M-430ia Robot's High-Speed Handling by Visual Tracking

FANUC Products

Headquarter: Oshino-mura, Yamanashi Prefecture
Paid-in Capital: ¥69,014,459,450 (as of March 31, 2008)
Employees: 2,141 (non-consolidated) (as of March 31, 2008)
High speed handling robot for food and pharmaceutical

Manufacturing process

Consumer goods:
- Food
- Beverage
- Cake
- Pharmaceutical
- Cosmetics
- Domestic articles
- Stationery

Picking
- Pick and pack products one by one in a case.

Packing
- Pack cases one by one in a box.

Palletizing
- Palletize boxes.

M-430iA

M-420i series

M-410i series

Vertical articulated robot with embedded motors

J1 motor & reducer

J2 motor & reducer

J3 motor & reducer

J4 motor & reducer

J5 & J6 motors and reducers
Low inertia structure with separated motors

Wrist axis
J4, 5 & 6 motors and reducers

Main axis
J1, 2 & 3 motors and reducers

Structure of the axis unit

High-speed 5-axis handling robot

6-axis handling robot

J3 arm length
550mm ➔ 350mm

Wrist-axis driving unit
2-axis wrist ➔ 3-axis wrist

Main-axis driving unit
High speed ➔ Standard
Wrist unit with plastic gear

Metallic gear

Resinous gear

Analysis and evaluation by CAE
High speed visual tracking system

- Robust against changes in captured images.
- No need for parameter tuning leads to simple teaching.
Teaching method for vision sensor

Simple teaching method

Teaching method: Just surrounding the image of a part by a window.

Taught model

No need to adjust parameters

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The Robot Award 2007
The Grand Prize