WEMO ROBOT SYSTEM

THE COMPLETE RANGE



WE MOve things forward



Wemo’s robots make your business more competitive

Wemo offers one of the widest ranges of automation solutions for the plastic industry in the market. Our linear robots are manufactured in Sweden and belong to the absolute top tier in their respective classes. When you invest in a linear robot solution from Wemo, you get:

- √ Automated production process
- √ Increased production speed
- √ Reduced production costs
- √ Improved accuracy and quality
- √ Quick setup/configuration
- √ Safer working environment
- √ Increased production capacity
- √ Reduced resource consumption

In summary, Wemo’s linear robot solutions contribute to increased productivity, better quality, reduced costs, and a more sustainable production.

We want to make your workday and production as smooth as possible

To assist you, we have developed both our own app and a programming language. By connecting to the Wemo Connect app (page 26), you can monitor the entire production facility regardless of your location. WIPS (page 24) is the language we use to enable you to interact with your robot. In true Wemo spirit, through WIPS, you can interact not only with our own robots but also with those from other manufacturers.

Content

2–3 Our offer
4–5 About our linear robot systems
6–7 Configurations for your need
8–9 Overview – our robot systems
10–11 3–5 Linear Picker
12–13 eDesign
14–15 eLine
16–17 xDesign
18–19 xLine
20–21 Tandem
22–23 sDesign
24–25 WIPS 4.0 - hand control
26–27 Wemo Connect
28–29 Options
30–31 xPacker

Swedish engineering excellence, signed by Wemo, assisting companies worldwide

Wemo is a well-known brand for linear robotics and automation solutions. For over 35 years, we have been developing and manufacturing sustainable and intelligent products for customers in the medical sector, packaging, automotive, and plastic industries.
We are represented in more than 40 countries and provide support through distributors and agents.

Our skilled Swedish engineers design the products, which are then manufactured in our factory in Värnamo.

We are driven by helping customers achieve higher efficiency through sustainable and energy-efficient solutions. More than 15,000 solutions have been signed by us since our beginning in 1987.

Robot models

Wemo offer two different types of robot models in our linear line-up.

Choose between a fixed or a movable X-axis.

Fixed X-axis:

With a fixed X-axis, the vertical Y-arm moves along the X-beam. This saves floor space as the robot becomes more compact. This is also the fastest robot model.

3-5 Linear Picker, eDesign xDesign and sDesign





Movable X-axis:

The movable X-beam provides more space for larger tools at the end of the arm. If the robot is to be installed in a machine of the multicomponent type with vertical injection units, a movable X-axis is the best option, especially if you need to feed materials from the opposite direction.

xLine, eLine and Tandem



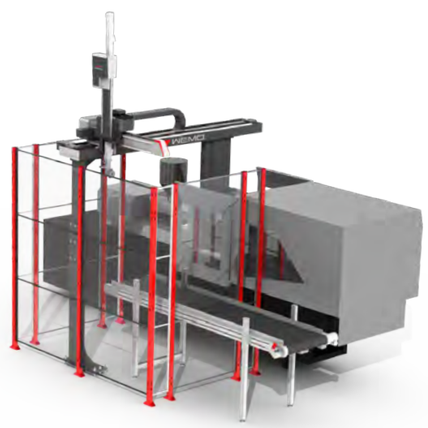


Configurations for your need

Efficient reduce of floorspace

Whatever the layout of your factory, there are several solutions how you can use our robot systems. The most cost-efficient and popular way is the rear side application.

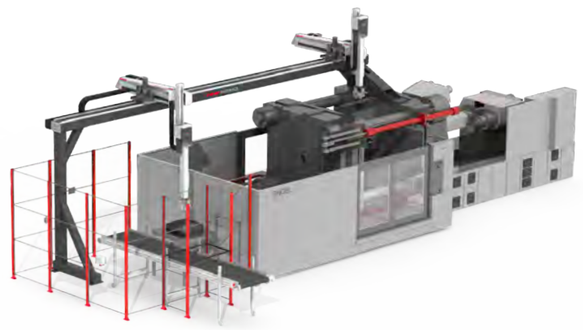
Let us show you other solutions according to your needs.



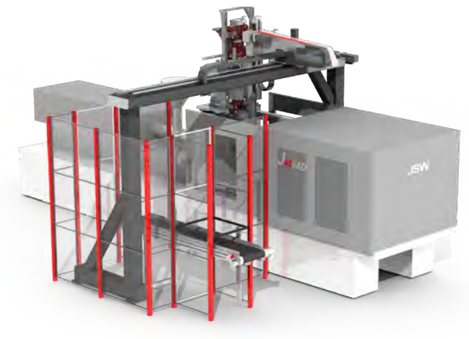
Rearside
(non operator side)



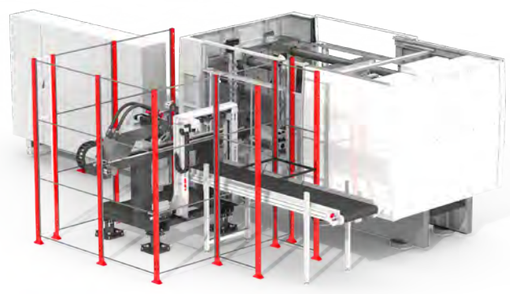
Operator side



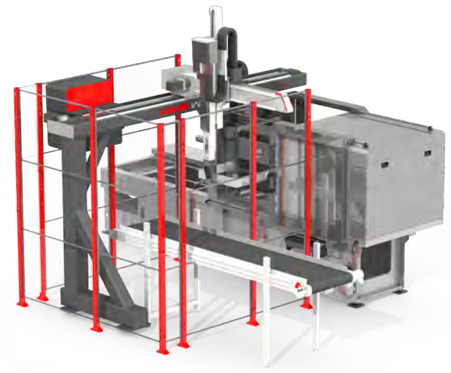
Lengthwise with tandem solution
(two independent robots on one Z-axes)



Opposite entry
(multi component)



Side entry



Angel mounted arm
(two independent robots on one Z-axes)

Wemo’s linear robot program

Wemo offers various types and sizes of robots, suitable for the most common types of machines. The range spans from 25 to 4,000 tons with over 24 different combinations. In other words, you can be confident that there will always be an optimal solution of linear robots for your production.

3-5 Linear Picker



Technical data		3-5 Linear Picker
Machine size	ton	25-250
Maximum payload (Part + EOAT)	kg	2,3
3-axis servo drives		•
Sprue gripper with sensor		•
C-axis, Pneumatic		Option

s = single Y-arm T = telescopic Y-arm

eDesign LT



Technical data		6-5	8-5	16-5
Machine size	ton	25-200	75-300	250-500
Maximum payload (Part + EOAT)	kg	4,0s / 3,0t	7	13,0
3-axis servo drives		•	•	•
C-axis, Pneumatic		•	•	•

eDesign SE



Technical data		6-5	8-5	16-5	16-7
Machine size	ton	25-200	75-300	250-500	300-650
Maximum payload (Part + EOAT)	kg	4,0s / 3,0t	7	13,0	15,0
3-axis servo drives		•	•	•	•
C-axis, Pneumatic		•	•	•	•

eLine



Technical data		250
Machine size	ton	500-1000
Maximum payload (Part + EOAT)	kg	25,0
3-axis servo drives		•
Moveable X-beam		•
C-axis, Pneumatic		•

Linear robots xDesign



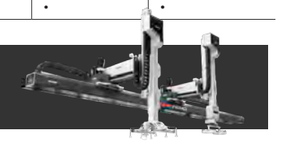
Technical data		6-5	8-5	8-7	16-5	16-7
Machine size	ton	25-200	75-300	75-450	250-500	300-650
Maximum payload (Part + EOAT)	kg	4,0s / 3,0t	8,0s / 10,0t	12,0t	13,5s / 16,0t	18,0t
3-axis servo drives		•	•	•	•	•
Fixed X-beam		•	•	•	•	•
C-axis, Pneumatic		•	•	•	•	•

Linear robots xLine



Technical data		120	250	400	600	800
Machine size	ton	150-650	500-1000	800-1500	1300-2500	2000-4000
Maximum payload with Pneu. C-axis (Part + EOAT)	kg	18	33	48	80	110
Maximum payload incl. 5 servo axes (Part + EOAT)	kg	12	25	40	60	80
3-axis servo drives		•	•	•	•	•
Moveable X-beam		•	•	•	•	•
C-axis, Pneumatic		•	•	•	•	•

Linear robots Tandem



Technical data		120	250	400	600	800
Machine size	ton	150-650	500-1000	800-1500	1300-2500	2000-4000
Maximum payload with Pneu. C-axis (Part + EOAT)	kg/arm	18	33	48	80	110
Maximum payload incl. 5 servo axes (Part + EOAT)	kg/arm	12	25	40	60	80
2x 3-axis servo drives		•	•	•	•	•
Moveable X-beam		•	•	•	•	•
C-axis, Pneumatic		•	•	•	•	•

Linear robots sDesign



Technical data		8-5	16-5	7-5	12-5
Machine size	ton	75-350	150-500	100-400	200-650
Maximum payload (Part + EOAT)	kg	3	5s/5t[1)]	3+3	5+5
2-axis servo drives				•	•
3-axis servo drives		•	•		
C-axis, Pneumatic		•	•		
Top entry		•	•		
Side entry				•	•

[1)] Reduced acceleration/retardation for telescopic arm



3-5 Linear picker

Flexible partner for small detail handling

Integrating a linear picker instead of existing pneumatic solutions offers many advantages. Thanks to its compact and space-saving design, it is possible to integrate the CE-approved robot within the machine enclosure. This means there is no need for external safety measures on the floor, making the installation both simple and quick.

Our well-recognized, user-friendly interface ensures that the robot is up and running quickly.

You can choose to integrate the 3-5 Linear Picker into the injection molding machine or in the conventional way, over the machine guarding, allowing for longer strokes.

The robot comes standard with a powerful gripper for injection molds. The gripper is equipped with a part-detecting sensor and a vacuum circuit with an energy-saving mode for minimal energy consumption.

There are possibilities to expand the robot's functionality, such as longer stroke length, wrist axis, and additional vacuum.



ADVANTAGES 3-5 Linear Picker for sprue & part handling

- √ More than just a picker for sprue! Use it for small detail handling
- √ A variety of options
- √ Easy and user friendly programming
- √ Low operating costs
- √ Space saving
- √ Installed preferably inside machine guarding for a compact solution

eDesign LT and eDesign SE

Get a solution tailored to your need

Wemo's well-known robot series eDesign has been further developed into two model series: the simpler eDesign LT and the more comprehensive eDesign SE. Both are designed for pick-and-place applications and flexible automation.

The series focuses on economy, efficiency, and energy savings to make your production competitive.

The linear robots feature AC servo motors in all three axes, enabling simultaneous 3D movement with high speed and precision. Planetary gearboxes are used to maximize output power.

eDesign LT

The model range handles weights from 4 kg up to 13 kg and machine sizes from 25 to 500 tons. The robots are equipped with safety systems that can be connected to safety gates, the belt pacing box W-PIC9, and other available options such as W-IOB2, QuickLock, and W-OP3-LT.

eDesign SE

The eDesign SE model range consists of four models that handle weights from 4 kg up to 15 kg and machine sizes from 25 to 650 tons. The safety system enables the opening of the rear machine guard on an injection moulding machine. eDesign SE robots can be connected to other devices with safe I/O connections. By choosing eDesign SE, you also have the option to connect standard boxes for advanced belt control, light curtains, and similar.

Options

To meet your needs, you can choose from several options. We offer a wide range of axis extensions, telescopic vertical axes, additional rotation axes and additional vacuum and gripper functions.





ADVANTAGES eDesign LT for flexible automation

- √ Fast ROI (Return of Investment)
- √ Space saving
- √ Simple set up
- √ Smooth transition between different tools
- √ WIPS

ADVANTAGES eDesign SE for a versatile automation solution

- √ Versatile application
- √ Space saving
- √ Simple set up
- √ Smooth transition between different tools
- √ WIPS



eLine

Your partner for flexible picking and automation solutions

Just like in the sister series, Wemo eDesign, the 'e' in eLine stands for economy, efficiency, and energy savings. In short, this means that the robot investment quickly yields a return on investment, enhancing your competitiveness while simultaneously reducing energy consumption.

Wemo eLine

The model range eLine 250 handles weights of up to 25 kg, meeting the requirements for machine sizes from 500 to 1,000 tons.

Optional Features

It's possible to equip the eLine series with several useful features for high flexibility. A wide range of axis extensions, telescopic vertical axis, an additional rotation axis, and up to 4 vacuum and 4 gripper circuits are available.

Flexibility

The robot series is designed with AC servo motors in all three axes for simultaneous movement (3D), ensuring speed and high precision. This is crucial for the insertion of parts or assembly operations. The planetary gearboxes result in maximum output efficiency.



ADVANTAGES eLine grows with the task

- √ Handle large areas
- √ Stable with heavier products
- √ Simple set up
- √ Smooth transition between different tools
- √ WIPS

xDesign

For those of you seeking robots for complex automation solutions

Wemo's popular product group, xDesign, is developed for plastic industry customers in search of fast and intelligent top entry robots for complex automation solutions. The robot is crafted with an exceptional level of performance that truly stands at the forefront of excellence.

The xDesign series allows you to integrate other machines into the automation, either now or in the future. The robot is a perfect choice when running shorter series with frequent changeovers.

For flexible use

The robot series covers machine sizes from 75 to 800 tons. Top entry robots are faster than other types of robots, and the performance package is standard.

xDesign robots can control up to 6 additional servo axes without the need for an additional controller.

The robot will function as a master unit in the automation architecture. To meet your specific requirements, you can choose from several options. Examples of options include central lubrication, servo rotations, and communication with other systems.





ADVANTAGES xDesign for flexible high end solutions

- √ For more complex automation
- √ Standard equipped with W-HP12 WIPS 4.0
- √ Control of up to 6 additional servo axes
- √ No need of additonal controller
- √ Easy and user friendly programming
- √ Simple set up



xLine

The right choice for multi-component machines

The xLine series is an excellent choice for injection moulding of technical parts. The movable X-beam results in a more compact utilization, making it particularly suitable for handling larger components, such as those in the automotive industry.

The series covers machine sizes from 150 to 4,000 tons. The robot series handles weights ranging from 12 to 80 kg and is an excellent partner for multi component machines with vertical injection units.

Efficient use of the robot

The robot's movements are powerful and dynamic, equipped with servo-driven rotational axes. Overall, this means that you can advantageously use the xLine for multi-operation tasks such as assembly, quality control, and packing.



ADVANTAGES xLine for flexible use

- √ Compact use when handling larger parts
- √ Perfect for assembly, quality control and packing
- √ Easy and user friendly programming
- √ Simple set up

Tandem

Two robots on the same z-axis

Do you recognize yourself? In order to achieve a more cost-effective production, you've added additional operational steps outside the injection moulding machine. Examples of these steps include assembly, inspection, and packing in boxes. You find that robot movement becomes an obstacle to achieving the desired cycle time.

Let us introduce the Tandem solution, which involves mounting two robots on the same main axis (Z-axis). The necessary operational processes are divided and eliminates the need for installing two separate robots within the cell, thus optimizing space utilization.

The control of the two robots is easily accomplished with a hand-held control unit.

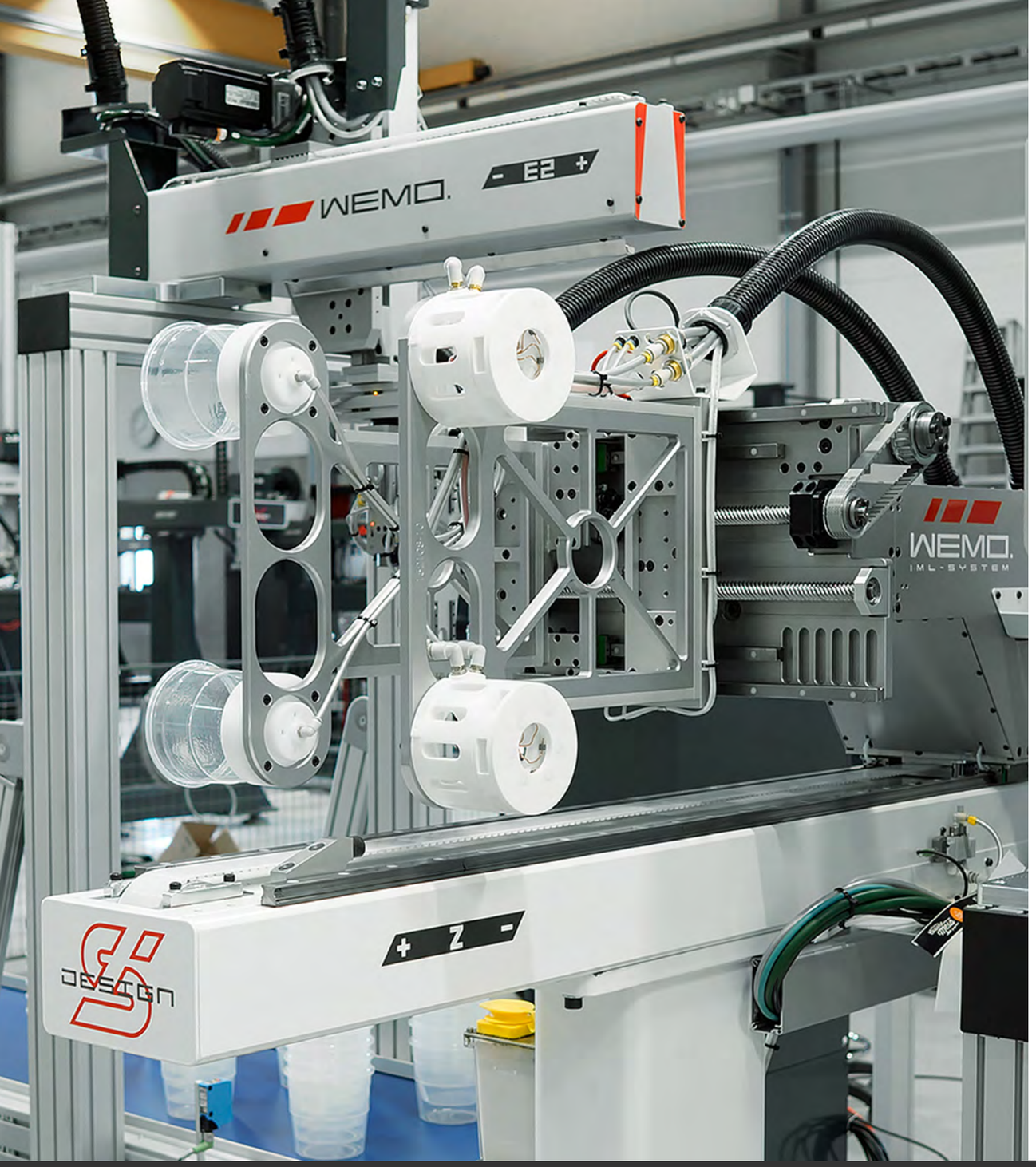
The tandem robot covers machine sizes ranging from 150 to 4,000 tons.





ADVANTAGES Tandem – 2-in-1

- √ Cost effecient with 2 robots on the same z-axis
- √ One control for both robots
- √ Space saving
- √ Easy and user friendly programming



sDesign

Lightning-fast response time

The fast and reliable sDesign series is inspired by racing cars for maximum endurance at high speed. Intelligent software optimizes communication and performance, enabling shorter cycle times for sustainable, fast production.

High output based on standard

Top entry robots are fast. They exhibit high precision and are capable of rapid operations such as picking and packing thin-walled details. sDesign robots act swiftly and excel in operations like picking and stacking parts or supplying labels for IML applications. Adding a servo-driven stacking unit can bring the total cycle time down to less than 3 seconds! If you have the option to run the machine with the rear door open, you can use sDesign with an angular-mounted arm for lower applications.

Available with side entry

The sDesign series covers machine sizes ranging from 75 to 500 tons and is also available for side-entry applications, which is the fastest robot configuration. Models 7-5 and 12-5 are the optimal solution for packaging and production of medical parts with a higher number of cavities. sDesign side-entry robots cover machine sizes from 100 to 650 tons

For integration with labelling solution

The Wemo IML & IMD System is a professional solution for the labelling process in plastics industry.



ADVANTAGES sDesign – high output based on standard

- √ Very fast
- √ High output based on standard
- √ Shorter cycle time
- √ Available for side entry application
- √ Easy and user friendly programming
- √ Simple set up



Powerful W-HP12 WIPS 4.0

A clear and understandable interface is the highest priority to make the work easier. The hand-held controller W-HP12 is ergonomic and with a light weight design for more comfortable use for programmers and operators. The high resolution 10.1" full colour screen is now used in portrait format for better overview of status and program structure.

Our functional design is one of the most user-friendly systems. Simple symbolic icons and self-generated program lines guides the operator through various alternatives and results in short operator learning times.

Flexible system architecture

With the open architecture of the WIPS controller, it's possible to control not only the robot but also external axes and automation. This results in more stable functions, reduced costs, and simplifies operation, maintenance, and service.

The controller and software platform are prepared for Industry 4.0, with a predefined OPC-UA interface and cloud connectivity. You can easily connect to an MES system in your factory.

With access to various bus systems, the WIPS controller is perfect for controlling different automation solutions. The built-in PLC editor makes it easy to create programs to receive, process, transmit, and control data for all connected automation units.

In all Wemo linear robots, the hardware design is based on Plug & Play connections with modules using W-link. This leads to fast and easy installations, stable functions, and reduced costs when expanding automation.





- Operation main view with personal settings
- Process monitoring, status and outputs
- Wizard dialogue, symbolic programming
- FUB editor. Function block program
- PLC editor. Ladder program
- Swipe functionality
- Can control external axes and communicate with several types of equipment
- Plug & Play connection

CONNECT



Wemo Connect gives you full control over machines and robot cells – around the clock

Wemo Connect is a user-friendly tool for those who want to stay updated on what's happening in production, no matter where you are. Connect comes as standard in Wemo's premium products - xDesign, xLine, sDesign, and xPacker. Starting from 2023, Wemo Connect 4.0 is included in all Wemo robots.

Do you have robots and other equipment from other manufacturers? No problem – you can connect them to Wemo Connect. In fact, you can even add the coffee machine if it's of a more modern design.

Once you have created your Wemo Connect account, you quickly gain access to mechanical drawings, wiring diagrams, and other documentation for the company's robots, conveyor belts, smart drives, and other equipment.

The documentation is available in the background and can be opened, downloaded, and printed as needed.

Via Wemo Connect, you can also conveniently access the latest manuals and spare parts lists directly from the app.



ADVANTAGES Wemo Connect App

- √ Stay in control and feel secure even when you're not on-site
- √ Reduces downtown
- √ Error alarm through push notifications
- √ Information/knowledge at your fingertips regarding status for outcome, cycle time, etc
- √ Overview of different facilities



Enhance productivity with Wemo options

Even if your Wemo robot is well-equipped from the start, our options can enhance productivity in your facility. The key is that your investment increases your profitability.



Support

Wemo has an active support network in more than 40 countries around the world. Our support team is dedicated to solving any issues you may have as quickly as possible



Education/optimizing

WIPS is user-friendly, but expertise is key. We train and support your team from operators to programmers for optimized production.



Safety Guarding

Wemo's safety guarding is a comprehensive system for quick implementation in automation, meeting the 2009 Machinery Directive's requirements for permanent guards.



Smartdrive

Our dynamic mechanical systems, featuring integrated energy chains, come in various sizes and strokes. For high-efficiency output, planetary gearboxes are standard in all axes.



Grippers

Wemo offers a wide range of grippers, including vacuum cups, gripping pliers, air nippers, and more.



Conveyors

Wemo offers various types of conveyors: horizontal, inclined, and conveyor systems for box handling.



A/C or B/C servo 5 axes combinations

Compact rotation axes for more flexibility and cost effective applications. This ensures faster and more accurate position for your automation.



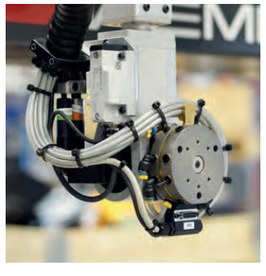
External operator panel

The touch-screen panel is a solution when you need access near the IMM control panel.



Bus communication between robots

Robots can be connected by Ethernet powerlink and integrated safety functions for more complex automation solutions.



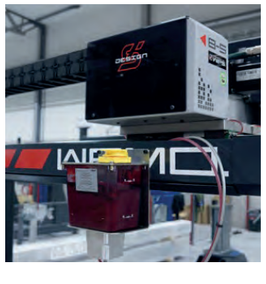
Identifying system

The QuickLock gripper change system can be added with an RFID reader to identify the right type of gripper, and open the actual program in the editor of the robot.



External servo axes control

With the WIPS control system it’s possible to control up to 6 external servo motions from the hand-held panel on the robot.



Automatic central lubrication

The robot calculates the used distances and ensures optimised quantity of lubrication for maintenance-free operation.



Plug & play with W-link

In all Wemo linear robots the hardware design are based on Plug & Play connections with modules for directly communication by W-link.



Safety switchers

Complies with CE safety regulations EN2006/42/EC with electromagnetic locking and coded contactless function.

xPacker

Material Handling

Where there's a robot, there's often a need for material handling. Are you looking for a flexible solution for tasks like stacking/unstacking boxes onto and from different pallets? Then you need to acquaint yourself with Wemo xPacker. There are many advantages.

- √ Plug & Play functionality
- √ Dialogue for stacking or unstacking
- √ Easy to program
- √ Saves floor space – the robot operates on top of the application
- √ Long reach
- √ Cost-effective
- √ Complete package with robot, E.O.A.T (End of Arm Tooling), incoming conveyor, pallet station, integrated safety

Innovative solutions

Wemo xPacker 50 – filling details in boxes

xPacker 50 is our smallest option, ideal for placing details in plastic or cardboard boxes. The details are lined up at the entrance belt, and the packed boxes then move through xPacker on the wider conveyor belt.

Wemo xPacker 200 – two pallets and a paper station

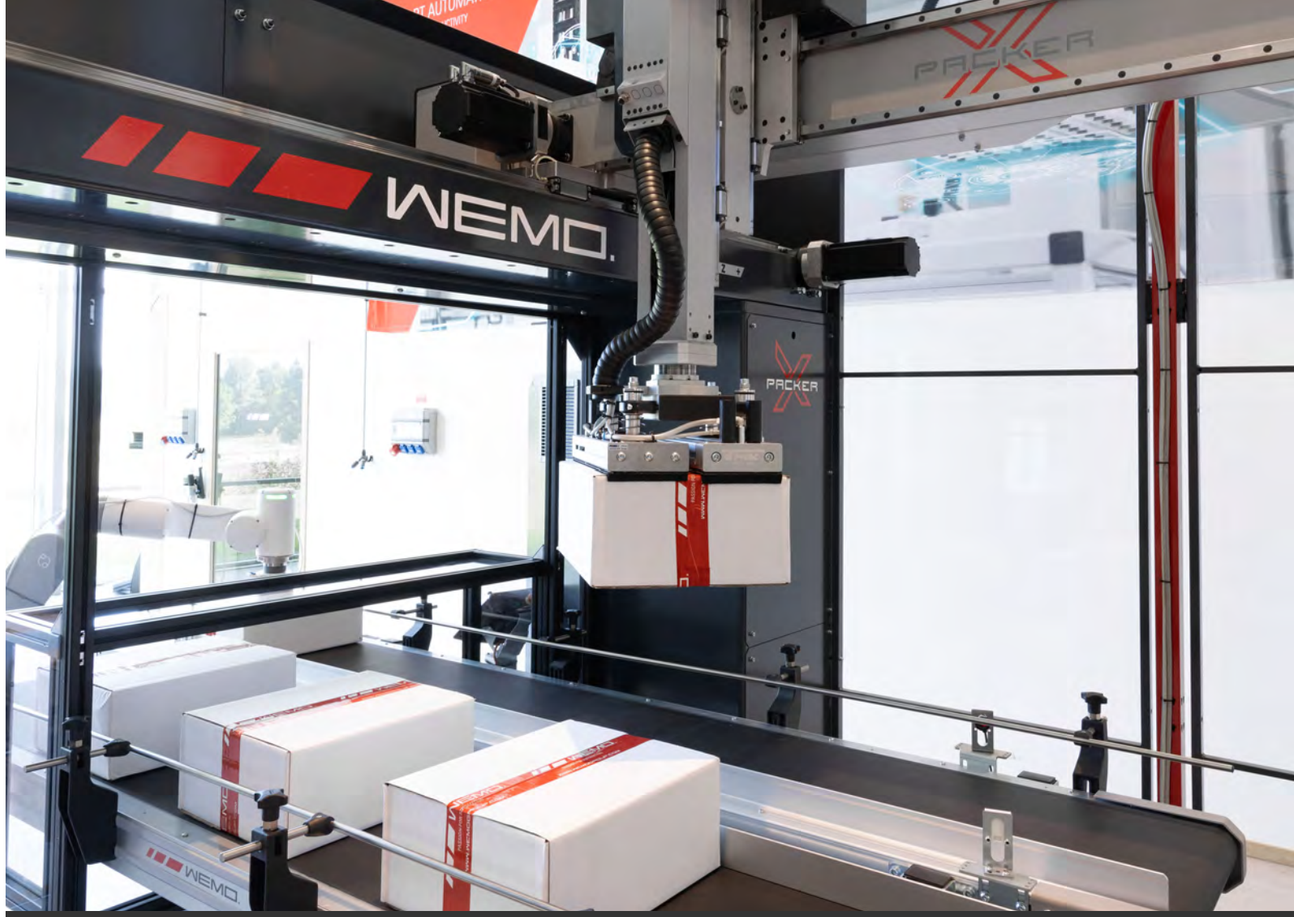
xPacker 200 offers an expanded workspace for two pallet stations directly on the floor and a buffer station for cardboard paper sheets. Between the paper sheet and the pallet, there is the transport for details.

Wemo xPacker 200 – with two rows of pallet conveyors

xPacker 200 can also be positioned directly after an assembly line. The empty pallets are transported on the lower level of the conveyor system, and the filled pallets are transported out on the upper conveyor.

Wemo xPacker S – for palletizing plastic tubes in the extrusion line

Plastic tubes are continuously produced in an extrusion line and buffered to a pickup station. The xPacker robot picks up three tubes at a time and places them on a steel frame pallet.



PACKER

- √ Reduced floorspace because the robot works above the working area
- √ High capacity by using fast speed servo motions
- √ Flexible laying of patterns with integrated rotation axes
- √ Easy to integrate and expand by adding conveyor, pallets conveyors etc.
- √ Low energy use because of eco function motion and vacuum save system

Linear robot technology at its strongest

Wemo is one of the world's leading manufacturers of linear robots. In addition to our robots, we also offer user-friendly software, valued accessories, and material handling solutions that enhance the sustainability, productivity, and profitability of our customers.
We are represented in over 40 countries worldwide, and through both our own dedicated support team and our resellers', we streamline our customers' production processes, regardless of the industry.

Since May 2023, we are a proud part of the Yushin Group. Yushin is one of the world's foremost manufacturers of cartesian robots and automation solutions for the plastic industry. The company was founded in 1973 and consists of 700+ employees, 14 subsidiaries, and agents. Yushin is represented on almost every continent.

WEMO.

WE MOve things forward

YUSHIN GROUP

www.wemogroup.com