Flanged, threaded and weld-in protection tube
Model TW70

Applications
- Chemical, petrochemical, offshore industries
- Process technology, apparatus and plant construction
- Boilers, incinerators, furnaces and reactor vessels

Special features
- Variable length and dimensions
- Large variety of materials
- Design TW70-K: Weld-in connection
- Design TW70-L: Flange connection
- Design TW70-M: Threaded connection

Description
Each protection tube or thermowell is an important component of any temperature measurement point. It is used to separate the process from the surrounding area, thus protecting the environment and operating personnel and keeps aggressive media, high pressures and flow rates from the temperature sensor itself and thereby enables the thermometer to be exchanged during operation.

Based on the almost limitless application possibilities, there are a large number of variants, such as protection tube designs or materials. The type of process connection and the basic method of manufacture are important design differentiation criteria. A basic differentiation can be made between threaded and weld-in protection tubes, and those with flange connections.

Weld-in protection tube, design TW70-K

The TW70 series of protection tubes are suitable for use with numerous electrical thermometers from WIKA.

These protection tubes are intended for low and medium process loads making them suitable for use in the chemical industry, process technology and equipment manufacturing.
Standard version

**Protection tube material**
Stainless steel 304, 316, 310, A106, Alloy 600, Hastelloy X

**Process connection**
- Weld-in: pipe size DN ¼", ½", ¾", 1"
- Threaded connection E: ½ NPT, ¾ NPT, 1 NPT, 1 ¼ NPT, 1 ½ NPT
- Flange with full penetration welding or partial penetration welding (a = 3 mm [⅛"])
  - DN 1", 1.5", 2", 3"
  - PN class 150, 300, 600, 900, 1500, 2500
  - Facing RF, FF, RTJ

**Connection to thermometer N**
¼ NPT, ½ NPT, ¾ NPT, 1 NPT (male)

**Pipe dimension Ps**
Size: ¼", ½", ¾", 1"
Schedule: 40, 80, 160, XXH

**Insertion length U**
50 … 5,000 mm [2 … 200 in]

**Head length H**
83 … 254 mm [3.25 … 10 in]

**Tube length P**
50 … 5,250 mm [2 … 210 in]
Dimensions in mm [in]

**TW70-F**
Flange connection

**TW70-M**
Threaded connection

**TW70-K**
Weld-in connection

Legend:
- **H** Head length
- **U** Insertion length
- **P** Tube length
- **(N)** Connection to thermometer
- **(E)** Threaded connection
- **KE**
  - ¼” NPT: 5.78 mm [0.23”]
  - ½” NPT: 8.13 mm [0.32”]
  - ¾” NPT: 8.61 mm [0.34”]
  - 1” NPT: 10.16 mm [0.40”]

Optional: full penetration welding

**Ordering information**

Model / Thermowell style / Welding option / Material / Pipe size / Pipe schedule / Connection to thermometer N / Process connection / Insertion length U / Head length H / Tube length / Assembly with thermometers / Certificates / Options