

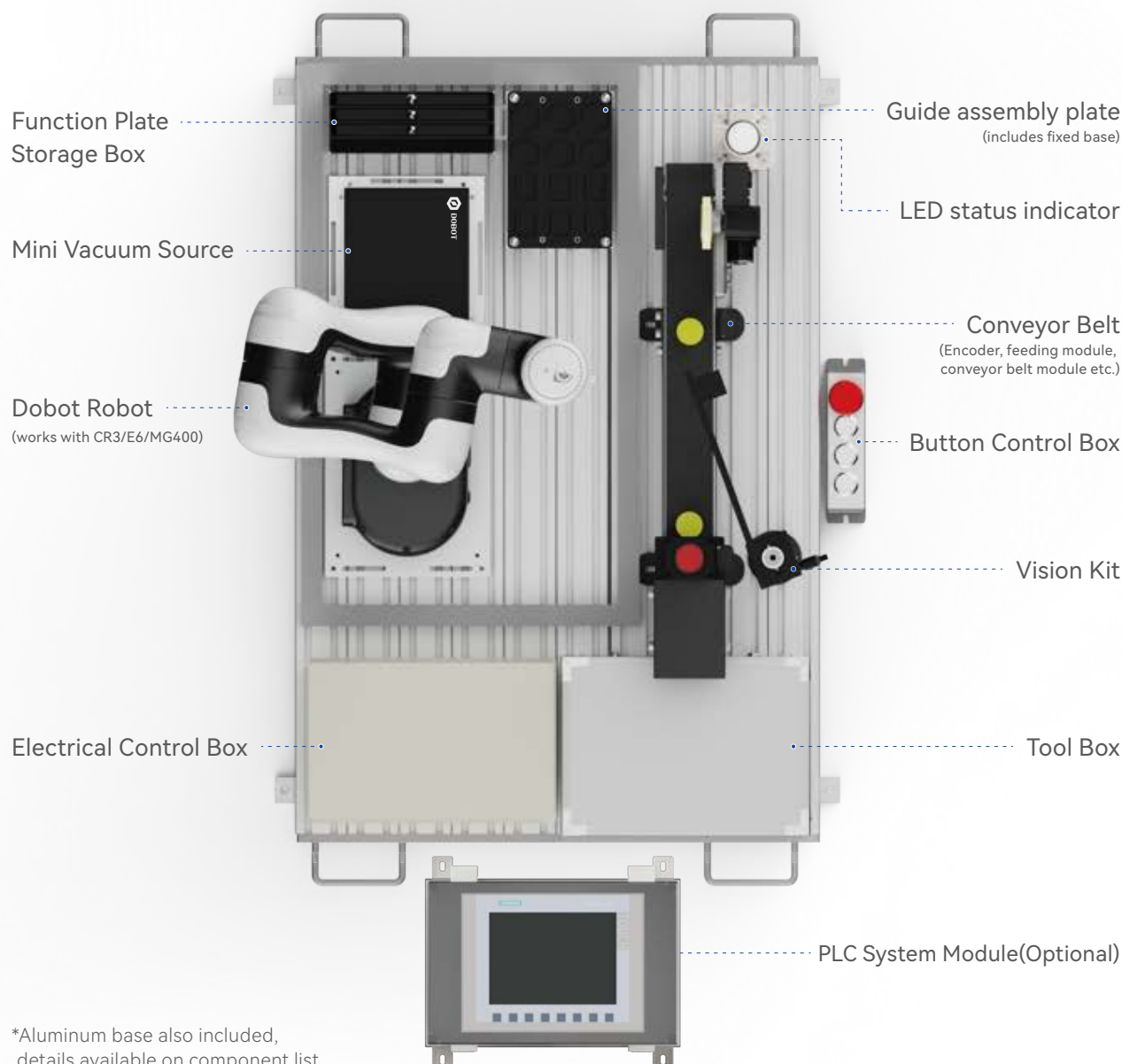


# Collaborative Robot Universal Training Platform

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Collaborative Robot Universal Training Platform is a teaching platform for vocational schools and enterprise training which integrates a robots, control system, vision system, conveyor belt and other components. It adopts a modular design and can be combined flexibly and easily for automation simulation, such as object detection, grabbing, handling, palletizing, and assembly, as well as teaching projects such as robot system calibration, trajectory tracking, and communication control, helping students acquire skills related to smart robot systems, and improve practical and innovative capabilities effectively.

## Platform Modules



# Key Features

## Rich Functions

Use the system to teach robotic system calibration, trajectory tracking, communication and more. By combining with the workpiece models, tasks like object tracking, grabbing, inspection, transportation, palletizing and assembly can be carried out.

## Easy Operation

By combining lightweight collaborative robot (works with CR3/E6/MG400) and flexible modular units, users can create automation tasks easily.

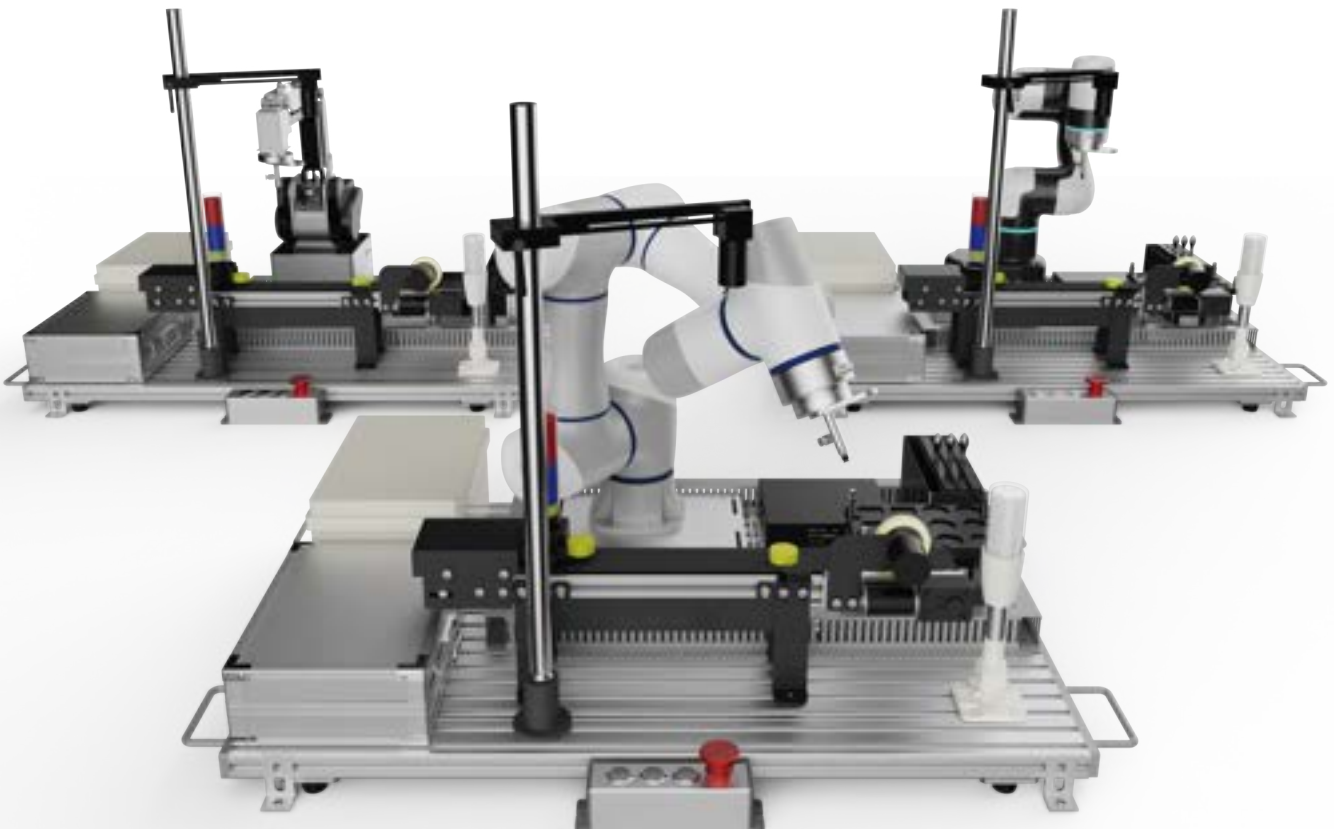
## High Usability

The system covers topics such as robotic system, robotic vision system and optional PLC modular system. Users can deal with the majority of automation tasks after learning. The Conveyor Belt Kit can be used independently with the robotic arm itself.

# Core Unit

## Dobot Robot

Compatible with various DOBOT robots. Users can choose from the CR3, Magician E6 and MG400 for various needs in different application scenarios.



## Vision Kit

Based on Dobot's software and hardware vision platform, the system provides over thousands of image processing operators with a powerful visual analysis tool which can quickly create vision-based applications such as visual positioning, measurement, inspection and recognition and more for different project needs.



## PLC System Module

This module consists of a Siemens S7-1200 PLC, expandable I/O module and HMI touch screen. PLC system quick calibration and control can be carried out through the HMI which increases the device's application efficiency and accuracy.



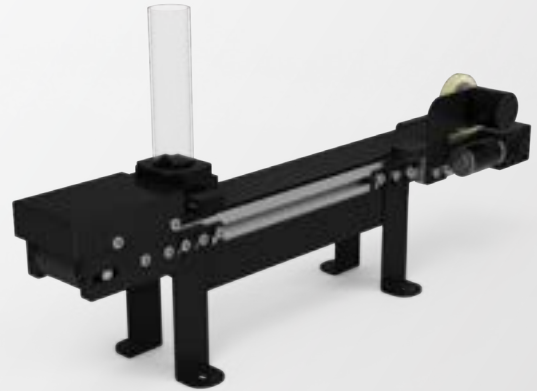
## Mini Vacuum Source

The Mini Vacuum Source is connectable to the robot with a I/O port to provide 70 to 110 kPa air supply. Tasks such as soft grabbing, transportation and more can be realized with the combination of suction cups.



## Conveyor Belt Kit

The Conveyor Belt Kit is equipped with an electric actuator, object sensor and linear encoder to simulate automation in assembly line processes. By combining with the robotic arm, loading and unloading of materials, navigation and grabbing can be realized.



## Function Plates

There are several quick change plates in the function plate storage box. These include the track plate, standard inspection plate, guide assembly plate, mobile phone model location plate. They work alongside with robotic system and vision system for vision positioning, measurement, inspection and identification for various tasks such as tracking, grabbing, palletizing and assembly.



## Tool Box

The tool box serves the purpose of storing loose components. With buffering and cushioning inside the box, items can be placed safely. There are workpieces, tools, robot adapter board, calibration needle, suction cup, screws, pipe and connectors inside the box.



## Training Projects

Basic	Installation of Robot Training Platform
	Robot Basic Operations
Robot Application	Trajectory Simulation Application
	LED status indicator Application
	Static Palletizing Application
	Conveyor Belt Application
Robotic Vision System Application	Vision Sorting System Application
	Smart Phone Chip Assembly Application

## Component List

No.	Name	Quantity	Remark	Standard / Optional	
1	Dobot Robot	1	Works with DOBOT CR3/E6/MG400	Optional	
2	Vision Kit	1	Includes Industrial Camera / Prime Lens / Light Source / Camera Stand	Standard	
3	Conveyor Belt Kit	1	Includes Conveyor Belt Module/ Feeding Module/ Encoder (can be purchased exclusively)	Standard	
4	PLC System Module	1	Includes Siemens 1200 Series/ HMI Touch Screen	Optional	
5	Universal Training Platform	Mini Vacuum Source	1	Air Pressure Range: -70 to 110 kPa	Standard
		Function Plate Storage Box	1	For storing track plate, standard inspection plate and mobile phone model location plate and more	
		Guide Assembly Plate	1	Includes fixed base	
		Button Control Box	1	Includes the start, stop, reset and emergency stop button	
		LED Status Indicator	1	Includes buzzer, color changes between red, green and yellow	
		Electrical Control Box	1	Includes electrical parts (for distribution wiring)	
		Tool Box	1	Includes spare parts, workpieces, suction cup, calibration needle and other tools	
		Aluminum Base	1	600 mm x 900 mm	

note: Conveyor Belt Kit can be purchased exclusively, and used together with DOBOT MG400, Magician E6 and the CR Series robotic arms.



## PLC System Module

The PLC system module is an expansion component developed specifically for the universal training platform to provide programming, control and communication functions to help simulate industrial application scenarios for practical training. The module consists of a Siemens S7-1200 series PLC, Siemens HMI and remote IO. It is compatible with the Dobot Collaborative Robot Universal Training Station, which can be used with a wide range of Dobot robots.

### Product Features

1. Compact and powerful – it integrates the PLC, HMI and remote IO and is also easy to install and put away.
2. Provides 24 input and 22 output IO interfaces, supports PROFINET, TCP and Modbus communication, which are compatible with the DOBOT Collaborative Robot Universal Platform and used with DOBOT MG400, Magician E6 and the CR3.
3. Configured with a 7-inch touch screen for quick monitoring and control of equipment.
4. With EU CE certification and RoHs certification, meeting the access standards of most countries and regions.

## Application Scenarios

The PLC System Module can be used alongside with Dobot Collaborative Robot Universal Platform for the learning of PLC programming and communication control. Learning experience can even be enriched through connecting sensors, actuators and other automation devices to simulate complex automation application scenarios.

## Specifications

Model	DT-BE-R-15	
Weight	3.5 kg	
Voltage	24V DC	
Total Power	Max 75W	
Full Load Current	3A	
Dimensions	335 mm × 270 mm × 235 mm	
HMI	Screen Size	7.0 inches
	Resolution	800 × 480
PLC	CPU	1212C DC/DC/DC
	Working Storage	75 KB
	Loading Storage	2 MB
	High Speed Counter	4
	Integrated I/O	DI × 8, DQ × 6, AI × 2
	Extensibility	
		Signal Module (SM) × 2
		Communication Module (CM) × 1