Visual intelligence

Advanced bin picking and general material handling

FANUC

3D Area Sensor

Productive automated handling for more efficiency and flexibility

Robots equipped with FANUC 3D Area Sensors represent a great way of increasing your productivity and reducing your costs on a vast range of general material handling applications. Capable of locating parts three dimensionally, they add flexibility and reliability to operations traditionally completed by humans or otherwise requiring sophisticated and expensive dedicated machinery. No matter whether your process involves loose, mixed, irregular parts, sacks or bags, equipping a robot with a 3D Area Sensor provides an efficient solution that can be quickly adapted to handle different products in accordance with your order books.

Visual intelligence that opens up your options:

- **depalletising** materials including mixed boxes, sacks, bags and food packaging
- **bin picking** materials including loose random parts, irregular castings, irregularly-shaped sacks and packaging
- **sorting, placing and loading** picked items into machines

Grippers for every type of material:

- mechanical
- magnetic
- vacuum
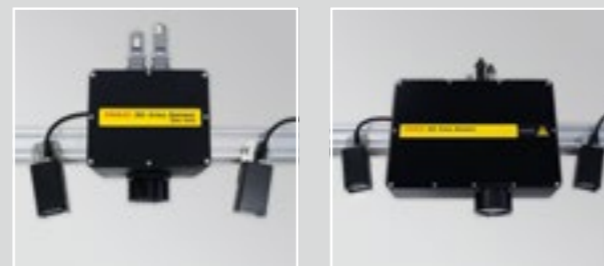
Two different types of 3D area sensor are available (IP65):

- 3DA-400 for smaller boxes (400 x 300 x 300 mm)
- 3DA-1300 for euro pallets (1340 x 1000 x 1000 mm)

More productivity

- integrated part manager ensures efficient picking
- shorter cycle times thanks to multi-tasking background processing
- 8 year service interval on 3D area projector unit ensures continuous production
- one robot can handle up to four 3D area sensors
- a wide range of KAREL programs for intelligent customisable part management

Faster setups and maximum uptime

- faster set up thanks to complete integration into the robot (no interfaces to external devices and no PC needed)
- fewer parts and FANUC reliability for maximum uptime
- easy mechanical installation and setup wizards reduce system setup time
- workshop programming using a graphical interface on *i*Pendant Touch
- for more flexibility, teaching new paths is easy
- collision avoidance function ensures robots do not make contact with obstacles or bin edges

# Adaptable solutions for every application

With over 200 3D Area Sensors installed in many different industries, FANUC enables you to respond flexibly and improve the productivity of your handling operations. Even setups involving dirty, dusty or rusty products and/or difficult light conditions can be realised. No matter what your handling scenario, FANUC specialists are ready to find a solution that meets your needs. **Why not ask about a test installation?**

Worldwide FANUC
service & support
**See: www.fanuc.eu/uk/en/
lifetime-management**

Bin picking metal castings
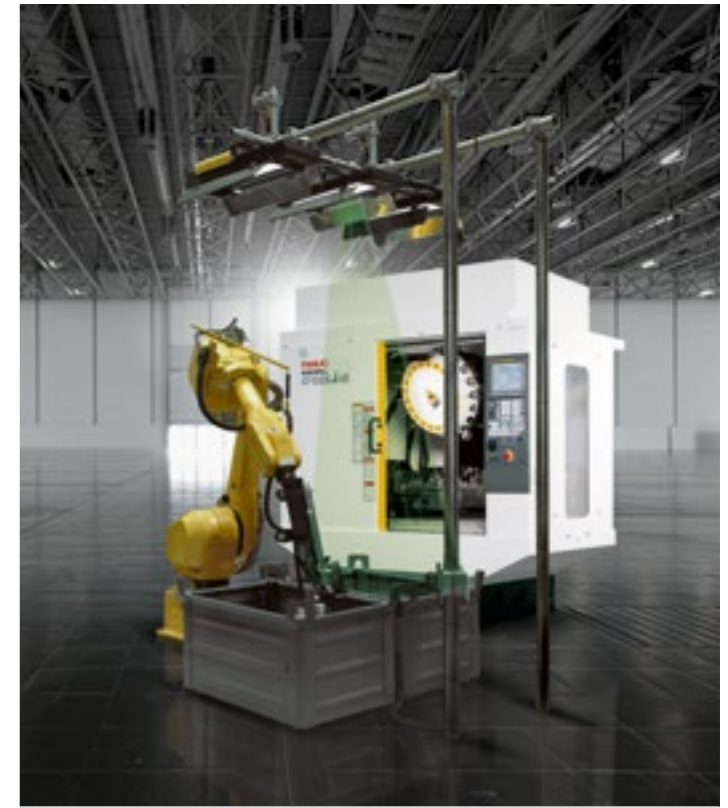
Machine loading from a bin

Depalletising bags and boxes
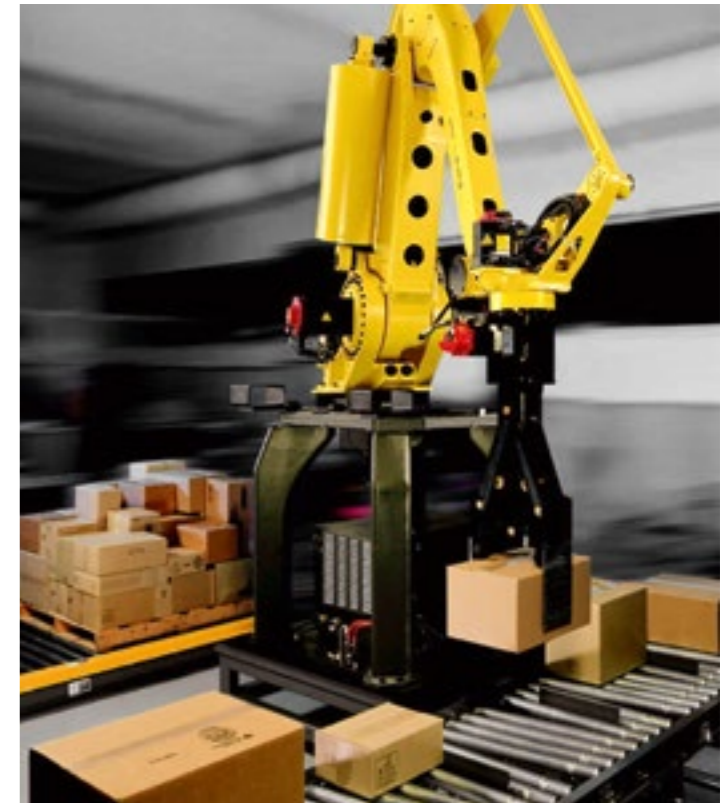
Handling different sized boxes

How it works

Completely integrated into the robot controller, FANUC's high-speed 3D Area Sensor uses structured light projection to create 3D maps. Using these maps, the system looks for parts. The part manager then does an evaluation and decides which part to pick. Taking reaching distance and collision avoidance into account, it then chooses the fastest picking option. If the part manager decides a pick has been unsuccessful or a part queue does not contain a part to pick, another image is taken and the process starts again using the new results.

1 SEARCH

2 PICK

3 PLACE

Additional facts

- out of the box functionality, including all the tools and features needed (plug and play)
- intelligent part management ensures picking is evenly distributed across the bin
- part detection takes place while the robot is moving and does not interrupt the workflow
- familiar *i*RVision interface makes it easier to understand and use
- standard TP programming skills are sufficient to create and implement an application
- full *i*RVision functionality plus special locator tools for the 3D Area Sensor
- bin picking is fully supported by FANUC Roboguide simulation software
- no additional light required
- all components – hardware and software – 100% FANUC

**Push
the
button**

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