# 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.

* 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 themowell 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.

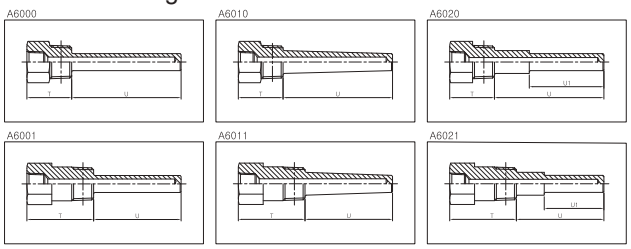
■ Insertion

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.

■ Option

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

■ Basic drawing




■ 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.

## 1. Base model

| | |
|---|---|
| **A6000** | Straight bar stock |
| **A6001** | Straight bar stock with extension |

## 2. Material of well

| | | | |
|---|---|---|---|
| **BX** | 304SS | **JX** | Inconel 600 |
| **CX** | 316SS | **KX** | Hastelloy C276 |
| **DX** | 304L SS | **LX** | Monel400 |
| **EX** | 316L SS | **MX** | Titanium |
| **FX** | 310SS | **OX** | A182F316 |
| **GX** | 321SS | **TX** | Incoloy800 |
| **HX** | 446SS | **WX** | A105 |
| **IX** | A182F304 | **YX** | A182F11 |
| | | **ZX** | Other |

## 3. Instrument connection

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

## 4. Process connection

| | |
|---|---|
| **A** | NPT ½" (Max. Tip dia: 17 mm) |
| **B** | NPT ¾" (Max. Tip dia: 22 mm) |
| **C** | NPT 1" (Max. Tip dia: 27 mm) |
| **D** | PT ½" (Max. Tip dia: 17 mm) |
| **E** | PT ¾" (Max. Tip dia: 22 mm) |
| **F** | PT 1" (Max. Tip dia: 27 mm) |
| **G** | PF ½" (Max. Tip dia: 17 mm) |
| **H** | PF ¾" (Max. Tip dia: 22 mm) |
| **I** | PF 1" (Max. Tip dia: 27 mm) |
| **Z** | Other |

* For other specifications (Z other), please check with the head office before proceeding.

## 5. Bore size / Tip outer diameter (mm)

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

* * (Tip OD – Bore size) / 2 = Standard wall thickness: 3.5mm
Minimum wall thickness: 2.5mm
If the thickness is less than 2.5 mm, please check with the head office before proceeding.

## 6. "T" length (mm)

| | |
|---|---|
| **0** | 45 (WISE STD) |
| **1** | 45 above |

## 7. Immersion length "U" (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. Accessories

| | |
|---|---|
| **A** | None |
| **B** | Plug & chain (304SS) |
| **C** | Plug & chain (316SS) |
| **Z** | Plug & chain (Other) |

## 9. Option

| | |
|---|---|
| **0** | Only well |
| **1** | For TG |
| **2** | For TE |

**Sample ordering code**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|
| **A6000** | **BX** | **0** | **A** | **A0** | **0** | **0** | **A** | **1** |

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## 1. Base model

**A6010** Tapered bar stock
**A6011** Tapered bar stock with extension

## 2. Material of well

| | | | |
|---|---|---|---|
| **BX** | 304SS | **JX** | Inconel 600 |
| **CX** | 316SS | **KX** | Hastelloy C276 |
| **DX** | 304L SS | **LX** | Monel400 |
| **EX** | 316L SS | **MX** | Titanium |
| **FX** | 310SS | **OX** | A182F316 |
| **GX** | 321SS | **TX** | Incoloy800 |
| **HX** | 446SS | **WX** | A105 |
| **IX** | A182F304 | **YX** | A182F11 |
| | | **ZX** | Other |

## 3. Instrument connection

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

## 4. Process connection

| | |
|---|---|
| **A** | NPT ½" (Max. Root dia: 17 mm) |
| **B** | NPT ¾" (Max. Root dia: 22 mm) |
| **C** | NPT 1" (Max. Root dia: 27 mm) |
| **D** | PT ½" (Max. Root dia: 17 mm) |
| **E** | PT ¾" (Max. Root dia: 22 mm) |
| **F** | PT 1" (Max. Root dia: 27 mm) |
| **G** | PF ½" (Max. Root dia: 17 mm) |
| **H** | PF ¾" (Max. Root dia: 22 mm) |
| **I** | PF 1" (Max. Root dia: 27 mm) |
| **Z** | Other |

## 5. Root diameter (mm)

| | | | |
|---|---|---|---|
| **1** | 17 | **4** | 22 |
| **2** | 19 | **5** | 23 |
| **3** | 20 | **Z** | Other |

* For other specifications (Z other), please check with the head office before proceeding.

## 6. Bore size / Tip outer diameter (mm)

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

* (Tip OD – Bore size) / 2 = Standard wall thickness: 3.5mm
Minimum wall thickness: 2.5mm
If the thickness is less than 2.5 mm, please check with the head office before proceeding.

## 7. "T" length (mm)

| | |
|---|---|
| **0** | 45 (WISE STD) |
| **1** | 45 above |

## 8. Immersion length "U" (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.

## 9. Accessories

| | |
|---|---|
| **A** | None |
| **B** | Plug & chain (304SS) |
| **C** | Plug & chain (316SS) |
| **Z** | Plug & chain (Other) |

## 10. Option

| | |
|---|---|
| **0** | Only well |
| **1** | For TG |
| **2** | For TE |

**Sample ordering code**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| **A6010** | **BX** | **0** | **A** | **1** | **A0** | **1** | **1** | **A** | **1** |

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## 1. Base model

| | |
|---|---|
| **A6020** | Stepped bar stock |
| **A6021** | Stepped bar stock with extension |

## 2. Material of well

| | | | |
|---|---|---|---|
| **BX** | 304SS | **JX** | Inconel 600 |
| **CX** | 316SS | **KX** | Hastelloy C276 |
| **DX** | 304L SS | **LX** | Monel400 |
| **EX** | 316L SS | **MX** | Titanium |
| **FX** | 310SS | **OX** | A182F316 |
| **GX** | 321SS | **TX** | Incoloy800 |
| **HX** | 446SS | **WX** | A105 |
| **IX** | A182F304 | **YX** | A182F11 |
| | | **ZX** | Other |

## 3. Instrument connection

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

## 4. Process connection

| | |
|---|---|
| **A** | NPT ½" (Max. Root dia: 17 mm) |
| **B** | NPT ¾" (Max. Root dia: 22 mm) |
| **C** | NPT 1" (Max. Root dia: 27 mm) |
| **D** | PT ½" (Max. Root dia: 17 mm) |
| **E** | PT ¾" (Max. Root dia: 22 mm) |
| **F** | PT 1" (Max. Root dia: 27 mm) |
| **G** | PF ½" (Max. Root dia: 17 mm) |
| **H** | PF ¾" (Max. Root dia: 22 mm) |
| **I** | PF 1" (Max. Root dia: 27 mm) |
| **Z** | Other |

## 5. Root diameter (mm)

| | | | |
|---|---|---|---|
| **1** | 17 | **4** | 22 |
| **2** | 19 | **5** | 23 |
| **3** | 20 | **Z** | Other |

* For other specifications (Z other), please check with the head office before proceeding.

## 6. Bore size / Tip outer diameter (mm)

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

* (Tip OD – Bore size) / 2 = Standard wall thickness: 3.5mm
Minimum wall thickness: 2.5mm
If the thickness is less than 2.5 mm, please check with the head office before proceeding.

## 7. "T" length (mm)

| | |
|---|---|
| **0** | 45 (WISE STD) |
| **1** | 45 above |

## 8. Immersion length "U" (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.

## 9. Step length "U1" (mm)

| | |
|---|---|
| **0** | 80 |
| **1** | 100 |
| **Z** | Other |

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

## 10. Accessories

| | |
|---|---|
| **A** | None |
| **B** | Plug & chain (304SS) |
| **C** | Plug & chain (316SS) |
| **Z** | Plug & chain (Other) |

## 11. Option

| | |
|---|---|
| **0** | Only well |
| **1** | For TG |
| **2** | For TE |

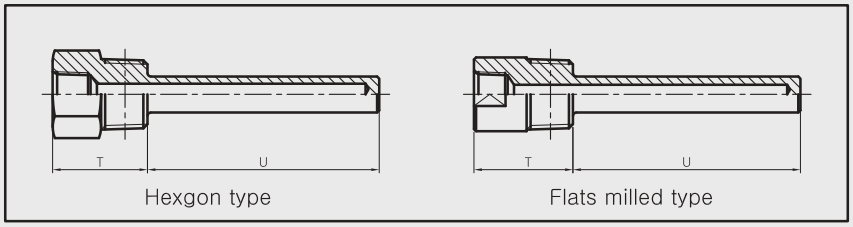
**Sample ordering code**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|
| **A6020** | **BX** | **0** | **A** | **1** | **A0** | **0** | **1** | **1** | **A** | **1** |

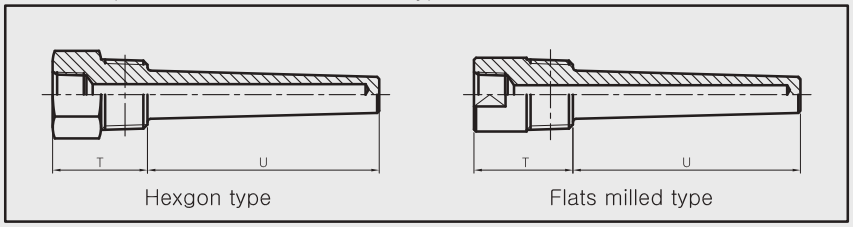
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## Standard product drawing

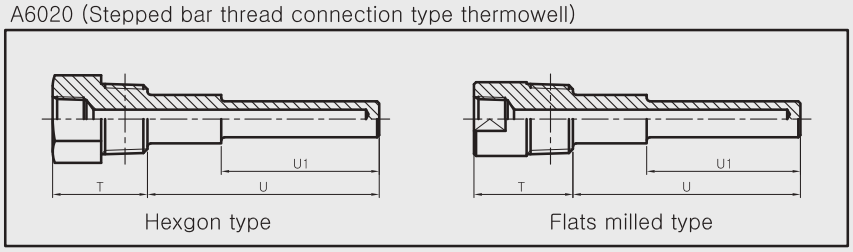
A6000 (Straight bar thread connection type thermowell)



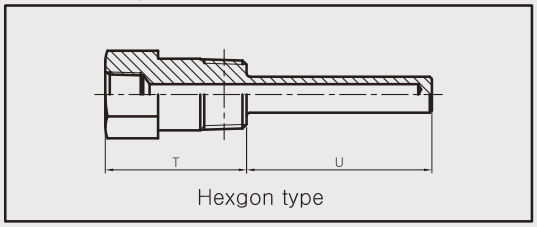

A6010 (Tapered bar thread connection type thermowell)



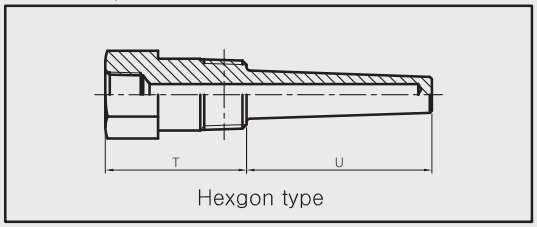

A6020 (Stepped bar thread connection type thermowell)



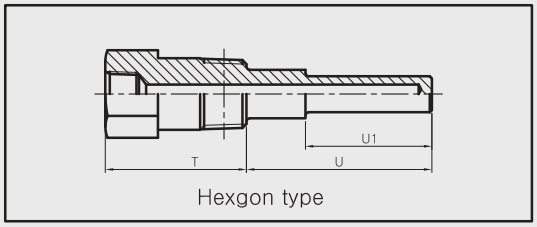

A6001 (Straight bar thread connection with extension type thermowell)




A6011 (Tapered bar thread connection with extension type thermowell)




A6021 (Stepped bar thread connection with extension type thermowell)




*Note
1. Hexgon type is standard.
2. Flats milled type is applicable when the specifications below are met.
 -Thermowell material : Excepts 304SS, 316SS, 316L SS
 -Thermowell total length exceeds 400mm.
 -Thermowell process connection exceeds 1".

## Other option codes

This catalog provides additional optional codes beyond the standard ordering information for basic thermowell models.

### 1. Select option code for special specification

Select this code for special specifications (e.g., tip thickness modification, custom shapes requested by the customer, etc.).

| Model | Code | Code name |
|---|---|---|
| A600 series | DZ | Other specification |

** For other inquiries, select “Code: DZ / Code name: Other specification” and contact our head office.

### 2. Select option code for surface treatment

If surface treatment is required, you may select from the following codes.

| Model | Code | Code name |
|---|---|---|
| A600 series | P4 | Buffing(#300) |
| | P6 (1) | Electro polishing |
| | PA (1) | PTFE Coating |
| | PB (2) | PTFE Lining |
| | PF (2) | PFA Lining |
| | PJ (3) | PTFE Lining(Non-welded) |
| | PZ | Other |

*Note.
(1) Codes P6, PA, Codes name Electro polishing / PTFE coating - applied to immersion length “U”.
(2) Codes PB, PF, Codes name PTFE / PFA lining (standard lining thickness : 1t).
To request a different lining thickness, select “Code: PZ / Code name : Other” and contact our head office.
Not applicable to models A6020 and A6021.
(3) Code PJ, Code name PTFE lining (Non-welded), standard lining thickness : 3t.
For a different lining thickness, select “Code: PZ / Code name: Other” and contact our head office.
Not applicable to models A6020 and A6021.

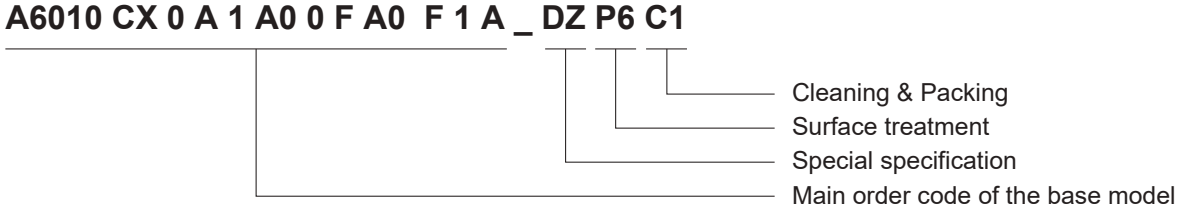
### 3. Select option code for cleaning

If surface treatment is required, you may select from the following codes.

| Model | Code | Code name |
|---|---|---|
| All models | C1 | IPA cleaning w/ wrapping |
| | C2 | IPA cleaning w/ vacuum packing |
| | C3 | IPA cleaning w/ N2 gas |
| | CZ | Other |

** For other inquiries, select “Code: CZ / Code name: Other specification” and contact our head office.

< Example >




* The above option codes do not apply to all models. Please inquire with the head office before selecting.
* For order specifications or other inquiries not listed above, please contact our head office.