



## K20 Technical Datasheet

### Variable area flowmeter

- Solid design for many applications
- Local indicator without auxiliary power
- Replaceable mounting parts

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## 1.1 The cost-effective plastic alternative

The variable area flowmeter K20 is designed for measuring the volume or mass flow rate of liquids.



### Highlights

- Low maintenance
- Optional with limit switches
- Simple installation and start-up

### Industries

Can be used in all industrial sectors, for example:

- Chemical
- Heating, Cooling & Air Conditioning
- Machine building
- Pulp & Paper
- Water

### Applications

- Compressor monitoring
- Water circuits

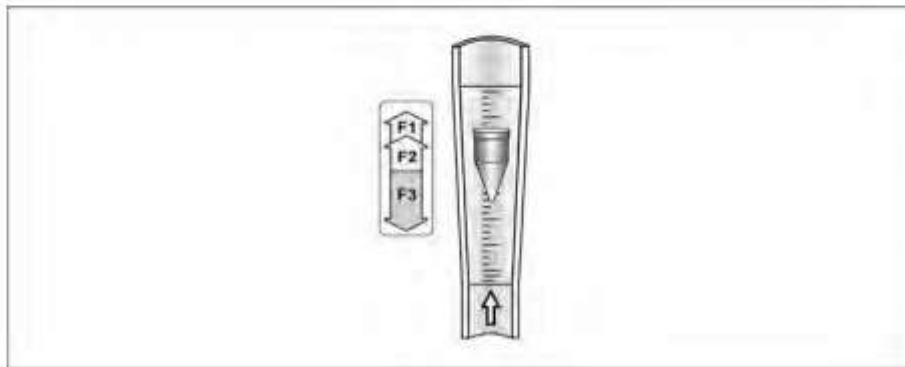
## 1.2 Functional principle

The flowmeter operates in accordance with the float measuring principle.

The measuring unit consists of a plastic cone in which a float can move freely up and down.

The medium flows through the flowmeter from bottom to top.

The float adjusts itself so that the buoyancy force  $F_1$  acting on it, the form resistance  $F_2$  and its weight  $F_3$  are in equilibrium:  $F_3 = F_1 + F_2$



The height of the float is read on the scale of the measuring cone and indicates the flow rate.

The top edge of the float marks the reading line for flow values.

## 2.1 Technical data

- *The following data is provided for general applications. If you require data that is more relevant to your specific application, please contact us or your local sales office.*
- *Additional information (certificates, special tools, software,...) and complete product documentation can be downloaded free of charge from the website (Downloadcenter).*

Scope of application	Flow measurement of liquids
Function / Measuring principle	Variable area measuring principle
Primary measured value	Float position
Measuring accuracy	2.5% according to directive VDI/VDE 3513, sheet 2 (q <sub>G</sub> = 50%)
Inlet condition, inlet section	≥ 5 x DN
Outlet condition, outlet section	≥ 3 x DN
Operating pressure PS	Directive 2014/68/EU
Test pressure PT	Pressure equipment directive 2014/68/EU
Max. permitted operating gauge pressure PS	2...12 barg / 29...174 psig

### Process connection

Screw connection, standard	G1/2...2
Adhesive socket	DN15...50

### Materials

Measuring tube	Polysulphone (PSU)
Float	PVC
	Stainless steel 316 L
Float stop	Polysulphone (PSU)
Connection	PP screw connection or PVC adhesive socket
Sealing	EPDM

### Temperatures

Max. product temperature T <sub>S</sub>	+60°C / +140°F
Min. product temperature T <sub>S</sub>	-10°C / +14°F
Max. ambient temperature T <sub>amb.</sub>	+60°C / +140°F
Min. ambient temperature T <sub>amb.</sub>	-10°C / +14°F

## 2.2 Measuring ranges for water

Flow - nominal size		Connection - nominal size		[l/h]		
DIN	ASME	G or adhesive socket	Cone			
DN15		1/2"	1/2"	20.15.1.F	5...60	
					20.15.2.F	11...110
DN25		1"	1"	20.25.1.F	65...650	
					20.25.2.F	100...1000
					20.25.4.F	250...2500
DN50		2"		20.50.2.F	650...6500	
					20.50.4.F	4000...16000
					20.50.6.F	8000...25000

### 3.1 Installation conditions

*When installing the device in the piping, the following points must be observed:*

- *The variable area flowmeter must be installed vertically (measuring principle). Flow direction from bottom to top. For installation recommendations please refer also to directive VDI/VDE 3513, sheet 3.*
- *Before connecting, blow or flush out the pipes leading to the device.*
- *Use connectors suitable for the particular device version.*
- *Align the piping centrally with the connection bores on the measuring device so they are free of stresses.*
- *If necessary, the piping has to be supported to avoid the vibrations transmitted to the measuring device.*
- *Do not lay signal cables directly next to cables for the power supply.*



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