



Design and applications

The measuring unit SGA is based on the variable area float principle. Wherever a robust and reliable device for the indication of momentary values and the monitoring of flows in pipelines is required in plant engineering, the SGA is the right choice as a reliable unit for the measurement of liquids and gases. This flow meter is available in a variety of grey cast iron versions for the application with various media and pressures.

The measuring range for H₂O is 0,012 - 0,12 m³/h to 12 - 120 m³/h, the measuring range for gas is 0,15 - 1,5 to 100 - 1000 m³/h air at STP.

Each unit is calibrated to meet the requirements of the respective customer and is fitted with a scale specific for the media to be measured.

Our technical documents provide a detailed explanation of the function and measuring principle of VA flow meters.

SGA



- **pressure resistant armature for vertical installation**
- **wide range of measurement**
- **designed for easy maintenance**
- **for flow measurement of liquids and gases, with NBR-lining for acids, alkaline solutions and aggressive gases**
- **wide range of available materials**
- **temperature resistant up to 150 °C**





SGA

Variable area flow meters

Technical data

| | |
|--|--|
| Max. working pressure | 10 bar |
| Temperature resistance of the armature | standard max. 150 °C rubberized max. 90 °C special design on request |
| max. ambient temperature | 90 °C |
| Measuring range | 1:10 |
| Accuracy class | VDE/VDI 3513 page 2 (08/2008) |
| Error limit (G) | 2,5 % |
| Linear limit (qG) | 50 % |
| Connection | Flange PN 10, 25, 40 acc. to DIN EN 1092-1, other on request |

Dimensions

| SGA | | | | | | | | |
|-----|-----|-----|----------------|----------------|-----|-----|------------------|--------------|
| DN | S | L | d ₂ | d ₄ | D | ØK | Number of screws | Weight in kg |
| 15 | 139 | 370 | M 12 | 52 | 95 | 65 | 4 | 14 |
| 25 | 169 | 370 | M 12 | 70 | 115 | 85 | 4 | 18 |
| 40 | 187 | 370 | M 16 | 92 | 150 | 110 | 4 | 19 |
| 40K | 159 | 370 | M 16 | 92 | 150 | 110 | 4 | 17 |
| 50 | 212 | 370 | M 16 | 105 | 165 | 125 | 4 | 25 |
| 50K | 168 | 370 | Ø 18 | 105 | 165 | 125 | 4 | 18 |
| 65 | 224 | 370 | M 16 | 128 | 185 | 145 | 4 | 21 |
| 80 | 229 | 370 | M 16 | 142 | 200 | 160 | 8 | 27 |
| 100 | 229 | 370 | Ø 18 | 165 | 220 | 180 | 8 | 30 |
| 125 | 260 | 480 | Ø 18 | 190 | 250 | 210 | 8 | 43 |
| 150 | 260 | 480 | Ø 22 | 215 | 285 | 240 | 8 | 46 |

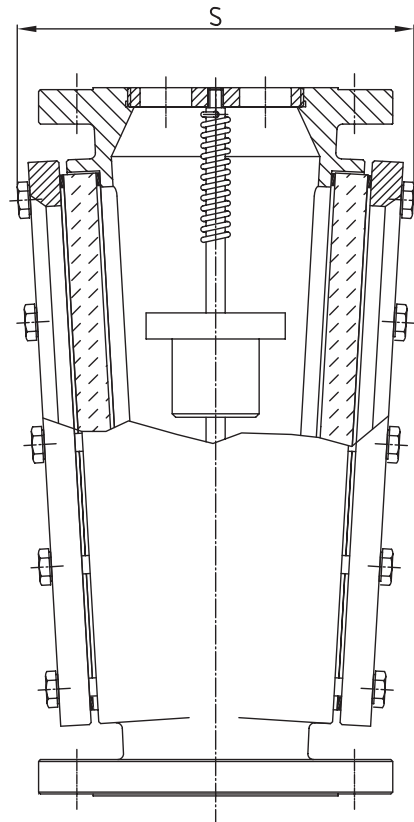
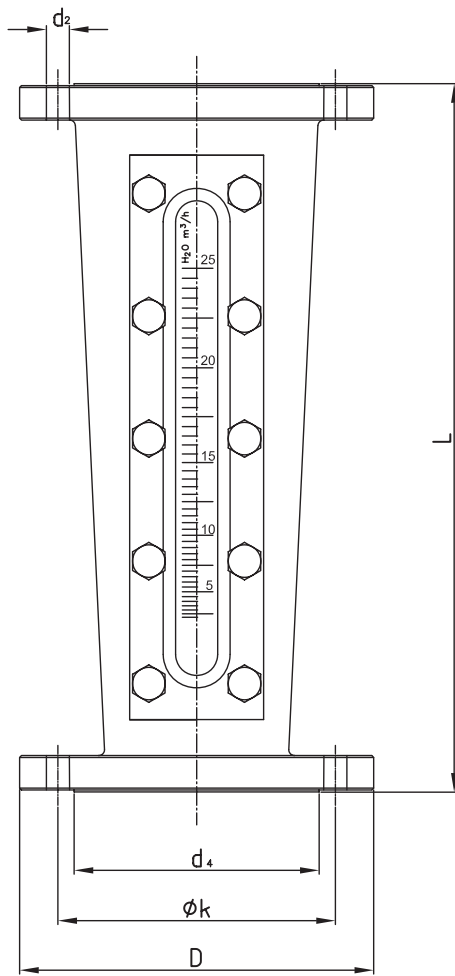
all dimensions in mm

Materials

| | |
|--|--|
| Armature | grey cast iron EN-GJL-200 |
| Corrosion protection of parts in contact with medium | epoxy paint, kiln-dried, traffic blue (RAL 5017), satin finished |
| Corrosion class | C2 |
| Measuring cone | Borosilicate glass acc. to DIN ISO 3585 |
| Sight glass | Borosilicate glass acc. to DIN ISO 7081 |
| Gaskets | Sil – C 4400, other on request |
| Float for liquids | 1.4571 |
| Float for gases | aluminium anodized |
| Guide rod | 1.4571 |
| Inserts | S355 |
| Special designs | corrosion protection off all parts in contact with medium |
| Armature | Grey cast iron with natural rubber (NR) lining |
| Seals | SIL – C 8200 |
| Float | 1.4571, PVC, PP, PVDF |
| Guide rod | 1.4571, PVC, PP, PVDF |
| Inserts | 1.4571, PVC, PP, PVDF |

other materials on request

SGA



Measuring range (min. and max.; all intermediate measuring ranges are possible)

| DN | measuring range H ₂ O | measuring range air i.N. ³⁾ | max. operating pressure ²⁾ in bar at 20 °C |
|------|--|---|--|
| 15 | 12 – 120 l/h 0,12 – 1,2 m³/h | 0,15 – 1,5 m³/h 1,6 – 16 m³/h | 10 |
| 25 | 0,1 – 1 m³/h 0,3 – 3 m³/h | 1,3 – 13 m³/h 3,6 – 36 m³/h | 10 |
| 40 | 0,1 – 1 m³/h 0,8 – 8 m³/h | 1,3 – 13 m³/h 8 – 80 m³/h | 10 |
| 40 K | 0,8 – 8 m³/h 1,5 – 15 m³/h | 8 – 80 m³/h 15 – 150 m³/h | 10 |
| 50 | 0,4 – 4 m³/h 1,6 – 16 m³/h | 3,5 – 35 m³/h 16 – 160 m³/h | 10 |
| 50 K | 0,8 – 6 m³/h 2 – 20 m³/h | 9 – 90 m³/h 30 – 300 m³/h | 10 |
| 65 | 2 – 20 m³/h 3 – 35 m³/h | 14 – 140 m³/h 40 – 400 m³/h | 10 |
| 80 | 2,5 – 20 m³/h 6 – 60 ¹⁾ m³/h | 15 – 150 m³/h 50 – 500 m³/h | 10 |
| 100 | 2,5 – 20 m³/h 6 – 60 ¹⁾ m³/h | 15 – 150 m³/h 60 – 600 m³/h | 10 |
| 125 | 8 – 80 m³/h 12 – 120 m³/h | 47 – 470 m³/h 100 – 1000 m³/h | 10 |
| 150 | 8 – 80 m³/h 12 – 120 m³/h | 47 – 470 m³/h 100 – 1000 m³/h | 10 |

measuring ranges for other substances and operating conditions on request

¹⁾ max. value only for floats made of 1.4571

²⁾ refers to grey cast iron EN-GJL-200

³⁾ at STP: at standard conditions (0 °C and 1013 mbar)



SGA

Variable area flow meters

Proper use

The user is responsible for assessing the suitability of the flow meters for his case of application, for use as prescribed and for material compatibility regarding the liquid product used in his process. The manufacturer shall not be liable for any damage arising from incorrect or improper use of the devices. Pressure surges can cause glass breakage and should therefore generally be avoided. The limit values given in the data sheet should be observed.

In all other respects we advise following the installation recommendations specified in Code VDI/VDE 3513, Sheet 3.

The equipment from **Kirchner und Tochter** has been tested in compliance with applicable CE-regulations of the European Community. The respective declaration of conformity is available on request. Subject to change without notice. The current valid version of our documents can be found at www.kt-flow.de.

The **Kirchner und Tochter** QM-System is certified in accordance with DIN EN ISO 9001:2008. The quality is systematically adapted to the continuously increasing demands.