LAMY RHEOLOGY INSTRUMENTS

2021 | 2022

HOSKIN SCIENTIFIQUE

MADE IN FRANCE

VISCOSITY | RHEOLOGY | TEXTURE | TRAINING

# FIRST PLUS

With its expanded possibilities and increased modularity, the FIRST PLUS will be the ideal tool for your application whether you use it alone or with its software.

## FEATURES AND BENEFITS

- Direct measure with time to stop.
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Integrated temperature probe.
- Printer connection.
- Compatible with RheoTex software.
- Display of viscosity limits according to mobile and speed.
- Speed or shear rate control.

## WHAT'S INCLUDED WITH DEVICE ?

*(according to part number)*

- 4 Spindles LV or 6 spindles RV **(p75)**.
- 1 Integrated temperature probe.
- 1 Standard stand or rack stand **(p68)**.
- 1 Touch screen stylus.
- 1 User manual.
- 1 Calibration and checking certificate.
- 1 Microfiber cloth.

## AVAILABLE INSTRUMENTS

| Reference | Designation | Viscosity range (mPa.s) |
|---|---|---|
| N700700 | FIRST PLUS VISCOMETER WITH SPINDLE RV-2 TO RV-7 (with standard stand) | 200 to 240M |
| N700709 | FIRST PLUS VISCOMETER WITH SPINDLE RV-2 TO RV-7 (with rack stand) | 200 to 240M |
| N700300 | FIRST PLUS LR VISCOMETER WITH SPINDLE LV-1 TO LV-4 (with standard stand) | 15(1*) to 22M |
| N700009 | FIRST PLUS LR VISCOMETER WITH SPINDLE LV-1 TO LV-4 (with rack stand) | 15(1*) to 22M |

*M for million / (*) Can reach 1 mPa.s with MS ULV (p.78). Not included.*

## SPECIFICATIONS

**Type of instrument**
Rotating springless viscometer with 7" Touch screen

**Rotation speeds**
Unlimited number of speeds between 0.3 and 250 rpm

**Torque range**
Standard Version: 0.05 to 13 mNm
LR version: 0.005 to 0.8 mNm

**Temperature Probe**
Equipped with a PT100 sensor which indicates temperatures between -50°C to +300°C

| **Accuracy** | **Repeatability** |
|---|---|
| +/- 1 % of the full scale | +/- 0,2 % |

**Display**
Viscosity (cP/Poises or mPa.s / Pa.s)
Speed – Shear rate – Torque – %- Shear stress - Time – Temperature

**Norms**
**ASTM** : D115 ; D789 ; D1076 ; D1084 ; D1337 ; D1338 ; D1417; D1439 ; D1824 ; D2196 ; D2243 ; D2364 ; D2556 ; D3288 ; D3468 ; D3716 ; D3730 ; D3794 ; D4016 ; D4143 ; D4878 ; D4889 ; D5324 ; D5400 ; D6279 ; D6577 ; D7394 ; D8020 ; E2975 ; F1607 ; **BS** 5350 ; **DIN** 2555 ; 3219 ; 52007-1 ; 53019-1; 54453 ; **EN** 302-7 ; 2555 ; 3219 ; 10301 ; 12092 ; 12802 ; 15425 ; 15564 ; **ISO** 1652 ; 2555 ; 2884-2 ; 3219 ; 10364-12

**Languages**
French/English/Russian/Spanish/Turkish/German

| **Supply voltage** | **Analog output** |
|---|---|
| 90-240 VAC 50/60 Hz | 4 – 20 mA |
| **PC connections** | **Printer connection** |
| RS232 Port and USB | USB Host Port - Compatible PCL/5 |

**Dimensions and weight**
Head: D180 x H230 x W130 mm
Aluminium stand: L280 x W200 x H30 mm
Stainless steel rod: Length 500 mm
Weight: 6.7 kg

## COMPATIBLES MEASURING SYSTEMS

**MS-RV** (p75), **MS-LV** (p75), **MS-BV** (p76), **MS-VANES** (p77), **MS-KREBS** (p77), **MS-SV** (p79), **MS-ULV** (p78), **MS-DIN** (p72).

## COMPATIBLES TEMPERATURE CONTROLS

**EVA LR** (p60), **EVA MS DIN** (p58), **RT-1 PLUS** (p61).

## OPTIONS & ACCESSORIES +

- Carrying case **(p68).**
- External temperature probe -50°C to +300°C **(p69).**
- HELIPRO stand **(p66).**
- Barcode reader with stand and cable **(p68).**
- Bayonet spindle rack **(p69).**
- Touch screen protector **(p68).**
- Viscosity standards oil **(p69).**
- Dymo printer **(p68).**
- Small volume package **(p67).**
- THERMOCELL package **(p61).**
- RheoTex software **(p64-65).**

# FIRST PRO

**Programmed**
for **your measurements**

FIRST PRO has the same enhanced programming capabilities as the most complete instruments to maximize the repeatability of your measurements.

## FEATURES AND BENEFITS

- Programming and recording method.
- Direct measure with time to stop.
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Integrated temperature probe.
- Printer connection.
- Compatible with RheoTex software.
- Display of viscosity limits according to mobile and speed.
- Speed or shear rate control.

## WHAT'S INCLUDED WITH DEVICE ?

*(according to part number)*

- 4 Spindles LV or 6 spindles RV **(p75)**.
- 1 Integrated temperature probe.
- 1 Standard stand or rack stand **(p68)**.
- 1 Touch screen stylus.
- 1 User manual.
- 1 Calibration and checking certificate.
- 1 Microfiber cloth.

## AVAILABLE INSTRUMENTS

| Reference | Designation | Viscosity range (mPa.s) |
|---|---|---|
| N702700 | FIRST PRO VISCOMETER WITH SPINDLES RV-2 TO RV-7 (with standard stand) | 200 to 240M |
| N702709 | FIRST PRO VISCOMETER WITH SPINDLES RV-2 TO RV-7 (with rack stand) | 200 to 240M |
| N702300 | FIRST PRO LR VISCOMETER WITH SPINDLES LV-1 TO LV-4 (with standard stand) | 15(1*) to 22M |
| N702309 | FIRST PRO LR VISCOMETER WITH SPINDLES LV-1 TO LV-4 (with rack stand) | 15(1*) to 22M |

*M for million / (*) Can reach 1 mPa.s with MS ULV (p.78). Not included.*

## SPECIFICATIONS

**Type of instrument**
Rotating springless viscometer with 7" Touch screen

**Rotation speeds**
Unlimited number of speeds between 0.3 and 250 rpm

**Torque range**
Standard Version: 0.05 to 13 mNm
LR Version: 0.005 to 0.8 mNm

**Temperature Probe**
Equipped with a PT100 sensor which indicates temperatures between -50°C to +300°C

| **Accuracy** | **Repeatability** |
|---|---|
| +/- 1 % of the full scale | +/- 0,2 % |

**Display**
Viscosity (cP/Poises or mPa.s / Pa.s)
Speed – Shear rate – Torque – %- Shear stress - Time – Temperature

**Norms**
**ASTM** : D115 ; D789 ; D1076 ; D1084 ; D1337 ; D1338 ; D1417; D1439 ; D1824 ; D2196 ; D2243 ; D2364 ; D2556 ; D3288 ; D3468 ; D3716 ; D3730 ; D3794 ; D4016 ; D4143 ; D4878 ; D4889 ; D5324 ; D5400 ; D6279 ; D6577 ; D7394 ; D8020 ; E2975 ; F1607 ; **BS** 5350 ; **DIN** 2555 ; 3219 ; 52007-1 ; 53019-1; 54453 ; **EN** 302-7 ; 2555 ; 3219 ; 10301 ; 12092 ; 12802 ; 15425 ; 15564 ; **ISO** 1652 ; 2555 ; 2884-2 ; 3219 ; 10364-12

**Languages**
French/English/Russian/Spanish/Turkish/German

| **Supply voltage** | **Analog output** |
|---|---|
| 90-240 VAC 50/60 Hz | 4 – 20 mA |
| **PC connections** | **Printer connection** |
| RS232 Port and USB | USB Host Port - Compatible PCL/5 |

**Dimensions and weight**
Head: D180 x H230 x W130 mm
Aluminium stand: L280 x W200 x H30 mm
Stainless steel rod: Length 500 mm
Weight: 6.7 kg

## COMPATIBLES MEASURING SYSTEMS

**MS-RV** (p75), **MS-LV** (p75), **MS-BV** (p76), **MS-VANES** (p77), **MS-KREBS** (p77), **MS-SV** (p79), **MS-ULV** (p78), **MS-DIN** (p72).

## COMPATIBLES TEMPERATURE CONTROLS

**EVA LR** (p60), **EVA MS DIN** (p58), **RT-1 PLUS** (p61).

## OPTIONS & ACCESSORIES +

- Carrying case **(p68).**
- External temperature probe -50°C to +300°C **(p69).**
- HELIPRO stand **(p66).**
- Barcode reader with stand and cable **(p68).**
- Bayonet spindle rack **(p69).**
- Touch screen protector **(p68).**
- Viscosity standards oil **(p69).**
- Dymo printer **(p68).**
- Small volume package **(p67).**
- THERMOCELL package **(p61).**
- RheoTex software **(p64-65).**

# RM 100 PLUS

Our most
**modular viscometer**

The RM100 PLUS is the viscometer with largest speed and torque range available on market. Create your methods and store your results in relation with your application.

## FEATURES AND BENEFITS

- Speed or shear rate control.
- Huge speed and torque range.
- Direct control of temperature unit.
- Programming and recording method.
- Direct measure with time to stop.
- User and locked mode.
- Data recording and USB transfer.
- Torque gage on display.
- Integrated temperature probe.
- Printer connection.
- Compatible with RheoTex software.
- Display of viscosity limits according to mobile and speed.

## WHAT'S INCLUDED WITH DEVICE ?

*(according to part number)*

- 1 Integrated temperature probe.
- 1 Standard stand or rack stand **(p68)**.
- 1 Touch screen stylus.
- 1 User manual.
- 1 Calibration and checking certificate.
- 1 Microfiber cloth.

## AVAILABLE INSTRUMENTS

| Reference | Designation | Viscosity range (mPa.s) |
|---|---|---|
| N100000 | RM 100 PLUS VISCOMETER (with standard stand) | 1 to 780M* |
| N100009 | RM 100 PLUS VISCOMETER (with rack stand) | 1 to 780M* |

*M for million / * According to measuring system (p72-79). Not Included.*

## SPECIFICATIONS

**Type of instrument**
Rotating springless viscometer with 7" Touch screen

**Rotation speeds**
Unlimited number of speeds between 0.3 and 1500 rpm

**Torque range**
From 0.05 to 30 mNm

**Temperature Probe**
Equipped with a PT100 sensor which indicates temperatures between -50°C to +300°C

| **Accuracy** | **Repeatability** |
|---|---|
| +/- 1 % of the full scale | +/- 0,2% |

**Display**
Viscosity (cP/Poises or mPa.s / Pa.s)
Speed – Shear rate – Torque – %- Shear stress - Time – Temperature

**Norms**
**ASTM** : D115 ; D789 ; D1076 ; D1084 ; D1337 ; D1338 ; D1417; D1439 ; D1824 ; D2196 ; D2243 ; D2364 ; D2556 ; D3288 ; D3468 ; D3716 ; D3730 ; D3794 ; D4016 ; D4143 ; D4878 ; D4889 ; D5324 ; D5400 ; D6279 ; D6577 ; D7394 ; D8020 ; E2975 ; F1607 ; **BS** 5350 ; **DIN** 2555 ; 3219 ; 52007-1 ; 53019-1; 54453 ; **EN** 302-7 ; 2555 ; 3219 ; 10301 ; 12092 ; 12802 ; 15425 ; 15564 ; **IOCCC** 2000 ; **ISO** 1652 ; 2555 ; 2884-2 ; 3219; 10364-12

**Languages**
French/English/Russian/Spanish/Turkish/German

| **Supply voltage** | **Analog output** |
|---|---|
| 90-240 VAC 50/60 Hz | 4 - 20 mA |
| **PC connections** | **Printer connection** |
| RS232 Port and USB | USB Host Port - Compatible PCL/5 |

**Dimensions and weight**
Head: D180 x H230 x W130 mm
Aluminium stand: L280 x W200 x H30 mm
Stainless steel rod: Length 500 mm
Weight: 6.7 kg

## COMPATIBLES MEASURING SYSTEMS

**MS-RV** (p75), **MS-LV** (p75), **MS-BV** (p76), **MS-VANES** (p77), **MS-KREBS** (p77), **MS-SV** (p79), **MS-ULV** (p78), **MS-DIN** (p72), **MS-R** (p74).

## COMPATIBLES TEMPERATURE CONTROLS

**EVA LR** (p60), **EVA MS DIN** (p58), **RT-1 PLUS** (p61), **EVA MS-R** (p59).

## OPTIONS & ACCESSORIES +

- Carrying case **(p68).**
- External temperature probe -50°C to +300°C **(p69).**
- HELIPRO stand **(p66).**
- Barcode reader with stand and cable **(p68).**
- Bayonet spindle rack **(p69).**
- Touch screen protector **(p68).**
- Viscosity standards oil **(p69).**
- Dymo printer **(p68).**
- Small volume package **(p67).**
- THERMOCELL package **(p61).**
- RheoTex software **(p64-65).**

# RT-1 PLUS + THERMOCELL PACKAGE

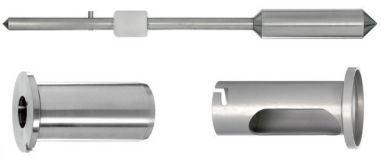
## FEATURES AND BENEFITS

- Temperature range from Room T°C to +300°C.
- Economic electric oven.
- Compatible with bayonet coupling device.
- Compatible with norms ASTM D4402 and D3236.

## WHAT'S INCLUDED WITH THERMOCELL PACKAGE ?

**(Ref. N130150)**

- 1 RT-1 PLUS oven **(Ref. N130130).**
- 1 Choice of one MK-SV spindle (p 79).
- 1 Cup MB-SV13R **(Ref. 116213)**.
- 1 Holder H-SV13RD **(Ref. 116313)** for disposable cup MB-SV13RD.
- 5 Disposable cups MB-SV13RD **(Ref. 116413** for 100pcs).
- 1 Centring tool ST-R **(Ref. 114436)**.



## AVAILABLE TEMPERATURE DEVICES

Compatible with bayonet coupling device

| Designation | Reference | Temperature range | Type | Compatible measuring system | Dimensions (pxlxh) in mm | Weight |
|---|---|---|---|---|---|---|
| RT1 PLUS + PROGRAMMER | N130130* | Room T°C to +300°C | Electrical | MS SV, MS DIN, MS ULV. | 610x340x650 | 15kg |
| RT1 PLUS | N130110 | Room T°C to +300°C | Electrical | | | |

** Allow temperature setting by measuring head or RheoTex software.*

# SOFTWARE

RHEOTEX

## **The new RheoTex software developed by LAMY RHEOLOGY** allows control of all instruments

*(excepted : B-ONE PLUS)*

The license file associated with the software allows you to automatically configure software to be compatible with instrument. Since the software base is the same, only an additional license is required when you have two devices to control by RheoTex. The installation of the software is not limited to one computer station.

The integrity of results and methods is guaranteed by using a database and by an optimized management of the users with specific rights.

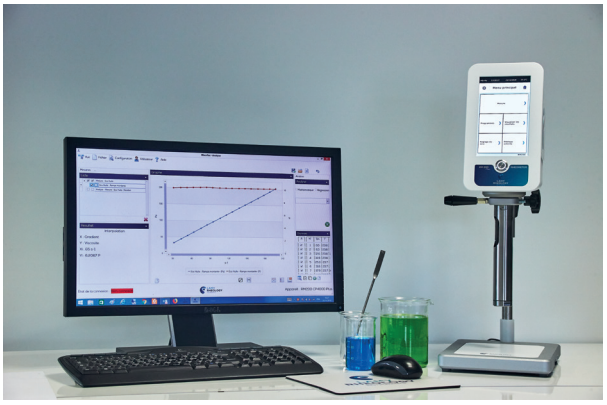
New graphical tools allow custom management of the display of curves, tables and analysis results.

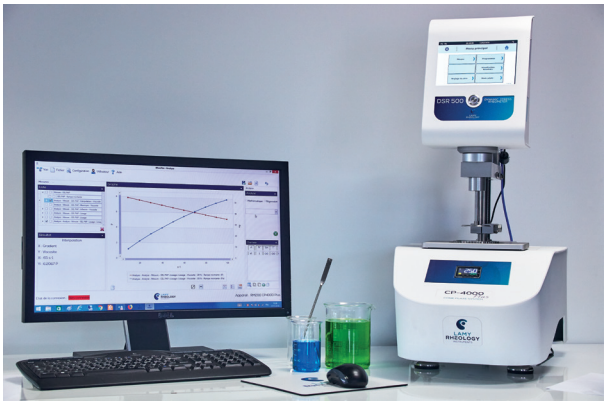
The 21 CFR option is available in two versions :

- Standard for only one approval electronic signature.
- Advanced for three level of electronic signature : Done-Review-Approval.

### FEATURES AND BENEFITS

- Creation and saving of methods.
- Transfer data from device memory.
- Temperature ramp method.
- Use of mathematical tools for data analysis.
- Creation of free program.
- PDF report editing.
- Compatible with office software or experience creation (automatic measurement and analysis).
- 21 CFR Part 11 Compatible.





# SOFTWARE

## AVAILABLES CONFIGURATIONS

**RheoTex** for
FIRST PLUS/FIRST PRO
**Ref. N311000** +
license **Ref. N311700**

**RheoTex** for
GT300 PLUS
**Ref. N311000** +
license **Ref. N311300**

**RheoTex** for
DSR 500
**Ref. N311000** +
license **Ref. N311500**

**RheoTex** for
RM100 PLUS, RM100 PORTABLE,
RM100i, RM100L, RM 100 CP 1000
**Ref. N311000** + license **Ref. N311100**

**RheoTex** for
RM200 PLUS
**Ref. N311000** +
license **Ref. N311200**

**RheoTex** for
DSR 500 CP 4000 PLUS
**Ref. N311000** +
license **Ref. N311504**

**RheoTex** for
RM100 CP 2000 PLUS
**Ref. 311000** +
license **Ref. N311202**

**RheoTex** for
RM200 CP 4000 PLUS
**Ref. N311000** +
license **Ref. N311204**

**RheoTex** for
TX-700
**Ref. N311000** +
license **Ref. N311777**

**RheoTex** for
GT300 PRODIG
**Ref. N311000** +
license **Ref. N311310**

**RheoTex** for
FIRST PRODIG,
FIRST PRODIG CP 1000
**Ref. N311000** + license
**Ref. N311710**

**21 CFR option**
Standard **Ref. N311020**
Advanced **Ref. N311021**

## RHEOTEX FUNCTIONS ACCORDING TO INSTRUMENTS

| Functions / Instrument version | FIRST | FIRST PRO | FIRST PRODIG | RM 100 | RM 200 | DSR 500 | GT300 | GT300 PRODIG | TX-700 |
|---|---|---|---|---|---|---|---|---|---|
| Instrument connection | USB, RS232 | | | | | | | | RS232 |
| Method viscosity over time | * | * | * | * | * | * | * | * | |
| Method step by step | * | * | * | * | * | * | | | |
| Method flow curve | | | * | | * | * | | | |
| Methods Compression, Relaxation, Tensile, TPA, Penetrometry | | | | | | | | | * |
| Methods Free Program | * | * | * | * | * | * | * | * | * |
| Loop mode | * | * | * | * | * | * | * | * | * |
| Experiment | * | * | * | * | * | * | * | * | * |
| Logarithmic ramp | | | * | | * | * | | | |
| Control of temperature unit (EVA, RT, CP1, CP2000, CP4000)* | | * | * | * | * | * | * | * | |
| Data transfer from device memory | * | * | * | * | * | * | * | * | * |
| Direct curve while test | * | * | * | * | * | * | * | * | * |
| Import methods and results | * | * | * | * | * | * | * | * | * |
| Export/copy data to Office | * | * | * | * | * | * | * | * | * |
| Export/copy diagram to Office | * | * | * | * | * | * | * | * | * |
| Editing report pdf | * | * | * | * | * | * | * | * | * |
| Display multiple curves | * | * | * | * | * | * | * | * | * |
| Lift control | | | | | For CP4000 | | | | * |
| Role/user management | * | * | * | * | * | * | * | * | * |
| 21 CFR Part 11 | * | * | * | * | * | * | * | * | * |
| Automatic stop on measured value | * | * | * | * | * | * | * | * | * |
| Mathematic analysis of results | Maximum, minimum, average, curves average, smoothing, interpolation, inflexion | | | | | | | | |
| Analysis as Area, Slope, TPA, relaxation | | | | | | | | | * |
| Rheological models | Newton, Ostwald, Bingham, Casson, Casson-Steiner, Chocolat | | | | Newton, Ostwald, Bingham, Casson, Power Law, Herschel-Bulkley, Casson-Steiner, Steiger Ory, Chocolat | | | | |

* Only for temperature unit with programmer.

# MS-SV

*Measuring systems for low volumes (316L stainless steel or aluminium).*
*These systems make it possible to measure products in small quantities by applying a shear rate at temperature up to +300°C (according to items, see table).*
*With RT1 and THERMOCELL package, these systems are compatible with ASTM D3236.*
*These measuring systems are compatibles with small volume package SVP65/180, water jacket CT-DIN/CT-LC, THERMOCELL package and our temperature controls EVA DIN and RT1.*

**Measuring cylinder MK-SV**

**Measuring chamber MB-SV13RC (Ref. 116214)**

**Disposable cup MB-SV13RD (Ref. 116413)**

**Holder H-SV13RD for disposable cup MB-SV13RD (Ref. 116313)**

**Measuring chamber MB-SV13R (Ref. 116213)**

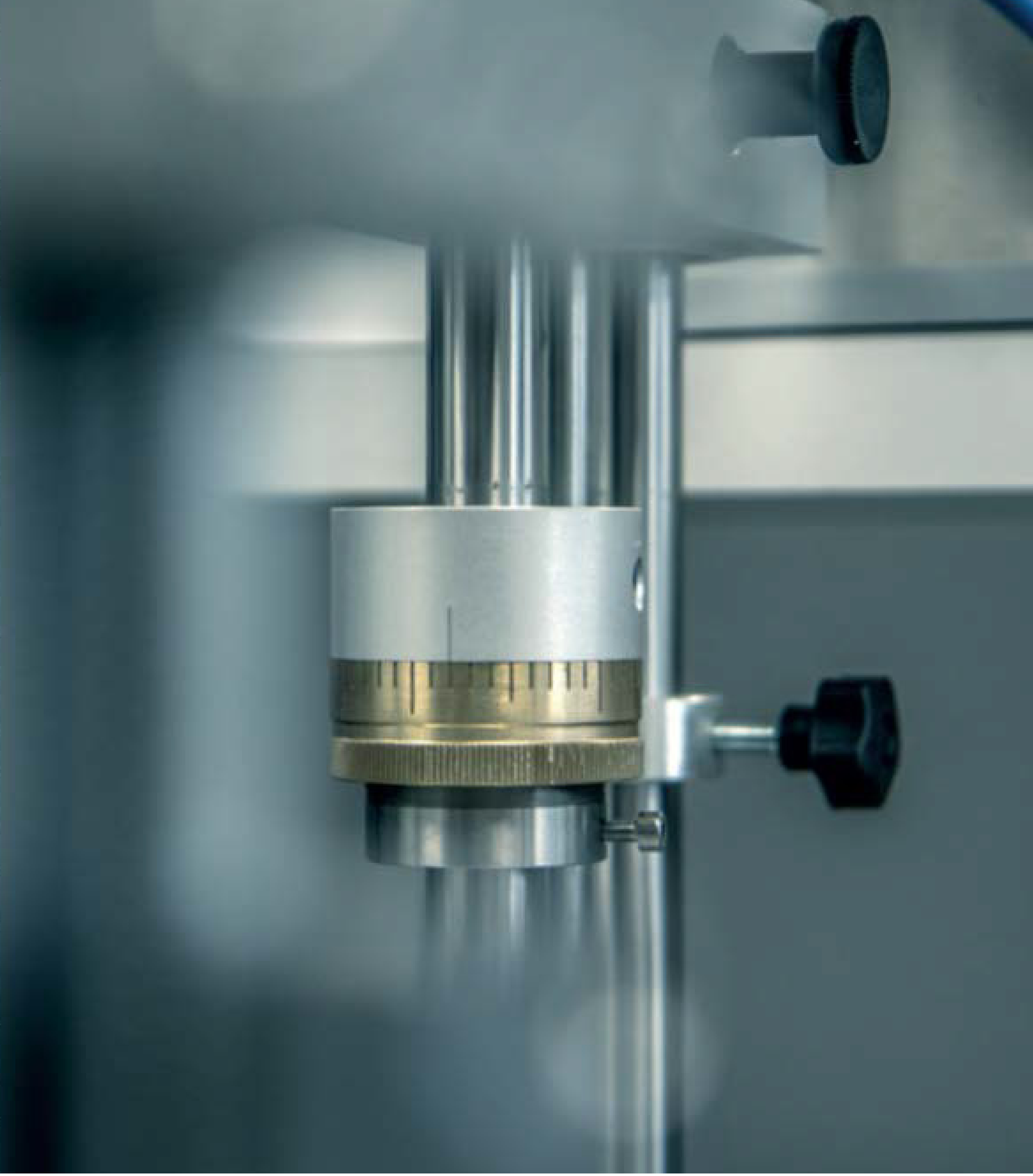
**Centring tool ST-R (Ref. 114436)**

**Delrin cap, temperature maximum 80°C (Ref. 116215)**

## MEASURING SYSTEMS WITH BAYONET COUPLING

| | | | | | | Viscosity range in mPa.s | | |
|---|---|---|---|---|---|---|---|---|
| **Measuring Cylinder** | | **Compatible chamber****** | | **Volume (ml)** | **Shear rate (s-1)** | **LR device** | **B-ONE/ FIRST** | **RM100/ RM200/ DSR500** |
| **Designation** | **Reference** | **Designation** | **Reference** | | | | | |
| MK-SV414* | 116114 | MB-SV6R* | 116206 | 3 | 0,4N | 44 to 5,8M | 440 to 95M | 73 to 219M |
| MK-SV415* | 116115 | MB-SV7R* | 116207 | 4,4 | 0,48N | 15 to 2M | 155 to 33M | 26 to 77M |
| MK-SV416* | 116116 | MB-SV8R* | 116208 | 4,6 | 0,29N | 39 to 5,2M | 394 to 85M | 66 to 197M |
| MK-SV418 | 116118 | MB-SV13R<br>MB-SV13RC**<br>MB-SVD*** | 116213<br>116214<br>116513 | 7,5 | 1,32N | 1 to 120K | 9 to 1,9M | 2 to 4,5M |
| MK-SV421 | 116121 | | | 8 | 0,93N | 1 to 188K | 14 to 3M | 2 to 7M |
| MK-SV425 | 116125 | | | 10 | 0,22N | 174 to 23M | 1,7K to 377M | 291 to 870M |
| MK-SV427 | 116127 | | | 12 | 0,34N | 7 to 0,99M | 75 to 16M | 12 to 37M |
| MK-SV428 | 116128 | | | 13 | 0,28N | 15 to 1,9M | 147 to 31M | 24 to 73M |
| MK-SV429 | 116129 | | | 13 | 0,25N | 29 to 3,9M | 294 to 63M | 49 to 146M |
| MK-SV431 | 116131 | | | 11 | 0,34N | 10 to 1,3M | 100 to 21M | 16 to 49M |
| MK-SV434 | 116134 | | | 11 | 0,28N | 19 to 2,5M | 194 to 41M | 32 to 96M |
| MK-SVC | 116002 | | | 13 | 0,43N | 3 to 420K | 32 to 6,8M | 5 to 15M |
| MK-SVTR8 | 140008 | | | 8 | 0,92N | 1 to 190K | 14 to 3M | 2 to 7M |
| MK-SVTR9 | 140009 | | | 12 | 0,34N | 7 to 0,99M | 75 to 16M | 12 to 37M |
| MK-SVTR10 | 140010 | | | 13 | 0,28N | 15 to 1,9M | 146 to 31M | 24 to 72M |
| MK-SVTR11 | 140011 | | | 13 | 0,25N | 30 to 3,9M | 300 to 64M | 50 to 149M |

*M for million, K for thousand, N for rotational speed (rpm). / * Not compatible with RT-1PLUS and THERMOCELL PACKAGE. / ** This cup can be used without centring tool ST-R. Need CAP (Ref. 116215). Temperature max 80°C. / *** This item include 100 disposable cup MB-SV13RD (Ref. 116413) and holder H-SVRD (Ref. 116313). / **** These items need centring tool ST-R (Ref. 114436 include with THERMOCELL and SVP65/180).*



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