA PACKING GLAND
12	STAINLESS STEEL, RE-ADJUSTABLE COMPRESSION FITTING	1/8" NPT, TEFLON FERRULE
14	ADJUSTABLE STEEL FLANGE WITH BRASS COMPRESSION FITTING	3.5" OUTSIDE DIAMETER
15	BRASS, ADJUSTABLE COMPRESSION FITTING	1/8" NPT, BRASS FERRULE
18	304 STAINLESS STEEL WELD PAD (1" X 1" X 1/8" THICK STANDARD)	1/8" NPT, BRASS FERRULE
19	BRASS, ADJUSTABLE SPRING LOADED WELL FITTING	1/2" NPT, STAINLESS STEEL FERRULE
25	BRASS, ADJUSTABLE COMPRESSION FITTING	1/4" NPT, BRASS FERRULE
20(X)	BAYONET CAP AND SPRING (SPECIFY "X" DIMENSION)	AVAILABLE FOR 1/8" AND 3/16" DIAMETER SHEATHS
21(X)	FIXED STAINLESS STEEL BUSHING (SPECIFY "X" DIMENSION)	1/8" NPT, AVAILABLE FOR 1/16", 1/8", 3/16" AND 1/4" OD SHEATHS ONLY
23(X)	FIXED STAINLESS STEEL BUSHING (SPECIFY "X" DIMENSION)	1/4" NPT, AVAILABLE FOR 1/16", 1/8", 3/16" AND 1/4" OD SHEATHS ONLY
24(X)	FIXED STAINLESS STEEL BUSHING (SPECIFY "X" DIMENSION)	1/2" NPT, AVAILABLE FOR 1/8", 3/16", 1/4" AND 3/8" OD SHEATHS
25(X)	FIXED STAINLESS STEEL BUSHING (SPECIFY "X" DIMENSION)	3/4" NPT, AVAILABLE FOR 1/8", 3/16", 1/4" AND 3/8" OD SHEATHS
AA	SPECIAL FITTING, DESCRIBE	

RESISTANCE TEMPERATURE DETECTORS [4]

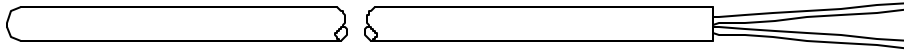
SHEATH TERMINATIONS



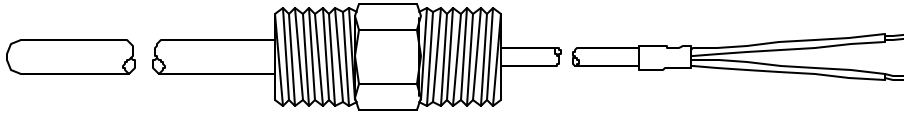
OPTION 01



OPTION 02

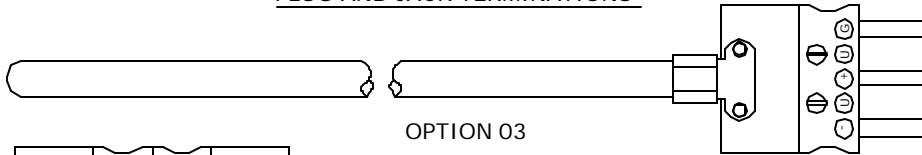


OPTION 22

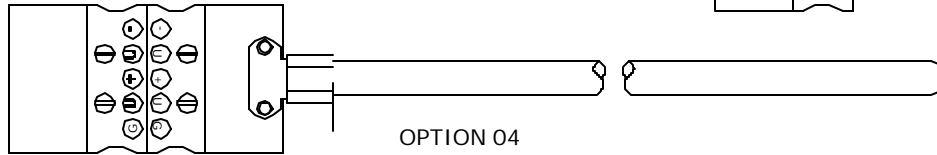


OPTIONS 37 AND 38

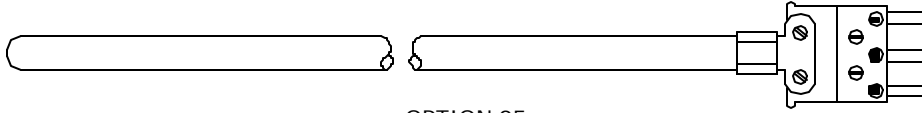
PLUG AND JACK TERMINATIONS



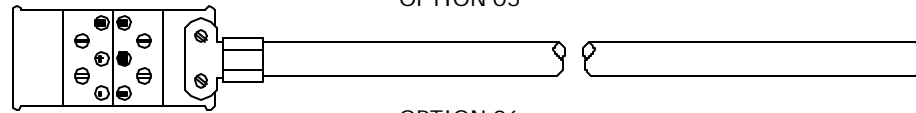
OPTION 03



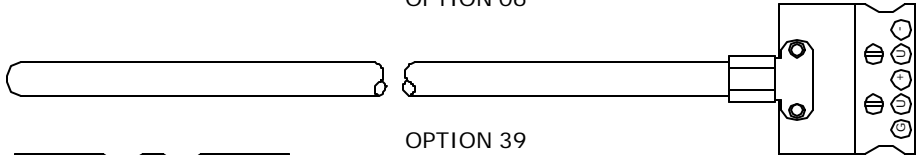
OPTION 04



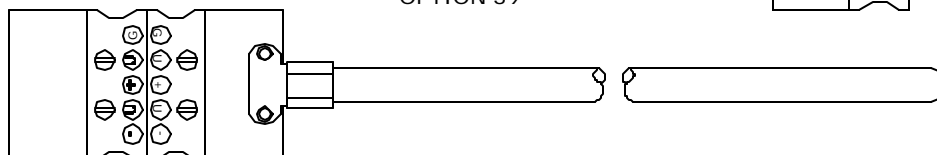
OPTION 05



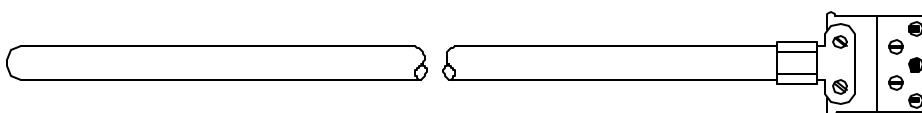
OPTION 06



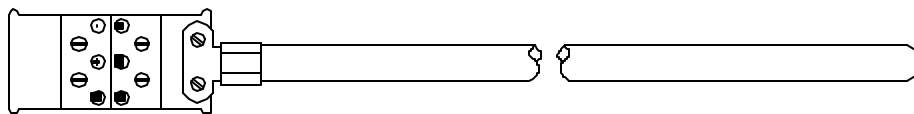
OPTION 39



OPTION 40

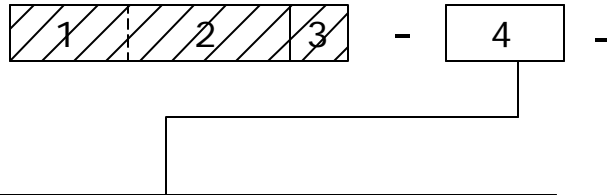


OPTION 41



OPTION 42

RESISTANCE TEMPERATURE DETECTORS [4]

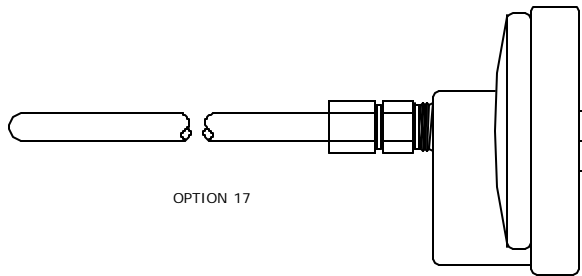


6A. SHEATH TERMINATIONS	
CODE	DESCRIPTION
01	SQUARED END
02	1" STRIPPED LEADS
22	3" STRIPPED LEADS
37	1/2" NPT STEEX HEX. FITTING WITH 3" STRIPPED LEADS
38	1/2" NPT STAINLESS STEEX HEX. FITTING WITH 3" STRIPPED LEADS

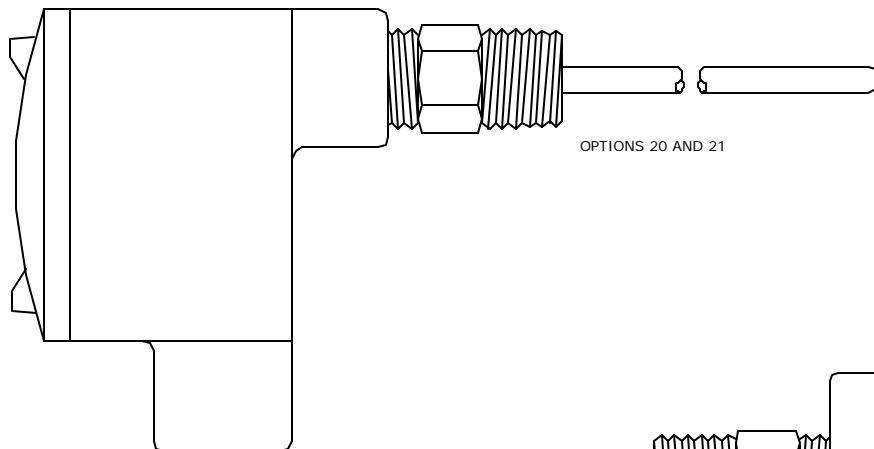
6B. PLUG & JACK TERMINATIONS	
CODE	DESCRIPTION
03	STANDARD SIZE PLUG 1/16" THROUGH 1/4" OD SHEATH ONLY
04	STANDARD SIZE PLUG WITH MATING JACK
05	MINIATURE SIZE PLUG 1/16" THROUGH 3/16" OD SHEATH ONLY
06	MINIATURE SIZE PLUG WITH MATING JACK
39	STANDARD SIZE JACK 1/16" THROUGH 1/4" OD SHEATHS ONLY
40	STANDARD SIZE JACK WITH MATING PLUG
41	MINIATURE SIZE JACK 1/16" THROUGH 1/4" SHEATH ONLY
42	MINIATURE SIZE JACK WITH MATING PLUG
AA	SPECIAL FITTING (DESCRIBE)

RESISTANCE TEMPERATURE DETECTORS [5]

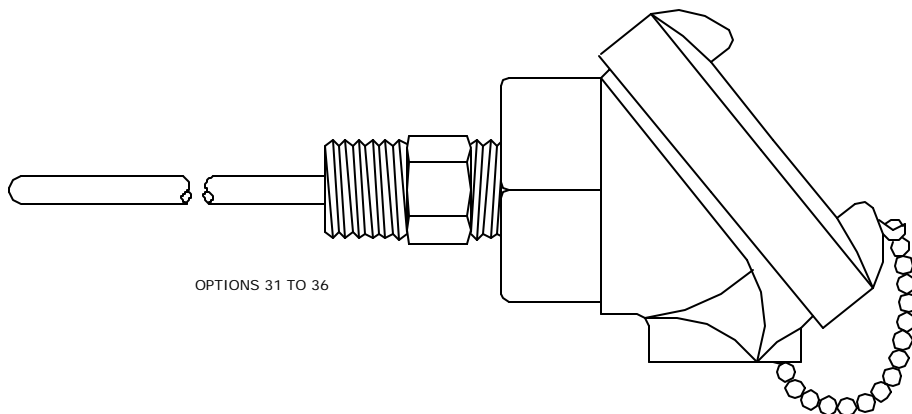
HEAD TERMINATIONS



OPTION 17

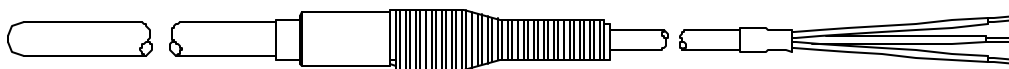


OPTIONS 20 AND 21

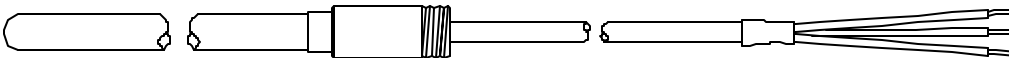


OPTIONS 31 TO 36

LEADWIRE TRANSITIONS



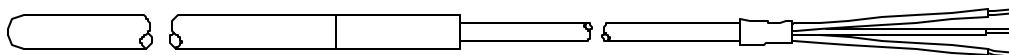
OPTION 15



OPTION 15H



OPTION 16



OPTION 19

RESISTANCE TEMPERATURE DETECTORS [5]



6C. SHEATH TERMINATIONS	
HEAD TERMINATIONS	
CODE	DESCRIPTION
17	MINIATURE PLASTIC HEAD, 1/4" NPT PROCESS AND CONDUIT OPENEINGS
20	CSA APPROVED EXPLOSION PROOF HEAD WITH 1/2" NPT STEEL HEX. FITTING
21	CSA APPROVED EXPLOSION PROOF HEAD WITH 1/2" NPT SS HEX. FITTING
31	CAST ALUMINUM SCREW COVER HEAD WITH NO PROCESS THREAD
32	CAST ALUMINUM SCREW COVER HEAD WITH 1/2" NPT STEEL HEX. FITTING
33	CAST ALUMINUM SCREW COVER HEAD WITH 1/2" NPT SS HEX. FITTING
34	CAST IRON SCREW COVER HEAD WITH NO PROCESS THREAD
35	CAST IRON SCREW COVER HEAD WITH 1/2" NPT STEEL HEX. FITTING
36	CAST IRON SCREW COVER HEAD WITH 1/2" NPT SS HEX. FITTING
TR	HEAD MOUNTED TRANSMITTER (DETAILS TO BE GIVEN)

6D. LEADWIRE TRANSITIONS	
CODE	DESCRIPTION
15	EXTENSION LEADWIRE TRANSITION FITTING AND RELIEF SPRING
15H	HIGH TEMPERATURE TRANSITION FITTING
16	EXTENSION LEADWIRE TRANSITION FITTING SEALED WITH HEAT SHRINK
19	INLINE TRANSITION FITTING
BB	SPECIAL TERMINATION (DESCRIBE)

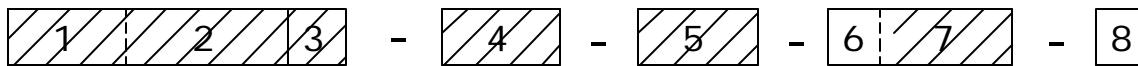
RESISTANCE TEMPERATURE DETECTORS [6, 7]



7. EXTENSION LEADWIRE		
CODE	DESCRIPTION	TEMP. RATING
2	FEP TEFLON INSULATION - STRANDED CONDUCTOR - SS ARMOUR	400° F
4	FIBERGLASS INSULATION - STRANDED CONDUCTOR - SS ARMOUR	900° F
5	FEP TEFLON INSULATION - STRANDED CONDUCTOR	900° F
8	FIBERGLASS INSULATION - STRANDED CONDUCTOR	900° F
9	FIBERGLASS INSULATION - STRANDED CONDUCTOR - STAINLESS STEEL OVERBRAID	900° F
CC	SPECIAL LEADWIRE, DESCRIBE	

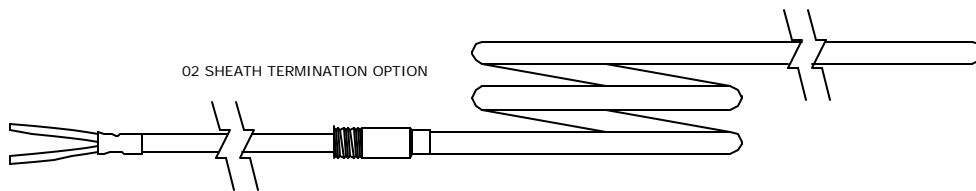
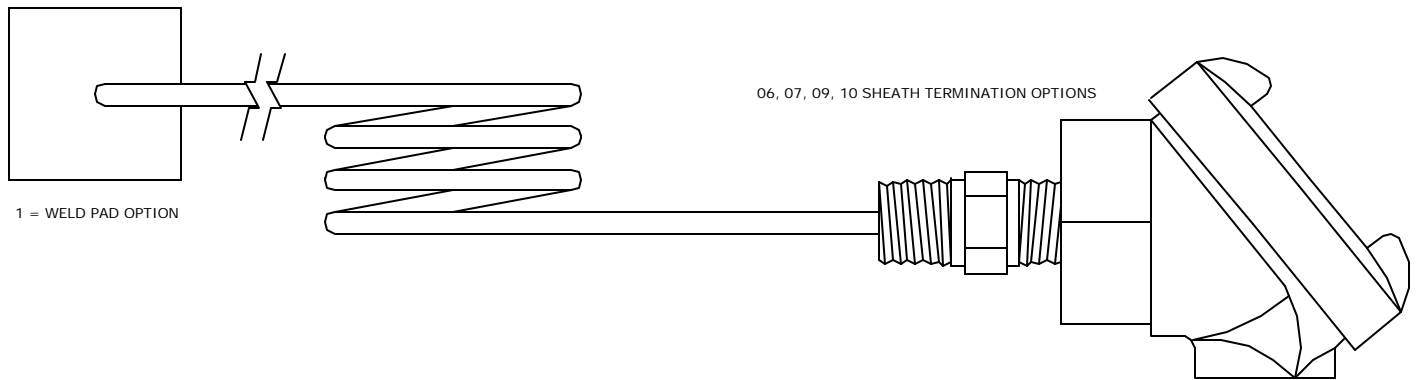
8. LEADWIRE LENGTH
INSERT 3 DIGIT LENGTH IN INCHES

RESISTANCE TEMPERATURE DETECTORS [8]



5. EXTENSION WIRE TERMINATIONS	
CODE	DESCRIPTION
1	LEADS NOT STRIPPED
2	LEADS STRIPPED 4"
3	LEADS STRIPPED 4" WITH SPADE LUGS
4	STANDARD SIZE MALE PLUG
5	STANDARD SIZE MALE PLUG WITH MATING FEMALE JACK
6	MINIATURE MALE PLUG
7	MINIATURE MALE PLUG WITH MATING FEMALE JACK
8	12" SPLIT LEADS WITH 2" STRIPPED LEADS WITH SPADE LUGS AND 1/2" BX CONNECTOR
9	STANDARD SIZE FEMALE JACK
10	STANDARD SIZE 3-PIN MALE PLUG
11	STANDARD SIZE 3-PIN FEMALE JACK
12	STANDARD SIZE 3-PIN MALE PLUG WITH MATING FEMALE JACK
13	STANDARD SIZE 3-PIN FEMALE JACK WITH MATING MALE PLUG

TUBESKIN THERMOCOUPLE ASSEMBLIES



Acrolab's Tubeskin Thermocouples are designed to be welded directly to boiler pipes and the like. They are manufactured using a flexible Magnesium Oxide 316SS or 310SS sheath. Various mounting devices and terminations are available. Acrolab has the ability to provide you with countless custom designs and specifications as well.

TUBESKIN THERMOCOUPLE ASSEMBLIES

COMPLETE ORDER NUMBER



1A. CALIBRATION	
CODE	DESCRIPTION
J	TYPE J CALIBRATION
K	TYPE K CALIBRATION

1B. SHEATH DIAMETER	
CODE	DESCRIPTION
24	1/8" OD, 310 SS
34	3/16" OD, 316 SS
44	1/4" OD, 310 SS
64	3/8" OD, 310 SS

2. SHEATH DIAMETER	
XXX	SHEATH LENGTH (IN INCHES)

3. JUNCTION TYPE	
CODE	DESCRIPTION
G	GROUNDED
U	UNGROUNDED

4. SHEATH TIP STYLE	
CODE	DESCRIPTION
0	ROUNDED WELDED TIP
1	WELD PAD, 1/8" THICK, 1" X 1", 310 SS

5. SHEATH TERMINATION	
CODE	DESCRIPTION
00	NOT APPLICABLE
01	LEADS STRIPPED 4.0"
02	TRANSITION FITTING
03	TRANSITION FITTING WITH RELIEF SPRING
04	1/2" NPT SS HEX. NIPPLE, WITH 4" STRIPPED LEADS
05	3/4" NPT SS HEX. NIPPLE, WITH 4" STRIPPED LEADS
06	1/2" NPT SS HEX. NIPPLE, WITH CAST ALUMINUM HEAD
07	1/2" NPT SS HEX. NIPPLE, WITH CAST IRON HEAD
08	1/2" NPT SS HEX. NIPPLE, WITH EXPLOSION PROOF HEAD
09	3/4" NPT SS HEX. NIPPLE, WITH CAST ALUMINUM HEAD
10	3/4" NPT SS HEX. NIPPLE, WITH CAST IRON HEAD
11	3/4" NPT SS HEX. NIPPLE, WITH EXPLOSION PROOF HEAD

6A. EXTENSION LEADWIRE TYPE	
CODE	DESCRIPTION
1A	FIBERGLASS, STRANDED
1B	FIBERGLASS, STRANDED, WITH SSOB
1C	FIBERGLASS, STRANDED, WITH SS ARMOUR
2A	TEFLON, STRANDED
2B	TEFLON, STRANDED, WITH SSOB
2C	TEFLON, STRANDED, WITH SS ARMOUR
3A	FIBERGLASS, SOLID
3B	FIBERGLASS, SOLID, WITH SSOB
3C	FIBERGLASS, SOLID, WITH SS ARMOUR
4A	TEFLON, SOLID
4B	TEFLON, SOLID, WITH SSOB
4C	TEFLON, SOLID, WITH SS ARMOUR

6B. LEADWIRE LENGTH	
XXX	SHEATH LENGTH (IN INCHES)

7. LEADWIRE TERMINATION	
CODE	DESCRIPTION
0	NOTHING
1	LEADS STRIPPED 4.0"
2	LEADS STRIPPED 4.0" WITH SPADE LUGS
3	LEADS STRIPPED 4.0" WITH BX CONNECOTR
4	LEADS STRIPPED 4.0" WITH SPADE LUGS AND BX CONNECTOR
5	STANDARD MALE PLUG
6	STANDARD MALE JACK
7	MINIATURE FEMALE PLUG
8	MINIATURE FEMALE JACK

EXAMPLE PART NUMBER: K44168G-1-04-1B048-1

K44 = TYPE K, 1/4" OD, 310 SS
 168 = 168" OVERALL SHEATH LENGTH
 G = GROUNDED JUNCTION
 1 = 1/8" THICK X 1" X 1" 310 SS WELD PAD
 04 = TRANSITION FITTING
 1B048 = FIBERGLASS LEADS WITH SSOB, 48" LONG
 1 = STRIPPED LEADS, 4.0"