



Accurate and efficient control of critical glass container dimensions

**MiniLab**

## The MiniLab system

MiniLab is a turnkey solution to control critical glass container dimensions while improving measurement frequency and accuracy.

MiniLab provides frequent measurement of a variety of glass container dimensions giving the glassmaker valuable feedback about the quality of the production and advance warning of any drift in the forming process. Its flexible and scalable design lets glass manufacturers integrate multiple devices to serve specific quality control requirements. It is built to withstand tough production environments and provide years of reliable service.

### Benefits

- Fast and accurate measurement of a variety of critical glass container dimensions
- Increases the frequency and efficiency of the time-consuming quality control tests
- Designed to withstand operation on the production floor

## MiniLab components

**MiniLab D - Dimensional Gauging and Weight Measurement System** MiniLab D brings state-of-the-art vision technology and accurate servo-controlled handling to precision measurement of glass containers. Using high-resolution cameras and application-specific optics, MiniLab D is designed to measure the dimensional characteristics of glass containers. MiniLab D can measure containers of different sizes without requiring a job change.

**MiniLab D Non-Round Wall Thickness Gauge** This gauge takes advantage of new and innovative technology to automate the measurement of the glass thickness for round and non-round containers. The multichannel thickness sensor follows the profile of the container at all times for optimum measurement.

Once installed and calibrated the gauge does not require any adjustment. When creating an article the user simply specifies the locations of the thickness measurements. For each location the thickness measurement is performed 360° around the container. Up to 10 locations can be specified. Those locations can be of different sizes and shapes.

The container is automatically placed in front of the thickness sensor at each measurement location defined for the article. During the container's 360° rotation a servo-controlled arm maintains the multichannel thickness sensor at the ideal distance from the glass surface for accurate measurement.

When creating an article the user specifies independent minimum and maximum thickness limits as well as acceptable thickness ratio for each measurement location.

**MiniLab P - Pressure Tester and Capacity Measurement System** MiniLab P measures the maximum amount of internal pressure a container can withstand (meets the ASTM C-147 standard for internal pressure testing of glass containers). When equipped with the Capacity Gauge option, MiniLab P accurately measures the capacity of a container at several fill heights and overflow.

MiniLab P can test two containers of different sizes (with same finish size) without requiring a job change. Job change parts are minimal and a complete changeover does not require any mechanical adjustment.

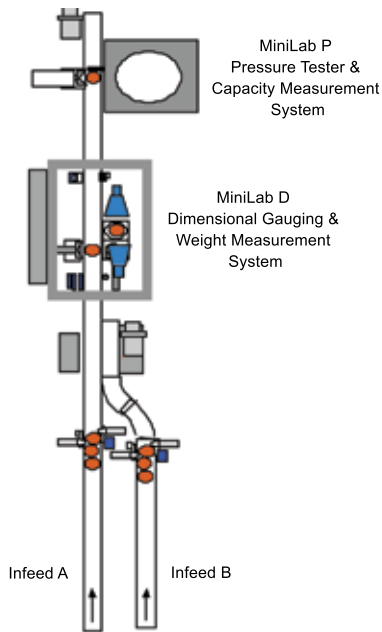
## MiniLab

- **Reliable, accurate, and repeatable measurements**
- **Handles several production lines**
- **Automatic operation, simplified setup, low maintenance**

### Dimensions measured:

- Height
- Weight
- Off-level
- Lean
- Bent neck
- Finish dimensions for all finish types
- Burst pressure
- Capacity/Volume
- Pushup
- Flange
- Knockout
- Inside neck diameter
- D-angle
- D-radius
- Wall thickness
- External body dimensions

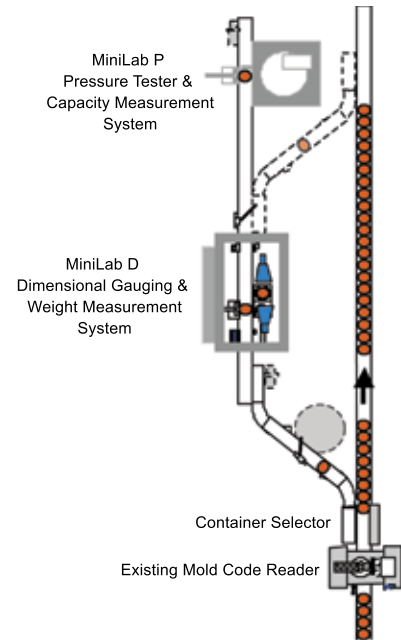
## System configurations



A typical MiniLab integrates MiniLab D and MiniLab P with the conveyors, gates, and control system.

MiniLab is available in several layout configurations easily installed on your production floor or in your quality lab.

MiniLab communicates with your factory information system for data gathering, archive, and review of production trends.



**Off-line sampling** with sets of containers loaded by the operator

- Operator manually places the containers on the conveyor
- Accommodates containers from several different manufacturing lines
- Accommodates containers of different sizes (height, diameter, finish diameter)
- Accommodates pressure and non-pressure containers
- All measurement values sent to your factory information system

**Online sampling** with containers diverted from the production line

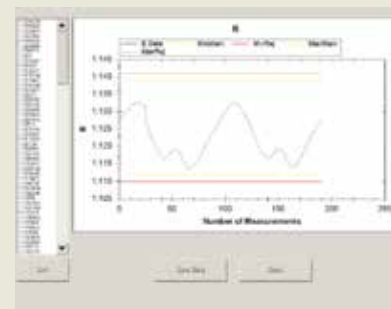
- Containers are automatically diverted from the manufacturing line by existing on-line mold code reader
- Fully automatic, no operator intervention required
- Accommodates pressure and non-pressure containers
- All measurement values sent to your factory information system



Container in MiniLab P



Graphical setup



Measurements 360° around the container

# Specifications

## MiniLab D power requirements

220-240 VAC, Single Phase  
50/60 Hz, 20 Amps

## MiniLab P power requirements

220-240 VAC, Single Phase  
50/60 Hz, 20 Amps

## MiniLab P water requirements

Pressure 2.4 to 4.14 bar [35 to 60 psi]  
Flow 15 liter/min [4 GPM] average

## Air requirements

Pressure 3.5 to 6.2 bar [50 to 90 psi]  
Flow 70.6 liter/min [2.5 cfm] average

## Ambient temperature

3.3 to 50 °C [38 to 122 °F]

## Relative humidity

95% (non-condensing)

## • MiniLab P Pressure Tester and Capacity Measurement System

Ware range diameter	45 to 145 mm [1.8 to 5.7 in.]
Ware range height	40 to 410 mm [1.57 to 16 in.]
Finish outside diameter	24 to 51 mm [.94 to 2 in.]
Finish inside diameter	Min. 15 mm [0.6 in.]

## Maximum container capacity

2.0 liter [67.5 oz.]

## Maximum burst pressure

62 bars [900 psi]

## • MiniLab D Dimensional Gauging and Weight Measurement System

Ware range diameter	45 to 145 mm [1.8 to 5.7 in.]
Ware range height	40 to 410 mm [1.57 to 16 in.]
Finish outside diameter	Up to 145 mm [5.7 in.]
Finish inside diameter	15 to 45 mm [0.6 to 1.8 in.]

## Wall thickness gauge

Up to 10 locations - 0.5 to 10 mm [0.02 to 0.4 in.]

## Inside diameter/ID gauge

Up to 10 locations - 0.025 to 75 mm [0.001 to 2.95 in.] depth  
Maximum diameter variation: 2.5 mm [0.1 in.]

## Push-up gauge

1 measurement in center of container - Up to 70 mm [2.8 in.]

## Maximum container weight

2.27 Kg [5.0 lbs.]

Specifications are subject to change. Actual performance depends on specific application, container size, and line speed. Dimensions represent nominal machine size and are not for installation purposes.

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