Highly Reliable!
Automatic inspection instead of visual inspection with greatly improved reliability. Includes self-diagnosis function.

Simple settings and customizable
Easy-to-use settings screen makes it simple to set the inspection items.

Traceability perfect for welding inspection
Data and judgment results obtained during inspection can be saved, output and analyzed.
Can be used for these types of welds

Wide variety of bead inspection settings are available

- Leg lengths of upper and lower plates
- Weld length measurement
- Weld height
- Throat thickness
- Excessive bead
- Burn-through (Hole in the base material)
- Undercut
- Pit
- Spatter
- Protrusion
- Weld toe angle
- Weld start position
- Weld position gap

* It might not be possible to inspect if the weld height is low.
* It might not be possible to inspect welds where the shape of the base metal is covered up.
1. Characteristic amount analysis function

- Calculates freely selected cross section shapes from 3D measurement results. [Patent: No. 5758090]
- Characteristic amount of welds is calculated from cross section shapes to perform automatic judgment of weld quality (OK/NG).
- Can be used for curved base material and curved line welds.

Lap Welding Inspection (Flat Surface)

Lap Welding Inspection (Curved Surface)
Welds on curved surfaces of pipes and similar objects can also be inspected.

2. Simple Teaching

- Uses an original 3D camera head.
- Simple robot teaching using guide laser

Robot teaching can be done so that the guide and line lasers overlap.
Features

3. Judgment Item Settings

- Various parameter settings functions allow you to set the judgment items.
- Compatible with various inspection needs

4. Compatible with Traceability

- Saving of shape data
- CSV file output
- Analysis of all data (specialized analysis software is included)
  Max./Min./Avg./Standard Deviation

5. 3D Shape Combining Function

- 3D shapes are combined based on robot position information by using 3D pattern matching technology.
  Even welds that require multiple measurements such as pipe welds can be inspected.
- Workpiece information output (ID, model, etc.)
- Inspection start output
- Inspection results reception
- Monitoring of status of 3D inspection unit

**Ethernet I/P**

**Ethernet (MC Protocol)**

**CC Link**

**Robot + 2 External Axes (Index and Lifter)**

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**System Configuration Diagram**

[Control cabinet internal configuration shown within dotted line]

- **Display**
  - Parameter Settings
  - HMI Display (measurement results, images, judgment, OK/NG locations, etc.)

- **Display Switcher**

- **Data Management PC**
  - Traceability
  - Backup

- **HDD**

- **PLC**
  - Ethernet I/P
  - Ethernet (MC Protocol)
  - CC Link

- **Robot Controller**
  - Robot + 2 External Axes (Index and Lifter)

- **Measurement PC**
  - 3D Data Acquisition
  - Measurement/Judgment

- **Camera Signal**
- **Laser Control**

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**System Configuration Diagram**

- **3D camera head**
- **6-Axis Robot Denso Wave VS-087**

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**You Tube**

**Inspection Operations Now Showing on YouTube!**

**3D Weld Bead Inspection System**
Next Generation 3D Inspection System that Improves Quality

### 3D Camera Head Specifications (Model: CVMC-15)

<table>
<thead>
<tr>
<th>Item</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement Width</td>
<td>60mm</td>
</tr>
<tr>
<td>Measurement Height</td>
<td>±7.0mm Max. ±20.0mm</td>
</tr>
<tr>
<td>Working Distance</td>
<td>62mm</td>
</tr>
<tr>
<td>Resolution</td>
<td>1538 × 200 Pixel</td>
</tr>
<tr>
<td>Laser Width</td>
<td>0.1mm (class2)</td>
</tr>
<tr>
<td>Height Direction Resolution</td>
<td>Approx. 20µm</td>
</tr>
<tr>
<td>Width Direction Resolution</td>
<td>Approx. 40µm</td>
</tr>
<tr>
<td>Feeding Direction Resolution</td>
<td>Depends on scan speed.</td>
</tr>
<tr>
<td>Resolution (Speed: 86 mm/sec)</td>
<td></td>
</tr>
</tbody>
</table>

#### Robot Movement Range
(Denso Wave VS-087)

- Self-diagnosis fixture is standard equipment.
  Easy to check accuracy by using self-diagnosis software

- There is also a 1-axis robot type available.

Sample Test Requests Received Any Time

Demo units are permanently installed at our head office factory. Sample test requests can be received at any time. Please feel free to contact us.

**Contact:** info@coretec.co.jp

Sales rep: Kanehira

* Specifications are subject to change without prior notice.