

# ***AIRPORT*** ***DIVISION***

*AIRPORT CHECK-IN, BAGGAGE HANDLING  
AND SORTING SYSTEMS*



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*SPEED,  
EFFICIENCY  
AND SECURITY  
FOR PASSENGERS*

Cassioi, an Italian company established in 1943, is, today, one of the world's leading providers of automatic handling and storage systems for products and raw materials.

Cassioi Airport Division, focusing on airport logistics, offers specific automated systems for handling and sorting hold baggage as well as systems for inspecting hand baggage.

Cassioi systems, based on the most advanced technologies and completely internal know-how, offer solutions that can be customised to each airport's specific needs, optimising the work of operators and increasing throughput without neglecting the machinery's ergonomics and usability.

ISO 9001  
ISO 14001  
OHSAS 18001  
BUREAU VERITAS  
Certification







# **CASSIOLI** **AIRPORT** DIVISION

## **RESEARCH, INNOVATION AND CUSTOM-MADE SOLUTIONS FOR AIRPORT INTRALOGISTICS**

Cassoli systems are present in many airports all over the world. We offer innovative systems for the effective management of transfers and baggage checks that must be transferred, handled and verified with accuracy, speed and security on a daily basis. The complete range of BHS products, an innovative approach and the quality of materials and systems used allow Cassoli Airport Division solutions to meet the needs of modern airports. We design, develop and commission efficient systems for baggage sorting and checking: check-in counters, flat or inclined plate carousels for reclaim, roller conveyors, integration of x-ray or explosive-detection stations, diversion systems, continuous or

“point-to-point” sorters and automated warehouses. Cassoli Airport Division offers all the necessary elements for high-speed automatic sorting systems. Each solution is the result of the combination of two specific skills: in-house expertise, on the one hand, with state-of-the-art systems and PC and PLC software controlling flows; and on the other, the experience gained in over 30 years in the airport logistics sector, which allows us to offer tailored solutions, with the perfect balance of cost, efficiency, reliability and safety.

# 01

## FAST2CHECK ATRS

Cassioli FAST2CHECK is the ATRS (Automatic Tray Return System) designed to allow higher productivity, reduced waiting times and increased passenger flows. FAST2CHECK meets the needs of any type of airport, from the smallest to the largest international airports.

Design and engineering innovation helps to significantly reduce queues, whilst maintaining a focus on ensuring the highest security standards at the airport. The modular design

allows excellent system flexibility, allowing development of different configurations according to the needs of each airport. Thanks to FAST2CHECK's state-of-the-art technology, airport personnel can avoid spending time on secondary operations such as handling empty trays, focusing more on security procedures and quality of service. All system units work with very-low-voltage DC motors, guaranteeing the highest efficiency and eliminating the possible

risks of electrocution for passengers and operators who are in direct contact with the system; the high quality of the materials used for the components guarantees optimal operating reliability for the equipment, with availability above 99.5%, even with H24 usage.





# MAIN FAST2CHECK FEATURES

## » **QUEUE BEATER**

*THE SYSTEM DEVELOPED TO REDUCE QUEUES AND WAITING TIMES DURING THE INSPECTION PHASE*

“Queue Beater” is the innovative system that reduces passenger waiting times during the hand-baggage inspection process, thanks to a parallel approach to the process that allows processing of eight passengers at once. The main innovation introduced by the Queue Beater is that, thanks to the support surface positioned parallel to the conveyor, several passengers can deposit their objects in the trays at the same time, occupying all available positions. The positioning of passengers is indicated on the ground by specific symbols. Once the tray with personal items is ready, simply push it into the motorized line, which transports it to the x-ray machine. The Queue Beater significantly increases passenger flows and improves the usability of machinery. The advantages of this system are estimated to correspond to an increase in total flows of more than 60%.







## » *AUTOMATIC VIEWING & RECIRCULATION SYSTEM*

The tray collection, storage and recirculation system is located at the end of the main line. It is equipped with a device that automatically detects the presence of any items left in the tray. If items are detected, the system does not insert the tray into the storage and recirculation device until all items have been recovered. Once the tray has been emptied, it is fully automatically inserted into the recirculation process and brought back to the start of the FAST2CHECK system by a high-speed handling system.

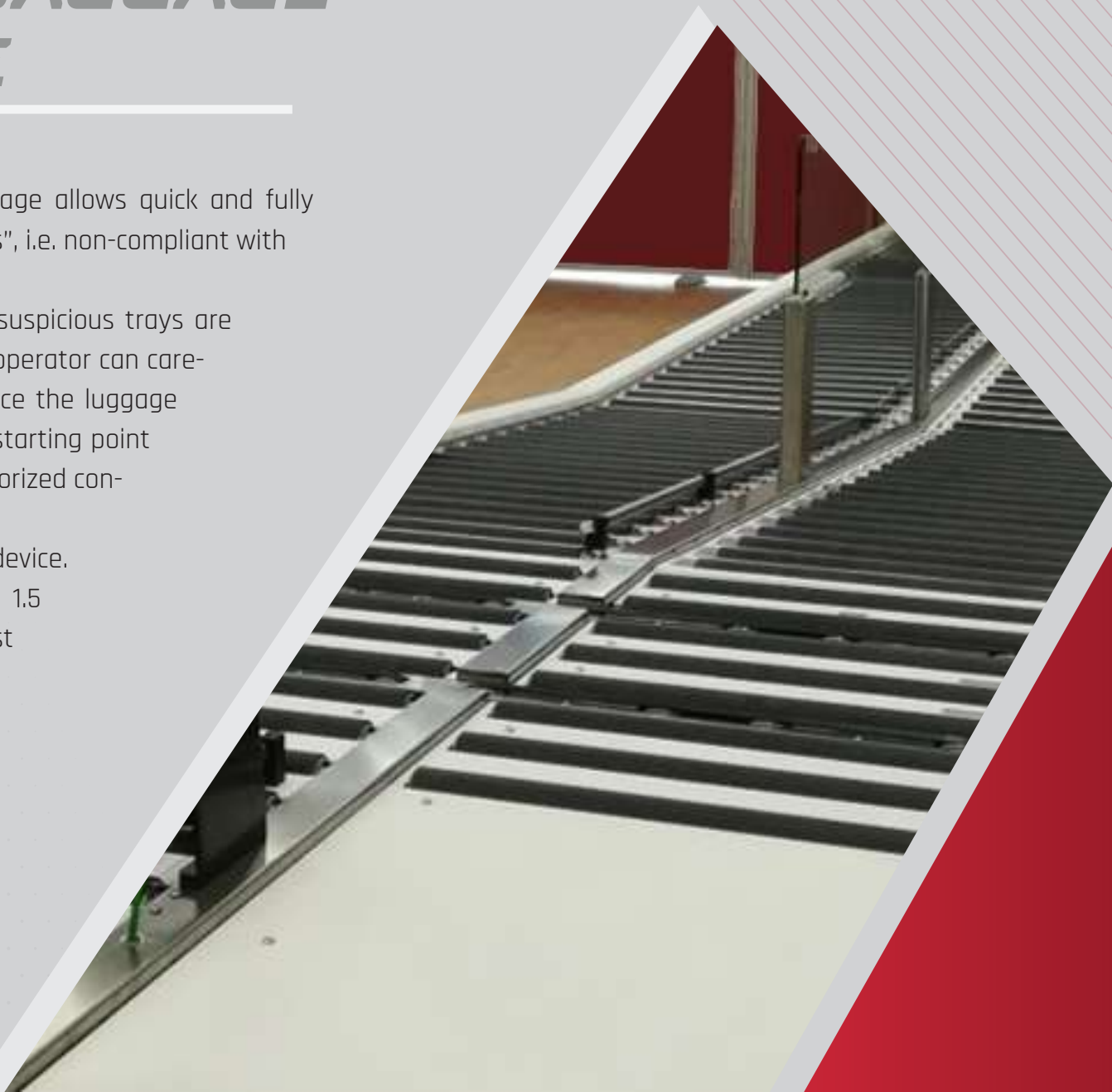


## » *SUSPICIOUS BAGGAGE SORTING LINE*

The innovative separation line for suspicious baggage allows quick and fully automatic selection of trays identified as “suspicious”, i.e. non-compliant with security standards.

Once out of the X-ray machine for inspection, the suspicious trays are selected and directed into a parallel line where the operator can carefully check the material detected as unsuitable. Once the luggage has been inspected, the empty trays return to the starting point via a raised gravity conveyor return line, or via a motorized conveyor belt.

The trays move through a high-speed exchange device. The time required for a deviation is less than 1.5 seconds. This special system guarantees very fast response times and no interference with the route of the trays.



## » MODULARITY, FLEXIBILITY AND CUSTOMIZATION

FAST2CHECK can be adapted to any layout and to the various X-ray machines available on the market. The in-house design and build of the various modules allows machinery to be created that is "made to measure" and 100% customisable based on the various shape, length, size and additional module requirements. Based on the client's needs, the design and colours of Fast2check can be customised.

The structure is in satin-finished stainless steel with lateral panels on the passenger side and guards, on the upper line and on each part of the machinery's modules in which passengers or personnel take or deposit trays. The panels, both lateral and upper, can be delivered in a broad range of colours and finishes, depending on the client's choice, in order to match the aesthetics of the space in which the machinery is to be installed.

The materials used are fire-resistant; the machinery can be coated in Corian or Krion, special materials that deliver a superior aesthetic finish together with great resistance to wear. It is also possible to customise the machinery by adding corporate logos.



## » SMART WORKSTATION

This special system works on images, regardless of the type of X-ray machine installed, without affecting operation of the latter. The “Smart Workstation”, developed entirely by Cassioli, uses the images generated by the X-ray machine and increases the possibilities and options available to the first-level operator, supporting him/her in the decision to be made, offering the option to indicate and report the position and type of threat. Correspondence between the images displayed and the tray, as well as tracking of discarded baggage on the suspicious baggage line, is guaranteed by an RFID system on each tray loaded in the system. In this way, the second-level operator receives much more detailed information about the possible risk. All information is made available in a database compiling data, photos, times, outcome and operators involved. The second-level workstation manages the images coming from the camera, the tray IDs, the additional records actions performed (operator ID, passenger first name and surname, threat type, relevant flight, actions performed, comments) and the image from the first-level workstation. All smart workstations are networked, so discarded baggage on one line can also be checked at the second-level workstation on another line. The Smart Workstation system not only optimizes and accelerates the security process and management of suspicious baggage, but also contributes directly to increasing the total passenger flows.







## PERSONALISED TRAYS

The checking device can distinguish between items and the graphics on the tray bed, making it possible to customise the entire tray with sponsorships and designs based on the needs of the various clients.

Personalising trays allows airports to offer the tray bed as an advertising space, thereby generating revenue and having the trays replaced frequently by the advertising agency who will directly replace the trays once the sponsorship period has expired.



# CHARACTERISTICS AND TECHNICAL INFORMATION

*FAST2CHECK IS THE CASSIOLI ATRS, CUSTOMIZABLE ACCORDING TO THE NEEDS OF EVERY SINGLE AIRPORT*

Depending on the space available, the necessary ergonomics and the client's budget, Cassioli can propose various solutions to find the most suitable Fast2Check system that meets the client's needs. From models suitable for airports that have small areas available, to models for structures characterized by large flows, such as international airports.



## ALL OUR MACHINERY HAS BEEN DEVELOPED TO GUARANTEE:

### SECURITY

*Advanced screening system*

*Compliance with regulations regarding safety and security*

*Elimination of electrical risk and accidental finger trapping*

### SPEED

*Reducing queues and waiting times for check-in operations*

*Maximum operational efficiency*

*Reducing labour requirements*

### ADVANCED TECHNOLOGY

*Ergonomic for both passengers and operators*

*High quality materials and components used*

*"Made to measure" solutions thanks to design and manufacturing done in-house*

### ECONOMY

*Reducing the number of people needed for secondary operations*

*Allowing a fast return on capital investment*

*Potential revenue from advertising space in the tray*





# TECHNICAL INFORMATION

LENGTH	MIN. 15.5 METRES. MAX RECOMMENDED 22.
QUEUE BEATER POSITION	FROM 2 TO 8
QUEUE BEATER SHAPE	PARALLEL / INCLINED 30 DEGREES, 90 DEGREES
QUEUE BEATER AT EXIT POINT	YES/NO
AUTOMATIC RECIRCULATION	YES/NO
SMART WORKSTATION	YES/NO
X-RAY	RAPISCAN/SMITH/L3/NUCTECH/VOTI/GILARDONI AND ALL THE OTHER MAJOR APPROVED BRANDS
AVERAGE THROUGHPUT FOR EACH SINGLE LINE	FROM 445 TO 470 TRAYS/HOUR
PEAK THROUGHPUT (MORE THAN 2 HOURS OF CONTINUOUS OPERATION) FOR EACH SINGLE LINE	FROM 510 TO 550 TRAYS/HOUR (DEPENDING ON THE SPEED OF THE X-RAY MACHINE)
TRAYS/PASSENGER AVERAGE RATIO	FROM 1 TO 2.2, DEPENDING ON SEASON, FLIGHT DESTINATION AND MAIN AIRPORT TRAFFIC TYPOLOGY
MAX PASSENGER THROUGHPUT REGISTERED AT METAL DETECTOR DOOR	FROM 320 TO 350 PASSENGERS/HOUR

# 02

## **BHS** - **B**aggage **H**andling **S**ystem

### *AUTOMATED BAGGAGE-HANDLING AND SORTING SYSTEMS*

Check-in benches, flat or inclined carousels for reclaim, belt conveyors, integration of x-ray or explosive-detection stations, diversion systems, continuous or “point-to-point” sorters and automated warehouses: CASSIOLI Airport Division offers all the necessary elements for high-speed automatic sorting systems in airports.

Of course, the service is completed with all the intelligent systems required to manage the devices, using special automation software to monitor all activities.







# ***CAROUSELS***

## **» *FLAT PLATE CAROUSELS***

Cassoli's flat plate carousels are operated by a central drive chain, supported by an automatic friction-drive system that guarantees a high level of safety in the airport. Thanks to a quick-release system, the drive unit can be removable without the need for special tools: this allows easy maintenance or replacement of internal components. The pickled steel support frame is capable of withstanding the expected maximum operating loads. The structure consists of modular elements of different shapes that can be combined to create custom configurations, or separated for disassembly and reuse with to a new layout. The carousel is motorised for the maximum capacities and operating speeds required. The shaped and articulated flat plates can receive luggage at any point along the carousel. The material (PVC) used to coat the plates is fireproof, and resistant to abrasion, weathering and ageing. The plates are overlapped along the entire circuit of the carousel and are positioned so that they can rotate around curved sectors without gaps or impacts that could damage the baggage or represent a hazard for operators or passengers.





## » *INCLINED PLATE CAROUSELS*




Cassioli's inclined plate carousels can be used both in passenger baggage reclaim areas of the airport and in operational areas reserved for airport personnel. The system consists of a rigid closed-loop structure, some motorized modules and a track made of inclined plates on which the baggage is placed. The inclined plane configuration guarantees better visibility for passengers waiting for their baggage, better ergonomics, both during placement and removal of the luggage to and from the carousel and better alignment on the side nearest the operator (minimal effort to remove luggage). The inclined plate carousel occupies an area comparable to traditional flat plate carousels, but with a significantly higher load capacity. The plates are made of fireproof PVC and are resistant to abrasion, weathering and ageing. They are overlapped along the entire circuit of the carousel and are positioned so that they can rotate around curved sectors without gaps or impacts that could damage the baggage or represent a hazard for operators. Silent operation, below 55 decibels, a handling capacity of up to 180 kg per linear metre and the quick release system (without tools) of the drive unit make this product the best choice for the new-generation airports.

## » *BELT CONVEYORS*

Belt conveyors are the basic element of any airport baggage transport system. The conveyors must integrate perfectly with all other handling or checking equipment in order to maximise efficiency of the airport system. Many years of expertise and know-how in the industrial handling sector, allows CASSIOLI to offer conveyor belts in the airport sector with top specifications in terms of reliability, silent operation, aesthetics, safety and ease of maintenance. Reliability, easy maintenance, availability, silent operation and flexibility: these are some of the reasons why customers choose CASSIOLI Airport Division conveyors suitable for long distances. Our customers know just what an impact the baggage handling system has on the layout of any airport system. This is why it is vital to consult professionals, as choices made regarding conveyor devices also impacts the dimensions and layout of the various work areas. The configuration of each CASSIOLI Airport Division airport conveyor system is tailored to the customer's specific requirements. The characteristics of the baggage flow and the type of object transported condition the required functional performance in terms of speed, acceleration, flow rate, single or two-way operation, possibility of intermediate storage, possibility of by-passing operating stations, etc.



## » CHECK-IN SYSTEMS



Cassoli's check-in systems make it possible to speed up passenger baggage handover operations at the airport and transport baggage quickly and punctually to the aircraft's hold using automatic conveyors. Meticulous selection of materials and careful manufacturing of the individual parts ensure the highest quality for the weighing and conveyor station. The modern design of the structure with wide use of stainless steel, combined with the particularly silent operation of the device, makes this station perfect for the most modern and hi-tech airport lobbies. The weighing belts are fitted at the check-in areas and represent the first element of the baggage handling system. They are available in several different versions for:

- Single or coupled conveyor configuration;
- Use of one or more interconnected conveyor segments
- Versions for standard sizes or custom configurations based on customer specifications;
- Specific features required by the customer.

The station consists of a pickled steel frame, a conveyor belt for handling baggage, a Scotch Brite stainless steel casing and a weighing scale built into the handling device. The technological solutions used guarantee operators and passengers excellent safety standards.

# 03

## ULD STOCKING - *Parking Area*

### *AUTOMATIC LOAD HANDLING SYSTEM FOR AIR TRANSPORT*

A ULD is a device used to handle cargo shipped as air freight. More specifically, a ULD is used to consolidate the load in order to assist the aircraft loading process. ULDs are available in two forms: pallets and containers. Cassioli Airport Division also offers advanced functionality for warehouse and transaction management, also tracking maintenance requirements.

#### MAIN FEATURES:

- » Crucial role in air freight transport
- » Safety of cargo during flight
- » No need for manual loading and unloading
- » Maximisation of aircraft cargo space
- » Reduction of operating costs and transport costs







# **LOCALLY INVOLVED**

CASSIOLI is an international group providing industrial handling and automation solutions. With 3 manufacturing plants and offices and commercial partners around the world, Cassioli is organised into 4 divisions: the Intralogistics Division; the Manufacturing Division; the Airport Division; the Tire Division.

Whenever you need to transport or handle finished products, semi-finished products,

component kits or even raw materials in a more or less automatic way, CASSIOLI has the most suitable transport and storage systems in terms of operating capacity, cost, safety and ergonomics.

Automated warehouses, assembly and servicing lines, testing systems, automated laser-guided or inductive-guided vehicles (AGV – LGV), rail-guided vehicles (RGV), picking systems and robotised areas with

visual systems, but also handling systems equipped with roller conveyor, chain conveyor, slat conveyor, belt conveyor or tape conveyor. Being able to rely on a broad yet highly specialised manufacturing base allows CASSIOLI to offer clients the most effective solution to meet their specific needs.



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