Toshiba Infrastructure Systems & Solutions Corporation

Security & Automation Systems Division

72-34, Honkawa-cho, Saiwai-ku, Kawasaki-shi 212-8585, Japan
Tel: +81-44-331-1686 Fax: +81-44-348-9552

Toshiba can customize the modules according to the customer’s needs.

- Feeder Module
- Detector Module
- Additional Detector Modules
- Reject Pocket and Shredder Module
- Pocket Modules
- Pocket with Strapper Modules

**Modular Concept:**

- Sorting configuration for the central bank (Single-denomination processing)
- Sorting configuration for the CITs and commercial banks (Multi-denomination processing)

**General Product Specifications:**

<table>
<thead>
<tr>
<th>Banknote Substrate</th>
<th>Paper, Polymer and Hybrid banknotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeder</td>
<td>Fully continuous feeding with dual paddles</td>
</tr>
<tr>
<td>Feeding Speed</td>
<td>600 - 2,200 notes/minute</td>
</tr>
<tr>
<td>Feeder Hopper Capacity</td>
<td>6,000 notes</td>
</tr>
<tr>
<td>Reject Stack Capacity</td>
<td>2,000 notes</td>
</tr>
<tr>
<td>Stackers</td>
<td>Two types of stackers available. 1) Loose note stacker (2,000 notes) 2) Stacker with on-line strapper</td>
</tr>
<tr>
<td>Number of Stackers</td>
<td>Up to customer’s requirements</td>
</tr>
<tr>
<td>Shredder</td>
<td>On-line shredder (Optional)</td>
</tr>
<tr>
<td>Authenticity Detection</td>
<td>Infrared, UV-dullness, Magnetic, Electric Conductivity, Fluorescence and Phosphorescence properties</td>
</tr>
<tr>
<td>Fitness Detection</td>
<td>Soil, Wear, Graffiti, Tape, Shape, Hole, Tear, Folded and Missing corner</td>
</tr>
<tr>
<td>Others</td>
<td>Multi-denomination processing, Batch card processing, Various reports/logs, Serial number reading (optional)</td>
</tr>
</tbody>
</table>

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TOSHIBA’s Banknote Sorting Solutions

Toshiba is one of the largest electric/electronic manufacturers in Japan, with a history that extends over 140 years. Toshiba started the Banknote Sorting related business in the 1970s and has exported these systems globally.

The FS-2000 is our high-end system. It incorporates our latest technologies, experiences and customer’s input. The FS-2000 is produced in Japan based on rigorous testing and control.

We are looking forward to delivering this system to the central banks, commercial banks and CITs all over the world.

**SYSTEM CONFIGURATION**

There are multiple configurations for the FS-2000 depending on the customer’s requirements.

**Configuration 1**
- FS-2000 with packaging system

**Configuration 2**
- FS-2000 with packaging system

**Configuration 3**
- FS-2000 with packaging system
- reconciliation station

**Configuration 4**
- Up to 5 FS-2000s can be connected with one packaging system by using a conveyor system.

**Detectors**

Toshiba’s sophisticated image processing software evaluates each banknote with the note’s full image captured on both sides by the dual high resolution 4-color (RGB+IR) camera system. This allows the detector to make decisions that closely mimic human perception.

We have a variety of authenticity detectors and also third party detectors can be mounted and supported via Common Detector Interface (CDI).

**Thickness and Tape detectors** scan the full note with non-contact dielectric sensing technology for accuracy.

**Feeder**

User friendly feeder position with all input operations occurring on the right hand side. Maximum capacity of the feeding hopper is more than 6,000 notes and seamless feeding is possible with dual automatic paddles.

The feeder has automatic covers to reduce noise and enhance user safety.

**Database PC**

The database PC stores all operational data in XML format and it can interface with the customer’s vault management system. It also generates reports on demand.

**On-line Shredder**

The shredder module is located right after the reject pocket but before the rest of the pockets, thus removing unfit notes from the system without passing through the rest of the system. This reduces jams. Shredder module has an independent note counter and is constantly (per note) checked against the system counter. The size of shred residue is 11 mm x 1.5 mm.

**User Interface**

A 15 inch touch screen for easy machine operation and maintenance. The user interface has multiple functions, such as operator control panel, status indicator, machine setup, detector result viewer and others as specified by user.

**Reject**

The maximum capacity of reject pocket is 2,000 notes. Portable cassette can be inserted into the reject pocket to transfer the rejects without manual contact with the rejects.

**Strapper and In-Pocket Bundler**

100 notes are stacked and the automatic strapper makes a tight strap using 29 or 40 mm banding tape.

The strapper is equipped with a printer, which prints the operational data on the strap (barcode is optional).

The in-pocket bundler bands 5 straps or 10 straps using polymer film within the machine. This can then be output to a conveyor system or a container.

**Packaging System**

Our heat shrink wrap packaging system makes a fully enclosed tamper resistant package and up to 5 FS-2000s can be connected to one packaging system. The system has capabilities to check for 5 or 10 straps and the shape of the bundle. The auto labeler is an option.

**Transport**

The banknote transport is laid out in a straight path throughout the system, which reduces transport jams and makes it easy to clear jams.

The straight transport path and detectors are located at 1,370 mm height, ergonomically optimum for visibility and accessibility leading to easy jam recovery, cleaning and maintenance.

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