Roca Sorter Max: Specification Sheet

Product Overview

The Roca Sorter Max is a robotic card sorting machine made for the sorting and organizing of Magic: The Gathering, Pokèmon, Disney Lorcana, and One Piece trading cards. The system is separated into two modules, which are tethered by a power cable and tube. The larger module, the sorting frame, has two access points: one for inserting or removing the input tray, and a second for easy access to the sorting area. The sorting frame houses the primary components of the Roca Sorter, including the motion, picking, and electronics systems along with the sorting bins. The smaller module, the compressor frame, houses the vacuum compressor units which drive the pick system.

Each machine comes with one input tray, where cards are loaded for sorting or removed after sorting. The input tray is inserted into the sorting frame and is fully detachable and interchangeable between machines. The sorting frame also has a hinged lid which may be opened to view the sorting area or to perform maintenance. Inside the sorting frame is one moving end effector, which interfaces with the cards using three soft silicone cups. There are two internal cameras used for machine troubleshooting and card recognition. Both cameras face inward towards the cards and cannot see outside of the machine. The entire system is powered through two cords which plugs into a standard socket from the rear of both the main sorting frame and compressor frame.

Each customer will receive a tablet that can be used to operate all machines located at their facility. Switching between machines is as simple as swiping left and right on the tablet to the indicated machine. General features of the tablet include all available sorting algorithms (detailed in Product Specifications below) and associated inputs, status information about the machine such as software version or newest release compatibility, access to the internal overview camera for remote monitoring, and links to help and support.

Product Specifications

Single load Capacity*	3,000
Sorting Throughput**	450 cards/hour sift, 300 cards/hour sort

*Load capacity is dependent on the sort algorithm and card characteristics. See below for further information.

**Throughput is dependent on the sort algorithm. See below for further information.

Sorting Algorithms

Set, Name	All cards loaded into the Set, Name sort will be sorted first by set and then within each set cards will be sorted alphabetically by name. Sets will be ordered alphabetically. **Capacity:** Full capacity of the input tray. **Average duration:** 8-10 hours **Outcome:** Cards will be ordered sequentially in the input tray from Input 1 to Input 13.
Name, Set	All cards loaded into the Name, Set sort will be sorted first by name, then all cards of the same name will be ordered by the set name alphabetically. **Capacity:** Full capacity of the input tray. **Average duration:** 8-10 hours **Outcome:** Cards will be ordered sequentially in the input tray from Input 1 to Input 13.
Bulk Sift	All cards loaded into the sort will be separated by price only with no sorting. The user may enter any price threshold at the beginning of the sort. **Capacity:** The Bulk Sift sort utilizes twelve (12) of the thirteen (13) inputs, so not at full capacity. **Average Duration:** 5-6 hours **Outcome:** Cards greater than or equal to the price threshold will be located beginning in the Rejection Bin, moving into Input 1, and so on. Cards below the price threshold will be located beginning in Input 13, moving into Input 12, and so on. Unidentified products are sandwiched between the two.
Price Sift with Sort	All cards loaded into the Price sift with sort will be first separated by price and then cards greater than or equal to the price threshold will be sorted by set, name, as described above. The user may enter any price threshold at the beginning of the sort. **Capacity:** Full capacity of the input tray. **Average duration:** 8-10 hours **Outcome:** Cards greater than or equal to the price threshold will be located starting in Input 1 and sorted by set and name until the last card above the value threshold. Cards below the price threshold are unsorted.
Custom	Data available to custom algorithms includes name, set, price, color, and rarity. Any number of nested sorts may be detailed, or the customer may provide their own list of cards to prioritize during sorting. Please inquire for additional information.

Size and Dimensions

Sorting Frame Weight	150 lbs	Tolerance +/- 5 lbs
Pump Frame Weight	28 lbs	Tolerance +/- 5 lbs
Sorting Frame Dimensions (WxDxH)	49″(W) x 31″(D) x 16″(H)	Tolerance +/- 1″
Pump Frame Dimensions (WxDxH)	7″(W) x 32″(D) x 12″(H)	Tolerance +/- 1″

Additional Requirements

Power	Two six-foot power cables come with the machine and must be plugged into a standard 3-prong wall outlet. The third prong for grounding is required.
Ambient Temperature	The machine must not operate in ambient temperatures above 100 degrees Fahrenheit.
Internet Connection	To adequately receive software updates, pricing data, completed sort information, and support, the customer must have an active internet connection. The machine ships with a router used to create a local connection between the machines and the customer network. A single router and tablet will control multiple Roca Sorters if the Roca Sorters are in close proximity. *Additional routers and tablets will be required if the Roca Sorters are not set up in close proximity to one another.
Stable Base	The machine must be used on a stable surface that can both bear the full weight of the sorting and pump frames while also withstanding the normal movements caused by sorting. The gantry moves around inside the sorting frame to image and sort input cards. Normal motion of the gantry, and operation of the pump, may cause the surface to vibrate or shake.

Overview of Components