

PMI Industrial Thermocouples are constructed from the highest quality components available. We are dedicated to providing you with the sensors which meet your precise application requirements while maintaining our best possible delivery and lowest cost.

Components offered in this brochure are described separately-offering you the opportunity to purchase individual units or construct your complete custom assemblies.

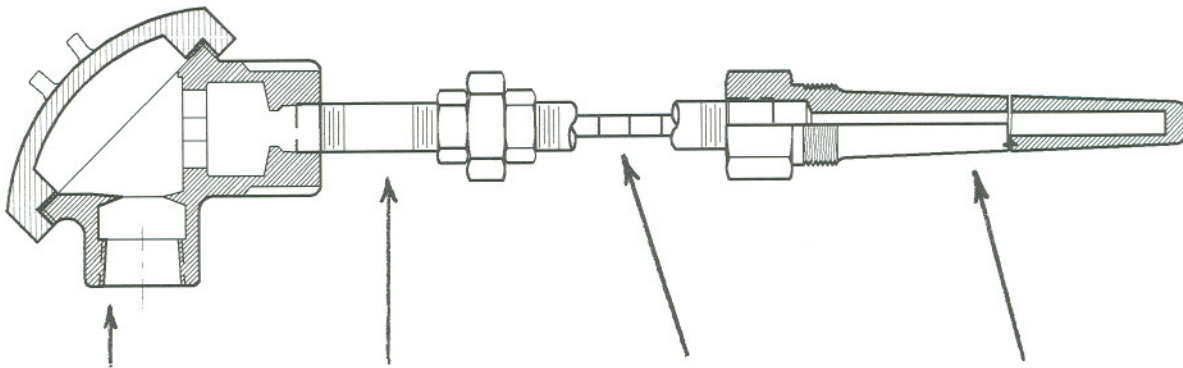
The designs illustrated are not intended to represent all of the types which can be furnished, but rather to show basic constructions which can be modified for specific applications.

PRECISION MEASUREMENTS manufactures a complete thermocouple line including assemblies for chemical, power, primary metals and plastic industries.

Call one of our application engineers for assistance in selecting the custom thermocouple for your specific need.

Ordering Guide

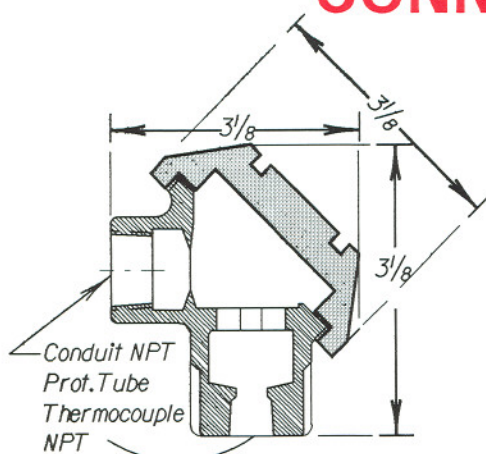
Example Ordering Code:



HEAD TYPE Select from Page B3	EXTENSION ASSEMBLY Select from Page B3	ELEMENT TYPE Select from Page B4	WELL TYPE Select from Page B5-B9
A 1	NuN6	B20J	1" 385 H 4 1/2"

This simple ordering system supplies detailed ordering information for most thermocouple applications.

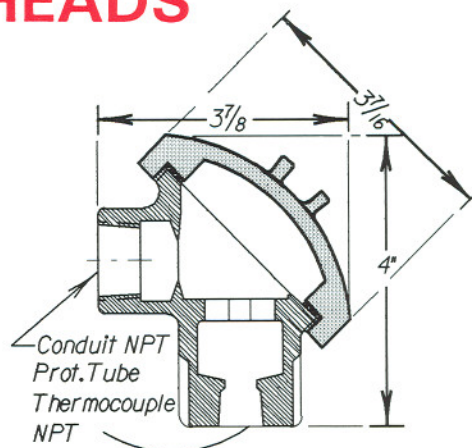
CONNECTION HEADS



STANDARD

Compact, two-piece screw cover, weathertight housing with gasket, for terminal connections. Designed to simplify replacement of thermocouple elements

Available in Aluminum or Cast Iron.



LARGE

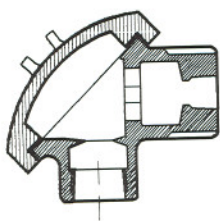
Large sturdy, two-piece screw cover, weathertight housing with gasket for mounting terminal blocks and/or small transmitters.

Available in Aluminum or Cast Iron.

STANDARD		LARGE		PROTECTION TUBE CONN.	CONDUIT OUTLET
ALUMINUM	CAST IRON	ALUMINUM	CAST IRON		
A-1	CI-1	LA-1	LCI-1	1/2 in. NPT	1/2 in NPT
A-2	CI-2	LA-2	LCI-2	3/4 in NPT	
A-3	CI-3	LA-3	LCI-3	1 in NPT	
A-4	CI-4	LA-4	LCI-4	1/2 in NPT	3/4 in NPT
A-5	CI-5	LA-5	LCI-5	3/4 in NPT	
A-6	CI-6	LA-6	LCI-6	1 in NPT	

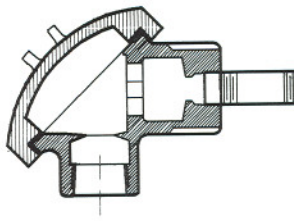
STANDARD EXTENSION ASSEMBLY

DIRECT ASSEMBLY



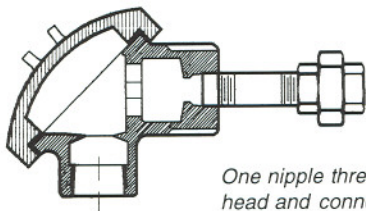
Connecting head on thermowell. Specify Head Number.
EXAMPLE: A1.

NIPPLE EXTENSION



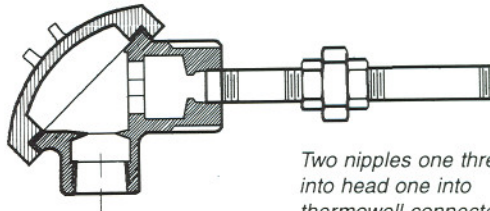
Threads directly into connection head and thermowell. Available in any length. Specify head and letter N and Nipple length in inches.
EXAMPLE A1-N3.

NIPPLE / UNION EXTENSION



One nipple threaded into head and connected to thermowell by union. Available in any length. Specify head and letter NU and length in inches.
EXAMPLE A1-NU4.

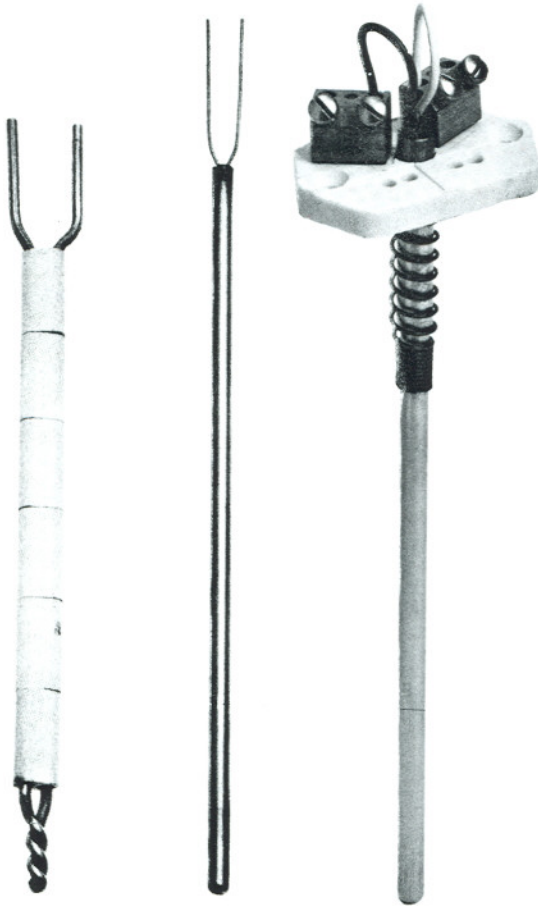
NIPPLE / UNION NIPPLE EXTENSION



Two nipples one threading into head one into thermowell connected by union. Available in any length. Specify head and letter NUN and length in inches.
EXAMPLE A1-NUN6.

ELEMENTS

When ordering elements only, specify ordering code, calibration, type of measuring junction, sheath material, and length.



**Beaded
TYPE
"B" Single
"BD" Dual**
Wires with
insulators

**MGO
"M" Single
"MD" Dual**
Wires with
compacted
ceramic
insulation in
*304SS sheath

**MGO
Spring Loaded
TYPE
"MS" Single
"MDS" Dual**
Wires with
compacted
ceramic
insulation in
*304SS sheath
for spring
loading

*Other sheath materials available upon request.

TYPE B Beaded

Ordering Code	AWG	Thermocouple Calibration
B08	8	J,K,T,E
B14	14	J,K,T,E
B20	20	J,K,T,E,S,R,B
BD08	8	J,K,T,E
BD14	14	J,K,T,E
BD20	20	J,K,T,E,S,R,B

TYPE M Mineral Insulated

Ordering Code	Thermocouple Calibration	Nominal OD Inches
M14	J,K,T,E,S,R,B	1/4
M18	J,K,T,E,S,R,B	1/8
MD14	J,K,T,E,S,R,B	1/4
MD18	J,K,T,E,S,R,B	1/8

TYPE MS Mineral Insulated Spring Loaded

MS14	J,K,T,E,S,R,B	1/4
MS18	J,K,T,E,S,R,B	1/8
MDS14	J,K,T,E,S,R,B	1/4
MDS18	J,K,T,E,S,R,B	1/8

TYPE RTD Mineral Insulated Spring Loaded

Ordering Code	Temperature Coefficient	Nominal OD Inches
14-RTD-Single	.00385	1/4
14-DRTD-Dual	.00385	1/4

**STANDARD THREADED WELL
FOR 3/8" DIAMETER ELEMENTS**

APPLICATION:

Standard length, 3/8" Stem, Bi-metal thermometers. #14 gauge thermocouple elements. Armored liquid-in-glass test thermometers. Other temperature sensing elements having .377 in. maximum diameter.

CONNECTION SIZE:

3/4" NPT and 1" NPT are standard. Other thread sizes are available upon request.

MATERIALS:

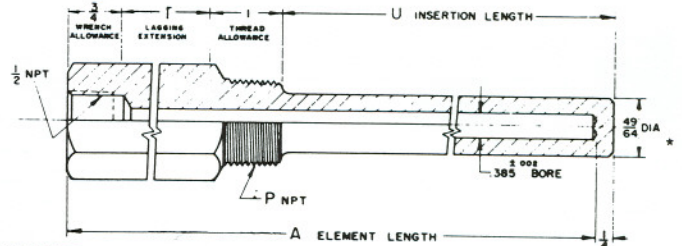
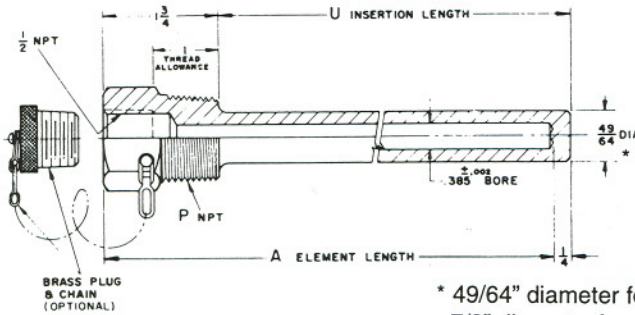
Brass (A.S.T.M. B-16); Carbon Steel (C-1018); A.I.S.I. 304; A.I.S.I. - 316; Monel. Wells also are available in special materials, prices on request.

CAP & CHAIN:

Brass captive cap is available for keeping well bore clean when not in use.

SERIES 385S — GENERAL USE

SERIES 385 SL - LAGGING EXTENSION TYPE



* 49/64" diameter for 3/4" NPT process connection.
7/8" diameter for 1" NPT

EXTERNAL THREAD P	TYPE NUMBER	A ELEM. LGTH.	INSERT. LGTH. U
3/4" NPT	3/4"-385S -U 2 1/2	4	2 1/2
	-U 4 1/2	6	4 1/2
	-U 7 1/2	9	7 1/2
	-U10 1/2	12	10 1/2
	-U13 1/2	15	13 1/2
	-U16 1/2	18	16 1/2
1" NPT	1"-385S -U 2 1/2	4	2 1/2
	-U 4 1/2	6	4 1/2
	-U 7 1/2	9	7 1/2
	-U10 1/2	12	10 1/2
	-U13 1/2	15	13 1/2
	-U16 1/2	18	16 1/2
	-U22 1/2	24	22 1/2

EXTERNAL THREAD P	TYPE NUMBER	LAG. EXT. T	ELEM. LGTH. A	INSERT. LGTH. U
3/4" NPT	3/4"-385SL -U 2 1/2	2	6	2 1/2
	-U 4 1/2	3	9	4 1/2
	-U 7 1/2	3	12	7 1/2
	-U10 1/2	3	15	10 1/2
	-U13 1/2	3	18	13 1/2
	-U19 1/2	3	24	19 1/2
1" NPT	1"-385SL -U 2 1/2	2	6	2 1/2
	-U 4 1/2	3	9	4 1/2
	-U 7 1/2	3	12	7 1/2
	-U10 1/2	3	15	10 1/2
	-U13 1/2	3	18	13 1/2
	-U19 1/2	3	24	19 1/2

**PRESSURE - TEMPERATURE RATING
LBS. PER SQ. INCH**

(Values based on allowable stress levels published in the 1956 edition of the A.S.M.E. Boiler Code. Section VIII.)

MATERIAL	TEMPERATURE — °F.						
	70°	200°	400°	600°	800°	1000°	1200°
Brass	5000	4200	1000	---	---	---	---
Carbon Steel	5200	5000	4800	4600	3500	1500	---
A.I.S.I. 304	7000	6200	5600	5400	5200	4500	1650
A.I.S.I. 316	7000	7000	6400	6200	6100	5100	2500
Monel	6500	6000	5400	5300	5200	1500	---

**MAXIMUM FLUID VELOCITY
FEET PER SECOND**

MATERIAL	INSERTION LENGTH — "U"							
	2 1/2	4 1/2	7 1/2	10 1/2	13 1/2	16 1/2	19 1/2	22 1/2
Brass	290 (145)	150 (80)	54.1 (48)	27.6	16.7	11.1	8.0	6.0
Carbon Steel	326 (260)	192 (144)	69.5	35.4	20.5	14.3	10.3	7.7
A.I.S.I.-304 & 316	349 (360)	199	71.9	36.6	21.2	14.8	10.7	8.0
Monel	316 (320)	189 (178)	68.1	34.8	20.8	14.0	10.0	7.5

TO ORDER, PLEASE SPECIFY:

1. Complete Type Number
2. Material
3. Cap & Chain - If Desired

HEAVY DUTY THREADED WELL
FOR 3/8" DIAMETER ELEMENTS

APPLICATION:

Standard length, 3/8" Stem, Bi-metal thermometers. #14 gauge thermocouple elements. Armored liquid-in-glass test thermometers. Other temperature sensing elements having .377 in. maximum diameter.

CONNECTION SIZE:

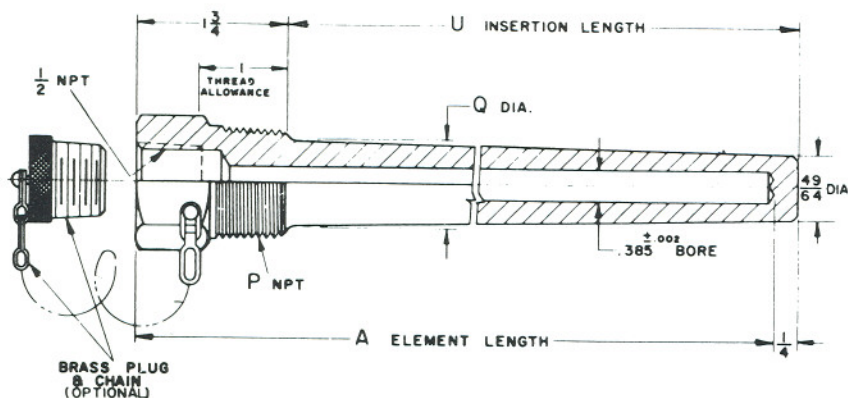
1" NPT is standard. Other thread sizes are available upon request.

MATERIALS:

Brass (A.S.T.M. B-16); Carbon Steel (C-1018) A.I.S.I. 304; A.I.S.I. - 316; Monel. Wells also are available in special materials, prices on request.

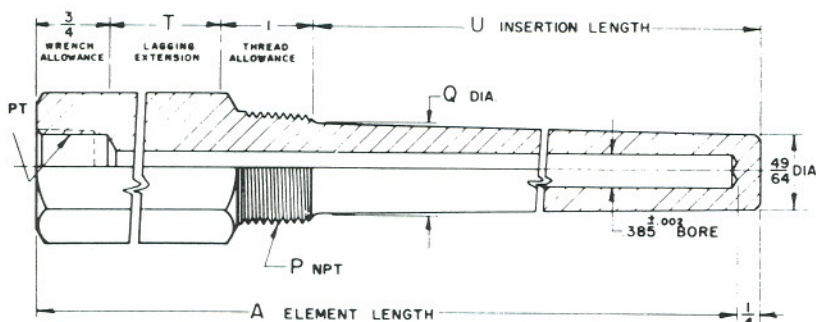
CAP & CHAIN:

Brass captive cap is available for keeping well bore clean when not in use.



SERIES 385H — GENERAL USE
EXTERNAL THREAD "P" — 1" NPT

TYPE NUMBER	ELEM. LGTH. A	INSERT. LGTH. U	SHANK DIA. Q
1"-385H -U 2 1/2	4	2 1/2	1-1/16
-U 4 1/2	6	4 1/2	"
-U 7 1/2	9	7 1/2	"
-U10 1/2	12	10 1/2	"
-U13 1/2	15	13 1/2	"
-U16 1/2	18	16 1/2	"
-U22 1/2	24	22 1/2	"



SERIES 385 HL — LAGGING EXTENSION TYPE
EXTERNAL THREAD "P" — "1" NPT

TYPE NUMBER	LAG. EXT. T	ELEM. LGTH. A	INSERT. LENGTH U	SHANK DIA. Q
1"-385HL -U 2 1/2	2	6	2 1/2	1-1/16
-U 4 1/2	3	9	4 1/2	"
-U 7 1/2	3	12	7 1/2	"
-U10 1/2	3	15	10 1/2	"
-U13 1/2	3	18	13 1/2	"
-U19 1/2	3	24	19 1/2	"

PRESSURE - TEMPERATURE RATING
LBS. PER SQ. INCH

(Values based on allowable stress levels published in the 1956 edition of the A.S.M.E. Boiler Code, Section VIII.)

MATERIAL	TEMPERATURE — °F.						
	.70°	200°	400°	600°	800°	1000	1200°
Brass	5000	4200	1000	---	---	---	---
Carbon Steel	5200	5000	4800	4600	3500	1500	---
A.I.S.I. 304	7000	6200	5600	5400	5200	4500	1650
A.I.S.I. 316	7000	7000	6400	6200	6100	5100	2500
Monel	6500	6000	5400	5300	5200	1500	---

MAXIMUM FLUID VELOCITY
FEET PER SECOND

MATERIAL	INSERTION LENGTH — "U"							
	2 1/2	4 1/2	7 1/2	10 1/2	13 1/2	16 1/2	19 1/2	22 1/2
Brass	321 (150)	129 (83.5)	46.8	23.6	14.5	9.6	6.9	5.1
Carbon Steel	410 (279)	249 (150)	90.3	45.6	27.8	18.5	13.2	9.8
A.I.S.I. 304 & 316	483 (350)	272 (208)	97.3	49.7	30.4	20.3	14.5	10.7
Monel	396 (300)	214 (167)	77.5	39.2	23.8	16.0	10.3	7.7

- TO ORDER, PLEASE SPECIFY:**
1. Complete Type Number
 2. Material
 3. Cap & Chain — If Desired

**STANDARD THREADED WELL
FOR 1/4" DIAMETER ELEMENTS**

APPLICATION:

Standard length, 1/4" Stem, Bi-metal thermometers; #20 gauge thermocouple elements; unarmored liquid-in-glass test thermometers. Other temperature sensing elements having .252 in. maximum diameter.

CONNECTION SIZE:

1/2", 3/4" and 1" NPT are standard. Other thread sizes are available upon request.

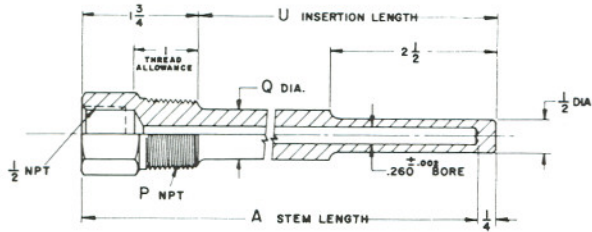
MATERIALS:

Brass (ASTM B-16); Carbon Steel (C-1018); Stainless Steel A.I.S.I. 304 & A.I.S.I. - 316; Monel. Wells are available also in special materials, prices on request.

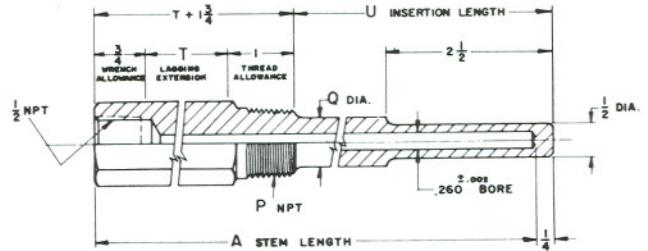
CAP & CHAIN:

Brass captive cap is available for keeping well bore clean when not in use.

SERIES 260R - GENERAL USE



SERIES 260RL - LAGGING EXTENSION TYPE



EXT. TH'D P	TYPE NUMBER	STEM LGTH. A	INSERT. LGTH. U	SHANK DIA. Q
1/2" NPT	1/2"-260R -U 2 1/2	4	2 1/2	—
	-U 4 1/2	6	4 1/2	5/8
	-U 7 1/2	9	7 1/2	"
	-U 10 1/2	12	10 1/2	"
	-U 13 1/2	15	13 1/2	"
	-U 16 1/2	18	16 1/2	"
3/4" NPT	3/4"-260R -U 2 1/2	4	2 1/2	—
	-U 4 1/2	6	4 1/2	3/4
	-U 7 1/2	9	7 1/2	"
	-U 10 1/2	12	10 1/2	"
	-U 13 1/2	15	13 1/2	"
	-U 16 1/2	18	16 1/2	"
1" NPT	1"-260R -U 2 1/2	4	2 1/2	—
	-U 4 1/2	6	4 1/2	7/8
	-U 7 1/2	9	7 1/2	"
	-U 10 1/2	12	10 1/2	"
	-U 13 1/2	15	13 1/2	"
	-U 16 1/2	18	16 1/2	"

EXT. TH'D P	TYPE NUMBER	STEM LGTH. A	INSERT. LGTH. U	LAG. EXT. T	SHANK DIA. Q
1/2" NPT	1/2"-260RL -U 2 1/2	6	2 1/2	2	—
	-U 4 1/2	9	4 1/2	3	5/8
	-U 7 1/2	12	7 1/2	3	"
	-U 10 1/2	15	10 1/2	3	"
	-U 13 1/2	18	13 1/2	3	"
	-U 16 1/2	24	19 1/2	3	"
3/4" NPT	3/4"-260RL -U 2 1/2	6	2 1/2	2	—
	-U 4 1/2	9	4 1/2	3	3/4
	-U 7 1/2	12	7 1/2	3	"
	-U 10 1/2	15	10 1/2	3	"
	-U 13 1/2	18	13 1/2	3	"
	-U 16 1/2	24	19 1/2	3	"
1" NPT	1"-260RL -U 2 1/2	6	2 1/2	2	—
	-U 4 1/2	9	4 1/2	3	7/8
	-U 7 1/2	12	7 1/2	3	"
	-U 10 1/2	15	10 1/2	3	"
	-U 13 1/2	18	13 1/2	3	"
	-U 16 1/2	24	19 1/2	3	"

**PRESSURE - TEMPERATURE RATING
LBS. PER SQ. INCH**

(Values based on allowable stress levels published in the 1956 edition of the A.S.M.E. Boiler Code, Section VIII.)

MATERIAL	TEMPERATURE - ° F.						
	70°	200°	400°	600°	800°	1000°	1200°
Brass	5000	4200	1000	—	—	—	—
Carbon Steel	5200	5000	4800	4600	3500	1500	—
A.I.S.I. - 304	7000	6200	5600	5400	5200	4500	1650
A.I.S.I. - 316	7000	7000	6400	6200	6100	5100	2500
Monel	6500	6000	5400	5300	5200	1500	—

**MAXIMUM FLUID VELOCITY
FEET PER SECOND**

WELL TYPE	MATERIAL	INSERTION LENGTH - "U"							
		2 1/2	4 1/2	7 1/2	10 1/2	13 1/2	16 1/2	19 1/2	22 1/2
1/2"-260R and 1/2"-260RL	Brass	207 (59.3)	75.5 (32.2)	27.3 (19.7)	13.9	8.4	5.6	4.1	3.0
	Carbon Steel	290 (106)	105 (59)	38.2 (36.3)	19.4	11.8	7.8	5.7	4.2
	A.I.S.I. 304 & 316	300 (148)	109 (82.2)	39.5	20.1	12.2	8.1	5.9	4.4
	Monel	261 (118)	95 (65.5)	34.4	17.5	10.5	7.1	5.2	3.8
3/4"-260R and 3/4"-260RL	Brass	207 (59.3)	89.1 (39.8)	32.2 (23.9)	16.4	9.9	6.6	4.8	3.6
	Carbon Steel	290 (106)	123 (71.2)	44.9 (42.7)	22.8	13.8	9.3	6.7	4.9
	A.I.S.I. 304 & 316	300 (148)	128 (99.3)	46.4	23.6	14.3	9.6	6.9	5.1
	Monel	261 (118)	112 (79.8)	40.6	20.7	12.4	8.3	6.1	4.5
1"-260R and 1"-260RL	Brass	207 (59.3)	102 (47.6)	37.0 (28)	18.8	11.4	7.6	5.5	4.1
	Carbon Steel	290 (106)	143 (84.3)	51.6 (50.6)	26.2	15.9	10.6	7.6	5.7
	A.I.S.I. 304 & 316	300 (148)	148 (117)	53.5	27.2	16.5	11.0	7.9	5.9
	Monel	261 (118)	128 (93.3)	46.7	23.7	14.4	9.5	6.9	5.1

TO ORDER, PLEASE SPECIFY:

1. Complete Type Number
2. Material
3. Cap & Chain - If Desired

HEAVY DUTY THREADED WELL FOR 1/4" DIAMETER ELEMENTS

**260H
SERIES and
260HL**

APPLICATION:

Standard length, 1/4" Bi-metal thermometers. #20 gauge thermocouple elements. Unarmored liquid-in-glass test thermometers. Other temperature sensing elements having .252 in. maximum diameter.

CONNECTION SIZE:

3/4" NPT and 1" NPT are standard. Other thread sizes are available upon request.

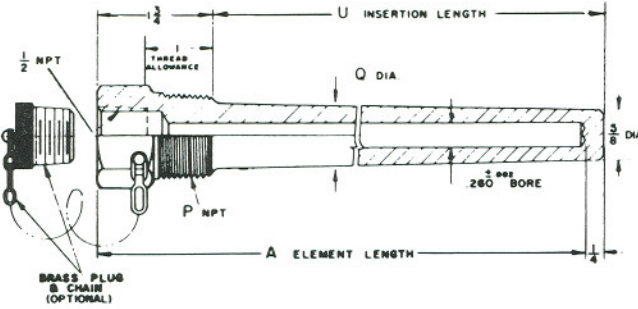
MATERIALS:

Brass (ASTM B-16); Carbon Steel (C-1018); Stainless Steel A.I.S.I. 304 & A.I.S.I. - 316; Monel. Wells are available also in special materials, prices on request.

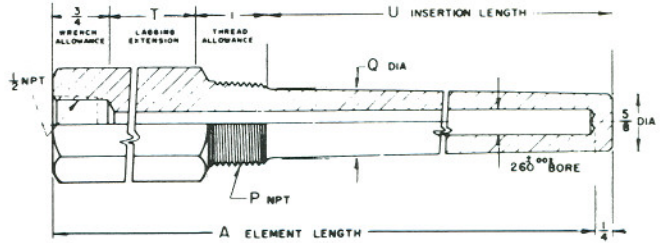
CAP & CHAIN:

Brass captive cap is available for keeping well bore clean when not in use.

SERIES 260H - GENERAL USE



SERIES 260HL - LAGGING EXTENSION TYPE



EXTERNAL THREAD - P	TYPE NUMBER	ELEM. LGTH. A	INSERT. LGTH. U	SHANK DIA. Q
3/4" NPT	3/4"-260H -U 2 1/2	4	2 1/2	7/8
	-U 4 1/2	6	4 1/2	"
	-U 7 1/2	9	7 1/2	"
	-U 10 1/2	12	10 1/2	"
	-U 13 1/2	15	13 1/2	"
	-U 16 1/2	18	16 1/2	"
1" NPT	1"-260H -U 2 1/2	4	2 1/2	1-1/16
	-U 4 1/2	6	4 1/2	"
	-U 7 1/2	9	7 1/2	"
	-U 10 1/2	12	10 1/2	"
	-U 13 1/2	15	13 1/2	"
	-U 16 1/2	18	16 1/2	"

EXTERNAL THREAD P	TYPE NUMBER	LAG. EXT. T	ELEM. LGTH. A	INSERT. LGTH. U	SHANK DIA. Q
3/4" NPT	3/4"-260HL -U 2 1/2	2	6	2 1/2	7/8
	-U 4 1/2	3	9	4 1/2	"
	-U 7 1/2	3	12	7 1/2	"
	-U 10 1/2	3	15	10 1/2	"
	-U 13 1/2	3	18	13 1/2	"
	-U 19 1/2	3	24	19 1/2	"
1" NPT	1"-260HL -U 2 1/2	2	6	2 1/2	1-1/16
	-U 4 1/2	3	9	4 1/2	"
	-U 7 1/2	3	12	7 1/2	"
	-U 10 1/2	3	15	10 1/2	"
	-U 13 1/2	3	18	13 1/2	"
	-U 19 1/2	3	24	19 1/2	"

**PRESSURE - TEMPERATURE RATING
LBS. PER SQ. INCH**

(Values based on allowable stress levels published in the 1956 edition of the A.S.M.E. Boiler Code, Section VIII.)

MATERIAL	TEMPERATURE - °F.						
	70	200°	400°	600°	800°	1000°	1200°
Brass	5300	4750	1100	---	---	---	---
Carbon Steel	5950	5750	5450	5250	4000	1750	---
A.I.S.I. - 304	7800	7050	6400	6150	6000	5190	1875
A.I.S.I. - 316	7800	7800	7250	7100	6950	5800	2720
Monel	7450	6850	6150	6100	5940	1750	---

**MAXIMUM FLUID VELOCITY
FEET PER SECOND**

WELL TYPE	MATERIAL	INSERTION LENGTH - "U"								
		2 1/2	4 1/2	7 1/2	10 1/2	13 1/2	16 1/2	19 1/2	22 1/2	
3/4"-260H and 3/4"-260HL	Brass	305 (97.5)	93.8 (54.1)	33.9 (58.3)	17.1 (58.3)	10.5 (58.3)	7.0 (58.3)	5.0 (58.3)	3.7 (58.3)	
		386 (175)	180 (97.2)	65.3 (58.3)	33.0 (58.3)	20.1 (58.3)	13.4 (58.3)	9.6 (58.3)	7.1 (58.3)	
	A.I.S.I.-304 & 316	440 (243)	197 (135)	71.2 (135)	36.0 (135)	22.0 (135)	14.7 (135)	10.5 (135)	7.8 (135)	
		354 (195)	155 (108)	56.1 (108)	28.4 (108)	17.3 (108)	11.6 (108)	7.5 (108)	5.6 (108)	
	1"-260H and 1"-260HL	Brass	354 (161)	108 (89.5)	39.4 (89.5)	19.8 (89.5)	12.2 (89.5)	8.1 (89.5)	5.8 (89.5)	4.3 (89.5)
		Carbon Steel	448 (289)	209 (161)	75.7 (161)	38.4 (161)	23.3 (161)	15.5 (161)	11.1 (161)	8.2 (161)
A.I.S.I.-304 & 316		490 (403)	228 (225)	82.5 (225)	41.8 (225)	25.5 (225)	17.1 (225)	12.2 (225)	9.1 (225)	
		410 (322)	179 (178)	65.1 (178)	33.0 (178)	20.1 (178)	13.5 (178)	8.7 (178)	6.5 (178)	

- TO ORDER, PLEASE SPECIFY:**
1. Complete Type Number
 2. Material
 3. Cap & Chain - If Desired

**260F
SERIES and
385F**

**FLANGED THERMOWELLS
FOR 1/4" AND 3/8" DIAMETER ELEMENTS**

APPLICATION:

260F series fits standard length 1/4" diameter elements.
385F series fits standard length 3/8" diameter elements.

FLANGE SIZES:

1" and 1 1/2" flanges in all facings and pressure ratings are standard. Other sizes are available on application.

MATERIALS:

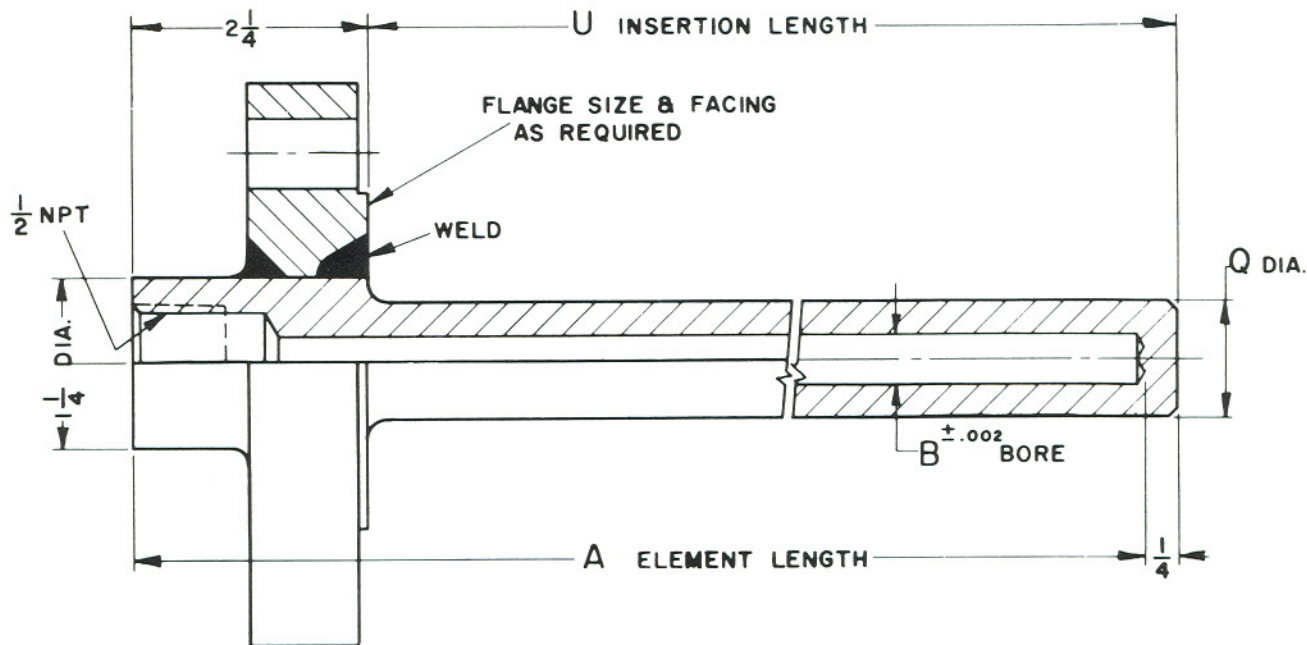
Flanges and wells made of Carbon Steel (C-1018), A.I.S.I. - 304, A.I.S.I. - 316 and Monel are available for quick delivery. Other materials are available.

WELDING:

Primary weld is "J" groove type, secondary weld is 45° bevel groove. Welding is performed by Navy certified welders using inert gas shielded arc.

CAP & CHAIN:

Brass captive cap is available for keeping well bore clean when not in use.



SERIES 260F

TYPE NUMBER	ELEM. LGTH. A	INSERT. LGTH. U	SHANK DIA. Q	BORE DIA. B
260F -U 2	4	2	3/4	260
-U 4	6	4	"	
-U 7	9	7	"	
-U10	12	10	"	
-U13	15	13	"	
-U16	18	16	"	
-U22	24	22	"	

SERIES 385F

TYPE NUMBER	ELEM. LGTH. A	INSERT. LGTH. U	SHANK DIA. Q	BORE DIA. B
385F -U 2	4	2	7/8	.385
-U 4	6	4	"	
-U 7	9	7	"	
-U10	12	10	"	
-U13	15	13	"	
-U16	18	16	"	
-U22	24	22	"	

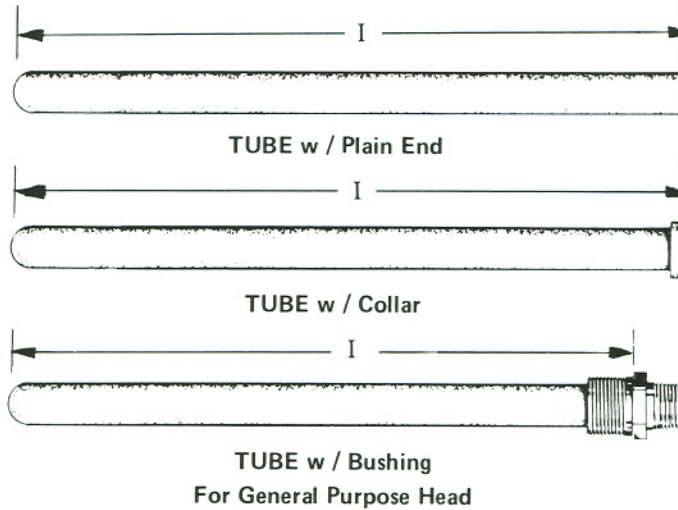
**MAXIMUM FLANGE PRESSURE - TEMPERATURE RATING *
LBS. PER SQ. INCH**

MATERIAL	TEMPERATURE — °F.						
	0°	200°	400°	600°	800°	1000°	1125°
Carbon Steel	UP	TO	2500#				
A.I.S.I. — 304	UP	TO	2500#				
A.I.S.I. — 316	UP	TO	2500#				
Monel	UP	TO	2500#				

* Values based on allowable stress levels published in the 1956 Edition of the A.S.M.E. Boiler Code, Section VIII and recommendations of ASA B 16,5-1957

- TO ORDER, PLEASE SPECIFY:**
1. Complete Type Number
 2. Material
 3. Flange Size, Pressure & Facing
 4. Cap and Chain, If Desired

CERAMIC PROTECTING TUBES



DESCRIPTION	TUBE SIZE ID X OD	ORDERING CODE	
		PORCELAIN	ALUMINA
Tube Plain End	1/4 x 3/8	m-14	a-14
Tube Plain End	7/16 x 11/16	m-716	a-716
Tube Plain End	3/4 x 1	m-34	a-34
Tube Plain End	1 x 1 1/4	m-10	a-10
Tube w/Collar 5/8" OD	1/4 x 3/8	mc-14	ac-14
Tube w/Collar 1" OD	7/16 x 11/16	mc-716	ac-716
Tube w/Collar 1 3/8" OD	3/4 x 1	mc-34	ac-34
Tube w/Collar 1 3/4" OD	1 x 1 1/4	mc-10	ac-10
Tube w/Bushing 3/4 x 1/2 NPT	1/4 x 3/8	mb-14	ab-14
Tube w/Bushing 3/4 x 1/2 NPT	7/16 x 11/16	mb-716	ab-716
Tube w/Close Nipple 1" NPT	3/4 x 1	mb-34	ab-34

Other sizes also available. Specify ordering code and I dimension.

PORCELAIN is a dense matrix of mullite and glass formulated to give the best combination of thermal shock and sag resistance. It possesses good chemical and atmosphere resistance. Maximum working temperature, 2600° F.

ALUMINA is generally more chemically resistant, harder, stronger and more refractory than mullite. Inert to hydrogen, carbon and refractory metals. Gas tight to 2750° F. Maximum temperature is 3200° F.

METAL PROTECTING TUBES

Ordering Code	T/C Gauge	"M" I.D.	"V"	"S" Nominal Wall	"N" T/C Connection
MT-18	20	.269"	.405"	.068"	1/8" NPT
MT-14	14	.364"	.540"	.088"	1/4" NPT
MT-12	8	.622"	.840"	.109"	1/2" NPT
MT-34	8	.824"	1.050"	.113"	3/4" NPT
MT-10	8	1.049"	1.315"	.133"	1" NPT

Ordering Code	T/C Gauge	"M" I.D.	"V"	"S" Nominal Wall	"N" T/C Connection	"P" Process Connection
MTP-18	20	.269"	.405"	.068"	1/8" NPT	1/4" NPT
MTP-14	14	.364"	.540"	.088"	1/4" NPT	1/2" NPT
MTP-12	8	.622"	.840"	.109"	1/2" NPT	3/4" NPT
MTP-34	8	.824"	1.050"	.113"	3/4" NPT	1" NPT
MTP-10	8	1.049"	1.315"	.133"	1" NPT	1 1/4" NPT

Other process connections available upon request

Standard length "B" is 3", unless otherwise specified

Ordering Code	T/C Gauge	"M" I.D.	"V"	"S" Nominal Wall	"N" T/C Connection
MTF-18	20	.269"	.405"	.068"	1/8" NPT
MTF-14	14	.364"	.540"	.088"	1/4" NPT
MTF-12	8	.622"	.840"	.109"	1/2" NPT
MTF-34	8	.824"	1.050"	.113"	3/4" NPT
MTF-10	8	1.049"	1.315"	.133"	1" NPT

Standard length "B" is 3", unless otherwise specified.

ORDERING INFORMATION:

1. Catalog number from first column.
2. Overall length of protecting tube.
3. Length below process connection.
4. Pressure rating and facing of flange.
5. Material of construction. (Bushings and flanges are steel unless otherwise specified.)

REMARKS:

1. Standard Materials are 304SS, 316SS, 347SS, 446SS, Inconel, and Steel. Other materials are available on special order.
2. Standard Lengths for "A" are 12", 15", 18", 24", 30", 36" and 48". Other lengths are available on special order.
3. Pipe Schedule – Schedule 40 pipe is regularly used. Schedule 80 or 160 pipe is available on special order.
4. Open End protecting tubes are available for so specifying.

