Reasons to choose the MASTER

α•н

1 Water Resistant

water under a faucet.

The new structuraldesign of these units



The concept of a washable handheld analog unit is exceptional. After measuring, the instrument can be cleaned with running



allows them to be washed whenever necessary. Rated IP65 (dust tight and water resistant).

2 Hygienic Design



The MASTER series was also designed with a smooth and easy-to-clean grip, eliminating the possibility of food and samples being trapped which can result in contamination and bacterial growth.

³ Visibility



Efficiently using an analog unit depends on how easily the measured value can be read. Extensive research and the use of quality optics result in a measurement scale that is very bright, creating a high contrast to see clearly where the boundary intersects the memory lines of the scale.

4 Automatic Temperature Compensation (ATC) $\alpha \cdot \tau \cdot H$



The newly designed ATC system allows the MASTER series to read more accurately than any comparable unit. ATAGO has applied for a patent on the design of the improved ATC system. The MASTER series reads more accurately than any comparable unit in the market.

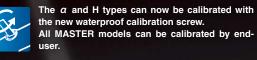
5 Durability



first

The MASTER series has passed all water resistance, dust resistance, and drop tests. instruments were subjected to water jets form four directions, dropped from a height of one meter onto an oak platfoam, and withstood the pressure changes of air travel.

6 Calibration



All MASTER models can be calibrated by end-

7 Automatic Sample **Distribution (ASD)**



ASD ATAGO has developed a spoon-shaped tip that automatically spreads the sample across the prism. This makes the instrument even more user-friendly. saving valuable time.

8 Repair and Service



ATAGO has established a close network of customers by providing excellent customer service and support. When an ATAGO instrument needs servicing, not only is each customer treated with respect, but they are also provided with detailed methods and userspecific suggestions on sampling and taking measurements, based on individual needs.

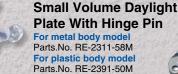
9 Reputation for Quality



ATAGO has built a firm reputation for reliability and quality during its over 70 years history. We are a strong company that exports to over 154 countries with continued growth expectations. ISO 9001 certified, along with our integrated system for producing and marketing our products, based on the "Plan-Do-Check-Act" cycle, is essential to the continued guality and to cycle, is essential to the cont ality and to the promoting of the ATAGO name.



Optional Accessories



Super Extractor Parts.No. RE-294

Simple Operation



1 Apply 1-2 drops onto the prism.



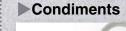
2 Close the daylight plate. View the scale through the eyepiece.



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* Specifications and appearance are subject to change without notice.





Condiment, seasonings, ketchup, various sauces, soy sauce

Agriculture



Fruit and vegetable juice, leaf juice, stem juice, root juice





Urine, serum



Sucrose solution (for Brix confirmation)

Parts.No. RE-110010 10% Sucrose Parts.No. RE-110020 20% Sucrose Parts.No. RE-110030 30% Sucrose Parts.No. RE-110040 40% Sucrose Parts.No. RE-110050 50% Sucrose arts.No. RE-110060 60% Sucrose

All ATAGO refractometers are designed and manufactured in Japan.









MASTER





O ATA

2005 3 0116403.4,5 (China), D111526 (Taiwan), D555, 549 (U.S.A.) 5763, 1255764, 1255765, 1255766, 1255767 (Japan)

About the Trade Mark:

About the Trade Mark: Year 2005-ATAGO was established 65 years ago and we have been developing, manufacturing, and marketing Refractometers based on our in-depth study of optics. Thisyear we have released our NEW Hand-Held Refractometer series, the "MASTER" to support and meet our customer's needs. The NEW "MASTER" series is a fitting name to match its ultimate performance. The trade mark, " \mathcal{H} " is the Japanese Kanji which means 'light' The decision to use this Kanji as a trade mark for the MASTER series is to emphasize that this product was designed and manufactured in Japan. With the multitude of imitation products out in the market today, ATAGO is maintaining our identity as the master of manufacturing quality instruments. We, ATAGO, would like to be your business partner and to be the "light' to continue towards a bright future together.

© ATAGO	Γ
#…Capture the light, measure the future!!™	

Hand-held Refractometer



MASTER series

Choose the right model for your sample, based on the features and materials of the instrument.



Features 6 types

Both the α and T types are equipped with the Automatic Temperature Compensation feature. Choose the a type for the added feature of IP 65 water-resistance. The H type is the heat-resistant version of the α type.

					NEW	NEW
Series / Model	a	Т	М	Н	53S	500
Water resistant						
Automatic temperature compensation		•				_
Heat resistant	—	_	_		-	•
Milky sample	—		_		•	-

MASTER-53S

for Milky sample

Opaque, inhomogeneous liquids can be difficult to get a clear boundary line with a conventional refractometer. This model is recommended for cream-based sauces, yogurt, mayonnaise, and various emulsions used in industrial processing.



Understanding model names

A model name consists of the scale (sample name), material, and feature type.

Brix Scale MASTER-

Example Measuring sauces

- Sample information
- About 40% Brix (see (A) in chart below)
- Salty
- Oily

Material 2 types Choose either metal or plastic.

Metal

Die-cast aluminum

Ideal for the agriculture industry, metal working fluids, and various high-temperature samples. Resistant to organic solvents.

Brix of Various Samples Refractive index and Brix of various types of samples





(polybutylene terephthalate) Resistant to salty and acidic samples.

	Chemical industry Medical Science industry			Memory (Brix)					
.	Cutting oil (emulsion)	Methanol Saline Aloe extract Sea water		(1) 0 5	10 0	20 0 5	53 0 5	500 0 5	
	Nickel plate liquid	Chlorella extract) 33 %	\$ 10 %) 20 %	\$ 53 %	> 90 %	
	Gelatin liquid	Serum							
	Freon113								
	Silicone solution	Acetone Ethanol							
	Electrolyte Freon 11	Acetic acid Saturated saline							
	Acrylonitrile				2 28 5 62				
ar jam	Silicone oil	Octane			%	4			
	Ethylene glycol Propylene glycol			3		45 5 82 %			
	Diesel oil Ricinus	Glycerin		58 \$ 90 %					
	Polyvinyl chloride (PCV) Styrene Asphalt								

Specifications

Brix Scale

Range	Series	Series a		•	T.	М			
(Minimum)	Material	Metal	Plastic	Metal	Plastic	Metal	Plastic		
(1)	Model	MASTER-a	MASTER-P a	MASTER-T	MASTER-PT	MASTER-M	MASTER-PM		
	Cat.No.	2311	2391	2312	2392	2313	2393		
0~33%	Accuracy	±0.2% *±0.	1% (10∼30℃)	±0.2% *±0.	1% (10~30℃)	-	_		
(0.2%)	Size & Weight	3.2×3.4×20.3cm/155g	3.2×3.4×20.3cm/105g	3.2×3.4×20.3cm/155g	3.2×3.4×20.3cm/105g	3.2×3.4×20.3cm/155g	3.2×3.4×20.3cm/105g		
_	Model	MASTER-2a	MASTER-2P a	MASTER-2T	MASTER-2PT	MASTER-2M	MASTER-2PM		
2	Cat.No.	2321	2941	2322	2942	-	-		
28~62%	Accuracy	±0.2% *±0.1	-	±0.2% *±0.1	-	2323 2943			
(0.2%)	Size & Weight	3.2×3.4×20.3cm/155g	3.2×3.4×20.3cm/105g	3.2×3.4×20.3cm/155g	3.2×3.4×20.3cm/105g	3.2×3.4×20.3cm/155g			
	Size & Weight	3.2x3.4x20.3011/1559	3.2x3.4x20.3cm/103y	3.2x3.4x20.3011/1559	3.2x3.4x20.3cm/105g	3.2x3.4x20.3cm/155g	3.2x3.4x20.3cm/105g		
3	Model	MASTER-3 a	MASTER-3P a	MASTER-3T	MASTER-3PT	MASTER-3M	MASTER-3PM		
58~90%	Cat.No.	2331	2951	2332	2952	2333	2953		
	Accuracy	±0.2% *±0.1	% (10~40°C)	±0.2% *±0.1	% (10~40℃)	-			
(0.2%)	Size & Weight	3.2×3.4×16.8cm/130g	3.2×3.4×16.8cm/90g	3.2×3.4×16.8cm/130g	3.2×3.4×16.8cm/90g	3.2×3.4×16.8cm/130g	3.2×3.4×16.8cm/90g		
	Model	MASTER-4a	MASTER-4Pa	MASTER-4T	MASTER-4PT	MASTER-4M	MASTER-4PM		
4	Cat.No.	2341	2961	2342	2962	2343	2963		
45~82 %	Accuracy	±0.2% *±0.1		±0.2% *±0.1		2010 2000			
(0.2%)	Size & Weight	3.2×3.4×16.8cm/130g	3.2×3.4×16.8cm/90g	3.2×3.4×16.8cm/130g	3.2×3.4×16.8cm/90g	3.2×3.4×16.8cm/130g	3.2×3.4×16.8cm/90g		
	OIZE & Weight	0.200.1010.0011/1009	0.2.40.14.10.0011/00g	0.2.40.4410.0011/1009	0.2.20.4.10.0011/00g	0.2.40.44.10.0011/1009	0.2.0.4.10.0011/009		
10	Model	MASTER-10a	MASTER-10P a	MASTER-10T	MASTER-10PT	MASTER-10M	MASTER-10PM		
0~10%	Cat.No.	2371	2981	2372	2982	2373	2983		
(0.1%)	Accuracy	±0.2% *±0.1		±0.2% *±0.1		-	_		
(0.170)	Size & Weight	3.2×3.4×20.3cm/155g	3.2×3.4×20.3cm/105g	3.2×3.4×20.3cm/155g	3.2×3.4×20.3cm/105g	3.2×3.4×20.3cm/155g	3.2×3.4×20.3cm/105g		
00	Model	MASTER-20 a	MASTER-20P a	MASTER-20T	MASTER-20PT	MASTER-20M	MASTER-20PM		
20	Cat.No.	2381	2991	2382	2992	2383	2993		
0~20%	Accuracy	±0.2% *±0.1	% (10~30℃)	±0.2% *±0.1	% (10~30℃)	-	- -		
(0.1%)	Size & Weight	3.2×3.4×20.7cm/165g	3.2×3.4×20.7cm/110g	3.2×3.4×20.7cm/165g	3.2×3.4×20.7cm/110g	3.2×3.4×20.7cm/165g	3.2×3.4×20.7cm/110c		
	<u> </u>	Ū							
	Model	MASTER-53 a	MASTER-53P a	MASTER-53T	MASTER-53PT	MASTER-53M	MASTER-53PM		
53	Cat.No.	2351	2971	2352	2972	2353	2973		
0~53%		±0.5% *±0.2	-	±0.5% *±0.25	-	2000	2973		
(0.5%)	Accuracy					-	_		
-	Size & Weight	3.2×3.4×16.8cm/130g	3.2×3.4×16.8cm/90g	3.2×3.4×16.8cm/130g	3.2×3.4×16.8cm/90g	3.2×3.4×16.8cm/130g	3.2×3.4×16.8cm/90g		
	esistant					Milky sample	Wide Brix		
пеат г			Н		Series	53S	500		
Series					Material	Me	etal		
			Metal						
Series	MASTER	-50H MASTER-80		MASTER-100H	Model	MASTER-53S	MASTER-500		
Series Material	MASTER 2354			MASTER-100H 2384	Model Cat.No.	2355	2363		
Series Material Model	-	2364	H MASTER-93H 2374	2384	Cat.No.				
Series Material Model Cat.No.	2354	2364	H MASTER-93H 2374	2384	Cat.No.	2355	2363		
Series Material Model Cat.No. Range	2354	2364	MASTER-93H 2374 0% Brix 45.0~93.0%	2384	Cat.No. % Range	2355 Brix 0.0~53.0%	2363 Brix 0.0~90.0%		

Special Scale

Sample	Coolant	Battery Coolant	Battery Coolant	Refractive index	Honey
Series	M	M	М	M	a
Material	Plastic	Plastic	Plastic	Metal	Plastic
Model	MASTER-BR	MASTER-BC	MASTER-BCF	MASTER-RI	MASTER-HONEY
Cat.No.	2930	2931	2932	2612	2524
Scale	 propylene glycol ethylene glycol 	ethylene glycol freezing temp propylene glycol freezing temp souther glycol freezing temp souther glycol freezing temp	ethylene glycol freezing temp propylene glycol freezing temp abattery fluid d20/20	Refractive index	Honey moisture
Range	(1) 0 to 70% 0 to -50° C (2) 0 to 70% 0 to -50° C	① 0 to -50℃ ② 0 to -50℃ ③ 1.150 to 1.300	(1) 32 to −60°F (2) 32 to −50°F (3) 1.150 to 1.300	1.435 to 1.520	12.0 to 30.0%
/inimum Scale	5% 5℃	① 5℃ ② 5℃ ③ 0.01	① 10°F ② 10°F ③ 0.01	0.001	0.2%
Size & Weight	3.2×3.4×16.8cm , 90g	3.2×3.4×20	.3cm , 105g	3.2×3.4×16.8cm, 130g	3.2×3.4×16.8cm, 90g

Sample	Seawater	Seawater	Salinity	Salinity	Salinity (Wide range)	Salinity (Wide range)		
Series	α	М	а	М	а	М		
Material	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic		
Model	MASTER-S/Mill a	MASTER-S/Mill M	MASTER-S10 a	MASTER-S10 M	MASTER-S28 a	MASTER-S28 M		
Cat.No.	2491	2493	2471	2473	2481	2483		
Scale	Scale 1 Salinity 2 Specific gravity		Sodium	chloride	Sodium chloride			
Range	1 1‰ 2 0	0.001	0.0 to 10	.0g/100g	0.0 to 28.0g/100g			
Minimum Scale	① 0 to 100‰ (2 1.000 to 1.070	0.1g/100g		0.2 g/100g			
Measurement Accuracy	① ±2‰ *±1‰ ② ±0.001 *±0.0005(10 to 30%)	-	±0.2g/100g *±0.1g/100g (10 to 30℃)	—	±0.2g/100g *±0.1g/100g (10 to 30℃)	—		
International Protection Class	IP65	-	IP65	—	IP65	—		
Size & Weight	3.2×3.4×20).7cm, 110g	3.2×3.4×20.3cm, 105g 3.2×3.4×20.3cm, 105g					
IP65 - dust-tight	P65 – dust tight and protected against water lots (except ave piece)							