



### Features

- Thermowells for resistance thermometer MiniTherm, Type series GA2730
- Material stainless steel mat. no. 1.4404 (316L)
- Instrument connection M12 x 1
- Various process connections for food/pharmaceutical/biotechnology
- Static process pressure:
  - Thermowell: max. 60 bar at a max. temperature of 200 °C
  - Process connection: according to standard of the respective connection

### Options

- For hygienic application:
  - Surface quality
    - Surface roughness  $R_a \leq 0.8 \mu\text{m}$
    - Weld seam  $\leq 1.6 \mu\text{m}$
- Material certificate per EN 10204-3.1
- Thermowell with reduced tip
- Elektropolishing of wetted parts
- Calculation of thermowells upon request
- Base filled with heat sink compound

### Application area

- Pharmaceutical industry
- Biotechnology
- Food industry

### Technical data

#### Temperature sensor

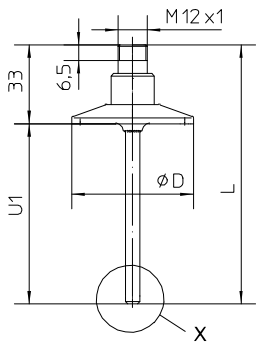
Temperature sensor: see Type series GA2730, data sheet T4-017

Screwing: Union nut M12 x 1 with spring contact system for best heat transfer

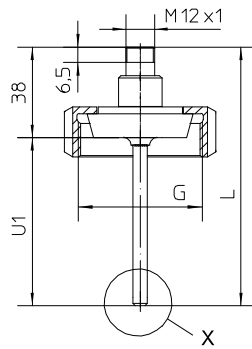
Response time:

**Thermowell 6 x 1 mm**  
without heat sink comp.  $t_{90} = 15 \text{ s}$   
with heat sink comp.  $t_{90} = 6 \text{ s}$   
**Thermowell with reduced tip**  
without heat sink comp.  $t_{90} = 8 \text{ s}$   
with heat sink comp.  $t_{90} = 4 \text{ s}$

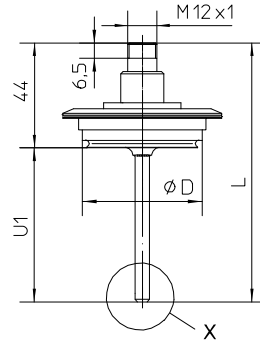
# Thermowell dimensions



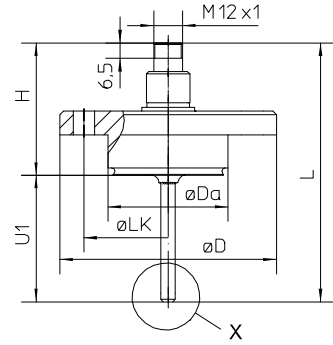
clamp connection



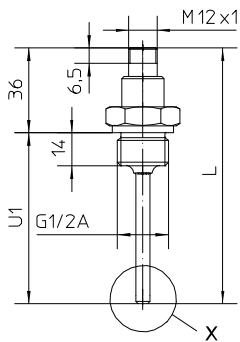
tapered coupling  
with union nut  
DIN 11851



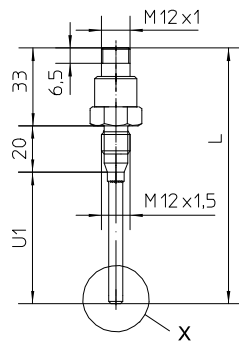
Varivent connection



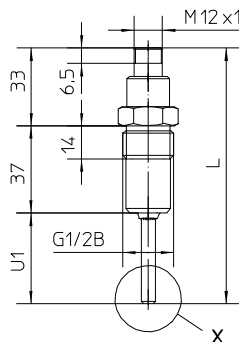
NEUMO BioControl connection



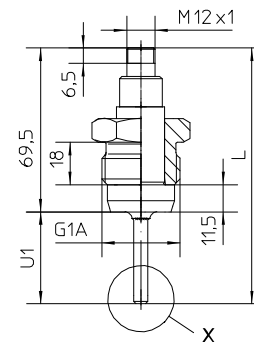
G1/2A DIN 3852



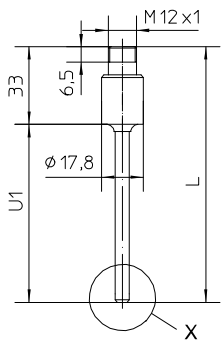
M12x1,5 dead-zone free  
(conical taper of metal)



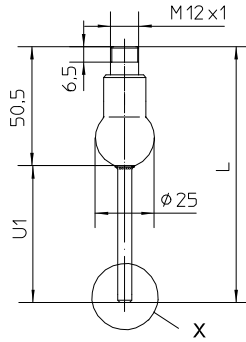
G1/2B dead-zone free  
(conical taper of metal)



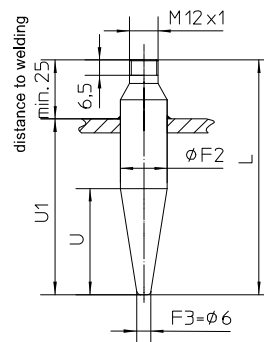
G1A dead-zone free  
(conical taper of metal)



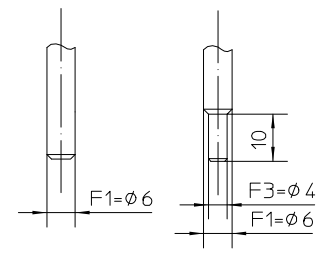
without screwing for  
sliding screwing see  
product group T6



weld-in ball  $\phi 25$



weld-in thermowell

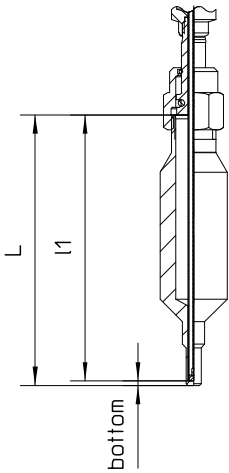


standard

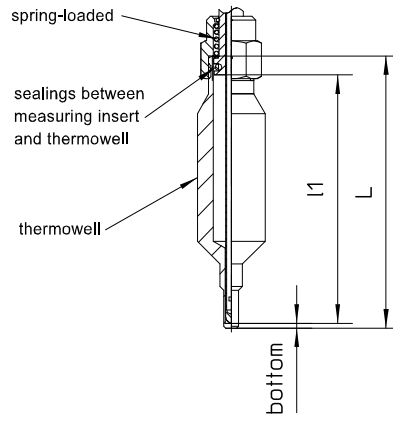
reduced tip

sensor design X

### Design with field housing



### Design with circular connector

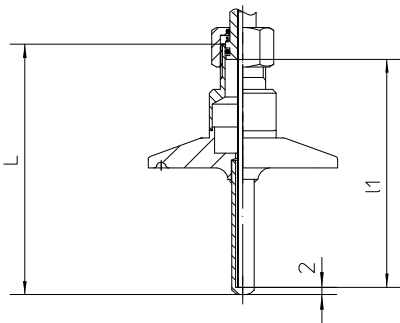


L = Total length thermowell  
 $l_1$  = Insertion length measuring insert

### Calculation of the insertion length of the measuring insert for:

Circular connector:  $l_1 = L - 8 \text{ mm}$   
 Field housing:  $l_1 = L \text{ mm}$   
 $l_5 = l_1 + 48 \text{ mm}$

### Mounting with resistance thermometer MiniTherm GA2730



L = Total length thermowell  
 $l_1$  = Insertion length measuring insert

## Order details

### Thermowells for resistance thermometer MiniTherm Type series HP1200

| Order details thermowells, HP1200 |                                  |  |  |                                    |  |                            |                |
|-----------------------------------|----------------------------------|--|--|------------------------------------|--|----------------------------|----------------|
| HP1200                            | Thermowells                      |  |  |                                    |  |                            |                |
|                                   | surface roughness                | standard   |  |                                    |  |                            |                |
| HY                                |                                  | per hygienic design  |  |                                    |  |                            |                |
| A25                               | Instrument connection            | M12 x 1, suitable for resistance thermometer MiniTherm, Type series GA2730 |  |                                    |  |                            |                |
| B3000                             | process connection               | without screwing   |  |                                    |  |                            |                |
| B1011                             |                                  | threaded connection  | G1/2 A per DIN 3852                                      |                                    |  |                            |                |
| B1041                             |                                  |  | G1/2 B conical, metal-to-metal joint                     |                                    |  |                            |                |
| B1043                             |                                  |  | G1 A conical, metal-to-metal joint                       |                                    |  |                            |                |
| B1051                             |                                  |  | M12 x 1.5, metal-to-metal joint                          |                                    |  |                            |                |
| B1213                             |                                  | union nut  | DN 25  |                                    |  |                            |                |
| B1214                             |                                  |  | DN 32  |                                    |  |                            |                |
|                                   |                                  | clamp connection   | <b>DIN 32676 model A (metric)</b>                        | <b>DIN 32676 model B (OD, ISO)</b> | <b>DIN 32676 model C (inch, Tri-Clamp)</b> | <b>DIN 2852</b>            | <b>Plate Ø</b> |
| B1410                             |                                  |  |  | DN 13.5 / 17.2                     | 1/2" / 3/4"                                |                            | 25 mm          |
| B1411                             |                                  |  | DN 10 / 15 / 20  |                                    |  | DN 12 / 12.7 / 17.2 / 21.3 | 34 mm          |
| B1412                             |                                  | DN 25 / 32 / 40  | DN 21.3 / 26.9 / 33.7 / 42.4                             | 1" / 1 1/2"                        | DN 25 / 33.7 / 38                          | 50.5 mm                    |                |
| B1710                             |                                  | Varivent   | D = 31, for Varivent case DN 10 and DN 15                |                                    |  |                            |                |
| B1711                             |                                  |  | D = 50, for Varivent case DN 25 and DN 1"                |                                    |  |                            |                |
| B1712                             |                                  |  | D = 68, for Varivent case DN 40...DN 125 and 1 1/2"...6" |                                    |  |                            |                |
| B1810                             | NEUMO BioControl                 | Gr. 25, h = 45 mm  |  |                                    |  |                            |                |
| B1811                             |                                  | Gr. 50, h = 53.5 mm  |  |                                    |  |                            |                |
| B2010                             | with weld-in ball                | diameter 25 mm   |  |                                    |  |                            |                |
| B2110                             | for welding                      | diameter 20 mm   |  |                                    |  |                            |                |
| E1...                             | thermowell diameter              | Ø 6 mm   |  |                                    |  |                            |                |
| E2...                             |                                  | Ø 6 mm; reduced design to Ø 4 mm <sup>1</sup>                              |  |                                    |  |                            |                |
| 015                               | insertion length U1 <sup>2</sup> | 15 mm  |  |                                    |  |                            |                |
| 025                               |                                  | 25 mm  |  |                                    |  |                            |                |
| 030                               |                                  | 30 mm  |  |                                    |  |                            |                |
| 035                               |                                  | 35 mm  |  |                                    |  |                            |                |
| 050                               |                                  | 50 mm  |  |                                    |  |                            |                |
| 100                               |                                  | 100 mm   |  |                                    |  |                            |                |
| 150                               |                                  | 150 mm   |  |                                    |  |                            |                |
| 200                               |                                  | 200 mm   |  |                                    |  |                            |                |
| 250                               |                                  | 250 mm   |  |                                    |  |                            |                |
| 999                               |                                  | as per customer's specification up to 250 mm                               |  |                                    |  |                            |                |
| G11                               | material                         | stainless steel mat.-no. 1.4404 (316L)                                     |  |                                    |  |                            |                |

| Additional features (to be indicated in case of need, only) |   |
|---|---|
| W1020   | material certificate per EN 10204-3.1, wetted parts |
| W1223   | certification of surface roughness                  |
| W4035   | electropolishing of wetted parts                    |
| Z12   | base filled with heat sink compound                 |

Order code (example): HP1200 – B1410 – E1050 - G11

<sup>1</sup> up to insertion length of 100 mm

<sup>2</sup> insertion length > 250 mm upon request