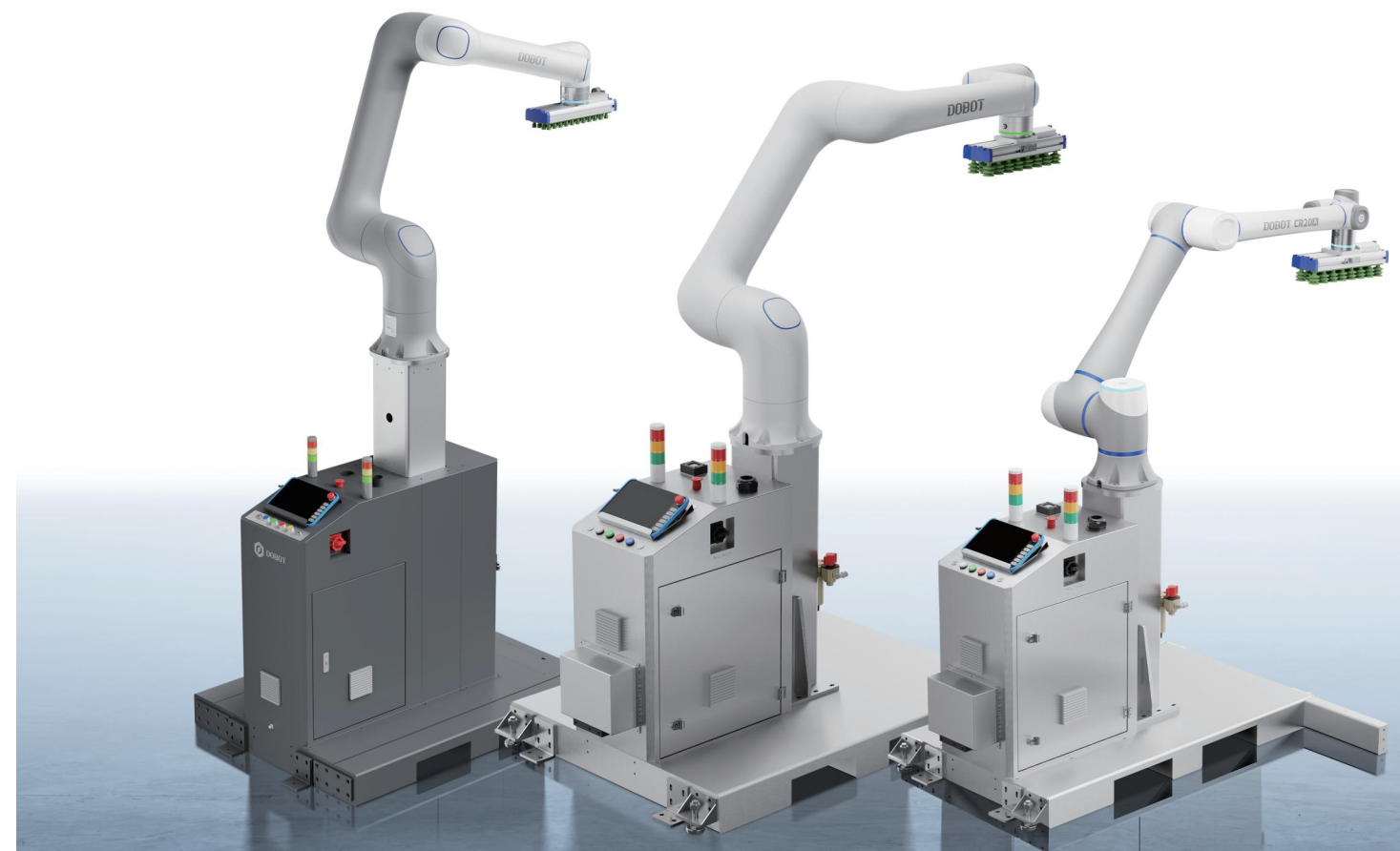




DOBOT Smart Palletizing Solution

Empower Your Production Line with Flexible and Efficient Productivity

Wide Payload Range: 0–30 kg
Full Compliance with CE & UL Safety Certifications

-  www.dobot-robots.com
-  sales@dobot-robots.com
-  www.linkedin.com/company/dobotrobotics/
-  www.youtube.com/@DobotRobotics
-  China | Germany | USA | Japan | Thailand | Malaysia



D20260528

CONTENT

Industry Challenges & Pain Points	02
Core Advantages of Heavy-Duty Collaborative Robots	03
CR 30H Palletizing Workstation	05
CR 30H Stainless Steel Column Palletizing Workstation	07
CR20A Palletizing Workstations	09
CR20A Steel Stainless Columnar Palletizing Workstation	11
Compatible Vacuum Gripper (Optional)	17
Safety Protection Kit	19
Successful Application Scenarios	21



The True Cost of Palletizing: It's Not Just About Labor

While traditional manual workflows and aging automated systems may seem sufficient, they often conceal hidden inefficiencies that steadily undermine your bottom line.

Heavy Cost

- **Labor Limitations:** Manual palletizing struggles to maintain 24/7 efficient operation, often requiring multiple shifts that indirectly drive up labor expenses. Additionally, challenges in recruiting skilled workers, lengthy training cycles, and high turnover rates result in ongoing hidden costs and management burdens.
- **Rigid Automation:** Traditional palletizing systems occupy large footprints, involve complex programming, and face slow deployment with high upfront investment. Their lack of flexibility also leads to significant time and financial investments when adapting to production line changes or process updates.

Efficiency Bottlenecks

- **Human Limitations:** Manual palletizing is constrained by physical stamina, height restrictions, and fatigue, making it difficult to match the pace of high-speed production lines. This creates a critical efficiency gap that directly impacts order fulfillment capacity. During peak seasons, such limitations often lead to missed order opportunities due to inability to keep up with demand.
- **Inflexible Automation:** Traditional automated palletizing systems require complex setup and prolonged changeover times, struggling to adapt to modern "high-mix, low-volume" production demands. Frequent product changeovers result in extended downtime, causing significant capacity loss and negatively affecting overall production line efficiency.

Quality Risks

- Manual palletizing often leads to counting inaccuracies, misaligned layers, and operational mistakes. These issues result in unstable patterns and product collapse, increasing damage rates and causing repeated production disruptions and customer complaints.
- Inconsistent human performance restricts achievable stack height and load uniformity, making standardization difficult. This not only reduces storage density but also creates hidden risks for subsequent transport and storage, negatively impacting overall operational efficiency.

Safety Concerns

- Palletizing involves highly repetitive, physically demanding tasks. Long-term exposure places workers at risk of occupational injuries including chronic back strain and spinal damage. Workplace accidents can lead to compensation claims, production delays, and reputational harm.
- Conventional palletizing systems offer inadequate safety protections. This is especially problematic during manual interventions or collaborative operations, where impact and pinch hazards present direct risks to personnel.

DOBOT CR 30H Born Powerful

Industry's Fastest 30kg
Cobot for Peak Productivity

High-Speed

High-Performance

High-Stability



Strong | High Performance

30 kg Payload

Ideal for heavy-duty handling in food production, chemicals, logistics, and automotive.

1800 mm Reach

Engineered for large-scale production and ideal for heavy-part handling and seamless multi-station workflows.

Fast | High Speed

300 °/s Industry-leading Wrist Joint Speed

Precision Motion Control - Swift yet stable handling & palletizing.
Boosted Efficiency - Maximizes production throughput.

Stable | High Stability

Stable Operation under High Speed & Heavy Load

Advanced vibration suppression and TrueMotion path correction ensure jitter-free precision at full-speed production.



Next-gen Flagship Performance

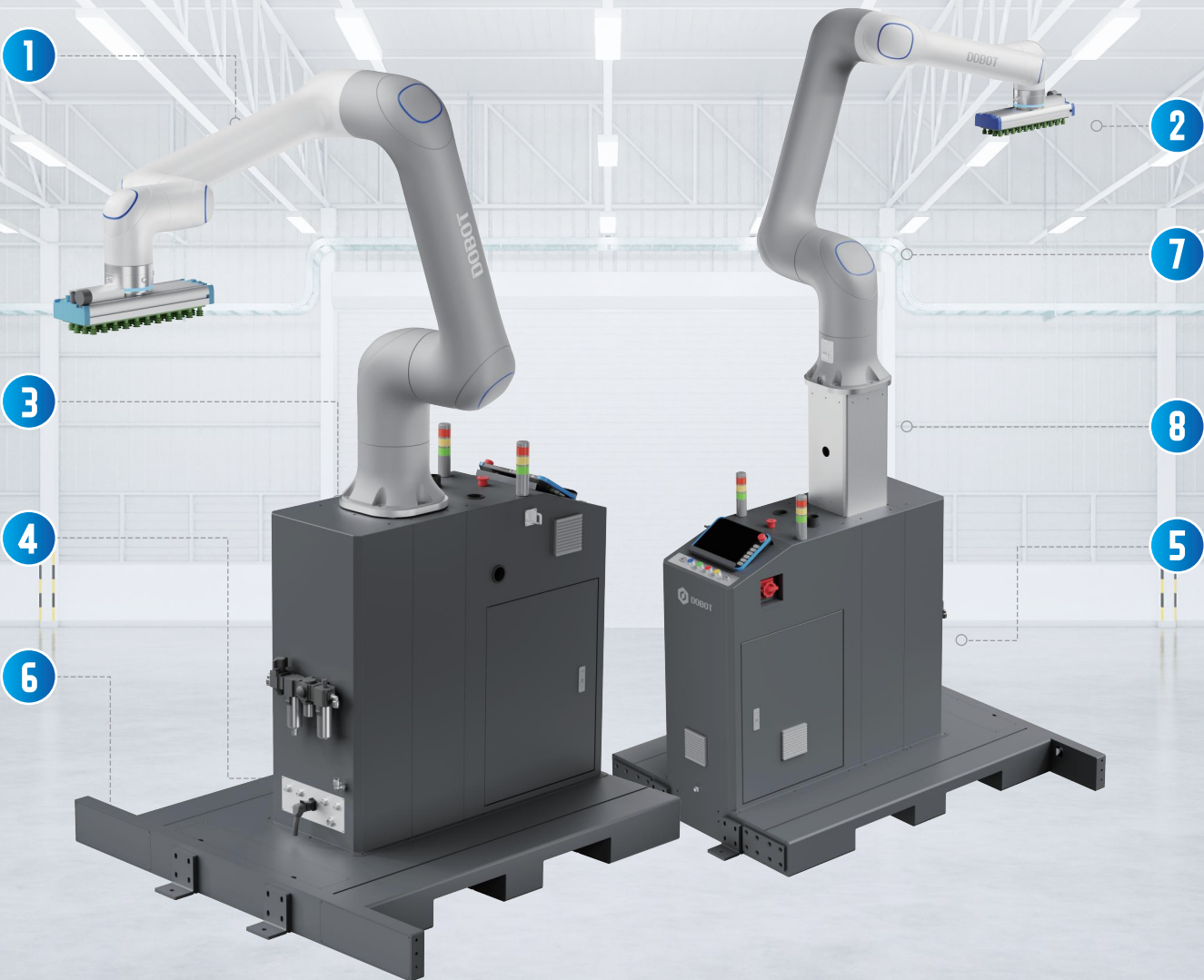
Designed for high-end industrial automation, the CR 30H redefines heavy-duty collaboration with unmatched payload, speed, and stability. Its record-breaking 300°/s wrist joint speed—fastest in its class—delivers next-level productivity.



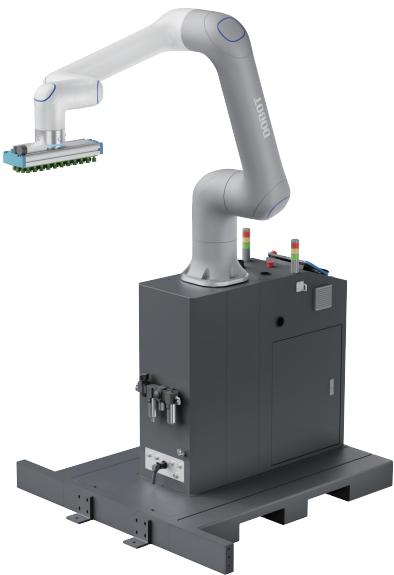
Uncompromising Quality

With over 80,000 cobots deployed and 200,000+ customers worldwide, DOBOT delivers proven reliability through 160+ precision assembly steps and 200+ rigorous quality tests. Combining peak performance, productivity, and durability, we've become the trusted automation partner for manufacturers globally.

CR 30H Palletizing Workstation



- 1** DOBOT CR 30H Collaborative Robot
- 2** End-Effector Vacuum Gripper (Optional)
- 3** Fixed Mounting Column
- 4** External Terminal Panel
- 5** Standard Palletizing Base
- 6** Pallet Detection & Positioning System
- 7** 2,590mm Max. Palletizing Height
- 8** Adjustable Lifting Column



CR 30H Columnar Palletizing Workstation



CR 30H Lifting Palletizing Workstation

Choose the Right Palletizing Solution

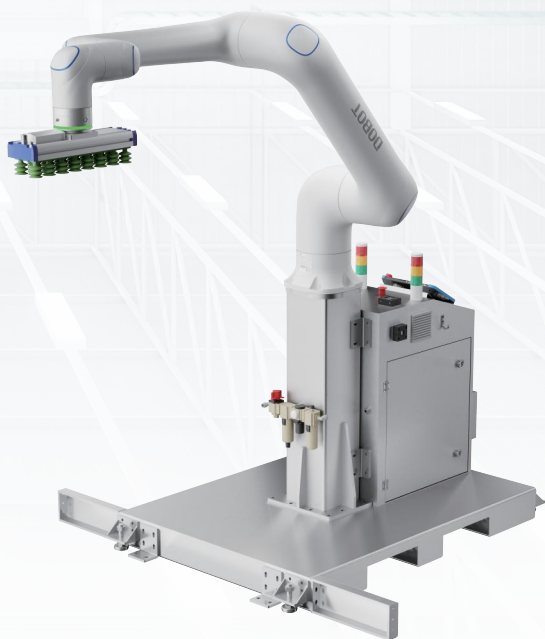
Specification		CR 30H Columnar Palletizing Workstation	CR 30H Lifting Palletizing Workstation
Product Parameter	Payload ⁽¹⁾	30 kg	30 kg
	Palletizing Rate ⁽²⁾	8-10 boxes/min	8-10 boxes/min
	Palletizing Height ⁽³⁾	1840 mm	2590 mm
	Working Radius	1800 mm	1800 mm
	Total Weight ⁽⁴⁾	552 kg (excluding robot arm) 672 kg (including robot arm)	490 kg (excluding robot arm) 610 kg (including robot arm)
	Dimensions ⁽⁵⁾	1560mm*1580mm*1050mm	1560mm*1580mm*1050mm
	Rated Voltage	AC 200-240V 50/60Hz	AC 200-240V 50/60Hz
	Maximum Power	3600W	3600W
	Temperature	10°C-40°C	10°C-40°C
	Protection Rating	Robot: IP65; Workstation: IP20	Robot: IP65; Workstation: IP20
	Certification	CE, Machinery Directive 2006/42/EC, EN standards, ISO standards, FCC, ISED	N/A

⁽¹⁾ Excludes the weight of the end-effector vacuum gripper
⁽²⁾ Actual speed depends on box weight, dimensions, and pattern. 8 cases/min (single pick-and-place), 12 cases/min (dual pick-and-place)
⁽³⁾ Actual palletizing height may vary based on box dimensions and patterns
⁽⁴⁾ Excludes the weight of the robot arm and end-effector weight
⁽⁵⁾ Height value indicates the workstation height only; robotic arm dimensions are excluded.

CR 30H Stainless Steel Column Palletizing Workstation

Built for Hygiene-Critical Environments

Engineered specifically for the Food & Beverage Industry, the CR 30H Stainless Steel Column Palletizing Workstation is ideal for handling applications such as canned goods, beverage cartons, and wine boxes. Its stainless steel structure ensures superior durability while meeting strict hygiene standards required in modern production environments.



Easy to Clean

The stainless steel surface allows quick wiping with a towel, making daily cleaning fast and effortless.



Hygienic & Spill-Resistant

Resistant to water, food residue, and liquids such as juice or wine, helping maintain a clean production environment.



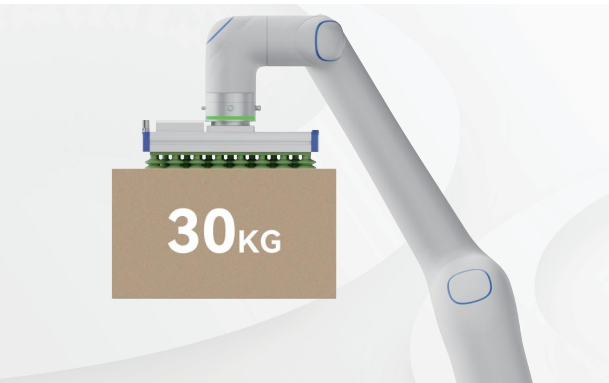
Food-Safe Operation

Designed for food and beverage applications, reducing contamination risks and supporting sanitary production standards.



Reliable Palletizing Performance

Delivers stable operation with 30kg high payload and large working radius for cartons, boxes, and packaged goods.



Suitable Applications



Canned Food Palletizing



Beverage Carton Handling



Wine Box Palletizing



Food Packaging End-of-line Automation

Configuration List

Specification		CR 30H Stainless Steel Columnar Palletizing Workstation
Product Parameter	Payload ⁽¹⁾	30 kg
	Palletizing Rate ⁽²⁾	8-10 boxes/min
	Palletizing Height ⁽³⁾	1840 mm
	Working Radius	1800 mm
	Total Weight ⁽⁴⁾	480 kg (excluding robot arm) 600 kg (including robot arm)
	Dimensions ⁽⁵⁾	1560mm*1580mm*1050mm
	Rated Voltage	AC 200-240V 50/60Hz
	Maximum Power	3600W
	Temperature	10°C-40°C
	Protection Rating	Robot: IP67; Workstation: IP20
	Certification	CE, Machinery Directive 2006/42/EC, EN 60204-1, EN 61000-6-2/-4, ISO 12100, ISO 10218-2, ISO 13849-1, FCC, ISED

⁽¹⁾ Excludes the weight of the end-effector vacuum gripper
⁽²⁾ Actual speed depends on box weight, dimensions, and pattern. 8 cases/min (single pick-and-place), 12 cases/min (dual pick-and-place)
⁽³⁾ Actual palletizing height may vary based on box dimensions and patterns
⁽⁴⁾ Excludes the weight of the robot arm and end-effector weight
⁽⁵⁾ Height value indicates the workstation height only; robotic arm dimensions are excluded.

CR20A Palletizing Workstation



- 1 DOBOT CR20A Collaborative Robot
- 3 Fixed Mounting Column
- 5 External Terminal Panel
- 7 Pallet Detection & Positioning System

- 2 End-Effector Vacuum Gripper (Optional)
- 4 Lifting Column
- 6 Standard Palletizing Base



CR20A Columnar Palletizing Workstation V2



CR20A Lifting Palletizing Workstation V2

Configuration List

Specification		CR20A Columnar Palletizing Workstation V2	CR20A Lifting Palletizing Workstation V2
Product Parameter	Payload ⁽¹⁾	20 kg (up to 25 kg under specific conditions)	
	Palletizing Rate ⁽²⁾	8 boxes/min	
	Palletizing Height ⁽³⁾	1740 mm	2640 mm
	Working Radius	1700 mm	
	Total Weight ⁽⁴⁾	494 kg (excluding robot arm) 584 kg (including robot arm)	
	Dimensions ⁽⁵⁾	1560mm*1580mm*1050mm	
	Rated Voltage	AC 100-240V 50/60Hz	
	Maximum Power	1300W	1500W
	Temperature	10℃-40℃	
	Protection Rating	Robot: IP54; Workstation: IP20	
	Certification	CE, Machinery Directive 2006/42/EC EN 60204-1, EN 61000-6-2, EN 61000-6-4, ISO 12100, ISO 10218-2 , ISO 13849-1, US&CAN: SGS NA Listed Mark, FCC, ISED	

⁽¹⁾ Excludes the weight of the end-effector vacuum gripper
⁽²⁾ Actual speed depends on box weight, dimensions, and pattern. 8 cases/min (single pick-and-place), 12 cases/min (dual pick-and-place)
⁽³⁾ Actual palletizing height may vary based on box dimensions and patterns
⁽⁴⁾ Excludes the weight of the robot arm and end-effector weight
⁽⁵⁾ Height value indicates the workstation height only; robotic arm dimensions are excluded.

CR 20A Steel Stainless Columnar Palletizing Workstation



Key Advantages

- Easy to Clean**

Stainless steel surfaces allow quick wiping, simplifying daily cleaning and maintenance.
- Hygienic & Spill-Resistant**

Resists water, food residue, and liquid spills, helping maintain a clean production environment.
- Compact & Efficient**

Space-saving design with reliable performance for end-of-line automation.
- Optimized for Payloads**

With a 20 kg payload, it is ideal for smaller boxes and lightweight palletizing tasks.

Configuration List

Specification		CR20A Steel Stainless Columnar Palletizing Workstation
Product Parameter	Payload ⁽¹⁾	20 kg (up to 25 kg under specific conditions)
	Palletizing Rate ⁽²⁾	8 boxes/min
	Palletizing Height ⁽³⁾	1740 mm
	Working Radius	1700 mm
	Total Weight ⁽⁴⁾	330kg (excluding robot arm) 430 kg (including robot arm)
	Dimensions ⁽⁵⁾	1560mm*1580mm*1050mm
	Rated Voltage	AC 100–240V, 50/60Hz
	Maximum Power	1300W
	Temperature	10°C–40°C
	Protection Rating	Robot: IP54; Workstation: IP20
	Certification	CE, Machinery Directive 2006/42/EC, EN 60204-1, EN 61000-6-2/-4, ISO 12100, ISO 10218-2, ISO 13849-1, FCC, ISED

⁽¹⁾ Excludes the weight of the end-effector vacuum gripper

⁽²⁾ Actual speed depends on box weight, dimensions, and pattern. 8 cases/min (single pick-and-place), 12 cases/min (dual pick-and-place)

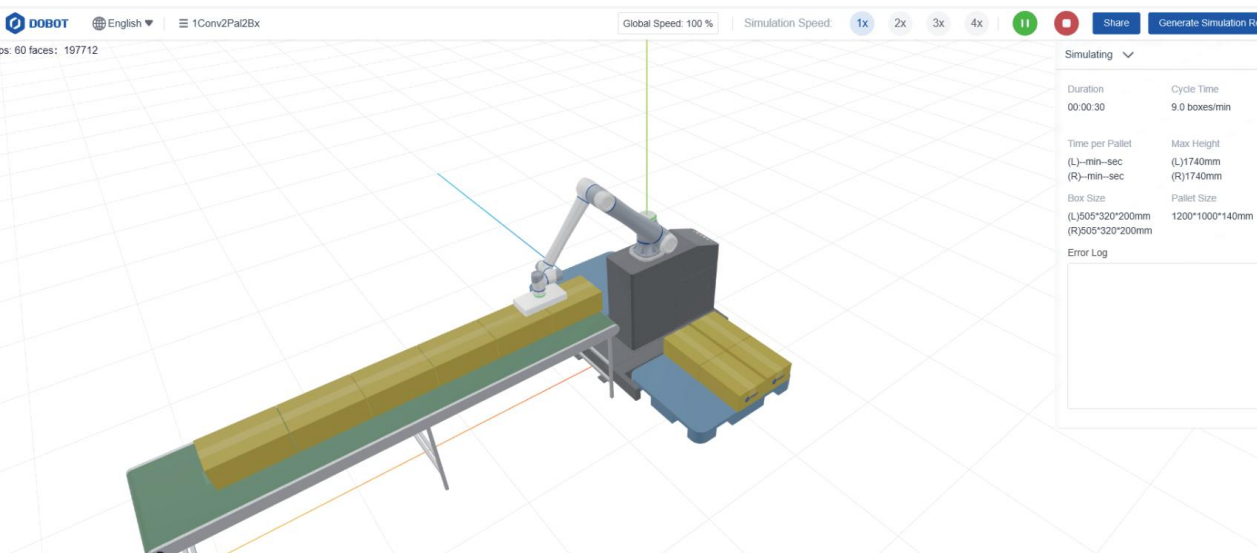
⁽³⁾ Actual palletizing height may vary based on box dimensions and patterns

⁽⁴⁾ Excludes the weight of the robot arm and end-effector weight

⁽⁵⁾ Height value indicates the workstation height only; robotic arm dimensions are excluded.

3D Palletizing Simulation Platform

One-Stop Solution Validation | Palletizing Deployment Experience without Risks



By simulating real-world palletizing scenarios, our platform accurately replicates tray dimensions and box stacking details. Preview layout and operational effects in advance, rapidly validate solution feasibility, and drive intelligent production line upgrades with zero risk!

Core Features

Codeless, Rapid Scene Setup

- Drag-and-Drop 3D Scene Editing: Add pallets, patterns, incoming materials, and various other components with one click.
- Parametric Pattern Smart Generation: Input box dimensions and layer count to automatically generate common patterns.

Cycle and Load Auto-Verification

- Real-Time Cycle Calculation: Automatically measures single-cycle operation time based on default or custom speed/acceleration parameters.

Automatic Robot Operation Planning

- Extensive Robot Model Library: Supports popular models such as the Dobot 20 Series and 30 Series palletizing workstations.
- Intelligent Trajectory Generation: One-click creation of complete motion paths for "pick → transition → place → return" workflows.

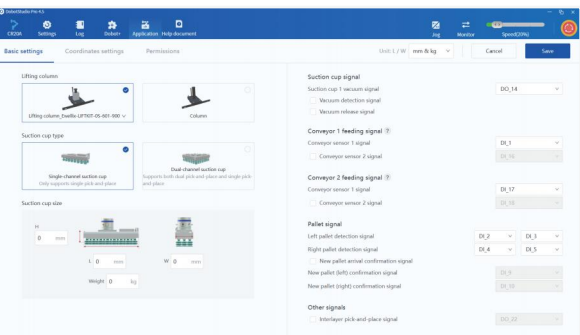
Ready-to-Use in Browsers

- Convenient Sharing and Review: Generate shareable links with one click for sales teams or clients to conduct online reviews directly.
- Multi-Language Adaptive Interface: Supports Chinese, English, Japanese, German, and more, automatically switching according to the browser's language setting.

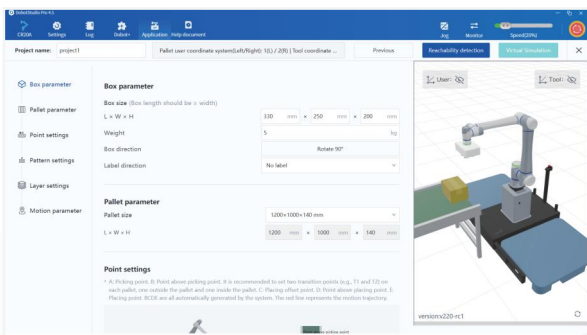
DOBOT Smart Palletizing Process Package

Complete Setup in 4 Simple Steps to Generate Palletizing Programs Instantly

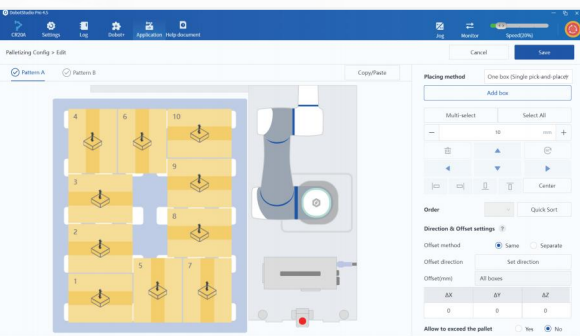
DOBOT Palletizing Process Package: Complete Setup in Just 4 Simple Steps



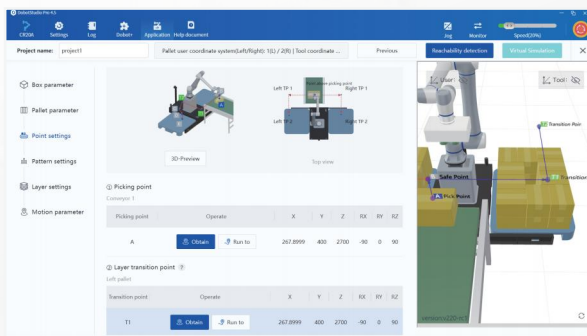
Step 1: Workstation Configuration



Step 2: Box & Pallet Setup



Step 3: Stack Pattern Design



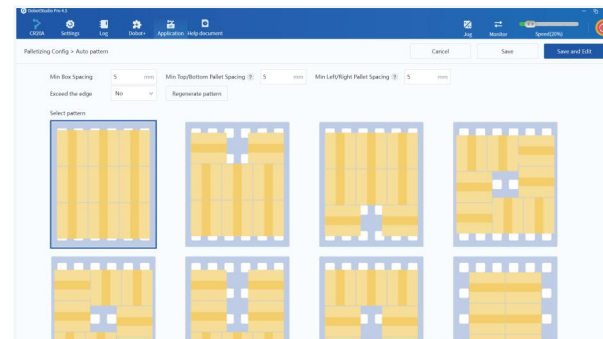
Step 4: Generate Motion Trajectory

DOBOT Intelligent Palletizing Process Package

Core Features

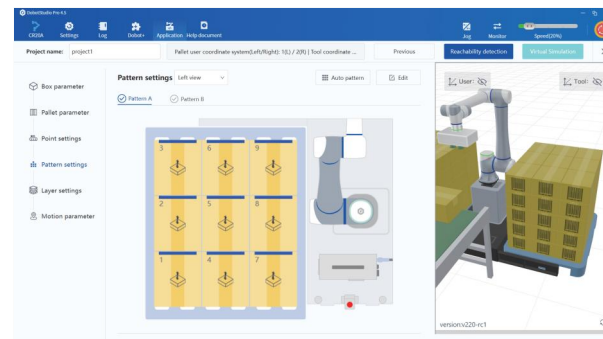
Auto-Generated Stack Patterns

The Process Package automatically generates multiple stacking patterns based on pallet and box dimensions, providing flexible options with customizable adjustments. Complete pattern configuration in just 2 minutes, drastically reducing setup time.



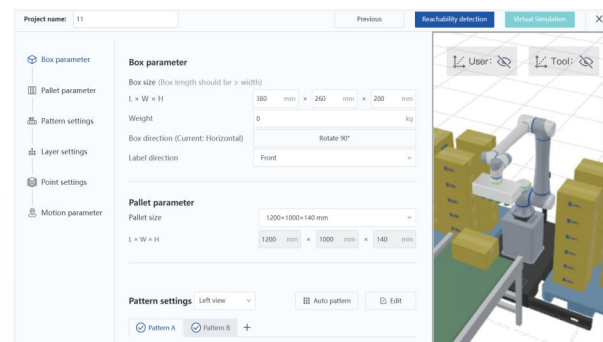
Label Orientation Control

Set uniform label directions for boxes and adjust entry angles to meet diverse palletizing requirements.



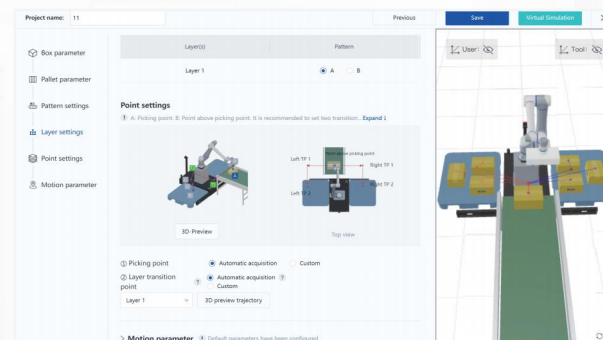
Automatic Pickup Points

The robot calculates optimal pickup positions autonomously. No re-teaching needed when products change, simply set the user coordinate system, input box dimensions, and automatically adapt to different boxes. Switch production faster than ever.



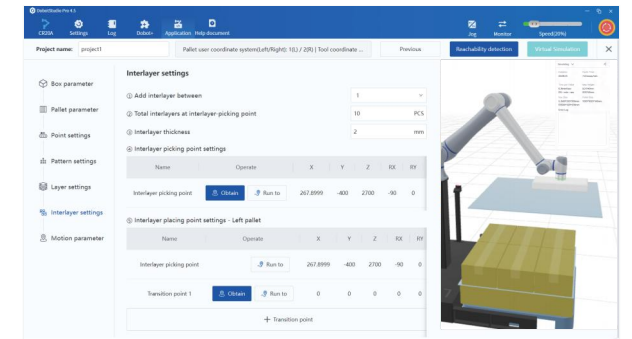
Smart Trajectory Planning

Intelligent algorithms plan the most efficient pick-and-place path for every box, adapting seamlessly to various stack patterns. With auto-transition points, configure in two steps and apply with one click, eliminating 80% of debugging time for faster, smoother operations.



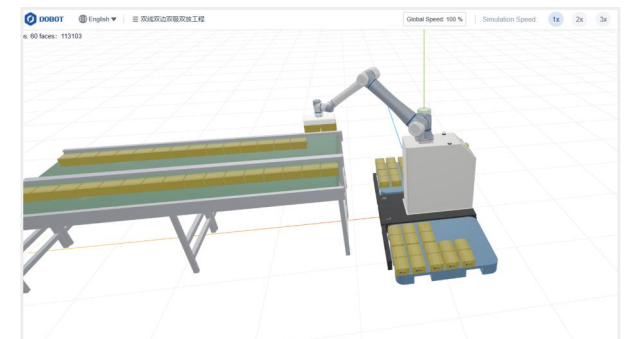
Easy plug-in of Interlayer

Place interlayer between single or multiple layers to effectively reduce material damage and enhance stack stability.



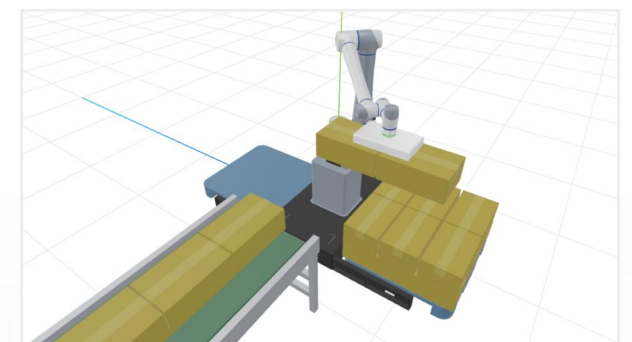
Dual-Suction Mode

Switch between single or dual suction modes to handle one or two boxes per cycle. Maximize flexibility for high-efficiency production lines.



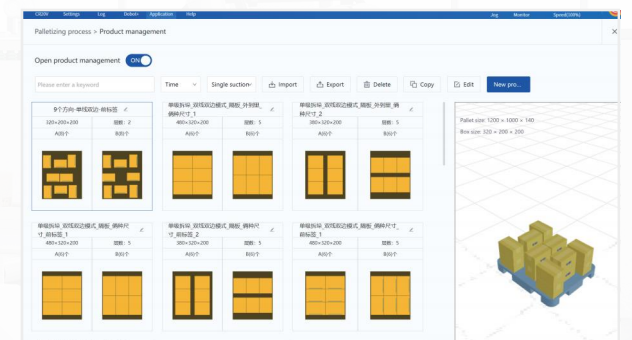
Multi-Pick & Single-Place

Multiple boxes can be picked up in a single cycle, enabling a leap in production capacity, while precise individual placement is supported to meet diverse pattern requirements, particularly suited for mixed patterns and high-speed production scenarios.



Palletizing Product Management

Create standardized solution libraries by predefining key parameters such as product dimensions, layer height, and stacking patterns. Enable one-click deployment and instant switching to achieve zero-debugging changeovers for multi-variant production, significantly enhancing production line flexibility.



Reliable Gripping for Diverse Packaging

To meet different palletizing needs, DOBOT offers vacuum gripper solutions from leading brands, ensuring stable suction performance across a wide range of box types, sizes, and surface conditions.



SCHMALZ Vacuum Cups



High Suction Performance

Engineered for strong and stable gripping, suitable for cartons, sealed boxes, and slightly uneven surfaces.

Compatible Models

Optimized for CRH & CRA series palletizing solutions, including CR20A and CR30H.

Flexible Size Options

Available in multiple diameters to match different box sizes and layouts, ensuring efficient and secure handling.

Item	Parameter
Model	FXP-SVK 442 3R54 SPB2-40P F
Length(L)	442 (mm)
Width(B)	130 (mm)
Configuration	3R54
Additional Function Area Gripper	No filter
Suction Unit Needle Count	23
Vacuum Generation Design	Multistage ejector SEMP
Air Consumption	250 (l/min)
Weight	2.8 (kg)

VAC-HVGW363 Vacuum Cups

Stable & Efficient Suction

Provides consistent vacuum performance for high-speed palletizing of cartons and packaged goods.

Compatible Models

Designed for seamless integration with Dobot CRA & CRH series palletizing workstations.

Multiple Size Configurations

Supports various cup sizes and arrangements to adapt to different product dimensions and stacking patterns.

Item	Parameter
Model	VAC-HVGW363
Inlet Pressure	0.4~0.6MPa
Air Consumption	200L/min
Max Vacuum Flow	700 L/min
Vacuum Degree	0.5
Suction Force	343N (-60KPa)
Safety Factor	4
Weight	2.5Kg

Escalating Safety Challenges in Palletizing Automation

As high-payload, high-cycle palletizing becomes standard, production line safety demands have intensified. Beyond the inherent safety features of collaborative robots, establishing a multi-layered proactive protection system has become imperative. Currently, palletizing safety upgrades face three critical challenges:

High Threshold for Solution Integration

Component selection is complex and requires extensive validation, consuming significant resources to find the optimal solution.

Persistent Safety Blind Spots

Management loopholes, such as bypassed fences and interlock failures of safety gates, continue to amplify risks.

Limited Installation Space

In confined or complex working conditions, deploying effective fencing or safety light curtains often becomes challenging.

DOBOT Partners with SICK

Optimized Safety Strategy & Technical Support

LiDAR Safety System monitors hazardous areas in real-time, instantly detects personnel intrusion and loitering, and triggers proactive responses from speed reduction to emergency stops, achieving a zero-accident, highly efficient, and intelligent production line.



The robot operates at reduced speed, creating necessary margin for emergency avoidance.

Ultra-Wide Protection Range

A single LiDAR provides 270° wide-angle coverage with a detection range exceeding 3 meters. By coordinating three LiDARs, the entire key safety area of a station can be comprehensively covered.

Flexible Zone Configuration

Supports user-defined protection zones, each with independently configurable safety policies to precisely match the security requirements of diverse scenarios.



Triggers an immediate robot stop to prevent direct human-robot collisions.

Minimal Space Occupancy

Compared to traditional mechanical guards or safety light curtains, this system requires extremely little installation space and adds almost no footprint.

Rapid Deployment & Relocation

Pre-integrated into palletizing workstations for seamless mobility, enabling flexible deployment across different production lines.

Option 1: Triple-LiDAR Safety System

Safety LiDAR Layout Application Example

Component List

Safety LiDAR	
System Connector	
Sensor Connector	
LiDAR Mounting Bracket	
Ethernet Cable	
Base Plate	

Option 2: Dual-LiDAR Safety System

Safety LiDAR Layout Application Example

Component List

Safety LiDAR	
System Connector	
Sensor Connector	
LiDAR Mounting Bracket	
Ethernet Cable	
Base Plate	

Note: For the stainless steel palletizing workstation, the above LiDAR Safety Systems are not applicable.

Proven Palletizing Case Showcase



Electronics - Packaging Line Palletizing



Electromechanical -
Power Tool Case Palletizing



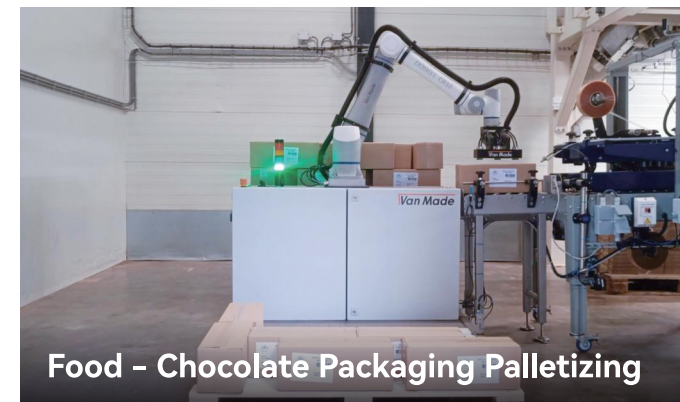
Food - Candy Packaging Palletizing



Food - Pasta Production Line Palletizing



Electronics - Digital Product Packaging Palletizing



Food - Chocolate Packaging Palletizing



Food - Production Line Palletizing



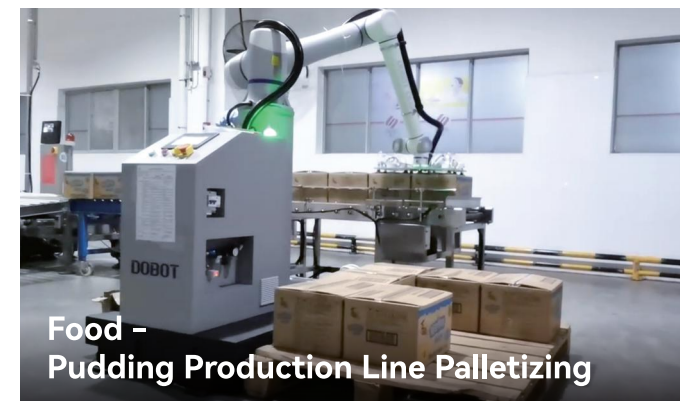
Packaging -
Box Production Line Palletizing



Home Appliances -
Appliance Production Line Palletizing



Chemicals -
Plastic Bottle Depalletizing & Loading/Unloading



Food -
Pudding Production Line Palletizing



Beverage -
Beverage Production Line Palletizing



Logistics & Warehousing -
Inbound/Outbound Palletizing



Logistics & Warehousing -
Finished Goods Warehouse Palletizing