

Close end tube (Pipe) type thermowell

Model : A500, A510 series

Spec. sheet no. AD05-01

Service intended

Temperature sensors or indicating type temperature gauges are not directly inserted into the process pipe, unless these are used to measure the outside temperature of process pipe, instead, these are used with thermowells. By using thermowells, sensors and gauges will not interfere with the process line operation, and the users are able to perform the maintenance procedure of the process line more easily.

A500 and A510 Series are either pipe or tube with one end is sealed. These thermowells are used in the process pipe where a very slow current is exist or in a container, and its length can be vary.

* Note. Depending on the material and U-length, the appearance of the connector may change.



Standard features

Selection of thermowell

■ Material

In general, the thermowell material chosen for the installation is governed mainly by the corrosion condition the thermowell will face. Recommended material for various services are given in the corrosion table.

Occasionally the material consideration is one of strength rather than corrosion. For example, a stainless steel thermowell may be required for a high pressure water service where otherwise a brass thermowell would be satisfactory from a corrosion standpoint.

■ Insertion

The distance from the end of the well to the underside of the thread or other connection means (Designated as "U") is the insertion length.

■ Tapered or straight type

Tapered type thermowells provide greater stiffness for the same sensitivity. The higher strength to weight ratio gives these thermowells higher natural frequency than for equivalent length straight type thermowells, thus permitting operation at higher fluid velocity.

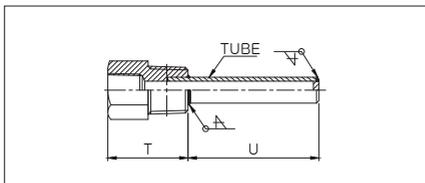
■ Bore size

Almost any installation uses several types of temperature measuring instruments.

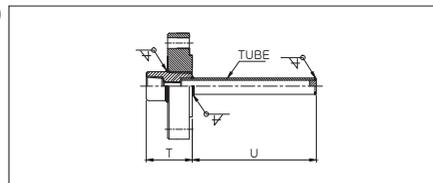
The selection of a standard bore diameter can produce extreme flexibility within the plant.

Structure

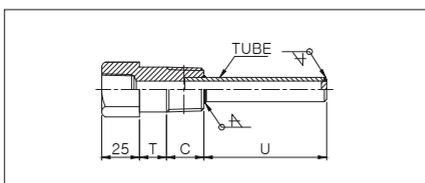
A5000



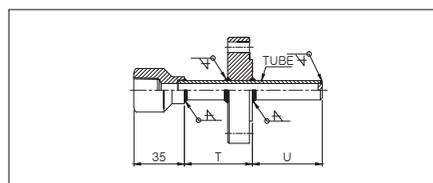
A5100



A5001



A5101



1. Base model

- A5000** Thread connection
- A5001** Thread connection with extension
- A5100** Flange connection
- A5101** Flange connection with extension

2. Material of well

AX S25C	PX 304SS + PTFE lining
BX 304SS	QX 316SS + PTFE lining
DX 304L SS	RX 304L SS + PTFE coating
EX 316L SS	SX 316L SS + PTFE coating
FX 310SS	TX Incoloy-800
GX 321SS	1X SSA-S
HX 446SS	WX A106
JX Inconel 600	3X GK-Sic
KX Hastelloy-C	YX A335P11
LX Monel	ZX Others
MX Titanium	

3. Material of flange

AX S25C	MX Titanium
BX 304SS	PX 304SS + PTFE lining
CX 316SS	QX 316SS + PTFE lining
DX 304L SS	RX 304L SS + PTFE coating
EX 316L SS	SX 316L SS + PTFE coating
FX 310SS	TX Incoloy-800
GX 321SS	WX A105
JX Inconel 600	YX A182F11
KX Hastelloy-C	ZX Others
LX Monel	

Note. Please give XX to 8,9th character for A500 series

4. Internal connection

0 ½" NPT	3 ¾" NPT
1 ½" PT	4 ¾" PF
2 ½" PF	5 ¾" PT

5. Pipe (Tube) outer diameter (mm)

A 14	G 15	N 21
B 16	H 12	O 25
C 17	I 13.8	P 30
D 19	J 10	Q 40
E 21.7	K 12.7	R 20
F 17.3	L 13	S 21.3

6. Pipe (Tube) thickness (mm)

A 3.7	E 2.3	J 0.7
B 3.2	F 2.0	K 2.5
C 3.0	G 1.5	L 5.0
D 2.8	H 1.0	

7. Process connection size

A(1) ½" (15A)	F 2" (50A)
B(1) ¾" (20A)	G 2½" (65A)
C 1" (25A)	H 3" (80A)
D 1¼" (32A)	I 4" (100A)
E 1½" (40A)	Z Other

Note. Available for flange connection only

8. Process connection type

AZ S.W.	KM 10K RFSF
AA NPT	KN 10K FF
AB PT	DA PN10 RF
PF PF	DB PN16 RF
AC 150 Lb RF	DI PN25 RF
AD 150 Lb RFSF	DO PN40 RF
AE 150 Lb FF	KA 5K RF
AF 300 Lb RF	KT 5K FF
AG 300 Lb RFSF	KP 20K RF
AH 300 Lb FF	KQ 20K RFSF
AJ 600 Lb RF	KR 20K FF
AK 600 Lb RFSF	ZZ Other
KL 10K RF	

9. Insertion length ("U") length (mm)

0 80	B 600	M 4,000
1 100	C 700	N 5,000
2 150	D 800	P 6,000
3 200	E 900	Q 7,000
4 250	F 1,000	R 8,000
5 300	G 1,500	S 9,000
6 350	H 2,000	T 10,000
7 400	J 2,500	Z Other
8 450	K 3,000	
A 500	L 3,500	

Note : Please choose a code of next higher length if applicable length is not. Actual length shall be specified.

10. "T" length (mm)

0 45
1 50 below
2 50 above

Note : Actual length shall be specified.

11. Option

- 0** None
- 1** Plug and chain (304SS)
- 2** Plug and chain (316SS)

1	2	3	4	5	6	7	8	9	10	11	Sample ordering code
A5000	AX	AX	0	A	A	A(1)	AZ	0	0	1	

Bar stock thermowell with thread connection

Model : A600 series

Spec. sheet no. AD06-01

Service intended

Temperature sensors or indicating type temperature gauges are not directly inserted into the process pipe, unless these are used to measure the outside temperature of process pipe, instead, these are used with thermowells. By using thermowells, sensors and gauges will not interfere with the process line operation, and the users are able to perform the maintenance procedure of the process line more easily. A600 series are seamless round bar type thermowell, and does not contain any welded area by processing the internal area of the round bar. It is designed to be installed onto the process line by using screw created on the thermowell, and normally used in the process line where the pressure and the current exist.

CRN



* Note. Depending on the material and U-length, the appearance of the connector may change.

Standard features

Selection of thermowell

■ Material

In general, the thermowell material chosen for the installation is governed mainly by the corrosion condition the thermowell will face. Recommended material for various services are given in the corrosion table. Occasionally, the material consideration is one of strength rather than corrosion. For example, a stainless steel thermowell may be required for a high pressure water service where otherwise a brass thermowell would be satisfactory from a corrosion standpoint.

■ Insertion

The distance from the end of the well to the underside of the thread or other connection means (Designated as "U") is the insertion length.

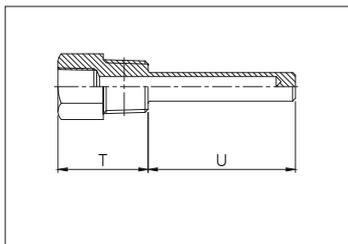
■ Bore size

Almost any installation uses several type of temperature measuring instruments.

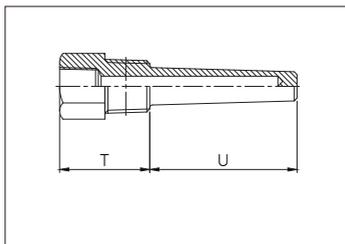
The selection of a standard bore diameter can produce extreme flexibility within the plant.

Structure

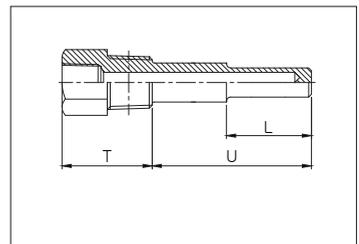
A6000



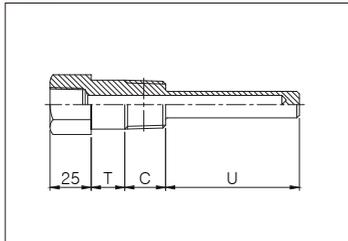
A6010



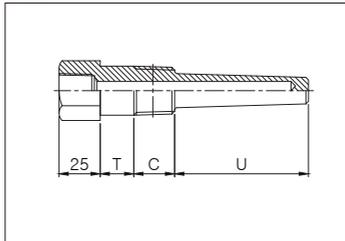
A6020



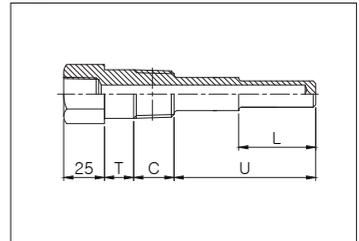
A6001



A6011



A6021



1. Base model

- A6000** Straight bar stock
- A6001** Straight bar stock with extension
- A6010** Tapered bar stock
- A6011** Tapered bar stock with extension
- A6020** Stepped bar stock
- A6021** Stepped bar stock with extension

2. Material of well

- | | |
|--------------------|-----------------------|
| AX S25C | JX Inconel 600 |
| BX 304SS | KX Hastelloy-C |
| CX 316SS | LX Monel |
| DX 304L SS | MX Titanium |
| EX 316L SS | OX A182F316 |
| FX 310SS | TX Incoloy-800 |
| GX 321SS | WX A105 |
| HX 446SS | YX A182F11 |
| IX A182F304 | ZX Others |

3. Internal connection

- | | |
|-----------------|-----------------|
| 0 ½" NPT | 3 ¾" NPT |
| 1 ½" PT | 4 ¾" PF |
| 2 ½" PF | 5 ¾" PT |

4. Tip outer diameter / Bore size (mm)

- | | |
|-------------------|-------------------|
| A0 14 / 7 | C2 17 / 10 |
| A1 14 / 9 | C3 17 / 12 |
| B0 16 / 7 | D0 19 / 7 |
| B1 16 / 9 | D1 19 / 9 |
| B2 16 / 10 | D2 19 / 10 |
| C0 17 / 7 | D3 19 / 12 |
| C1 17 / 9 | D4 21 / 10 |

5. Process connection size

- A** ½"
- B** ¾"
- C** 1"
- D** 1¼"
- E** 1½"

6. Process connection type

- AA** NPT
- AB** PT
- PF** PF

7. Insertion length ("U") length (mm)

- | | |
|--------------|----------------|
| 0 80 | 8 450 |
| 1 100 | A 500 |
| 2 150 | B 600 |
| 3 200 | C 700 |
| 4 250 | D 800 |
| 5 300 | E 900 |
| 6 350 | F 1,000 |
| 7 400 | Z Other |

Note : Please choose a code of next higher length if applicable length is not. Actual length shall be specified.

8. "T" length (mm)

- 0** 45
- 1** 50 below
- 2** 50 above

Note : Actual length shall be specified.

9. Option

- 0** None
- 1** Plug and chain (304SS)
- 2** Plug and chain (316SS)

1	2	3	4	5	6	7	8	9	Sample ordering code
A6000	AXXX	0	A0	A	AA	0	1	1	

Sanitary thermowell (3-A marking)

Model : A603

Spec. sheet no. AD06-02

Service intended

A603 thermowell for temperature sensor and temperature gauge are recommended for all process systems where pressure, velocity, viscous, abrasive, and corrosive materials are present individually or in combination. A properly selected thermowell will protect the temperature instrument from possible damage resulting from these process variables. Furthermore, thermowell permits removal of the temperature instrument for replacement, repair, or testing without effecting the process media or the system.



Standard features

Process connection

Tri-clamp connection
1S, 1½S and 2S

Gauge connection

½" (N)PT, female

Bore diameter

7, 9, 10 and 12 mm

Material

304SS, 316SS and 316L SS

Surface finish

Max. Ra 32 µin. (0.8 µm)

Main order

Ordering information

1. Base model

A6030 Sanitary thermowell (3-A marking)

2. Material

EX 316LSS
CX 316SS
BX 304SS
DX 304L SS

3. Internal connection

0 ½" NPT
1 ½" PT

4. Tip outer diameter / Bore size (mm)

A0 14 / 7	C2 17 / 10
A1 14 / 9	C3 17 / 12
B0 16 / 7	D0 19 / 7
B1 16 / 9	D1 19 / 9
B2 16 / 10	D2 19 / 10
C0 17 / 7	D3 19 / 12
C1 17 / 9	D4 21 / 10

5. Process connection size

C 1"
E 1½"
F 2"

6. Process connection type

4 Tri-clamp

7. Insertion length ("U") length (mm)

0 80	8 450
1 100	A 500
2 150	B 600
3 200	C 700
4 250	D 800
5 300	E 900
6 350	F 1,000
7 400	Z Other

Note : Please choose a code of next higher length if applicable length is not.
 Actual length shall be specified.

8. "T" length (mm)

0 45
1 50 below
2 50 above

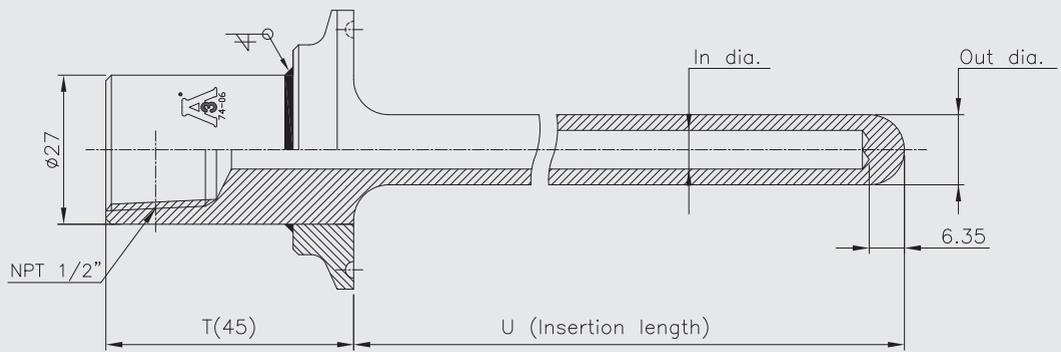
Note : Actual length shall be specified.

9. Option

0 None
1 Plug and chain (304SS)
2 Plug and chain (316SS)

1	2	3	4	5	6	7	8	9	Sample ordering code
A6030	EX	0	A0	C	4	1	1	1	

A603 : Standard product drawing



A large, empty rectangular box with a thin black border, intended for writing a memo.

Bar stock thermowell with flange connection

Model : A610, A611, A612, A623

Spec. sheet no. AD06-03

CRN

Service intended

Temperature sensors or indicating type temperature gauges are not directly inserted into the process pipe, unless these are used to measure the outside temperature of process pipe, instead, these are used with thermowells. By using thermowells, sensors and gauges will not interfere with the process line operation, and the users are able to perform the maintenance procedure of the process line more easily. These types are most common bar type, and these are installed onto the process line by attaching a flange. It is useful in the process line where a high pressure and a fast current exist. A623 is manufactured with a Full Penetration welding procedure so it can be used in a high pressure gas line.



Standard features

Selection of thermowell

■ Material

In general, the thermowell material chosen for the installation is governed mainly by the corrosion condition the thermowell will face. Recommended material for various services are given in the corrosion table.

Occasionally, the material consideration is one of strength rather than corrosion. For example, a stainless steel thermowell may be required for a high pressure water service where otherwise a brass thermowell would be satisfactory from a corrosion standpoint.

■ Insertion

The distance from the end of the well to the underside of the thread or other connection means (Designated as "U") is the insertion length.

■ Tapered or straight type

Tapered type thermowells provide greater stiffness for the same sensitivity. The higher strength to weight ratio gives these thermowells higher natural frequency than for equivalent length straight type thermowells, thus permitting operation at higher fluid velocity.

■ Bore size

Almost any installation uses several type of temperature measuring instruments.

The selection of a standard bore diameter can produce extreme flexibility within the plant.

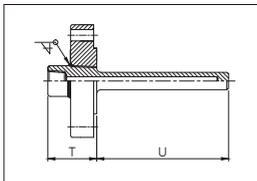
■ Option

Wake frequency calculations in accordance with ASME PTC 19.3

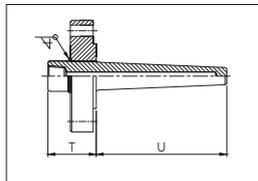
WISE Inc. offers this as an engineering service.

Structure

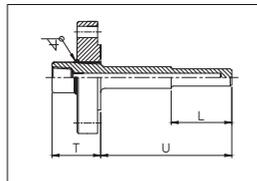
A6100



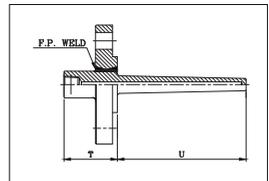
A6110



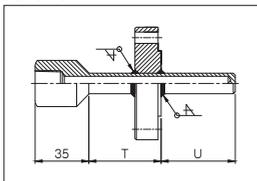
A6120



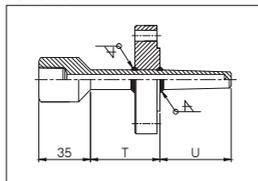
A6230



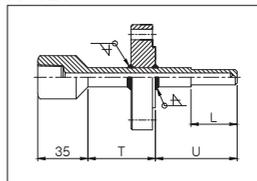
A6101



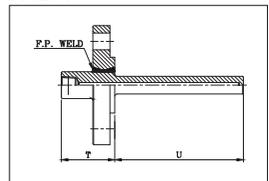
A6111



A6121



A6231



1. Base model

A6100	Straight bar stock (Flanged connection)
A6101	Straight bar stock (Flanged connection with extension)
A6110	Tapered bar stock (Flanged connection)
A6111	Tapered bar stock (Flanged connection with extension)
A6120	Stepped bar stock (Flanged connection)
A6121	Stepped bar stock (Flanged connection with extension)
A6230	Tapered bar stock (F.P welding)
A6231	Straight bar stock (F.P welding)

2. Material of well

AX	S25C	MX	Titanium
BX	304SS	NX	Tantalum clad
CX	316SS	OX	A182F316
DX	304L SS	PX	304SS + PTFE lining
EX	316L SS	QX	316SS + PTFE lining
FX	310SS	RX	304L SS + PTFE coating
GX	321SS	SX	316L SS + PTFE coating
HX	446SS	TX	Incoloy-800
IX	A182F304	VX	A182F91
JX	Inconel 600	WX	A105
KX	Hastelloy-C	YX	A182F11
LX	Monel	Z3	A182F321
		ZX	Others

Note : Not available for flange
N code is not available for A611, A612

3. Material of flange

AX	S25C	MX	Titanium
BX	304SS	NX	Tantalum clad
CX	316SS	OX	A182F316
DX	304L SS	PX	304SS + PTFE lining
EX	316L SS	QX	316SS + PTFE lining
FX	310SS	RX	304L SS + PTFE coating
GX	321SS	SX	316L SS + PTFE coating
HX	446SS	TX	Incoloy-800
IX	A182F304	VX	A182F91
JX	Inconel 600	WX	A105
KX	Hastelloy-C	YX	A182F11
LX	Monel	Z3	A182F321
		ZX	Others

Note : Not available for flange
N code is not available for A611, A612

4. Internal connection

0	½" NPT
1	½" PT
2	½" PF

1	2	3	4	5	6	7	8	9	10
A6100	AX	BX	0	A0	A(1)	DB	1	1	1

Sample ordering code

5. Tip outer diameter / Bore size (mm)

A0	14 / 7	C0	17 / 7	D1	19 / 9
A1	14 / 9	C1	17 / 9	D2	19 / 10
B0	16 / 7	C2	17 / 10	D3	19 / 12
B1	16 / 9	C3	17 / 12	D4	21 / 10
B2	16 / 10	D0	19 / 7		

6. Flange size

A(1)	½" (15A)	E	1½" (40A)	H	3" (80A)
B(1)	¾" (20A)	F	2" (50A)	I	4" (100A)
C	1" (25A)	G	2½" (65A)	Z	Other
D	1¼" (32A)				

7. Process connection type

DA	PN10 RF	AW	900 Lb RTJ
DB	PN16 RF	AT	1,500 Lb RF
AE	150 Lb FF	AX	1,500 Lb RTJ
AC	150 Lb RF	AU	2,500 Lb RF
AD	150 Lb RFSF	AY	2,500 Lb RTJ
AH	300 Lb FF	KN	10K FF
AF	300 Lb RF	KL	10K RF
AG	300 Lb RFSF	KM	10K RFSF
DI	PN25 RF	KR	20K FF
AJ	600 Lb RF	KP	20K RF
AK	600 Lb RFSF	KQ	20K RFSF
AV	600 Lb RTJ	DO	PN40 RF
AS	900 Lb RF	ZZ	Other

8. Insertion length ("U") length (mm)

0	80	6	350	D	800
1	100	7	400	E	900
2	150	8	450	F	1,000
3	200	A	500	Z	Other
4	250	B	600		
5	300	C	700		

Note : Please choose a code of next higher length if applicable length is not.
Actual length shall be specified.

9. "T" length (mm)

0	45
1	50 below
2	50 above

Note : Actual length shall be specified.

10. Option

0	None
1	Plug and chain (304SS)
2	Plug and chain (316SS)
5	Velocity color
6	Velocity color with plug and chain

Note : Actual length shall be specified.

Bar stock thermowell with welded connection

Model : A630, A631, A632

Spec. sheet no. AD06-04

Service intended

Temperature sensors or indicating type temperature gauges are not directly inserted into the process pipe, unless these are used to measure the outside temperature of process pipe, instead, these are used with thermowells. By using thermowells, sensors and gauges will not interfere with the process line operation, and the users are able to perform the maintenance procedure of the process line more easily. These thermowells can be used in a high steam line or Vapor line. These are directly welded onto the socket or pipe so can be a semipermanent. Therefore, the user must carefully decide its material and specification before welding process is performed.



CRN

Standard features

Selection of thermowell

■ Material

In general, the thermowell material chosen for the installation is governed mainly by the corrosion condition the thermowell will face. Recommended material for various services are given in the corrosion table. Occasionally, the material consideration is one of strength rather than corrosion. For example, a stainless steel thermowell may be required for a high pressure water service where otherwise a brass thermowell would be satisfactory from a corrosion standpoint.

■ Insertion

The distance from the end of the well to the underside of the thread or other connection means (Designated as "U") is the insertion length.

■ Tapered or straight type

Tapered type thermowells provide greater stiffness for the same sensitivity. The higher strength to weight ratio gives these thermowells higher natural frequency than for equivalent length straight type thermowells, thus permitting operation at higher fluid velocity.

■ Bore size

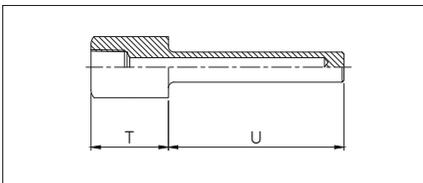
Almost any installation uses several type of temperature measuring instruments. The selection of a standard bore diameter can produce extreme flexibility within the plant.

■ Option

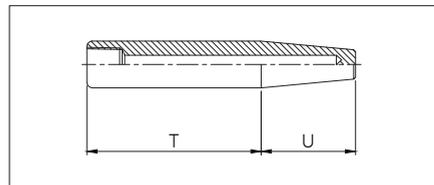
Wake frequency calculations in accordance with ASME PTC 19.3
WISE Inc. offers this as an engineering service.

Structure

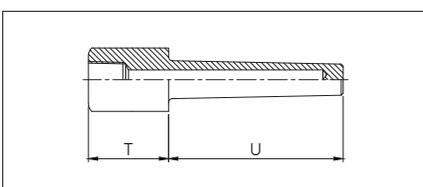
A6300



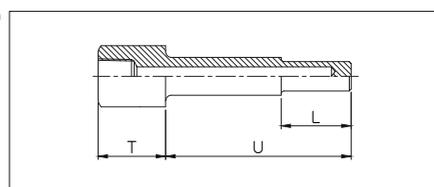
A6311



A6310



A6320



WISE[®]

1. Base model

A6300	Straight bar stock (Socket welded type)
A6310	Tapered bar stock (Socket welded type)
A6311	Tapered bar stock (Weld in type)
A6320	Stepped bar stock (Socket welded type)

2. Material of well

AX	S25C	JX	Inconel 600
BX	304SS	KX	Hastelloy-C
CX	316SS	LX	Monel
DX	304L SS	MX	Titanium
EX	316L SS	OX	A182F316
FX	310SS	TX	Incoloy-800
GX	321SS	WX	A105
HX	446SS	YX	A182F11
IX	A182F304	ZX	Others

Note : Not available for A601 and A602

3. Internal connection

0	½" NPT
1	½" PT
2	½" PF

4. Tip outer diameter / Bore size (mm)

A0	14 / 7	C2	17 / 10
A1	14 / 9	C3	17 / 12
B0	16 / 7	D0	19 / 7
B1	16 / 9	D1	19 / 9
B2	16 / 10	D2	19 / 10
C0	17 / 7	D3	19 / 12
C1	17 / 9	D4	21 / 10

5. Socket size

AAZ	½"
BAZ	¾"
CAZ	1"
DAZ	1¼"
EAZ	1½"
FAZ	2"

6. Insertion length ("U") length (mm)

0	80	8	450
1	100	A	500
2	150	B	600
3	200	C	700
4	250	D	800
5	300	E	900
6	350	F	1,000
7	400	Z	Other

Note : Please choose a code of next higher length if applicable length is not.
Actual length shall be specified.

7. "T" length (mm)

0	45
1	50 below
2	50 above

Note : Actual length shall be specified.

8. Option

0	None
1	Plug and chain (304SS)
2	Plug and chain (316SS)

1	2	3	4	5	6	7	8
A6300	AX	0	A0	AAZ	2	1	1

Sample
ordering code

Vanstone type thermowell

Model : A640 series

Spec. sheet no. AD06-05

Service intended

Vanstone type thermowell is produced without any welding process by processing the whole round bar.

Since it does not involve any welding process, it is used when high pressure, high velocity fluid and corrosive process media such as penetrating gas exist, and serving to isolate and protect from any leakage.

The required flange is not standard and can be provided as an optional extra.



Standard features

Selection of thermowell

■ Material

In general, the thermowell material chosen for the installation is governed mainly by the corrosion condition the thermowell will face. Recommended material for various services are given in the corrosion table.

Occasionally, the material consideration is one of strength rather than corrosion. For example, a stainless steel thermowell may be required for a high pressure water service where otherwise a brass thermowell would be satisfactory from a corrosion standpoint.

■ Insertion

The distance from the end of the well to the underside of the thread or other connection means (Designated as "U") is the insertion length.

■ Tapered or straight type

Tapered type thermowells provide greater stiffness for the same sensitivity. The higher strength to weight ratio gives these thermowells higher natural frequency than for equivalent length straight type thermowells, thus permitting operation at higher fluid velocity.

■ Bore size

Almost any installation uses several type of temperature measuring instruments.

The selection of a standard bore diameter can produce extreme flexibility within the plant.

■ Option

Wake frequency calculations in accordance with ASME PTC 19.3

WISE Inc. offers this as an engineering service.

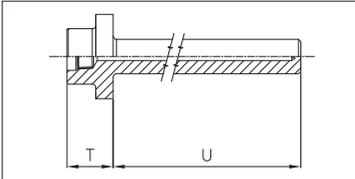
■ Standard "T" length

Well size 1½" or DN40 : 40 mm

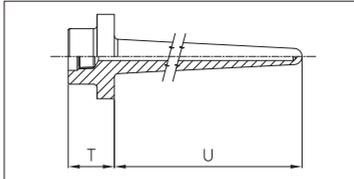
2" or DN50 : 45 mm

Structure

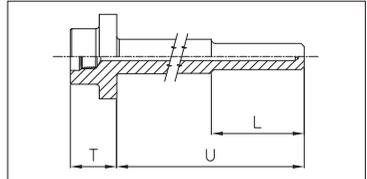
A6400



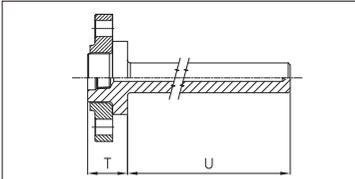
A6410



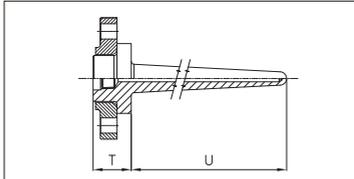
A6420



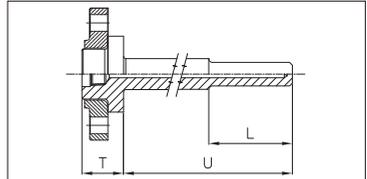
A6401



A6411



A6421



1. Base model

- A6400** Straight bar stock
- A6401** Straight bar stock with flange
- A6410** Tapered bar stock
- A6411** Tapered bar stock with flange
- A6420** Stepped bar stock
- A6421** Stepped bar stock with flange

2. Material of well

- | | |
|-----------------------|-----------------------|
| BX 304SS | LX Monel |
| CX 316SS | MX Titanium |
| DX 304L SS | OX A182F316 |
| EX 316L SS | TX Incoloy-800 |
| FX 310SS | VX A182F91 |
| GX 321SS | WX A105 |
| IX A182F304 | YX A182F11 |
| JX Inconel 600 | Z3 A182F321 |
| KX Hastelloy-C | ZX Others |

3. Material of flanged

- | | |
|-----------------------|--------------------------|
| BX 304SS | MX Titanium |
| CX 316SS | OX A182F316 |
| DX 304L SS | TX Incoloy-800 |
| EX 316L SS | VX A182F91 |
| FX 310SS | WX A105 |
| GX 321SS | YX A182F11 |
| IX A182F304 | Z3 A182F321 |
| JX Inconel 600 | ZX Others |
| KX Hastelloy-C | XX Not applicable |
| LX Monel | |

4. Internal connection

- 0** ½" NPT
- 1** ½" PT
- 2** ½" PF

5. Tip outer diameter / Bore size (mm)

- | | |
|------------------|------------------|
| A 14 / 7 | K 19 / 9 |
| B 14 / 9 | L 19 / 10 |
| C 16 / 7 | M 19 / 12 |
| D 16 / 9 | N 21 / 10 |
| E 16 / 10 | O 14 / 8 |
| F 17 / 7 | P 16 / 8 |
| G 17 / 9 | Q 17 / 8 |
| H 17 / 10 | R 19 / 8 |
| I 17 / 12 | S 21 / 8 |
| J 19 / 7 | |

6. Stepped bore size (mm)

- A** None
- B** 6.5 (Standard)
- C** Other

7. Well size for flange

- C** 1"
- E** 1½"
- F** 2"
- Z** Other

8. Flange class, sealing face

- | | |
|---|--|
| AC 150 Lb RF | DI PN25 RF |
| AF 300 Lb RF | DO PN40 RF |
| AJ 600 Lb RF | AV 600 Lb RTJ |
| AS 900 Lb RF | AW 900 Lb RTJ |
| AU 2,500 Lb RF
(Not available 1½" and DN) | AX 1,500 Lb RTJ |
| AT 1,500 Lb RF | AY 2,500 Lb RTJ
(Not available 1½" and DN) |
| DA PN10 RF | ZZ Other |
| DB PN16 RF | XX None |

9. Insertion length ("U") length (mm)

- | | | |
|--------------|--------------|----------------|
| 0 80 | 6 350 | D 800 |
| 1 100 | 7 400 | E 900 |
| 2 150 | 8 450 | F 1,000 |
| 3 200 | A 500 | Z Other |
| 4 250 | B 600 | |
| 5 300 | C 700 | |

Note : Please choose a code of next higher length if applicable length is not. Actual length shall be specified.

10. Option

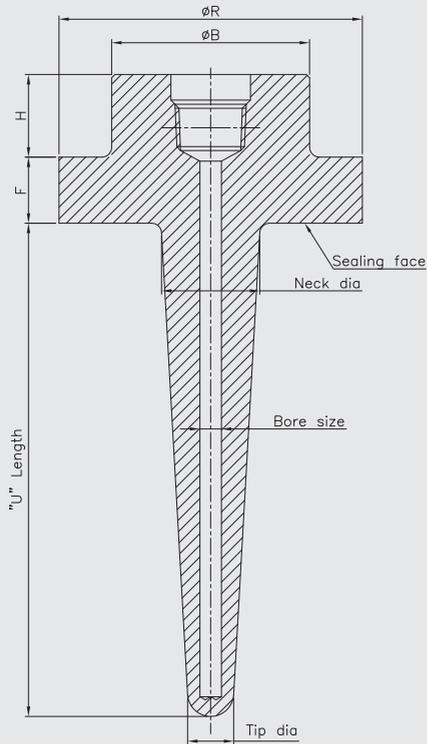
- 0** None
- 1** Plug and chain (304SS)
- 2** Plug and chain (316SS)

Note : Actual length shall be specified.

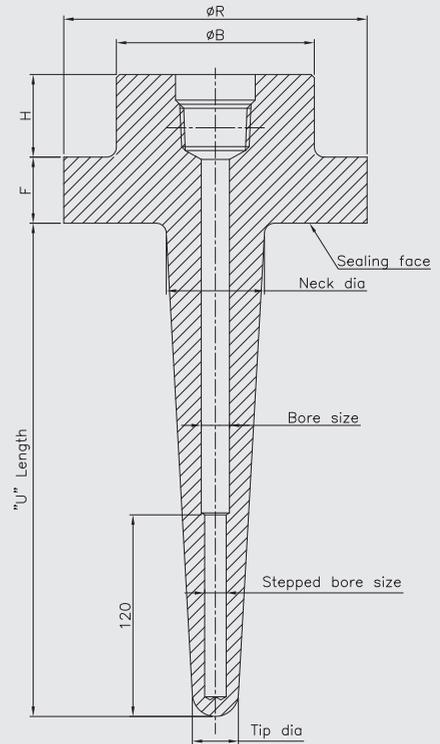
1	2	3	4	5	6	7	8	9	10
A6400	BX	BX	0	A	B	C	AC	1	1

Sample ordering code

Straight bore type



Stepped bore type



		1"	1 1/2"	2"
	R	51	73	92
	B	33	48	60
	F	15	15	20
H	~ 150lb	25	25	25
	~ 300lb	30	35	35
	~ 600lb	30	35	40
	~ 1500lb	45	45	60
	~ 2500lb	50	65	70

	Thread type		Flange type	
	Plane type	Lag type	Plane type	Lag type
Closed end tube straight type				
	A5000	A5001	A5100	A5101
Bar stock straight type				
	A6000	A6001	A6100	A6101
Bar stock taper type				
	A6010	A6011	A6110	A6111
Bar stock step type				
	A6020	A6021	A6120	A6121
Bar stock weld in type	Full penetration welding flange type			
	A6311	A6230	A6231	
Bar stock socket weld type				
	A6300	A6310	A6320	
Bar stock vanstone flange				
	A6400	A6410	A6420	

Helical strake type thermowell

Model : A650 series

Spec. sheet no. AD06-06

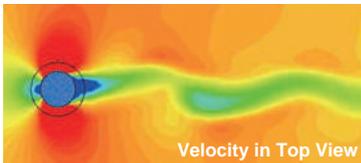
Service intended

Thermowell is manufactured and calculated according to ASME PTC 19.3 TW-2016 to protect it from the loads of the flux. If the calculated value is not appropriate, then shorten the length of the Thermowell, and increase the root and the tip diameter of the Thermowell to change the outcome value, or try to change the structure by installing the support collar on the Thermowell. However, these changes have its own limits. A650 Series could reduce the amplitude of oscillation by 70 %, and reduce the danger of breakage of Thermowell by VIV (Vortex Induced Vibration). Furthermore, because it reduces the loads on the Thermowell, it makes the installation possible without installing the support collar and without the change of Nozzle.



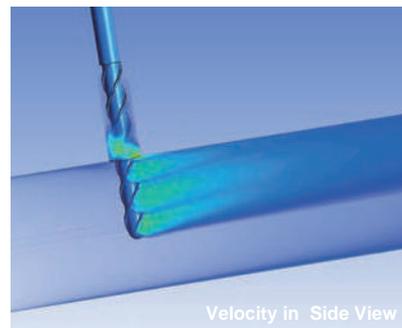
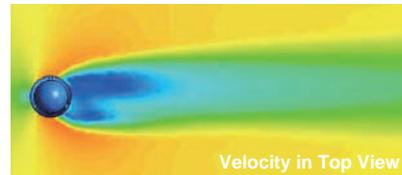
Description

Standard type thermowell



The oscillation of vortices which is caused by VIV can be found around the Thermowell. If the vortex shedding frequency approaches to the natural frequency, then the resonance could cause the breakage of the Thermowell.

A6500 type thermowell



By comparing the standard Thermowell with A650 Series, the noticeable decrease of the vortices could be found around the A650 Series. Furthermore, it could reduce the chance of breakage of the Thermowell which is caused by VIV.

1. Base model

A6510	Flanged Type Thermowell
A6520	Vanstone Type Thermowell
A6530	Socket Type Thermowell

2. Material of well

BX	304SS
CX	316SS
DX	304L SS
EX	316L SS
FX	310SS
ZX	Others

3. Material of flanged

BX	304SS
CX	316SS
DX	304L SS
EX	316L SS
FX	310SS
ZX	Others

4. Internal connection

0	½" NPT
1	½" PT
2	½" PF

5. Tip outer diameter / Bore size (mm)

E0	20 / 7	E1	20 / 9
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6. Flange size

C	1" (25A)	G	2½" (65A)
D	1¼" (32A)	H	3" (80A)
E	1½" (40A)	I	4" (100A)
F	2" (50A)	Z	Other

7. Process connection type

DA	PN10 RF	AW	900 Lb RTJ
DB	PN16 RF	AT	1,500 Lb RF
AE	150 Lb FF	AX	1,500 Lb RTJ
AC	150 Lb RF	AU	2,500 Lb RF
AD	150 Lb RFSF	AY	2,500 Lb RTJ
AH	300 Lb FF	KN	10K FF
AF	300 Lb RF	KL	10K RF
AG	300 Lb RFSF	KM	10K RFSF
DI	PN25 RF	KR	20K FF
AJ	600 Lb RF	KP	20K RF
AK	600 Lb RFSF	KQ	20K RFSF
AV	600 Lb RTJ	DO	PN40 RF
AS	900 Lb RF	ZZ	Other

8. Insertion length ("U") length (mm)

3	200	B	600
4	250	C	700
5	300	D	800
6	350	E	900
7	400	F	1,000
8	450	Z	Other
A	500		

Note : Please choose a code of next higher length if applicable length is not.
Actual length shall be specified.

9. "T" length (mm)

0	45
1	50 below
2	50 above

Note : Actual length shall be specified.

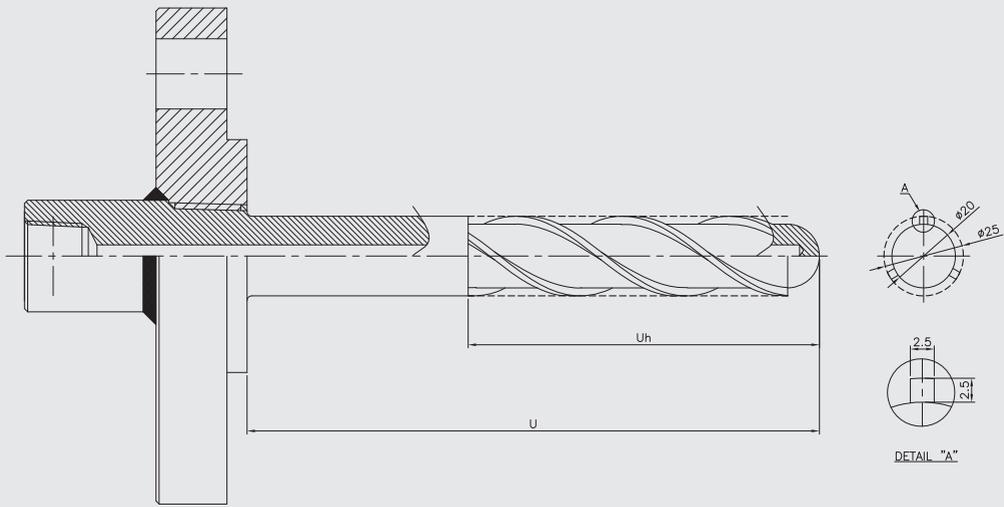
10. Option

0	None
1	Plug and chain (304SS)
2	Plug and chain (316SS)
8	F.P welding (Only flanged type)

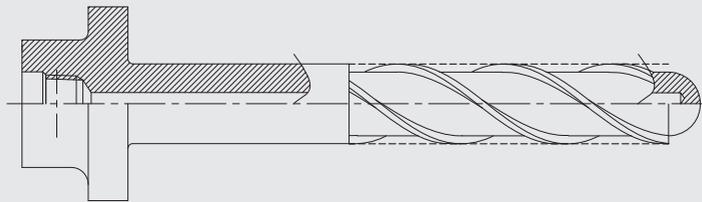
Note : Actual length shall be specified.

1	2	3	4	5	6	7	8	9	10
A6510	BX	BX	0	E0	C	DA	3	0	1

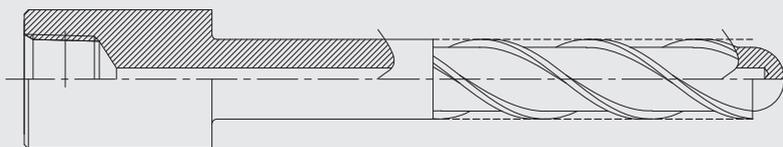
Sample
ordering code



FLANGED TYPE



VANSTONE TYPE



SOCKET WELDED TYPE

A large empty rectangular box with a thin black border, intended for writing a memo.