

RFM300 Refractometers

The RFM300 Series of refractometers are the result of a combination of over 100 years' experience in design and manufacturing led by customer needs. With a wide measuring range and Peltier temperature control of the flat, easy clean prism, the RFM300 Series refractometers offer extremely rapid temperature stabilization of the sample, allowing readings to be taken quickly and reliably in any scale including Brix, Refractive Index (RI) or up to 100 user defined scales.



Whether a high resolution 7" touchscreen (RFM300-T) or a more tactile keypad (RFM300-M) is required, the graphical user interface with easy to use menus gives the RFM300 Series instruments a fresh, modern look and feel.

A large sampling area on the prism surface allows measurement of not only homogenous fluids like juices, sodas, sauces and edible oils, but also difficult to read samples like fruit pulps and industrial resins.

Intelligent software ensures rapid temperature response to changes in prism temperature, whilst the SMART temperature stability check makes sure that the result is displayed only when the sample is stable. A Methods system allows rapid configuration of instrument setup and provides limit checks against stored data as well as product-specific corrections, such as citric acid content for orange juice or coffee solids daily offsets. Over 8000 readings may be stored within the instrument memory and the on-screen menu may be displayed in a number of different languages.

The instrument is available in two formats, the most popular being the 3-decimal place Brix RFM340 refractometer, which, following improvements to the thermodynamic control system, now has an increased measurement performance between 0-30 °Brix and so reduces potential measurement error in the critical range covering finished products like the aforementioned juices and sodas. By improving the performance at the low end of the scale, users may now trim syrup dilution to the absolute minimum without the risk of breaching manufacturing specifications.

SG scales for sucrose are also common to the series. These scales may be used to express the relative density of pure sucrose solutions and, when used in conjunction with a product offset from within the Methods system, can express finished beverages as an equivalent SG. By doing so, contract packers of beverage products

- Touchscreen or keypad
- Easy clean prism
- High accuracy ($\pm 0.01^\circ$ Brix)
- Dual scale display
- Smart temperature stability
- Print to secure PDF

RFM340+		Bellingham + Stanley a xylem brand	
Device Information			
Serial Number:	RU12147	Application SW:	22.481.03 Rev. 0.106
Calibration Details			
Last Zero:	25/03/14 14:41, 1.33259 22.5 (p no)		
Last Span:	19/03/14 14:49, 1.42009 22.5 (p no)		
Configuration			
Scale:	brix (brix)	TC:	sugar (suc)
Sol Temp:	22.5°C	Resolution:	medium
Stability:	none		
Lang:	none		
Measurement Details			
Time / Date	Reading	Temperature	Quality
12:21:25 26/03/14	30.34	22.5°C	101
12:21:31 26/03/14	30.35	22.5°C	100
12:21:35 26/03/14	30.34	22.5°C	101
12:21:40 26/03/14	30.35	22.5°C	100
12:21:44 26/03/14	30.35	22.5°C	100
12:21:48 26/03/14	30.35	22.5°C	100
12:21:53 26/03/14	30.35	22.5°C	100
12:21:57 26/03/14	30.33	22.5°C	100
12:22:01 26/03/14	30.33	22.5°C	100
12:22:06 26/03/14	30.35	22.5°C	100
Mean:	30.34	22.5	
Std. dev.:	0.006	0.06	
Min:	30.33	22.5	
Max:	30.35	22.5	
Spread:	0.02	0.0	
26/03/14		RU12147_140326_122125.pdf	

may now use a refractometer in situations where density °Brix or SG is dictated as the method of analysis, whilst retaining all the measurement advantages held by a refractometer. A dual display function allows original Brix or RI to be displayed alongside the equivalent sucrose SG result.



Other new features now standard on the RFM300 Series include RFID User Clearance, electronic signatures and audit trails that facilitate use in an FDA regulated environment (21 CFR part 11) as well as enhanced functionality via the new USB interfaces such as Back-up & Clone and Print to Secure PDF.

RFM340 Refractometer Enhanced Performance

Specifications	RFM330	RFM340	RFM340	RI	°Brix
Order Code			RFM340		
RFM300-T	19-30	19-40		1.32-1.58	0-100
RFM300-T	19-35	19-45		1) 1.32-1.38	1) 0-30
				2) 1.38-1.58	2) 30-100
Scales			Resolution	0.000001 (6 d.p)	0.001 (3 d.p)
Refractive Index	1.32 - 1.58	1.32 - 1.58	Precision	0.000005 (6 d.p)	0.005 (3 d.p)
Sugar (°Brix)	0 - 100	0 - 100			
User Defined	100	100			
Resolution					
Refractive Index	0.00001	0.00001			
Sugar (°Brix)	0.01	0.01			
Accuracy					
Refractive Index	± 0.00005	± 0.00002 (1.32 - 1.38 RI)			
		± 0.00004 (1.38 - 1.58 RI)			
Sugar (°Brix)	± 0.04	±0.01 (0 - 30 °Brix)			
		±0.03 (30 - 100 °Brix)			
User Scale Library on-board	20+ preprogrammed scales including HFCS (3), wine (5), sugar (4), urine SG (3), Urea, sucrose SG (3), FSII, NaCl, Butyro etc. Plus customer programmable scales via PC.				
Presser Type	Polyacetal				
Reading Time	Minimum 4 seconds				
Measuring Temperature Range	0 °C or 10°C below ambient whichever is greater to 70 °C				
Temperature Sensor Accuracy	± 0.03°C				
Sample Temperature Stability	± 0.05°C				
Temperature Compensation					
Sucrose (°Brix)	5 - 70 °C				
AG Fluids	5 - 40 °C				
User Defined	Simple coefficient (units/°C) or polynomial function				
Temperature Stability Checks	None/delay time/repeatability/ Smart (independently selectable by Method)				
Interfaces	3 x USB (A), 1 x USB (B), Ethernet. RS232 via optional adaptor				
Prism Seal	Silicon/Resin				