



Cross 3D Bin Picking Solution

AUTOMATION & ROBOTICS

Adding automated machine tending to existing processes with little to no process changes.

In today's manufacturing environment, the availability of good labor is at an all-time low. To address this, automating simple repetitive machine tending is a great place to start, as it frees up existing labor to do higher value tasks. In the past there have been a number of impediments to pursuing these opportunities, including the availability of floor space, safety concerns, and requirements to change dunnage.

Any application where parts have to go through a multi-step process and must be placed into a bin between steps are ideal for the use of robotics and automation. Commonly this is seen in plastic injection molding, automotive and medical device manufacturing industries. These jobs are mundane and repetitive, and are not an efficient uses for human operators. Additionally, tasks like these can lead to carpal tunnel or other physical injuries due to their repetitive nature.

Cross has developed a 3D bin picking solution that eliminates the need for part singulation without disrupting your current process. This mobile solution combines the most robust 3D bin picking solution on the market with the most widely used collaborative robot on the planet. Together, this system alleviates the need for complex methods of part handling, separation, and orientation. This gives the collaborative robot the ability to locate, orient, and pick parts out of a bin just as a human operator would. Additionally, the robot can be programmed to recognize multiple parts, allowing both for parts to be interchanged and the system to be used for kitting applications.



This turnkey solution can quickly be integrated into your current process. All that is required to begin are CAD models of the parts it will be picking. Our team can handle all of the end-of-arm tooling, part teaching, and programming requirements to ensure the system is ready to work for you. More often than not, the platform can be placed in your operation wherever a human operator would stand to complete the same task, allowing for minimal disruption to your current process. Key features of the Cross 3D Bin Picking Solution include:

- Quick start solution – simply teach part geometry and place the platform
- Collaborative robot with 3, 5, or 10 kg payload
- Cross’s robust 3D vision system able to handle applications other solutions cannot including: shiny surfaces, thin parts, and complex surface geometry
- Fast cycle times - parts can be located in less than 3 seconds
- Mounted end of arm tooling specific to part geometry and gripping needs
- Ability to pick a wide range of part sizes from as small as 10 x 10 mm (see spec. chart below)
- Programmable for variable bin sizes and depths
- Optional partial recognition of large work pieces
- Optional dictionary creation
- Onsite installation, startup, and training by a Cross Robotics engineer included.

Interested in streamlining your process? Contact us today to see if our 3D Bin Picking Solution is right for your operation.

* Use of this solution is based upon a risk assessment of each specific customer’s application.

CRP-BP Series	300	500	1100	1100+
Measurement Distance	500 to 600 mm [19.7 to 23.6 inch]	800 to 1000 mm [31.5 to 39.4 inch]	1750 to 2350 mm [68.9 to 92.5 inch]	1750 to 2650 mm [68.9 to 104.3 inch]
Measurement Range (H x W x D)	340 x 340 x 100 mm [13.4 x 13.4 x 3.9 inch]	540 x 540 x 200 mm [21.3 x 21.3 x 7.9 inch]	1160 x 1160 x 600mm [45.7 x 45.7 x 23.6 inch]	Up to 1300 mm x 1300 mm x 900 mm [51.2 x 81.2 x 35.4 inch] Some exclusions apply
Minimum Work Piece Size	10x10 mm [0.39 x 0.39 inch]	20x20 mm [0.79 x 0.79 inch]	45x45 mm [1.77 x 1.77 inch]	50x50 mm [1.97 x 1.97 inch]
Recognition time [sec] *1	1.8	1.8	2.5	2.5
Minimum Part Thickness	0.4 mm 0.016 inch	0.6 mm 0.024 inch	2 mm 0.079 inch	4 mm 0.158 inch
External Dimension	252 x 206 x 124 mm / 9.9 x 8.1 x 4.9 inch			
Operating Temperature	0 – 45°C / 32 – 113°F			
IP Rating	IP54			