

# REFRACTOMETERS

## For WINE

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

Refractometers can effectively estimate the alcohol content in finished wine.



Refractometers are used to measure the sugar content of grape must before fermentation. During fermentation, sugars in grape must are converted into alcohol. Pre-fermentation Brix readings are a reliable indicator for the finished alcohol level. Although Brix is a popular sugar scales for winemakers worldwide, there are other scales for measuring grape must. The WM-7 Digital Wine Refractometer is equipped with 7 scales to satisfy the need of end-users in different countries and regions to meet various standards.

### Digital Wine Refractometer

WM-7

Cat.No.3415



7  
Scales

### Digital Hand-held "Pocket" Wine Refractometer



PAL-84S

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

Dual  
Scale

| Scales   | Measurement range               | Minimum indication | Measurement accuracy |
|--|---------------------------------|--------------------|----------------------|
| [1] Brix (determined by ICUMSA)                            | 0.0 to 45.0%                    | 0.1%               | ±0.1%                |
| [2] T.A. 1990<br>(Titre Alcoometrique established in 1990) | 0.0 to 26.0%                    | 0.1%               | ±0.2%                |
| [3] T.A. 1971<br>(Titre Alcoometrique established in 1971) | 0.0 to 25.0%                    | 0.1%               | ±0.2%                |
| [4] Oe (GER) (Oechsle used in Germany)                     | 0 to 240°                       | 1°                 | ± 1°                 |
| [5] Oe (Oechsle)   | 0 to 240°                       | 1°                 | ± 1°                 |
| [6] KMW (or Babo)  | 0.0 to 40.0°                    | 0.1°               | ±0.2°                |
| [7] Baume  | 0.0 to 21.0°                    | 0.1°               | ±0.2°                |
| Measurement temperature                                    | 5 to 40°C (ATC)                 |                    |                      |
| Ambient temperature  | 5 to 40°C                       |                    |                      |
| Measurement time   | 3 seconds                       |                    |                      |
| Power supply   | 006P Dry battery (9V)           |                    |                      |
| International protection class                             | IP64 Water resistant            |                    |                      |
| Dimensions and weight                                      | 17x9x4cm, 300g (main unit only) |                    |                      |

| Model                   | Cat.No. | Scale         | Measurement range | Minimum indication | Measurement accuracy |
|-------------------------|---------|---------------|-------------------|--------------------|----------------------|
| PAL-79S                 | 4479    | T.A. 1990     | 0.0 to 26.0%      | 0.1%               | ±0.2%                |
| PAL-80S                 | 4480    | T.A. 1971     | 0.0 to 25.0%      | 0.1%               | ±0.2%                |
| PAL-83S                 | 4483    | KMW (or Babo) | 0.0 to 40.0°      | 0.1°               | ±0.2°                |
| PAL-84S                 | 4484    | Baume         | 0.0 to 21.0°      | 0.1°               | ±0.2°                |
| PAL-86S                 | 4486    | Oe (GER)      | 0 to 240°         | 1°                 | ±1°                  |
| PAL-87S<br>(Dual Scale) | 4487    | Brix          | 0.0 to 53.0%      | 0.1%               | ±0.2%                |
|                         |         | Oe (Oechsle)  | 0 to 240°         | 1°                 | ±1°                  |

|                                |                                       |
|--------------------------------|---------------------------------------|
| Measurement temperature        | 10 to 40°C (ATC)                      |
| Ambient temperature            | 10 to 40°C                            |
| Measurement time               | 3 seconds                             |
| Power supply                   | 2xAAA Batteries                       |
| International protection class | IP65 Water resistant                  |
| Dimensions and weight          | 5.5x3.1x10.9cm, 100g (main unit only) |

# REFRACTOMETERS For WINE

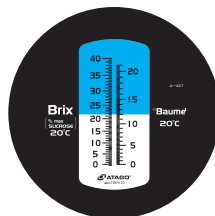
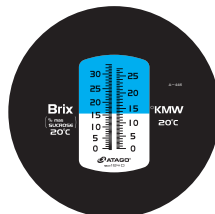
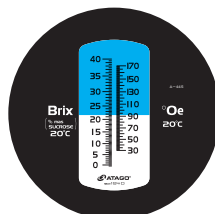
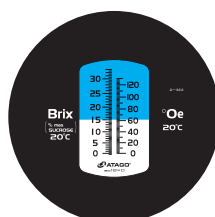
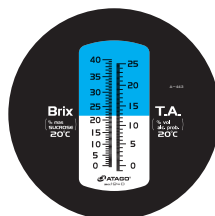


## ATC & Water Resistant Wine Refractometer

|              |             |
|--------------|-------------|
| 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 |



Material: Metal



## Wine Refractometer

|                |             |
|----------------|-------------|
| MASTER-P/TA    | Cat.No.2600 |
| MASTER-P/OE    | Cat.No.2601 |
| MASTER-P/GOE   | Cat.No.2602 |
| MASTER-P/KMW   | Cat.No.2603 |
| MASTER-P/BAUME | Cat.No.2604 |



Material: Plastic

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

| MASTER-TA   | Model                     | MASTER-P/TA   |
|---|---------------------------|---|
| 2590  | Cat.No.                   | 2600  |
| T.A. 0.0 to 25.0 %<br>Brix 0.0 to 40.0 %<br>(ATC)   | Scale range               | T.A. 0.0 to 25.0 %<br>Brix 0.0 to 40.0 %  |
| T.A. 0.2 % Brix 0.5 %<br>T.A. $\pm 0.3$ %<br>Brix $\pm 0.5$ %<br>(10 to 30°C)                   | Minimum Scale<br>Accuracy | T.A. 0.2 % Brix 0.5 %<br>T.A. $\pm 0.3$ %<br>Brix $\pm 0.5$ %                   |
| 3.2x3.4x16.8cm, 130g  | Size and weight           | 3.2x3.4x16.8cm, 90g   |
| MASTER-OE   | Model                     | MASTER-P/OE   |
| 2591  | Cat.No.                   | 2601  |
| Oe 0.0 to 130°<br>Brix 0.0 to 33.0 %<br>(ATC)   | Scale range               | Oe 0.0 to 130°<br>Brix 0.0 to 33.0 %  |
| Oechsle 2° Brix 0.5 %<br>Oechsle $\pm 2^\circ$<br>Brix $\pm 0.5$ %<br>(10 to 30°C)              | Minimum Scale<br>Accuracy | Oechsle 2° Brix 0.5 %<br>Oechsle $\pm 2^\circ$<br>Brix $\pm 0.5$ %              |
| 3.2x3.4x16.8cm, 130g  | Size and weight           | 3.2x3.4x16.8cm, 90g   |
| MASTER-GOE  | Model                     | MASTER-P/GOE  |
| 2592  | Cat.No.                   | 2602  |
| German Oechsle 30 to 170°<br>Brix 0.0 to 40.0 %<br>(ATC)  | Scale range               | German Oechsle 30 to 170°<br>Brix 0.0 to 40.0 %                                 |
| German Oechsle 1° Brix 0.5%<br>German Oechsle $\pm 2^\circ$<br>Brix $\pm 0.5$ %<br>(10 to 30°C) | Minimum Scale<br>Accuracy | German Oechsle 1° Brix 0.5%<br>German Oechsle $\pm 2^\circ$<br>Brix $\pm 0.5$ % |
| 3.2x3.4x16.8cm, 130g  | Size and weight           | 3.2x3.4x16.8cm, 90g   |
| MASTER-KMW  | Model                     | MASTER-P/KMW  |
| 2593  | Cat.No.                   | 2603  |
| KMW 0.0 to 27.0°<br>Brix 0.0 to 33.0 %<br>(ATC)   | Scale range               | KMW 0.0 to 27.0°<br>Brix 0.0 to 33.0 %  |
| KMW 0.5° Brix 0.5 %<br>KMW $\pm 0.5^\circ$<br>Brix $\pm 0.5$ %<br>(10 to 30°C)                  | Minimum Scale<br>Accuracy | KMW 0.5° Brix 0.5 %<br>KMW $\pm 0.5^\circ$<br>Brix $\pm 0.5$ %                  |
| 3.2x3.4x16.8cm, 130g  | Size and weight           | 3.2x3.4x16.8cm, 90g   |
| MASTER-BAUME  | Model                     | MASTER-P/BAUME  |
| 2594  | Cat.No.                   | 2604  |
| Baume 0.0 to 21.0°<br>Brix 0.0 to 40.0%<br>(ATC)  | Scale range               | Baume 0.0 to 21.0°<br>Brix 0.0 to 40.0%   |
| Baume 0.2° Brix 0.5%<br>Baume 0.3°<br>Brix $\pm 0.5$ %<br>(10 to 30°C)                          | Minimum Scale<br>Accuracy | Baume 0.2° Brix 0.5%<br>Baume 0.3°<br>Brix $\pm 0.5$ %                          |
| 3.2x3.4x16.8cm, 130g  | Size and weight           | 3.2x3.4x16.8cm, 90g   |

**ATAGO CO.,LTD.**



**HACCP GMP GLP**

ISO9001 H.Q. & Factory

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