



Design and application

The function of the SGM is based on the variable area float principle. In all cases where a dependable device is required for indicating instantaneous values and monitoring the flow in pipelines, the SGM is the obvious choice as a reliable device for measuring the flow of liquids and gases. Since the vertical position of the float is transmitted magnetically to a dial gauge, the SGM, as opposed to standard type variable area flow meters with a glass tube, is also suitable for measuring the flow of opaque media. Each device is individually calibrated to meet customer specifics and fitted with a medium specific scale.

For process control, the flow meter can be equipped with a limit value switch and/or measuring transmitter with electrical analog output.

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

SGM-PP / -PVC



- **all-plastic device body, indication via magnetic coupling**
- **high chemical resistance**
- **cost-effective alternative to devices with PTFE lining**
- **DN 25 to DN 100**
- **optionally**
 - **limit value switches**
 - **analog output 4 ... 20 mA**
 - **totalizer with LC-Display**





SGM-PP/ -PVC

Variable area flow meters

Type series

| Version | Description |
|-----------------|--|
| SGM-PP | polypropylene device body |
| SGM-PVC | polyvinyl chloride device body |
| SGM...-EM | with electrical signal output |
| SGM...-EMZ | with electrical signal output and totalizer |
| SGM...-IK1 | with one inductive switch (SC3,5-N0-Y) |
| SGM...-IK2 | with two inductive switches (SC3,5-N0-Y) |
| SGM...-IKS1 | with one electronic switch (SB3,5-E2) |
| SGM...-IKS2 | with two electronic switches (SB3,5-E2) |
| SGM...-IK1-EM | with one inductive switch and with electrical signal output |
| SGM...-IK1-EMZ | with one inductive switch and with electrical signal output and totalizer |
| SGM...-IK2-EM | with two inductive switches and with electrical signal output |
| SGM...-IK2-EMZ | with two inductive switches and with electrical signal output and totalizer |
| SGM...-IKS1-EM | with one electronic switch and with electrical signal output |
| SGM...-IKS1-EMZ | with one electronic switch and with electrical signal output and totalizer |
| SGM...-IKS2-EM | with two electronic switches and with electrical signal output |
| SGM...-IKS2-EMZ | with two electronic switches and with electrical signal output and totalizer |

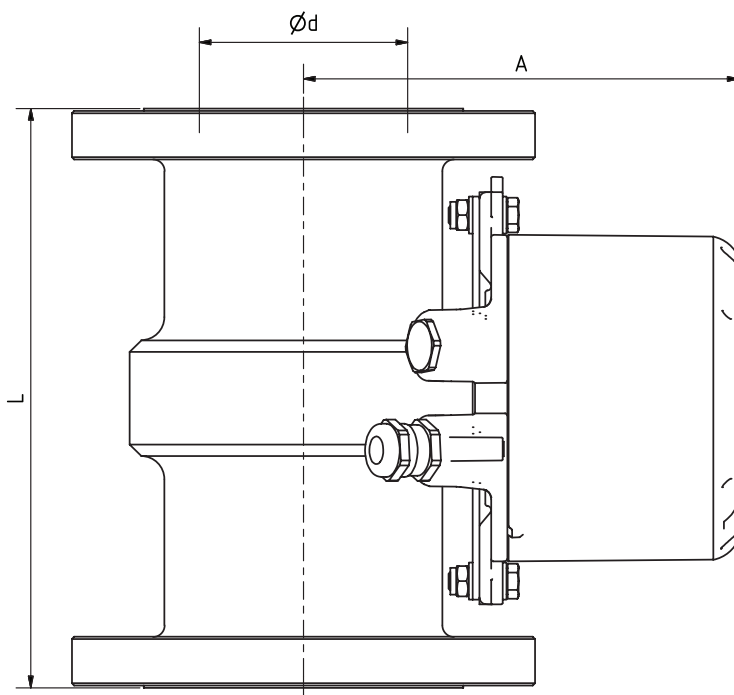
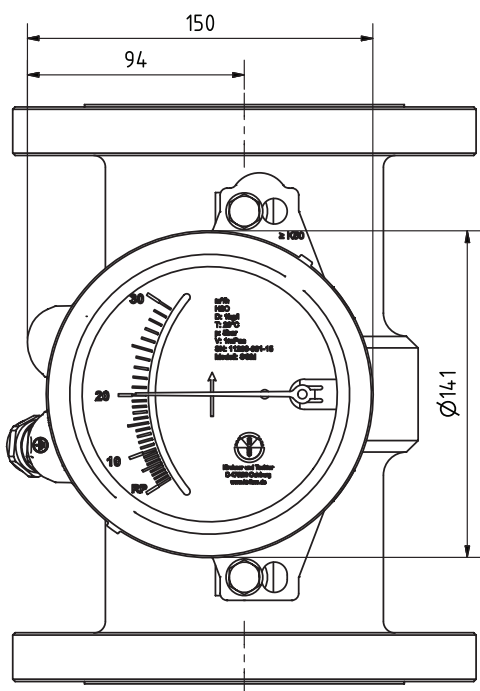
Technical data

| | |
|--------------------------------------|--|
| Measurement accuracy | |
| SGM-PP/ -PVC | 2,5 acc. to VDI/VDE 3513 pt. 2 |
| Indicator part | |
| Scale | in phy. units, e.g. l/h, m ³ /h |
| Scale length | 90 mm |
| Standard range | 1:10 |
| Degree of Protection | IP 67, NEMA 4X |
| Permissible working pressure | |
| DN 25, DN 50 | PN 16 |
| DN 65, DN 80, DN 100 | PN 10 |
| Connections | |
| Flange connection | acc. EN-1092-1, optionally: ANSI B 16.5, JIS B 2220 |
| alternative connection geometries *) | optionally: DIN 11851, DIN EN ISO 228 PP welding sleeves, PVC glue sleeves |

*) on request

Materials and media temperature

| Version | Measuring tube/float | Media-temperature | Amb. temp. |
|----------------|----------------------|-------------------|--------------|
| SGM-PP | Polypropylene | 0 ... +80 °C | 0 ... +80 °C |
| SGM-PVC | Polyvinyl chloride | 0 ... +40 °C | 0 ... +40 °C |
| Indicator part | | | |
| Scale case | aluminium, painted | | |
| Pointer | aluminium, painted | | |
| Scale | aluminium, coated | | |
| Pane | float glass | | |



Dimensions and weights

(Design: Stainless steel with flange connection)

| DN | PN | Dimensions [mm] | | | Weight [kg] | |
|-----|----|-----------------|-----|-----|-------------|-----|
| | | L | A | d | PP | PVC |
| 25 | 16 | 250 | 158 | 40 | 1,8 | 2 |
| 50 | 16 | 250 | 171 | 60 | 2,8 | 3,2 |
| 65 | 10 | 250 | 185 | 75 | 3,6 | 4 |
| 80 | 10 | 250 | 188 | 90 | 4,2 | 4,9 |
| 100 | 10 | 250 | 200 | 114 | 4,8 | 5,6 |

Dimensions for other connection geometries on request

Measuring ranges

(Data serve as an example. Exact measuring ranges on request.)

| DN | H ₂ O [m ³ /h] |
|-----|--------------------------------------|
| 25 | 0,25 - 2,5 |
| 50 | 1 - 10 |
| 65 | 1,6 - 16 |
| 80 | 3 - 30 |
| 100 | 4,5 - 45 |

Measuring ranges for air or gas on request



SGM-PP/ -PVC

Variable area flow meters

Safety note

Operate the devices only up to the specified permissible working pressure and operating temperature.
Avoid excessive pressure surges.

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.

Conformity with EU Directives

The SGM variable area flow meter meets all requirements of EU Directives applicable to the product.

- EMC-Directive (2014/30/EU)
- PED (2014/68/EU)

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 9001:2015. The quality is systematically adapted to the continuously increasing demands.