The Next-Generation Industrial Robot

NEXTAGE liberates humans from menial, repetitive tasks, allowing humans to add value through process management and improvement activities.

NEXTAGE coexists with human beings while collaborating with conventional industrial robots and specialized equipment.

NEXTAGE is evolving to the next stage - from “equipment” to “partner”.

Leverage your human capital
ALL in ONE package of diverse features for handling a wide range of tasks

Software

The NaProduction software, installed as a standard component, can be used to teach the robot what to do as well as manage the actual operation. Its GUI displays a "workflow" format which visualizes the production process. Teaching points can be designated by jog-based "inching" operation on the GUI. User functions can be added by creating optional plug-in software.

Teaching

Displays the flow of the application processes at a glance.

[Action Screen]

Designate each "Action" in detail.

[Teaching Point Screen]

Specify the Teaching Point by jog-based "inching" operation.

NaProduction Main Screen

Vision Plug-ins

Image Recognition

- Marker recognition by head camera
  With its stereo vision camera, NEXTAGE is able to identify the position and orientation of surrounding equipment, tools and workpiece in three dimensions using "marker recognition".

- Recognition of detailed workpiece by hand camera
  With its hand camera, NEXTAGE is able to recognize the two-dimensional position data of a workpiece at a closer distance, improving ease of task.

Easy Installation

As positions of the surrounding equipment are determined by marker recognition, the production process can be quickly started after switching processes. NEXTAGE can be easily moved around and installed due to its compact design and the casters under the pedestal.
Pioneering development of the next generation of cutting-edge humanoid robots

The Robotics Division of Kawada Industries, Inc. has been involved in the research and development of humanoid robots for more than 10 years. We are now forging a new Robotics Division, drawing on the technologies and know-how we have accumulated through humanoid robot R&D.

### Specification

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<th>Control Box</th>
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### Recommended Operating Environment

- Ambient temperature (in operation): 5°C to 40°C
- Ambient temperature (in storage): 5°C to 40°C
- Ambient operating humidity: 20% to 80% RH

### Standard Components

- Robot: Control Box
- Pedestal: UI Control Box
- Height Adapter: NEXTEX Software

### Control Box

- **CPU**: Digital servos
- **Servo motor**: Digital servos
- **Controller speciaity**: Position, joint angle
- **Velocity specification in percent**: Position, joint angle
- **Velocity control method**: Trapezoidal control
- **Incremental encoder**: Incremental encoder
- **Position, joint angle**: Position, joint angle
- **Position: 0.01 m/step, 0.01 deg**: Position, joint angle
- **Emergency stop switch provided**: Emergency stop switch provided
- **Power switch provided**: Power switch provided
- **Indicator light provided**: Indicator light provided

### Operating Range

- **Height**: 1600 mm
- **Width**: 910 mm
- **Depth**: 910 mm

### External Dimensions

- **Height**: 1600 mm
- **Width**: 910 mm
- **Depth**: 910 mm

### History

#### 1987
- **Launch of isamu**
  - First humanoid robot developed in-house, utilizing technology cultivated over the years.

#### 1999
- **Contracted to design and build a humanoid robot**
  - Awarded a contract by the University of Tokyo to design and build the Humanoid Robot H6.

#### 2002
- **Launch of HRP-2**
  - End result of the Humanoid Collaboration/Coexistence-Type Robot System R&D project.

#### 2009
- **Launch of HIRO**
  - Upper body humanoid robot research platform.
- **Launch of NEXTEX**
  - Next-generation industrial robot based on the concept of co-existence with humans.

#### 2012
- **Changed name to Robotics Division Awards for NEXTEX/HIRO**
  - Received the Next-Generation Industry Special Award at the 5th Robotic Awards.
  - Received the Factory of the Future Award.

#### 2013
- **Recipient of the Good Design Award**
  - Good Design Best 100/Good Design Gold Award

#### Note

- The Robotics Division of Kawada Industries, Inc. continues to innovate and expand its research and development efforts in the field of humanoid robotics.