F VA Trogflux

Plastic measuring device:	in Trogamid and Polysolphone
Connection:	Threaded connection G ¼ - G 2 (¼“ – 2“)
Dynamic measuring:	1 : 10
Flow direction:	from bottom to top.
Inlet or outlet paths:	none necessary
Measuring accuracy:	Class 2.5 (acc. to VDE/VDI 3513, sheet 2)

Temperature and pressure limits must be observed:

Trogamid – measuring cone	max. 60°C (140 °F),	pressure max. 10 bar (145 psi)
Polysulphone – measuring cone	max. 90°C (196 °F),	pressure max. 10 bar (145 psi)

Usable for liquids and gases (medium must be transparent, as otherwise the reading of the flow rate is not possible. The rotameter is then not visible).

It must be observed that temperature and pressure change depending on which connecting parts, rotameters or seals are used. **The weakest link must always be considered here.**

Various rotameters can be applied here that vary in design and material, guided or unguided. Guided rotameters are recommendable where there are turbulent measuring flows, meaning that exact reading is not possible, apart from this the measuring pipe can be damaged by staggering rotameters.

Design with contacts possible, it must be observed that one rotameter with a magnet is installed. Retrofitting with contacts on a device on customer premises is not recommendable. As a different scale is created due to the rotameter, which must have a magnet, thus also having more weight. If the customer does not yet want contacts, but later, he should have an appliance with a magnetic rotameter, so that he can always retrofit the appliance with contacts at a later date.

For viscous media the application of viscosity-stable rotameters is recommended, see application limits in the brochure.

The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

Details for the dimensioning of the device:

- Medium liquid or gas
- Measuring range (unit)
- Density (unit)
- Viscosity (unit)
- Operating temperature (unit)
- Operating pressure (unit)

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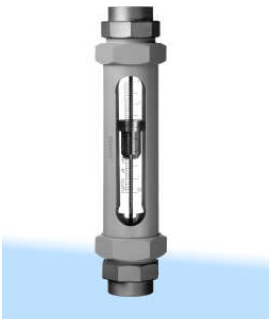
F VA Tubux



Fitting and connecting parts:	made of metal or plastic	
Measuring cone:	Glass	
Connection:	Threaded connection G ¼ - G 3 (¼“ – 3“)	
	Flange connection DN 15 – DN 80 (1/2“ – 3“)	
Dynamic measuring:	1 : 10	
Flow direction:	from bottom to top.	
Inlet or outlet paths:	none necessary	
Measuring accuracy:	Class 1.6 (acc. to VDE/VDI 3513, sheet 2)	
Temperature limits:	-10 to +150 °C (14 to 302 °F)	
Pressure limits:	Measuring cone A 1 to D 3000	max. 10 bar (145 psi)
	Measuring cone E 4000 to F 10000	max. 8 bar (116 psi)
	Measuring cone G 12500 to H 25000	max. 5 bar (73 psi)

Usable for liquids and gases (medium must be transparent, as otherwise the reading of the flow rate is not possible. The rotameter is then not visible).

It must be observed that temperature and pressure change depending on which connecting parts, rotameters or seals are used. **The weakest link must always be considered here.**

Various rotameters can be applied here that vary in design and material, guided or unguided. Guided rotameters are recommendable where there are turbulent measuring flows, meaning that exact reading is not possible, apart from this the measuring pipe can be damaged by staggering rotameters.

Design with contacts possible, it must be observed that one rotameter with a magnet is installed. Retrofitting with contacts on a device on customer premises is not recommendable.

For viscous media the application of viscosity-stable rotameters is recommended, see application limits in the brochure.

The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

Details for the dimensioning of the device:

- Medium liquid or gas
- Measuring range (unit)
- Density (unit)
- Viscosity (unit)
- Operating temperature (unit)
- Operating pressure (unit)

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F VA Unox

Fitting and connecting parts:	Steel and stainless steel	
Measuring cone:	Glass	
Connection:	Threaded connection G ¼ - G 3 (¼“ – 3“)	
	Flange connection DN 15 – DN 80 (1/2“ – 3“)	
Dynamic measuring:	1 : 10	
Flow direction:	from bottom to top.	
Inlet and outlet paths:	non required	
Measuring accuracy:	Class 1.6 (acc. to VDE/VDI 3513, sheet 2)	
Temperature limits:	-10 to +150 °C (14 to 302 °F)	
Pressure limits:	Measuring cone A 1 to D 3000	max. 10 bar (145 psi)
	Measuring cone E 4000 to F 10000	max. 8 bar (116 psi)
	Measuring cone G 12500 to H 25000	max. 5 bar (73 psi)

Usable for liquids and gases (medium must be transparent, as otherwise the reading of the flow rate is not possible. The rotameter is then not visible).

It must be observed that temperature and pressure change depending on which connecting parts, rotameters or seals are used The weakest link must always be considered here.

Various rotameters can be applied here that vary in design and materials, guided or unguided. Guided rotameters are recommendable where there are turbulent measuring flows, meaning that exact reading is not possible, apart from this the measuring pipe can be damaged by staggering rotameters.

Design with contacts possible, it must be observed that one rotameter with a magnet is installed. Retrofitting of a device on customer promises is possible.

As opposed to the FVA Tubux, this model enables the changing of the measuring pipe without taking the entire fitting out of the pipe Here the measuring pipe with the magnetic rotameter and the rear cover frame with contact can be completely replaced.

For viscous media the application of viscosity-stable rotameters is recommended, see application limits in the brochure.

The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

Information for the dimensioning of the device:

- Medium liquid or gas
- Measuring range (unit)
- Density (unit)
- Viscosity (unit)
- Operating temperature (unit)
- Operating pressure (unit)

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F VA Minx

Fitting:	Aluminium
Connecting parts:	Brass or stainless steel
Measuring cone:	Glass
Connection:	Threaded connection G ¼ - G ½ (¼“ – ½“)
Dynamic measuring:	1 : 10
Flow direction:	from bottom to top.
Inlet and outlet paths:	non required
Measuring accuracy:	Class 2.5 (acc. to VDE/VDI 3513, sheet 2)
Temperature limits:	-10 to +70 °C (14 to 150 °F)
Pressure limits:	max. 10 bar/ 145 psi

Usable for liquids and gases (medium must be transparent as otherwise the flowrate cannot be read; the rota meter is then not visible).

The measuring device must generally be equipped with a needle-type valve for the manual regulation of the measuring medium. For liquids, the needle-type valve can be installed at the top or the bottom. For gases, the needle-type valve should be installed at the top to avoid compression vibrations

Design with contacts not possible.

Not suitable for viscous media.

The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

Details for the dimensioning of the device:

- Medium liquid or gas
- Measuring range (unit)
- Density (unit)
- Viscosity (unit)
- Operating temperature (unit)
- Operating pressure (unit)

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F VA 250

Fitting:	Stainless steel
Connecting parts:	Stainless steel
Measuring cone:	Stainless steel / PTFE
Connection:	Flange connection DN 15 – DN 100 (/½“ – 4“) Threaded connection G ¼ - G 2 (¼“ – 2“)
Dynamic measuring:	1 : 10
Flow direction:	from bottom to top.
Inlet and outlet paths:	non required
Measuring accuracy:	± 2 % (optionally ± 1.6 %, but not for PTFE lining) of the upper range value.
Pressure limits:	PN 10 to PN 40 (145 to 580 phi)
Temperature limits:	max. 125 °C (257 °F) optionally 300 °C (572 °F))
Ambient temperature:	<80°C (176 °F) for contact indicator <70 °C (156 °F)

Usable for liquids and gases.

It must be observed that temperature and pressure change depending on the design. The weakest link must always be considered here.

Design with contacts and current outlet possible.

The measuring device can be equipped with a heating or cooling jacket.

For viscous media the application limits must be observed, see brochure.

The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

Details for the dimensioning of the device:

- Medium liquid or gas
- Measuring range (unit)
- Density (unit)
- Viscosity (unit)
- Operating temperature (unit)
- Operating pressure (unit)

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F VA 580

Fitting:	Stainless steel
Connecting parts:	Stainless steel
Measuring cone:	Stainless steel / PTFE
Connection:	Flange connection DN 15 – DN 100 (/½“ – 4“)
Dynamic measuring:	1 : 10
Flow direction:	from bottom to top.
Inlet and outlet paths:	non required
Measuring accuracy:	± 1.6 % (optionally ± 1 %, but not for rubber lining) of the upper range value.
Pressure limits:	PN 10 to PN 320 (145 to 4641 phi)
Temperature limits:	max. 125 °C (257 °F) optionally 300 °C (572 °F))
Ambient temperature:	<80°C (176 °F) for contact indicator <70 °C (156 °F)

Usable for liquids and gases.

It must be observed that temperature and pressure change depending on the design. The weakest link must always be considered here.

Design with contacts and current outlet possible.

The measuring device can be equipped with a heating or cooling jacket.

For viscous media the application of a viscosity-stable rota meter is possible. The application limits must be observed, see brochure.

The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

Details for the dimensioning of the device:

- Medium liquid or gas
- Measuring range (unit)
- Density (unit)
- Viscosity (unit)
- Operating temperature (unit)
- Operating pressure (unit)

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F I Garden

Fitting:	Steel/ stainless steel / rubber/coated steel
Measured value transfer:	Stainless steel / PTFE; Hostelry
Connection:	Flange connection DN 25 – DN 300 (/1“ – 12“)
Dynamic measuring:	1 : 5
Flow direction:	from bottom to top. from right to left from left to right from top to bottom
Inlet and outlet paths:	see type sheet
Measuring accuracy:	± 3 % upper range value
Pressure limits:	see type sheet
Temperature limits:	Standard ≤ 90 °C (194 °F) with temperature shield max. 250 °C (482 °F)
Ambient temperature:	see type sheet

Usable for liquids and gases.

Fitting and connecting parts made of metal, all-metal measuring device, measured value transfer via a baffle plate with a balance beam.

If the inlet paths cannot be adhered to or if the display cannot be read despite the inlet paths having been adhered to, flow rectifiers according to VDI Directive 2040, sheet 1, section 4.4.5.5 can be installed to moderate the measuring flow.

It must be observed that temperature and pressure change depending on the design. The weakest link must always be considered here.

Design with contacts and current outlet possible.

The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

Details for the dimensioning of the device:

- Medium liquid or gas
- Measuring range (unit)
- Density (unit)
- Viscosity (unit)
- Operating temperature (unit)
- Operating pressure (unit)

Attention: later conversion to 0/4 – 20mA by the customer not possible!

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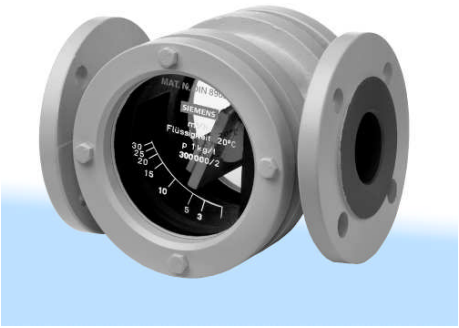
F I Intra

Fitting:	cast iron, rubber-coated cast iron, stainless steel cast with glass plate
Measuring flap:	Stainless steel
Connection:	Flange connection DN 25 – DN 150 (/1“ – 6“)
Dynamic measuring:	see measuring range table
Flow direction:	from bottom to top. from left to right from left to right
Inlet and outlet paths:	non required
Measuring accuracy:	± 5 % full-scale value.
Pressure limits:	see type sheet
Temperature limits:	max. 140 °C/284 °F
Ambient temperature:	<80°C (176 °F)



Fitting and connecting parts made of metal, all-metal measuring device with glass plate, measured value transfer via a measuring flap.
The flow indicator can be additionally equipped on the back with a glass plate to enable viewing the medium from both sides.

Only for use with liquids. (Medium must be transparent as otherwise no reading of the flow is possible; the measuring flap is then not visible).

It must be observed that the temperature and pressure may change depending on the design. Here the weakest link must always be considered.

Design with contacts not possible.

For viscous media the application limits must be observed, see brochure.

The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

Details for the dimensioning of the device:

- Liquid medium
- Measuring range (unit)
- Density (unit)
- Viscosity (unit)
- Operating temperature (unit)
- Operating pressure (unit)

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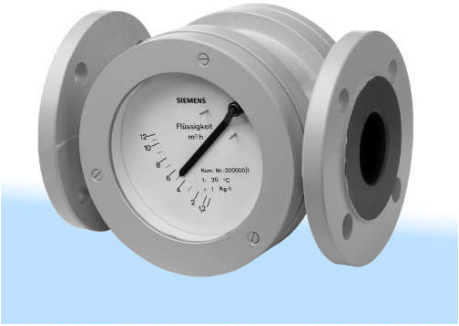
F I Prima

Fitting:	cast iron, rubber-coated cast iron, stainless steel cast
Measuring flap:	Stainless steel
Connection:	Flange connection DN 25 – DN 150 (/1“ – 6“)
Dynamic measuring:	see measuring range table
Flow direction:	from bottom to top. from left to right from left to right
Inlet and outlet paths:	non required
Measuring accuracy:	± 5 % full-scale value.
Pressure limits:	max. 16 bar/ 232 psi
Temperature limits:	max. 250 °C/482 °F
Ambient temperature:	see type sheet



Fitting and connecting parts made of metal, all-metal measuring device, measured value transfer via a measuring flap.

Only for use with liquids.

It must be observed that the temperature and pressure may change depending on the design. Here the weakest link must always be considered.

Design with contacts possible.

For viscous media the application limits must be observed, see brochure.

The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

Details for the dimensioning of the device:

- Liquid medium
- Measuring range (unit)
- Density (unit)
- Viscosity (unit)
- Operating temperature (unit)
- Operating pressure (unit)

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F O N4

Fitting and connecting parts made of plastic, measuring substance transparent liquids. The measuring substance is fed from the main duct to an auxiliary flow meter and displayed there. Contamination can lead to measuring errors, particularly in the area of the auxiliary flow measuring aperture, for which reason the device is equipped with ball cocks in order to be able to dismantle and clean the device without interrupting the main flow. Design with contacts possible, it must be observed that one rotameter with a magnet is installed. Later retrofitting with contacts on a device on customer premises is possible, for this purpose the measuring pipe and the rotameter must be replaced.

Orifice:	PVC
Connection:	Flange connection DN 40 – DN 400 (/1“ – 12“)
Dynamic measuring:	1 : 5
Flow direction:	any
Inlet and outlet paths:	acc. to DIN EN ISO 5167, VDI Directive 2040 see also SITRANS F O delta p; Inlet and outlet paths.
Measuring accuracy:	± 2 % upper range value
Pressure limits:	see type sheet
Temperature and pressure limits:	see brochure
Ambient temperature:	-20 to +60 °C (-4 to 140 °F)

The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

Details for the dimensioning of the device:

- Liquid medium
- Measuring range (unit)
- Density (unit)
- Viscosity (unit)
- Operating temperature (unit)
- Operating pressure (unit)

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F O Turbo-Lux

Fitting made of metal, display made of plastic, measuring substance transparent liquids. The measuring substance is fed from the main duct to an auxiliary flow meter and displayed there. The main field of application is the application in stationary water extinguishing systems. The measuring orifice is always part of the pipe and closed with a blank cap. The display element is screwed onto the measuring orifice when required (for checking) and the flow rate can be read off in percent. The flow rate can be read in a table on the measuring device, depending on the nominal size.

Contamination can lead to measuring errors, particularly in the area of the auxiliary flow measuring orifice - for this reason the measuring device is equipped with a filter and can be cleaned as required.

The measuring orifice can be supplied with a centering element for better centering in the pipe. The centering element prevents a recess arising in front of the measuring orifice, thus causing measuring errors.

The measuring device has an approval issued by the Verband der Schadensversicherer e.V. (VdS).

Orifice:	Aluminium
Connection:	DN 80/ 100/ 150/ 200/ 250
Dynamic measuring:	1 : 5
Flow direction:	any
Inlet and outlet paths:	acc. to DIN EN ISO 5167, VDI Directive 2040 see also SITRANS F O delta p; Inlet and outlet paths.
Measuring accuracy:	Class 2.5 (acc. to VDE/VDI 3513, sheet 2)
Nominal pressure:	PN 10/145 psi
Pressure limits:	max. 10 bar/ 145 psi
Temperature limits:	max. 70 °C/158 °F

The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

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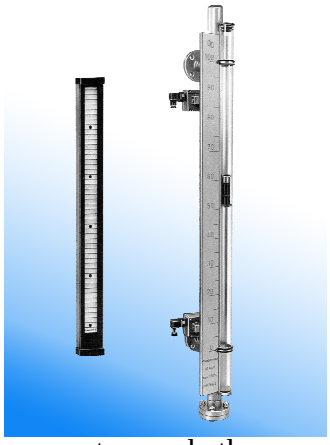
Menkar KM 70

Fitting made of metal, measuring substance liquids. The level indicator serves for checking and monitoring levels in open and closed containers. The level controller works according to the system of communicating pipes or float principle. The display is made outwardly visible by a float with a magnet on a magnet flap bar. The level indicator can be designed with contacts for the monitoring and controlling of levels.

Fitting:	Stainless steel, rubber/coated stainless steel
Connection:	any
Flow indicator:	from bottom to top.
Measuring ranges:	min. 300 mm
	max. to 5000 mm undivided
	from 5000 mm divided
Measuring and display tolerance:	± 5 mm
Pressure limits:	standard max. 40 bar
	optional max. 320 bar
Temperature limits:	0 to +300 °C
Ambient temperature:	see type sheet



The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

Details for the dimensioning of the device:

- Liquid medium
- Measuring range (unit)
- Density (unit)
- Viscosity (unit)
- Operating temperature (unit)
- Operating pressure (unit)

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Menkar KK 80 - KK 81

Fitting made of plastic, measuring liquids transparent liquids. The level indicator serves for checking and monitoring levels in open and closed containers. The level controller works according to the system of communicating pipes or float principle. The display is made outwardly visible by a float type Menkar KK 80.

The level indicator can be designed with contacts for the monitoring and controlling of levels. Contacting takes place via a float with a magnet type Menkar KK 81.

Fitting:	PVC
Connection:	any
Flow indicator:	from bottom to top.
Measuring ranges:	min. 300 mm
	max. 2000 mm
Measuring and display tolerance:	± 5 mm
Pressure limits:	max. 16 bar
Temperature limits:	max. 60 °C
Ambient temperature:	see type sheet

The measuring device must be checked for media stability and operating temperature, whether all used materials are suitable for the medium.

Details for the dimensioning of the device:

- Liquid medium
- Measuring range (unit)
- Density (unit)
- Viscosity (unit)
- Operating temperature (unit)
- Operating pressure (unit)

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