Operation Manual

RSG-100/ATC

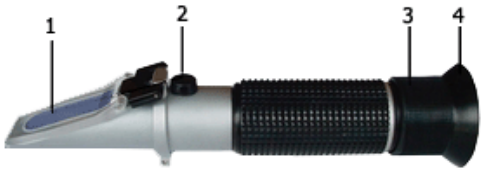
Model	Range	Min. Div	Accuracy
RSG-100/ATC	SG: 1.000 – 1.120	0.001	±0.002
	BRIX:0 – 32%	0.2	±0.4

Remarks: 1)If new style model, “N” will be added in the model name, such as RSGN-100ATC etc..

2) ATC Compensation Range: From 10’C to 30’C (50’F to 86’F)

Parts:

1----Daylight Plate; 2----Calibration Screw; 3----Focus Adjustment; 4----Eyepiece;

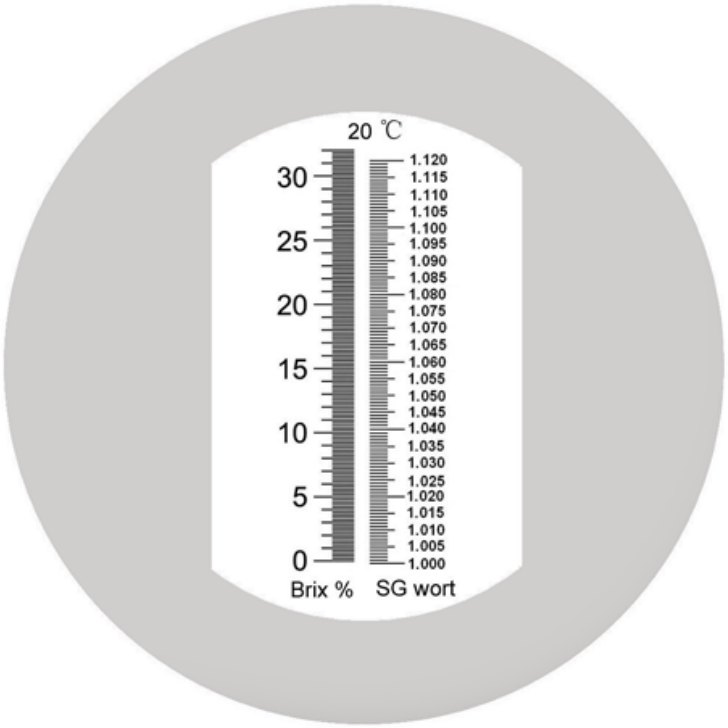


Method of operation:

1) Aim the front end of the refractometer to the direction of bright light, and adjust the eyepiece until the reticle can be seen clearly.

2) Adjustment of null:

Open the daylight plate and place 2-3 drops of distilled water on the main prism. Close the daylight plate and press it lightly so the water spreads across the entire surface of the prism without air bubbles or dry spots. Allow the sample to remain on the prism for approximately 30 seconds. **Then adjust** the Calibration Screw until the light/dark boundary coincides with the null line(0). Adjustment of refractometer with temperature compensation function should be made under the condition of 20℃(68℉)environmental temperature. When working temperature of the room or environment (not the sample) changes by more than 5°F, we recommend recalibration to maintain accuracy.



3) Operation procedure is done after calibration and it is done in essentially the same manner as calibration. Open the daylight plate. Clean the surface of prism by soft cotton cloth. Drop 2-3 drops of solution to be measured on the main prism. Close the daylight plate and press it lightly, then read the corresponding scale of light/dark boundary. The reading is the value of measured solution.

4) After measurement, clean away the measured solution on the surface of prism and cover plate by moist cotton cloth,. After drying, it should be shored perfectly.

Warnings- Maintenance:

1) Adjustment of null: Liquid and specimen should be under the same temperature. If the temperature varies greatly, the null point should be adjusted once per 30 minutes.

2) After usage, don't use water to wash the instrument, so as to prevent water from entering into the instrument.

3) As it is a kind of precision optical instrument, you should handle it gently and take good care of it. Don't touch and scratch the optical surfaces. It should be kept in the environment of dry, clean and non-corrosive air, so as to prevent the surface of it from turning mouldy and foggy. Please avoid strong shock during transportation.

4) If the consumers use the instrument in accordance with the mentioned method of usage, it can be guaranteed that the instrument can't break down. The optical performance can't change.

Warranty and Repair Information:

We warrant that all our refractometers are free from defects in material and workmanship for one year from the date of purchase. If the product is found to be defective by us, we will repair or replace the unit without charge. And we reserve the exclusive right to determine the cause of failure and advise if a warranty replacement or repair can be made. This warranty does not include shipping costs, collect shipments will not be accepted, or any instrument that has become worn through use, broken from mis-use, neglect, tampering, or unauthorized repair. Return shipments will be re-paid freight unless other arrangements have been made. We will advise the customer of the repair cost of any refractometer not covered by warranty. Work on such units will not begin until a purchase order is received. There are no other expressed or implied warranties.

Please call the dealer prior to returning any products for evaluation.

Temperature Correction

The reference of temperature is 20℃. In operation, the temperature compensation should be made according to the table. The model with ATC is a refractometer provided with an Automation Temperature Compensation function, so correction of the temperature according to the table is not needed.

Temperature Correction Table for Saccharose Solution(Reference temperature is at 20℃)

Temperature ℃		Quality Fraction (%)																		
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	
Temperature ℃	0	To be Subtracted from Scale reading																		
	10	0.52	0.58	0.59	0.81	0.84	0.87	0.89	0.71	0.72	0.74	0.74	0.74	0.75	0.76	0.77				
	11	0.48	0.51	0.54	0.55	0.58	0.61	0.63	0.65	0.65	0.67	0.67	0.67	0.68	0.68	0.69	-	-	-	
	12	0.44	0.47	0.49	0.50	0.52	0.55	0.57	0.58	0.58	0.60	0.60	0.60	0.60	0.61	0.61	-	-	-	
	13	0.39	0.42	0.43	0.44	0.45	0.49	0.50	0.51	0.51	0.53	0.53	0.53	0.53	0.55	0.53	-	-	-	
	14	0.35	0.37	0.38	0.39	0.40	0.42	0.43	0.44	0.44	0.45	0.45	0.45	0.45	0.45	0.46	-	-	-	
	15	0.29	0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.37	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.37	0.37	
	16	0.24	0.25	0.26	0.27	0.28	0.28	0.29	0.30	0.30	0.30	0.31	0.31	0.31	0.31	0.31	0.30	0.30	0.30	
	17	0.18	0.19	0.20	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.22	
	18	0.12	0.13	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	
	19	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	
	20	To be Added to Scale reading																		
	21	0.06	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	
	22	0.13	0.14	0.14	0.14	0.14	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.15	0.15	
	23	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23	0.23	0.24	0.24	0.24	0.24	0.23	0.23	0.23	0.23	0.22	
	24	0.27	0.28	0.29	0.29	0.30	0.30	0.31	0.31	0.31	0.32	0.32	0.32	0.32	0.31	0.31	0.31	0.30	0.30	
	25	0.34	0.35	0.36	0.37	0.38	0.38	0.39	0.39	0.40	0.40	0.40	0.40	0.40	0.39	0.39	0.39	0.38	0.37	
	26	0.42	0.43	0.44	0.45	0.46	0.46	0.47	0.47	0.48	0.48	0.48	0.48	0.48	0.47	0.47	0.46	0.46	0.45	
	27	0.50	0.51	0.52	0.53	0.54	0.55	0.55	0.56	0.56	0.56	0.56	0.56	0.56	0.55	0.55	0.54	0.53	0.52	
	28	0.58	0.59	0.60	0.61	0.62	0.63	0.64	0.64	0.64	0.65	0.65	0.64	0.64	0.64	0.63	0.62	0.61	0.60	
	29	0.66	0.67	0.68	0.69	0.70	0.71	0.72	0.73	0.73	0.73	0.73	0.73	0.72	0.72	0.71	0.70	0.69	0.68	
	30	0.74	0.75	0.77	0.78	0.79	0.80	0.81	0.81	0.81	0.82	0.81	0.81	0.81	0.80	0.79	0.78	0.77	0.75	