

# MARIMEX® ViscoScope® VA-100

## In-line Process viscometer

- ✓ Reproducible measurement of viscosity in real time
- ✓ Optimisation of production / quality assurance
- ✓ Maintenance-free measuring instrument
- ✓ Dead space free installation (CIP / SIP capable)
- ✓ Cost-effective
- ✓ Chemicals, petrochemicals, food, pharmaceuticals and cosmetics



Ex Approval

Condition monitoring

Inline Sensor



## Technical data

### Properties

Sensor type	C: Cylinder B: sphere
Probe dimensions	C: Ø 32 x 145 mm B: Ø 32 x 120 mm
Material	1.4571 / 1.4404 (316 Ti / 316L)
Protection class	IP65
Process connection	NPT thread   Special flange   Varivent®   Tri-Clamp
Cable length	Max. 1,000 metres
Reproducibility of the display value	C: ± 0,3% or ± 1 Digit B: ± 0,5% or ± 1 Digit
Accuracy of the display value	± 2% or ± 1 Digit
Ex-area (optional)	II 1/2G Ex ia IIC T6...T3 Ga/Gb

### Operating conditions

Process temperature	-10...+130 °C
Pressure	Vacuum up to 64 bar, depending on installation
Installation	Position-independent in tanks, pipelines, flow cells
Flow velocity	up to 5 m/s, depending on installation

### Measuring ranges

Viscosity range in mPa·s x g/cm <sup>3</sup>	C: 0,1...2.500 B: 10...25.000
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## General description

The ViscoScope® sensor VA-100 is a maintenance-free process viscometer for precise, reproducible and reliable real-time measurement of the dynamic viscosity of liquids. A Pt100 integrated in the sensor simultaneously measures the process temperature. The ViscoScope® system is factory calibrated with certified Newton calibration oils.

The sensor is available in two probe versions. There is a choice of NPT threads and Special flange or hygienic fittings. Standardised or specially developed flow cells also allow installations in pipelines with small cross-sections.

## Functionality

The ViscoScope® sensor probe is fully welded so that no moving parts come into contact with the fluid being measured. Electric coils excite the sensor at its resonant frequency to oscillate in low amplitude torsion. There is a fast PID controller in the transmitter which keeps the amplitude constant, i.e. the higher the viscosity becomes, the greater the voltage, which is a measure of the dynamic viscosity in mPa·s x g/cm<sup>3</sup> ( $\eta \times \rho$ ). The low amplitude at resonance frequency prevents material fatigue so that no parts can misalign or wear out.

## Fluid.iO

Sensor + Control GmbH & Co. KG

An der Hartbrücke 6

D-64625 Bensheim

## Sales and consulting

Phone: +49-6251-8462-0

Email: info@fluidio.de

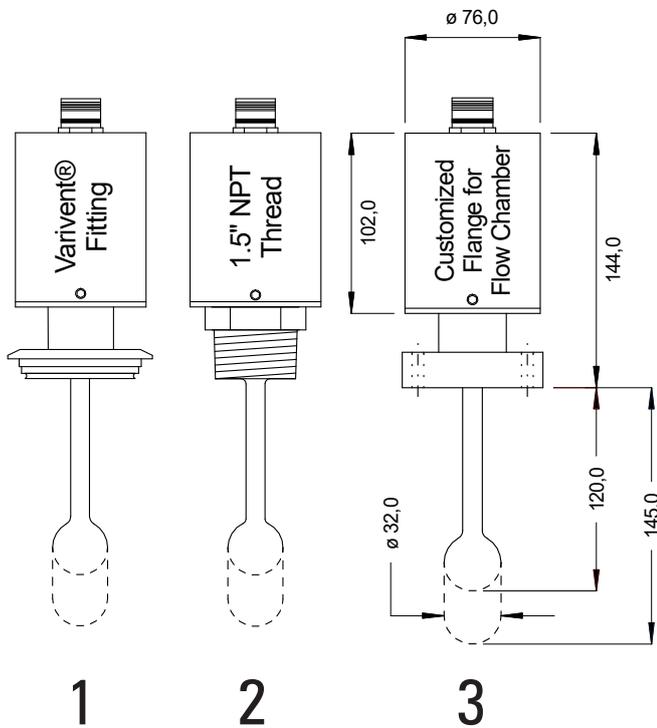
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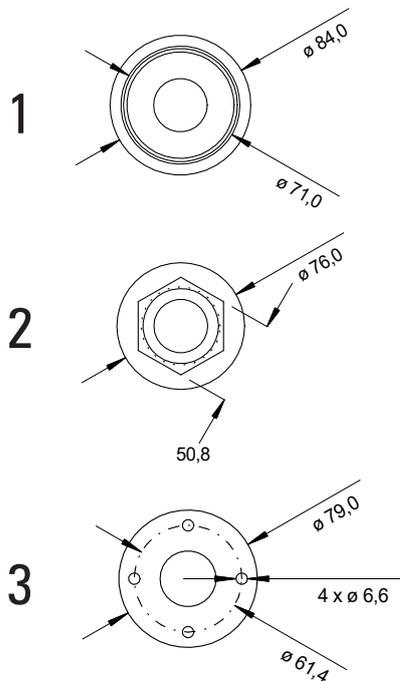
## Dimensional Drawing

Dimensioning in mm

Side view



Front view



## Applications

- ✓ in continuous and batch processes
- ✓ Shortening and optimising mixing processes
- ✓ Adding solvents to coating systems
- ✓ Controlling the medium temperature for constant viscosity

## model code

### Basic designation

#### Viscosity range

**C** = 0,1...2.500 mPas\* g/cm<sup>3</sup>

**B** = 10...25.000 mPas\* g/cm<sup>3</sup>

#### Temperature range

**LT** = -40...130 °C

#### Process connection

**N** = NPT

**V** = Varivent®

**T** = Tri-Clamp

**S** = Special flange  $\varnothing 80 \times 20$  mm for Flow cell DZ101

#### Material

**VA** = 1.4571/1.4404 (316Ti/316L)

#### Ex-area (optional)

**Ex** = II 1/2G Ex ia IIC T6...T3 Ga/Gb

**VA-100** [ ] [ ] [ ] [ ] [ ] [ ]

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