

Do You Need Software?

Which instrument/software combination is best for you?

Using software with your Brookfield DV1, DV2T and DV3T has many advantages. Software enhances the capabilities of your instrument and allows for a more productive environment as automated tasks reduce test time and operator errors. Which instrument/software combination is best for you? This decision can easily be made by determining which features are the most important to your operation and seeing which instrument has the capabilities that best suits your overall requirements.

RheocalcT Test Wizards

Like wizards used in every day office software programs, RheocalcT test wizards are there to reduce the time and effort needed to set up or run a test. RheocalcT test wizards run a thix index test (calculate the ratio of viscosity at low speed vs. viscosity at a higher speed) or control the instrument to automatically reduce speed at preset torque values (curing test). Some other test methods that can easily be created with the RheocalcT test wizard include:

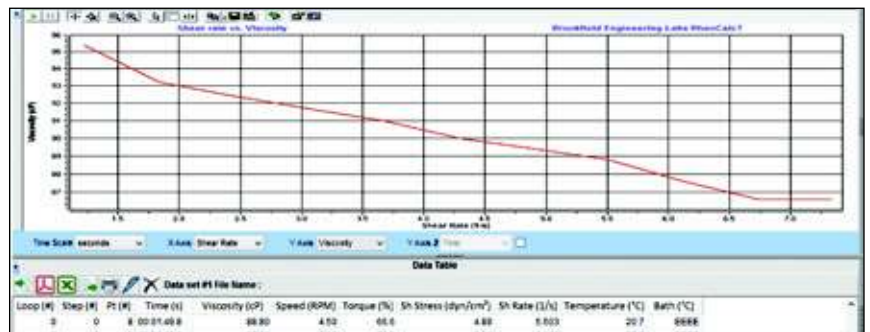
- Time to stop
- Time to torque
- Speed ramp / shear rate ramp
- Temperature profiling
- Yield stress test (DV3T)

FEATURES & BENEFITS available with software	RheocalcT		Wingather SQ
	DV3T	DV2T	DV1
Connect instrument to PC with USB port	•	•	•
Plot live data with graphical view of viscosity during tests	•	•	•
Import legacy templates and test data	•	•	•
Export data to Excel-compatible file format	•	•	•
Create data reports in .pdf file format	•	•	•
Create tests for various conditions using built-in test methods	•	•	•
Run yield stress test with EZ-Yield program	•		
Compare multiple test results on a single graph	•	•	•
Analysis through math models (yield stress and plastic index)	•	•	•
Analysis through math models (Bingham, Casson, Power Law, Herschel-Bulkley)*	•	•	•
Button click to access up to five stored programs			•
Store and easily access up to 10 programs	•	•	
Transfer collected data to a PC through thumb drive	•	•	•
Customized data graphs	•	•	•
Generate multiple plot overlays and print tabular data	•	•	
Test wizard for quick and easy test method creation	•	•	
Security features for user access and data integrity (21CFR P11)	•	•	
Ability to control Brookfield Temperature Bath and Thermosel	•	•	
Looping function for repetitive tasks	•	•	
Data collection averaging by individual steps or entire test	•		

*Math models feature is available in DV3T with or without RheocalcT software.



Test Condition Entry Screen for Speed Test Wizard



Example of RheocalcT Speed Test Results

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PG Flash Software Included

PROGRAM GENERATOR SOFTWARE FOR CUSTOMIZING
TEST CRITERIA FOR ROUTINE PRODUCT QC

This exclusive Brookfield software allows you to create repeatable custom tests on your PC! Once the program (up to 25 steps) is created, it can be downloaded to a supplied USB flash drive and then uploaded to any DV2T Viscometer.



PG Flash allows users to create repeatable custom tests with all of the built-in options on the DV2T plus the addition of multiple program lines (up to 25 steps). Create the program on the PC and download to a USB Flash Drive. Upload the program from the USB Flash Drive to the DV2T.

RheocalcT Software Optional (see p14 for more details)

GET TOTAL CONTROL OF YOUR INSTRUMENT AND TEST PARAMETERS

Automatically control the instrument and collect data with RheocalcT running on a dedicated PC with USB interface. RheocalcT can analyze data, generate multiple plot overlays, print tabular data, run math models and perform other time-saving routines. Up to five comparison data sets can be plotted and saved. Other features include:

- Wizards to guide you through the creation of common tests
- Secure 21CFR features including multiple logins, access levels, digital signatures, and data storage in a password-protected database
- Looping functions for repetitive tasks
- Averaging of collected data by individual step or whole test
- Math models: Bingham, Casson, Power Law, Herschel-Bulkley
- Export data to Excel® file format
- Create data reports in PDF format



Wingather SQ Software Optional (see p14 for more details)

DATA COLLECTION SOFTWARE TO COLLECT, ANALYZE AND RECORD TEST DATA

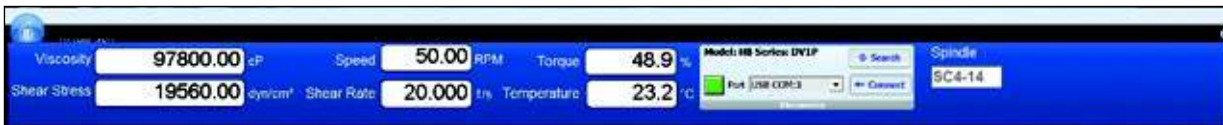
Wingather software provides an easy way to gather data and plot graphs while creating permanent test records.

Important features and benefits enhance operator versatility in performing viscosity tests:

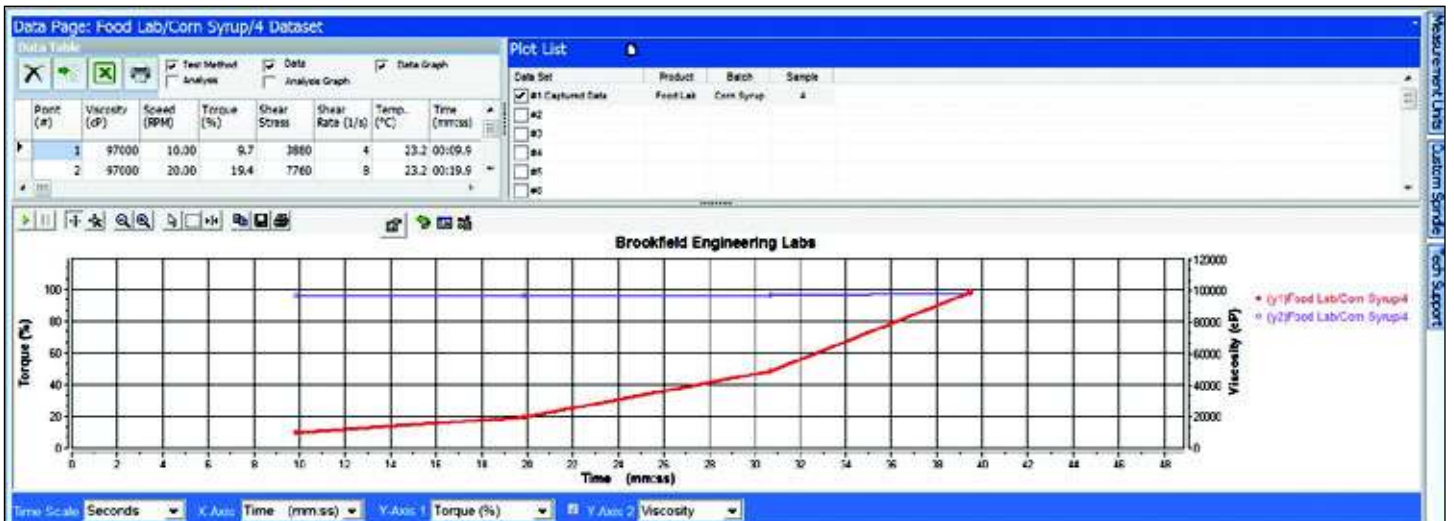
- Multiple test modes to enhance data collection
- Follow up events including analysis through math models which calculate yield stress and plastic index
- Automatic sample numbering
- Data graphing of up to 20 data sets concurrently
- Data export to spread sheet format (Excel®)



The DV1 Viscometer communicates to the PC through USB A port. The interface cable is supplied with Wingather SQ Software. Successful communication is indicated by a green light beside the port designation.



Dashboard shows current test information.



Data table and graph shows test record at a glance.

RheocalcT Software Optional for DV2T and DV3T (see p14 for more details)

GET TOTAL CONTROL OF YOUR INSTRUMENT AND TEST PARAMETERS

Automatically control and collect data with RheocalcT and a dedicated computer. RheocalcT can analyze data, generate multiple plot overlays, print tabular data, run math models and perform other time-saving routines. Up to five comparison data sets can be plotted and saved. Other features include:

- Wizards to guide you through the creation of common tests
- Secure 21CFR features including multiple logins, access levels, digital signatures, and data storage in a password-protected database
- Looping functions for repetitive tasks
- Averaging of collected data by step or whole test
- Math models: Bingham, Casson, Casson NCA/CMA, Power Law, IPC Paste, Herschel-Bulkley, Thix Index

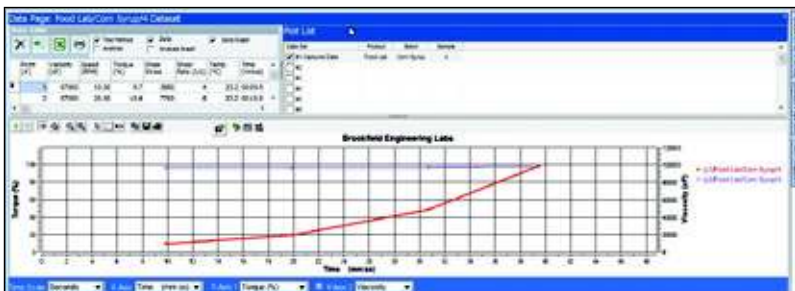


Wingather SQ Software Optional for DV1 (see p14 for more details)

DATA COLLECTION SOFTWARE TO COLLECT, ANALYZE AND RECORD TEST DATA

Wingather software provides an easy way to gather data and plot graphs while creating permanent test records. Data can be saved in the program or exported to Excel.

- Automates data collection to save time
- Reduces operator error
- Math modeling for yield stress calculations, plastic index
- Plot up to four data sets for comparisons

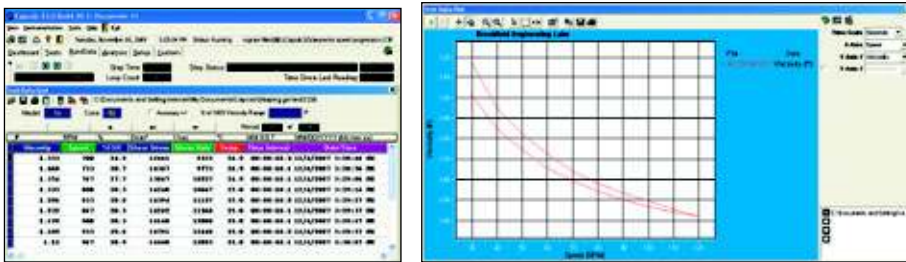


Capcalc32 Software Optional

TURN YOUR CAP2000+ VISCOMETER INTO A MORE POWERFUL RHEOMETER

Capcalc32 allows control of the CAP2000+ Viscometer while providing automatic data capture and graphical display. Automate your CAP 2000+ Viscometer and generate flow curves quickly and easily.

- Controls test parameters with powerful scripting capabilities
- Looping functions for repetitive tasks
- Automates data collection to save time
- Reduces operator error
- Math modeling for yield stress calculations, plastic index
- Plot up to four data sets for comparisons



Applications

MEDIUM VISCOSITY

Adhesives (hot melt)	Coatings	Resins
Architectural Coatings	Industrial Coatings	Starches
Autocoats (Hi-performance)	Inks (screen printing)	Surface
Creams	Organisols	UV Coatings
Food Products	Paints	Varnish
Gels	Paper Coatings	
Gums	Plastisols	

HIGH VISCOSITY

Adhesives	Gels	Sealants
Asphalt	Inks (ballpoint, offset, lithographic)	Sheet Molding
Compound		
Chocolate	Molasses	Tars
Composite Polymers	Pastes	Vinyl Esters
Epoxies	Roofing Compounds	

MODEL	Shear Rate (sec ⁻¹): 13.3N Sample Volume: 6.7uL Cone Spindle: CAP-01	Shear Rate (sec ⁻¹): 13.3N Sample Volume: 2.9uL Cone Spindle: CAP-02	Shear Rate (sec ⁻¹): 13.3N Sample Volume: 2.4uL Cone Spindle: CAP-03	Shear Rate (sec ⁻¹): 13.3N Sample Volume: 1.3uL Cone Spindle: CAP-04	Shear Rate (sec ⁻¹): 3.3N Sample Volume: 6.7uL Cone Spindle: CAP-05	Shear Rate (sec ⁻¹): 3.3N Sample Volume: 2.9uL Cone Spindle: CAP-06	Shear Rate (sec ⁻¹): 2.0N Sample Volume: 17.0uL Cone Spindle: CAP-07	Shear Rate (sec ⁻¹): 2.0N Sample Volume: 4.0uL Cone Spindle: CAP-08	Shear Rate (sec ⁻¹): 2.0N Sample Volume: 10.0uL Cone Spindle: CAP-09	Shear Rate (sec ⁻¹): 5.0N Sample Volume: 17.0uL Cone Spindle: CAP-10
HIGH TORQUE										
1000+ @750rpm	.25-2.5	.5-5	1-10	2-20	4-40	10-100	N/A	N/A	N/A	N/A
1000+ @900rpm	.2-2	.4-4	.8-8	1-16	3-33	8-83	N/A	N/A	N/A	N/A
1000+ @400rpm	.375-4.6	.75-9.3	1.5-18.7	3-37.5	6-75	15-187	.78-7.81*	3.13-31.3*	12.5-125*	1-10*
2000+ @5-1000rpm	.2-375	.4-750	.8-1.5K	1-3K	3-6K	8-15K	.78-625*	3.13-2.5K*	12.5-10K*	1-1K*
LOW TORQUE (for applications requiring low shear rates for low/medium viscosity fluids, an optional low torque 797-7,970 dyne•cm instrument can be ordered)										
1000+ @100rpm†	.2-.81	.2-1.6	.33-3.3	.65-6.5	1.3-13	3.3-33	.13-1.3	.54-5.4	2.2-22	.22-2.2
2000+ @5-1000rpm	.2-16	.2-32	.2-66	.2-130	.2-260	.2-660	.2-26	.2-108	.2-440	.2-44

µL = microLiter K = 1 thousand P = poise 1 Pa•s = 10 poise N = RPM e.g. Cone CAP-01 13.3 x 10 (rpm) = 133 sec⁻¹
 *Maximum speed recommended with this spindle is 400 rpm. Viscosity range indicated is for operation at 400 rpm. †Special speed instrument.
 Note: Viscosity ranges shown above are for illustration. The exact range will depend upon instrument configuration.

Rheo3000 Software

for quick and comprehensive data analysis capabilities with RST series Rheometers

Enhance your productivity

VIA PC CONTROL WHEN CHARACTERIZING MATERIAL RHEOLOGY

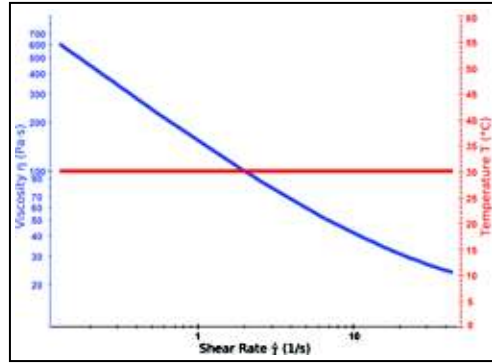
Your PC can do the detailed data collection and analysis work for you. Rheo3000 allows you to program the RST Rheometer and control shear stress or shear rate. Data is saved in a SQL database for easy access by multiple users on a network. Use multiple step test programs for complete characterization of material flow behavior: viscoelastic modulus, yield stress, viscosity flow curve, creep behavior, recovery.

In addition, Rheo3000 provides automated analysis of fluid behavior against user-defined control limit values, resulting in better quality control. Mathematical data processing models included are: Newton, Bingham, Casson, Ostwald, Steiger-Ory, and Herschel-Bulkley. Helpful features include:

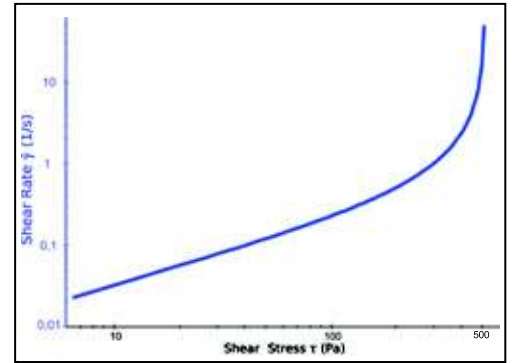
- 21 CFR compliance option for controlled user access and data security
- Active clock on screen shows test progress to completion
- Export reports in pdf format; choose parameters of interest, discard others

PC Requirements

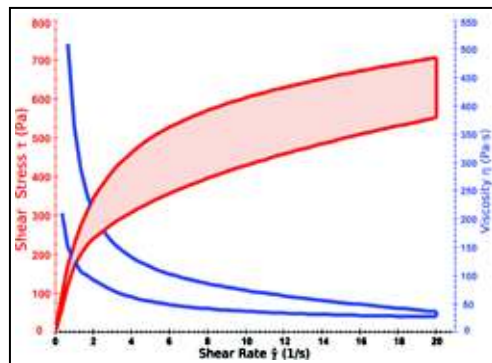
- 1.5 GHz Processor
- 1 GB System Memory
- 2.5 GB Hard Drive
- VGA Graphics Adapter (800 x 600 resolution)
- 1 USB port



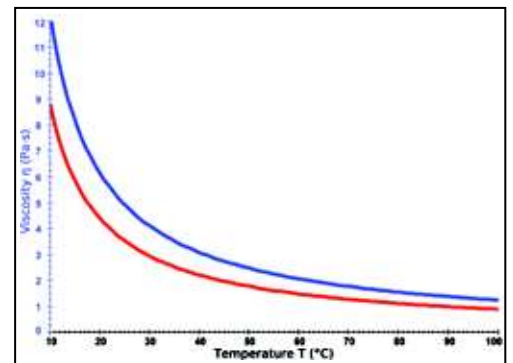
Viscosity Flow Curve: viscosity vs. shear rate graph shows pseudoplastic behavior while temperature remains constant at 30°C.



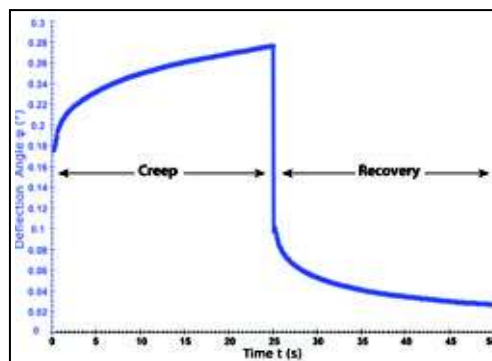
Yield Stress Determination: shear stress ramp from 0 to 1,000 Pa over 2 minutes shows yield stress values at 500 Pa.



Thixotropy Analysis: up/down shear rate ramp produces curves for shear stress vs. shear rate (red color) and viscosity vs. shear rate (blue color). Thixotropy calculation is the area between the red curves, approximately 2,000 Pa·s.



Viscosity vs. Temperature: viscosity is measured at constant shear rate while temperature increases from 10°C to 100°C for two test samples.



Creep /Recovery Behavior: material flow under constant stress is measured by detecting angular rotation of spindle; when constant stress is removed, recovery is measured by backward rotation of spindle.