MAX·AI®

Robotic Sorters

Max-AI® Technology

MAX-AI® USES A VISION SYSTEM AND A MULTI-LAYERED NEURAL NETWORK FOR MATERIAL IDENTIFICATION

MAX-AI® DIRECTS ROBOTIC ACTION

For videos of Max-AI robotic sorters go to:
https://www.youtube.com/@Max-AIRoboticSorters

From robotic sorting to optical sorters, to real-time material identification, Max-AI® technology is powering solutions that deliver remarkable results.

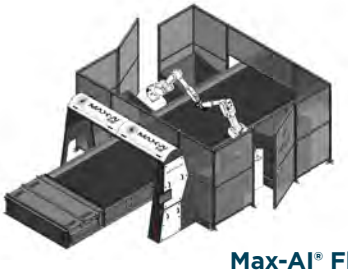
Max-AI® technology begins with VIS (Visual Identification System), an advanced technology that uses a machine vision system to see the material and specialized artificial intelligence to identify each item based on visual characteristics. Max-AI® VIS directs robotic sorters to make discrete picks of targeted items or contamination for increased purity and recovery, decreased labor and minimal product loss.

Max-AI® Robotic Sorters

Max-AI® AQC-1
Autonomous Quality Control

Max-AI® AQC-2
Autonomous Quality Control

Max-AI® CoBot
Collaborative Robot



Max-AI® Flex
Robotic Sorter for Heavy Items

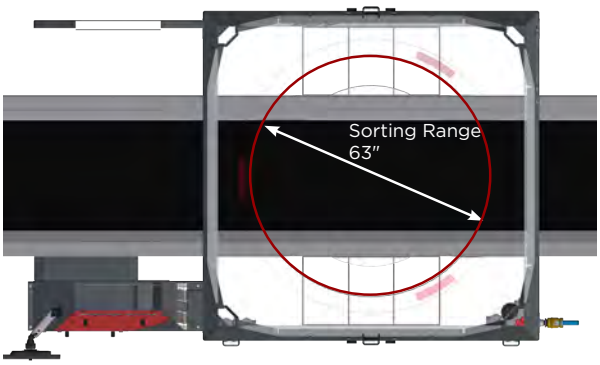
Max-AI® AQC-1

The AQC-1 features one robotic sorter making multiple sorting decisions autonomously, delivering picked items to chutes on both sides of a conveyor with a sorting belt width up to 30 inches.

Identifiable material includes plastics & metal containers, paper, cardboard, cartons, and residue; for example, separating thermoform trays, aluminum, 3D fiber and residue from a stream of optically-sorted PET bottles. All of this is done at rates exceeding human capabilities and each pick is prioritized for profitability.

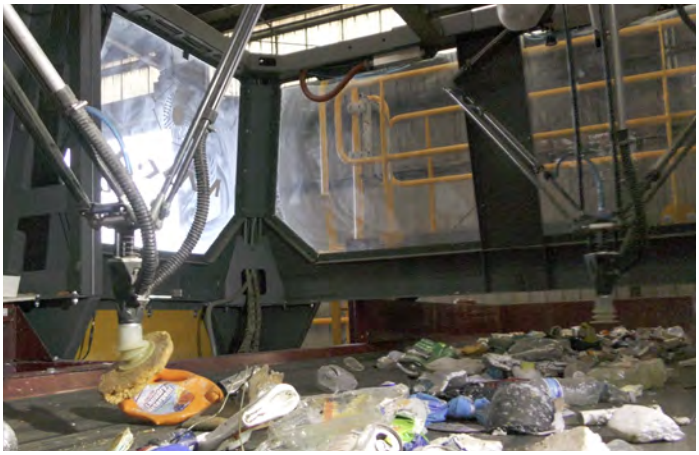
Max-AI® AQCs provide MRF operators with sustained and consistent sorting performance while improving safety, recovery, product quality and operational expenses.

- Up to 70 picks per minute
- Up to seven separate sorts per robot
- Identifies plastics & metal containers, paper, cardboard, cartons, residue
- Neural networks can be retrained to identify new materials as waste streams change
- Picks prioritized by value, weight, or other operator specifications. Priorities are easily adjusted when market conditions change.
- Can be installed in existing MRFs with minimal downtime.
- Applications include:
  - › Container Quality Control
  - › Fiber Quality Control
  - › Positive Sorting of Recyclables



Maximum Conveyor Frame Width: 42″
Maximum Sorting Belt Width: 30″

Max-AI® AQC-2



The AQC-2 features two robotic sorters making multiple sorting decisions autonomously, delivering picked items to chutes on both sides of a conveyor with a sorting belt width up to 60 inches.

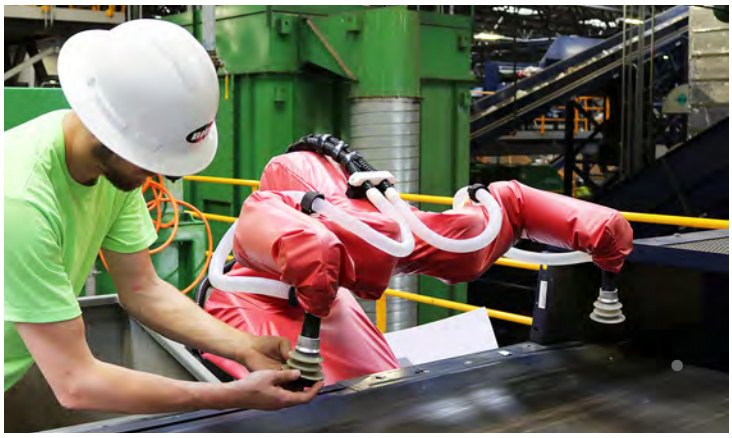
Identifiable materials include plastics & metal containers, paper, cardboard, cartons, and residue; for example, separating thermoform trays, aluminum, 3D fiber and residue from a stream of optically-sorted PET bottles. All of this is done at rates exceeding human capabilities and each pick is prioritized for profitability.

Max-AI® AQCs provide MRF operators with sustained and consistent sorting performance while improving safety, recovery, product quality and operational expenses.

- Up to 120 picks per minute (60 per robot)
- Up to four separate sorts per robot
- Identifies plastics & metal containers, paper, cardboard, cartons, residue
- Neural networks can be retrained to identify new materials as waste streams change
- Picks prioritized by value, weight, or other operator specifications. Priorities are easily adjusted when market conditions change.
- Can be installed in existing MRFs with minimal downtime.
- Applications include:
  - › Container Quality Control
  - › Fiber Quality Control
  - › Positive Sorting of Recyclables

Maximum Conveyor Frame Width: 72"
Maximum Sorting Belt Width: 60"

Max-AI® CoBot

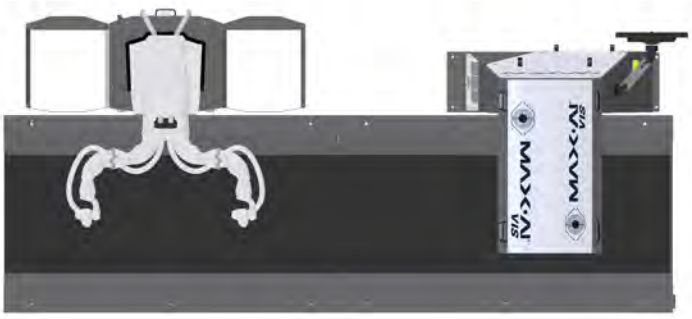


The CoBot is comprised of Max-AI® VIS (Visual Identification System) and at least one collaborative robot (CoBot). CoBots can work alongside people, minimizing structural requirements and footprint while improving maintenance access. **CoBots** can be quickly and easily placed into existing Material Recovery Facilities (MRFs) with no downtime.

Identifiable material includes plastics & metal containers, paper, cardboard, cartons, and residue; for example, separating thermoform trays, aluminum, 3D fiber and residue from a stream of optically-sorted PET bottles.

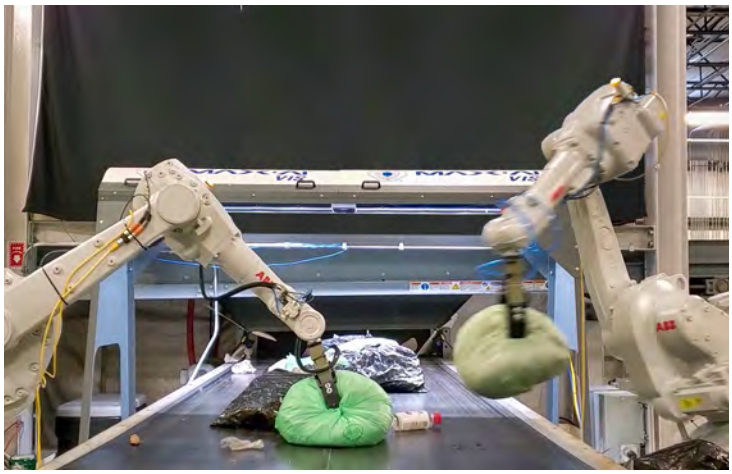
Max-AI® robotic sorters provide MRF operators with sustained and consistent sorting performance while improving safety, recovery, product quality and operational expenses.

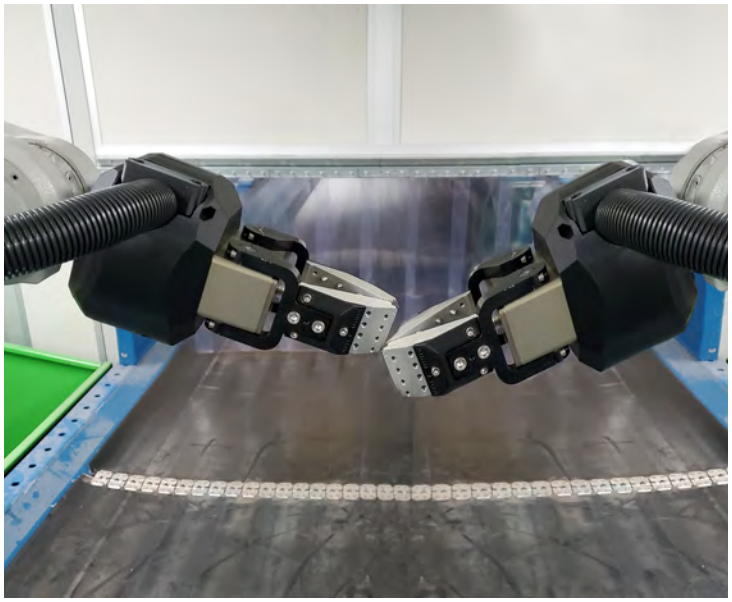
- Up to 40 picks per minute per robotic unit
- Up to five separate sorts per robot
- Up to four robotic units can be installed per VIS unit
- Identifies plastics & metal containers, paper, cardboard, cartons, residue
- Neural networks can be retrained to identify new materials as waste streams change
- Picks prioritized by value, weight, or other operator specifications. Priorities are easily adjusted when market conditions change.
- Applications include:
  - › Container Quality Control
  - › Fiber Quality Control
  - › Positive Sorting of Recyclables



Maximum Conveyor Frame Width: 42″
Maximum Sorting Belt Width: 30″
Sorting Range: 18″ each robot

Max-AI® Flex





The Flex is comprised of Max-AI VIS and two robotic pickers, capable of lifting objects up to 15 lbs. This robotic sorter excels in areas where heavy and/or non-uniform objects are present within a material stream such as pre-sort and post-sort areas in a wide variety of applications. For example, the **Flex** can pick black trash bags from other colored bags and incoming material in a pre-sort area.

Identifiable material includes plastics & metal containers, paper, cardboard, cartons, and residue.

- Up to 35 picks per minute per robot arm
- Up to three separate sorts per robot
- Neural networks can be retrained to identify new materials as waste streams change
- Picks prioritized by value, weight, or other operator specifications. Priorities are easily adjusted when market conditions change.
- Can be installed in existing MRFs with minimal downtime.

Maximum Conveyor Frame Width: 84″
Maximum Sorting Belt Width: 72″
Sorting range: 40″ each robot

max-ai.com

Bulk Handling Systems
3592 West 5th Avenue
Eugene, OR 97402 USA
bulkhandlingsystems.com

541.485.0999
1.866.688.2066
sales@bhsequip.com