

05

Thermowells Catalog



OKAZAKI
MANUFACTURING COMPANY

Green Procurement

Okazaki Manufacturing Company has established a policy for the control of hazardous chemical substances as an environmental measure, and promotes green purchasing and procurement activities that take the environment into consideration.

Security Policy

Okazaki Manufacturing Company handles customer information as a critical asset. We thoroughly recognize the importance of ensuring confidentiality and protecting information, and have implemented security measures through company rules and regulations.

To prevent the leakage of information, we take steps such as installing anti-virus software on company computers, implementing measures to prevent data leaks when exchanging data between computers, and prohibiting employees from taking computers out of company facilities and bringing their own private computers into company facilities.

Product Warranty

Okazaki Manufacturing Company conducts appropriate product inspections based on our own company standards. If a problem occurs with the product, contact your nearest service representative with the specific details of the problem.

Warranty Period

Period of warranty will be limited to one year from the date of the delivery.

Scope of Warranty

If, during the warranty period specified above, a problem occurs due to a fault attributable to Okazaki Manufacturing Company, the product shall be replaced or repaired.

However, this warranty does not apply in the following cases:

- (1) If the product has been handled or used improperly
- (2) If the cause of the problem is attributable to factors external to the purchased product
- (3) If modifications or repairs have been performed by a party other than Okazaki Manufacturing Company
- (4) If the product is used for purposes or applications in which the product is intended as a consumable item
- (5) In other cases such as a natural disaster or accident

Furthermore, the scope of the warranty is limited to the purchased product itself, and it does not cover other damage arising from the problem with the purchased product.

INDEX

Thermowell Basic Specifications	F-1
Thermowell Basic Specifications	F-2
Thermowell Basic Specifications	F-3
Thermowell Basic Specifications	F-4
Thermowell Basic Specifications	F-5
List of Models	F-6
TW10A / Threaded Type Solid Drilled Thermowell	F-7
TW10D / Threaded Type Solid Drilled Thermowell With Lagging Extension	F-8
TW10F / Threaded Type Solid Drilled Thermowell (Round Head)	F-9
TW10E / Weld-In Type Solid Drilled Thermowell	F-10
TW20A / Flanged Type Solid Drilled Thermowell (Screwed and Weled)	F-11
TW20B / Flanged Type Solid Drilled Thermowell (Welded)	F-12
TW20FP / Flanged Type Solid Drilled Thermowell (Full Penetration Welded)	F-13
TW30A / Threaded Type Fabricated Thermowell	F-14
TW40B / Flanged Type Fabricated Thermowell	F-15



Head Office

Okazaki Manufacturing Company
 UK Limited

Europe
 Kamet Trading BV

Middle East
 Petroleum Services Co.
 Haffar Petroleum Services Co W.L.L
 Petro Middle East
 Energy Support Trading Est.
 Technical Supplies International Co.LLC

- Overseas Bases
- Overseas Representatives

Main Manufacturing Factory



Okazaki Manufacturing Company
 supplies highly reliable and
 trusted products for use in
 a wide range of industries.

Aerospace



Petrochemicals



Gas



Fibers



Semiconductors



the world through “heat”



Korea
Newins Co., Ltd.

Okazaki Manufacturing (Taiwan) Company

Southeast Asia
Kiuchi Instrumentation Pte.Ltd.

Ari Industries, Inc., USA

Aerospace Division

Kobe-Iwaoka Factory

Fukuoka Factory

Kyushu Factory

Okazaki Manufacturing (Taiwan) Company

ARI INDUSTRIES, INC., USA



[Business Sites]

Sales Offices

International Division/Tokyo Branch/Ibaraki Branch/Kita-kanto Branch/Chiba Branch/Yokohama Branch/Nagoya Branch/Kyoto Branch/Osaka Branch/Kobe Sales Office/Takasago Branch/Okayama Branch/Hiroshima Branch/Kita-kyushu Branch/Nagasaki Branch

Factories

Main Manufacturing Factory/Aerospace Division in Main Manufacturing Factory/Kobe-Iwaoka Factory/Fukuoka Factory/Kyushu Factory

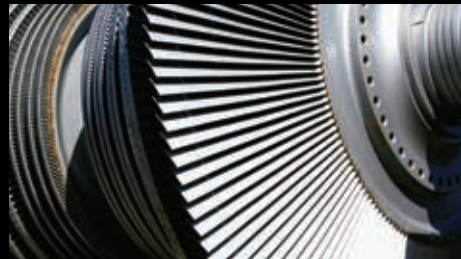
Overseas Bases

ARI Industries Inc., USA/Okazaki Manufacturing (Taiwan) Co., Ltd./Okazaki Manufacturing Company UK Limited

Environment



Power Generation



Medical & Food



Automobiles



Ships



Iron & Steel



Sensors and Heaters

Connecting across industries with “heat”

01 Thermocouples

AEROPAK®

02 Resistance Thermometer Sensors

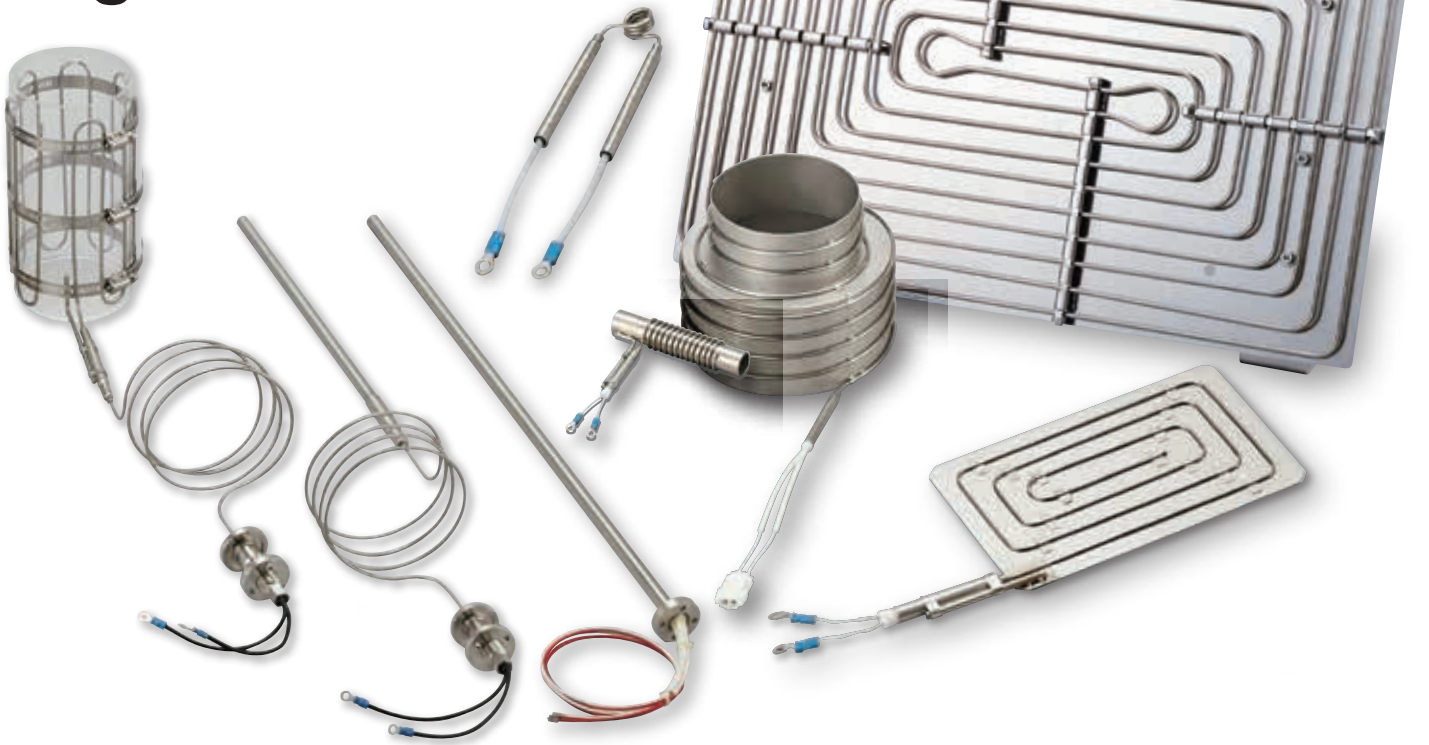
RESIOPAK®



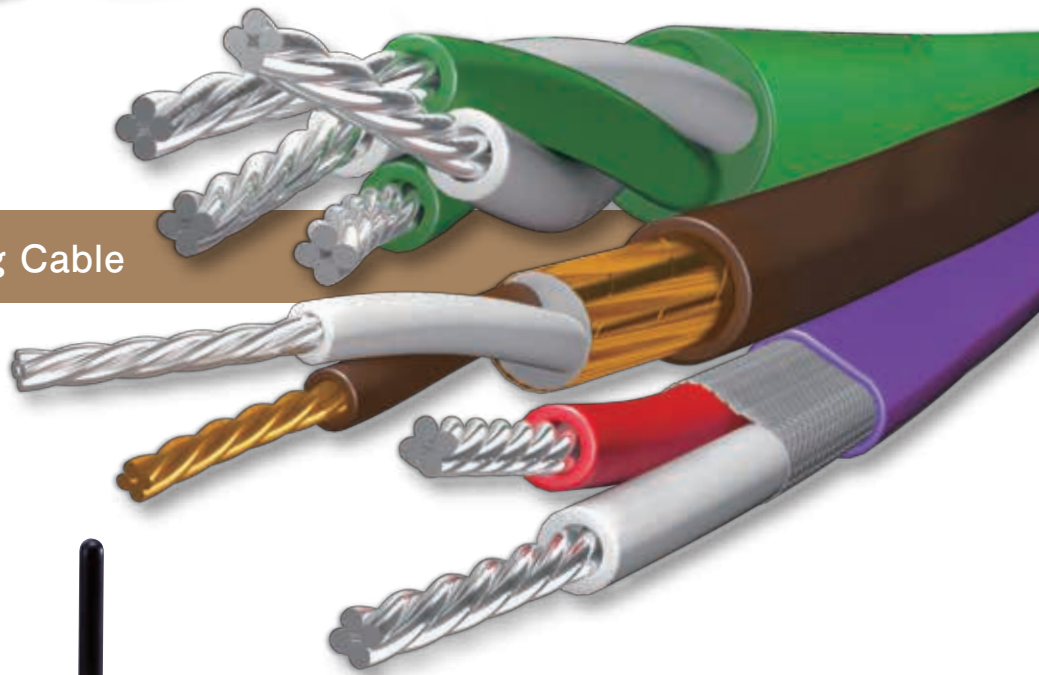
MI Cables

03 Heaters

AEROHEAT®



04 Compensating Cable



05 Thermowells



OKAZAKI Thermowells

Thermowells for temperature sensors are used to protect temperature sensors from conditions such as high pressure, corrosion, and high temperatures in a variety of industrial processes. Normally, these can be installed in pipelines independently from the temperature sensors. The design specifications vary depending on the purpose of use, as listed below.

Type

1. Solid drilled thermowells for petrochemical/gas plants
2. Solid drilled thermowells for thermal power plants
3. High-temperature thermowells for incinerators
4. Sanitary type thermowells for food/medicine

In addition to the items listed above, Okazaki designs and manufactures other types of thermowells for temperature sensors in response to the various needs of customers. In particular, for thermowells installed in piping lines, we perform the wake frequency calculation according to the conditions of use, and judge whether usage is possible. If usage is not possible, we determine the dimensions and specifications that would enable usage. Our wake frequency calculation is performed in accordance with ASME PTC19.3 and JSME S012 of the Japan Society of Mechanical Engineers. We are also able to submit calculation statements that comply with the High Pressure Gas Safety Act, as well as the necessary certificates for inspections and materials.

Furthermore, we can carry out a variety of inspections that are required, such as pressure test, airtightness inspection, and non-destructive inspections such as Radiography inspection and Liquid penetrant test. In addition, to verify the materials, we can perform chemical composition inspections using PMI testing equipment.

1. Wake frequency calculation

- (1) ASME PTC19.3 (US); (2) JSME S012 (Japan Society of Mechanical Engineers standard);
- (3) Compliance with High Pressure Gas Safety Act/Regulation on Inspection of Specific Equipment

2. Various types of inspections

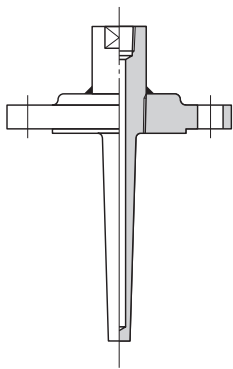
- (1) Pressure test (water pressure: up to 50 MPa); (2) Airtightness inspection (nitrogen gas pressure: up to 16 MPa); (3) Radiography inspection/microfocus equipment; (4) Liquid penetrant test

3. Special thermowell specifications

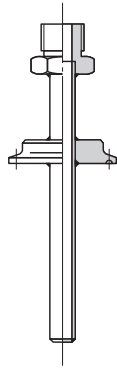
- (1) Cover type (FEP resin/tantalum); (2) Liner (HASTELLOYS-C276);
- (3) Hardfacing (Co/Ni/W-based metallic spray or surface welding); (4) Lining (glass)/coating (PFA resin)

4. Max stem length of solid drilled thermowell : 2.4m

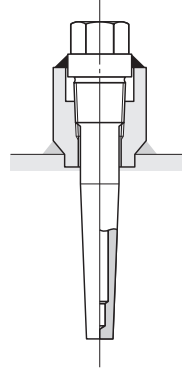
5. Unique solution when wake frequency calculation fails



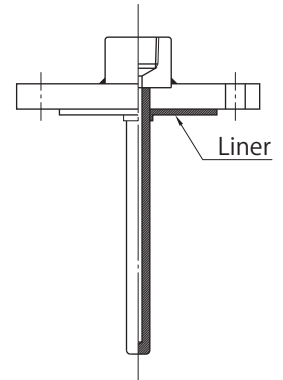
For petrochemicals



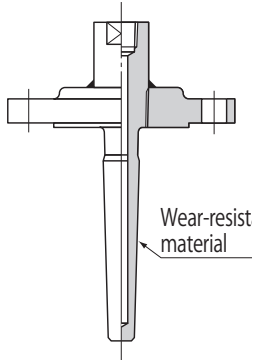
For food/medicine



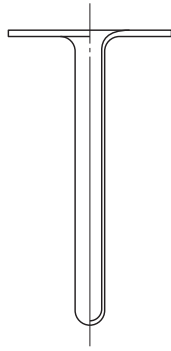
For thermal power plants



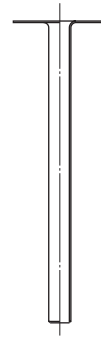
Liner in exotic material



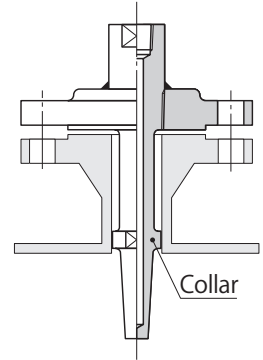
Hardfacing



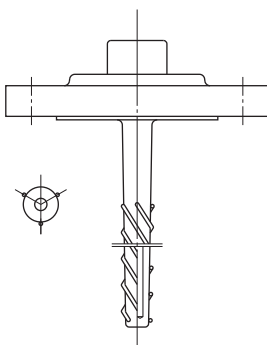
FEP resin cover



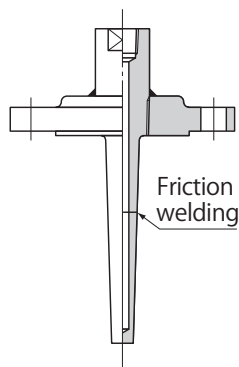
Tantalum cover



Conventional solution for flow-induced vibration



Unique solution for flow-induced vibration
Vortex Well®



Friction welding type



Types and Characteristics of Thermowell Materials

Material JIS code/trademark shown in brackets		Chemical composition (%)	Maximum operating temperature (°C) ¹	Characteristics
Mild Steel	STPG	0.25 to 0.3C 0.3 to 1.0Mn Balance Fe	600	Use in non-corrosive fluids due to its vulnerability to oxidizing environments. Often surface processed with glass, resin etc for better corrosion resistance.
Alloy steel forgings for pressure vessels for high - temperature service	SFVAF22	2.25Cr-1 Mo-Fe (C≤0.15)	600	Low-carbon alloy steel, with added Mo and Cr for good corrosion resistance at a high temperature. Attention must be paid to the welding material for parts subjected to high pressure.
Austenitic stainless steel	304SS (SUS304)	18Cr-8Ni-Fe	900	Used most widely as stainless steel. For food facilities, general chemicals facilities, nuclear power, etc.
	304LSS (SUS304L)	18Cr-9Ni-low C-Fe	800	304 low-carbon steel, with increased grain-boundary corrosion resistance.
	310S SS (SUS310S)	25Cr-20Ni-Fe	1000	Excellent oxidizing resistance, used as heat-resistant steel. Weak against sulfides.
	316SS (SUS316)	18Cr-12Ni-2.5Mo-Fe	900	Better corrosion resistance than 304 in sea water and various other media. Pitting corrosion resistant material.
	321SS (SUS321)	18Cr-9Ni-Ti-Fe	900	Increased grain-boundary corrosion resistance with Ti added.
	347SS (SUS347)	18Cr-9-NiNb-Fe	900	Increased grain-boundary corrosion resistance with Nb added.
	253MA	21Cr-11Ni-1.7Si-Fe	1150	Excellent corrosion resistance at high temperature. Excellent high-temperature strength.
Ferritic heat resistant steel	SANDVIK P4 (SUH446)	25Cr-0.2N-0.2C	1000	Strong against high-temperature corrosion and no generation of scales that easily peel off, at temperatures up to 1082°C. Excellent sulfur resistance.
Corrosion-resis- tant heat-resis- tant superalloy	INCONEL600 (NCF600)	15.5Cr-72Ni-7Fe	1050	Excellent corrosion resistance in an oxidizing/reducing atmosphere at high temperature. Excellent carburizing/nitriding resistance.
	INCOLOY-800H (NCF800H)	20.5Cr-32Ni-44.5Fe- Ti-AL-Cu	1000	Carburizing resistance and strong resistance against internal oxidizing. Stable austenitic organization and good corrosion resistance. 800H has particularly excellent high-temperature strength and creep rupture strength.
	MC ALLOY MC ALLOY	45Cr-1Mo-Ni	1000	Excellent resistance to sulfur attack and vanadium attack.
Nickel-based heat-resistant corrosion-resis- tant alloy	HASTELLOY-C276	15Cr-52Ni-16Mo- 5.5Fe-4W	1000	Trademark is HASTELLOY-C276. Excellent corrosion resistance against acid and mixed acid in an oxidizing/reducing atmosphere.
	HASTELLOY-X	22Cr-48Ni-9Mo- 18Fe-1.5CO-0.6W	1150	Trademark is HASTELLOY-X. Representative heat-resistant alloy. Strength and oxidizing resistance are retained even at 1090°C.
Cobalt-based heat-resistant corro- sion-resistant alloy	UMCO50	28Cr-21Fe-1Si-50Co	1150	Trademark is UMCO50. Strong resistance to thermal shock and wear, and excellent for use with sulfides and vanadium. Also has excellent high-temperature strength.
Titanium	-	0.2Fe-Ti	250	Excellent corrosion resistance in the low-temperature range, especially in sea water.

Types and Characteristics of Thermowell Surface Processing (Including Covers)

Material JIS code/trademark shown in brackets		Maximum operating temperature (°C) ^{*1}	Characteristics
Coating	PFA	250	Excellent chemical resistance, and the electrical resistance is equal to or better than FEP at temperatures above 150°C.
	Ceramic (Al ₂ O ₃)	1100	Excellent wear/heat/corrosion resistance. Pay attention to the difference in thermal expansion compared to other material.
Lining	Glass	250	STPG/SS400 is used for base material. Excellent acid resistance, but poor alkali resistance.
Hardfacing	SF-6 (MSF Co1)	Depending on the Material	Excellent corrosion/wear resistance. Excellent acid/alkali resistance.
Cover	Tantalum	350	Exhibits strong corrosion resistance against all acids. Poor against hydrofluoric acid and caustic soda.
	4-6 fluorocarbon polymer (FEP)	150	Exhibits electrical resistance against almost all chemical resistance.

*1 The maximum operating temperatures listed here are reference values from JIS and the manufacturer's catalog. These are not guaranteed values.

Inspection Standards

Appearance inspection Visually check for defects such as scratches, cracks, and bends.

Dimensional inspection

Flange	Check in accordance with flange ratings such as JIS, JPI, and ASME.			
Immersion length (mm)	Solid drilled type		Fabricated type	
	30<U≤120	±1.5	≤150	±2.0
	120<U≤400	±2.5	150<	±1.5%
	400<U≤1000	±4.0		
	1000<U≤2000	±6.0		
Outer diameter and total length	Perform measurements in accordance with JIS B0405 medium grade (except for fabricated type).			
Screw thread	Use a thread gauge.			

Material inspection* Perform inspection using the material certificate supplied by the manufacturer.

Material verification* Check the chemical composition using PMI testing equipment.

Pressure test* Maximum water pressure: 50 MPaG

Airtightness inspection* Maximum pressure of N₂gas: 16 MPaG

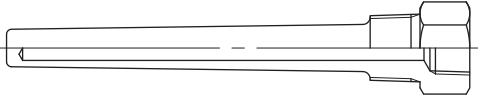
Non-destructive inspection*

	Total Length (mm)	Thickness tolerance (mm)	Tip thickness (mm)
Radiography inspection (Solid drilled type)	≤500	±0.3	+0.5
	500<	±0.5	0
	(Inspect all items when the length exceeds 1000.)		
Liquid penetrant testing	Inspect the welded areas.		

If surface processing such as hardfacing is applied, details shall be provided separately. Only performed when specified for inspections marked with *.

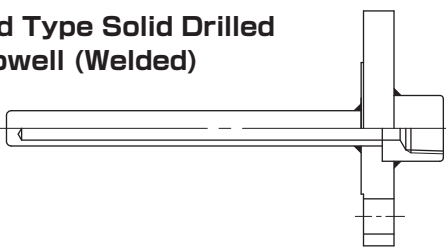
TW10A >> F-7

Threaded Type Solid Drilled Thermowell



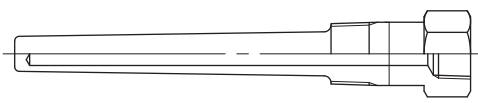
TW20B >> F-12

Flanged Type Solid Drilled Thermowell (Welded)



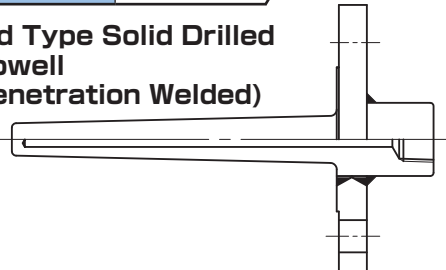
TW10D >> F-8

Threaded Type Solid Drilled Thermowell With Lagging Extension



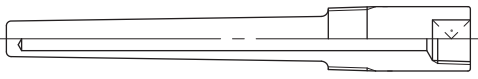
TW20FP >> F-13

Flanged Type Solid Drilled Thermowell (Full Penetration Welded)



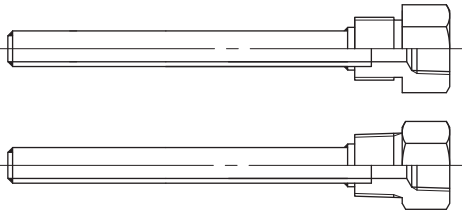
TW10F >> F-9

Threaded Type Solid Drilled Thermowell (Round Head)



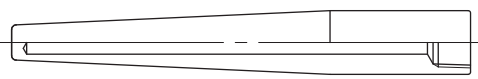
TW30A >> F-14

Threaded Type Fabricated Thermowell



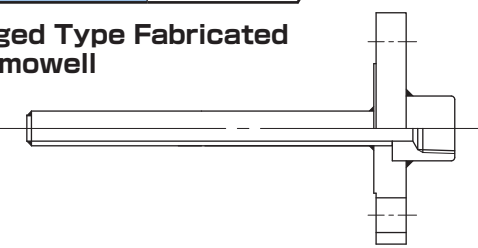
TW10E >> F-10

Weld-In Type Solid Drilled Thermowell



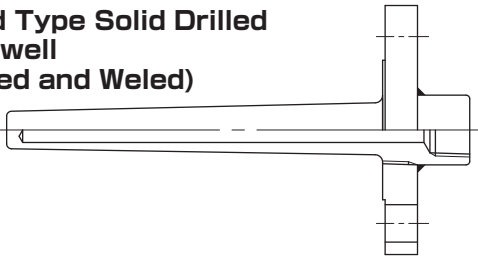
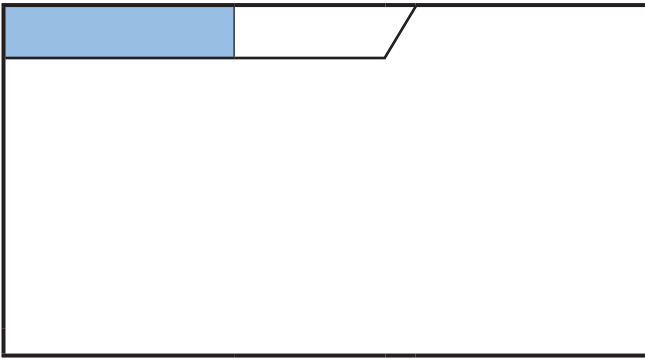
TW40B >> F-15

Flanged Type Fabricated Thermowell

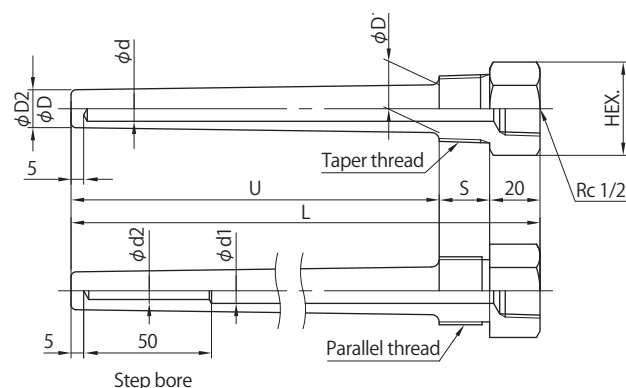


TW20A >> F-11

Flanged Type Solid Drilled Thermowell (Screwed and Weled)

Threaded Type Solid Drilled Thermowell



Model code TW10A

TW10A-① - ② / ③ - ④ - ⑤ ⑥ ⑦ - ⑧ / ⑨

①	Outer diameter (Unit: mm)	D	For tapered type: D1/D2
②	Inner diameter (Unit: mm)	d	For step bore type: d1/d2
③	Material	A B C D Z	304SS NCF600eq. 316SS 310S SS Other (Please specify)
④	Length (Unit: mm)	L	
⑤	Screw thread standard	JP NP	JIS pipe thread ANSI pipe thread
⑥	Screw thread structure	T F	Taper screw thread Parallel screw thread
⑦	Screw size	15 20 25 Z	1/2 3/4 1 Other (Please specify)
⑧	Immersion length (Unit: mm)	U	
⑨	Additional specifications		Special applications such as surface processing, cover etc available upon request.

Note: Example model code

TW10A-20/16-9/C-390-JPT20-350

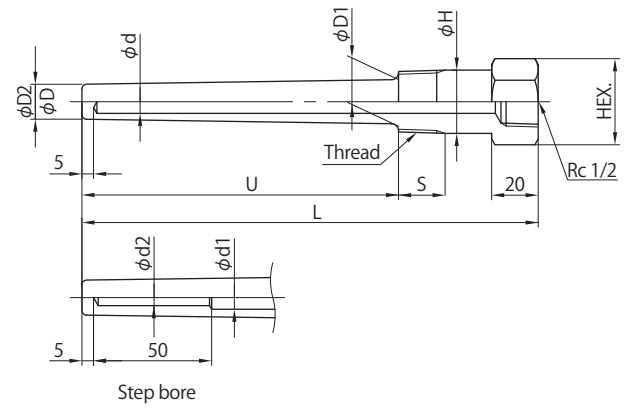
Examples of thermowell dimensions

D or D1	d	L Max.
φ9	φ4	100
φ10	φ5	350
φ11	φ6	600
φ12	φ7	600
φ15 to 17	φ8 to 10	1500
φ22 to 26	φ11 to 16	2400

Basic dimensions

Outer screw thread	S	HEX.
NPT, R1/2	16	26×30
NPS, G1/2	20	26×30
NPT, R3/4	20	30×34.6
NPS, G3/4	20	32×37
NPT,R1	23	36×41.6
NPS,G1	25	38×43.9

Threaded Type Solid Drilled Thermowell With Lagging Extension



Model code TW10D

TW10D - ① - ② / ③ - ④ - ⑤ ⑥ ⑦ - ⑧ / ⑨

①	Outer diameter (Unit: mm)	D	For tapered type: D1/D2
②	Inner diameter (Unit: mm)	d	For step bore type: d1/d2
③	Material	A B C D Z	304SS NCF600eq. 316SS 310S SS Other (Please specify)
④	Length (Unit: mm)	L	
⑤	Screw thread standard	JP NP	JIS pipe thread ANSI pipe thread
⑥	Screw thread structure	T	Taper screw thread
⑦	Screw size	15 20 25 Z	1/2 3/4 1 Other (Please specify)
⑧	Immersion length (Unit: mm)	U	
⑨	Additional specifications		Special applications such as surface processing, cover etc available upon request.

Note: Example model code
TW10D-20/16-9/C-440-JPT20-350

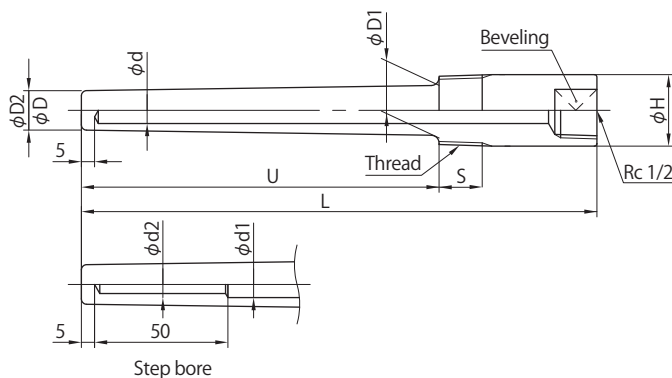
Examples of thermowell dimensions

D or D1	d	L Max.
φ9	φ4	100
φ10	φ5	350
φ11	φ6	600
φ12	φ7	600
φ15 to 17	φ8 to 10	1500
φ22 to 26	φ11 to 16	2400

Basic dimensions

Outer screw thread	S	HEX.	φH
NPT, R1/2	16	26×30	22
NPT, R3/4	20	30×34.6	28
NPT,R1	23	36×41.6	34

Threaded Type Solid Drilled Thermowell (Round Head)



Model code **TW10F**

TW10F - ① - ② / ③ - ④ - ⑤ ⑥ ⑦ - ⑧ / ⑨

①	Outer diameter (Unit: mm)	D	For tapered type: D1/D2
②	Inner diameter (Unit: mm)	d	For step bore type: d1/d2
③	Material	A B C D Z	304SS NCF600eq. 316SS 310S SS Other (Please specify)
④	Length (Unit: mm)	L	
⑤	Screw thread standard	JP NP	JIS pipe thread ANSI pipe thread
⑥	Screw thread structure	T	Taper screw thread
⑦	Screw size	20 25 Z	3/4 1 Other (Please specify)
⑧	Immersion length (Unit: mm)	U	
⑨	Additional specifications		Special applications such as surface processing, cover etc available upon request.

Note: Example model code
TW10F-20/16-11/9/D-440-NPT25-350

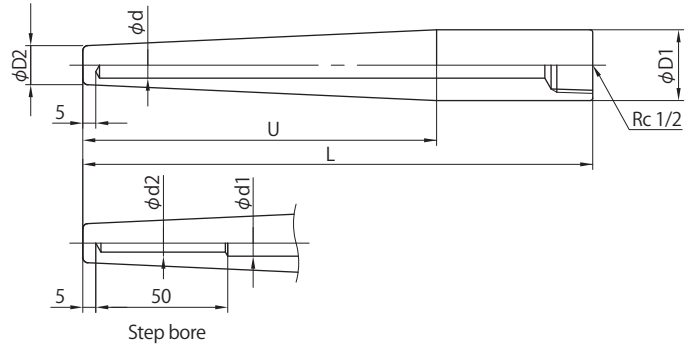
Examples of thermowell dimensions

D or D1	d	L Max.
φ9	φ4	100
φ10	φ5	350
φ11	φ6	600
φ12	φ7	600
φ15 to 17	φ8 to 10	1500
φ22 to 26	φ11 to 16	2400

Basic dimensions

Outer screw thread	S	φH
NPT, R3/4	20	28
NPT,R1	23	34

Weld-In Type Solid Drilled Thermowell



Model code **TW10E**

TW10E - ① - ② / ③ - ④ - ⑤ ⑥ ⑦ - ⑧ / ⑨

①	Outer diameter (Unit: mm)	D	For tapered type: D1/D2
②	Inner diameter (Unit: mm)	d	For step bore type: d1/d2
③	Material	A B C D Z	304SS NCF600eq. 316SS 310S SS Other (Please specify)
④	Length (Unit: mm)	L	
⑤	Screw thread standard		N/A
⑥	Screw thread structure		N/A
⑦	Screw size		N/A
⑧	Immersion length (Unit: mm)	U	
⑨	Additional specifications		Special applications such as surface processing, cover etc available upon request.

Note: Example model code

TW10E-28/16-11/9/D-440-350

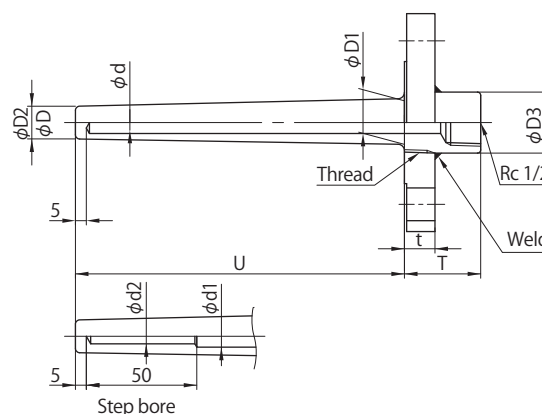
Examples of thermowell dimensions

D2	d	L Max.
$\phi 9$	$\phi 4$	100
$\phi 10$	$\phi 5$	350
$\phi 11$	$\phi 6$	600
$\phi 12$	$\phi 7$	600
$\phi 15$ to 17	$\phi 8$ to 10	1500
$\phi 22$ to 26	$\phi 11$ to 16	2400

Basic dimensions

D1
28
34

Flanged Type Solid Drilled Thermowell (Screwed and Weled)



Model code TW20A

TW20A - ① - ② / ③ - ④ - ⑤ ⑥ ⑦ ⑧ / ⑨ / ⑩

①	Outer diameter (Unit: mm)	D	For tapered type: D1/D2	
②	Inner diameter (Unit: mm)	d	For step bore type: d1/d2	
③	Material	A	304SS	D 310S SS Z Other (Please specify)
		B	NCF600eq.	
		C	316SS	
④	Immersion length (Unit: mm)	U		
⑤	Flange rating	J05	JIS 5K	P15 JPI 150LB P30 JPI 300LB P60 JPI 600LB
		J10	JIS 10K	
		J20	JIS 20K	
		A15	ASME 150LB	
		A30	ASME 300LB	
		A60	ASME 600LB	
⑥	Flange face	RF	Raised face	
		FF	Flat face	
		RJ	Ring joint	
		MF	Male and female (M)	
⑦	Flange size	20	20A or 3/4B	50 50A or 2B Z Other (Please specify)
		25	25A or 1B	
		40	40A or 1-1/2B	
⑧	Flange upper face structure	BL	Blind (standard)	
		SO	Slip on	
⑨	Flange material	S	SS400 (steel)	C 316SS Z Other (Please specify)
		A	304SS	
		B	NCF600eq.	
⑩	Additional specifications		Special applications such as surface processing, cover etc available upon request.	

Note: Example model code
TW20A-20/16-11/9/C-300-J20RF40BL/C

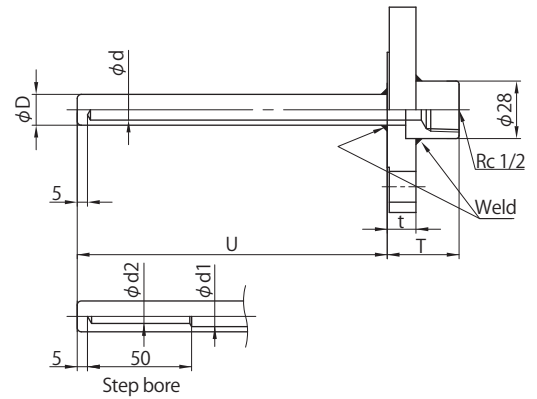
Examples of thermowell dimensions

D or D1	d	U Max.
φ8	φ4	100
φ10	φ5	350
φ11	φ6	600
φ12	φ7	600
φ15 to 17	φ8 to 10	1500
φ22 to 26	φ11 to 16	2000

Basic dimensions

D or D1	D3	Thread	T
≤φ26	φ34	R1	If t≤15, then T = 35
≤φ22	φ28	R3/4	If t>15, then T = t+20 Rounded up in 5 mm increments

Flanged Type Solid Drilled Thermowell (Welded)



Model code **TW20B**

TW20B - ① - ② / ③ - ④ - ⑤ ⑥ ⑦ ⑧ / ⑨ / ⑩

①	Outer diameter (Unit: mm)	D			
②	Inner diameter (Unit: mm)	d	For step bore type: d1/d2		
③	Material	A	304SS	D	310S SS
		B	NCF600eq.	Z	Other (Please specify)
		C	316SS		
④	Immersion length (Unit: mm)	U			
⑤	Flange rating	J05	JIS 5K	P15	JPI 150LB
		J10	JIS 10K	P30	JPI 300LB
		J20	JIS 20K	P60	JPI 600LB
		A15	ASME 150LB		
		A30	ASME 300LB		
		A60	ASME 600LB		
⑥	Flange face	RF	Raised face		
		FF	Flat face		
		RJ	Ring joint		
		MF	Male and female (M)		
⑦	Flange size	20	20A or 3/4B	50	50A or 2B
		25	25A or 1B	Z	Other (Please specify)
		40	40A or 1-1/2B		
⑧	Flange upper face structure	BL	Blind (standard)		
		SO	Slip on		
⑨	Flange material	S	SS400 (steel)	C	316SS
		A	304SS	Z	Other (Please specify)
		B	NCF600eq.		
⑩	Additional specifications		Special applications such as surface processing, cover etc available upon request.		

Note: Example model code
TW20B-20-11/9/C-300-J20RF40BL/C

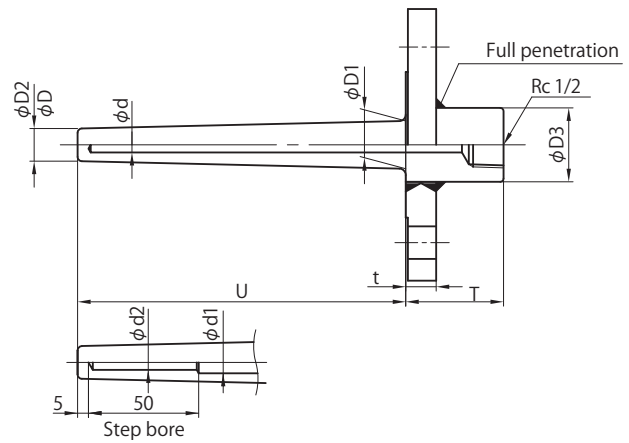
Examples of thermowell dimensions

D	d	U Max.
φ8	φ4	100
φ10	φ5	350
φ11	φ6	600
φ12	φ7	600
φ15 to 17	φ8 to 10	1500
φ22 to 26	φ11 to 16	2000

Basic dimensions

T
If t ≤ 15, then T = 35
If t > 15, then T = t + 20 Rounded up in 5 mm increments

Flanged Type Solid Drilled Thermowell (Full Penetration Welded)



Model code **TW20FP**

TW20FP - ① - ② / ③ - ④ - ⑤ ⑥ ⑦ ⑧ / ⑨ / ⑩

①	Outer diameter (Unit: mm)	D	For tapered type: D1/D2
②	Inner diameter (Unit: mm)	d	For step bore type: d1/d2
③	Material	A B C D Z	304SS NCF600eq. 316SS 310S SS Other (Please specify)
④	Immersion length (Unit: mm)	U	
⑤	Flange rating	A15 A30 A60 A150 A250	ASME 150LB ASME 300LB ASME 600LB ASME 1500LB ASME 2500LB
⑥	Flange face	RF FF RJ MF	Raised face Flat face Ring joint Male and female (M)
⑦	Flange size	20 25 40 Z	20A or 3/4B 25A or 1B 40A or 1-1/2B Other (Please specify)
⑧	Flange upper face structure	BL SO	Blind (standard) Slip on
⑨	Flange material	A B C Z	304SS NCF600eq. 316SS Other (Please specify)
⑩	Additional specifications		Special applications such as surface processing, cover etc available upon request.

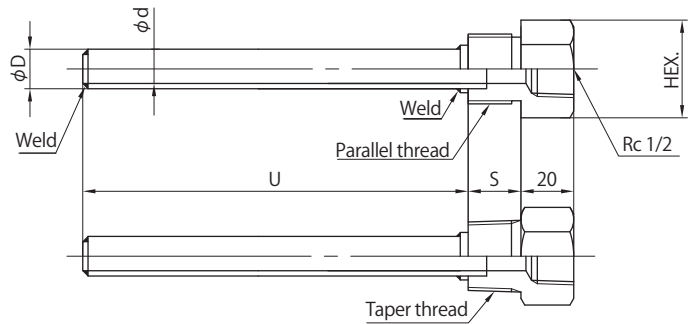
Thermowell dimensions

D or D1	d	U Max.
φ15 to 17	φ8 to 10	1500
φ22 to 26	φ11 to 16	2000

Basic dimensions

T
T = t+30 Rounded up in 5 mm increments

Threaded Type Fabricated Thermowell



Model code TW30A

TW30A — ① — / ② — ③ — ④ ⑤ ⑥ / ⑦ / ⑧

①	Outer diameter (Unit: mm)	D				
②	Material	A	304SS	U	UMCo50	
		C	316SS	N	NCF600eq.	
		D	310S SS	Z	Other (Please specify)	
		P	SANDVIK P4			
③	Immersion length (Unit: mm)	U				
④	Screw thread standard	JP	JIS pipe thread			
		NP	ANSI pipe thread			
⑤	Screw thread structure	T	Taper screw thread			
		F	Parallel screw thread			
⑥	Screw size	15	1/2B	Z	Other (Please specify)	
		20	3/4B			
		25	1B			
⑦	Screw thread material	A	304SS	Z	Other (Please specify)	
		C	316SS			
⑧	Additional specifications		Special applications such as surface processing, cover etc available upon request.			

Note: Example model code
TW30A-15/C-300-JPT20C

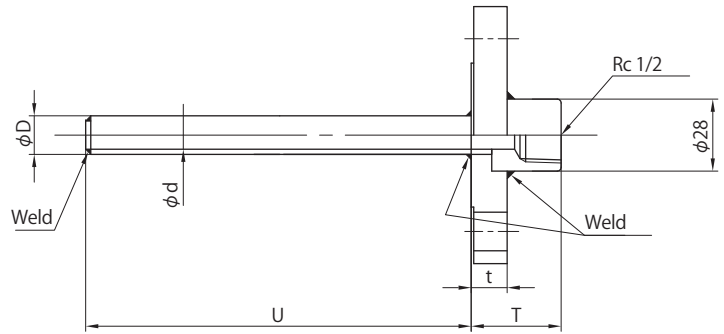
Basic dimensions

Outer screw thread	S	HEX.
R1/2	16	26×30
G1/2	20	26×30
R3/4	20	30×34.6
G3/4	20	32×37
R1	23	36×41.6
G1	25	38×43.9

Thermowell dimensions

Material	φD	φd
Stainless steel	φ8	φ6
	φ10	φ7
	φ10.5 (6A)	φ7.1
	φ12	φ9
	φ13.8 (8A)	φ9.4
	φ15	φ11
	φ17.3 (10A)	φ12.7
	φ21.7 (15A)	φ16.1 or φ15.7
	φ27.2 (20A)	φ21.4 or φ21.2
SUH446	φ21.7	φ16.1
SANDVIK P4	φ21.3	φ16
	φ26.9	φ21.6
UMCo50	φ22	φ16
	φ27	φ21
NCF600eq.	φ22	φ16

Flanged Type Fabricated Thermowell



Model code **TW40B**

TW40B — ① / ② — ③ — ④ ⑤ ⑥ / ⑦ / ⑧

①	Outer diameter (Unit: mm)	D			
②	Material	A	304SS	U	UMCo50
		C	316SS	N	NCF600eq.
		D	310S SS	Z	Other (Please specify)
		P	SANDVIK P4		
③	Immersion length (Unit: mm)	U			
④	Flange rating	J05	JIS 5K	P15	JPI 150LB
		J10	JIS 10K	P30	JPI 300LB
		J20	JIS 20K	P60	JPI 600LB
		A15	ASME 150LB		
		A30	ASME 300LB		
		A60	ASME 600LB		
⑤	Flange face	RF	Raised face		
		FF	Flat face		
		RJ	Ring joint		
		MF	Male and female (M)		
⑥	Flange size	20	20A or 3/4B	50	50A or 2B
		25	25A or 1B	Z	Other (Please specify)
		40	40A or 1-1/2B		
⑦	Flange material	S	SS400 (steel)	C	316SS
		A	304SS	Z	Other (Please specify)
		B	NCF600eq.		
⑧	Additional specifications		Special applications such as surface processing, cover etc available upon request.		

Note: Example model code

TW40B-15/C-300-J10RF40/C

Basic dimensions Thermowell dimensions

T	Material	φD	φd
If t ≤ 15, then T = 35	Stainless steel	φ8	φ6
		φ10	φ7
φ10.5 (6A)		φ7.1	
φ12		φ9	
φ13.8 (8A)		φ9.4	
φ15		φ11	
φ17.3 (10A)		φ12.7	
φ21.7 (15A)		φ16.1 or φ15.7	
φ27.2 (20A)		φ21.4 or φ21.2	
If t > 15, then T = t+20 Rounded up in 5 mm increments		SUH446	φ21.7
	SANDVIK P4	φ21.3	φ16
	UMCo50	φ26.9	φ21.6
		φ22	φ16
	NCF600eq.	φ27	φ21
		φ22	φ16



OKAZAKI MANUFACTURING COMPANY
HEAD OFFICE/KOBE JAPAN

TEL:+81 78 251 8200 FAX:+81 78 251 8210

URL:<https://www.okazaki-mfg.com>

E-mail:jp-sales@okazaki-mfg.com (from Japan)
[:sales@okazaki-mfg.com](mailto:sales@okazaki-mfg.com) (from over seas)

TOKYO BRANCH

TEL:+81 3 5641 0200 FAX:+81 3 5641 9100

ARi Industries, Inc., USA

TEL:+1 630 953 9100 FAX:+1 630 953 0590

URL:<https://www.ariindustries.biz>

E-mail:sales@ariindustries.com

Okazaki Manufacturing Company UK Limited

TEL:+44 (0) 2920 814333

URL:<https://www.okazaki-mfg.co.uk>

E-mail:sales@okazaki-mfg.co.uk