Soontech Annals

SG03: High Speed Cart Based Ideal Splitter

By: Andrews54757
Tags: splitting, cart, ideal-splitting

Features

- Minimum amount of partial boxes output.

- High speed. 31.5x hopperspeed throughput.

- Unstackables are split into a separate stream.

- Cart based box unloader compatible.

Applications

- Splitting mixed boxes for dynamic sorting systems.

- Merging boxes in a dynamic sorting system.

General Description

The SG03 splitter takes boxes with items and splits them by item type. Items of the same type are loaded into boxes with ideal packing efficiency. Up to one partial box is output per item type. Unstackable items are split into a separate stream. The device utilizes hopper-carts to reach high speeds, with up to 31.5x hopperspeed throughput.
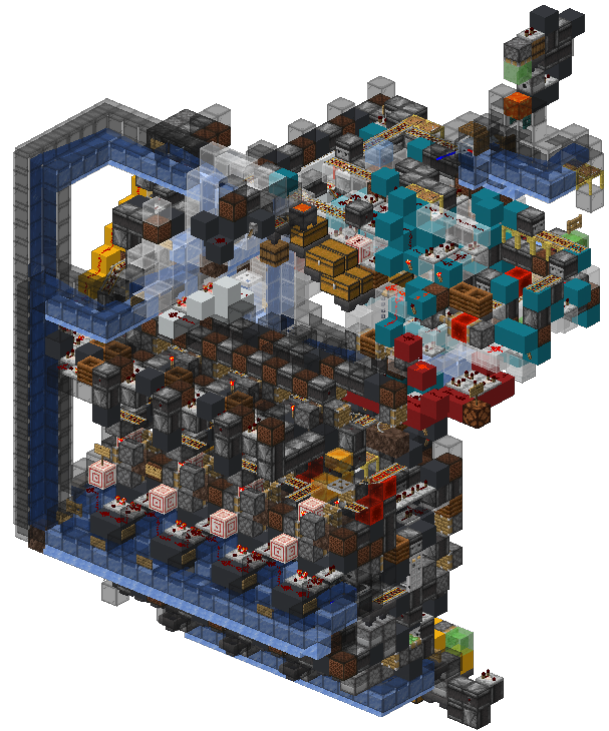

Figure 1: High Speed Cart Based Ideal Splitter

Device Specifications

Table 1: Inputs

Name	Range	Description
Mixed boxes input	Box	Boxes to split. Boxes can contain any items.

Table 2: Outputs

Name	Range	Description
Split boxes output	Box	Boxes with same item types only
Unstackables output	Item	Unstackable items

Table 3: Device Specifications

Parameter	Min.	Typ.	Max.	Unit	Conditions
Throughput	0.5	20	31.5	HS	Typical throughput includes item refresh downtime.
Active Lag	+2	+10	+16	ms	At max speed with 4k item entities. Ryzen 5 3600, 2GB RAM. MC 1.19.3 with Lithium.
MC Version	1.19	1.19.3	-	MCV	Latest version at time of writing: 1.20.4
Dimensions		26 x 31 x 22		Blocks	

Testing Data

Table 4: Executed Tests

Test	Result
Ideal splitting test	Device was able to split HermitCraft boxes correctly with minimum partial boxes.

Download Information

Table 5: Download Information

Identifier	MC	File	Description
SG03	1.19.3	[SG03_High_Speed_Cart_Based_Ideal_Splitter.zip](#)	WDL of device. Cart unloader version included. Inventories included.

Figure 2: Logic Diagram of SG03 Ideal Splitter