MARIMEX® ViscoScope® VA-300

Process viscometer

- ✓ Reproducible measurement of viscosity in real time
- ✓ Optimisation of production / quality assurance
- ✓ Maintenance-free measuring instrument
- ✓ Easy integration into existing systems
- ✓ for very low & high viscosities, temperatures & pressures
- ✓ Chemicals, petrochemicals, food, pharmaceuticals and cosmetics

Approval

Condition monitoring

Inline Sensor

Technical data

Properties

Sensor type	L: large cylinder M: small cylinder H: sphere X: mini sphere
Probe dimensions	L: Ø 32 x 190 mm M: Ø 32 x 165 mm H: Ø 32 x 130 mm X: Ø 32 x 115 mm
Material	Stainless steel (for others see model code)
Protection class	IP65
Process connection	Flange | Fitting | Thread (see model code)
Cable length	Max. 1,000 m
Reproducibility of the display value	L | M : ± 0,3% or ±1 Digit H | X : ±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	-40… +450 °C
Pressure	Vacuum up to 450 bar
Installation	Position-independent in tanks, pipelines, flow cells
Flow velocity	up to 10 m/s, depending on installation

Measuring ranges

Viscosity range in mPa·s x g/cm³	L: 0,1…2.500 M: 1…25.000 H: 10…250.000 X: 100…2.500.000

General description

The ViscoScope® sensor VA-300 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® systems are factory calibrated with certified Newtonian calibration oils.
The sensor is available with different probes and process connections. With this variety of sensor design, modifications to potential installation locations can often be avoided or adapted with little effort.

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/cm3 (η x ρ). The low amplitude at resonance frequency prevents material fatigue, so that no parts can become misaligned or worn - the best prerequisites for a maintenance free, long-lasting and reliable measuring instrument.

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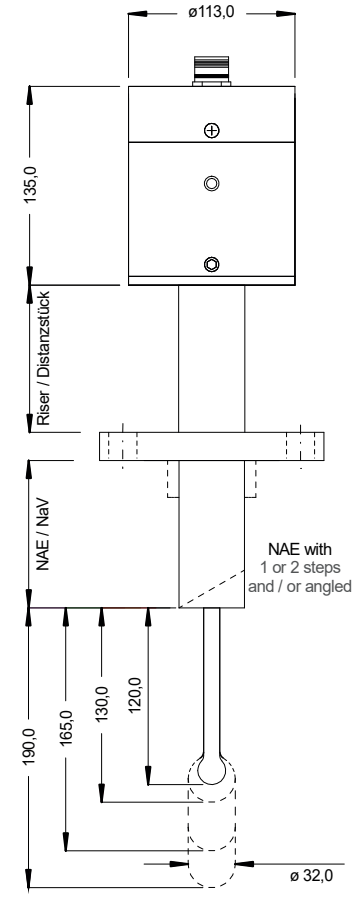
MARIMEX® ViscoScope® VA-300

Dimensional Drawing

Dimensioning in mm



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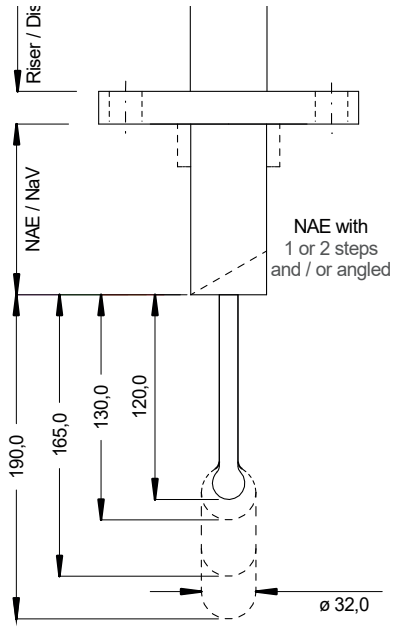

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Typekey

Basic designation

Viscosity range
- **L** = 0,1...2.500 mPas* g/cm³
- **M** = 1...25.000 mPas* g/cm³
- **H** = 10...250 Pas* g/cm³
- **X** = 100...2.500 Pas* g/cm³
- **S** = Special design, application-specific

Temperature range
- **LT** = -40…130 °C
- **ST** = -40…300 °C with inert gas cooling depending on installation
- **HT** = -40…450 °C with inert gas cooling depending on installation

Process connection
- **DIN** = Flange according to EN 1092-1, please Specify dimensions
- **ANSI** = Flange according to ASME B16.5, please specify dimensions
- **N** = NPT
- **V** = Varivent®
- **T** = Tri-Clamp

Material
- **VA** = Stainless steel (1.4571/1.4404 316Ti/316L)
- **DU** = Duplex SAF2205 (1.4462)
- **HC** = Hastelloy C22 (2.4602)
- **FPC** = Fluoropolymer Coating (non-stick-coating)

Non-active extension :
- **NaV** = with non-active extension

Ex-area (optional)
- **Ex** = II 1/2G Ex ia IIC T6…T3 Ga/Gb

VA-300 ☐☐☐☐☐☐☐

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