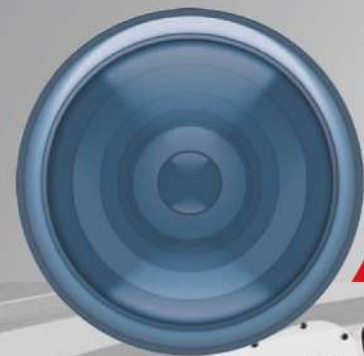
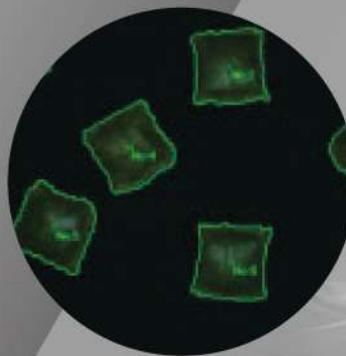
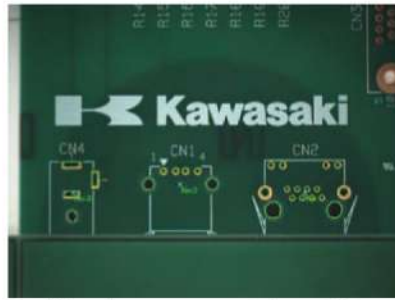




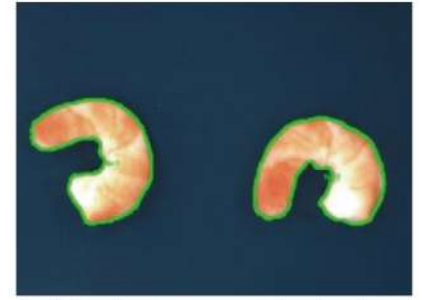
Kawasaki Robot Kawasaki Vision System



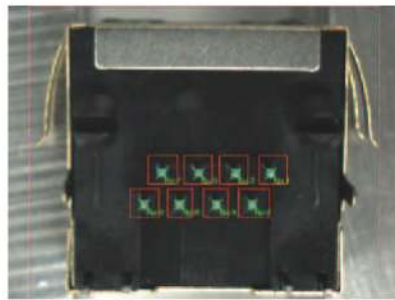
- Based on our know-how accumulated over many years, the Kawasaki vision system comes with all the functions necessary for robot applications. When implementing the system, no complicated setup is needed to communicate with Kawasaki robots.
- Pattern matching and binary-based measurements can be combined and defined easily. The system comes with an adjustment-assistance function and a user-friendly manual, enabling even vision-processing beginners to use the system without difficulty.
- In addition to positional measurements, the system can also handle applications such as character recognition and inspections. (Please consult Kawasaki.)



Positional measurement for a PC board



Positional measurement for food ingredients of indeterminate shape



Positional measurement of pins on a PC board



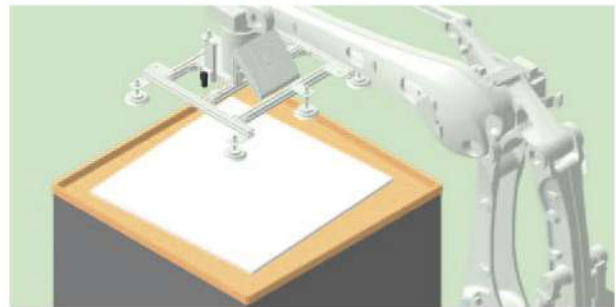
Vision programming on a tablet for Kawasaki duAro robot

Application examples

① Positional measurement and calibration of workpieces using a fixed camera or hand camera

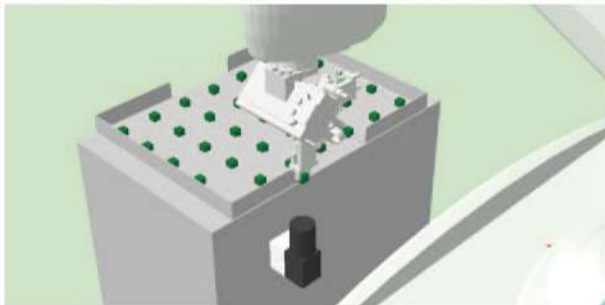


Picking of workpieces on a pallet after positional measurement



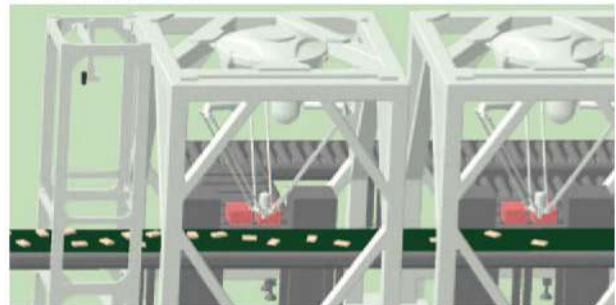
Inclination measurement using a camera attached to the robot hand

② Positional measurement and calibration of workpieces held by a robot, using a fixed camera



Calibration of inclination angle by positional measurement of the workpiece.

③ Picking by several robots that are synchronized with a conveyor



Several robots pick up workpieces that are continuously transported on a conveyor

Commercially available vision systems

- The robot controller is equipped with a TCP/IP communication function, and can connect with various commercially available 2D vision systems.
- Since communication programs can be created according to the vision manufacturers' specifications, customization is possible.
Connection examples: Keyence (CV-X), Panasonic (PV), Cognex (In-Sight EZ)

3D Vision system



NEW

- Initial adjustment work is drastically reduced thanks to suitable robot application packages.
- High-speed recognition is possible using dedicated vision equipment.



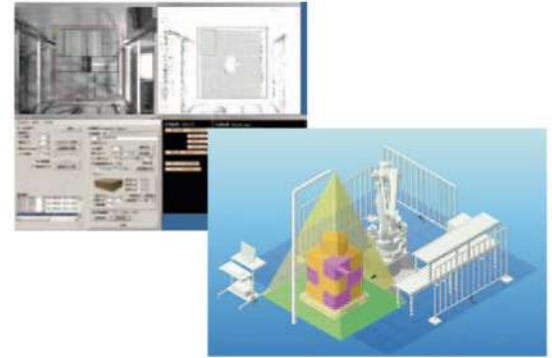
Depalletizing of cardboard and paper bags

Specifications

Measuring range	1,100mm×1,100mm
Distance to object	1,900mm - 3,700mm (distance from top of workpiece)
Processing speed	less than 1 second (processing time fluctuates depending on the object)
Resolution of Z	±3.5 to ±12mm (varies with distance to the object)
Resolution of XY	±1.2mm to ±2.5mm (varies with distance to the object)

Features

- Registration of the target workpiece is not necessary. Automatic recognition is possible with only dimensional information of the workpiece from outside.



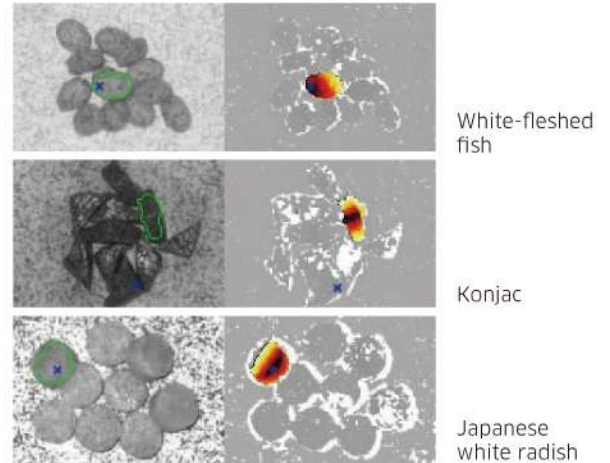
Picking of bulk stacked food ingredients of indeterminate shape

Specifications

Measuring range	450mm×540mm
Distance to object	790mm - 1,200mm
Processing speed	less than 1 second (processing time fluctuates depending on the object)
Resolution of Z	±1mm (varies with distance to the object)
Resolution of XY	±0.5mm to ±0.8mm (varies with distance to the object)

Features

- Bulk stacking of food ingredients of indeterminate shape is possible.
- Registration of workpieces needs no special skills thanks to the original workpiece registration method.



Other Kawasaki 3D vision systems



Name	3D laser sensor	Stereo sensor
Externals	Narrow view 	Middle view
Feature	Hole center, space difference, and gap measurement (Gray image)	3D-measurement of registration pattern (Gray image)
Usage	Measurement, inspection, Position correction	Parts picking, Position correction

Features

- Our original 3D sensor is unaffected by the intensity of ambient illumination and surface conditions of the workpiece.
- Sensor specifications such as the field of vision can be changed according to the application.

Bumper picking system Stereo sensor 	Sealing material inspection system 3D laser sensor
Sealing system Multi cameras 	Seal material coating Stereo cameras
Body measurement 3D laser sensor 	

Commercially available vision systems

- The robot controller is equipped with a TCP/IP communication function, enabling smooth connection with various commercially available 3D vision systems.
- Since communication programs can be created according to the vision manufacturers' specifications, customization is possible.

K-HIPE-R-PC

(PC-based image processing device for Kawasaki vision systems)



K-HIPE-R-PC4
(for automobile industry)

Dimensions: 173(W)x254(H)x396(D) mm
Power requirements: 85-264V, 220W
Ambient temperature: 0-40°C



K-HIPE-R-PC5
(for duAro)

Optional item dedicated
to duAro



K-HIPE-R-PC6
(for general-purpose robots)

Dimensions: 149(W)x257(H)x224(D) mm
Power requirements: 85-264V, 220W
Ambient temperature: 0-40°C

Kawasaki Heavy Industries, Ltd.

ROBOT DIVISION

Tokyo Head Office/Robot Division

1-14-5, Kaigan, Minato-ku, Tokyo 105-8315, Japan
Phone: +81-3-3435-2501 Fax: +81-3-3437-9880

Akashi Works/Robot Division

1-1, Kawasaki-cho, Akashi, Hyogo 673-8666, Japan
Phone: +81-78-921-2946 Fax: +81-78-923-6548

Global Network

Kawasaki Robotics (USA), Inc.

28140 Lakeview Drive, Wixom, MI 48393, U.S.A.
Phone: +1-248-446-4100 Fax: +1-248-446-4200

Kawasaki Robotics (UK) Ltd.

Unit 4 Easter Court, Europa Boulevard, Westbrook Warrington
Cheshire, WA5 7ZB, United Kingdom
Phone: +44-1925-71-3000 Fax: +44-1925-71-3001

Kawasaki Robotics GmbH

Im Taubental 32, 41468 Neuss, Germany
Phone: +49-2131-34260 Fax: +49-2131-3426-22

Kawasaki Robotics Korea, Ltd.

43, Namdong-daero 215beon-gil, Namdong-gu, Incheon, 21633,
Korea
Phone: +82-32-821-6941 Fax: +82-32-821-6947

Kawasaki Robotics (Tianjin) Co., Ltd.

1-2/F, Building 6, No.19 Xinhuan Road, TEDA, China
Phone: +86-22-5983-1888 Fax: +86-22-5983-1889

Kawasaki Motors Enterprise (Thailand) Co., Ltd.

(Rayong Robot Center)
119/10 Moo 4 T.Pluak Daeng, A.Pluak Daeng, Rayong 21140
Thailand
Phone: +66-38-955-040-58 Fax: +66-38-955-145

<https://robotics.kawasaki.com/>

Kawasaki Robot



CAUTIONS TO BE TAKEN TO ENSURE SAFETY

- For those persons involved with the operation / service of your system, including Kawasaki Robot, they must strictly observe all safety regulations at all times. They should carefully read the Manuals and other related safety documents.
- Products described in this catalogue are general industrial robots. Therefore, if a customer wishes to use the Robot for special purposes, which might endanger operators or if the Robot has any problems, please contact us. We will be pleased to help you.
- Be careful as Photographs illustrated in this catalogue are frequently taken after removing safety fences and other safety devices stipulated in the safety regulations from the Robot operation system.



ISO certified in Akashi Works.



SERVICIO TÉCNICO, CONSULTORÍA, TRAINING Y CANAL DE VENTA OFICIAL

Instalaciones centrales

Francisco Aristeguieta Centro Tecnológico (F.A.C.T.)
GI-3162 (Zarautz – Urdaneta) km 2,2
E-20809 AIA (Gipuzkoa), Spain

www.larraioz.com

Tel. (+34) 943 140 139
Fax. (+34) 943 140 327
E-mail. info@larraioz.com



Instalaciones en Getaria

Larraioz Etxea, Eizaga Auzoa,
Garate Mendi E-20808
GETARIA (Gipuzkoa), Spain

Instalaciones América Latina

Carlos Calvo 2480, B8000XAV
Buenos Aires (Buenos Aires),
Argentina

Dirección postal

Larraioz Electrónica Industrial,
S.L. Apartado de Correos
193 E-20800 ZARAUTZ
(Gipuzkoa), Spain



Mechatronics & Robotics



Industrial Automation



Industry 4.0



Vision