

SPECIFICATION FOR ROTATING VISCOMETER

VISCOSITY RANGE

THETA OFFERS THE FOLLOWING MEASURING HEADS FOR ROTATING VISCOMETER

Model		Theta part #	Viscosity Operating range for 10mm OD rotor (others see below)	
LV DVIII	Low viscosity	3535-1	50 mPa x s	to 5 x 10 ⁵ mPa x s
RV DVIII	Medium viscosity	3535-2	1000 mPa x s	to 5 x 10 ⁶ mPa x s
HB	High viscosity	3535-3	8000mPa x s	to 4 x 10 ⁷ mPa x s

There is no difference in price for all models

All heads require a # 3536 Signal conditioner

Maximum speed used for all models 100: RPM. Total range 0.1 to 500 RPM

One Centipoise = cPoise = One milli Pascal x sec. = mPa x s

These specs pertain to our standard 30mm ID beaker and 10mmOD by 10mm long rotor geometry. The viscosity range can be changed by changing the diameter of the rotor from e.g.10 to 12mm (increase 20%) or the length of the rotor and beaker (double the length, double the torque). See ASTM C965 and C1276. If the range of the Rotating Viscometer is insufficient, at the high end we suggest using Theta parallel plate viscometer Rheotronic III or bending beam viscometer Rheotronic III. The oscillating disk viscometer Rheotronic VI extends the range towards lower viscosity.

TORQUE RANGE

VISCOMETER MODEL	FULL SCALE TORQUE		
	DYNE CENTIMETERS		NEWTON CENTIMETERS
LV	673.7	STANDARD	0.0067
RV	7187.0	MANUAL	0.072
HB	57,496.0		0.57

HIGH TEMPERATURE RANGE

Pure platinum can be used to 1450°C both for 40 and 60mm high beaker.

High temperature 1650°C beaker and rotor

Engelhard ODS platinum - 10% rhodium ODS = oxide (yttrium) dispersion stabilized

ODS is more or less generic and is preferred over ZGS, both guarantee small grain size.

Johnson Matthey ZGS platinum - 10% rhodium ZGS = zirconia grain stabilized.

*TYPICAL VISCOSITY OPERATING RANGES WITH MODIFIED ROTOR DIAMETER

MODEL	ROTOR DIAMETER	RANGE	
		MIN	MAX
LV DVIII	6mm	100cp	10 ⁶ cp
LV DVIII	20mm	20cp	2x10 ⁵ cp
RV DVIII	8mm	2000cp	10 ⁷ cp

Parallel plate viscosity, 10⁹ to 10¹² c poise to 1600°C

Bending beam viscosity, 10¹² to 10¹⁶ c poise to 1100°C