



WINE REFRACTOMETERS

- Grape growers
- Wine cooperatives (sorting grape must)
- Wineries (purchasing grape must)
- Buyers for grape must

The Wine Refractometers are used for measuring grape must concentrations.

WM-7 Cat.No.3415

DIGITAL WINE REFRACTOMETER



Palette

PAL-79S Cat.No.4479

PAL-80S Cat.No.4480

PAL-83S Cat.No.4483

PAL-84S Cat.No.4484

PAL-86S Cat.No.4486

PAL-87S Cat.No.4487

DIGITAL HAND-HELD "POCKET" WINE REFRACTOMETERS



Pocket

The WM-7, Portable Digital Wine Refractometer, features 7 scales and is developed to measure the concentration of grape must, easily, quickly and accurately. The measurement accuracy is upgraded to Brix $\pm 0.1\%$

PAL's wine series are light and compact, it is portable for both indoor use and outdoors. You can place it in your pocket or hang it from your neck by using a strap. 6 models are available.

Scales	Measurement range	Minimum indication	Measurement accuracy
① Brix (determined by ICUMSA)	0.0 to 45.0%	0.1%	$\pm 0.1\%$
② T.A. 1990 (Titre Alcoometrique established in 1990)	0.0 to 26.0%	0.1%	$\pm 0.2\%$
③ T.A. 1971 (Titre Alcoometrique established in 1971)	0.0 to 25.0%	0.1%	$\pm 0.2\%$
④ Oe (GER) (Oechsle used in Germany)	0 to 240°	1°	$\pm 1^\circ$
⑤ Oe (Oechsle)	0 to 240°	1°	$\pm 1^\circ$
⑥ KMW (or Babo)	0.0 to 40.0°	0.1°	$\pm 0.2^\circ$
⑦ Baume	0.0 to 21.0°	0.1°	$\pm 0.2^\circ$
Measurement temperature	5 to 40°C (Automatic Temperature Compensation)		
Ambient temperature	5 to 40°C		
Measurement time	3 seconds		
Power supply	006P Dry battery (9V)		
International protection class	IP64 Water resistant		
Dimensions & Weight	17 × 9 × 4cm, 300g		

Model	Cat.No.	Scale	Measurement range	Minimum indication	Measurement accuracy
PAL-79S	4479	T.A. 1990	0.0 to 26.0%	0.1%	$\pm 0.2\%$
PAL-80S	4480	T.A. 1971	0.0 to 25.0%	0.1%	$\pm 0.2\%$
PAL-83S	4483	KMW (or Babo)	0.0 to 40.0°	0.1°	$\pm 0.2^\circ$
PAL-84S	4484	Baume	0.0 to 21.0°	0.1°	$\pm 0.2^\circ$
PAL-86S	4486	Oe (GER) Brix (Dual Scale)	0 to 240° 0.0 to 53.0%	1° 0.1%	$\pm 1^\circ$ $\pm 0.2\%$
PAL-87S	4487	Oe (Oechsle) Brix (Dual Scale)	0 to 240° 0.0 to 53.0%	1° 0.1%	$\pm 1^\circ$ $\pm 0.2\%$
Measurement temperature	10 to 40°C (Automatic Temperature Compensation)				
Ambient temperature	10 to 40°C				
Measurement time	3 seconds				
Power supply	2 × AAA Batteries				
International protection class	IP65 Water resistant				
Dimensions & Weight	5.5 × 3.1 × 10.9cm, 100g				

MASTER-TA	Cat.No.2590
MASTER-OE	Cat.No.2591
MASTER-GOE	Cat.No.2592
MASTER-KMW	Cat.No.2593
MASTER-BAUME	Cat.No.2594

AUTOMATIC TEMPERATURE COMPENSATING & WATER RESISTANT

Scale	Model
T.A.1990 / Brix	MASTER-TA
Oe (Oechsle) / Brix	MASTER-OE
Oe (GER) / Brix	MASTER-GOE
KMW (or Babo) / Brix	MASTER-KMW
Baume / Brix	MASTER-BAUME



The MASTER-series Wine Refractometers are used for measuring grape must concentrations. The operator can simply apply a drop of sample on the prism to view the measurement value through the eyepiece. 5 models are available. These models come with dual scales (one wine scale plus Brix scale). These models are equipped with the same great features as the other MASTER- α series. Featuring functions, such as, Easy-to-Read, Easy-to-Hold, Smooth Sampling, Easy Disposal of Sample, Well-Balanced Structure, and the improvement of hygiene aspect by employing the new type of grip. These models come with Automatic Temperature Compensation function (ATC) and Water Resistant feature (IP65).

EXPLANATION OF ICONS Icons for functions, specifications and scales have been added to this catalog.



- * Automatic Temperature Compensation
- * Compensation automatique de température
- * Automatische Temperaturkompensation
- * Compensazione automatica della temperatura
- * Compensación de automática de temperatura
- * 自動温度補償



- * External Light Interference
- * Interférence de la lumière externe
- * Äußere Lichteinflüsse
- * Interferenza della luce esterna
- * Luz de Interferencia Externa
- * 外部光線干渉



- * High temperature samples
- * Résistant à la chaleur
- * Hitzebeständig
- * Resistente al calore
- * Muestras De Alta Temperatura
- * 高温様品用



- * Calibration with water
- * Calibration "1 point" sur eau distillée
- * Kalibrierung mit Wasser
- * Calibración con acqua
- * 用水調整



- * Compact and easy to carry
- * Portable
- * Leicht und einfach zu tragen
- * Calibrazione con liquidi standard esclusivi
- * Compacto y fácil de llevar
- * 軽巧易於攜帶



- * Digital display
- * Affichage numérique
- * Digital Anzeige
- * Display digitale
- * Pantalla digital
- * 數字顯示



- * Battery operated
- * Alimentation par pile
- * Batteriebetrieb
- * Alimentazione a batteria
- * Funcionamiento con batería
- * 使用電池操作



- * Wine scale
- * Spécial viticulture
- * Skala fuer Wein
- * Scale Enologia
- * Escala de vinos
- * 葡萄酒刻度

All ATAGO refractometers are designed and manufactured in Japan.



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MASTER-TA Cat.No.2590	Scale	T.A. 0.0 to 25.0% Brix 0.0 to 40.0% (Automatic Temperature Compensation)
	Minimum Scale	T.A. 0.2% Brix 0.2%
	Accuracy	T.A. $\pm 0.3\%$ Brix $\pm 0.5\%$ (10 to 30°C)
	Size and weight	3.3×3.3×20.4cm, 160g

MASTER-OE Cat.No.2591	Scale	Oe 0.0 to 130° Brix 0.0 to 33.0% (Automatic Temperature Compensation)
	Minimum Scale	Oechsle 1° Brix 0.2%
	Accuracy	Oechsle $\pm 1^\circ$ Brix $\pm 0.2\%$ (10 to 30°C)
	Size and weight	3.3×3.3×20.4cm, 160g

MASTER-GOE Cat.No.2592	Scale	German Oechsle 30 to 170° Brix 0.0 to 40.0% (Automatic Temperature Compensation)
	Minimum Scale	German Oechsle 1° Brix 0.2%
	Accuracy	German Oechsle $\pm 2^\circ$ Brix $\pm 0.5\%$ (10 to 30°C)
	Size and weight	3.3×3.3×20.4cm, 160g

MASTER-KMW Cat.No.2593	Scale	KMW 0.0 to 27.0° Brix 0.0 to 33.0% (Automatic Temperature Compensation)
	Minimum Scale	KMW 0.2° Brix 0.2%
	Accuracy	KMW $\pm 0.2^\circ$ Brix $\pm 0.2\%$ (10 to 30°C)
	Size and weight	3.3×3.3×20.4cm, 160g

MASTER-BAUME Cat.No.2594	Scale	Baume 0.0 to 21.0° Brix 0.0 to 40.0% (Automatic Temperature Compensation)
	Minimum Scale	Baume 0.2° Brix 0.2%
	Accuracy	Baume $\pm 0.3^\circ$ Brix $\pm 0.5\%$ (10 to 30°C)
	Size and weight	3.3×3.3×20.4cm, 160g



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