Robogrip

The all-rounder for packing
and palletising

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Large operating range

Flexibility is one of the special features of a robot which is used for packing and palletising. In addition to packing and unpacking tasks, the Robogrip masters palletising tasks for single packs, rows or layers. With a large number of optional gripping or multifunctional tools the Robogrip is ready for any and everything. Its large operating range enables the robot to access an amply dimensioned operating surface and thus ensures utmost efficiency during packing and palletising.

At a glance

- Articulated-arm robot with four movement axes
- Output up to 550 clock pulses per hour, depending on the load-bearing capacity with a standard pivoting area of 2 x 180°
- Safe operation with a controller monitored safety system

Highly flexible and fast

The Robogrip reliably masters all packing and palletising tasks.

Field of applications

- Palletising pack rows and single packs
- Palletising of complete layers of returnable and non-returnable packs
- Picking up or placing down of rows or complete layers of containers
- Packing and unpacking of complete layers or rows or single packs
- Supply of carton blanks to packer magazine

Output range depending on the application and pivoting area			
Version	Output up to (clock pulses per hour)	Load-bearing capacity (kg) at the wrist-joint	Pivoting area
Robogrip with 4 axes	450	500	2 x 185°
	410	700	2 x 180°

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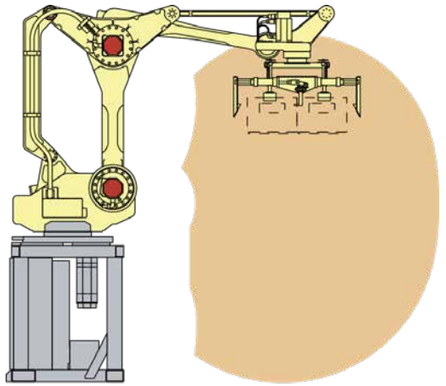
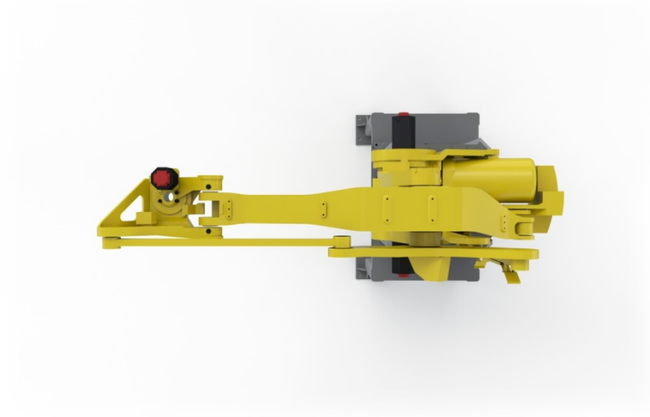
Method of operation

- The robot is mounted on a stable base and can be rotated by 180° in both directions. The 500 kg robot allows a rotation of 185° in both directions.
- All the rotating shafts are moved via zero backlash gears with servo motors directly attached to them.
- The gripper unit is mounted with a central latch and it is optionally available as a fixed tool or it is equipped with a self-centring quick-change coupling.
- The gripper principle is adjusted to suit each specific field of application. Multi-functional tools are used for combined tasks.





Robogrip with four axes

Operating range
The envelope (brown bubble) shows a cross-sectional view of the curve of movement in the Robogrip operating range. The operating range delineates a ring around the robot if seen from above.

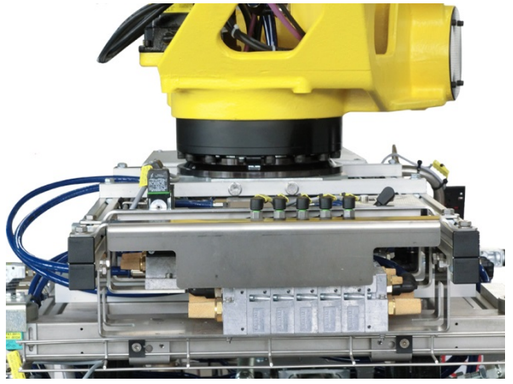
Technical details

Design features

- Articulated robot with four axes in robust cast design
- Freely combinable, superimposed movement axes
- Drive system protected from dust and splashing water
- Maintenance-free servo motors in all movement axes
- Programmable logic control (PLC) integrated in the robot base
- Only electrical, which means maintenance-free braking processes in normal operation
- Mechanical stopping break when robot is turned off
- Backlash-free cycloidal gears with integral crossed roller bearing
- Standardised gripper unit couplings

Additional equipment

- Space control
- Line track
- Automatic change-system for gripper unit change-over without operator intervention with three optional variants for storing and transporting the gripper units
  - Stationary changing stations within the robot’s radius of action
  - Handling parts trolley
  - Travelling of the changing station on the pallet conveyor



Automatic gripper unit change-over

Assemblies – gripper tools

Bar-type gripper unit

- Picks up layers of pre-grouped new glass containers and positions them on the pallet
- Inserts layer pads, trays or inverted trays using vacuum grippers which are available as an option

Shutter gripper head

- Puts the non-returnable pack down on the pallet gently and without pressure
- It is especially suitable for sensitive packs

Fork gripper head for carton blanks

- Depalletises carton blanks
- Picks up the stack of blanks directly from the pallet and places it on a carton magazine

Jaw gripper head

- Grips complete layers of returnable packs from all four sides
- Processes also full crates with an optional hook system

Assemblies – gripper tools

Individual gripper units make the Robogrip a flexible partner in the packing and palletising process.
Some examples of its numerous possibilities:

Combined gripper unit

- Enables packing and palletising with just one gripper unit
- Picks up containers from the conveyor using packing cups and packs them into crates or cartons
- Grips packs with an integrated hook and composes them to the required layer pattern

Jaw gripper head with clamping function and layer pad inserter

- Picks up Multipacks in rows and palletises them
- Equipped with automatically adjustable clamping devices
- With its integrated vacuum grippers, it can also process layer pads

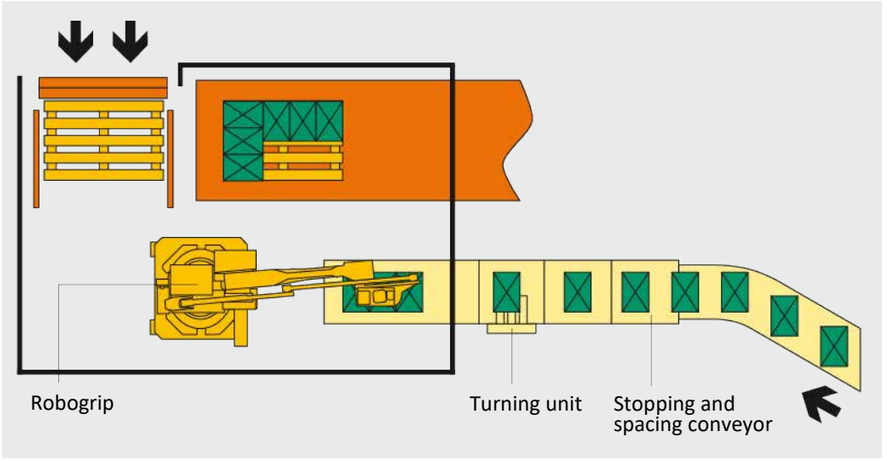
Cup gripper unit

- Unpacks and packs complete layers or rows of containers from or into crates, displays or cartons

Robogrip in everyday operation
Applications

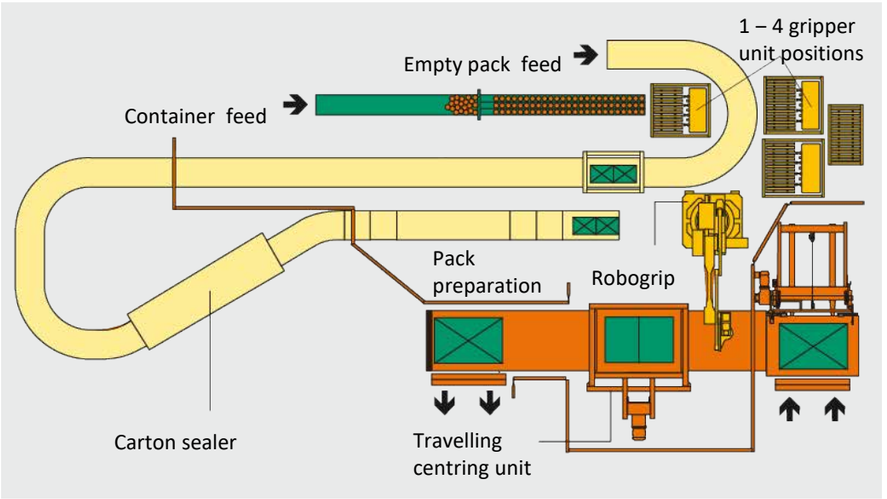
Palletising of packs

- Using a jaw gripper, the Robogrip picks up the rows of packs and places them on the pallet.
- The rotating combined gripper unit can also create interlocked layer patterns and inserts layer pads.
- The Robogrip picks up the pallets from a centring frame and positions them on the palletising station.



Combined packing and palletising

- The containers reach the palletiser via a container table in H-design. Depending on the requirements, the Robogrip selects the appropriate gripper unit and packs the bottles into cartons or plastic crates.
- Afterwards, it uses the palletising tool of the combined gripper unit to put the packs on the pallet, assisted by the layer centring unit.
- Depalletising and unpacking of cartons or crates is carried out in reverse order.



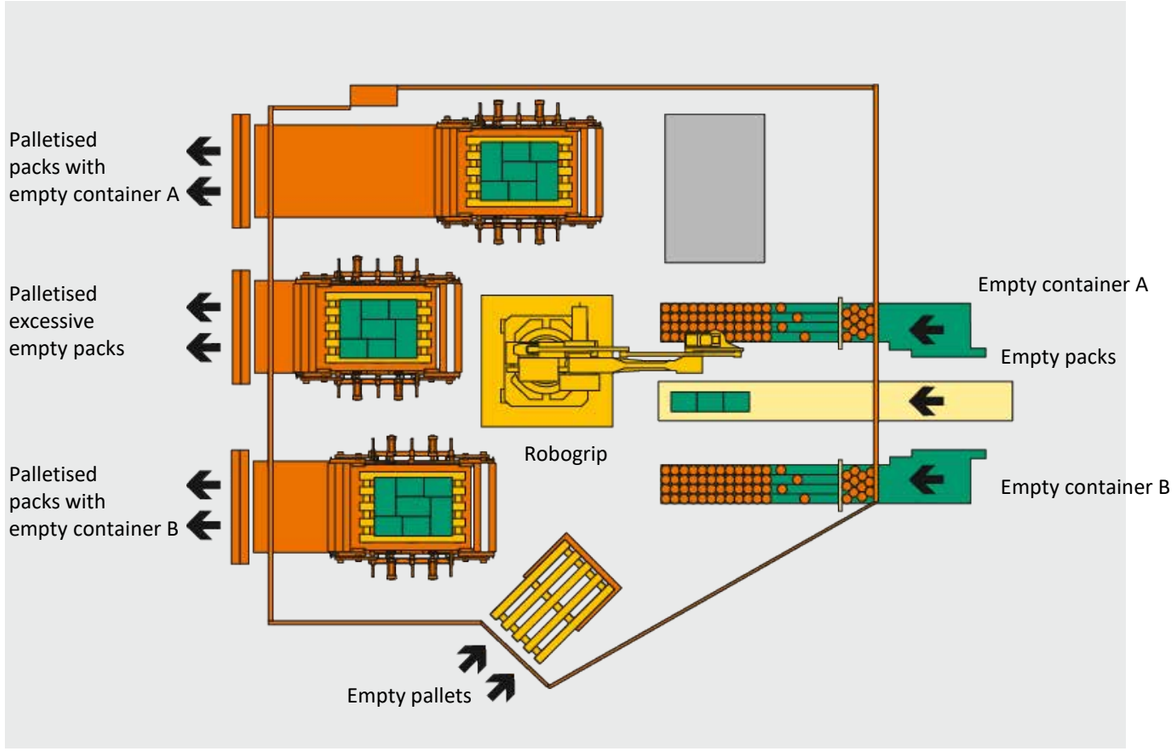
Robogrip in everyday operation
Applications

Empties sorter

- Different container and crate types are fed on conveyors to the Robogrip where they are arranged to form homogeneous packs and stacked onto pallets.
- The Robogrip picks the pallets from a centring frame and positions them on various pallet conveyor lines.

Palletising according to type

- Different packs holding containers of one type are fed on a common feed conveyor, identified via a bar code scanner and distributed onto several conveyors according to their type.
- A sensor monitors the filling degree of each individual feed conveyor and passes on this information to the robot controller. Depending on the filling degree, the Robogrip can now sort the packs according to their types.



Empties sorter

Robogrip in everyday operation – operation and safety zone

Operation

- Easy touch-screen operation
- Display of all relevant production data
- Easy access to all operating and maintenance points
- Operation and parameterisation possible via remote service

Guard system

- Stable fence guarding with electrically interlocked door
- Operator log on via controller required to open the fence guarding
- Travelling movement of the robot into a safe position
- Afterwards, release of the access door

Benefits to you

Low space requirements

Its compact design enables the Robogrip to be installed on small areas and in low halls.

Precise and gentle product movements

Servo motors grant exact Robogrip movements that are gentle on your products which is not only of benefit for you but also for your products.

Wide field of application

Packing, palletising, sorting – the robot can be used for a wide variety of most different tasks. It also safely and reliably masters exacting combined tasks.

Individual equipment

Many different gripping tools are available for the Robogrip. Simply configure your individual robot that will fully meet your requirements. Our KRONES product specialists will gladly consult you about which solution is the best for your needs.

Low maintenance requirement

The Robogrip is characterised by its low maintenance requirements and its high availability. This is ensured by its maintenance-free servo drives and the low number of wear parts.

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Everything from a single source

KIC KRONES cleaning agents make your machine shine

Only if the production environment is immaculate, can your product be brilliant. KIC KRONES provides you with the optimum cleaning agents and disinfectants for each individual production step.

Lubricants from KIC KRONES for every production step

Whether for gears, chains or central lubrication systems – our greases and oils are true all-round talents. They can reach every lubrication point, protect your line and ensure gentle treatment for your products thanks to their food-grade quality.

Digitalisation

Process technology

Bottling and packaging equipment

Intralogistics

Lifecycle Service

We do more.

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