

PaIX SMART PALLETISING SOLUTIONS



NEXSTEP ROBOTICS

PaIX SMART PALLETISING SOLUTIONS

- Complete installation and debugging within **1 hour**
- Set a new stack type within **5 minutes**
- **9 to 20** boxes per minute
- Create up to **1,000** palletising paths for a single recipe

Flexible collaborative robot

Heavy-payload flexible collaborative robot for palletising, with a maximum payload of 45 kg, which is safe, efficient, and cost-effective

Workstation base

Portable mobile fixed/lifting base The maximum palletising height is 2,600 mm

Palletising process package

13.3-inch high-sensitivity capacitive touch screen intelligent palletising package, 0 programming

Pallet positioning system

Pallet detection and mechanical positioning system, with auxiliary positioning accuracy of 1 mm



Create a Zero-Code intelligent palletizing solution for customers

- The maximum supported pallet size is **1.400 x 1.400mm**
- Stack **2 types of** products at a time
- Support **label orientation**
- Achieve free switch between **single mode and double suction mode**

End suction cup

High-suction sponge/vacuum suction cup
Applicable to products of various sizes, weights, and materials

Control button

One-key start, pause, emergency stop, and reset of the device

Roller line (optional)

Adjustable height 650 mm-730 mm for quick adaptation to the production line

Electric box control cabinet

Self-developed highly integrated control cabinet with low energy consumption

Safety system (optional)

Partition cooperation mode and safety stop function are available due to optional safety lidar/safety grating



Product Advantages

45kg

Ultra-High Payload

Optional professional 5-axis collaborative palletizing robot
Easily adapts to food & beverage, medical, daily chemical industries

9 ~ 20 boxes/min

Ultra-High Efficiency

Singularity-free design for smooth movements
Global vibration suppression tech ensures fast & neat operation

TÜV-Class

Ultimate Safety

≥21 TÜV safety certifications, German TÜV functional safety certified (whole machine)
SIL3 independent safety controller with dual-channel redundant monitoring

0-Code

Fast Deployment

Graphical programming & drag teaching for quick mastery (no experience required)
Automatic pallet pattern & path generation, 5-minute rapid palletizing type change

Joint Force Sensing

Tech Upgrade

Built-in joint torque sensors (no extra installation)
Extremely sensitive flexible drag teaching & collision stop

Multi-Functional

Flexible Production

500+ programs storage; quick switch between single/double grippers & single/dual lines; flexible production via multi-robot collaboration
Expandable IO, full bus communication, adaptable to various scenarios

Palletising Process Package

Visual configuration

4-step setup for new palletising patterns



i. Set pallet size



ii. Set product size

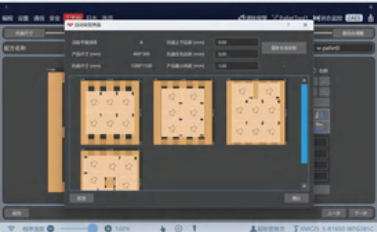


iii. Automatically generate palletizing pattern



iv. Set stacking style

Auto Palletising Pattern



- Supports automatic generation of various palletising patterns, array, cross, and loop, based on pallet or box dimensions. Custom patterns can also be defined. The palletizing layout can be configured in just 2 minutes, greatly improving setup efficiency.

One-Click Product Changeover



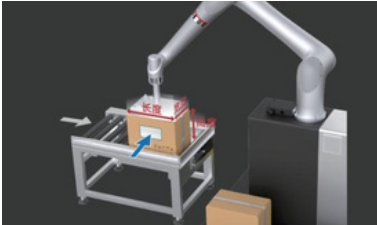
- The operation interface supports one-click changeover for fast and efficient product switching.

Multi-Grip Modes



- Supports multiple gripping strategies, including multi-pick & multi-place, multi-pick & sequential-place, and single-pick & single-place, improving palletising efficiency by up to 80%.

Labeling



- Allows unified label orientation and configurable box entry direction to meet more complex palletizing requirements.

Technical Parameters

PaIX ONE PaIX-ONE-L PaIX TWO PaIX TWO-L PaIX THREE PaIX FOUR

Maximum payload* (including suction device)	17 kg		25 kg		35 kg	45 kg
Maximum working radius	2,047 mm		1,798 mm		2,246 mm	1,947 mm
Maximum palletising height* (including pallets)	1,950 mm	2,450 mm	1,650 mm	2,150 mm	2,200 mm / 2600 mm*	1,850 mm
Maximum palletising speed*	Single grip: ≤10 boxes/minute			Dual grip: <20 boxes/minute		
Repeated positioning accuracy	±0.05 mm					
Communication mode	TCP/IP , Modbus TCP, EtherCAT, Profinet, Ethernet/IP, DeviceNet, CC-Link, CC-Link IE Field Basic					
IO quantity	32 digital input, 32 digital output					
IP protection level	IP67 for robot body					
Temperature range	0 ~ 50℃					
Power source	AC 200-240V, 50-60Hz					
Maximum power	2.5 kw	3.5 kw	2.5 kw	3.5 kw	4 kw	4 kw
Total weight*	About 400 kg	About 450 kg	About 400 kg	About 450 kg	About 800 kg	About 800 kg
Floor area	1,300 mm × 1,650 mm				1,600 mm × 1,650 mm	
Minimum Factory Height	3 m	3.6 m	2.5 m	3.1 m	3.5/3.8 m	2.7 m
Compatible product size	Length (250-550) mm × width (200-500) mm × height (150-400) mm, those of special sizes shall be equipped with a suction device					
Safety function	Support over 21 adjustable safety functions such as collision detection, virtual wall, and cooperative mode					
Certification	ISO/TS 15066, ISO 13849-1/PL d, ISO10218-1, ISO 12100, EU CE Certification, NSF Certification					

- When configured with the accompanying suction cups, the maximum payload of the product without end effectors is 14 kg, 20 kg, 30 kg, or 38 kg.
- The actual palletising speed depends on product characteristics and palletizing pattern; for single-piece handling, the maximum palletising speed is 10 boxes/min.
- The actual palletising height depends on product dimensions, palletizing pattern, and gripper type. When using a 1200 mm × 1200 mm pallet, the maximum palletizing height can generally be achieved.
- The actual minimum factory height depends on the actual palletising height. When using a 1200 mm × 1200 mm pallet and reaching the maximum palletising height, the above minimum factory height applies.

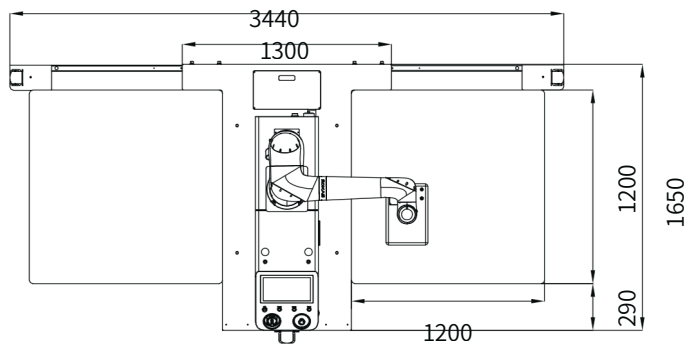
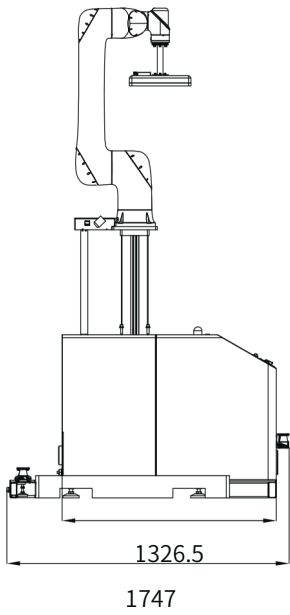
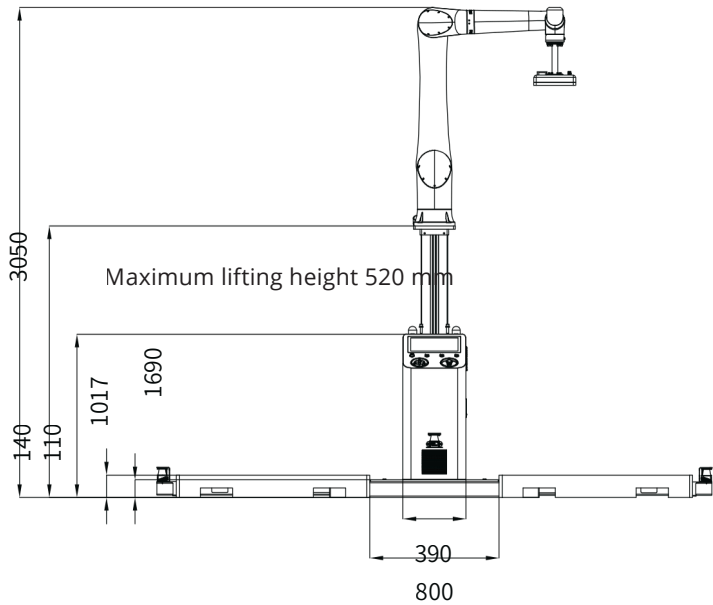
Configuration List

Name	Quantity	Option	Remarks
Collaborative robot	1	Standard configuration	CR20 series or CR35 series collaborative robot, controller
Electric box control cabinet	1	Standard configuration	Integrated control cabinet
Workstation base	1	Standard configuration	Mobile fixed column/lifting column base, pallet positioning system
Palletizing process package	1	Standard configuration	Programming-free palletizing process package
End suction cup	1	Standard configuration	High-suction pneumatic sponge suction cup
Safety system	1	Optional	Safety radar/safety grating/safety vision/safety fence
Roller line	1	Optional	Length 1,000 mm × width 750 mm × height 650 mm

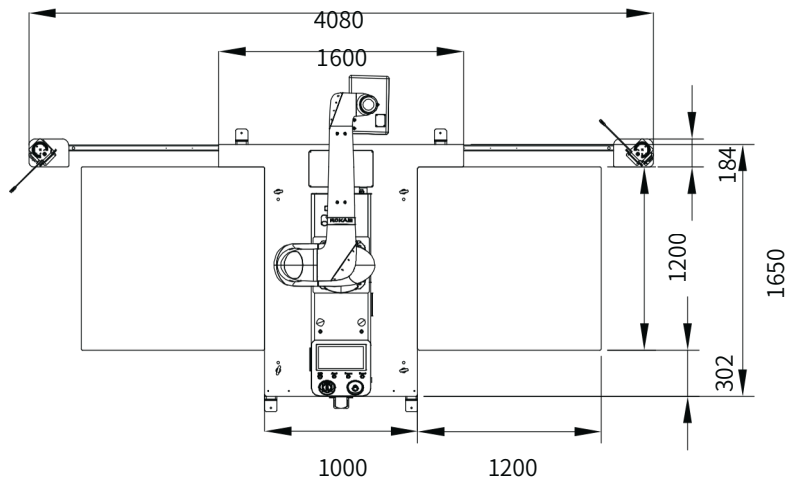
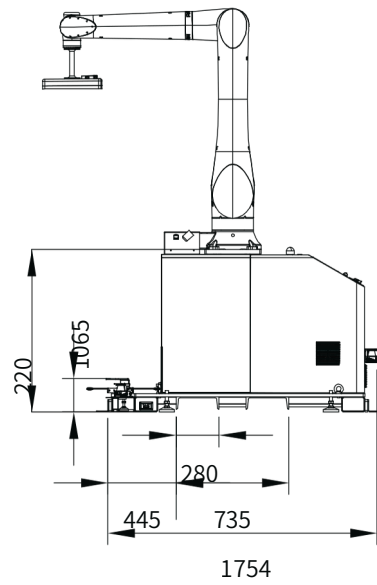
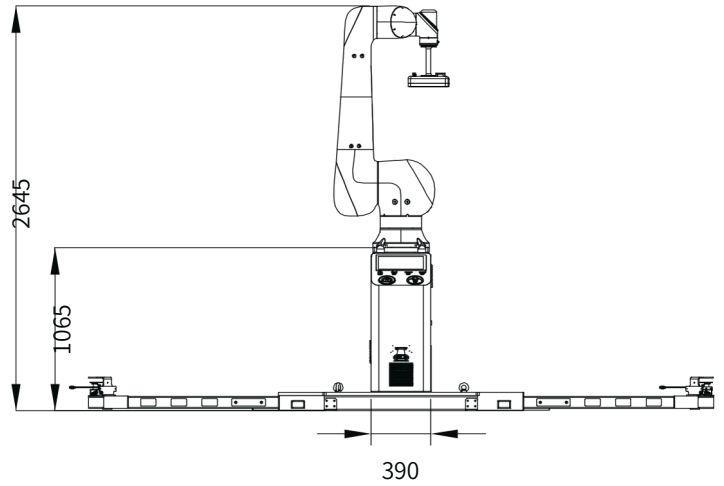
Product Dimension Diagram

Unit: mm

PaIX TWO-(L) and below



PaIX THREE-(L) and above



Applications

Food & Beverage Industry



Pet Treat Carton Palletising



Condiment Carton Palletising



Solid Beverage Carton Palletising



Alcoholic Beverage Carton Palletising



Bread Carton Palletising



Snack Carton Palletising

Pharmaceutical Industry



Chemical Drug Carton Palletising



Medical Supplies 3D Vision Depalletising



Medical Supplies Carton Palletising



Traditional Chinese Medicine (TCM) Formula Carton Palletising

Daily Chemical Industry



Plastic Product Carton Palletising



Cleaning Supplies Carton Palletizing

Small Home Appliance Industry



Home Appliance Carton Palletising

New Energy Industry



New Energy Aluminum Battery Case Palletising



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