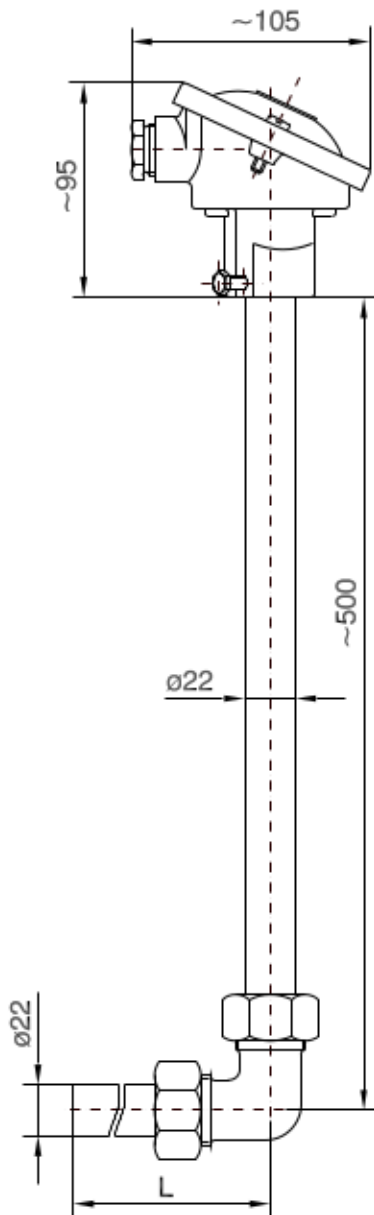


Model: 49 - 210



Angle Thermocouple for measuring of temperature in ovens and hardness-baths; implementations with flange 22 or with adjustable thread joint 22 are deliverable (→ chapter parts and accessories)

Connection head

Form A according DIN 43 729
on inquiry

Protection classification

IP 43 according DIN 60529

Application temperature

up to +1000°C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584 All according to IEC 584.1(2)
S (PtRh10-Pt) DIN EN 60584
on inquiry

Number of Thermo junction

1 thermocouple
2 thermocouples

Wire size

0,5 mm (only for TC S)
1 mm
3 mm (only for single design)

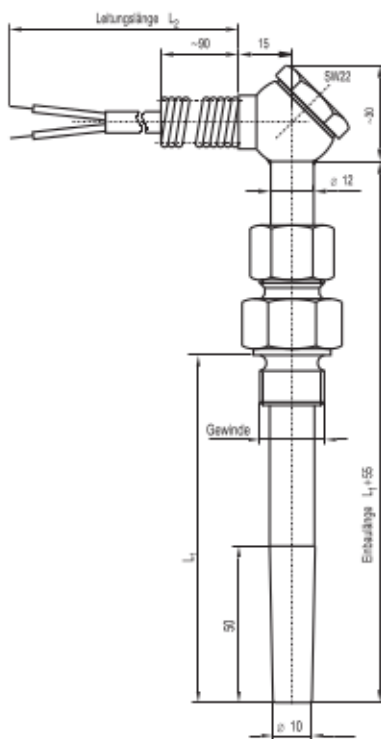
Protective tube material

1.4749
1.4762
1.4841
on inquiry

Nominal length L

500 mm
on inquiry

Model: 49 - 220



Thermocouple with a fix connected compensating cable and adjustable thread joint; for application in ship building

Construction

Basic implementation
GL-implementation

Connection head

ball type head \varnothing 25 of stainless steel

Protection classification

IP 54 according DIN 60529

Application temperature

up to +800 °C

Thermo junction

K (NiCr-Ni) DIN EN 60584 **All according to IEC 584.1(2)**
on inquiry

Number of Thermo junction

1 thermocouple

Protective tube material

1.4571
on inquiry

Insert length L_1

100 mm
160 mm
200 mm
250 mm
on inquiry

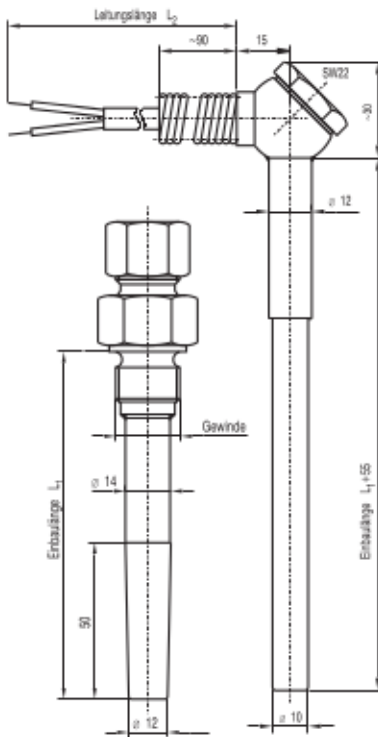
Compensating cable length L_2

1500 mm
on inquiry

Type of compensating cable

TGIV 2x1,5
on inquiry

Model: 49 - 221



Thermocouple with a fix connected compensating cable and additional protective tube with clamp thread joint; for application in ship building

Construction

Basic implementation
GL-implementation

Connection head

ball type head \varnothing 25 of stainless steel

Protection classification

IP 54 according DIN 60529

Application temperature

up to +800 °C

Thermo junction

K (NiCr-Ni) DIN EN 60584 **All according to IEC 584.1(2)**
on inquiry

Number of Thermo junction

1 thermocouple

Protective tube material

1.4571
on inquiry

Insert length L_1

100 mm
160 mm
200 mm
250 mm
on inquiry

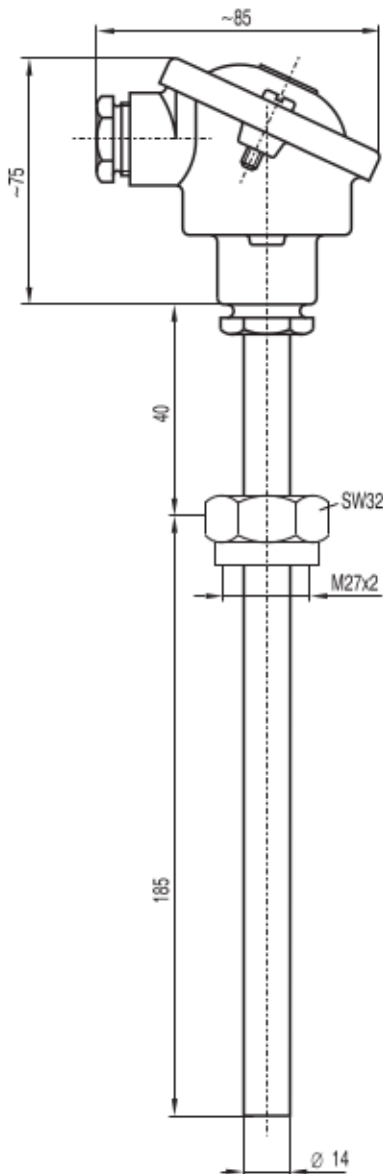
Compensating cable length L_2

1500 mm
on inquiry

Type of compensating cable

TGIV 2x1,5
on inquiry

Model: 49 - 230



Thermocouple with exchangeable measuring insert

Construction

Basic implementation
GL-implementation (L max. 200 mm)

Connection head

Form B according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

up to +800 °C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584 **All according to IEC 584.1(2)**
on inquiry

Number of Thermo junction

1 thermocouple
2 thermocouples

Wire size

1 mm

Protective tube material

1.4571
on inquiry

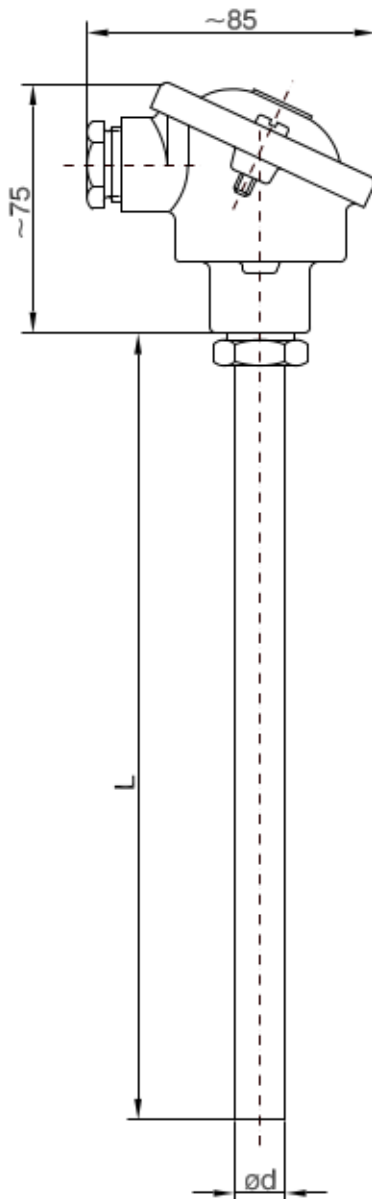
Insert length L_1

on inquiry

Thread

M20x1,5
M27x2
G1/2A
G3/4A
on inquiry

Model: 49 - 240



Thermocouple with a metallic protective tube outside, implementations with flange or adjustable thread joint are deliverable (→ chapter parts and accessories)

Construction

Basic implementation
EX-implementation

Connection head

Form B according DIN 43 729
Form BUZ for explosion-proof design according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

up to +800 °C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
on inquiry **All according to IEC 584.1(2)**

Number of Thermo junction

1 thermocouple
2 thermocouples

Protective tube material

1.4571
on inquiry

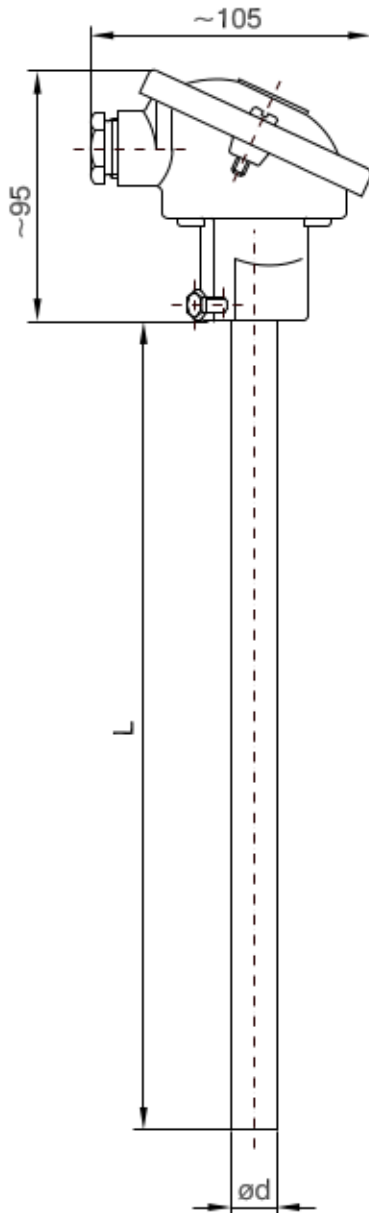
Protective tube diameter d

15 mm
on inquiry

Nominal length L

on inquiry

Model: 49 - 244



Thermocouple with metallic protective tube outside and a ceramic inside, implementations with flange or adjustable thread joint are deliverable (→ chapter parts and accessories)

Connection head

Form A according DIN 43 729
on inquiry

Protection classification

IP 43 according DIN 60529

Application temperature

up to +1000°C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
S (PtRh10-Pt) DIN EN 60584
on inquiry

According to IEC 584.1(2)

Number of Thermo junction

1 thermocouple
2 thermocouples

Wire size

0,5 mm (only for TC S)
1 mm
3 mm (only for single design)

Protective tube material

1.4749
1.4762
1.4841
on inquiry

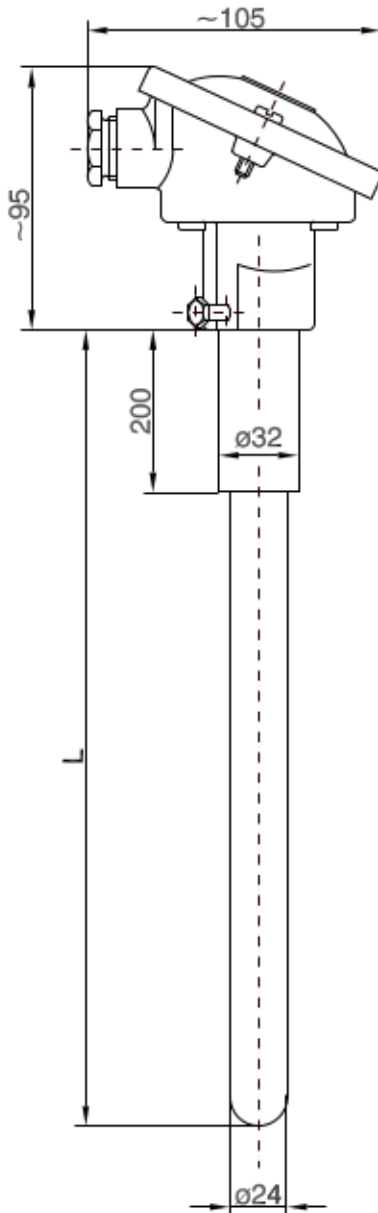
Protective tube diameter d

22 mm
on inquiry

Nominal length L

on inquiry

Model: 49 - 245A



Thermocouple with a ceramic protective tube and a holding tube of stainless steel, implementations with flange is deliverable (→ chapter parts and accessories)

Connection head

Form A according DIN 43 729
on inquiry

Protection classification

IP 43 according DIN 60529

Application temperature

up to +1600°C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
S (PtRh10-Pt) DIN EN 60584
B (PtRh30-PtRh6) DIN EN 60584
on inquiry

According to IEC 584.1(2)

Number of Thermo junction

1 thermocouple
2 thermocouples

Wire size

0,5 mm (only for TC S and B)
1 mm
3 mm (only for single design)

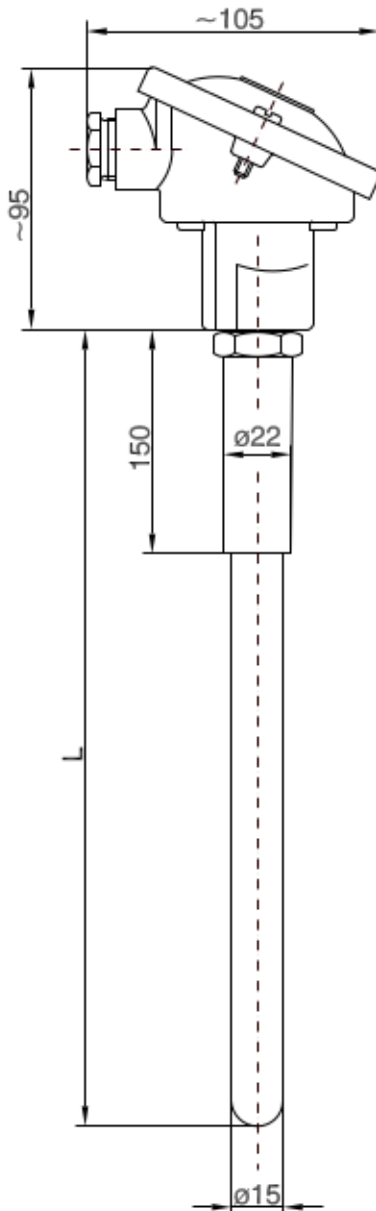
Protective tube material

C 610
C 799
on inquiry

Nominal length L

on inquiry max. 2000 mm

Model: 49 - 247A



Thermocouple with a ceramic protective tube and a holding tube of stainless steel, implementations with flange or adjustable thread joint are deliverable (→ chapter parts and accessories)

Connection head

Form A according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

up to +1600°C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
S (PtRh10-Pt) DIN EN 60584
B (PtRh30-PtRh6) DIN EN 60584
on inquiry

According to IEC 584.1(2)

Number of Thermo junction

1 thermocouple
2 thermocouples

Wire size

0,5 mm (only for TC S and B)
1 mm

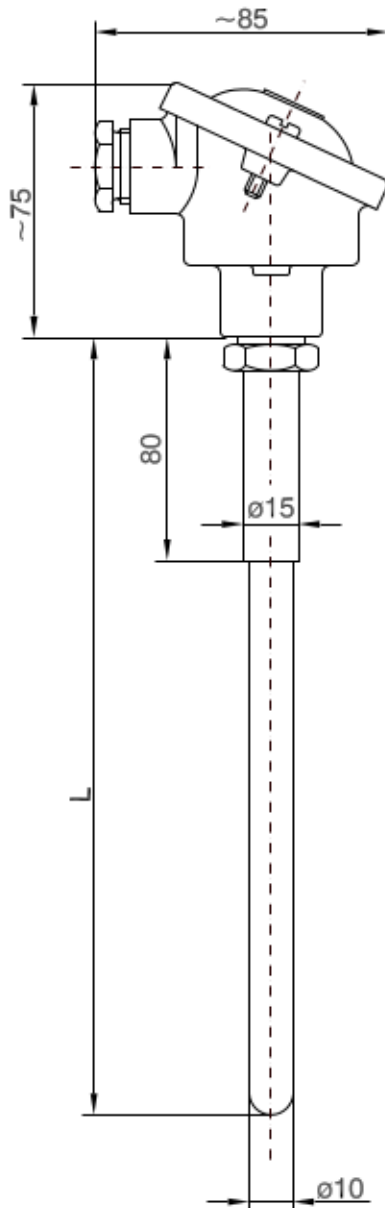
Protective tube material

C 610
C 799
on inquiry

Nominal length L

on inquiry max. 2000 mm

Model: 49 - 247B



Thermocouple with a ceramic protective tube and a holding tube of stainless steel, implementations with flange or adjustable thread joint are deliverable (→ chapter parts and accessories)

Connection head

Form B according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

up to +1600°C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
S (PtRh10-Pt) DIN EN 60584
B (PtRh30-PtRh6) DIN EN 60584
on inquiry

According to IEC 584.1(2)

Number of Thermo junction

1 thermocouple
2 thermocouples

Wire size

0,35 mm (TC S)
0,5 mm (only for TC S and B)
1 mm

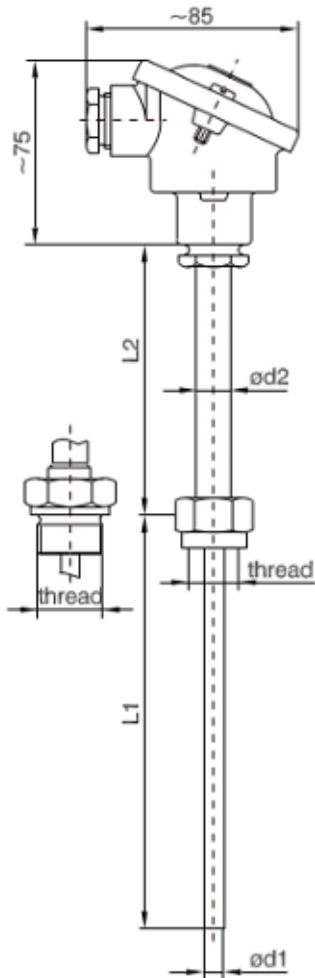
Protective tube material

C 610
C 799
on inquiry

Nominal length L

on inquiry max. 1000 mm

Model: 49 - 248



Thermocouple with exchangeable measuring insert, only for combination with already built-in protection tubes on measuring place (otherwise no insulation between process-connection and interior connection head), for middle and high operating pressures Attention: with directly built-in (without additional protective tube) can become the measuring insert in the extension tube soldered or welded (insulation between process-connection and interior connection head, measuring insert not replaceable) - with order declares!

Construction

Basic implementation
EX-implementation (build in protective tube necessary)

Connection head

Form B according DIN 43 729
Form BUZ for explosion-proof design according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

up to +800 °C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
on inquiry **According to IEC 584.1(2)**

Number of Thermo junction

1 thermocouple
2 thermocouples

Wire size

1 mm

Protective tube material

1.4571
on inquiry

Measuring insert diameter d1/ Extension tube diameter d2

6/9
6/11
8/12
on inquiry

Insert length L₁

on inquiry

extension tube length L₂

130 mm
on inquiry

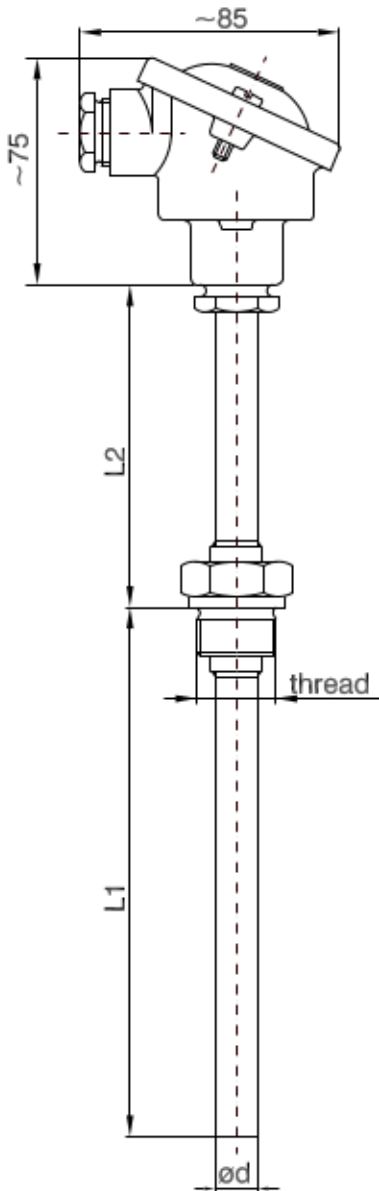
Process connection

outside thread
cup nut

Thread

M18x1,5
M20x1,5
M27x2
G1/2
G3/4
on inquiry

Model: 49 - 257



Thermocouple with exchangeable measuring insert

Construction

Basic implementation
GL-implementation
EX-implementation

Connection head

Form B according DIN 43 729
Form BUZ for explosion-proof design according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

up to +800 °C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
on inquiry **According to IEC 584.1(2)**

Number of Thermo junction

1 thermocouple
2 thermocouples

Wire size

1 mm

Protective tube material

1.4571

Protective tube diameter d

11 mm
on inquiry

Insert length L_1

on inquiry

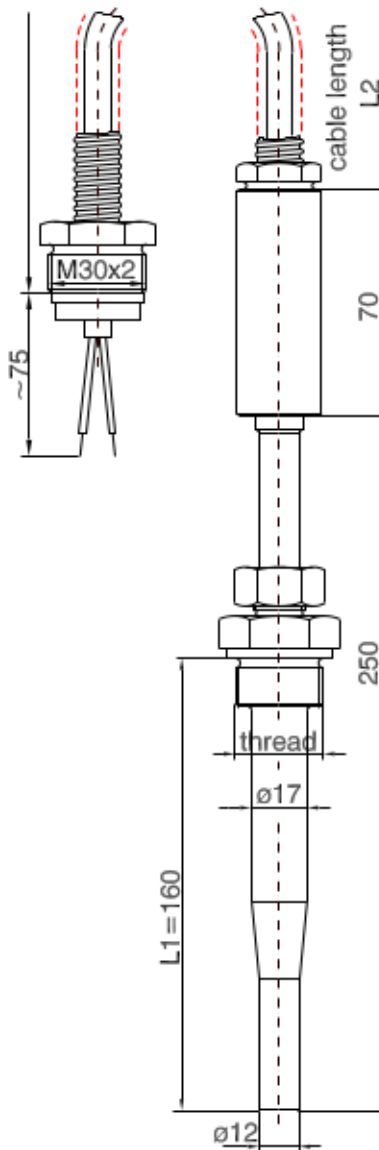
extension tube length L_2

130 mm
on inquiry

Thread

M20x1,5
M27x2
G1/2A
G3/4A
on inquiry

Model: 49 - 258



Thermocouple with compensating cable and additional protective tube with clamp thread joint; for application in ship building

Construction

Basic implementation
GL-implementation

Protection classification

IP 68 according DIN 60529

Application temperature

up to +800 °C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
on inquiry

According to IEC 584.1(2)

Number of Thermo junction

1 thermocouple
on inquiry

Protective tube material

1.4571
on inquiry

Insert length L_1

160 mm
on inquiry

Compensating cable length L_2

1500 mm
on inquiry

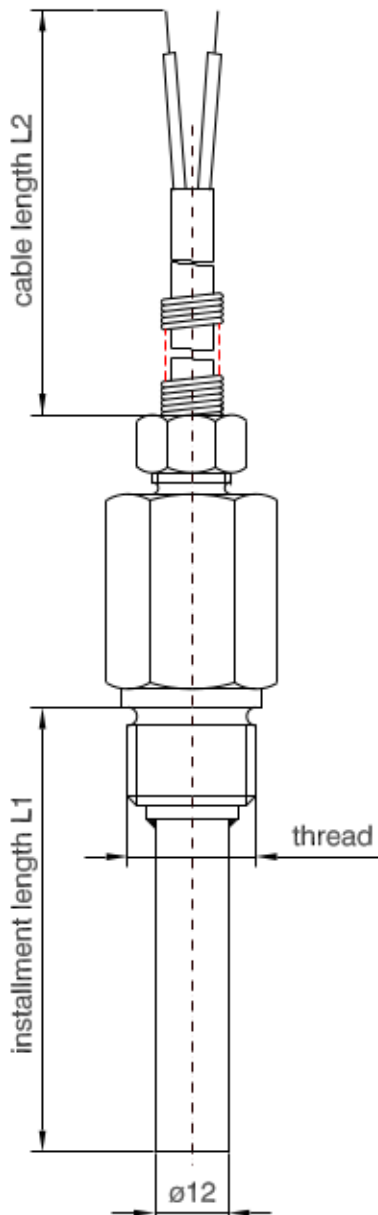
Type of compensating cable

SISI 2x1,5

Thread

M27x2
on inquiry

Model: 49 - 259



Thermocouple with exchangeable sheathed-measuring insert;
for application in ship building

Construction

Basic implementation
GL-implementation

Protection classification

IP 54 according DIN 60529

Application temperature

up to +800 °C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
on inquiry

According to IEC 584.1(2)

Number of Thermo junction

1 thermocouple
on inquiry

Sheathed measuring inset diameter

6 mm

Protective tube material

1.4571
on inquiry

Insert length L₁

on inquiry

Compensating cable length L₂

1500 mm
on inquiry

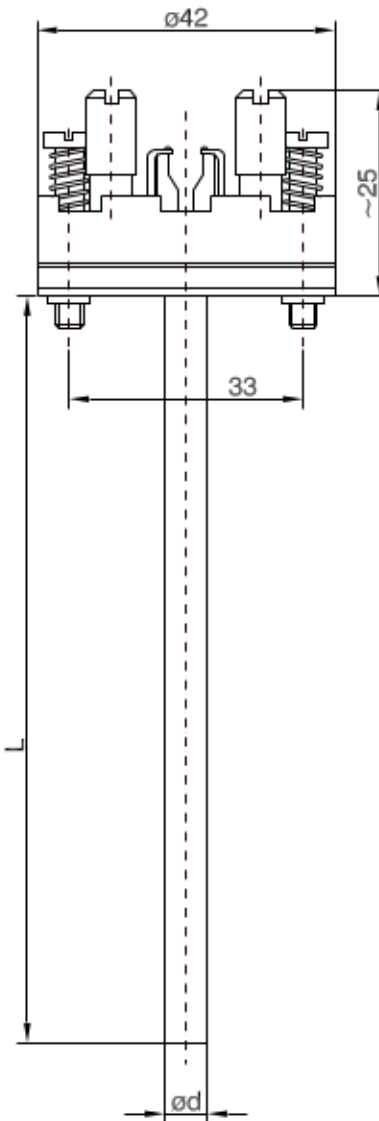
Type of compensating cable

TGIV 2x1,5
on inquiry

Thread

M20x1,5
G1/2A
on inquiry

Model: 49 - 260



Application temperature

up to +800 °C
on inquiry

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584 According to IEC 584.1(2)
on inquiry

Number of Thermo junction

1 thermocouple
2 thermocouples

Protective tube material

1.4571
on inquiry

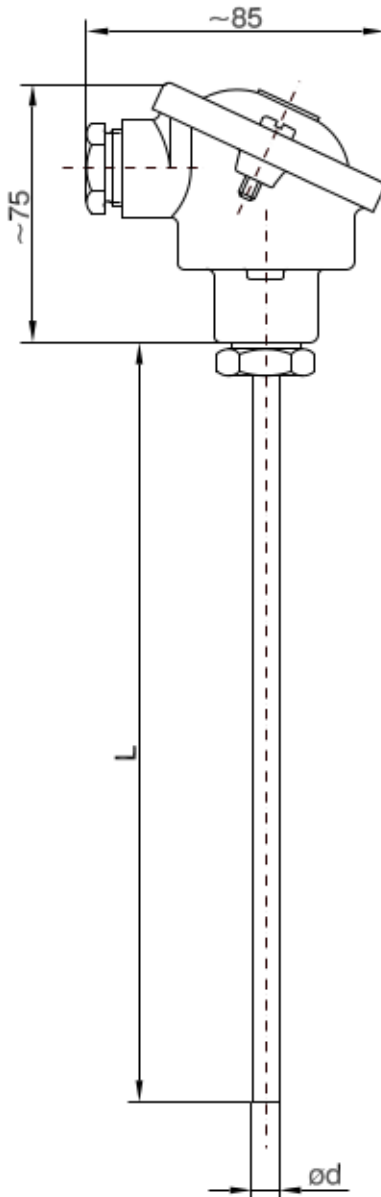
Measuring insert diameter d

6 mm
8 mm
on inquiry

Nominal length L

on inquiry

Model: 49 - 261



Measuring insert with connection head

Construction

Basic implementation
EX-implementation

Connection head

Form B according DIN 43 729
Form BUZ for explosion-proof design according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

up to +800 °C
on inquiry

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
on inquiry

According to IEC 584.1(2)

Number of Thermo junction

1 thermocouple
2 thermocouples

Protective tube material

1.4571
on inquiry

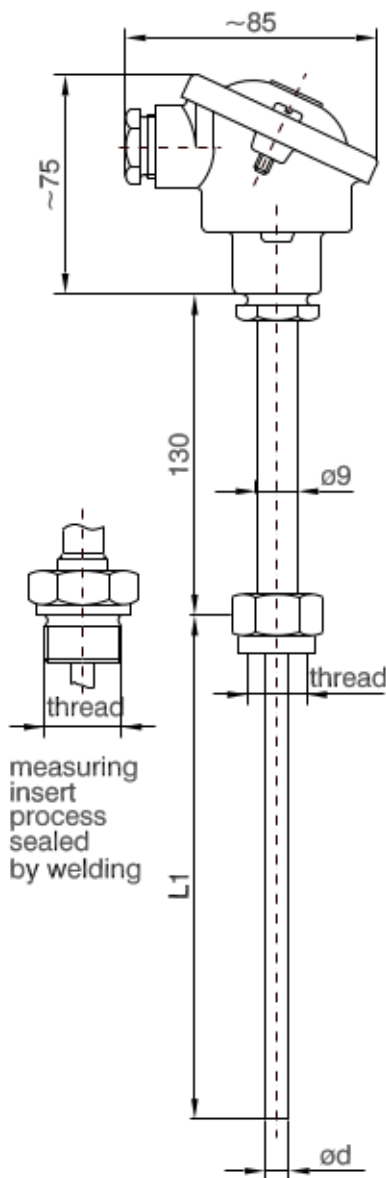
Measuring insert diameter d

6 mm
8 mm
on inquiry

Nominal length L

on inquiry

Model: 49 - 270



Sheathed Thermocouple for screwing;
measuring insert process sealed by welding
Bending radius of the sheath material $\geq 5x\varnothing d$

Construction

Basic implementation
EX-implementation

Connection head

Form B according to DIN 43 729
Form BUZ for explosion-proof design according to DIN 43 729
on inquiry

Protection classification

IP 54 according to DIN 60529
on inquiry

Application temperature

-200 to +1000 °C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
on inquiry **According to IEC 584.1(2)**

Number of Thermo junction

1 thermocouple
2 thermocouples

Sheath diameter

1,5 mm
2,0 mm
3,0 mm
4,5 mm
6,0 mm
on inquiry

Sheath material

1.4541
1.4571
1.4841
on inquiry

Measuring point design

insulated of sheath
welded in sheath
disconnected bead at 2 thermocouples
connected bead at 2 thermocouples

Insert length L_1

on inquiry

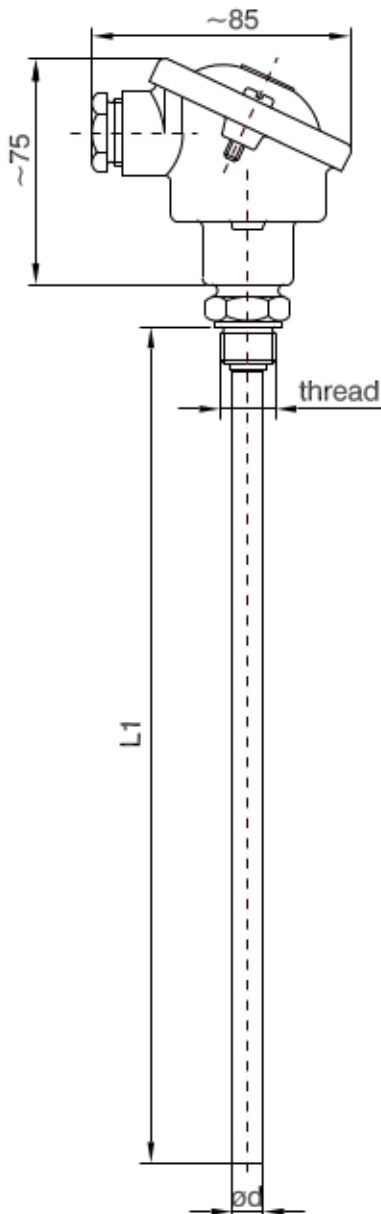
Process connection

outside thread
cup nut

Thread

M20x1,5
G1/2A
on inquiry

Model: 49 - 272



Thermocouple for screwing in with exchangeable measuring insert

Connection head

Form B according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

up to +800 °C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
on inquiry **According to IEC 584.1(2)**

Number of Thermo junction

1 thermocouple
2 thermocouples

Protective tube material

1.4571
on inquiry

Protective tube diameter d

9 mm
on inquiry

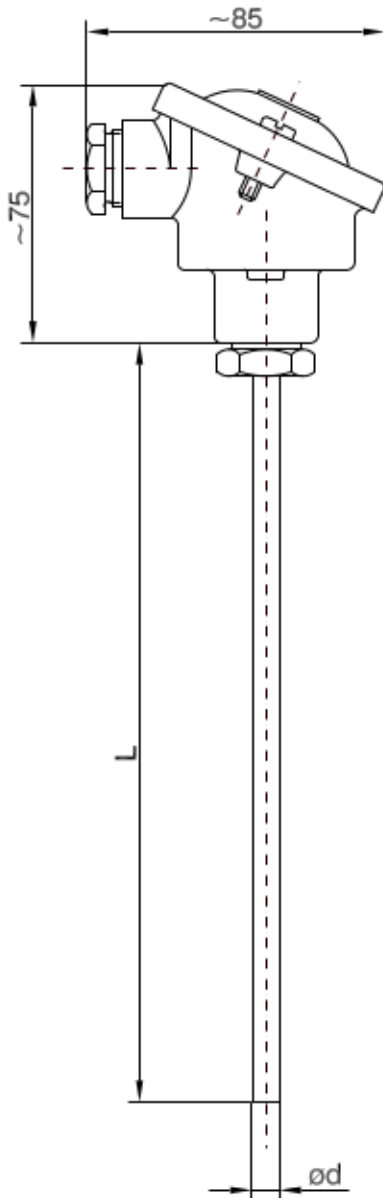
Insert length L₁

on inquiry

Thread

M20x1,5
G1/2A
on inquiry

Model: 49 - 273



Sheathed Thermocouple measuring insert with connecting head
Bending radius of the sheath material $\geq 5x\varnothing d$

Construction

Basic implementation
EX-implementation

Connection head

Form B according DIN 43 729
Form BUZ for explosion-proof design according DIN 43 729
Form F (→ accessories)
on inquiry

Protection classification

IP 54 according DIN 60529

Application temperature

-200 to +1000 °C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584 According to IEC 584.1(2)
on inquiry

Number of Thermo junction

1 thermocouple
2 thermocouples

Sheath diameter

1,5 mm
2,0 mm
3,0 mm
4,5 mm
6,0 mm
on inquiry

Sheath material

1.4541
1.4571
1.4841
2.4816
on inquiry

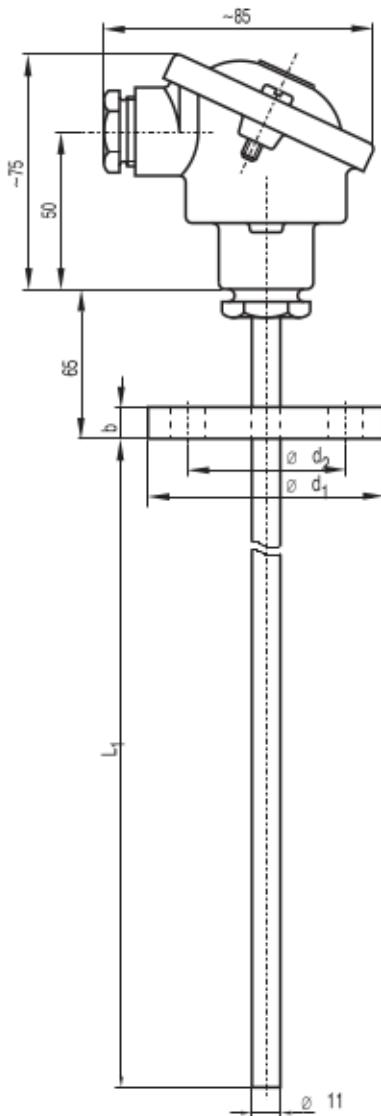
Measuring point design

insulated of sheath
welded in sheath
disconnected bead at 2 thermocouples
connected bead at 2 thermocouples

Nominal length L

on inquiry

Model: 49 - 274



Thermocouple with flange and replaceable measuring insert

Construction

Basic implementation

Connection head

Form B according to DIN 43 729
on inquiry

Protection classification

IP 54 according to DIN 60529
on inquiry

Application temperature

up to +800 °C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
on inquiry **According to IEC 584.1(2)**

Number of Thermo junction

1 thermocouple
2 thermocouples

Flange

flange design, flange dimensions as soon as flange material
on inquiry

Wire size

1 mm

Protective tube material

1.4571
on inquiry

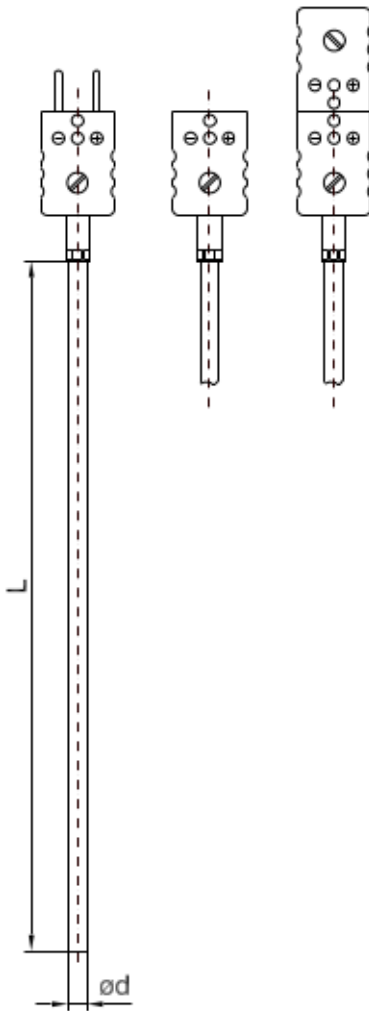
Insert length L_1

on inquiry

Model: 49 - 282

connector plug connector

plug-box



Sheathed Thermocouple with connector
Bending radius of the sheath material $\geq 5x\varnothing d$

Connector

- Standard thermocouple plug (male)
- Standard thermocouple plug box (female)
- Standard thermocouple plug connection
- Miniature thermocouple plug (male)
- Miniature thermocouple plug box (female)
- Miniature thermocouple plug connection
- on inquiry

Protection classification

suitable used connector

Application temperature

-200 to +1000 °C

Thermo junction

- J (Fe-CuNi) DIN EN 60584
 - K (NiCr-Ni) DIN EN 60584
 - on inquiry
- According to IEC 584.1(2)

Number of Thermo junction

- 1 thermocouple
- on inquiry

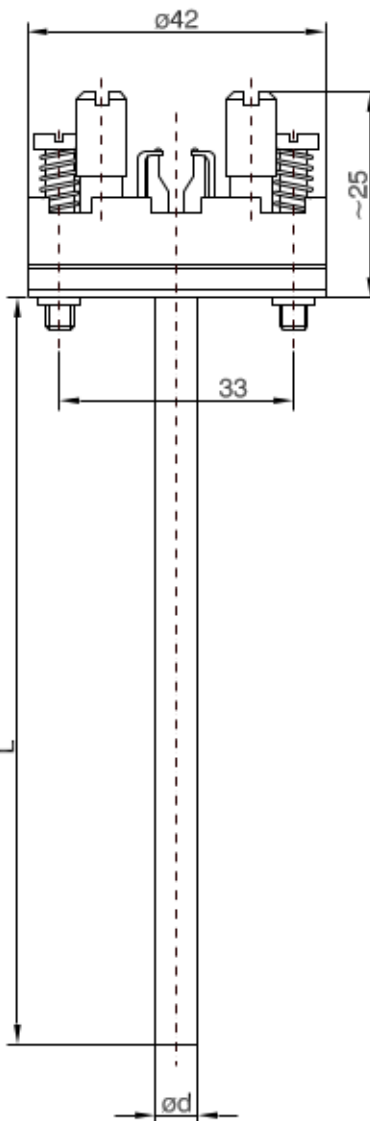
Sheath diameter

- 1,5 mm
- 2,0 mm
- 3,0 mm
- 4,5 mm
- 6,0 mm
- on inquiry

Sheath material

- 1.4541
- 1.4571
- 1.4841
- 2.4816
- on inquiry

Model: 49 - 285



Bending radius of the sheath material $\geq 5x\varnothing d$

Application temperature

-200 to +1000 °C

Thermo junction

J (Fe-CuNi) DIN EN 60584

K (NiCr-Ni) DIN EN 60584

on inquiry

According to IEC 584.1(2)

Number of Thermo junction

1 thermocouple

2 thermocouples

Sheath diameter

1,5 mm

2,0 mm

3,0 mm

4,5 mm

6,0 mm

on inquiry

Sheath material

1.4541

1.4571

1.4841

2.4816

on inquiry

Measuring point design

insulated of sheath

welded in sheath

disconnected bead at 2 thermocouples

connected bead at 2 thermocouples

Nominal length L

on inquiry

Model: 49 - 288



Sheathed Thermocouple for the universal application
Bending radius of the sheath material $\geq 5x\varnothing d$

Application temperature

-200 to +1000 °C

Thermo junction

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584 According to IEC 584.1(2)
on inquiry

Number of Thermo junction

1 thermocouple
2 thermocouples

Sheath diameter

1,5 mm
2,0 mm
3,0 mm
4,5 mm
6,0 mm
on inquiry

Sheath material

1.4541
1.4571
1.4841
2.4816
on inquiry

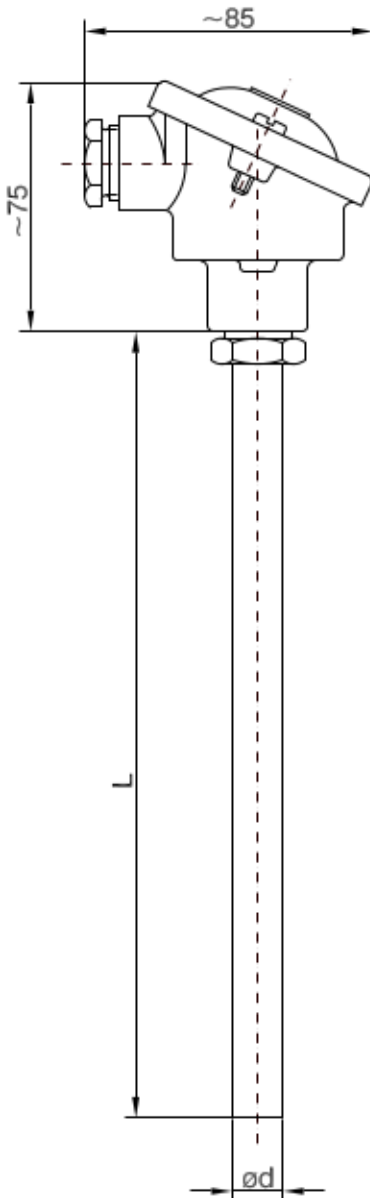
Measuring point design

insulated of sheath
welded in sheath
disconnected bead at 2 thermocouples
connected bead at 2 thermocouples

Nominal length L

on inquiry

Model: 49 - 340



Measuring the temperature in pipelines or containers; on request, implementations with flange or with adjustable thread joint are deliverable (→ chapter parts and accessories)

Construction

Basic implementation
GL-implementation
EX-implementation

Connection head

Form B according DIN 43 729
Form BUZ for explosion-proof design according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

up to +380 °C for GL-Design
-200 to +600 °C
-50 to +400 °C
on inquiry

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
1xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
2xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
2xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
on inquiry

Circuitry

2 wire circuit
3 wire circuit
4 wire circuit

Protective tube material

1.4571
on inquiry

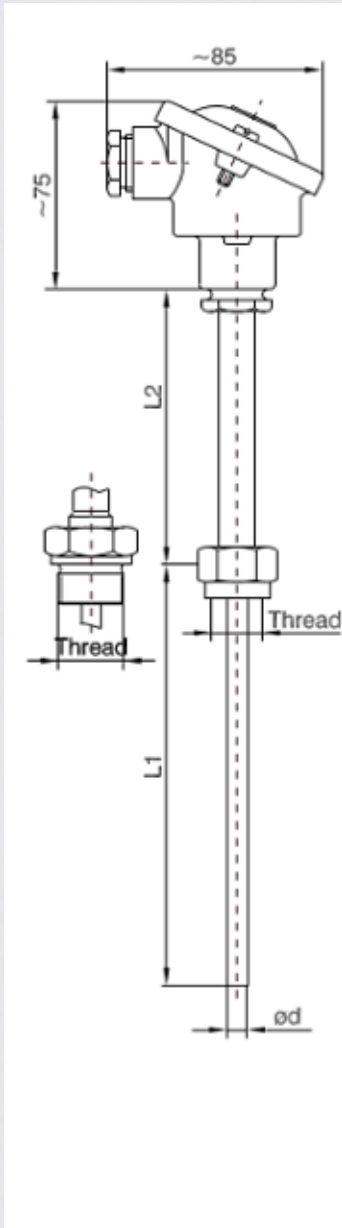
Protective tube diameter d

15 mm
on inquiry

Nominal length L

on inquiry

Model: 49 - 348



Resistance thermometer with exchangeable measuring insert, especially for combination with built-in protection tubes (otherwise no insulation between process-connection and interior connection head)

For observance: with directly built-in (without additional protective tube) can become the measuring insert in the neck tube soldered or welded (insulation between process-connection and interior connection head, measuring insert not exchangeable) - with order declares!

Construction

- Basic implementation
- EX-implementation

Connection head

- Form B according DIN 43 729
- Form BUZ for explosion-proof design according DIN 43 729
- on inquiry

Protection classification

- IP 54 according DIN 60529
- on inquiry

Application temperature

- 200 to +600 °C
- 50 to +400 °C
- on inquiry

Temperatursensor According to IEC 584.1(2)

- 1xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
- 1xPt 100 cl. F0,3 or W0,3 (old d. B) acc. to DIN EN 60751
- 2xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
- 2xPt 100 cl. F0,3 or W0,3 (old d. B) acc. to DIN EN 60751
- on inquiry

Circuitry

- 2 wire circuit
- 3 wire circuit
- 4 wire circuit

Protective tube material

- 1.4571
- on inquiry

Measuring insert diameter d1/ Extension tube diameter d2

- 6/9
- 6/11
- 8/12
- on inquiry

Insert length L₁

- on inquiry

extension tube length L₂

- 130 mm
- on inquiry

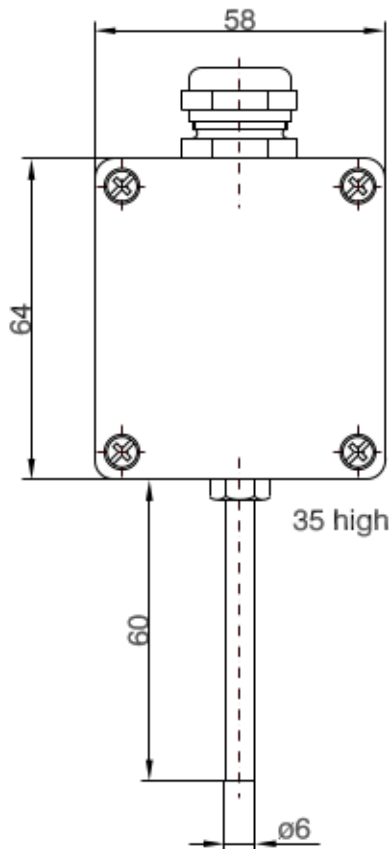
Process connection

- outside thread
- cup nut

Thread

- M18x1,5
- M20x1,5
- M27x2
- G1/2
- G3/4
- on inquiry

Model: 49 - 350



Resistance thermometer with a plastic case for temperature measurement and -monitoring in cooling-, stock- and machinery rooms

Protection classification

IP 65 according to DIN 60529

Application temperature

-40 °C to +90 °C

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. F0,15 (old cl. A) acc. to DIN EN 60751
1xPt 100 cl. F0,3 (old cl. B) acc. to DIN EN 60751
2xPt 100 cl. F0,15 (old cl. A) acc. to DIN EN 60751
2xPt 100 cl. F0,3 (old cl. B) acc. to DIN EN 60751
on inquiry

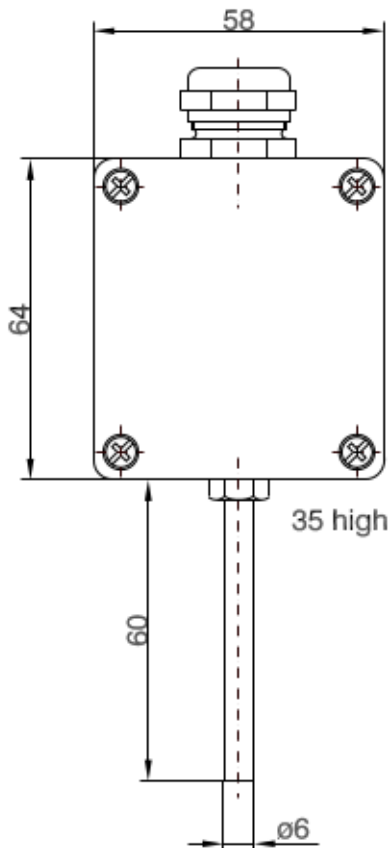
Circuitry

2 wire circuit
3 wire circuit
4 wire circuit for 1xPt100

Protective tube material

1.4571
on inquiry

Model: 49 - 351



Resistance thermometer inside a metal case;
for temperature measurement and -monitoring in cooling-, stock-
and machinery rooms

Protection classification

IP 65 according DIN 60529

Application temperature

-40 °C to +120 °C

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. F0,15 (old cl. A) acc. to DIN EN 60751
1xPt 100 cl. F0,3 (old cl. B) acc. to DIN EN 60751
2xPt 100 cl. F0,15 (old cl. A) acc. to DIN EN 60751
2xPt 100 cl. F0,3 (old cl. B) acc. to DIN EN 60751
on inquiry

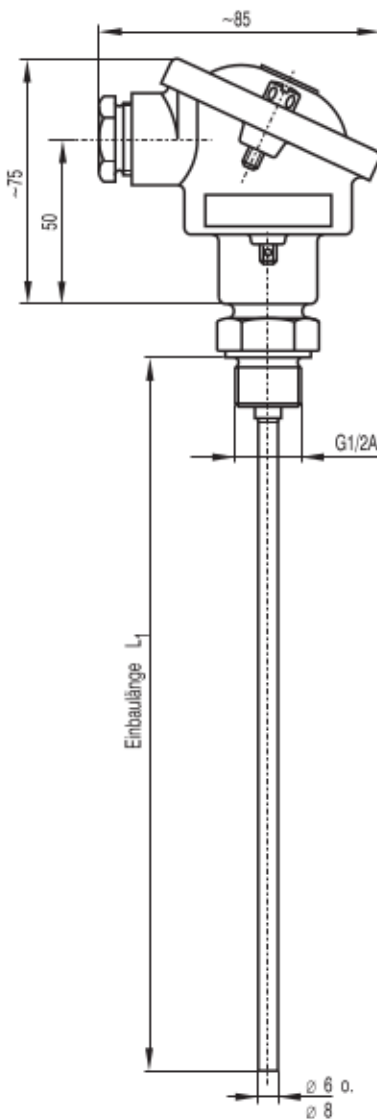
Circuitry

2 wire circuit
3 wire circuit
4 wire circuit for 1xPt100

Protective tube material

1.4571
on inquiry

Model: 49 - 352WZ



Exchangeable temperature probe for screwing in pipelines and containers with PTB-certificate for heatmeter;
Registration of the before- and return flow temperature in heating circulations

Connection head

Form B according DIN 43 729

Protection classification

IP 54 according DIN 60529

Application temperature

0 °C to 140 °C

0 °C to 200 °C

Temperatursensor According to IEC 584.1(2)

1xPt 100 selected

Circuitry

2 wire circuit

3 wire circuit

4 wire circuit

Protective tube material

1.4571

Protective tube diameter d

6 mm

8 mm

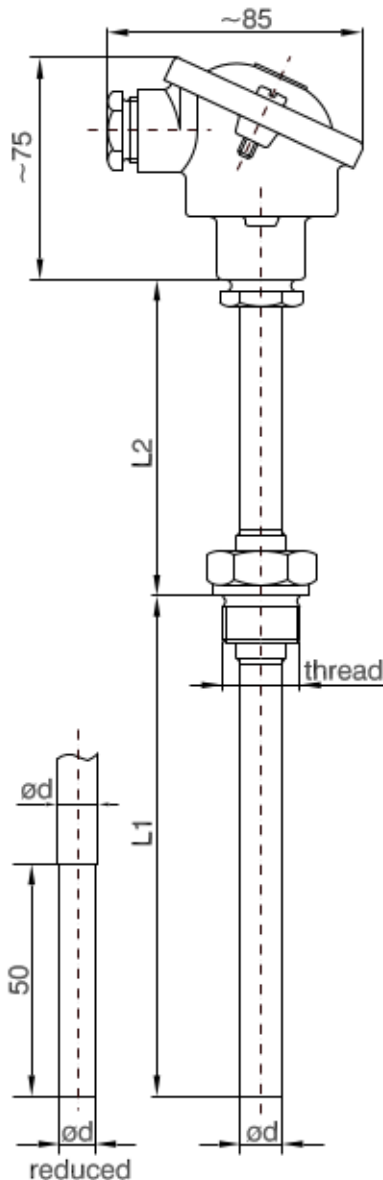
Insert length L_1

80 mm to 400 mm

Thread

G1/2A

Model: 49 - 354



Resistance thermometer with exchangeable measuring insert

Construction

Basic implementation
GL-implementation
EX-implementation

Connection head

Form B according DIN 43 729
Form BUZ for explosion-proof design according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

up to +380 °C for GL-Design
-200 to +600 °C
-50 to +400 °C
on inquiry

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
1xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
2xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
2xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
on inquiry

Circuitry

2 wire circuit
3 wire circuit
4 wire circuit

Protective tube material

1.4571
on inquiry

Protective tube diameter d

9 mm
11 mm
9 mm / 7 mm stepped
11 mm / 9 mm stepped
on inquiry

Insert length L₁

on inquiry

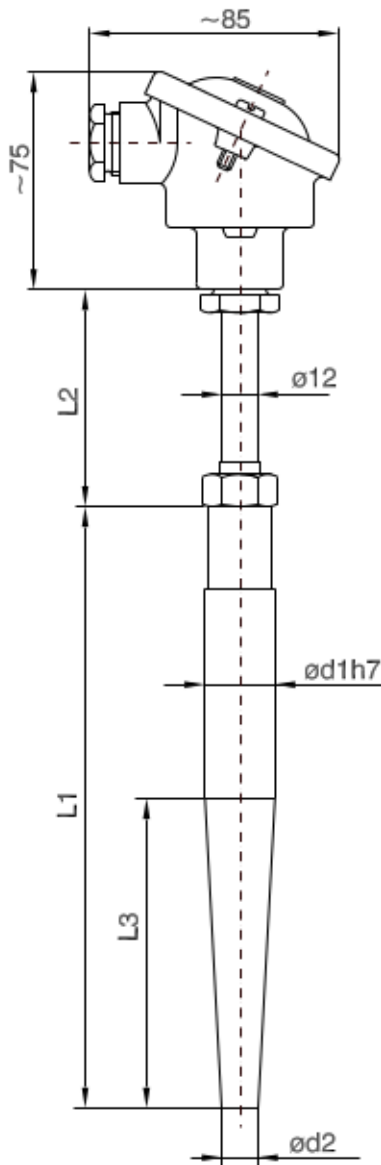
extension tube length L₂

130 mm
on inquiry

Thread

M20x1,5
M27x2
G1/2A
G3/4A
on inquiry

Model: 49 - 357



Resistance thermometer with exchangeable measuring insert, for welding in, for high working pressure.

Construction

Basic implementation
GL-implementation
EX-implementation

Connection head

Form B according DIN 43 729
Form BUZ for explosion-proof design according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

up to +380 °C for GL-Design
-200 to +600 °C
-50 to +400 °C
on inquiry

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
1xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
2xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
2xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
on inquiry

Circuitry

2 wire circuit
3 wire circuit
4 wire circuit

Protective tube material

1.0460 (C22.8)
1.4571
on inquiry

Protective tube Form 4 for welding in according DIN 43 772

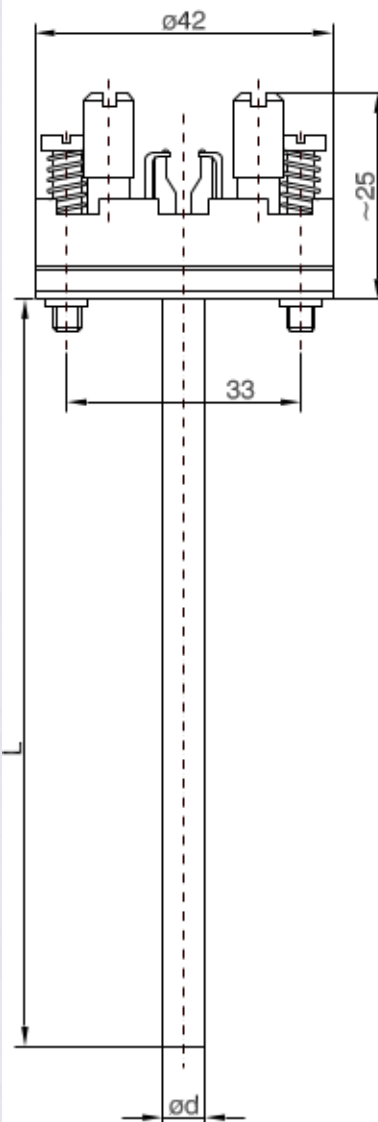
Form; L1; L3; ø d1; ø d2; measuring insert-ø ; thread

D1; 140; 65; 24; 12,5; 6; M18x1,5
D2; 200; 125; 24; 12,5; 6; M18x1,5
D4; 200; 65; 24; 12,5; 6; M18x1,5
D4S*; 140; 65; 18; 9; 3; M14x1,5
D5; 260; 125; 24; 12,5; 6; M18x1,5

extension tube length L₂

130 mm
on inquiry

Model: 49 - 360



Measuring insert for built-in protective fittings.

Application temperature

-200 to +600 °C
-50 to +400 °C
on inquiry

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
1xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
2xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
2xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
on inquiry

Circuitry

2 wire circuit
3 wire circuit
4 wire circuit

Protective tube material

1.4571
on inquiry

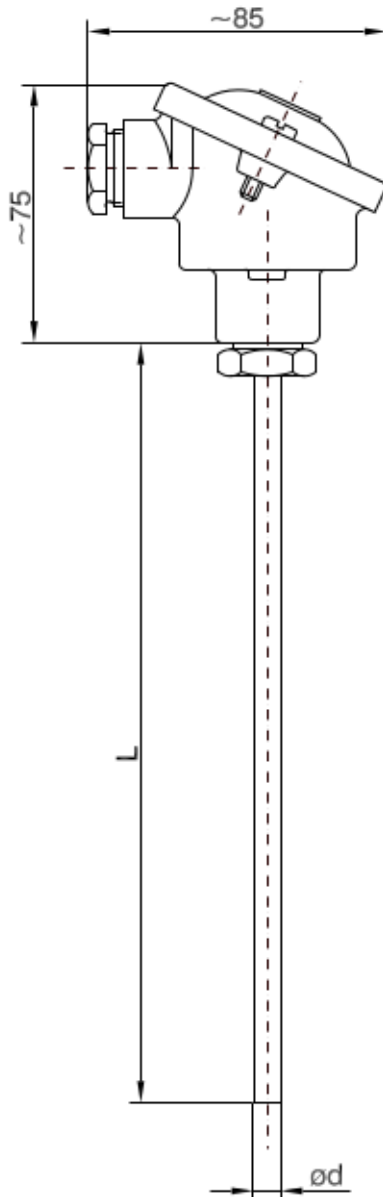
Protective tube diameter d

6 mm
8 mm
on inquiry

Nominal length L

on inquiry

Model: 49 - 361



Measuring insert with connection head

Construction

Basic implementation
EX-implementation

Connection head

Form B according DIN 43 729
Form BUZ for explosion-proof design according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

-200 to +600 °C
-50 to +400 °C
on inquiry

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
1xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
2xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
2xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
on inquiry

Circuitry

2 wire circuit
3 wire circuit
4 wire circuit

Protective tube material

1.4571

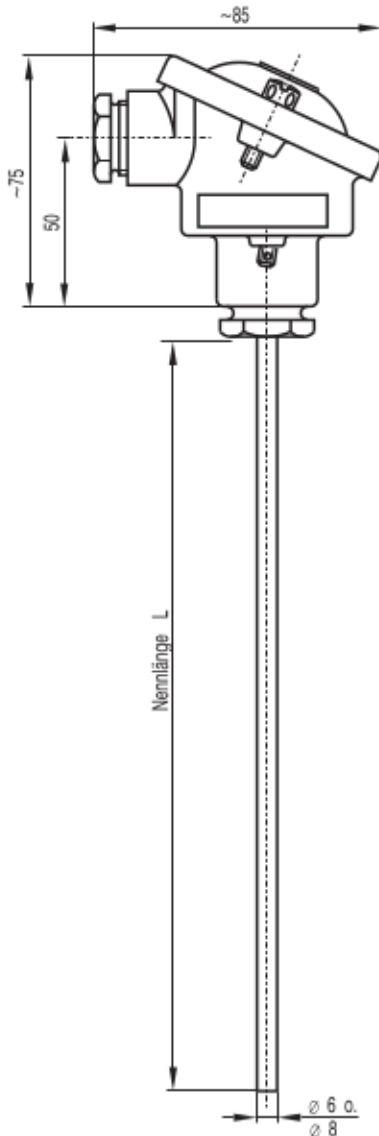
Protective tube diameter d

6 mm
8 mm
on inquiry

Nominal length L

on inquiry

Model: 49 - 361WZ



Exchangeable temperature probe for screwing in pipelines with PTB-certificate for heatmeter;
Registration of the before- and return flow temperature in heating circulations

Connection head

Form B according DIN 43 729

Protection classification

IP 54 according DIN 60529

Application temperature

0 °C to 140 °C

0 °C to 200 °C

Temperatursensor According to IEC 584.1(2)

1xPt 100 selected

Circuitry

2 wire circuit

3 wire circuit

4 wire circuit

Protective tube material

1.4571

Protective tube diameter d

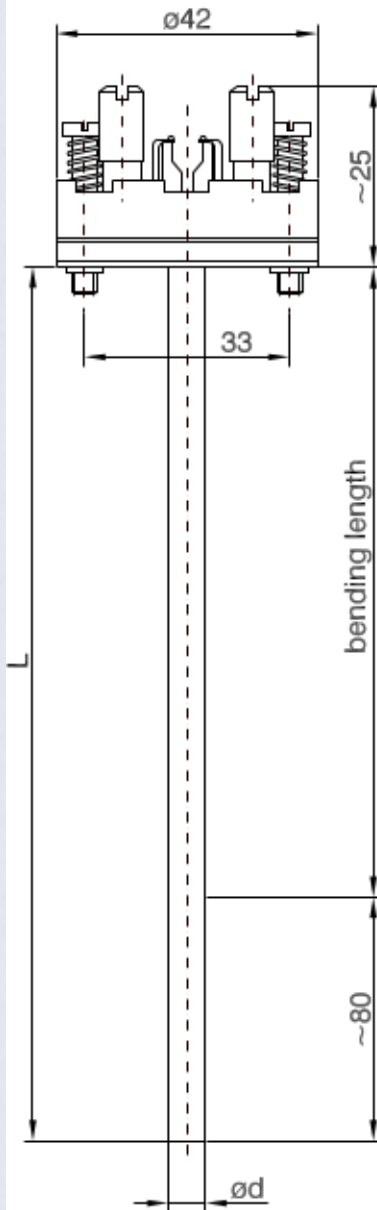
6 mm

8 mm

Nominal length L

80 mm to 160 mm

Model: 49 - 370



Measuring insert from sheathed material for built-in protective tubes. (bendable, $r > 5 \times \text{wire-}\varnothing$)

Application temperature

-200 to +600 °C
-50 to +400 °C
on inquiry

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. W0,15 (old cl. A) acc. to DIN EN 60751
1xPt 100 cl. W0,3 (old cl. B) acc. to DIN EN 60751
2xPt 100 cl. W0,15 (old cl. A) acc. to DIN EN 60751
2xPt 100 cl. W0,3 (old cl. B) acc. to DIN EN 60751
on inquiry

Circuitry

2 wire circuit
3 wire circuit
4 wire circuit

Protective tube material

1.4571
on inquiry

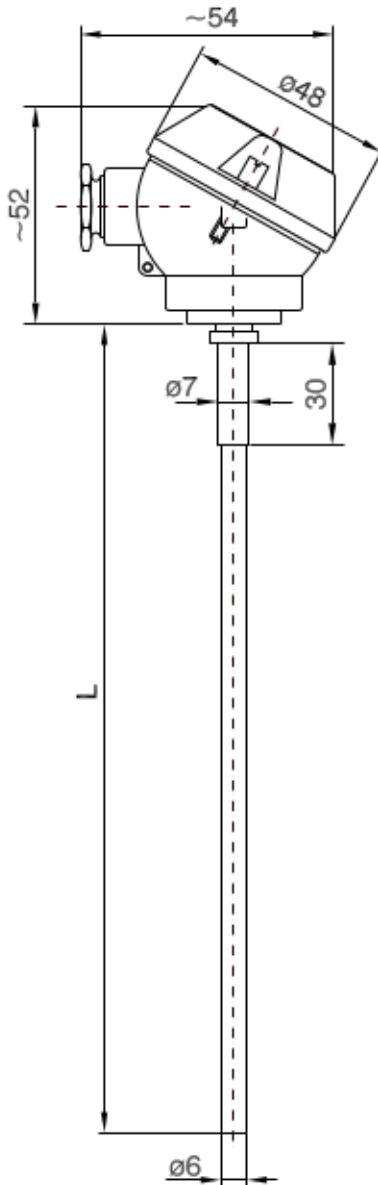
Protective tube diameter d

6 mm
on inquiry

Nominal length L

on inquiry

Model: 49 - 371



This average thermometer has a wiring over the whole length in order to record the average temperature in large rooms or channels. It's very flexible and so especially suited for air and ventilation shafts or something like that.

Construction

- Carrier substance (core) with outside wiring, flexible insulating tubing $\varnothing 2,5 \pm 0,2$, bending radius 10mm,
- Cu-protection tube $\varnothing 4 \times 0,5$ bare or insulated with a shrink-hose-pipe (outside- $\varnothing 5$), bending radius 50mm

By request implementation without a Cu-protective tube and without connection head but with strong spilled connection wires is also available.

Protection classification

IP 54 according DIN 60529

Application temperature

- for Pt: -40 °C to +140 °C
- for Pt: -40 °C to +350 °C
- for Ni: -40 °C to + 140 °C
- for Ni: - 40 °C to + 250 °C

Temperatursensor According to IEC 584.1(2)

- 1xPt 100 cl. B acc. to DIN EN 60751
- 1xPt 500 cl. B acc. to DIN EN 60751
- 1xPt 1000 cl. B acc. to DIN EN 60751
- 1xNi 100 cl. B acc. to DIN EN 43760
- 1xNi 500 cl. B acc. to DIN EN 43760
- 1xNi 1000 cl. B acc. to DIN 43760

on inquiry

Circuitry

- 2 wire circuit
- 3 wire circuit
- 4 wire circuit

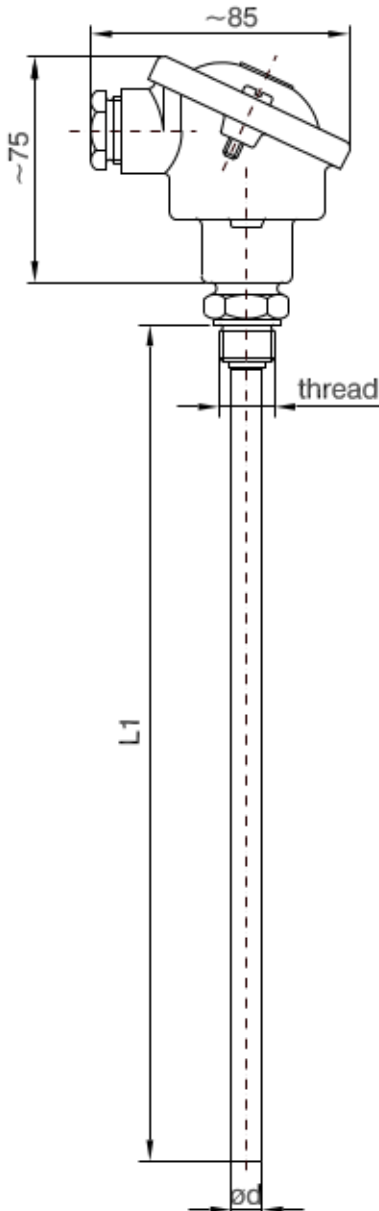
Protective tube material

- Cu tube blank
- Cu tube with heat shrink hose covered (only up to 140 °C)

Nominal length L

on inquiry (up to 20 m)

Model: 49 - 372



Resistance thermometer for screwing in ; with exchangeable measuring insert

Construction

Basic implementation
GL-implementation
EX-implementation

Connection head

Form B according DIN 43 729
Form BUZ for explosion-proof design according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

up to +380 °C for GL-Design
-200 to +600 °C
-50 to +400 °C
on inquiry

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
1xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
2xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
2xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
on inquiry

Circuitry

2 wire circuit
3 wire circuit
4 wire circuit

Protective tube material

1.4571
on inquiry

Protective tube diameter d

9 mm
11 mm
on inquiry

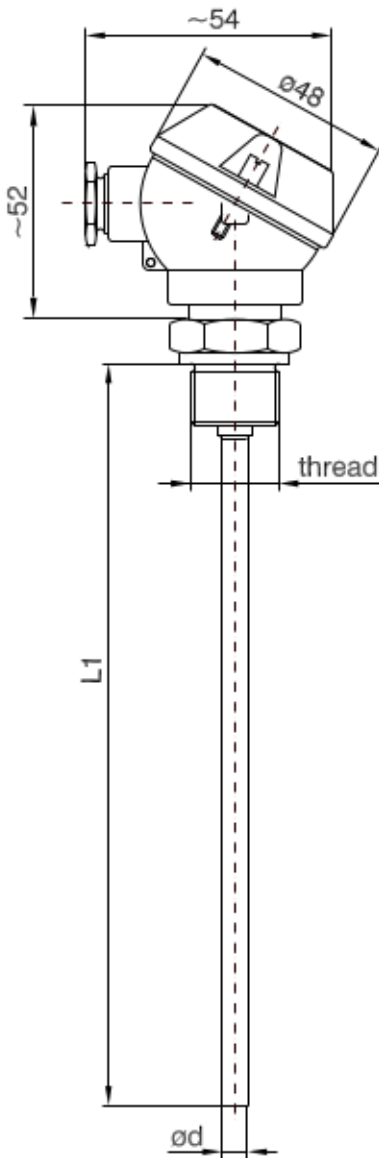
Insert length L₁

on inquiry

Thread

M20x1,5
M27x2
G1/2A
G3/4A
on inquiry

Model: 49 - 373



Resistance thermometer without exchangeable measuring insert; with higher response of sensitivity.

Connection head

Form F

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

-200 to +600 °C
-50 to +400 °C
on inquiry

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
1xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
2xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
2xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
on inquiry

Circuitry

2 wire circuit
3 wire circuit for 1xPt100
4 wire circuit for 1xPt100

Protective tube material

1.4571
on inquiry

Protective tube diameter d

6 mm
on inquiry

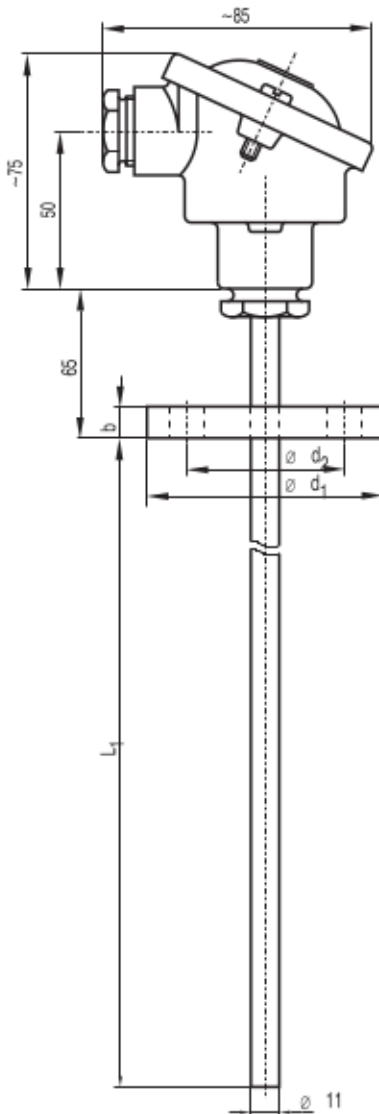
Insert length L_1

on inquiry

Thread

M20x1,5
G1/2A
on inquiry

Model: 49 - 374



Resistance thermometer with flange and replaceable measuring insert

Construction

Basic implementation
EX-implementation

Connection head

Form B according DIN 43 729
Form BUZ for explosion-proof design according DIN 43 729
on inquiry

Protection classification

IP 54 according DIN 60529
on inquiry

Application temperature

-200 to +600 °C
-50 to +400 °C
on inquiry

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
1xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
2xPt 100 cl. F0,15 or W0,15 (old cl. A) acc. to DIN EN 60751
2xPt 100 cl. F0,3 or W0,3 (old cl. B) acc. to DIN EN 60751
on inquiry

Circuitry

2 wire circuit
3 wire circuit
4 wire circuit

Flange

flange design, flange dimensions as soon as flange material
on inquiry

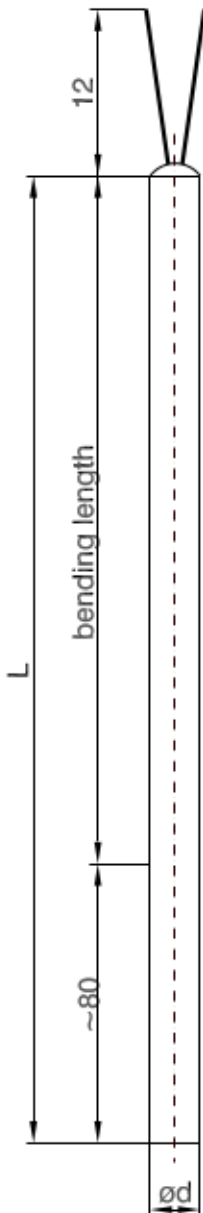
Protective tube material

1.4571
on inquiry

Insert length L_1

on inquiry

Model: 49 - 388



Sheathed resistance thermometer without connector

Application temperature

-200 to +600 °C
-50 to +400 °C
on inquiry

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. W0,15 (old cl. A) acc. to DIN EN 60751
1xPt 100 cl. W0,3 (old cl. B) acc. to DIN EN 60751
2xPt 100 cl. W0,15 (old cl. A) acc. to DIN EN 60751
2xPt 100 cl. W0,3 (old cl. B) acc. to DIN EN 60751
on inquiry

Circuitry

2 wire circuit
3 wire circuit
4 wire circuit

Sheath diameter

2,0 mm
3,0 mm
4,5 mm
6,0 mm
on inquiry

Sheath material

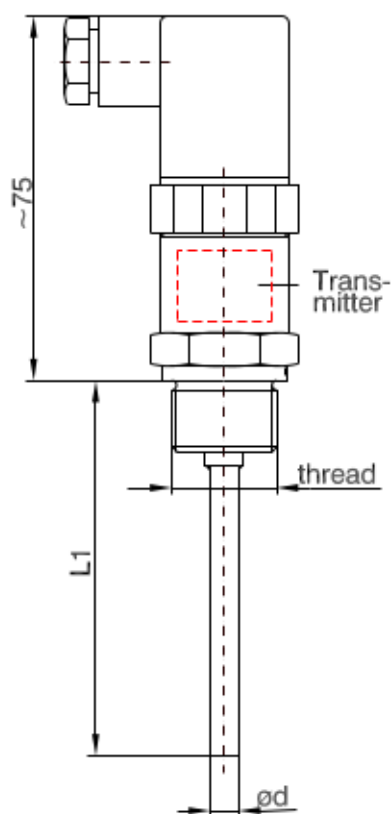
1.4571
on inquiry

Nominal length L

on inquiry

Bending radius of the sheath material $\geq 5x\varnothing d$;
do not bend from tip up to 80 mm

Model: 49 - 506



Small thermocouple for screwing in with connectors and built-in transmitter

output signal 4...20mA, measuring range on inquiry

Connection head

connector GSP/GDM

Protection classification

IP 65 according DIN 60529

Application temperature

to +200°C (max. 85°C on transmitter)

Thermo junction According to IEC 584.1(2)

J (Fe-CuNi) DIN EN 60584

K (NiCr-Ni) DIN EN 60584

on inquiry

Number of Thermo junction

1 thermocouple

Protective tube material

1.4571

on inquiry

Protective tube diameter d

6 mm

on inquiry

Insert length L_1

on inquiry

Thread

G1/2A

on inquiry

Output

4 ... 20mA

Loop voltage

10...35VDC, reverse protection

Linearity error

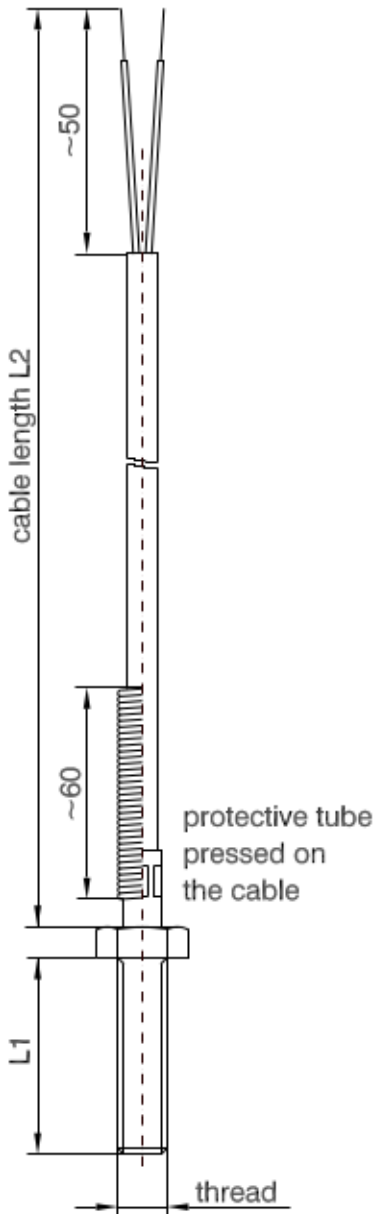
<1% FS*

Operating temperature of transformer

-40 °C ... +85 °C

*FS - Temperature scale of transmitter

Model: 49 - K4T



Application temperature

on inquiry, dependent on sensor and protective tube material

Thermo junction According to IEC 584.1(2)

J (Fe-CuNi) DIN EN 60584
K (NiCr-Ni) DIN EN 60584
on inquiry

Number of Thermo junction

1 thermocouple
2 thermocouples

Protective tube material

stainless steel
on inquiry

Insert length L₁

on inquiry 10 ... 40 mm

Type of compensating cable

on inquiry

Cable length L₂

on inquiry min. 100 mm

Bend protection

without
with spiral spring

Thread

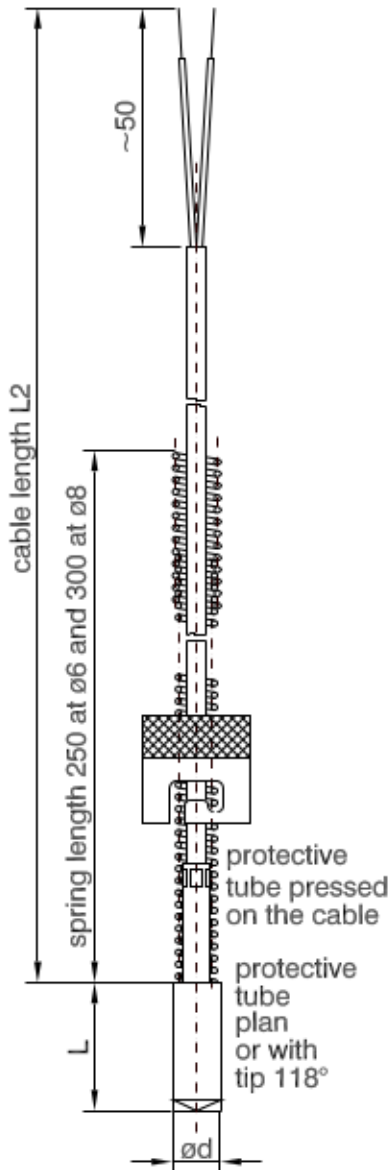
M6
M8
M10
G1/4A
on inquiry

Connector

free ends
connector on inquiry

declare desired temperature range for case of application

Model: 49 - K9T



Application temperature

on inquiry, dependent on sensor and protective tube material

Thermo junction According to IEC 584.1(2)

J (Fe-CuNi) DIN EN 60584

K (NiCr-Ni) DIN EN 60584

on inquiry

Number of Thermo junction

1 thermocouple

2 thermocouples

Protective tube form

planar

pointed 118°

Protective tube material

1.4305

on inquiry

Protective tube diameter d

6 mm

8 mm

on inquiry

Sensor length L

on inquiry 10 ... 30 mm

Type of compensating cable

on inquiry

Cable length L₂

on inquiry min. 100 mm

Construction of bajonett cap

for thread nipple (bayonet matching part) \varnothing 12

for thread nipple (bayonet matching part) \varnothing 14

Connector

free ends

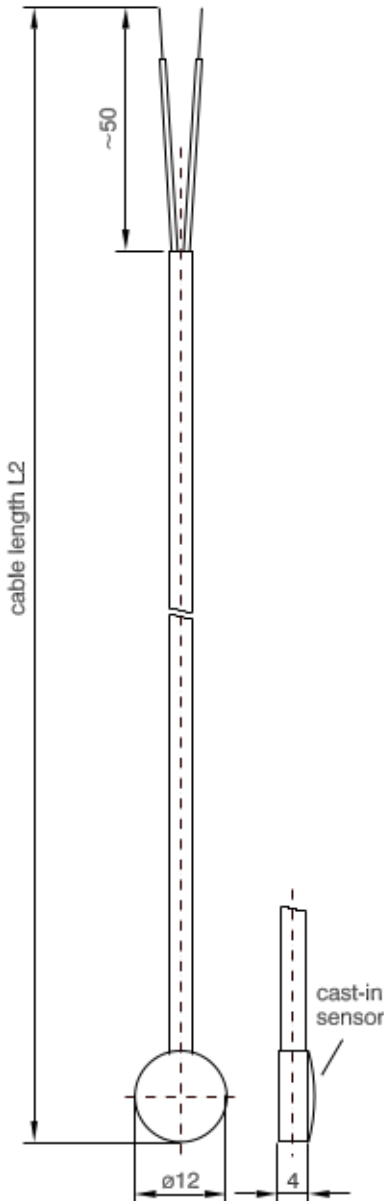
connector on inquiry

Thread nipple

none

on inquiry

Kabel weerstandthermometer
Model: K13W



Construction

as Resistance Thermometer

Temperatursensor According to IEC 584.1(2)

1xPt 100 cl. F0,15 (old cl. A) acc. to DIN EN 60751

1xPt 100 cl. F0,3 (old cl. B) acc. to DIN EN 60751

on inquiry

Circuitry

2 wire circuit

3 wire circuit

4 wire circuit

Housing material

stainless steel

on inquiry

Case dimensions

ø 12 X 4

Sealing compound

for temperature range -40 ... 80°C

for temperature range -40 ... 180°C

Type of connection cable

TeSi 2xAWG24

TeSi 3xAWG26

TeSi 4xAWG26

on inquiry

Cable length L₂

on inquiry min. 100 mm

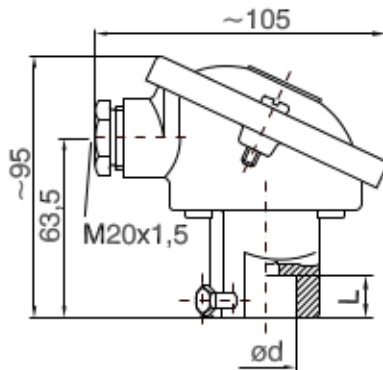
Connector

free ends

connector on inquiry

declare desired temperature range for case of application

**Toebehoren:
Aansluitkop, model AZ**



Connection head for resistance thermometers
and thermocouples

Protection classification

IP 54 (for protective tube connection with thread joint)
IP 44 (for protective tube connection with smooth borehole)

Application temperature

-40 °C to +100 °C

Housing material

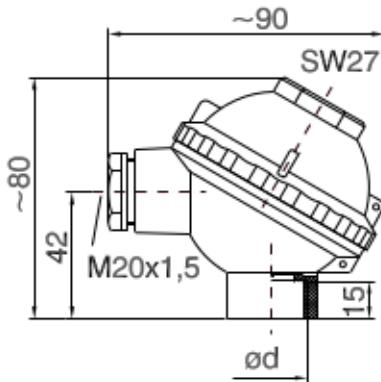
light metal pressure diecast

Protective tube connection \varnothing d / L

22,5 / 20
32,5 / 20
M24x1,5 / 16

connection measure accept to DIN 43 729
-by protection tube connection with thread no screws

Toebehoren:
Aansluitkop, model BK



Connection head for resistance thermometers
and thermocouples

Protection classification

IP 54 according DIN 60529

Application temperature

for Polyamid (PA) to 80 °C
for Polyphenylenoxid (PPO) to 120 °C

Housing material

plastic Polyamid (PA)
plastic Polyphenylenoxid (PPO)

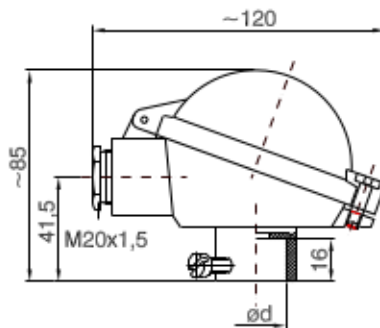
Protective tube connection $\varnothing d / L$

M24x1,5 / 16

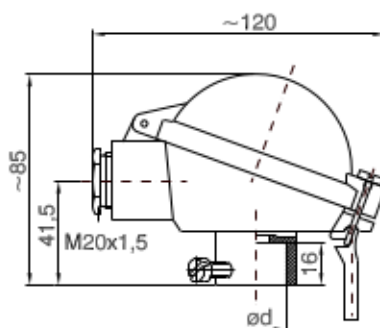
-connection dimension accept to DIN 43 729

Toebehoren:
Aansluitkop, model BUZ / BUS

Form BUZ



Form BUS



Connection head for resistance thermometers
and thermocouples

Form

BUZ
BUS

Protection classification

IP 54 (for protective tube connection with thread joint)
IP 53 (for protective tube connection with smooth borehole)

Application temperature

-40 °C to +100 °C
-40 °C to +155 °C with silicone seal

Housing material

light metal pressure diecast

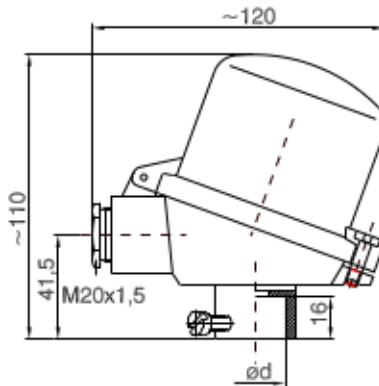
Protective tube connection $\varnothing d / L$

15,5 / 16
M24x1,5 / 16

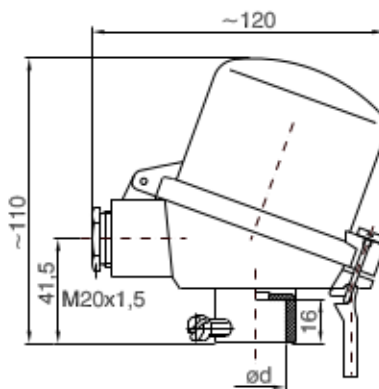
-connection dimension according to DIN 43 729
-on protective tube connection with thread no screws

Toebehoren:
Aansluitkop, model BUZH / BUSH

Form BUZH



Form BUSH



Connection heads for resistance thermometers
and thermocouples

Form

BUZH
BUSH

Protection classification

IP 54 (for protective tube connection with thread joint)
IP 53 (for protective tube connection with smooth borehole)

Application temperature

-40 °C to +100 °C
-40 °C to +155 °C with silicone seal

Housing material

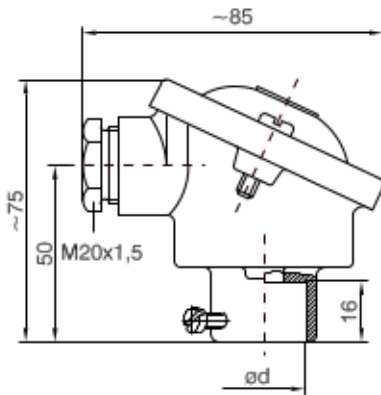
light metal pressure diecast

Protective tube connection $\varnothing d / L$

15,5 / 16
M24x1,5 / 16

- connection dimension according to DIN 43 729
- on protective tube connection with thread no screws

Toebehoren:
Aansluitkop, model BZ



Connection heads for resistance thermometers
and thermocouples

Protection classification

IP 54 (for protective tube connection with thread joint)
IP 44 (for protective tube connection with smooth borehole)

Application temperature

-40 °C to +100 °C
-40 °C to +155 °C with silicone seal

Housing material

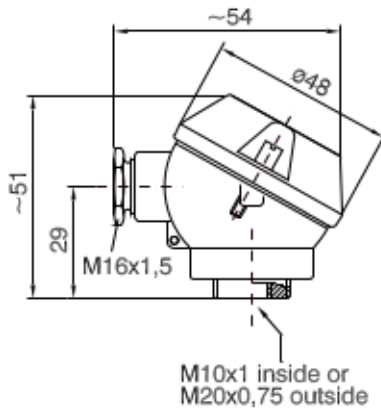
light metal pressure diecast

Protective tube connection $\varnothing d / L$

15,5 / 16
M24x1,5 / 16

-connection dimension according to DIN 43 729
-on protective tube connection with thread no screws

Toebehoren:
Aansluitkop, model F



connection head for resistance thermometers and thermocouples

Protection classification

IP 54 according DIN 60529

Application temperature

-40 °C to +100 °C

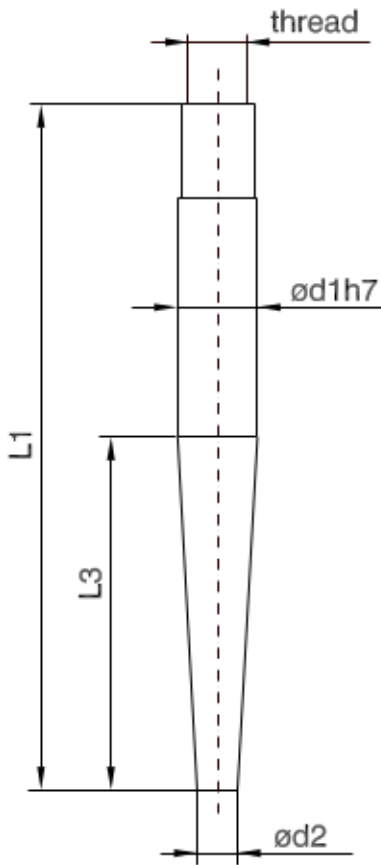
Housing material

light metal pressure diecast

Protective tube connection

M10x1 inside
M20x0,75 outside

Toebehoren:
Beschermbuis, las



Protective tube material

1.0460 (C22.8)
1.4571
on inquiry

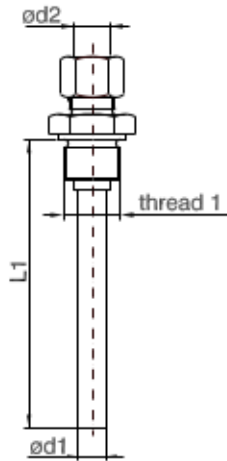
**Protective tube Form 4 for welding in
according DIN 43 772**

Form; L1; L3; ø d1; ø d2; measuring insert-ø ; thread

D1; 140; 65; 24; 12,5; 6; M18x1,5
D2; 200; 125; 24; 12,5; 6; M18x1,5
D3*; 200; 125; 30; 12,5; 8
D4; 200; 65; 24; 12,5; 6; M18x1,5
D4S*; 140; 65; 18; 9; 3; M14x1,5
D5; 260; 125; 24; 12,5; 6; M18x1,5
D6*; 255; 125; 30; 16; 8
on inquiry

Toebehoren:
Beschermbuis, schroef

with clamp ring or
cutting ring thread joint



Construction

clamping ring screwing
compression ring screwing
terminal screw
inside thread

Protective tube material

1.4571
on inquiry

Diameter d1

on inquiry

Diameter d2

on inquiry

Insert length L_1

on inquiry

Thread 1

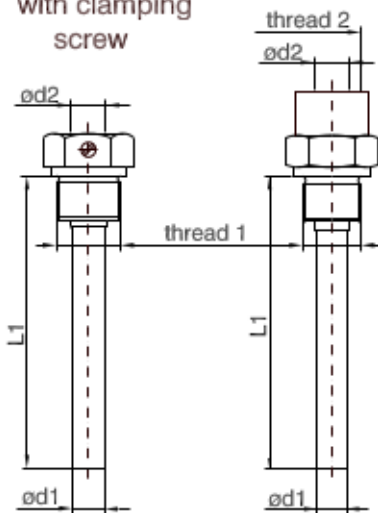
on inquiry

Thread 2

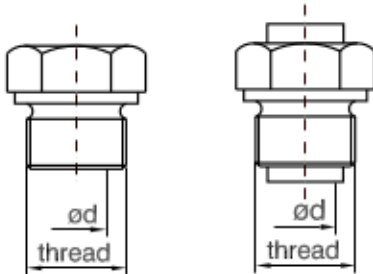
on inquiry

with thread
inside

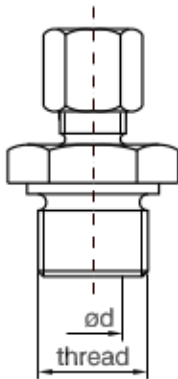
with clamping
screw



Toebehoren:
Draad proces-aansluitingen.



Solderable / weldable
thread joint



adjustable thread joint

- with PTFE-clamp ring or
- with metal clamp ring or
- with cutting ring

Threaded joint

- adjustable with PTFE clamp ring
- adjustable with metal clamp ring
- adjustable with cutting ring
- solderable
- weldable

Material

- stainless steel
- zincd steel

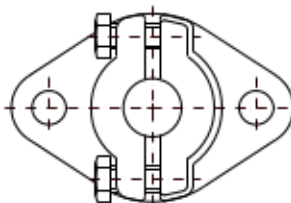
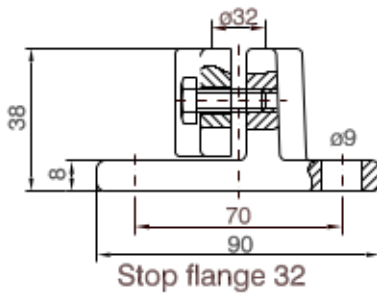
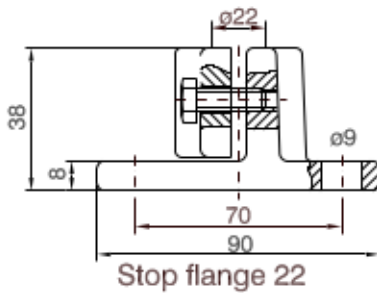
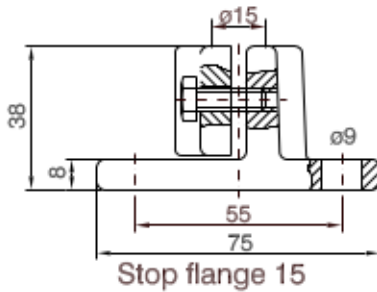
Diameter d

- on inquiry

Thread

- on inquiry

Toebehoren:
Flenzen.



Adjustable clamp flange

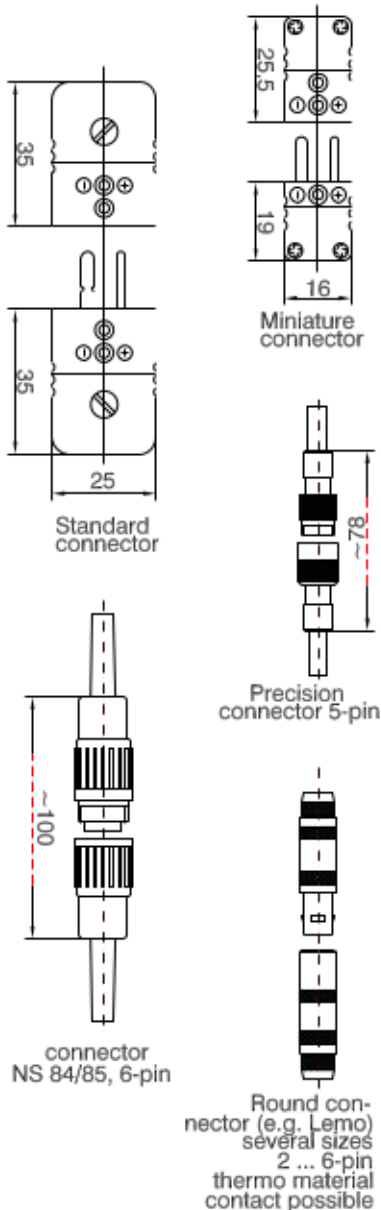
Stop flange for protective tube- \varnothing

15
22
32

Material

Cast iron
Aluminium

Toebehoren:
Stekkers.



Connector

Standard thermocouple plug (male)
Standard thermocouple plug box (female)
Standard thermocouple plug connection
Miniature thermocouple plug (male)
Miniature thermocouple plug box (female)
Miniature thermocouple plug connection
Round connector (e.g. LEMO connectors)
Precision connector 5-pin
Connector NS 84/85 6-pin
on inquiry

Number of pins

2
3
4
5
6