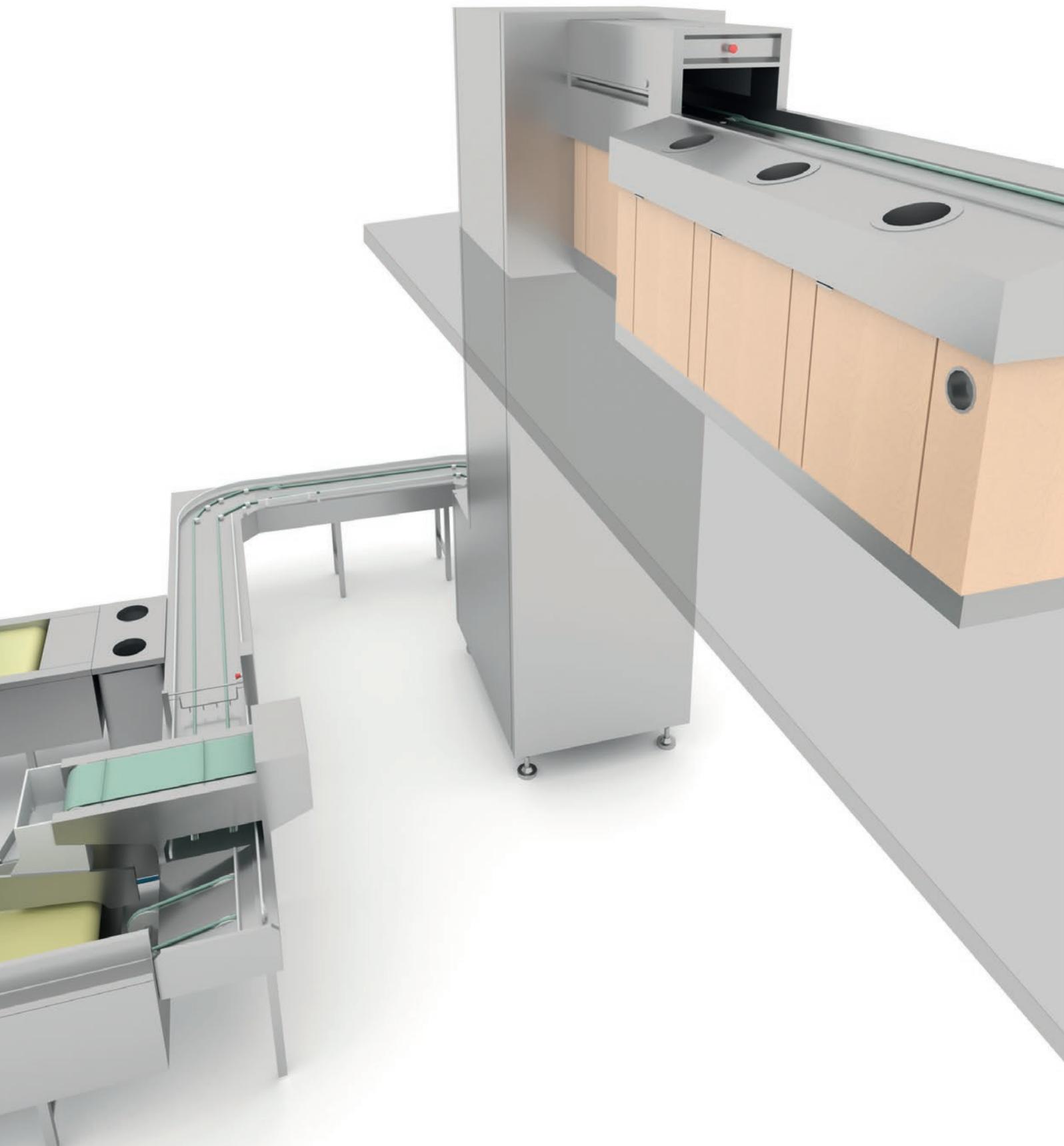


# MEIKO conveyor systems

Components to create an automated system



MEIKO conveyor systems are the solution to unique transport issues



The MEIKO conveyor system range provides the elements you need to transport your washware before and after washing:

- Minimise costs by putting together a streamlined, logical system
- Improve ergonomics at your workstations
- Boost hygiene standards

MEIKO conveyor systems are used all over the world. Available in a wide range of sizes and formats, they deliver consistently superior performance even under the toughest conditions. As well as transporting clean and dirty dishware, MEIKO conveyor systems can also be used for containers, racks, boxes, trolleys and carts, and food waste. Whatever your needs, we can develop a tailor-made conveyor solution that offers exactly the right technology and functionality to ensure smooth and efficient operation.

Our range includes:

- Bi-cord conveyors
- Belt conveyors
- Vertical conveyors
- Roller conveyors
- Cutlery conveyors



Our tailored systems are made to suit their use. To this end, we incorporate various highly efficient additional modules such as:

- Tray merges
- Tray infeeds
- Plate infeeds
- Destackers
- Storage and jam switches
- Cutlery lifting magnets
- Vertical conveyors

And many more!

**Functionality:** The bi-cord system means that individual dishes or other small items cannot be placed on the conveyor on their own. Only trays or plates in the specified dimensions can be transported.

**Quiet running:** The round belts essentially glide over the conveyor table with very little friction causing almost no noise.

**Hygiene:** Since the round belts only touch the table at specific points, the conveyor table is accessible to be cleaned in full (which is especially important at the clearing and collection points), creating the ideal conditions to help you meet all the hygiene requirements of a commercial kitchen.

**Easy servicing:** Bi-cord conveyors are an incredibly low-maintenance options and the materials used are of the highest quality (internal low-stretch reinforcement) to ensure excellent tensile strength.

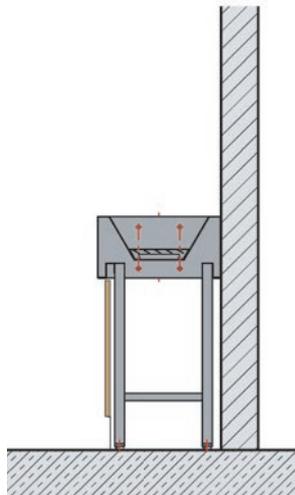
**Operational reliability:** MEIKO bi-cord conveyor systems have stood the test of even the toughest environments – like round-the-clock use for in-flight catering systems. They have to pass MEIKO's stringent quality controls. The round belts provide excellent operational reliability and hygiene safety.



## Dish return using bi-cord conveyors



Bi-cord conveyors are easy to clean and to keep clean, making them ideal for dish returns. The linear shape of the round belts leaves almost the whole of the conveyor surface available. This type of dish return is especially preferential as it only allows the return of trays. Individual items of tableware (plates, cups, cutlery, bottles) cannot be deposited and therefore cannot fall off the conveyor later in the journey, e.g. in the curves. This ensures that the dish return can run reliably.



There is the option to build a trough into the tray infeed section between the round belts and incorporate screens to hide it from diner view. This strategy means that any drinks or food waste that arrive in the tray infeed section disappear into an area unseen by your customers.

# Upward and downward gradients

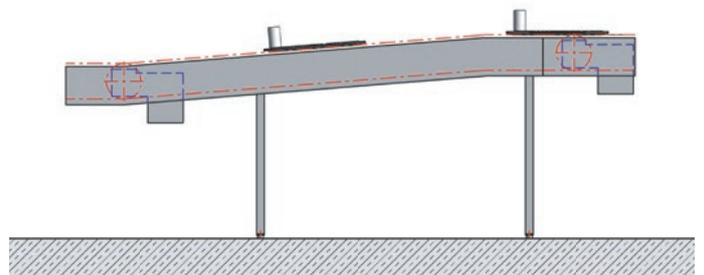


MEIKO bi-cord conveyors can even be used in locations where space is tight or the layout is challenging.

This is the perfect type of conveyor system for situations that involve slight changes in height, for example:

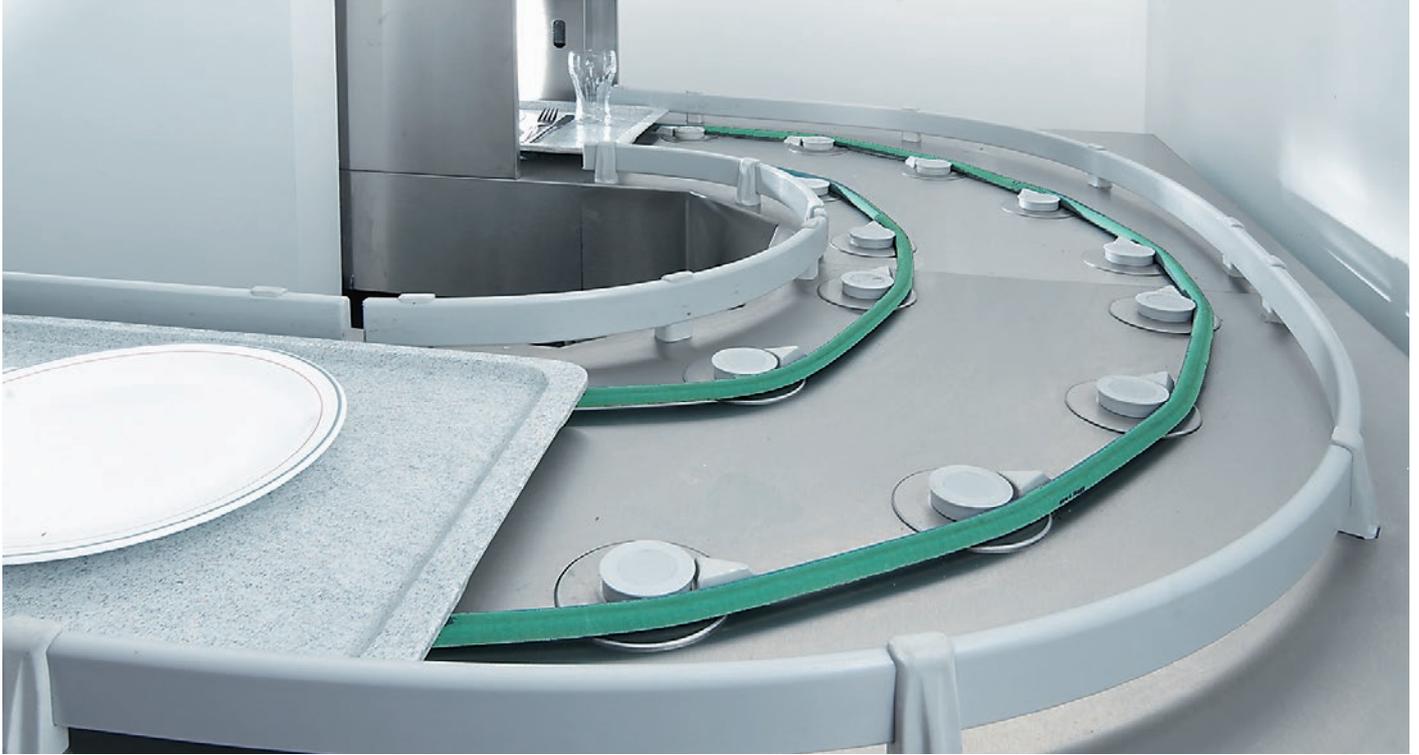
- Transporting trays from the dining room to the dishwashing area.
- Conveying trays underneath serving counters, or above doors or maintenance shafts, etc.
- Evening out slight differences in height from one part of the floor to the next.
- Transporting the dishes above the dishwasher feeding section to create more ergonomically friendly conditions for the people clearing and sorting the trays and dishes at the dishwashing system.

The sloping section carries the tray over the lower machine feeding section and to the clearing stations.

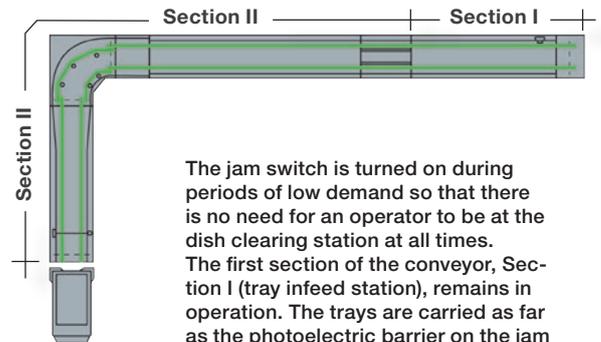


Sloping sections, both upward and downward, are limited to 8% so that dishes remain safely on the trays for transport. The angle was selected so that dishes do not fall over in the transitions.

# Tackling curved sections with a bi-cord system



Round-belt conveyor technology can conquer any possible type of curve. Differentiated speeds and the necessary spacing carry the trays safely and securely around the curve in the centre of the conveyor. High, sturdy tray guides ensure that any dishes which are stacked tightly do not fall off at the corners, as well as safely and securely steering the trays.



The jam switch is turned on during periods of low demand so that there is no need for an operator to be at the dish clearing station at all times. The first section of the conveyor, Section I (tray infeed station), remains in operation. The trays are carried as far as the photoelectric barrier on the jam switch at the end of Section I. When a tray triggers the photoelectric barrier, the section of the conveyor system, Section II, is switched on. Once the tray has passed through the photoelectric barrier, Section II of the conveyor system stops. This creates a row of trays at short intervals. Once Section II is full of trays, Section I switches off and staff are notified by a signal from the system.

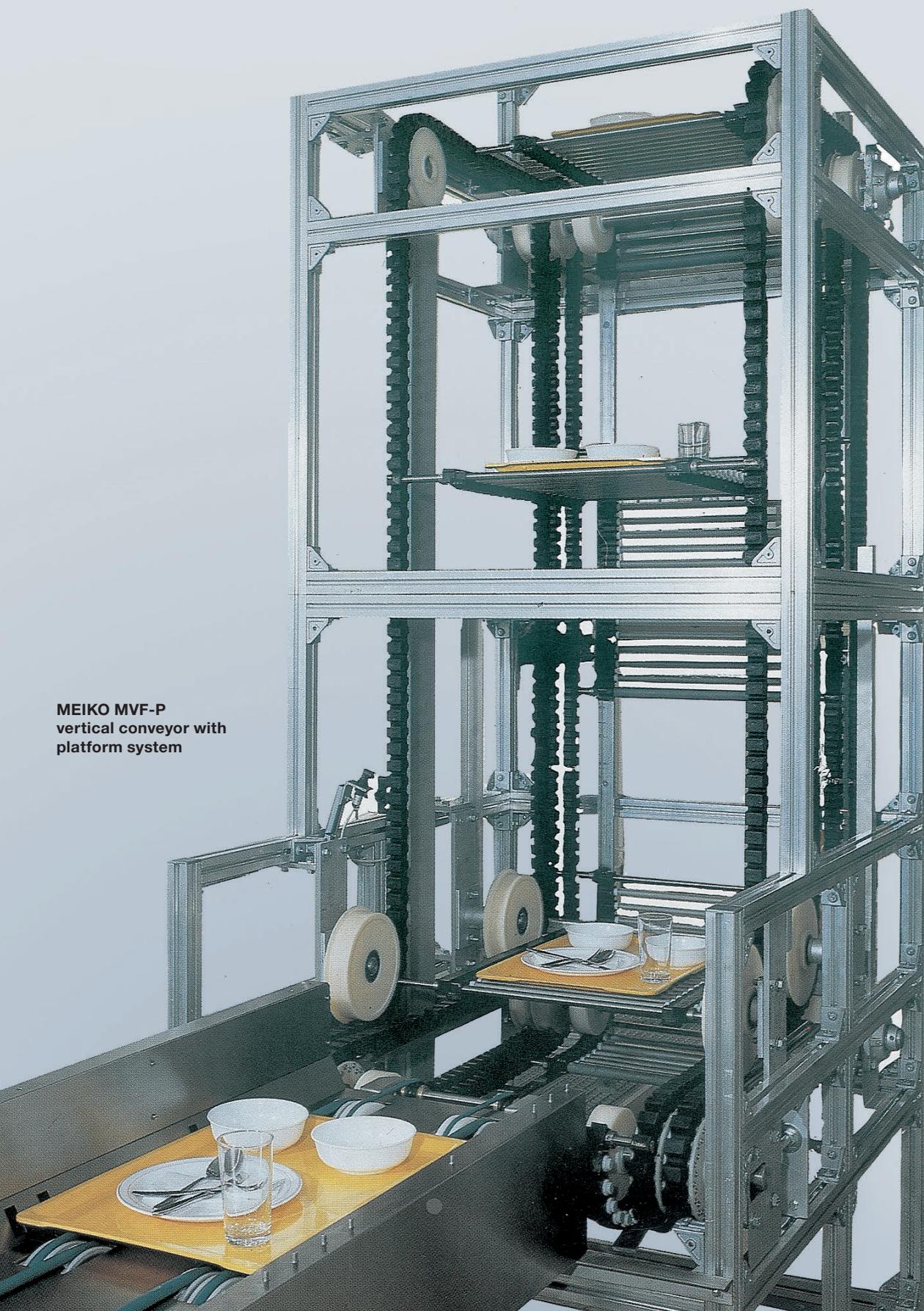


The MEIKO multifunction switch shown above provides additional functionality: at full capacity, two conveyors can run at 2 x 30 trays/min – but at low demand or during maintenance works, a mode can be activated which moves trays from both (incoming) conveyors to just the selected one of the conveyors for the next section – at a capacity of up to 30 trays/min. The capacity of the incoming sections can differ so long as the combined total does not exceed 30 trays/min.

If two tray returns are planned in a dining room, or across two levels, these sections of conveyor can feed a single belt later on via a tray merge. The conveyors do not stop for the merge. The maximum capacity for a merge is 30 trays per minute, though the quantity of trays from each feeding conveyor may be different, e.g.

- Lane 1: 10 trays/min / Lane 2: 20 trays/min
- Lane 1: 13 trays/min / Lane 2: 17 trays/min
- Lane 1: 8 trays/min / Lane 2: 22 trays/min

# Vertical conveyor systems

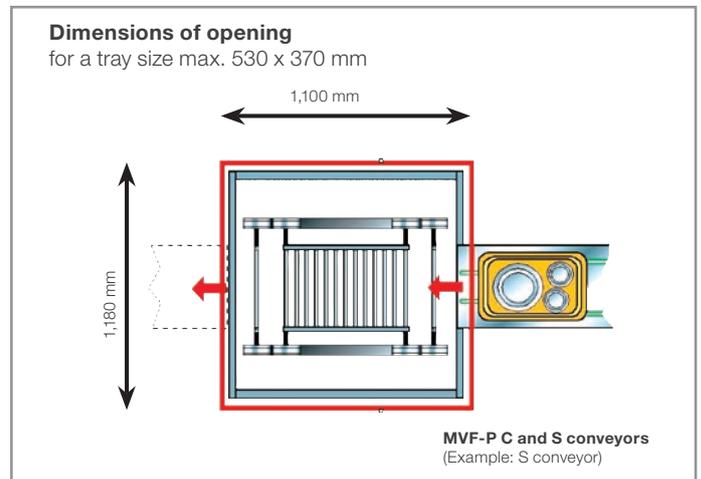
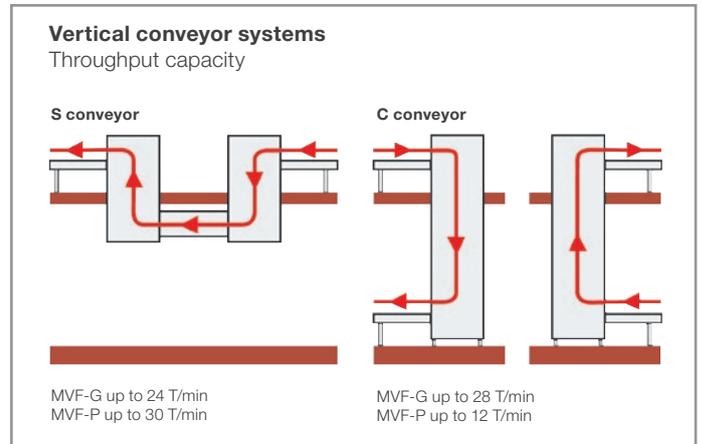


**MEIKO MVF-P**  
vertical conveyor with  
platform system

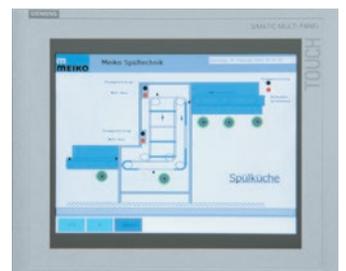
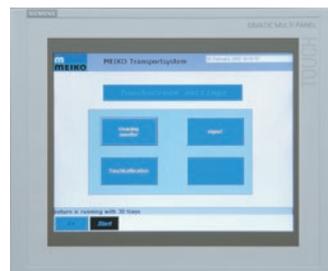
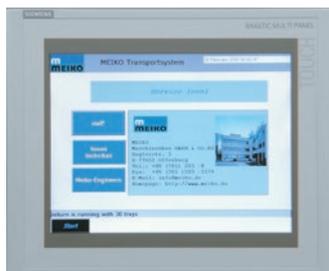
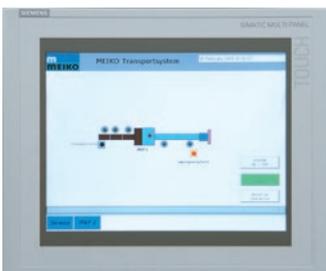
The winning choice for vertical conveying systems: the MEIKO MVF-P vertical conveyor with platform system:

- Extremely quiet running
- Very low maintenance
- Sturdy and robust design
- High tensile strength thanks to special rubber chains with integrated steel traction cables
- A continuous, fluid transition from horizontal to vertical movement
- Excellent dish stability
- Exceptionally easy for planners to integrate into a wide range of systems
- Range of cladding options to suit any interior

The MEIKO infeed and outfeed system ensures gradual braking and smooth tray pick-up even at high rates of throughput (up to 30 trays per minute). This means that even glasses and bottles can be transported upright without falling over.



# Monitoring – Control – Analysis



A central control cabinet is a key feature of every MEIKO conveyor system. Here, a schematic representation of the conveyor system's route with all components and modules give staff a clear overview of the system, even if it is long and complicated. For further visual options and analysis, the control station can also be fitted with a touchscreen. Intuitive operation facilitates excellent monitoring and control of the whole conveyor route. Different user levels, saved

graphics and visuals allow direct access to each individual component, i.e. drives, photoelectric barriers, etc. Even visual monitoring and checks on important areas can be carried out from a screen in the control cabinet using video cameras.

Any malfunction is flagged automatically and can be remedied quickly at the affected point.



## Rack sorting station:

Our versatile options can be combined with our highly efficient MEIKO rack sorting stations and with any method for sorting returned dishes:

- Automated, e.g. using a bi-cord conveyor
- Manual, e.g. using a tray cart or table service



For individual needs: various versions can be combined

**A roller conveyor** automatically brings racks or containers to the machine at the correct rate.

## Automatic cutlery transfer and tray infeed



Key features of MEIKO's automatic dishwashing systems include automatic tray infeed and automatic cutlery transfer using a cutlery lifting magnet.



# Automatic destacking and interim storage



Automatic tray destacking is one more way to automate your dishwashing area. We have different systems for destacking dirty trays as an interim measure and for destacking washed trays to send back out for use in the dining room.

# Additional systems to assist with smooth operation

If you are planning a streamlined and ergonomic workflow, MEIKO can offer a comprehensive range of real world-oriented accessories for conveyor systems.



**Fire protection closure:** If the border of a fire compartment runs between the dishwashing area and the dining room then a fire protection closure must be provided.



**Cutlery transfer without cutlery lifting magnet:** Trays are tipped so that cutlery falls into a cutlery basket. The empty trays are carried up a sloping conveyor to the tray stacking device.



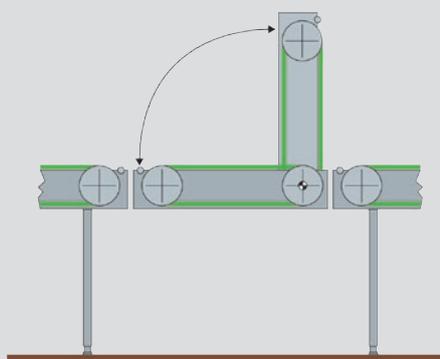
**TS 1800 plate stacker:** This is a sensible way to automate your kitchen. It automatically removes plates from the conveyor and places them into your plate dispenser.



**BTA tray washing machine:** Trays are fed in straight from the conveyor system and destacked after cleaning. This is one way to automate your kitchen that is ideal for retrofitting.



**Automatic unloading systems**  
Stacked plates on the conveyor belt, trays in a dispenser cart, cutlery in a transport container and bowls (manually) in a dispensing cart



A folding conveyor table can be integrated into the design, e.g. to serve as a way in and out to areas that cannot be accessed for maintenance by other means.

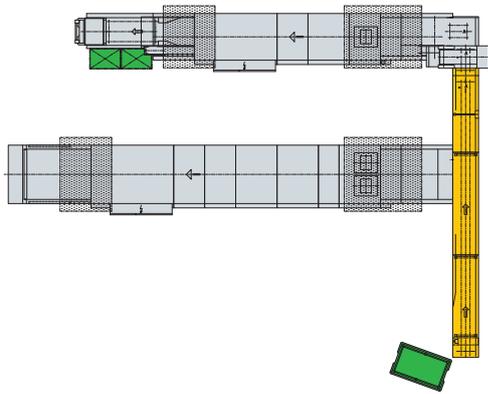
# Clean planning – from dish return to reuse

There is no better depiction of smart planning with MEIKO conveying technology than a dishwashing area where every system is perfectly tailored to work with the others. The whole washware cycle with all of its variables can be planned in one place. Everything from the dish return to horizontal or vertical movement to a dishwashing area with world-class warewashing technology to sending the dishes and trays back out for use.

Only a comprehensive and coherent system provides:

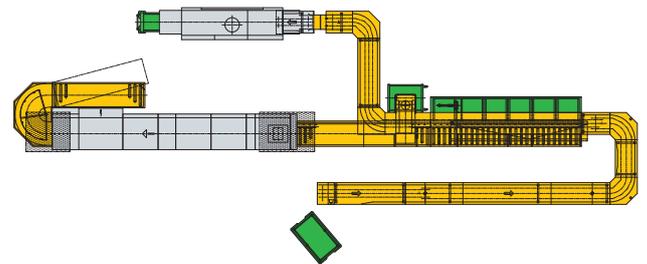
- Consistent hygiene safety
- Optimum ergonomic standards
- High efficiency
- Excellent economy, delivering the best solution for our customers.

## Planning case study at a teaching hospital



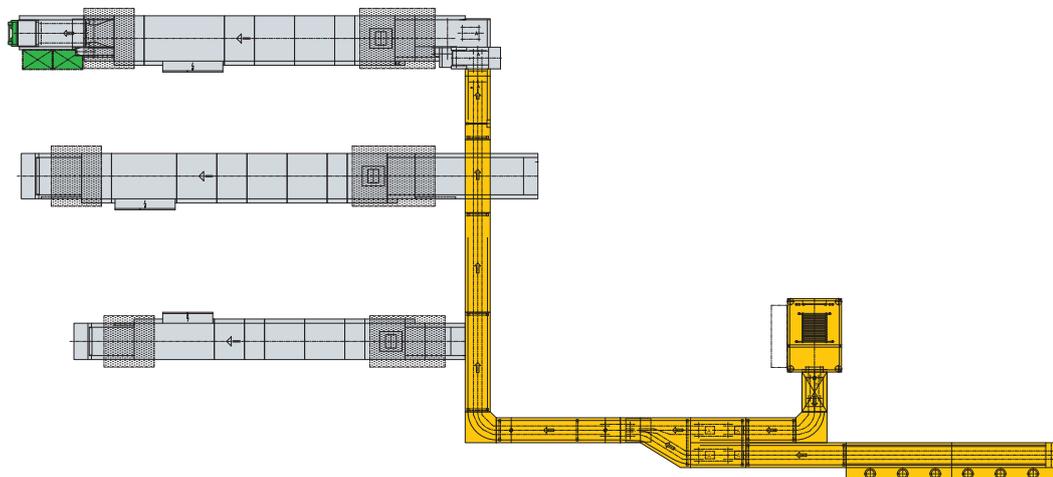
- 10 covers/minute system throughput
- 2 conveyor belt systems

## Planning case study at a self-service restaurant



- 20 covers/minute system throughput
- 1 rack transport system
- 1 tray wash system

## Planning case study at a casino

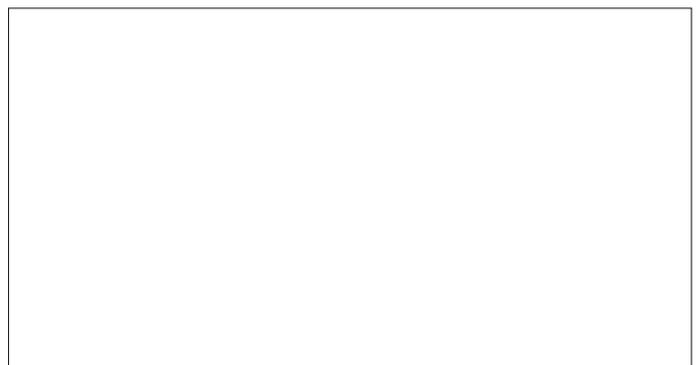


- 2 x 14 covers/minute system throughput
- 3 conveyor belt systems



The clean solution

Member of the **MEIKO** GROUP



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We reserve the right to amend specifications  
as part of our product improvement process