BHS Tilt Tray Sorter

Daifuku has supplied Tilt Tray Sorters (TTS) for baggage handling applications for over 30 years. We are the market leader in TTS technologies with unique innovations, reduced operator interventions and best in class operating costs.

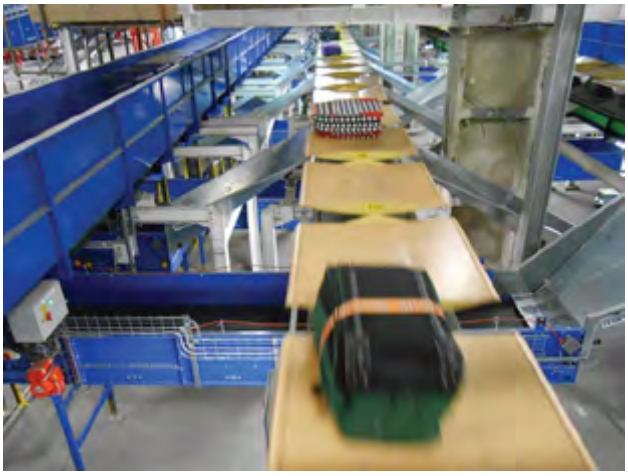
Our Model 700RF Tilt Tray Sorter can be used for presortation, make-up and screening applications within the overall Baggage Handling System (BHS). The sorter loop is ideal for providing infinite image analysis time for unscreened bags in Standard 3 applications.

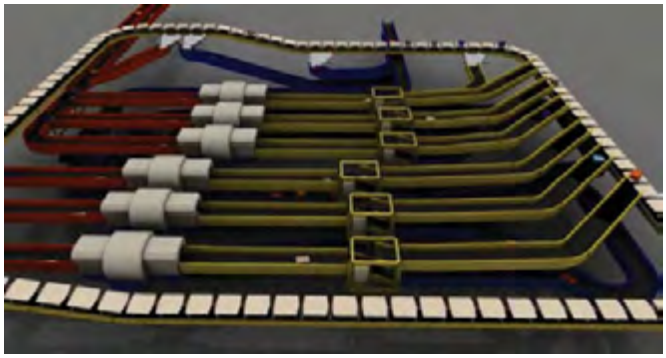
Patented technology prevents bags from being inducted between trays, removing the requirements for sorter infills. This means that bags between trays will not be tipped into a common chute and double-handled by baggage handlers ensuring a lower Mishandled Baggage Rate (MBR) compared to similar products. Tray infills can also be provided if desired.

Dynamic speed change technology within the BHS reduces component wear and energy whilst condition-based monitoring allows predictive maintenance to be carried out during non-operational hours.

The TTS can be combined with our Sym3 HMI system which features stunning 3D graphics and live bag tracking to provide the ultimate operational intelligence.

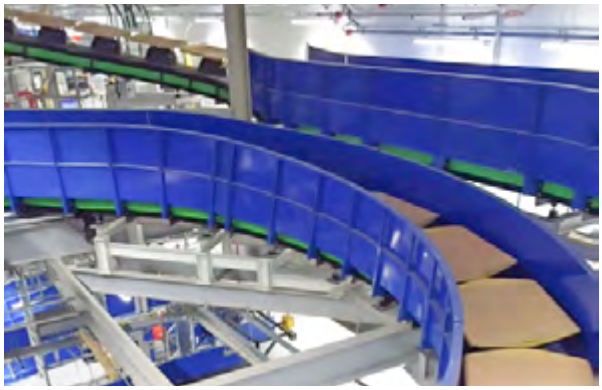
Sym3 is a world first, combining a fully dynamic 3D model with real-time display of actual bags on the TTS.





Features	Application Benefits
High performance inducts with patented re-synchronisation	Gives high throughput rate whilst reducing MBR
	1 in 2 tray induction rates reduces the number of feed lines
LIM or LSM Drives	Quiet, wear free operation
	Reduced running costs
	Reduces downtime for planned maintenance
High availability	Demonstrable in service availability > 99.99% with a fast MTTR
	Routine maintenance activities are simplified by design, thus are faster to complete
RF signaling system for carriage communications	Infinite number of tip positions
	Controllable tip profile
	Simplified addition of chutes
	Dynamic speed changing reduces travel up to 8000km per year reducing operating costs.
Totally enclosed sorter track with optional tray infills	Eliminates problems associated with stray product, improves machine reliabilty
Condition Based Monitoring	Reduces operating costs by predicting when maintenance needs to be carried out
State-of-the-art PLC controls	Use of standard PLC technology ensures local O&M teams can support the system

Model 700RF Tilt Tray Sorter Specifications



Operational Features

Dynamic induction resync functionality reduces operational interventions and decreases MBR.

Carriage RF communication provides infinite tip positions allowing dynamic speed change functionality. A sorter which runs at a peak speed for only 20% of its time could travel up to 8000km less per year

A standard Human Machine Interface (HMI) provides all operational functions in isolation to the BHS SCADA. Data is also replicated to external systems if required. Functions include:

- Tray enable / disable
- Chute enable / disable
- Induction enable / disable
- Chute tip rates - every tray, 1 in 2, 1 in 3
- Chute rerouting
- Dump chute allocation

Standard 3 tracking features for CATSA, ECAC and the TSA

Full integration with Sym3

Equipment Specifications

Modular design facilitates complex installations and reduces maintenance
Standard tray pitch of 1200mm
Incline and decline angles of up to 10 degrees
Track bend radii of 3.0 or 3.65 metres depending on the speed
Spiral bends up to 10 degrees with a radii of 3.65m

Totally enclosed track
Cable routing integrated into the track design for fast installations

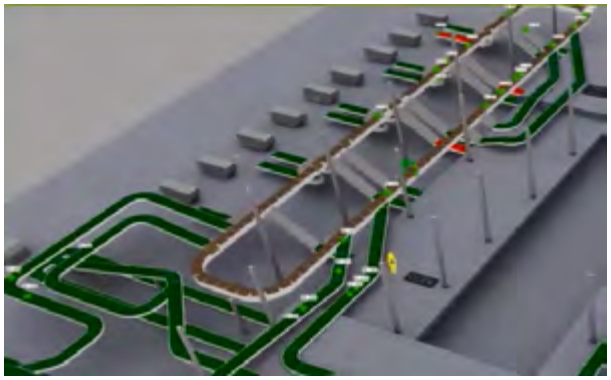
Standard inductions at either 30 or 45 degrees
Induction flow rate of 1 in 2 trays

Single tray load 60kg

Noise level of 62dB(A)

Controls system based upon Siemens S7 PLCs as standard with an option for hot standby.

TTS is 100% PLC based without the need for any bespoke IT solutions



Maintenance Features

High Availability - typically in excess of 99.9% with rapid repair times.

Condition based monitoring predicts when maintenance is requried instead of reactive and planned maintenance regimes

Routine maintenance activities are simplified by design, thus are faster to complete

Non-contact design reduces downtime for planned maintenance

Plug and play design - key maintenance elements are fitted with plug & socket connections