

Sortation and distribution systems
for baggage handling

Intelligent solutions for baggage sortation on airports



BEUMER – partner for the international airline Emirates



Dubai Emirates Headquarters (Animation)

Requirements

- 1 Safe and gentle baggage sortation for the Emirates Crew**
- 2 Flexibility and minimized system footprint**
- 3 High availability**
- 4 Low maintenance and operating costs**

The international airline Emirates is one of the 20 major airlines worldwide with 14.5 million passengers and 1.02 million tons of cargo serviced annually. Wholly owned by the Government of Dubai, the airline has been launched in 1985 by the Emirate Dubai, United Arab Emirates.

The airline currently flies to 84 destinations in 57 countries around the world and has evolved into an influential travel and tourism conglomerate on a global scale with 15.800 employees.

The new Dubai Emirates headquarters is scheduled to be inaugurated at the international airport in the first quarter of 2007. Here, the Alstef and BEUMER planned baggage handling system will come into use for the safe and gentle baggage transport of the Emirates Crew. The BEUMER autover® system BA55 is a multifunctional baggage sortation and distribution system, using contactless energy and data transmission. The system has a length of 618 m with 20 destinations for the Emirates self-check-in.

Having a capacity of 1.280 pieces of baggage per hour, the BEUMER autover® successfully meets the high standards of fast and gentle baggage sortation.

Baggage Sortation for Emirates Crew

The crew members check in their baggage at a self-check-in counter.

The downstream belt conveyor with 4 elevators transports the baggage from the self-check-in to the 4 loading units of the BEUMER autover® system.

Each feeding line has a capacity of 320 pieces/h, thus reaching a total system capacity of 1.280 pieces/h.

After loading the BEUMER autocar® - a rail-guided vehicle with its own drive - the baggage is transferred to one of the two screening devices.

Having passed the screening device, the baggage is loaded automatically on a BEUMER autocar® again.

The BEUMER autover® system BA55 as key component for the sortation of the Crew's baggage

Depending on the status of the baggage (safe/unsafe/no-read) two destinations for unsafe and no-read as well as 20 final destinations are available for sortation.

It is also possible to store/retrieve baggage from an early baggage storage area via the BEUMER autoca®.

If one screening device fails, the baggage is transported and transferred to the second one via the BEUMER autover®.



BEUMER autover® with 2 BEUMER autoca®

Sortation and distribution systems for baggage handling

One outstanding feature of the BEUMER autover® is its high availability. Equipped with on-board controllers and own drive, the intelligent BEUMER autoca® vehicles move independently in the rail system.

The load carrier situated on the BEUMER autoca® enables the transport of loads up to 60 kg and the assignment of various goods to their respective destination.

Without sensors or drive units in the track and equipped with contactless energy and data transmission, the track system is virtually maintenance-free.

By permanent communication between the control system and the autonomous BEUMER autoca® the complete control of the entire system is guaranteed at any time.

Adverse environmental conditions such as high temperature, high humidity and dirt (sand) must always be considered in the design of any baggage handling system, especially in Dubai.

Therefore, special components and coats of varnish have been used to provide long

life and low-maintenance even in harsh environmental conditions. This version of the BEUMER autover® system is also used for baggage handling

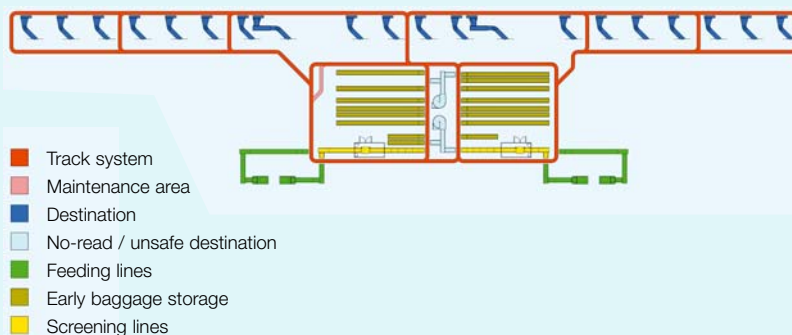
at the Toulouse/Blagnac airport in France and a similar version at Münster/Osnabrück airport in Germany.

Solutions and Benefits

- 1** A frequency-controlled flat belt conveyor and load securing flaps on the BEUMER autoca® ensure a safe and gentle baggage transport.
- 2** The intelligent BEUMER autoca® are equipped with on-board computers for independent route selection in case of short-term changes of destination.
New route segments for expansions can be logically integrated by passing the routes with a BEUMER autoca® (teaching). A reduction of the space required is achieved by using smaller curves radii.
- 3** Independently-driven BEUMER autoca® carry out self-diagnostics.
- 4** The BEUMER autover® uses a static rail without moving parts. The BEUMER autoca® can be maintained at a central station and incorporates an energy-saving function in case of low baggage flow.

Technical data

Rail length:	618 m
Number of BEUMER autoca®:	31
Destinations:	20 + 2 unsafe/no-read
Maximum speed:	5 m/s
Maximum acceleration:	1,5 m/s ²
Sorting capacity:	1.280 pieces of baggage/h (4 infeeds with 320 pieces of baggage/h each)
Induction capacity:	320 pieces of baggage/h per single loading (max. 920 pieces of baggage/h)
Control:	BeSS (BEUMER Sortation System) Software system controlling the individual autoca® and interface to the flight data information system (FIS).



Layout of the BEUMER autover® system BA55 at Dubai Emirates Headquarters

BEUMER is an international leading manufacturer of intralogistic specialized in the conveying, loading, palletizing and packaging technology as well as in sortation and distribution systems.

Having approx. 700 employees and a turnover of around 140 M. EUR, BEUMER has, with subsidiaries and representations, a worldwide presence for various industries.

For further information please visit us on:

www.beumer.com