

# Solid machined, to screw in Design to DIN 43772 form 6, 7, 9 Models TW50-H, TW50-I, TW50-J

WIKA data sheet TW 95.50

## Applications

- Chemical industry, process technology, apparatus construction
- For high process loads

## Special features

- Design per DIN 43772
- Thermowell model TW50-H: Form 6  
model TW50-I: Form 7  
model TW50-J: Form 9

## Description

### Thermowell material

Stainless steel 1.4571

### Process connection

Model TW50-H, TW50-J: G ½ B, G ¾ B male  
Model TW50-I: ½ NPT, ¾ NPT, 1 NPT male

### Instrument connection

Model TW50-H: G ½, G ¾ female  
Model TW50-I: G ½ female  
Model TW50-J: G ½ B, G ¾ B female

### Bore size

Ø 7 mm, Ø 9 mm, Ø 11 mm

### Insertion length U<sub>1</sub>

Model TW50-H, TW50-I: 82, 142, 182, 232, 382 mm  
Model TW50-J: 73, 110, 170, 260, 410 mm

### Total length L

Insertion length U<sub>1</sub> + 28 mm



Fig. left: thermowell to screw in model TW50-H  
Fig. right: thermowell to screw in model TW50-J

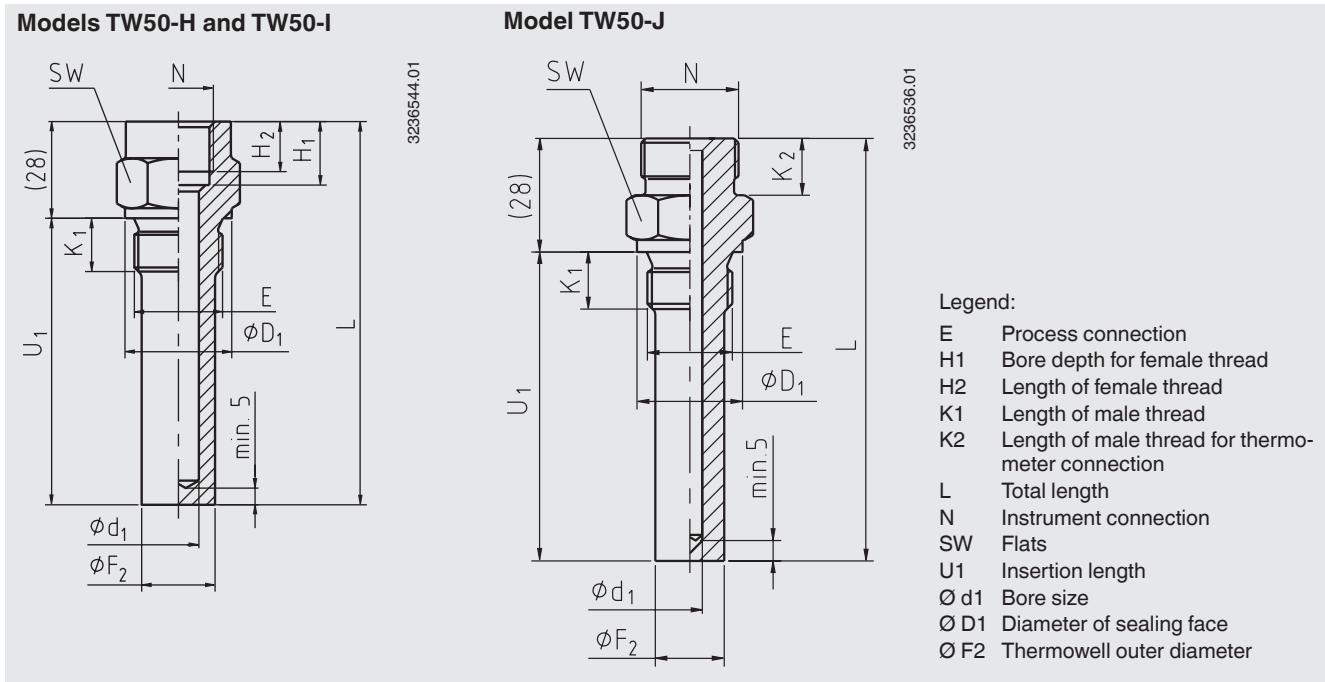
## Options

- Other dimensions and materials
- Quality certificates
- Wake frequency calculations in accordance with ASME PTC 19.3 are recommended in critical applications. WIKA offer this as an engineering service.

Please find further information in our separate technical information sheet, IN 00.15 "Strength calculation for thermowells"

- 1) Rating depends on the parameters below:
- Process medium
  - Process pressure and temperature
  - Flow rate
  - Design of thermowell (dimensions, material)

## Dimensions in mm



### Model TW50-H and Model TW50-I

Model	Dimensions in mm								Weight in kg		
	E	N	Ø d <sub>1</sub>	Ø D <sub>1</sub>	Ø F <sub>2</sub>	H1	H <sub>2</sub>	K <sub>1</sub>	SW	U <sub>1</sub> = 82 mm	U <sub>1</sub> = 382 mm
TW50-H	G ½ B	G ½ B	7	26	17	19	15	14	27	0.22	0.67
			9							0.21	0.59
			11							0.19	0.50
	G ¾ B	G ¾ B	7	32	19	22	17	16	32	0.28	0.72
			9							0.27	0.65
		11	0.25		0.63						
		G ¾ B	7		0.31	0.82					
			9		0.30	0.75					
11	0.29	0.74									
TW50-I	½ - 14 NPT	G ½ B	7	17	19	15	≈ 20	27	0.22	0.67	
			9						0.21	0.59	
			11						0.19	0.50	
	¾ - 14 NPT	G ½ B	7	-	19	15	≈ 21	36	0.24	0.69	
			9						0.23	0.61	
			11						0.21	0.52	
			7						0.32	0.85	
	1-11.5 NPT	G ½ B	9	20	22	15	≈ 25	36	0.30	0.75	
			11						0.29	0.74	
			7						0.32	0.85	

### Model TW50-J

Dimensions in mm								Weight in kg	
E	N	Ø d <sub>1</sub>	Ø D <sub>1</sub>	Ø F <sub>2</sub>	K <sub>1</sub>	K <sub>2</sub>	SW	U <sub>1</sub> = 73 mm	U <sub>1</sub> = 410 mm
G ½ B	G ½ B	7	26	17	14	12	27	0.22	0.72
		9						0.20	0.64
		11						0.18	0.53
G ¾ B	G ¾ B	7	32	19	16	14	32	0.31	0.79
		9						0.29	0.71
		11						0.29	0.78

## Suitable stem lengths for mechanical thermometers

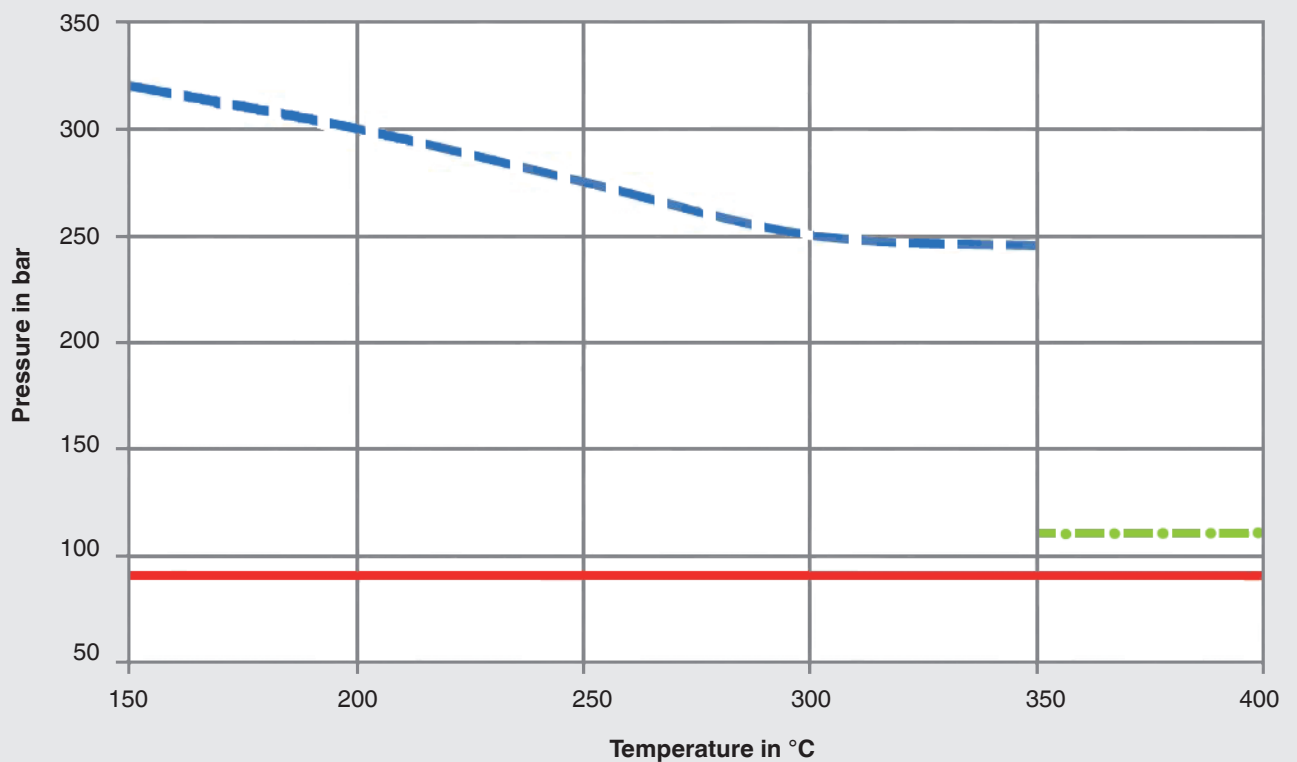
Thermowell Model	Design of connection	Stem length $l_1$
TW50-H	S / 4 / 5	$l_1 = L - 10 \text{ mm}$ or $l_1 = U_1 + 18 \text{ mm}$
TW50-H	2	$l_1 = L - 30 \text{ mm}$ or $l_1 = U_1 - 2 \text{ mm}$
TW50-J	3	$l_1 = L - 12 \text{ mm}$ or $l_1 = U_1 + 16 \text{ mm}$

## Suitable stem lengths for machine glass thermometers

Thermowell Model	Design of connection	Instrument connection	Stem length $l_1$
TW50-H	E	all	$l_1 = L - 10 \text{ mm}$ or $l_1 = U_1 + 18 \text{ mm}$
TW50-J	3	G ½	$l_1 = L - 12 \text{ mm}$ or $l_1 = U_1 + 16 \text{ mm}$
TW50-J	3	G ¾	$l_1 = L - 8 \text{ mm}$ or $l_1 = U_1 + 20 \text{ mm}$

### Pressure-temperature-diagram 1)

Thermowell model TW50 made of stainless steel 1.4571



Legend:

<span style="color: blue;">—</span>	water 3 m/s	$U_1 = 232 \text{ mm}$ with ID $\varnothing 17 \text{ mm}$
<span style="color: red;">—</span>	air 40 m/s	$U_1 = 232 \text{ mm}$ with ID $\varnothing 17 \text{ mm}$
<span style="color: green;">-•-</span>	vapour 40 m/s	$U_1 = 232 \text{ mm}$ with ID $\varnothing 17 \text{ mm}$

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- Process medium
  - Process pressure and temperature
  - Flow rate
  - Design of thermowell (dimensions, material)

The specifications given in this document represent the state of engineering at the time of publishing.  
We reserve the right to make modifications to the specifications and materials.



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