



## VASTUSLÄMPÖTILA-ANTURI ERILLISELLE SUOJATASKULLE

TR10-B

TR10B-14323659

PT100 3-johdin -50-500°C 150x6mm G1/2 NL=150mm

- Mittausalueet -196-600°C
- Vaihdettaava mittaosa
- Kaulan pituus vähintään 30mm
- PT100 tai PT1000
- ATEX optiolla



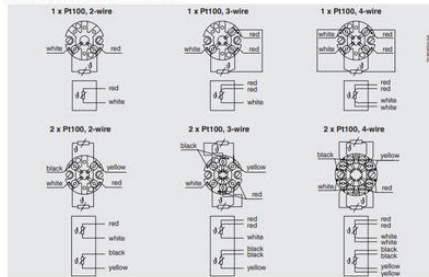
### TUOTEKUVAUS

Lämpötila-antureihin on saatavilla laaja valikoima mahdollisia Pt100- tai Pt1000-anturien ja liitäntäpäiden yhdistelmiä, mittauskärkien pituuksia, kaulan pituuksia, suojataskuliitäntöjä jne., jotka sopivat minkä tahansa kokoiseen suojataskuun ja mihin tahansa käyttökohteeseen.

### TEKNISET TIEDOT

|                                                      |                         |
|------------------------------------------------------|-------------------------|
| Aineen kanssa kosketuksissa olevien osien materiaali | Ruostumaton teräs 316Ti |
| Asennussyvyys                                        | 150 mm                  |
| IP-luokka                                            | IP65                    |
| Kaulan pituus                                        | 0,15 m                  |
| Max. käyttölämpötila                                 | 500 °C                  |
| Max. ympäristön lämpötila                            | 80 °C                   |
| Min. käyttölämpötila                                 | -50 °C                  |
| Min. ympäristön lämpötila                            | -40 °C                  |
| Pistokkeen halkaisija                                | 6 mm                    |
| Rungon materiaali                                    | Alumiini                |

## Electrical connection (colour code per IEC/EN 60751)



## Connection head

\* European designs per EN 50446 / DIN 43725

| Model         | Material        | Cable entry thread size      | Ingress protection (max.) | Cap                                             | Surface                | Connection to neck tube |
|---------------|-----------------|------------------------------|---------------------------|-------------------------------------------------|------------------------|-------------------------|
| B5            | Aluminum        | M20 x 1.5 or 1/2 NPT         | IP65, IP68                | Flat cap with 2 screws                          | Blue, lacquered        | M24 x 1.5, 1/2 NPT      |
| B52           | Aluminum        | M20 x 1.5 or 1/2 NPT         | IP65, IP68                | Spherical fanged cover with cylinder head screw | Blue, lacquered        | M24 x 1.5, 1/2 NPT      |
| B52-H         | Aluminum        | M20 x 1.5 or 1/2 NPT         | IP65, IP68                | Paired fanged cover with cylinder head screw    | Blue, lacquered        | M24 x 1.5, 1/2 NPT      |
| B52-H / DIN10 | Aluminum        | 2 x M20 x 1.5 or 2 x 1/2 NPT | IP65, IP68                | Paired fanged cover with cylinder head screw    | Blue, lacquered        | M24 x 1.5               |
| B55           | Aluminum        | M20 x 1.5 or 1/2 NPT         | IP65, IP68                | Paired fanged cover with cylinder head screw    | Blue, lacquered        | M24 x 1.5, 1/2 NPT      |
| B55-H         | Aluminum        | M20 x 1.5 or 1/2 NPT         | IP65                      | Spherical fanged cover with clamping lever      | Blue, lacquered        | M24 x 1.5, 1/2 NPT      |
| B55-H         | Aluminum        | M20 x 1.5 or 1/2 NPT         | IP65                      | Paired fanged cover with clamping lever         | Blue, lacquered        | M24 x 1.5, 1/2 NPT      |
| B55           | Stainless steel | M20 x 1.5                    | IP65                      | Precision-cast screw cap                        | Blank, electropolished | M24 x 1.5               |
| B52-K         | Plastic         | M20 x 1.5 or 1/2 NPT         | IP65                      | Spherical fanged cover with cylinder head screw | Black                  | M24 x 1.5               |
| B52-HK        | Plastic         | M20 x 1.5 or 1/2 NPT         | IP65                      | Paired fanged cover with cylinder head screw    | Black                  | M24 x 1.5               |

| Model         | Explosion protection | Ex I (gas) Zone 0, 1, 2 | Ex I (dust) Zone 20, 21, 22 | Ex II (gas) Zone 1, 2 | Ex II (dust) Zone 22 |
|---------------|----------------------|-------------------------|-----------------------------|-----------------------|----------------------|
| B5            | X                    | X                       | X                           | X                     | X                    |
| B52           | X                    | X                       | X                           | X                     | X                    |
| B52-H         | X                    | X                       | X                           | X                     | X                    |
| B52-H / DIN10 | X                    | X                       | X                           | X                     | X                    |
| B55           | X                    | X                       | X                           | X                     | X                    |
| B55-H         | X                    | X                       | X                           | X                     | X                    |
| B55           | X                    | X                       | X                           | X                     | X                    |
| B52-K         | X                    | X                       | X                           | X                     | X                    |
| B52-HK        | X                    | X                       | X                           | X                     | X                    |

## Cable entry



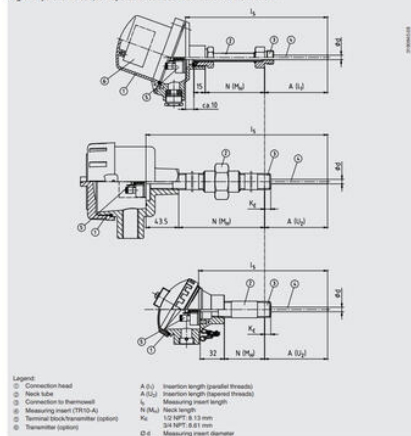
The pictures show examples of connection heads.

| Cable entry                                           | Cable entry thread size      |
|-------------------------------------------------------|------------------------------|
| Standard cable entry                                  | M20 x 1.5 or 1/2 NPT         |
| Plastic cable gland (cable Ø 6 ... 10 mm)             | M20 x 1.5 or 1/2 NPT         |
| Nickel-plated brass cable gland (cable Ø 6 ... 12 mm) | M20 x 1.5 or 1/2 NPT         |
| Stainless steel cable gland (cable Ø 7 ... 12 mm)     | M20 x 1.5 or 1/2 NPT         |
| Plain threaded                                        | M20 x 1.5 or 1/2 NPT         |
| 2 x plain threaded                                    | 2 x M20 x 1.5 or 2 x 1/2 NPT |
| Junction box M12 x 1 (4-pin)                          | M20 x 1.5                    |
| Sealing plugs for transport                           | M20 x 1.5 or 1/2 NPT         |

| Cable entry                         | Colour        | Ingress protection (max.) | Min. max. ambient temperature | Explosion protection (max.)          | Ex I (gas) Zone 0, 1, 2 | Ex II (gas) Zone 1, 2 | Ex I (dust) Zone 20 | Ex II (dust) Zone 22 |
|-------------------------------------|---------------|---------------------------|-------------------------------|--------------------------------------|-------------------------|-----------------------|---------------------|----------------------|
| Standard cable entry                | Black         | IP65                      | -40 ... +80 °C                | X                                    | X                       | X                     | X                   | X                    |
| Plastic cable gland                 | Black or grey | IP65, IP68                | -40 ... +80 °C                | X                                    | X                       | X                     | X                   | X                    |
| Plastic cable gland, Ex             | Light blue    | IP65, IP68                | -20 ... +80 °C (optional)     | X                                    | X                       | X                     | X                   | X                    |
| Plastic cable gland, Ex             | Black         | IP65, IP68                | -20 ... +80 °C (optional)     | X                                    | X                       | X                     | X                   | X                    |
| Nickel-plated brass cable gland     | Black         | IP65, IP68                | -40 ... +80 °C                | X                                    | X                       | X                     | X                   | X                    |
| Nickel-plated brass cable gland, Ex | Black         | IP65, IP68                | -40 ... +80 °C                | X                                    | X                       | X                     | X                   | X                    |
| Stainless steel cable gland         | Black         | IP65, IP68                | -40 ... +80 °C                | X                                    | X                       | X                     | X                   | X                    |
| Stainless steel cable gland, Ex     | Black         | IP65, IP68                | -40 ... +80 °C                | X                                    | X                       | X                     | X                   | X                    |
| Plain threaded                      | X             | IP50                      | -40 ... +80 °C                | X                                    | X                       | X                     | X                   | X                    |
| 2 x plain threaded                  | X             | IP50                      | -40 ... +80 °C                | X                                    | X                       | X                     | X                   | X                    |
| Junction box M12 x 1 (4-pin)        | X             | IP65                      | -40 ... +80 °C                | X                                    | X                       | X                     | X                   | X                    |
| Sealing plugs for transport         | Transparent   | X                         | -40 ... +80 °C                | Not applicable, transport protection | X                       | X                     | X                   | X                    |

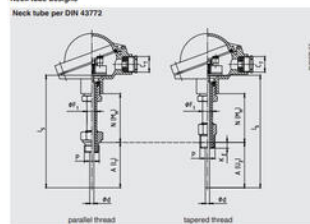
## Components model TR10-B

Fig. with parallel thread, for tapered thread see "Connection to thermowell"

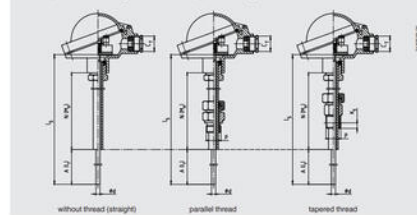


## Neck tube

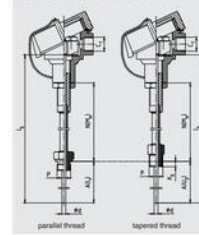
Neck tube designs



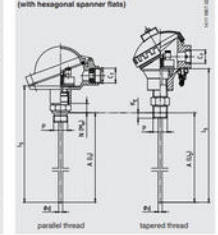
Neck tube per DIN 43772, straight, with/without compression fitting



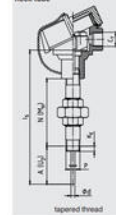
Neck tube, with counter nut to head



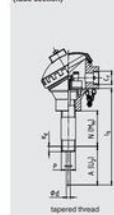
Double threaded hex bushing (with hexagonal spanner flats)



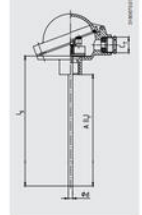
"Nipple-union-nipple" neck tube



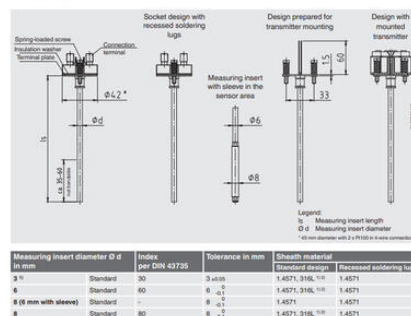
Double threaded hex bushing (tube section)



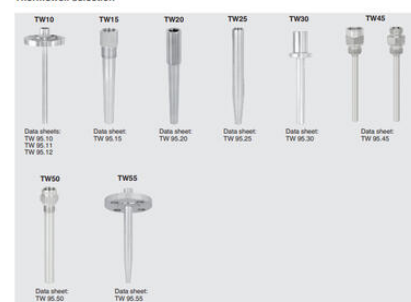
Without neck tube



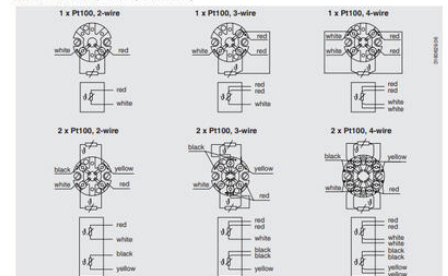
## Dimensions in mm



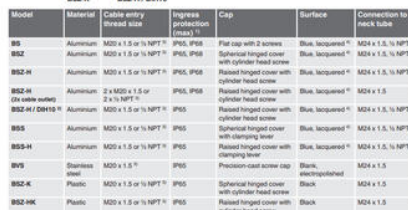
## Thermowell selection



## Electrical connection (colour code per IEC/EN 60751)



■ European designs per EN 50446 / DIN 43735

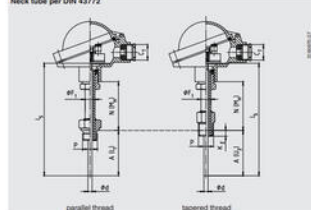


| Model                   | Explosion protection |                             |                                |                        |                         |
|-------------------------|----------------------|-----------------------------|--------------------------------|------------------------|-------------------------|
|                         | without              | Ex I (gast)<br>Zone 0, 1, 2 | Ex I (dust)<br>Zone 20, 21, 22 | Ex nA (gast)<br>Zone 0 | Ex II (dust)<br>Zone 22 |
| B5                      | x                    | x                           | -                              | -                      | -                       |
| B5Z                     | x                    | x                           | x                              | x                      | -                       |
| B5Z-H                   | x                    | x                           | x                              | x                      | x                       |
| B5Z-H (2x cable outlet) | x                    | x                           | x                              | x                      | x                       |
| B5Z-H / DIN19 1         | x                    | x                           | -                              | -                      | -                       |
| B5S                     | x                    | x                           | -                              | -                      | -                       |
| B5S-H                   | x                    | x                           | -                              | -                      | -                       |
| B5V                     | x                    | x                           | -                              | -                      | -                       |
| B5Z-K                   | x                    | x                           | -                              | -                      | -                       |

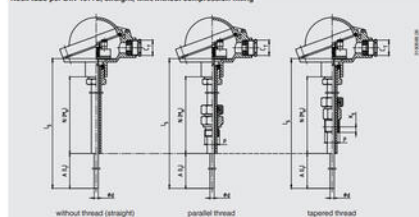
### Neck tube designs

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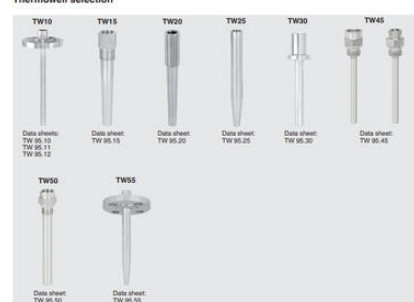
Neck tube per DIN 43772



## Neck tube per DIN 43772, straight, with/without compression fitting



### Thermowell selection



Standard Plastic Plastic (Ex) Brass, nickel-plated Stainless steel Junction box, M12 x 1 (4 pin)

Plain 2 x plain threaded Sealing plugs for

The pictures show examples of correction heads

| Cable entry                                              | Cable entry thread size    |
|----------------------------------------------------------|----------------------------|
| Standard cable entry <sup>(1)</sup>                      | M20 x 1.5 or 1 NPT         |
| Plastic cable gland (cable Ø 6 ... 12 mm) <sup>(1)</sup> | M20 x 1.5 or 1 NPT         |
| Nickel-plated brass cable gland (cable Ø 6 ... 12 mm)    | M20 x 1.5 or 1 NPT         |
| Stainless steel cable gland (cable Ø 7 ... 12 mm)        | M20 x 1.5 or 1 NPT         |
| Plain threaded                                           | M20 x 1.5 or 1 NPT         |
| 2 x plain threaded <sup>(1)</sup>                        | 2 x M20 x 1.5 or 2 x 1 NPT |
| Flange with M20 x 1.5 (4 ports) <sup>(1)</sup>           | M20 x 1.5                  |
| Sealing flange (4 ports)                                 | M20 x 1.5 or 1 NPT         |

| Table entry                                  | Colour        | Progress protection (mm/s) | Min./max. ambient temperature | Exhaust (l/min) | Exhaust protection (l/min)             | Ex to Zone 1 | Ex to Zone 2 | Ex to Zone 3 |
|----------------------------------------------|---------------|----------------------------|-------------------------------|-----------------|----------------------------------------|--------------|--------------|--------------|
|                                              |               |                            |                               | 1, 2, 3         | 1, 2, 3                                | Zone 1       | Zone 2       | Zone 3       |
| Standard cable entry <sup>a</sup>            | Black         | IP68                       | -40...+80 °C                  | x               | x                                      | x            | x            | x            |
| Plastic cable gland <sup>a</sup>             | Black or grey | IP68, IP69                 | -40...+80 °C                  | x               | x                                      | x            | x            | x            |
| Plastic cable gland, Ex e <sup>a</sup>       | Light blue    | IP68                       | -40...+80 °C                  | x               | x                                      | x            | x            | x            |
| Plastic cable gland, Ex e <sup>a</sup>       | Black         | IP68                       | -40...+80 °C                  | x               | x                                      | x            | x            | x            |
| Nickel-plated brass cable gland              |               | IP68                       | -40...+80 °C                  | x               | x                                      | x            | x            | x            |
| Nickel-plated brass cable gland, Ex e        |               | IP68                       | -40...+80 °C                  | x               | x                                      | x            | x            | x            |
| Stainless steel cable gland                  |               | IP68                       | -40...+80 °C                  | x               | x                                      | x            | x            | x            |
| Stainless steel cable gland, Ex e            |               | IP68                       | -40...+80 °C                  | x               | x                                      | x            | x            | x            |
| Chain threaded                               |               | IP60                       | -40...+80 °C                  | x               | x                                      | x            | x            | x            |
| 2 chain threaded                             |               | IP60                       | -40...+80 °C                  | x               | x                                      | x            | x            | x            |
| 3 chain threaded                             |               | IP60                       | -40...+80 °C                  | x               | x                                      | x            | x            | x            |
| 3 chain thread M12 x 1 (4-pole) <sup>b</sup> | Transparent   | IP68                       | -40...+80 °C                  | x               | not applicable, transparent protection | x            | x            | x            |

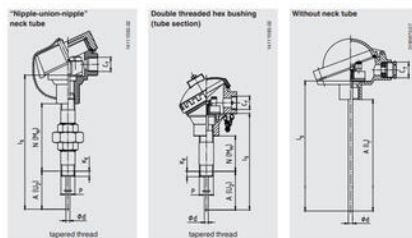
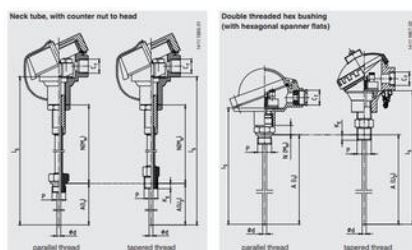
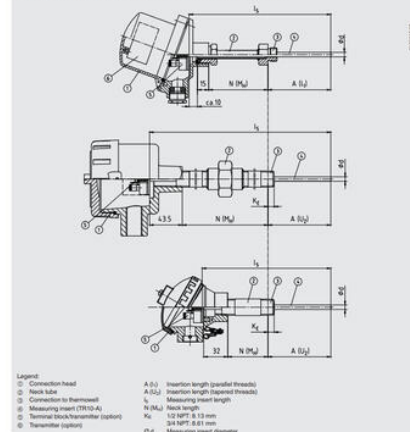
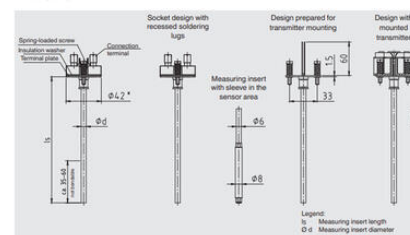


Fig. with parallel thread, for tapered thread see "Connection to thermowell"



Dimensions in mm



| Measuring insert diameter Ø d in mm |          | Index per DIN 43735 | Tolerance in mm | Sheath material             |                    |
|-------------------------------------|----------|---------------------|-----------------|-----------------------------|--------------------|
|                                     |          |                     |                 | Standard design             | Recessed soldering |
| 3 ½                                 | Standard | 30                  | 3 ±0.05         | 1.4571, 316L <sup>100</sup> | 1.4571             |
| 6                                   | Standard | 60                  | 6 ±0.1          | 1.4571, 316L <sup>100</sup> | 1.4571             |
| 8 (5 mm with sleeve)                | Standard | -                   | 8 ±0.1          | 1.4571                      | 1.4571             |
| 9                                   | Standard | 80                  | 9 ±0.1          | 1.4571, 316L <sup>100</sup> | 1.4571             |