



Viscosity - Flow Cups

Elcometer 2350 & 2354 Viscosity Flow Cups



Viscosity Flow Cups are very easy to use instruments made of anodized aluminium with a stainless steel orifice, for measuring the consistency of paints, varnishes and similar products. The measured kinematic viscosity is generally expressed in seconds(s) flow time. If the Standards stipulate conversion methods the flow time can be converted into Centistokes (cSt) using the Elcometer ElcoCalc™ Mobile App.

Calibration certificates which offer traceability and assurance that each viscosity cup has been individually tested and comply to Standards are also available.

The cups can be supplied separately or with an adjustable stand which includes a precision level and an overflow glass draw plate. They can also be supplied with a flow jacket for temperature control (thermojacket), see page 5 for more information.

STANDARDS:

ISO: ISO 2431
AS/NZS: AS/NZS 1580.214.2 (cup 4),
 AS/NSZ 1580.214.6:1995
BS: BS 3900-A6:1971
FORD/ASTM: ASTM D 1200, D 5125
DIN: DIN 53211 (cup 4)
AFNOR: NF T30-014



Technical Specification



BS Viscosity Flow Cups

Part Number	Description	Orifice Diameter	Range ¹ (cSt)	Certificate
K0002354M003	Elcometer 2354/3 BS Viscosity Cup 4	3.97mm	89 - 340	◇
K0002354M004	Elcometer 2354/4 BS Viscosity Cup 5	4.76mm	79 - 441	◇
K0002354M003C	Elcometer 2354/3 with calibration certificate	3.97mm	89 - 340	● (e)
K0002354M004C	Elcometer 2354/4 with calibration certificate	4.76mm	79 - 441	● (e)

DIN Viscosity Cups

Part Number	Description	Orifice Diameter	Range ¹ (cSt)	Certificate
K0002350M001	Elcometer 2350/1 DIN Viscosity Cup 2	2mm	-	
K0002350M002	Elcometer 2350/2 DIN Viscosity Cup 4	4mm	96 - 683	◇
K0002350M003	Elcometer 2350/3 DIN Viscosity Cup 6	6mm	-	
K0002350M004	Elcometer 2350/4 DIN Viscosity Cup 8	8mm	-	
K0002350M001C	Elcometer 2350/1 with calibration certificate	2mm	-	● (d)
K0002350M002C	Elcometer 2350/2 with calibration certificate	4mm	96 - 683	● (e)
K0002350M003C	Elcometer 2350/3 with calibration certificate	6mm	-	● (d)
K0002350M004C	Elcometer 2350/4 with calibration certificate	8mm	-	● (d)

¹ For Information Only (d) Dimensional Certificate (e) Efflux Time Certificate

● Calibration Certificate supplied as standard. ◇ Batch Calibration Certificate supplied as standard.

Viscosity Flow Cups

Elcometer 2351, 2352 & 2353

Technical Specification



ISO Viscosity Flow Cups

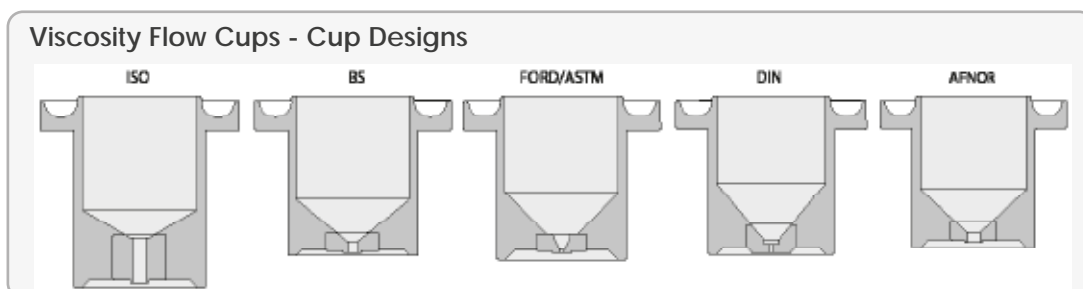
Part Number	Description	Orifice Diameter	Range ¹ (cSt)	Certificate
K0002353M001	Elcometer 2353/1 ISO Viscosity Cup 3	3mm	7 - 42	◇
K0002353M002	Elcometer 2353/2 ISO Viscosity Cup 4	4mm	34 - 135	◇
K0002353M003	Elcometer 2353/3 ISO Viscosity Cup 5	5mm	91 - 326	◇
K0002353M004	Elcometer 2353/4 ISO Viscosity Cup 6	6mm	188 - 684	◇
K0002353M005	Elcometer 2353/5 ISO Viscosity Cup 8	8mm	-	
K0002353M001C	Elcometer 2353/1 with calibration certificate	3mm	7 - 42	● (e)
K0002353M002C	Elcometer 2353/2 with calibration certificate	4mm	34 - 135	● (e)
K0002353M003C	Elcometer 2353/3 with calibration certificate	5mm	91 - 326	● (e)
K0002353M004C	Elcometer 2353/4 with calibration certificate	6mm	188 - 684	● (e)
K0002353M005C	Elcometer 2353/5 with calibration certificate	8mm	-	● (d)

FORD/ASTM Viscosity Cups

Part Number	Description	Orifice Diameter	Range ¹ (cSt)	Certificate
K0002351M001	Elcometer 2351/1 FORD/ASTM Viscosity Cup 1	1.90mm	10 - 35	◇
K0002351M002	Elcometer 2351/2 FORD/ASTM Viscosity Cup 2	2.53mm	25 - 120	◇
K0002351M003	Elcometer 2351/3 FORD/ASTM Viscosity Cup 3	3.40mm	49 - 220	◇
K0002351M004	Elcometer 2351/4 FORD/ASTM Viscosity Cup 4	4.12mm	70 - 370	◇
K0002351M005	Elcometer 2351/5 FORD/ASTM Viscosity Cup 5	5.20mm	200 - 1200	◇
K0002351M001C	Elcometer 2351/1 with calibration certificate	1.90mm	10 - 35	● (e)
K0002351M002C	Elcometer 2351/2 with calibration certificate	2.53mm	25 - 120	● (e)
K0002351M003C	Elcometer 2351/3 with calibration certificate	3.40mm	49 - 220	● (e)
K0002351M004C	Elcometer 2351/4 with calibration certificate	4.12mm	70 - 370	● (e)
K0002351M005C	Elcometer 2351/5 with calibration certificate	5.20mm	200 - 1200	● (e)

AFNOR Viscosity Cups

Part Number	Description	Orifice Diameter	Range ¹	Certificate
K0002352M001	Elcometer 2352/1 AFNOR Viscosity Cup 2.5	2.46mm	5 - 140	
K0002352M002	Elcometer 2352/2 AFNOR Viscosity Cup 4	4mm	50 - 1100	
K0002352M003	Elcometer 2352/3 AFNOR Viscosity Cup 6	6mm	510 - 5100	
K0002352M001C	Elcometer 2352/1 with calibration certificate	2.46mm	5 - 140	● (d)
K0002352M002C	Elcometer 2352/2 with calibration certificate	4mm	50 - 1100	● (d)
K0002352M003C	Elcometer 2352/3 with calibration certificate	6mm	510 - 5100	● (d)



Viscosity Flow Cup Accessories

Elcometer

Accessories

KT002400N201	<p>Viscosity Cup Stand with Bubble Level and Glass Draw Plate To ensure the viscosity cup is positioned correctly to carry out the test.</p>
KT002400N001	<p>Viscosity Cup Precision Stand with Bubble Level and Glass Draw Plate To ensure the viscosity cup is positioned correctly to carry out the test.</p>
KT002400P001	<p>Bubble Level for Viscosity Cup To ensure the viscosity cup is parallel to the surface.</p>
KT002400P999	<p>Viscosity Glass Draw Plate To retain test sample until operator is ready to commence test and provides surface for bubble level.</p>
KT002400N202	<p>Viscosity Cup Precision Stand with Thermojacket</p>
KT002400N002	<p>Thermojacket for Viscosity Cup Precision Stand For heating test samples for viscosity measurement at specific elevated temperatures.</p>



K0007300M201 Elcometer 7300 High Precision Stopwatch



KT002400N003 Elcometer 2400 Conversion Disc
Allowing viscosity (cSt) and flow times of different cups to be calculated.
Front: No.4 cups according to AFNOR, BS, NF, ASTM, DIN, Zahn 2
Back: No.3-4-5-6 cups according to ISO and Zahn 3



Thermometers

To accurately measure flow for viscosity the temperature needs to be $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$ (73.4°F). Here are a range of thermometers from Elcometer.

T1164441-	Spirit Thermometer in °C
T1164442-	Spirit Thermometer in °F
G212----1A	Elcometer 212 Digital Pocket Thermometer (°C/°F) with Liquid Probe
G213----2	Elcometer 213/2 Digital Thermometer (°C/°F)
T9996390-	Elcometer 213/2 Liquid Probe



For a full range of Certified Calibration Oils see page 6



Viscosity - Standard Calibration Oils

Elcometer 2410

Elcometer Viscosity Cup Standard Calibration Oils



In order to check the viscosity cup's calibration or to certify it for ISO purposes, it is imperative that viscosity cup standard calibration oils are used.

Standard oils have a specific drain time, dependent upon the viscosity cup type (Ford, Shell, Zahn etc.) and the orifice or cup number used.

To check the viscosity cup, use the standard viscosity oils in place of the liquid and measure the drain time.

Specific calibration oils can only be used with specific flow cups. Please use the table below to determine which calibration oil is required for your cup, or contact Elcometer. Viscosity oils are supplied in ½ litre (1 pint) bottles.

Technical Specification

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Part Number	Description	Flow Cups			Kinematic Viscosity at 25°C (77°F) [†]	Certificate
		DIN	ASTM/FORD	ISO		
K0002410M021	Certified Calibration Oil		2	3	34cSt	●
K0002410M022	Certified Calibration Oil	4	3	4	120cSt	●
K0002410M023	Certified Calibration Oil	4	4	6	230cSt	●
K0002410M024	Certified Calibration Oil	4		6	460cSt	●
K0002410M025	Certified Calibration Oil				850cSt	●
K0002410M026	Certified Calibration Oil				1600cSt	●

[†] Nominal Value

● Calibration certificate supplied as standard.

ENGLAND

Elcometer Limited
Manchester M43 6BU
Tel: +44 (0)161 371 6000
Fax: +44 (0)161 371 6010
sales@elcometer.com

FRANCE

Elcometer Sarl
Tel: +33 (0)2 38 86 33 44
Fax: +33 (0)2 38 91 37 66
fr_info@elcometer.com
www.elcometer.fr

GERMANY

Elcometer Instruments GmbH
Tel: +49(0)7361 52806 0
Fax: +49(0)7361 52806 77
de_info@elcometer.com
www.elcometer.de

THE NETHERLANDS

Elcometer B.V.
Tel: +31 (0)30 259 1818
Fax: +31 (0)30 210 6666
nl_info@elcometer.com
www.elcometer.nl

JAPAN

Elcometer KK
Tel: +81-(0)3-6869-0770
Fax: +81-(0)3-6433-1220
jp_info@elcometer.com
www.elcometer.jp

REPUBLIC OF SINGAPORE

Elcometer (Asia) Pte Ltd
Tel: +65 6462 2822
Fax: +65 6462 2860
asia@elcometer.com
www.elcometer.com.sg

USA

MICHIGAN
Elcometer Inc
Tel: +1 248 650 0500
Toll Free: 800 521 0635
Fax: +1 248 650 0501
inc@elcometer.com
www.elcometer.com

USA

TEXAS
Elcometer of Houston
Tel: +1 713 450 0631
Toll Free: 800 521 0635
Fax: +1 713 450 0632
inc@elcometer.com
www.elcometer.com

UNITED ARAB EMIRATES

EL Inspection & Blasting
Equipment LLC
Tel: +971 4 295 0191
Fax: +971 4 295 0192
uae_sales@elcometer.com
www.elcometer.ae

www.elcometer.com

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