

## Bourdon tube pressure gauge per EN 837-1 S3

with high overload limit

Type series BA 4550/4560



### Application area

- Plant and mechanical engineering
- Chemical and petrochemical industry
- Water / wastewater
- Shipping

### Features

- High quality safety case NS 100 per EN 837-1-S3
- Nominal ranges -1...0 to 0...40 bar
- Case and measuring element of stainless steel
- Degree of protection IP 65
- Accuracy class 1.0 as per EN 837-1
- Overload limit: up to 4 times

### Options

- Approvals / Certificates
  - Explosion protection (ATEX/UKEX) for mechanical devices
  - Material certificate per EN 10204-3.1
  - Calibration certificate per EN 10204-3.1
- As per UKCA regulations
- Mounting: front flange for flush mounting
- Extended temperature range
- Connection to Zone 0 by using the flame arrester MF21xx, see data sheet DB\_D6-025
- Case with liquid filling and degree of protection IP 66

### Application

Pressure gauge for universal use in areas with extended requirements as for example in the chemical, petrochemical and foodstuff industry for measuring gaseous, liquid and aggressive media. The overload limit of the device is 4 times the measuring range. The safety case offers increased operator protection.

## Technical data

### Constructional design / case

|                                    |                                                                                                                                                                                                            |                |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Design:                            | High quality safety case with blow-out back and solid baffle wall per EN 837-1 S3, material: stainless steel mat.-no. 1.4301 (304), pressure compensation diaphragm: silicone, filling plug, material: PUR |                |
| Nominal size:                      | NS 100                                                                                                                                                                                                     |                |
| Degree of protection per EN 60529: | <ul style="list-style-type: none"> <li>■ Without case filling: IP 65</li> <li>■ With case filling: IP 66</li> </ul>                                                                                        |                |
| Case filling:                      | Option:<br>Glycerine-water<br>Further liquid fillings upon request.                                                                                                                                        |                |
| Pressure compensation:             | To atmosphere via internal pressure compensation diaphragm                                                                                                                                                 |                |
| Case seal:                         | Material gasket: NBR                                                                                                                                                                                       |                |
| Window:                            | Non-splintering laminated glass.<br>Option: Non-splintering plastic (Polycarbonate)                                                                                                                        |                |
| Measuring element:                 | Bourdon tube<br>– c-type                                                                                                                                                                                   |                |
| Movement:                          | Stainless steel segment<br>Option: movement with integrated damping system                                                                                                                                 |                |
| Scale:                             | Pure aluminium, white with black inscription<br>Option: with red marking, special scale upon request                                                                                                       |                |
| Pointer:                           | Pure aluminium, black with micro adjustment for zero point correction                                                                                                                                      |                |
| Mounting:                          | Stand-alone, upon request for flush mounting with DIN mounting flange                                                                                                                                      |                |
| Weights:                           | without filling                                                                                                                                                                                            | approx. 0.7 kg |
|                                    | with filling                                                                                                                                                                                               | approx. 1.0 kg |

### Process connection

|         |                                                                                                           |
|---------|-----------------------------------------------------------------------------------------------------------|
| Design: | Per EN 837-1, G1/2 B, 1/2" NPT or M20 x 1.5; bottom connection. Further process connections upon request. |
|---------|-----------------------------------------------------------------------------------------------------------|

### Material wetted parts

|                    |                                                                                 |
|--------------------|---------------------------------------------------------------------------------|
| Measuring element: | Bourdon tube and shanks stainless steel mat.-no. 1.4571 / 1.4404 (316Ti / 316L) |
|--------------------|---------------------------------------------------------------------------------|

### Nominal range

See order details, further information upon request

For information on definitions of terms regarding the Pressure Equipment Directive, see Technical Instruction TA\_068.

### Accuracy

|                        |                                                       |
|------------------------|-------------------------------------------------------|
| Accuracy class:        | 1.0 per EN 837-1, referring to measuring range        |
| Temperature influence: | Max. $\pm 0.4\%$ / 10K of measuring span per EN 837-1 |

### Temperature ranges

|                     | without filling | with filling |
|---------------------|-----------------|--------------|
| Ambient:            | -20...70 °C     | -20...60 °C  |
| Media: <sup>1</sup> | -40...200 °C    | -40...200 °C |
| Storage:            | -20...70 °C     | -20...60 °C  |

Extended temperature range (optional):

|                     | without filling | with filling |
|---------------------|-----------------|--------------|
| Ambient:            | -40...100 °C    | -40...60 °C  |
| Media: <sup>1</sup> | -40...200 °C    | -40...200 °C |

<sup>1</sup> Nominal range  $\leq 1$  bar up to 100 °C

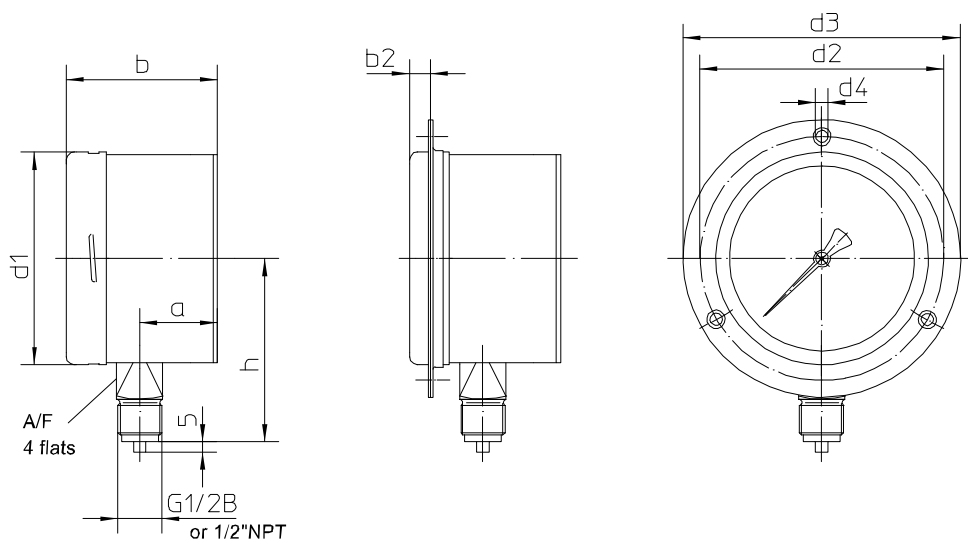
### Tests and certificates

|                       |                                                  |
|-----------------------|--------------------------------------------------|
| Explosion protection: | Ex-protection (ATEX/UKEX) for mechanical devices |
|                       | Ex II 2G Ex h IIC T1...T6 Gb X                   |
|                       | Ex II 2D Ex h IIIC Txx°C Db X                    |

Further details see Ex Instructions XA\_005.

Information on other models see order details or upon request.

## Dimensions



Standard design

for flush mounting

flush mounting view

Mounting instruction: Ensure full space requirement for operation with rear blow-out device of case!

| dimensions (mm) |     |    |    |    |    |     |     |     |     |
|-----------------|-----|----|----|----|----|-----|-----|-----|-----|
| case            | d1  | a  | b  | b2 | h  | d2  | d3  | d4  | A/F |
| NS 100          | 100 | 37 | 72 | 10 | 87 | 116 | 132 | 4,8 | 22  |

## Order details

| Bourdon tube pressure gauge per EN 8371-1 S3 with high overload limit, Type series BA4550, BA4560 |                     |                      |                                                    |
|---------------------------------------------------------------------------------------------------|---------------------|----------------------|----------------------------------------------------|
| BA4550                                                                                            | safety case         | NG 100               | process connection bottom                          |
| BA4560                                                                                            |                     |                      | IP 66 process connection bottom, with case filling |
| A2...                                                                                             | process connection  | G1/2 B               |                                                    |
| B2...                                                                                             |                     | 1/2" NPT             |                                                    |
| C2...                                                                                             |                     | M20 x 1,5            |                                                    |
|                                                                                                   | nominal range [bar] | measuring range      | overload limit <sup>1</sup>                        |
| 086                                                                                               |                     | -1...0 <sup>2</sup>  | 3                                                  |
| 052                                                                                               |                     | 0...0,6 <sup>2</sup> | 2,5                                                |
| 053                                                                                               |                     | 0...1                | 4                                                  |
| 054                                                                                               |                     | 0...1,6              | 6                                                  |
| 055                                                                                               |                     | 0...2,5              | 10                                                 |
| 056                                                                                               |                     | 0...4                | 16                                                 |
| 057                                                                                               |                     | 0...6                | 25                                                 |
| 058                                                                                               |                     | 0...10               | 40                                                 |
| 059                                                                                               |                     | 0...16               | 60                                                 |
| 060                                                                                               |                     | 0...25               | 80                                                 |
| 061                                                                                               |                     | 0...40               | 100                                                |

| Additional features (to be indicated if required) |                                                              |                                                                                                              |
|---------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| S30                                               | Ex-protection (ATEX/UKEX) for mechanical device <sup>2</sup> | <div> <div>Ex</div> II 2G Ex h IIC T1...T6 Gb X </div> <div> <div>Ex</div> II 2D Ex h IIIC Txx°C Db X </div> |
| R2                                                | window                                                       | non-splintering glass with maximum pointer                                                                   |
| R3                                                |                                                              | non-splintering glass with adjustable reference pointer <sup>3</sup>                                         |
| R12                                               |                                                              | Polycarbonate with maximum pointer <sup>4</sup>                                                              |
| R13                                               |                                                              | Polycarbonate with adjustable reference pointer <sup>4</sup>                                                 |
| T2                                                | marking                                                      | on scale (please specify)                                                                                    |
| T3                                                |                                                              | fixed reference pointer (please specify)                                                                     |
| U2                                                | restrictor screw                                             | restrictor screw 0.3 mm                                                                                      |
| U3                                                |                                                              | restrictor screw 0.6 mm                                                                                      |
| U4                                                |                                                              | restrictor screw 1.0 mm                                                                                      |
| V3                                                | mounting                                                     | front flange for flush mounting                                                                              |
| W1020                                             | material certificate                                         | per EN 10204-3.1, wetted parts                                                                               |
| W1204                                             | calibration certificate                                      | per EN 10204-3.1, 3 measuring points                                                                         |
| W1201                                             |                                                              | per EN 10204-3.1, 5 measuring points                                                                         |
| W2660                                             | as per UKCA regulations                                      |                                                                                                              |

Order code (example): **BA4550 – A2053** - ...

<sup>1</sup> Maximum scale value

<sup>2</sup> For devices with non-splintering glass only.

<sup>3</sup> Without accuracy class.

<sup>4</sup> Not for devices with Ex-protection.