

Bin-picking

SensActive® Bin-picking allows picking of unsorted goods straight from transport packaging. The system uses laser-based three-dimensional scanning technology and patented algorithms, developed by Dynamis AB, for object recognition.



SensActive® Bin-picking
(shown here with robot and
pattern-laying module).

Swedish patent: SE 529377

The Bin-picking system, which forms part of SensActive®, uses object recognition to identify and locate objects in the packaging. The laser light used for measuring comprises a concentrated wavelength, which enables effective suppression of ambient light. The system is thus significantly less sensitive to interference from ambient light than traditional visual technology, which rely on contrast recognition against bright backlighting.

The parts can lie anyhow in the packaging, even vertically, meaning that no separating spacers are required between layers of parts.

The system picks and handles objects, by means of a robot, straight from transport packaging, e.g. a Euro pallet with collars. This could be to supply a processing machine, for example, or perform an assembly operation. The system offers major benefits when handling complex parts, is flexible and allows rapid conversion when switching components.

The SensActive® range also includes a pattern-laying module and inspection units.



Bin-picking unit BP800



Bin-picking unit BP450

Master

Control system

Standard: Supplied as slave-controlled by an external overall system.

Option: Can be supplied with a built-in master for controlling an entire robot cell plus peripheral equipment, a text-based script.

Capacity

Cycle time excluding robot movement

20 sec/part (typical value = 2 to 5 sec/part depending on the shape of the part).

Object size

BP 800 and BP800L

approx. 100x100x100mm or larger.

BP 450

approx. 30x30x30mm or larger.

Object surface

Most materials and surfaces, but high-gloss surfaces should be avoided.

Size of picking packaging

BP 800 and BP800L

1200x800x600 mm (Euro pallet with 3 collars). BP800L can be supplied with a measuring range greater than 1200 mm.

BP 450

620x450x300 mm (Schäfer box).

Equipment & connections

Communication

Databus: LAN, Profibus.

I/O units: 40 x 24 V (in/out) option.

Safety loops, option.

Robot type

ABB, Motoman, etc.

Ventilation

Active cooling unit.

Other

Reference models for the part

IGES, STL, STEP.

Dimensions

BP 800

2215 x 600 x 1110 mm, (h x w x d).

BP800L

2350 x 2200 x 1350 mm, (h x w x d).

BP 450

1780 x 600 x 980 mm, (h x w x d).

Weight

approx. 250 kg.

Ambient temperature

10–45°C.



Laser class 3R as per SS EN 60825-1.



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Dynamis is part of the Swedish industrial concern Morphic, which offers energy systems based on renewable electricity production and low-resource technology for production of components in large batches. The company has operations in Sweden, Norway, Japan, Greece, Italy and Switzerland.

Dynamis AB is quality and environmentally certified in accordance with ISO 9001:2000 and ISO 14001:2004.

