

# TF04

## Temperature Probes with Interchangeable Measuring Insert acc. to DIN 43735

- Resistance thermometer or thermocouples
- With replaceable measuring insert
- Protective tube with threaded or weld-on connection, or with sliding flange
- Measuring ranges: resistance thermometer  
-200 °C ... +600 °C
- Thermocouples  
-40 °C ... +1100 °C
- Optional with transmitter output  
4(0) ... 20 mA, 0 ... 10 V



### Description:

The resistance thermometers and thermocouples are manufactured to DIN 43770 and are made of a sturdy, heavy duty stainless steel protective tube, a replaceable measuring insert and a connecting head. The standard protective tubes are available with a male-threaded fitting, sliding flange or for welding on. Other options are available with fixed flange, sanitary flange or clamp connection.

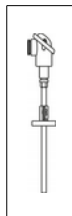
Apart from the Form B connecting head, other designs like Form A, stainless steel field housing etc., are available. The measuring insert is a Pt 100 sensor, Class B (optional Class A) or a model K (NiCr-Ni) thermocouple. Alternatively, other resistance sensors or thermocouples can be supplied.

As an option, these temperature probes can be fitted with a transmitter, which can be set at the factory to customer specification for a specific measuring range.

### Typical applications:

Resistance thermometers and thermocouples as per DIN 43770 are very suitable for use in heavy industrial machinery and systems, installations and plants, tanks and piping systems, in the chemical industry and in food applications and are the devices of choice for measuring temperature in liquids and gases.

## Models:



**TF04.A...:**  
with sliding flange  
protection tube form A  
acc. to DIN 43772



**TF04.B...:**  
with G 1/2 male thread  
protection tube form B  
acc. to DIN 43772



**TF04.C...:**  
with G 1 male thread  
protection tube form C  
acc. to DIN 43772



**TF04.D...:**  
with weld on  
connection  
protection tube form D  
acc. to DIN 43772



**TF04.E...:**  
smooth shaft  
without additional  
protection tube

## Technical Data:

**Connecting head:** Form B acc. to DIN 43729 made of aluminium metric conduit PG 16 others available on request

**Protection class:** IP 54 acc. to EN 60529

**Terminal block:** Ceramics (without transmitter)

## Resistance thermometer:

**Meas. element:** 1x Pt 100, 3-wire, Class A acc. to DIN IEC 751, others available on request

**Insert tube:** st. steel 1.4571

**Protection tube:** st. steel 1.4571

**Temp. range:** -200 °C ... +600 °C

**Measuring range selection:** 0...50 °C/100/150/200/300/400/500 °C

All quoted measuring ranges can be altered by ±10 %  
e.g. -10...90°

**Additional zero setting:** -50...50 °C, e.g. -50...100 °C

## Thermocouple:

**Meas. element:** 1x thermocouple model K NiCr-Ni acc. to DIN IEC 584 class 2, acc. to DIN EN 60584 others available on request

**Insert tube:** Inconel 600 2.4816

**Protection tube:** steel 1.4841, optional: 1.4749 ceramic

**Temp. range:** -40 °C ... +1100 °C

**Measuring range:** min. 0 ... 246 °C to max. 0 ... 1232 °C

**Zero setting:** ±10 % of measuring range, e.g. -50 ... 500 °C

## Order Code:

**Order number:** TF04. B. P. B0120. 0. 0

**Temperature Probes with install. fitting**

### Models:

A = sliding Flange  
B = G 1/2 male thread  
C = G 1 male thread  
D = weld-on protective tube  
E = smooth shaft

### Measuring element:

P = resistance thermometer 1x Pt 100  
K = thermocouple 1x type K

### Model and installation length:

A0200 - C1870 = see table 1  
D1065 - D6125 = see table 2  
E0050 - E2000 = see table 3  
S = special version on request

### Transmitter: (please specify measuring range) see below

0 = without  
1 = output 4...20 mA, 2-wire

### Options:

0 = without  
xx = See table „Options“

## Options:

Description:	Code
Double measuring element	1
Without protective tube, TF04.B(C)... only	2
Shortened neck extension (30, 60 or 90 mm), TF04.B(C) only	3
Terminal connector head Form A	4
Terminal connector head field housing, aluminium, IP 68	5
Terminal connector head field housing, st. steel, IP 68	6
Terminal connector head with screwed cover Form GT	7
Resistance element Pt 500, 3-wire	8
Resistance element Pt 1000, 3-wire	9
Resistance element 4-wire	10
Thermocouple Fe-CuNi, model J	11
Thermocouple Pt13Rh-Pt, model R	12
Thermocouple Pt-RhPt, model S	13
Flange DIN 43734, DN 15 for protective tube Form A	14
fixed flange DN 15...50, please specify in writing	15
sanitary flange, please specify in writing	16
Clamp- flange, please specify in writing	17
Protective tube reduced in diameter to 6 mm at the bottom, 60 mm long	18
Protective tube perforated for liquids	19
Protective tube perforated for gases	20
Connecting head with HAN-7-D plug	21

## Setting range for transmitter:

factory preset to the specified measuring range

## Transmitter:

**Housing:** aluminium

**Electr. connection:** terminals

**Input signals:** Pt 100, 3-wire  
NiCr-Ni (K), Fe-CuNi (J), Pt-RhPt (S)

**Storage temp.:** -40 °C ... +100 °C

**Operating temp.:** -20 °C ... +85 °C

**Supply voltage:** 12 ... 30 VDC

**Output:** 4 ... 20 mA, 2-wire (others on request)

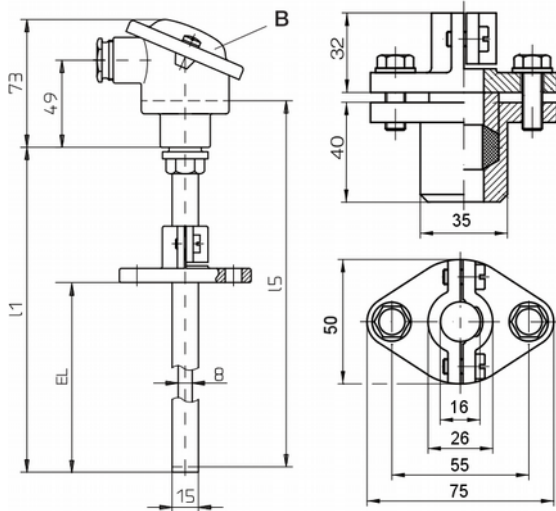


**PKP Prozessmesstechnik GmbH**  
Borsigstr. 24 • D-65205 Wiesbaden  
☎ +49 (0) 6122-7055-0 • 📠 +49 (0) 6122 7055-50  
✉ info@pkp.de • 🌐 www.pkp.de

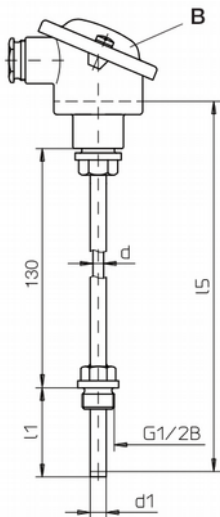
**PKP Process Instruments Inc.**  
10 Brent Drive • Hudson, MA 01749  
☎ +1-978-212-0006 • 📠 +1-978-568-0060  
✉ info@pkp-usa.com • 🌐 www.pkp-usa.com

## Dimensions:

### Protective tube Form A acc. to DIN 43764:

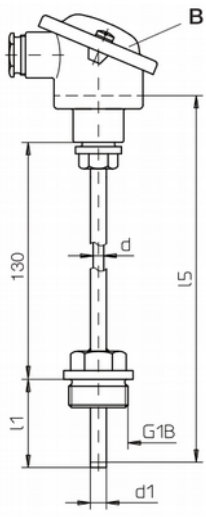


### Protective tube Form B acc. to DIN 43772

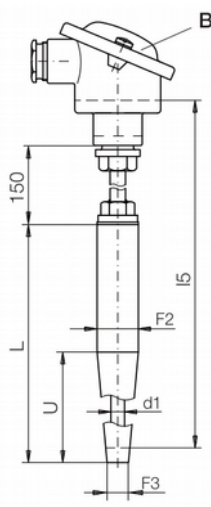


(with neck extension, length 120 mm)

### Protective tube Form C acc. to DIN 43772

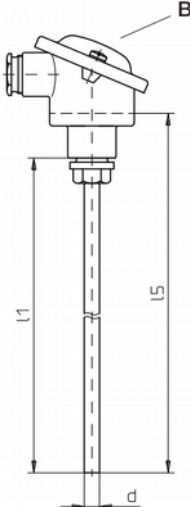


### Protective tube Form D acc. to DIN 43772



(with neck extension, length 120 mm)

### Form E: smooth shaft, without prot. tube



## Table 1:

Form A		Form B and C				Meas. insert	
L1 <sup>1)</sup>	d	d1	L1 <sup>1)</sup>	L1 <sup>1)</sup>	d	d1	L5
[mm]							
-			B0065	C0065	6	Form B9 Form C 11	220
A0200*			B0070	C0070			225
A0250			B0120	C0120			275
A0290			B0160	C0160			315
A0350			B0220	C0220			375
A0380			B0250	C0250			405
-			B0275	C0275			430
A0410			B0280	C0280			435
A0500			B0370	C0370			525
A0530			B0400	C0400			555
A0630			B0500	C0500			655
A0710			B0580	C0580			735
A0800			B0670	C0670			825
A1000			B0870	C0870			1.025
A1250			B1120	C1120	1.275		
A1400			B1270	C1270	1.425		
A1600			B1470	C1470	1.625		
A1800			B1670	C1670	1.825		
A2000			B1870	C1870	2.025		

<sup>1)</sup> Example: A0200 = design A, L1 = 200 mm

## Table 2:

Form D				Measuring insert	
U <sup>2)</sup> [mm]	L [mm]	F2 [mm]	F3 [mm]	L5 [mm]	d1 [mm]
D1065	140	24	12,5	315	6
D2125	200			375	
D4065		255	26	15,0	430
D3125	435				
D6125	260	24	12,5	435	6

<sup>2)</sup> Example: D1065 = design D, L1 = 65 mm

## Table 3:

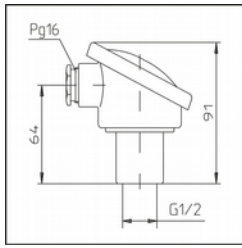
Form E		Meas. insert	Form E		Meas. insert
l1 <sup>3)</sup> [mm]	D [mm]	l5 [mm]	l1 <sup>3)</sup> [mm]	D [mm]	l5 [mm]
E0050	6	75	E0530	6	555
E0100		125	E0630		655
E0150		175	E0710		735
E0200		225	E0800		825
E0250		275	E1000	8	1025
E0290		315	E1250		1275
E0350		375	E1400		1425
E0380		405	E1600		1625
E0410		435	E1800		1825
E0500		525	E2000		2025

<sup>3)</sup> Bsp: E0050 = Bauform E, l1 = 50 mm

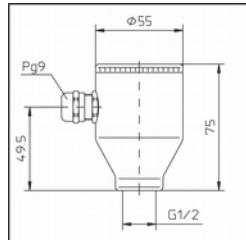


## Models:

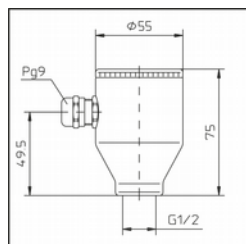
### Connecting heads with screw plug



**Form:** DIN 43729 / Form A  
**Material:** Aluminium  
**Protection class:** IP 54

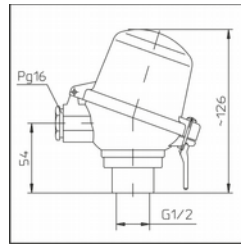


**Form:** Field housing  
**Material:** Aluminium  
**Protection class:** IP 68

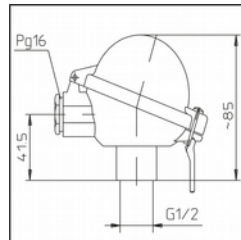


**Form:** Field housing  
**Material:** St. steel 1.4301  
**Protection class:** IP 68

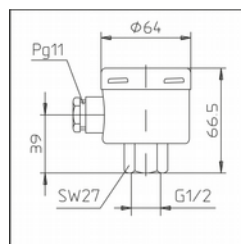
### Connecting heads with quick-release connection



**Form:** Form DANW  
**Material:** Aluminium  
**Protection class:** IP 65

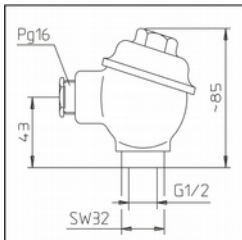


**Form:** DAN  
**Material:** Aluminium  
**Protection class:** IP 65

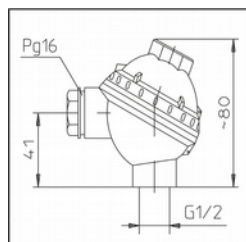


**Form:** Form C  
**Material:** St. steel 1.4301/ 1.4571  
**Protection class:** IP 65

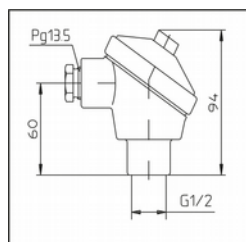
### Connecting heads with screw cap



**Form:** Form GT  
**Material:** Cast iron  
**Protection class:** IP 54



**Form:** Form NS  
**Material:** ITAMID /NORYL  
**Protection class:** IP 45



**Form:** Form D  
**Material:** Aluminium  
**Protection class:** IP 65