

# Bottle water volume automatic measurement equipment

Correspond to full pour, putting volume measurement  
It is contributing to rationalization of test times



## General

This equipment is measuring automatically water volume of PET bottle and outputs real-time data and total up the data.

\* It is enable to automatic measurement together with I/O signal of robot.

(Option at order)

## Characteristic

1. Target bottle  
200ml-2.0L, transparent, coloring bottles
2. Applied water  
General city water (Room temperature  $K20 \pm 10$  (direct supplying))  
It is keeping to minimize bubble when fill up water
3. Real-time data display  
Container weight    Putting weight    Putting volume    Full pour weight  
Full pour volume  
Note: It is available to pass putting volume measurement
4. Easy changing bottle  
Measurement condition register of 100 model bottles  
Exchangeable bottle model (measurement condition and bottle types)  
by section of registered measurement condition  
About 10 seconds to change bottle centering tool
5. Measuring method  
Electric balance for container weight  
A class thermometer for water temperature  
Gross weight minus container weight on electric balance is water weight  
Water volume is calculated by specific gravity approximation of water temperature  
Note: It is measuring bottle height from setting supply water position
6. Setting applied water  
Putting water . . . Setting weight · Setting height (Standard at top surface)  
Full pour . . . Any putting at top surface  
(Top surface - large portion, etc.)

## Volume Measurement Method

Measure setting bottle, weight (electric balance) and water temperature (temperature sensor of waterway) and measure putting weight, volume. And it is calculated volume from approximate specific gravity and water temperature

# Specification

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| Item   |  |
| Measurement method                           | Calculate volume from specific gravity calculation approximate from water temperature  |
| Work set                                     | Semi-automatic (It is manual initial bottle set and discharge)   |
| Target work                                  | Plastic (PET) bottle • Glass Bottle  |
| Work size                                    | Example : PET bottle<br>Maximum 2.0L square bottle (D89×W106×H305mm)<br>Minimum, Body radius 50mm, height 10mm<br>Bottle height : Min. H100 - Max. 320mm<br>Bottle mouth inner diameter : 20mm diameter min.   |
| Bottle volume                                | 200ml-2.0L   |
| Measurement speed<br>(All items measurement) | Example; 500ml 1piece/60 seconds max. (From measurement to discharge)<br>2.0L 1piece/about 130 seconds. (From measurement to discharge)  |
| Applied water temperature                    | Room temperature K20±10 (general city water)   |
| Measurement item<br>and accuracy             | Putting line volume Reproduce accuracy : ±0.9ml max.<br>Full pour volume Reproduce accuracy : ±0.9ml max.<br>Putting height line Reproduce accuracy : ±1.0mm max.<br>Water temperature Reproduce accuracy : ±0.3 +0.0051t1<br>(Platinum valve resistance thermometer pt100 3 wires A class)<br>Bottle weight Reproduce accuracy : ±0.2g max, |
| Operating software                           | Microsoft Windows-XP   |
| Data output                                  | CSV form   |
| Data save                                    | HDD in operating computer  |
| Print  | Measurement data   |
| Applied air                                  | 0.5Mpa min. (Note: 0.098Mpa=1kgf/cm2)  |
| Environment                                  | Temperature 10 ~ 40  |
| Line Voltage                                 | Selectable 100 /120 /220 /240V 50/60Hz   |
| Size   | Total W450xH800xD700mm (standard)  |
| Weight                                       | Total 70Kg max. depending on user's specification  |
| Power consumption                            | 2.5A max. (For total equipment)  |

## Other products

|  |  |
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| Bottle sink (Bottle bottom height measurement) | Topload tester (Load deformation test equipment) |
| Bottle pressure-resistant measurement          | Bottle & Preform mouth dimension measurement     |
| Bottle thickness automatic measurement         | Infrared thermometer for bottle preform          |
| Bottle can mouth dimension measurement         | Body outline form measurement                    |
| Bottle height • body diameter measurement      | Static image storage (GRS)                       |
| Decrease pressure-resistant measurement        |  |

The specification and externals might be changed without a previous notice because of the improvement.

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