

# SMALL SAMPLE ADAPTER



Standard chamber with embedded temperature probe

Disposable chamber



The Small Sample Adapter, consisting of a cylindrical sample chamber and spindle, provides a defined system for accurate viscosity measurements of small sample volumes in the order of 2 to 16 mL. The Small Sample Adapter attaches easily to all standard Brookfield Viscometers/Rheometers.

## REMOVABLE SAMPLE CHAMBER

The design of the Small Sample Adapter allows the sample chamber to be easily changed and cleaned without disturbing the set-up of the viscometer or temperature bath. This means that successive measurements can be made under identical conditions.

## TEMPERATURE CONTROL

The sample chamber fits into a water jacket so that precise temperature control can be achieved when the Brookfield circulating temperature bath is used. The stirring action of the rotating spindle, plus the small sample volume helps to keep the temperature gradient across the sample to a minimum. Direct readout of sample temperature is provided using sample chambers with embedded RTD sensors connected to the DV-I+ and DV-II+Pro Viscometers and the DV-III Ultra. Working temperature range for the Small Sample Adapter is from  $-15^{\circ}\text{C}$  to  $100^{\circ}\text{C}$ .

## CYLINDRICAL GEOMETRY

The Small Sample Adapter's cylindrical geometry provides extremely accurate viscosity measurements and shear rate determinations.

## DISPOSABLE SAMPLE CHAMBERS

Disposable chambers for hard-to-clean materials. Kit comes complete with 100 chambers and special size water jacket, Part No. 55A-DCU. Available only for 13R Chamber. Additional chambers available in quantities of 100, Part No. 5C4-13RD-100.



## FEATURES & BENEFITS

For rheological evaluation of materials where sample volume is limited

Sample chamber easily changed

Optional disposable chamber also available

Water jacket allows rapid and precise temperature control of sample

Simultaneous sample temperature measurement is possible by ordering embedded temperature probe in sample chamber



## WHAT'S INCLUDED?

Water Jacket

Mounting Bracket with Hardware

Choice of one SC4 Spindle\*

Choice of one SC4 Sample Chamber\*

Storage Case

\*Specify when ordering



## OPTIONAL ACCESSORIES

Embedded RTD temperature Probe

Disposable Sample Chambers

Temperature Bath (p29)

## SMALL SAMPLE ADAPTER VISCOSITY RANGES cP(MPa•s)

MODEL	Spindle SC4-18 Sample Chamber* SC4-13R(P) Sample Volume 8mL Shear Rate (sec <sup>-1</sup> ) 1.32H	Spindle SC4-31 Sample Chamber* SC4-13R(P) Sample Volume 10mL Shear Rate (sec <sup>-1</sup> ) .34H	Spindle SC4-34 Sample Chamber* SC4-13R(P) Sample Volume 10mL Shear Rate (sec <sup>-1</sup> ) .28H	Spindle SC4-16 Sample Chamber* SC4-8R(P) Sample Volume 4.2mL Shear Rate (sec <sup>-1</sup> ) .29H	Spindle SC4-25 Sample Chamber* SC4-13R(P) Sample Volume 16mL Shear Rate (sec <sup>-1</sup> ) .22H	Spindle SC4-21 Sample Chamber* SC4-13R(P) Sample Volume 8mL Shear Rate (sec <sup>-1</sup> ) .93H	Spindle SC4-27 Sample Chamber* SC4-13R(P) Sample Volume 11mL Shear Rate (sec <sup>-1</sup> ) .34H	Spindle SC4-15 Sample Chamber* SC4-7R(P) Sample Volume 3.3mL Shear Rate (sec <sup>-1</sup> ) .48H	Spindle SC4-28 Sample Chamber* SC4-13R(P) Sample Volume 12mL Shear Rate (sec <sup>-1</sup> ) .28H	Spindle SC4-29 Sample Chamber* SC4-13R(P) Sample Volume 13mL Shear Rate (sec <sup>-1</sup> ) .25H	Spindle SC4-14 Sample Chamber* SC4-6R(P) Sample Volume 2mL Shear Rate (sec <sup>-1</sup> ) .40H
LV DV-IIIU	1.2-30K	12-300K	24-600K	48-1.2M	192-4.8M	N/A	N/A	N/A	N/A	N/A	N/A
LV DV-II+P	1.5-30K	15-300K	30-600K	60-1.2M	240-4.8M	N/A	N/A	N/A	N/A	N/A	N/A
LV DV-I+	3-10K	30-100K	60-200K	120-400K	800-1.6M	N/A	N/A	N/A	N/A	N/A	N/A
LV DVE	3-10K	30-100K	60-200K	120-400K	800-1.6M	N/A	N/A	N/A	N/A	N/A	N/A
LVT	5-10K	50-100K	100-200K	200-400K	800-1.6M	N/A	N/A	N/A	N/A	N/A	N/A
RV DV-IIIU	N/A	N/A	N/A	N/A	N/A	20-500K	100-2.5M	200-5M	200-5M	400-10M	500-12.5M
RV DV-II+P	N/A	N/A	N/A	N/A	N/A	25-500K	125-2.5M	250-5M	250-5M	500-10M	625-12.5M
RV DV-I+	N/A	N/A	N/A	N/A	N/A	50-170K	250-830K	500-1.7M	500-1.7M	1K-3.3M	1.25K-4.2M
RV DVE	N/A	N/A	N/A	N/A	N/A	50-170K	250-830K	500-1.7M	500-1.7M	1K-3.3M	1.25K-4.2M
RV T	N/A	N/A	N/A	N/A	N/A	50-100K	250-500K	500-1M	500-1M	1K-2M	1.25K-2.5M
HADV-IIIU	N/A	N/A	N/A	N/A	N/A	40-1M	200-5M	400-10M	400-10M	800-20M	1K-25M
HADV-II+P	N/A	N/A	N/A	N/A	N/A	50-1M	250-5M	500-10M	500-10M	1K-20M	1.25K-25M
HADV-I+	N/A	N/A	N/A	N/A	N/A	100-300K	500-1.7M	1K-3.3M	1K-3.3M	2K-6.7M	2.5K-8.3M
HADVE	N/A	N/A	N/A	N/A	N/A	100-300K	500-1.7M	1K-3.3M	1K-3.3M	2K-6.7M	2.5K-8.3M
HAT	N/A	N/A	N/A	N/A	N/A	100-200K	500-1M	1K-2M	1K-2M	2K-4M	2.5K-5M
HB DV-IIIU	N/A	N/A	N/A	N/A	N/A	160-4M	800-20M	1.6K-40M	1.6K-40M	3.2K-80M	4K-100M
HB DV-II+P	N/A	N/A	N/A	N/A	N/A	200-4M	1K-20M	2K-40M	2K-40M	4K-80M	5K-100M
HB DV-I+	N/A	N/A	N/A	N/A	N/A	400-1.3M	2K-6.7M	4K-13.3M	4K-13.3M	8K-26.7M	10K-33.3M
HB DVE	N/A	N/A	N/A	N/A	N/A	400-1.3M	2K-6.7M	4K-13.3M	4K-13.3M	8K-26.7M	10K-33.3M
HBT	N/A	N/A	N/A	N/A	N/A	400-800K	2K-4M	4K-8M	4K-8M	8K-16M	10K-20M

M = 1 million K = 1 thousand N = RPM e.g. Spindle SC4-18 1.32 x 10 (rpm) = 13.2 sec<sup>-1</sup> cP = Centipoise mPa•s = Millipascal/seconds

N/A = Not applicable for historical reasons. However, it is possible to use any spindle/chamber combination with any torque range. Digital viscometers/rheometers will automatically calculate viscosity.

\* Examples

SC4-13R Sample Chamber

SC4-13R(P) Sample Chamber with RTD temperature probe and cable to viscometer/rheometer

SC4-13RP Sample Chamber with RTD temperature probe

SC4-13RD-100 Disposable Sample Chamber available in packages of 100

\*\* Disposable chamber available in 13R size and requires SC4-45YD water jacket