Sorting and Transfer System AS Series

**Case Sorter**

- **Auto-Sorter**
  - **FP20**
    - ASFP20S [Max. Cargo Weight ~30kg] NEW
  - **FP30**
    - ASFP20W [Max. Cargo Weight ~45kg] NEW

*Models with a sorting and transfer speed of 200m/minute when single sorting with a sorting angle of 20°.

- **FP30**
  - ASFP30 [Max. Cargo Weight ~45kg] NEW

*Models with a sorting and transfer speed of 150m/minute when double sorting with a sorting angle of 20°.

*Models with a sorting and transfer speed of 110m/minute when single or double sorting with a sorting angle of 30°.

**Piece Sorter**

- **Auto-Sorter mini**
  - **ASS** [Max. Cargo Weight ~5kg] PAS
  - **ASS Enhanced type** [Max. Cargo Weight ~10kg] PAS
  - **ASOS** [Max. Cargo Weight ~5kg] PAS
  - **ASHS** [Max. Cargo Weight ~5kg] PAS

*PAS (Piece Assorting System) is a self-automated sorting system equipped with an information control system based around the Auto-Sorter (mini), which automates sorting of small products in piece units.
Distribution centers play a major role in the distribution business whether as a production area or manufacturing base, sales office (retail stores and mass retailers) between import bases and consumption areas or as a product supply base to customers. The distribution centers are primarily located near consumption areas, but with the increasing demand for better services in terms of timely supplies, there are also cases of dispersed bases existing in consumption areas.

In an effort to improve the efficiency of the distribution business, the consolidation of distribution centers has been proposed. By integrating dispersed centers and making joint deliveries with other companies, the number of double handlings can be reduced as well as the cost of storage and transportation. This consolidated distribution center will operate as a highly efficient distribution center with material handling machinery, or a sorter at its core.

What is a sorter?
A sorter is a sorting transfer machine with high-level sorting ability, and a transfer path replete with many branching capabilities. It is a vital piece of hardware for achieving the automation of store-based (customer) sorting and destination-based sorting, which is the main business involved in distribution centers during shipping. A sorting system is indispensable for improving distribution center capabilities in terms of both instant responsiveness (processing speed) and capacity (mass processing capability), which is essential to a consolidated distribution center.

Benefits of slide shoe type
This sorter that specializes in slide shoe sorting has defined the field of distribution system machinery, establishing various sorting methods for cargo based on size, weight, shape and purpose.

The Auto-Sorter uses a method (slide shoe type) wherein multiple shoes slide in order to push cargo in the required direction, enabling it to accommodate a wide range of conveyor item sizes and shapes while sorting cargo reliably and gently.
CASE WORKS

CASE 1
Cosmetics and pharmaceuticals distribution center

Auto-Sorter
CASE WORKS

CASE 2
Beverages/foodstuff distribution center

Auto-Sorter
The delivery examples presented here differ from standard PAS specifications. They serve as an introduction to PAS application.

CASE WORKS

CASE 3
OA devices and supplies distribution center (DC)

CASE 4
Foodstuff chilled distribution center (TC&DC)

CASE 5
Foodstuff distribution center (TC&DC)

CASE 6
Cosmetics and pharmaceuticals distribution center (DC)
High speed sorting of large, heavy objects - high speed slide shoe type.

Auto-Sorter FP20

The Auto-Sorter (FP20) is a high-speed type sorter with a slide sorting angle of 20°. It is capable of sorting a wide range of cargo reliably and gently provided they have a flat and stable base.

ASFP 20S

Max. Cargo Weight ~30kg

ASFP 20W

Max. Cargo Weight ~45kg

Max. Cargo Weight

30kg

45kg

The Auto-Sorter (FP20) is a high-speed type sorter with a slide sorting angle of 20°. It is capable of sorting a wide range of cargo reliably and gently provided they have a flat and stable base.

### Auto-Sorter (FP20) diagram

- **Single sort (right-sided sorting)**
- **Single sort (left-sided sorting)**
- **Double sort W (dual-sided sorting)**

---

### Basic specifications (Nominal width: 05 - 06 - 08 shared specifications)

<table>
<thead>
<tr>
<th>Sorting ability (standard)</th>
<th>Single sorting (S): Approx. 11,700 items/hour</th>
<th>Double sorting (W): Approx. 8,100 items/hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sorting ability (standard)</td>
<td>Double sorting (W): Max. 45kg</td>
</tr>
<tr>
<td></td>
<td>Max. Cargo Weight: 30kg</td>
<td>Max. Cargo Weight: Max. 45kg</td>
</tr>
</tbody>
</table>

- **Transfer speed**
  - Single sorting (S): 200m/min
  - Double sorting (W): 150m/min

- **Machine width**
  - 05: 1183mm
  - 06: 1283mm
  - 08: 1483mm

- **Length**
  - Max. 150m

- **Height**
  - Max.: 1700mm

- **Sorting pitch**
  - 05: 2700mm
  - 06: 3600mm
  - 08: 3600mm

- **Ambient temperature**
  - 0 to 40℃
  - Temperature: 35-85% RH

- **Installation location**
  - Indoors

- **Paintwork colors (standard)**
  - Ivory
  - Light gray

- **Paintwork colors (custom)**
  - Objects with a flat and stable base are ideal.
  - Contact us for more details.

- **Cargo item size (mm)**
  - W x L x H
  - Max. 500 x 600 x 500
  - 600 x 600 x 600
  - 800 x 1100 x 700

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![Auto-Sorter (FP20) diagram](image)
The Auto-Sorter (FP30) is a regular type sorter with a slide sorting angle of 30°. It is capable of sorting a wide range of cargo reliably and gently, provided they have a flat and stable base.

**ASFP 30**

*Max. Cargo Weight ~45kg*

- Models with a sorting and transfer speed of 110m/minute when single or double sorting with a sorting angle of 30°.

**FP30**

- Max. Cargo Weight: 45kg

*Single sort (right-sided sorting)*

*Single sort (left-sided sorting)*

*Double sort (dual-sided sorting)*

**Auto-Sorter (FP30) diagram**

- **Case Sorter**
  - Gentle sorting of large, heavy objects - space-efficient slide shoe type.

**Auto-Sorter**

- Basic specifications (Nominal width: 05 - 06 shared specifications)

<table>
<thead>
<tr>
<th>Sorting ability (standard)</th>
<th>Single sorting (S): Approx. 6,100 items/hour</th>
<th>Double sorting (W): Approx. 5,700 items/hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculation conditions/ Nominal width: 05</td>
<td>Cargo item size (mm): 850 x L x 600 x H1100</td>
<td></td>
</tr>
<tr>
<td>Cargo Weight: 45kg</td>
<td>Performance changes according to conditions such as cargo length, cargo interval, transfer speed, etc.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transfer speed</th>
<th>Max. 110m/min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-motor specifications (inverter speed control)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Machine width</th>
<th>05: 1183mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>06: 1283mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length</th>
<th>Max. 150m</th>
</tr>
</thead>
<tbody>
<tr>
<td>05: 05.5m</td>
<td>06: 6m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Height</th>
<th>1000mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>eMin.: 1200mm</td>
<td></td>
</tr>
<tr>
<td>eMax.: 1700mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sorting pitch</th>
<th>05: 2700mm (Output stations: 3～172)</th>
</tr>
</thead>
<tbody>
<tr>
<td>06: 3000mm (Output stations: 3～154)</td>
<td></td>
</tr>
<tr>
<td>The same number of branch roller chutes as there are output stations is installed.</td>
<td></td>
</tr>
<tr>
<td>Output stations are loading/unloading gates for cargo.</td>
<td></td>
</tr>
<tr>
<td>Please consult us if you plan on using a sorting pitch smaller than the above dimensions (within 100mm).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cargo shapes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carton Case Folding Container/ P-boxes, etc.</td>
</tr>
<tr>
<td>Objects with a flat and stable base are ideal.</td>
</tr>
<tr>
<td>For inquiries about transferring unstable objects, objects wrapped in preserving wrapping, or slide-resistant objects, please feel free to contact us.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cargo item size (W) x (L) x (H)</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. 50 x 100 x 500 [45kg]</td>
<td></td>
</tr>
<tr>
<td>Max. 600 x 1000 x 600 [45kg]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pattern display</th>
<th>019 30-05-040</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASFP-S</td>
<td>019 30-05-040</td>
</tr>
<tr>
<td>Weight [kg]</td>
<td>05: 50 x 900 x 500 [45kg]</td>
</tr>
<tr>
<td>06: 600 x 1000 x 600 [45kg]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[Cargo item size (mm)(Weight)]</th>
<th>05/06 shared specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>W x L x H [Weight]</td>
<td>Min. 230 x 230 x 50 [1kg]</td>
</tr>
</tbody>
</table>

**Installation location:** Indoors

- Ambient temperature should be between 0 and 40°C.
- Applies only in temporary low-temperature environments such as during winter.
- Temperature: 35-85% RH
- No condensation occurs with an annual average of less than 75% RH.
- Sorting operations require air.
- Please inform us regarding the environment in which you will install the equipment if it will be used with chemicals, in low-temperature warehouses, or handle dangerous items etc.

**Paintwork colors (standard)**

- Ivory
- Light gray

- A powder coating (all gloss) finish.
- Lead-free paint is used.
- If the color is specified by the client, it becomes a special order (custom).
- Actual color may vary slightly. Please feel free to request a color sample plate.

**Branch roller chute**

- Compatible with single sort (right- or left-sided sorting).
Auto-Sorter FP20

ASFP 20S  [Max. Cargo Weight ~30kg]
ASFP 20W  [Max. Cargo Weight ~45kg]

Dimensions reference image (mm)
- Sorting angle 20° / single sort (right-sided sorting) / nominal width: 05, 06, 08 (shared specifications diagram)
- Sorting angle 20° / single sort (right-sided sorting) / outside of construction range

Reference image
- Transfer speed
  - Max. 110m/min
  - Electricity for construction and material stock yard
  - Building-related construction (floors and etc.)
  - Primary pneumatic piping construction

Outside of construction range
- Building-related construction (floors and etc.)
- Electric wiring construction (Please install wiring up to our control panel.)
- Primary electric wiring construction

- Min. value
- Max. value

Cargo item size (mm)/ Weight table
- Size ranks
- Weight

aso.png
**Auto-Sorter mini**

**Product Features**

- **Compact All-In-One Package**
  - Everything you need in a compact, all-in-one package.

- **VPN Server**
  - What is a VPN and how it is accessed by third parties.
  - Network that cannot be intercepted, and data communication is encrypted.
  - Between users connected to the Internet, a communication tunnel is created.

- **Barcode Reader**
  - Automatic input system for barcode reading.
  - Image scanner for general applications.
  - Laser printer for high-quality printing.

- **Touch Panel**
  - User-friendly touch panel for easy operation.

- **Auto-Sorter**
  - Piece Assorting System (custom type 4)
  - Capable of transferring a wide range of pieces.
  - For transferring circular items, cylindrical objects, and objects that are difficult to slide, the Auto-Sorter mini is suitable.
  - Capable of transferring multiple pieces at once.

- **High-performance Sorting**
  - Maximum of 7,000 items per hour (machine capacity).
  - Demonstrated under the following conditions: a transfer speed of 70m/minute and a cargo length of 230mm.

- **Ultra-small/thin Item Compatible**
  - Gentle to cargo, with a transfer speed of 70m/minute.

- **Energy-saving**
  - Approx. 30% compared to conventional machines.

- **Compact Installation**
  - System value of 40 million yen and up (installation and shipping costs included).

- **High-level Sorting Ability**
  - High-performance sorting is demonstrated under the following conditions: a transfer speed of 70m/minute and a cargo length of 230mm.

- **Versatility**
  - Custom designs can be made according to various conditions, including cargo handling ease and input method.

**Specifications**

- **Cargo Sizes**
  - Min. L: 250mm, W: 55mm, H: 1mm
  - Max. L: 525mm, W: 112mm, H: 3mm

- **Nominal Weight**
  - ±5kg

- **Nominal Width**
  - W: 40mm, 45mm, 50mm, 55mm, 60mm, 65mm

- **Nominal Height**
  - H: 25mm

**Performance**

- **Operation is controlled using the easy-push, high-visibility color touch panel.**
  - Various data can be checked in real-time.

**Installation**

- **Installation space**
  - Approx. 150m²

**Consumption**

- **Low noise (68dB at transfer speed 70m/minute)**

**Additional Features**

- **Sorting Abnormality Detection Unit**
  - This device detects malfunctions such as when cargo gets caught on the shoe.
  - As a result, sorting errors are prevented before they can occur, bringing the error rate infinitely closer to zero.

- **Area Sensor**
  - Cargo is detected and sent smoothly and reliably to the sorting and transfer section via connectivity with the tracking conveyor.

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**Notes**

- The Auto-Sorter mini is designed for transferring small, delicate items to their target station.
- With its gentle handling, the Auto-Sorter mini is suitable for pharmaceuticals and similar products.
- The Auto-Sorter mini is available in various colors, including ivory and light gray.
- Installation is simplified, and relocation can be achieved with minimal effort.
- The Auto-Sorter mini is energy-efficient, with an energy-saving rate of approx. 30% compared to conventional machines.

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**Contact Us**

For inquiries about transferring circular, cylindrical, or unstructured objects, please feel free to contact us.

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  - ±5kg

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  - H: 25mm

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**Specifications**

- **Nominal Weight**
  - ±5kg

- **Nominal Width**
  - W: 40mm, 45mm, 50mm, 55mm, 60mm, 65mm

- **Nominal Height**
  - H: 25mm

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**Slide shoe type **

**Auto-Sorter mini**

**Enhanced type**

When a product is fed into PAS, it becomes a [piece unit] or a [bowl/case unit]. PAS is equipped with enhanced specifications that can support up to 10kg, enabling batch feeding of heavy-piece items such as liquids. Batch feeding is a system in which a new sorting unit called [optional batch quantity unit] can be set at will. Higher efficiency is achieved by placing items of the same product onto a tray so that multiple items can be fed at once.

**Cargo**

Min. 55mm
Max. 55mm
W ~ 10kg

**Application**

**Batch feeding suggestions**

**Greatly increased processing capacity!**

When feeding products, items of the same product are bundled together in a batch of an arbitrarily chosen number, which is placed on a single tray and fed into a [fray unit]. This makes it possible to drastically increase processing quantity per hour. For example, if 2 items are placed on a single tray and 5,000 trays are fed in an hour, the quantity processed would be 10,000, or simply triple that of piece unit feeding. However, we do not currently have equipment capable of detecting errors caused when workers place items on the trays.

**Foodstuff chilled distribution center**

- [Motor-driven roller conveyor chute (custom)]

**Ultra-small thin item compatible**

With the newly developed micro shoe (pitch of 50.8mm), objects as small as a business card can be sorted. These have excellent durability and are capable of handling objects such as thin film or a card typically 0.1mm thick.

**Sorting abnormality detection unit**

This device detects malfunctions such as when cargo gets caught on the shoe.

As a result, sorting errors are prevented before they can occur, bringing the error rate infinitely closer to zero.

**Slide sorting: Gentle to cargo**

As this method involves smoothly sliding a triangular shoe, and sorting by pushing cargo toward its target station, objects are gently sorted without any risk of damage.

**High-level sorting ability**

High-performance sorting boasting a maximum of 6,000 items per hour (machine capacity) can be demonstrated under the following conditions: a transfer speed of 60m/minute and a cargo length of 230mm.

**Conveyor: Economic**

Uses the Auto-Sorter mini, the industry’s smallest slide shoe sorting conveyor.

- [A high-performance system can be installed for a relatively low cost.]
- Energy-saving of approx. 30% compared to conventional machines can be achieved thanks to the new design of simple running bearings.
- Compact installation space.
- Simplified installation and relocation.
Auto-Sorter mini

PAS is equipped with an information control system, replicate with its own operating software. Since the sorting system is intelligent, both work and information are fully managed with this system alone. It is everything you need in a compact, all-in-one package.

The sorting and transfer surface features ridges to prevent cylindrical loads from rolling, so all cargo can be sorted accurately and reliably.

### Cylindrical load-compatible

**New slim control panel (Feeding PC)**

- Operation is controlled using the easy-push, high-visibility color touch panel.
- Various data can be checked in real time.

**Ultra-small/thin item compatible**

- With the newly developed micro shoe, objects as small as 15mm in diameter can be sorted.

**Sorting abnormality detection unit**

This device detects malfunctions such as when cargo gets caught on the shoe. As a result, sorting errors are prevented before they can occur, bringing the error rate infinitely closer to zero.

**Cargo**

- **Capacity:**
  - Conveyance range of cylindrical loads of between φ20mm and φ150mm.
- **Range:**
  - φ20×L55mm
  - φ150×L285mm

**Conveyor:**

Uses the Auto-Sorter mini, the industry’s smallest slide shoe sorting conveyor. As such:

1. **Conveyor:**
   - Energy-saving of approx. 30% compared to conventional machines can be demonstrated under the following conditions: a transfer speed of 475m/minute and a cargo length of 285mm.

**Conveyor:**

- **Economic**
  - Uses the Auto-Sorter mini, the industry’s smallest slide shoe sorting conveyor. As such:
    - A high-performance system can be installed for a relatively low cost.
    - Energy-saving of approx. 30% compared to conventional machines can be achieved thanks to the new design of simple running bearings.
    - Compact installation space.
    - Simplified installation and relocation.
    - Low noise (58dB at transfer speed 70m/minute [measured from center section]).

**Cylindrical loads roll around on chutes, which can lead to damage. In order to prevent rolling, as standard we use belt conveyor chutes that stabilize and pull in cargo. In addition, they can be custom-made according to the shape of your cargo.**

**Belt conveyor chute with accumulator & stopper**

By securing the authentication and encryption, communication path with the Internet.

**VPN network that cannot be infiltrated**

Possible to build a safe communication path with the Internet.
Auto-Sorter mini ASHS

Industry fastest among slide shoe-type piece sorters.

**Slide sorting:**

**Gentle to cargo**

As this machine includes smoothly sliding a triangular shoe, and sorting by pushing cargo toward its target station, objects are gently sorted without any risk of damage.

**High-level sorting ability**

High-performance sorting reaching a maximum of 12,000 items per hour (machine capacity) can be demonstrated under the following conditions: a transfer speed of 100m/minute and a cargo length of 300mm.

**Conveyor:**

Economic

Uses the Auto-Sorter mini, the industry’s smallest slide shoe sorting conveyor.

- A high performance system can be installed for a relatively low cost.
- Energy-saving of approx. 30% compared to conventional machines can be achieved thanks to the new design of simple running bearings.
- Compact installation space.
- Simplified installation and relocation.
- Low noise (85dB) at transfer speed 70m/minute [measured from center section].

**Cargo**

Capable of transferring cylindrical loads of between Ø20mm and Ø150mm.

- Capable of transferring unstructured objects, objects wrapped in preservative wrapping, or slide-resistant objects, please feel free to contact us.
- *For inquiries about transferring unstructured objects, objects wrapped in preservative wrapping, or slide-resistant objects, please feel free to contact us.*

**Pattern display**

<table>
<thead>
<tr>
<th>ASHS-W050-H30-19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. sorting ability 12000 items/hour</td>
</tr>
</tbody>
</table>

*The 150 stations in the photo are optional.*
**Piece Assorting System**

**(Slide shoe type) Piece sorter**

**Auto-Sorter mini**

ASS [Max. Cargo Weight ~ 5kg]

Please consult us for more details on ASS [Max. transfer load: 10kg].

- **Paintwork colors (standard): Ivory/light gray**
  - Powder coating (full gloss) finish.
  - Lead-free paint used. If the color is specified by the client, it becomes a special order (custom).

- **Pattern display**
  - **ASS-W 050-040-27**
  - Basic code
  - A050
  - A040
  - A025
  - White skin
  - 1:3 Single color
  - 1:3 Single side

**Chute**

- **Paintwork colors (standard): Ivory/light gray**
  - Powder coating (full gloss) finish.
  - Lead-free paint used. If the color is specified by the client, it becomes a special order (custom).

**Sorting conveyor (040 type)**

- **Paintwork colors (standard): Ivory/light gray**
  - Powder coating (full gloss) finish.
  - Lead-free paint used. If the color is specified by the client, it becomes a special order (custom).

**Sorting conveyor (030 type)**

- **Paintwork colors (standard): Ivory/light gray**
  - Powder coating (full gloss) finish.
  - Lead-free paint used. If the color is specified by the client, it becomes a special order (custom).

**Cross-section view**

- **Paintwork colors (standard): Ivory/light gray**
  - Powder coating (full gloss) finish.
  - Lead-free paint used. If the color is specified by the client, it becomes a special order (custom).

**Power**

- **Air pressure:** 20kgf/cm² or higher
- **Air consumption:** 2.3 m³/min.
- **Supply method:** Dry air

**Air**

- **Supply method:**
  - **Air pressure:** 20kgf/cm² or higher
  - **Air consumption:** 2.3 m³/min.
  - **Supply method:** Dry air

**Unit:**

- **mm**

---

**Piece Assorting System**

**(Cylindrical load-compatible)**

**Auto-Sorter mini**

ASOS [Max. Cargo Weight ~ 5kg]

Please consult us for more details on ASOS [Max. transfer load: 5kg].

- **Paintwork colors (standard): Ivory/light gray**
  - Powder coating (full gloss) finish.
  - Lead-free paint used. If the color is specified by the client, it becomes a special order (custom).

**Sorting conveyor (030 type)**

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- Lead-free paint used. If the color is specified by the client, it becomes a special order (custom).

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### Cargo shape
- Objects with a flat and stable base are ideal.
- Please provide the shape of the cargo and provide details.
- If test cargo can be provided, we will perform a transfer test at our company.
- For inquiries about unstructured/slide-resistant objects, please contact us.

### Cargo size/weight
<table>
<thead>
<tr>
<th>Objects</th>
<th>Cylindrical items</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>W x L x H</td>
<td>Weight</td>
<td></td>
</tr>
<tr>
<td>Min.</td>
<td>mm</td>
<td>mm</td>
</tr>
<tr>
<td>Max.</td>
<td>mm</td>
<td>mm</td>
</tr>
</tbody>
</table>

### Average number of transfers
- Please provide a breakdown of the above.

### Average number of items (to/from inventory)
- Please provide details on whether there are any deliveries by section/category.

### Average number of clients
- Please also provide details on whether there are any deliveries by section/category.

### Installation space
- Approx. [m²]

### Barcode application code
- JAN
- ITF
- Other ( )

### Barcode scanning method
- Top-scanning
- Front-scanning
- Side-scanning
- Composite-scanning

### Paintwork color
- Ivory
- Light gray

Please contact us for any other specifications.

---

### Definitions of "danger" and "warning"

**Danger**
- Indicates the possibility of causing death or serious injury when mishandled, and the impending urgency of the situation.

**Warning**
- Indicates the possibility of causing death or serious injury when mishandled.

**Handling precautions**
- Designate a person in charge, and manage/operate in a safe manner.

**Precautions during operation**
- Do not place your hand near the conveyor sensors.
- Do not climb or sit on top of the conveyor.
- Do not touch the interior components of the control panel.
- Never climb onto the upper part of the control panel.

**During start-up**
- Do not climb or set on top of the conveyor.
- Check that there are no people near the conveyor, start operation.

**During operation**
- Do not climb or set on top of the conveyor.
- Check that there are no people near the conveyor, start operation.

**Warning**
- [falling/getting caught/entanglement]
- [electric shock/fire/malfunction]
- [falling/getting caught/entanglement]
- [falling/getting caught/entanglement]
- [falling/getting caught/entanglement/malfunction]
- [falling/getting caught/entanglement/malfunction]

**During abnormality recovery work**
- If manually performing abnormality recovery work, check that there are no people near the conveyor before proceeding.

---

### List of caution labels attached to this product
- Warning label (PL label)

---

**Usage precautions**
- Make sure to carefully read the operation manual and use the machine properly.

---

**Contact**
- **Sales Division (Hakusan Factory)**
  - Tokyo Branch: 03-5719-7017
  - Osaka Branch: 06-6543-2776
  - Nagoya Branch: 052-932-2920
- **Tokyo Branch**
  - 076-275-7171
- **Osaka Branch**
  - 03-5719-7017
- **Nagoya Branch**
  - 052-932-2920
- **Kanagawa Sales Office**
  - 046-231-3985
- **Kyushu District Office**
  - 092-718-3323

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**Auto-Sorter**
- FP20
- FP20
- ASFP 20 S
- ASFP 20 W
- ASFP 30

**Auto-Sorter (mini)**
- ASS
- ASS
- ASOS
- ASHS

---

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**Warning**
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---

**Handling precautions**
- Designate a person in charge, and manage/operate in a safe manner.

---

**Precautions during operation**
- Perform start-up inspection.
- Check that there are no people in the vicinity of the conveyor before turning the power key switch ON.
- During operation:
  - Check that there are no people near the conveyor.
  - Do not transfer items that do not meet regulation size/weight, or have become warped/damaged.
  - Check that the machine is operating normally, and not emitting any abnormal sounds immediately after operation.
  - Place the cargo on the center of the conveyor.

---

**During work completion**
- After finishing work, turn the control panel switch key OFF, and remove the key.

---

**List of caution labels attached to this product**
- Warning label (PL label)

---

**During work completion**
- After finishing work, turn the control panel switch key OFF, and remove the key.

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Safety Warning

In order to ensure safe and correct use of the products listed in this catalog, be sure to carefully read the “Instruction Manual” before use. This is the “Precautions During Use” plate attached to the product.

Precautions During Use

1. As it is dangerous, Never touch the transfer surface of the sorter.
2. During start-up, check that there are no people in the operating area.
3. Designate a staff member as conveyor operator, and manage/operate in a safe manner.
4. Always abide by the cargo regulations.

Cargo Regulations - Size/Weight

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<th>Max. Width (W)</th>
<th>Min. Width (W)</th>
<th>Max. Length (L)</th>
<th>Min. Length (L)</th>
<th>Max. Height (H)</th>
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