

# Industrial Thermowells

## General

Industrial thermowells are made from bar stock and from pipe of different diameters. The process connection can be threaded, flanged or socket weld-in. A variety of thermowell materials are available in order to cover a complete range of applications like heat treating, glass, paper, petroleum, power, chemical, etc. Thermowell design has a great importance in obtaining accurate temperature measurements. Factors such as length, thickness and mass velocity have to be carefully balanced to produce adequate well strength as well as accuracy and response of temperature measurement.












## Immersion Length

The distance from the tip of the thermowell to the underside of the thread / flange / socket weld-in is the immersion length. For optimum accuracy, this length should be long enough to allow the entire temperature sensitive part of the element to project into the medium being measured.

## Straight / Conical or Tapered Thermowells

Tapered shank thermowells provide greater strength for the same sensitivity. The higher strength to weight ratio gives these thermowells a higher natural frequency than equivalent length straight / conical shank wells, permitting operation at higher fluid velocity.

## **Bar stock thermowells - Female thermometer connection**

Thermowell model	Hex bar wrench	Round bar Ø	Thermometer connection	Process connection	Bottom shape	Standard reference
TA550	-	30 mm	1/2" NPT	3/4" NPT or flanged		ME U819.02 - type 2
TA551	-	42 mm	1/2" NPT 1/2" NPSC	1 1/4" NPT or flanged		Du Pont TCM-1T; TCM-2T; TCM-6T; TCM-7T; TCM-8T
TA555	-	34 mm	1/2" NPT	1" NPT or flanged		ME U819.04 - type 6
TA556	-	35 mm	3/4" NPT	1" NPT or flanged		ENI BAR 3 ENI BAR 4
TA557	-	35 mm	1/2" NPT	1" NPT or flanged		ENI BAR 1
TA558	-	48 mm	3/4" NPT	1 1/2" NPT or flanged		ENI MAS 1
TA559	-	48 mm	1/2" NPT	1 1/2" NPT or flanged		ENI MAS 1 special
TA560	27 mm	-	1/2" NPT	3/4" NPT		-
TA561	27 mm	-	1/2" NPT 1/2" NPSC	1/2" NPT or 3/4" NPT		Du Pont SR1T Du Pont SR2T
TA565	36 mm	-	1/2" NPT	1" NPT		-
TA566	36 mm	-	1/2" NPT	1" NPT		-

Thermowell model		Round bar Ø	Thermometer connection	Process connection	Bottom shape	Standard reference
TA570		49 ÷ 35 mm	1/2" NPT 1/2" NPSM 1/2" BSP 1/2" BSPF	Socket weld-in		Dow Chemical standard G6D-7001-00 (1995)
TA571		34 ÷ 30 mm	1/2" NPT 1/2" NPSM 1/2" BSP 1/2" BSPF	Socket weld-in		-
TA572		29 ÷ 25 mm	1/2" NPT 1/2" NPSC	Socket weld-in		Du Pont SR21T Du Pont SR22T
TA573		24 ÷ 20 mm	G 3/8" M14 (x1.5) M18 (x1.5)	Socket weld-in		DIN 43763-Form D
TA574		18 mm	M14 (x1.5)	Socket weld-in		DIN 43763-D1S type DIN 43763-D2S type DIN 43763-D4S type DIN 43763-D5S type
TA575		34 ÷ 30 mm	1/2" NPT 1/2" NPSM	Flanged weld		Dow Chemical standard G6D-7002-00 (1995)
TA576		29 ÷ 25 mm	1/2" NPT 1/2" NPSC	Flanged weld		Du Pont SR6T Du Pont SR7T

## Welded extension pipe thermowells

Thermowell model	Pipe Ø	Thermometer connection	Extension	Process connection	Bottom shape	Standard reference	
TA530	9 ÷ 12 mm	Female	G 1/2" 1/2" NPT	Hexagonal 27 mm wrench	1/2" NPT		-
TA531	9 ÷ 15 mm 1/4"-3/8"		G 1/2" 1/2" NPT	Hexagonal 27 mm wrench	3/4" NPT		-
TA532	1/4"-3/8"-1/2"		G 1/2" 1/2" NPT	Hexagonal 36 mm wrench	1" NPT		-
TA533	1/4"-3/8"-1/2" 3/4"-1"		G 1/2" 1/2" NPT	Hexagonal 53 mm wrench	1 1/2" NPT		-
TA540	1/4"-1/2"-3/4"		1/2" NPT 3/4" NPT	Round Ø 35 mm	flanged or welded mounting bushing		ENI TUB 1 ENI TUB 2 ENI TUB 3 ENI TUB 4
TA541	1/2"-3/4"	Male	1/2" NPT 3/4" NPT G 1/2" G 3/4"	Round pipe size	flanged or welded mounting bushing		ME U819.05 9 type