

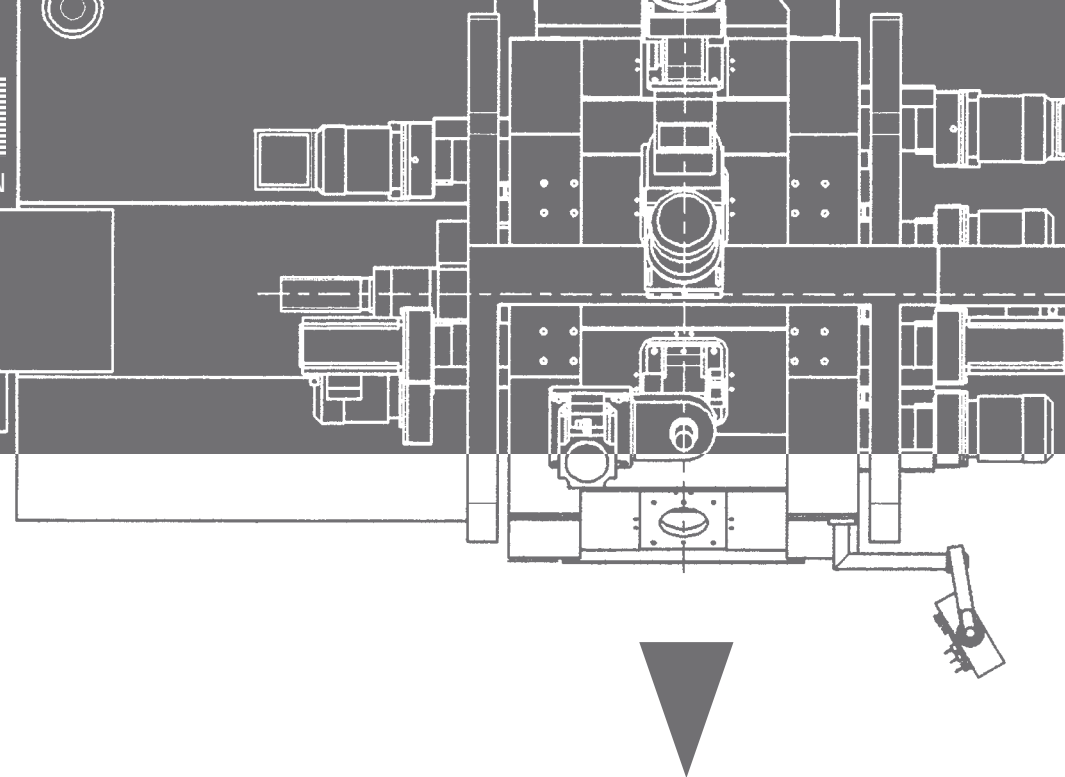
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CNC MACHINE TOOLS AND AUTOMATION

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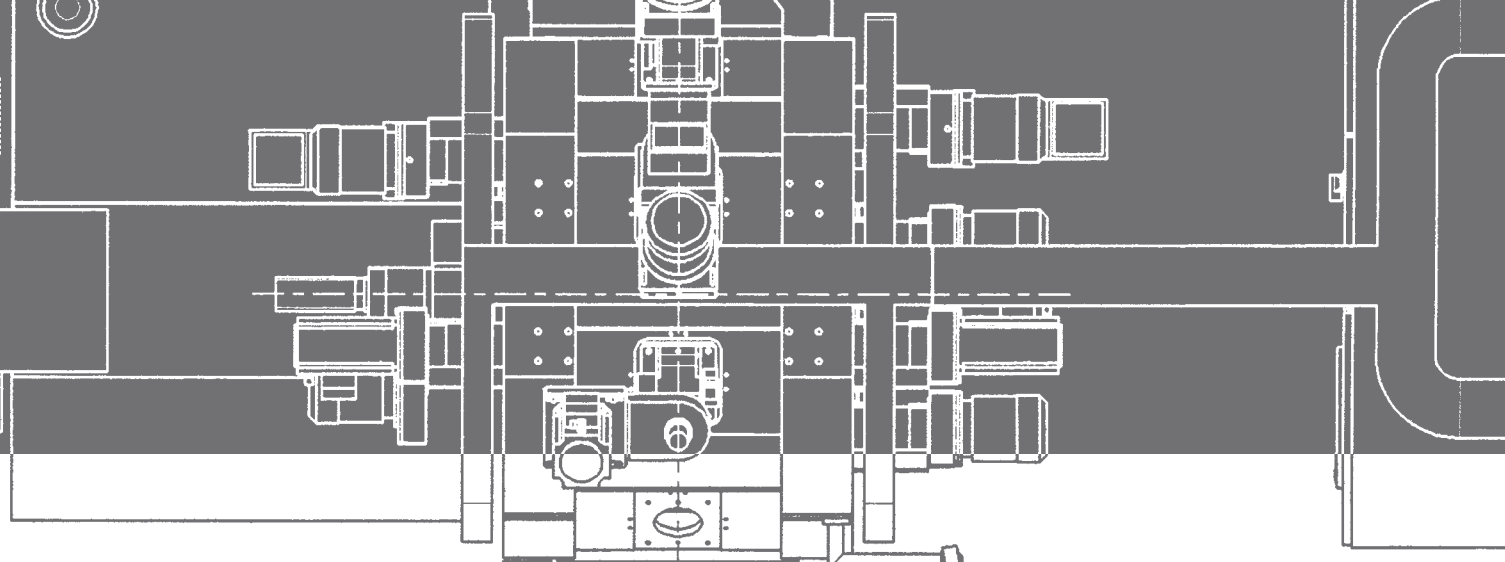
CNC MACHINE TOOLS AND AUTOMATION

INFOTONLINE



ROBOTIC CELL
automatic loading/unloading

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OPTIONAL: WORKPIECES FEEDING UNIT

Upon request, the entering workpieces can be loaded by a completely automatic feeding and recovery unit. Composition:

- Pneumatic or chain control elevator hopper
- Linear sorting vibrator in order to space out the workpieces on the sight belt
- Recovery belt for the workpieces in excess on the sorting vibrator
- Vision feeding belt
- Recovery belt to send the workpieces, discarded by the Vision System, to the hopper
- Dump body control predisposition



LOADING/UNLOADING ROBOTIC CELL for CNC MACHINE TOOL

- Kawasaki Articulated robot
- Vision system with integrated camera Cognex In Sight
- Management software InSight by PC

Our loading/unloading robotic cells fit to any CNC machine tool. The robot can manipulate pieces of different shapes very easily. In fact the vision system with integrated camera recognize exactly the position and the orientation of the particular at work on the belt conveyor.

The change of production becomes easy and doesn't need any tooling, except for the robot gun.

THE ROBOT: WHY KAWASAKI

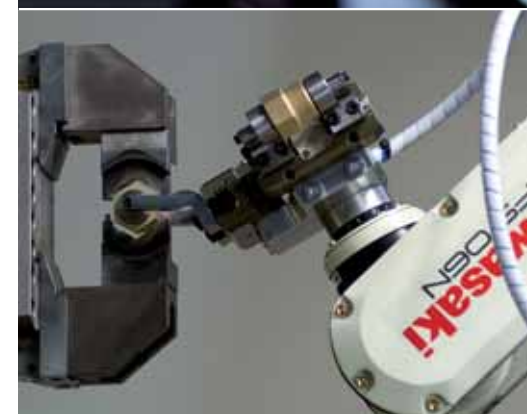
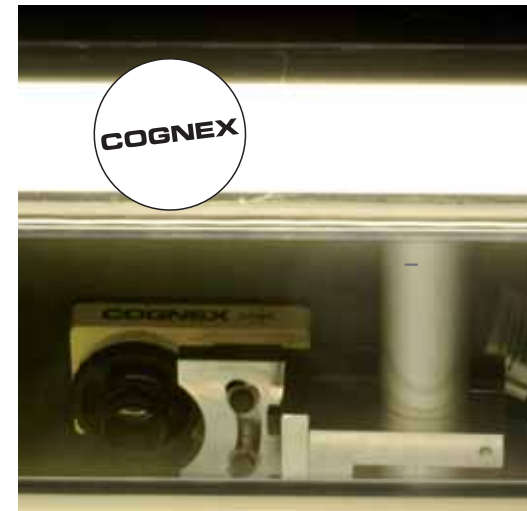
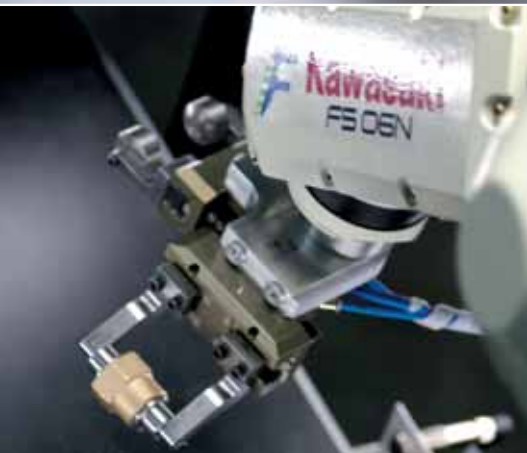
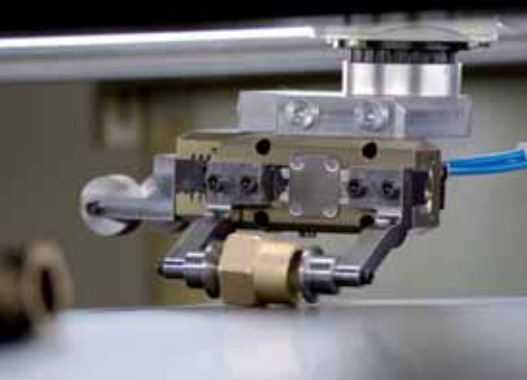
Kawasaki robots differ due to the positioning precision, the speed and the reliability during the years with very low failure incidence.

Furthermore the constructor guarantees a qualified and quick after-sales servicing.

Kind of robot	Kawasaki articulated
Number of axes	6
Nominal payload	starting from 3 Kg
Protection degree	Wrist IP67, Arm IP65 both pressurized

Other features

- Interface Ethernet
- Multitask
- Programming in high level language (symbolic variables for inputs and outputs)
- Solenoid valve and electric signals integrated in the robot arm
- Colour programming keyboard Touch Screen with 3 positions Deadman
- Operator's panel for customized user's interface



The vision software has been developed by Pro.Tech. (Process Technology)



which boasts among its holders exponents of confirmed experience in the field of vision systems and robotics applied at the manipulation and loading/unloadin of machine tools.

VISION SYSTEM COGNEX IN-SIGHT

The integrated vision system In-Sight is equipped with an "intelligent" camera. In fact it can locate objects which differ from dimension and positioning (with rotations at 360°), even with degraded shapes.

It is properly planned for the use in industrial environments due to the compact construction and the protection cap of the lens. The In-Sight is directly connected by Ethernet to the robot controller "guided" for the transmission of the coordinates of the object take.

Vision System	Cognex in-Sight
Kind of camera	W/B
Inspection technology	geometric research with PatMax algorithm
Interface communication/control	Ethernet 10/100
Covering	in pressure die-cast aluminium
Connectors	M12 hermetic
Protection degree	IP67 (with assembled lens covering)

ILLUMINATION AND CAMERA SUPPORT UNIT

The vision system is equipped with two illumination units: one for the illumination from above and one for the illumination on the ground in order to eliminate completely the shadows and the reflexes in the framing of the camera. The feeding of the lamps is of the high frequency (32 KHz), in order to avoid interference phenomena. The camera, introduced in the upper lamp unit can be adjusted independently in order to adapt the framing in an optimal way. The tubular arc-welded support absorbs the floor vibrations which could disturb the quality of the image framed.

Lamps/illuminators bearing frame	tubular Fe arc-welded
Kind of illuminators	industrial fluorescent lamps IP67 with methacrylate tube
Power suppliers	High frequency FLD (32KHz)
Upper lamps	nr. 4 - 55W each
Lower lamps	nr. 4 - 18W each
Camera support adjustments	X, Y, Z and edges for the levelling