1

1 Dipping flow cups Frikmar

Aluminium. DIN 53211 viscometer. With brass nozzle or stainless steel (V2A) as indicated. For all types of liquid chemicals, varnishes, fluid enamels, gravure printing inks and leather dyes, oils, fats, foodstuffs etc.
Cup volume 100ml.

Flow nozzle mm	Material	PK	Cat. No.
3	brass	1	**6.056 477**
4	brass	1	**9.149 898**
5	brass	1	**6.058 370**
6	brass	1	**6.056 922**
8	brass	1	**6.084 496**
2	brass	1	**6.055 115**
4	stainless steel	1	**6.205 982**
6	stainless steel	1	**6.800 186**
5	stainless steel	1	**7.653 197**
3	stainless steel	1	**7.673 361**

2

2 Flow cups with fixed nozzle

With fixed nozzle made of stainless steel. Housing made of titanium anodised aluminum.

Flow nozzle mm	Description	Material	PK	Cat. No.
2	similar to DIN 53 211	Aluminium	1	**6.057 808**
3	similar to DIN 53 211	Aluminium	1	**6.091 529**
4	DIN 53 211	Aluminium	1	**9.149 862**
4	DIN 53 211	Stainless Steel	1	**6.226 824**
6	similar to DIN 53 211	Aluminium	1	**6.301 841**
8	similar to DIN 53 211	Aluminium	1	**6.302 759**
3	ISO 2431	Aluminium	1	**6.223 165**
4	ISO 2431	Aluminium	1	**6.088 604**
5	ISO 2431	Aluminium	1	**6.901 466**
6	ISO 2431	Aluminium	1	**6.088 605**

3

3 Immersion flow cup with fixed nozzle

With fixed nozzle from stainless steel or aluminium.

Flow nozzle mm	Acc. to	Material	PK	Cat. No.
4	DIN 53 211	Aluminium	1	**9.149 894**
6	similar to DIN 53 211	Aluminium	1	**6.080 098**
3	ISO 2431	Aluminium	1	**6.705 831**
4	ISO 2431	Aluminium	1	**6.302 328**
6	ISO 2431	Aluminium	1	**6.314 566**
5	ISO 2431	Aluminium	1	**6.705 832**
4	DIN 53 211	Stainless Steel	1	**6.264 682**
6	similar to DIN 53 211	Stainless Steel	1	**6.225 937**

4

4 Flow cups, without nozzles

For 2, 3, 4, 5, 6, 7 and 8mm outlet detachable nozzles, please order separately.
Flow cups and nozzles similar to DIN 53211.

Type	Flow nozzle mm	Material	PK	Cat. No.
Flow cups	-	Aluminium	1	**9.149 860**
Nozzle	2	Stainless Steel	1	**9.149 872**
Nozzle	3	Stainless Steel	1	**9.149 873**
Nozzle	4	Stainless Steel	1	**9.149 874**
Nozzle	5	Stainless Steel	1	**9.149 875**
Nozzle	6	Stainless Steel	1	**9.149 876**
Nozzle	7	Stainless Steel	1	**9.149 877**
Nozzle	8	Stainless Steel	1	**9.149 878**

5

9.149 881

6

9.149 884

Flow cup stands

Stainless steel.

Type	PK	Cat. No.
Flow cup stand, ring stand	1	**9.149 881** 5
Flow cup stand, tripod stand	1	**9.149 884** 6

1 Viscometers Ubbelohde, glass, kinematic

ISO 3105, DIN 51562. *SI Analytics*
For manual (type 501 ..) or automatic (type 532 ..) measurements.
Constants documented in manufacturer's certificate.

Type	Capillary i.d.	Measuring range	Capillary	Constant	PK	Cat. No.
	mm	mm² / sec		K		
501 00	0,36	0,2 - 1	0	0,001	1	**9.268 100**
501 03	0,47	0 - 3	0c	0,003	1	**9.268 103**
501 01	0,53	0,8 - 5	0a	0,005	1	**9.268 101**
501 10	0,63	1,2 - 10	I	0,01	1	**9.268 110**
501 13	0,84	3 - 30	Ic	0,03	1	**9.268 113**
501 11	0,95	5 - 50	Ia	0,05	1	**9.268 111**
501 20	1,13	10 - 100	II	0,1	1	**9.268 120**
501 23	1,50	30 - 300	IIc	0,3	1	**9.268 123**
501 21	1,69	50 - 500	IIa	0,5	1	**9.268 121**
501 30	2,01	100 - 1000	III	1	1	**9.268 130**
501 33	2,65	300 - 3000	IIIc	3	1	**9.268 133**
501 31	3,00	500 - 5000	IIIa	5	1	**9.268 131**
501 40	3,60	1000 - 10000	IV	10	1	**9.268 140**
532 00	0,36	0,3 - 1	0	0,001	1	**7.023 176**
532 03	0,47	0,5 - 3	0c	0,003	1	**9.268 203**
532 01	0,53	0,8 - 5	0a	0,005	1	**9.268 201**
532 10	0,63	1,2 - 10	I	0,01	1	**9.268 210**
532 13	0,84	3 - 30	Ic	0,03	1	**9.268 213**
532 11	0,95	5 - 50	Ia	0,05	1	**7.023 177**
532 20	1,13	10 - 100	II	0,1	1	**9.268 220**
532 23	1,50	30 - 300	IIc	0,3	1	**9.268 223**
532 21	1,69	50 - 500	IIa	0,5	1	**7.023 178**
532 30	2,01	100 - 1000	III	1	1	**9.268 230**
532 31	3,00	500 - 5000	IIIa	5	1	**7.023 179**
532 33	2,65	300 - 3000	IIIc	3	1	**9.268 233**
532 40	3,60	1000 - 10000	IV	10	1	**9.268 240**

2 Viscometer holders

Type 05392. VA steel. *SI Analytics*
Suitable for all Ubbelohde viscometers without TC sensors. For manual and automatic measurements. Holds the viscometer perpendicularly. Accuracy <1°. Protects the viscometer from damage.

Type	PK	Cat. No.
05392	1	**9.268 790**

3 Digital viscometer VISCO/VISCO-895

Compact and easily carried with one hand. Fully digital display allows for anyone to easily read results. Capable to measure with only a small amount of sample. Easy set-up and simple, one-button operation. Capable of taking measurements with containers other than the included beakers. *ATAGO*
VISCO-895: Aluminium model with reduced weight (895 g).

Scope of supply:
VISCO / VISCO-895 Package A: Viscometer with adapter for cups, 50 paper cups and 50 plastic cups
VISCO / VISCO-895 Package B: Viscometer with Ultra Low Adapter for low viscosity samples (1 to 2000 mPas)

Specifications

Measuring range Viscosity	A1: 50 to 200.000 mPas/50 to 200.000 cP
	A2: 100 to 600.000 mPas/100 to 600.000 cP
	A3: 500 to 2000.000 mPas/500 to 2000.000 cP
Measuring range Torque:	0.0 to 100.0% (recommended: 10.0 to 100.0 %)
Speed:	0.5 to 250 rpm
Working temperature:	10 to 40 °C
Dimensions (W x D x H):	120 x 120 x 200 mm
Netweight:	1200 g
Power supply:	100-240 V, 50/60 Hz,
	4 x LR6/AA batteries

Type	PK	Cat. No.
VISCO	1	**6.286 453**
VISCO Package A	1	**6.286 454**
VISCO Package B	1	**6.286 455**
VISCO-895	1	**6.286 456**
VISCO-895 Package A	1	**6.286 457**
VISCO-895 Package B	1	**6.286 458**

1

B-ONE PLUS

2

FIRST PLUS

1 2 Viscometers B-ONE PLUS/FIRST PLUS

Lamy Rheology SARL

The rotational viscometer determines the viscosity of liquids by the torque with different measuring spindles. With the B-ONE PLUS, you can determine measurement times for thixotropic products. When entering the density of the product, the kinematic viscosity can also be determined. The viscometer is used mainly in the areas of cosmetics, pharmacy, colour production and chemistry.

Delivery as a single unit or with the spindle sets L1-L4 or R2-R7.
- Measurement at different speeds
- Viscosity range up to 240 000 000 mPas
- 7" touch screen
- Different spindle sets
- Easy to use
- Wide range of applications
- Stable stand
- Display settings: viscosity, speed, torque, measuring time, measurement geometry
- Viscosity unit cp or mPas
- Language French, English, Russian, Spain

FIRST PLUS additionally with:
- PT100 for accurate temperature measurement
- Connections for RS232, USB, LAN
- Software optional

Specifications

Rotation speed:	0.3 ... 250 rpm
Torque range:	0.05 ... 13 mNm
Torque range LR versions:	0.005 ... 0.8 mNm
Temperature range FIRST PLUS:	-50 ... 300 °C
Accuracy:	±1 % of full scale
Repeatability:	±0.2 %
Viscosity range B-ONE PLUS with spindles L1 - L4/R2- R7:	15 ... 2 000 000 mPas/100 ... 240 00 000 mPas
Dimensions head (L x W x H):	180 x 135 x 250 mm
Dimensions stand (L x W x H):	280 x 200 x 30 mm
Rod length:	500 mm
Weight:	6.7 kg
Power supply	90-240 VAC, 50/60 Hz

Type	Viscosity range mPas	PK	Cat. No.
B-ONE PLUS LR with L-1 to L-4 spindle set	15 - 22 000 000	1	**4.659 126**
B-ONE PLUS with R-2 to R-7 spindle set	100 - 240 000 000	1	**4.659 127**
FIRST PLUS with L-1 to L-4 spindle set	15 - 22 000 000	1	**4.659 129**
FIRST PLUS with R-2 to R-7 spindle set	200 - 240 000 000	1	**4.659 130**

Viscometers ViscoQC

Anton Paar

These viscometers cover the entire viscosity range with three models:
L for low viscosity, R for medium viscosity and H for highly viscous samples.

- Digital levelling function for verification of the alignment
- Magnetic spindle coupling for a quick exchange of spindles
- Automatic spindle recognition Toolmaster™ prevents errors in spindle selection
- T-Ready™ automatically displays the adjustment of the sample temperature
- Automatic speed search TruMode™ finds the right speed for unknown samples
- Automatic spindle protection detection TruGuard™ for automatic detection of the guard
- Predefined modes/methods: manual mode TruMode™, stop at specific torque/specific temperature
- Data transfer via V-Collect PC software Dymo® LabelWriter™

Scope of supply: Viscomerter, Toolmaster™, magnetic coupling, 4 spindles (R and H) or 6 spindles (L) out of AISI 316L, tripod, power supply unit, USB-cable, data collection software V-Collect, printed SOP, instructions

Specifications

Temperature range:	15 ... 80 °C
Accuracy:	±1 %
Repeatability:	±0.2 %
Dimensions (L x W x H):	361 x 281 x 444 mm
Weight:	6.2 kg
Power supply:	100 ... 240 V, 47/63 Hz, 24 V, 3 A

Viscometers ViscoQC 100

NEW

Anton Paar

- 3.5" colour LC display
- Direct print/export

6.313 808

Type	Viscosity range mPas	Max. torque Ncm	PK	Cat. No.
ViscoQC 100 - L	15 ... 6000000	0.00673	1	**6.313 808** 1
ViscoQC 100 - R	100 ... 40000000	0.07187	1	**6.313 809**
ViscoQC 100 - H	800 ... 320000000	0.57496	1	**6.313 810**

Viscometers ViscoQC 300

NEW

Anton Paar

- 7" colour LC display
- Data memory (up to 999 measurements)
- Print/export from data memory, PDF-export, CSV-table, LIMS page printer (USB or network)
- Predefined modes/methods: stop at specific viscosity, speed/temperature scan
- All methods with QS-Limit-function, instructions
- User, user groups
- Upgradeable software packages (V-Curve and/or V-Comply)

6.313 811

Type	Viscosity range mPas	Max. torque Ncm	PK	Cat. No.
ViscoQC 300 - L	15 ... 6000000	0.00673	1	**6.313 811** 2
ViscoQC 300 - R	100 ... 40000000	0.07187	1	**6.313 812**
ViscoQC 300 - H	800 ... 320000000	0.57496	1	**6.313 813**

3 Viscosimeters ROTAVISC

IKA

Viscosimeters with a large range of functions to determine the viscosity of liquids in all areas of application, ranging from laboratory to quality control. The devices are suited for different viscosity ranges and are available with or without controlling software.

- Highest measurement accuracy
- Stepless speed adjustment
- 4.3" TFT display
- Digital level
- Simple ramp function
- With connection for ext. PT100 sensor

Scope of supply: Viscosimeter incl. standard spindle set, protective bracket, temperature sensor and ROTASTAND stand. ADVANCED models include labworldsoft 6 Visc software for controlling different devices, eg. temperature control systems and other measuring devices

Specifications

Rotation speed:	0.01 ... 200 rpm
Temperature range:	-30 ... +300 °C
Accuracy:	1 %
Repeatability:	0.2 %
Stroke max.:	200 mm
Dimensions stand (L x W x H):	351 x 372 x 629 mm
Weight:	7.1 kg
Power supply:	100 ... 240 V, 50/60 Hz
Protection class acc. to DIN EN 60529:	IP 40

Type	Viscosity range mPas	Torque mNm	PK	Cat. No.
ROTAVISC lo-vi Complete	1 ... 6,000,000	0.0673	1	**4.662 322**
ROTAVISC me-vi Complete	100 ... 40,000,000	0.7187	1	**4.662 323**
ROTAVISC hi-vi I Complete	200 ... 80,000,000	1.4374	1	**4.662 324**
ROTAVISC hi-vi II Complete	800 ... 320,000,000	5.7496	1	**4.662 325**
ROTAVISC lo-vi Advanced	1 ... 6,000,000	0.0673	1	**4.664 317**

1

1 Measuring instrument for viscosity analysis ViscoClock plus

SI Analytics

The ViscoClock plus is an electronic timing unit for glass capillary viscometers used to determine kinematic and relative viscosity. Succeeding the well-proven ViscoClock, the new instrument features data storage and simpler handling. The ViscoClock plus is designed for SI Analytics Ubbelohde (DIN; ASTM; Micro) and Micro Ostwald viscometers.
To determine absolute kinematic viscosities, viscometers have to be used which are calibrated for automatic measurements. The ViscoClock plus automatically measures the flow time of temperature-stabilized liquids in capillary viscometers by means of infrared light barriers.
The viscometer including a sample is inserted into the ViscoClock plus and immersed into a thermostatic bath for temperature stabilization. After thermostating, the sample is pumped into the measuring bulb, and the flow time is detected automatically. The large display enables easy read-off of flow times and additional information: date, time, sample ID and viscometer ID.
The ViscoClock plus can be used in all SI Analytics bath types.

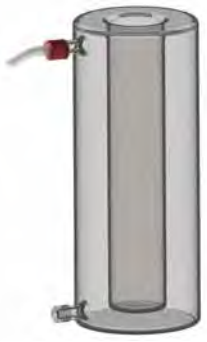
ViscoClock plus: Electronic timing unit for glass capillary viscometers, power supply 100-230 V and manual pump.
ViscoClock plus M1: Device incl. thermostatic bath for temperatures from +10 to +60 °C
ViscoClock plus M2: Device incl. thermostatic bath for temperatures from -40 to +150 °C

Specifications

Measuring range:	Up to 999.99 secs./resolution 0.01 sec.
Timing accuracy:	±0.01 sec. ±1 digit
Measuring range viscosity:	0.35 to 10000 mm²/sec. (cSt)
USB interface:	For connecting an USB stick or a printer (TZ 3863)
Operating temperature:	Stand: -40 to +150 °C
	Electronic measuring unit: +10 to +40 °C
Dimensions (W x D x H):	approx. 90 x 30 x 515 mm
Weight:	approx. 450 g (without viscometer)
	Power pack approx. 220 g

Type	PK	Cat. No.
ViscoClock plus	1	**6.285 151**
ViscoClock plus M1, 230 V	1	**6.272 199**
ViscoClock plus M2, 230 V	1	**6.272 224**

2



2 Thermostat vessel for ViscoClock plus, DURAN®

NEW

SI Analytics

For tempering of samples in a viscometer, as an alternative to a special glass-panelled bath thermostat. ViscoClock plus has to be connected via hoses to a suitable thermostat bath circulator. For safety reasons, the range of measuring temperatures is restricted to ±15 °C compared to room temperature. The use of an additional magnetic stirrer is recommended.

Specifications

Temperature range:	10 ... 40 °C
Accuracy:	±0.05 K
Tubing olive (diam.):	10.5 mm
Magnetic stirring bar:	approx. 40 mm

Type	PK	Cat. No.
ViscoClock plus VZ 6574	1	**6.314 326**