

Thermo Scientific HAAKE Falling Ball Viscometer

The Thermo Scientific™ HAAKE™ Falling Ball Viscometer Type C provides a very accurate way of measuring the viscosity of transparent Newtonian liquids and gases. It meets the requirements of the German DIN 53015 as well as ISO 12058 standard and it is accepted as an official reference instrument. Its measuring accuracy when supported with the precise temperature control of a circulator is among the highest available in any type of viscometer.

Measuring principle

The time for rolling and sliding movements of a ball through the sample liquid in an inclined cylindrical measuring tube is measured. The sample viscosity is correlated with the time needed by a ball to traverse a definite distance.

By turning the measuring tube upside down again the return of the ball may also be used for an additional measurement. The test results are given as dynamic viscosity in the internationally standardized, absolute units of milli Pascal seconds (mPas).

To the calibration of the falling ball viscometer are different standard liquids¹ available.

Viscosity η 20°C (mPas)		Ball(s)
10^4	Honey	5 6
10^3	Glycerine	5 4
10^2	Lubricating oil	3 4
10^1	Olive oil	3 2
	Spindle oil	3 2
10^0	Water	1 2
10^{-1}	Ether	1 G
10^{-2}	Neon	G



The HAAKE Falling Ball Viscometer Type C

Typical sample examples

- **Chemical industry:** polymer solutions, solvents, inks
- **Pharmaceutical industry:** raw materials, glycerine
- **Food industry:** gelatin, sugar solutions
- **Mineral oil industry:** oils, liquid hydrocarbons



Technical specifications

Viscosity range	0.5 mPas – 10 ⁵ mPas (cP)
Temperature range	-20 °C up to +150 °C
Reproducibility	< 0.5 %
Comparability	< 1 %
Material	Falling tube, balls 1, 2 and G of borosilicate glass; Balls 3, 4, 5 and 6 of nickel iron alloy

Order no. Description

HAAKE Falling Ball Viscometer Type C and Accessories

356-0001	HAAKE Falling Ball Viscometer Type C including 6 balls, instrument case, thermometer -1 °C up to +26 °C (0.1 °C divisions), cleaning tools, calibration sheet, instruction manual
800-0176	Stopwatch, LCD-Display up to 9 h, 59 minutes, 59.99 seconds
800-0182	Set of falling balls (balls 1 – 6), delivered in a wooden case
800-0002	Ball 1 Borosilicate glass
800-0003	Ball 2 Borosilicate glass
800-0004	Ball 3 Ni-iron
800-0005	Ball 4 Ni-iron
800-0006	Ball 5 Ni-iron
800-0007	Ball 6 Ni-iron
800-0009	Ball G for gas measurements
002-6968	Falling tube for fall ball viscometer type C
799-3001	Set of gaskets for falling ball viscometer type C
222-2007	Pt100 temperature sensor for Falling Ball viscometer and current circulator models (AC150, AC200 und PC circulator heads)

Control thermometers*

222-2322	Temperature range -35 °C up to 1 °C, scaling 0.2 °C, accuracy 0.2 °C
222-2323	Temperature range -1 °C up to 26 °C, scaling 0.1 °C, accuracy 0.1 °C**
222-2324	Temperature range 24 °C up to 51 °C, scaling 0.1 °C, accuracy 0.1 °C
222-2325	Temperature range 49 °C up to 76 °C, scaling 0.1 °C, accuracy 0.1 °C
222-2326	Temperature range 74 °C up to 101 °C, scaling 0.1 °C, accuracy 0.1 °C
222-2327	Temperature range 50 °C up to 150 °C, scaling 0.1 °C, accuracy 0.5 °C

* Filled with petroleum

** Standard delivery

References

1. Thermo Fisher Scientific Product information P015 "Standard liquids" Cornelia Kuechenmeister-Lehrheuer and Jint Nijman

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