





DO/ANG

Shandong Dolang Technology & Equipment Co., Ltd.



DO/ANG

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, breakthrough in the modern/new apprenticeship, Chinese and foreign cooperation in running schools, mixed owership school etc.

- 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 academicians 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.

Electrical and Electronic,
New Energy Training series

14

Mechanical Design,
CNC Machine Training series

48

Building Automation,
Electrical Engineering and
Automation Training System

51

Mechatronics, Industrial
Robot Training series

80

DOIANG





CE Certificate



ISO14001



ISO9001



OHSAS18001



SGS



Gold Member of Worlddidac Association



International College-Enterprise Cooperation
Organization Representative Office in Greater China





David Hoey, CEO of WorldSkills Competition Visited Dolang Exhibition Stand



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

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- 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”



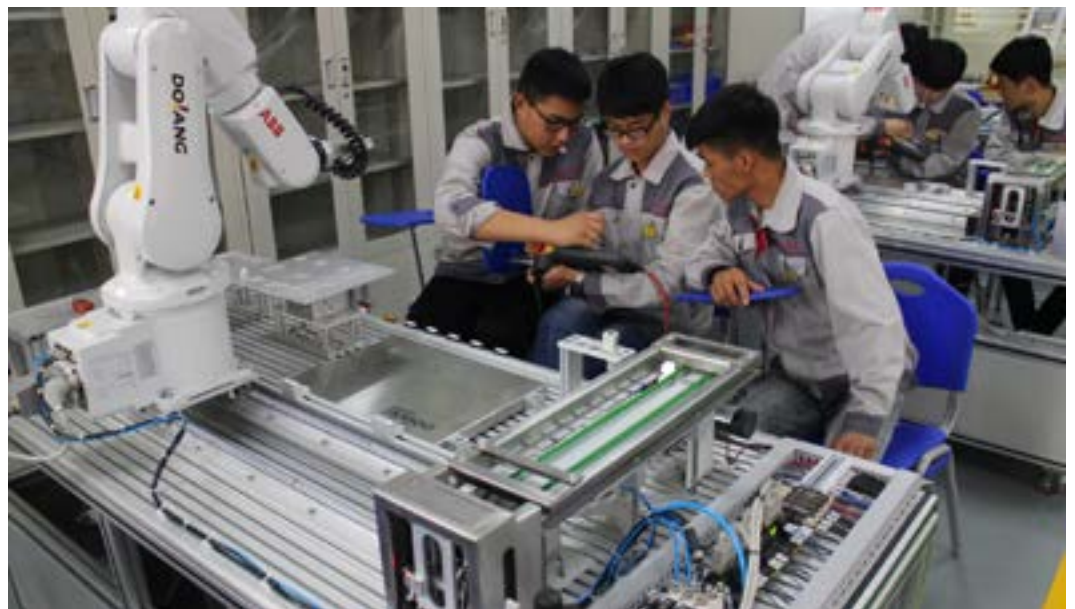
National Industrial Robot Technology Skills Competition

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- 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-ETBE12D730M Electrical Skill Training Set

■ Technical parameter

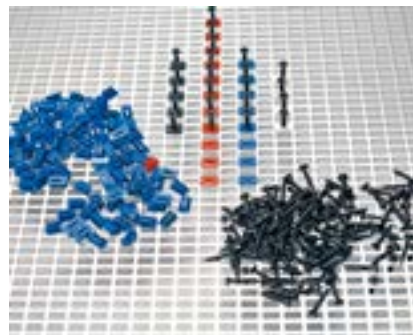
- Input power : AC380V, 50Hz ; Three-phase, five wires
- Dimension : 1600 × 800 × 1800mm (length × width × height)
- Capacity <1.5kVA
- Power control
 - Auto air-break switch on-of power with short circuit protection device, leakage protection device, ground protection and scram protection.
- AC power output:
 - Three-phase, five wire DC380V ± 10% ,safety sheath output
 - Three-phase, five wire DC220V ± 10% ,safety sheath and three multi-function output
- DC stabilized power supply: 1.25 ~ 30V/2A accuracy of adjustment 1%, Self-recovery function and short circuit soft limit
- Voltmeter: Digital DC voltmeter 0 ~ 200V,precision 0.5grade
- Ammeter: Digital DC Ammeter 0 ~ 6A, precision 0.5grade

■ Training Project

- | | |
|---|--|
| ● Lighting circuit and indoor line | ● Control of lighting fittings |
| ● Installation of lighting circuit | ● Capacity, power distribution unit installation |
| ● Power circuit | ● Installation of power circuit |
| ● Installation of three-phase watt-hour meter | 8.Forward control circuit for motor |
| ● Multispeed asynchronous motor control circuit | |

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Electrical Maintenance Skill Training Series



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

National Patent No. of Mesh plate:
ZL2003 3 0109796.7

■ Technical Parameter

- Input power: AC380V, 50Hz; Three-phase, five wires
- Dimension: 1600 × 800 × 1680mm
- Capacity ≤ 1.5kVA
- Power control
Auto air-break switch on-off power with short circuit protection device, leakage protection device, ground protection and emergency stop protection.
- AC power output:
Three-phase, five wire DC380V ± 10%, safety sheath output
Three-phase, five wire DC220V ± 10%, safety sheath and three multi-function output
- DC stabilized power supply: 1.25 ~ 30V/2A
accuracy of adjustment 1%, Self-recovery function and short circuit soft limit
- Voltmeter: Digital DC voltmeter 0 ~ 200V, precision 0.5grade
- Ammeter: Digital DC Ammeter 0 ~ 6A, precision 0.5grade

■ Training Project

- Control of lighting fittings
- Installation of lighting circuit
- Capacity, power distribution unit installation
- Installation of three-phase watt-hour meter
- Three-phase asynchronous motor braking control circuit
- Multispeed asynchronous motor control circuit
- Three-speed asynchronous motor control circuit
- Basic control circuit of parallel/series DC motor
- Basic control circuit of three-phase synchrony motor
- Lighting circuit and indoor line

Electrical Maintenance Skill Training Series



DLWD-ETBE840M Electrical Know-how Training Workbench National Patent NO. : ZL2003 3 0109802.9

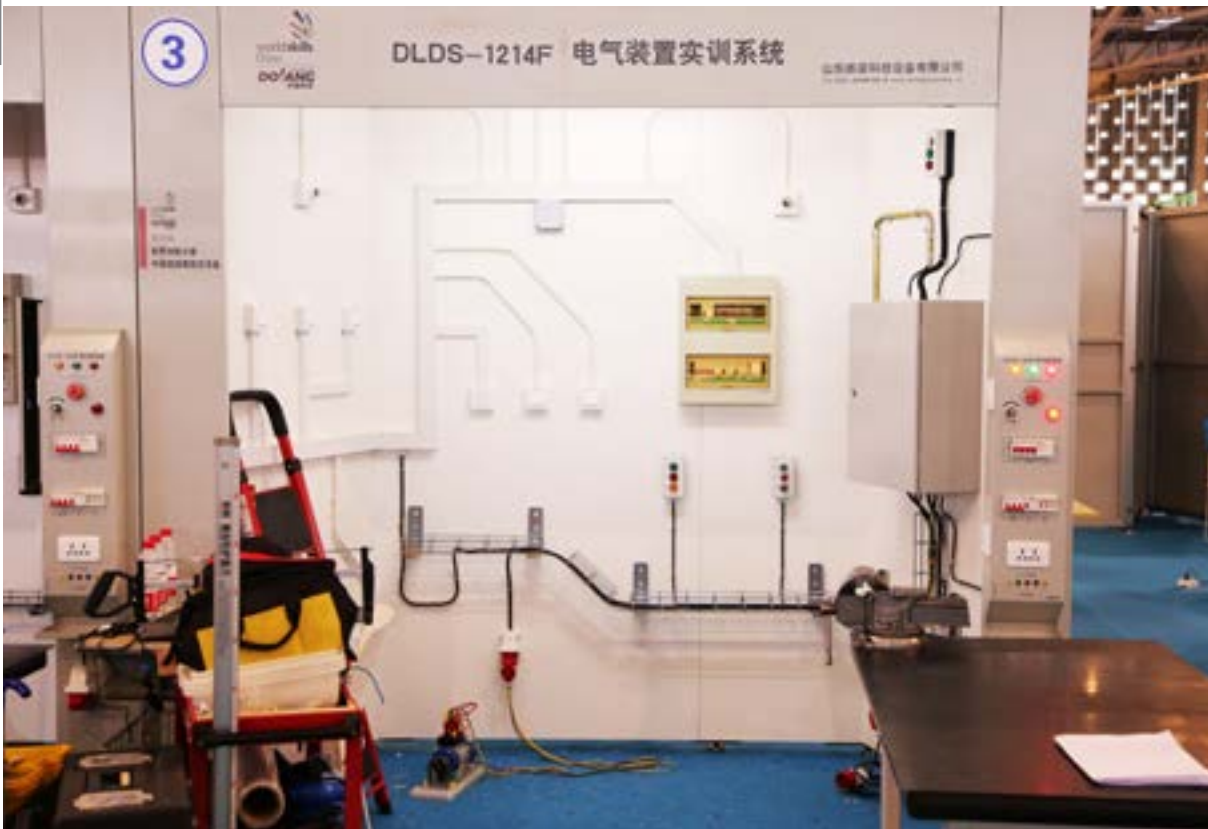
■ Technical parameter

- Dimensions: 1000 × 800 × 1807 mm (length × width × height)
- Input power: three-phase five-wire AC380 ± 10% 50Hz ± 10%
- power control: automatic air switch on and off the power supply, there are overvoltage protection, undervoltage protection, overcurrent protection, leakage protection system.
- The output power:
 - Three-phase AC 380V ± 10% 50Hz; single-phase AC 220V ± 10% 50Hz.
 - DC24V DC output, with current limiting short circuit soft protection and self-recovery function.

■ Training projects

- Lighting electric light source and indoor circuit
- motor forward rotation control line
- Forward and reverse control line of three-phase asynchronous motor
- Three-phase asynchronous motor step-down starting control line
- Brake control circuit for three-phase asynchronous motor
- Multi-speed asynchronous motor control circuit
- Three-speed asynchronous motor control circuit
- Basic control circuit of shunt/series excitation DC motor
- Basic control circuit of three-phase synchronous motor
- Machine tool electrical control circuit
- Power line

Electrical Maintenance Skill Training Series



DLDS-1214F Electrical Installation Training System

Technical parameter

- Outline dimension: ladder structure, outer side is established by patch board, and inner side is established by five simulation metopes.
Left hand panel board (A) /1200mm x 2400 x1.8 mm
Right hand panel board (B) /1200mm x 2400 x1.8 mm
- Front panel board dimension
Panel board (1) 1000 x 952.5 x 1.8mm two plates Panel board(2) 1000 x 792.5 x 1.8mm two plates
Panel board(3) 1745 x 378 x 1.8mm one plate
Ceiling board (D) /front 2624mm,back 1816 mm,depth:1262 mm
- The included angle between the left panel and the main panel is 109.
Operation desk:1500(L)X750(W)X800(H) Input power: three phase three wires 380V ± 10% 50HZ
Working environment: environment temperature range -5 ~ 40°C
- Capacity: AC < 4KVA
Safety Protection: leakage protection (working current \leq 30mA),overcurrent protection, overload protection, emergency stop protection, undervoltage protection
- Relative humidity: < 85%

Electrical Maintenance Skill Training Series

■ Training projects

- Skill training of basic electrical installation
 - a. The practical training of installation tools
 - b. The practical training of measuring instruments
 - c. The practical training of processing PVC bending pipe by hand bending machine , ect.
- Indoor lighting and power distribution
 - a. One switch to control one lamp and socket
 - b. Two dual joint switches to control one lamp
 - c. Three switches to control one lamp
 - d. Air conditioning socket to control circuit
 - e. Digital segment switch to control lamp
- Electrical control
 - a. Jog control circuit by asynchronous motor
 - b. Asynchronous motor self-locking control circuit
 - c. Asynchronous motor control circuit at two places
 - d. Sequence start of three phase asynchronous motor by hand
 - e. Asynchronous motor button Y- Δ control circuit
 - f. KNX overall installation and wiring training , ect.

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

■ Technical parameter

- Input power: $380V \pm 10\%$ 50Hz ; Three-phase, five wires
- Environment: Ambient temperature range: $-5 \sim 40^{\circ}\text{C}$
- Capacity current: $AC < 1.5\text{KVA}$
- AC: Excitation source $< 0.5\text{A}$
- Armature power supply $< 2\text{A}$
- Dimension: $1810 \times 720 \times 1620\text{mm}$ (L*W*H)
- The general power control, with leakage protection, when the leakage current reaches 30mA, the protection device action
- 3 pcs AC voltmeter 450V with indicator

■ Training projects

- Single-phase start stop control circuit
- Asynchronous motor jog control circuit
- Asynchronous motor two ground control circuit
- Button interlocking three-phase asynchronous motor forward and reverse control circuit
- Contactor interlocked three-phase asynchronous motor positive and negative control circuit
- Double interlocked three-phase asynchronous motor positive and negative control circuit
- One-way step-down start and reverse brake control circuit
- Asynchronous motor reverse brake control circuit
- T68 trampoline lathe control circuit
- Common faults diagnosis and troubleshooting of CA6140 lathe electrical control circuit unit (16 fault phenomena, automatically setting).

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

Electrical Maintenance Skill Training Series



DLWD-DJB02 Motor & Transformer Maintenance & Test Training System

■ Technical parameter

- Input voltage: three-phase five-wire 380V \pm 10% 50HZ
- Operating environment: Ambient temperature range $-5 \sim 40 \text{ }^{\circ}\text{C}$
- Installed capacity: AC <1.5KVA
- security: leakage protection (operating current $\leq 30\text{mA}$), overcurrent protection, fuse protection
- DC: DC220V Power <1A
- Ambient temperature: $-10 \text{ }^{\circ}\text{C} \sim 40 \text{ }^{\circ}\text{C}$
- Relative humidity: $\leq 90\%$ (25 $^{\circ}\text{C}$)
- Dimensions: length \times width \times height = 1950 \times 700 \times 1500

■ Training projects

- Training content of training module
- Transformer training content
- Single-phase capacitor asynchronous motor training content
- Three-phase asynchronous motor training content
- DC separate excited motor training content . ect.

Electrical Maintenance Skill Training Series

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DLDC-DJ01 Motor Training System

■ Technical parameter

- Input power: three-phase five-wire AC380V \pm 10% 50Hz
- Working environment: $-10\text{ }^{\circ}\text{C}$ - $45\text{ }^{\circ}\text{C}$, relative humidity <90% RH ($25\text{ }^{\circ}\text{C}$) , altitude <4000M
- Device capacity: <1.5KVA
- Output power: three-phase AC380V \pm 10% 50Hz, single-phase AC220V \pm 10% 50Hz DC24V (2 ways)
- 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.
- Training bench dimension: length \times width \times height: 1700 \times 700 \times 1750mm

■ Training projects

- Software Installation
- PLC programming software and programming practice experiment
- PLC and CANLINK Servo Communication
- Compound Excitation Motor Electricity-Generating Experiment
- DC Motor Speed Regulating Experiment
- DC Motor Electricity Generating Experiment of Motor 2
- DC Motor 1 and Motor 2 Replace Motor Experiment

Electrical Maintenance Skill Training Series



DLWD-DJ22-M Induction Machine Training System

■ Technical parameter

- Input voltage three-phase five-wire: $380V \pm 10\%$ 50HZ
- Working environment temperature range: $-5 \sim 40$ °C
- Device capacity
- AC power: <1.5KVA
- DC excitation power supply: <0.5A
- Armature power supply: <2A
- Dimensions L × W × H = 1810x720x1620mm³

■ Training Project

- Frequency Converter Panel Control Motor Start and Stop
- External Terminal Control Experiment Based on Frequency Converter
- Reverse Switch Control Motor Forward and Reverse Experiment
- Combination Switch Control Two-speed Motor Experiment
- Contactor Controlled Motor Self-locking Experiment
- Dual-interlock Three Phase Asynchronous Motor Forward/Reversing Control Circuit
- Y- Δ Start Experiment Controlled by Contactor
- Y- Δ Start Experiment Controlled by Time Relay
- Three-phase Asynchronous Motor Sequence Control
- Single-phase Capacitor Motor Start Experiment
- Single Phase Capacitor Motor Forward and Reverse Experiment

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Electrical Maintenance Skill Training Series



DLWD-DJ21 Motor and transformer training system

■ Technical parameter

- Input power: three phase four wire 220V \pm 10% 50Hz
- Working environment: temperature - 10 $^{\circ}$ C ~ + 40 $^{\circ}$ C relative humidity < 85% (25 $^{\circ}$ C)
- Installed capacity: < 1.5 KVA
- Weight: 300 kg
- Dimension: 1600 x 750 x 1300 (mm)

■ Training Project

- DC motor experiment
- Single-phase transformer experiment
- Three-phase transformer experiment
- Asynchronous motor experiment
- Test of stator resistance of three-phase wound asynchronous motor
- three-phase asynchronous motor no-load experiment: measuring no-load voltage U_0 , current I_0 , three-phase power P_0 , draw no-load characteristic curve
- three-phase asynchronous motor short-circuit experiment: measuring short-circuit voltage U_K , current I_K , power P_K , draw short-circuit characteristic curve
- Determination of parameters of three-phase asynchronous motor
- Mechanical characteristics of three-phase asynchronous motor under various operating conditions

Electrical Maintenance Skill Training Series



DLWD-DJSX-T Synchronous Motor Training System

■ Technical parameter

- Input voltage: three-phase five-wire $380V \pm 10\%$ 50HZ
- Working environment temperature range : $-5 \sim 40$ °C
- Device capacity:AC<1.5KVA
- Dimensions: L × W × H = 1810x720x1620mm
- General power control, three-phase, five-wire output with leakage protection, when the leakage current reaches 30mA, the protection device action

■ Training Project

- three-phase asynchronous motor jog control circuit
- Three-phase asynchronous motor contactor self-locking control circuit
- Contactor control circuit for three-phase asynchronous motor with overload protection
- Continuous and jog hybrid forward control line installation
- contactor interlocked three-phase asynchronous motor forward and reverse control circuit
- button interlocking three-phase asynchronous motor forward and reverse control circuit
- button and contactor double interlocking three-phase asynchronous motor forward and reverse control circuit
- multi-ground control of three-phase asynchronous motor
- Winding motor control and rotor string resistance speed regulation
- Y- Δ start automatic control circuit

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Electrical Maintenance Skill Training Series



DLWD-DJ05 Electric Machine Training System

■ Technical parameter

- Input voltage: three-phase five-wire $380V \pm 10\%$ 50HZ
- Working environment temperature range : $-5 \sim 40$ °C
- Device capacity:AC<1.5KVA
- Dimensions: L × W × H = 1810x720x1620mm
- General power control, with leakage protection, when the leakage current reaches 30mA, the protection device action
- The grid voltage instructions with 450V AC pointer voltmeter 3 units.

■ Training Project

- Three-phase asynchronous motor contactor inching control circuit
- Three-phase asynchronous motor contactor self-locking control circuit
- Three-phase asynchronous motor contactor control circuit with overload protection
- Continuous and inching mixed forward control circuit installation
- Interlocking contactor three phase asynchronous motor forward/reversing control circuit
- Button interlocked three-phase asynchronous motor contactor forward/reversing control circuit
- Button&contactor dual-interlock three phase asynchronous motor forward/reversing control circuit
- Multi-control of three - phase asynchronous motor
- Wound-rotor induction motor control and rotor series resistance speed control
- Y- Δ start automatic control circuit

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Electrical Maintenance Skill Training Series



DLWD-ETBEZMXT Electrical Installation Training System (in module)

■ Technical parameter

- Power input: AC380V, 50Hz; three-phase five-wire system
- Power output: Necessary power module
- Dimension: 1600 × 1370 × 1800mm (L × W × H) (the dimension may change according to actual design)
- 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 under voltage protection system.

■ Training projects

- Single-pole switch control circuit
- Single switch control socket and ground fault protection circuit
- Dimming incandescent control circuit
- Automatic stairway lighting switch (three-wire and four-wire) control circuit
- Dual-loop control of the fluorescent lamp control circuit
- Sodium lamp control circuit
- Dimming fluorescent lamp control circuit
- Pulse and current switch control circuit
- High pressure mercury lamp control circuit
- 7 path switch control lamp control circuit, ect.

Electrical Maintenance Skill Training Series

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DLWD-ETBE12D-B Basic Electric Training System

■ Technical parameter

- Input power: three-phase five-wire AC380V \pm 10% 50Hz
- Output power: AC380V \pm 10% 50Hz, AC220V \pm 10% 50Hz
- Working environment: $-10\text{ }^{\circ}\text{C}$ --- $45\text{ }^{\circ}\text{C}$, relative humidity: $\leq 95\%$ RH ($25\text{ }^{\circ}\text{C}$)
- Device capacity: $<1.5\text{KVA}$
- Dimensions: $1600 \times 730 \times 1300\text{mm}$

■ Training projects

- The characteristic of reduction of voltage experiment
- The half-wave rectifying circuit experiment
- The full-wave rectification experiment
- Measurement of DC current electrical parameter
- Characteristic of RC filtering
- Characteristic of capacitor filtering
- Experiment of variable load

Electrical Maintenance Skill Training Series



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

■ Technical Parameter

- Working power: three-phase five-wire system $\sim 380V \pm 10\%$ 50Hz;
- Operating temperature: $-10^{\circ}C$ to $40^{\circ}C$, relative humidity $<85\%$ ($25^{\circ}C$), height $<4000m$
- Action current leakage protection: $\leq 30mA$
- Leakage protection action time: $\leq 0.1s$.
- Device capacity: $<1.5KVA$
- Dimensions: length \times width \times height = $1810 \times 720 \times 1620mm$

■ Training Projects

- socket and a switch to control a lamp (incandescent lamp, fluorescent lamp + two pole leakage switch)
- two double switch control a lamp (incandescent, fluorescent + diode leakage switch)
- three switches control a lamp (incandescent, fluorescent + diode leakage switch)
- the wiring of the lamp line
- voice control switch incandescent lamp circuit wiring
- single-phase watt-hour meter direct wiring circuit
- single-phase watt-hour meter by the current transformer wiring circuit
- voltmeter, ammeter wiring circuit
- universal switch of the voltmeter to measure three-phase voltage wiring
- a current transformer for single-phase circuit control circuit wiring

... ..

Electrical Maintenance Skill Training Series

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DLWD-ETBE-G04 Industrial Circuit Skills Training Assessment Device

■ Technical Parameter

- Power supply: three-phase five-wire power supply AC380V / 220V 50HZ;
- Dimensions: 850 × 800 × 1700mm
- Gantry materials: cabinet steel structure
- Capacity: ≤ 1.5KVA
- Security measures: with ground protection, leakage overload over current protection, with misuse protection; safety in line with the relevant national standard, all materials are in line with environmental standards.

■ Training Projects

- Electrical control training
- Three-phase asynchronous motor direct start control
- Three-phase asynchronous motor contactor Jogging control circuit
- Three-phase asynchronous motor contactor self-locking control circuit
- Y- Δ Start the automatic control circuit
- Contactor interlocking positive and negative control lines
- Push-button interlocking three-phase asynchronous motor contactor reversing control circuit
- Double interlocking three-phase asynchronous motor positive and negative control lines
- Machine electrical control troubleshooting test
- C620 lathe failure assessment training (15 points of failure, automatically set it)

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Electrical Maintenance Skill Training Series



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

■ Technical Parameter

- AC power :Three phase AC380V \pm 5% 50Hz;
- Output power: AC 220V adjustable power, DC 220V power, DC220V adjustable power
- Temperature:-10℃ ~ 40℃ ;
- Humanity: \leq 90% (25℃) ;
- Altitude: \leq 3000m
- Capacity: \leq 2.5KVA ;

■ Training Projects

- Measuring training of DC voltage ,ammeter
- Measuring training of AC voltage ,current ,power ,power factor ,frequency
- Safety training of ground protection
- Comprehensive training of three phase transformer
- Comprehensive training of three phase voltage regulator
- Comprehensive training of three-phase five-pole voltage transformer
- Comprehensive training of zero sequence current transformer

Electrical Maintenance Skill Training Series

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DLWD-XD35A Modern electrician skills training assessment system

■ Technical parameter

- Working power: Three-phase five wiring :AC380V/220V 50Hz
- Dimension:850 × 800 × 1700mm (L × W × H) ; 600 × 530 × 1000mm(L × W × H)
- Maerial: Cabinet steel structure
- Capacity: ≤ 1.5KVA
- Safety Protection: Grounding protection, leakage overload and overcurrent protection function, with misoperation protection function; safety conforms to relevant international standard, all materials are in line with environmental protection standards

■ Training Project

- Switchingconnect to voltmeter to test three-phase voltage
- Measurement of three phase current
- Connection of sequential control circuits for multiple (3 or less) motors
- Connections of two-speed motor speed control circuit for time relay switching
- Two-speed motor speed control button to switch control circuit
- Inverter panel function parameter setting and operation
- PLC control three-phase asynchronous motor Y- Δ start circuit training;
- Parameters of the temperature controller training;
- Temperature control training based on thermal resistance (thermocouple);
- PLC temperature control training based on thermal resistance (thermocouple);
- Based on analog quantity PLC control training;
- Current adjustment circuit training;
- thyristor DC motor speed open loop control training;

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Machine Tools Maintenance Training Series (Model-type)



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

■ Technical Parameter

- Semi-physical size:
 - Semi-physical model work table size: 1280 × 780 × 775mm
 - M7120 surface grinder semi-physical size: 1040 × 452 × 738.5mm
- Semi-physical parameters of M7120 surface grinder:
 - Worktable movement stroke: 340mm
 - Grinding wheel frame lifting stroke: 200mm
 - Grinding head telescopic stroke: 250mm

■ Training Projects

- Make students familiar with the mechanisms and principles of commonly used low-voltage electrical appliances.
- In the electrical schematic mode, students use the principle analysis to find out the fault point on a certain line.
- Improve students' hands-on ability and skill level.
- Eliminate the common faults of the machine tool by troubleshooting the machine tool.
- You can set the fault point as a skill assessment station for the maintenance electrician.
- CA6140 lathe electrical control training.
- CA6140 lathe electrical line troubleshooting assessment.
- M7120 surface grinder electrical control training.

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Power Supply Training Assessment Series

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

■ Technical Parameter

- Input power: 3 phase 4 wires AC380V \pm 10% 50 \pm 2%Hz
- Capacities: \leq 3kVA
- Workbench equipped with standard high voltage distribution cabinet with safety lock
- Dimension: No less than 1800mm \times 800mm \times 800mm (One cabinet)
- Microcomputer protection device measurement component accuracy: scale error: no more than 1%; measurement current: 0.2; bus voltage: 0.2; output accuracy: 0.2; frequency: 0.01HZ; P, Q, COS Φ ; Resolution: no more than 1ms

■ Training Projects

- Stop transmission power system simulation
- Low-voltage switching operation
- Motor training project
- Autoreclosure device training
- Definite time delay overcorrect protection
- MCGS basic configuration training project
- Motor star delta configuration training project
- Siemens Software experiment
- Listing operation training
- Systems stop transmission training
- PLC control inverter motor multi-stage control speed and other training
- Low voltage protection training
- Motor reversing training. ect.
- Transformers Wiring Measurement Experiment
- Stop transmission operation of universal circuit breaker



DLDZ-165E Electronic Circuit Training Equipment

■ Technology parameter

- Input power: Single-phase three-wire AC220V \pm 10% 50Hz
- Output power: DC \pm 5V/1A、DC \pm 12V/1A
2-way AC7.5V, 2-way AC15V, compatible with independent winding and neutral shaft output
Protection measures: AC 220V uses safety sockets and safety terminal output;
- Installed capacity: <1KVA

■ Training project

- | | |
|---|---|
| <ul style="list-style-type: none"> ● Analog circuit related experiment · Transistor common emitter single tube amplifier experiment · Transistor two-stage amplifier experiment · Field effect tube amplifier experiment · Emitter follower experiment · Differential amplifier circuit experiment · Integrated operational amplifier indicator test experiment · RC sine wave oscillator experiment · DC regulated power supply – integrated voltage regulator experiment | <ul style="list-style-type: none"> ● Digital circuit related experiment · TTL collector open gate and three-state output gate test experiment · CMOS integrated logic gate circuit parameter test experiment · Connection and drive of integrated logic circuits · Encoder and its application experiment · Data selector and its application · Trigger and its application · Counter and its application · DA/AD converter – comprehensive experiment |
|---|---|

Electronic Training Series



DLDS-WXD12 Radio Debugging Work Skills Training Examination Identification System

■ Technical Parameter

- Input power supply: Single phase three wire 220V ± 10%, 50Hz
- Output power supply: AC 220V ± 10%, 50Hz AC 7.5V (1A) 2 groups
- Fixed DC power supply +5V (1A), +12V (1A), +35V (1A), -12V (1A)
- Adjustable DC power supply : 0 ~ 30V (1A)
- Capacity < 1.5KVA
- Working environment: Ambient temperature range -5 ~ 40°C, relative humidity <80%(25°C), altitude <3000m
- Dimension 2150 × 1042 × 1680mm or so (L × W × H)

■ Training projects

- Power experiment
- Waveform generation / conversion experiment
- Infrared transmitting and receiving experiment
- 2262/2272 wireless transmitting / receiving experiment
- Audio experiment
- Radio experiment
- Interphone experiment
- Audio and video experiment
- TV receiving local radio experiment
- TV receiving self-made radio experiment



DLDZ-DLDZ03 Power Electronic Technology and Automation Control Training System

■ Technical Parameter

- Input power: Three-phase four-wire(or three-phase five-wire) $380V \pm 10\%$ 50HZ/60Hz
- Three phase leakage protection relay : $I \Delta n \leq 30mA$, $time \leq 0.1S$ Provides over-current protection, leakage protection, emergency stop button .
- Temperature: $-10^{\circ}C - +40^{\circ}C$, Humidity: $< 85\%$ ($25^{\circ}C$) , altitude $< 4000m$
- Capacity: $< 1.5 KVA$
- Certificate: ISO9001,ISO14001,OHSMS18001 ,CE and SGS
- Warranty :one year

■ Training Projects

- Power electronic experiment
- power device and drive circuit experiment
- Typical power electronics circuit experiment
- Motor and drag basic experiment
- Electric drag automatic control experiment, ect

Electronic Training Series



DLWD-DGJS13 Electrotechnics, Electronic and Electrical Drive Training System

Technology parameter

- Input power: Three-phase five-wire 380V \pm 10% 50Hz
- Output power: AC 0-450V, AC0-220V safety terminal output, AC220V output socket security DC 1.25-30V multi-groups DC power security terminal output
- Working environment: temperature -10° C \sim + 40 C Relative humidity <85% (25 C) Altitude <4000m
- System capacity: <1.5kVA

Training Project

- Basic electrotechnics instrumentation use and measurement error calculation
- The measurement of potential, voltage and drawing of circuit, potential
- Kirchhoff's law verification
- Thevenin theorem verification
- Norton Theorem verification
- The experiment researching of controlled source VCCS, VCVS, CCVS, CCCS
- R, L, C component impedance characteristic test
- The testing of single-phase core transformer features
- Three-phase AC circuit voltage, current measuring
- Three-phase asynchronous motor contactor inching control circuit
- Y- Δ start automatic control circuit
- Multi control of three phase asynchronous motor
- The basic parameters test of the integrated operational amplifier
- Integrated addition circuit
- Waveform generating circuit

... ..



DLDP-YD510 MCU Training Assessment System

■ Technical parameters

- Power input: 1.1 Single-phase AC220V \pm 10% 50Hz
- Power output: DC \pm 1.25 ~ \pm 30V/0.8A ; DC \pm 5V/1A、DC \pm 12V/1A ; DC 24V \pm 5% /1.5A ; Capacity \leq 1KVA
- Working environment: Ambient temperature: $-5\sim 40^{\circ}\text{C}$, Relative humidity $< 80\%$ (25°C)
Altitude < 4000 m
- Outline dimension: 2150 \times 1042 \times 1680mm (L \times W \times H)

■ Training Project

- buzzer experiment
- digital tube display experiment
- 12864 liquid crystal experiment
- PS/2 interface experiment
- array button experiment
- eight-bit switch experiment
- clock chip experiment
- RS485 communication experiment
- active crystal oscillator frequency division experiment
- and the serial circuit experiment
- serial and circuit experiment
- I / O expansion and dual three-state buffer circuit experiment
- relay circuit experiment
- marquee experiment
- dot matrix experiment

New Energy Training Series

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DLXNY-FN02 Wind-solar Complementary Training System

■ Technical parameter

- Input voltage: AC220V \pm 10% / 50Hz
- Power consumption: wind simulation: 0.75KW simulated solar light: 200W
- The system output power: 220VAC 1500W 12VDC 500W
- The wind turbine: 12V / 300W ● Start wind speed: 2.0 m
- Wind wheel diameter: 1.3 m ● The axial fan: 220V / 0.75KW 0-1440r / min
- Solar Panel: monocrystalline 17.5VDC 10WP
Polycrystalline 17.5VDC 30WP
- Working environment: 0 $^{\circ}$ C ~ 40 $^{\circ}$ C ● Relative humidity: \leq 85% RH

■ Training Project

- Wind and solar Experiment
- The wind power experiment
- The photovoltaic power generation experiment
- Experimental wind and solar controller
- The battery charging and discharging experiments
- The off-grid inverter load test run
- Experimental solar panel series
- Solar Battery Controller test series
- Solar photovoltaic inverter test series
- Demonstration Experiment of Synchronous Wind Turbine Operation Process and Wind Energy Conversion, and so on.



DLXNY-FN01 Wind Power Generation Training System

■ Technical parameter

- Wind turbine
 - Power: 400W
 - Impeller diameter: 1.65m
 - Starting wind speed: 2.3m/s
 - Cutting wind speed: 3m/s
 - Rated wind speed: 12m/s
- Wind speed and direction meter
 - Wind speed: 0~60M/S
 - Wind direction: 0~360°
 - Accuracy: 0.3M/S3°
 - Working power: AC220V, 50Hz, · DC12V optional
 - Others: over wind speed alarm, under wind speed alarm, liquid crystal display
- Temperature and humidity sensor
 - Temperature resolution: 0.1℃(16 bits)
 - Temperature range: -40℃ ~ +80℃
 - Humidity resolution: 0.1% RH (16 bits)
 - Humidity accuracy: 3% RH (25 °C), 5% RH (0 ~ 50℃)
- Adjustable air blower
 - Air flow: 4670/h
 - Air pressure: 1275Pa-2138Pa
 - Fan power: 5.5KW

■ Training Project

- Scenery complementary experiment
- Wind power experiment
- Photovoltaic power generation experiment
- Wind and solar hybrid controller experiment
- Battery charge and discharge experiment
- Off-grid inverter operation with load test
- Solar panel characteristics experiment series
- Solar battery controller experiment series
- Permanent magnet synchronous wind turbine operation process and wind energy conversion demonstration experiment and so on.

New Energy Training Series

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DLXNY-ST04 Solar Photovoltaic Integrated Training System

■ Technical parameter

- Input power supply: 220V + 10% 50HZ
- Size of equipment: 1550mm x 800mm x 1750mm
- Coverage: 2 square meters (single station)
- Overall weight of equipment: 40Kg
- Working environment: temperature - 10 ~40 C
- Relative humidity < 85% (25 C)

■ Training Project

- Demonstration experiment of solar cell power generation
- Energy conversion experiment of solar photovoltaic panels
- Effects of Environment on Photovoltaic Conversion
- Direct Load Characteristic of Solar Cell Photovoltaic System
- Demonstration experiment of solar controller
- Connection and Counter-protection Experiments
- Overcharge Protection of Batteries by Solar Controller
- Over-discharge protection experiment of solar controller for storage battery
- Night anti-refill experiment
- Demonstration experiment of off-grid inverter
- Demonstration experiment of grid-connected inverters
- Experiment 12: Photovoltaic grid-connected experiment



DLXNY-ST03 Portable Solar Power System

■ Technical parameter

- Input Power: 220V \pm 10% 50HZ
- Equipment Size: 470 × 560 × 260mm
- Working environment: Temperature $-10\text{ }^{\circ}\text{C} \sim 40\text{ }^{\circ}\text{C}$
- Relative humidity <85% (25 $^{\circ}\text{C}$)

■ Training Project

- Solar cell power generation principle experiment
- Photovoltaic panels energy conversion experiments
- The environmental impact of photovoltaic conversion experiments
- Solar photovoltaic system directly load characteristics test
- Experimental solar controller works
- reverse protection experiment
- Solar controller battery overcharge protection experiments
- Solar controller battery over-discharge protection experiments
- Anti-anti-charge at night experiment
- Off-grid inverter working principle experiment

New Energy Training Series

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DLXNY-GF05 Photovoltaic Power Generation Training System

■ Technical parameter

- Dimension: Photovoltaic power unit 1610 × 1010 × 1550mm
- Photovoltaic power unit
- Rated voltage: 17.2V
- Open-circuit voltage: 21.4V
- Dimension: 430mm × 430mm × 28mm
- Invert Input Voltage : DC12V
- Invert Output voltage : AC220V ± 5%
- Invert Output frequency : 50Hz ± 0.5Hz
- Invert Output waveform : sine wave
- Invert Transform frequency : > 85%
- Training cabinet 3200 × 650 × 2000mm
- Rated power: 20W
- Rate current: 1.17A
- Short-circuit current: 1.27A
- PLC module: AC220V/DC24V
- Invert Input voltage range: DC9.5V-15.5V
- Invert Rated output ampere: 1.4A
- Invert Rated frequency: 300VA
- Invert waveform distortion: < 5%

■ Training Project

- Working Principle Experiments of Single Crystal Silicon Photovoltaic Cells
- Design experiment of solar cell module square array
- Composition and control experiment of photovoltaic power supply device
- PLC Programming Manual and Automatic Photovoltaic Cell Tracking Solar Experiment
- Operating Characteristic Experiments of Photoresistors and Voltage Comparators
- Operating Principle Experiments of Light Sensors
- Design of Electrical Control Principle for Photovoltaic Power Supply System

... ..



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

■ Technical parameter

- Working power: AC220V 50Hz
- Working environment: the ambient temperature range of $-10 \sim 40 \text{ }^{\circ}\text{C}$ relative humidity $\leq 85\%$ ($25 \text{ }^{\circ}\text{C}$) altitude $< 4000\text{m}$
- Total power control, with leakage protection function, when the leakage current up to 30mA, the protection system action.
- Maximum power consumption $\leq 2.0\text{KW}$

■ Training Projects

- Principle of solar cell power generation experiment
- Energy conversion experiment of solar photovoltaic panels
- Influence of Environment on Photovoltaic Conversion
- Experimental Study on Direct Load Characteristics of Solar Cell Photovoltaic System
- Training of solar controller working principle
- Reactive protection of photovoltaic power generation system experiment
- Experiment on Overcharge Protection of Battery by Solar Controller
- Experiment on over – discharge protection of battery by solar controller
- Night anti-charge experiment
- The working principle of off – grid inverter
- Grid – connected inverter working principle

New Energy Training Series



DLXNY-ST02 Solar Power Generation Experiment Platform

■ Technical parameter

- Input power supply: 220V \pm 10% 50HZ
- Size: 1550mm*200mm*800mm
- Floor space: 2 square meter
- Weight: 30Kg
- Work environments: temperature $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$
- relative humidity < 85 % (25 $^{\circ}\text{C}$)

■ Training Project

- demonstration experiment of solar cell power generation
- solar photovoltaic panel energy conversion experiment
- experiment on the influence of environment on photovoltaic conversion
- direct load characteristic experiment of solar cell photovoltaic system
- solar controller work demonstration
- reverse protection experiment
- solar controller overcharge protection experiment of battery
- over discharge protection experiment of solar energy controller on battery
- night anti - filling experiment
- off-grid inverter working demonstration
- automatic tracking demonstration of solar photovoltaic panel
- use of illuminometer,

New Energy Training Series



DLXNY-WP01 Wind- Photovoltaic Complementary Training System

■ Technical parameter

- Dimension: Photovoltaic power unit 1610 × 1010 × 1550mm
- Wind power unit 1578 × 1950 × 1540mm
- Training cabinet 3200 × 650 × 2000mm
- Training site area: 20 square meter
- Photovoltaic power unit: 4 pcs
- Rated power: 20W
- Rated voltage: 17.2V
- Rate current: 1.17A
- Open-circuit voltage: 21.4V
- Short-circuit current: 1.27A
- Dimension: 430mm × 430mm × 28mm

■ Training Project

- Off-grid wind and solar power system planning;
- Select, install and connect of the photovoltaic cell component according to the power requirements
- Select, install and connect of the wind generator according to the power requirements
- Maximum power point tracking program design of photovoltaic cell modules on basis of MCU;
- 5) Maximum power point tracking program design of wind generator on basis of MCU;
- Battery capacity matching calculation and selection;
- Battery charge and discharge parameters and protection parameter settings;
- Inverter parameters setting;
- Monitoring system configuration and operation;
- Photovoltaic power supply system debugging;

... ..

Mechanical Design CNC Machine Training Series

Mechanical Theory & Design Training Series



DLJX-ZT501 Mechanical Assembly and Adjustment Technology Comprehensive Training System

■ Technical Parameter

- Input power: single phase three line AC220V \pm 10% 50Hz
- AC reduction motor 1 set : nominal capacity 90W, deceleration rate 1 : 30
- Shape dimension(training set): 1800mm \times 700mm \times 820mm
- Equipment weight: 600 kg
- Safety protection: has the leakage current protection, safety meet national standards

■ Training projects

- Fitter basic operation skill training
- Task one crossed skills training
- Task two filing skills training
- Task three saw cutting skills training ,ect
- Assembly and adjustment of the Gearbox
- Assembly and adjustment of the gear reducer
- Assembly and adjustment of the press mechanism
- According to the assembly chart and the assembly know-how requirements, assemble and adjust bearings, shaft, key, sliding gears, and the cabinet, etc.
- Assembly and adjustment of intermittent rotary worktable
- According to the assembly chart and assembly know-how requirements, assemble and adjust worm gear and worm, four groove geneva wheel, bearing, steady ,etc
- The assembly and adjustment of two-dimensional worktable
- According to the assembly chart requirements, assemble and adjust linear guide rail, the ball screw, bearing and steady, etc.

Mechanical Theory & Design Training Series

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DLJX-JXXT Mechanical System Comprehensive Training Set

■ Technical Parameter

- The input power supply: single-phase three-wire AC220V \pm 10% 50Hz
- The working environment: temperature -10° C to 40° C Relative humidity \leq 85% (25° C) Height \leq 4000m
- Dimensions: 1845mm x 690mm x 1770mm
- Security: drain voltage, leakage current protection, security in line with national standards

■ Training projects

- Speed and torque measurement
- Mechanical efficiency
- Shaft and seat belt bearing
- Shaft and flexible coupling
- Flat belt installation and tensioning
- Flat pulley installation and adjustment
- Belt drive speed, torque, and the transmission ratio
- Chain and sprocket installation and tension adjustment
- Chain drive speed, torque, and the transmission ratio
- Gear installation and adjustment, gear speed, torque and gear ratio, gear sets
- V-belt and jagged edges of the belt, ribbed belt drives, ect

Building Automation, Electrical Engineering and Automation Training System

Building Automatic Training Series

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DLLY-501A Building Automatic Technology Training Assessment System

■ Technical Parameter

- Total power input: AC220V ground.
- Direct power output: universal three-plug, AC220V.
- Controlled protection: 16A single-phase leakage protection switch, DC switching power supply.
- Controlled power output: safe plug interface, AC220V, DC24V, DC18V, DC12V.
- DC Power: DC24V_6A DC18V_8A, DC12V_12A.
- bus connection interface: safe plug interface, the maximum capacity of eight.
- computer network interface: RJ45 UTP shielded (10/100Mbps).

■ Training Projects

System components Installation

- System Wiring
- Set the relevant parameters of the video intercom access control system devices
- outside the host address setting
- ID card distribution and registered
- outside the host call indoor extension
- outside the host call management center
- indoor extension to unlock
- Visible interphone software records the door alarm information processing
- indoor extension address settings
- management center set
- indoor extension call management center
- unlock password
- credit card lock

Building Automatic Training Series



DLLY-QDT262 Group Control Multifloor Elevator Trainer

■ Technical Parameter

- The input power: AC220V plus or minus 10% 50 Hz
- Rated power: 1 kw or less
- Environmental temperature: -10℃ ~ 40℃
- Relative humidity: 85% or less
- Physical size: 1420 * 500 * 1800 (length * width * high mm)
- PLC (programmable logic controller) : S7-1200
- Variable frequency device: G120
- Control mode: switch quantity/digital quantity double control and VVVF technology
- Layer: six layer × two

■ Training Projects

- | | |
|--|--|
| ● the understanding of the electrical components | ● the elevator area arrangement training |
| ● electrical installation practice | ● electrical principle design practice |
| ● electrical wiring training | ● in the car call ladder choose layer experiment |
| ● its outbound ladder experiment | |
| ● elevator speed up and slow down the speed control experiment | |
| ● elevator flat layer control experiment | ● car inside to open the door, close the door control test |
| ● bridge repair experiment | ● terminal limit protection experiment |
| ● signal indicator system experiment | ● car lighting control test |
| ● elevator control system experiment ,ect. | |

Building Automatic Training Series

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DLLY-QDT361 Group Control Multifloor Elevator Training System

■ Technical Parameter

- The input power: AC380V plus or minus 10% (three-phase five line) 50 Hz
- Rated power: 1 kw or less
- Environmental temperature: -10°C ~ 40°C
- Relative humidity: 85% or less
- Physical size: 1950 * 400 * 1800 (length * width * high mm)
- PLC (programmable logic controller) : FX2N-64MR
- Variable frequency device: FR-D720
- Tractor power: 90W/380V
- Layer: six layer × Three set



DLLY-DT61 Six Floors Elevator

■ Training Projects

- The understanding of the electrical components
- Electrical installation practice
- Electrical wiring training
- Its outbound ladder experiment
- Elevator speed up and slow down the speed control experiment
- Elevator flat layer control experiment
- Bridge repair experiment
- Signal indicator system experiment
- Elevator control system experiment
- The elevator area arrangement training
- Electrical principle design practice
- Internal car call ladder choose layer experiment
- Car inside to open the door, close the door control test
- Terminal limit protection experiment
- Car lighting control test



- 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, automated 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

■ Technical parameters

- Input power: AC220V \pm 10% (Single phase three wire)
- Experiment power supply: DC 24V
- Rated power: <1000VA
- Turn source: 0 ~ 200 r/min (adjustable)
- Environment temperature: -10°C ~ 40°C
- Relative humidity: \leq 85%
- Outline Dimension: 1580*750*1700mm (Table size)

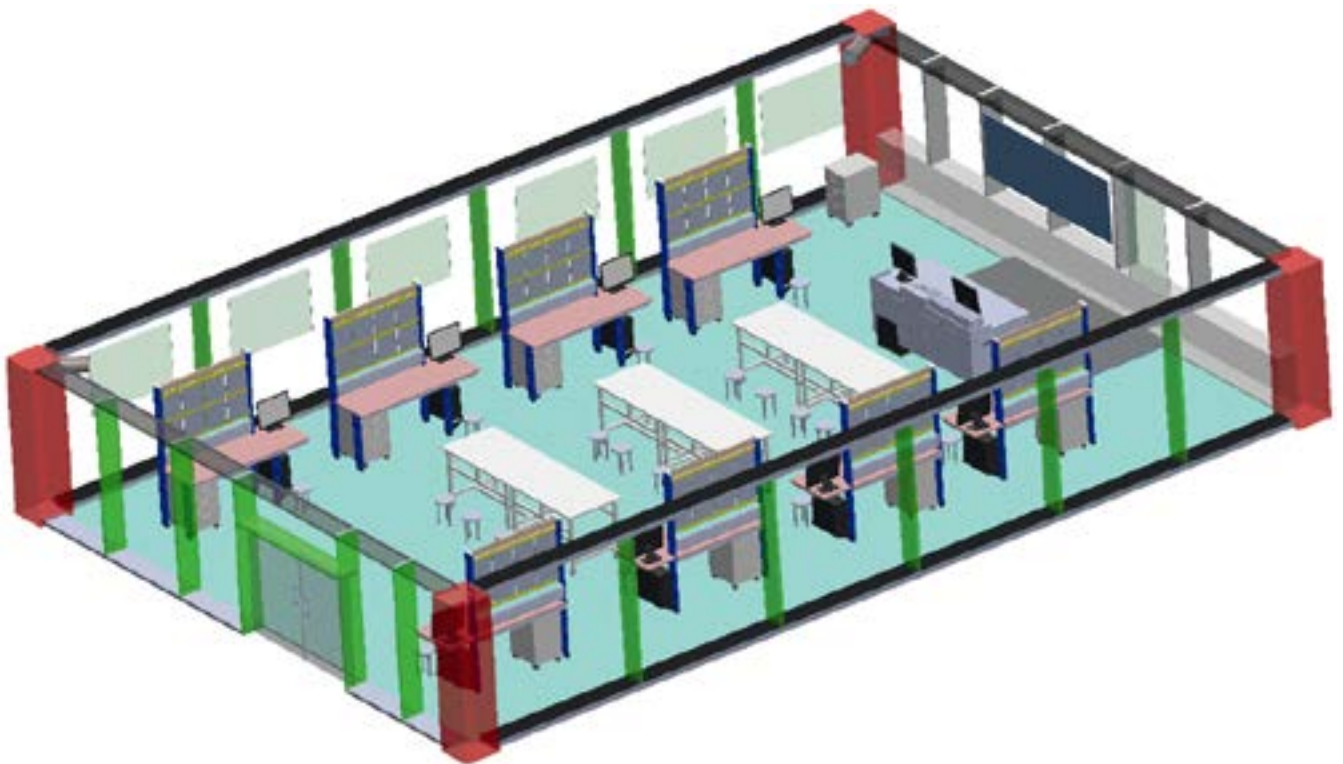


DLSoft-STS Sensor signal acquisition system

■ Training Project

- Photoelectric sensor experiment.
- Inductive sensor experiment.
- Ultrasonic sensor experiment.
- Capacitive proximity sensor experiment
- Electromagnetic proximity sensor experiment
- Cylinder pressure measurement experiment
- Air pressure test experiment
- PT100 temperature detection experiment
- Motor speed test
- Displacement measurement and control experiment
- Capacitive sensor experiment.
- Electromagnetic sensor experiment.
- Pressure sensor experiment.
- Inductive proximity sensor experiment
- Mechanical strain gauge experiment

Hydraulic & Pneumatic Integrated Solutions



Hydraulic Training Series

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DLYY-DH202 Advanced Electro Hydraulic Training System

■ Technical parameter

- Dimensions: 1360*650*1650mm
- Input power: AC 380V 10% 50/60 HZ
- Capacity: 1.5KVA
- System flow: 5 L/min
- Working pressure: 4-6Mpa

■ Training Project

- Basic electric control
- Hydraulic control circuit
- The flow speed regulator circuit using throttle valve
- Speed regulator circuit using speed regulator valve
- Sequence action circuit with stroke valve
- Sequence action circuit with sequence valve
- Sequence action circuit with travel switch
- Sequence action circuit controlled by pressure relay
- One-way locking circuit with pilot-operated check valve
- Double-way locking circuit with pilot-operated check valve
- Locking circuit with 4/3-WAY solenoid valve(O)
- Relay control hydraulic basic circuit
- PLC directive programming, ladder chart program
- The learning and application of PLC program software
- Reversing circuit of PLC control solenoid valve
- The other circuit design by themselves



DLYY-PGSX-01 Hydraulic Troubleshooting Comprehensive Trainer

■ Technical parameter

- Dimensions: 1900*720*1800mm
- Input power: AC 380V 10% 50/60 HZ
- Capacity: 3.5KVA
- System flow: 8L/min
- System pressure: 16Mpa

■ Training Project

- Basic knowledge of hydraulic system failure;
- Fault classification of hydraulic system;
- Failure modes of hydraulic components and systems;
- The basic contents of hydraulic fault diagnosis and so on.
- Diagnosis and troubleshooting methods of hydraulic pump faults;
- Diagnosis and troubleshooting of mismatching of hydraulic components;
- Causes and elimination methods of hydraulic noise;
- Diagnosis and elimination of pressure valve failure;
- Fault diagnosis and elimination of reversing valve;
- Assessment and elimination of system design faults;
- Diagnosis and elimination of hydraulic pressure-holding fault;
- Diagnosis and elimination of system leakage (internal leakage and external) and



DL-HPASS Hydraulic and Pneumatic Simulation Software

Hydraulic Training Series

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DLYY-DH301 Proportion Hydraulic Training System

■ Technical parameter

- Dimensions: 1590*750*1780mm
- Input power: AC380V 10% 50/60 HZ
- System flow: <6L/min
- System pressure: 4-6Mpa

■ Training Project

- Basic electric control
- Hydraulic control circuit
- The flow speed regulator circuit using throttle valve
- The speed regulator circuit using speed regulator valve
- Fast moving circuit of hydraulic cylinder differential connection
- Sequence action circuit using sequence valve
- Sequence action circuit use stroke switch control
- Sequence action circuit use pressure relay control
- One-way atresia circuit use hydraulic control one-way valve
- Double-way atresia circuit use hydraulic control one-way valve
- The lock circuit using O type shuttle valve
- relay control hydraulic basic circuit
- Proportion hydraulic circuit experiment and so on.



DLYQ-PH401 Double Side Hydraulic and Pneumatic Trainer

■ Technical parameter

- Dimensions(test bench): 1600*850*1700mm
- Dimensions(aluminum plate): 1200*750mm
- Input power supply: AC220V 10% 50/60 HZ
- Flow : 4.5 L/min
- Pump power: 1.5KVA
- Output power: 4-6 Mpa

■ Training Project

- The structure and working principle of proportional servo cylinder
- Characteristic experiment of proportional servo cylinder
- Understand the difference between proportional valve and servo valve
- Frequency characteristic analysis of servo control system
- Displacement control characteristics of servo control system
- Frequency characteristic analysis of proportional control system
- Displacement control characteristics of proportional control system
- The working principle of pressure sensor
- The working principle of displacement sensor
- Structure and working principle of electro-hydraulic servo valve
-



Hydraulic Training Series

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DLYY-ZHSX02 Hydraulic and Pneumatic Transmission Integrated Training System

■ Technical parameter

- Input power ; three phase four wire $380V \pm 10\%$ 50Hz ;
- Working environment ; temperature $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$ relevant humidity $\leq 85\%$ (25°C) capacity : $\leq 5.0\text{kVA}$
- Experiment table dimension ; $2200\text{mm} \times 900\text{mm} \times 1700\text{mm}$
- Hydraulic station dimension ; $1220\text{mm} \times 850\text{mm} \times 900\text{mm}$
- Safety protection ; with voltage leakage protection、 current leakage protection、 in line with national standard

■ Training Project

- Installation and commissioning of double pump hydraulic station
- Pressure regulating circuit
- Speed regulating circuit
- Directional control circuit
- Stacked valve circuit construction and commissioning
- Proportional speed control valve integration training projects
- Pneumatic circuit training project
- Double cylinder control circuit construction and debugging of pneumatic feeding device
- Pneumatic manipulator control circuit construction and debugging of pneumatic unloading device
- Use superposition valve to build simulation host (press machine、 combined machine tools etc.) hydraulic system and debugging

... ..



DLQD-DP202 Advanced Electro Pneumatic Training System

■ Technical parameter

- DC power: input, AC 220V, Output: DC 24V/3A
- Air compressor (basic equipment minimal machine): power: AC 220V \pm 10% 50Hz motor power: 600W
- Nominal volume: 9L nominal output pressure 0.7MPa, noise degree: 66dB
- Groove interval: 25mm
- Table top structure: 1
- With crack slot truckle: 4

■ Training Project

- | | |
|---|---|
| ● Pneumatic basic control circuit experiment, | ● Interlocking circuit, |
| ● Single acting cylinder automatic control, | ● Single cylinder single reciprocating control circuit, |
| ● Double acting cylinder automatic control, | ● Single cylinder continuous reciprocating action circuit, |
| ● PLC control technical application | ● Straight line cylinder , rotate cylinder sequence action circuit, |
| ● Relay control technical application | ● Multi cylinder sequence action circuit |
| ● Other comprehensiveness, expansibility experiment type pneumatic circuit. | ● Magnetic induction type proximity switch application; |
| ● Single acting cylinder speed control circuit, | ● Sensor application in control system; |
| ● Double acting cylinder one-way speed regulation circuit, | |
| ● Double acting cylinder both-way speed regulation circuit, | |
| ● Speed changing-over circuit, | |
| ● Overload protection circuit, | |

Pneumatic Training Series

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DLQD-DP301 Proportion Pneumatic Training System

■ Technical parameter

- Power: AC 220V 50HZ/60HZ
- Equipment Size: 1360 (L) X650 (width) X1650(Height)
- Working environment: Temperature $-10\text{ }^{\circ}\text{C} \sim +40\text{ }^{\circ}\text{C}$;
- relative humidity $<85\%$ ($25\text{ }^{\circ}\text{C}$); altitude $\leq 4000\text{m}$
- Machine capacity: $<1\text{KVA}$

■ Training Project

- Flow and pressure control (pneumatic capacitor)
- Speed – pressure control (cylinder)
- Closed loop speed control (Pneumatic motor)
- 5/3 manual valve directional circuit
- 5/3 solenoid valve directional circuit
- 5/3 proportional solenoid valve directional circuit
- PLC programming controller application
- Applications of PID controller
- Comparator circuit module applications
- Sensor Applications

Pneumatic Training Series



DLQD-DP401 Double side Pneumatic and PLC Integrated Training System

■ Technical parameter

- DC power: input, 220V+ 10%,50Hz
- Working conditions: temperature - 10 °C to 40 °C relative humidity ≤ 85% (25°C)
- The device capacity: ≤ 1.0kVA
- Appearance size: 1600 mm * 800 mm * 1700 mm
- Aluminum alloy panel size: 1200 (length) x 750 (width)
- Groove interval: 25 mm
- Aluminum wood cabinets: 2 pieces
- With crack slot castor: 4 pieces
- Air compressor (basic configuration minicomputers)
- Power supply: AC 220 v + 10% for 50 hz, Motor power: 600 w
- Nominal capacity: 9L rated output pressure 0.7 MPa, Noise level: 66 db
- Safety protection: the leakage voltage and leakage current protection, safety in line with national standards

■ Training Project

- | | | |
|---|---|---|
| ● The building and debugging of the Pneumatic circuit | ● Pneumatic basic experimental circuit example: | ● PLC programming and debugging Training Project |
| ● Basic pneumatic control loop experiment; | ● the commutation circuit of the single-acting cylinder ; | ● PLC directive program,ladder chart program |
| ● Single-acting cylinder automatic control; | ● the commutation circuit of the double-acting cylinder; | ● The leaning and application of PLC program software |
| ● Double-acting cylinder automatic control; | ● the single-acting cylinder speed control circuit; | ● The shuttle valve of PLC control solenoid shuttle valve |
| | | |

Pneumatic Training Series

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DLQD-X1 Pneumatic Training System (Portable type)

■ Technical parameter

- DC power: input, AC 220V, 50Hz/60 Hz Output: DC 24V/3A
- Air compressor (basic equipment minimal machine): power: AC 220V \pm 10% 50Hz/60Hz motor power: 480W
- Nominal volume: 6L normal output voltage 0.85MPa, noise degree: 66dB
- Groove interval: 25mm
- With crack slot truckle: 4
- Base place size: 450 \times 480mm
- Table top structure: 1
- Box dimension: 470*560*260mm
- Groove spacing: 25mm

■ Training Project

- Pneumatic basic control circuit experiment,
- Single acting cylinder automatic control,
- Double acting cylinder automatic control,
- Relay control technical application
- Other comprehensiveness, expansibility experiment type pneumatic circuit.
- Single acting cylinder reversing circuit,
- Double acting cylinder reversing circuit,
- Single acting cylinder speed control circuit,
- Double acting cylinder one-way speed regulation circuit,
- Double acting cylinder both-way speed regulation circuit,
- Speed changing-over circuit,
- Buffering circuit,
- Overload protection circuit,
- Interlocking circuit,
- Single cylinder single reciprocating control circuit,
- Single cylinder continuous reciprocating action circuit,
- Multi cylinder sequence action circuit
- Double-cylinder synchronization action circuit,
- Unloading circuit,

... ..

Air Condition Refrigeration Training Series



DLZL-GR01 Refrigeration Cycle Unit

■ Technical parameter

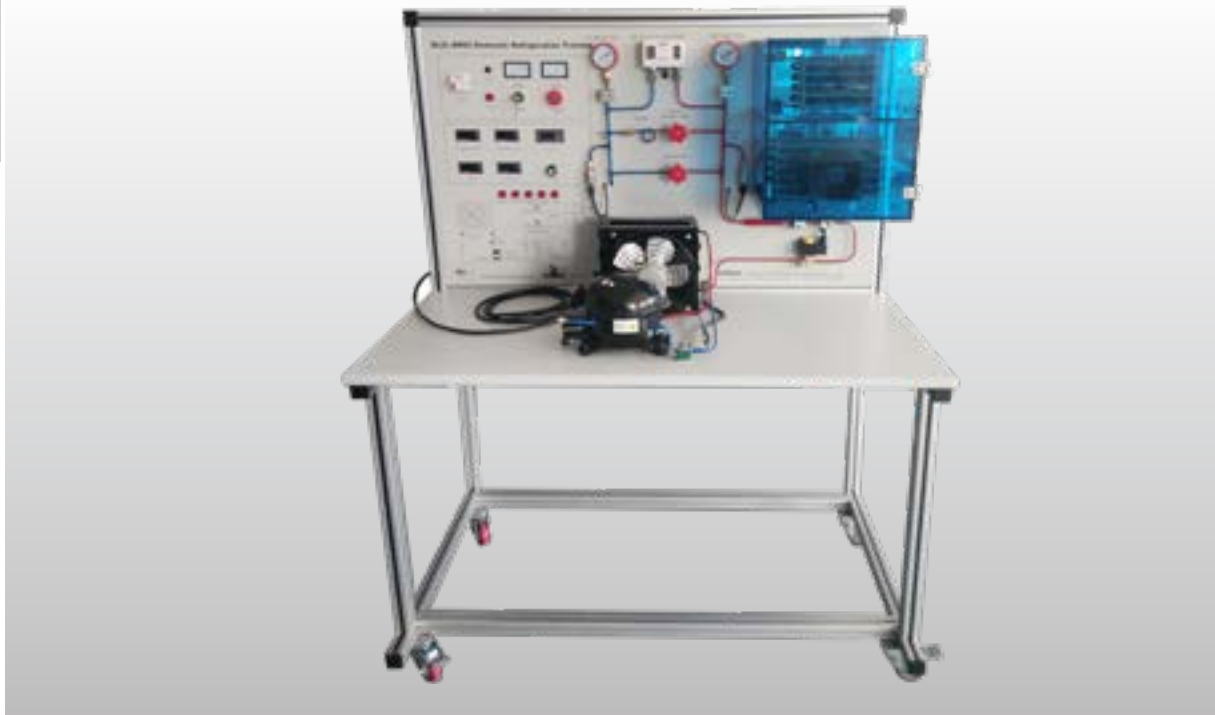
- Power supply: single-phase 220V + 10%, 50Hz, 16A;
- The size of the test bench (mm): 1280 (length)x 700 (width)x 1650 (height);
- Test bench body: movable steel bench with four casters (two with brakes and two without brakes).

■ Training Project

- Familiar with refrigeration cycle components;
- Familiar with basic refrigeration principle, understand the importance of throttling device in refrigeration system.
- Observing and touching the external pipeline to observe the state change of refrigerant. The pressure changes of refrigerant along the pipeline are read by pressure gauge, and the values of voltmeter and ammeter are checked.
- Digital temperature readings on fan coil units and condensed air outlet indicators;
- The influence of throttling device on refrigeration was studied.

Air Condition Refrigeration Training Series

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DLZL-DR02 Basic Refrigeration Training Device

■ Technical parameter

- Power supply: single-phase 220V + 10%, 50Hz, 16A;
- The size of the test bench (mm): 1280 (long)x 700 (wide)x 1650 (high);
- Test bench body: movable steel bench with four casters (two with brakes and two without brakes).

■ Training Project

- Familiar with the components of the refrigeration cycle
- Familiar with the basic refrigeration principle and understand the importance of the throttling device in the refrigeration system
- Observe the state change of the refrigerant by observing and touching the external pipe. Read the pressure change of the refrigerant along the pipeline through the pressure gauge, and check the values of the voltmeter and ammeter
- Digital temperature readings on the fan coil and condensing air outlet indicator
- Study the effects of throttling devices in refrigeration

PLC Training Series



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.



PLC Training Series

70



■ Technical Parameter

- Experiment table dimension: 1800 × 800 × 1662mm (length × width × height) ;
- Working environment: Temperature: $-10\text{ }^{\circ}\text{C} \pm 40\text{ }^{\circ}\text{C}$ Relative humidity: <85% (25 °C)
- Power supply: Input Power: Single phase 110V \pm 10% 50/60HZ;
Output Power: Single phase 110V \pm 10% 50HZ/60HZ; DC 24V, 3A; Installed capacity: <250VA;
- Power control: with overvoltage protection, under voltage protection, over current protection, leakage protection and other functions;

■ Training project

- Motor reversing control experiment
- Motor star delta starter control experiment
- Control experiment simulated traffic light
- Seven segment digital tube experiment
- Robotic handling control experiment
- Liquid mixed control experiment
- Automatic Feeding loading control experiment
- Control experiment mail sorting
- Light sky tower of control experiment
- Responder control experiment



DLGK-SIMND Industrial Automatic Network Integrated Training System

■ Technical Parameter

- Input power: three-phase five-wire $\sim 380V \pm 10\% 50HZ$
- Leakage protection: $I \Delta n \leq 30mA, t \leq 0.1S$
- 24 V DC power output, 0 ~ 10V analog signal source
- Accident emergency stop button, power indicator, power indication
- Off-power misuse power protection
- DC voltmeter, DC ammeter to measure
- The working environment: temperature $-10\text{ }^{\circ}C \sim +40\text{ }^{\circ}C$ Relative humidity $<85\%$ (25 $^{\circ}C$) altitude $<4000M$
- Installed capacity: $<1kVA$
- 380 V three-phase five-wire output power
- AC voltmeter, AC voltmeter to measure
- Dimension: 1800 * 700 * 1760mm

■ Training Projects

- Designing comprehensive training network and systematic experiment projects
- S7-400PLC programming and communication training
- S7-300PLC programming and communication training
- S7-200PLC programming and communication training
- PC WINCC configuration software basic programming exercises
- PC remote machine to read and write PLC experiment
- MPI communications network experiment
- PROFIBUS communication network experiment
- 9 Industrial Ethernet using training
- USS protocol communications network experiment
-

Process Control Training Series

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DLGK-53A Basic Process Control Training System

■ Technical Parameter

- Input voltage: three-phase five-wire 380V \pm 5% 50HZ
- Operating environment: Ambient temperature range $-5 \sim 40$ °C
- Installed capacity: AC <10KVA
- Security: leakage protection (operating current \leq 30mA), over-current protection, fuse protection
- Ambient temperature: -10 °C \sim 40 °C
- Relative humidity: \leq 90% (25 °C)

■ Training Projects

- Structures and systems awareness of training device
- Experimental knowledge of the sensor
- The cognitive use of perform device
- Solenoid valve cognitive experiments
- Electric control valve experiment ,ect.
- Sensor installation measurement skills training
- Detection of pressure transmitter
- Detection of turbine flow meter, ect .
- Automatic control skills training
- Level set point control
- Pipeline pressure set point control
- Pipeline flow set point control, etc .



DLGK-53B Plane Type Process Control Training System

■ Technical Parameter

- Input voltage: three-phase five-wire $380V \pm 5\%$ 50HZ
- Work environment: temperature range of $-5 \sim 40\text{ }^{\circ}\text{C}$
- Installed capacity: AC <10KVA
- Security: leakage protection (operating current $\leq 30\text{mA}$), over current protection, fuse protection
- Ambient temperature: $-10\text{ }^{\circ}\text{C} \sim 40\text{ }^{\circ}\text{C}$
- Relative humidity: $\leq 90\%$ ($25\text{ }^{\circ}\text{C}$)
- Dimensions: length * width * height = $1950 \times 700 \times 1500\text{mm}$

■ Training Projects

- Understanding the process control system components experiments:
- Understanding of the process control and detection device consisting of Boardwalk structure, composition and control system connected to the experimental program.
- Intelligent adjustment operation and parameter setting instruments, Smart meter transmitter and other smart meter.
- Calibration of the sensor (zero and span adjustments migration)
- Object properties testing laboratories
- Single-tolerance test experimental tank level mathematical model
- Dual tank water testing laboratories mathematical model
- Boiler tank temperature characteristic testing laboratories
- Single-loop control system experiment

... ..

Process Control Training Series

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DLGK-JD3 Advanced Process Control Training System

■ Technical Parameter

- Input voltage: single-phase three-wire 220V \pm 10% 50HZ
- Operating environment: Ambient temperature range $-5 \sim 40$ °C
- Installed capacity: AC <2500VA
- Security: leakage protection (operating current ≤ 30 mA), overcurrent protection, fuse protection
- DC power supply: DC24V Power <5A
- Ambient temperature: -10 °C ~ 40 °C
- Relative humidity: $\leq 90\%$ (25 °C)
- Control cabinet dimensions: length \times width \times height = 1340 \times 700 \times 1650mm
- Process Control Unit Dimensions: length \times width \times height = 1650 \times 800 \times 1850mm

■ Training Projects

- Understanding and using of the training system
- Application of PROFINET
- Application of brightness control module
- Experiment of first stage single bottom water tank objective characteristic testing
- Experiment of second stage double containers bottom water tank objective characteristic testing
- Two stepping control experiment of boiler liner tank
- PID setting experiment of first stage water tank level
- PID setting experiment of second stage double-capacity bottom water tank level
- PID setting experiment of boiler liner water temperature

... ..



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

■ Technical Parameter

- Input power: single-phase three-wire AC220V \pm 10% 50Hz Operating Power: DC24V 3A
- Ambient temperature: $-10\text{ }^{\circ}\text{C} \sim 40\text{ }^{\circ}\text{C}$ Humidity: $\leq 90\%$ ($25\text{ }^{\circ}\text{C}$)
- Dimensions: 1400X600X1850mm (length \times width \times height)
- The whole capacity: $\leq 1.5\text{KVA}$
- PLC I / O points Switch input Points: 13 Switch output Points: 10

■ Training Projects

- PLC programming methods and applications
- Understanding and application of the solenoid valve
- Understanding and application of the mixing motor
- Understanding and application level sensor
- Stirring, detection control applications of two liquids
- Integrated application of liquid mixing, ect .

Process Control Training series

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DLLY-HYGS462 Constant Pressure Water Supply Training System

■ Technical Parameter

- Through the adjust open and stop the pump group number and frequency control of motorspeed pump speed to control network hydraulic, stable supply pressure.
- Regulation accuracy: $\pm 0.01\text{Mpa}$.
- Pipe network hydraulic as control target, achieve high efficiency and energy saving water supply.
- With 24 hours cycle, according to different water consumption can be set on the section water supply pressure, PLC automatic operation according to the set value.

Time setting pressure:

5:00---8:30 0.6MPa	11:00---13:00 0.6MPa	17:00---23:00 0.6MPa
8:30---11:00 0.5MPa	13:00---17:00 0.5MPa	23:00---5:00 0.42MPa

- constant pressure water supply training set pump unit are soft start work.

■ Training Projects

- Control panel structure understanding and debugging
- Single pump control variable frequency constant pressure water supply
- Double pump switching frequency constant pressure water supply
- Life water system static pressure control
- Life water system dynamic pressure control
- Life water system time-shared control
- Night dormancy mode water supply
- Fire state control
- Frequency conversion open loop speed control based on PLC analog control
- Converter closed loop speed control based on PLC analog mode



DLPCS-YL101 Pressure Control Training System

■ Technical Parameters

- Input power: single phase three wire AC220V \pm 10% 50Hz, operate power: DC24V 3A
- Temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$, humidity: $\leq 90\%$ (25°C)
- Total capacity: $\leq 1.5\text{KVA}$
- Electrical logic: NPN or PNP
- Process control unit dimension: 1200*600*1400mm
- PLC I/O points:
 - Switch input points: 5 (DC24V)
 - Switch output points: 6 (DC24V)
 - Analog input points:2 (current type/voltage type)
 - Analog output points:1 (current type/voltage type)

■ Technical Parameters

- PLC programming methods and application
- Inverter cognition and application
- PLC module, touch screen and inverter comprehensive application
- Safety valve cognition and application
- Through the system training, the students can master blow skills:
- Process control application
- How to choose electronic components
- Touch screen cognition and application
- PLC module and inverter comprehensive application
- Pressure PID control cognition and training
- Mechanical assembly application
- Various sensor application

.....



DLPLC-YLJC1 Temperature Pressure Detecting Training System

■ Technical Parameters

- Input power: 24V DC
- Working Condition: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$
- Training platform

Training platform uses special mold profiles, by anodic oxidation spraying process, it has scientific structure and beautiful shape. The base has the regulator to keep stable; The shelf uses aluminum alloy structure (surface electrophoresis processing); Device uses the custom open mold safety test wire and connectors, more than the United States military MIL standard and international IEC standard. Hand touch does not get an electric shock.

■ Training Projects

- Know the constitution of control system.
- Master the rules of simple process control.
- Understand and use the pressure transmitter.
- Understand and use the flow transmitter.

Process Control Training series



DLGK-373 Process Control Comprehensive Experiment System

■ Technical parameter

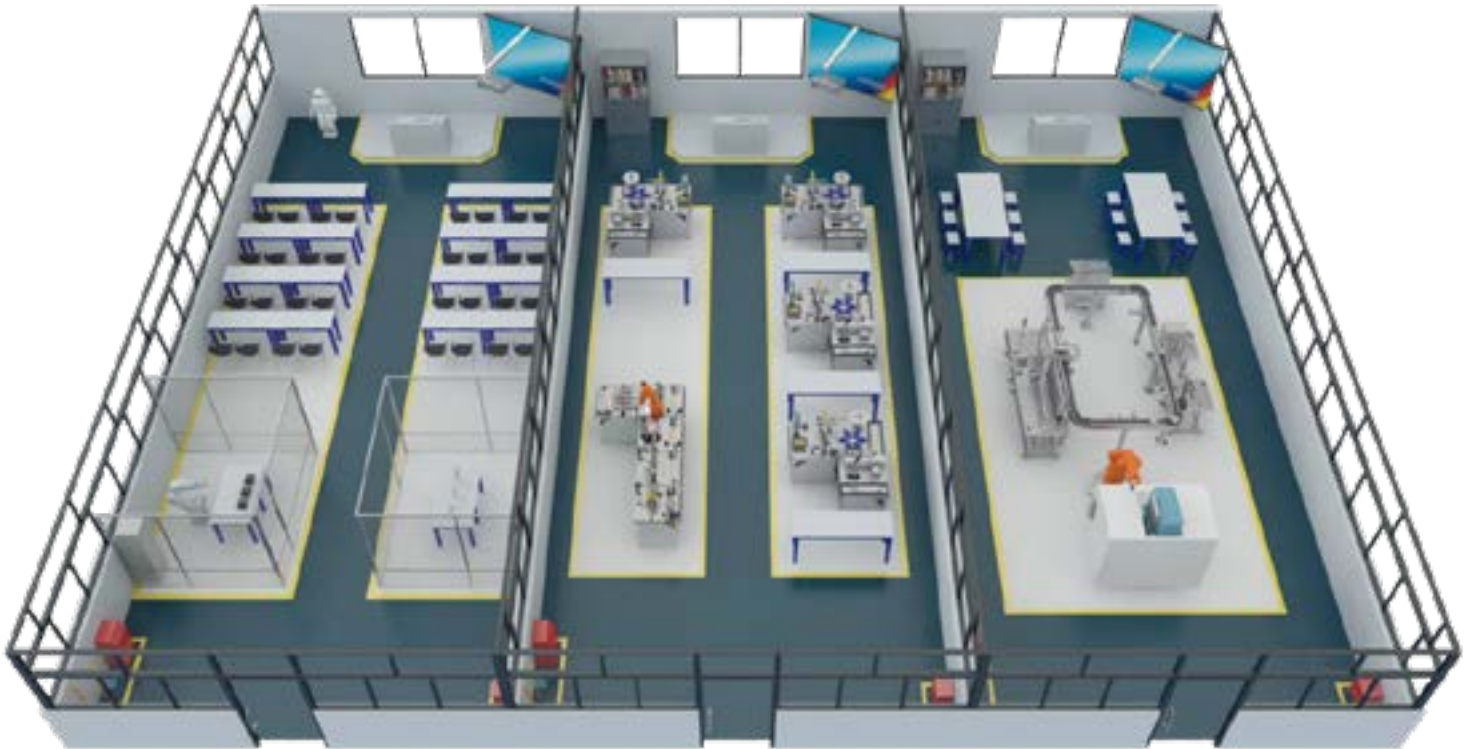
- Input voltage: single-phase three-wire $110V \pm 10\%$ 60Hz
- Operating environment: Ambient temperature range $-5 \sim 40 \text{ }^\circ\text{C}$
- Installed capacity: AC <3500VA
- Security: leakage protection (operating current $\leq 30\text{mA}$), over current protection, fuse protection
- DC power supply: 24V DC Power <5A
- Ambient temperature: $-10 \text{ }^\circ\text{C} \sim 40 \text{ }^\circ\text{C}$
- Relative humidity: $\leq 90\%$ ($25 \text{ }^\circ\text{C}$)
- Dimensions: length \times width \times height = 1500 \times 800 \times 1800mm

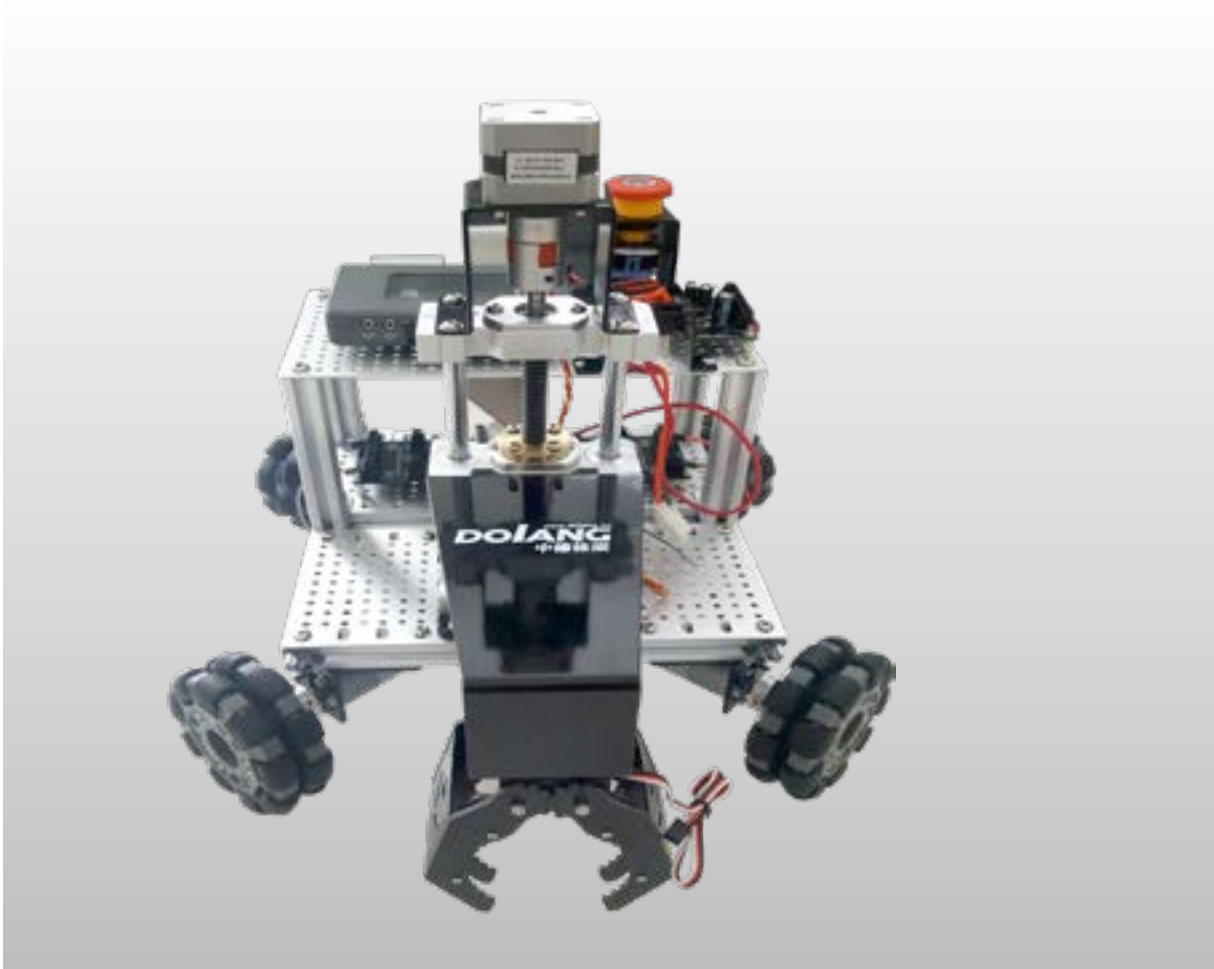
■ Training Projects

- Training of how to use the equipment
- How to use power supply module
- How to use PLC module
- Training of intelligent instruments
- Training of PLC
- Training of DCS, ect.
- How to use control panel
- How to use intelligent instrument module
- Training of frequency converter

Mechatronics, Industrial Robot Training Series

Integrated Solutions for Industrial Robots





DLRB-MR519 Mobile Robot

■ Technical Parameter

- Equipment working voltage: 12V3000mah NiMH lithium battery
- Temperature: $-10^{\circ}\text{C} \sim 50^{\circ}\text{C}$; ambient humidity: $\leq 90\%$ (25°C)
- Part type: 5 categories
- The number of parts: more than 100
- Commissioning site size: 4000mm*2000mm

■ Technical Parameters

- The practice of robot control science, through the mobile robot training equipment, can design and complete the motion control of various robots according to the needs, such as: straight walking, in-situ rotation, path planning, motion control and planning.
- The application of various motor and motor control components mainly includes the configuration of DC motor with encoder, 180° standard servo motor, continuous rotary servo motor and matching motor drive module.
- A variety of sensor applications, such as: ultrasonic ranging sensor, infrared ranging sensor, magnetic sensor, QTI sensor.
... ..

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.



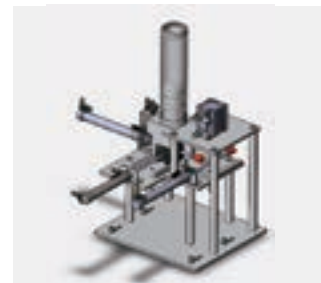
Handling module:
Composed of the rotating cylinder, axis cylinder and vacuum suction, which used to transport the workpiece.



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.



Assembly module: simulate assembly, fit, compress, pushout and other work process of the two different workpiece.



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



Rotary machining module: for machining or testing workpiece sequentially.



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

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.

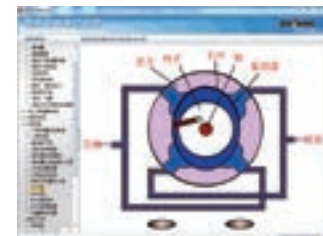


MCU control

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)



DLFA-5DPR-A Five Axes Manipulator Training System

■ Technical Parameter

- Working voltage: single phase, AC220V
- Temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$;
Humidity : $\leq 90\%$ (25°C)
- Capacity: $\leq 1\text{KVA}$
- Dimension: 760*450*1366mm

■ Training Projects

- Installation and debug of pneumatic system
- Installation and debug of sensor system
- Electric control circuit installation and PLC programming
- MCU programming
- GRAF language procedure programming
- PC debug
- Installation and debug of electromechanical equipment ;
- Installation and debug of automatic control system



DLFA-5DPR-B Five Axes Manipulator Training System

■ Technical Parameter

- Working voltage: DC24V;
- Temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$; environmental humidity: $\leq 90\%$ (25°C) ;
- Capacity: $\leq 1\text{KVA}$;
- Dimension: 760x580x1366 (height adjustment 10mm) mm

■ Training Projects

- Set up pneumatic system and debug project.
- Set up sensor system and debug project.
- Set up pneumatic control circuit and write PLC programming project.
- SCM programming project.
- GRAF language programming project.
- PC machine debugging project.
- Set up electromechanical equipment and debug project.
- Set up automatically control system and debug project.

Mechatronics Training Series

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DLFA-DT33 Three Layers of Elevator Training System

■ Technical Parameter

- Working pressure:DC24V
- Temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$; Humidity: $\leq 90\%$ (25°C) ;
- Total capacity: $\leq 1\text{KVA}$

■ Training Projects

- Open and close control experiment
- Second floors inside choose up and down ,open close control experiment.
- Third floors inside choose up and down control experiment
- Third floors outer call up and down, open and close control experiment.
- Third floors elevator comprehensive control experiment
- PLC control experiment
- MCU control experiment
- PC software control experiment

Mechatronics Training Series (FA series)

PLC

3mm cable
AIR
pneumatic



DLFA-MAS-S Factory Automation Manufacturing Automation System

Technical Parameter

- Input power: AC220V 60Hz
- Output power: DC 24V
- Temperature: 0 ~ 55°C
- Operation pressure: 0.4 ~ 0.6Mpa
- Signal type: PNP

Training Projects

- System fault diagnosis and maintenance
- The application of detection switch
- Basic electricity pneumatic control
- Relay control circuit
- Electrical self locked circuit
- Electricity pneumatic system
- Electrical sequence control circuit
- The digital quantity input and output
- Motor and transmission system
- Various sensor test system
- PLC programming experiment
- Integrated operation experiment

PLC PC MCU

2mm cable



DLFA-LCK2 Three-dimensional Parking Training System

Technical Parameter

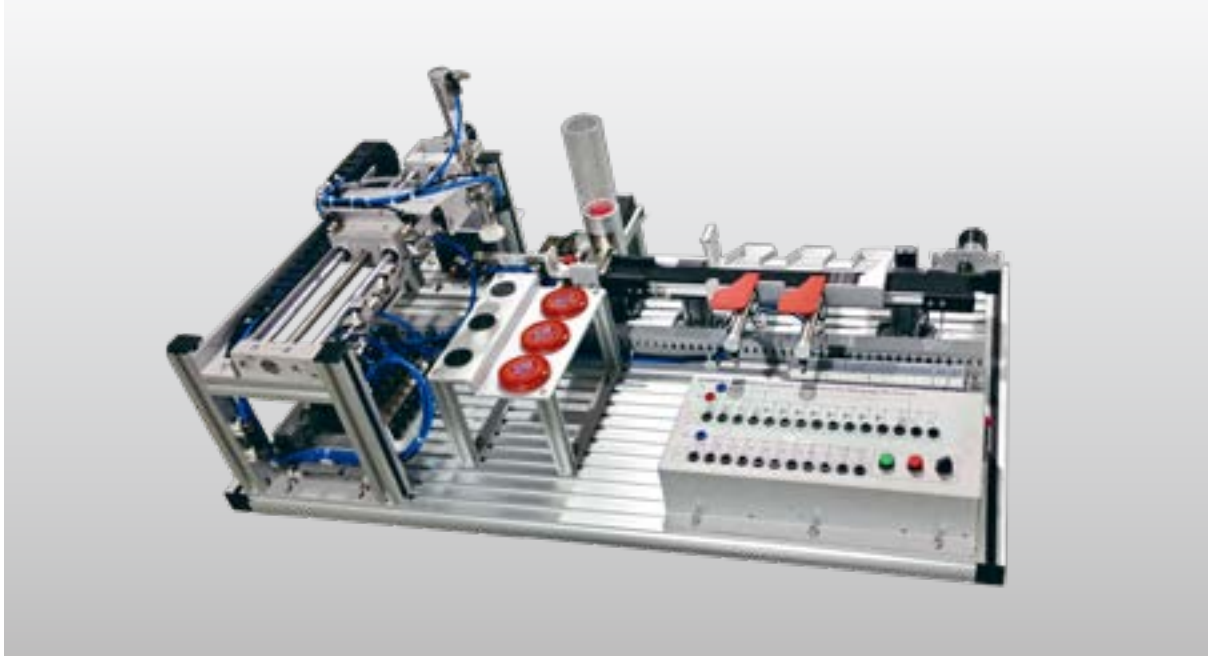
- AC power: Single phase AC220V ± 5% 50Hz;
- Power input : 24V DC power
- Temperature : -10°C ~ 40°C ;
humidity : ≤ 90% (25°C) ;
- Capacity : ≤ 1KVA ;
- Driver : DC motor ;
- Training platform : Using special mold profiles, anodized coating processing, scientific structure, elegant appearance, the bottom regulator, height adjustable, to ensure flatness; the bracket adopt aluminum structure (surface electrophoresis).
- Stereo garage size : L1470 × W700 × H1600

Training Projects

- The stereo parking garage working principle and training ;
- The carrier cognition training ;
- The parking space judgment cognition training ;
- DC motor control principle training ;
- Storage car single step control training ;
-

Mechatronics Training Series

88



DLFA-BJJ03 Auto Marking Machine Training System

■ Technical parameter

- Working voltage: DC24V;
- Temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$; environmental humidity: $\leq 90\%$ (25°C)
- Capacity: $\leq 1\text{KVA}$;
- Dimension: 960x600x1250mm

■ Training Projects

- MCU control operation step
- PLC control operation step
- Software programming
- Distribution wiring according to control requirements and determined I/O.
- Write the PLC application program according to the control requirements and the determined I/O allocation.
- Complete the connection between PLC and the external circuit of the training device
- Make experiments according to the steps in the control requirements and observe whether they meet the control requirements.

Mechatronics Training Series



DLFA-ASRSB02 Automatic Storage and Retrieval System(Basic)

■ Technical Parameter

- Input power: AC 220V, working pressure: DC 24V
- Temperature: -10~40℃
- Safety protection: short circuit protection, terminal short circuit protection.
- Electric logic: NPN
- Memory board: three line, three column
- Drive: Spindle drive
- Workpiece: column with pallet
- Dimension: 1200*750*750mm

■ Training Projects

- ASRS formation
- Assembling and demounting of mechanical and electrical parts
- System fault diagnosis and maintenance
- Drawing electric circuit diagram
- Application of sensor
- 2-axes, 3-dimensional control system
- Position control system

... ..



DLFA-ASRSA01 Automatic Storage and Retrieval System(Advanced)

■ Technical Parameter

- Power input: AC 220V, working voltage: DC 24V
- Weight: 60kgs
- Desk height: 750mm
- Main power: AC 220V
- Operating voltage: DC 24V, 3A
- Operating compressed air: 5-6bar.
- Electric logic: PNP or NPN
- Storage platform: 4 line 5 column
- Drive: spindle drive
- Workpiece: column with pallet

■ Training Projects

- Assembling and demounting of mechanical and electrical parts
- System fault diagnosis and maintenance
- Drawing electric circuit diagram
- Application of detective switch
- Ball-screw application
- 2-axes, 3-dimensional control system

... ..

Mechatronics Training Series

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DLFA-SFW Steel Feed and Rolling Machine Training System

■ Technical Parameter

- Power supply: main circuit AC220V, control loop DC24V
- Gas source: 0.4Mpa ~ 0.6Mpa
- Working environment: -10 ~ 40 °C
- Dimensions: 1200 * 750 * 600 mm
- Total capacity: ≤ 1KVA

■ Training Projects

- PLC basic instruction Contact
- Automatic control experiments of frequency converter
- Frequency converter function parameter settings
- Integrated Control
- Electrical, mechanical parts assembly and disassembly
- PLC programming experiment
- Touch screen communication training
- Action Programming steel loading process
-



DLFA-PCT Position Control Training System

■ Technical Parameter

- Input power: AC220V ± 10% (single-phase three-wire)
- Capacity: <1KVA
- Environment temperature: -10°C ~ 40°C
- Relative humidity: ≤ 85%
- Weight: 27kgs
- Electrical logic : NPN
- Drive motor : DC gear reducer motor
-

■ Technical Parameters

- The proximity sensors and reeds switch features
- Mechanical parts and pneumatic part assembly and disassembly
- System fault diagnosis and maintenance
- Drawing electrical circuit diagram
- Draw pneumatic principle diagram
- The application of the test switch
-

Mechatronics Training Series

PLC



DLFA-555D Optical Mechatronic Training System

■ Technical parameter

- Temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$
- Humidity : $\leq 90\%$ (25°C)
- Capacity: $\leq 1.5\text{KVA}$
- Pump capacity: Single-phaseAC220V
- Air flow:9L Discharge pressure:0.6~0.8MPa
- Work pressure:0.6MPa
- 1500*750*1150mm

■ Training Project

- Automatic detection technology training;
- Pneumatic technology training;
- Stepper motor control applications training;
- Variable frequency drive technology application training
- Mechanical systems installation and commissioning of training;
- System maintenance and fault detection training;
- Stepper motor direction control;
- Stepper motor speed control;
-

PLC



DLFA-555F Optical Mechatronic Training System

■ Technical parameter

- AC power: Single-phase :AC220V $\pm 10\%$
50Hz/60Hz
- Temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$
- Humidity : $\leq 90\%$ (25°C)
- Dimension:1500 \times 750 \times 1250mm (D \times W \times H)
- Capacity: $\leq 2\text{KVA}$
- Pump capacity: Single-phaseAC220V
- Air flow:9L
- Discharge pressure:0.6~0.8MPa
- Work pressure:0.6MPa
- Dimension:1500*750*1400mm

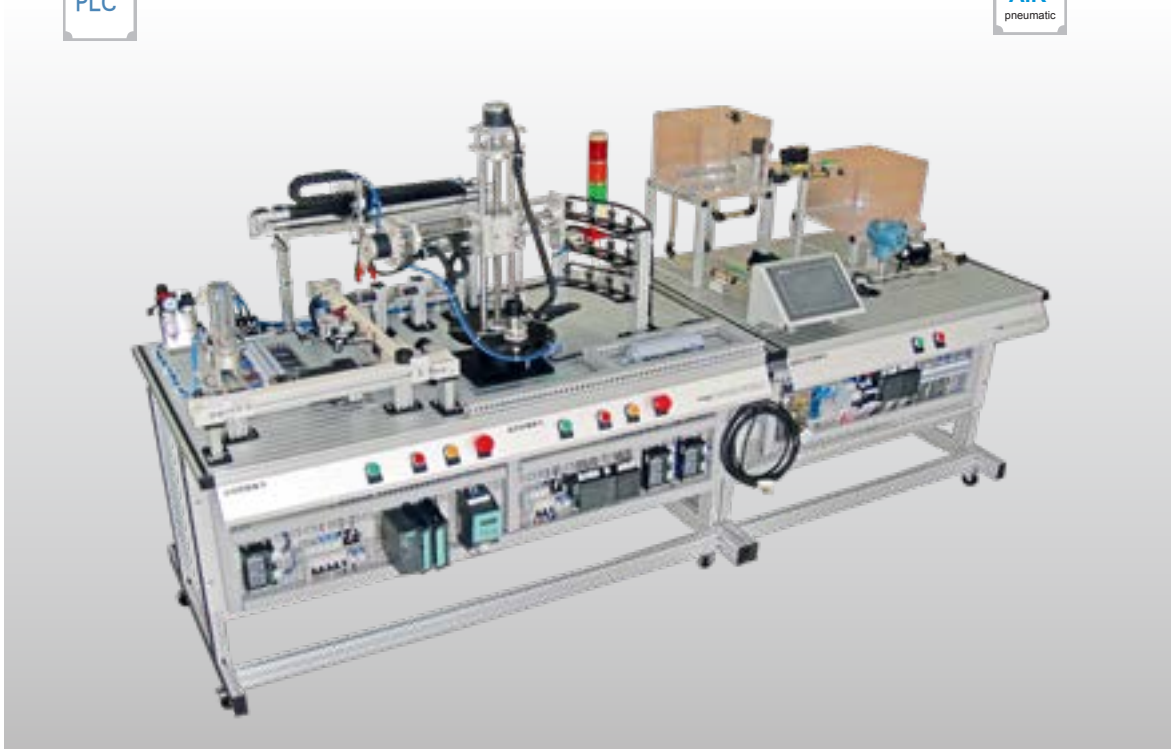
■ Training Project

- Automatic testing technology application training
- Pneumatic technology application training
- Stepper motor control applications training
- Servo motor control applications training
- Frequency control drive technology application training
-

Mechatronics Training Series

PLC

AIR
pneumatic



DLFA-321 PLC Designer Training System

■ Technical Parameter

- Dimension:2400*750*1400mm (length*width*height)
- Length of the desk:750mm
- Power supply:AC220V \pm 10%, single phase, three line
- Work pressure:DC24V,3A
- Protection: ground protection, leakage, overload and overvoltage protection.

■ Training Projects

- Installation and debug of pneumatic system
- Electrical control circuit installation and PLC programming
- processing control circuit installation and PLC programming
- Step motor, DC motor and three-phase motor control training
- PLC and converter communication control training
- PLC and touch screen communication training
- Electromechanical equipment installation and debug
- Auto control system installation and debug
- Assemble and adjustment of mechanical components
- Installation and debug of electromechanical equipment
- Circuit installation, ect.

Mechatronics Training Series



DLDS-565A Optical Mechatronics Training System

■ Technical Parameter

- AC power: Single-phase :AC220V \pm 10% 50Hz/60Hz
- Humidity : \leq 90% (25°C)
- Capacity: \leq 1KVA
- Pump capacity: Single-phase AC220V 0.37KVA
- Work pressure:0.6MPa
- Temperature:-10°C ~ 40°C
- Dimension:1882 \times 900 \times 1600mm (D \times W \times H)
- Air flow:10L Discharge pressure:0.6~0.8MPa
- Net weight:150kg

■ Training Projects

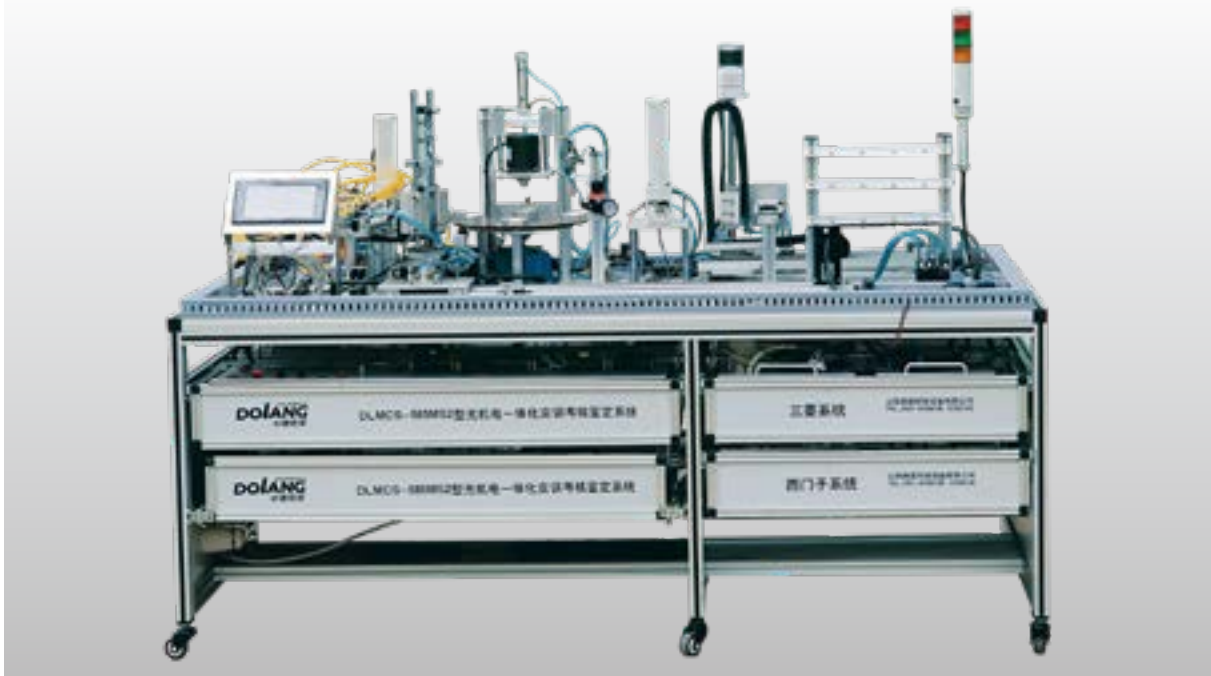
- Installation of pneumatic direction control circuit
- Installation of pneumatic speed control circuit
- Installation of swing control circuit
- Installation of pneumatic sequence control circuit
- Installation of manipulator devices
- Connection and control programming of 3 phase asynchronous motor positive and negative reversing control circuit
- Connection and control programming of 3 phase asynchronous motor speed regulation control circuit
- Servo motor position control and debugging Installation and commissioning of pneumatic system, ect

Mechatronics Training Series

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PLC

2mm cable 4mm cable AIR pneumatic



DLMCS-585MS2 Optical Mechatronics Training System

Technical parameter

- AC power: Three-phase five wire AC380V \pm 10% 50Hz/60Hz ;
- Temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$; environment humidity: $\leq 90\%$ (25°C) ;
- Dimension: about 1900mm*900mm*1220mm (length*width*height);
- Capacity: $\leq 2.5\text{KVA}$

Training Project

- Installation and commissioning of automated production line equipment
- Forward and reverse experiment of V20 inverter control motor
- Online multi-speed control of V20 inverter and S7-1200 PLC
- Installation and use of Siemens PLC programming software TIA Botu
- Installation and use of touch screen software
- Servo motor control and parameter setting
- PLC and touch screen communication experiment
- Operation of the servo motor with external terminals
- Mechanical installation and adjustment of the feeding station
- Mechanical installation and adjustment of the processing station and programming
- Mechanical installation and adjustment of the handling station and programming
- Mechanical installation and adjustment of the assembly station
- Mechanical installation and adjustment of the sorting storage station and preparation of the program

Modular Flexible Manufacturing Training System



DLMP5-205 Modular Flexible Production Line Training System

■ Technical Parameter

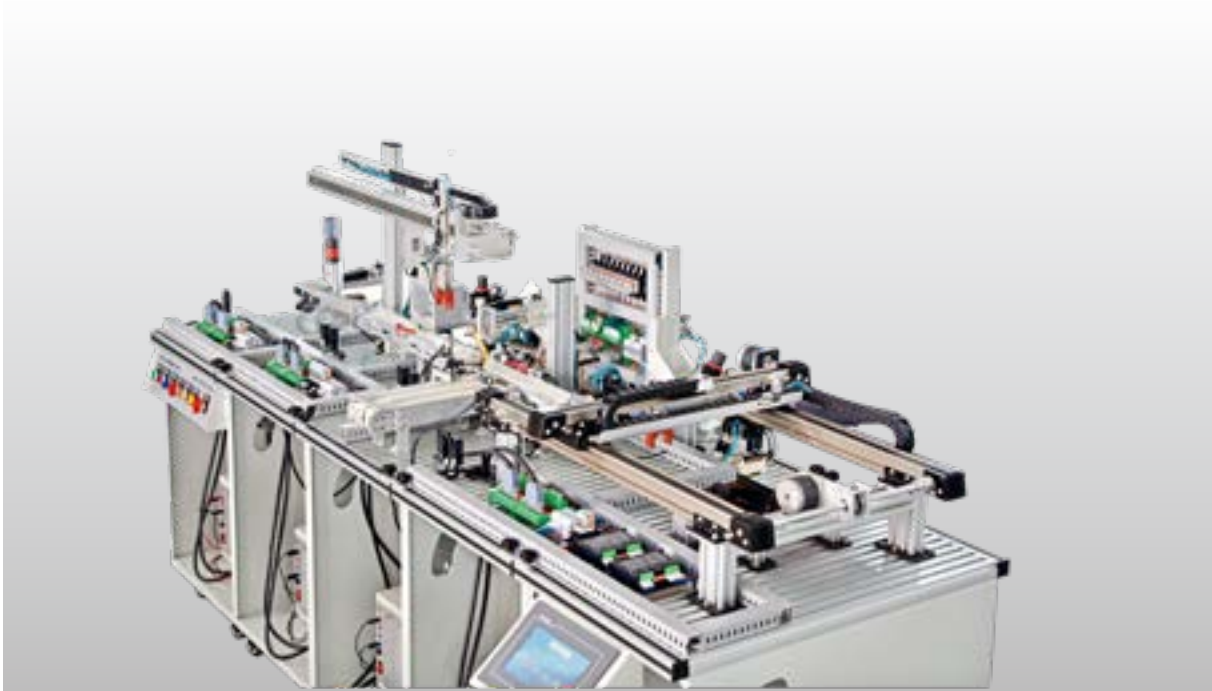
- Electrical control cabinet main circuit power supply: Single phase AC220V \pm 10% 50Hz;
- Electrical control cabinet control circuit power supply:DC24V
- Temperature:-10°C ~ 40°C ; Humidity: \leq 90% (25°C) ;
- Dimension: 450mm \times 770mm \times 1100mm
- Air source pressure:0.4~0.6Mpa
- Capacity: \leq 1KVA
- PLC S7-1200

■ Technical Parameters

- Application of detecting switch
- Application of various sensors
- Application of hydraulic and pneumatic components
- Application of PLC
- Application of auto storage management
- Application of two dimension fixed point fetch
- Pneumatic circuit wiring and electrical wiring
- Assemble and disassemble of mechanical and pneumatic parts
- System fault diagnosis and maintains

Modular Flexible Manufacturing Training System

96



DLDS-500A Modular Flexible Production Line Training System

■ Technical Parameter

- Main power supply of the control cabinet: Single phase AC220V \pm 10% 50Hz/60Hz;
- Power supply of control cabinet circuit: DC24V
- Temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$; Humidity: $\leq 90\%$ (25°C);
- Dimension of each station: Length \times Width \times Height = 500mm \times 790mm \times 1200mm
- air pressure: 0.4~0.6Mpa
- Capacity: $\leq 5\text{KVA}$

■ Training Projects

- The application of detection switch
- The application of variety of sensors
- The application of pneumatic components
- PLC application
- Applications of ASRS
- The application of the two-dimensional fixed-point extract
- The pneumatic circuit tube and electrical connection
- The assembly and disassembly of mechanical parts and pneumatic parts
- System fault diagnosis and maintenance
- Touch screen technology
- Point-to-point transmission and reception of data

... ..

Modular Flexible Manufacturing Training System



DLMPS-800A Modular Product System

■ Technical Parameter

- Input power: single phase 220V ± 10% 50Hz or 60 Hz
- Leakage protection: $I \Delta n \leq 30\text{mA}$, $t \leq 0.1\text{S}$
- AC power AC220V
- DC output power 24V
- Emergency stop button, power indicator, power supply indicator
- Protection when supplying power by mistake after break
- Working environment: temperature $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$ relative humidity: <85%(25°C) Height <4000M
- Installed capacity: 1kVA~5KVA
- Operation compressed air: 5~6bar

■ Training Projects

- Cognition and application of pneumatic technology
- Cognition and application of sensor technology
- Cognition and application of mechanical transmission technology
- Principle of industrial automation technology and application
- Cognition and application of FMS8000 modular production line
- Dynamic real-time monitoring
- Study of PLC and programming language of PC controller
- PLC programming language

... ..

Modular Flexible Manufacturing Training System

98

PLC

AIR
pneumatic



DLMPS-600A Modular Flexible Production Line Training System

■ Technical Parameter

- Electrical control box main circuit supply power: Single AC220V \pm 10% 50Hz;
- Electrical control box circuit supply power: DC24V
- Temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$; Humidity: $\leq 90\%$ (25°C)
- Dimension: (L) 450*(W)760*(H)1103mm
- Source gas pressure: 0.4~0.6Mpa
- Unit capacity $\leq 1\text{KVA}$
- Host controlled by Simens S7-1200 Series

■ Training Projects

- Application of deceting switch
- Application of various sensors
- Application of pneumatic components
- PLC application
- Application of Automatic storage management
- Application of two dimension fixed point take things
- Pneumatic circuit connector and electrical wire
- Loading and unloading of mechanical and pneumatic parts.
- System fault diagnosis and maintainance
- Detection of material and colors.

... ..

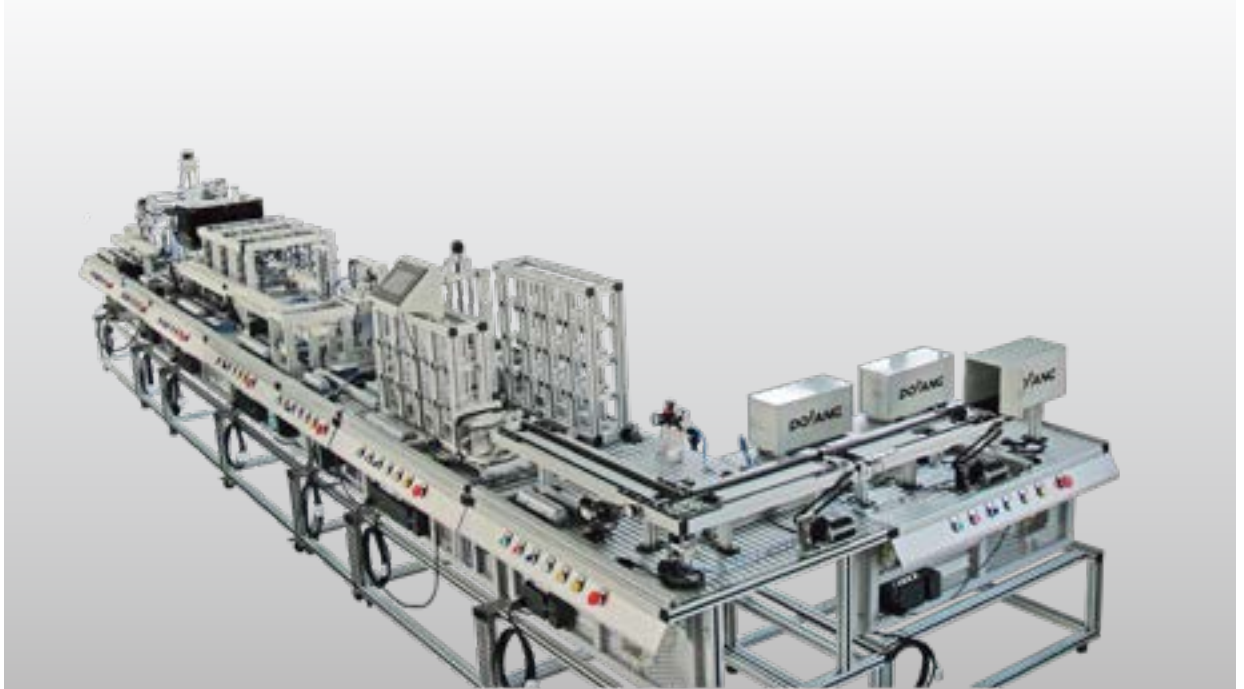


DLMPS-600D Modular Product System

Flexible Manufacturing Training System

PLC

AIR
pneumatic



DLWL-800A Modular Modern Logistics Manufacture Process System

■ Technical parameter

- Input power:single-phase ~ 220V ± 10% 50HZ
- Leakage protection: $I \Delta n \leq 30\text{mA}$, $t \leq 0.1\text{S}$
- AC220V AC power
- 24V DC power output
- Emergency stop button
- Power-off error protection
- Working environment:temperature $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$ Relative humidity 35% ~ 65%(25°C) altitude <4000M
- Capacity: $\leq 5\text{kVA}$
- Operation air pressure:5 ~ 6bar Working pressure: 0.4 – 0.6 MPA
- Single station dimension: ① 980x750x1500mm ② 600x750x1500mm ; table height:750mm
Overall dimension:6100x1730x1500mm

■ Training Projects

- | | |
|--|---|
| <ul style="list-style-type: none"> ● Manipulator transportation system unit · Complete cylinder inching control training · Complete cylinder projecting, retracting control training · Complete container feeding training · Complete goods feeding training · Complete servo motor cognition training,ect | <ul style="list-style-type: none"> ● Visual inspection system unit · Complete visual identificationsystem working principle training · Complete swap focal length training · Complete dimming training · Complete sensors trigger signal training · Complete capture process training |
|--|---|

... ..

Industrial Robot Training Series(RB Series)

100



DLFA-R501DM Electro Robot Arm

■ Technical parameter

- Structure: Union joint type
- Load Capacity: 1KG
- Height: $\geq 1150\text{mm}$
- MCU Programming Control
- Power Capacity: Single-phase 220V 50Hz 4A
- Environmental Humidity: $\leq 90\%$ (25°C)
- Driving Mode: step motor
- Max Expansion Radius: $\geq 700\text{mm}$
- Operating Mode: PLC Programming Control
- Computer Software Programming
- Temperature: $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$
- Overall Capacity: $\leq 1\text{KVA}$

■ Training Projects

- 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

Industrial Robot Training Series(RB Series)



DLFA-R601DM Modular Serial Robot Arm

Technical Parameter

- Power input: AC 220V ± 10%, 50Hz
- Robot size: 800mm × 780mm × 850mm
- Control system dimension: 1400mm × 780mm × 1400mm
- Robot joint modules specs:

Name	Structure	Angle range
joint 1	Drive by stepper motor, transmit by planetary gear	-90 ° ~ +90 °
joint 2	Drive by servo motor, transmit by harmonic reducer	-45 ° ~ +45 °
joint 3	Drive by stepper motor, transmit by belt reduction drive	-45 ° ~ +45 °
joint 4	Drive by stepper motor, transmit by worm gear	-90 ° ~ +90 °
joint 5	Drive by stepper motor, transmit by straight gear reducer and belt	-45 ° ~ +45 °
joint 6	Drive by micro stepper motor, transmit by bevel gear transmission	-180 ~ +180 °

Training Projects

- 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

Industrial Robot Training Series(RB Series)

102



DLRB-120 Industrial Robot Basic Skills Training System

■ Technical Parameter

- Output power: single phase three wires AC220V \pm 10% 50HZ
- working environment: temperature $-10^{\circ}\text{C} - +40^{\circ}\text{C}$,relative humidity $<85\%$ (25°C) ,no condensation of water droplets altitude $<4000\text{m}$
- Power control :automatic pneumatic switch power supply with protection of overvoltage, under voltage, overflow ,and leakage protection.
- Outline dimension:1500mm \times 1200mm \times 1700mm

■ Training Projects

- Robot body and controller's installation and wiring
- The I/O communication between robot and PLC
- Robot's stacking application installation and wiring
- The clamp option and design of robot's stacking application
- The programming and debugging of robot's stacking application
- Robot's handling application installation and wiring
- The clamp option and design of robot's handling application
- The programming and debugging of robot's handling application
- The programming and debugging of robot's geometric locus
- The application installation and wiring of industrial robot's detection and arrangement
- The fixture option and design of industrial robot's detection and arrangement application
- The programming and debugging of industrial robot's detection and debugging application
- The comprehensive application and design between robot and its peripheral equipments
- Robot's initialization and parameters recovery
- The wiring between robot and I/O

Industrial Robot Training Series(RB Series)



DLRB-120B Industrial Robot Basic Skills Training System

■ Technical Parameter

- Output power: single phase three wires AC220V \pm 10% 50HZ
- Working environment : temperature $-10^{\circ}\text{C} - +40^{\circ}\text{C}$, relative humidity $<85\%$ (25°C), no condensation of water droplets altitude $<4000\text{m}$
- Power control : Automatic pneumatic switch power supply with protection of overvoltage, under voltage, over-flow ,and leakage protection.
- Dimension : $1500\text{mm} \times 800\text{mm} \times 1500\text{mm}$
- Output Voltage
 - Single phase AC $220\text{V} \pm 10\%$ 50HZ, startup switch control output, with fuse protection
 - DC stabilized power supply: $24\text{V}/1\text{A}$

■ Training Projects

- Robot body and controller's installation and wiring
- The I/O communication between robot and PLC
- Robot's stacking application installation and wiring
- The clamp option and design of robot's stacking application
- The programming and debugging of robot's stacking application
- Robot's handling application installation and wiring
- The clamp option and design of robot's handling application
- The programming and debugging of robot's handling application
- The programming and debugging of robot's geometric locus
- Robot's initialization and parameters recovery
- The wiring between robot and I/O
- Positional repeatability : 0.01 mm
-

Industrial Robot Training Series(RB Series)

104

PLC

AIR
pneumatic



DLFA-JXS Four Joints Robot Training System

Technology parameter

- Input power: three-phase five-wire 380V \pm 10% 50HZ/60Hz
- Working environment: temperature -10 $^{\circ}$ C - +40 $^{\circ}$ C , relative humidity <85% (25 $^{\circ}$ C) , no water beads condensation altitude <4000m
- Power control: automatic air switch off power, with overvoltage protection, undervoltage protection, overcurrent protection, leakage protection system.
- Output power:
 - (1) Output controlled by the start switch and is protected
 - (2) DC power supply: 24V / 5A.
- CNC lathe: Full-function slant CNC lathe machine
- Robot: ABB IRB1410

Technical Parameters

Industrial robot learning and training

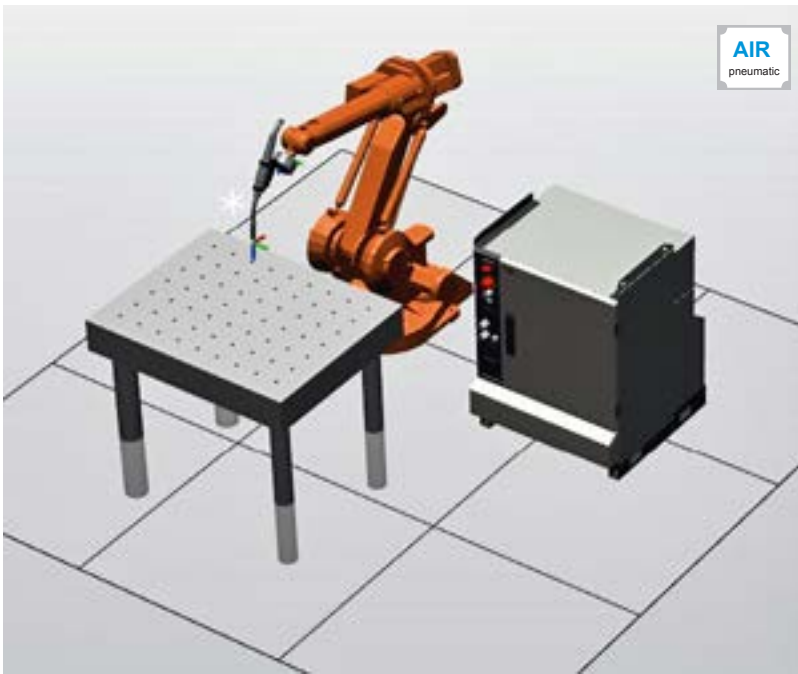
- Basic Principles and Constitution of Industrial Robot
- Cognition of Industrial Robot structure
- Cognition of Industrial robot electrical part
- Industrial robot software cognition
- Industrial robot controller cognition
- Six-degree-of-freedom robot joint motion control learning and training

... ..

CNC lathe learning and training

- Machine principle learning
- CNC machine operation and programming
- Hydraulic and pneumatic control loop installation and debugging

Industrial Robot Training Series(RB Series)



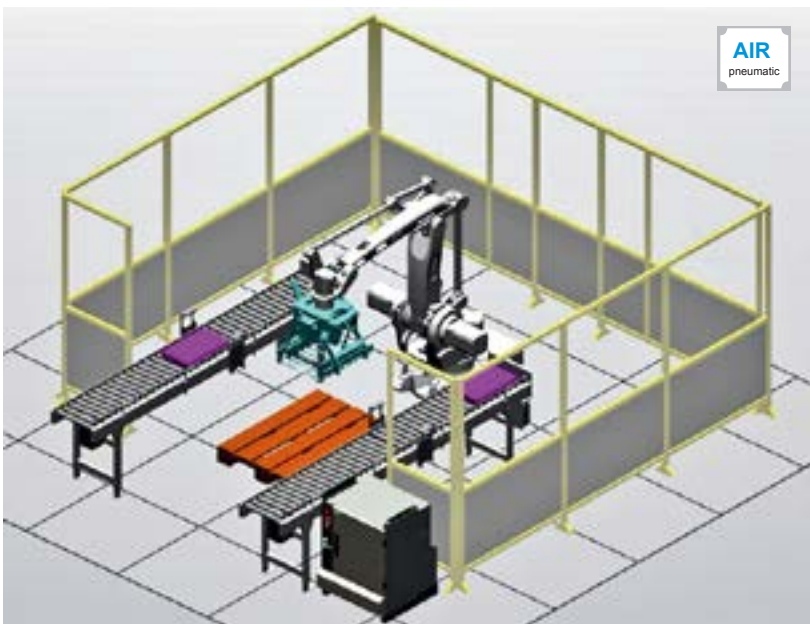
DLRB-1410W Welding Robot Training System

■ Technical parameters

- Number of robot axes: 6 axes
- Scalable to 8 axes
- Max. load of the robot: 5 kg;
- Max. working radius of the robot arm: 1.44m;
- Repeat positioning accuracy: 0.025mm;
- Three-phase AC: 400V (+10%, -15%), 50Hz, 7.68KVA
- Ambient temperature: 5°C– 45°C
- Relative humidity: 95%
- Noise level: <70dB weight:225 kg
- Two-axis positioner for option.

■ Training Project

- Understand the main components and working principle of welding robots;
- Understand the supporting facilities around the welding robot;
- Operational exercises for robot welding;
-



DLRB-460 Palletizing Robot Training System

■ Technical Parameter

- Robot axis number: 4 axis
- Maximum load: 110 kg;
- Maximum working radius of robot arm: 2.4m;
- Repetitive positioning accuracy:0.05mm;
- Maximum power: 3.67KW
- Weight: 925Kg
- Relative humidity: 95%
- Noise level: <73dB

■ Training Projects

- Basic Principles and Basic Composition of Industrial Robots
- The basic structure of the ABB robot and the direct trajectory of each axis
- Cognition of ABB Robot Simulation Software
- Basic Operation of ABB Robot Teach Pendant
-

Industrial Robot Training Series(RB Series)

106



DLRB-932 Industrial Robot Typical Workstation Training System

■ Technical Parameter

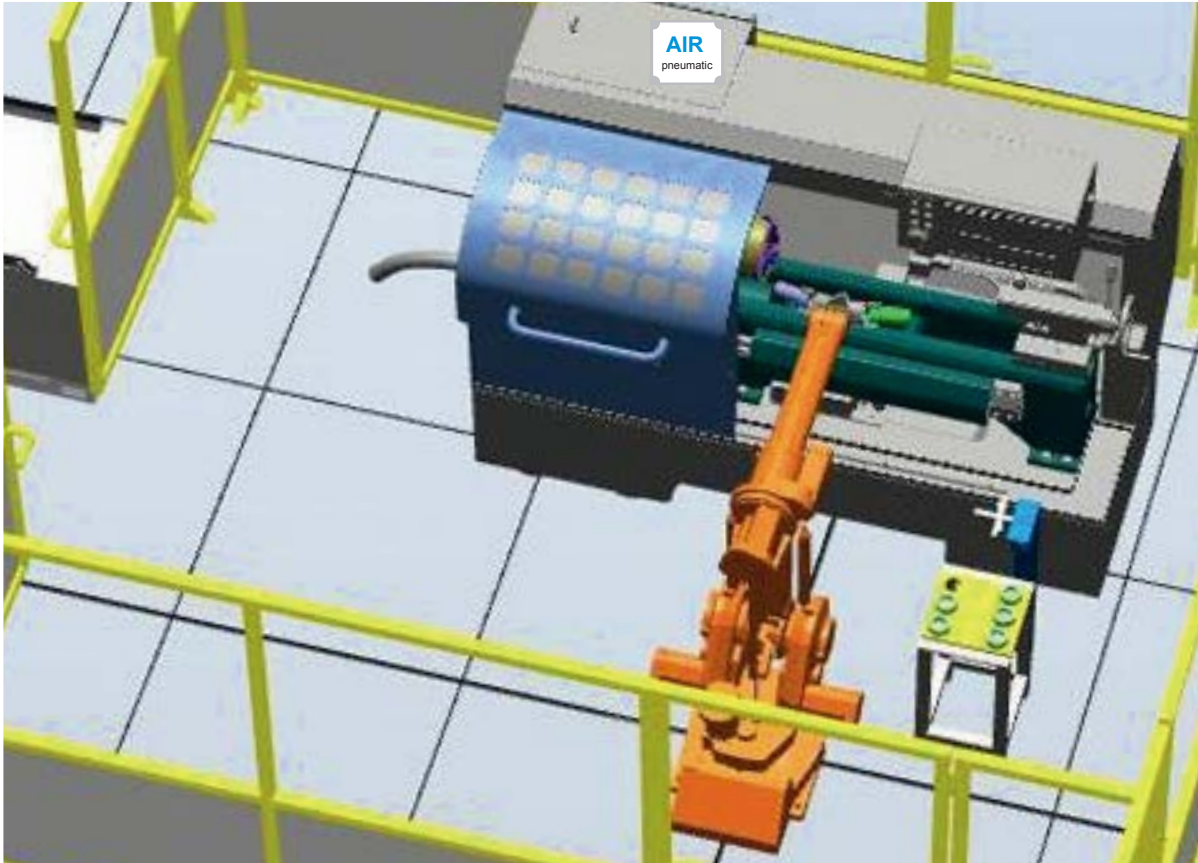
- Input power: single-phase three-wire AC220V \pm 10% 50HZ,
- Working environment: Temperature $-10\text{ }^{\circ}\text{C} - +40\text{ }^{\circ}\text{C}$, relative humidity $<85\%$ ($25\text{ }^{\circ}\text{C}$), no condensation
Altitude $<4000\text{m}$
- Power control: automatic air switch on/off power supply, overvoltage protection, under-voltage protection, over-current protection, leakage protection system.
- Output Power:
 - Single-phase AC 220V \pm 10% 50HZ; control output by start switch, and fuse protection.
 - DC stabilized power supply: 24V / 1A,
- Dimensions:
- Industrial robot: ABB IRB120

■ Training Projects

- Installation and wiring of the industrial robot body and controller;
- Industrial robot initialization and parameter recovery;
- IO communication between industrial robots and PLCs;
- Industrial robot palletizing application installation and wiring;
- Selection and design of industrial robot palletizing application fixtures;
- Industrial robot palletizing application programming and debugging;

... ..

Industrial Robot Training Series(RB Series)



DLRB-1410B Robot Machine Loading and Unloading Training System

■ Technical Parameter

- Input power: three-phase four-wire 380V \pm 10% 50HZ/60Hz
- Working environment: temperature-10 $^{\circ}$ C - +40 $^{\circ}$ C , relative humidity <85% (25 $^{\circ}$ C) , no water beads condensation altitude <4000m
- Power control: automatic air switch off power, with overvoltage protection, undervoltage protection, overcurrent protection, leakage protection system.
- Output power:
 - Three-phase four-wire 380V \pm 10% 50HZ.
 - DC power supply: 24V / 5A,
- CNC lathe: universal slant bed CNC lathe machine
- Robot: ABB IRB1410

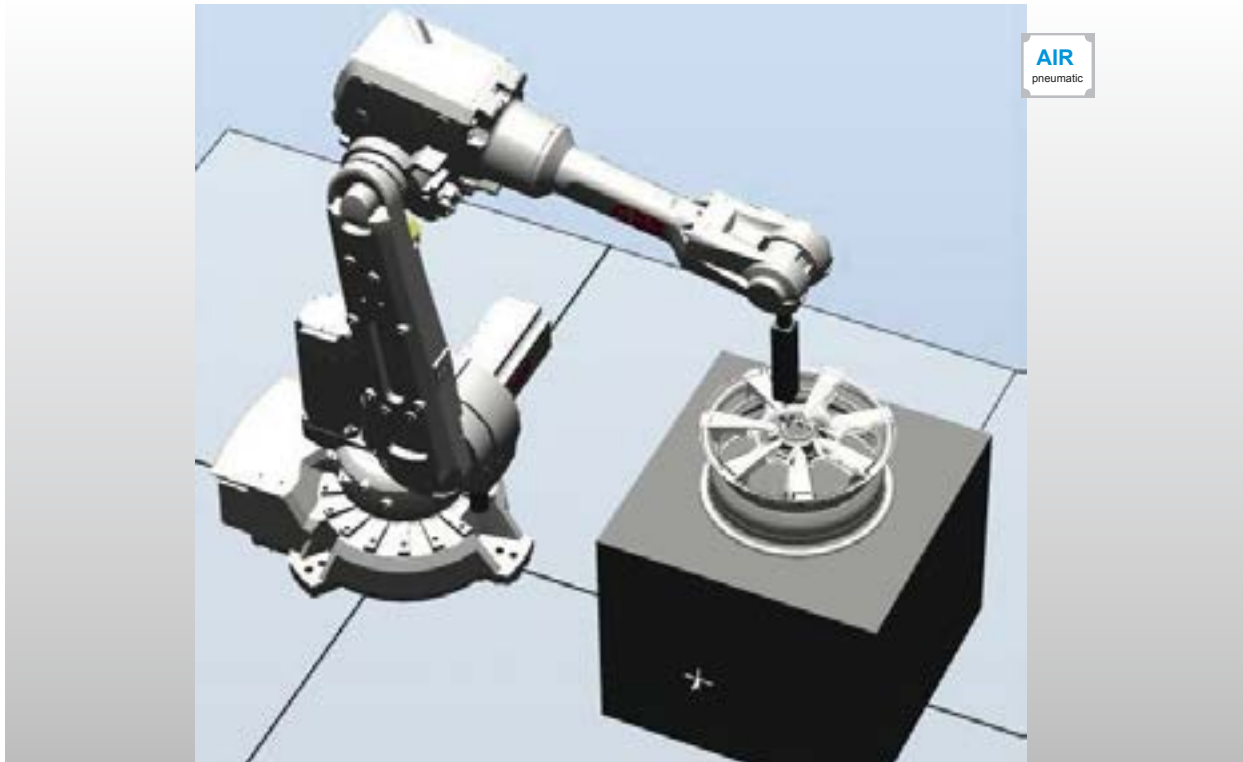
■ Training Projects

- Basic Principles and Constitution of Industrial Robots
- Industrial robot electrical part cognition
- Learning and training of Six - axis Robot Joint Motion Control
- Learning and training of Linear Motion Trajectory Control of Six-axis industrial robot
- Learning and training of circular motion trajectory of Six-axis industrial robot
- Learning and Training Acceleration / Deceleration Constraint Control of Six-axis industrial robot
- Cognition of Industrial Robot Ontology
- Industrial Robot Controller Cognition

... ..

Industrial Robot Training Series(RB Series)

108



DLRB-2600 Robot Polishing Training System

■ Technical Parameter

- 3 phase 4 wire :380V \pm 10% 50HZ working environment : temperature $-10^{\circ}\text{C} - +40^{\circ}\text{C}$, relative humidity $<85\%$ (25°C),
- Altitude $<4000\text{m}$
- Power supply control : automatic air switch, has over-voltage protection、under
- Voltage protection、over-current protection、leakage protection system.
- Output power : 3 phase 4 wire 380V \pm 10% 50HZ DC regulated power supply : 24V/5A, Robot : ABB IRB2600

■ Training Projects

- The basic principles and structure training of industrial robots
- Understanding industrial robot structure
- Understanding the electrical part of industrial robots
- Understanding Industrial robot controller
- Robot programming training
- Learning and training of joint motion control of six DOF robot
- Linear trajectory control training of six DOF robot
- Circular arc trajectory control training of six DOF robot
- Acceleration and deceleration control training of six DOF robot
- Basic operation of robot control training
- Principle and structure training of grinding and polishing components Applied
- Robot programming training Technology of grinding and polishing
- Robot programming training Fixture design of polishing and polishing table

Industrial Robot Training Series(RB Series)



DLRB-1410A Industrial Robot CNC Machining Teaching Workstation

■ Technical Parameter

- Input power: three-phase five-wire 380V \pm 10% 50HZ/60Hz
- Working environment: temperature $-10\text{ }^{\circ}\text{C} - +40\text{ }^{\circ}\text{C}$, relative humidity $<85\%$ (25 $^{\circ}\text{C}$), no water beads condensation altitude $<4000\text{m}$
- Power control: automatic air switch off power, with overvoltage protection, undervoltage protection, overcurrent protection, leakage protection system.
- Output power: (1) Output controlled by the start switch and is protected; (2) DC power supply: 24V / 5A.
- CNC lathe: Full-function slant CNC lathe machine
- Robot: ABB IRB1410

■ Training Project

● Industrial robot learning and training

- Basic Principles and Constitution of Industrial Robot
- Cognition of Industrial Robot structure
- Cognition of Industrial robot electrical part
- Industrial robot software cognition
- Industrial robot controller cognition
- Six-degree-of-freedom robot joint motion control learning and training
- Six-degree-of-freedom robot circular motion track control learning and training
- Typical Application of Robots – Parts assembly application example
- Robot maintenance training

● CNC lathe learning and training

- Machine principle learning
- CNC machine operation and programming
- Hydraulic and pneumatic control loop installation and debugging

Industrial Robot Training Series(RB Series)

110



DLDS-3512 Industrial Robot Skills Training System

■ Technical Parameter

- Input power: single-phase three-wire AC220V \pm 10% 50HZ,
- Working environment: temperature -10°C - $+40^{\circ}\text{C}$, Relative humidity $<85\%$ (25°C), altitude $<4000\text{m}$
- Output power: DC regulated power supply: 24V/3A.
- Equipment size:
 - operation platform: 1700*1000*1600 (L*W*H)
 - operation platform: 1700*950*1200 (L*W*H)
- Safety protection function: short circuit protection, overload protection, emergency stop protection, etc.
- Touch screen: 7 inches
- Six-joint industrial robot

■ Training Projects

- Fingertip gyro press-fit production task based on robot automatic loading and unloading
- Numeric keypad automatic assembly task
- Wireless mouse production task based on dual robot cooperation
- Workpiece automatic grinding task
- Robot automatic gift wrapping task
- Multi-variety material transfer and palletizing tasks
- Bookmark automatic sorting task
- Assembly and commissioning of mechanical structure of raw material library unit
- Understanding and application of six-axis robots

... ..

Industrial Robot Training Series(RB Series)



DLDS-3717 Industrial Robot Skills Training System

■ Technical Parameter

- Input power: single-phase three-wire AC220V \pm 10% 50HZ,
- Working environment: temperature -10° C $- +40^{\circ}$ C, Relative humidity <85% (25° C), altitude <4000m
- Output power: DC regulated power supply: 24V/3A.
- Equipment size:
 - operation platform:1700*1000*1600 (L*W*H)
 - operation platform: 1700*950*1200 (L*W*H)
- Safety protection function: short circuit protection, overload protection, emergency stop protection, etc.
- Touch screen: 7 inches
- Six-joint industrial robot

■ Training Projects

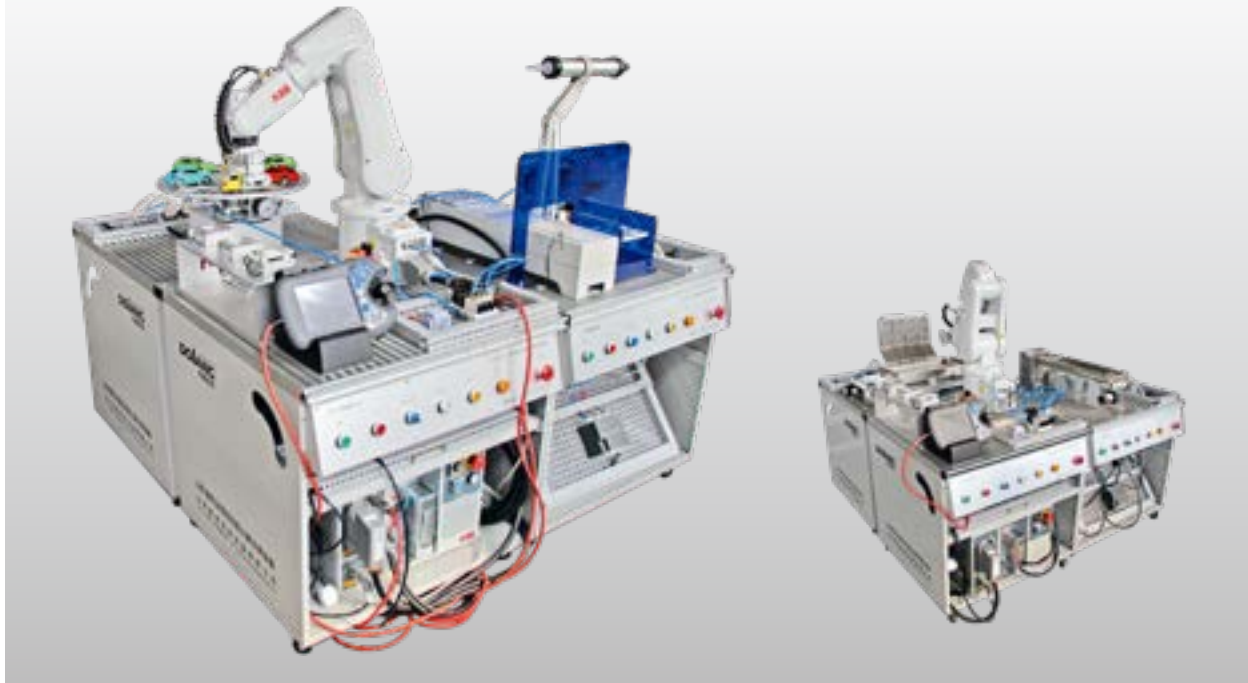
- Fingertip gyro press-fit production task based on robot automatic loading and unloading
- Numeric keypad automatic assembly task
- Workpiece automatic grinding task
- Wireless mouse production task based on dual robot cooperation
- Robot automatic gift wrapping task
- Bookmark automatic sorting task
- Multi-variety material transfer and palletizing tasks
- Assembly and commissioning of mechanical structure of raw material library unit Appraisable knowledge and skill points
- Bookmark automatic sorting task Understanding and application of six-axis robots
-

Industrial Robot Training Series(RB Series)

112

PLC

AIR
pneumatic



DLRB-934 Industrial Robot Typical Workstation Training System

■ Technical Parameter

- Input power: single-phase three-wire AC220V \pm 10% 50HZ,
- Working environment: Temperature $-10^{\circ}\text{C} - +40^{\circ}\text{C}$, relative humidity $<85\%$ (25°C) , no condensation
Altitude $<4000\text{m}$
- Power control: automatic air switch on/off power supply, overvoltage protection, under-voltage protection, over-current protection, leakage protection system.
- Output Power:
 - Single-phase AC 220V \pm 10% 50HZ; control output by start switch, and fuse protection.
 - DC stabilized power supply: 24V / 1A,
- Dimensions: 1300mm \times 750mm \times 1700mm

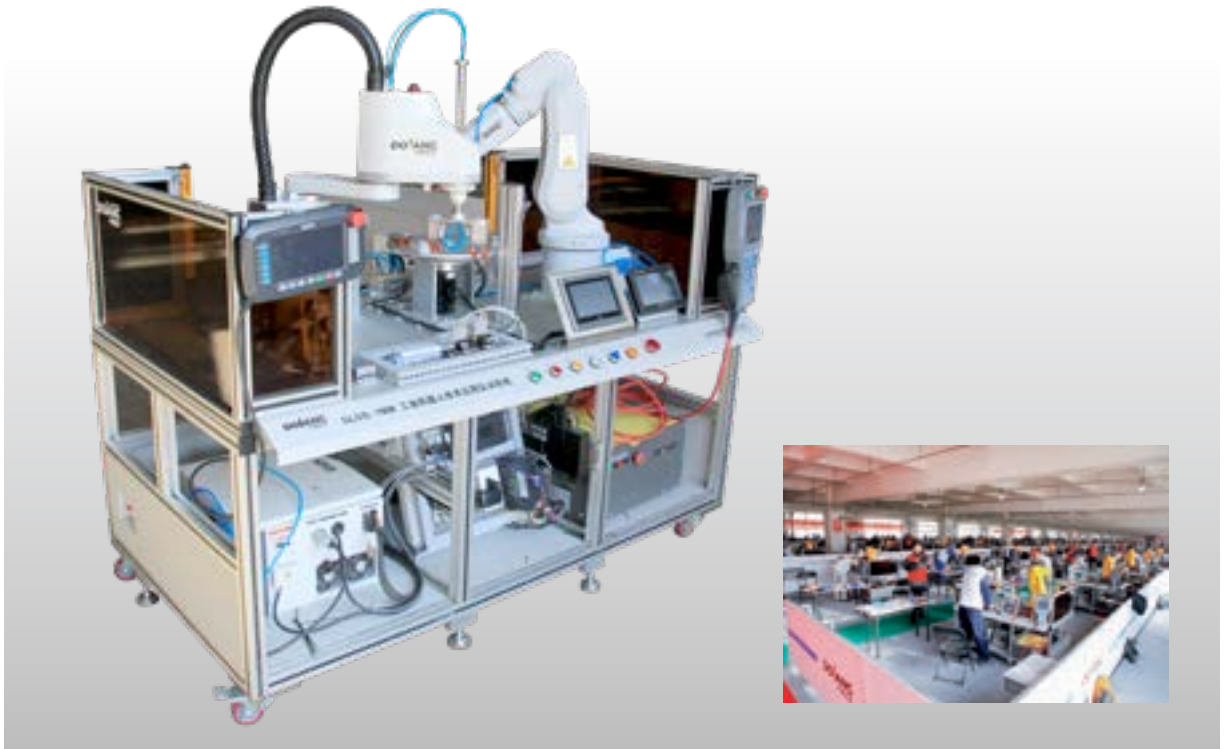
■ Training Projects

- Industrial robot body and controller installation wiring;
- Industrial robots and initialization parameters recovery;
- Industrial robots and PLC IO communication;
- Industrial robots IO wiring;
- Industrial robots palletizing application installation and wiring;
- Application of industrial robots palletizing fixture selection and design;
- Industrial robots palletizing application programming and debugging;
- Industrial robots glue application installation and wiring;

... ..



Industrial Robot Training Series(RB Series)



DLDS-1508 Industrial Robot Technology Application Training System

■ Technical Parameter

- Input power: single phase 3-line AC220V ± 10% 50HZ,
- Working environment: temperature -10℃—+40℃, relative humidity <85% (25℃), no condensation of water droplets at the altitude <4000m
- Output power:DC regulated voltage power: 24V/3A.
- Equipment dimension: 1700*1000*1600 mm(L*W*H)
- Safety protection function: emergency stop button, safety curtain.
- PLC: 24I/O ● Touch screen:7" ● Six axis industrial robot: ● Four axis industrial robot

■ Training Projects

- Raw material warehouse unit mechanical structure assembly and debugging training
- Four-axis industrial robot trace planning
- Ring assembly inspection unit mechanical structure assembly and debugging training
- Ring assembly detection unit motion control program preration
- Visual inspection device mechanical structure assembly and debugging training
- Visual inspection device electrical debugging
- Six-axis industrial robot installation
- Installation of the drawing device
- Six-axis robot offline trace planning training and calibration
- Six-axis robot offline programming
- Application of various sensors, ect

Industrial Robot Training Series(RB Series)

114



DLRB-CIM01 Robot Integrated Manufacturing and Processing System

Technology parameter

- AC power: single-phase AC220V \pm 10% 50Hz
- Temperature: -10 °C ~ 40 °C; environmental humidity: \leq 90% (25 °C)
- Dimensions: 2810mm \times 1500mm \times 2100mm (length \times width \times height)
- The whole capacity: \leq 3KVA
- The control system: Siemens S7-1200 series PLC
- Industrial robots: MZ04

Training project

- Sensor adjustment training
- Air connection and commissioning training
- Robot grasp workpiece programming training
- Integrated programming debugging training
- CNC machine debugging and principles
- CNC integrated test bench connection and debugging training
- CNC system interface awareness and connection
- Sensor selection and application
- CNC machine electrical control system design principles
- CNC machine programming and simulation processing
- CNC program structure, format and command system understanding
- CNC machine tool programming and operation processing training
- CNC machine system function skills application

Industrial Robot Training Series(RB Series)



DLDS-500AR Modular Flexible Product Line System Training System

■ Technical parameters

- Electric control cabinet main circuit power supply: single phase AC220V \pm 10%, 50Hz
- Electric control cabinet control loop power supply: DC24V
- Temperature: $-10^{\circ}\text{C} \sim ^{\circ}\text{C}$; ambient humidity: $\leq 90\%$ (25°C ;
- The overall dimensions are not less than: 2400*790*1390mm (L*W*H).
- Single station size: Feeding unit: Dimensions: 450*790*1030mm (L*W*H)
- Handling unit: Dimensions: 1050*790*1400mm (L*W*H)
- Assembly unit: Dimensions: 450*790*1170mm (L*W*H)
- Industrial robot palletizing unit: Dimensions: 900*790*1390mm (L*W*H)
- Air source pressure: 0.4~0.6Mpa
- Machine capacity: $\leq 5\text{KVA}$

■ Training project

- Robot awareness
- Detection switch, sensor, pneumatic components, PLC application
- Application of industrial robots
- Application of touch screen technology
- Ethernet bus technology (Siemens series)
- Analog input and output control technology
- Flexible Manufacturing System PLC Programming and Debugging
- Feeding unit training
- Wireless communication between stations
- System troubleshooting and maintenance
- Cross-site data transfer
- Application of configuration software
- Feeding unit training
- Handling unit training

Industrial Robot Training Series(RB Series)

116

PLC

AIR
pneumatic



DLRB-900A Modular Flexible Production Line Training System

■ Technical parameter

- Electric control cabinet main circuit power supply: single phase AC220V \pm 10% 50Hz.
- Electric control cabinet control circuit power supply: DC24V
- Temperature : $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$; environment humidity : $\leq 90\%$ (25°C) ;
- Overall dimension: 750mm \times 750mm \times 1000mm
- Air pressure: 0.4~0.6Mpa
- Whole machine capacity: $\leq 1\text{KVA}$
- Hose unit use Siemens S7-1200 PLC
- HMI system: SIMATIC MP 177 6 "TOUCH PANEL MULTI W.5,7" TFT DISPLAY, 2 MB Configuring MEMORY, Configurable WITH FLEXIBLE 2008 STANDARD OR HIGHER Win CC.

■ Training Projects

- The application of the test switch
- The application of Pneumatic and hydraulic components
- PLC application
- The application of two dimension designated take things
- Pneumatic circuit wiring and electrical wiring
- Assembly and disassembly of mechanical parts and pneumatic part
- Ethernet communication between stations connected (between PLC S7-1200 host station and slave stations)
- The application of various sensors
- The application of automatic warehouse management
- System fault diagnosis and maintenance

Industrial Robot Training Series(RB Series)

PLC

AIR
pneumatic



DLRB-600A Flexible Production Line Training System

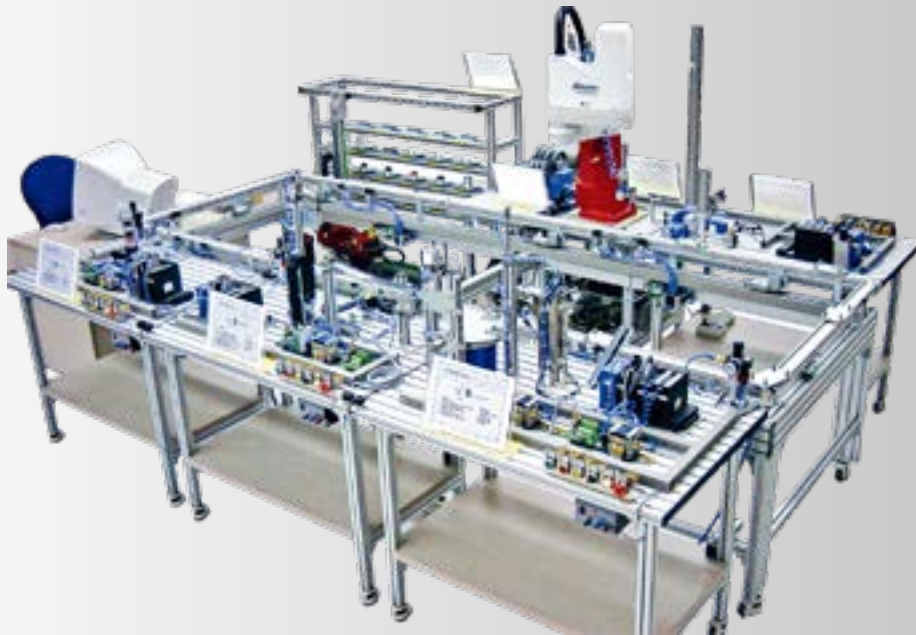
■ Technical parameter

- Input power: Single phase 220V ± 10% 50Hz
- Protection against leakage: $I \Delta n \leq 30\text{mA}$, $t \leq 0.1\text{S}$
- Power supply: AC220V
- Output power: 24V DC
- Emergency stop button
- Temperature: $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$; relative humidity: 35% ~ 65%(25°C) Height < 4000M
- Capacity: $\leq 2\text{kVA}$
- Operating compressed air: 5 ~ 6bar
- Dimension of each station: 750 × 750 × 1620mm, height: 810mm;

■ Training Projects

- Complete the magnetic sensor adjustment training
- Complete the fiber optic sensor adjustment training
- Complete the pressure detection adjustment training;
- Complete cylinder speed governing training
- Completed cylinder control training;
- Complete the tilt cylinder control training;
- Complete block automatic feeding training
- Complete magnetic sensor adjustment training
- Complete material detection sensor (combination) adjustment training
- Complete workpiece height detection sensor (combination) Adjust the training
- Complete cylinder speed governing training
- Complete cylinder control training
- Complete motor control training
- Complete red workpiece detection training, ect
- Complete magnetic sensor adjustment training

... ..



DLRB-600B Flexible Production Line Training System

■ Technical Parameter

- Input power: Single phase 220V \pm 10% 50Hz/60Hz
- Protection against leakage: $I \Delta n \leq 30\text{mA}$, $t \leq 0.1\text{S}$
- Power supply: AC220V
- Output power: 24V DC
- Emergency stop button
- Temperature: $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$; relative humidity: 35% \sim 65%(25 $^{\circ}\text{C}$) Height < 4000M
- Capacity: $\leq 5\text{kVA}$
- Operating compressed air: 5 \sim 6bar
- Dimension of each station: 750 \times 750 \times 1620mm, height: 810mm;

■ Training Projects

- Siemens 1200 software installation training;
- To complete Siemens 1200 software programming hardware configuration training
- To complete Siemens 1200 software programming training
- Completion of the ETHERNET network training;
- To complete the training of the network address settings;
- Complete the magnetic sensor adjustment training
- Complete the fiber optic sensor adjustment training
- Complete the pressure detection adjustment training;
- Complete cylinder speed governing training

... ..

Industrial Robot Training Series(RB Series)



DLRB-1601 Flexible Manufacture System

■ Technical Parameter

- Input power: Single phase 220V \pm 10% 50Hz
- Protection against leakage: $I \Delta n \leq 30\text{mA}$, $t \leq 0.1\text{S}$
- Power supply: AC220V
- Output power:24V DC
- Emergency stop button
- Temperature: $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$; relative humidity: 35% \sim 65%(25 $^{\circ}\text{C}$),Height<4000M
- Capacity: $\leq 10\text{kVA}$
- Operating compressed air: 5 \sim 6bar
- Dimension of each station: 750 \times 750 \times 1620mm, height:810mm; Total dimension: 8000x4250x1620mm

■ Training Projects

- Practice installation of TIA Siemens S7-1200 software installation training
- Complete the hardware configuration training of TIA Siemens S7-1200 software programming
- Complete of TIA Siemens S7-1200 software programming training
- Practice on the installation of PC configuration software
- Practice on the configuration software practical training
- Complete the magnetic sensor adjustment training
- Complete the fiber optic sensor adjustment training
- Complete the pressure detection adjustment training

... ..

Industrial Robot Training Series(RB Series)

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PLC

AIR
pneumatic



DLRB-501 Flexible Manufacturing System

Technical Parameter

- Input power : three-phase four-wire 380V \pm 10% 50-60HZ
- Leakage circuit : $I \Delta n \leq 30\text{mA}$, $t \leq 0.1\text{S}$
- Control power : DC24V
- Emergency stop button, power indicator, supply indicator
- Power-off error protection
- Working environment : temperature $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$ relative humidity 35% \sim 65%(25 $^{\circ}\text{C}$) altitude $<4000\text{M}$
- Capacity : $\leq 5\text{kVA}$
- Air pressure range 0.4 \sim 0.6Mpa
- Size : 3200X3600X2200mm, desk height:750mm

Training projects

- Practice STEP7 Siemens 300 software installation training;
- Complete STEP7 Siemens 300 software programming hardware configuration Training
- Complete STEP7 Siemens 300 software program training;
- Practice WINCC software installation training;
- Complete communication between STEP7 and WINCC training;
- Complete PROFIBUS-DP network training;
- Complete magnetic sensor adjustment training;
- Complete photoelectric sensor adjustment training;
- Complete cylinder speed adjustment training;
- Complete cylinder control training;



... ..

Industrial Robot Training Series(RB Series)



DLRB-801 Flexible Manufacturing System

■ Technical parameters

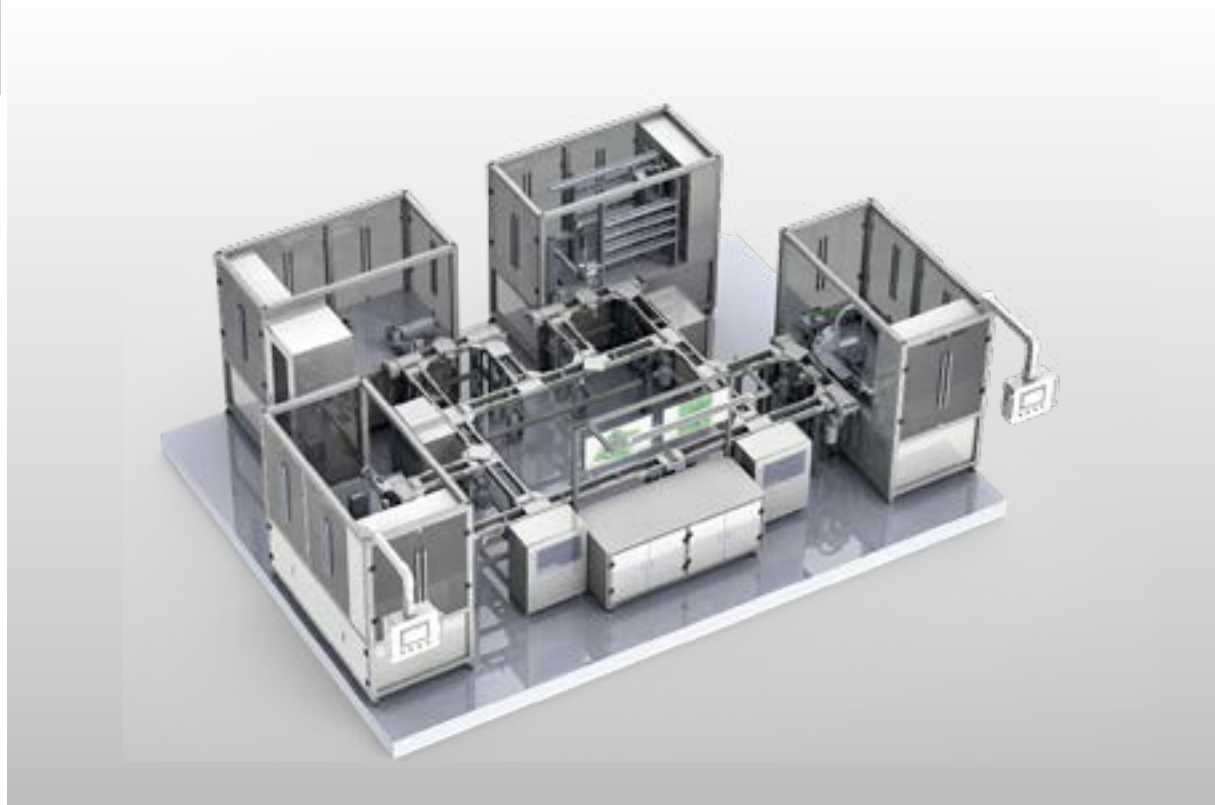
- Input power: three-phase four-wire 380V ± 10% 50Hz
- Leakage circuit protection : $I \Delta n \leq 30\text{mA}$, $t \leq 0.1\text{S}$
- Emergency stop button, power indicator, supply indicator
- Protection for Power-off and power-on by mistake
- Working ambient: temperature $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$, relative humidity 35% ~ 65%(25°C), altitude < 4000m
- Capacity : $\leq 5\text{kVA}$
- Outline dimension: 7500X5000X2000mm, height of operation platform: 750mm
- Control power : DC24V
- Air pressure: 0.4 ~ 0.6Mpa

■ Training Projects:

- Material storage unit
- Industrial robot unit
- CNC system configuration, connection and debugging training
- Manual programming and simulation processing training
- Robot assembly unit
- Image detection unit
- RFID system unit
- Master control loop transmission unit
- CNC lathe unit & CNC milling machine unit

Industrial Robot Training Series(RB Series)

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

Technology parameter

- Working power: AC220V \pm 10%, 50HZ.
- Dimensions:12000mmX5000mmX2200mm (LxWxH)
- Working environment: temperature -10°C $-$ $+40^{\circ}\text{C}$,
- Relative humidity $<85\%$ (25°C).
- Safety protection device: emergency stop button.
- PLC: Siemens S7-1200 series.

Four-axis industrial robots:

- Axis: arm length: 225mm; Rotation range: $\pm 132^{\circ}$;
- Repeat accuracy: $\pm 0.01\text{mm}$
- Axis: arm length: 175mm; Rotation range: $\pm 141^{\circ}$;
- Repeat accuracy: $\pm 0.01\text{mm}$

Six-axis industrial robots:

- Axis: maximum operating range: ± 170 ;
Maximum speed: $450^{\circ} / \text{S}$
- Axis: maximum range of motion: $-135 \sim +80^{\circ}$;
Maximum speed: $380^{\circ} / \text{S}$
- Axis: maximum operating range: $-136 \sim +270^{\circ}$;
Maximum speed: $520^{\circ} / \text{S}$
- Axis: maximum operating range: ± 190 ;
Maximum speed: $550^{\circ} / \text{S}$
-

Training project

- Communication between the PLC and the remote I/O module;
- Modbus-Tcp Communicates between PLC and industrial robot
- Profinet communication between PLC and RFID
- Wireless communication between PLC and AGV trolley
-



Industrial Robot Training Series(RB Series)



DLRB-501D Industrial robot candy packaging and handling system

■ Technical Parameter

- Working power: three-phase five-wire 380V ± 5% 50HZ
- Safety protection: leakage protection, overcurrent protection, fuse protection
- Robot parameters: six-axis, parallel industrial robot
- Ambient temperature: -10 °C ~ 50 °C
- Relative humidity: ≤ 85%

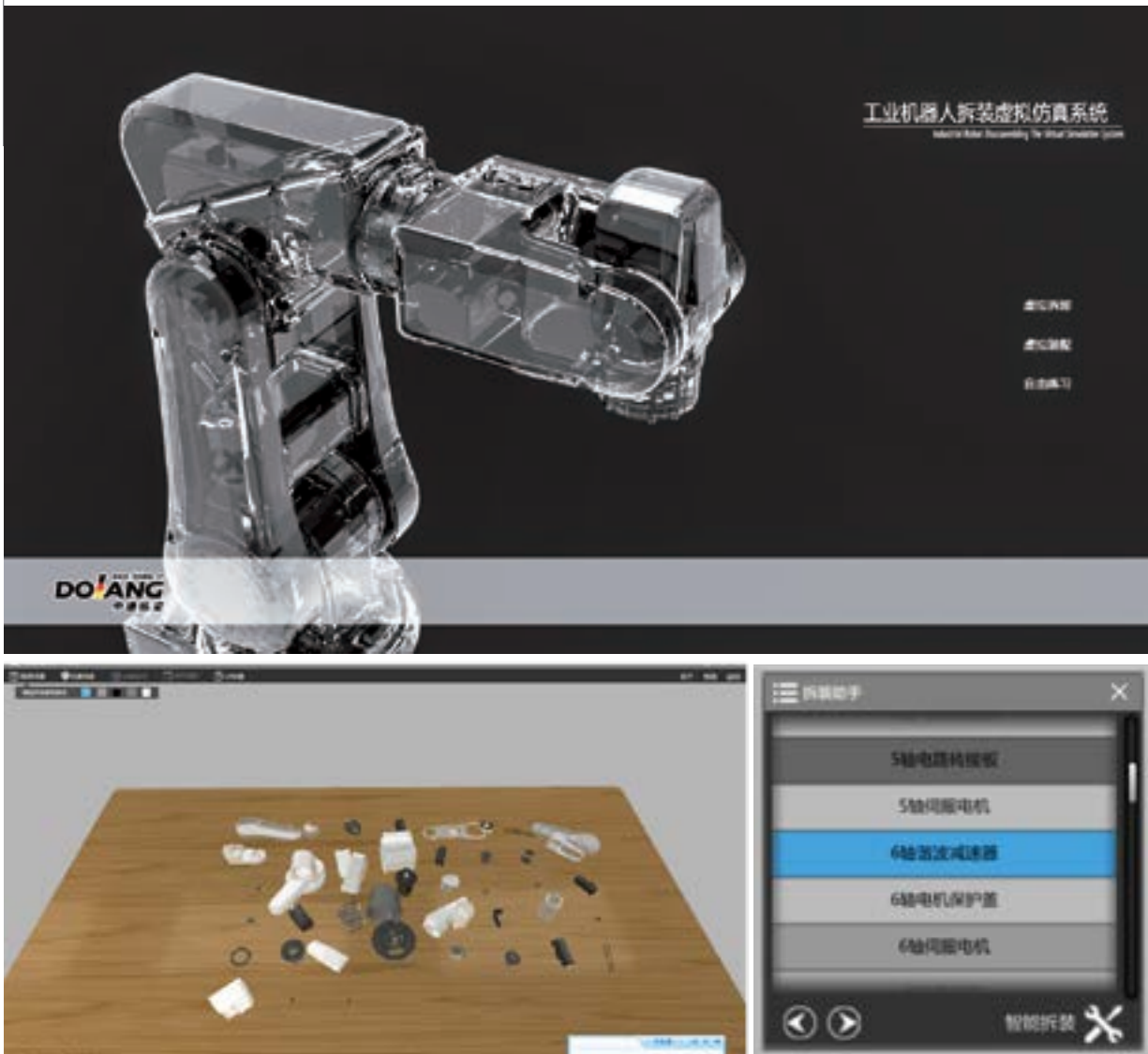
■ Training Projects

- Installation and wiring of the six-axis industrial robot body and controller.
- Six-axis industrial robot initialization and parameter recovery.
- IO communication between six-axis industrial robot and PLC.
- Six-axis industrial robot IO wiring.
- Installation and wiring of six-axis industrial robots.
- Programming and debugging of six-axis industrial robots.
- Installation and wiring of the parallel industrial robot body and controller.
- Parallel industrial robot initialization and parameter recovery.
- IO communication between parallel industrial robots and PLC.
- Parallel industrial robot IO wiring.
- Installation and wiring of parallel industrial robots.

... ..

Virtual Simulation Training System (RB Series)

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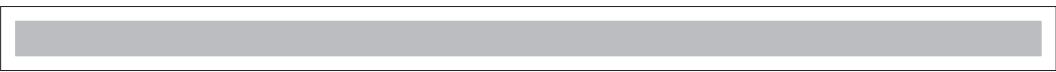
DLsoft-robotarm Robot Virtual Disassembly Training Simulation System

■ Overview

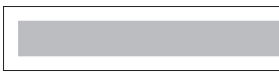
DLsoft-robotarm Robot virtual disassembly training simulation system simulates the disassembly and assembly of industrial robot mechanism structure using a combination of 3D technology and interactive animation. Through the 3D simulation of robots dismantling training, each axis can be disassembled into 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.



DO/ANG





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