### Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCB size range</td>
<td>L 560 x W 560 mm (max.) to L 50 x W 50 mm (min.) (applicable for L 750 mm longer PCB (option))</td>
</tr>
<tr>
<td>Resolution</td>
<td>Visible spectrum (red/green/blue)/infrared: 12 /μm/7 /μm (selection)</td>
</tr>
<tr>
<td>Target items</td>
<td>Components status after mounting, components status and solder status after hardening</td>
</tr>
<tr>
<td>Power supply</td>
<td>3-Phase AC 200/208/220/230 V +/–10% 50/60 Hz</td>
</tr>
<tr>
<td>Air supply source</td>
<td>0.45 MPa or more in clean dry state</td>
</tr>
<tr>
<td>External dimension</td>
<td>L 1,252 x W 1,497 x H 1,550 mm (not including projections)</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 1,300 kg</td>
</tr>
</tbody>
</table>

Specifications and appearance are subject to change without prior notice.

### Productivity-boosting dual system

Capable of parallel dual-lane board conveying to speed up small & mid-sized board inspections and can also convey large longitudinal boards to a maximum of 750 mm in length (option). (Please consult us for board sizes exceeding 750 mm in length.)

![External dimensions diagram](image)

### External dimensions

![Diagram showing PCB dimensions](image)

<table>
<thead>
<tr>
<th>Board Size</th>
<th>Single lane</th>
<th>Dual lane (on dual lane operation)</th>
<th>Dual lane (on single lane operation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L 750 x W 560</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L 750 x W 280</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L 1,252 x W 1,497</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L 1,550</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Yamaha Motor IM Europe GmbH
Hansemannstrasse 12 · 41468 Neuss · Germany
Phone: +49-2131-2013520
info-yime@yamaha-motor.de
www.yamaha-motor-im.eu)

(Yamaha Motor IM America Inc.
1270 Chastain Road · Kennesaw · Georgia 30144 · USA
Phone: +1-770-420-5825
info-yima@yamaha-motor.com
www.yamaha-motor-im.com)

Yamaha Motor Intelligent Machinery (IM) is a subsidiary of Yamaha Motor Company.
**2D**

**High-speed, high-resolution 2-dimensional inspections**

High-resolution imaging with 12 megapixels
YSi-V utilizes industry’s first 12 megapixel camera along with a telecentric lens supporting a high number of pixels. It also incorporates a high-speed signal processing control system and other features to achieve an inspection capability twice that of ordinary units along with an expanded visual field, superior image resolution, and high speed.

Provides optimal inspection technique selectable from 5 different methods

- **Bright:** Brightness
  - Selective brightness adjustment of captured image enhances inspection for missing components, polarity, component ID by character recognition.

- **Inf:** Infrared
  - Shows white components on white resist.

- **Las:** Laser
  - Detects height.
  - Example: Floating lead detection.
  - Note: Laser is provided as an option.

- **Col:** Color
  - Can isolate features of a desired color.
  - Example: Detection of exposed copper.

- **Sha:** Shape
  - Extracts stepped sections.
  - Example: Detection of solder fillet.

**Sturdy machine base rigidity**

**3D**

**Height and sloped surface 3-dimensional inspections (option)**

YSi-V makes high-speed height measurements within an entire field of view, in one batch. This 3D imaging reliably detects floating components that a 2D inspection can miss. Detection is also improved where color tones between board and components are similar or when there is interference between silk-screen and pattern. YSi-V 3D inspection can also detect the slope gradient and direction, and make pass-fail contour judgements.

**4D**

**4-direction angular camera (option)**

Besides 2-dimensional inspection images, YSi-V can capture images of all features within a wide field of view from four directions, using unique in-house technology. You can isolate a component and inspect as if looking at the board from four different angles, but without removing the board from the line. This minimizes human contact with boards, thereby eliminating errors and reducing the number of process steps.

**Quality assistance, using mobile pass/fail judgement (option)**

If a defect is detected, this system identifies the mounter responsible and feeds back error information. That mounter is automatically set to cycle-stop and data such as the setting position, head number and nozzle type appears on the monitor.

The error information and an image of the defect are sent by wireless LAN to the operator’s mobile terminal. The operator can communicate pass/fail judgement directly from the mobile device to resume normal line operation.

**2D and 3D inspection of leaded packages and chip components**

**2D**

**3D**

**Enlarged images**

**Wide area images**

**High-resolution imaging with 12 megapixels**

YSi-V utilizes industry’s first 12 megapixel camera along with a telecentric lens supporting a high number of pixels. It also incorporates a high-speed signal processing control system and other features to achieve an inspection capability twice that of ordinary units along with an expanded visual field, superior image resolution, and high speed.

**Provides optimal inspection technique selectable from 5 different methods**

- Brightness
  - Selective brightness adjustment of captured image enhances inspection for missing components, polarity, component ID by character recognition.

- Infrared
  - Shows white components on white resist.

- Laser
  - Detects height.
  - Example: Floating lead detection.
  - Note: Laser is provided as an option.

- Color
  - Can isolate features of a desired color.
  - Example: Detection of exposed copper.

- Shape
  - Extracts stepped sections.
  - Example: Detection of solder fillet.

**Sturdy machine base rigidity**

**Height and sloped surface 3-dimensional inspections (option)**

YSi-V makes high-speed height measurements within an entire field of view, in one batch. This 3D imaging reliably detects floating components that a 2D inspection can miss. Detection is also improved where color tones between board and components are similar or when there is interference between silk-screen and pattern. YSi-V 3D inspection can also detect the slope gradient and direction, and make pass-fail contour judgements.

**4-direction angular camera (option)**

Besides 2-dimensional inspection images, YSi-V can capture images of all features within a wide field of view from four directions, using unique in-house technology. You can isolate a component and inspect as if looking at the board from four different angles, but without removing the board from the line. This minimizes human contact with boards, thereby eliminating errors and reducing the number of process steps.

**Quality assistance, using mobile pass/fail judgement (option)**

If a defect is detected, this system identifies the mounter responsible and feeds back error information. That mounter is automatically set to cycle-stop and data such as the setting position, head number and nozzle type appears on the monitor.

The error information and an image of the defect are sent by wireless LAN to the operator’s mobile terminal. The operator can communicate pass/fail judgement directly from the mobile device to resume normal line operation.

**2D and 3D inspection of leaded packages and chip components**

**2D**

**3D**

**Enlarged images**

**Wide area images**
2D High-speed, high-resolution 2-dimensional inspections

High-resolution imaging with 12 megapixels
YSi-V utilizes industry’s first 12 megapixel camera along with a telecentric lens supporting a high number of pixels. It also incorporates a high-speed signal processing control system and other features to achieve an inspection capability twice that of ordinary units along with an expanded visual field, superior image resolution, and high speed.

Provides optimal inspection technique selectable from 5 different methods

- **Brightness**: Selective brightness adjustment of captured image enhances inspection for missing components, polarity, component ID by character recognition.
- **Infrared**: Shows white components on white resist.
- **Laser**: Detects height. Example: Floating lead detection. Note: Laser is provided as an option.
- **Color**: Can isolate features of a desired color. Example: Detection of exposed copper.
- **Shape**: Extracts apetd sections. Example: Detection of solder fillet.

Sturdy machine base rigidity

3D Height and sloped surface 3-dimensional inspections (option)

YSi-V makes high-speed height measurements within an entire field of view, in one batch. This 3D imaging reliably detects floating components that a 2D inspection can miss. Detection is also improved where color tones between board and components are similar or when there is interference between silk-screen and pattern. YSi-V 3D inspection can also detect the slope gradient and direction, and make pass-fail contour judgements.

4D 4-direction angular camera (option)

Besides 2-dimensional inspection images, YSi-V can capture images of all features within a wide field of view from four directions, using unique in-house technology. You can isolate a component and inspect as if looking at the board from four different angles, but without removing the board from the line. This minimizes human contact with boards, thereby eliminating errors and reducing the number of process steps.

Quality assistance, using mobile pass/fail judgement (option)

If a defect is detected, this system identifies the mounter responsible and feeds back error information. That mounter is automatically set to cycle-stop and data such as the setting position, head number and nozzle type appears on the monitor. The error information and an image of the defect are sent by wireless LAN to the operator’s mobile terminal. The operator can communicate pass/fail judgement directly from the mobile device to resume normal line operation.

High-resolution imaging with 12 megapixels
YSi-V utilizes industry’s first 12 megapixel camera along with a telecentric lens supporting a high number of pixels. It also incorporates a high-speed signal processing control system and other features to achieve an inspection capability twice that of ordinary units along with an expanded visual field, superior image resolution, and high speed.

Provides optimal inspection technique selectable from 5 different methods

- **Brightness**: Selective brightness adjustment of captured image enhances inspection for missing components, polarity, component ID by character recognition.
- **Infrared**: Shows white components on white resist.
- **Laser**: Detects height. Example: Floating lead detection. Note: Laser is provided as an option.
- **Color**: Can isolate features of a desired color. Example: Detection of exposed copper.
- **Shape**: Extracts apetd sections. Example: Detection of solder fillet.

Sturdy machine base rigidity

YSi-V makes high-speed height measurements within an entire field of view, in one batch. This 3D imaging reliably detects floating components that a 2D inspection can miss. Detection is also improved where color tones between board and components are similar or when there is interference between silk-screen and pattern. YSi-V 3D inspection can also detect the slope gradient and direction, and make pass-fail contour judgements.

4-direction angular camera (option)

Besides 2-dimensional inspection images, YSi-V can capture images of all features within a wide field of view from four directions, using unique in-house technology. You can isolate a component and inspect as if looking at the board from four different angles, but without removing the board from the line. This minimizes human contact with boards, thereby eliminating errors and reducing the number of process steps.

Quality assistance, using mobile pass/fail judgement (option)

If a defect is detected, this system identifies the mounter responsible and feeds back error information. That mounter is automatically set to cycle-stop and data such as the setting position, head number and nozzle type appears on the monitor. The error information and an image of the defect are sent by wireless LAN to the operator’s mobile terminal. The operator can communicate pass/fail judgement directly from the mobile device to resume normal line operation.
YSi-V

High-End Hybrid Optical Inspection System (AOI)

Unique features ensure accurate inspection results and high efficiency, for optimum productivity.

Specifications

- **PCB size range**: L 610 x W 560mm (max.) to L 50 x W 50 mm (min.) (applicable for L 750 mm longer PCB (option))
- **Resolution**: Visible spectrum (red/green/blue)/infrared: 12 μm/7 μm (selection)
- **Target items**: Components status after mounting, components status and solder status after hardening
- **Power supply**: 3-Phase AC 200/208/220/230 V ±10% 50/60 Hz
- **Air supply source**: 0.45 MPa or more in clean dry state
- **External dimension**: L 1,252 x W 1,497 x H 1,550 mm (not including projections)
- **Weight**: Approx. 1,300 kg

External dimensions

Productivity-boosting dual system

Capable of parallel dual-lane board conveying to speed up small & mid-sized board inspections and can also convey large longitudinal boards to a maximum of 750 mm in length (option). (Please consult us for board sizes exceeding 750 mm in length.)

Specifications and appearance are subject to change without prior notice.

Yamaha Motor IM Europe GmbH
Hansemannstrasse 12 · 41468 Neuss · Germany
Phone: +49-2131-2013520
info-yime@yamaha-motor.de
www.yamaha-motor-im.eu

Yamaha Motor IM America Inc.
1270 Chastain Road · Kennesaw · Georgia 30144 · USA
Phone: +1-770-420-5825
info-yima@yamaha-motor.com
www.yamaha-motor-im.com

Yamaha Motor Intelligent Machinery (IM) is a subsidiary of Yamaha Motor Company.