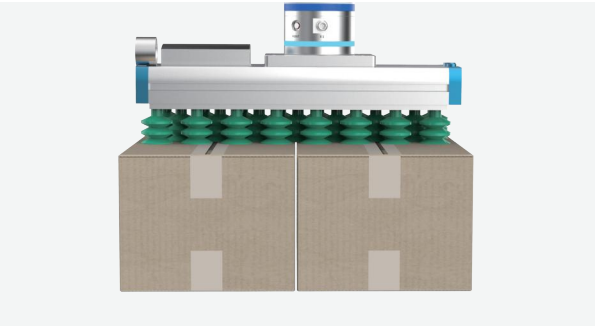
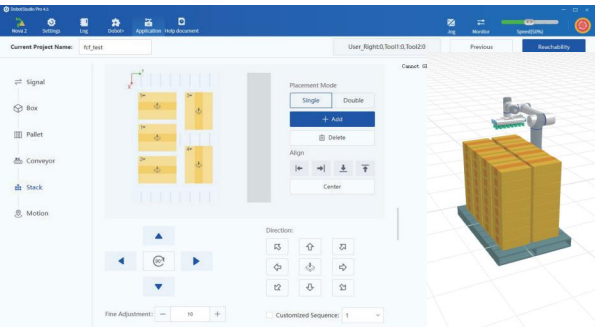


Highlights of the Process Package



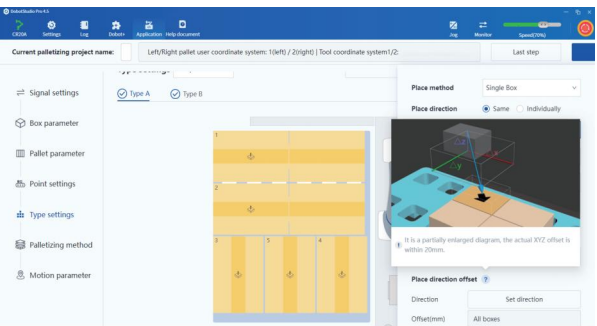
Efficient Dual-suction Mode

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.



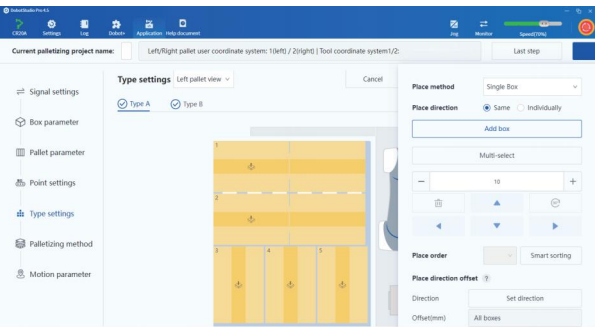
Visual Configuration

The process package has a 3D display function that shows boxes, pallets, stack types, and layers in real-time 3D graphics, simplifying the configuration process.



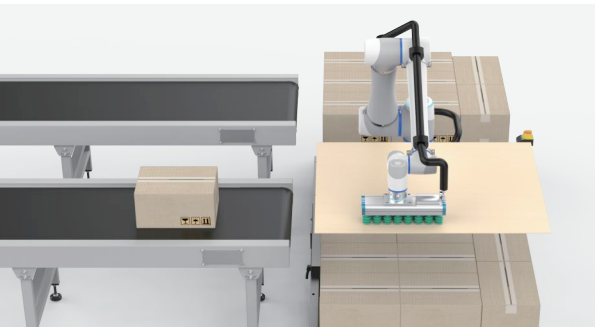
Supports Configuration of Box Transition Point and Target Point

It allows you to set the palletizing position and the box transition point, which minimizes the effect of box size and pallet height differences, eliminates extra space between boxes, and compacts them. You can also set the palletizing position and the box transition point independently, which makes debugging easier.



Flexible Stack Configuration

The system allows for the customization of box palletizing order and entry directions for 8 different types of boxes. This feature is particularly useful in complex stack scenarios where specific arrangements are required.



Supports Picking and Placing Partitions

In response to the needs of the food and beverage industries, picking and placing partitions for palletizing is supported by the process package, which makes the stack more stable. This feature is simple to set up. Just select the partition picking point, transition point, and placing point in three steps.

Product Specifications

Product Name	CR20A Columnar Palletizing Workstation	CR20A Lifting Palletizing Workstation	CR10A Lifting Palletizing Workstation
Max Payload *1	20 kg	20 kg	10 kg
Max Palletizing Pace *2	Single suction and single release: 9 pieces/minute	Single suction and single release: 9 pieces/minute	Single suction and single release: 9 pieces/minute
	Double suction and single/double release: 13 pieces/minute	Double suction and single/double release: 13 pieces/minute	Double suction and single/double release: 13 pieces/minute
Max Palletizing Height *3	1740 mm	2100 mm	1800 mm
Working Radius	1700 mm	1700 mm	1300 mm
Occupied Area	1350 mm * 2220 mm	1350 mm * 2220 mm	1350 mm * 2220 mm
Complete Machine Weight*4	300 kg		
Rated Voltage	AC 100-240V 50/60Hz	AC 110 /AC 230V 50/60Hz	AC 110 /AC 230V 50/60Hz
Max Current	16A	16A	10A
Typical Power	3000W		2000W
Temperature Range	10 °C-50 °C		
Protection Level	Robot body: IP54; Palletizing workstation: IP20		
Certificate	EU: CE		
	US: FCC		
	CAN: ICES-003		

*1. Does not include the weight of the end-effector vacuum gripper
*2. The actual palletizing speed depends on the weight, size, and layout of boxes
*3. The size and layout of boxes may affect the actual palletizing height
*4. Does not include the weight of the mechanical arm and the end-effector

Configuration List

Product Name	CR20A Columnar Palletizing Workstation	CR20A Lifting Palletizing Workstation	CR10A Lifting Palletizing Workstation
CR10A Robot	-	-	✓
CR20A Robot	✓	✓	-
Robot Control Cabinet	✓	✓	✓
Palletizing Workstation Base	✓	✓	✓
Lifting Column	-	✓	✓
Column	✓	-	-
Palletizing Process Package	✓	✓	✓
Tablet	Optional		
Teaching Device	Optional		
End-effector Vacuum Gripper	Optional		



Palletizing Solution

Configuration can be completed in 30 min;
maximum payload: 20 kg; pace: 8-13 pcs/min



 Large payload and high pace

When using the latest CR10A~20A cobots, palletizing speeds can reach 8-13 pieces per minute, which is the highest industry-leading speed.

 **Exceptionally secure**

Dobot's self-developed palletizing process package is integrated, enabling effortless initiation of production through a simple 5-step setup procedure, eliminating the need for programming.

The workstation incorporates a modular layout, facilitating plug and play functionality, and enabling swift installation. It efficiently manages the production of various products, eliminating the need for line changes and streamlining operations.

The utilization of Dobot's palletizing workstation offers a solution to liberate workers from monotonous and physically demanding palletizing tasks, resulting in substantial cost savings for menial jobs. This user-friendly workstation enables regular workers to swiftly adapt, thereby minimizing the expenses associated with ongoing maintenance. Typically, the investment in this workstation can be recouped within a span of 8-10 months once it is implemented for production purposes.

The diagram illustrates two robotic workstations. The workstation on the left has a height dimension of 2100mm, and the one on the right has a height dimension of 1740mm. Both are equipped with robotic arms and end effectors. Numbered callouts (1-7) point to various components: 1. End effector, 2. Robotic arm, 3. Base structure, 4. Control cabinet, 5. Safety fence, 6. End effector, 7. Base structure.

This device 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 managing palletizing tasks.

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.

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.

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.

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

Optional as needed

Configuration 1: Schmalz offers vacuum suction tools that can handle payloads of up to 20 kg and cover a large surface area.

Configuration 2: The product allows for unique customization options and features a dual-suction end-effector.

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.

RobotStudio Pro 4.5
CDS
Settings
Log
Robot+
Application
Help document
Zig
Monitor
Speed(10%)

Application > **Palletizing**

Palletizing type

☒ Palletizing
 ☐ Depalletizing

Select pallet

☒ Left pallet
 ☒ Right pallet

Suction cup type

☒ Single suction
 ☐ Double suction

Lifting column

☒ No lifting column
 ☐ With lifting column

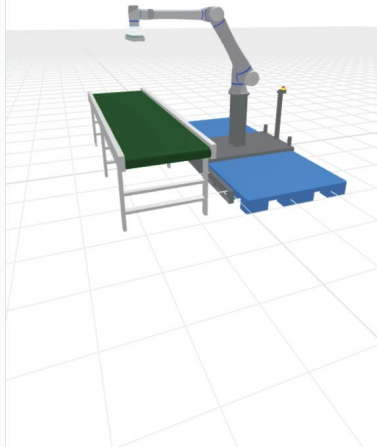
Coordinate system

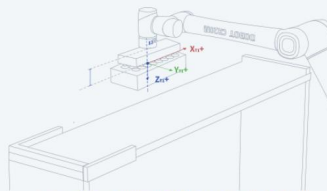
Left pallet user coordinate:

 Right pallet user coordinate:

 Suction tool coordinate system:

User coordinate system ☐
Tool coordinate system ☐





The centers of box, suction, and flange are in the same Z direction.

Single suction/tool coordinate system diagram

[illegible]

The screenshot displays the Universal Robots Studio environment. At the top, the 'Universal Robots Studio' title bar is visible. Below it, a toolbar contains icons for file operations (Open, Save, Print), editing (Copy, Paste, Undo, Redo), and simulation (Start, Stop, Step). The main workspace shows a 3D model of a robotic arm with a gripper, positioned over a 3x3 grid of yellow blocks. The 'Type settings' panel on the left is active, showing 'Type 1' selected. The 'Flex panel' on the right is also visible, showing 'Flex order' and 'Flex direction' settings.