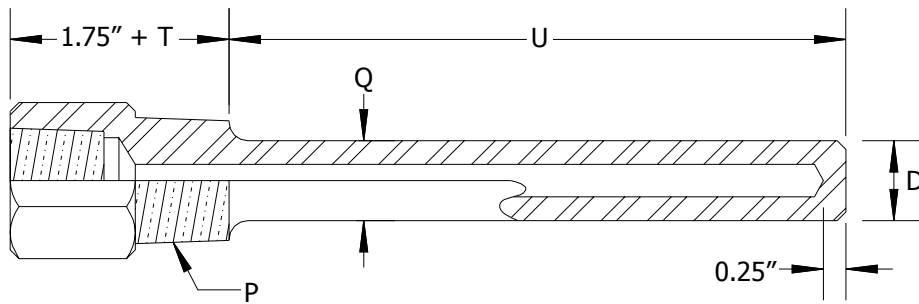
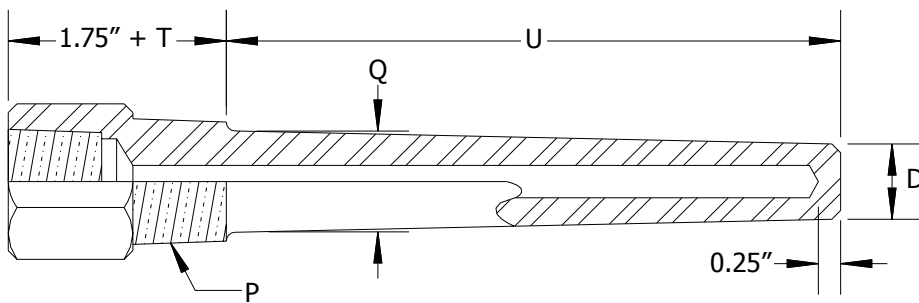


MODEL 410 THREADED STRAIGHT THERMOWELL



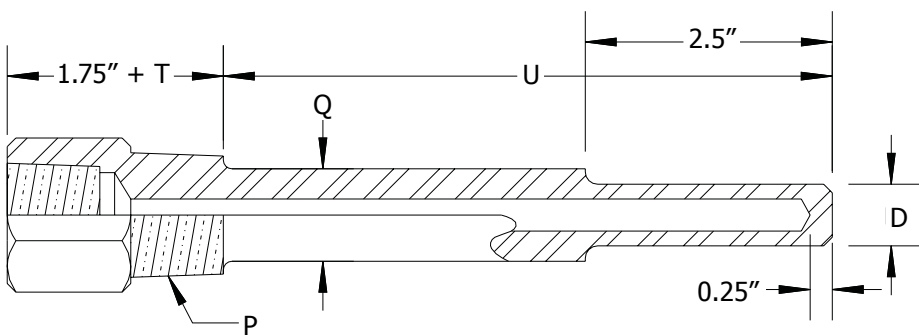
P	Q	D
3/4" NPT	0.75"	0.75"
1" NPT	0.875"	0.875"

MODEL 411 THREADED TAPERED THERMOWELL



P	Q	D
3/4" NPT	0.875"	0.625"
1" NPT	1.063"	0.625"

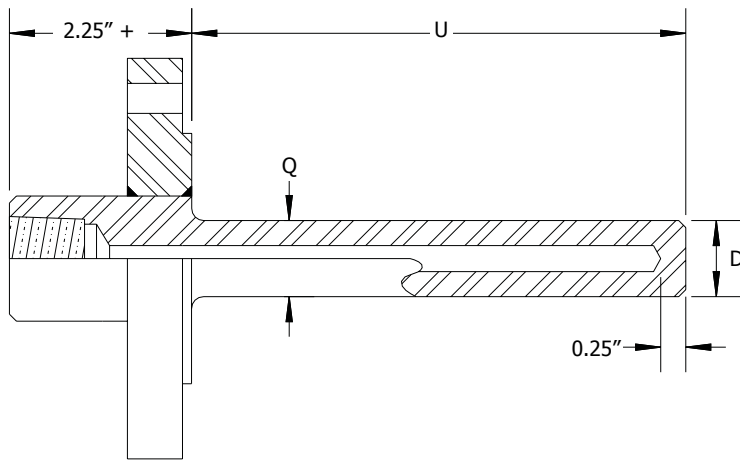
MODEL 412 THREADED REDUCED TIP THERMOWELL



P	Q	D
3/4" NPT	0.750"	0.5"
1" NPT	0.875"	0.5"

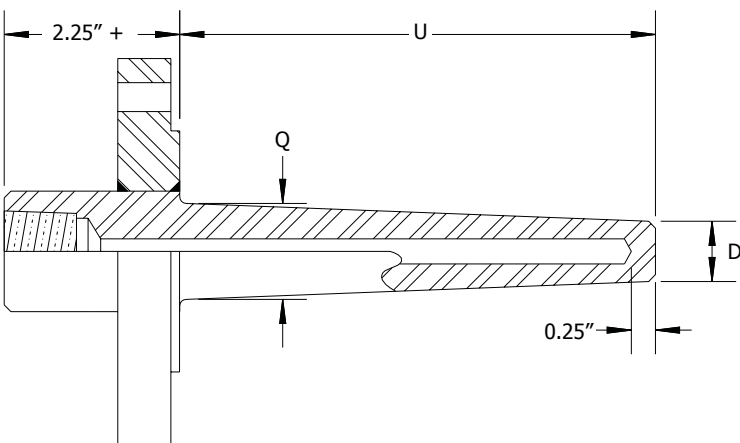
Note: All dimensions for 0.260" bore and 1/2" NPT probe connection. For other dimensions consult factory.

MODEL 420 FLANGED STRAIGHT THERMOWELL



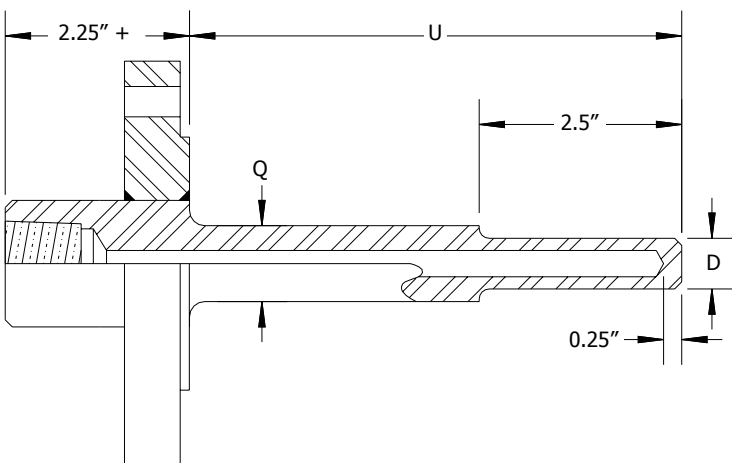
Q	D
0.75"	0.75"

MODEL 421 FLANGED TAPERED THERMOWELL



Q	D
1.063"	0.625"

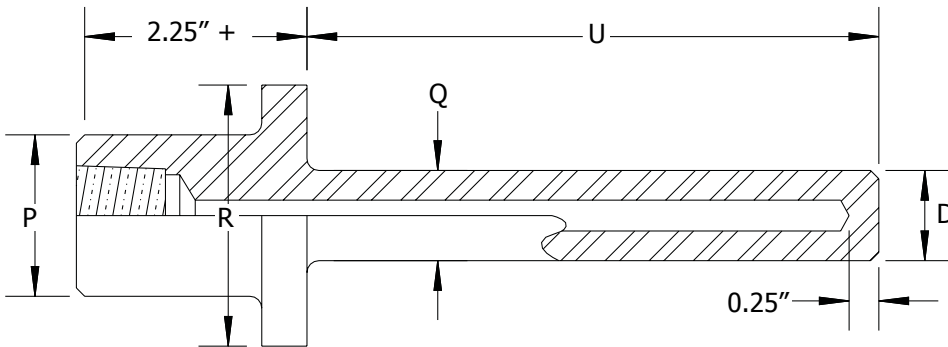
MODEL 422 FLANGED REDUCED TIP THERMOWELL



Q	D
0.75"	0.5"

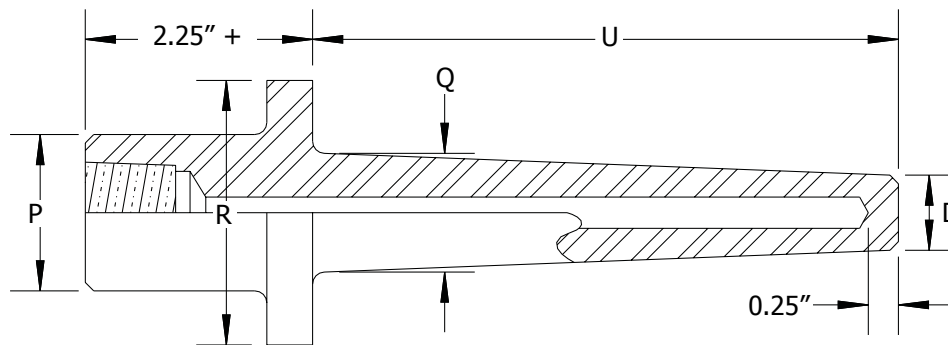
Note: All dimensions for 0.260" bore and 1/2" NPT probe connection. For other dimensions consult factory.

MODEL 430 VAN STONE STRAIGHT THERMOWELL



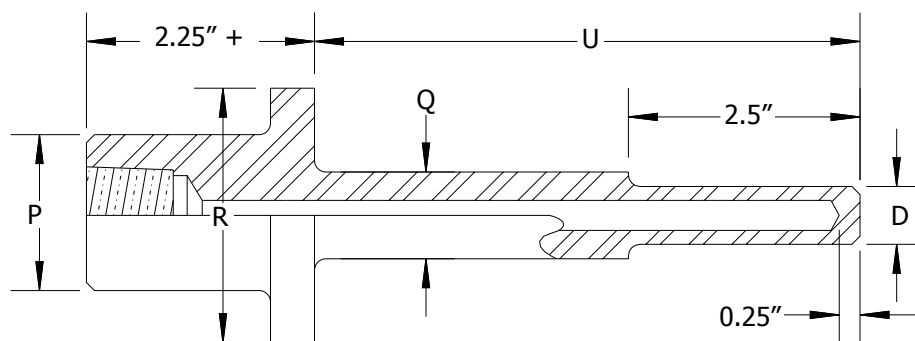
Pipe	P	R	Q	D
1"	1.315"	2"	0.75"	0.75"
1.5"	1.9"	2.875"	0.875"	0.875"

MODEL 431 VAN STONE TAPERED THERMOWELL



Pipe	P	R	Q	D
1"	1.315"	2"	0.875"	0.625"
1.5"	1.9"	2.875"	1.063"	0.625"

MODEL 432 VAN STONE REDUCED TIP THERMOWELL



Pipe	P	R	Q	D
1"	1.315"	2"	0.75"	0.5"
1.5"	1.9"	2.875"	0.875"	0.5"

Note: All dimensions for 0.260" bore and 1/2" NPT probe connection. For other dimensions consult factory.

1.1 MATERIAL ORDER CODES

Use the table below to select appropriate thermowell material. Consult factory for materials not listed.

Order Code	Material
A	Stainless Steel 304
B	Stainless Steel 310
C	Stainless Steel 316
D	Stainless Steel 446
E	Inconel 600

Order Code	Material
F	Monel
G	Titanium
H	Copper
I	Brass
J	Hastelloy X

1.2 OPTIONS ORDER CODES

Use the table below to select thermowell options, if several options are required, separate by comma (ex. ...-A,B,D).

Order Code	Option
A	Plug And Chain
B	Hydrostatic Test
C	Dye Penetrant Test
D	Full Penetration Weld
E	Mill Test Report

Order Code	Option
F	Oxygen Cleaning
G	Tantalum Sheath
H	X-Ray Test
I	Coating (Specify)
X	Special (Specify)

1.3 FLANGE ORDER CODES

Use the table below to specify flange rating and construction.

FLANGE FACE TYPE AND RATING ORDER CODES					
Flange Face	Flange Rating				
	150#	300#	600#	900#	1500#
Flat Face	1F	2F	3F	4F	5F
Raised Face	1R	2R	3R	4R	5R
Ring Type Joint	1J	2J	3J	4J	5J

4 1 0 - C - E - 1 2 . 0 0 - 0 - 0
1 2 3 4 5 6

1 - Threaded Thermowell Profile

- 0** - Straight Thermowell
- 1** - Tapered Thermowell
- 2** - Reduced Tip Thermowell

3 - Thermowell Process Connection

- D** - 1/2" NPT Male
- E** - 3/4" NPT Male
- F** - 1" NPT Male

5 - Extension Length (T)

Specify dimension in fractional inches.
Ex. 2-1/4" = **2.25**
If no extension is required use **0**

2 - Thermowell Material Order Code

Select Material Order Code In Section 3.1

4 - Immersion Length (U)

Specify dimension in fractional inches.
Ex. 12-1/2" = **12.50**

6 - Options Order Codes

Select Options Order Codes In Section 3.2
If none required, enter **0**

4 2 0 - C - H - 1 R - C - 1 2 . 0 0 - 0 - 0
1 2 3 4 5 6 7 8

1 - Flanged Thermowell Profile

- 0** - Straight Thermowell
- 1** - Tapered Thermowell
- 2** - Reduced Tip Thermowell

3 - Flange Size

- | | |
|------------------|-----------------|
| E - 3/4" | H - 1.5" |
| F - 1" | I - 2" |
| G - 1.25" | J - 2.5" |

5 - Flange Material Order Code

Select Material Order Code In Section 3.1

7 - Extension Length (T)

Specify dimension in fractional inches.
Ex. 2-1/4" = **2.25**
If no extension is required use **0**

2 - Thermowell Material Order Code

Select Material Order Code In Section 3.1

4 - Flange Order Code

Select Flange Face Type And Rating Order Code In Section 3.3

6 - Immersion Length (U)

Specify dimension in fractional inches.
Ex. 12-1/2" = **12.50**

8 - Options Order Codes

Select Options Order Codes In Section 3.2
If none required, enter **0**

4 3 0 - C - H - 1 2 . 0 0 - 0 - 0
1 2 3 4 5 6

1 - Van Stone Thermowell Profile

- 0** - Straight Thermowell
- 1** - Tapered Thermowell
- 2** - Reduced Tip Thermowell

3 - Nominal Pipe Size

- F** - 1"
- H** - 1.5"
- I** - 2"

5 - Extension Length (T)

Specify dimension in fractional inches.
Ex. 2-1/4" = **2.25**
If no extension is required use **0**

2 - Thermowell Material Order Code

Select Material Order Code In Section 3.1

4 - Immersion Length (U)

Specify dimension in fractional inches.
Ex. 12-1/2" = **12.50**

6 - Options Order Codes

Select Options Order Codes In Section 3.2
If none required, enter **0**

Ask about our other thermowell models ;

- ◆ Socket Weld
- ◆ Ground Joint
- ◆ Weld-In
- ◆ Limited Space

2.1 METAL PROTECTION TUBES

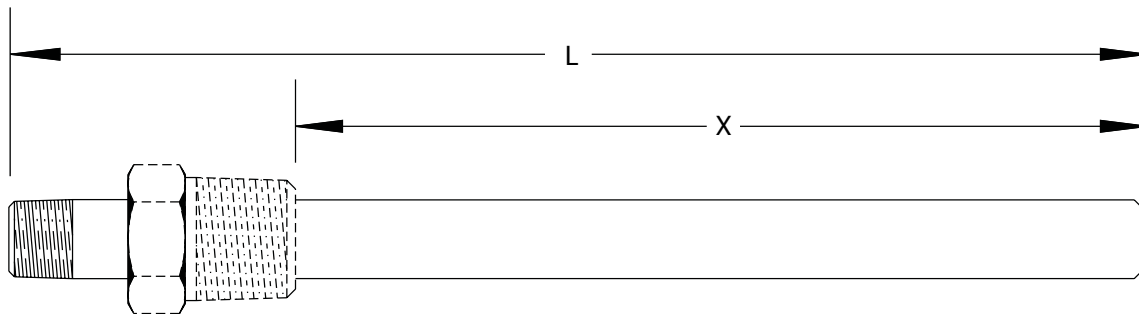
① MATERIAL CODE Specify protection tube material.	
Pipe Material	Order Code
SST 304	1
SST 310	2
SST 316	3
Carbon Steel	4
SST 446	5
Inconel 601	6

② SIZE CODE Specify protection tube size.	
Pipe Size (OD)	Order Code
1/4" (.540")	B
3/8" (.675")	C
1/2" (.840")	D
3/4" (1.050")	E
1" (1.315")	F
1.25" (1.660")	G

③ SCHEDULE CODE Specify protection tube schedule.	
Pipe Schedule	Order Code
40	3
80	4
160	5

④ HOT END CODE Specify hot end configuration.	
Hot End Configuration	Order Code
Open End	O
Closed End	C

⑤ WELD BUSHING CODE Specify weld bushing material and size. Use order code 0 if not required.						
Material	Size (NPT Male)					
	1/2"	3/4"	1"	1.25"	1.5"	2"
Carbon Steel	A	B	C	D	E	F
Stainless Steel	H	I	J	K	L	M



Ordering Information

4 5 0 - 3 E 3 - 2 4 - C - K 2 0

①
②
③
L"
④
⑤
X"

2.2 CERAMIC PROTECTION TUBES

Mullite protection tubes can be used up to 1500°C. Due to the silica content, should be used with inner alumina protection tube when using noble metal sensing element. Low cost, generally used with base metal thermocouple elements.

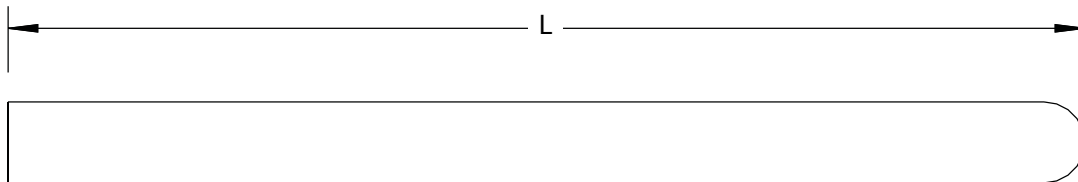
Alumina protection tubes can be used up to 1900°C. Compatible with noble and base metal thermocouple elements. Better strength and thermal shock resistance than mullite.

Hexoloy protection tubes can be used up to 1650°C. Compatible with noble and base metal thermocouple elements. Exceptional wear resistance (50% harder than tungsten carbide) and thermal conductivity (5 X that of alumina).

MODEL 460 CERAMIC TUBE

① CERAMIC TUBE MATERIAL AND SIZE CODE Specify protection tube material and size.					
Tube Material	Tube Size (OD X ID)				
	3/8" X 1/4"	11/16" X 7/16"	3/4" X 1/2"	1" X 1/2"	1" X 3/4"
Mullite	1B	1D	1E	-	1G
Alumina	2B	2D	2E	-	2G
Hexoloy	5B	-	5E	5H	-

② HOT END CODE Specify hot end configuration.	
Hot End Configuration	Order Code
Open End	O
Closed End	C



Ordering Information

460 - 2D - 24 - C

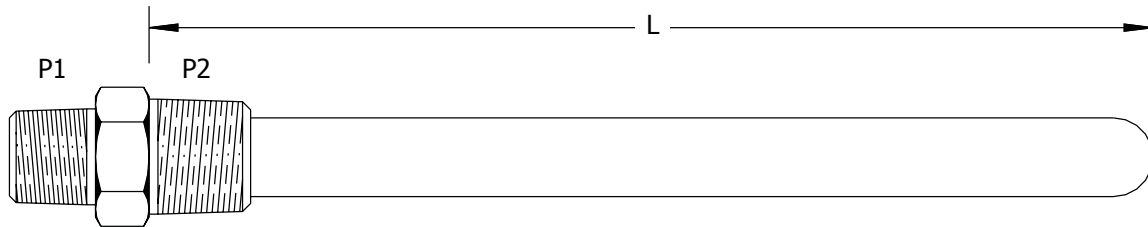
① L" ②

MODEL 461 CERAMIC TUBE

① CERAMIC TUBE MATERIAL AND SIZE CODE Specify protection tube material and size.					
Tube Material	Tube Size (OD X ID)				
	3/8" X 1/4"	11/16" X 7/16"	3/4" X 1/2"	1" X 1/2"	1" X 3/4"
Mullite	1B	1D	1E	-	1G
Alumina	2B	2D	2E	-	2G
Hexoloy	5B	-	5E	5H	-

② HOT END CODE Specify hot end configuration.	
Hot End Configuration	Order Code
Open End	O
Closed End	C

③ CEMENT BUSHING CODE Specify cement bushing material and size.			
Bushing Material	Bushing Threads (P1 X P2)		
	1/2" X 3/4"	1/2" X 1"	1/2" X 1.25"
Carbon Steel	4DE	4DF	4DG
Stainless Steel	3DE	3DF	3DG



Ordering Information

461 - 2D - 24 - C - 4DE

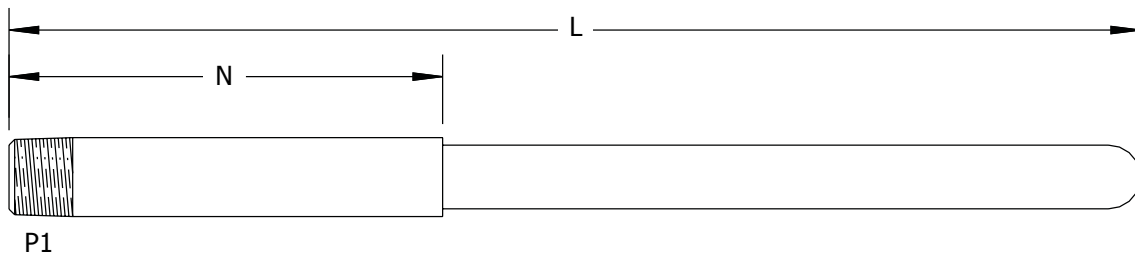
①
L"
②
③

MODEL 462 CERAMIC TUBE

① CERAMIC TUBE MATERIAL AND SIZE CODE Specify protection tube material and size.					
Tube Material	Tube Size (OD X ID)				
	3/8" X 1/4"	11/16" X 7/16"	3/4" X 1/2"	1" X 1/2"	1" X 3/4"
Mullite	1B	1D	1E	-	1G
Alumina	2B	2D	2E	-	2G
Hexoloy	5B	-	5E	5H	-

② HOT END CODE Specify hot end configuration.	
Hot End Configuration	Order Code
Open End	O
Closed End	C

③ SUPPORT SLEEVE SIZE AND MATERIAL CODE Specify support sleeve size and material.				
Sleeve Size (P1)	Support Sleeve Material			
	Carbon Steel	SST 316	SST 446	Inconel 601
1/2" NPT	4D	3D	5D	6D
3/4" NPT	4E	3E	5E	6E



Ordering Information

4 6 2 - 2 D - 2 4 - C - 3 E 6

① L" ② ③ N"

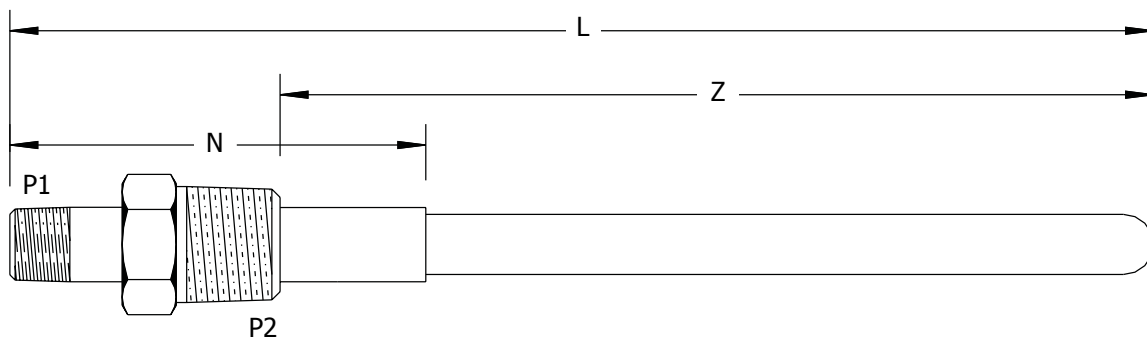
MODEL 463 CERAMIC TUBE

① CERAMIC TUBE MATERIAL AND SIZE CODE Specify protection tube material and size.					
Tube Material	Tube Size (OD X ID)				
	3/8" X 1/4"	11/16" X 7/16"	3/4" X 1/2"	1" X 1/2"	1" X 3/4"
Mullite	1B	1D	1E	-	1G
Alumina	2B	2D	2E	-	2G
Hexoloy	5B	-	5E	5H	-

② HOT END CODE Specify hot end configuration.	
Hot End Configuration	Order Code
Open End	O
Closed End	C

③ SUPPORT SLEEVE SIZE AND MATERIAL CODE Specify support sleeve size and material.				
Sleeve Size (P1)	Support Sleeve Material			
	Carbon Steel	SST 316	SST 446	Inconel 601
1/2" NPT	4D	3D	5D	6D
3/4" NPT	4E	3E	5E	6E

④ WELD BUSHING MATERIAL AND SIZE CODE Specify weld bushing material and size.						
Material	Size P2 (NPT Male)					
	1/2"	3/4"	1"	1.25"	1.5"	2"
Carbon Steel	A	B	C	D	E	F
Stainless Steel	H	I	J	K	L	M



Ordering Information

4 6 3 - 2 D - 2 4 - C - 3 E 6 - J 2 2

① L" ② ③ N" ④ Z"