



**DOANG**

Dolang follows the technical standards of the WorldSkills Competition as its product development standards. Dolang Education Group has paid close attention to the dynamic and related activities of the WorldSkills Competition since 2007. Deeply researching and tracking the development direction, organization and implementation characteristics, technology research and development direction, proposition style, and the scoring rules of the WorldSkills International, Dolang takes the Worldskills competition technical standards as the technical concept for Dolang development.



## company profile

Shandong Dolang Technology Equipment Co.,Ltd, founded in year 1998, is a state-level high-tech enterprise for designing and manufacturing of didactic equipments and software. The main office is located in Jinan with more than 200 staff. The factory covers an area of 40,000 square meters, among which 30,000 square meters is for the production workshop. The office area is about 20,000 square meters. Our corporate mission is to make a technical contribution to the cause of education.

Shandong Dolang Technology Equipment Co., Ltd. is member of Worlddidac Association. Dolang cooperates with the training and teaching experts from Germany, taking the vocational education products manufacturing as the core and providing the leading technical services. Dolang products have passed the ISO9001, ISO14001, ISO18001, and European CE certification, which are exported to Thailand, Malaysia, Indonesia, India, Tunisia, Russia, Brazil, Colombia, Mexico and other countries and areas. Dolang has built the global marketing network with distributors in 45 countries and areas. Dolang wins the No. 1 export brand of didactic equipments, and it has been a worldwide recognized brand in this field.

In the past 20 years, Dolang from the { "manufacturing' , "manufacturing+" , "manufacturing+service" to "service+" } gradually. With the distinctive manufacturing genes, vocational training products manufacturing as the core, plus the leading technical services, Dolang passed the "manufacturing+" to "service+" stage. On this basis, Dolang innovated on the past of service model, intergrated solution of vocational education as the core, breakththrough in the modern/new apprenticeship, Chinese and foreign cooperation in running schools, mixed owership school etc.

- In 2003, Dolang was designated as the production base by China Teaching Equipment Corporation of the Ministry of Education.
- In 2007, Dolang was absorbed as a member by " Vocational Education Equipment Committee of China Vocational & Technical Education Society ".
- In 2007, Dolang was awarded as a member of International Association of Science and Technology Cooperation.
- In 2007, Dolang was awarded as the national modern manufacturing technology mechatronics skills training site.
- In 2007, Dolang was awarded as the CNC technician skills training site of the national modern manufacturing technology.
- In 2009, Dolang co-sponsored "Dolang Cup" Electrical and Electronic Vocational College Skills Competition of Shandong Province (secondary and higher vocational colleges).
- In 2009, Dolang was awarded as the engineering and technical research center of the mechatronics training equipment in Jinan city.
- In 2009, Dolang was awarded as one of the top ten vocational education equipment enterprises in China education equipment industry.
- In 2009, Dolang was an ISO9001,ISO14001 and OHSMS28001 approved company.
- In 2009, Dolang was awarded as the internship training base of enterprises in Shandong province.
- In 2010, Dolang was awarded as a sponsored enterprise of Shandong Province Vocational College Skills Competition .
- In 2010, Dolang co-organized "Dolang Cup" Vocational Skills Competition of Shandong province.
- In 2010, Dolang co-organized Shandong Province Qualifying Trial of the Third National Technical Colleges Skills Competition.
- In 2011, Dolang was awarded as the pilot enterprise of intellectual property of Jinan City.
- In 2011, Dolang obtained the certificate of the National Technical Innovation Fund.
- In 2011, Dolang co-organized Mechatronics Project Skills Competition in Xinjiang province.
- In 2012, Dolang co-organized Shandong Province Qualifying Trial of the Fourth National Technical College Skills Competition.
- In 2012, Dolang was awarded as the science popularization education base of Shandong province.
- In 2013, Dolang was absorbed as a member by the Education Equipment Industry Association of Shandong province.
- In 2013, Dolang was awarded as the "innovative enterprise of Jinan city".
- In 2013, Dolang was awarded the "AAA corporate reputation certificate".
- In 2013, Dolang was awarded as the enterprise accredited for fulfilling contract and valuing credit.
- In 2013, Dolang was approved the certificate of "Shandong High-Tech Enterprise".
- In 2013, Dolang successfully passed "Double Soft Enterprise" certification.
- In 2013, Dolang became a Worlddidac member directly under UNESCO.
- In 2014, Dolang became the school-enterprise cooperation governing unit of Shandong Labor Vocational and Technical College.
- In 2014, Dolang was awarded as the academician workstation of Jinan City.
- In 2014, Dolang was recognized as a "one company, one technology" innovation enterprise in Shandong province.
- In 2015, Dolang successfully passed SGS international certification system.
- In 2015, Dolang was designated as the "Practical Teaching Base" by Jinan university in shandong province.
- In 2015, Dolang was designated as the "Employment Internship Base" by Jinan University in Shandong province.
- In 2015, Dolang was designated as a "Youth Employment and Entrepreneurship Base" by Jinan University in Shandong province.
- In 2015, Dolang was designated as "University Students Social Practice Base" by Jinan University in Shandong province.
- In 2015, Dolang became a member of China Automotive Warranty Equipment Association.
- In 2016, Dolang co-hosted China Qualifying Trials of the 44th World Skills Competition .
- In 2016, Dolang co-hosted the first National Industrial Robot Technology Application Skills Competition.
- In 2017, Dolang co-sponsored China International Skills Competition.
- In 2017, Dolang co-hosted the second National Industrial Robot Technology Application Skills Competition.





CE Certificate



ISO14001



ISO9001



OHSAS18001



SGS





Gold Member of Worlddidac Association



David Hoey, CEO of Worldskills Competition Visited Dolang Exhibition Stand

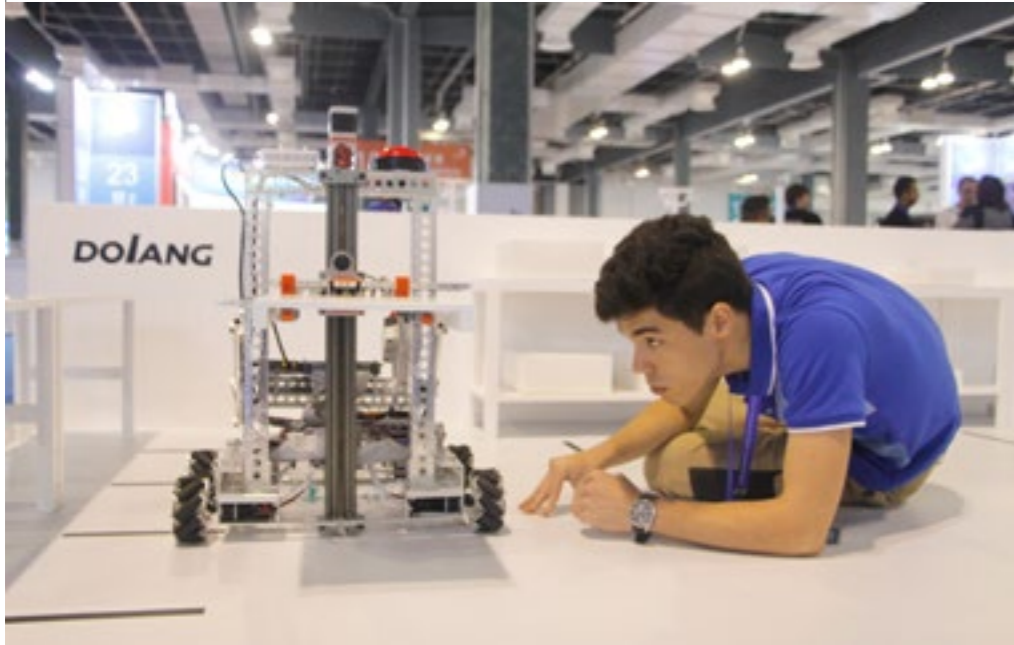


International College-Enterprise Corporation Organization Representative Office in Greater China



2015 International University-Enterprise Cooperation Docking Dialogue





Dolang Sponsored Mobile Robotics Project of 2017 China International Skills Competition.



2016 China Skills Competition National Selection Competition of the 44th Worldskills Competition

2017 China International Skills Competition - The exclusive technical sponsor of mobile robotics and electrical installations, assisting Shanghai to be the Worldskills bidding city successfully.



Dolang Attended Worlddidac Asia.

As a gold member of Worlddidac Association, Dolang is invited to participate in the international education equipment exhibitions every year.

The Ministry of UAE Visited Dolang Booth in GESS Dubai 2017.







2016 Chinese Skills Competition - "Dolang-Everte Cup"



National Industrial Robot Technology Skills Competition

- Build the competition platform, select the skilled personnel, contribute to "made in China 2015", promote the development of intelligent manufacturing.

- Dolang cooperates with ABB to build laboratories for vocational education. We understand that one complete solution can not solve all the problem, so in order to meet needs from different customers, we will adjust our solution and develop personalized products in accordance with customer's needs at all time.



Dolang Cooperates With ABB to Build Laboratories for Vocational Education.



Group discussion

## Electrical and Electronic Training Series, New Energy Training Series

## Electrical Maintenance Skill Training Series



DLWD-ETBE24D730M Electrical Maintenance Skill Training Series

### ■ Technical Parameters

- Dimension : 1600×1370×1800mm
- Size of patch board : 640×730mm (Whole plate folding, stainless steel materials)
- Output power : AC 380V Safety terminal output, output power indicator AC 220V  
Safety socket output, rocker switch control DC 1.25-30V±1%  
Safety terminal output (including voltage, ammeter indication function)
- Capacity : < 1.5KVA
- Instrument Measurement: three-phase voltage measurement, three-phase current measurement, single-phase current measurement, three-phase power measurement, single-phase power measurement, power factor measurement, frequency measurement, single-phase load electricity consumption measurement.

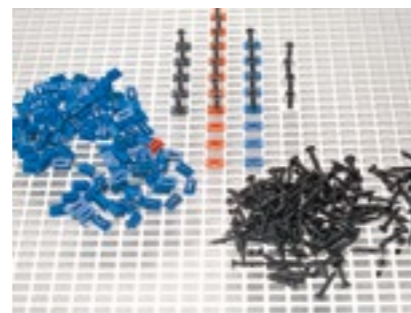
### ■ Optional

- Electric drag components
- Lighting components



## Electrical Maintenance Skill Training Series

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DLWD-ETBE12D730 Electrical Skill Training Workbench  
National Patent No.: ZL2003 3 0109800.X

National Patent No. of Mesh plate:  
ZL2003 3 0109796.7

#### Overview

This system is mainly constituted of workbench, power supply unit, patch board etc., suit for 2 students.

#### Technical Parameters

- Dimension : 1600×800×1680mm
- Size of patch board : 640×730mm (whole plate folding , stainless steel materials)
- Input power : three-phase, five-wire AC 380V±10% 50/60Hz
- Output power : AC 380V safety terminal output, output power indicator AC 220V safety socket output, rocker switch control DC1.25-30V±10% safety terminal output(including voltage, ammeter indication function)
- Instrumentation Measurement: three-phase voltage measurement,three-phase current measurement, single-phase current measurement,three-phase power measurement,single-phase power measurement,power factor measurement, frequency measurement,single-phase load electricity consumption measurement.
- Capacity : < 1.5KVA

#### Optional

- Electric drag components
- Lighting components

## Electrical Maintenance Skill Training Series

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DLWD-ETBE840M-PX Teacher Workbench National Patent NO. : ZL2003 3 0109802.9

#### Overview

The workbench is composed of control platform and teacher workbench. The height of the workbench is 750mm, and the width is 800mm.Under the table is a monolith firewood cabinet,under the center console is open patch board electrical control cabinet,and data cabinet is under the teacher machine.The center console controls all students' computers,the teacher can do single transmission when they confirm there is no fault with student training content. The center console is equipped with three-phase voltage and current testing device.The teacher machine is equipped with measurement instruments which are commonly used in electrical skills training.

#### Technical Parameters

- Dimension : 2000×800×1807mm
- Size of patch board : 840×640mm(The whole plate folding,stainless steel materials)
- Input power : three-phase, five-wire AC 380V±10% 50/60Hz
- Output power : AC 380V safety terminal output,AC 220V safety socket output,DC1.25-30V±1% safety terminal output (including voltage and current indicate )
- Capacity : < 1.5KVA

#### Optional

- Electric drag components
- Lighting components



## Electrical Maintenance Skill Training Series

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DLDS-1214F Electrical Installation Training System

#### Overview

- The system adapts to vocational education, practical training and "Electrical Installation" competition requirements of World Skills Competition, it is suitable for all types of repair electricians, electrical installation workers, plumbers and other electric training requirements in vocational schools and technical schools.
- This system is a general training platform developed according to maintenance electrician and electrical installation training qualification requirements of the electrical installation in factory and indoor electrical installation etc.
- The system adopts the double layer structure, the inner layer is the simulated wall, the outer layer is the mesh wall surface.
- The use of boards to make the students more close to the wall installation, the mesh structure added the flexibility of the equipment to facilitate the practical training after the competition.
- The room adopts trapezoid open structure, which is completely consistent with the World Skills Competition environment, so that students can complete the installation of different lines in this three-dimensional space and master the installation techniques.
- It can simulate real competition environment.

## Electrical Maintenance Skill Training Series

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#### Technical Parameters

- Dimension : 2550×1300×2500mm  
Trapezoidal structure, the outer layer is constructed by the mesh plate, the inner layer is composed of four panels.
- Main mesh plate size :  
Right hand panel (A) /1220 x 2440 x 18mm  
Left hand panel (B) /1220 x 2440 x 18mm  
Main panel (C) /1800 x 2440 x 18mm  
Ceiling (D) front 2426mm, rear 1827mm, depth : 1202mm
- Input power : AC 380V±10% 50/60Hz
- Total power control : with leakage protection, when the leakage current up to 30mA, the protection of the system action
- Training equipment materials : steel spray ; steel thickness ≥ 1.5mm
- Capacity : ≤ 2.0 KVA



DLWD-CSMK Failure Assessment Module

#### Other variant products of the same series:

DLDS-1214A Electrical Installation Training System

DLDS-1214B Electrical Installation Training System

DLDS-1214C Electrical Installation Training System

DLDS-1214D Electrical Installation Training System



## Electrical Maintenance Skill Training Series



DLWD-KNX Residential & Building Intelligent Control Training System

### Overview

Building intelligent control training system uses full-digital distributed control system, with automatic and centralized control management to control all types of lighting, air conditioner, curtains and other electrical equipments, which realizes energy monitoring. It not only manages building electrical equipment effectively, providing flexible application and effect, but also can maintain and extend the life of the lamp and electrical equipment, to achieve safety, energy conservation, hommization, intelligent effects, and its function can easily be extended in future according to the user need.

The system not only can be used as building automation and network teaching systems, but also can combine with subsystems to form networked residential and intelligent building classrooms.

### Technical Parameters

- Dimension : 1120×800×1850mm
- Input power : single-phase, three-wire AC 220V±10% 50/60Hz
- Output power : DC24V/3A, with limiting current type short-circuit soft protection and self-recovery function.
- Power supply control : automatic air switch on/off power supply, with overcurrent protection, leakage protection devices.

## Electrical Maintenance Skill Training Series



DLWD-ETBE12D-II Advanced Electrical Maintenance Skill Training & Assessment Series

### Overview

This device fulfill the content and standard of low voltage electrical, motor and relay control circuit required by the advanced maintenance electrician training and examination skills, it can satisfy the relevant requirements of professional skill appraisal in the senior maintenance electrician skill examination.

### Technical Parameters

- Dimension : 1840×800×1570mm
- Input power : three-phase, five-wire AC 380V±10% 50/60Hz
- Output power : AC 380V, AC 0~220V multi AC safety terminal output  
AC 220V Safety socket output, DC 1.25-30V±1% safety terminal output
- Capacity : <1.5KVA

### Other variant products of the same series:

- DLWD-ETBE12D-I Middle level Electrical Maintenance Skill Training Series
- DLWD-ETBE12D-III DLWD-ETBE12D-III Electrical Maintenance Skill Training Series



DLWD-ETBE12D-G Middle Level Electrical Maintenance Skill Training Series



## Electrical Maintenance Skill Training Series



DLWD-DJB02 Motor &amp; Transformer Maintenance &amp; Test Training System

#### Overview

DLWD-DJB02 motor & transformer maintenance and test training system is the training platform for remove,rewind, assembling,test,data analysis and other skills training of single-phase transformers,single-phase capacitor induction motor, three-phase squirrel cage induction motor and separately excited DC motor etc.

The equipment is equipped with three-phase AC adjustable power supply, DC power supply, DC measurement instrument, AC measurement instrument & digital multi-function wattmeter, Motor power supply and test instrument. Beside the above instruments, there are motor inserting tools, Manual digital winding counter.

#### Technical Parameters

- Dimension : 1950×700×1500mm
- Input power : three-phase, five-wire 380V±10% 50/60Hz
- Output power : leakage protection(action current ≤ 30mA), overcurrent protection, fuse protection, AC220V safety terminal isolation output, AC24V safety terminals isolation output, DC220V safety terminals isolation output
- Capacity : < 1.5KVA

## Electrical Maintenance Skill Training Series



DLDC-01 DC Motor Training System

#### Overview

DC motor training equipment is work process-oriented, motor control as the carrier, respectively, AC servo introduction, commonly used tools and instrumentation, the basic control circuit installation and maintenance of DC motor , The principle of DC motor power and other basic skills to learn situations to achieve a comprehensive understanding of motor control,to improve the practical ability of students.

#### Technical Parameters

- Dimension(training bench) : 1700 × 700 × 1750mm
- Input power: three-phase five-wire AC380V ± 10% 50/60Hz
- Output power: three-phase AC380V ± 10% 50/60Hz, single-phase AC220V ± 10% 50/60Hz DC24V (2 ways)
- Working environment: -10 °C - 45 °C , relative humidity <90% RH (25 °C ) , altitude <4000M
- Device capacity: <1.5KVA
- The general power control with leakage protection, when the leakage current up to 30mA, the protection device action.
- Grid voltage instructions with 3 pcs 450V AC voltmeter pointers.

## Electrical Maintenance Skill Training Series



DLWD-DJ22-M Induction Machine Training System

#### ■ Training projects

- Frequency converter panel control motor start and stop;
- External terminal control experiment based on frequency converter;
- Reverse switch control motor forward and reverse experiment;
- Use star - delta starter to star motor;
- Combination switch control two-speed motor experiment;
- Contactor interlocking motor forward & reversing control circuit;
- Dual-interlock three phase asynchronous motor forward/reversing control circuit;
- Y-  $\Delta$  Start experiment controlled by contactor;
- Three-phase asynchronous motor sequence control;
- Single-phase resistance motor forward and reverse rotation experiment,
- Switched reluctance motor speed control experiment,
- How to use torque sensor etc.

#### ■ Technical Parameters

- Dimension: 1810x720x1620mm
- Input voltage three-phase five-wire: 380V  $\pm$  10% 50/60Hz
- Working environment temperature range: -5 ~ 40 °C
- Device capacity
- AC power: <1.5KVA
- DC excitation power supply: <0.5A
- Armature power supply: <2A

## Electrical Maintenance Skill Training Series



DLWD-DJ21 Electric Motor and Transformer Experimental Set

#### ■ Overview

DLWD - DJ21 motor and transformer comprehensive experiment device can meet the experiment of motor drag and the speed of the motor, motor and drag basic experiment, electrical motor, the motor and transformer and so on the curriculum requirements.

#### ■ Technical Parameters

- Dimension: 1600 x 750 x 1300 mm
- Input power: three phase four wire 380V  $\pm$  10% 50/60Hz
- Working environment: temperature - 10 °C ~ + 40 °C relative humidity < 85% (25°C )
- Installed capacity: < 1.5 KVA
- Weight: 300 kg



## Electrical Maintenance Skill Training Series

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DLWD-DJSX-T Synchronous Motor Training System

## ■ Training projects

- The influence of resistance, capacitance and inductance value on power factor;
- Torque control;
- Synchronous motor control;
- Excitation system debugging of synchronous motor;
- Power generation training of synchronous generator;
- Synchronous generator control;
- DC motor control etc.

## ■ Technical Parameters

- Dimensions: 1600 × 700 × 1750mm
- Input power: three-phase five-wire AC380V ± 10% 50/60Hz
- Output power: three-phase AC 380V ± 10% 50/60Hz; single-phase AC 220V ± 10% 50/60Hz
- Working environment: temperature -10 °C - +40 °C relative humidity <85% (25 °C ) altitude <4000m
- Power control: automatic air switch off power, with overvoltage protection, undervoltage protection, overcurrent protection, leakage protection system.

## Electrical Maintenance Skill Training Series

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DLWD-DJ05 Electric Machine Training System

## ■ Training projects

- Wound rotor motor control,
- Speed regulation of wound rotor motor,
- Grid connection operation of synchronous generator,
- Reactive power auto-compensation control,
- Speed regulation of DC motor etc.

## ■ Technical Parameters

- Dimension: 1810x720x1620mm
- Input voltage three-phase five-wire system 380V ± 10% 50/60Hz
- Working environment: ambient temperature range -5 ~ 40 °C
- Device capacity exchange <1.5KVA
- DC: Excitation power supply <0.5A
- Armature power supply <2A
- Total power control, with leakage protection, when the leakage current up to 30mA, the protection device action.
- The grid voltage indication with 450V pointer AC voltmeter 3pcs.

## Electrical Maintenance Skill Training Series

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DLWD-ETBEZMXT Electrical Installation Training System (in module)

## ■ Training project:

DLWD-ETBEZMXT modular electrical installation is used for basic electrical installation and further studying. Each panel of module has a components circuit, The circuit is connected by 4mm safety terminals.

This system mainly provide training of two partial intercom system and lighting system. Comprehensive training for external intercom and internal intercom, measurement on electric power parameters, voltage, current, power and power factors.

## ■ Technical parameters

- Dimension: 1600 × 1370 × 1800mm ((the dimension may change according to actual design.))
- Input power: AC380V, 50/60Hz; three-phase five-wire system
- Capacity: ≤ 1.5kVA
- Power control: use automatic air switch on/off power supply, with short circuit protection system, leakage protection system, the voltage value can be set according to the actual situation of their own over-voltage protection system, the voltage value can be set according to the actual situation of set undervoltage protection system.

## Electrical Maintenance Skill Training Series

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DLWD-DJ22 Motor&amp;Electrical Technology Comprehensive Training Device

## ■ Overview

The device is modern design,firm stand and saves space.It can put different hanging boards according to the teaching and training requirements,teaching contents of equipment are wide and the training projects are abundance,both front and back side allow two students to learn and assessment at same time,it achieve independent power supply without disturbing each other.and the boards are accessories which facilitate the expansion and updating of training content.The device allows students to choose control devices and form typical control circuit to find out and remove fault. The device is equipped with a variety of motor as control objective,enable students to learn a variety of motor motion control,operating characteristics and mechanical properties,which is conducive to study and troubleshooting of motor.

## ■ Technical Parameters

- Dimension : 1170×710×1930mm
- Input power : AC 380V±10% 50/ 60Hz

## ■ Optional

- Simulation software
- Siemens PLC, Mitsubishi PLC and frequency converter



## Electrical Maintenance Skill Training Series

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DLWD-DJQD01 Electrical drive training system

#### Overview

DLWD-DJQD01 electrical drive training assessment device is a reference to the German advanced vocational education concept to the work process-oriented to maintenance of electrician as the carrier, respectively, maintenance of electrical entry, commonly used electrical tools and instrumentation, indoor line installation, The basic control of the motor line installation and maintenance, in order to achieve the students on the maintenance of electrical workers a comprehensive understanding of the students to improve the practical ability.

#### Technical Parameters

- Dimension: 1810x720x1620mm
- Input voltage: three-phase five-wire system  $380V \pm 10\%$  50/60Hz
- Working environment: ambient temperature range of  $-5 \sim 40^\circ\text{C}$
- Device capacity exchange  $<1.5\text{KVA}$
- DC Excitation power supply  $<1\text{A}$
- Armature power supply  $<2\text{A}$
- The total power control, with leakage protection function, when the leakage current up to 30mA, the protective device action.
- The grid voltage indication with 450V pointer AC voltmeter 3 only.

## Electrical Maintenance Skill Training Series

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DLWD-ETBE12D-B Basic Electric Training System

#### Overview

The equipment includes a variety of electrical modules. According to the experiment, you can be familiar with a variety of circuits, the control principles and ways to train students to master relevant knowledge and skills for higher occupation education, colleges, secondary occupation technical school and technical personnel training school to related major teaching skills training and examination.

The device provides a set of measuring instrument modules, rectifier, filter, adjustable resistor module, load module and so on. It is mainly used in basic electrical teaching experiments.

#### Technical Parameters

- Dimension:  $1700 \times 700 \times 1600\text{mm}$
- Input voltage: three phase five wire  $380V \pm 10\%$  50/60Hz
- Working environment: ambient temperature range  $-5 \sim 40^\circ\text{C}$
- Capacity: AC  $<1.5\text{KVA}$
- The total power control has the function of leakage protection. When the leakage current reaches 30mA, the protection device moves.

## Electrical Maintenance Skill Training Series

## Electrical Maintenance Skill Training Series



DLWD-ETBE12D-L Primary Electrical Lighting Skills Assessment Training Device

#### Overview

Primary lighting training equipment is designed and researched based on the teaching of conventional lighting circuits and outdoor lighting lines. Practical operation of electrical control circuit and practical electronic circuit can be carried out listed in the teaching material of "Lighting Circuit Foundation Installation", "Lighting Control Circuit" can make students' operation skills get good exercise and improvement. The training device not only can be used as the practical teaching for vocational school students, but also is an ideal equipment for assessing primary and intermediate maintenance electrician skills.

#### Technical Parameters

- Dimension: 1810x720x1620mm
- Input power: three phase five wire 380V ± 10% 50/60Hz
- Working environment: ambient temperature range -5~40°C
- Capacity: AC power supply < 1.5KVA , DC excitation power supply: < 0.5A , armature power: < 2A
- The grid voltage indication is provided with 450V pointer type AC voltmeters. 3pcs.



DLWD-ETBE-G04 Industrial Circuit Skills Training Assessment Device

#### Overview

The equipment can carry out a variety of machine electrical control circuit assessment. The device displays all the electrical movements of the machine . In addition, it also provides a full range of real machine tool troubleshooting skills training, you can set the fault by the host computer, only through the network switch can set the corresponding point of failure, effectively improve the students' machine tool maintenance skills .The device looks beautiful, easy to operate, intuitively, more close to the industrial site, Suitable for training assessment on maintenance electrician (Electrical) in early, medium, advanced skills identification.

#### Technical Parameters

- Dimension: 800 × 850 × 1800mm
- Input power: three-phase five-wire 380V ± 10% 50/60Hz
- Working environment: temperature -10 °C ~ +40 °C, relative humidity < 85% (25 °C), altitude < 4000mm
- Device capacity: < 1KVA



## Electrical Maintenance Skill Training Series

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DLWD-ZD1200/6 Low and Middle Voltage Simulation Training System

#### Overview

The system uses special mold profile, it adopts layer structure, operation part is under the workbench and measurement part is on the workbench, which is easy to operate. Modular structure, can adjust or replace the experiment module.

The training system consists major control power supply module, power supply module, device adapter module, electrical instrumentation module and ground protection module. The major control power supply module provides two-way adjustable three-phase five-wire AC 0-450V power; power module provides AC 220V single-phase AC power supply, AC 0-220V adjustable AC power supply, DC 220V DC power supply, DC 0-220V adjustable DC power supply; device adapter module provides three-phase five-limb voltage transformer and eliminating-arc loop and voltage display; electrical instrumentation can provide the measurement of DC voltage and current, AC voltage, current, power, power factor, frequency measurement, ground protection module is mainly used to make ground protection test.

#### Technical Parameters

- Dimension : 1850×800×1580mm
- Input power : three-phase, five-wire 380V±10% 50/60Hz
- Output power : AC 220V adjustable power safety terminal output, DC 220V adjustable power safety isolation output, DC220V safety terminal output.

## Electrical Maintenance Skill Training Series

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DLWD-XD35 Modern Electrical Technical Skills Training Assessment System

#### Overview

The device use standard electrical control cabinet as main body, it adopts smart double-sided space.

The devices includes main power supply, observation window, electrical system and motors. The internal cabinet adopts flexible & removable hanging box modules, including stepper motor module, AC servo motor module, PLC, frequency converter module, electric drive and lighting circuit module. Lathe machine, Milling machine, boring machine, electric hoist module and wireless fault assessment system etc, it meet requirement of vocational skills certification.

#### Technical Parameters

- Dimension : 800×800×1680mm
- Input power : three-phase, five-wire AC 380V±10% 50/60Hz
- Output power : AC 380V safety terminal output , output power indication, AC 220V safety socket output, DC 24V, 12V safety terminal output
- Capacity : < 1.5KVA

#### Optional

- Siemens system
- Mitsubishi system

## Machine Tools Maintenance Training Series (Model-type)

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DLJCS-G4 Intelligent Four-in-One Machine Tools Electrical Skill Training System (Semi-physical)

#### Overview

The system uses cabinet structure, both front-side and back-side are equipped with machine training assessment unit, it supports variety of fault assessment and repair training of machine electrical control circuit. Students can study machine's electrical circuit by operating, the operation of the device electrical part can achieve all kinds of motion control of four machines, it includes: motion control of X62W universal milling machine, CA6140 lathe machine, Z3040 radial drilling machine, M7130 surface grinder machine.

#### Technical Parameters

- Input power : three-phase, five-wire AC 380V $\pm$ 10% 50Hz/60Hz
- Semi-physical dimension :
  - (Workbench): 1180 $\times$ 700 $\times$ 750mm
  - (Lathe machine) : 980 $\times$ 320 $\times$ 370mm
  - (Ginder machine) : 800 $\times$ 400 $\times$ 200mm
  - (Drilling machine) : 600 $\times$ 320 $\times$ 500mm
  - ( Milling machine ) : 900 $\times$ 300 $\times$ 370mm
- Input power : three-phase, five-wire AC 380V $\pm$ 10% 50/60Hz
- Capacity : < 1KVA



## Power Supply Training Assessment Series

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DLWD-5A I Low-voltage Power Supply &amp; Distribution Assessment Training System

#### Overview

- The system completes the training projects involving power distribution room with high&low voltage electrical equipment, monitoring and meter reading, power relay and relay protection, switching operation and typical low-voltage electrical lines.
- DLWD-5A I Low voltage power supply & distribution training system includes a variety of GCK low voltage electric control cabinet which constitute varieties of power distribution circuit, 0.4KV voltage level power distribution cabinet, which is closer to the industrial field.

#### Technical Parameters

- Dimension : 4500 $\times$ 800 $\times$ 2200mm
- Rated insulation voltage : DC 660V
- Rated working voltage : AC 380V
- Rated operating voltage of auxiliary circuit : AC 380V 220V
- Busbar rated current : 100A
- Branch busbar rated current : 10-16A



## Power Supply Training Assessment Series



DLWD-5A II Power Supply &amp; Distribution on Duty Electrician Assessment Training System

#### Overview

The system can complete the training projects involving power distribution room with high & low voltage electrical equipment, monitoring and meter reading, power relay and relay protection, switching operation, a typical low-voltage electrical lines and other content. It can be used as power supply and distribution professional and related professional training equipment and power distribution on duty electrician training assessment platform of vocational schools, technical schools.

DLWD-5A II power supply and distribution on duty electrician training systems includes high and low voltage distribution cabinet, analog control panel composed of a variety of distribution assessment circuit. 10KV high voltage uses 0.4KV voltage level to simulate, various electrical use the real original GG1A-12 high-voltage power distribution cabinets, it is closer to the industrial field.

#### Technical Parameters

- Dimension : 5600×800×2200mm
- Rated insulation voltage : DC 660V
- Rated working voltage : AC 380V
- Rated operating voltage of auxiliary circuit : AC 380V 220V
- Busbar rated current : 100A
- Branch busbar rated current :10-16A

## Electronic Training Series



DLZ-165E Electronic Circuit Training Equipment

#### Overview

The system including digital electronic and analogue electronic, with modular structure which is easy to replace and organize training programs. High voltage and low voltage use different terminals. At the same time, it has abundant human-computer security methods like short-circuit protection, overload protection, fully enclosed cable outlet and socket, ground protection, leakage protection, emergency stop buttons, etc.

#### Technical Parameters

- Dimension : 1400×700×1655mm
- Input power : AC 220V±10% 50/60Hz
- Output power : DC±1.25 ~ ±30V/0.8A  
two-way AC 9V , two-way AC 18V , compatible independent winding  
and neutral axis head output
- Capacity : ≤ 1KVA

#### Optional

- Oscilloscope
- Signal generator
- Multimeter

## Electronic Training Series

38



DLDS-WXD12 Radio Debugging Work Skills Training Examination Identification System

#### Overview

"DLDS-WXD12 Radio Debugging Work Skills Training Examination Identification System" in modular form and provide typical radio training assessment modules like power supply, audio and video processing module, infrared transmitter and receiver module, 433MHz wireless transceiver module, radio module, interphone module, TV module etc. They can complete a variety of wireless transmission equipment debugging, analysis and assessment. It can be used as classroom teaching demonstration, and radio debugging relevant certificate examination.

#### Technical Parameters

- Dimension : 2150×1042×1680mm
- Output power : 220V±10% 50/60Hz
- Input power : AC power supply 220V±10% 50Hz, 7.5V (1A) two sets  
fixed DC power supply +5V (1A), +12V (1A), +35V (1A), -12V (1A)  
Adjustable DC power supply : 0 ~ 30V (1A)
- Capacity : < 1.5KVA

#### Optional

- Sweeper
- Oscilloscope
- Function generator

## Electronic Training Series

39



DLDZ-DLDZ01 Power Electronic Technology and Automation Control Training System

#### Overview

DLDZ-DLDZ01 power electronics and automation control training system covers power electronics technology (or semiconductor converter technology), DC Speed regulation, AC Speed regulation, motor control, electric drive automatic control system and other professional courses. It can be used as classroom teaching demonstration, and also be used for power electronics engineers and other appropriate certificate examination.

#### Technical Parameters

- Dimension : 1870×720×1620mm
- Input power : Three-phase four-wire( or three-phase five-wire), 220V±10% 50/60Hz
- Output power : AC220V , DC220V, DC±15V (3A)
- Capacity : < 2KVA



## Electronic Training Series

40



DLWD-DGJS13 Electrotechnics, Electronic and Electrical Drive Training System

#### Overview

This system is designed for analog electronics, digital electronics, circuit principle and motor drag experiment, mainly effect digital/analog electronics, circuit principle and motor drag experiments. The training system consists of two parts: workbench (including the power control panel) and experimental modules.

#### Technical Parameters

- Dimension : 1670×800×1750mm
- Input power : 380V±10%
- Output power : AC 0 ~ 450V、AC 380V、AC 220V、DC 1.25 ~ 30V two-way adjustable DC power supply, DC 0 ~ 500mA adjustable constant current source、AC 0 ~ 30V safety terminal output
- Capacity : < 1.5kVA
- Motor power : < 180W
- Wireless power control distance : > 50m (Optional functions)

#### Optional

- Oscilloscope
- Multimeter
- Signal source

#### Other variant products of the same series:

- DLWD-DGJS11 Electrotechnics, Electronic Training System
- DLWD-DGJS12 Electrotechnics, Electronic Training System

## Electronic Training Series

41



DLDP-YD510 MCU Training Assessment System

#### Overview

DLDP-YD510 MCU training assessment system can complete a variety of training content, including single chip minimize system knowledge, learning, programming training, simulation unit training, training project, the expansion training of the single chip microcomputer. Through the content of the project, project analysis, project implementation, project summary and ability evaluation, complete basic skills, professional skills and position skills training.

#### Technical Parameters

- Dimension : 2150×1042×1680mm
- Input power : AC 220V±10% 50/ 60 Hz
- Output power : DC±1.25 ~ ±30V/0.8A、DC±5V/1A、DC±12V/1A, DC 24V±5% /1.5A
- Capacity : ≤ 1KVA

#### Optional

- Computer
- Simulator and simulation software
- MCU Host module :  
51 microcontroller series,  
PIC microcontroller series,  
AVR microcontroller series.

#### Other variant products of the same series :

- DLDP-YD511 MCU Training Assessment System

## New Energy Training Series

42



DLXNY-FN02 Wind-solar Complementary Training System

#### Overview

Wind-solar Complementary Training System consists of photovoltaic power system, solar power systems, wind power system, inverter and load system, monitoring system. With modular structure, each device and system have separate function, it can be combined to complete photovoltaic systems, wind power systems and other training project.

Wind-solar Complementary Training System uses high-performance 16-bit MCU, the battery charge and discharge and fans were full of intelligent brake control.

Off-grid inverter module boot front adopts 8-bit MCU driving control, the output of front and rear axles adopts imported MOS FET enable more stable performance. It can provide stable 220V pure sine wave AC power during the learning process.

#### Technical Parameters

- Input power : AC 220V±10% 50/ 60Hz
- Overall power consumption :
- Wind Simulation: 0.75KW
- Simulating sunlamps : 200W
- System output power : 220VAC 1500W 12VDC 500W
- Wind turbines : 12V/300W
- Start-up wind speed : 2.0m
- Rotor diameter : 1.3m
- Axial Fan : 220V/0.75KW 0-1440r/min
- Solar cell module : Single crystal 17.5VDC 10WP
- Polycrystal 17.5VDC 30WP

## New Energy Training Series

43



DLXNY-FN01 Wind Power Generation Training System

#### Overview

Wind power generation training system consists of : wind turbine, aerovane, adjustable speed blower, charge controller, batteries, off-grid inverters, AC load and DC load, DC voltage meter head, AC multi-function meter head, auxiliary data monitoring and display module. Wide application experiments: experimental system offers a variety of application workloads, such as lighting, street lighting, DC fans, AC fans, smartphone charger. Unique PC data acquisition interface: the environmental temperature and humidity, wind speed, wind direction, speed generator, generator output current, voltage, power and other information is displayed in real time on PC, working status of the entire system for real-time monitoring.

#### Technical Parameters

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>● Wind driven generator               <ul style="list-style-type: none"> <li>Power : 400W</li> <li>Impeller diameter : 1.65m</li> <li>Start-up wind speed : 2.3m/s</li> <li>Cut-in wind speed : 3m/s</li> <li>Rated speed : 12m/s</li> </ul> </li> </ul>  | <ul style="list-style-type: none"> <li>● Anemometer               <ul style="list-style-type: none"> <li>Wind speed : 0~60M/S</li> <li>Wind direction : 0~360°</li> <li>Precision : 0.3M/S3°</li> <li>Working power : AC 220V、50/ 60Hz, DC12V Optional</li> <li>Others : Over speed alarm, Less speed alarm, LCD display wind speed, communication port with PC.</li> </ul> </li> </ul> |
| <ul style="list-style-type: none"> <li>● Air temperature and humidity sensor               <ul style="list-style-type: none"> <li>Temperature resolution : 0.1°C (16 bit)</li> <li>Temperature Range : -40°C ~ +80°C</li> <li>Humidity resolution : 0.1%RH (16 bit)</li> <li>Accuracy of humidity :                   <ul style="list-style-type: none"> <li>3%RH (25°C)</li> <li>5%RH (0~50°C)</li> </ul> </li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>● Blower with adjustable speed               <ul style="list-style-type: none"> <li>Air mass flow : 4670/h</li> <li>Air pressure : 1275Pa-2138Pa</li> <li>Blower Power : 5.5KW</li> </ul> </li> </ul>  |

#### Optional

- Solar power system



## New Energy Training Series



DLXNY-ST04 Solar Photovoltaic Integrated Training System

#### Overview

The device is simulated using sunlight as natural resources, it has a green, environmentally friendly, low-carbon, resource allocation without merit. Demand for technical and vocational colleges, universities graduate, enterprise project manager and technician training, and specialized development and production, the introduction of solar power generation system teaching training sets. Expansion of solar power to meet the basic research and practical application training, and outreach presentations.

Solar power applications, mainly in two ways: A off-grid power, B electricity. It is currently the main way the world's largest solar energy resources.

#### Technical Parameters

- Input Power: 220V  $\pm$  10% 50/60Hz
- Dimension: 1550 $\times$  800 $\times$  1750mm
- Area: 2 square meters (single)
- Equipment overall weight: 40Kg
- Working environment: temperature -10 ~ 40 °C
- The relative humidity <85% (25 )

## New Energy Training Series



DLXNY-ST03 Portable Solar Power System

#### Overview

Portable Solar Power System is mainly composed of solar cell module, controller, inverters and storage batteries etc. It can charge the batteries with sunlight and have two output modes for variable usage. One way AC220V and another way is DC12V, AC and DC can output simultaneously, used for electric lighting, cell phone charger, small home appliances power supply or as an emergency power source. Especially suit for field work travel, border posts, river boat.

#### Technical parameters

- Input Power: 220V  $\pm$  10% 50 / 60Hz
- Dimension: 470  $\times$  560  $\times$  260mm
- Working environment: Temperature -10 ~ 40 °C
- Relative humidity <85% (25 )

## New Energy Training Series

46



DLXNY-GF05 Photovoltaic Power Generation System

#### Overview

DLXNY-GF05 Solar power generation training system consists of a photovoltaic power system, photovoltaic power supply system, the inverter and the load system, monitoring system components. DLXNY-GF05 solar power generation training system uses modular structure, each devices and systems have independent functions, compose solar composition generation training system.

#### Technical parameters

- Dimension(photovoltaic power):1610×1010×1550mm
- Dimension(training cabinet ):3200×650×2000mm
- Rated power of photovoltaic modules: 20W
- Rated voltage of photovoltaic modules: 17.2 V
- Rated current of photovoltaic modules: 1.17A
- Open circuit voltage of photovoltaic modules: 21.4 V
- Short circuit current of photovoltaic modules: 1.27A
- Voltage of the projection lamp: AC 220 V
- Rated power of projection lamp: 500 W
- light sensors: 4 quadrant
- Reduction ration of the level, pitching gearbox: 1:80
- Reduction ration of the pendulum gear box: 1:3000

## New Energy Training Series

47



DLXNY-GF05- II Photovoltaic power generation training system

#### Overview

DLXNY-GF05- II Photovoltaic power generation training system mainly composed of the photovoltaic power supply device, photovoltaic power supply system, inverter and load system components. DLXNY-GF05 photovoltaic power generation training system using modular structure and each system has an independent function, combined into a photovoltaic power generation training system.

#### Technical parameters

- |  |  |
|--|--|
| ● The main parameters of photovoltaic modules: | Rated power: 500W                                    |
| Rated power: 20W                               | ● The main parameters of light sensors               |
| Rated voltage: 17.2V                           | 4 quadrant   |
| Rated current: 1.17A                           | ● The main parameters of the level, pitching gearbox |
| Open circuit voltage: 21.4V                    | Reduction ratio: 1: 80                               |
| Short circuit current: 1.27A                   | ● The main parameters of the pendulum gear box       |
| ● The main parameters of the projection lamp   | Reduction ratio: 1: 3000                             |
| Voltage: AC220V                                |  |



## New Energy Training Series

48



DLXNY-GF07 type Comprehensive Training System of Solar Photovoltaic Power Generation

#### Overview

DLXNY-GF07 solar photovoltaic integrated training system is design by modular concept, made by a simple security cable can be achieved the principle of photovoltaic power generation to understand the function of each components of this training system. Through the platform of equipment to complete the training of wiring training, through the training of the to improve the ability of wiring, components using and selection of the environment.

#### Technical parameters

- Working power: AC220V , 50/ 60Hz
- Working environment: the ambient temperature range of -10 ~ 40 °C , relative humidity ≤ 85% (25 °C ) , altitude <4000m
- Total power control, with leakage protection function, when the leakage current up to 30mA, the protection system action.
- Maximum power consumption ≤ 2.0KW

## New Energy Training Series

49



DLXNY-ST02 Solar Power Generation Experiment Platform

#### Overview

Solar Power Generation Experiment Platform consists of a solar cell module modules, battery modules, solar tracking system, environmental monitoring systems, solar testing systems, solar power systems and solar inverter applications (load regulation control module), the monitoring instrumentation module, PC machine monitoring modules and other components. Specifically satisfy solar cell performance test and photovoltaic application teaching requirements of new energy professional at the higher education and vocational education .

#### Technical Parameters

- Solar cell panel
  - Quantity : 4 pcs
  - Open-circuit voltage : 21.5V (parallel connection), (series connection)
  - Short-circuit current : (parallel connection),0.72A (series connection)
- Automatic tracking unit
  - Biaxial automatic tracking
  - Precision : 0.5°
  - Horizontal rotation angle : 360°
  - Elevation angle : 180°
- Illuminometer
  - Measuring range : 200Lx, 2000Lx, 20KLx, 200KLx
  - Automatic gear shifting
  - Minimum resolution : 0.1Lx

## New Energy Training Series



DLXNY-WP01 Wind- Photovoltaic Complementary Training System

#### Overview

DLXNY-WP01 type wind- photovoltaic complementary training system is mainly composed of photovoltaic power supply device, photovoltaic power supply system, wind power unit, wind power supply system, inverter and load system, monitoring system, as shown in figure 1 shows. DL - WP01 type wind- photovoltaic complementary training system adopts the modular structure, each device and system has independent function, can be grouped into photovoltaic power generation training system, wind power generation training system.

#### Technical Parameters

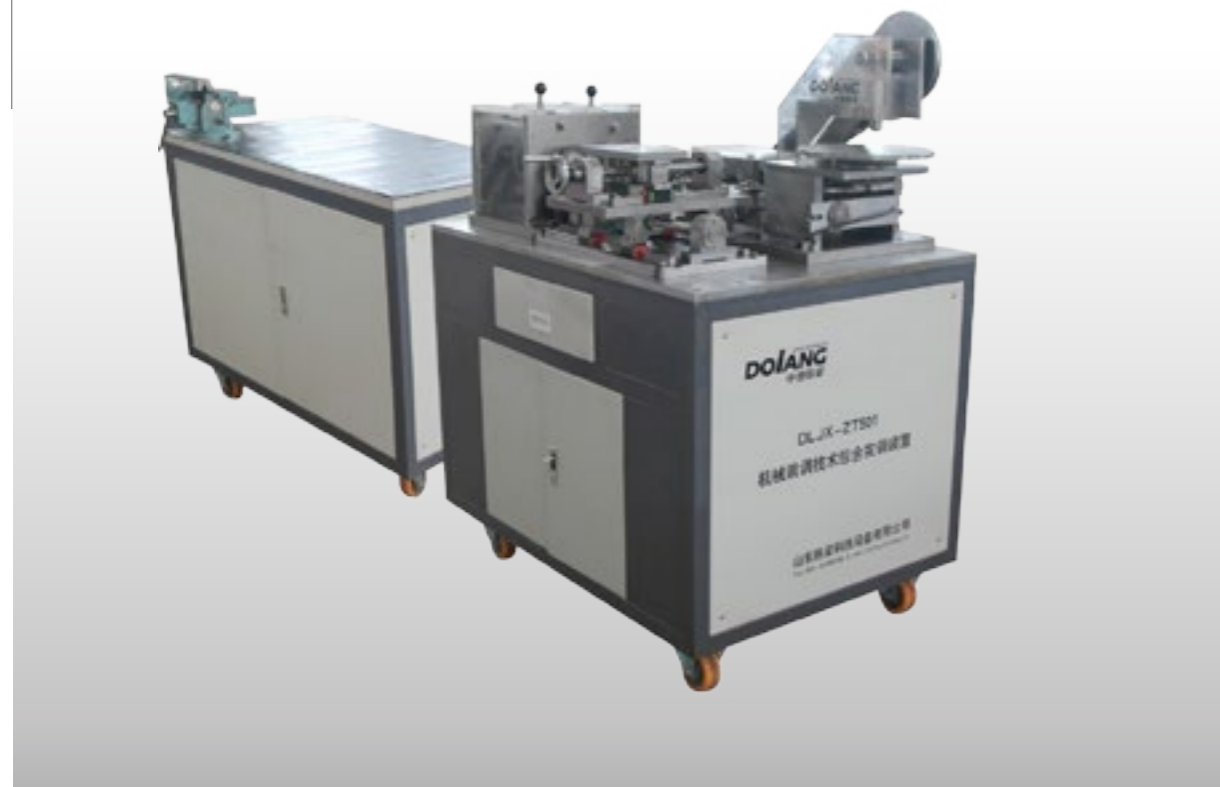
- Dimension :
  - (Photovoltaic power) 1610×1010×1550mm
  - ( wind power) : 1578×1950×1540mm
  - (training cabinet) : 3200×650×2000mm
- Training site area : 20 square metre
- Photovoltaic cell module Quantity : 4 pcs
  - Rated power: 20W
  - Rated voltage: 17.2V
  - Rate current: 1.17A
  - Open-circuit voltage: 21.4V
  - Short-circuit current: 1.27A
- Chase sun sensor
  - Output voltage: 0-5 v Tracking accuracy: 1 degree
- Chase sun mechanism
  - Structure: turbine worm structure (reducer)
  - Driver: dc motor
  - Shaft number: biaxial 2 d

## Mechanical Design CNC Machine Training Series



## Mechanical Theory & Design Training Series

52



DLJX-ZT501 Mechanical Assembly and Adjustment Technology Comprehensive Training System

### Overview

The Training system involves a variety of mechanical equipment in the assembly of some typical skill points and knowledge points. For example: Assembly and adjustment of synchronous belt and chain drive mechanism, gearbox assembly, bearing assembly and adjustment (deep groove ball bearings, angular contact bearings, tapered roller bearings, thrust ball bearings), ball screw assembly, Linear guide assembly and adjustment, the relevant degree of parallelism and verticality testing. To train students' comprehensive abilities of mechanical drawing, selection and use of tools and gauges, mechanical parts and mechanism process and adjustment, assembly quality inspection, etc. it can meet the training and vocational skills racers' needs.

### Technical Parameters

- Dimension (workbench) : 1060×760×1350mm
- Dimension(Operaton table) : 1000×760×860mm
- Input power : AC 220V±10% 50/ 60Hz
- One AC gear motor : constant power 90W Reduction ratio 1:25

### optional

- Simulation software
- Enhance reality simulation software: Install the software in the mobile terminal, it can obtain relevant learning resources through the picture which is taken from the textbooks, such as dismantling animation equipment, run the animation, the principle of animation.

## Mechanical Theory & Design Training Series

53



DLJX-JXXT Mechanical System Comprehensive Training Set

### Overview

Training sets uses desktop structure, and it adopts industrial grade components, training device can complete training such as belt drive, chain drive, gear drive, lubrication, shaft concentricity adjustment, bearings, ball screws, gaskets and seals, clutches and brakes.

Training sets include various pulleys, sprockets, gears, belts, single-row and multi-row transmission chain, a variety of couplings, shafts, bearings, ball screws, clutches and brakes etc. The training equipment includes transmission structure components which are widely used in industrial production, full range, modular design, and it is easy and flexible to use.

### Technical Parameters

- Dimension : 1850×700×1700mm
- Input power : AC 220V±10% 50/ 60Hz  
AC 380V±10% 50/60Hz

### optional

- Prony Braking Module
- Bearing module 1
- Bearing module 2
- Ball screw and linear bearing module
- Coupling module 1
- Coupling module 2
- The clutch and brake modules
- The lubrication module
- Seal module
- 3D virtual simulation software of mechanical principle and design practice,

CNC Machine Tools Maintenance Training Series(Model-type)



DLSKB-C980TD01 Intelligent CNC Lathe Machine Skill Training System

**overview**  
 The CNC system adopts GSK CNC lathe machine system,X axis,Z axis are driven by AC servo motors,spindle motor is driven by frequency control.  
 This device organically combines the machine's electrical parts with mechanical parts,it displays all the movements of all the machine.And it is able to complete a number of teaching trainings like CNC system installation,parameter setting,fault diagnosis and repair,assembly debugging CNC lathes,CNC programming and machining operations.  
 Electrical control circuit includ short circuit protection ,overload protection, short circuit protection of all circuits

- Technical Parameters**
- Dimension : 1460×800×1700mm
  - Input power : AC 380V±10% 50 / 60Hz
  - Output power : AC 220V safety terminal output
  - Capacity : < 5KVA

- Optional (system)**
- Siemens system
  - Fanuc system
  - HCNC
  - GSK system



DLWW-GX2.0 Networking Intelligent Wireless Communication Assessment Identification Management System

CNC Machine Tools Maintenance Training Series(Model-type)



DLDS-SKX23 CNC Maintenance Training Assessment System

**Overview**  
 The CNC system adopts Industrial CNC milling system, X-axis, Y-axis, Z-axis are driven by servo motor and spindle motor is driven by frequency control.  
 This device organically combines the machine's electrical parts with mechanical parts, it consists CNC system, frequency converter spindle system, electrical control panels, power control section, servo drives control and machine tool semi-physical simulation model, and it displays all the action of the machine tool.  
 The device can complete a number of teaching and training such as CNC system installation, parameter setting, fault diagnosis and repair, assembly debugging, CNC programming and machining operations.

- Technical Parameters**
- Dimension : 800×600×1800mm
  - Input power : AC 380V±10% 50/60Hz
  - Capacity : < 5KVA

- Optional (System)**
- Siemens system
  - Fanuc system
  - HCNC
  - GSK system





## CNC Machine Tools Maintenance Training Series



DLSKN-Xmate230G Intelligence CNC Milling Machine Training Device

### Overview

The CNC system adopts industrial CNC milling system, X-axis, Y-axis, Z-axis are driven by servo motor and spindle motor is driven by frequency control.

This device organically combines the machine's electrical parts with mechanical parts, it consists of CNC system, frequency conversion spindle system, electrical control panels, power control section, servo drives control and machine tool semi-physical simulation model, and displays all the action of the machine tool.

The device can complete a number of teaching and training such as CNC system installation, parameter setting, fault diagnosis and repair, assembly debugging, CNC programming and machining operations.

### Technical Parameters

- Dimension : 1580×500×1630mm
- Milling machine semi-physical size : 939×740×1520mm
- Input power : AC 380V±10% 50 / 60Hz
- Capacity : < 5.0KVA
- Workbench movement stroke : X: 120mm, Y: 150mm, Z: 120mm
- The maximum moving speed of the table : 3000mm/min
- Maximum spindle speed : 1400r/min 25W

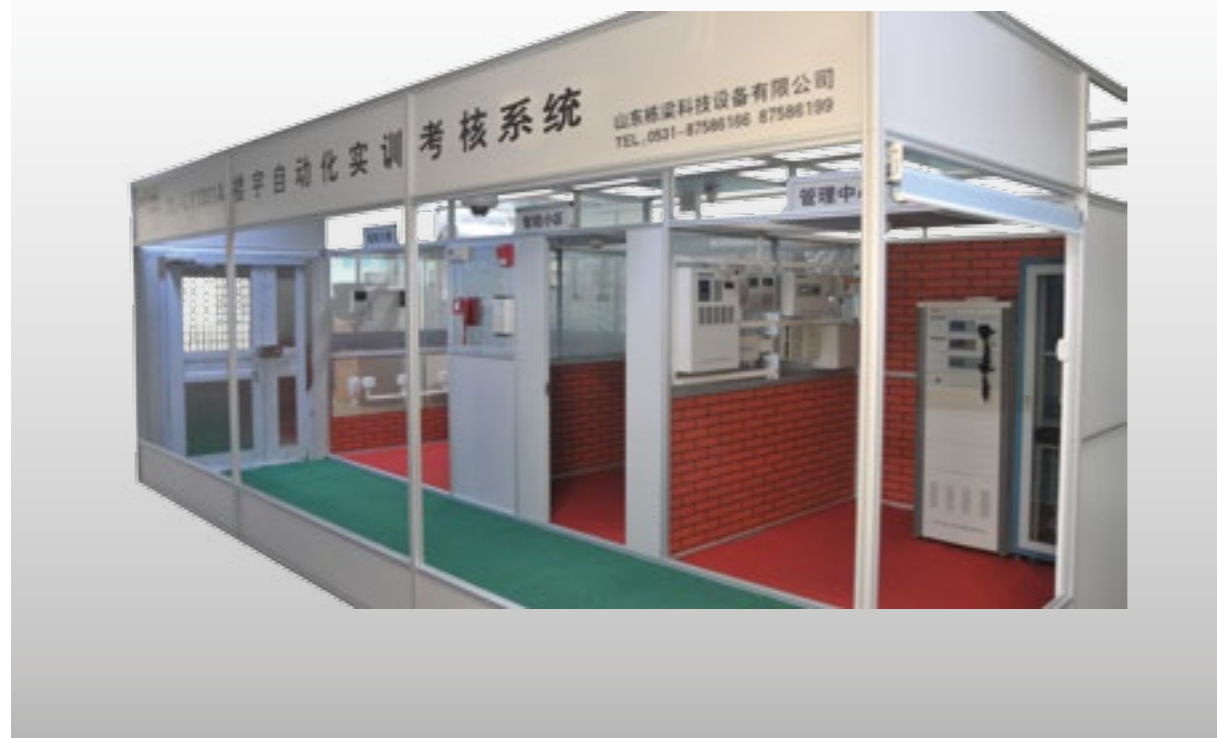
### Optional

- Siemens CNC system
- FANUC CNC system
- HCNC
- GSK system

## Building Automation, Electrical Engineering and Automation Training System

## Building Automatic Training Series

58



DLLY-LY1301A Building Automatic Technology Training Assessment System

#### Overview

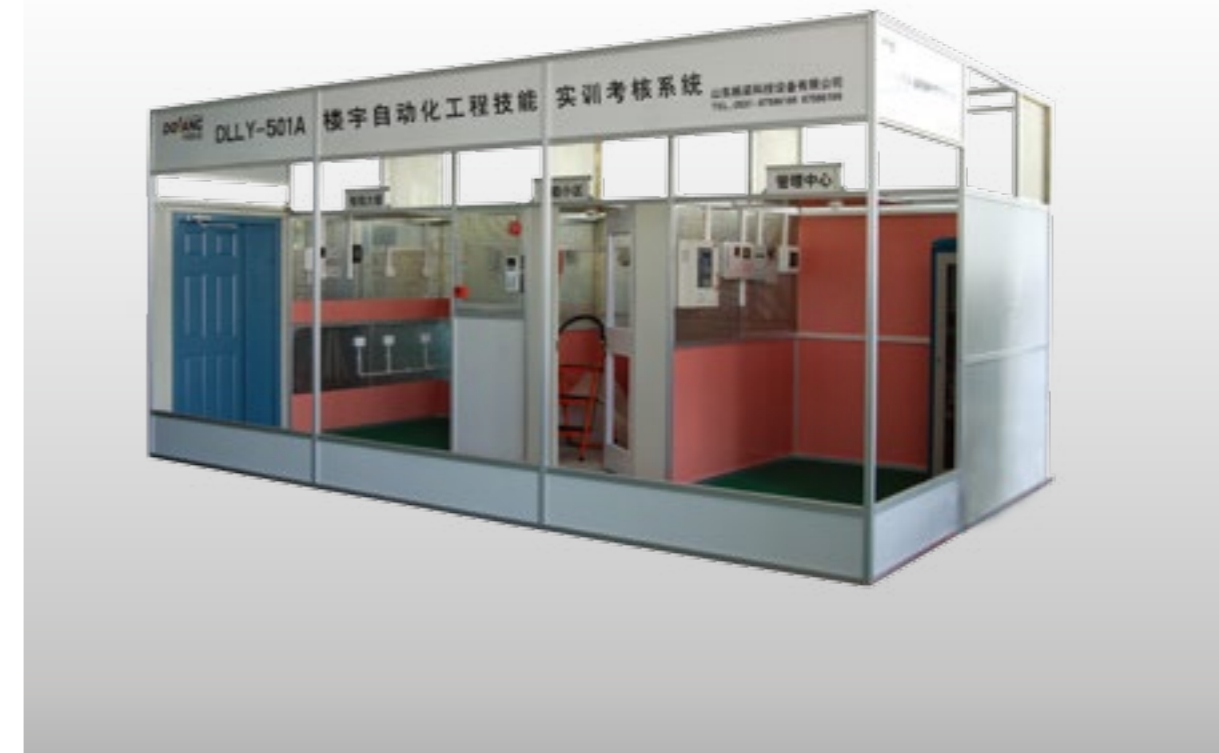
The system includes intercom access control systems, security systems, surveillance systems, fire extinguishing system, network cabling system, automatic curtains control system, Siemens DDC network control system, intelligent air conditioner control system, intelligent street lighting control system, computer remote intelligent home control system, computer remote video real-time monitoring system, intelligent Patrol management system, intelligent temperature control system.

#### Technical Parameters

- Dimension : 5920×3492×2490mm
- Input power : AC 220V±10% 50 / 60Hz
- Output power : AC 220V±10%、DC 24V、DC 18V、DC 12V safety terminal output
- Capacity : < 5KVA

## Building Automatic Training Series

59



DLLY-501A Building Automatic Technology Training Assessment System

#### Overview

The system including computer technology, network communication technology,integrated wirng technology,DDC technology. Suitable for training and teaching of intelligent building and building automation.

The system structure based on intelligent and corridor which covers intercom access,security,video surveillance,fire protection,integrated witing system.Each part can run independently,but also realize the linkage.

#### Technical Parameters

- Dimension : 4500×2000×2600mm
- Input power : single-phase,three-wire AC 220V±10% 50/60Hz
- Output power : single-phase,three-wire AC 220V±10% , DC 24V , DC 18V , DC 12V safety terminal output
- Capacity : < 1KVA



## Building Automatic Training Series



DLLY-QDT262 Group Control Multifloor Elevator Trainer

### Overview

DLLY-QDT262 group control multifloor elevator trainer is composed of two sets of six floors elevators. Each elevator is controlled by one PLC and elevator call outside the car is managed in a unified manner. This approximates building elevator control in real life. Through this training device, students can not only have their fault detection and exclusion capacity improved but also learn the programming principles of multiple online PLCs, so their programming skills are improved.

### Technical Parameters

- Dimension : 1100×780×2100mm
- Downward machinery movement speed of overspeed limiter :  $\leq 0.73\text{m/s}$
- Rated speed of safety gear : 0.25-2.5m/s
- Move method : manual type move up and down
- Weight of the complete machine :  $\leq 173.5\text{KG}$

## Building Automatic Training Series



DLLYS-QDT242 Transparent Elevator Training System

### Overview

Electrical control system of teaching elevator uses PLC and AC variable speed frequency control, greatly simplifying the composition of its hardware structure than the actual elevator, it has the functions like automatic leveling, automatic opening/shutting doors, forward in response to the call signal inside and outside the cabin, fire control, elevator safe operation protection and some special features like stop, emergency stop, maintenance, slow uprising and slow down.

We can get the position detection of the elevator cabin and the elevator floor signal from the rotary encoder which is mounted on the cabin roof and connected to the traction wheel, to get rid of the complex line system which rely on the relay and contact switch, and optimize the circuit greatly and improve the system's reliability, meanwhile it is easy to repair. Software and hardware of simulation teaching elevator both adopt open architecture.

### Technical Parameters

- Dimension : 2540×660×3000mm
- Input power : AC 220V±5% 50/ 60Hz
- Rated power :  $\leq 1.5\text{KVA}$
- Frequency converter : RD740 0.4KW
- PLC : PLC : Mitsubishi FX3U-64MR
- Floors : Four
- Traction machine power : 95W/AC380V

### Optional (System)

- Computer desk
- Configuration software
- Wireless controls
- GSM control

## Building Automatic Training Series



DLLY-QDT361 Group Control Multifloor Elevator Training System

### Overview

The system is designed according to most popular lift structure. The structure is composed of multiple elevators centralized arrangement, share the hall external call buttons, centralized scheduling and control of the elevator according to prescribed procedures. In addition to single elevator control function, it also has following features by adjusting the program: priority scheduling, regional priority control, started elevator priority, "long time wait" call control, special services, peak service, the main floor stop, energy-saving operation, Arrival sound alert. The complete system is composed of three six layers elevator. Each elevator has a PLC controller. The PLC exchange data by RS-485 series communication. The elevator outside call unified management. Close to the industrial building elevator control.

### Technical Parameters

- Dimension : 1950×400×1800mm
- Input power : AC 220V±5% 50/60Hz
- Capacity : < 2KVA



DLLY-DT61 Six Floors Elevator



- The training system is not only suit for students, but also suit for technical personnel of industrial electrical, mechatronics engineering, electrical equipment installation, electrical power, electronic equipment installation, regulated processing, regulation and control technology and other aspects, and machinery and electrical engineer training, processes and process management training electrical engineers.



- The training system can take advantage of the provided location sliding rail to do a various sensor testing distance measuring and effect of sensor's angle impact on the detection distance.
- Sensor principle, non-power electrical measurement technology, optical testing technology, mechatronics, electrical automation, PLC, process control and regulation technology, embedded microcontroller technology.



- The raining system test kits contains various types of the sensors (including optical, magnetic, capacitance, inductance, ultrasonic, Hall, eddy current sensors, etc.).



- PC signal acquisition software
- The training system provides PC software. Real-time collect experimental data by PC module to communicate with the computer, dynamic or static processing and analysis data, and it has a six-channel virtual oscilloscope function.





## Sensor Training Series



DLCG-DS130 Sensor Training System

### Overview

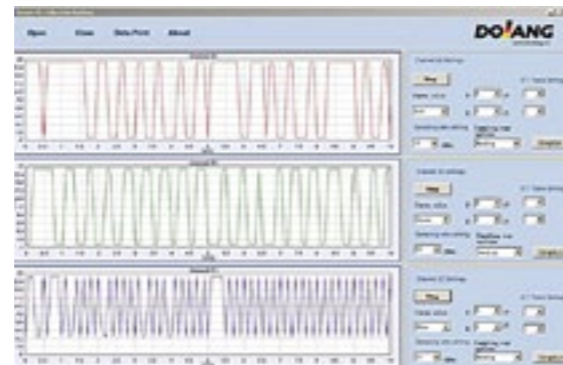
The system is innovative and open system, fully adopt the sensor elements which are actual used in industrial and agricultural production to training. There are a variety of commonly used power supply on the experimental apparatus. Sensors involve photoelectric type sensor, capacitive sensor, inductive sensor, electromagnetic sensor, ultrasonic sensor, pressure sensor, temperature sensor.

### Technical Parameters

- Dimension : 1580×750×1700mm
- Input power : AC 220V±10%
- Sensor experimental power supply : DC24V
- Rated power : <1000VA
- Rotating source : 0~200 r/min (adjustable)

### Optional (system)

- Computer
- Testing software



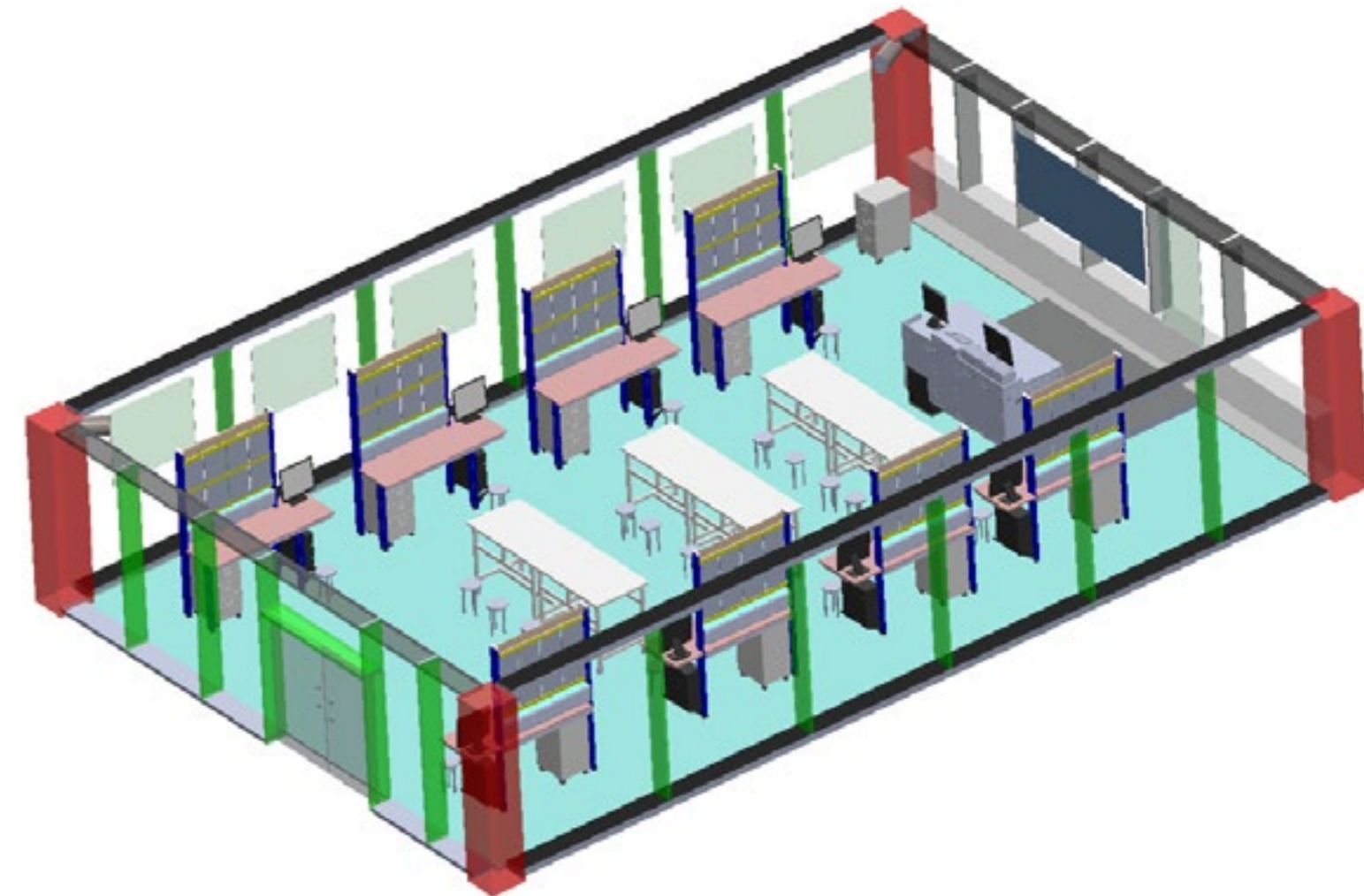
DLSoft-STS Sensor signal acquisition system

### Other variant products of the same series:

DLCG-DS110 Proximity sensor training system

DLCG-DS120 Distance and displacement sensor training system

## Hydraulic & Pneumatic Integrated Solutions



## Hydraulic Training Series



DLYY-DH202 Advanced Electro Hydraulic Training System

#### Overview

The device uses advanced Rexroth hydraulic components and makes it modular. All modules open structure design, making it easy to plug, safe and efficient, with strong scalability and operability. Students can improve the practical ability, design ability, comprehensive utilization ability and innovation ability.

#### Technical Parameters

- Dimensions : 1360×650×1650mm
- Input power : AC 380V±10% 50/ 60Hz
- Capacity : ≤ 1.5KVA
- System flow : 4.5 L/min
- Working pressure : ≤ 6Mpa

#### Optional (system)

- Teaching resources
- Hydraulic simulation software
- Lead frame
- Computer desk
- DLYY-FLS1 Hydraulic flip, stretching training object
- DLYY-CY1 Electro hydraulic processing, stamping training object

#### Other variant products of the same series:

- DLYY-DH101 Basic Hydraulic Training System
- DLYY-DH201 Basic Electro Hydraulic Training System
- DLYY-DH202ADouble-sided Hydraulic PLC Comprehensive Training System
- DLYY-DH230 Transparent Hydraulic Training System
- DLYY-DH401 Electro-Hydraulic Servo Proportional Control Training System

## Hydraulic Training Series



DLYY-PGSX-01 Hydraulic Troubleshooting Comprehensive Trainer

#### Overview

The training object of the hydraulic troubleshooting comprehensive trainer is injection molding machine hydraulic system which is commonly used in typical industrial field. It trains students understand the working principle and basic concepts of hydraulic transmission, the composition of components and applications, the composition of the hydraulic system of injection molding machines. Students can grasp the hydraulic system debugging, common hydraulic system fault handling and exclusion.

#### Technical Parameters

- Dimension : 1900×720×1800mm
- Input power : AC 380V±10% 50/ 60Hz
- Capacity : ≤ 3.5KVA
- System flow : 9.0 L/min
- System pressure : ≤ 8Mpa

#### Optional (system)

- Teaching resource
- Hydraulic simulation software
- lead frame
- Computer



DL-HPASS Hydraulic and Pneumatic Simulation Software



## Hydraulic Training Series



DLYY-DH301 Proportion Hydraulic Training System

#### Overview

Proportion hydraulic training system can carry out conventional proportion hydraulic basic control training experiments, in addition the device is also equipped with a variety of proportional amplifier and button groups and relay, can carry out hydraulic control technology training experiment. It is advanced proportion hydraulic training system.

#### Technical parameters

- AC power supply: Single phase: AC220V $\pm$ 10%+N+PE Frequency: 50/ 60Hz
- System pressure: < 6.3 MPa
- System flow: < 5L/min
- Dimension(workbench): 1590 $\times$ 750 $\times$ 1780mm
- Dimension(aluminum panel): 1200(L) $\times$ 750(W)mm

## Hydraulic Training Series



DLYQ-PH401 Double Side Hydraulic and Pneumatic Trainer

#### Overview

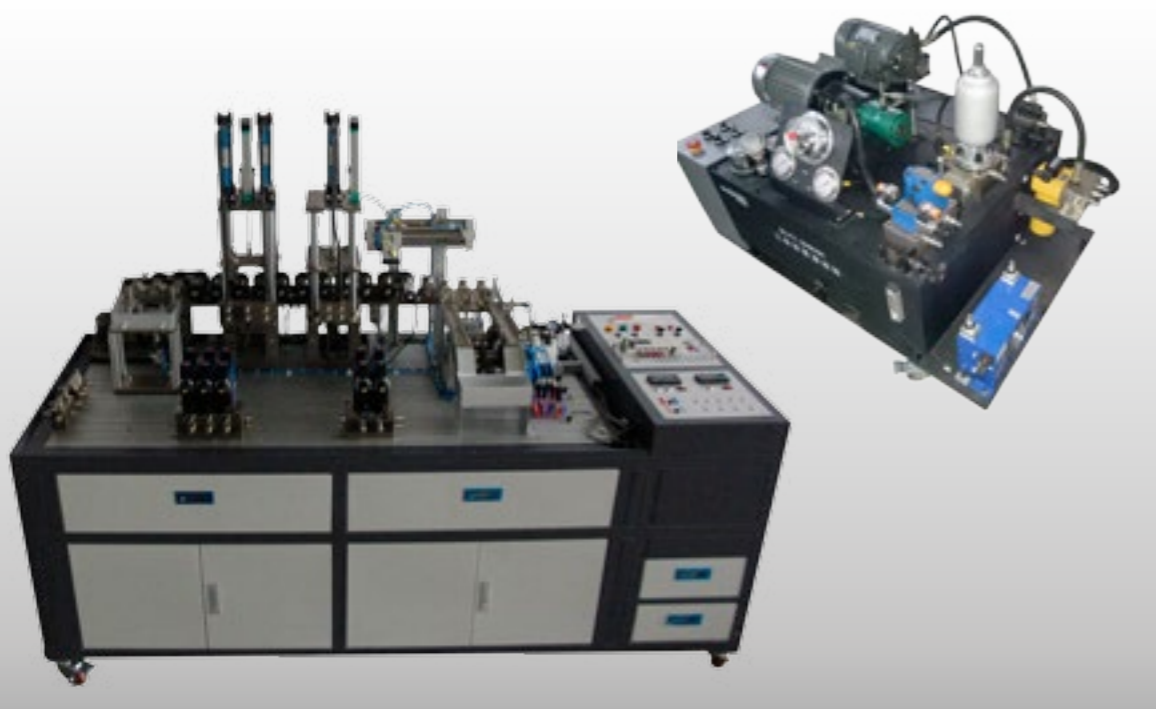
DLYQ-PH401 hydraulic and pneumatic trainer builds not only common pneumatic control circuit, this equipment equipped with also hydraulic simulating software which can do hydraulic control technology application experiments. hydraulic technology course simulation, design and study PLC and its basic application. It is typical hydraulic training equipment which combined with electromechanical and hydraulic .

#### Technical Parameters

- AC power supply: Three phase AC380V $\pm$ 10% 50/ 60Hz;
- System pressure: 6.3MP max
- Flow: 10L/min max
- Dimension (workbench): 1400 $\times$ 880 $\times$ 1850mm
- Dimension (aluminum panel): 1200(L) $\times$ 750(W)mm
- Power supply of pump: single phase 220V 50/60HZ
- Pump power: 600W
- Outlet maximum pressure: 0.75Mpa



## Hydraulic Training Series



DLYY-ZHSX02 Hydraulic and Pneumatic Transmission Integrated Training System

### Overview

The training system combines hydraulic, pneumatic, PLC electrical control and hydraulic simulation technology in one. It not only meets the professional training, but also carries out skills assessment and vocational skills competition. Through the project-based training, it trains students to install hydraulic pump Commissioning, hydraulic system assembly and commissioning, pneumatic system installation and commissioning, electrical control technology, PLC application technology and hydraulic and pneumatic system operation and maintenance and other professional competence. Students through the actual operation of the experiment and curriculum design, you can accurately grasp the structure of hydraulic components, hydraulic circuit control principle and design methods, as well as through the device to practice hydraulic circuit optimization, hydraulic circuit troubleshooting and so on. The hydraulic and pneumatic transmission integrated training system is practical and operational.

### Technical Parameters

- Dimension (workbench) : 2200×900×950mm
- Dimension(dual-pump hydraulic unit) : 1250×850×900mm
- Input power : AC 380V±10% 50 / 60Hz ;
- Capacity : ≤ 5KVA

#### Optional

- Teaching resources
- Hydraulic simulation software
- Lead frame
- Computer table

## Pneumatic Training Series



DLQD-DP202 Advanced Electro Pneumatic Training System

### Overview

DLQD-DP202 type electrical pneumatic training system in addition to regular pneumatic basic control circuit experiment, still can be simulate the pneumatic control technology application experiment, pneumatic technology curriculum design, is the typical experiment equipment that the mechanical combine with electrical perfectly. Students via the actual operation experiment and the course design can grasp accurately structure of pneumatic components, the control principle of the pneumatic circuit and design method, control principle, etc.

### Technical Parameters

- Power unit - air compressor (basic configuration minicomputers)
- Power source : AC 220V±10% 50/ 60Hz
- Motor power : 480W
- Nominal volume : 6L
- Rated output pressure : 0.85MPa
- Noise grade : 66dB
- Dimension(workbench) : 1360 X 650 X 1650mm
- Dimension(aluminum panel): 1200 (L) X 600 (W)mm

#### Optional

- Teaching resources
- Pneumatic simulation software
- Valve terminal
- Lead frame
- DLQD-CY1 Electro pneumatic machining, stamping training object
- DLQD-JXS1 Electric pneumatic manipulator training object
- Computer desk
- Step controller

### Other variant products of the same series:

DLQD-DP101 Basic Pneumatic Training System  
 DLQD-DP201 Basic Electro Pneumatic Training System  
 DLQD-DP301 Advanced Proportion Electro Pneumatic Training System

DLQD-DP401 Double-sided Electro-pneumatic Training System

DLQD-X1 Box Type Pneumatic Training System



## PLC Training Series



### Overview

The system uses computer simulation modern information technology, through the operation, analogue, simulation three training levels, solves the disjointed problems of professional training theory, experiment, practice and practical application.



Without computer



## PLC Training Series



DLPLC-FXGD PLC Training Equipment (Mitsubishi)

### Overview

The system uses a modular structure, experiment hanging box is color stereogram, Mitsubishi PLC module, switch inputs and various simulation units are all modulars, one experiment corresponds to one module, it can be combined according to the pilot project, network requirements, if need to increase the experiment in the future, you can simply add components.

### Technical Parameters

- Dimension : 1800×800×1662mm
- Input power : AC 380V±10% 50/ 60Hz
- Output power : AC380V safety terminal output, AC220V safety terminal/socket output, DC0-10V safety terminal output, DC0-20mA safety terminal output
- Capacity : < 1KVA

### Optional(system)

- Mitsubishi, Siemens and other brand control system
- Mitsubishi analog module to complete analog experiments
- Network module, can provide two kinds of network
- Frequency inverter and three phase asynchronous motor, complete frequency control of motor speed corresponding experiments.



Innovative Industrial Automatic Control Technology Training Series



DLGK-SIMND Industrial Automatic Network Integrated Training System

Overview

DLGK-SIMND Industrial automation network training platform with automation network communication training as the main body, and organic blend the electrical, power traction, PLC, frequency converter, touch screen, etc training content, realize the education resource sharing, optimizing the experimental teaching management.

The system based on Siemens three layer network structure: the first layer is "enterprise management", used Siemens S7-400 PLC for computer remote management and scheduling; The second layer is "process monitoring layer", with Siemens S7-300 type PLC as a system master station, and through the industrial Ethernet communication with the first layer S7-400; The third is "field control layer", mainly including Siemens 200 PLC, frequency converter, touch screen and expand the I/O, etc field control equipment, and through the profibus-dp bus communication with the second.

Technical Parameters

- Dimension : 1800×700×1760mm
- Input power : AC 380V±10% 50/60Hz
- Output power : AC 380V safety terminal output    AC 220V safety socket output  
DC 24V safety terminal output    DC 0-10V safety terminal output
- Capacity : < 1KVA

Optional(system)

- Computer    ● PC software

Process Control Training Series



DLGK-53A Basic Process Control Training System

Overview

The system consists of control cabinet and process control units, the control cabinet mainly includes: Master power supply module, DC power supply module, heating control module, PLC control module, intelligent instrument module, analog input module, analog output module, device transfer module and frequency converter module; Process control unit includes upper water tank, lower water tank, storage tank, boiler, temperature sensor, pressure sensor, flow sensor, frequency magnetic pump, electric valve, valve, pressure gauge, ball valves, filters, piping, mesh plate and training platform.

Technical Parameters

- Dimension(control cabinet) : 600×600×1800mm
- Dimension(process control unit) : 2000×800×1880mm
- Input power : AC 220V±10% 50 / 60Hz
- Capacity : < 35KVA

Optional(system)

- Computer
- Computer table

## Process Control Training Series



DLGK-53B Plane Type Process Control Training System

#### Overview

DLGK-53B process control training system, including control panel, computer table and process control unit. Control panel is the center of the whole control system, it composes of power module, device transfer module, frequency converter module, PLC module, smart instrumentation module and DAS DCS acquisition module, its role is to collect a varies of analog, switch signal to calculating, processing, and send the operational results to actuating equipment to control.

#### Technical Parameters

- Dimension ( process control unit ) : 2000×800×1900mm
- Training screen : 1800×700×1650mm
- Input Power : AC 220V±10% 50 / 60Hz
- Operating power : DC 24V 3A
- Capacity : ≤ 2.5KVA

#### Optional

- HMI
- Computer table

## Process Control Training Series



DLGK-JD3 Advanced Process Control Training System

#### Overview

DLGK-JD3 Advanced process control training system, including control cabinet and process control unit. The training system is based on physical simulating object of industrial process. Which involves PLC control technology, computer technology, communications technology, automatic control technology, integrated multi-function experimental device. The equipment contains temperature, pressure, flow and level such parameters which can complete system parameter identification, single-circuit control, cascade stage control, ratio, lag and so on. The process training system can practice verification experiments, design experiments, also support comprehensive training. The system is equipped with standard industrial instruments and flexible device.

#### Technical Parameters

- Dimension (process control unit ) : 1650×800×1850mm
- Control cabinet dimensions : 1340×700×1650mm
- Input power : AC 220V±10% 50 / 60Hz
- Operating power : DC 24V 3A
- Capacity : ≤ 2.5KVA

#### Optional

- HMI
- Computer table



## Process Control Training Series



DLPLC-MP Mixing Process Control Training System (PLC Application:)

### Overview

DLPLC-MP PLC application mixing process training device consists of liquid storage device, detection device and control device, composed of capacitive sensor for liquid level signal acquisition, PLC control valve opening and closing, precise control of liquid flow, with slowdown of the DC motor driven by screw Running, so that the liquid fully mixed to complete the purpose of liquid mixing.

The device integrates liquid level sensor (capacitive sensor), float switch, solenoid valve, DC motor with slowdown and intermediate relay, etc., through the sensor signal acquisition, the solenoid valve and the DC motor with slowdown The switch control, timing logic control, to achieve the proportion of liquid automatic mixing function.

### Technical parameters

- Input power: single-phase three-wire AC220V  $\pm$  10% 50 / 60Hz
- Working environment: Temperature: -10  $^{\circ}$ C  $\pm$  40  $^{\circ}$ C Relative humidity: <90% (25  $^{\circ}$ C ) Elevation: <4000m
- Power control: emergency stop protection
- Dimensions: 1400mm  $\times$  600mm  $\times$  1850mm
- Device capacity: <1.5KVA

## Process Control Training series



DLLY-HYGS462 Constant Pressure Water Supply Training System

### Overview

DLLY-HYGS462 Constant pressure water supply training system is composed of two water pipelines : six residential fire systems, drinking water distribution system. Fire and water pipes are independent, integrated security and water supply. The system includes four water pump motor : Two provide normal water supply during the day, one is dormant pump, the other is fire pump to provide water against fire. Device also equipped with PLC, frequency converter, pressure transmitter, pressure relay, one-way control valve, reservoir; Water supply buffer device. Can complete building constant pressure water supply training under different modes, provide an open platform for teaching and research of constant pressure water supply technology.

### Technical Parameters

- Dimension : 1950  $\times$  400  $\times$  1800mm
- Input power : AC 380V  $\pm$  10% 50/ 60Hz
- Operating power : DC 24V 3A
- Capacity :  $\leq$  5KVA

### Optional

- Touch screen
- Computer table
- PC software



## Process Control Training Series

80



DLPCS-YL101 Pressure Control Training System

#### Technical Parameters

- Dimension (process control unit) : 1200×600×1400mm
- Input power : AC 220V±10% 50/ 60Hz
- Operating power : DC 24V 3A
- Capacity : ≤ 1.5KVA
- Electric logic : NPN or PNP

#### Optional

- PC software
- Computer desk

#### Other variant products of the same series:

- DLPCS-YW101 Level Process Control Trainer
- DLPCS-LL101 Flow Process Control Trainer
- DLPCS-WD101 Temperature Process Control Trainer



DLPLC-YLJC1 Temperature Pressure Detecting Training System

#### Overview

The training system consists of liquid temperature control device, flow control device and pressure control device. The electrical part of this training system is composed of the PLC, heaters, thermal resistance, pressure sensors, flow sensors, thermometers and other components.

#### Technical Parameters

- Dimension : 1000×750×1560mm
- Input power : AC 110V±10% 50/ 60Hz
- Power supply : DC 24V <3A
- Capacity : ≤ 2.0 KVA

## Process Control Training series

81



DLGK-373 Process Control Comprehensive Experiment System

#### Overview

The entire system is divided into: the upper control layer system, experimental object layer, detection sensor, transmitter, perform device, PC control software four parts.

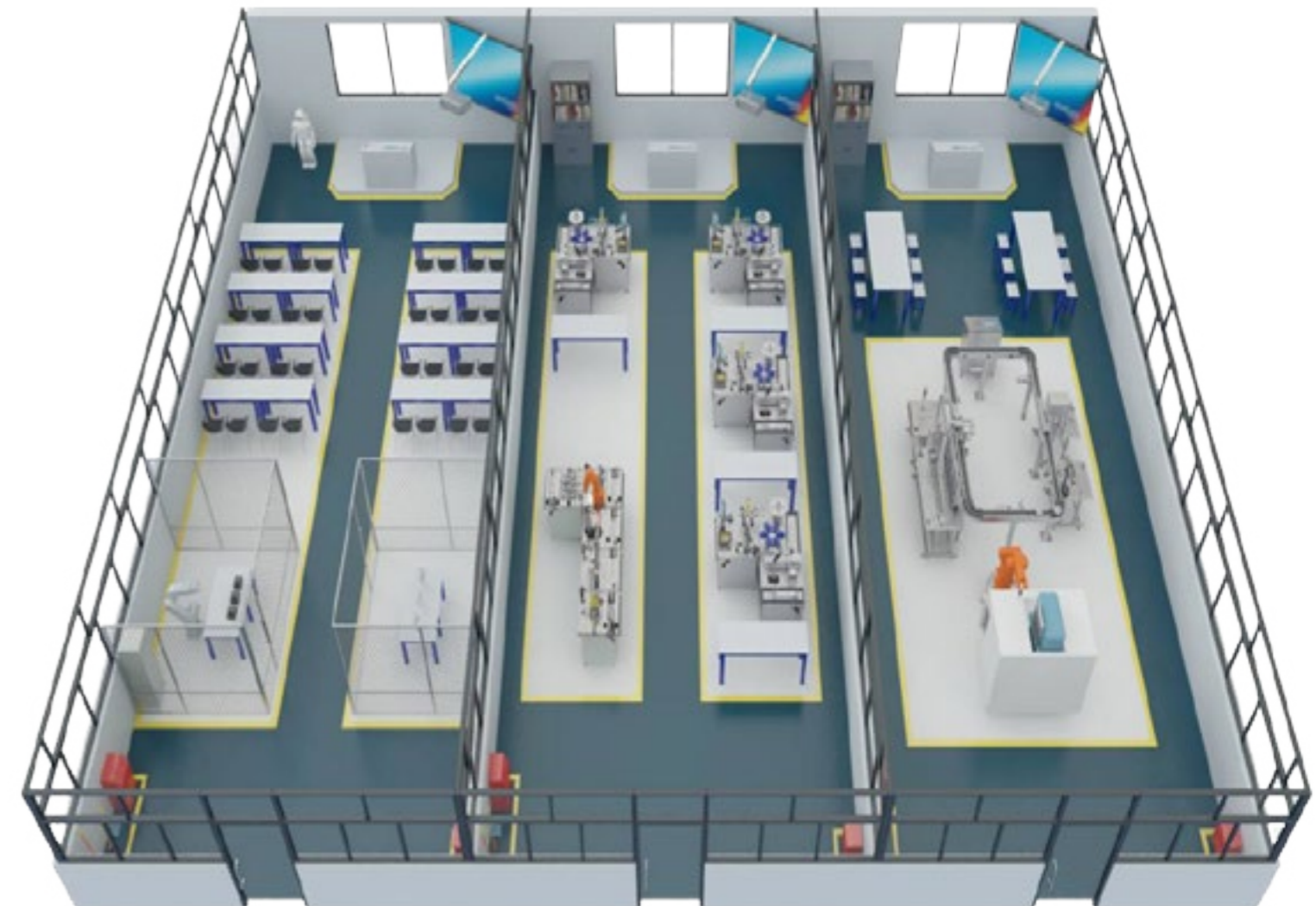
#### Technical parameters

- Input power : single-phase, three-wire AC 220V±10% 50/60Hz
- Operating power : DC 24V 3A
- Environment temperature : -10℃ ~ 40℃
- Environment humidity : ≤ 90% (25℃ )
- Dimension (process control unit) : 1500×800×1800mm
- Capacity : ≤ 2.5KVA
- Electric logic : NPN or PNP
- Occupancy PLC I / O points
- Switch input points : 2 way(DC24V) Switch output points : 2 way (DC24V)
- Analog input points : 4 way (Current type/voltage type)
- Analog output points : 1 way(Current type/voltage type)

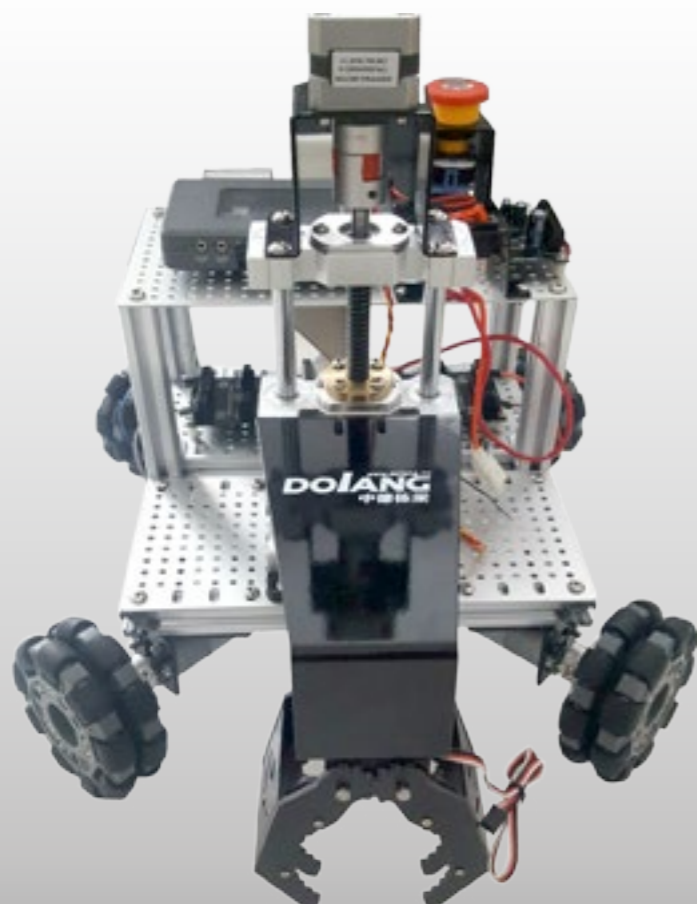
#### Optional

- HMI
- CP5611 communication card
- Computer table

# Mechatronics, Industrial Robot Training Series



## Mobile robot series



DLRB-MR519 Mobile Robot

### Overview

The system consists of more than 80 kinds of parts which are divided five categories, Internal controller NI MyRio-1900, Sensors including navX 9aix Inertial/Magnetic Sensor, ultrasonic Distance Sensor, IR Range Sensor, QTI Sensor etc., Servo systems and motors include DC motors, servo motors, encoders, and motor drive boards, as well as various brackets and structural elements, wheels, gears and drive mechanisms, and fasteners. Experimental box parts can be easily combined with a variety of mobile robot model structure, with a variety of content features. Experimenters can help students understand and learn: mechanical system design and assembly, electrical system design and assembly, electronic system design and assembly, sensor selection and LabView programming.

### Technical Parameters

- Part type : 5 categories of parts: more than 80 kinds
- Number of parts : more than 200
- Power supply : 12V 3000 mah NiMH Lithium battery



## Mechatronics Training Series (FA Series)

### Modular

This series product models are all from the actual factory production line, select the typical structure contracted, the system uses modular design, the modules can be freely combined according to users' requirement.



**Manipulator module :**  
Consist of X-axis, Y-axis and pneumatic finger, which mainly used to grab workpieces.



**Belt transmission module:**  
Composed of DC motor and the belt, gear, which used to transport workpieces.



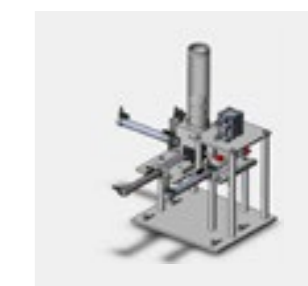
**Handling module:**  
Composed of the rotating cylinder, axis cylinder and vacuum suction, which used to transport the workpiece.



**Distribution module:** Commonly used in the first station of the mechatronic system, to feed materials to the system.



**Processing modules:** Simulate the machining process of the workpiece.



**Storage module:** Three column, three lines workpiece placement area for the workpiece classification and storage.



**Transmission module:** Composed of the swing cylinders and vacuum suction, used to carry workpiece.



**Rotary machining module:** for machining or testing workpiece sequentially.



## Mechatronics Training Series

### Multiple

This series can support three kinds of control modes (PLC control, MCU control or PC control) to complete control of the whole system running. switch to the corresponding control by turning the switch.



### Computer control

This control allows the user to use 3D simulation shows the mechanical hardware system structure, edit control device flow by a simple instruction . we can test theoretical issues through the virtual environment, before operating real equipment, using computer 3D model to simulate the operation of the device.



### PLC control

Reserve PLC interface according to requirement users can choose different brands or models of PLC to control the system. Just connect the test line with the interface to complete PLC control.



### MCU control

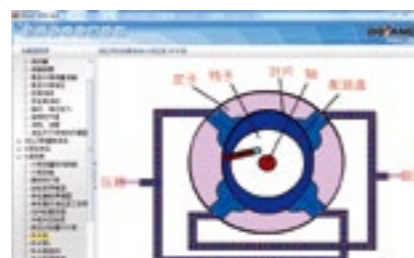
Internal system is equipped with MCU board, MCU has been downloaded into the chip before out of factory, and users can write their own program and download. if needs MCU to control, simply turn the switch to appropriate location.



Assembly Module : Simulate two different parts for assembling, cooperating, pressing and rolling and other work processes.



Digital teaching resources based on interest teaching and game driven



## Mechatronics Training Series (FA Series)

### Overview

The system consists of aluminum alloy training platform, the robot body and the operating portion. The system integrated pneumatic system, sensor system, electrical control circuit, microcontroller programming, GRAF language program, PC debugging.

Three control methods: MCU or PC or PLC (without PLC). Change control methods by knob.

### Technical Parameters

- Dimension : 760×580×1366mm
- Input power : AC 220V±10% 50/ 60Hz
- Output power : DC 24V safety terminal output
- Capacity : < 200VA

### Optional

- Computer, computer table
- PLC module
- PC software
- Air compressor



DLFA-5DPR-A Five Axes Manipulator Training System

### Overview

The whole system composed of operation parts and control part of manipulator. Manipulator working part composed of five- axis stepper motor, conveyor device, mechanical gear unit, position sensor, electric gripper, signal switching device. Manipulator control part adopts three control modes (PLC control, MCU control, PC control). The whole system is an open modular structure training platform, it can be combined according to different training requirements.

### Technical Parameters

- Dimension : 500×300×1150mm
- Input power : AC 220V±10% 50/ 60Hz
- Output power : DC 24V safety terminal output
- Capacity : < 200VA

### Optional

- Computer, computer table
- PLC module
- PC software



DLFA-5DPR-B Five Axes Manipulator Training System

## Mechatronics Training Series

## Mechatronics Training Series (FA series)



DLFA-DT33 Three Layers of Elevator Training System

### Overview

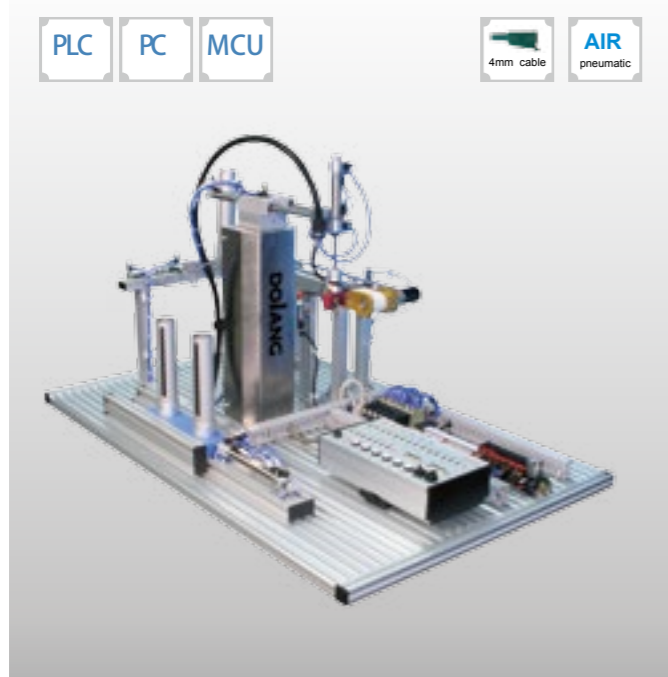
The device can simulate the work condition of industrial elevator. And complete lift, open-close door.

The system is composed of operation parts, car, control part, floor indicator and PC interface. Working part contains a variety of industrial transmission device, industrial sensors, which can simulate the real structure of the elevator doors on/off. The control part adopts three control methods: PLC, PC, and MCU, to complete the control of the whole system running.

On the control panel has PLC control input/output interface and PC communication interface (Without PLC host computer).

### Technical Parameters

- Dimension : 310×300×580mm
- Input power : AC 220V±10% 50 / 60Hz
- Output power : DC 24V safety terminal output
- Capacity : < 200VA



DLFA-PTP Pneumatic Robot Training System

### Overview

- Pneumatic drive and classification system
- Real industrial components
- Open structure suitable for practical training
- The control module including manual/automatic
- 2mm standard electrical outlet

### Technical Parameters

- Dimension : 650×750×1200mm
- Input power : AC 220V±10% 50 / 60Hz
- Capacity : < 200VA

### Optional

- Computer, computer table
- PLC module
- PC software
- Air compressor



DLFA-MAS-S Factory Automation Manufacturing Training System (Standard)

### Overview

DLFA-MAS-S type library manufacturing factory automation training systems is made of aluminum alloy, feeding unit, processing unit, pushing unit, sorting unit, warning light, air source processor emulation module, PLC modules and each kind of sensors and other components. Through operation, you can master the knowledge of system communication, order program, parameter setting and display warning etc in electrical control.

### Technical Parameters

- Dimension : 1200×750×1300mm
- Input power : AC 220V±10% 50/60Hz
- Capacity : < 500VA

### Optional

- Computer, computer table
- Air compressor

### Other variant products of the same series :

DLFA-MAS-M Factory Automation Manufacturing Training System (Modular)



DLFA-LCK2 Three-dimensional Parking Training System

### Overview

The device uses three control methods, namely: PLC control mode, MCU control mode and host computer control mode, then realize the vehicle in and out management function.

Mutual control: there are two or more devices, you can control the operation of the remote device by the machine.

### Technical Parameters

- Dimension : 1105×600×1440mm
- Input power : AC 220V±10% 50/60Hz
- Output power : DC 24V safety terminal output
- Capacity : < 500VA

### Optional

- Computer, computer table
- PLC module
- PC software



## Mechatronics Training Series

## Mechatronics Training Series

90



DLFA-JXS3 Manipulator Training System

PLC

AIR

pneumatic

## ■ Overview

The equipment intergrated PLC, step motor, DC motor, Three-phase asynchronous motor, frequency converter and servo control system. Which achieve complicated on-off switch control, position control, sequential logic control on servo motor, step motor, DC motor and solenoid valve by sensor signals acquisition, PLC programming. The manipulator will complete distinguish colors, clamp, move and release blocks. (PLC host can be replaced according to user requirements)

## ■ Technical Parameters

- Dimension : 1200×750×1500mm
- Input power : AC 220V±10% 50 / 60Hz
- Capacity : < 200VA

## ■ Optional

- Computer, computer table
- PLC module
- Air Pump



DLFA-BJJ03 Auto Marking Machine Training System

PLC

PC

MCU

4mm cable

AIR

pneumatic

## ■ Overview

DLFA-BJJ03 Auto Making Machine Training System can simulate the working state of industrial parts automatic marking machine.The system control section supports PLC control, microprocessor control, PC control. The operative part contains a variety of industrial gears, a variety of industrial sensors, they can simulate workpiece transfer and seal and classification storage process of auto parts marking machine.

## ■ Technical Parameters

- Dimension : 960×600×1250mm
- Input power : AC 220V±10% 50 / 60Hz
- Output power : DC 24V/1A
- Capacity : < 1KVA



DLFA-ASRSB02 Automatic Storage and Retrieval System(Basic)

PLC

PC

MCU

2mm cable

AIR

pneumatic

## ■ Overview

This system is miniature practical automatic warehousing system, controlled by PLC. The equipment composed of control mechanism, goods hold device,9 warehouse units,cargo transfer and other institutions, can complete in storage and out storage operations by manual or automatic modes. The system reserves PLC signal transfer module, it can be directly connected by test line, this unit is controlled by PLC (without PLC).

## ■ Technical Parameters

- Dimension : 1200×750×1500mm
- Input power : AC 220V±10% 50 / 60Hz
- Output power : DC 24V safety terminal output
- Capacity : < 200VA



DLFA-ASRSA01 Automatic Storage and Retrieval System(Advanced)

PLC

AIR

pneumatic

## ■ Overview

Compared the device with DLFA-ASRSB02, the device has 20 untis warehouse and adds distribution, transport and carry funtion.

## ■ Technical Parameters

- Dimension : 1200×750×1600mm
- Input power : AC 220V±10% 50 / 60Hz
- Capacity : < 500VA

## ■ Optional

- Computer, computer table
- PLC module (PLC brand is optionl)
- Air compressor

91



## Mechatronics Training Series

92

PLC

AIR  
pneumatic

DLFA-SFW Steel Feed and Rolling Machine Training System

## ■ Overview

The system integrated PLC, position test control and electric technology. Complete switch control, position control, time sequential logic control for AC motors, DC motors by sensor signal acquisition, PLC programming and inverter. The system fulfill steel industry simulation technology, closed-loop control technology, real industrial components encoder accurate technology, aluminum foil simulation steel coils, tension compensation function, it can simulate the whole action process simulation of iron and steel industry of the industry scene steel feed and rolled machine (PLC host computer can change according to the users' needs).

## ■ Technical Parameters

- Dimension : 1200×750×1500mm
- Input power : AC 220V±10% 50/ 60Hz
- Capacity : < 500VA

## ■ Overview

This system use PLC to do the position control experiment, realize the position control through high performance servo motor. Controller and PLC control operation, to control the coordinate plane position. (PLC host can change according to the users' requirements)

## ■ Technical Parameters

- Dimension : 1200×750×1600mm
- Input power : AC 220V±10% 50 / 60Hz
- Capacity : < 500VA

## ■ Optional

- Computer, computer table
- PLC module (PLC brand is optional)
- Air compressor

DLFA-PCT Position Control Training System

## Mechatronics Training Series

93

PLC

2mm cable  
4mm cable  
AIR  
pneumatic

DLFA-555D Optical Mechatronic Training System

## ■ Overview

The system consists of aluminum training platform, material feeding and testing mechanism, handling manipulator, material transport and sorting mechanism and other components.

The handling manipulator adopts stepper motor driven by stepper motor to drive the belt and carry out the material.

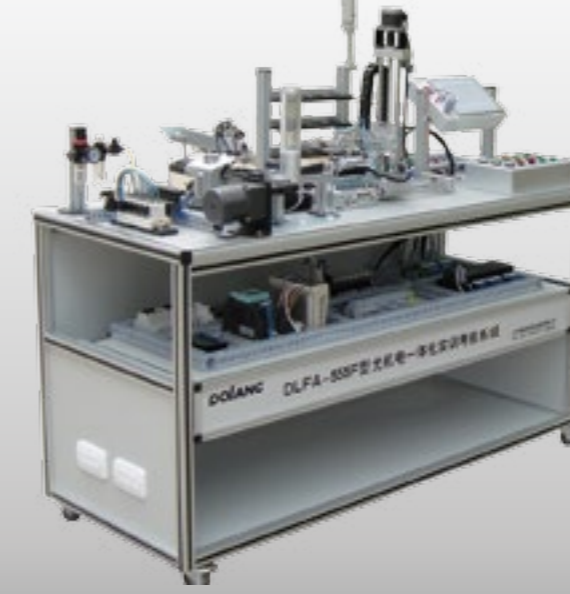
## ■ Technical Parameters

- Dimension : 1500×750×1750mm
- Input power : AC 220V±10% 50/ 60Hz
- Output power : AC 220V safety socket outputDC 24V safety terminal output
- Capacity : < 500VA

## ■ Optional

- Computer, computer table
- Air compressor

PLC

2mm cable  
4mm cable  
AIR  
pneumatic

DLFA-555F Optical Mechatronic Training System

## ■ Overview

The system consists of aluminum alloy training platform, feeding mechanism, automatic storage, touch screen and other components.

The difference between the device and the above device is that : the system increases the servo, stepper control, X-axis adopts servo motor control, Y-axis adopts stepper motor control.

## ■ Technical Parameters

- Dimension : 1500×750×1750mm
- Input power : AC 220V±10% 50/ 60Hz
- Capacity : < 500VA

## ■ Optional

- Computer, computer table
- Air compressor

## Mechatronics Training Series

94



DLFA-321 PLC Designer Training System

#### Overview

The system includes motion control training and process control training. The master station is Siemens S7-300, slave station is S7-200. Master station and slave station is communicated by PPI or 485.

The system consists of three main systems: motion control system, process control system and automated warehousing system. Motion control system includes automatic feeding unit, belt transmission unit, robot handling unit (gantry robot), classification storage unit. Process control system mainly consists of PLC, temperature sensors, pressure transmission, flow sensors, pumps, solenoid valves, etc., through the sensor signal acquisition, PLC programming, solenoid valves, pumps conduct more complex switching control, sequential logic control. Realize temperature, flow, pressure switch and closed-loop automatic control functions. Automatic warehousing system mainly consists of a rotating manipulator, three-dimensional storage shelves.

#### Technical Parameters

- Dimension : 1800×750×1350mm
- Input power : AC 220V±10% 50/60Hz
- Capacity : < 2KVA

#### Optional

- Computer, computer table
- Air compressor

## Mechatronics Training Series

95



DLDS-565A Optical Mechatronics Training System

#### Overview

The system is composed of aluminum workbench, feeding and testing unit, manipulator, processing unit, assembly unit belt conveyor and sorting unit.

Modular structure, composed of PLC, frequency converter, HMI, power supply, stepper motor, sensors and actuator. We can flexible combine modules, installation and debugging according to the training needs. According to the selected components and the installation location, equipment can be composed of different products and production processes equipment. Controlled by more PLCs. Multi-master PC/PPI communication cable (Intermediate belt conversion support network).

The system can realize distribution control by serial communication mode to assembling production equipment having real productive function, it can also realize system control by PLC master station and remote I/O system

#### Technical Parameters

- Dimension : 1882×900×1600mm
- Input power : AC 220V±10% 50/60Hz
- Output power : AC 220V safety socket output DC 24V safety terminal output
- Capacity : < 2KVA

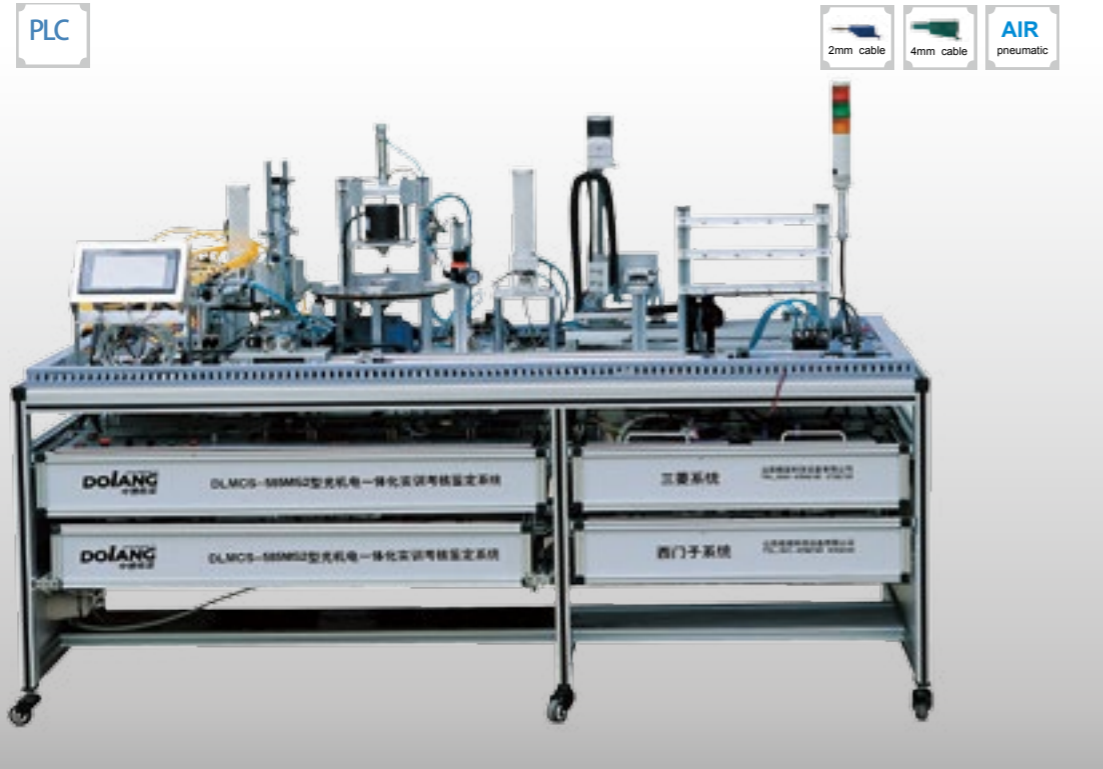
#### Optional

- Computer, computer table
- Air compressor



## Mechatronics Training Series

96



DLMCS-585MS2 Optical Mechatronics Training System

### Overview

This system is a kind of training assessment device which can simulate industrial site workflow environment for different types of workpiece processing and testing, handling and automatic assembly stamping and classification storage, use a variety of sensors to achieve the detection and identification of the workpiece, delivery workpiece by the manipulator and handling mechanism, And ultimately complete the classification storage about the workpiece which is in place by the sorting mechanism.

The system is composed of aluminum workbench, feeding and testing unit, manipulator, processing unit, assembly and punching unit, ASRS and DC speed regulation unit.

The system uses a modular control unit. The control module including Mitsubishi/Siemens PLC module, Mitsubishi/Siemens converter module, double-closed-loop DC speed regulation module, servo drive and servo motor module, stepper drives and stepper motor module; The control objective including feeding and testing unit module, processing unit, handling manipulator unit, assembly stamping unit, ASRS module. The system adds dual closed-loop speed control module to drive DC motor speed regulation.

### Technical Parameters

- Dimension : 1900×900×1220mm
- Input power : AC 380V±10% 50 / 60Hz
- Output power : AC 220V safety socket output  
DC 24V safety terminal output
- Capacity : < 2KVA

## Modular Flexible Manufacturing Training System

97



DLMPS-205 Modular Flexible Production Line Training System

### Overview

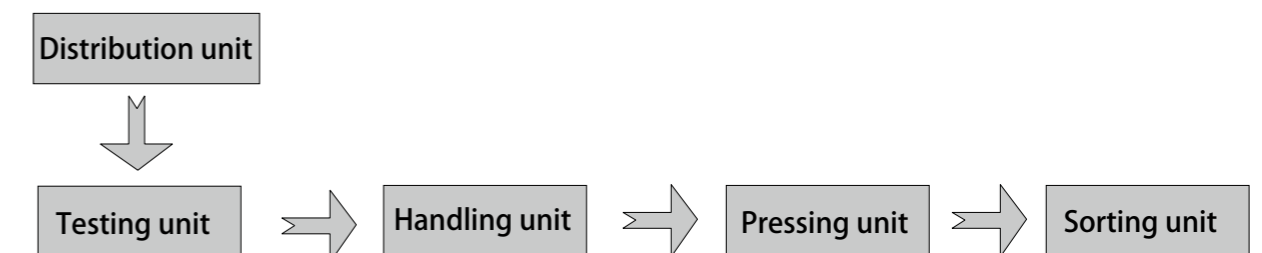
The system consists of distribution unit, testing unit, handling unit, pressing unit, sorting units. Each station of this system is installed on groove aluminum plates. Each station can be connected to be an automatic product line. All stations are composed of modular form. Each station is easy to set up, disassemble and maintenance. Each station can be combined freely.

### Technical Parameters

- Dimension : 2450×790×2400mm
- Input power : AC 220V±10% 50/ 60Hz
- Output power : AC 220V safety socket
- Capacity : < 2KVA

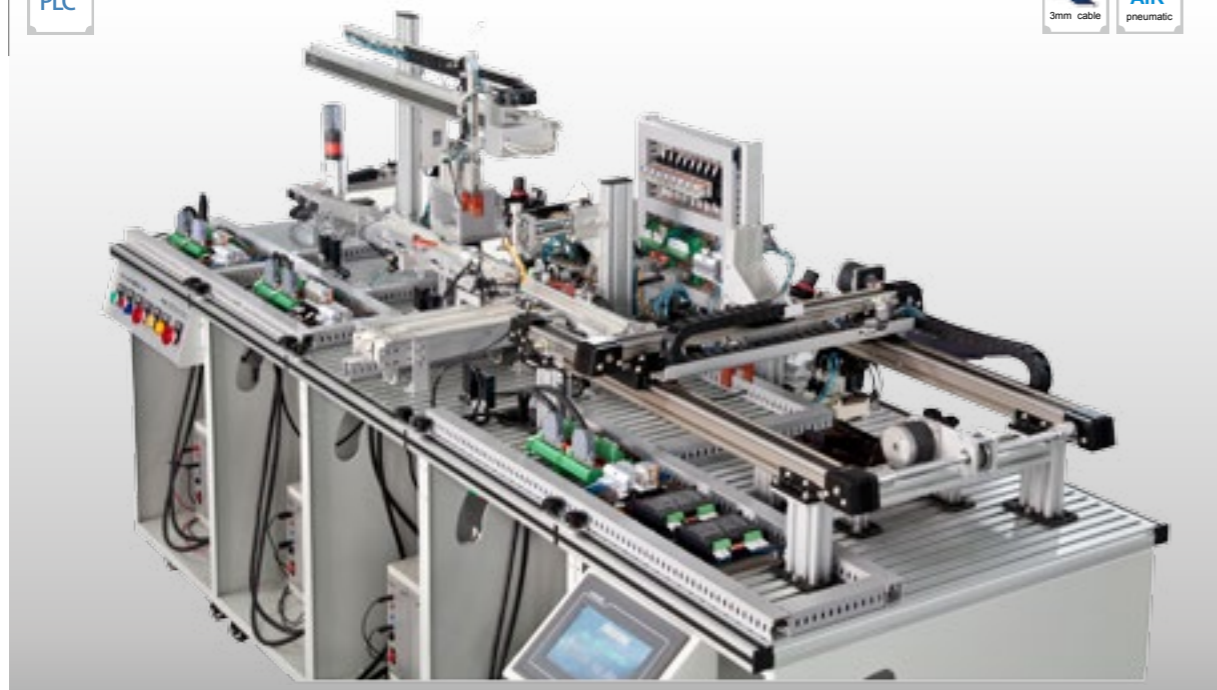
### Optional

- Computer, computer table
- PLC module (PLC brand is optional)
- Air compressor



## Modular Flexible Manufacturing Training System

PLC



DLDS-500A Modular Flexible Production Line Training System

### Overview

DLDS-500A is a modular flexible production line training device includes grab table, stamping station, assembly station, dual-axis motion manipulator station, stacking station, substrate, logic simulation box, PLC control box (you can choose different types of PLC), operation panel, touch screen mounting box, control cabinet, I / O adapter plate. The flexible production line can complete grasp, stamping, assembly, dual-axis motion robot handling, re-sorting and storage of three kind of material block. The flexible production line can complete the assembly of the various stations mechanical assembly, pneumatic components, installation of electrical components, circuit wiring, electrical cylinder position adjustment, stepper motor technology parameter settings, PLC programming technology, sensor technology, electronic technology, etc.

The system mounted on slotted aluminum plate. Every station can combined freely to different systems.

### Technical Parameters

- Dimension : 2450×790×2400mm
- Input power : AC 220V±10% 50/60Hz
- Output power : AC 220V safety socket
- Capacity : < 2KVA

### Optional

- Computer, computer table
- Air compressor

## Modular Flexible Manufacturing Training System

PLC

AIR  
pneumatic

DLMPS-800A Modular Product System

### Overview

The system is composed of distribution unit, handling unit, processing unit, handling sorting unit, conveyor belt unit, manipulator handling unit, assembly unit, classification storage unit.

The main components of the system including: PLC, industrial HMI, switching power supply, hopper, classification silo, silo transposition parts, workpiece push parts, sliding push parts, up and down rocker arm part, drill motor, detection cylinder assembly, translation table, rotary table, cylinders, solenoid valves, DC gear motors, manipulator, ball screw, gripper, vacuum generator, tower crane, industrial sensors, variety of detection switches, buttons, I/O interface board and communication interface board.

### Technical Parameters

- Dimension : 3600×790×1280mm
- Input power : AC 220V±10% 50/60Hz
- Capacity : < 5KVA



## Modular Flexible Manufacturing Training System

PLC

AIR  
pneumatic

DLMPS-600A Modular Flexible Production Line Training System

## ■ Overview

The system consists of six stations: distribution unit, testing unit, processing unit, handling unit, assembly unit and classification storage unit, the main components of the system including: PLC, HMI, handling manipulator, switching power supply, hopper, sorting bin, workpiece pushing member, slide bar pushing member, punch motor assembly, detection cylinder assembly, translation stage, rotating table, cylinder, solenoid valve, DC gear motor, vacuum generator, various industrial sensors, a variety of commonly used detection typical switch, button.

The system software is controlled by MCGS industrial configuration monitoring software, through the software can monitor the operational status and operation process.

## ■ Technical Parameters

- Dimension : 3600×800×1420mm
- Input power : AC 220V±10% 50 / 60Hz
- Capacity : < 5KVA

## ■ Optional

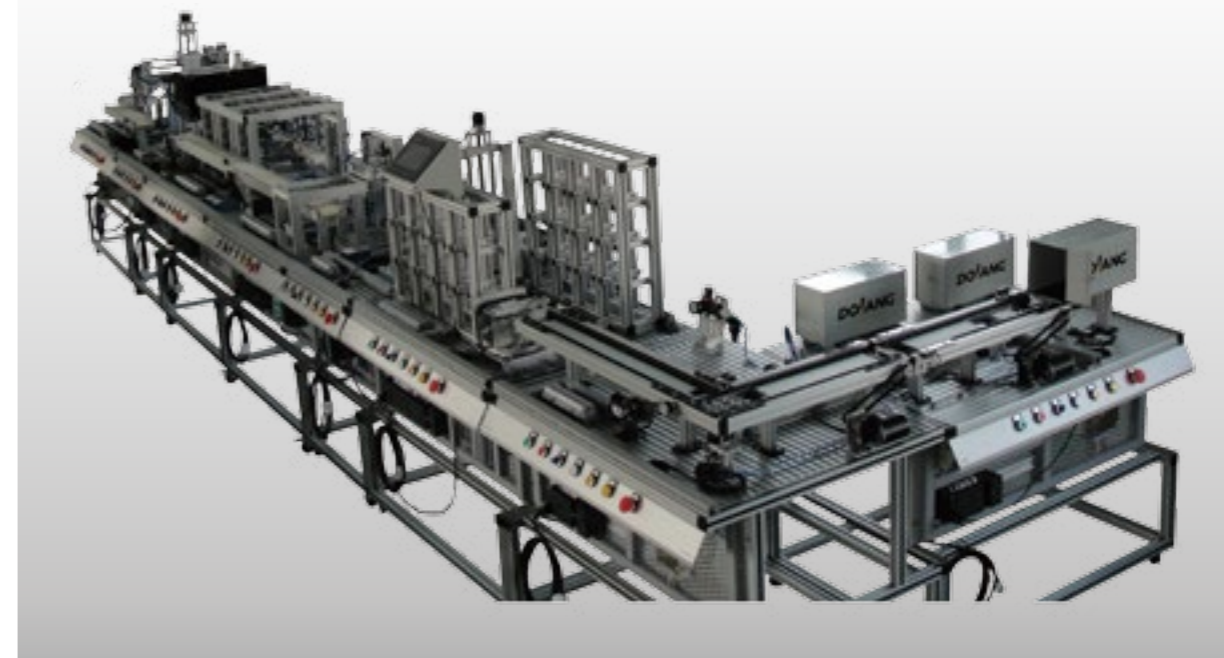
- Computer, computer table
- PLC module
- Air compressor



DLMPS-600D Modular Product System

## Flexible Manufacturing Training System

PLC

AIR  
pneumatic

DLWL-800A Modular Modern Logistics Manufacture Process System

## ■ Overview

The system uses PROFIBUS-DP to constitute the system. Each unit may run independently. Users can combine equipment according to requirement, they can form more than ten kinds of training systems.

This system is divided into eight stations: Manipulator handling unit, Visual testing unit, Automatic identify buffering unit, Stacking unit, Electronic tag unit, ASRS unit, Goods direction control unit, Container loading unit.

Through this system, students can obtain knowledge about pneumatic, electro-pneumatic, engineering controls, sensors and mechatronics.

## ■ Technical Parameters

- Dimension : 6100×1730×1500mm
- Input power : AC 220V±10% 50/ 60Hz
- Capacity : < 2KVA

## ■ Optional

- Computer, computer table
- Air compressor

## Modular Flexible Manufacturing Training System



DLFMS-1700B Modern Industrial Production Assembly Training System

### Overview

Industrial 4.0 enable world industrial development enter into the new stage featured as emerging technologies like the Internet of things, mobile Internet, big data and cloud computing.

We provide intelligent manufacturing environment which is completely consistent with the real factory—DLFMS-1700B Flexible Manufacturing System, students are able to experience real factory environment at school, by self-assembling, programming, debugging complete the workpiece "orders - distribution - processing - assembly - testing - recognition - warehousing-logistics" customized manufacturing processes, focusing on cultivating students' practical ability, programming ability, comprehensive qualities such as production line inspection and maintenance capabilities. DLFMS-1700B flexible manufacturing system have a series of hardware and software like robot, central processing equipment, robot slide guide rail, conveyor belt, smart cameras, servers, control software and service software. System uses advanced control strategies and service software, integrated with hardware to achieve intelligent communication

### Technical Parameters

- Dimension : 7000×3750×2200mm
- The height of the table is 750mm
- Input power : AC 220V±10% 50 / 60Hz
- Control power : DC 24V
- Capacity : ≤ 5kVA

## Industrial Robot Training Series(RB Series)



DLFA-R501DM Electro Robot Arm

### Overview

The training system consists of distribution unit, five freedom joints manipulator, material sorting and control unit. The control unit supports three control methods: PLC control, MCU control and PC control. Training projects includes: Cognition and application of sensor, Cognition and application of pneumatic, Mechanical integration and debugging technology, Serial-link robot teaching experiment, Manual control experiment, PLC programming control experiment MCU programming control experiment, Mechanical ontology modules can make the disassemble and assemble experiment, Cognition and wiring experiment of electrical components, Multi-control programming transformation and operation experiment.

### Technical Parameters

- Input power : AC 220V±10% 50 / 60Hz 5A
- Capacity : ≤ 1KVA
- Structure type : Union joint type
- Drive mode : step drive
- Load capacity : 1Kg
- Actuation range :
  - J1 : 0° ~ 180°    J2 : 0° ~ 30°    J3 : 0° ~ 90°
  - J4 : 0° ~ 180°    J5 : 0° ~ 180°
- Gripper : 45—60mm    ● The maximum unfold radius : ≥ 700mm
- Height : ≥ 1150mm    ● Body weight : ≤ 100Kg
- Operating mode : PLC Programming control, Microcontroller programming control, PC software programming control





## Industrial Robot Training Series(RB Series)

PLC PC MCU

3mm cable AIR pneumatic



DLFA-R601DM Modular Serial Robot Arm

### Overview

DLFA-601D training system consists of distribution unit, six degrees of freedom joint manipulator, material sorting and control unit, each joint module can be combined into two-axes,three-axes, four-axes,five-axes,six-axes series joint robot, which can complete space complex motion planning and control. Training projects includes: Sensor cognition and application,Pneumatic knowledge cognition and application, Mechanical alignment and commissioning technology, Serial Robot training, Manual control experiment, PLC program control experiment, Motion card control experiment, Single module independent operation experiment, Module mechanical structure assemble& disassemble experiment, Pneumatic control components cognition and wiring experiment, Multi-control mode convert programming and operation experiment.

### Technical Parameters

- Dimension :  
Robot table size : 800×780×850mm  
Dimension of the control system : 1400×780×1400mm
- Input power : AC 220V±10% 50/ 60Hz
- Each joint module specs :

Module Name	Structural Feature	Angle range
1 joint module	Stepper motor drive,planetary speed reducer drive	-90° ~ +90°
2 joint module	Stepper motor drive,harmonic reducer drive	-45° ~ +45°
3 joint module	Stepper motor drive,synchronous belt drive	-45° ~ +45°
4 joint module	Stepper motor drive,worm-gear drive	-90° ~ +90°
5 joint module	Stepper motor drive, direct gear reducer,synchronous belt drive	-45° ~ +45°
6 joint module	Mini stepping motor drive, bevel gear reducer drive	-180° ~ +180°



## Industrial Robot Training Series(RB Series)



DLRB-120 Industrial Robot Basic Skills Training System

### Overview

DLRB-120 industrial robot basic skills training system has manual and automatic control, we can detect whether the gripper and cylinder etc work normally or not by manual.

### Technical Parameters

- Dimension : 1500×1200×1700mm
- Input power : AC 220V±10% 50/60Hz
- Capacity : < 4KVA
- Robot model number : IRB120-3/0.6 (can choose other brands)
- Wrist overweight : 3 kg
- Max wingspan radius : 0.58m
- Axis count : 6-axis
- Protection grade : IP30
- Installation way : random installation
- Positional repeatability : 0.01 mm

## Industrial Robot Training Series(RB Series)



DLRB-120B Industrial Robot Basic Skills Training System

#### Overview

Industrial robot basic skills training system consists of six axis industrial robots, training platform, track tracing module, parts stacking module, tiles handling order module, test module, the double suction cup fixture, gripper clamp and drawing pen, etc. Industrial robots can complete the work tasks of drawing, handling, stacking, detection arrangement, etc.

#### Technical Parameters

- Dimension : 1800×840×1500mm
- Input power : AC 220V±10% 50 / 60Hz
- Capacity : < 4KVA
- Robot model number : IRB120-3/0.6 (can choose other brands)
- Wrist overweight : 3 kg
- Max wingspan radius : 0.58m
- Axes count : 6-axis
- Protection grade : IP30
- Installation way : random installation
- Positional repeatability : 0.01 mm

## Industrial Robot Training Series(RB Series)



DLFA-JXS Four Joints Robot Training System

#### Overview

The system consists of distribution module, transmission module, robot modules, sorting module and control module. Distribution module provides three kinds of workpiece with different color and material; Transmission module is composed of DC motor and belt; The robot is Mitsubishi four joint robot for completing pickup or put down the workpieces, according to the test result, put the workpiece to different place.

#### Technical Parameters

- Dimension : 1250×900×1550mm
- Input power : single-phase, three-wire AC 220V±10% 50/60Hz
- Capacity : ≤ 1.5KVA
- Pneumatic source working pressure : 0.4 ~ 0.6Mpa
- Mitsubishi industrial robot : RH-6SDH3517C (can choose other brands)
- Robot maximum action radius : 350mm
- Maximum lift weight : 6KG
- Robot weight : 20KG

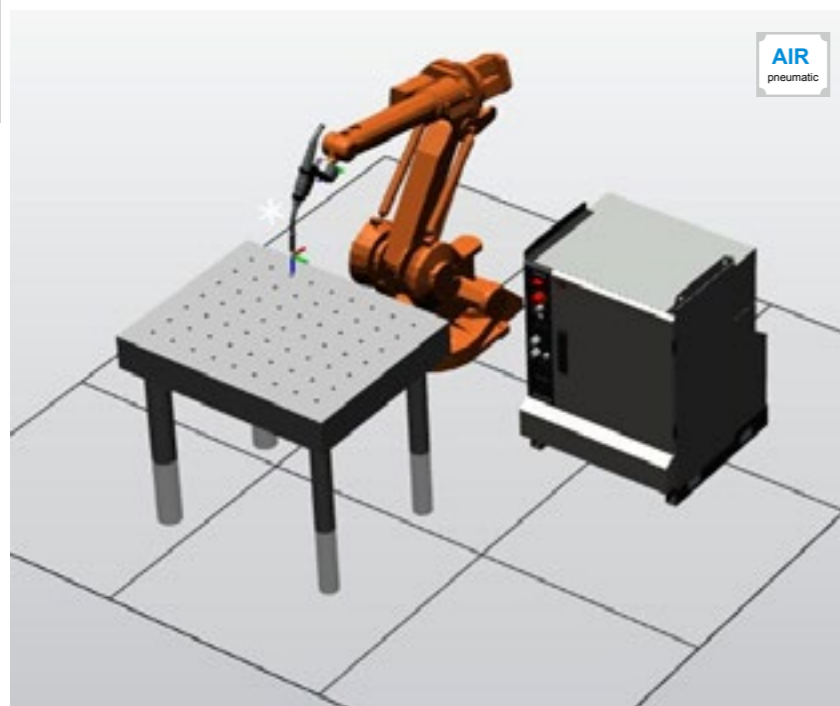
#### Optional

- Computer, computer table
- PLC module



## Industrial Robot Training Series(RB Series)

108



DLRB-1410 Welding Robot Training System

#### Overview

DLRB-1410 is a special welding robot. DLRB-1410 adopts superspeed 6-axis operating mechanism, 1.44m reach distance, 5kg payload, it becomes the ideal tool for soldering a variety of materials.

#### Technical Parameters

- Input power : AC 380V±10% 50/ 60Hz
- Capacity : < 3.5KVA
- Robot model number : IRB1410 (can choose other brands)
- Wrist overweight : 5kg
- Axes count : 6-axis
- The largest wingspan radius : 1.44m
- Protection grade : IP54
- Positional repeatability : 0.05 mm

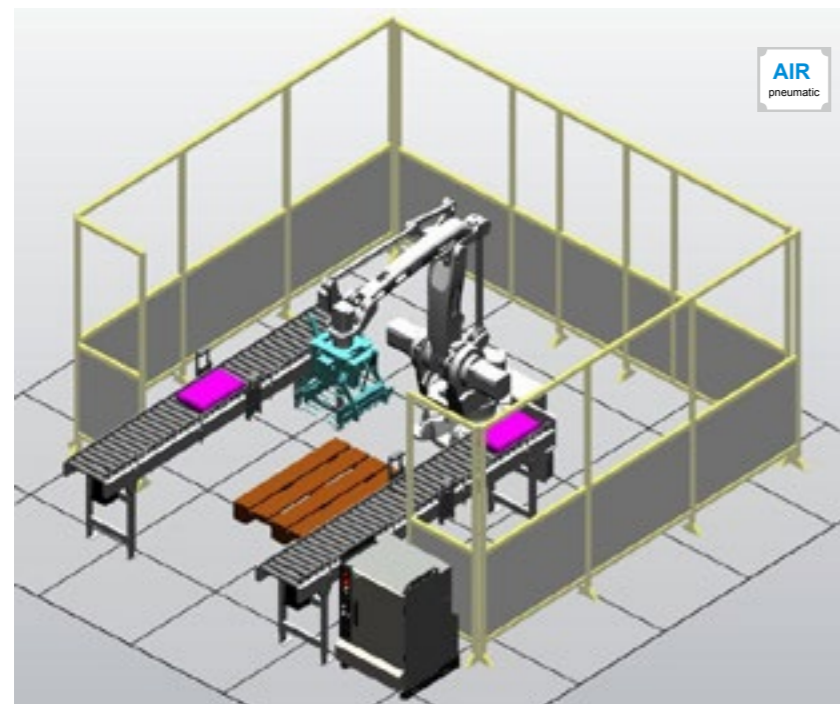
#### Overview

DLRB-460 is a special palletizing robot. DLRB-460 is superspeed 4-axis operating mechanism, 2.4m reach distance, 110 kg payload, it becomes the ideal tool for palletizing a variety of materials.

Robot can also configure remote control functions, and the industrial robot professionals may maintain the robot through the network.

#### Technical Parameters

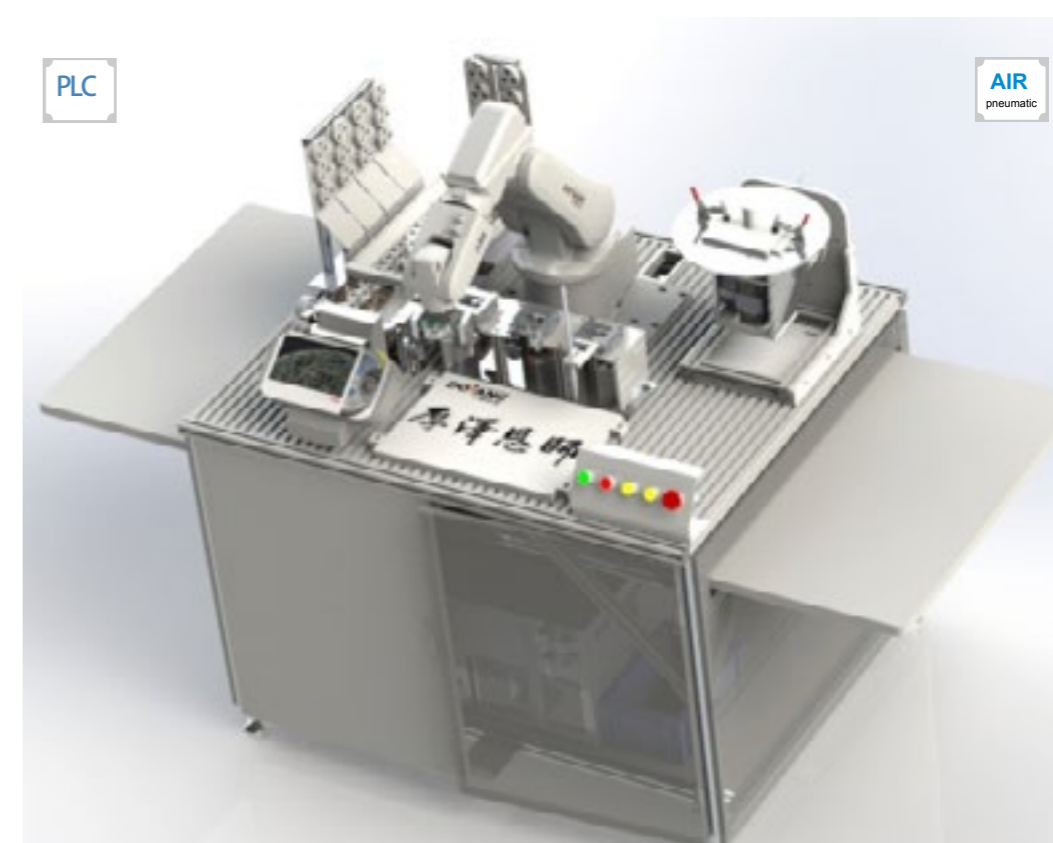
- Input power : AC 380V±10% 50/60Hz
- Capacity : < 3.5KVA
- Robot model number : IRB460-110/2.4 (can choose other brands)
- Wrist overweight : 110kg
- Axes Count : 4-axis
- Max wingspan radius : 2.4m
- Protection grade : IP67
- Positional repeatability : 0.05 mm



DLRB-460 Palletizing Robot Training System

## Industrial Robot Training Series(RB Series)

109



DLRB-932 Industrial Robot Typical Workstation Training System

#### Overview

DLRB-932 industrial robot typical workstation training system consists of six-axis industrial robot, training bench, tire stacking model, virtual welding model, parallel fixture, three-jaw fixture, virtual welding torch, console, assembly table and consumables package.

The system can be combined with the tire stacking model and welding model to complete the corresponding tasks.

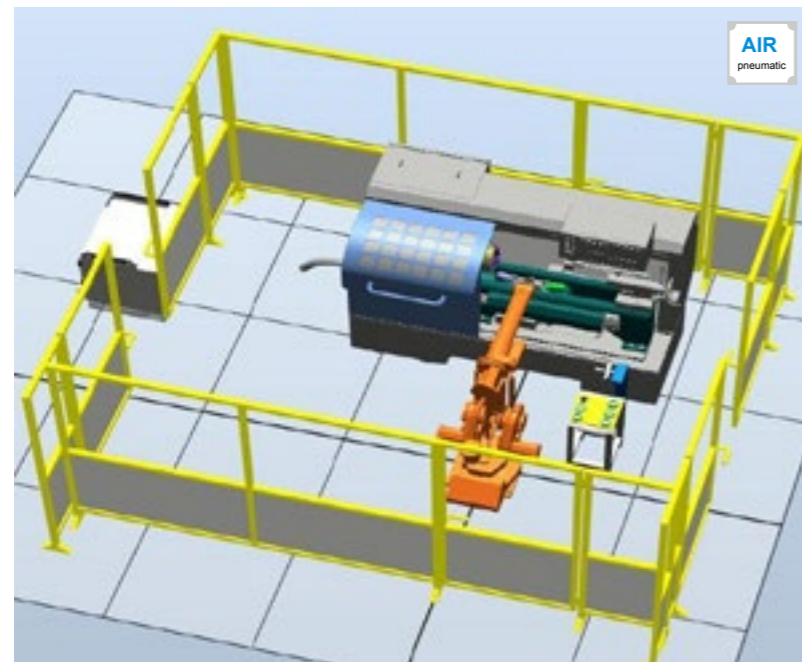
#### Technical Parameters

- Dimension : 1250×1000×1600mm
- Input power : AC 220V±10% 50/ 60Hz
- Power control: automatic air switching on-off power supply, with overpressure protection, undervoltage protection, overcurrent protection, leakage protection system
- Output power : AC220V±10% 50/60Hz  
Output controlled by the start switch, and with fuse protection  
DC stabilized voltage power supply : 24V/1A
- Capacity : < 1.5KVA
- Industrial robot : ABB IRB120 (Robot brand is optional)

#### Optional

- Computer
- computer table

## Industrial Robot Training Series(RB Series)



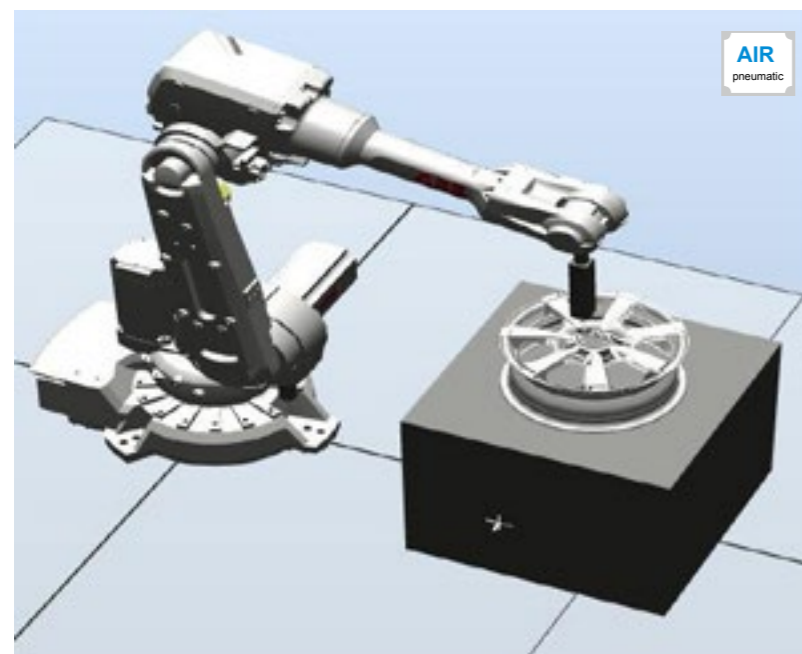
DLRB-1410B Robot Machine Loading and Unloading Training System

## ■ Overview

The robot will grab the workpiece which to be processed and put on the machine to process, after finishing processing, the robot will put the workpieces under the visual system to detect, according to the result put the qualified product to the qualified position, and put the unqualified product to the unqualified position.

## ■ Technical Parameters

- Input power : AC 380V±10%  
50 / 60Hz
- Capacity : < 4.5KVA
- Robot model number : ABB IRB1410  
(can choose other brands)
- Wrist overweight : 5kg
- Axes count : 6-axis
- The largest wingspan radius : 1.44m
- Protection grade : IP54
- Positional repeatability : 0.05 mm



DLRB-2600 Robot Polishing Training System

## ■ Overview

This robot was carried out on the workpiece (hub) grinding(polishing and deburring), can realize grinding, polishing, deburring according to different tool ,mainly used for grinding or polishing wheel hub surface and wheel PCD hole deburring after processing. The robot uses composite , the clamp can adapt grinding head, polishing, deburring tools.

## ■ Technical Parameters

- Input power : AC 380V±10%  
50 / 60Hz
- Capacity : < 4.5KVA
- Robot model number : ABB IRB1410  
(can choose other brands)
- Wrist overweight : 12kg
- Axes count : 6-axis
- The largest wingspan radius : 1.65m
- Protection grade : IP67
- Positional repeatability : 0.05 mm

## Industrial Robot Training Series(RB Series)



DLRB-1410A Industrial robot CNC machining teaching workstation

## ■ Overview

DLRB-1410A Industrial robot CNC machining teaching workstation is mainly composed of practical training desk, polishing set, control system and industrial robot with six degrees of freedom. The system uses the robot and the polishing set to coordinate the work, with the real industrial processing as the background, set grinding, polishing, deburring and a series of process as a whole, it can let students develop PLC programming, application and system integration capabilities . This system robot uses ABB six degrees of freedom robot (robot brand is optional).

## ■ Technical Parameters

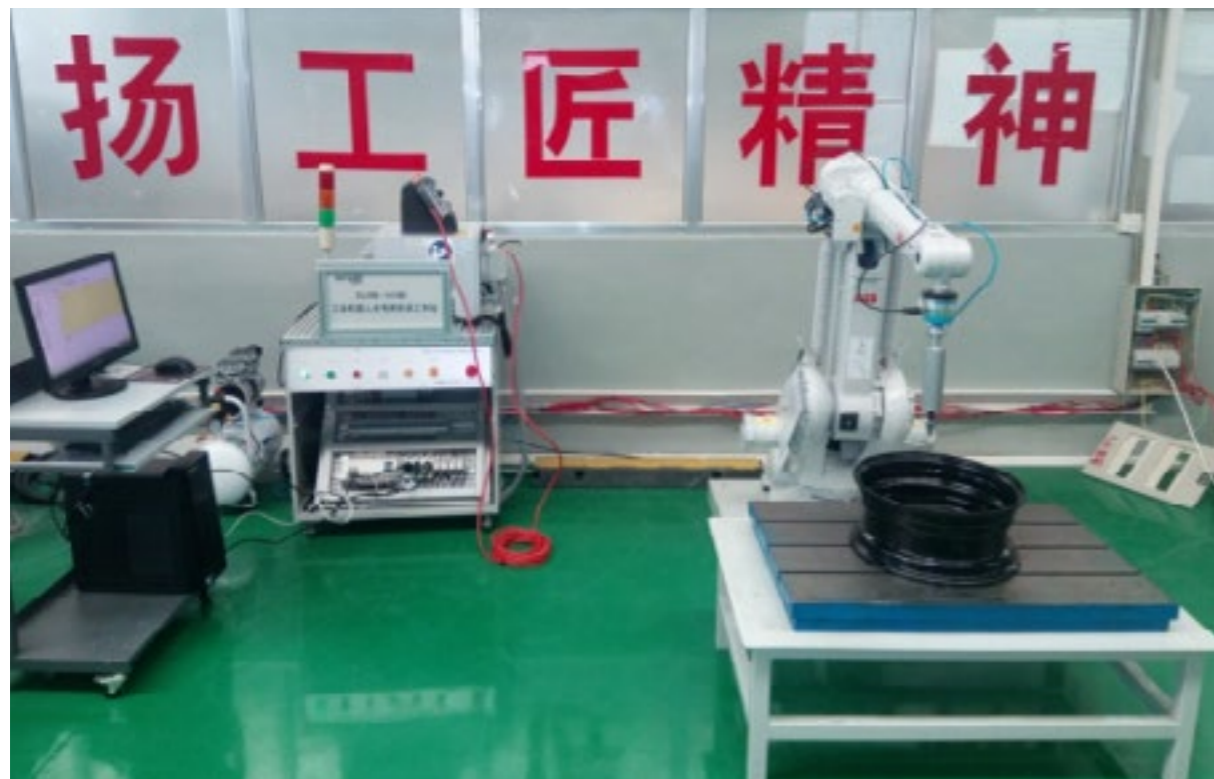
- Input power : AC 380V±10% 50 / 60Hz
- Output power : AC 380V±10% 50/ 60Hz  
Output controlled by the start switch, and with fuse protection  
DC stabilized voltage power supply : DC24V/1A
- CNC lathe: fully functional slanting bed CNC lathe (CNC system brand is optional)
- Robot model number : ABB IRB1410 (can choose other brands)

## ■ Optional

- Computer , computer table
- Air compressor



## Industrial Robot Training Series(RB Series)



DLRB-1410C Industrial Robot Deburring Training Workstation

#### Overview

The DLRB-1410C industrial robot deburring training workstation mainly consists of training platform, engraving and milling machine heads, carving and milling sets, control systems and industrial robots with six degrees of freedom. The system uses the robot and the engraving and milling machine coordinate with the work to the real scene of the industrial processing as the background, set a series of carving, milling, drilling and other processes as one, training students on the robot, PLC, engraving and milling machine, inverter and other industries system integration capabilities of industry field devices.

The robot system using six degrees of freedom robot ABB (robot brand optional).

The system control mainly by the PLC control (PLC brand optional).

#### Technical Parameters

- Input power : AC 380V±10% 50/60Hz
- Output power : AC 380V±10% 50/60Hz
- Output controlled by the start switch, and with fuse protection
- DC stabilized voltage power supply : DC24V/1A
- Deburring components
- Robot model number : ABB IRB1410 (can choose other brands)

#### Optional

- Computer , computer table
- Air compressor

## Industrial Robot Training Series(RB Series)



DLRB-KR20 Industrial Robot CNC Machining Training Station

#### Overview

The system consists of the training platform, the control system and the six degrees of freedom robot.

This system robot adopts KUKA six degree of freedom robot (robot brand optional)

The control mode of this system is mainly controlled by PLC (PLC brand optional)

#### Technical Parameters

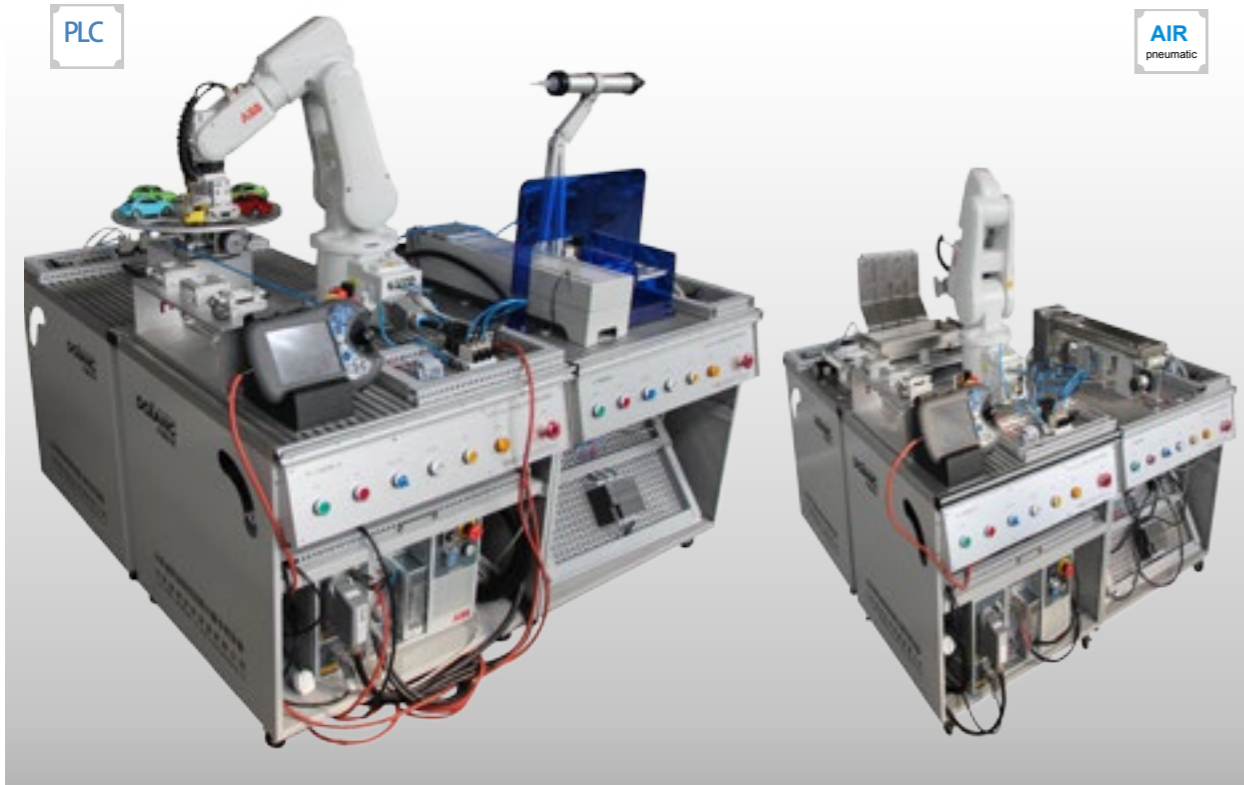
- Input power : AC 380V±10% 50/60Hz
- Output power : AC 380V±10% 50/60Hz
- Output controlled by the start switch, and with fuse protection
- DC stabilized voltage power supply : DC24V/1A
- CNC lathe: CNC machining components
- Robot model number : KUKA KR20-3 (can choose other brands)

#### Optional

- Computer , computer table
- Air compressor

## Industrial Robot Training Series(RB Series)

PLC

AIR  
pneumatic

DLRB-934 Industrial Robot Typical Workstation Training System

## ■ Overview

Industrial robot workstation equipment consists of six-axes industrial robot, training platform, assembly task model, gelatinize task model, tire stacking model, testing arrangement, material storage tank, double suction clamp, glue guns clamp, parallel clamp, three- jaw clamp, work station, assembly table and consumable kit. Industrial robots can be respectively combined with assembly task model, gelatinize task model, tire stacking model and corresponding detection array model, to complete the related tasks.

## ■ Technical Parameters

- Dimension : 1300×750×1700mm
- Input power : AC 220V±10% 50 / 60Hz
- Power control: automatic air switching on-off power supply  
There are overpressure protection, undervoltage protection, overcurrent protection, leakage protection system.
- Output power : AC 220V±10% 50/ 60Hz
- Output controlled by the start switch, and with fuse protection
- DC stabilized voltage power supply : DC24V/1A
- Capacity : < 1.5KVA



## Industrial Robot Training Series(RB Series)



DLDS-1508 Industrial Robot Technology Application Training System

## ■ Overview

Training project includes feeding unit of mechanical structure assembly and debugging training, bergerlehr manipulator trajectory planning offline, ring assembly inspection unit mechanical structure assembly and debugging practice training, ring assembly detection unit PLC programming, visual inspection module mechanical structure assembly and debugging practice, visual inspection module electrical debugging, the understanding and application of the robot, assembly unit industrial robot installation, assembly unit finished product storage's assembly and installation commissioning, robot's position control and command language training, robot and PLC communication training, robot peripheral equipment communication setup training, robot trajectory planning training, detection switch's application, sensor's application, pneumatic component's application, application of PLC, PLC ethernet communication function, pneumatic circuit connection and electrical connection, mechanical parts and pneumatic parts assembly and disassembly.

## ■ Technical Parameters

- Dimension: 1700×1000×1600 mm
- Inout power: AC 220V±10% 50 / 60Hz
- Capacity: < 1.5KVA
- The control system of this system adopts PLC control (control system optional).
- National industrial robot skills competition designated equipment
- Competition resources package
- Simulation software

## ■ Optional

- Computer, Computer table
- Air compressor
- PLC module
- Hanging wire frame
- Tool vehicle



## Industrial Robot Training Series(RB Series)

## Industrial Robot Training Series(RB Series)



DLCIM-01 Robot Integrated Manufacturing and Processing System

#### Overview

The system is divided into three working units: CNC lathe unit, CNC milling machine unit, industrial robot unit. Training project includes: Sensor adjustment training, Servo motor control training, Robot crawl workpiece programming training, CNC machine tool precision detection, debugging and principles, CNC machine tool monitoring and compensation technology, CNC machine tool precision debugging; Machine accuracy on-site inspection and analysis, CNC integrated test bed connection and debugging training, CNC system interface awareness and connection, CNC machine tool electrical control system design principles, CNC machine running debugging training, CNC system PLC design and application, CNC program structure, format and command system to master, CNC machine tool programming and operation processing training, CNC machine tool system function skills application, CNC machining parts clamping and processing, three-dimensional graphics and other parts, Fault setting and diagnosis, exclusion, CNC machine tool programming operation and processing examples etc.

#### Technical Parameters

- Dimension: 2800×1400×1830mm
- Input power: AC 220V±10% 50 / 60Hz
- Capacity: ≤5kVA
- Controller: PLC control (PLC brand optional)

#### Optional

- Computer, computer table
- Air compressor



DLDS-500AR Modular Flexible Product Line System Training System

#### Overview

DLDS-500AR is a modular flexible product line training device include Feeding station, handling station, assembly station, robot palletizing station, substrate, PLC control box (choose different types of programmable controllers), the operation panel, touch screen installation boxes, control cabinet, I / O adapter board. Flexible product line can complete 3 material' s Crawl, stamping, assembly, industrial robots handling, storage, etc. reclassification series of actions, this flexible product line can exercise student ' s Systems thinking ability, Strengthen the students hands-on, minds, "real knife real gun" to complete the installation of the mechanical assembly, assembly of pneumatic components, electrical components of the stations, circuit wiring, electrical adjustment of the position of each cylinder, setting the technical parameters of the stepping motor, PLC programming, sensor technology, the technical application of electronic technology in the professional field.

#### Technical Parameters

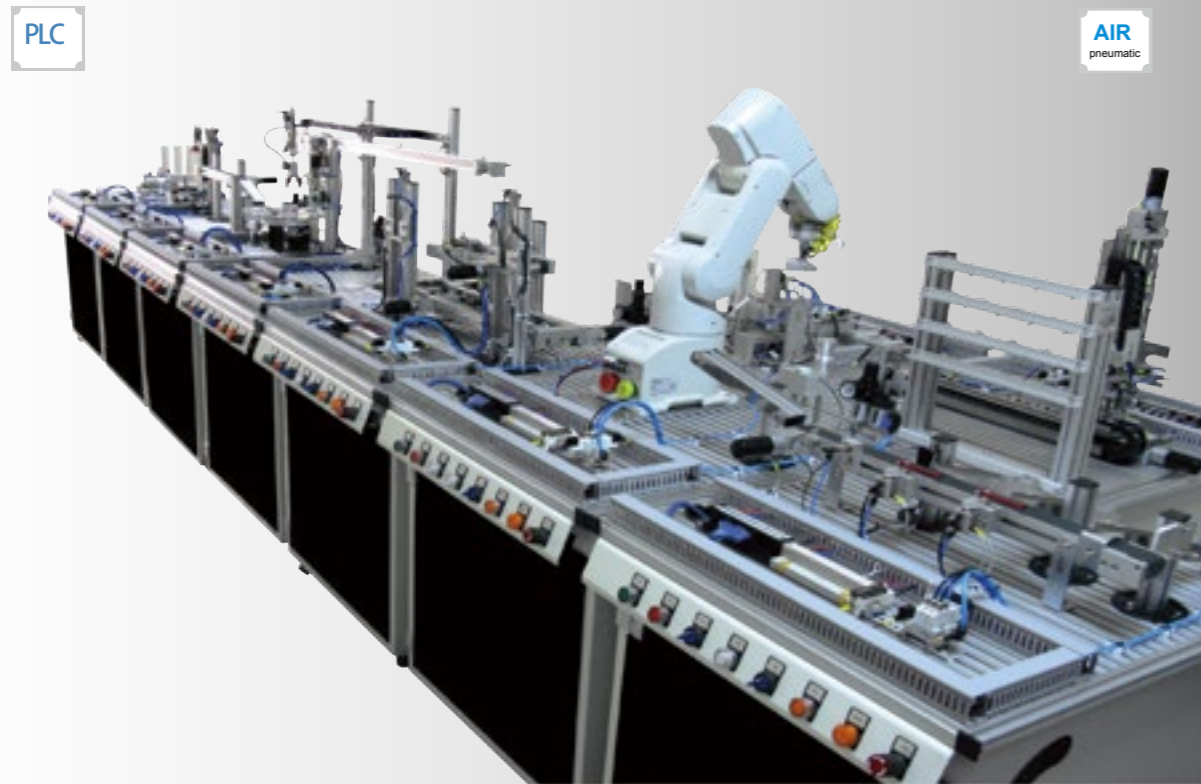
- Dimension: 2400×800×1400mm
- Input power : AC 220V ±10 % 50 / 60Hz
- Capacity : ≤ 2KVA

#### Optional

- Computer 、 computer table
- Air compressor
- PLC module
- Hanging wire frame

## Industrial Robot Training Series(RB Series)

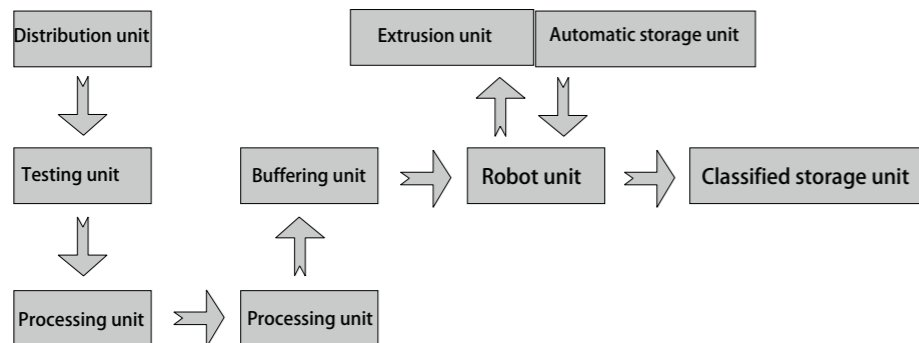
118



DLRB-900A Modular Flexible Production Line Training System

### Overview

To learn pneumatic, electro pneumatic, engineer control, sensor and mechatronic by this system.



### Technical Parameters

- Dimension : 3600×790×1280mm
- Input power : AC 220V±10% 50 / 60Hz
- Capacity : < 5KVA

### Optional

- Computer, computer desk
- PLC module
- Air compressor

## Industrial Robot Training Series(RB Series)

119



DLRB-600A Flexible Production Line Training System

### Overview

FMS has main concept in the teaching, it is "plan - production - test- execute" program to train students, enable students to master the following skills.

- Understanding the mechanical structure and components
- Pneumatic, electrical system
- PLC System
- Network system with PLC
- Electric control system and installation
- Analog and digital signal processing
- Transmission system
- Materials processing and testing
- Robot system
- Process control system

### Technical Parameters

- Dimension : 1750×1600×1450mm
- Input power : AC 220V±10% 50 / 60Hz
- Capacity : < 5KVA

### Optional

- Computer, computer table
- Air compressor



DLRB-600B Flexible Production Line Training System

### Overview

Computer control is introduced into the production and processing system for CNC training. We can add the CNC machine tools, industrial transfer system, high-level warehouse system and manipulator welding to training system according to the needs of users.

### Technical Parameters

- Dimension : 1750×1750×1450mm
- Input power : AC 220V±10% 50/ 60Hz
- Capacity : < 5KVA

### Optional

- Computer, computer table
- Air compressor



## Industrial Robot Training Series(RB Series)

120



DLRB-1601 Flexible Manufacture System

#### Overview

DLRB-1601 flexible manufacture system including 16 stations: control platform, distribution station, testing station, manipulator station, processing station, image detection station, pick&place station, hydraulic punching station, Mitsubishi robot station, finished product test station, ASRS station, manipulator station, subpackage station, handling station, storage station and circular conveyor station.

The system is mainly used to demonstrate the piston production process, including feeding, testing, machining, stamping, assembly and packaging.

The system can be used for sensor training, image detection technology training, pneumatic technology training, hydraulic technology training, electrical control system training, motor drive technology training, industrial robot training, PLC technology training, Siemens configuration software training, siemens inverter training, network training, production line process flow training, system maintenance and fault detection technology training etc.

#### Technical Parameters

- Dimension : 8000×4250×1620mm
- Input power : AC 220V±10% 50 / 60Hz
- Capacity : < 5KVA

## Industrial Robot Training Series(RB Series)

121



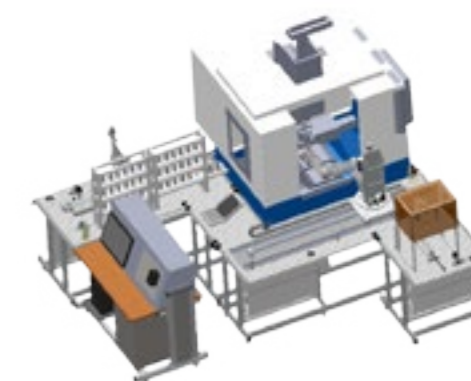
DLRB-501 Flexible Manufacturing System

#### Overview

The system is divided into five working units (workstation) : Console unit, robot handling unit, CNC milling machine unit, raw material finished product storage unit, testing unit.

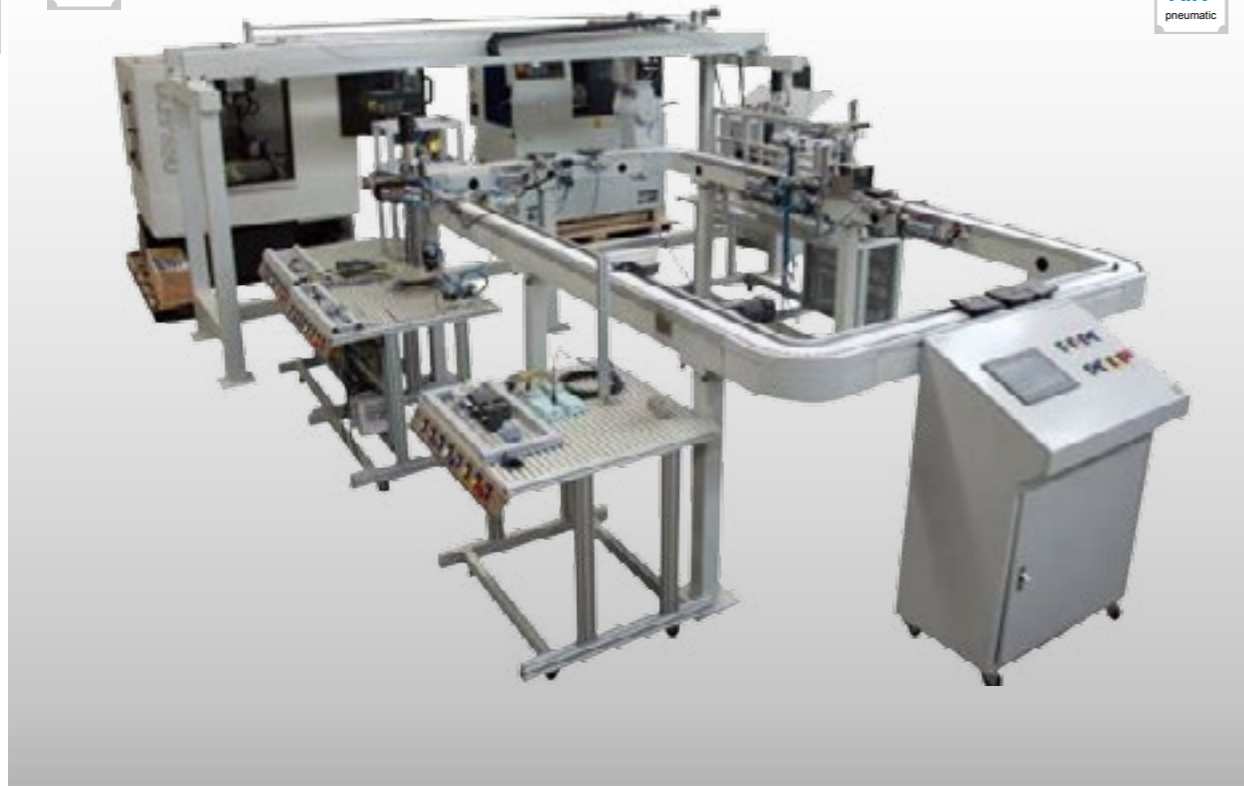
#### Technical Parameters

- Dimension : 3200×3600×2200mm table height: 750mm
- Input power : AC 380V±10% 50 / 60Hz
- Control power : DC 24V
- Capacity : ≤ 5KVA
- Leakage protection :  $I \Delta n \leq 30\text{mA}$ ,  $t \leq 0.1\text{S}$
- working pressure : 0.4 — 0.6 Mpa
- Robot brand optional



## Industrial Robot Training Series(RB Series)

PLC

AIR  
pneumatic

DLRB-801 Flexible Manufacturing System

## ■ Overview

DLRB-801 flexible manufacturing system has processing equipment like robot, CNC lathe, CNC machining center, and a series of hardware and software like: robot slide guide rail, conveyor belt, smart cameras, servers, control software and service software. System uses advanced control strategies and service software, which integrate hardware to achieve the intelligent communication and collaboration of people, machined parts and machine. Truly achieve the industrial 4.0 which featured as Internet of things, mobile Internet, big data, cloud computing and other emerging technologies etc.

The system is divided into eight working units(workstation) : CNC lathe unit, CNC milling unit, Mitsubishi robot unit, material storage unit,manipulator assembly unit, visual inspection unit, RFID radio frequency detection unit, circular conveyor unit.

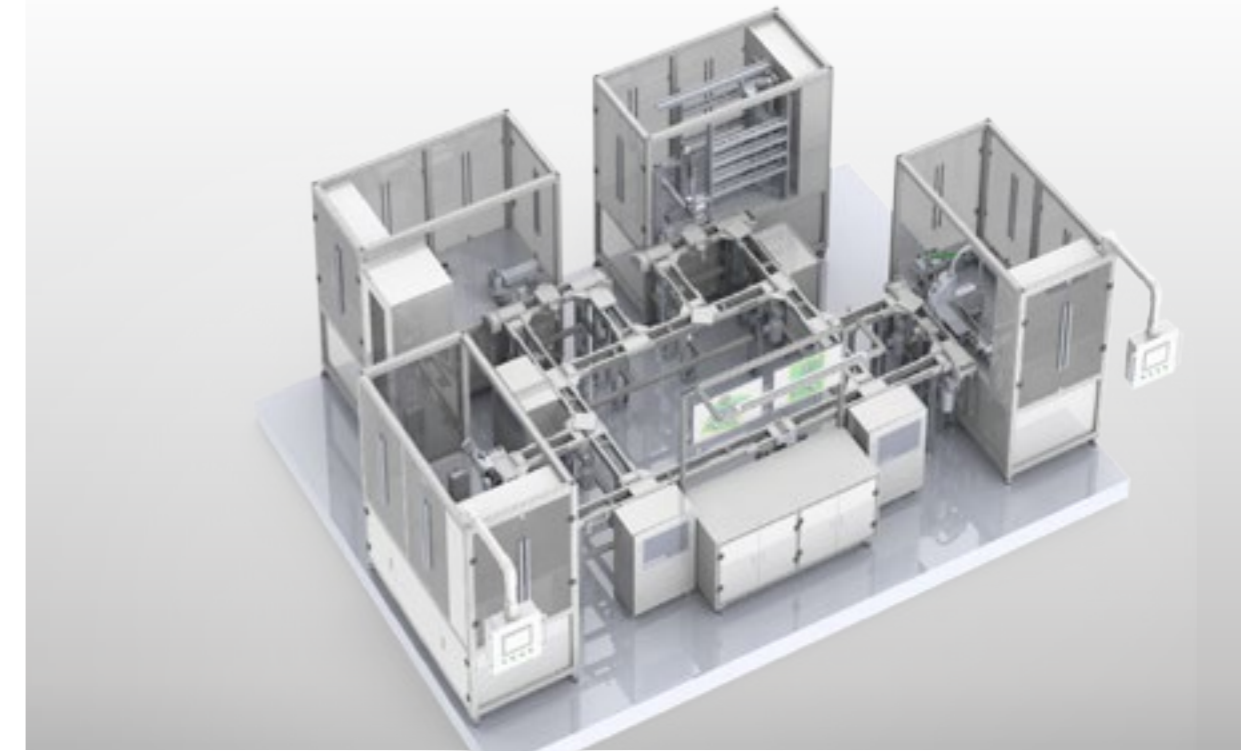
## ■ Technical Parameters

- Dimension : 7500×5000×2000mm
- Table height :750mm
- Input power : AC 380V±10% 50/ 60Hz DC 24V
- Capacity : ≤ 5kVA
- Leakage protection : I Δ n ≤ 30mA, t ≤ 0.1S
- Pneumatic source pressure range : 0.4 — 0.6 Mpa

## ■ Optional

- Computer
- Computer table
- CNC lathe
- CNC milling machine

## Industrial Robot Training Series(RB Series)



DLIM-102MA Internet Collaborative Manufacturing Technology and Application Production Training System

## ■ Overview

The system is guided by the commemorative coin processing process, including intelligent manufacturing execution system, distribution unit, four-axis sorting unit, six-axis assembly unit, automatic storage unit and ring assembly unit. In the four-axis assembly unit contains four-axis industrial robots, intelligent visual inspection system, dynamic following unit; six-axis assembly unit (including six-axis industrial robots, laser marking machine). Through the simulation of the typical commemorative coin sorting and assembly process, demonstrate the combination of basic technology in modern industrial control and application, covering a variety of advanced industrial control technology and special processing technology, is the integration of photoelectric, Mechanical, electrical and gas information integration, logistics management training, industrial modeling, Internet of things sensing technology, robotics, visual image recognition, numerical control manufacturing, pattern recognition, art design, and other comprehensive research platform.

## ■ Technical Parameters

- Dimension : 6500×4000×2050mm
- Input power : AC 380V±10% 50/ 60Hz DC 24V
- Capacity : <3.5KVA
- PLC : Siemens S7-1200 (PLC brand optional)





## Industrial Robot Training Series(RB Series)



DLRB-501D Industrial robot candy packaging and handling system

#### Overview

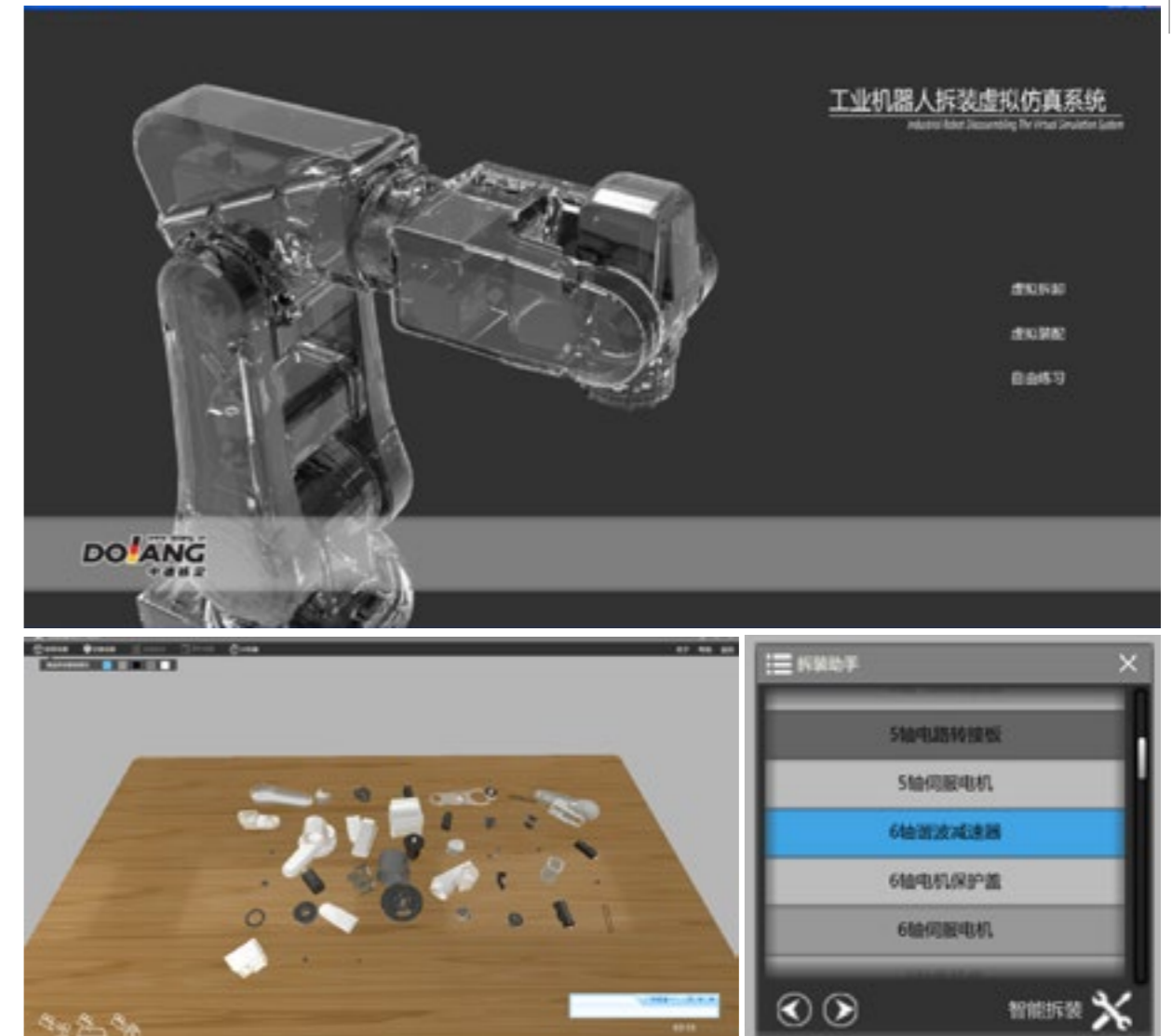
The system is divided into five work units (workstations): handling / palletizing station, feeding station, sorting station, packing station, U-type transmission station.

The system workflow is as follows: the 6-axis palletizing robot (IRB2600) is sequentially transported from the storage platform to the conveying device, and then the lifting box (IRB120) unpacks the material box on the conveying device and carries the material to the synchronous conveying device; The next step is to identify the material type by the IRB360 through the visual module to obtain the material position information. According to the information, the materials to be synchronously transferred are sorted and processed by the loading robot (IRB1410), and finally transported by the 6-axis handling robot (IRB2600) from the delivery terminal to the storage platform.

#### Technical Parameters

- Dimension : 7000×4260×2060mm
- Input power : AC 380V±10% 50/60Hz
- Power Control: Automatic air switching on-off power, with over-voltage protection, under-voltage protection, over-current protection, leakage protection system.
- Output power : AC 220V±10% 50/60Hz
- Output controlled by starting switch and with fuse protection
- DC stabilized voltage supply : 24V/3A
- Capacity : < 5KVA

## Virtual Simulation Training System (RB Series)



DLsoft-robotarm Robot virtual disassembly training simulation system

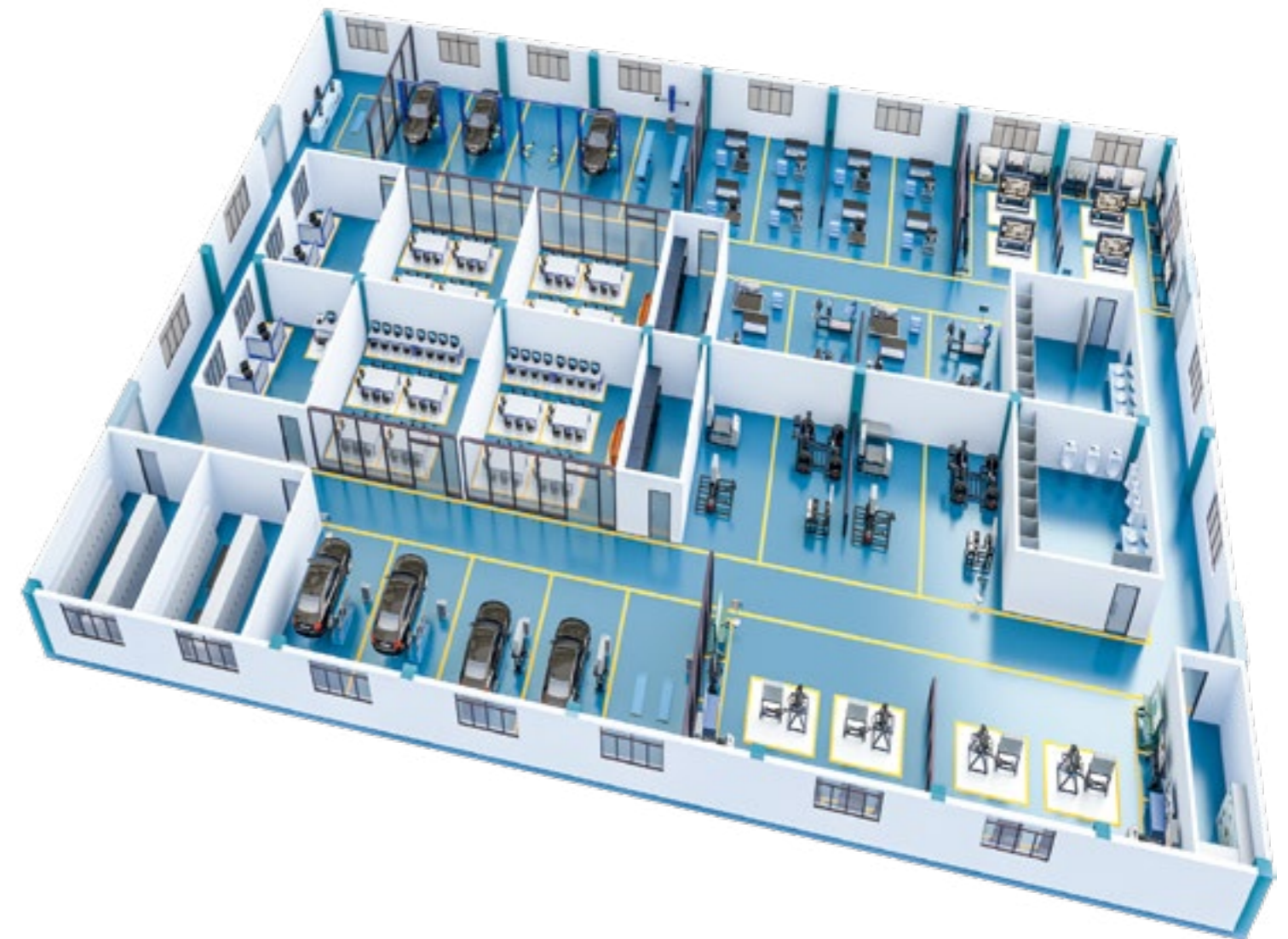
#### Overview

DLsoft-robotarm Robot virtual disassembly training simulation system simulates the disassembly and assembly of industrial robot mechanism structure using a combination of 3D technology and interactive animation. Through the 3D simulation of robots dismantling training, each axis can be disassembled into independent parts online, so that students can master the composition of industrial robots, robot structure analysis, robot motor installation, RV reducer, harmonic reducer installation, Mechanical lubrication, routine maintenance and other robot maintenance tips.

#### Smart disassembly assistant

Teachers can use this function as teaching demonstration, and students use this function to study independently.

# Automotive Training Equipment





## Gasoline Vehicle Engine Training Series



DLQC-FDJ011 LS400 Electrical Controlled Engine Training Workbench (with transmission)

## Basic Configuration

Engine assembly, Automatic transmission assembly, engine control unit, engine circuit plug, combination instrument, training panel, diagnostic block, tank assembly, up and down pipe, Kettle, thermostat switch, cooling fan assembly and bracket, pressure gauge, vacuum gauge, ignition switch, battery, starter, generator, fuel pump assembly, fuel filter, air filter, Ignition key with a chip, anti-theft control unit, anti-theft Identification coil, intake and exhaust manifolds, catalytic assembly, oil tank, movable bench and mobile casters, general power switch, relay and fuse box, instruction manual and user training guide etc.

## Technical Parameters

- Engine model: 3UZ-FE
- Number of cylinders: 8
- Compression ratio: 10.5:1
- Maximum torque speed: 5600 rpm
- Power supply: DC 12V
- Fuel tank capacity: 12L
- Dimensions: 1600×850× 1800mm
- Engine type: V type
- Valve structure: dual overhead cam (DOHC)
- Maximum torque: 417Nm
- Input voltage: AC 220V
- Battery capacity: 60HA
- Operating temperature: -40 °C ~ + 50 °C

## Diesel Vehicle Engine Training Series



DLQC-FDJ025 Isuzu Diesel Engine Training Workbench

## Overview

The training workbench adopt Rotor pump diesel engines assembly, with complete accessories, can be used to complete various training Content of engine load. All components adopt original parts, QC strictly testified, in accordance with Production Quality Management standard of ISO9001:2008, suit for car engine structure and maintenance practical training in the medium and senior vocational schools and car training institutions, satisfy the requirement of teaching training project on the electronic controlled engine structure, working principle, fault diagnosis, fault setting and exclusion assessment.

## Technical Parameters

- Engine model: 4JB1
- Cylinder arrangement form: L type
- Maximum power: 70KW
- Maximum torque speed: 1700rpm
- Fuel supply: direct injection
- Input voltage: AC 220V
- Fuel tank capacity: 12L
- Dimensions: 1600×850×1800mm
- Displacement: 2771ml
- Number of cylinders: 4
- Maximum power speed: 3600rpm
- Fuel type: diesel fuel
- The head material: aluminum
- Power supply: DC 12V
- Operating temperature: -40 °C ~ + 50 °C
- Intake form: Turbocharger
- Maximum horsepower: 95Ps
- The maximum torque: 206Nm
- Fuel number: 0
- Cylinder material: iron
- Battery capacity: 100HA

## Engine Teaching Board Series

## Engine Teaching Board Series



DLQC-FDJ-D001 Auto Ignition 3-in-1 System Teaching Board

#### ■ Training Content

- Ignition structure and composition training;
- Different ignition modes distinguish training;
- Ignition system sensor voltage, resistance, signal testing training;
- Ignition system Schematics analysis training;
- Ignition system control unit fault code reading, fault code eliminate, data flow reading, Anti-theft matching adjustment, programming, terminal component testing training;
- Ignition system troubleshooting and confirm training;
- Ignition system fault setting and exclusion training;
- Ignition system practical operation and theoretical exam training.

#### ■ Technical Parameters

- Input power: AC 220V ± 10% 50/60Hz 380V ± 10% 50/60Hz
- Power supply: DC 12V
- Power: 50W
- The rotational speed: 200r/min
- Operating temperature: -40 °C ~ + 50 °C
- Dimensions: 1500 × 850 × 1850mm



DLQC-FDJ-L002 Toyota Corolla Cooling System Teaching Board

#### ■ Overview

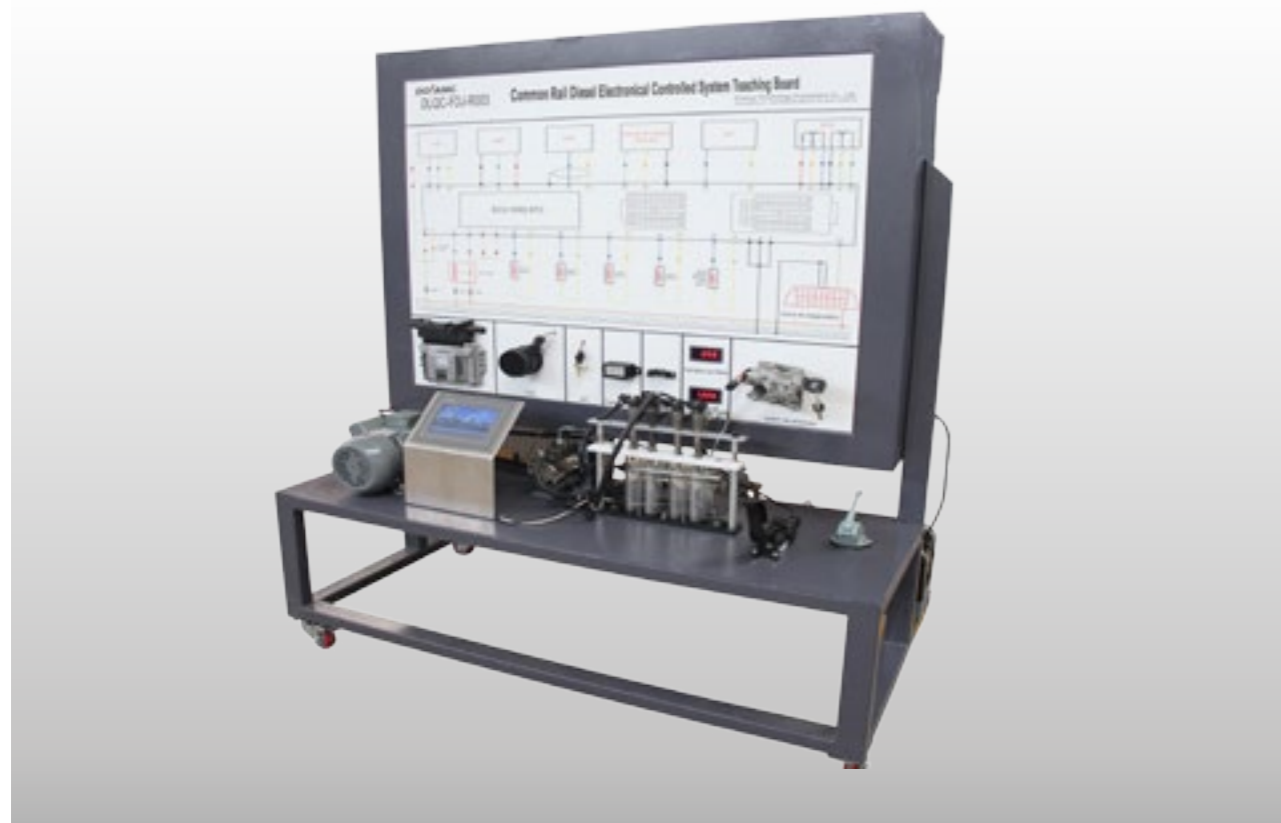
The teaching board adopt Toyota Corolla cooling physical system, simulate engine run, teaching board water pump, water tank cold and hot water cycle working etc, demonstrate the working process of engine cooling system, satisfy the requirement of teaching training project on the automotive cooling system working principle and practical training.

#### ■ Technical Parameters

- Input power: AC 220V ± 10% 50/60Hz 380V ± 10% 50/60Hz
- Motor: three phases asynchronous motor
- Model: Y100L-2
- Voltage: 220V/380V AC
- Motor power: 2.2KW
- Operating temperature: -40 °C ~ + 50 °C
- Dimensions: 1500 × 850 × 1850mm



## Engine Teaching Board Series



DLQC-FDJ-R003 Common Rail Diesel Electrical Controlled System Teaching Board

### Training Content

- Common Rail Diesel System structure and composition training
- Common Rail Diesel System schematics analysis training
- Common Rail Diesel System troubleshooting and confirm training
- Common Rail Diesel System fault setting and exclusion training
- Common Rail Diesel System High pressure pump speed control training
- Common Rail Diesel System practical operation and theoretical exam training

### Technical Parameters

- Input power: AC 220V $\pm$  10% 50/60Hz 380V $\pm$  10% 50/60Hz
- Working power supply: DC12V
- Motor: three phase asynchronous motor(made according customer local power)
- Model: Y100L-2
- Voltage: 220V/380V AC
- Motor power: 2.2KW
- Fuel tank capacity: 12L
- speed: 1400r/min
- Operating temperature: -40 $^{\circ}$ C ~ + 50 $^{\circ}$ C
- Dimensions: 1500 $\times$ 850 $\times$ 1850mm

## Engine Assemble and Disassemble Series



DLQC - FDJ029 VW Series Engine Anatomy Workbench

### Overview

The anatomy workbench adopt Volkswagen Jetta 1.6L engine physical system, after machining process, surface coating process, fully demonstrate the internal structure and working principle of the engine, suit for engine maintenance practical training in the medium and senior vocational schools and car training institutions. Training content includes engine inner structure and composition, each component working principle training when the engine works at low speed etc.

### Technical Parameters

- Engine type: volkswagen Jetta ATK
- Input power: AC 220V $\pm$  10% 50/60Hz 380V $\pm$  10% 50/60Hz
- Motor model: M5-120
- Voltage: 220V AC
- Power: 120W
- Speed: 10-500r/min
- Operating temperature: -40 $^{\circ}$ C ~ + 50 $^{\circ}$ C
- Dimension: 1000 $\times$ 500 $\times$ 1300mm

## Engine Assemble and Disassemble Series



DLQC - FDJ037 Isuzu Diesel Engine Disassemble Workbench

### ■ Features

- Students can perform the actual operation of the engine disassembly and repair in flip stand;
- Engine can do axial 360-degree flip and static;
- Meet the whole process requirements of engine disassemble, refitted, debugging, inspection requirements;
- Large oil pan can prevent tools, components, oil from dropping and train good working habits;
- Can customized other models according to customer requirements.

### ■ Training content

- Engine disassemble and assembly training
- Engine components installation position training
- Assembled Engine troubleshooting and confirm training
- Engine practical operation and theoretical exam engine training
- Each component working principle training when the engine works at low speed.

### ■ Technical parameters

- Engine type: Isuzu 4JB1
- Reduction ratio: 1:60
- Operating temperature: -40 °C ~ + 50 °C
- Dimension: 1000×750×850mm

## Transmission Training Series



DLQC - DPBS001 VW 01N Automatic Transmission Training Workbench

### ■ Overview

The training workbench take VW01N electrically controlled automatic transmission assembly as basis, with complete accessories, all parts are original parts, production quality management according to requirement of ISO9001: 2008 standards, different gear automatic transmission can be completed. Suitable for the automatic transmission construction and maintenance of schools and vocational technical training and senior automotive training institutions, practice teaching, can meet training project of electrically controlled automatic transmission structures, teaching theory, fault diagnosis, fault set and trouble shooting and assessment.

### ■ Technical Parameters

- |                                      |   |
|--------------------------------------|---|
| ● Transmission model: Volkswagen 01N | ● Input power: AC 380V±10% 50/60Hz        |
| ● Working power supply: DC12V        | ● Motor: three phase asynchronous motor   |
| ● Model: Y132S1-2                    | ● Voltage: AC 380V                        |
| ● Power: 5.5KW                       | ● Current: 11.1A                          |
| ● Speed: 2900r/min                   | ● Operating temperature: -40 °C ~ + 50 °C |
| ● Dimension: 1600×850×1800mm         |   |



## Transmission Training Series

## Transmission Training Series



DLQC - DPBS014 Automobile Auto Transmission Cutway Training Workbench (VW Front Drive)

#### ■ Overview

Structures Automatic transmission test bed using the anatomical form, the operation of the parts and the internal operation of the automatic transmission are clearly visible. Universal wheel with brake for mobile and fixed platform, the use of high-grade plastic bench. Using high quality steel frame, through the mechanical processing and molding, the outer surface spraying color epoxy molding. At the bottom of the universal wheel with brake, mobile and fixed all convenient adjustment of equipment. The whole machine is strong, durable, beautiful and generous.

#### ■ Basic Configuration

Toyota (rear drive), Volkswagen (precursor) automatic transmission of the physical cutway of the assembly moving steel platform (or stainless steel), supporting the maintenance of information, etc..

#### ■ Technical Parameter

Dimension: 500×600×1100mm



DLQC - DPBS015 Automatic Transmission Assemble &amp; Disassemble Overturn Workbench (Toyota A341E Rear Drive)

#### ■ Training Content

- Transmission disassemble and assemble project training;
- Transmission structure and control system's understanding of the project training;
- The actual installation position training of the transmission components;
- Completed the transmission assembly at the low speed operation, the spare parts operation principle project training.
- Fault diagnosis and confirmation after transmission assembly
- Transmission practical operation and theoretical examination project training.

#### ■ Technical Parameters

- Auto transmission model: Toyota A341E
- Speed ratio: 1:60
- Operating temperature: -40 °C ~ + 50 °C
- Dimension: 1000×750×850mm

## Steering Series

## Suspension Series

138



DLQC – DPZX001 Santana 2000 Hydraulic Power Steering System Training Workbench (Normal type)

#### Training Content

- Structure composition work principle training of hydraulic power steering system ;
- Front wheel alignment inspection and adjustment training;
- Installation position and installation sequence training of each parts of steering system;
- Troubleshooting and confirmation training of steering system;
- Fault phenomenon and analysis training of steering system;
- Practical and theory test identification of steering system.

#### Technical Parameters

- Steering model: Santana 2000
- Input power: AC 380V ± 10% 50/60Hz
- Motor model: Y100L1-4
- Voltage: AC 380V
- Current: 5.6A
- Power: 2.2KW
- Speed: 1430r/min
- Working environment temperature: -40°C ~ +50°C
- Dimension: 1600 × 550 × 1250mm

139



DLQC – DPXG001 Electrical Controlled Pneumatic Suspension Training Workbench

#### Training Content

- Structure composition and adjustment principle training of electrical controlled pneumatic suspension system;
- PC automatic adjustment training under different driving conditions
- Circuit elements voltage, resistors, signal detection training in electrical controlled suspension system
- Schematic analysis training of electrical controlled suspension system
- Control unit fault code reader, clear DTCs, read data stream training of electrical controlled suspension system
- Troubleshooting and confirmation training of electrical controlled suspension system
- Fault phenomenon and analysis training of electrical controlled suspension system
- Practical and theory test identification of electrical controlled suspension system

#### Technical Parameters

- Suspension model: Toyota LS400
- Input power supply: AC 220V ± 10% 50/60Hz
- Working Power: DC 12V
- Working environment temperature: -40°C ~ +50°C
- Dimension: 1600 × 850 × 1800mm



## Brake Series

140



DLQC – DPZD001 VW Jetta Hydraulic Brake System Training Workbench

## ■ Training Content

- Structure composition and adjustment principle training of hydraulic brake system
- Disassembly, assembly, testing, adjusting training of hydraulic brake system
- Working condition of hydraulic brake system with and without assist
- Fault phenomenon and analysis training of hydraulic brake system
- Practical and theory test identification of hydraulic brake system

## ■ Basic Configuration

Front disc rear drum brake mechanism, front left and right claw, pressure gauge, chairs, brake master cylinder, wheel cylinder, vacuum pumps, manual and experiment guide book

## ■ Technical Parameters

- Brake motor model: VW Jetta 1.6L
- Working environment temperature:  $-40^{\circ}\text{C} \sim +50^{\circ}\text{C}$
- Dimension:  $1500 \times 750 \times 1250\text{mm}$

## Automobile Electronics and Vehicle Line Series

141



DLQC – DQ001 Jetta Automobile Electrical Appliance Teaching Board

## ■ Training content

- Automobile electric component parts of each system and control theory project training;
- Automobile instrumentation systems, lighting systems, wiper systems, speaker systems, sound system, ignition system, electric window system, electronic locking system, starting system, charging system project training;
- The training of using multi-meter or oscilloscope measure the voltage, resistor, signal of the circuit components
- Automobile electric system schematic diagram analysis training;
- Automobile electric control unit fault code reader, clear DTCs, read data stream, programming, terminal component test project training.

## ■ Technical Parameters

- Auto type: VW Jetta (custom-made)
- Working power: DC12V
- Input power: AC  $380\text{V} \pm 10\%$  50/60Hz 220V  $\pm 10\%$  50/60Hz (single phase)
- Motor: three phase asynchronous motor
- Motor type: Y100L1-2
- Voltage: AC 380V ● Power: 2.2KW
- Current: 5.0A ● Rotary speed: 1430r/min
- Working environment temperature:  $-40^{\circ}\text{C} \sim +50^{\circ}\text{C}$
- Dimension:  $2500 \times 850 \times 1850\text{mm}$

## Auxiliary Series



DLQC – FZ001 Automobile Automatic Air Conditioning System Training Workbench (Passat B5 )

### Training Content

- Automatic A/C system structure and working principle training;
- The students can make vacuum pumping, injecting refrigerant, checking faults and etc. training;
- Automatic A/C system elements assembled position training;
- Automatic A/C system elements voltage, resistance, signal and refrigerant pressure measurement training;
- Automatic A/C system refrigeration and heating principle analysing training;
- Controlling unit DTC(diagnostic trouble code) reading, DTC elimination, data flow reading, guard against theft matching adjustment, programming, terminal element detecting training;
- Automatic A/C system fault diagnosis and eliminate training;
- Automatic A/C system operate actually and theory examination training.

### Technical Parameters

- Auto type: Passat B5 (custom-made) ● Working power: DC12V
- Input power: AC 380V±10% 50/60Hz 220V±10% 50/60Hz
- Motor: three phase asynchronous motor ● Motor type: Y100L1-2
- Voltage: AC 380V ● Power:2.2KW ● Current : 5.0A
- Rotary speed : 1430r/min
- Working environment temperature: -40℃~ +50℃
- Dimension: 1600×850×1800mm

## Automobile Electronics and Vehicle Line Series



DLQC – DQ003 Toyota Corolla Automobile Electrical Appliance Teaching Board

### Overview

The Teaching board using Toyota Corolla based on entire vehicle electrical physical, supporting auxiliary systems is complete, all parts are original parts, before delivery through layers of inspection, production quality management according to ISO9001: 2008 standards implementation, demonstrating car entire vehicle electrical structure and operation, applied for the car entire vehicle electrical theory of learning, need practical operation, fault diagnosis and teaching settings in the higher, vocational colleges and training institutions.

### Technical Parameters

- Auto type: Toyota Corolla (custom-made)
- Input power: AC 380V±10% 50/60Hz 220V±10% 50/60Hz
- Working power: DC12V
- Motor: three phase asynchronous motor
- Motor type: Y100L1-2
- Voltage: AC 380V
- Power: 2.2KW
- Current: 5.0A
- Rotary speed: 1430r/min
- Working environment temperature: -40℃~ +50℃
- Dimension: 2500×850×1850mm



## Vehicle Theory and Practice Integrated Training Series

144



DLQC-C002 Prius Hybrid Systems Training Platform

### Overview

The training platform is selected and based on Toyota prius hybrid powertrain. With complete equipped attachment, it can complete the training content of hybrid engine for different working conditions. When starting the engine, the speed and the working mode of the hybrid engine can be seen through the original instrument. The high clear digital display meter, fuel pressure gauge, and so on can intuitively see the main sensor, voltage regulator and other parameters change with the different load, real-time display of the engine dynamic and static signal parameters; through the fuel pressure table shows the fuel, vacuum pressure table display intake vacuum actual data, you can also see the intake vacuum changes with the load. The circuit schematic diagram of the test panel is drawn, the ignition position is installed with the corresponding LED indicator, which can indicate the working status of the corresponding actuator in real time.

### Technical Parameters

- Engine model: 1NZ-FXE
- Engine position: front position
- Engine type: 1.5L natural aspirated
- Number of cylinders: Inline 4 cylinders
- Displacement: 1497ml
- Motor total power: 50KW
- Combustion type: oil and electrical mixture
- Total torque: 400N
- Compression ratio: 13:1
- Engine maximum torque: 115Nm
- Engine maximum power: 57KW
- Input voltage: AC 220V
- Working power: DC12V
- Accumulator capacity: DC12V/60HA
- Capacity of tank: 15L
- Working temperature: -40°C ~ +50°C
- Dimension: 2000×1000×1700mm