

# HAAKE Viscotester® VT550

## Plug & Play Application Packages



### Viscotester Packages

The HAAKE Viscotester VT550 is the basic viscometer of the application oriented plug and play packages. Select one of the packages on your special application or measuring needs. If there are new applications it can be easily upgraded.

### Viscotester VT550

The VT550 is a true speed controlled rotational viscometer driven by an intrinsic accurate stepper motor with 100 built-in speeds (10 selectable of a table of 100 individual values from 0.5 to 800 rpm). The torque is measured by the deflection of a torsion bar with a resolution of 1:1000 and digitally displayed.

The viscosity is calculated and displayed by the on-board processor based on the set geometry (sensor system), measured torque and preset speed. The following tests can be performed either manually by the press of a button, internally preprogrammed and run or remotely controlled by an external computer.

**Flow curve:** ramping up shear rates (speeds) and monitoring shear stress (torque) to record the different flow behavior.

**Yield point:** using CD-mode (controlled deformation) to deform material in torsional direction and to measure the break torque value.

**Time curve:** monitoring the viscosity as a function of time to characterize curing or chemical reactions.

**Temperature test:** recording the viscosity as a function of temperature to measure the viscosity automatically at different temperatures.

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# Construction Materials Viscometer

HAAKE Viscotester® VT550

Order No. 359-0071

## Application

Viscosity measurements of construction materials with very disperse phases and particles using relative sensors to get reproducible results. The viscometer can be easily upgraded to R&D performance with full computer control.

## Features

- measures practical yield points using CD method (controlled deformation)
- inhomogeneous materials measurable with particles in mm size
- records flow curves automatically to monitor the flow behavior of a fluid or paste
- has interchangeable rotors to extend measuring range and application
- can be upgraded to an absolute coaxial- or cone and plate viscometer

## Measuring Principle

The VT550 is a rotational viscometer where the speed of a stepper motor set by a micro step controller for high accuracy is applied to a fluid by an immersed rotor. The resistance of the fluid against this applied speed is measured by the deflection of a torsion bar (max. 1 degree) with a contact free transducer to eliminate wear. The relevant values such as speed, torque, shear rate, shear stress, viscosity and temperature are digitally displayed and sent to an RS232 printer.

## Contents of Delivery

Viscotester VT550 basic instrument with:

- stand
- universal joint
- rotor FL 10
- rotor RS
- documentation



## Technical Data

sample volume:	50 - 500 cm <sup>3</sup>
application:	construction materials
viscosity range:	50 - 1 000 000 mPas
number of speeds:	continuous
speeds:	0.5 - 800 rpm / 0.1 steps
temperature range:	0 - 100°C
typical measurement time:	2 - 3 minutes
number of sensors:	2
repeatability:	+/- 3%
comparability:	+/- 5%
digital display:	yes
interface:	RS232
voltage:	100 - 230 V
frequency:	50 - 60 Hz

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# Food Viscometer

HAAKE Viscotester® VT550

Order No. 359-0021

## Application

Viscosity measurements of food stuff such as sauces, mayonnaise, mustard, ketchup, stabilizers and base materials like starch or pectin. Additional measurable data are yield points, the characteristic value for thixotropy and the flow behavior of a test material.

## Features

- measures practical yield points using CD method (controlled deformation)
- defines flow behaviors with automatic flow curve ramps
- measures viscosity at defined shear rates accord. to DIN/ISO standards
- can be easily upgraded to R&D performance with other measuring systems
- fully computer controlled viscometer driven by HAAKE application software

## Measuring Principle

The VT550 is a rotational viscometer where the speed of a stepper motor set by a micro step controller for high accuracy is applied to a fluid by an immersed rotor. The resistance of the fluid against this applied speed is measured by the deflection of a torsion bar (max. 1 degree) with a contact free transducer to eliminate wear. The relevant values such as speed, torque, shear rate, shear stress, viscosity and temperature are digitally displayed and sent to an RS232 printer.

## Contents of Delivery

Viscotester VT550 with:

- stand
- temperature vessel
- PT100 temperature probe
- cup MV
- rotors MV DIN, MV1, MV2
- HAAKE application software
- cables to connect a PC
- documentation



## Technical Data

sample volume:	60 cm <sup>3</sup>
application:	food stuff
viscosity range:	5 - 200 000 mPas
shear rate range:	0.5 - 1870 s <sup>-1</sup>
number of speeds:	continuous
speeds:	0.5 - 80 0 rpm / 0.1 steps
temperature range:	-20°C - 100°C
typical measurement time:	2 - 3 minutes
number of sensors:	3
repeatability:	+/- 1%
comparability:	+/- 2%
digital display:	yes
interface:	RS232
voltage:	100 - 230 V
frequency:	50 - 60 Hz

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# Cosmetics & Pharma Viscometer

HAAKE Viscotester® VT550

Order No. 359-0041

## Application

Viscosity measurements of cremes, lotions and their base materials to prepare cosmetic and pharmaceutical products. The viscometer can be easily upgraded to R&D performance with full computer control.

## Features

- measures viscosity at defined shear rates accord. to DIN/ISO standards
- measures practical yield points using CD method (controlled deformation or fluids)
- inhomogeneous materials or fluids with particles can be measured
- records flow curves automatically to monitor the flow behavior of a fluid
- has interchangeable rotors to extend measuring range and application
- can be upgraded to an absolute coaxial- or cone and plate viscometer

## Measuring Principle

The VT550 is a rotational viscometer where the speed of a stepper motor set by a micro step controller for high accuracy is applied to a fluid by an immersed rotor. The resistance of the fluid against this applied speed is measured by the deflection of a torsion bar (max. 1degree) with a contact free transducer to eliminate wear. The relevant values such as speed, torque, shear rate, shear stress, viscosity and temperature are digitally displayed and sent to an RS232 printer.

## Contents of Delivery

Viscotester VT550 basic unit with:

- stand
- temperature vessel
- cup MV
- rotors MV1, MV2
- documentation



## Technical Data

sample volume:	60 cm <sup>3</sup>
application:	food stuff
viscosity range:	10 - 200 000 mPas
shear rate range:	0.5 - 1870 s <sup>-1</sup>
number of speeds:	continuous
speeds:	0.5 - 800 rpm / 0.1 steps
temperature range:	-20°C - 100°C
typical measurement time:	2 - 3 minutes
number of sensors:	3
repeatability:	+/- 1%
comparability:	+/- 2%
digital display:	yes
interface:	RS232
voltage:	100 - 230 V
frequency:	50 - 60 Hz

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# Varnish & Ink Viscometer

HAAKE Viscotester® VT550

Order No. 362-5000

## Application

Viscosity measurements of varnishes and printing inks according to the EUROCOMMIT method. The viscosity is measured under defined shear rates in the temperature controllable cone & plate system PK200.

## Features

- exceeds EUROCOMMIT requirements
- fully automatic test procedures
- test result is averaged for highest accuracy possible
- viscometer can be easily upgraded to R&D performance with full computer control

## Measuring Principle

The VT550 is a rotational viscometer where the speed of a stepper motor set by a micro step controller for high accuracy is applied to a fluid by an immersed rotor. The resistance of the fluid against this applied speed is measured by the deflection of a torsion bar (max. 1 degree) with a contact free transducer to eliminate wear. The relevant values such as speed, torque, shear rate, shear stress, viscosity and temperature are digitally displayed and sent to an RS232 printer.

## Contents of Delivery

Viscotester VT550 with:

- stand cone & plate system PK200
- cone PK5, 1°
- cone PK1, 1°
- pre-programmed EUROCOMMIT test procedure
- documentation



## Technical Data

sample volume:	1 cm <sup>3</sup>
application:	varnish and inks
viscosity range:	50 - 1 000 000 mPas
shear rate range:	3 - 4800 s <sup>-1</sup>
number of speeds:	continuous
speeds:	0.5 - 800 rpm / 0.1 steps
temperature range:	-20°C - 100°C
typical measurement time:	2 - 3 minutes
number of sensors:	2
repeatability:	+/- 2%
comparability:	+/- 4%
digital display:	yes
interface:	RS232
voltage:	100 - 230 V
frequency:	50 - 60 Hz

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623-1018