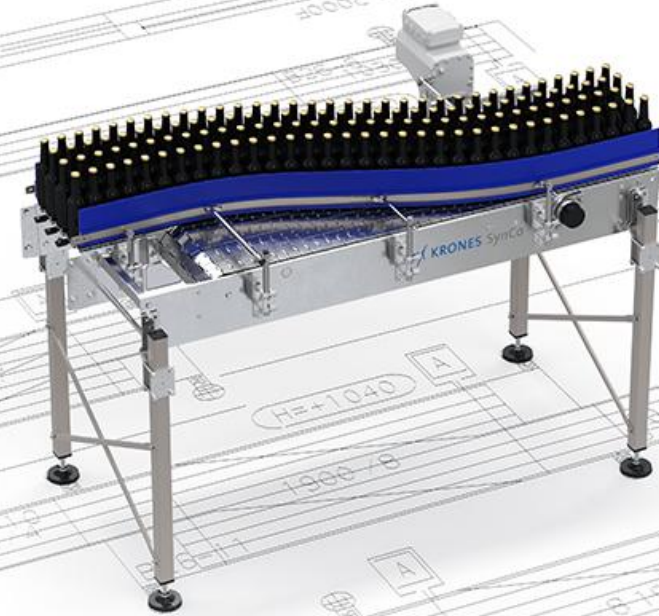




SynCo

Conveyors that pay attention



Efficiency and harmony in your line



Modern high-speed lines also demand intelligent system components for their intermediate sections. Being an individually customised conveyor, the SynCo container conveyor contributes to a trouble-free production at a large degree.

At a glance

- Conveyor for cans, glass or PET containers
- Distributes, combines and stores up to 120,000 containers per hour
- Individual conveyor design due to flexible functional modules
- Intelligent solutions for control systems
- Energy-saving components



Components

Flexible functional groups – separation of containers

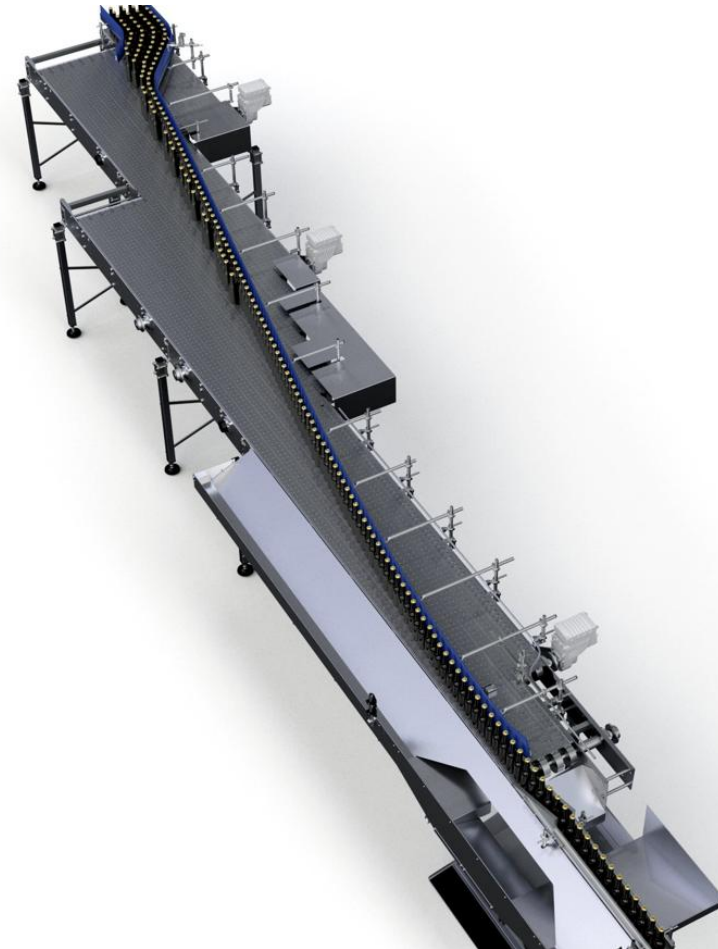


Inliner

- Pressureless separation of the containers onto one lane
- Gradually increased chain speed
→ guarantees a closed bottle flow

Twinliner

- Pressureless separation of the containers with one discharge on two lanes
- Parallel arrangement of two Inliner systems



Components

Flexible functional groups – distribution of containers



Flowliner

- Safe and pressureless distribution of round and angular PET containers
- Gentle and reliable container conveyance thanks to a lateral belt guide
- Low space requirement via quick reduction of the transportation speed on a short distance



Roof Divider

- System for distributing the containers onto two lanes by means of servomotor-controlled flaps
- Transportation of the container in groups of any small or large size



Components

Sensor-controlled buffer system: Accuflow



A fixed component of the conveyance concept comes in the form of sensors which continually measure the conveyors' load. If necessary, our sophisticated buffer systems are then used, regardless of whether the bottles displace themselves or the transport distance is simply extended.

- If required, this system buffers via the displacement mechanism
- Uniform storage period for every container thanks to the first-in-first-out principle
- Low-pressure buffer system with a high capacity on short transport sections
- Ideal for confined spaces or large buffer time requirements
- Facilitated spare parts management through the use of well-proven standard chains
- Variable buffer size

Fields of application:

- Cans as well as cylindrical glass or PET containers
- Gassed and non-gassed containers
- Up to 100,000 containers per hour
(depending on the container type and characteristics)



Components

Sensor-controlled buffer system: Accuflow Pro

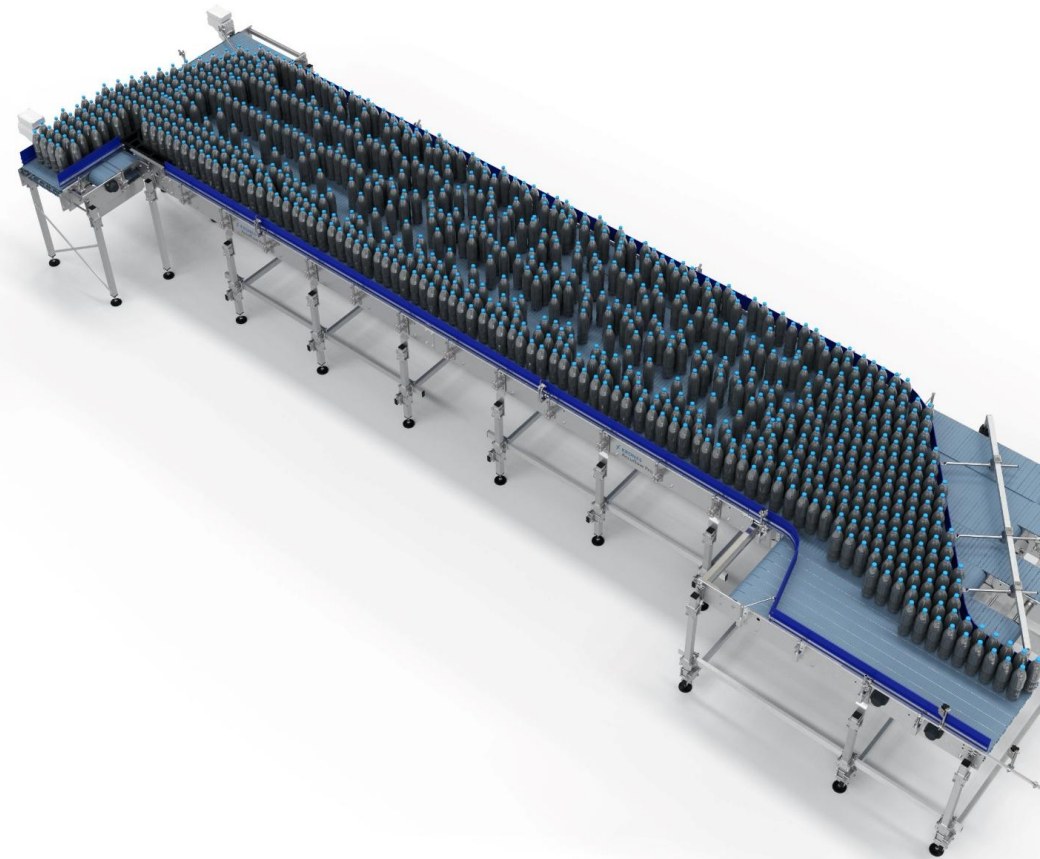


- Gentle container handling
- 90 degree infeed with reverse Freeflow chain for optimal container distribution over the entire width
- Low pressure due to the alternating arrangement of conveyors operating at normal speed and conveyors operating at slow speed
- Gentle shifting of the containers during accumulation
- Variable buffer size

Can be used for full containers of any type:

- PET:
 - Hot filling; with champagne base:
Up to 55,000 containers per hour*
 - Hot filling; with petaloid base:
Up to 43,200 containers per hour*
- Glass: Up to 66,000 containers per hour*
- Cans: Up to 132,000 containers per hour*

*Depending on the tilting angle and the container diameter



Components

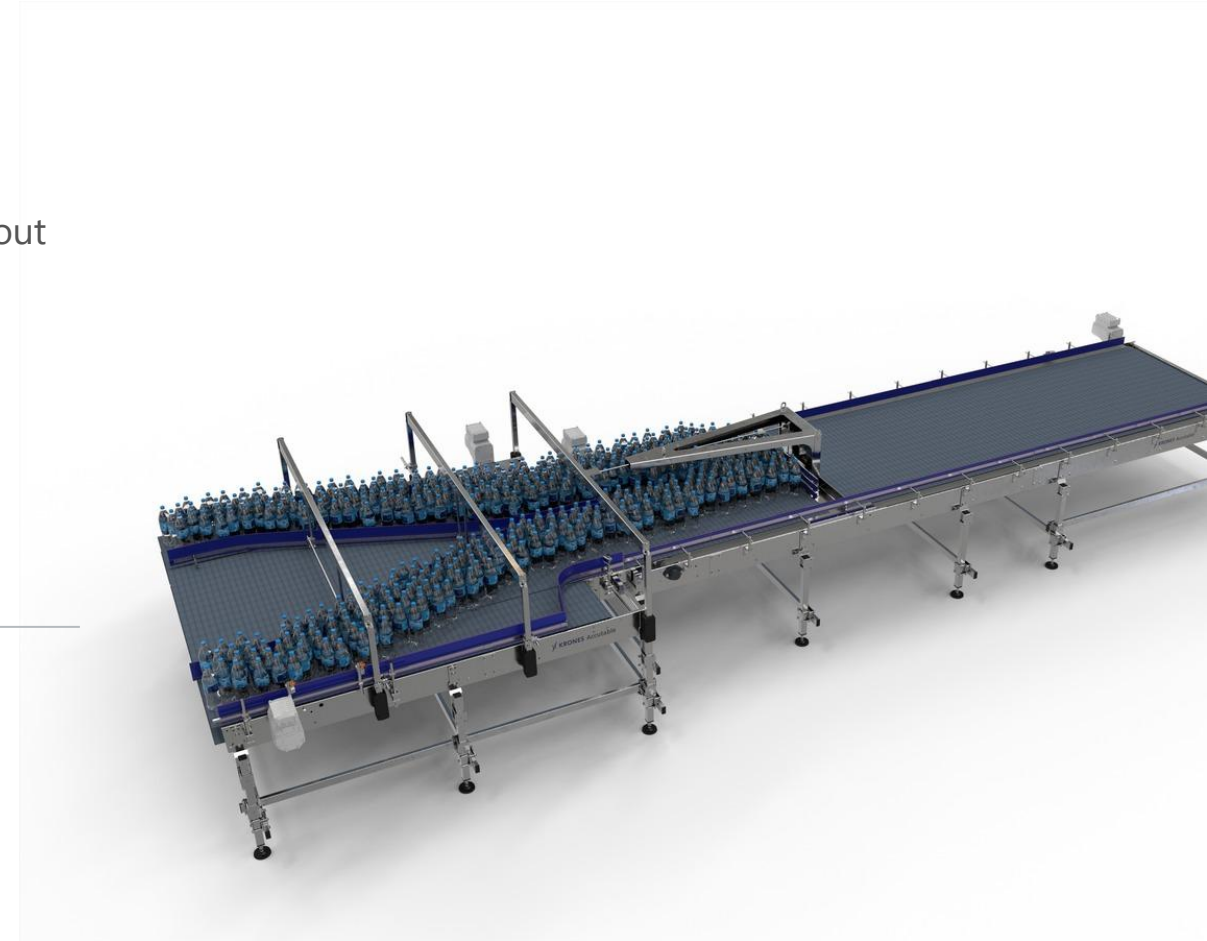
Sensor-controlled buffer system: Accutable



- Especially gentle container handling
- Dynamic buffer system for the mass flow
- Uniform storage period for every container by means of the first-in-first-out principle
- Pressureless container conveyance
- Variable buffer size
- Facilitated spare parts management through the use of standard chains

Application:

- Cans and glass or PET containers
- Cylindrical, rectangular, oval and conical containers
- Gassed and non-gassed containers
- Up to 90,000 containers per hour



Components – benefits to you

Sensor-controlled buffer system: Accutable



High safety for operators

Thanks to the inherently safe design of the buffer system, no safety devices are required.

Low operating costs

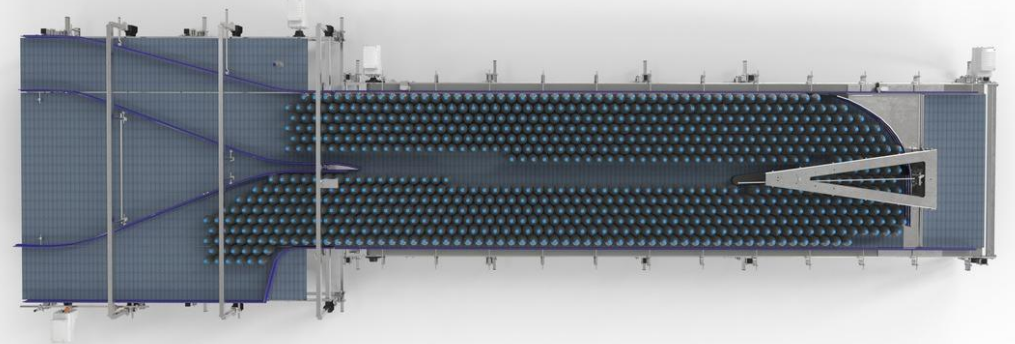
By dispensing with a gripper chain – and thus with an additional drive on the carriage – operating costs are reduced and failures are avoided at the same time.

Low maintenance requirement

The use of durable belts as well as high-quality PM drives reduce maintenance requirements to a minimum.

Highly automated

A unique emptying mechanism (for example during type change-over) eliminates the need for manual intervention.

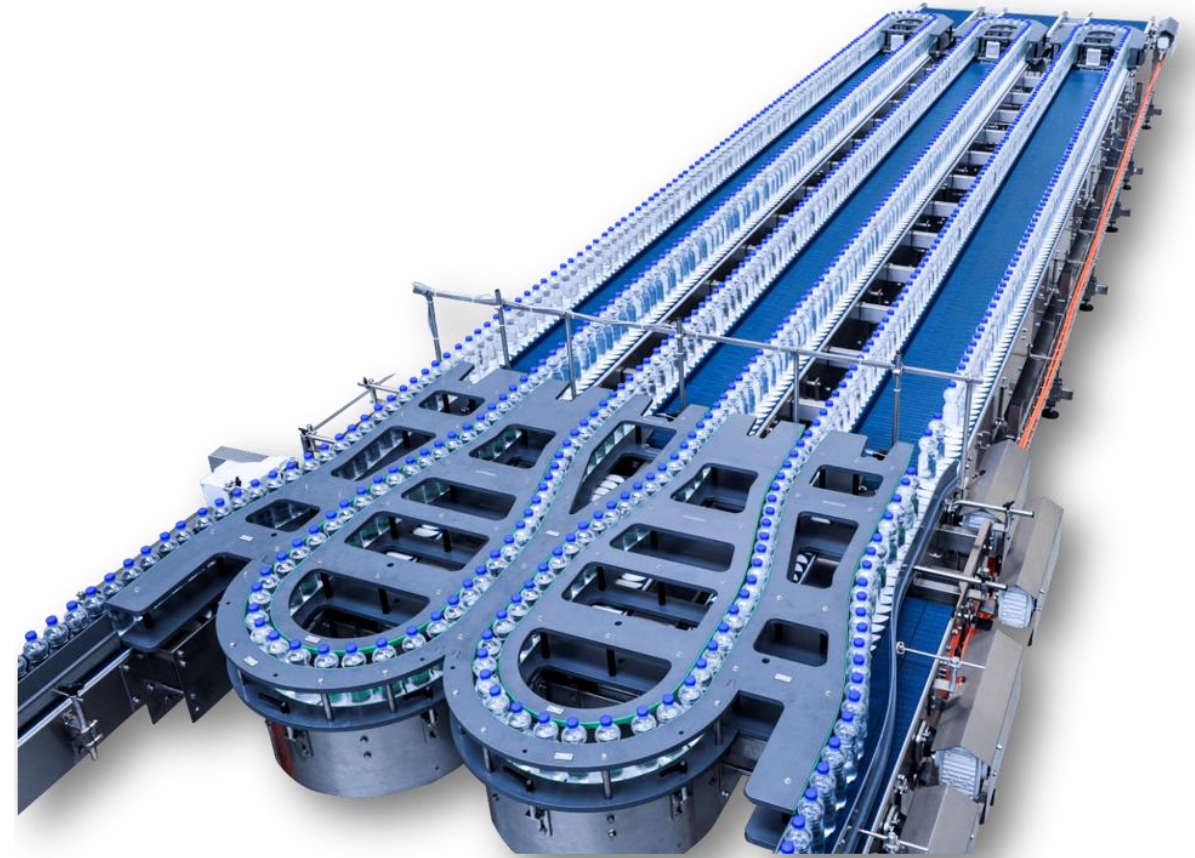


Components

Dynamically controlled buffer system: Acculoop Advanced



- Dynamic buffer system for containers with a single-lane conveyor (first-in, first-out principle)
- Particularly gentle transport
- Output: up to 48,000 containers per hour
- Buffering in/out via travelling return carriage
- Variable buffer size
- Own controller and visualisation system
- No guard area required



Components

Dynamically controlled buffer system: Acculoop Advanced



Fields of application:

- Electrical rejection unit
- PET container (full), glass bottles and cartons
- Cylindrical containers and specially-shaped containers with diameters from 27 to 155 mm
- Petaloid and champagne bases
- Typical fields of application:
 - when there is not enough space for the distribution system, mass-flow conveyor and separation system
 - with specially-shaped containers that do not permit mass flow
 - when emptying and buffering at medium and high output ranges



Components

From state-of-the-art generative manufacturing: 3D-printed can inverter



Benefits to you

- Trouble-free production for maximum efficiency
- Output of up to 120,000 cans per hour
- Processes even very light cans
- Safe handling of individually designed cans with matt lacquers or embossing
- Emptying during type change-over without the intervention of the operator
- Fast and ergonomic replacement during change-overs
- Sustainability throughout the entire value chain
- 100 percent reproducible manufacture



Components

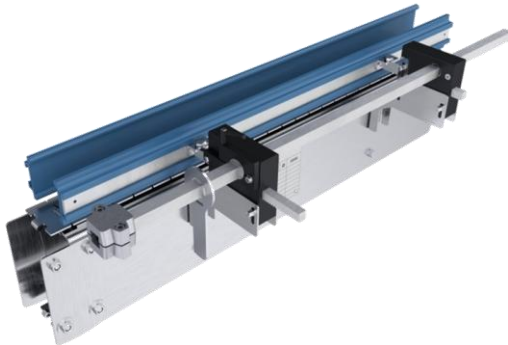
Individual rail adjustment system – for a trouble-free conveyance



Well guided is half the battle – this goes also for our conveyors. In order to be able to transport your containers as gentle and free of friction as possible, the perfect rail adjustment is just as important. Depending on the containers size, the rail can also be adjusted individually.

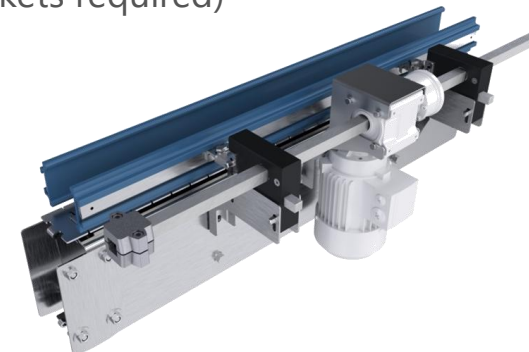
Central manual rail adjustment

- Infinitely variable fastening of the rails via clamping systems
- Width adjustment for change-overs within short time
- Easy adjustment via integrated adjusting keys



Motorised rail-guide adjustment system

- It reduces the adjustment time by up to 90 percent (compared to a decentralised manual adjustment system)
- Motorised adjustment of the rail width after entry of the different sizes on the touch-screen
- Safe rail adjustment from the subordinate operator panel for the area which can be seen from there
- Also available for lane areas and curved lanes (no lane pockets required)



Components

Adjusted conveyor lubrication system – ecological container conveyor



The friction between the container and the chain and also between the chain and the wear strip is reduced due to an individually adjusted conveyor lubrication system.

The result

- Increased service life of the individual components
- Lower energy consumption of the drive motors
- Increased efficiency and availability of the conveyor

Installation options

- Plastic pipes
- Stainless steel pipes (optional)



Components

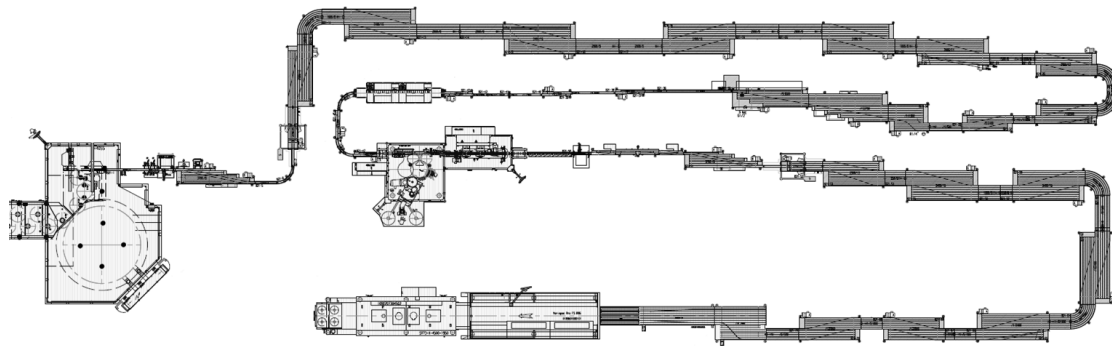
Adjusted conveyor lubrication system – ecological container conveyor



Saving fresh water

- Use of dry or water-reduced wet conveyor lubrication for most of the container-chain combinations possible
- Significantly reduced fresh-water consumption

Required water for the conveyor lubrication system of a PET line with an output of 36,000 containers/h and a container size of 0.33 and 0.5 litres:



Conveyor lubrication systems

Water consumption

Wet	Approx. 480 l/h (water and lubricant mixture)
Reduced water consumption	Approx. 120 l/h (water and lubricant mixture)
Dry	No water consumption

Components

PM drives – trendsetting and high performance



Our conveyor systems operate generally with high-performance PM drives (motor and gears in one housing). As a result, even legal requirements with regard to energy efficiency are significantly exceeded.

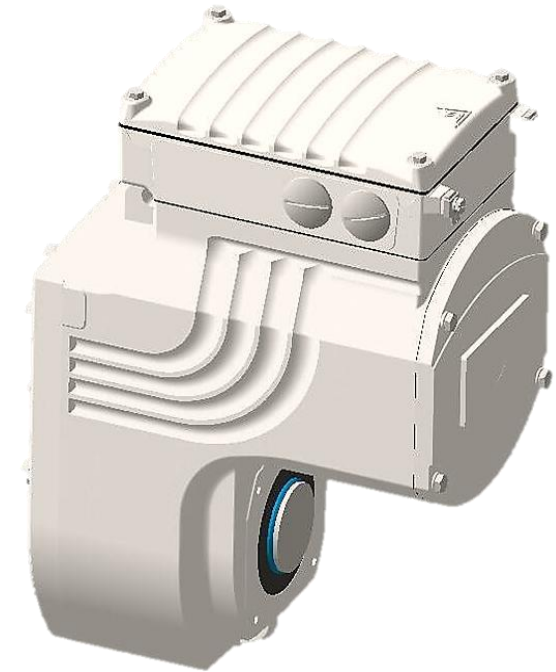
Saving energy and high performance through the use of SEW Movigear PM drives (IE5)

- High efficiency rate of 90 percent and therefore a low power consumption
- Savings potential of about 1,000 kWh per drive and year (compared to IE2 drives)*

Worldwide spare parts availability due to the use of a well-proven SEW drive technology

- Constructed in hygienic design
- No need for fans and cooling fins
- Protection class IP65 for optimal cleaning

* According to manufacturer's specifications



Components

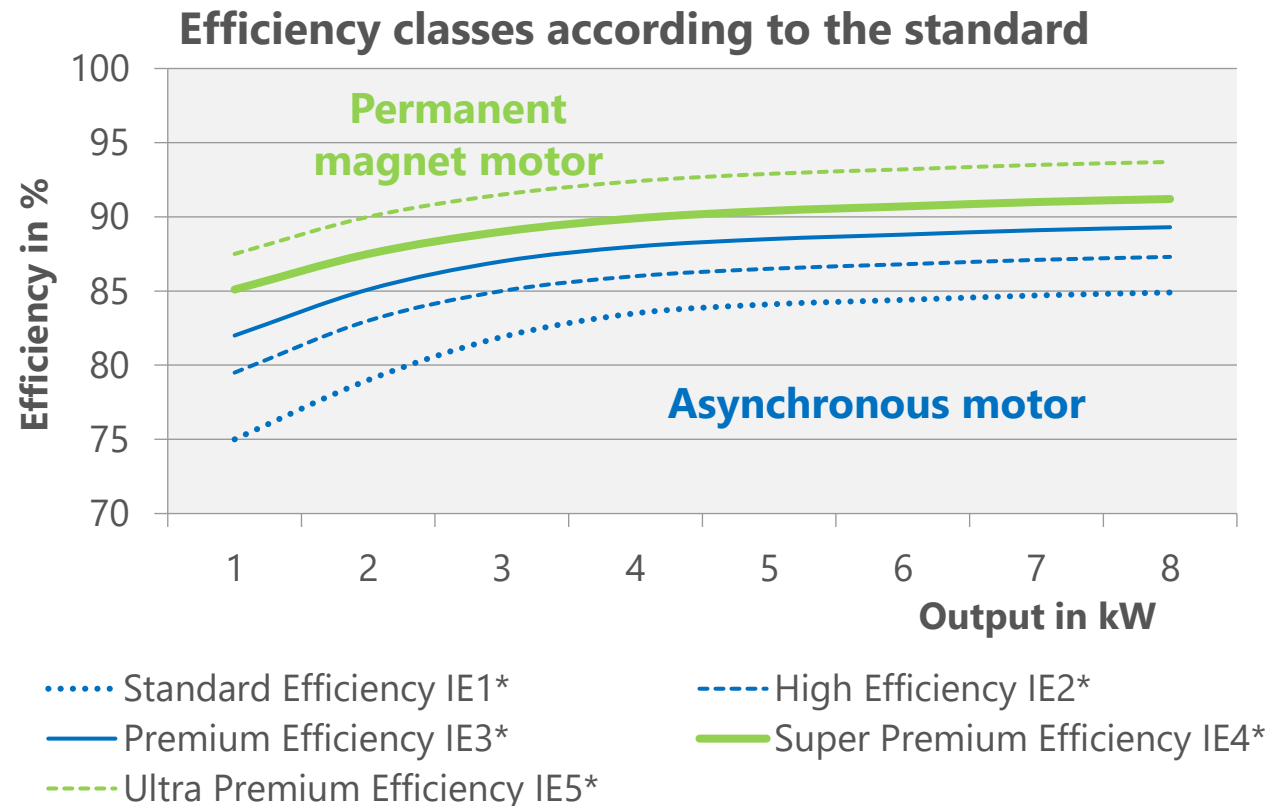
PM drives – trendsetting and high performance



Efficiency classes

Extrapolated to the entire conveyor route in a medium-sized bottling plant, the use of IE5-PM drives results in energy savings of around 47,000 kilowatt hours, based on the drive manufacturer's specifications.

*Assumption for the calculation: 6,000 operating hours for 47 drives per line;
emission factor electrical energy: 0.3706 kg CO₂/kWh*



* Acc. to IEC 60034-30-1:2014

Method of operation

Intelligent control – conveyors which pay attention



A special feature of SynCo conveyors is their sophisticated control concept, which is individually tailored to your line, your products and the conditions on site.

Characteristics

- Function display and operation via touch-screen
- Frequency control of all drives
- Active back-up management via:
 - Continuous measurement of the buffer capacity via sensors
 - Communications between the container conveyor and the machine
 - Dynamic adjustment of the machine output depending on the extent to which the conveyor is filled
 - Automatic control of the conveyor according to the status of the machines



Benefits to you



Harmony and efficiency in your line

Our conveyor systems demonstrate more than 30 years of experience. Innovative technology provides a harmonic line flow, continuously high line efficiency and gentle product transportation.

Modular design

The individual combination of our modules and a large selection of different product groups enable us to fit your conveyor optimally into the room conditions of your line layout.

Intelligent connections

A continuous metering of your back-up situation, the signal exchange of the individual machines among each other as well as a suitable buffer system provide an efficient overall operation.

Long service life

The rugged basic construction and a minimum requirement for maintenance ensure a long service life and a trouble-free function of the conveyor.

Low energy requirement

Due to the exclusive employment of high-performance PM drives an efficiency rate of 90 percent is achieved. The power consumption is significantly lower than with asynchronous motors.

Quick installation and commissioning

Almost all of the components are already pre-assembled in the factory. This ensures the conveyor to be ready for operation within a very short time using the "plug and play" principle.

New machine enquiry

You can easily send a request for a non-binding quotation at our [Krones.shop](https://www.krones.com/en/krones.shop).



Certified ecological efficiency:

Machines with enviro label



At Krones, the enviro label stands for excellent ecological efficiency. Products that bear the enviro label have proven in an objective test procedure that they efficiently use energy and media, and that they produce in an environmentally-friendly way. The requirements are defined by the EME standard that has been developed by TÜV SÜD (technical inspection authority) for assessing production plants. The enviro test procedure, too, has been certified by TÜV SÜD as an independent expert. Therefore, you can be sure that: an enviro label stands for ecological efficiency.

This is why the SynCo is enviro-classified:

Energy efficiency

- The highly efficient PM drives save up to 50 percent of energy as compared to conventional asynchronous motors
- Reduces the power consumption during a standstill by means of stand-by mode

Environmental compatibility

- Minimises water and lubricant consumption through the use of dry lubrication (where technically possible) and state-of-the-art plastics
- Consistent use of food-safe greases and oils for the lubrication of bearings and gears



**SOLUTIONS
BEYOND
TOMORROW**

