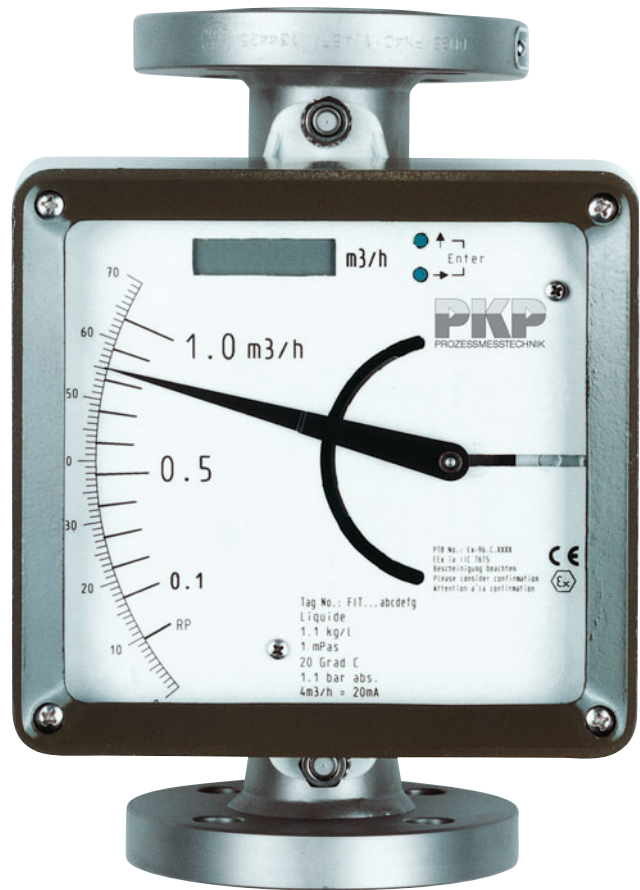


# DS25

## Variable Area Flowmeter With Flange Connection, Insensitive To Viscosity Changes

- for liquids and gases
- operating pressure PN40 and PN100 bar standard, higher pressures up to 320 bar on request
- operating temperatures up to 370 °C
- individual calibration for all operating conditions
- local indication, min. - max. alarms, analogue output
- measuring tube completely stainless steel 1,4404
- PTFE coating for wetted parts optionally



### Description:

The flow meters model DS25 work according to the proven variable area principle. The float is guided in a conical measuring tube and is nearly independent of the viscosity of the medium. The flowing medium moves the float in the flow direction. An externally mounted pointer indicator is magnetically coupled to the float and thus, following the float position, indicates the flow rate on a scale. This indicator assembly is equipped with a scale calibrated to the operating conditions in the system and additionally may contain alarm contacts or an analog output.


### Application:


The variable area flowmeter model DS25 is used for measuring and monitoring the flow of all kinds of liquids and gases. By using only stainless steel 1,4571 for the wetted parts the meter is especially suited for aggressive media or for use in food and drink applications (with Tri-Clamp or other hygienic process connections)

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## Meter selection procedure:

1. Define materials of wetted parts
2. Select process connection (table 2)
3. Select measuring range
4. Select indicator and output signals
5. Select options

## 1. Material version (wetted parts):

The flow meters model DS25 may be supplied either completely in stainless steel 1.4571 (DS25.1) or with PTFE-coating (DS25.2)

Other materials like Monel, Hastelloy or Tantal on request (DS25.9)

## 2. process connection:

| Nom. bore (NB)      | process connection                          | Meas. tube No. | Conn. Code No. | Length L (mm) |
|---------------------|---|----------------|----------------|---------------|
| <b>15</b><br>(1/2") | Flanges DN15 PN40                           | 1              | 101            | 250           |
|                     | Flanges ANSI 1/2" 150 lbs.                  | 1              | 102            | 250           |
|                     | Flanges ANSI 1/2" 300 lbs.                  | 1              | 103            | 250           |
|                     | G 1/2 IG                                    | 1              | 104            | 295           |
|                     | 1/2" NPT IG                                 | 1              | 105            | 295           |
|                     | Flanges DN15 PN40                           | 2              | 206            | 250           |
|                     | Flanges ANSI 1/2" 150 lbs.                  | 2              | 207            | 250           |
|                     | Flanges ANSI 1/2" 300 lbs.                  | 2              | 208            | 250           |
| <b>20</b><br>(3/4") | Flanges DN20 PN40                           | 1              | 111            | 250           |
|                     | Flanges ANSI 3/4" 150 lbs.                  | 1              | 112            | 250           |
|                     | Flanges ANSI 3/4" 300 lbs.                  | 1              | 113            | 250           |
|                     | Flanges DN20 PN40                           | 2              | 216            | 250           |
|                     | Flanges ANSI 3/4", 150 lbs.                 | 2              | 217            | 250           |
|                     | Flanges ANSI 3/4", 300 lbs.                 | 2              | 218            | 250           |
|                     | G 3/4 IG                                    | 2              | 219            | 250           |
|                     | 3/4" NPT IG                                 | 2              | 220            | 250           |
| <b>25</b><br>(1")   | Flanges DN25 PN40                           | 1              | 121            | 250           |
|                     | Flanges ANSI 1" 150 lbs.                    | 1              | 122            | 250           |
|                     | Flanges ANSI 1" 300 lbs.                    | 1              | 123            | 250           |
|                     | threaded conn. DN25 PN40 (IG) to DIN 11851  | 1              | 126            | 275           |
|                     | Tri-Clamp DN25 / 1"                         | 1              | 127            | 250           |
|                     | Flanges DN25 PN40                           | 2              | 228            | 250           |
|                     | Flanges ANSI 1" 150 lbs.                    | 2              | 229            | 250           |
|                     | Flanges ANSI 1" 300 lbs.                    | 2              | 230            | 250           |
|                     | threaded conn. DN25 PN40 (IG) to DIN 11851* | 2              | 233            | 275           |
|                     | Tri-Clamp DN25 / 1"                         | 2              | 234            | 250           |
|                     | Flanges DN25 PN40                           | 3              | 335            | 250           |
|                     | Flanges ANSI 1", 150 lbs.                   | 3              | 336            | 250           |
|                     | Flanges ANSI 1", 300 lbs.                   | 3              | 337            | 250           |
|                     | G 1 IG                                      | 2              | 338            | 250           |
|                     | 1" NPT IG                                   | 2              | 339            | 250           |

| Nom. bore (NB)           | process connection                          | Meas. tube No. | Conn. Code No. | Length L (mm) |
|--------------------------|---|----------------|----------------|---------------|
| <b>32</b><br>(1 1/4")    | Flanges DN32 PN40                           | 1              | 140            | 250           |
|                          | Tri-Clamp DN32                              | 1              | 141            | 250           |
|                          | Flanges DN32 PN40                           | 2              | 242            | 250           |
|                          | Flanges ANSI 1 1/4" 150 lbs.                | 2              | 243            | 250           |
|                          | Flanges ANSI 1 1/4" 300 lbs.                | 2              | 244            | 250           |
|                          | Tri-Clamp DN32                              | 2              | 245            | 250           |
|                          | Flanges DN32 PN40                           | 3              | 346            | 250           |
|                          | Flanges ANSI 1 1/4", 150 lbs.               | 3              | 347            | 250           |
|                          | Flanges ANSI 1 1/4", 300 lbs.               | 3              | 348            | 250           |
|                          | G 1 1/4 IG                                  | 3              | 349            | 250           |
| 1 1/4" NPT IG            | 3   | 350            | 250            |               |
| <b>40</b><br>(1 1/2")    | Tri-Clamp DN40 / 1 1/2"                     | 1              | 151            | 250           |
|                          | Tri-Clamp DN40 / 1 1/2"                     | 2              | 252            | 250           |
|                          | Flanges DN40 PN40                           | 3              | 353            | 250           |
|                          | Flanges ANSI 1 1/2", 150 lbs.               | 3              | 354            | 250           |
|                          | Flanges ANSI 1 1/2" 300 lbs.                | 3              | 355            | 250           |
|                          | G 1 1/2 IG                                  | 3              | 364            | 250           |
|                          | 1 1/2" NPT IG                               | 3              | 365            | 250           |
| <b>50</b><br>(2")        | Flanges DN50 PN40                           | 3              | 356            | 250           |
|                          | Flanges ANSI 2" 150 lbs.                    | 3              | 357            | 250           |
|                          | Flanges ANSI 2" 300 lbs.                    | 3              | 358            | 250           |
|                          | Gewindestutzen DN50 PN25 (IG) to DIN 11851  | 3              | 359            | 275           |
|                          | Tri-Clamp DN50 / 2"                         | 3              | 360            | 250           |
|                          | Flanges DN50 PN40                           | 4              | 461            | 250           |
|                          | Flanges ANSI 2" 150 lbs.                    | 4              | 462            | 250           |
| Flanges ANSI 2" 300 lbs. | 4   | 463            | 250            |               |
| <b>65</b><br>(2 1/2")    | threaded conn. DN65 PN25 (IG) to DIN 11851  | 4              | 466            | 275           |
|                          | G 2 1/2 IG                                  | 4              | 467            | 250           |
|                          | 2 1/2" NPT IG                               | 4              | 468            | 250           |
| <b>80</b>                | threaded conn. DN80 PN25 (IG) to DIN 11851  | 4              | 469            | 275           |
|                          | Tri-Clamp DN80 / 3"                         | 4              | 470            | 300           |
|                          | Flanges DN80 PN40                           | 5              | 571            | 250           |
|                          | Flanges ANSI 3", 150 lbs.                   | 5              | 572            | 250           |
|                          | Flanges ANSI 3", 300 lbs.                   | 5              | 573            | 260           |
| <b>100</b><br>(4")       | threaded conn. DN100 PN25 (IG) to DIN 11851 | 5              | 574            | 300           |
|                          | Tri-Clamp DN100 / 4"                        | 5              | 575            | 250           |
|                          | Flanges DN100 PN16                          | 6              | 676            | 250           |
|                          | Flanges DN100 PN40                          | 6              | 677            | 250           |
|                          | Flanges ANSI 4", 150 lbs.                   | 6              | 678            | 250           |

### 3. Measuring ranges:

Reference conditions: Water, 20°C  
Air, 20 °C, 1,013 bar abs.

#### a) DS25.1 - stainless steel version

| Meas. tube No. | Range code | Water / Liquids           |                |           |                      |                       | Air / Gases                |                |           |                    |
|----------------|------------|---------------------------|----------------|-----------|----------------------|-----------------------|----------------------------|----------------|-----------|--------------------|
|                |            | Range (m <sup>3</sup> /h) | Meas.-cone No. | Float No. | pressure loss (mbar) | max. viscosity (mPas) | Range (Nm <sup>3</sup> /h) | Meas.-cone No. | Float No. | press. loss (mbar) |
| <b>1</b>       | 101        | <b>0.0025-0.026</b>       | 43             | S0        | 40                   | 2.9                   | <b>0.075-0.75</b>          | 43             | S0        | 45                 |
|                | 102        | <b>0.004-0.04</b>         | 44             | S0        | 40                   | 4.5                   | <b>0.12-1.2</b>            | 44             | S0        | 45                 |
|                | 103        | <b>0.0063-0.063</b>       | 47             | S0        | 40                   | 6.4                   | <b>0.18-1.8</b>            | 47             | S0        | 45                 |
|                | 104        | <b>0.01-0.1</b>           | 51             | S0        | 40                   | 9.2                   | <b>0.3-3</b>               | 51             | S0        | 45                 |
|                | 105        | 0.01-0.1                  | 53             | L1        | 6                    | 5.1                   | -                          | -              | -         | -                  |
| <b>2</b>       | 206        | 0.01-0.1                  | 53             | L1        | 6                    | 5.1                   | <b>0.55-5.5</b>            | 53             | M1        | 20                 |
|                | 207        | <b>0.016-0.16</b>         | 53             | M1        | 15                   | 8.2                   | <b>0.4-4</b>               | 53             | L1        | 11                 |
|                | 208        | 0.016-0.16                | 54             | L1        | 6                    | 7.1                   | <b>0.65-6.5</b>            | 54             | L1        | 11                 |
|                | 209        | <b>0.025-0.25</b>         | 53             | S1        | 40                   | 13                    | 0.75-7.5                   | 53             | S1        | 45                 |
|                | 210        | 0.025-0.25                | 57             | L1        | 6                    | 8.8                   | <b>1-10</b>                | 57             | L1        | 11                 |
|                | 211        | <b>0.04-0.4</b>           | 54             | S1        | 40                   | 18                    | 1.3-13                     | 54             | S1        | 45                 |
|                | 212        | 0.04-0.4                  | 61             | L1        | 6                    | 10                    | <b>1.6-16</b>              | 61             | L1        | 11                 |
|                | 213        | <b>0.063-0.63</b>         | 57             | S1        | 40                   | 23                    | 2-20                       | 57             | S1        | 45                 |
|                | 214        | 0.063-0.63                | 61             | M1        | 15                   | 17                    | <b>2.5-25</b>              | 62             | L1        | 11                 |
|                | 215        | <b>0.1-1</b>              | 61             | S1        | 40                   | 27                    | 3-30                       | 61             | S1        | 45                 |
|                | 216        | 0.1-1                     | 62             | M1        | 15                   | 19                    | <b>3.5-35</b>              | 62             | M1        | 20                 |
|                | 217        | <b>0.16-1.6</b>           | 62             | S1        | 40                   | 31                    | -                          | -              | -         | -                  |
|                | 218        | <b>0.23-2.3</b>           | 62             | V1        | 45                   | -                     | -                          | -              | -         | -                  |
|                | <b>3</b>   | 319                       | 0.1-1          | 63        | L2                   | 7                     | 17                         | <b>4-40</b>    | 63        | L2                 |
| 320            |            | 0.16-1.6                  | 64             | L2        | 7                    | 20                    | 5-50                       | 63             | M2        | 22                 |
| 321            |            | <b>0.25-2.5</b>           | 63             | S2        | 41                   | 44                    | <b>7-70</b>                | 64             | L2        | 12                 |
| 322            |            | 0.25-2.5                  | 64             | M2        | 16                   | 16                    | <b>9-90</b>                | 64             | M2        | 22                 |
| 323            |            | <b>0.4-4</b>              | 64             | S2        | 41                   | 50                    | <b>13-130</b>              | 64             | S2        | 47                 |
| 324            |            | <b>0.6-6</b>              | 64             | V2        | 43                   | -                     | -                          | -              | -         | -                  |
| <b>4</b>       | 425        | 0.25-2.5                  | 67             | L5        | 8                    | 29                    | <b>10-100</b>              | 67             | L5        | 14                 |
|                | 426        | 0.4-4                     | 71             | L5        | 8                    | 33                    | 13-130                     | 67             | M5        | 25                 |
|                | 427        | <b>0.63-6.3</b>           | 67             | S5        | 47                   | 72                    | <b>16-160</b>              | 71             | L5        | 14                 |
|                | 428        | 0.63-6.3                  | 72             | L5        | 8                    | 37                    | <b>20-200</b>              | 71             | M5        | 25                 |
|                | 429        | <b>1-10</b>               | 71             | S5        | 47                   | 82                    | 20-200                     | 67             | S5        | 54                 |
|                | 430        | 1-10                      | 72             | M5        | 19                   | 58                    | <b>28-280</b>              | 72             | L5        | 14                 |
|                | 431        | 1.6-16                    | 72             | S5        | 47                   | 92                    | 36-360                     | 72             | M5        | 25                 |
|                | 432        | <b>2.3-23</b>             | 72             | V5        | 63                   | -                     | 50-500                     | 72             | S5        | 54                 |
| <b>5</b>       | 533        | <b>2.5-25</b>             | 73             | V8        | 60                   | -                     | <b>50-500</b>              | 73             | L8        | 30                 |
|                | 534        | <b>4-40</b>               | 74             | V8        | 60                   | -                     | 75-750                     | 73             | V8        | 65                 |
|                | 535        | <b>6-60</b>               | 77             | V8        | 60                   | -                     | <b>85-850</b>              | 74             | L8        | 30                 |
|                | 536        | -                         | -              | -         | -                    | -                     | 120-1200                   | 74             | V8        | 65                 |
|                | 537        | -                         | -              | -         | -                    | -                     | 180-1800                   | 77             | V8        | 65                 |
| <b>6</b>       | 638        | <b>10-100</b>             | 81             | 11        | 70                   | -                     | -                          | -              | -         | -                  |
|                | 639        | <b>15-130</b>             | 81             | 12        | -                    | -                     | -                          | -              | -         | -                  |

Whenever possible select highlighted ranges



**b) DS25.2 – wetted parts PTFE coated**

| Meas. tube No. | Range code | Water / Liquids |                |           |                      | Air / Gases   |                |           |                    |
|----------------|------------|-----------------|----------------|-----------|----------------------|---------------|----------------|-----------|--------------------|
|                |            | Range (m³/h)    | Meas.-cone No. | Float No. | pressure loss (mbar) | Range (Nm³/h) | Meas.-cone No. | Float No. | press. loss (mbar) |
| 2              | 250        | 0.01 - 0.1      | 51             | A1        | 16                   | 0.35 - 3.5    | 51             | A1        | 20                 |
|                | 251        | 0.016 - 0.16    | 52             | A1        | 16                   | 0.5 - 5       | 52             | A1        | 20                 |
|                | 252        | 0.025 - 0.25    | 53             | A1        | 16                   | 0.85 - 8.5    | 53             | A1        | 20                 |
|                | 253        | 0.04 - 0.4      | 54             | A1        | 16                   | 1.3 - 13      | 54             | A1        | 20                 |
|                | 254        | 0.063 - 0.63    | 57             | A1        | 16                   | 2 - 20        | 57             | A1        | 20                 |
|                | 255        | 0.1 - 1         | 61             | V1        | 18                   | 3.4 - 34      | 61             | V1        | 22                 |
| 3              | 356        | 0.16 - 1.6      | 62             | A2        | 20                   | 5 - 50        | 62             | A2        | 25                 |
|                | 357        | 0.25 - 2.5      | 63             | A2        | 20                   | 8.5 - 85      | 63             | A2        | 25                 |
|                | 358        | 0.4 - 4         | 63             | V2        | 22                   | -             | -              | -         | -                  |
| 4              | 459        | 0.4 - 4         | 64             | A5        | 20                   | 13 - 130      | 64             | A5        | 25                 |
|                | 460        | 0.63 - 6.3      | 67             | A5        | 20                   | 20 - 200      | 67             | A5        | 25                 |
|                | 461        | 1 - 10          | 71             | A5        | 20                   | 35 - 350      | 71             | A5        | 25                 |
|                | 462        | 1.6 - 16        | 71             | V5        | 22                   | -             | -              | -         | -                  |
| 5              | 563        | 1.6 - 16        | 72             | V8        | 25                   | 50 - 500      | 72             | 27        | 12                 |
|                | 564        | 2.5 - 25        | 73             | V8        | 25                   | 85 - 850      | 73             | 27        | 22                 |
|                | 565        | 4 - 40          | 74             | V8        | 25                   | -             | -              | -         | -                  |
| 6              | 666        | 6.3 - 63        | 77             | 10        | 30                   | -             | -              | -         | -                  |

**Technical specifications (measuring tube):**

**measurable media:** liquids and gases

**ranges:** see tables 3a and 3b

**turndown ratio:** 10 : 1

**accuracy:**  
 DS25.1: 1.6% f.s.  
 DS25.2: 2.5% f.s.

**process connection:** see Table 2

**max. pressure:** see Table 2

**media temperature:**  
 DS25.1: -180°C...370°C  
 DS25.2: -80°C... 130°C  
 (the actual operating temperature also depends on the max. permissible temperatures for the indicator and the options utilized in the unit)

**materials:**  
 DS25.1: all wetted parts stainless steel (AISI 316 L)  
 DS25.2: all wetted parts stainless steel AISI 316 L with PTFE coating

**mounting:** vertical

**flow direction:** from bottom to top

**mounting length:** see table "process connection"

**straight pipe runs:**  
 DN 15-65 none  
 DN 80-100 min. 5D

**electrical protection:** IP 65

## 4. Indicator:

The indicator part of the DS25 consists of an aluminium or polyamide housing with a pointer assembly magnetically coupled to the float. The scale may be calibrated in flow units or in percent. Additionally, transducers and alarm contacts may be mounted in the indicator housing.

### 4a. Housing versions

| Material: | Code No. |
|-----------|----------|
| Polyamid  | 1        |
| Aluminium | 2        |

### 4b. Alarm contacts

| Contact version:          | Code No. |
|---------------------------|----------|
| without                   | 0        |
| 1 min contact             | 1        |
| 1 max contact             | 2        |
| 1 min. and 1 max. contact | 3        |
| 2 max. contacts           | 5        |

### 4c. Analog output signals

| Typ:                       | Code No. |
|----------------------------|----------|
| without                    | 0        |
| electrical transducer      | 1        |
| electrical transducer (Ex) | 2        |
| pneumatic transducer       | 3        |

### 4d. Supply voltage and output signals

| Typ:                       | Code No. |
|----------------------------|----------|
| without                    | 00       |
| 115 VAC, 0...20 mA, 4-wire | 01       |
| 115 VAC, 4...20 mA, 4-wire | 02       |
| 230 VAC, 0...20 mA, 4-wire | 03       |
| 230 VAC, 4...20 mA, 4-wire | 04       |
| 24 VDC, 0...20 mA, 3-wire  | 07       |
| 24 VDC, 4...20 mA, 2-wire  | 08       |
| 24 VDC, 4...20 mA, 3-wire  | 09       |
| 24 VDC, 0...20 mA, 4-wire  | 10       |
| 24 VDC, 4...20 mA, 4-wire  | 11       |
| pneumatic 0,2...1,0 bar    | 12       |
| pneumatic 3...15 psi       | 13       |

## Technical specifications (indicator assembly):

### Mechanical indicator assembly

#### Umgebungstemperatur:

PA-housing (Code 1): -25°C ... 100°C

Al-housing (Code 2): -25°C ... 130°C

(for higher or lower operating temperatures use option "temperature isolation (DS25.A)" on next page)

### Alarm contacts

**model:** inductive proximity switch, SJ3,5-N acc. to DIN 19234 (NAMUR)

#### ambient temperature:

-25°C ... 100°C (for higher or lower operating temperatures use option "temperature isolation")

#### rated voltage:

8 VDC (Ri = 1 kOhm)

#### output signal:

≤1 mA = 0, ≥3 mA = 1

#### explosion protection:

EEx ia IIC T6, set II category 2G (on request)

#### dust explosion protection:

EEx iaD 20 T 108°C, set II category 1D

#### recommended accessories:

contact protection relay model SE01 (see "Options" on next page)

### Electronic transducer

**output signal:** 0...20 mA, 4-20 mA

**indication:** LCD display, 8 digits (programmable for indication of flow rate or as non-resettable totalizer)

**supply voltage:** see table 4d

**max. load:** 4-wire: ≥500 Ohm  
2/3-wire: (U-13.5 V)  
20 mA

**operating temperature:** 0°C...100°C

(for higher or lower operating temperatures use option "temperature isolation (DS25.A)" on next page)

**electrical connection:** M16 X 1,5 or 1/2" NPT

### Intrinsically safe electronic transducer

Technical specifications as standard unit, however:

**output signal:** 4...20 mA, 2-wire

**operating temperature:** -25°C...70°C

(for higher or lower operating temperatures use option "temperature isolation (DS25.A)" on next page)

#### Ex-protection:

EEx ia IIC T6, set II category 2G (on request)

#### dust explosion protection:

EEx II 3D; set II; category 3D, max;  
surface temperature: 80 °C

#### recommended accessories:

intrinsically safe power supply (see "Options" on next page)

### Intrinsically safe electronic transducer

on request

## 5. Options

### 5a. Temperature isolation (DS25.A)

For media temperatures outside the limits given in the technical specifications for the indicator assembly the measuring tube and the indicator assembly may be temperature isolated by mounting the indicator at a distance of 60 mm apart from the measuring tube. This ensures that the unit may be operated at media temperatures as high as stated in the specifications for the measuring tube.

### 5b. Damping (DS25.D):

A float damping is recommended for gas applications to prevent erratic up and down movement (only for DS25.1).

### 5c. Heating:

Heating assemblies (steam jackets) are used to keep the medium in the measuring tube at a required temperature. Steam jackets are available with three different process connections:

|                         |          |
|-------------------------|----------|
| Connection:             | Code:    |
| DIN flanges DN15 PN40   | DS25.H.1 |
| DIN flanges DN 25 PN 40 | DS25.H.2 |
| threaded conn. R 1/4"   | DS25.H.3 |

### 5d. Oxygene applications (DS25.F):

For use with oxygene the meters may be supplied oil- and greese-free.

### 5e. Certificates

on request

### 5f. Tags:

Stainless steel tags with customer specified text are optionally available

### 5g. Contact protection relays (model SKF): SKF...

#### material version:

according to DIN 19234

#### supply voltage

according data specification SKF

#### breaking capacity

max. 250 VAC, max. 2 A

#### control circuit

intrinsically safe ( EEx ia ) IIC:

### 5h. Power supply for intrinsically safe transducer

(model SE11):

#### Output signal:

0 / 4...20 mA, galvanically separated

#### Supply voltage:

SE11.1: 230 VAC  
SE11.2: 24 V AC/DC

#### max. load:

750 Ohm

#### control circuit:

intrinsically safe [EEx ia] IIC

## Ordering Code

Order no.: DS25. 1. 121. 1. 321. 1. 0. 104.

### Variable area flowmeter

#### Material version:

1 = stainless steel  
2 = wetted parts PTFE coated

#### Process connection:

101...678 = according to table 2  
999 = special connection

#### Medium:

1 = water / liquids  
2 = air / gases

#### Measuring range:

101...666 = according to table 3a or 3b  
999 = special range

#### Indicator housing:

1...2 = according to table 4a

#### Alarm contacts:

0...5 = according to table 4b

#### Analog output and supply voltage:

1<sup>st</sup> digit:

0...3 = analog output according to table 4c

2<sup>nd</sup> and 3<sup>rd</sup> digit:

00...13 = supply voltage and output signal according to table 4d

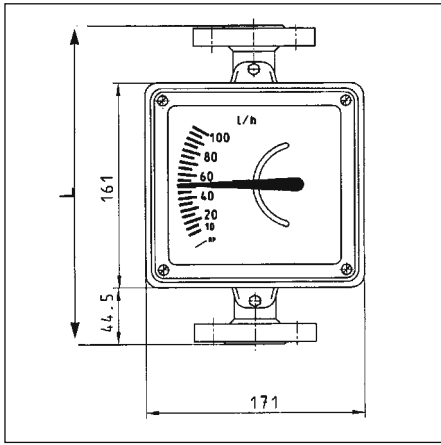
**Options:** please indicate in writing

### Ordering Information:

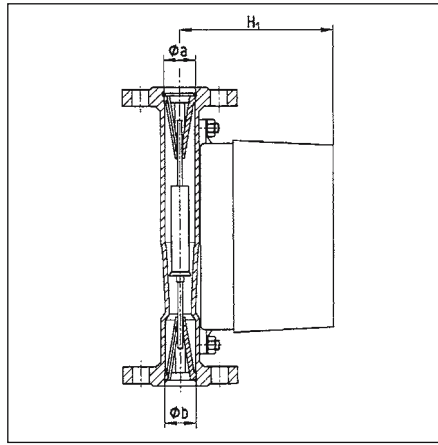
Important: for complete identification of the meter the following information must be specified:

- order no. according to table above
- name of medium
- temperature (operational, max.)
- pressure (operational, max.)
- viscosity (for liquids only)
- specific gravity of medium
- for gases only: reference conditions
- options: model no. ac. to tables 5a. to 5h.
- additional customer specific information

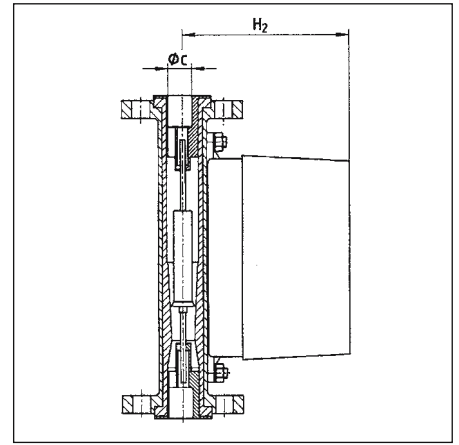
**Dimensions:**



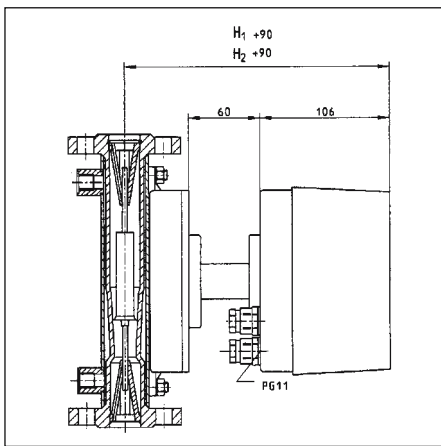
**Fig. 1: front view**



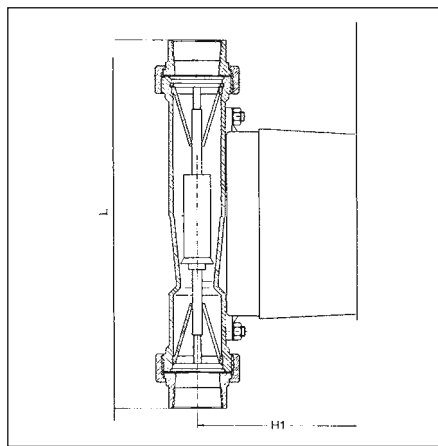
**Fig. 2: stainless steel measuring tube**



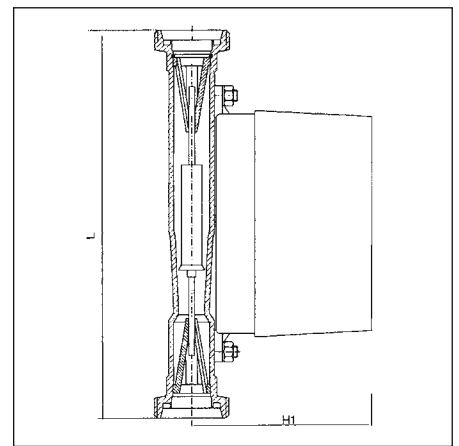
**Fig. 3: measuring tube PTFE coated**



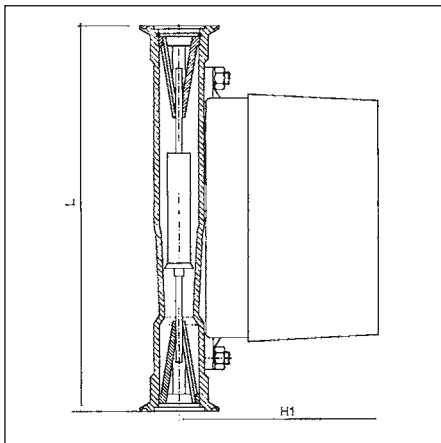
**Fig. 4: Option DS25.H... (steam jacket and DS25.A (temperature isolation)**



**Fig. 5: measuring tube with threaded connection (R or NPT)**



**Fig. 6: measuring tube with hygienic connection acc. to DIN 11851**

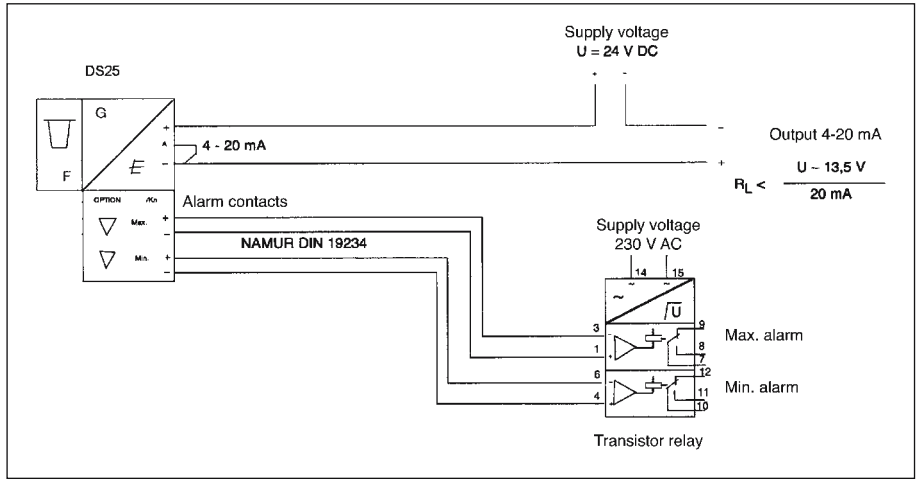


**Fig. 7: measuring tube with Tri-Clamp connection**

| Measuring tube No. | H1 (mm) | H2 (mm) | Weight (kg) |
|--------------------|---------|---------|-------------|
| 1                  | 122     | 122     | 5           |
| 2                  | 123     | 127     | 5           |
| 3                  | 131     | 136     | 6,5         |
| 4                  | 147     | 152     | 11          |
| 5                  | 161     | 168     | 16          |
| 6                  | 170     | 176     | 20          |

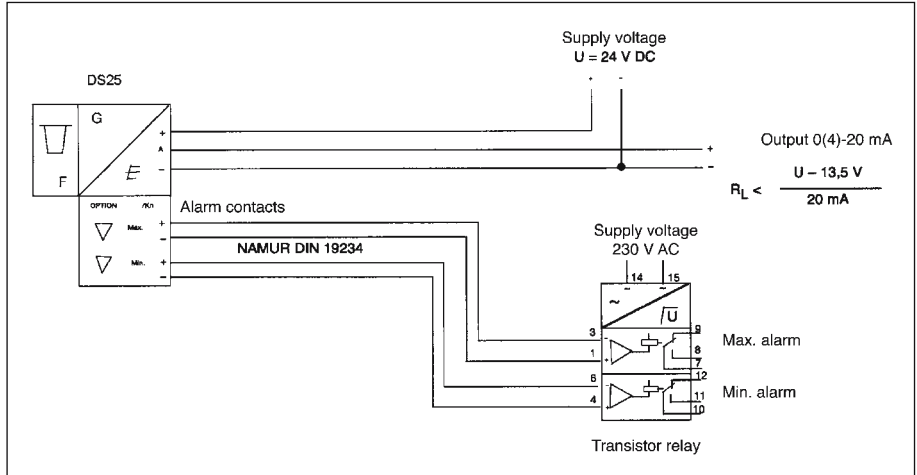
Dimension "L": see table 2 (process connections)

## Electrical connections:



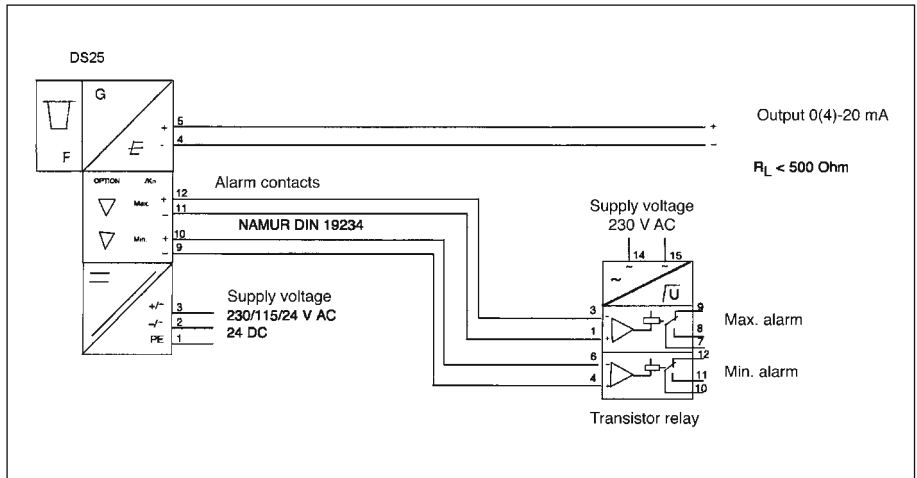
electronic transducer,  
2-wire

2 alarm contacts with  
contact protection relay



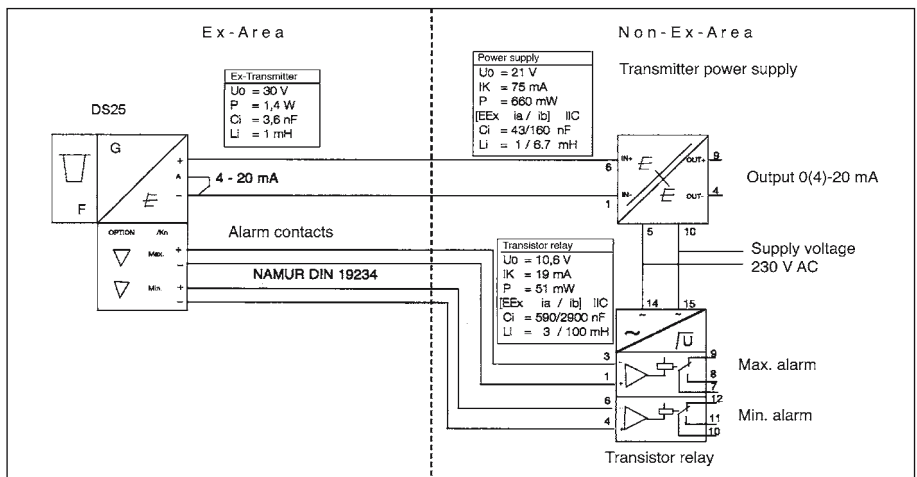
electronic transducer,  
3-wire

2 alarm contacts with  
contact protection relay



electronic transducer,  
4-wire

2 alarm contacts with  
contact protection relay



## EEx application:

electronic transducer [EEx],  
2-wire

2 alarm contacts with  
contact protection relay