

Specifications subject to change without notice

Measurement specifications

Unit	Accuracy	Resolution	Range	ATC
Babo (°Babo)	±0.2	0.1	0 to 30	Yes
Baumé (°Bé)	±0.2	0.1	0 to 40	Yes
Brix (°Bx)	±0.2	0.1	0 to 85	10 to 100°C 18 to 40°C ¹
Calcium Chloride (%w/w CaCl ₂)	±0.1	±0.1	0 to 39	10 to 40°C
Corn syrup AC 28 DE (%w/w) *	±0.3	0.1	0 to 70	20 to 60°C
Corn syrup AC 42 DE (%w/w) *	±0.3	0.1	0 to 70	20 to 60°C
Corn syrup AC 55 DE (%w/w) *	±0.3	0.1	0 to 84	20 to 60°C
Corn syrup DC 32 DE (%w/w) *	±0.3	0.1	0 to 84	20 to 60°C
Corn syrup DC 63 DE (%w/w) *	±0.3	0.1	0 to 84	20 to 60°C
Corn syrup DC 70 DE (%w/w) *	±0.3	0.1	0 to 84	20 to 60°C
Corn syrup DC 95 DE (%w/w) *	±0.3	0.1	0 to 74	20 to 60°C
Cutting oil (% Oil)	±0.2	0.1	0 to 100	10 to 100°C
Ethylene glycol (%v/v)	±0.4	0.1	0 to 60	10 to 80°C
Ethylene glycol (%w/w)	±0.4	0.1	0 to 60	10 to 80°C
Ethylene glycol (°C EG)	±0.5	0.1	-40 to 0	10 to 40°C
Ethylene glycol (°F EG)	±1	0.1	-40 to 32	10 to 40°C
Fructose (%w/w Fru) *	±0.2	0.1	0 to 85	10 to 85°C 15 to 30°C ¹
Glucose (%w/w Glc) *	±0.2	0.1	0 to 85	10 to 85°C 15 to 30°C ¹
HFCS 42% (%w/w) *	±0.5	0.1	0 to 84	20 to 60°C
HFCS 55% (%w/w) *	±0.3	0.1	0 to 84	20 to 60°C
HFCS 90% (%w/w) *	±0.3	0.1	0 to 84	20 to 60°C
HMCS 42% (%w/w) *	±0.3	0.1	0 to 84	20 to 60°C

HMCS 50% (%w/w) *	±0.3	0.1	0 to 84	20 to 60°C
Honey moisture (%Water)	±0.2	0.1	13 to 25	10 to 30°C
Invert sugar (%w/w IS) *	±0.2	0.1	0 to 85	10 to 85°C 15 to 30°C ¹
KMW (°KMW)	±0.2	0.1	0 to 30	Yes
Oechsle CH (°Oe CH)	±1	1	0 to 205	Yes
Oechsle GER (°Oe GER)	±1	1	20 to 205	10 to 85°C
Plato (°P)	±0.2	0.1	0 to 40	10 to 100°C
Potential Alcohol Brix (%v/v)	±0.2	0.1	0 to 25	10 to 100°C
Potential Alcohol Oe (%v/v)	±0.2	0.1	0 to 25	10 to 100°C
Practical salinity units (PSU)	±2	1	0 to 50	10 to 40°C
Propylene glycol (%v/v PG)	±0.4	0.1	0 to 50	10 to 100°C
Propylene glycol (%w/w PG)	±0.4	0.1	0 to 50	10 to 100°C
Propylene glycol (°C PG)	±0.5	0.1	-40 to 0	10 to 40°C
Propylene glycol (°F PG)	±1	0.1	-40 to 32	10 to 40°C
Refractive index nD	±0.0003	0.0001	1.3330 to 1.5040	No
Refractive index nD @20 °C	±0.0003	0.0001	1.3330 to 1.5040	10 to 100°C
Salinity (SG 20/20)	±0.002	0.001	1.000 to 1.114	10 to 40°C
Salinity (ppt)	±2	1	0 to 150	10 to 40°C
Sodium Chloride (%w/w NaCl)	±0.2	0.1	0 to 26	10 to 40°C
Sodium Chloride (g/L NaCl)	±2.5	0.1	0 to 316	10 to 40°C
Temperature (°C)	±0.5	0.1	10 to 100	No
Temperature (°F)	±0.9	0.1	50 to 212	No
Total dissolved solids (%TDS)	±0.2	0.1	0 to 25	10 to 100°C
Total dissolved solids custom (%TDS) **	±0.2	0.1	0 to 25	10 to 100°C
Urine SG 20/20 Cat (USG Cat)	±0.001	0.001	1.000 to 1.120	10 to 40°C

Technical data

SmartRef Digital Refractometer



Urine SG 20/20 Dog (USG Dog)	±0.001	0.001	1.000 to 1.070	10 to 40°C
Urine SG 20/20 Human (USG Human)	±0.001	0.001	1.000 to 1.039	10 to 40°C
Urine SG 20/20 Large Mammal (USG LM)	±0.001	0.001	1.000 to 1.070	10 to 40°C

General specifications

Sample volume approx. 0.4 mL	Ambient temperature 10 °C to 40 °C / 50 °F to 104 °F
Storage temperature 10 °C to 40 °C / 50 °F to 104 °F	Humidity 5 % to 95 % relative air humidity, non-condensing
Interface Bluetooth Low Energy	Power supply 2x AAA 1.5V LR03 alkaline batteries (included) or AAA NiMH rechargeable batteries
Battery operation lifetime ~10.000 measurements	Dimensions 108 mm x 64 mm x 35 mm (4.3 in x 2.5 in 1.4 in)
Weight (incl. batteries) approx. 135 g (0.31 lbs.)	Mobile operating system iOS & Android
Ingress protection IP66 according IEC 60529	Sample area Stainless steel and glass, FKM O-Ring
ATC Automatic Temperature Compensation model 10 to 100 °C	1 Automatic Temperature Compensation ICUMSA model is valid for the defined temperature range
* Measurement units available with Lab Meister Pro mobile app	** For the calculation, you can enter a factor between 0.80 and 0.90