CERAMIC TUBE, NO MOUNTING FITTING

How to build a part number:

To order an Applied Sensor Technologies protection tube, select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Don't see exactly what you need? Give us a call!

STYLE	TUBE DIAMETER	TUBE MATERIAL	LENGTH

STYLE
CT1 – Ceramic protection tube, no mounting fitting
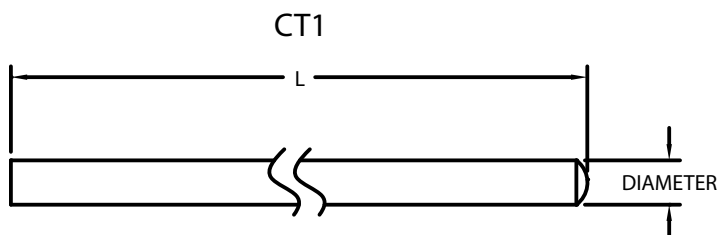
TUBE DIAMETER

CT1

O.D.

0 – 0.375"

1 – 0.5"

2 – 0.688"

3 – 0.75"

4 – 0.875"

5 – 1"

6 – 1.1"

7 – 1.25"

8 – 1.5"

9 – 1.75"

TUBE MATERIAL

A – Alumina

M – Mullite – not recommended for noble metal thermocouples

H – Hexalloy

L – LT-1

S – Sialon

C – Silicon carbide, oxide bonded

LENGTH (in inches)
L# – Specify length (e.g., L6 = 6" overall length)

CERAMIC TUBE, WITH MOUNTING FITTING OR NIPPLE

How to build a part number:

To order an Applied Sensor Technologies protection tube, select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Don't see exactly what you need? Give us a call!

STYLE	TUBE DIAMETER	TUBE MATERIAL	INSTRUMENT CONNECTION	PROCESS CONNECTION	CONNECTION MATERIAL	CONNECTION LENGTH	LENGTH

STYLE

CT2 – Ceramic protection tube with threaded hex fitting
CT3 – Ceramic protection tube with pipe nipple

TUBE DIAMETER

    O.D.

0 – 0.375"

1 – 0.5"

2 – 0.688"

3 – 0.75"

4 – 0.875"

5 – 1"

7 – 1.25"

TUBE MATERIAL

A – Alumina

M – Mullite – not recommended for noble metal thermocouples

H – Hexalloy

L – LT-1

INSTRUMENT CONNECTION*

0 – 1/2" NPT

1 – 3/4" NPT

2 – 1" NPT

3 – 1-1/4" NPT

PROCESS CONNECTION*

0 – 1/2" NPT

1 – 3/4" NPT
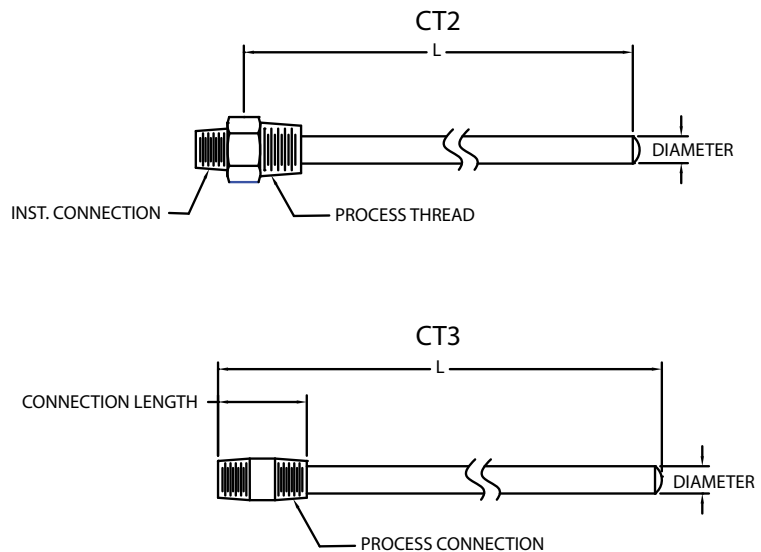
2 – 1" NPT

3 – 1-1/4" NPT

CONNECTION MATERIAL

Y – 304 stainless steel

W – 316 stainless steel

G – Carbon steel

CONNECTION LENGTH
1 – CT2 only (hex fitting length)
– CT3 only (length of nipple in inches; e.g., 6 = 6" nipple)

LENGTH (in inches)
L# – Specify length (For CT2, U is approximately L – 1"; for CT3, U is
approximately L – the nipple length)

*Note: For CT3, Instrument and Process Connection sizes must be the same.

CT2

L

INST. CONNECTION — PROCESS THREAD — DIAMETER

CT3

L

CONNECTION LENGTH — PROCESS CONNECTION — DIAMETER

METAL TUBE, PLAIN OR WITH MOUNTING BUSHING

How to build a part number:

To order an Applied Sensor Technologies protection tube, select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Don't see exactly what you need? Give us a call!

STYLE	PIPE SIZE/ INSTRUMENT CONNECTION	PIPE SCHEDULE	PIPE & BUSHING MATERIAL	BUSHING SIZE	OVERALL LENGTH	INSERTION LENGTH

STYLE
MT1 − Metal protection tube, threaded, no bushing
MT2 − Metal protection tube, threaded, with bushing

PIPE SIZE/INSTRUMENT CONNECTION

	Pipe Size	Connection
1 —	1/2" pipe (0.840" dia.)	1/2" NPT
2 −	3/4" pipe (1.050" dia.)	3/4" NPT
3 −	1" pipe (1.315" dia.)	1" NPT

PIPE SCHEDULE
40 − Schedule 40
80 − Schedule 80
160 − Schedule 160

PIPE AND BUSHING MATERIAL
304 − 304 stainless steel
310 − 310 stainless steel
316 − 316 stainless steel
316L − 316L stainless steel
321 − 321 stainless steel
A20 − Alloy 20
INC − Inconel 600®
400 − Monel 400®

BUSHING SIZE
1 − 1/2" NPT
2 − 3/4" NPT
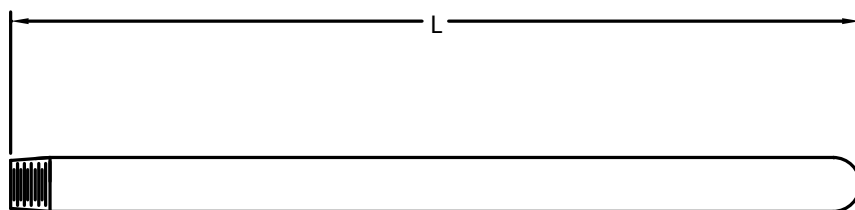**3** − 1" NPT
4 − 1-1/4" NPT
5 − 1-1/2" NPT
7 − 2" NPT

OVERALL LENGTH (in inches)
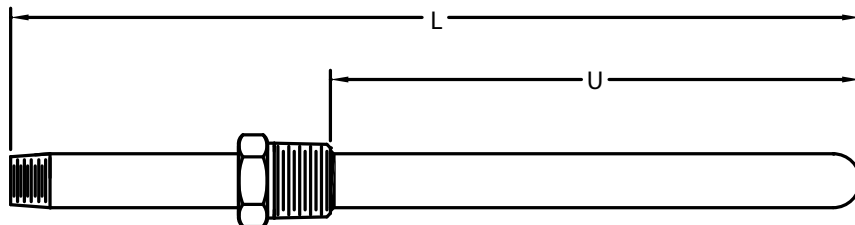**L#** − Specify overall length of tube (e.g., L24 = 24" long tube)

INSERTION LENGTH (MT2 only, in inches)
U# − Specify length below bushing connection (e.g., U6 = 6" below thread)

STYLE MT1

STYLE MT2

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METAL TUBE WITH MOUNTING FLANGE

How to build a part number:

To order an Applied Sensor Technologies protection tube, select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Don't see exactly what you need? Give us a call!

STYLE	PIPE SIZE/ INSTRUMENT CONNECTION	PIPE SCHEDULE	PIPE & FLANGE MATERIAL	FLANGE SIZE	FLANGE RATING	FLANGE TYPE	OVERALL LENGTH	INSERTION LENGTH

STYLE
MT4 – Metal protection tube, threaded, with flange

PIPE SIZE/INSTRUMENT CONNECTION

Pipe Size	Connection
1 – 1/2" pipe (0.840" dia.)	1/2" NPT
2 – 3/4" pipe (1.050" dia.)	3/4" NPT
3 – 1" pipe (1.315" dia.)	1" NPT

PIPE SCHEDULE
40 – Schedule 40
80 – Schedule 80
160 – Schedule 160

PIPE AND FLANGE MATERIAL
304 – 304 stainless steel
310 – 310 stainless steel
316 – 316 stainless steel
316L – 316L stainless steel
321 – 321 stainless steel
A20 – Alloy 20
INC – Inconel 600®
400 – Monel 400®

FLANGE SIZE
1 – 1" flange
1.5 – 1.5" flange
2 – 2" flange
3 – 3" flange
4 – 4" flange

FLANGE RATING
150 – 150# flange rating
300 – 300# flange rating
600 – 600# flange rating
900/1500 – 900/1500# flange rating

FLANGE TYPE
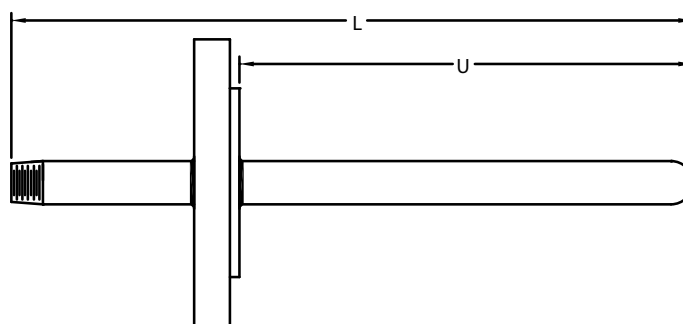**RF** – Raised face
FF – Flat face
RTJ – Ring type joint

OVERALL LENGTH (in inches)
L# – Specify overall length of tube (e.g., L24 = 24" long tube)

INSERTION LENGTH (in inches)
U# – Specify length below flange (e.g., U6 = 6" below flange)

STYLE MT4

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UE APPLIED SENSOR TECHNOLOGIES
A Division of UNITED ELECTRIC CONTROLS

SPECIAL SECONDARY (OUTER) TUBE WITH MOUNTING BUSHING

How to build a part number:

To order an Applied Sensor Technologies protection tube, select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Don't see exactly what you need? Give us a call!

STYLE	TUBE DIAMETER	TUBE MATERIAL	INSTRUMENT CONNECTION	PROCESS CONNECTION	BUSHING MATERIAL	OVERALL LENGTH

STYLE
PT2 – Outer protection tube, with bushing, to be used with inner ceramic protection tube (Style CT2 or CT3)

TUBE DIAMETER
3 – 3/4" O.D.
4 – 7/8" O.D.
5 – 1" O.D.
6 – 1-1/10" O.D.
7 – 1-1/4" O.D.
8 – 1-1/2" O.D.
9 – 1-3/4" O.D.

TUBE MATERIAL
C – Silicon carbide, oxide bonded
S – Sialon
H – Hexalloy
L – LT1 metal ceramic

INSTRUMENT CONNECTION
0 – 1/2" NPT
1 – 3/4" NPT

PROCESS CONNECTION
2 – 1" NPT
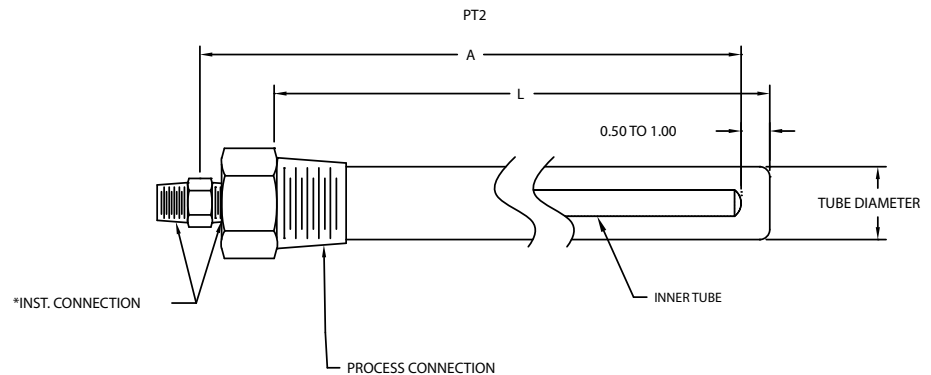**3** – 1-1/4" NPT
4 – 1-1/2 NPT
5 – 2" NPT

BUSHING MATERIAL
G – Carbon steel
W – 316 stainless steel

OVERALL LENGTH (in inches)
L# – Specify length of tube including threads

(e.g., L24=24" long tube)

PT2

A

L

0.50 TO 1.00

TUBE DIAMETER

*INST. CONNECTION

INNER TUBE

PROCESS CONNECTION

Use CT2/CT3 spec sheet to specify inner protection tube, using appropriate O.D. from chart below:

OUTER TUBE O.D.	INNER TUBE O.D.
3/4"	.375"
7/8"	.375"
1"	.375"
1.10"	.375"
1-1/4"	.688"
1-1/2"	.688"
1-3/4"	.75"

Note: to match inner tube length to outer, inner length (A) = outer tube length (L) + 0.75"

PROCESS THREAD (NPT)

	CODE	2 (1")	3 (1-1/4")	4 (1-1/2")	5 (2")
OUTER TUBE O.D.	3 (3/4")	H	H	H	H
	4 (7/8")	L,S	L,S	L,S	L,S
	5 (1")		H	H	H
	6 (1-1/10")		S	S	S
	7 (1-1/4")			H	H
	8 (1-1/2")			H	H
	9 (1-3/4")				C

Notes:

1. Not all materials and process thread sizes are compatible with all tubing O.D.'s. Use the chart below as a guide for the possible combinations. For each combination of thread and O.D., available materials are noted – Silicon Carbide (C), Sialon® (S), Hexalloy® (H) and LT1 (L).

2. Applied Sensor Technologies recommends alumina protection tubes when using platinum thermocouples. Mullite, although less expensive when compared to alumina, can contaminate the platinum, causing drift.

SPECIAL SECONDARY (OUTER) TUBE WITH MOUNTING FLANGE

How to build a part number:

To order an Applied Sensor Technologies protection tube, select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Don't see exactly what you need? Give us a call!

STYLE	TUBE DIAMETER	TUBE MATERIAL	SLIP FLANGE SIZE	OVERALL LENGTH

STYLE

PT3 − Outer protection tube, with 4-7/8" mounting flange for mounting, to be used with inner ceramic protection tube (Style CT2 or CT3)
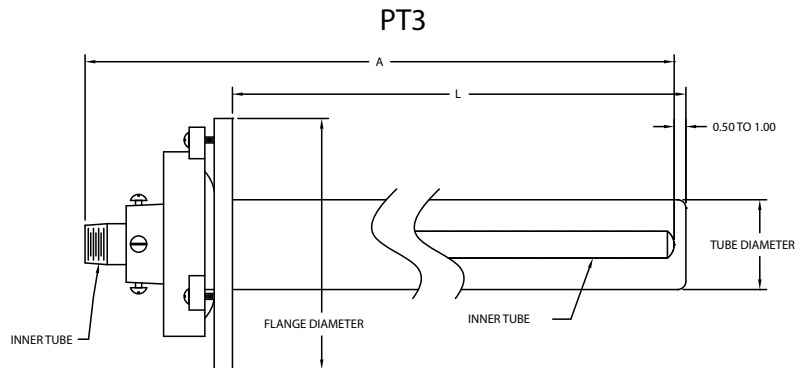
TUBE DIAMETER

9 − 1-3/4" O.D.

TUBE MATERIAL

C − Silicon carbide, oxide bonded

SLIP FLANGE SIZE

5 − 4-7/8"

OVERALL LENGTH (in inches)

L# − Specify length of tube below flange

(e.g., L24=24" long tube)

PT3

Notes − when inner protection tube is required:

1. Use CT2/CT3 spec sheet to specify inner tube.
2. Style should be CT3 with a 3/4" diameter to match up with 1-3/4" outer tube.
3. Minimum nipple length should be 4" in order to extend past the collar.
4. Length of inner tube (A) should be equal to outer tube length (L) + 2.5".
5. Applied Sensor Technologies recommends alumina inner protection tubes when using platinum thermocouples. Mullite, although less expensive when compared to alumina, can contaminate the platinum, causing drift.