

Dobot Robotics

One-Stop Palletizing Solution

Makes Automation Accessible
2024/10



Manual Palletizing



Lack of Labor:

- Potential health and safety risks.
- Lack of skilled labor and high wages required.

Limited Space Utilization:

- Limited pallet height and inexperienced workers may not optimize the pallet space.

Inconsistent Quality:

- Human errors in counting, arranging and potential product damage.

Low Efficiency:

- Lower throughput and potentially impacting overall production efficiency.

Case Story



- Flexibly Switch Different Production Lines

This is a company manufacturing Food, Beverage, & Tobacco with 11 production lines.

This company needs to usually switch product lines to meet different production needs.

Without Dobot Palletizing Solution

- **Production Schedule**

11 production lines for manual palletizing. One day the production line needs to arrange 2 palletizing workers, forming two shifts, each manual working took 6-8 hours.

- **Customer Pain Points:**

- (1) The palletizing workers have a heavy workload, leading to unstable workforce and difficulty in recruitment.
- (2) The palletizing results are also unstable because there is a need for frequent product updates and corresponding mold changes. Manual errors or oversights in the palletizing process result in poor palletizing, causing rework or difficulties in downstream processes.

With Dobot Palletizing Solution

- **Solution:**

The user has purchased 11 Dobot palletizing solutions to cover all production lines. Only 1-2 workers are needed for changeovers and forklift operations. The payback period is around 12 months.



Cobot Palletizing



Space-Saving:

Less space needed

Movable :

Easy to reinstall

Quick to Deploy :

No any change to
existing line layout

Flexible:

Available for multi-
variety, fit for small batch
production

How to Choose Your Cobot Palletizing Solution?



1. Function Requirements

- Palletizing & Depalletizing

Note:

- 1 Conveyor 1 Pallet
- 1 Conveyor 2 Pallets
- 2 Conveyor 2 Pallets



2. Movement Requirements

- Payload
- Height
- Efficiency



3. Applicants & Entrepreneurship

- Fixed production line / Flexible production line
- Adjusting production line frequency
- Working space and human-machine collaboration
- Professionals

Dobot Palletizing Workstation



Video: Dobot Palletizing Solution



Can be pushed by one person

Dobot Palletizing Workstation Composition



1. Dobot CR20A Cobot

The CR20A boasts an impressive maximum payload capacity of 20 kg, a working range of up to 1,700 mm, and a wider coverage area, making it highly capable of effectively handling palletizing tasks.

2. Lifting Axis

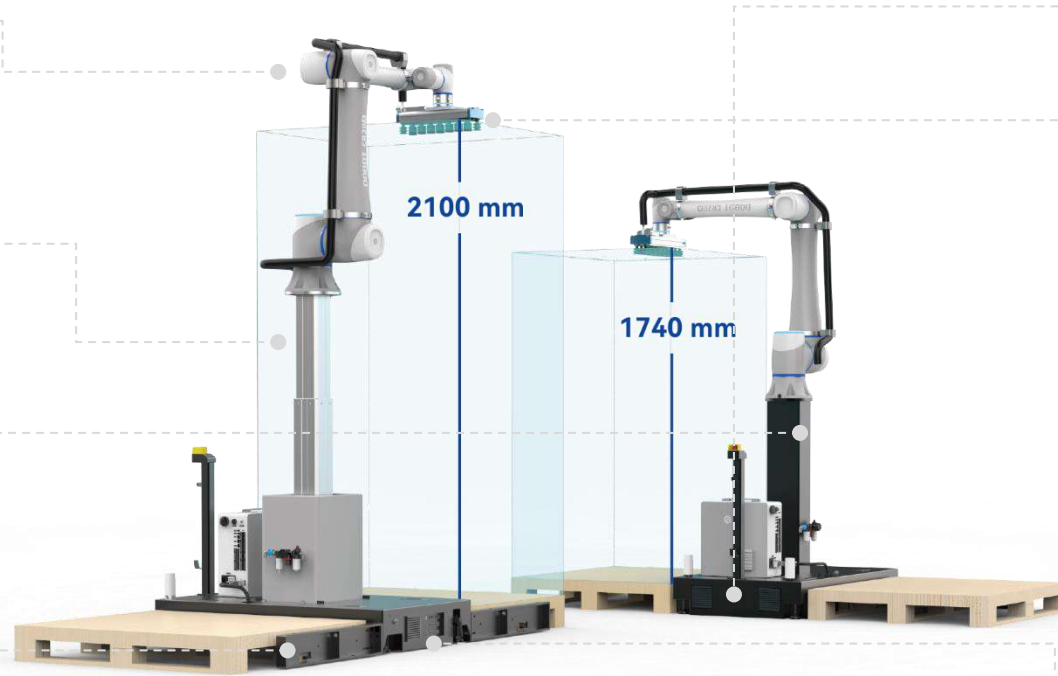
The height of the column has the potential to increase by up to 900 mm, while the maximum height for palletizing can reach 2,100 mm.

3. Fixed Column

The square tube used for welding is 8 mm thick and possesses a stable structure. It is designed with a fixed height of 1,150 mm and can reach a maximum palletizing height of 1,740 mm.

4. Pallet Detection and Positioning Device

The pallet detection and positioning device serves the function of identifying the existence of a pallet at the workstation and verifying that it has been appropriately positioned at the specified location. Its primary role is to detect whether a pallet has been installed and to ensure its precise deployment.



5. Standard Palletizing Base

The palletizing base is equipped with a comprehensive electrical control and communication system, ensuring seamless integration. Its modular hardware design simplifies the construction process for greater ease and efficiency. Additionally, the inclusion of a reserved forklift hole position enhances convenience during production line changes.

6. End-effector Vacuum Suction Tools (Optional)

Schmalz offers vacuum suction tools that can handle payloads of up to 20 kg and cover a large surface area.

7. External Terminal Panel

With the inclusion of terminal fast-on functionality, the panel offers a convenient and rapid means of connecting to the client control signal. Moreover, the presence of reserved I/O signal interfaces simplifies the process of integrating external devices or systems, allowing for seamless expansion and enhanced versatility.

Safety Certifications

CE, SGS Listed Mark, FCC,
ICES-003

High Pace

8-13 pace/min,
single/dual suction mode

Brilliant Payload Capacity

Up to 20 kg/ 1500N payload/
2100mm height

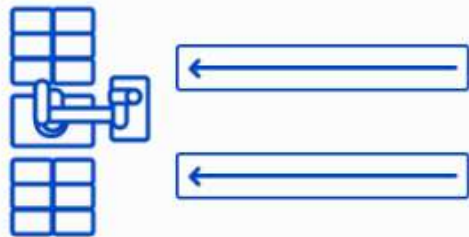
Versatile Functions, Perfect for Diverse Application Scenarios



1. Quick Palletizing & Depalletizing



2. One Workstation, Multiple Product Line*



* Supports:

1 Conveyor 1 Pallet (Left Pallet), 1 Conveyor 1 Pallet
(Right Pallet), 1 Conveyor 2 Pallet, 2 Conveyor 2 Pallet.



Easy to Deploy



- Factory standard forklift can complete transportation.

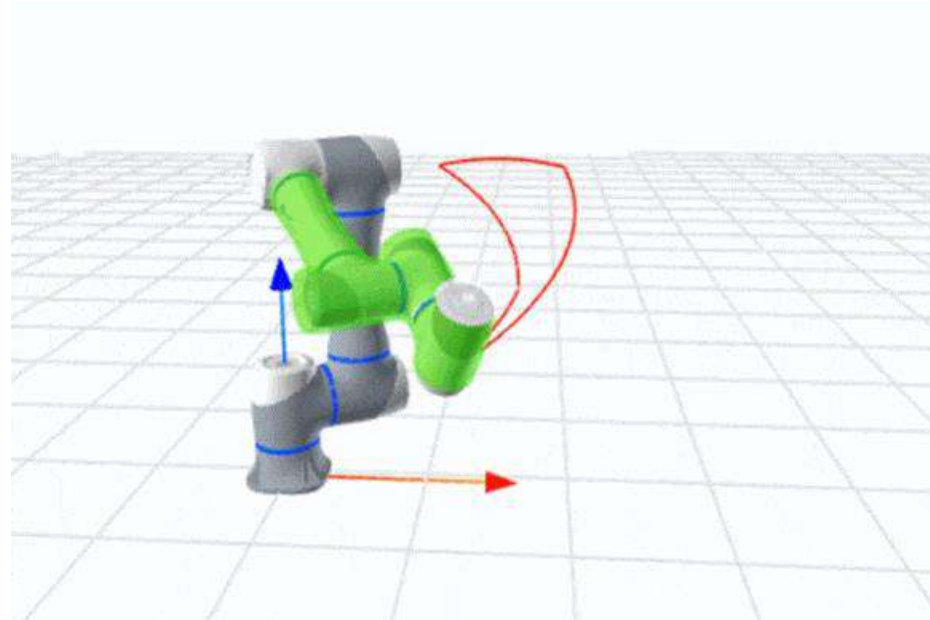


- Modular design, assembly completed in 30mins.



- Dedicated process package, deployment completed in 4 steps;
- Quick to use, quick to switch.

Visualized Design with Dobot Process Package



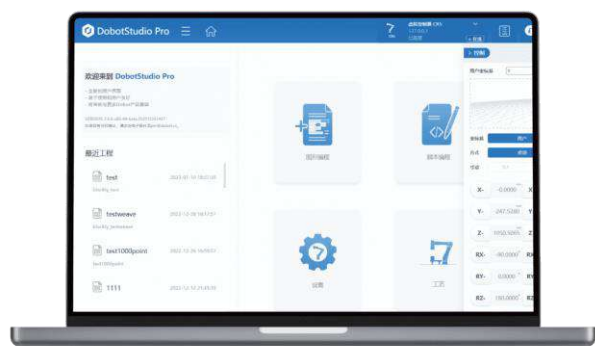
Visualized Motion Trajectory

Real-time display of motion trajectory

for more efficient debugging;

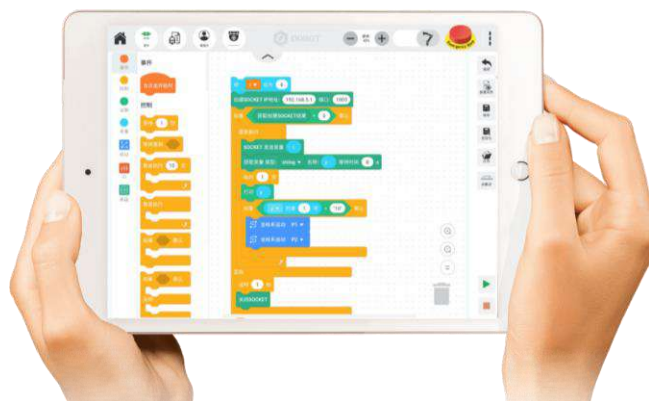
Supports log traceability for rapid problem solving

Plug and Play, Easy to Use



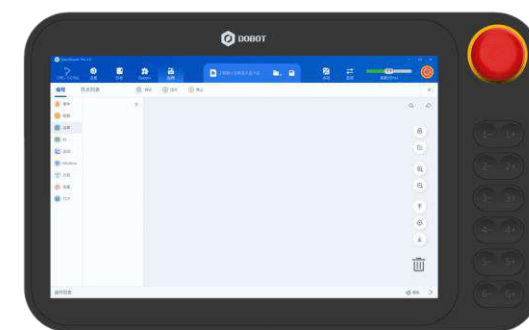
PC Software Platform

Provides flexible operation and higher programming efficiency through scripting.



Android Software Platform

Plug & play for simple operation



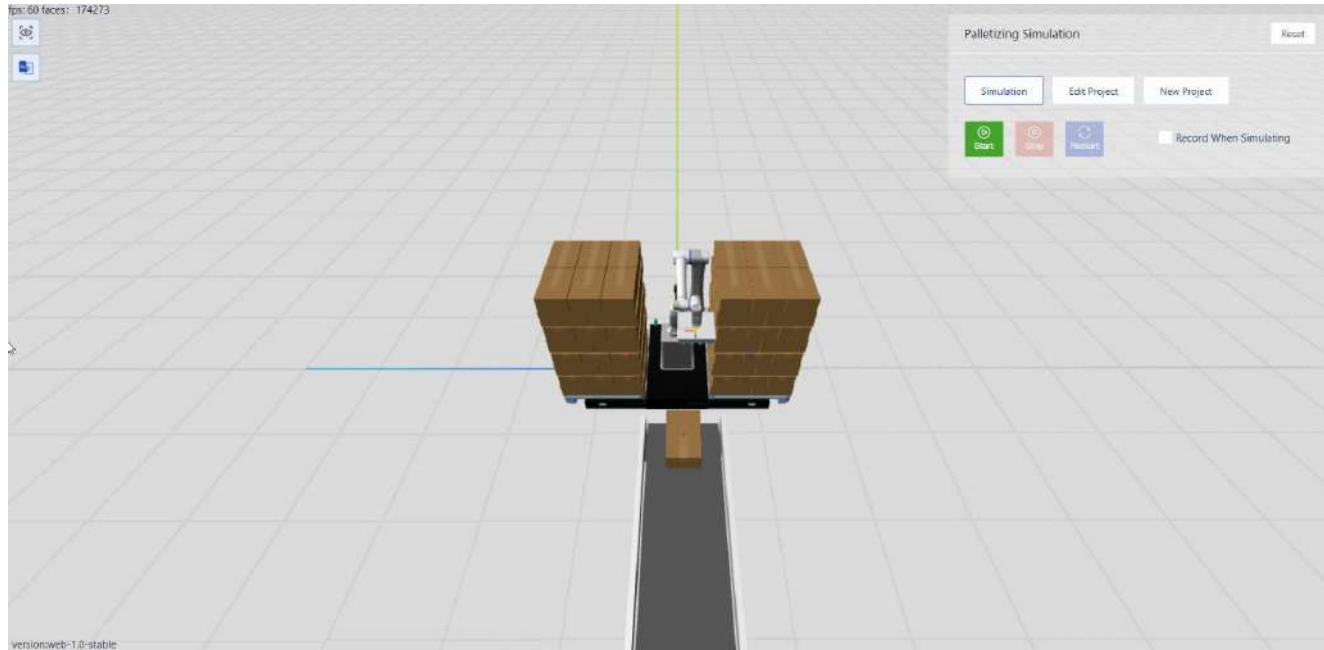
Teach Pendant

Compatible with traditional robot operation habits, supports both wired and wireless modes.

Functions of Palletizing Process Package

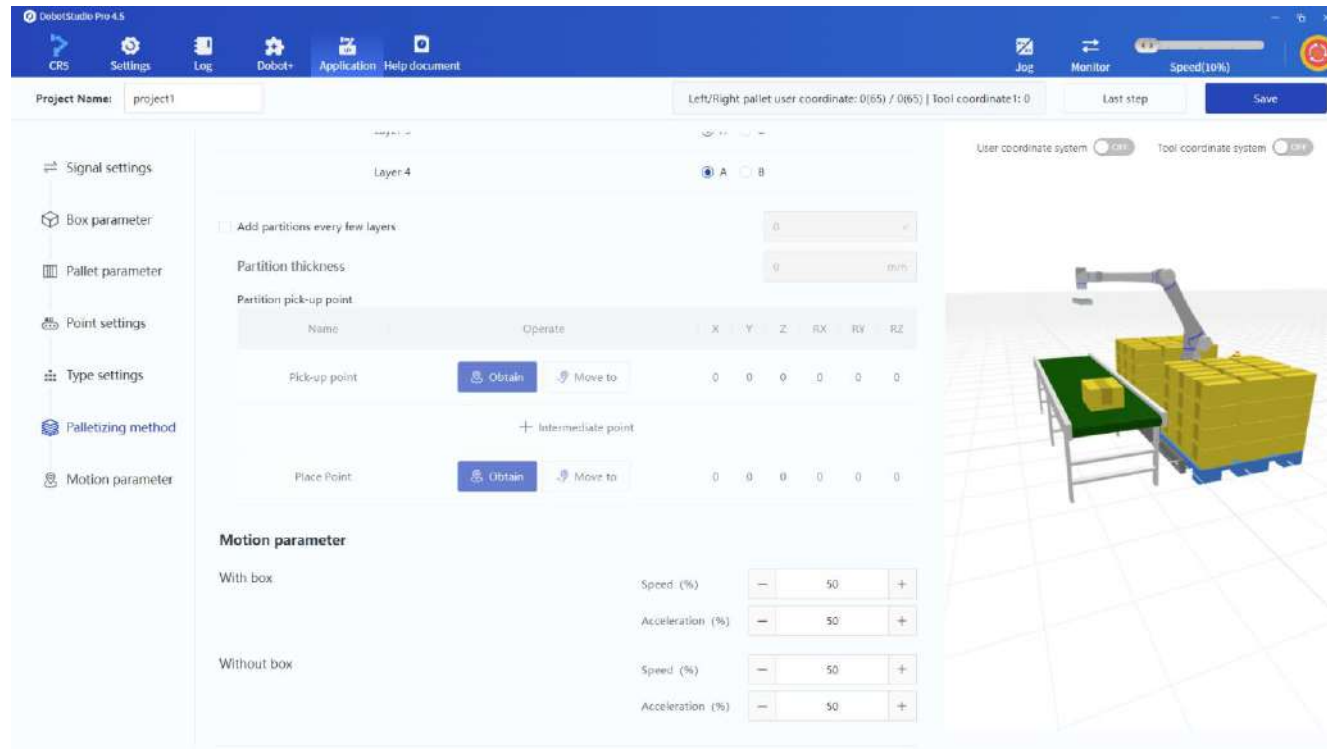


Video: 3D Simulated Palletizing



- **No Programming:** Deployment and adjustment through parameterization.
- **Versatility:** Various settings such as stacking pattern and robot movement trajectory.
- **3D Simulated Palletizing:** Simulation to preview deployment results, accelerating efficiency and identifying potential issues.
- **One for All:** Fully integrated software controls palletizing and end-effectors without platform switching.

Key Feature 1: Visual Configuration



The Palletizing Process Package has a **3D display function** that shows boxes, pallets, stack patterns, and layers in real-time 3D graphics, simplifying the configuration process.

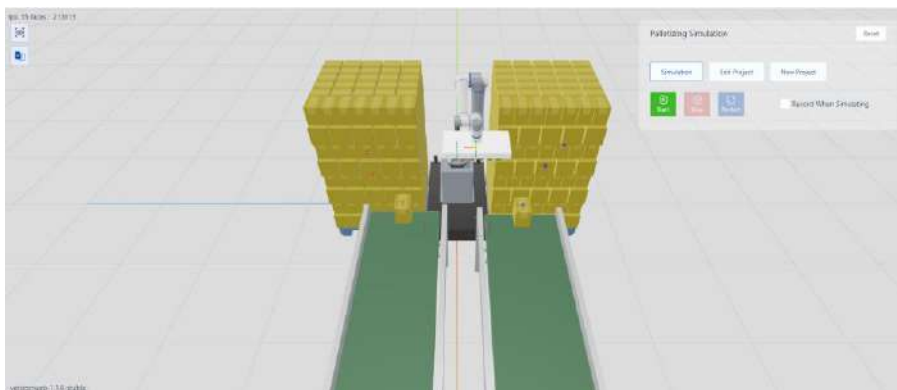
Key Feature 2: Auto-Generation for Palletizing Patterns



Palletizing Patterns

- **Palletizing Patterns**

The palletizing process package can automatically generate stacking patterns, avoiding the complex operation and time-consuming process of manual placement, greatly accelerating the deployment and adjustment time.



Palletizing Overall Preview

- **Palletizing Overall Preview**

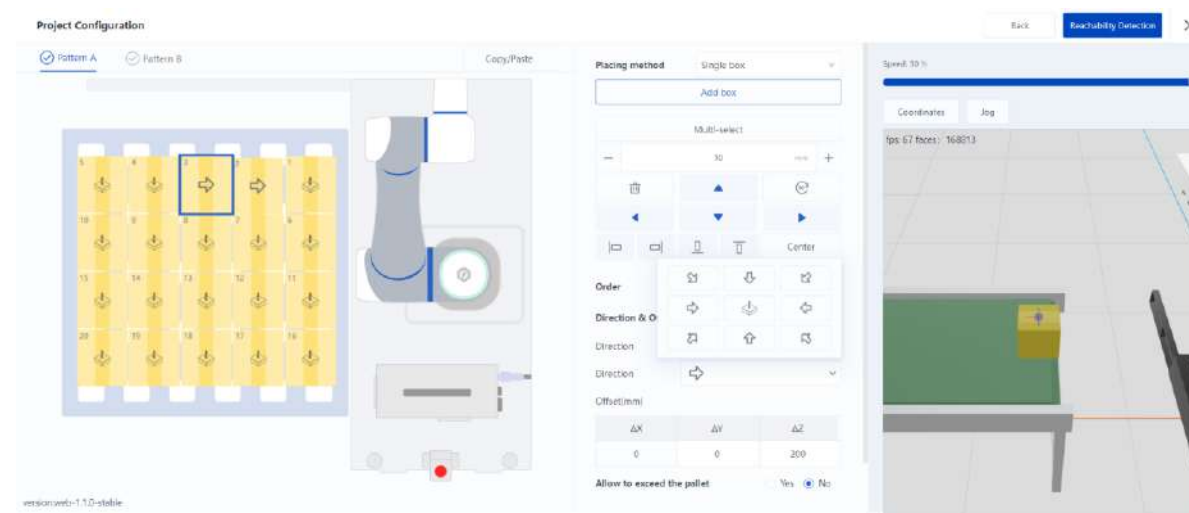
Supports overall preview of the entire palletizing effect to confirm if the desired result is achieved.

Other Key Features: Easily Set up Points; Drag-to-Drop Point Teaching; Customize the Palletizing Direction and Order

- **Easily Set up Points:** Supports configuration of box transition point and target point, which minimizes the effect of box size and pallet height differences, eliminates extra space between boxes, and compacts them.
- **Drag-to-Drop Point Teaching:** User can manual set the points with drag-to-drop teaching, allows the robot to automatically complete motion trajectory planning, eliminating the need for users to program or set paths themselves.
- **Customize the Palletizing Direction and Order:** Allows for the customization of box palletizing order and entry directions for 8 different types.



Easy to Set up Transition Point Settings

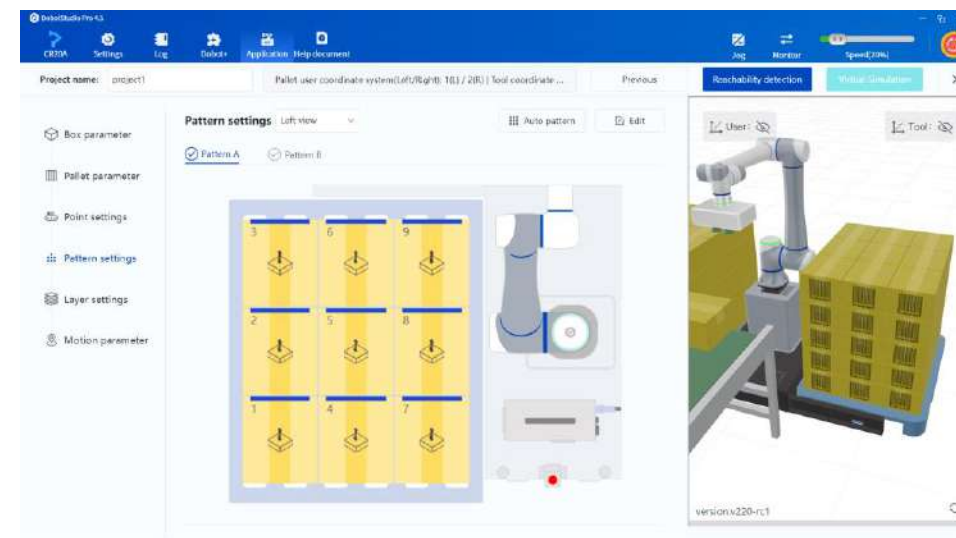


Customization the Box Palletizing Order & Direction

Upgraded Features for Supporting Your Storage and Transportation Processes



- Supports easy **plug-in of interlayer** to increase the stability of palletizing.



- **Label Function:** With fixed product and label orientations, the labelfunction allows users to control the label direction of products within the stacking pattern.

Single/Dual Suction Mode



- Efficient Dual-suction Mode

- It supports free configure to pick one or two boxes at a time, which boosts palletizing efficiency and adapts to faster scenarios.
- It has a dual-suction mode that can pick two boxes at a time, increasing palletizing efficiency by up to 62.5% and enabling easy and efficient palletizing.

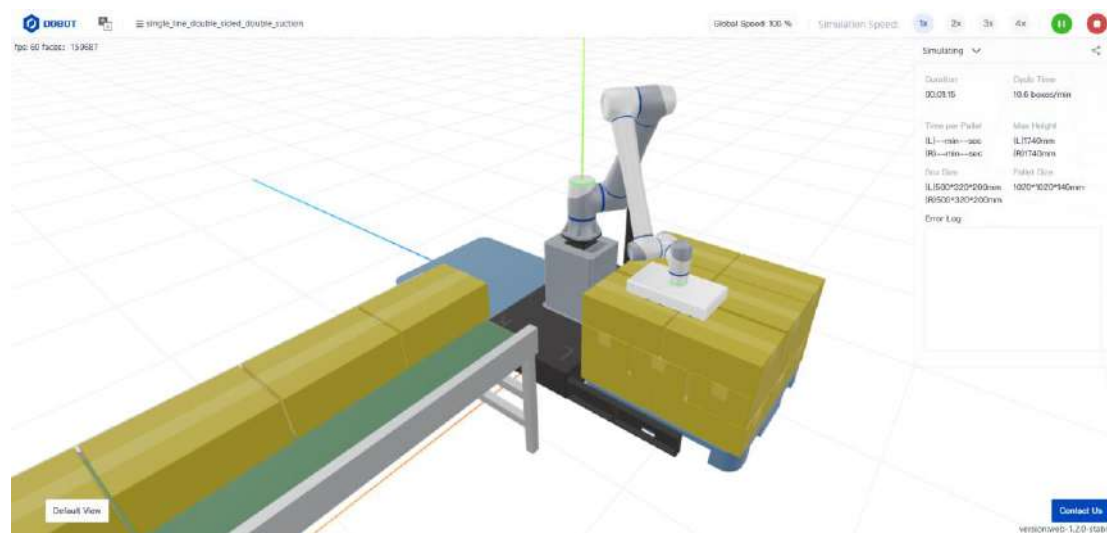


Single Suction Mode



Double Suction Mode

Palletizing Simulated Software Platform



Dobot Simulated Software Platform helps users and system integrators simulate the real-time effects of automated palletizing, and evaluate the work pace.

- Directly simulates the **actual pallet** and **box dimensions** in real-world scenarios.
- Simulates the **deployment process** and **actual functionality** of the real-world palletizing solution.

Click to try automated palletizing:
<https://simulations.dobot-robots.com/>

Certifications



- Certificated by CE, SGS Listed Mark, FCC, ICES-003, RoHS.

SGS

VERIFICATION OF MD COMPLIANCE

No.: MD GZES21102036MD

Applicant: Shenzhen Yuejiang Technology Co., Ltd.
Room 1003, Building 2, Chongwen Park, Nanshan Park, No.3370, Lixian Blvd, Fuguang Community, Taoyuan Street, Nanshan District, Shenzhen, China

Manufacturer: Same as applicant

Product Description: CR20A Lifting Palletizing Workstation, CR20A Columnar Palletizing Workstation

Model No.: DT-PR-L, DT-PR-C

Trade Mark:

Sufficient samples of the product have been tested and found to be in conformity with:

Test Standard: EN ISO 12100:2010
EN 60206-1:2010
EN ISO 13859-1:2015
ISO 12185-2:2011 except for Chapter 5.8, Chapter 5.9 Chapter 5.10

as shown in the Test Report Number(s): GZES211020363601
GZES211020363602
GZES211020363603

This Verification of MD Compliance has been granted to the applicant based on the results of tests, performed by Laboratory of SGS-CSTC Standards Technical Services Co., Ltd. on sample of the above-mentioned product in accordance with the provisions of the relevant harmonized standards under the Machinery Directive 2006/42/EC. The CE mark as shown below can be affixed, under the responsibility of the manufacturer, after publication of the EC Declaration of Conformity and compliance with all relevant EC Directives. The affixing of the CE marking presumes in addition that the conditions in the Directives are fulfilled.

Date: 2024-03-28
Technical Manager: SGSCSTC

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Member of SGS Group (Société Générale de Surveillance)

SGS-VOC-F01 Rev 1.0 2024-01-08
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SGS

VERIFICATION OF COMPLIANCE

Verification No.: SZCR2311003734MDV

Applicant: Shenzhen Yuejiang Technology Co., Ltd.

Address of Applicant: Room 1003, Building 2, Chongwen Park, Nanshan Park, No.3370, Lixian Blvd, Fuguang Community, Taoyuan Street, Nanshan District, Shenzhen, China

Manufacturer: Shenzhen Yuejiang Technology Co., Ltd.

Address of Manufacturer: Room 1003, Building 2, Chongwen Park, Nanshan Park, No.3370, Lixian Blvd, Fuguang Community, Taoyuan Street, Nanshan District, Shenzhen, China

Product Description: CR20A Lifting Palletizing Workstation, CR20A Columnar Palletizing Workstation

Model No.: DT-PR-L, DT-PR-C

Test Standards: EN IEC 61000-6-4: 2019, EN IEC 61000-6-2: 2019
EN 301 489-1 V2.2.3, EN 301 489-17 V5.2.4
EN 300 328 V2.2.2, EN IEC 62311:2000

Test Report Number(s): SZCR231100373401, SZCR231100373402, SZCR231100373403, SZCR231100373404

COMPLIANCE

Conclusion: Based on a review of the test reports detailed above, this opinion meets the requirements of above standards. The product is in conformity with the essential requirements of Annex 1 of the protection of the health and environment safety, 2014/53/EU in an adequate level of electromagnetic compatibility and 3.2 effective use of the spectrum of 2014/53/EU. The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EU Declaration of Conformity and compliance with all relevant EU Directives.

Date: 2024-01-04
Kerry Xu
Laboratory Manager

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FTT

Certificate of Compliance

RoHS Directive (2011/65/EU)
Of the European Parliament and of the Council
on the restriction of the use of certain hazardous substances in electrical and electronic equipment (Pb, Cd, Hg, CrVI, PBBs, PBDEs, Phthalates)

Certificate Number: CER23012209E Issued Date: Feb 27, 2024

Applicant: Shenzhen Yuejiang Technology Co., Ltd.

Address: Room 1003, Building 2, Chongwen Park, Nanshan Park, No.3370, Lixian Blvd, Fuguang Community, Taoyuan Street, Nanshan District, Shenzhen, China

Sample Name: CR20A Lifting Palletizing Workstation, CR20A Columnar Palletizing Workstation

*The difference between Lifting Palletizing Workstation and Columnar Palletizing Workstation:

Product Name	CR20A Lifting Palletizing Workstation	CR20A Columnar Palletizing Workstation
Model name	DT-PR-L	DT-PR-C
Column	Lifting column: an electric lifting column with a stroke of 300mm, which can be automatically raised and lowered according to the stacking height. Dimension (L x W x H): 1380mm/2280mm/1680mm	Fixed column: a fixed column with a height of 1100mm and cannot be raised or lowered. Dimension (L x W x H): 1380mm/2280mm/1680mm

This certificate of compliance is based on a test procedure or an evaluation of the above-mentioned product. This is to certify that the above-mentioned product is in compliance with the RoHS Directive (2011/65/EU) of the European Parliament. It is only valid in connection with the test report (Report Number: HLJ23012209E)

Signed for and on behalf of FTT

Technology Manager

Shenzhen FTT Testing Technologies Co., Ltd.
Gangxi industrial park, Futing industrial zone, Shajing, Bao'an, Shenzhen, China
Tel: 0755-27248885 Fax: 0755-27480000 Website: <http://www.croft.com>

SGS

CERTIFICATE OF COMPLIANCE

Certificate Number: SGSNA/24/GZ00264X

Contract Number: 800864

Certificate Project Number: SG-CERT240001002

Certified Product: Palletizing Workstation

Trademarks: DOBOT

Technical Data: DT-PR-L: TX-15M-0V, Power: 300-240V, ~, 50-60Hz, Full load current 12.5A, Rated power 1.5KW, SCCR 10kA.
DT-PR-C: 15M-0V, Power: 100-240V, ~, 50-60Hz, Full load current 11A, Rated power 1.3KW, SCCR 10kA.

Certificate Holder: Shenzhen Yuejiang Technology Co., Ltd.
Room 1003, Building 2, Chongwen Park, Nanshan Park, No.3370, Lixian Blvd, Fuguang Community, Taoyuan Street, Nanshan District, Shenzhen, China

This certificate was issued according to the test results of the product. The product is certified according to the SGS-CERT (Certificate of Compliance) system. The product is certified according to the SGS-CERT (Certificate of Compliance) system. The product is certified according to the SGS-CERT (Certificate of Compliance) system.

UL 603A, 3rd Edition, Dated April 24, 2018
NFPA 79-2024, Dated December 31, 2023
CAN/CSA C22.2 No. 20-22

Certification Condition
The final compliance to this robot needed re-evaluation at that final use considering guard fence which will be supplied by integrator to prevent accessing to hazard moving part. This report is only evaluated the electric hazard, not included the mechanical hazard or other hazards. Manipulator should be operated in safety fence when collaborative robot safety function is not engaged. The selection of plugs needs to be based on the different power supply system.

Authorized by:
Jason Wei
Certifier

Effective date: 27 September 2024

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Certification Body
SGS Testing & Products, a division of SGS North America Inc.
650 Old Foxboro Road, Ste. 100, Foxboro, MA 01934, USA
T: +1 781 551 1801 F: +1 781 551 1240 www.sgs.com

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Case Studies across Industries of Food & Beverage, 3C Electronics, Home Appliances



Services & Supports



Get dedicated support you need to optimize Dobot robots.

Dobot offers lifecycle services including product selection, deployment, repair, warranty, and online diagnostics. Technical experts provide real-time support to quickly resolve issues and maximize production uptime.

- Customer Support 24/7
- Full Lifecycle Services from Selection to Diagnostics
- Online/Offline Training and On-Site Support
- Standard 12-Month Warranty, Extendable to 5 Years
- Loaner Units Minimize Downtime
- Remote Monitoring and Fault Diagnosis

Product Selection

Online
Diagnosis

Application &
Deployment

Repair & Warranty

Training System

Dobot offers a progressive curriculum of training courses from basic to advanced levels, helping customers systematically understand the operating principles, usage methods, and maintenance of robots. Trainees who pass the assessment upon completion will receive a customer service engineer certification and training certificate.

On-Site Training

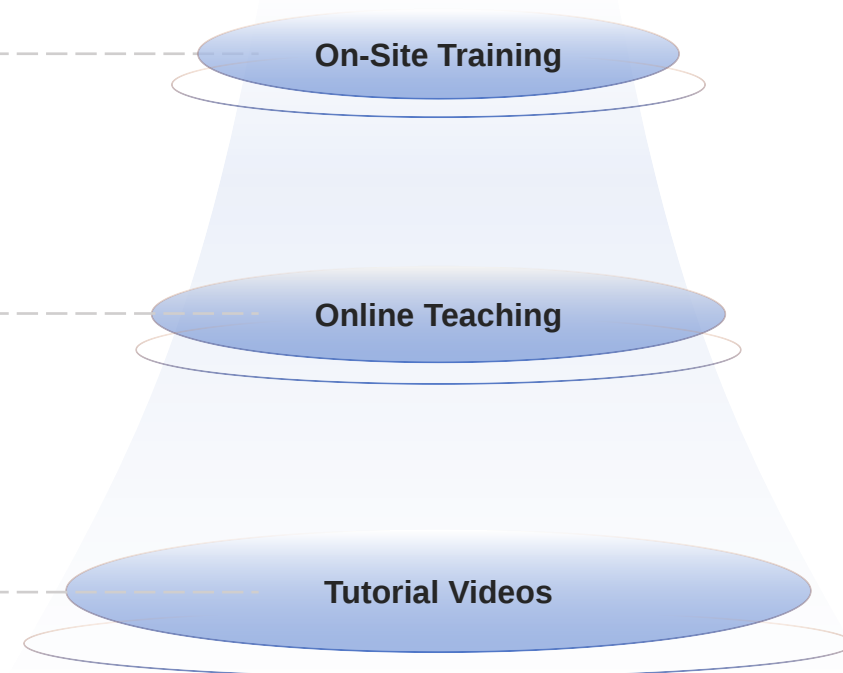
Integrates theory and practice, enabling trainees to comprehensively master professional robotic skills.

Online Teaching

Experienced tutors share industry insights, enabling in-depth learning of robotic application knowledge.

Tutorial Videos

Beginner training enables learners to quickly master collaborative robot basics.



Thank you.



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