

2003·2004

General Laboratory Instruments

Optical and Audiovisual Devices

Vocational Training Machinery

Science Education Resources

Scientific Test, Analysis, Measurement Instruments

Scientific Instruments of Korea



Korea Scientific Instruments Industry Cooperative

● **Dear Valued
Customers and Clients:**



21st Century will be marked as the age of 'quality enhancement' in every field based on the knowledge resources while 20th century was recorded as the times of 'growth' and 'development'. Therefore, it is clear that science & technology will be the basis for the activities of colleges and research institutes thus becoming the powerful engine to create future hope of developed economy and society. In this globalized age full of competition, only products that satisfy customers' needs with high quality technology will survive. Korea Scientific Instruments Industry Cooperative (KSII) and its member companies have been making a lot of efforts to develop top-notch scientific instruments since its establishment 20 years ago contributing to realize science-based society.

We cannot too much emphasize the importance of high quality laboratory devices, precise measuring equipment and analytic instruments as the infrastructure for promotion of science education and enhancement of science & technology.

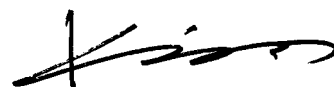


KSIIC

On this directory, we listed only good quality scientific instruments and laboratory equipments developed by our member companies based on leading-edge technology.

We hope our products will be utilized to promote development and education of science & technology and contribute to the establishment of knowledge-based and creative society of 21st century.

Sincerely yours,



Jae Moon Kim

President

● **KSIIC** Korea Scientific Instruments Industry Cooperative



KSIIC was established in 1984 as a special legal entity under Small and Medium Business Administration of Korean government. Its more than 300 members are manufacturing educational materials, scientific analysis instruments and technical training equipment.

KSIIC and its members are dedicated to supply quality products to customers in Korea and foreign countries. By supplying newly developed products, KSIIC's member companies are contributing to improvement of education, test and analysis activities of schools, laboratories and relevant industry.

KSIIC is organizing exhibitions in Korea and participating at international exhibitions to promote foreign trading and technology transfer. We also lead trade delegations to visit various places of the world.

KSIIC hopes to join international efforts to enhance human standard of living by means of providing new technology and concept for students, teachers, trainers and scientists.

We welcome any proposal to exchange creative ideas and information for mutual prosperty.

Business



Quality control, quality authentication, standardization of formula for productivity enhancement

Introduction of newly-developed innovative products to industry

Organization of delegation for research of foreign industry

Supporting small manufacturers sales to domestic and overseas market

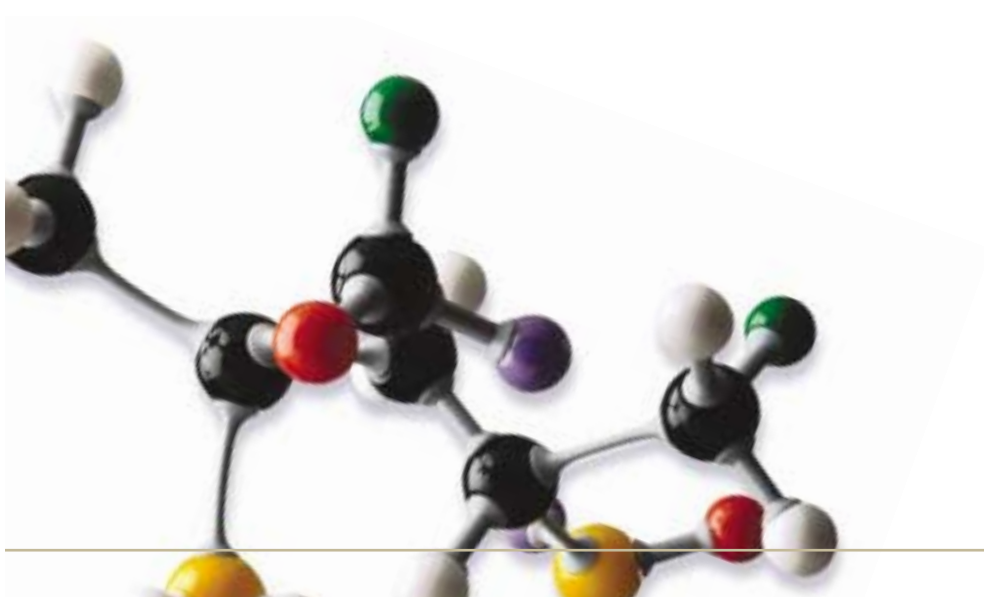
Technology and know-how transfer between foreign and domestic industry

● *History*



- 1984. Establishment of Korea Scientific Instruments Industry Cooperative
- 1987. Appointed as Quality Inspection Institution by Industrial Avancement Administration of Korea
- 1988. Acquired Export-Import License from Seoul City
- 1991. Designated as a supplier of Military Equipment by Korean government
- 1992. Opened the 1st International Scientific Instruments Exhibition at Seoul, Korea.
- 1992. Awarded as the Best Cooperative from Korean President
- 1998. Established Institute of Scientific Instruments inside KSIIC

Organization



● *Product Category*



Field 1
Basic Scientific Instruments for Primary,
Middle and High School



Number
of Companies
62

Field 2
Audio-Visual System,
Models for School Science Education



Number
of Companies
63

Field 3
Test & Analysis Devices for Chemical
Laboratory



Number
of Companies
69



Field 4
Laboratory System & table,
Equipments & Machinery for Vocational Training,
Measuring Instruments for Water
& Environment Research



Number
of Companies
58

Field 5
Electric & Electronic Measuring Devices
for various purpose



Number
of Companies
66



Field 1

Basic Scientific Instruments for Primary, Middle and High School

DAE RYUK SCIENCE CO.
SUNDOO INDUSTRY CO.
SEOUL SCIENTIFIC INSTRUMENTS. CO.



Field 2

Audio-Visual System, Models for School Science Education

SEO JEON GLOBE CO., LTD.
SHINHAN BIOLOGICAL SPECIMEN
HANSOL EDUCATION CO., LTD.
DONGWON EnC CORPORATION
DONGWON AV ELECTRONICS
SUNUP MEDIA CO., LTD.
AMJEON PRECISION OPTICS CO., LTD.
TOPEX CORPORATION
ORIENT A.V CO., LTD.
DILLI PRECISION IND., CO., LTD.
HUMANTECH CO., LTD.



Field 3

Test & Analysis Device for Chemical Laboratory

DAIHAN LABTECH CO., LTD.
BIOTRON, INC.
VISION SCIENTIFIC CO., LTD.
JISICO CO., LTD.
HWASHIN TECHNOLOGY CO.
HUMAN CORPORATION
DIK CO., LTD.
EUNHA FLUID SCIENCE
HAN WON SOWAY CO.



**Laboratory System & Table,
Equipment & Machinery for Vocational Training,
Measuring Instruments for Water & Environment Research**

DAE SUNG G-3 CO., LTD.
MS MOTOR SYSTEM
AUTOMOTEC CO., LTD.
HWANWOONG MECHATRONICS CO., LTD.
DESTEK
ISTEK, INC.
G-WON HITECH CO., LTD.
LAB DESIGN
CHC LABORATORY CO., LTD.



**Electric & Electronic Measuring Device
for Various Purpose**

DAERYUK ENGINEERING CO.
MIDAS ENGINEERING CO., LTD.
C&C INSTRUMENTS CO., LTD.
AD POWER CO., LTD.
MITECH., INC
WOO SUN CONTROL CO. LTD.
ED CO., LTD.
CHUNGPA E.M.T. CO., LTD.
TAE KWANG ELECTRONICS CO.
M.M.I. ENG SYSTEM
JUNGJIN ELECTRONICS CO., LTD.
H.I. SYSTEM CO., LTD.
SUNG KWAMG CO., LTD.
ACOM INC.



DR101

Gas Diffusion Speed Measuring Device



▶ FEATURE

- In the revised glass tube, cotton at both ends can be stained with sample material and accuracy of the speed measurement was enhanced.

▶ SPECIFICATION

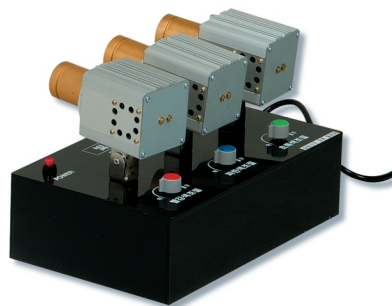
- $\phi 24 \times 600\text{mm}$

▶ HOW TO USE

- After inserting adequate quantity of clean cotton into both ends of glass tube, cover the tube with stopper
- Put hydrochloric acid into a filler and ammonia water into another filler. Then, insert two fillers into bulged part of glass tube.
- Accurate test result can be obtained when you input sample material by pressing both fillers at the same time.
- Washing is easy because there's water tank that can sink whole glass tube.

DR102

Light Composition Testing Equipment



▶ FEATURE

- Three light emitting devices are installed with each device radiating 3 primary colors into the screen. Position and brightness of each color light can be adjusted easily to create various colors thus helping to understand the phenomenon.

▶ SPECIFICATION

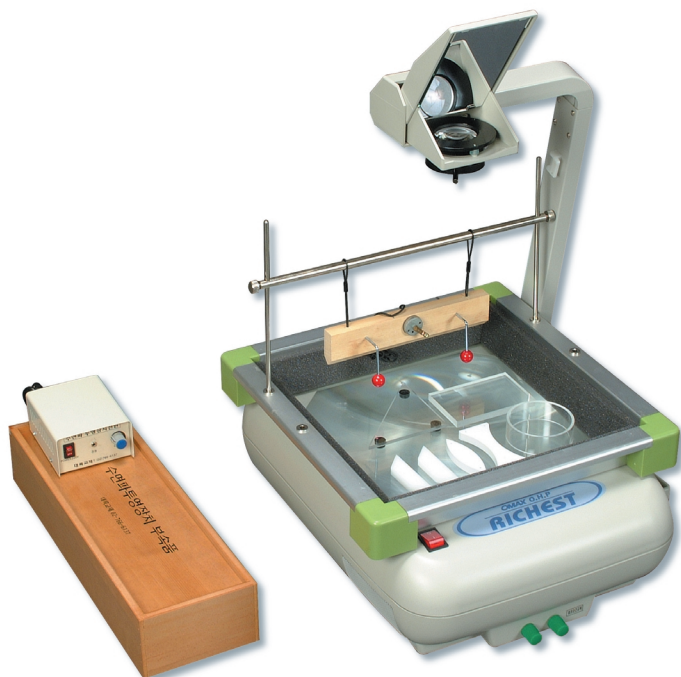
- $320 \times 200 \times 215\text{mm}$ (W \times D \times H)

▶ HOW TO USE

- Connect the power cable. Adjust the distance between screen and light emitting devices in order to maintain clear colors.
- Creating mixed colors is convenient if you adjust to the order of red, green and blue color at the brightest mode.
- Light emitting devices can move up and down and right-to-left.

DR106

SurfaceWave Projecting Device For OHP



FEATURE

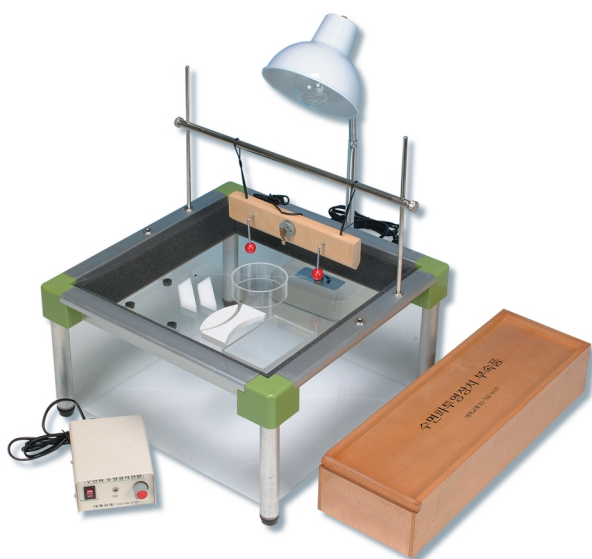
- Made to be convenient for teaching many students by projecting to screen putting small unit on OHP.

SPECIFICATION

- 400 × 400 × 50mm (W × D × H)

DR112

Mini Surface Wave Projecting Device



FEATURE

- Portable, easy to assemble and disassemble thanks to its small size. Can be also used for OHP. The device can adjust surface level and change generation position of surface wave. Reflective wave will not occur at the wall of water tank.

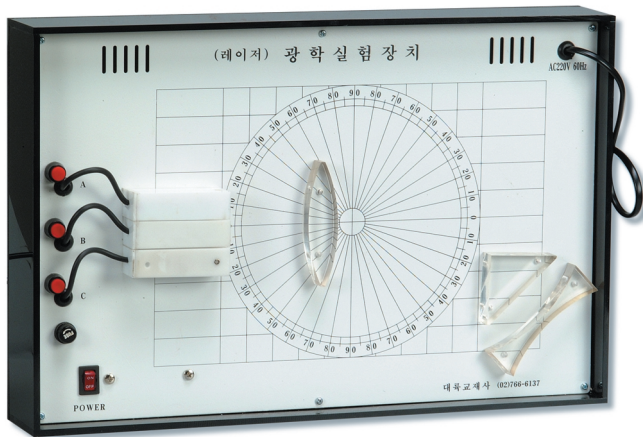
SPECIFICATION

- 400 × 400 × 230mm (W × D × H)



DR108

Laser Optical Experiment Device



FEATURE

- Composed to be easy to understand for experts and novices. The laser can always maintain bright light taking advantage of AC even when battery is changed. And the screen coated with special material supports the brightness of light. The screen can stay standing or laid due to its magnetic characteristic. Neonium magnet is attached at the back of the screen for the magnetic function.

SPECIFICATION

- 440 × 290 × 70mm (W × D × H)

PACKAGE CONTENTS

- Convex Lens (two kinds), Concave Lens (two kinds), Flat mirror, Total reflection prism, Three laser sets

DR109

Water Bottle For Optical Studies



FEATURE

- Devised to turn 290 degrees for minute and dynamic observation of light refraction. Permanently bright light is supplied by electricity to get rid of inconvenience of laser battery change. Light is clearly visible thanks to the special coating at screen face of water bottle.

SPECIFICATION

- Water bottle, Laser, Power supply

DR111 Sound Wave Monitoring Device



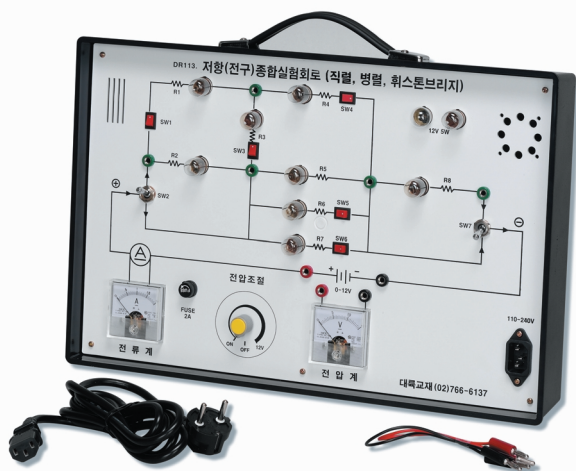
FEATURE

- The sound wave is converted through a microphone into visible electric signal. Thus, all the sound around can be observed in the form of accurate wave and amplitude.

SPECIFICATION

- Braun tube : 12 "
- Power : AC 100 ~ 240V / 40W (Free voltage)
- Dimension : 305 x 300mm (WxDxH)
- Weight : 7.50kg

DR113 Electric Resistance Experiment Circuit



FEATURE

- Made to enhance understanding basic knowledge of electricity by substituting electric bulb for traditional resistor. By adjusting brightness of the bulb, various kinds of circuit can be composed for observation of voltage and flow of electricity.

DIMENSION

- 440 × 290 × 70mm (W × D × H)

PACKAGE CONTENTS

- Lamp 10 units, Manual, Power cable, Plug with cable (Two sets)

WEIGHT : 2.1kg

SDS - 01 - 071 Magnifying Glass



▣ FEATURE

- Usage : For Primary School Students' observation of Insects and Plant.
- Structure : Convex Glass Lens, Plastic(ABS) Frame and Holder.

▣ SPECIFICATION

- Diameter : 5cm ~ 9cm

SDS - 02 - 090 Lense and Mirror Set



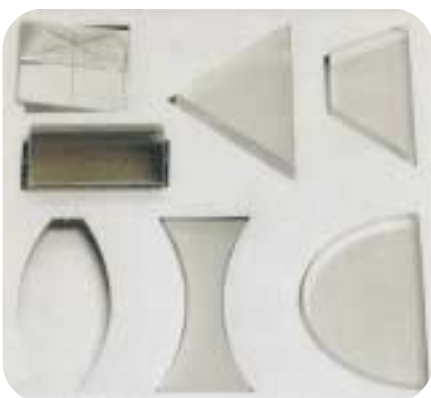
▣ FEATURE

- Usage : For Primary School Students' indoors observation of Object
- Structure : Convex Lens, Concave Lens, Convex Mirror, Concave Mirror Stand

▣ SPECIFICATION

- Dimension : Lens Diameter 76mm
Stand Height upto 250mm (adjustable)

SDS - 02 - 087 Prism Set



▣ FEATURE

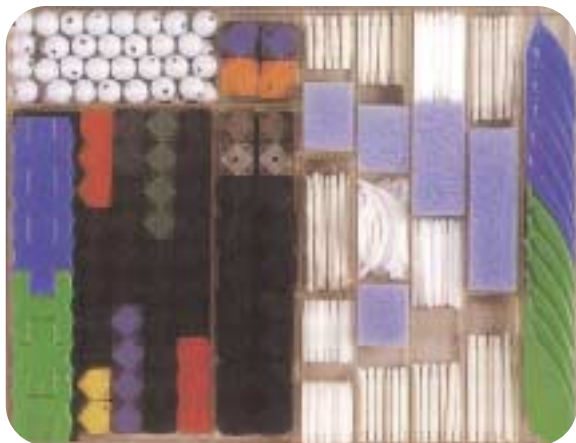
- Usage: For Primary School Students' Observation of how the Light spreads into different Colors
- Structure : 1 set composed of 7 kinds of prisms (Both sides Concave Lens, One side Concave Lens, Both sides Convex Lens, One side Convex Lens, Trapezoid type, Rectangle type 2 kinds)

▣ SPECIFICATION

- Dimension : Flat Type, Thickness 10mm,
Length 100mm

SDS - 01 - 004

Molecular Structure Model



▶ FEATURE

- Usage : For High School Students
- Material : Plastic
- Structure : Beads, Bonds, Others
- Features : Easy to assemble. Distance between Atoms can be measured accurately.

SDS - 01 - 073

Stand type Magnifier



▶ FEATURE

- Usage : For Primary School Students' observation of objects indoors.
- Structure : 3 inch Magnifier, Electric Stand, Power Cable (AC 220V)

SDS - 101

Various Lenses



▶ FEATURE

- Usage : For Primary School Students' observation of objects
- Components : 8 Kinds of various type Lenses

LIU-2000 | Laboratory Interface Unit



▣ SPECIFICATION

- Input Power : 110 250Vac
- Output Power : 0 / 5Vdc
- Input Signals : 1) Analog Input : 0~5Vdc
- Digital Input : 0 / 5Vdc (TTL)
- Output Signals : 1) Digital Output : 0 / 5Vdc(TTL)
- Communication Type : Serial Mode(Tx, Rx, Gnd)
- Communication Baud Rate : 115,200bps
- Communication Port : COM1 or COM2
- Program for Window : Labview
- Application Program : Excel



▣ FEATURE

- LIU2000 Interface Unit is separated from PC and connected to COM1 or COM2 port of PC with a serial cable. So it is comfortable for user to move and easy to set system.
It is use for detecting moving time, temperature, voltage, current, magnetism and so on.
We use Windows program and Labview program that communicates with Interface and collects data. In PC, we array and analyze the data and save it.
For a laboratory student, the kind of Labview program is a free-fall, a pendulum, a centrifugal force, a collision, a current-magnetism and a optics experiment.

SSI-108L Collision Interface Unit



- Model : SSI-108L
- Accessory
 - Air-Track : L=2000mm
 - Air-Pump & Hose : 250x250x270mm
 - Glider & Weight
 - Photogate & Supporter
 - LIU2000 & Labview Program for Collision Interface Exp.

▶ FEATURE

- Photogates and Interface detect the velocity-time of movement before and after collision. Interface records times and sends it to PC. Labview Program displays the time and velocity and graphs it. And it calculates momentums and kinetic energy. With this, students analyze the movements.

SSI-109L Mini Surface Wave Projecting Device



- Model : SSI-109L
- Accessory
 - Stand & Electric Holder
 - Photogate & Contact Sensor
 - LIU2000
 - Labview Program for Free-Fall Interface Exp.

▶ FEATURE

- Photogate and Interface detect the time during free-falling. Labview Program induces the gravity constant with spherical weight, free-fall height and free-falling time.

SSI-111L | Pendulum Interface Unit



- Model : SSI-111L
- Accessory
 - Stand & Clamp
 - Pendulum
 - Photogate
 - LIU2000
 - Labview Program for Pendulum Interface Exp.

▶ FEATURE

- Photogate and Interface detects the periodic time of Pendulum. And Interface acquires about 100 ~ 1000 data. Labview Program induces the gravity constant with spherical weight, wire length and periodic time.

SSI-301L | Electric Heat-Equivalent Interface Unit



- Model : SSI-301L
- Accessory
 - Heating Bottle & Heater
 - Temperature Sensor
 - Power Supply : 30V / 3A
 - LIU2000
 - Labview Program for Electric Heat-Equivalent Interface Exp.

▶ FEATURE

- Power Supply supplies electric energy to water with heater. Temperature sensor and Interface get temperature each time. And we insert initial current and voltage to Labview Program. As a result, the program makes the graph of Power, heat capacity and calorie during 10 - 30 minutes.

SSI-401L Charge-Discharge Interface Unit



- Model : SSI-401L
- Accessory
 - Charge-Discharge Board, Resistor & Capacitor
 - Power Supply : 30V / 3A
 - LIU2000
 - Labview Program for Charge-Discharge Interface Exp.

▶ FEATURE

- Power Supply supplies voltage or current capacitor with resistor during 10/100 seconds. Interface detects the voltage at a capacitor and Labview Program displays the voltage each time and graphs the charge voltage and discharge voltage. With this, student induces the time constant of Capacitor.

Model : SSI-409L Current-Magnetism Interface Unit



- Model : SSI-409L
- Accessory
 - Coil Set & Base
 - Hall Probe & Moving Machine
 - LIU2000
 - Labview Program for Current-Magnetism Interface Exp.

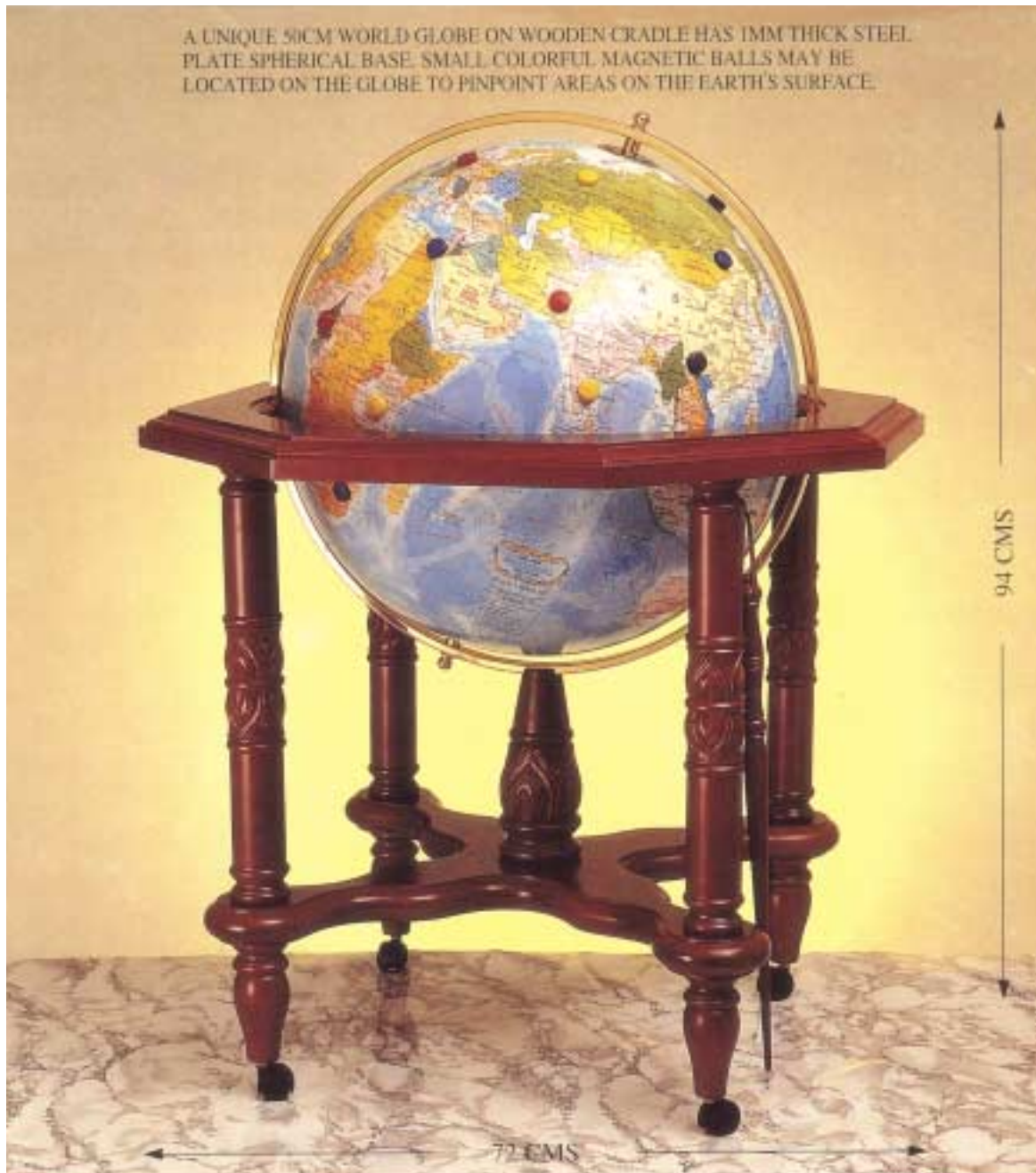
▶ FEATURE

- Power Supply supplies DC current to coil. Inside the coil, Hall sensor and Interface detect the magnetic field at each side. And students analyze the magnetism with current and position..

SJ-50-D

Political Globe

- THE LARGE SIZE GLOBE FOR TEACHER, BUSINESS PERSON, GOVERNMENT OFFICE, UNIVERSITY, LIBRARY, ETC. IN ALL FIELDS OF WORLD GEOGRAPHY



Specification

- MODEL : SJ-50-D • DIAMETER : 50CMS • SCALE : 1/25,000,000 • CONTENT : POLITICAL GLOBE
- WEIGHT : 17.5KGS. • HEIGHT : 94CMS • CRADLE : WOOD • RING : RECTANGULAR BRASS
- POINTER : WOODEN BAR • ATTACHMENT : MAGNETIC BALL IN PLASTIC CASE

SJ-32-G1

Political Globe



- THE MOST STANDARD GLOBE IN ALL GRADE LEVEL OF SCHOOLS IS MOUNTED ON GYROMATIC ASSEMBLY OF METAL BASE.

Function

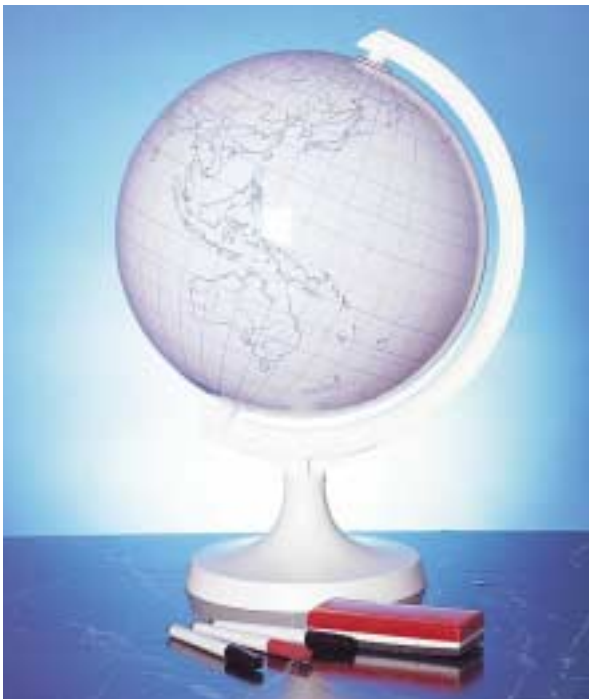
- A unit of length of the metric system, 1 meter is originally taken to be 1/10 millionth of the quadrant of the meridian (1/10,000,000 are distance from the equator to the pole). As the scale of diameter 32cm globe is exactly 1/40,000,000, the circumference of the globe is exactly 1 meter.

SJ-32-E Physical Globe



- One property of physical Globe is the different colors contouring height of each 0, 200, 500, 1,000, 2000, 3000, more than 5000 meters above sea level. The other is also the different colors contouring depth of each 200, 1,000, 2,000, 3,000, 4,000, 5,000, 6,000, more than 8,000 meters below sea level.
 - International boundaries, capital cities of countries are drawn in red color, and International Date Line as well, for quick reference.
 - City more than 1,000,000 population is marked with a symbol of ☉; ☉. City more than 500,000 population is marked with a symbol of ☼ ☼. Other city is marked with a symbol of ☼; ☼
 - Ocean currents are marked with arrows; warm current as a symbol of ☉☉☉☉. Cold current as a symbol of ☼☼☼☼.
 - Tropic of Cancer, Arctic Circle, Tropic of Capricorn, Antarctic circle are drawn in broken line respectively.
 - As the globe is formed from an encapsulated film which is directly vacuum-placed onto the globe sphere, the surface of globe is highly resistant to impact, chemicals and markable & erasable with dry board markers.
- MODEL NO : SJ-32-E • HEIGHT : 48.5CM • DIAMETER : 32CM
 • BASE : PLASTIC • SCALE : 1/40,000,000 • RING : PLASTIC
 • PACKING SYSTEM-KNOCKDOWN GLOBE

SJ-32-B Blank Globe



PACKING SYSTEM - KNOCKDOWN GLOBE
 - Markable and Erasable -

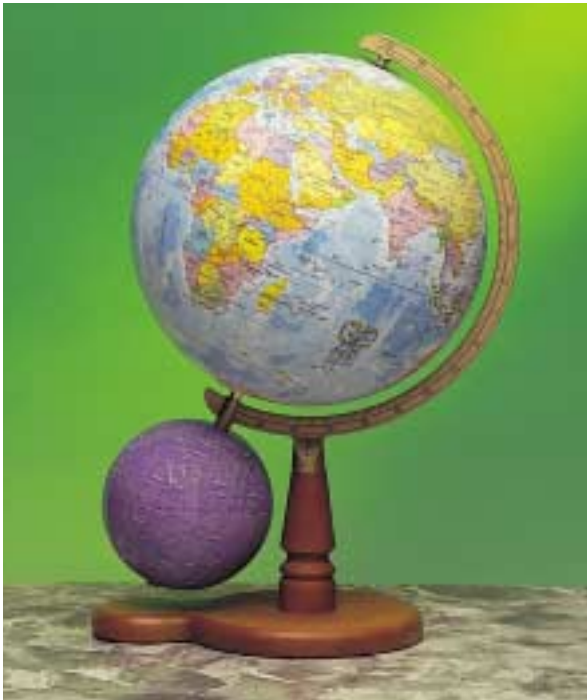
How to use a Blank Globe

At the geography lesson, practise the following exercises by marking geographic data on the surface of the blank globe.

- Finding out the distributions and positions of all physical features of the earth**
 - Continents • Lakes
 - Oceans • Straits • Seas
 - Plains & Deserts
 - Islands • Mountains
 - Peninsulas • Rivers
- Ascertaining the existence of the countries of the world**
 - Listing each country and ascertaining its position.
 - Pinpointing each capital city.
- Locating geographical place-names**
 - Locating special geographical terms and their positions.
 - Locating the selected-notable geographical place-names.
- Comparing the size**
 - Comparing the continents, countries, etc. in size.
- Measuring the distances**
 - Measuring the distance between continents, places, and two points.
- Visualizing the grid system**
 - Numbering longitude lines (meridians) along the equator on the globe at 10° intervals east and west from the prime meridian.
 - Numbering latitude lines (parallels) on the globe at 10° intervals north and south from the equator.
 - Drawing a set of imaginary lines of Arctic Circle, the Prime Meridian, International Date Line, and Equator.
- Delineating the geographical extent**
 - Drawing the boundaries of extent of plains, deserts, drainage basins, national borders, and other geographical regions.
 - Drawing of the length of mountain ranges and rivers.
 - Drawing the lines of great circle route.
- Marking all geographical data**
 - Marking all selected geographical data learned from Political Globe or Physical Globe for repeat and concentration.

- MODEL NO : SJ-32-B • HEIGHT 48.5CM • DIAMETER : 32CM
 • BASE : PLASTIC • SCALE : 1/40,000,000 • RING : PLASTIC
 • ACCESSORIES : Dry Board Markers & Eraser

SJ-26-TC | **Dual Globes**



- ENRICH YOUR OWN STUDY OF THE NIGHT SKY BY USING THIS FANCIFUL TOOL OF CELESTIAL GLOBE
- FIND OUT 88 CONSTELLATIONS AND PINPOINT ALL IMPORTANT STARS IN THE NIGHT SKY
- IN A CELESTIAL GLOBE, IT SHOWS CONSTELLATIONS WITH THEIR ENGLISH AND LATIN NAMES, DOUBLE STARS, VARIABLE STARS, STAR CLUSTER OR NEBULAS, NOVAS, THE MILKY WAY AND ETC. THE PRINCIPAL STARS (NOTABLE BRIGHTEST STARS) IN ORDER OF STELLA MAGNITUDES UP TO 4TH ARE DENOTED ON THIS PRECISE CELESTIAL GLOBE
- TERRESTRIAL GLOBE : DIA. 26CM
- CELESTIAL GLOBE : DIA. 12.5CM
- HEIGHT : 43.5CM
- RING : DIECAST ZINC BASE : WOOD
- A TABLE OF 88 CONSTELLATIONS INCLUDED

SJ-32-C | **Celestial Globe**



■ This Celestial Globe Can Visual Aids For All Grade Level Of School

- SeoJeon Glove INVITES YOU INTO ASTRONOMY WITH AN ACCURATE DIAMETER 32CM CELESTIAL GLOBE.
- 88 constellations adopted officially by the International Astronomical Union, astronomy's governing body.
- The delimitation of precise boundaries of 88 constellations universally recognized are marked
- All constellations' names are given both on Latin scientific name and English
- Stars over 900 or more ranging from 1st to 4th magnitude scale are denoted, and each star is identified by designations, the system of naming stars ; Bayer Letters, Flamsteed Numbers, and Messier Number.
- Major Double Star Variable Star, Star Cluster, Nebula, Nova, Galaxy, and Milky Way are denoted.
- Sun's position of each month around the Ecliptic are denoted.
- Shifting of the Celestial North or South Pole respectively based on 2000 Equinox are well denoted
- All constellations, apparent groupings of star, more or less suggestive of the shapes of objects or creatures for which they are named since old time are depicted with the fanciful figure.
- 4 color' constellations -groupings - The constellations mainly visible to observers on Spring, Summer, Autumn, and Winter respectively differentiate between them in color for quick reference.
- MODEL NO : SJ-32-C • HEIGHT : 48.5CM
- DIAMETER 32CM • BASE : PLASTIC • RING : PLASTIC
- DIAMETER 26CM AVAILABLE, TOO
- PACKING SYSTEM - KNOCKDOWN GLOBE
- A TABLE OF 88 CONSTELLATIONS INCLUDED



SHINHAN BIOLOGICAL SPECIMEN

SHSPC-F002 | Viscera (crusian carp)



▶ FEATURE

- This SHSPC-F002 provides information of internal organs such as the blood vessel, intestines, the air bladder, the urinary bladder. These organs are treated with the color injection for natural color, so it provides clear vision too. Besides, SHSPC-F002 provides the names, shapes and others of the internal organs because each organ is indicated by a name tag.

▶ SPECIFICATION

- Standard : 15 × 32 × 4cm³

SHSPC-B001 | Viscera (Fowl)



▶ FEATURE

- This SHSPC-B001 provides information of internal organs. Its organs are treated with the color injection for natural color, so it provides clear vision too. For example, the artery, the vein are injected with the original color matters. Besides SHSPC-B001 provides the names, shapes and others of the internal organs because each organ is indicated a name tag.

▶ SPECIFICATION

- Standard : 16 × 42 × 5cm³

SHSPC-M001 | Viscera (Squid)



▶ FEATURE

- This SHSPC-M001 provides information of internal organs. Its organs are treated with the color injection for natural color, so it provides clear vision too. For example, the artery, the vein and intestines are injected with the original color matters. Besides SHSPC-M001 provides the names, shapes and others of the internal organs because each organ is indicated a name tag.

▶ SPECIFICATION

- Standard : 15 × 42 × 4cm³

Address : 125-24 Daesin-dong Seodaemun-gu Seoul. KOREA
Phone & Fax : Phone (+82-2-393-2613) Fax (+82-2-393-2615)
E-mail : shinhan@shinhanlab.co.kr URL <http://www.shinhanlab.co.kr>

SHSPC-M007 Viscera (Clam)



▶ FEATURE

- This SHSPC-M007 provides information of internal organs. Its organs are treated with the color injection for natural color, so it provides clear vision too. For example, the blood vessel is injected with the original color matters. Besides SHSPC-M007 provides the names, shapes and others of the internal organs because each organ is indicated a name tag.

▶ SPECIFICATION

- Standard : 15 × 42 × 4 cm³

SHSPC-C003 Dissection of Heart (Dog)



▶ FEATURE

- This SHSPC-C003 provides information of internal organs. Its organs are treated with the color injection for natural color, so it provides clear vision too. For example, the artery, the vein heart valves, both ventricles and atria are injected with the original color matters. Besides SHSPC-C003 provides the names, shapes(atria, ventricles, heart valves) and others of the internal organs because each organ is indicated a name tag.

▶ SPECIFICATION

- Standard : 15 × 47 × 4 cm³

SHSPC-S002 Dissection of Kidney (Pig)



▶ FEATURE

- This SHSPC-S002 provides information of internal organs. Its organs are treated with the color injection for natural color, so it provides clear vision too. For example, the artery, the vein, the urinary vas are injected with the original color matters. Besides SHSPC-S002 provides the names, shapes(horizontal and vertical sections) and others of the internal organs because each organ is indicated a name tag.

▶ SPECIFICATION

- Standard : 15 × 42 × 4 cm³



HANSOL EDUCATION CO., LTD.

HS24-01 Mineral collection 24



Mineral collection provides an excellent foundation to the science of mineralogy with first quality specimen materials gathered from around the world

Various frame style
Ivory, blue, wooden pattern frame
Custom-made frame color,
Custom-designed inner print
and box-design possible

HS24-02 Mineral collection 24



Mineral collection provides an excellent foundation to the science of mineralogy with first quality specimen materials gathered from around the world

Various frame style
Ivory, blue, wooden pattern frame
Custom-made frame color,
Custom-designed inner print
and box-design possible

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HS12-01 Birthstone collection

- Best for gift
- Real gemstones except diamond

HS12 - 01 Ivory
HS12 - 02 Blue
HS12 - 07 Wooden Pattern
211 × 162 × 22 mm



HS35-01 Mineral collection 35

HS35 - 01 Ivory
HS35 - 02 Blue
HS35 - 07 Wooden Pattern
250 × 205 × 22 mm





DUM - U Series

Educational Digital Biological Microscope

FEATURE



- Rugged construction combined with high optical standards accommodates both classroom and professional use.
- Heavy cast metal construction with a large base for stability & chemically resistant stage.
- Connect to the PC/Multimedia-Projector with USB/S-Video port

MODEL	DUM-400U	DUM-600U	DUM-800ZU	DUM-900U	DUM-1200U
Total Magni.	40~400X	40~600X	40~800X	100~900X	100~1200X
Eyepieces	WF10X(DIN)	WF10X,15X	WF10-20XZOOM	WF10X, 15X	WF10X, 20X
Objectives	Ach 4X,10X,20X,40X			Ach 10X,20X,40X,60X	
Mechanism	Rack & Pinion Mechanism/ Built-in Light Intensity Control Device				
Digital-CCD	1/3" 410,000pixels CCD, FILE:BMP, USB port				
Condenser	Brightfield (N.A=0.65)				
Power	220V, Power Supply(B/I)				

OAM Series

Educational Stereo Microscope

FEATURE



- The high optical quality and competitive price make these types of stereo microscope very popular.
- Adjustable for interpupillary distance with field adjuster.
- Accurate focus adjustment via rack & pinion, body up/down movement

MODEL	OAM-30SR	OAM-60SR	OAM-13SR	OAM-24SR
Total Magni.	10X,30X	20X,30X,40X,60X	10X,30X	20X,40X
Eyepieces	10X(WF)	10X,15X(WF)	10X(WF)	10X(WF)
Objectives	1X, 3X	2X, 4X	1X, 3X	2X, 4X
Illumination	Option	Option	Option	Option

OSM-1/
OSM-1U

Stereo Microscope

FEATURE



- This has the incident illuminator(annular fluorescent ring lamp:8W)
- High contrast image can now be obtained through the newly designed optical system as well as the transport mechanism.
- Long 100.6mm working distance objective makes it possible to deal with a variety of work pieces.
- OMS-1U can be connected to the PC/Multimedia-Projector with USB/S-Video port

MODEL	OSM-1	OSM-1U
Total Magni.	10X, 20X, 40X	
Eyepieces	Super Wide Field 10X :F.N=24mm	
Objectives	Ach 1X, 2X, 4X	
Head	Binocular	Binocular (Built in CCD-Camera)
	Antifungal Treatment, 45° Inclination & 360° Rotation Interpupillary Distance: 54-74mm, Dioptic Adjust:(±6.4Diopter)	
Focusing	Rack & Pinion Focusing Mechanism / Knob & Stopper/ Tensio	
Working Distance	100.6mm	
Stand	Base Dimension: 300(W)X250(D)X40(H)mm	
CCD-CAMERA	410,000pixels, 1/3" CCD 525 TV Line, S/N:48dB	
IMAGE-Translation	BMP File, Window 98,ME,2000,XP OUT-PUT:S-video, A/V, USB Port	
Illumination	Incident Light (Annular Fluorescent Ring Lamp: 8W)	

DW-BHSP
/ THSP

Biological Microscope



FEATURE

- This is equipped with plan achromatic objective and wide field eyepieces.
- The observer can get the clear image in the wide field.
- It is suitable for scientific research, medical, health work and teaching demonstration in the colleges.
- Adjusts photograph, donk fields, phase wonfrast, etc to suit users' need.

MODEL	DW-BHSP	DW-THSP
Total Magni.	40X~1500X	
Eyepieces	WF10X(DIN):F.N=18mm, WF15X(DIN):F.N=13mm	
Objectives	Semi-plan 4X, 10X, 40X(Spring), 100X(Spring, Oil) (DIN)	
Head	Binocular	Trinocular
	Rack & Pinion Focusing Mechanism Rectangular Plate(140(W)X160(D)mm) Travel Range(50(Y)X75(X)mm)	
Condenser	Brightfield Abbe Type(N.A=1.25)	
Power	AC 200V, 50/60Hz	

DDS-3000/
3000P

Digi Microscope



FEATURE

- Multi Mobile Microscope (Digital)
- High contrast image can now be obtained through the newly designed optical system as well as the transport mechanism.
- This can be connected to the PC/Multimedia-Projector with USB/S-Video port

MODEL	DDS-3000	DDS-3000P
Total Magni.	3,000X (: 14" Monitoring)	
Head	Monocle type (Removable)	
Objectives	40X	40X(Phase Contrast)
Mechanical Stage	10(X) X 15(Y)mm	
Condenser	Abbe N.A.=1.1	
CCD-CAMERA	410,000pixels, 1/3" CCD 525 TV Line, S/N:48dB	
IMAGE-Translation	BMP File, Window 98,ME,2000, OUT-PUT:S-video, A/V, USB Port	
Illumination	AC 200V, 50/60Hz	
Size & Weight	150(L)X180(W)X75(H)mm	2.4Kg
Power	AC 110~240V, 50/60Hz, 15W	

DW-PTM-T

Inverted Culture Microscope



FEATURE

- This mechanism can be used for biological education and Professional research.
- The Inverted mechanism is designed for clean image by combination of long length objective and condenser.
- The observer can get the clear image in the wide field.
- It is suitable for scientific research, medical, health work and teaching demonstration in the colleges.
- Adjusts photograph, donk fields, phase wonfrast, etc to suit users' need.

MODEL	DW-PTM-T
Total Magni.	100X ~ 400X
Head	WIDE FIELD 10X : F.N=18mm
Objectives	PL10X, PL25X, PL40X, PL60X(PH): COVER GLASS THICK 1.2mm
Head	Trinocular
	Antifungal Treatment, 30° Inclination & 360° Rotation Interpupillary Distance: 55~75mm, Dioptic Adjust:(±5Diopter)
Mechanical Stage	Rack & Pinion Focusing Mechanism Rectangular Plate(20W)X14(D)mm) Travel Range(3(Y)X75(X)mm)
Illumination	6V 20W FILTER:GREEN, BLUE, YELLOW
Condenser	N.A.:0.4 FILTER:GREEN, BLUE, WHITE(FROST)
Power	AC 220V, 50/60Hz



PTM-B/T

Polarizing Microscope

FEATURE



- This mechanism can be used for polarizing education and Professional research.
- The observer can get the clear image in the wide field.
- It is suitable for scientific research, medical and teaching demonstration in the colleges.
- Adjusts photograph, donk fields, phase wonfrast, etc to suit users' need.

MODEL	PLM-B	PLM-T
Total Magni.	40~400X	
Eyeieces	HWF10X(DIN):F.N=18mm,FL=25mm,Eye Point=24mm,Cross-Line	
Objectives	Achromatic 4X, 10X, 40X	
Head	Binocular	Trinocular
	Antifungal Treatment, 30° Inclination & 360° Rotation	
Analyzer	Analyzer in Slide for E-W Insertion	
Polarizer	Polarizer in Swing-out Clip/Clamp Mount, Fully Rotatable at 0°~90°	
Bertrand Lens	Bertrand Lens with Field-limiting Stop, in Slide for E-W Insertion	
Stage	Ball-bearing Rotating Stage, 150mm Diameter, 360° Round-Rotation Graduated with Vernier and Stage Spciemen Clips	
Illumination	Koehler Type Illuminator with 6V20W Halogen Lamp	
Power	Koehler Type Illuminator with 6V20W Halogen Lamp	

DSZ-45B/T

Stereo Zoom Microscope

FEATURE



- This has the incident illuminator(annular fluorescent ring lamp:8W)
- High contrast image can now be obtained through the newly designed optical system as well as the transport mechanism.
- Long 93mm working distance objective makes it possible to deal with a variety of work pieces.
- Wider Zoom Ratio of 6 enables a wide range of observation at high and low magnifications.

MODEL	DSZ-45B	DSZ-45T
Total Magni.	7.5X ~ 45X (ZOOMING)	
Eyeieces	Super Wide Field 10X :F.N=26mm	
Zoom Range	0.75X ~ 4.5X	
Head	Binocular	Binocular (Built in CCD-Camera)
	Antifungal Treatment, 45° Inclination & 360° Rotation Interpupillary Distance: 54~74mm, Dioptic Adjust:(±6.4Diopter)	
Focusing	Rack & Pinion Focusing Mechanism / Knob & Stopper/ Tensio	
Working Distance	93mm	
Stand	Base Dimension: 300(W)X250(D)X20(H)mm, Pillar Height: 250mm Stage Clips are Mountable, White acryl Stage Plate(φ101mm)	
Illumination	Incident Light (Annular Fluorescent Ring Lamp: 8W)	

DW-MMT

Metallurgical Microscope

FEATURE



- For Professional high quality observation microscope Wide Field eyepieces
- Using the PLAN objective, it is corrected several aberrations Large Stage
- It is suitable for scientific research, industrial work and teaching demonstration in the colleges.
- Adjusts photograph, donk fields, phase wonfrast, etc to suit users' need.

MODEL	DW-MIT	DW-MMT
Total Magni.	100X~600X	40X~600X
Eyeieces	WF10X(DIN):F.N=18mm	
Objectives	PL10X,PL25X,PL40X,Ach60X	PL10X,PL25X,PL40X,PL60X
Head	Trinocular	
	Antifungal Treatment, 45° Inclination & 360° Rotation Interpupillary Distance: 54~74mm, Dioptic Adjust:(±6.4Diopter)	
Focusing	Rack & Pinion Focusing Mechanism / Knob & Stopper/ Tensio	
Mechanical Stage	200(W)X152(D)	140(W)X160(D)
Illumination	6V20W Halogen Lamp, Filters:Green,Blue, Yellow,Ground glas	
Power	AC 200V, 50/60Hz	

DVP 416N
 DVP 416U

Visual Projector

FEATURE



- Size of projecting materials up to B4 at maximum, Projection up to A4 at maximum.
- Far infrared rays remote controller.
- Upper light for clear image on screen in the dark room.
- Internal bottom lamp to for slide film and OHP transparency.
- Converts any negative film to positive film as slide film.
- Converts color image to black and white.
- Capable of using amplifier with built-in microphone jack.
- DVP-416U can be connected to the PC/Multimedia-Projector with USB/S-Video port

MODEL	DVP-416N	DVP-416U
Camera	1/4" interline-transfer CCD, 410,000 gross pixel DSP	
Focusing	Automatic / Powered	
Zooming	22X Optical Zoom + 8X Digital Zoom (Total 176X Zoom)	
Head	Antifungal Treatment, 30° Inclination & 360° Rotation	
Input Terminals	Video RCA X2, Audio RCA X2, Mic X1	
Output Terminals	Video RCA X2, Audio RCA X2, S-Video X1, RF X1, LCD Monitor X1	
IMAGE-Translation (Digital)		BMP File, Window 98, ME, 2000, OUT-PUT: S-video, A/V, USB Port
Power Source	AC90~260V Free Volt, 50~60Hz, 30W(Max)	
Packing Dimension	518 X 578 X 233mm, Gross Weight: 7.9kg	

DVP-422
 DVP-422U

Visual Projector

FEATURE



- Tas Korean Millennium Product in by the Ministry of Commerce Industry and Energy
- Head can be separated from main body easily, so that you can use it anywhere with extended 5M cables.
- Macro shooting with Maximum 2cm
- Far infrared rays remote controller.
- Select internal bottom lamp to use for slide film and OHP transparency.
- Reflect a picture to positive & negative, color & B/W.
- Available to move picture freely to up & down and left & right.
- DVP-422U can be connected to the PC/Multimedia-Projector with USB/S-Video port

MODEL	DVP-422	DVP-422U
Camera	1/4" interline-transfer CCD, 410,000 gross pixel DSP	
Focusing	Manual Type	
Resolution	(Horizontal) More than 450 TV Line	
Zooming	2X Optical Zoom + 2X Digital Zoom (Total 4X Zoom)	
Head	Up and Down: 180°, Slide to Slide: 350	
In/Output Terminals	Video/Audio RCA X2, S-Video X1, Mic X1, Power X1	
IMAGE-Translation (Digital)		BMP File, Window 98, ME, 2000, OUT-PUT: S-video, A/V, USB Port
Power Source	AC100~240V Free Volt, 50~60Hz, 5W(Max)	
Packing Dimension	420 X 320 X 430mm, Gross Weight: 3.7kg	

DOP-3000N/
 4500N

Overhead Projector

FEATURE



- The head is 360° revolved so it is not necessary to change the direction of the main body.
- Perfect auto-focusing function with achromatization to reflect clear images.
- The lamp can be instantly exchanged by varying lever position.

MODEL	DOP-3000N	DOP-4500N
Voltage	AC 110V/220V, 60Hz	
Luminous sources	24V 275W (Halogen lamp)	36V 400W (Halogen lamp)
Projection lens	3 Elements f=280~320mm (Zoom)	
Data sheet	285 X 285mm	
Dimensions	470 X 350 X 200mm	
Weight	10.5kg	



DEB-
Series

Board Monitor System



FEATURE

- The board demonstration combines complete electronic-board capacity.
- The surroundings establishment function in accordance with purpose.
- Window-Board demonstration
: Word, Office as well as Internet or living image is available in every Window-Program not only Internet or living image but also Word, Office, the writing is available.
- Lesson Plan-Board demonstration
: In every slide, picture, document, multi-media screen, lesson-plan is available to be freely written and saved.
- Telerecording : recording is available on writing, picture, voice etc.
- Program-update is available in the on-line.

MODEL	DEB-M150	DEB-M170	DEB-P150	DEB-P170
Monitor	15" Touch	17" Touch	15" Touch	17" Touch
Monitor Size	393 x419 x76mm	421 x415 x170mm	393 x419 x76mm	421 x415 x170mm
Memories/HDD			256MB / 40GB	
PROCESSOR			PENTIUM III 1.0GH	PENTIUM III 1.0GH
CD-ROM			24X Slim Type	
DIGITAL PEN (S/W PEN)	Various Line Style (4Type)			
EDITING FILE	All Image Files, Animation, MS-application			
UNDO	OK			
POWER	100~240V			



DLP-390
DLP-410

LCD-Projector



MODEL	DLP-390	DLP-410
LCD Panel	1.0" Polysilicon TFT LCD X 3	1.3" Polysilicon TFT LCD X 3
Pixel	2,359,296 Pixels	2,359,296 Pixels
Resolution	True XGA/ UXGA(MAX)	True XGA / UXGA(MAX)
Brightness	3,700Ansi-Lumens	4,200Ansi-Lumens
Contrast Ratio	800:1	700:1
Digital Zoom	1/4 ~ 49X	
Connectable PC	UXGA, SXGA, XGA, SVGA, VGA	UXGA, SXGA, XGA, SVGA, VGA, MAC
Video System	NTSC, PAL, SECAM, PAL60, NTSC4.43, PAL-M, PAL-N	
Input 1	HDB 15pin Terminal X 1	
Input 2	DVI Digital Terminal(digital, analog) X 1	
Input 3	Min jack(Stereo)X2(Computer1 & Computer2)	
Video Input	RCA TypeX1(Video),RCA TypeX3(Y,Pb/Cb,Pr/Cr) Mini DIN4pinX1,RCAX2	
Monitor Output	HDB 15pin Terminal X 1	
Lens Shift	10:1 ~ 1:1 / Digital Keystone (±40°)	
Weight	7.8Kg (350W)	7.9Kg (380W)
Power	AC 100~240V , 50~60Hz	

DPD-4220 Plasma Display Panel

FEATURE



- Minimum consumption electricity realization by means of 300W power consumption, heating problem improvement.
- No noise design : the minimum of generation-noise by means of proper natural air-cooling so as to improve the problem of refrigeration-fan noise.
- Super slim wide screen, worldwide minimum super-slim technique(79mm).
- The screen ratio of 16:9, light-weight of a wall tapestry TV set spacious installment is possible for great screen in the narrow space.

MODEL	DPD-4220
Monitor Size	921(H) X 518.4(V)mm 42inch
Monitor Ratio	852(H) X 480(V) Pixels
Brightness / Contrast	700cd/B≥ , 1,200:1(Max)
Input Signal	NTSC, PAL, SECAM, NTSC-4.43, PAL-M, PAL-60
DTV/HDTV Ready	1080, 720P, 480P
Input Terminal	RGB1(Analog): Mini D-sub 15-pin X 2, RGB2(Digital): DVH X 1 Video1: CVBS X1, Video: SCART X1, Video3: S-Video-DIN4pin X1 DTV/DVD: RCA-PRO(Y, Pb(Cb), Pr(Cr) X 1, External Control: D-Sub 9-pin
Color	256 level 16,770,000 colors
Output Terminal	Speaker: 10W + 10W (option), RS232C: Phone jack X 1
Power	AC100~240V, 50/60Hz, 320W
Picture	Normal, Wide, Panorama, Zoom 1/2 (6 Languages)
Size / Weight	1.28(W) X 630(H) X 79(D)mm / 32K

DA-Series Astronomical Telescope



MODEL	DA-400	DA-450	DA-750R	DA-1500R
Tube	Reflector	Reflector	Reflector	Reflector
Mount	Altazimuth	Equatorial	Equatorial	Equatorial
Objective	D=60mm, F=900mm	D=80mm, F=900mm	D=114mm, F=900mm	D=153mm, F=1300mm
Eyepieces	H6,12.5,25mm	Sr4,9,20mm	H9,20mm	K6,25mm
Resolution	1.93"	1.45"	1.02"	0.76"
Light Gathering	73X	131X	256X	478X
Finder Scope	5X25(W.F)	6X30(W.F)	5X25(W.F)	6X30(W.F)
Accessories	Filters (Sun, Moon)	Filters, Erecting Diagonal Prism	Filters, Camera Adapter	Filters, Camera Adapter
Tripod	Aluminum	Aluminum	Aluminum	Wooden

FLC-4000

System Console



▶ FEATURE

- Central processing unit which is controlled by remote-controller for centralized & distributed processing connected with computer.

▶ CHARACTER

- Transmitting the program per each person
- Mutual communication per group and whole call
- Two Persons per a group and two persons per whole group
- Cone control of mic
- Function for listening test and mark of correct answer
- Communication with 3 persons
- The sounds of a language of teaching materials per group
- Meeting with a group and whole
- 4 persons per a group as group and whole
- Automatic setting up s a group and whole

FMR-550

Master Recorder



▶ FEATURE

- Used for sending the sounds of teaching materials from main controller to students

▶ CHARACTER

- LCD Display panel
- Sentence back
- Repeat
- Block repeat
- Play & Stop
- Speed control
- Edit
- Edit time
- Memory
- Bookmark
- Volume control
- Recording

FBA-7500

Booth Amplifier



▶ FEATURE

- Amplifier for listening conversation for student to listen to listen to the materials supplied from main controller

▶ CHARACTER

- Program selector
- Analyzer
- Volume control
- Call
- Remote-control

FSR-500

Student Recorder



FEATURE

- Recorder for conference, listening, self-control studying and personnel studying.

CHARACTER

- LCD Display panel
- Sentence back
- Repeat
- Block repeat
- Play & Stop
- Speed control
- Remote-control
- Drill / Recoding
- Bookmark / memory
- Volume control
- Call
- Program selector
- Analyzer

VD-501

Monitor Distributor



FEATURE

- Connected between a monitor and source media such as PC, VTR, satellite receiver or video presenter, student can select which content to see.

CHARACTER

- Due to a chip for exclusive use of image which can be converted from analogue signal to digital signal and image management chip for signal distributing with my-com student can handle the communication data, and select image.

FHS-65

Headset



CHARACTER

- Due to light weight and softness, you can use this long time without any inconvenience. The condenser microphone enables you to listen to your own voice without separate microphone unit. Also you can feel the detraction of low-pitched sounds and the character of high-pitched tone by using polycone dynamic unit. since the cable of headset consists of special material, wire inside the cable is well protected. Also due to modular jack, there is no problem of noise caused by unstable contact.

Sun-170

Capture-scanning V-Presenter



- It connects easily with computers, saving the display in computer. Also, you can utilize this as a material of textbook and possible it to edit with documents, including moving image and voice. One more thing, you can manufacture your own unique materials of announcement in various conferences or training program.

▶ FEATURE

- Capture-scanning
- Moving image capture
- Character insert
- Partial magnifying
- Magnifying and reducing the screen on working
- Convenient USB
- Compressing saving
- Video-conference
- Serial moment capture

Sun-160

Visual Presenter



- The leading producer of well-known multimedia products, proudly introduces its newest technological achievement, the multi-electronic Visual Presenter.

▶ FEATURE

- Wide range of voltage (AC90-240V)
- Left/right lamp
- Camera head is all directional
- Magnification 44X
- Positive/Negative
- Color/Black and White
- 450TV lines
- Exposure adjustment is automatic.
- Remote control
- Auto focus
- You can show any object (textbook, student, blackboard, presentation room, etc)

Sunmaster Cyber Image Equipment



▶ FEATURE

- Sunmaster is a new product that is helpful in effectively using information and communication technology on education. It is an advanced teaching aid, which makes it possible to write, draw pictures, underline words and trace pictures and others on the TV display or any other screen. The teacher no longer has to move between the display and the blackboard. As students do not have to divide their attention, they can concentrate harder on what they are learning.

SU-120 Screen



▶ FEATURE

- Tripod screen
 - Wall screen
 - Electric screen
- SU-120 120X120CM
SU-150 150X150CM
SU-180 180X180CM
SU-210 210X200CM
SU-240 240X240CM

AEG-101/102/103/
104/105 Series

Motor Screen

AC-901/902/903/
904/905 Series



▶ FEATURE

- Size (cm)
From 150 X 150 to 360 X 300
- Fabric
Matte White Type (Gain:1.1, View of Angle:50°)
Glass Beaded Type (Gain:2.5, View of Angle:30°)
Ultra Type (Gain:2.8, View of Angle:25°)
- 2 Types: flush-mounted type and hidden type
- Most versatile, uniform, washable, flame retardant and mildew resistant screen surface
- High reflectivity performance and efficiency
- Consistent brightness and resolution
- High contrast performance

SMP-16/32/
33/2000

Video Presenter



▶ FEATURE

- A simple tutorial using Video Presenter(SMP).
- One instance in which the SMP can be used is to show a simple document, which has a one-time use, to an audience as opposed to distributing many printed copies of the same material.
- There are many other uses, but for those who are interested in the use of SMP this tutorial was created to guide them on their journey of document reading.
- Video Presenter displaying in alive color image

AJ-CM300

Combined Stereo-Biological Microscope



▶ FEATURE

- Bio-subject combination microscope combining the CCD camera and the microscope
- Compatible with the PC
- The most advanced AJ-CM300 due to the prompt store, edit, and printing by being connected with USB port
- Observation for the object ranging from 10 magnifications to 700 magnifications at maximum(In case that the combined lens is installed based on 43"-sized monitor)

ASR-9000

Digital Video Recorder



▣ FEATURE

- ASR-9000 is a recording machine of real time video and audio of TV program, VTR, Camcorder and DVD in hard-disc or CD what you need without computer. You can search, select, reserve and record any TV program you want to watch. It can be used in foreign language lab, school classroom, hospital, bank, hotel and so forth.

MAGIC PEN
DELTA 1

Tablet PC Montor



▣ FEATURE

- Magic Pen Delta 1 is a LCD writing computer consisting of LCD monitor installing a writing tablet inside, PC and electric pen. You can draw or write on the monitor in which you might open whatever the files you want to call up from your computer. Your works in the monitor will be displayed on the large screen by connecting a LCD Projector. The teacher or presenter uses the Digital Class on a PC connected to a LCD Projector presenting live on a screen. The live presentation in front of your participants is captured for on-the-fly digitized content, providing a real-time snapshot in full multimedia format for distribution after the fact.

TOMO-1500 | **Touch Monitor**



▣ **FEATURE**

- Capturing, recording and playing of real time lecture without PC connection
- Using monitor connected with PC
- Memory saving function itself (Maximum 1,000 pages)
- Various Pen selection function

▣ **APPLICATION**

- Students can be transferred lecture contents through LAN

TVM-300 | **Video Magnifier**



▣ **FEATURE**

- To be used as if it was Magnifier since it magnifies the small object to a large image
- More precise observation through the special camera equipped
- Economical comparing with the existing measuring Microscope

▣ **APPLICATION**

- When to see the small characters into larger one(aged eyes)
- When to magnify the small objects
- To check the fault or defect of product

TVP-8100
TVP-8500

High Resolution Video Presenter



FEATURE

- Super wide angle 16x optical zoom, 4x digital zoom
- Image capture and store 9 frames
- Shows datas clearly even without supplemental lighting in dark areas
- Easy comparison of data due to PIP (picture in picture)

APPLICATION

- It enables a more efficient conference while showing presentations and three-dimensional materials clearly and can deliver much more information

TVP-2100
TVP-2300

Video Presenter



FEATURE

- Capturing, saving and printing available by connecting with computer (TVP-2300)
- Sharpness adjustment button attached to watch the image clearly
- Enlargement up to 44 times by 22 times optical zoom lens and 2 times digital

APPLICATION

- It can be used for audio/visual materials in conjunction with printed handout or educational textbook

TFV-200/
300/400

Flex Vision



▣ FEATURE

- World Didac Award 2000 for the best product
- Moving image in all directions by Pan/Tilt Function
- Easy movement and preservation by light weight
- Easily acceptable to any objects by gooseneck

▣ APPLICATION

- This product is the same purpose product with video presenter but the size and the weight are much smaller and lighter. Especially, flex vision has applicated "flexible goose neck" so it is easy to approach all kind of object.

TLB-200

Light Box



▣ FEATURE

- 15 inches in diagonal displaying screen
- Can be set declined both direction of horizontal and vertical
- To have slits able to insert the film and slide to stand
- 2 CCFL (cold cathode fluorescent lamp)
- Lamp life time is 15,000 hours approximately
- Slim and compact design (To be easy to use)

▣ APPLICATION

- To view negative film in photo studio
- To view OHP film by connecting with video presenter
- To display film in photo studio

VIS-505/
606/707/808

Overhead Projector



FEATURE

- First in the world, the amp and speaker are integrated in O.H.P. so that the speaker can communicate in a low voice with the many persons and the user's convenience is much improved through the connection with the external speaker.
- Since the head is 360° rotatable, the image is projected widely to minimize the fatigue of eyes.

TPO-250

Portable Overhead Projector



FEATURE

- The body is easily folded so that it can be moved briefly by putting into the portable case.
- Adopted brightness light control system for an eyesight protection
- Scientific designed body for an easy carrying and a well built.
- Adopted SMPS system for a longer lasting lamp and a light-weighted body

TES/TTS
/TWS

Screen



FEATURE

- TES (Electric Screen)
 - Convenient for application and preservation with the endurance without change of sight angle
 - Ultra bright screen without wrinkle
 - Cleanable screen surface
- TTS (Tripod Screen)
 - Convenient adjustment of height
- TWS (Wall Screen)
 - Stopper function

LSP-500

Microscopic Projector



▣ FEATURE

- The series of this product enables the simultaneous observation of many persons on the large scale of screen by increasing the ratio to 100x, 200x, 300x, which innovates the concept of 1:1 observation of conventional type microscope to maximize the educational effects. The quality of this product is acknowledged by science and technology office.

SMC-300

Screen Microscope



▣ FEATURE

- Screen microscope is the microscopic project with the concept that few persons can observe the object simultaneously through the screen attached onto the body.

TMS-700

Polarizing Microscope Monitor System



▣ FEATURE

- The sample of the microscope can be observed through the CCD and color monitor and the data can be preserved permanently in the video for repeated education, which is the optical meeting with electronics.

TWPL-400

Polarizing Microscope



▶ FEATURE

- Buttleland lens adopted
- 360° rotatable head
- Coarse/fine integration focusing

▶ APPLICATION

- For observation of rock stone in the high school and college and research institute

TBL/TBM

Biological Microscope



▶ FEATURE

- 45° inclined cask (360° rotatable)

▶ APPLICATION

- Education: observation for cell and germs in primary , high school and college and also in the research institute
- Medical and hospital : observation of germs in clinic. experimental laboratory and seminar.
- Industry: observation for cell and micro living things

TSM-33UL

Stereoscopic Microscope



▶ FEATURE

- Super wide angle eyepieces
- Adjusting of eyepiece angle
- Rotatable magnification control objectives(1x, 3x)
- Focus adjusting range (55~75mm)

OLC-908W System
Master side

Multi-Language Laboratory System(OLC-908W System)



OLC-908W Main Display

- OLC-908W System is the most advanced multimedia language laboratory system which is practicable on WINDOWS 2000/98/95/NT. The software of OLC-908W can be simply installed on the existing teacher computer for language program operation

Function

- Flexible Seat Arrangement
- Conference(Free Talk)
- Automatic Sequence Monitoring on Student's talk
- Test & Evaluation
- Evaluation During Monitoring
- All Call / Group Call
- Line Call
- Intercom
- Pair Lesson
- Computer Built-in Remote Controller of Master Recorder
- Random Grouping
- Quick Index Search(Bookmark)
- Model Voice
- Computer Graphical User Interface (GUI)
- Help Function

Components of Master's side

- OLC-908W Console & Operating Program 1 set
- Master Recorder(including Recorder Cover) 2 ea
- Headset 1 ea
- Option(Master's computer, Table, Chair, Platform, Printer, Video presenter, LCD projector etc).

OLC-908W System
Student side

Multi-Language Laboratory System(OLC-908W System)



Student's Recorder

Headset

Booth Amplifier

Cable & Connector

- Student's side of OLC-908W System is divided 2 types depend on the existence recorder or booth amplifier.

Components of Student's side

A-1 Recorder Type

- Recorder(including Recorder Cover)
- Headset
- Cable & Connector
- Power Trans Unit
- Option(Desk, Chair, Monitor, RGB cable, Duct etc.)

B-1 Booth Amplifier Type

- Booth Amplifier
- Headset
- Cable & Connector
- Option
(Desk, Chair, Monitor, RGB cable, Duct etc.)

NuriNET-A
 Master side

Digital Language Laboratory System(NuriNet System)



NuriNET-A Main Display

- NuriNET System is a new-edged solution for class progress utilizing the digital audio-visual integration controller based on the network, which is designed to meet the future-oriented ICT (Information & Communication Technology) education. As the program for Teacher/Manager (including Control Board) installed in PC for teacher, NuriNET-A establishes the perfect Multimedia environment in linkage with the program installed in PC for student and fulfills Remote Control Function

Function

- Effective class progress based on GUI Environment
- Seat arrangement same as one within the real class
- 1:1 Conversation (intercom) / teacher calling
- Group Learning
- Pair function (group discussion)
- Real-time conversation
- Attendance check
- Mixing teaching material with teacher's sound
- Electronic blackboard
- Book Mark
- Help function
- Function of Test Evaluation&Result Management(option)
- Function of VOD & Management(option)

Components of Master's side

- NuriNET-A(Console & Operating Program) 1 set
- Master Recorder(including Recorder Cover) 1 ea
- Headset 1 ea
- Option (Teacher's computer, Table, Chair, Accessfloor, Printer, Video presenter, LCD projector etc.)

NuriNET-S
 Student side

Digital Language Laboratory System(NuriNet System)



NuriNET-S Main Display & Media Player Function

- As the program for Student (including control board), NuriNET-S provides all functions necessary for a class and self-teaching and facilitates to utilize data / materials from internet and multimedia. The program for student helps the multimedia class to progress smoothly in linkage with the program installed in PC for teacher.

Function

- Possible use of all kinds of moving image files
- Simple section repetition such as infinite repetition, sentence repetition, etc
- Good contents compatibility to maximize the use of data
- Calling and messages transmission
- Recording function
- Volume adjustment
- Help function
- Search and use of VOD data(option)
- Convenient testing (suitable for TOEIC, TOEFL)(option)

Components of Master's side

- NuriNET-S(Control board & Operating Program)
- Headset
- Audio /Video Cable & Connector
- Option (Desk, Chair, Student's Computer & Monitor, etc.)

NuriNET-MPA
MASTER SIDE

Digital Language Laboratory System(NuriNET MP System)



NuriNET-MPA/MPE Main Display

- NuriNET-MP System is a kind of Digital Language Learning Systems, which is designed to serve all the functions of PC by altering the existing cassette-typed language education environment, without additional investment in PC, into new-edged one based on MP3. NuriNET-MP System allows teacher and student to exploit a verity of multimedia materials through internet easily and efficiently and has various applications available for the class, such as test execution & its result memory through network, real-time conversation between instructor and student, perfect control on student's learning and so on.

Component of Master's side

- NuriNET-MPA: As a software installed on Master's PC, serves various functions for the class activities.
- NuriNET-MPE: As a software installed on Master's PC, produces and edits teaching materials for the class.
- Audio Hub: As a hardware device connected to Master's PC.
- Master Recorder (including Recorder Cover) 1 ea
- Headset 1 ea
- Option
(Teacher's computer, Table, Chair, Accessfloor, Printer, Video presenter, LCD projector etc.)

NuriNET-MPS
Student side

Digital Language Laboratory System(NuriNET MP System)



NuriNET-MPS
(Tapeless Comparative Digital Recorder for Student)

- As a digital recorder (Tapeless) for student, serves various functions such as MP3 replay, encoding analogue teaching aids into MP3, recording etc. Connected to instructor's PC by TCP/IP network, NuriNET-MPS can memorize the digital output from instructor's PC and carry out language learning functions, for examples real-time conversation controlled remotely by instructor, individual learning, group learning, test etc.

Function

- Availability of both digital and analogue teaching aids
- Caption and Help function
- Finding files (time-efficient owing to digital files)
- Finding sentences, Recording, Repetition
- Book mark, Oral test, Conversation -Slow play
- Universal functions of analogue recorder

Component of Student's side

- NuriNET-MPS
- Headset
- Cable & Connector
- Option(Desk, Chair, Student's Computer & Monitor, etc.)

OLC-5200 System
Master side

Multi-Language Laboratory System(OLC-5200 System)



OLC-5200 Console



Master's Recorder

- OLC-5200 master console is designed for simple laboratory. This system is easy to use and has essential functions. All of functions display on large LCD panel.
- Student's side of OLC-5200 System is same to one of OLC-908W System.

Function

- Send 2 different program simultaneously and separately to the groups each
- Display on the large LCD panel
- Perfect Remote Control
- Tripartite Conference
- Practice in Pairs
- Conference(Free Talk)
- Test and analyzing
- All Call
- Intercom
- Line Call
- Model voice
- Auto(or Manual) Scanning Monitor
- Evaluation During Monitor

Components of Master's side

- OLC-5200 Console 1 set
- Master Recorder(including Recorder Cover) 2 ea
- Headset 1 ea
- Option(Table, Chair, Platform etc.)

OLC-5200 System
Student side

Multi-Language Laboratory System(OLC-5200 System)



A-1 Recorder Type



B-1 Booth Amplifier Type

- Student's side of OLC-5200 System is divided 2 types depend on the existence recorder or booth amplifier.

Components of Student's side

A-1 Recorder Type

- Recorder(including Recorder Cover)
- Headset
- Cable & Connector
- Power Trans Unit
- Option(Desk, Chair, Monitor, RGB cable, Duct etc.)

B-1 Booth Amplifier Type

- Booth Amplifier
- Headset
- Cable & Connector
- Option(Desk, Chair, Monitor, RGB cable, Duct etc.)

NS-DMS(M)
NS-PR(M)

Drafting Machine



- Drafting Machine is all-round drafting equipment which does not need any additional equipment such as Set square, T-square, Scale and Protractor. Accordingly it is very useful in mechanical drawing. You can accurately move Vertical and Horizontal Scale to ensure the correctness of Vertical and Horizontal line drawing. Also you can also adjust/fix the angle of Scale with free and easy for the convenient use.

▶ FEATURE

- 5° Division Vernier Scale
- 15° Auto Index Settings
- CNC-Processed clear and precise Protractor

NS-ET(M)
SK-P(M)

Parallel Ruler



- Parallel Ruler is mainly used in construction, interior decoration and furniture company. The price is lower than Drafting Machine. But only Horizontal Scale is equipped that Set Square need in vertical line drawing.

▶ FEATURE

- Adjustment of I-Square Angle from 0°~15°
- Easy Wire-tension Adjustment.

NS-PT(M)-DX
 SK-PR(M)
 SK-PR2(M)

Portable Drawing Set



- Portable Parallel Ruler is ideal for students & expert who often have to carry it. Also you can easily use it after installing on the desk. Portable bag is available for convenience

▶ FEATURE

- Several Step Installation Angle Adjustment

SKA-OL, SKA-OT
 SKA-OP

Surveying Instruments(Tripod etc.)



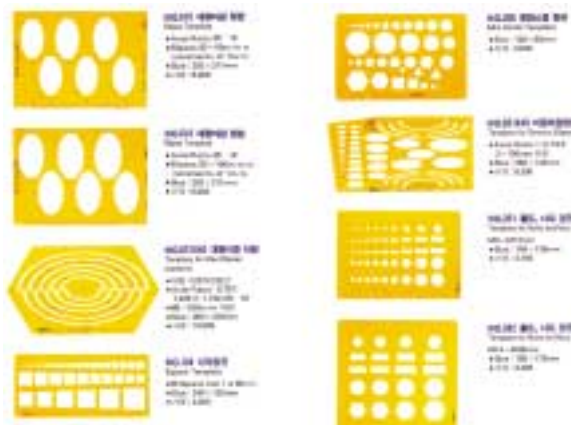
- Tripod is one of the most necessary articles in surveying. We make every parts by die-casting to ensure precision, strong durability and stable fix on the ground.

▶ FEATURE

- Portable and reliable Tripod made of Aluminium.

NO.101,104,
 130,150 etc.

Template



- Our template products are particularly useful for drawing job which is required precise measurements and accuracy as it is produced by special automatic engraving system. Production Type is Circle, Ellipse, Electronic, Character etc.

▶ FEATURE

- Exact ruler measure and high precision.

Mediance
HT-101

Electronic Postural Balance Diagnostic System



CHARACTERISTICS

- Measuring Postural Balance Electrically
- Diagnose Pose-Unbalancing and Train to Make Pose of Body correctly
- Visual Feedback
- Diagnose Vestibular organs
- Postal balance and weight measurement
- Height value input, corpulence degree computed automatically
- Operated with or without computer
- Database support (Microsoft Access)
- CE , EM, QS-9000, ISO 9001

COMPUTER REQUIREMENTS

- MS Windows 95/98/2000/ME/XP installed computer

Mediance
HT-301

Electronic Postural Balance Diagnostic System



CHARACTERISTICS

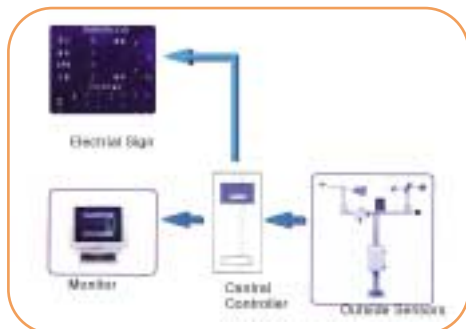
- Measuring Postural Balance Electrically
- Diagnose Pose-Unbalancing and Train to Make Pose of Body correctly
- Visual Feedback
- Diagnose Vestibular organs
- Postal balance, height, weight, and sitting height measurement
- corpulence degree computed automatically
- Operated with or without computer
- Database support (Microsoft Access)play
- LED Display
- CE , EM, QS-9000, ISO 9001
- Adopted by Korean Office of Educational Supply(Number : 66957650012)
- Superior product by Korean Office of Educational Supply(Number : 2001123)

COMPUTER REQUIREMENTS

- MS Windows 95/98/2000/ME/XP installed computer

HTWS-01

Auto Weather Research Craft System

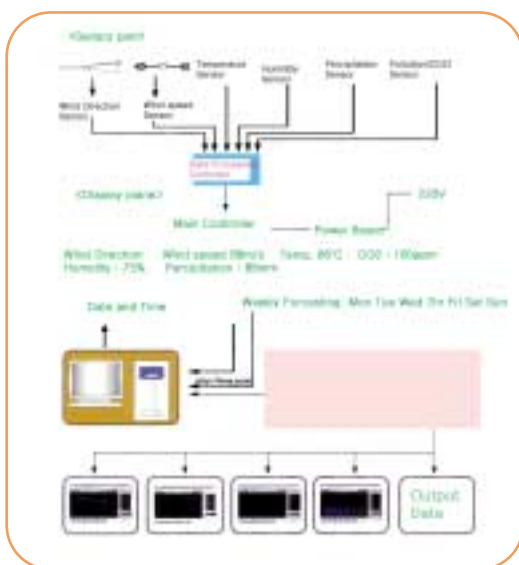


CHARACTERISTICS

- Auto Weather Research Craft System developed by Human Tech can express temperature, humidity, rainfall, wind velocity, direction of the wind and noise measured by outside observation sensor, displaying on monitor and electric light board.

CERTIFICATIONS

- KS A 9002, ISO 9002



SPECIFICATION

- Temperature : 40~90℃
2 Ciphers, Sensor DATA Input
- Humidity : 0~99%
2 Ciphers, Sensor DATA Input
- Weather Vane : 16 directions display
Wind Direction Display, Sensor DATA Input
- Anemometer : 1.0~45(m/s)
2 Ciphers, Sensor DATA Input
- Precipitation : 0~999(mm)
3 Ciphers Display Sensor DATA Input
- Atmospheric Pollution(CO₂) : 0~200(ppm)
3 Ciphers Display Sensor DATA Input
- Date /Time : Present Time Display
Date and Time Display
- Volume : 1150x970x60(mm)
- Weight : Approximately 20(kg)
- Export Price : \$20,000(USD)

Dolphin

Automatic Wastewater Purification System



CHARACTERISTICS

- Automatic Wastewater Purification System developed by Human Tech is designed to purify laboratory wastewater through the process of condensation -->absorption --> precipitation --> filtration in order to remove harmful or hazardous objects. Laboratory wastewater is the main reason of environmental pollution of rivers or waterways and soil due to its containing heavy metal elements and hazardous chemical elements. It is difficult to be purified completely because it does not contain single element but various kinds of heavy metal or chemical elements.

GENERAL SPECIFICATION

- Range of Usage : All kinds of Acid and Alkali Wastewater
- Disposable Capacity : 20ℓ / 1 time
- Pump : Chemical Pump (Chemical Anti-Corrosion)
- Process Method : Chemical, Physical
- Working Method : Automatic Revolutions by Motor
- Chemicals used : Aqua #219, High Polymer Condensational Chemicals, NaOH, NO₂, SO₄
- Wash Method after Use : Common City Water
- Disposing Time : 15 Minutes / 1 time
- Power Supply : AC 220V

LMS-1003 Hotplate Stirrer



FEATURE

- LMS-1003 Hotplate stirrer is made by excellent heat-resistance and anti-corrosive aluminum casting body with high class powder coating. High density ceramic coated stainless steel heating plate provides a perfect chemical resistance especially against strong acids, bases and solvents. It has excellent and precise speed control from 60 to 1500rpm with gentle revolution and heat up to 380°C

GMC-260 Microcentrifuge



FEATURE

- GMC-260 Microcentrifuge is compact and economy centrifuge for spin down purpose up to 6,600 rpm. Push to close lid to start, one touch switch to open the lid to stop. Built in ON/OFF switch. Rotors and adapters for various tubes are provided.
 - 6 place rotor for 1.5ml or 2.0ml microtubes
 - 6 adapter for 0.5ml microtube
 - Interchangeable PCR rotor for 8-well PCR tube strip and 0.2ml PCR tube.

LDO-SERIES Digital Drying Ovens



FEATURE

- LDO-series ideal for baking, drying, conditioning, sterilizing and quality control even the most critical laboratory application temperature range from ambient to 250°C Equipped with digital PID controller provides precision temperature control within ± 0.1 °C Tempered safety glass window for easy sample view without door opening. Both gravity and forced air convection type available. Fan motor and heater is automatically stops when door is opened for user's safety.

LIB-SERIES | General Incubator



▶ FEATURE

- LIB-Series Incubators are ideal for general laboratory incubation requires temperature range from ambient +5 °C to 70 °C It is equipped with membrane type touch keypad digital PID controller provides precise temperature control. Forced convection air flow by silent fan motor maintain uniform temperature in the chamber and inner tempered glass door with silicon packing easy sample view without door opening.

LSI-SERIES | Shaking Incubator



▶ FEATURE

- Shaking incubator provides a precisely controlled system for temperature and shaking in different sample containers at a constant temperature. The unit is ideal for tissue culture, bacterial incubation, enzyme reactions, fermentation, tissue section processing, dialysis, extractions and diffusions. Electronically controlled shaking mechanism provides quiet orbital motion and precise speed control and digital display.

LSI-SERIES | Multi-Stack Shaking Incubator



▶ FEATURE

- Multi-stack shaking incubator provides a precisely controlled system for shaking large capacity of samples. The unit is ideal for tissue culture, bacterial incubation, enzyme reactions, fermentation, tissue section processing, dialysis, extractions and diffusions. Also it is designed for large quantity shaking incubation with 2 to 4 stacks of independently controlled shaking platform. It is included universal rack which can be used for various sized flasks.

LGC-SERIES | Growth Chamber



▣ FEATURE

- Growth chamber are equipped programmable microprocessor PID control with touch-sensitive membrane type keypad provides precise temperature control from 0°C to 60°C, relative humidity from 30% to 98% and illumination from 0 to 25,000 Lux to maintain uniform and accurate growth environment. 10 step programmable controller provides automatic operation of variable temperature, humidity and illumination up to 999 cycles.

LGC-SERIES | Plant Growth Chamber



▣ FEATURE

- Plant growth chambers are equipped programmable microprocessor PID control with touch-sensitive membrane type keypad provides precise temperature control from 0°C to 60°C, relative humidity from 30% to 98% and illumination from 0 to 25,000 Lux to maintain uniform and accurate growth environment. And built-in Lamp on Delay system protects plants from stress by prevention sudden change of light intensity.

LCL-SERIES | Cold Storage Chamber



▣ FEATURE

- Cold storage chamber LCL-series are ideal for storage of expensive samples, reagents, raw materials and blood bags. Equipped with dual refrigeration system guaranteed a precise and constant temperature accuracy and stability. Turbo fan and unique air flow mechanism and structure provide precise temperature reproducibility and uniformity within $\pm 0.5^{\circ}\text{C}$ Automatic defrost system.

LED-3004 Automatic Water Still



FEATURE

- Automatic water still produce bacteria and pyrogen free distilled water having low conductivity (up to 3.5MΩ at 20°C). Production capacity is over 4B/hour. The distillate is in conformity with many regulations of many international pharmacopoeia. Unique design and safety feature supports maintenance free, fully automatic operation with hydraulic temperature controller and a electronic level switch, automatically switched off to protect heater from over heating.

LWB-SERIES Digital Water Bath



FEATURE

- LWB-series Digital water Baths are ideal for industrial, pharmaceutical, clinical and biomedical experiments needs precision temperature control. Precision microprocessor based PID controller provides accurate and uniform temperature control of $\pm 0.5^{\circ}\text{C}$ uniformity and $\pm 0.1^{\circ}\text{C}$ accuracy under normal operation conditions. It offers specially designed thermo-regulation and automatic safety shut-down mechanism. Analog and Circulating Water Baths are also available..

LAC-SERIES Autoclave



FEATURE

- LabTech Autoclaves are ideal for conventional laboratory steam sterilization of culture media, glassware. It is equipped with membrane type touch keypad digital PID controller provides precision temperature control for optimum sterilization process. The main controller displays time, current and user set temperature. Equipped with automatic and manual pressure release valve. Dual safety mechanism provides over pressure protection.

Value Bio Reactor



FEATURE

- The Value bioreactor is designed to have a massive fermentation process for microorganism. It has a feature that controls inside temperature of vessel with air cooling inside temperature of or optional supplying cooling water. In addition, it gives space saving conveniences for user to install anywhere that it does not have a cooling water supplying line in the lab and it is very easy to carry and move. The Value bioreactor is controlled by microprocessor based digital PID control algorithm. The temperature control range is from the ambient temperature +3 C to 80 C. It has agitation speed range from 50~1,200 rpm and it can be used very usefully for an aerobic microorganism or aerobic microorganism fermentation process. It has possibility to control temperature with cold finger when it is necessary.

BioG-Micom



FEATURE

- The BioG-Micom fermentation system is a lab scale fermentor which is designed for multi-purpose fermentation. The controller system is very easy to handle and all the monitored data and control parameters are transmitted to the personal computer with using the RS-232C serial communication protocol. The graphic user interface program shows the whole status of the fermentation system in a real time condition. 4-peristaltic pumps are installed in the controller body that acid, base, antifoam agent and media can be supplied to the fermentor. The various parameters for fermentation such as pH, DO, temperature and the rotating speed for the fermentor can be monitored and controlled by the controller. Especially BioG-Micom has a special function of DO mode that the agitation speed can be governed by the DO sensor to control the DO value for target range. The various accessories can be attached to the fermentation system. The various size of single vessel with hot plate or double vessel with water bath can be selected. The agitation motor is installed on the top plate and the top driving mechanism can make the simple configuration and high reliability.

■ BioLite



▶ FEATURE

- The BioLite in situ sterilizable fermentor system is a lab scale fermentor and designed for ease of use. The thermal heater is installed in the jacket of the fermentor vessel and not only the heater controls the temperature in the vessel but also it raises the temperature up to the sterilization temperature that it does not need the additional autoclave system. As this system is designed in the spirit of plant system that the result from this system can be directly applied to the mass production scheme. This system can be used to develop new products in the laboratory of the university or venture company. The result of the mock product can be applied in the BioLite pilot system directly which is manufactured by Biotron Inc. as this system uses the same integrated control board at the pilot and plant scale fermentor system.

■ CleanVac



▶ FEATURE

- The CleanVac system is a lab scale freeze dryer using the lyophilization phenomena. The cylindrical shape transparent acryl chamber is used for dry chamber and stainless steel petri dishes are used with rack system to dry the frozen specimen. The CleanVac system has a very large size cold trap that it can be used for prefreezer and it does not need the exclusive prefreezer system. The microprocessor governs the whole system process that it monitors the temperature with pt-100 temperature sensor and vacuum level with pirani gauge. The microprocessor automatically decides the leak condition from the vacuum level and give a warning to the LCD display in order to prevent the damage of vacuum pump by overflow of the molten specimen. Furthermore, the microprocessor periodically stops the vacuum pump and measures the change of vacuum level to find out the end of freeze drying procedures.

■ Modulspin



▶ FEATURE

- The Modulspin is liquid drying concentrating system using vacuum condition and the centrifugal force is used to prevent the boiling phenomena in the concentrating liquids. The Modulspin consists of concentrator module, cold trap module, vacuum pump and table for all elements. The specially designed DC servo motor drives the rotor in a variable speed up to 1,800 rpm to generate the centrifugal force and the vacuum environment forces. The oil mist trap is applied as a standard accessory to the liquid to vaporize. The temperature of the chamber is controlled to help the liquid to vaporize by the microprocessor and the heater is embedded outside of the rotor chamber. Various types of rotor such as microtitre can be attached to the rotating shaft and the screw type quick clamp helps the easy fixing the rotor plate on the rotating shaft. The transparent acryl door allows to monitoring the rotating condition of the rotor plate. The stainless steel coldtrap module has a large volume and it catches the water vapor to reduce the pumping load of vacuum pump. The vacuum level is measured by pirani vacuum gauge and digitally displayed.

VS-15000CFNII

Micro High Speed Refrigerated Centrifuge



FEATURE

- Max. 15,000RPM
- RPM & RCF mode
- Max. 1.5/2ml × 36Tubes
- Temp. range : -10 ~ 40 Celsius degree
- Timer : 99min. 59sec. & Hold for long run
- Maintenance free Brushless D.C motor
- Automatic Rotor Identification
- Up to 9 programmable
- 10 levels of Acceleration/ deceleration
- Door lock, Unbalance detector
- Dimension : 370 × 600 × 330[H]mm
- Weight : 44Kgs

VS-18000M

High Speed Refrigerated Centrifuge



FEATURE

- Max. 18,000RPM
- RPM & RCF mode
- From 0.2ml PCR strip tube to 10ml rotor available
- Max. 10ml × 12Tubes
- Temp. range : -10 ~ 40 Celsius degree
- Timer : 99min. 59sec. & Hold for long run
- Maintenance free Brushless D.C motor
- Automatic Rotor Identification
- Up to 9 programmable
- 10 levels of Acceleration/ deceleration
- Inter lock, Unbalance detector
- Dimension : 425 × 490 × 845[H]mm
- Weight : 73Kgs

VS-1221-60 Autoclave



FEATURE

- Capacity : 60Liter
- Two baskets
- Control the all sterilizing process Automatically.
- One touch type of Lid handle
- Stainless steel body
- Over heat protector, Over pressure protector
- Dimension : 650 × 500 × 950 [H]mm
- Weight : 98Kgs

VS-8480SFN Programmable shaking Incubator



FEATURE

- Maintenance free Brushless D.C. Motor
- Max. 350RPM
- Temp. range : 15 ~60 Celsius degree
- 4 step programming
- Remote controller (Option)
- Soft touch key pad
- Various optional accessories
- 100ml ~ 2000ml Flask holder, Spring rack
- Dimension : 515 × 730 × 720[H]mm
- Weight : 80Kgs

VS-201P Programmable Shaker



FEATURE

- Maintenance free Brushless D.C. Motor
- Max. 350RPM
- 4 step programming
- Remote controller (Option)
- Soft touch key pad
- Various optional accessories
- 100ml ~ 2000ml Flask holder
- Spring rack, Platform plate
- Dimension : 360 × 360 × 110[H]mm
- Weight : 15Kgs

**J-300S
J-300M**

Forced Convection Drying Oven



Model		J-300S	J-300M
Type		Forced convection system	
Overall size (W×D×H) m/m		580×600×820	730×650×870
Chamber size (W×D×H) m/m		450×450×450	600×500×500
Capacity		1	150
Temperature	range	Amb+ 5 _i ~ 260 _i	
	accuracy	± 0.5 _i ± 200 _i	
	uniformity	± 1.0 _i ± 200 _i	
	controller	P.I.D controller	
regulator		SSR type	
Thermocouple		K type(CA)	
Heater (Incoloy sheath)	W	1,100	1,200
Circulation fan and motor		Hp	
Insulation		Glass wool and ceramic wool	
Observation window		Reinforced glass	
Safety device		ELB or NFB, overheating protection	
Shelves		3ea	3ea
Material	interior	Stainless steel plate	
	exterior	Steel plate with powder coated finish	
Power source		AC 220V 60Hz 1ø	
Net Weight	kg	51	64

**J-100S
J-100M**

Gravity Convection Incubator



Model		J-100S	J-100M
Type		Gravity convection system	
Overall size (W×D×H) m/m		580×600×820	730×650×870
Chamber size (W×D×H) m/m		450×450×450	600×500×500
Capacity		1	150
Temperature	range	Amb+ 5 _i ~ 60.0 _i	
	accuracy	± 0.5 _i	
	uniformity	± 1.0 _i	
	controller	P.I.D controller	
regulator		SSR type	
Thermocouple		pt 100 ohms	
Heater (Incoloy sheath)	W	200	300
Timer		Electronic timer with delay timer	
Observation window		Safety clear glass inner door	
Safety device		ELB, overheating protection	
Shelves		3ea	3ea
Material	interior	Stainless steel plate	
	exterior	Steel plate with powder coated finish	
Power source		AC 220V 60Hz 1ø	
Net Weight	kg	46.5	59.5

**J-SIS
J-SIL
J-SIS-R
J-SIL-R**

Shaking Incubator



Model		J-SIS	J-SIL	J-SIS-R	J-SIS-R
Type		Reciprocating type		Rotation type	
Overall size (W×D×H) m/m		600×890×800			
Chamber size (W×D×H) m/m		540×540×350(130/350)			
plat-form size m/m		450×450			
Temperature	range	Amb+ 5.0 _i ~ 60.0 _i	0 _i ~ 60.0 _i	Amb+ 5.0 _i ~ 60.0 _i	0 _i ~ 60.0 _i
	accuracy	± 0.1 _i			
	uniformity	± 0.5 _i			
	controller	P.I.D controller			
regulator		SSR type			
Thermocouple		pt 100 ohms			
Heater (Ni-Cr)	W	600			
Capacity		mL			
Shaking speed		rpm			
Refrigeration compressor		Hp			
Material		interior			
exterior		Stainless steel plate (STS#304)			
Safety device		ELB, overheating protection			
Power source		AC 220V 60Hz 1ø			
Net weight	kg	51.3	72.2	51.3	72.2

J-RHCL / J-RHC2
 J-RHC3 / J-RHC4

Constant Temp. & Humidity Chamber



Model		J-RHC1	J-RHC2	J-RHC3	J-RHC4
Overall size (W×D×H)		1,170 × 680 × 1,460			
m/m		500 × 500 × 600			
Chamber size (W×D×H)		150			
Effective Capacity	A type	- 20; ~ +60.0; j	- 30.0; ~ +60.0; j	- 50.0; ~ +60.0; j	- 70.0; ~ +60.0; j
	B type	- 20; ~ +150.0; j	- 30; ~ +150.0; j	- 50.0; ~ +150.0; j	- 70.0; ~ +100.0; j
accuracy		- 0.3; j ~ +60.0; j		j 1.0; j ~ at 37; j	
controller		P.I.D controller or programmable controller			
regulator		SCR type			
range		35% ~ 95%			
accuracy		j 2.0% at 40.0%			
controller		P.I.D controller or programmable controller			
regulator		SCR type			
Pt 100 ohms		4,500			
Thermocouple		Amb+ 5.0; j ~ -20.0; j (45min)		Amb+ 5.0; j ~ -50.0; j (70min)	
Heater (sheath) W		Amb+ 5.0; j ~ -20.0; j (100min)		Amb+ 5.0; j ~ -50.0; j (45min)	
Temperature	condenser system	One stage (air cooling)		Two stage (air cooling)	
	down-up-time compressor Hp	Hermetically type 1/3~2 × 1ea		Hermetically type 1~3 × 2ea	
Refrigerator		Glass wool			
Insulation		Reinforced glass			
Observation window		Overload prevent, alarm, ELB, water empty, current leak over current			
Safety device		3ea			
interior		Stainless steel plate (STS #304)			
Shelves	exterior	STS #304 or SS #400 with powder coated finish			
	sight glass	Equipped with heater (For defrosting)			
Material		AC220V 60Hz 1ø or AC220V 60Hz 3ø			
		230			

J-MPB

Multi-Purpose Water Bath

FEATURE

• Versatile usability and Application

This equipment is very powerful and economic with versatile usability and applications. By attaching or detaching the modular functional parts such as immersion circulating bath, soxhelt water bath and shaking water bath to the basic unit, everyone can use this instrument according to one's purpose.



shaking water bath



soxhelt apparatus

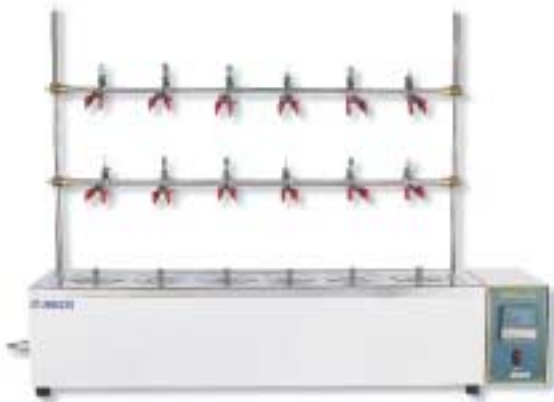


shaking apparatus



circulating apparatus

Model		J-MPB
Shaking type		Reciprocating type
Overall size (W×D×H) m/m		820 × 540 × 440 (330/140)
Bath inner size (W×D×H) m/m		580 × 380 × 220
Capacity		1 48.5
Formation (optional accessories) & Function	water bath	Basic set
	circulating bath	Control head
	soxhelt bath	Ring hole 8ea, Clamp holder
Function	shaking bath	Shaking apparatus
	range	Amb+ 5; j ~ 95; j
	accuracy	± 0.1; j
Temperature	uniformity	± 0.5; j
	controller	PID controller or programmable controller
	regulator	SSR type
Shaking	range	20~250 r.p.m
	controller	Feed-back control system
	display	Digital display
	setting	Digital setting
Storike	m/m	30
Heater	W	3000
Motor	circulating W	150
	shaking (brushless) W	20
safety device		ELB or NFB overheating protection
Material	interior	stainless steel plate
	exterior	stainless steel plate
Power source		AC220V 60Hz 1ø

J-BS3D | **Soxhlet Water Bath**

▶ FEATURE

- Used for extracting lipids, the upper parts and bath are made of stainless steel plate. Both PID and digital types are optionally available.

Model		J-BS3D
Type		6hole opening type
Bath inner size (W×D×H) m/m		890 ×170 ×130
capacity		19
Temperature	range	Amb+ 5.0 i ~ 100.0 i
	accuracy	i 0.1 i
	controller	P.I.D controller
	regulator	SSR type
Thermocouple		pt 100 ohms
Heater (Incoloy sheath) W		1,500~2,000
Material	interior	Stainless steel plate
	exterior	Steel plate with powder conted finish
Power source		AC 220V 60Hz 1ø
Net weight		kg 20.7

J-FM2
J-FM3
J-FM4
Electric Muffle Furnace


Model	J-FM2	J-FM3	J-FM4
Overall size (W×D×H) m/m	410×550×525	560×605×660	690×670×760
Chamber size (W×D×H) m/m	150×300×100	250×350×160	350×450×400
Capacity	1	4.5	14
Temperature	range	Amb+ 5 i ~ -1,200 i (Max)	
	using temp.	1,000 i	
	controller	P.I.D autotuning controller	
	regulator	SSR type	SSR or SCR
Thermocouple		K type (CA)	
Heater capacity	W 3,000	4,500	14,000
Heating element		Kanthal AF	
Insulation		Fiber. ceramic	
Power source		AC220V 60Hz 1ø	AC220V 60Hz 3 ø
Net Weight	kg 47.35	81.6	

J-CBW1
J-CBW2
J-CBW3
J-CBW4
Clean Bench / Laminer Flow Cabinet
▶ FEATURE

- Two types available : horizontal type and vertical type. Horizontal type is used for jobs where just clean air is required. Vertical type is used for jobs where ventilation of gases generated out of the experiments is required.



Model	J-CBW1	J-CBW2	J-CBW3	J-CBW4
Type	Vertical type		Horizontal type (Clean Room)	
Overall size (W×D×H) m/m	880 ×790/820 ×1,900	1,340 ×790/820 ×1,900	880 ×790/820 ×1,670	1,340 ×790/820 ×1,670
Inner size (W×D×H) m/m	780 ×630 ×720	1,240 ×630 ×720	780 ×570 ×660	1,240 ×570 ×660
Main control	Full digital microprocessor control with membrane touch type			
Main filter	HEPA filter (99.97% efficient on particle 0.3 μ)			
Pre filter (Nylon)	No		Yes	
FL lamp	W 20 ×1ea	40 ×1ea	20 ×1ea	40 ×1ea
Germicidal lamp	W 20 ×2ea	40 ×2ea	20 ×1ea	40 ×1ea
Working table	Stainless steel plate			
Air flowing volum	m ³ /min 16	32	16	32
Velocity	m/sec 0.5 ± 0.2			
Lux	More than 1,200			
Vibration (Body)	Average below 1.5 μ			
Consumption power	W 200	400	200	400
Power source	AC220V60Hz 1 ø			

J-NAS3, J-NAS4,
 J-NAS5, J-NAS6

Automatic Autoclave, Sterilizer

FEATURE

- Adopting four arm holder, one touch type switch opens and closes the lid.



Model	J-NAS3	J-NAS4	J-NAS5	J-NAS6
Overall size (WxDxH) m/m	650×450×830/1,100	700×500×830/1,100	750×550×830/1,100	800×600×830/1,140
Inner size (φ×H) m/m	300×650	300×650	400×650	450×650
Capacity	1 45.9	62.5	81.6	103
Method sterilization	High pressure system			
Using temperature kg/°C	121 _j			
Using pressure	1.2			
Temperature regulator	SSR type			
Temp setting method	Digital setting and display			
Internal air exhaust	About 20 minutes			
Heater (sheath) W	3,000	3,500	4,000	4,500
Timer	Digital setting and display (99 hr 59 min)			
Pressure gauge kg/°C	Mechanical type 0~5			
Basket (STS #304)	2ea			
Power source	AC220V 60Hz 1φ			

J-924/J-924A

Glove Box



J-924



J-924A

	Model	J-924	J-924A
Body	Overall size (W×D×H) m/m	800×580×850	800×580×850
	Using size (W×D×H) m/m	790×570×750	790×570×750
	Material	Stainless steel plate	
	Window (W×D×T) m/m	Safety clear glass 670×580×5	
	Valve	Gas valve ×1ea	
	Lamp W	15 ×1ea	
	Consents	Double consents ×1ea	
	Glove	2ea	
Interchange box	Overall size (W×D×L) m/m	206×206×330	
	Inner size (W×D×L) m/m	200×200×300	
	Material	Stainless steel plate (STS #304)	
	Valve	Gas valve : 3ea (STS #304)	
pressure gauge	1ea		
Photohelic pressure switch/gauge U.S.A	No	Yes	

J-USR/J-NSS

Shaker

FEATURE

- Two models of J-USR and J-NSS are designed mainly for culturing microbes and further for culturing, mixing, extracting and manipulating microbiological and plant



J-USR



J-NSS

Model	J-USR	J-NSS
Shaking type	Rotation type	Slide type
Overall size (W×D×H) m/m	35×350×120	
Plat-form size m/m	300×300	
Stroke m/m	10~35	
Shaking speed rpm	35~250	
Motor Hp	1/20	
Capacity ml	100×16ea/250×9ea/500×6ea	
Power source	220V 60Hz 1φ	
Equipped function	Speed controller and timer	
Net weight kg	23	21

J-TUS Triple Shaker

FEATURE

- With shaking motions of stroking, rotating and S movement in accordance with applications such as culturing of plant tissues and microbial cells, and as mixing, melting, manipulation and antibody reaction of a material, the triple shaker is multipurposed.

Model	J-TUS	
Shaking type	Reciprocating, rotation & S movement	
Overall size (WxDxH) m/m	450×380×150	
Plat-form size (WxDxH) m/m	400×300	
Stroke m/m	10~40	
Shaking speed rpm	20~250	
Capacity ml	250×15ea	
Limited weight of load	Approx 8kg(contain rack)	
Power source	220V 60Hz 1ø	
Equipped function	Speed controller and timer	
Net weight kg	20.3	

J-MF Vortex Tube Mixer

FEATURE

- This apparatus used in clinical and biochemical laboratories mixes small quantity of specimen efficiently.
Changing the head makes it possible to use for tube mixing and flask mixing.

Model	J-MF	
Overall size (WxDxH) m/m	125×110×130	
Speed range rpm	3,000(Max)	
Motor Hp	1/15	
Material	Aluminum die casting	
Power source	AC 220V 60Hz 1ø	
Net weight kg	2.6	

J-MS
J-MS4 Hot-Plate Magnetic Stirrer


J-MS4

J-MS

FEATURE

- Heating and stirring is performed at the same time.
- Top-plate is aluminum die casting coated with teflon or ceramic, very resistant to corrosive chemicals.
- Either heating and shaking operation is separable or can be performed at the same time.
- Four or six heating stirrers are built in row to perform multiple tests simultaneously.

Model	J-MS	J-MS4
Size (top-plate) m/m	200×200	ø150×4ea
Temperature(surface)	350°C(Max)	
Speed rpm	2,000(Max)	
Heater(Sheath) W	800	300×4ea
Material (top-plate)	Aluminum die-casting	
Equipped function	Temp. & speed controller	
Power source	AC 220V 60Hz 1ø	
Net weight kg	4.25	11.7

J-893

Sieve Shaker ▶ FEATURE



- The shaker is Ro-tap type which has excellent separating capabilities by rotating very gently.

Model	J-893
Shaking type	Ro-tap type
Overall size(WxDxH) mm	680 x530 x670
Ro-tap speed rpm	240
Hammer speed(up/down) rpm	130
Motor Hp	1/4
Seive Q.ty	ø 8"× 2"H × 6ea
Sieve size	ø 8"× 2"H
Timer min	60
Power source	AC 220V 60Hz 1ø
Net Weight kg	74.1

Accessory option : sieve

J-VSS

Vibratory Sieve Shaker



Model	J-VSS	
Shaking type	Vibration type(up/down)	
Overall size(WxDxH) mm	360 x460 x620(170/450)	
Vibration speed rpm	130	
Controller (vibration time)	Digital seption & display	
Vibration mode:4mode	Interval vibratory motion :3.2.1sec Continuty vibratory motion	
Vibration motion (on/off)	130a time/min	
Capacity(sieve) (ø×H)	8"x2"x7ea	
Marterial	Cover	Aluminum casting
	Interior	Steel casting
	extreior	F.R.P
Power consumption W	500	
Power source	AC 220V .60Hz, 1ø	
Net weight kg	23.5	

Accessory option : Sieve, Sieveing ring, Rubber ball

J-WD
J-WD-1
J-WD-2

Water Distilling Apparatus



Model	J-WD	J-WD-1	J-WD-2
Heater(sheath) w	3,000	6,000	9,000
Material	All stainless steel plate		
Capacity 1/hr	4	8	12
Power source	AC 220V 60Hz, 1ø		
Net weight kg	6.5	11.7	14.0

- Classic stills consist of a double-walled evaporator
- External constant-level device to maittain proper water level
- Removeable cover for easy cleaning

405 / 410 / 420

Ultrasonic Cleaner



FEATURE

Model	405	410	420
Transducer	Industrial BLT Type		
Time Range	0~99min (Digital)		
Temp. Range	0~50°C (Digital)		
Frequency	40KHz		
Housing Material	ABS		
Bath Capacity (L)	5.7	10.0	20.7
Bath Size (mm)	300 X 155 X 150	300 X 240 X 150	500 X 300 X 150
Overall Size (mm)	500 X 285 X 255	510 X 375 X 275	720 X 450 X 275
Required Power (W)	350	500	700
Net Weight (Kg)	7	9	14
Voltage	AC 110 or 220V, 50/60Hz		

505 / 510 / 520

Ultrasonic Cleaner



FEATURE

Model	505	510	520
Display	70 x 40 mm LCD Screen		
Transducer	Industrial BLT Type		
Time Range	0~99min		
Temp. Range	0~50°C		
Frequency	40KHz		
Housing Material	ABS		
Bath Capacity (L)	5.7	10.0	20.7
Bath Size (mm)	300 X 155 X 150	300 X 240 X 150	500 X 300 X 150
Overall Size (mm)	500 X 285 X 260	510 X 375 X 280	720 X 450 X 280
Required Power (W)	350	500	700
Net Weight (Kg)	7	9	14
Voltage	AC 110 or 220V, 50/60Hz		

309DF / 312DF Differential Counter



▶ FEATURE

- Hwashin Differential Cell Counters are designed for the efficiency to be required in your hematology laboratory
- Soft-touch keys let you count faster and have less fatigue than you have ever experienced on a mechanical counter
- Diff counter has a separate two-digit display for each cell type, plus a three-digit display for the total number of cells you have counted
- Alarm actuates every 100 counts
- You can choose one of 9-key model or 12key model depending on your need in laboratory
- There is no need to count exactly one hundred cells or to do a lot of time-consuming calculations, because percentage is displayed for you with a single key stroke

205RM / 210RM Roller Mixer



▶ FEATURE

- Simultaneous rotating and rocking action provides fast and gentle mixing
- Rollers are made of plastics, which are durable and easy to dispose contaminants.
- The quiet motor, durable plastic gears, and smooth mixing action result in a low noise level
- Baseplate is made of stainless steel and easy to maintain

250VM / 260VM Vortex Mixer



▶ FEATURE

- Suitable for the experiments of mixture, reaction and dissolution of fluid samples in a moment
- Proper speed according to the environment of experiments can be achieved with a toggle switch
- The most suitable mixing condition can be made by using a powerful motor

P.NIX Power Series
(RO & UP)

Water Purification System



SPECIFICATIONS

	P.NIX Power I	P.NIX Power II	P.NIX PowerIII
Product (RO, UP)	Max. 18L/Hr	Max. 28L/Hr	Max. 38L/Hr
Water Quality	-Pure Water : 0.2 to 250 μ S/cm -Ultra Pure : Up to 18.3 μ Ω-cm		
Controller	Microprocess one touch technology		
Display	16 × 2 Characters Backlight LCD Digital Display		
Dimensions(W × D × H)	400 × 567 × 500mm		
Power	230V, 50/60Hz, 60W		

FEATURE

- Certified CE, ISO 9001, GD, QD mark
- Built-in RS 232C Port
- Built-in Volumetric dispensing function

P.NIX RO Series

Pure Water System



SPECIFICATIONS

	P.NIX RO 180	P.NIX RO 280	P.NIX RO 380
Product (RO)	Max. 18L/Hr	Max. 28L/Hr	Max. 38L/Hr
Water Quality	-Pure Water : 0.2 to 250 μ S/cm		
Controller	Microprocess one touch technology		
Display	16 × 2 Characters Backlight LCD Digital Display		
Dimensions(W × D × H)	295 × 500 × 465mm		
Power	230V, 50/60Hz, 60W		

FEATURE

- Certified CE, ISO 9001, GD, QD mark
- Built-in RS 232C Port
- Built-in Volumetric dispensing function

P.NIX UP
System

Ultra Pure Water System



SPECIFICATIONS

	P.NIX UP 900
Product (UP)	1.2L/min
Water Quality	-Ultra Pure : Up to 18.3 μ Ω-cm
Controller	Microprocess one touch technology
Display	16 × 2 Characters Backlight LCD Digital Display
Dimensions(W × D × H)	295 × 500 × 465mm
Power	230V, 50/60Hz, 60W

FEATURE

- Certified CE, ISO 9001, GD, QD mark
- Built-in RS 232C Port
- Built-in Volumetric dispensing function

Human Power
Series (RO & UP)

Water Purification System



▶ SPECIFICATIONS

	Human Power I	HumanPower II	Human Power III
Product (RO, UP)	Max. 18L/Hr	Max. 28L/Hr	Max. 38L/Hr
Water Quality	-Pure Water : 0 to 250 μ s/cm -Ultra Pure : Up to 18.3 μ g-cm		
Controller	Microprocess one touch technology		
Display	16 \times 2 Characters Backlight LCD Digital Display		
Dimensions(W \times D \times H)	400 \times 567 \times 500mm		
Power	230V, 50/60Hz, 60W		

▶ FEATURE

- Certified CE, ISO 9001, GD, QD mark
- Programming by 2 steps of water quality for the filter exchange.
- Very simple to exchange the Filter-Pack(Molding Type)

Human RO
Series

Pure Water System



▶ SPECIFICATIONS

	Human RO 180	Human RO 280	Human RO 380
Product (RO)	Max. 18L/Hr	Max. 28L/Hr	Max. 38L/Hr
Water Quality	-Pure Water : 0 to 250 μ s/cm		
Controller	Microprocess one touch technology		
Display	16 \times 2 Characters Backlight LCD Digital Display		
Dimensions(W \times D \times H)	400 \times 567 \times 500mm		
Power	230V, 50/60Hz, 60W		

▶ FEATURE

- Certified CE, ISO 9001, GD, QD mark
- Programming by 2 steps of water quality for the filter exchange.
- Very simple to exchange the Filter-Pack(Molding Type)

Human UP
System

Ultra Pure Water System



▶ SPECIFICATIONS

	Human UP 900
Product (UP)	1.2L/min
Water Quality	-Ultra Pure : Up to 18.3 μ g-cm
Controller	Microprocess one touch technology
Display	16 \times 2 Characters Backlight LCD Digital Display
Dimensions(W \times D \times H)	400 \times 567 \times 500mm
Power	230V, 60Hz, 60W

▶ FEATURE

- Certified CE, ISO 9001, GD, QD mark
- Programming by 2 steps of water quality for the filter exchange.
- Very simple to exchange the Filter-Pack(Molding Type)

Nex Power Series
(RO & UP)

Water Purification System



▶ SPECIFICATIONS

	Nex Power 1000	Nex Power 2000	Nex Power 3000	Nex Power 4000
Product (RO, UP)	Max. 18L/Hr	Max. 28L/Hr	Max. 38L/Hr	Max. 48L/Hr
Water Quality	-Pure Water : 0. to 30 μ s/cm -Ultra Pure : Up to 18.3 μ g-cm			
Display	Digital Display (RO : 0 to 200 μ s/cm) (UP : 1 to 18.3 μ g-cm)			
Dimensions(W x D x H)	400 x 638 x 500mm			
Power	230V, 50/60Hz, 60W			

▶ FEATURE

- Certified ISO 9001
- Produce Pure water & Ultra Pure water, simultaneously
- Very simple to exchange the Filter-Pack

Nex RO Series

Pure Water System



▶ SPECIFICATIONS

	Nex RO 1000	Nex RO 2000	Nex RO 3000	Nex RO 4000
Product (RO)	Max. 18L/Hr	Max. 28L/Hr	Max. 38L/Hr	Max. 48L/Hr
Water Quality	-Pure Water : 0 to 30 μ s/cm			
Display	Digital Display (RO : 0 to 200 μ s/cm)			
Dimensions(W x D x H)	400 x 638 x 500mm			
Power	230V, 50/60Hz, 60W			

▶ FEATURE

- Certified ISO 9001
- ASTM Type II grade water
- Very simple to exchange the Filter-Pack

Nex UP System

Ultra Pure Water System



▶ SPECIFICATIONS

	Nex UP 1000
Product (UP)	1.2L/min
Water Quality	-Ultra Pure : Up to 18.3 μ g-cm
Display	Digital Display (UP : 1 to 18.3 μ g-cm)
Dimensions(W x D x H)	400 x 638 x 500mm
Power	230V, 50/60Hz, 60W

▶ FEATURE

- Certified ISO 9001
- ASTM Type I grade water
- Very simple to exchange the Filter-Pack

Silent Pilot RO System

Water Purification System



SPECIFICATIONS

	Silent RO 200P	Silent RO 300P	Silent RO 400P	Silent RO 500P
Product (RO)	150-250L/Hr	250-350L/Hr	350-450L/Hr	450-550L/Hr
Water Quality	-Pure Water : 0 to 50 μ s/cm -Ultra Pure : Up to 18.3M Ω -cm(Optional)			
Display	LED digital Display			
Dimensions(W x D x H)	500 x 400 x 1415mm			
Power	220V, 50/60Hz, 1KW			

FEATURE

- Certified ISO 9001 (Certified No : K-920)
- Motor should be silent when the system works.
- Built in the double safety systems (Pump / Motor)

X-ma 2000

UV/VIS Spectrophotometer



SPECIFICATIONS

	X-ma 2000
Wavelength Range	200 to 1100nm
Accuracy	± 0.5 nm
Reproducibility	0.2nm
Monochromator	Double-beam CT & Single-Beam CT Holographic diffraction grating
Photometric Accuracy	± 0.0005 Abs
Stability	± 0.0005 Abs
Display	Backlight Graphic LCD Display Folder Type
Measuring modes	Abs. %T. Conc. Ems. Ess %R
Dimensions(W x D x H)	500 x 400 x 240mm

FEATURE

- Certified ISO 9001
- Single & double beam system for the best stability
- Automatic 8 - cell holder
- Built-in RS 232C Port

PMI-5000F Digital Power Meter



FEATURE

- Compact DIN 96*96 type
- Available measures : Voltage, Ampere, Frequency, Electrical energy, Power factor, Load factor
- High accuracy
- Bright back-lighted red numbers on dark background FND display.
- Alarm, pulses and analogue outputs
- RS485 communication port

SPECIFICATIONS

- Frequency : 50/60Hz
- Rated Current : CT 5A
- Rated Voltage : AC 85~600V (Standard Voltage between the line) (PT None-setting 1.0~5000.0)
- Power supply : AC 100~240V ($\pm 10\%$) Free Voltage
- Operating temperature range : $-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$
- Storage temperature : $-25^{\circ}\text{C} \sim 80^{\circ}\text{C}$
- Relative Humidity : 0~80%
- Consumption power : 5VA (AC 220V)
- Protocol : Provide standard protocol of MODBUS - RTU
- Distance : 1.2km(max.)
- Communication cable : Twist Pair Cable, Min 0.36 β \pm (22 AWG), Capacity : less than 60 PF/m
- Speed : 1200, 2400, 4800, 9600, 19.2k, 38.4 kbps

PMI-9000L PTI-9000 Digital Power Meter



FEATURE

- It is easy to install with separated type
- This meter with user - selectable display structure is available to user need
- Accurate measurement is possible
- Measuring a variety of electrical parameters
- Remote monitoring and control are possible through data communication.
- Peak control is available.

SPECIFICATIONS

- Voltage input range : MAX. AC 550 Vrms
- Current input range : MAX. AC 5.5 Arms
- Frequency : 40 ~ 100 Hz
- Sampling frequency : 1.25 kHz
- Accuracy : $\pm 0.5\%$
- Memory back-up : MIN. 10 years
- Supply voltage : AC 100 ~ 120 V / AC 200 ~ 240 V (50/60Hz)
- Consumption power : 10 W
- Operating temp. : $-10 \sim +60^{\circ}\text{C}$
- Custody temp. : $-20 \sim +70^{\circ}\text{C}$
- Humidity : 10 ~ 80 % RH
- Communication output : RS-485 (Full Half Duplex), 9600.N.8.1
- Range for communication distances : MAX. 1.2 km at (shield cable use)
- Contact output :
COM-a output : AC 250 V / 3 A contact capacity
Peak control : 2 CHs
P.F. control : 2 CHs
Cut-off : 1 CH
Return : 1 CH
Alarm : 1 CH

DTH-110

Temperature and Humidity Sensor



SPECIFICATIONS

Temperature

- Type : Pt100Ω 4-wire shield type
- Measuring range : -50°C ~ +50°C
- Accuracy : ±0.3°C (including self-certification)
- Thermistor : 0.15class more, 4wire
- Cable length : 2m

Humidity

- Type : CMOS process
- Measuring range : 0~100%RH, 0~1VDC
- Accuracy : ±2%
- Temperature Error Draft : ±0.04%RH/°C
- Material : ABS
- Power supply : 9~30VDC/12mA(±2%)
- Weight : 180gr

Air shields

- Model : DAR-100
- Type : Motor FAN (Air circulation)
- Air flow speed : 3m/sec
- Deployment type: Aluminum T connector
- Operating range : -40°C ~ +80°C
- Cable length : 2m
- Material : ABS
- Power supply : DC12V

DWD-100

Wind Direction Sensor



SPECIFICATIONS

- Type : VANE TYPE
- Accuracy : ±3°
- Starting threshold : 1.0m/s
- Max. operating range : 60m/s
- Measuring range : 0~360°
- Material : Alloy Steel
- Capacity : 10kΩ
- Power supply : DC10V

DWS-100

Wind Speed Sensor



SPECIFICATIONS

- Type : 3 CUP ANEMOMETER
- Accuracy : ±0.3m/s at the below 10m/s
±5% below at the more 10m/s
- Starting threshold : 0.4m/s
- Measuring range : 0.4~60m/s more
- Output : Frequency (2.0vpp into 10kΩ)
- Material : Alloy Steel
- Power supply : DC5V

DPM-10

Portable PH Meter



FEATURE

- Weather proof structure
- Large LCD panel / Auto on/off
- Sound Alarm / Temperature recognition

SPECIFICATIONS

- Measuring Range :PH : 0~14pH Temp : 0~99.9°C
- Resolution : PH : 0.01pH Temp : 0.1°C
- Repeatability : PH :0.01pH ± 1 digit Temp. : $\pm 0.1^\circ\text{C}$
- Temp. Compensation : 0~99.9°C
- Auto. Calibration : 4,7,9 Auto
- Display : Digital Liquid Crystal(LCD)
- Display Item : PH and Temp. various signal and standard liquid marks
- Ambient Temp. : 0~45°C
- Power Supply : 1x6F22(S-006P) 9V Battery (about 30hours)
- Dimensions : 200(H) x 70(W) x 41(D)mm

DCM-10

Portable Conductivity Meter



FEATURE

- Weather proof structure
- Large LCD panel / Automatic Temperature Conversion
- Auto Hold function / Sound Alarm
- Temperature recognition

SPECIFICATIONS

- Measuring Range : 0~150ms/cm (Auto. Range changeable)
- Repeatability : Conductivity : $\pm 0.5\% \pm 1$ digit, Temp : $0.1^\circ\text{C} \pm 1$ digit
- Temp. Compensation : 0~100°...
- Display : Digital Liquid Crystal(LCD)
- Display Item :Con. and Temp. various signal and standard liquid marks
- Power Supply : 1x6F22(S-006P) 9V Battery (about 30hours)
- Dimensions :200(H) x 70(W) x 41(D)mm
- Weight :320gr(including battery)

DDM-10

Portable Dissolved Oxygen Meter



FEATURE

- One-Touch calibration
- Automatic atmospheric calibration
- Measuring DO Saturation
- Auto Temperature Compensation / Temperature recognition

SPECIFICATIONS

- Range : DO : 0~19.99mg/l Temp : 0~50°C
- Repeatability : DO : $\pm 0.5\% \pm 1$ digit, Temp : $0.1^\circ\text{C} \pm 1$ digit
- Temp. Compensation : 0~40°C
- Calibration Method : In the air or liquid(seawater)
- Compensation of salinity density : 0~40PPT
- Display : Digital Liquid Crystal(LCD)
- Ambient Temp. : 0~40°C
- Power Supply : 1x6F22(S-006P) 9V Battery (about 30hours)
- Dimensions : 200(H) x 70(W) x 41(D)mm
- Weight : 320gr (including battery)

PH-1000 PH Controller



FEATURE

- Din 96 x 96 size
- Measuring value and setting value of parameter are displaying same together
- Calibrating by one touch /pH/ORP combined use
- Memory back-up
- Automatically interpretation about the good or bad situation of the electrode's specificity

SPECIFICATIONS

- Measuring Range : PH0~14.0 : Solution 0.01pH, ORP ±1400mV
- Repeatability : pH ±0.05 ORP ±5mV
- Output of Transmission : DC 4~20mA
Input/Output Isolation Type
Max. Load Resistance : 500Ω Linearity : 0.5%
- Output Range of Transmission : pH : 0~±14pH
ORP : ±700mV, ±1400mV
- Temperature Compensation Element : Circuit Users selectable option : 500Ω, 6.8kΩPT100 (at 25°C)
- Temperature Compensation Range : 0~100°C at pH meter
- Ambient Temperature : -5~40°C below 85%RH
- Power Supply : AC90~110V AC180~220V 50/60Hz 10W

WI-510
WI-540

Induction Heating Power Supplier



FEATURE

- Convenient configuration set for frequency range and safety devices be installed.
- Safety function against for output short and adoption of FET Module.
- Miniaturization of Matching transformer and technical agreement with PPECO USA.
- OEM sales record to USA industries and built in remote control function.

SPECIFICATIONS

DIK Model		WI-510	WI-540
Output	Deliverable Power	5kW	
	Frequency Range(KHz)	35 ~ 100KHZ	135 ~ 400KHZ
	Output Voltage	350 Vrms	500 Vrms
	Minimum Power Factor	0.34	
Input	Input Voltage	208-240VAC - 3Ø, 50 – 60 HZ	
	Input Current	14.5 Amps @ 230VAC	
	Input Power	5.8 KVA	
	Water Pressure	30-100 PSI DIFFERENTIAL	
PHYSICAL	Depth	23.5" (60 cm)	
	Width	14.5" (37 cm)	
	Height	14.0" (36 cm)	
	Weight	55lbs (25 kg) approximately	

WI-2510
WI-2540

Induction Heating Power Supplier

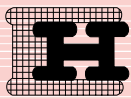


FEATURE

- Convenient configuration set for frequency range and safety devices be installed.
- Safety function against for output short and adoption of FET Module.
- Miniaturization of Matching transformer and technical agreement with PPECO USA.
- OEM sales record to USA industries and built in remote control function.

SPECIFICATIONS

DIK Model		WI-2510	WI-2540
Output	Deliverable Power	25kW	
	Frequency Range(KHz)	35 ~ 100KHZ	135 ~ 400KHZ
	Output Voltage	350 Vrms	500Vrms/1000Vrms
	Minimum Power Factor	0.5	
Input	Input Voltage	208-240VAC - 3Ø, 50 – 60 HZ	
	Input Current	36.5 Amps @ 230VAC	
	Input Power	14.5 KVA	
	Water Pressure	30-100 PSI DIFFERENTIAL	
PHYSICAL	Depth	15" (38 cm)	
	Width	20" (51 cm)	
	Height	36" (91 cm)	
	Weight	185bs (84 kg) approximately	



EH-HB-140,140E

Hydraulics Bench

FEATURE

- Self contained and fully mobile service unit for the water circulation and flow rate measuring support for Eunha Fluid mechanics and Hydraulics Instruments : - Bernoulli's theorem apparatus
- Flow measuring apparatus
- Orifice and jet apparatus & etc.
- Required outer service is single phase electricity, only.
Continuous flow monitoring and the exact flow rate measurement.
An open channel and ample working space on the bench top for various experiment.
Supplied as standard Accessories, 3 type of weirs, digital stop watch, 1 litter PVC mess cylinder.



SPECIFICATIONS

MODEL	EH-HB-140	EH-HB-140E
Pump & motor	220V(60Hz), 340W 75 l/min (Max.)	220V(60Hz), 143W 70 l/min (Max.)
	Magnetic coupling pump	
Sump tank	Capacity : 150 l (Max.)	
Volumetric measuring tank	Capacity : 35 l (Max.)	
Sight tube & scale	0~40 l (Max.)	

EH-HB-140,140E

Inclined Manometer

SPECIFICATIONS



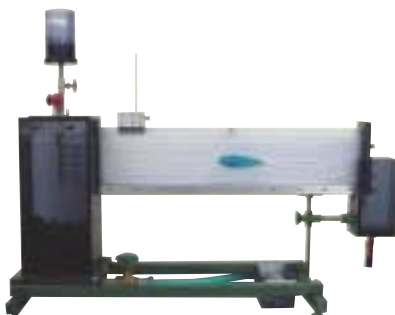
Measuring range	100 (3:1)	60 (5:1)	30 (10:1)	15 (20:1)
Differential pressure (mmAq)	0~100	0~60	0~30	0~15
Minor divisions (mm)	0.33	0.2	0.1	0.05
Full scale range	300mm			
Velocity (Max.)	40m/sec			
Gauge fluid	Alcohol or Water			
Weight (Approx.)	3kg			
Dimension (Approx.)	520L x 240H x 160W (mm)			
※ Option	Pitot tube			

EH-FVC-15

Flow Visualization Apparatus

FEATURE

- Visualize the flow patterns associated with submerged models in open channel. The silent flow to wide open channel (10 x 150 x 700 mm) of one side observation is obtained through pass round glass marbles.
- Array of 10 injection needles makes sharp parallel lines.
Acceptable not only the 6 shaped supplied models but any shaped self made models also.



SPECIFICATIONS

Dye injection needles	10 ea.
Dye reservoir capacity	0.4 l
Channel (Acryl)	Width - 10mm, Depth - 150mm, Length - 700mm
Water head tank	180W x 180D x 400H(mm)
Flow rate (Max.)	3.5 l/min
Undershot weir	10mm (wide)
Dimensions (Approx.)	1030L x 800H x 350W (mm)

Model EH-JIM-M3

Jet Impact



FEATURE

- Demonstrate the force of water jet impinging to stationary object.
- For the best performance, connect to Eunha Hydraulics bench(EH-HB-140/140E) is essential.
- On the upper end of this stem is mounted a weight container.
- The dead weight of the moving parts is counter-balanced by a compression spring.
- Total of three targets are provided; a flat plate, a 120 degree cone and a hemispherical cup.

SPECIFICATIONS

Nozzle diameter	8mm
Target (PVC)	Flat plate : 35 ϕ Cone type : 40 ϕ (120 degree cone) Hemispherical cup : 40 ϕ
Tank (Cylindrical)	150 ϕ \times 300H (mm), Transparent acryl
Flow rate	20 l/min (Max.)
Drain hole (Outlet)	25A
Dimension	250 ϕ \times 50H (cm)
Standard accessories	<ul style="list-style-type: none"> • Weight : 100gr - 2 ea, 50gr - 2 ea, 20gr - 3 ea, 10gr - 3 ea, 5gr - 2 ea. • Target : Flat plate, Cone (120 Degree), Hemispherical cup - 1 ea. • L-Wrench : 5/32 " - 1 ea.

Model
EH-FVO-G

Flow Measuring Apparatus



FEATURE

- A serial connection of Venturi, Orifice meter and 90 degree Elbow pipe with proprietary rotameter with tappings of prior or after each of devices. The 9 lane of vertically installed manometer tube is connected to each of devices so that they can shows energy loss of flow water.
- Determine of flow rate and pressure drops using a Venturi Meter, an Orifice Plate, 90 degree Elbow pipe and a Rotameter and Demonstrate the Bernoulli' s Equation.
- Measure the head loss across the devices of a sudden enlargement and sudden reduction.
- For the best performance, connect to Eunha Hydraulics bench(EH-HB-140/140E) is essential.

Model
EH-BT-25W

Bernoulli s Theorem Apparatus

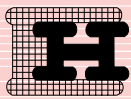


SPECIFICATIONS

Test section	Inlet dia. : 26mm Throat dia. : 10mm Acryl tube
Multi manometer	400mm ; 8 ea.
Total head (probe)	2 \times 380mm
Flow control valve	25A Gate
Weight	11.5kg
Dimension (Approx.)	50L ; 63H \times 20W (cm)

FEATURE

- Effective demonstration tool of varions fluid behavoir and define the bernoullis theorem numerically within the limits of experimental error.
- For the best performance, connect to Eunha Hydraulics bench(EH-HB-140/140E) is essential.
- Horizontally laid venturi(throat part in long flat) tube with 6 taps, 8 banked manometer, air vent, inlet and outlet pipe with flow control valve and total head prove are installed on a base board.



Model EH-OJ-400H Orifice and Jet Apparatus



FEATURE

- Scaled head tank with height and water level adjustable overflow unit.
- 3 sets of vertically attached moveable orifice of different diameter (3, 6, 9mm), The 10 needles represent the detail of trajectory of flow jet.
- Two magnetic strips hold graph paper on the support back board.
- Connect to Eunha Hydraulics bench(EH-HB-140/140E) is highly recommended.

RANGE OF EXPERIMENTS

Experimentally determine the velocity coefficient for small orifices, 3, 6 and 9mm dia. Calculate the coefficient of discharge for a small orifice under the flow of constant and varying head. Demonstrate the Torricelli' s law for the flow energy.

Model EH-FO-13M Flow Through an Orifice



SPECIFICATIONS

Standard orifice	13mm Dia.
Head (Max.)	390mm
Cylindrical tank (Acryl)	180 ϕ \times 40H (cm)
Inlet pipe (With dissipator)	19mm
Overflow pipe (Variable head)	22mm
Overflow tank (Acryl)	100D \times 110W \times 270H (mm)
Flow rate (Approx.)	18 l/min
Traverse mechanism	Lead screw with adjusting nut calibrated
	1/10(mm) per division (With pitot tube)
Dimension (Approx.)	340 ϕ \times 800H (mm)

FEATURE

- Full analysis of Vertical water jet and orifice flow.
- Direct measurement of total head, head loss and diameter of jet.
- Integral pitot traverse tube.
- Determination of the actual discharge coefficient by measuring the flow rate.
- For the best performance, connect to Eunha Hydraulics bench(EH-HB-140/140E) is essential.

Model EH-FF-2000 Fluid Friction Apparatus



RANGE OF EXPERIMENTS

Fluid Friction in a smooth bore pipe
 Head loss due to friction & pipe fittings
 Head loss due to Sudden Contraction & Enlargement
 Fluid Friction in a roughened pipe
 Flow measurement using differential head (Orifice, Venturi, Pitot-tube)

FEATURE

- Total 14 devices with manometer tabs are arranged in a single board.
- Energy loss experiments due to the friction of fluid flows of any conditions are performed accurately.
- Multiple lanes of manometers, two u-tube mercury and three pair of water manometer measures the pressure head of 5 devices simultaneously.
- Eunha Hydraulics bench(EH-HB-140/ 140E) included.

Model
EH-HEW-1500

Heat Exchanger

SPECIFICATIONS



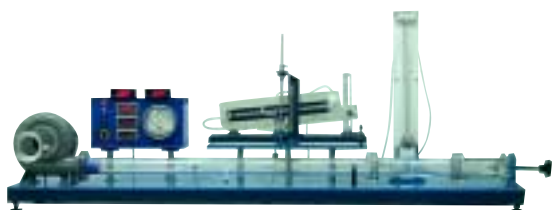
- Demonstrate the efficiency of heat exchange under direct or contra flow at high, average and low temperatures.

Heat exchanger (Concentric tube)	Tube (Copper) : 16mm O.D. Wall Thickness : 1.0mm Effective length : 1.5m, Effective area : 0.071m ²
Working temperature	80°C (Max.)
Temperature controller	Digital, Accuracy : ±0.5°C
Temperature indicator (Digital)	6 Points (6ea.) Accuracy approx. : ±0.5°C Thermocouple : Pt 100 \varnothing
Circulating pump	Magnetic coupling pump Capacity : 7 l/min Max. temp : 80°C
Heater (Immersion type)	220V(60Hz), 2.4kw
Heater regulator	Thyristor controlled
Sump tank	Capacity : 24 l (Max.), Stainless steel
Flow meters	0.3~3 l/min (Hot water), 0.5~5 l/min (Cold water)
Dimensions	125H × 85W × 60D (cm)

Model
EH-FTR-C50

Fan Test Rig

SPECIFICATIONS

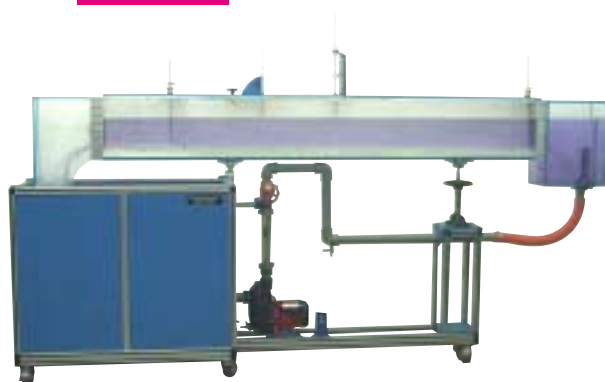


Centrifugal Fan	Flow rate : 200~250m ³ /h Rotational speed : 0~3600rpm Drive motor : DC 90V, 0.1KW
Duct (In)	50mm
Flow rate control	Throttle Valve
Flow rate measuring detector	Venturi or Orifice
Velocity measuring detector	Pitot tube (with Vertical Traverse)
Pannel meters (Control Box)	DC volt meter & DC Ampere meter (Digital) Temperature Indicator, Tacho meter (Digital) Differential pressure gauge (Analog) Water Manometer (400mm)
※ Option	Control Computer, Inclined Manometer

Model
EH-TFC-200

Tilting Flow Channel

SPECIFICATIONS



Working section (Channel)	2200L × 250H × 100W (mm)
Bed slope (Adjustable)	1/120 ~ 5/120cm
Flow meter (Range)	15~150 l/m
Pump, Motor	220V(60Hz), 400W 160 l/min (Ht=7m)
Sump tank (PVC)	300 l (Max.)
Overall dimensions	Height : 180cm (To top of point gauge) Width : 50cm Length : 310cm
Standard accessories	Hook & Point gauge : 0~180mm Weir • Sharp crests weir • Ogee weir • Broad crested weir • Crump weir Adjustable sluice gate

- Demonstrate flow behaviors over the various weirs, sluice and slope in a uniform flow of open channel.

◆ In case of quality improvement control specification can be changed without notification and please make the detailed inquiry for the particular product of interesting.

HS-277B

Beaker Dyeing Apparatus with IR radiator



FEATURE

- Power Source : 220V AC, 60/50Hz
- Number of Beakers : 16pot, 24pot, 48port
- Temperature Range : 20 ~140 °C
- Temperature Gradient : 0.3~4 °C/min
- Heating : Infrared Radiator
- Pot : 150cc and 300cc Complex(sus 316)
- Cooling : Circulating Air/Water
- Material : All stainless(sus 304)
- Revolutions & Holding Disc : 5rpm~65rpm
- Control Unit : 100Programs
- Weight(approx) : 150kg
- Dimension(approx) : 900(W) × 850(D) × 1300(H)m/m

HT-700

Laundry O Meter



FEATURE

- Power Source : 220V AC, 60/50Hz
- Pot(sus) : 12Calor
- Heater : 4Kw
- High Temperature : 98°C
- Bottle Rotating Speed : 42 ± 2rpm
- Motor : 300W(AC)
- Capacity of testing bottle : approx 450ml
- Temperature : 150°C Auto Temperature
- Weight(approx) : 80kg
- Dimension(approx) : 1190(W) × 750(D) × 1200(H)m/m

HS 213

Fade O Meter



FEATURE

- Power Source : 220V AC, 60/50Hz
- Lamp : 400W
- Sample Holder
 - Material : SUS # 304
 - Specimen : 2EA
 - Specimen Size : 123(W) × 67(D)m/m
 - Specimen Holder Size : 275(W) × 70(D)m/m
- Lamp : Arc Lamp
- Fan Motor : 200W AC
- Safety Device : 1Set
- Hour Meter : Multi System
- Temperature : Automatic type
- Weight(approx) : 100kg
- Dimension(approx) : 570(W) × 670(D) × 600(H)m/m

HS - 200C

All Material Tester Machine



FEATURE

- Power Source : 220V AC, 60/50Hz
- Capacity : 0~500kg
- Ball Screw and Servo Motor System : 1Set
- Measuring System : Computer Units
- Computer H/W : 1Set
- Computer Interface Card : 1Set
- Computer : 1Set
- Textile Load Grip : 1Set
- Load Cross : 600m/m
- Indicator : Load Zero, Peak, Hold, Over
- Cross Head Stroke Display : Digital Display 0.01mm
- Electric Control : 1Set
- Cross Head Speed : 2~500mm/min
- Safety Device : Load and Length Limiter
- Weight(approx) : 500kg
- Dimension(approx) : 1100(W) × 900(D) × 1950(H)m/m

H - 081A

Humidity Testing Instrument for water Vapour Transmission Rate



FEATURE

- Power Source : 220V AC, 60/50Hz
- Chamber Inside Dimension : 450(W) × 450(D) × 500(H)m/m
- Heater : sus 1.2kw
- Humidifier Pan Type : 102Kw
- Refrigerator : 0.4Kw
- Temperature Range : 5~80°C
- Humidity Range : 25~95%RH
- Air Velocity : 0.5~2.5m/sec
- Temper and Humidity Ranges : +10°C +80°C 30%~95%
- Weight(approx) : 150Kg
- Dimension(approx) : 1100(W) × 650(D) × 1300(H)m/m

HS - 337D

Computer Color Kitchen



FEATURE

- XYZ axis automatic pipette by 2 robots
- Accuracy, 0.2% per 20ml pipetting
- Processing speed, appr 10minutes/3 combinations, 24pots
- Volume metric pipetting by glass material
- Fixed pots table
- A fixed whole standard pot kit/12pots × 2ea
- 125ea liquid bottles (1000ml/a bottle)
- Standard PC for control unit running under
- Windows ME with lan card and cable A4 size inkjet printer
- Free falling water supply for weighing
- Measuring tolerance ±0.01g
- Accuracy, ±0.02g
- Water tank size 10 liter(each hot and cold)
- Automatic water supply to tank by sensor
- Dimension(approx) : 630(W) × 760(D) × 920(H)m/m

G-1001-No.1

Automotive System and Power Train Educational system(F/R)



FEATURE

- Engine specification: rear drive, 4cycle, 4cylinder, water cooler inline I head type, 2000cc, SOHC gasoline engine, electronic controlled. G-1001 shows clearly power train system of a passenger car such as engine, clutch, transmission, propeller shaft, differential gear, rear axle shaft, tire. It is very effective for educating overall power train system. G-1001 shows the operating principle and cross-sectional view of power train system. G-1001 is very effective to instruct operating principles of power train system as well as technical education such as fault diagnosis, periodic inspection, and maintenance. Crankshaft, piston, valve, etc are clearly seen by cross-sectioning cylinder and head. Ignition is displayed with bulbs. Intake and exhaust systems, cooling system, fuel system, lubricating system, starting motor, air-con compressor, ignition system, etc are cross-sectioned and can be operated for higher education quality. A 5 speed manual transmission is cross-sectioned, so internal structure and operating principle can be explained easily. Steering system and suspension are installed for education. Coloring of cross-sectional area enhances the educational quality. A electric power of single phase AC 220V for motor driving is used to operate with 12°~15 RPM. A robust frame, made of steel and painted, can be moved easily and stopped by using 6 wheels. An user's manual and a cover ≙ L310 W180 H135 cm W:450kg

G-10011-No.2

Automotive System and Power Train Educational System(F/F)



FEATURE

- Engine specification : front drive, 4cycle, 4cylinder, water cooled, inline I head type, 2000cc, SOHC gasoline engine, electronic controlled. Shows clearly power train system of a passenger car such as engine, clutch, transmission, propeller shaft, differential gear, rear axle shaft, tire. It is very effective for educating overall power train system. G-10011 shows the operating principle and cross-sectional view of power train system. G-10011 is very effective to instruct operating principles of power train system as well as technical education such as fault diagnosis, periodic inspection, and maintenance. Crankshaft, piston, valve, etc are clearly seen by cross-sectioning cylinder and head. Ignition is displayed with bulbs. Intake and exhaust systems, cooling system, fuel system, lubricating system, starting motor, air-con compressor, ignition system, etc are cross-sectioned and can be operated for higher education quality. A 5 speed manual transmission is cross-sectioned, so internal structure and operating principle can be easily explained. Steering system and suspension are installed for education. Coloring of cross-sectional area enhances the educational quality. A electric power of single phase AC 220V for motor is used to operate with 12°~15 rpm. A robust frame, made of steel and painted, can be easily moved and stopped by using 6 wheels. An user's manual and a cover ≙ L310 W200 H150 cm W:500kg

G-10014-No.6

Automotive System and Power Train Educational System (4 wheel dirve)



FEATURE

- Engine specification : 4 cycle, 4 cylinder, water cooled, inline I head type, 2,600cc, diesel engine. Steering system and suspension are installed for education. Shows clearly power train system of a passenger car such as engine, clutch, transmission, propeller shaft, differential gear, rear axle shaft, tire. It is very effective for educating overall power train system. G-10014 shows the operating principle and cross-sectional view of power train system. G-10014 is very effective to instruct operating principles of power train system as well as technical education such as fault diagnosis, periodic inspection, and maintenance. Crankshaft, piston, valve, etc are clearly seen by cross-sectioning cylinder and head. Ignition is displayed with bulbs. Intake and exhaust systems, cooling system, fuel system, lubricating system, starting motor, air-con compressor, ignition system, etc are cross-sectioned and can be operated for higher education quality. A 5 speed manual transmission is cross-sectioned, so internal structure and operating principle can be easily explained. Steering system and suspension are installed for education. Coloring of cross-sectional area enhances the educational quality. A electric power of single phase AC 220V for motor is used to operate with 12°~15 RPM. A robust frame, made of steel and painted, can be moved easily and stopped by using 6 wheels. An user's manual and a cover

G-1011-No.9

Automotive Power Train Educational System

(Diesel engine/clutch/transmission/differential gear/full-floating rear axle/brake)



▶ FEATURE

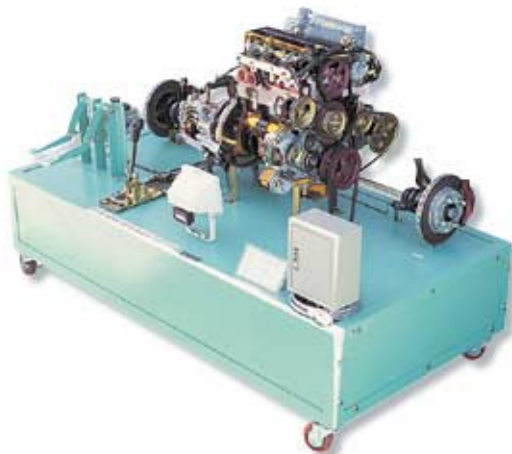
• G-1011 shows clearly power train system of a passenger car such as engine, clutch, transmission, propeller shaft, differential gear, rear axle shaft, tire. It is very effective for educating overall power train system. G-1011 shows the operating principle and cross-sectional view of power train system. G-1011 is very effective to instruct operating principles of power train system as well as technical education such as fault diagnosis, periodic inspection, and maintenance. Engine specification: rear drive, 4cycle, 4cylinder, water cooled, inline I head type, 2600cc, Diesel engine. Crankshaft, piston, valve, etc are clearly seen by cross-sectioning cylinder and head. Ignition is displayed with bulbs. Intake and exhaust systems, cooling system, fuel system, lubricating system, starting motor, air-con compressor, ignition system, etc are cross -sectioned and can be operated for higher education quality. A 5 speed manual transmission is cross-sectioned, so internal structure and operating principle can be easily explained. Coloring of cross-sectional area enhances the educational quality.

A electric power of single phase AC 220V for motor is used to operate with 12~ 15 rpm. A robust frame, made of steel and painted, can be moved easily and stopped by using 6 wheels. An user's manual and a cover ≅ L240 W100 H120cm W:470kg

G-1004-No.12

Automotive Power Train Educational System

(FF/engine/clutch/transmission/differential gear/rear axle)



▶ FEATURE

• G-1004 shows clearly power train system of a passenger car such as engine, clutch, transmission, differential gear, rear axle, brake. It is very effective for educating overall power train system. G-1004 shows the operating principle and cross-sectional view of power train system. G-1004 is very effective to instruct operating principles of power train system as well as technical education such as fault diagnosis, periodic inspection, and maintenance. Engine specification: front drive, 4 cycle, 4 cylinder, water cooled, inline I head type, 2000cc, SOHC gasoline engine, electronic controlled. Crankshaft, piston, valve, etc are clearly seen by cross-sectioning cylinder and head. Ignition is displayed with bulbs. Intake and exhaust systems, cooling system, fuel system, lubricating system, starting motor, air-con compressor, ignition system, etc are cross-sectioned and can be operated for higher education quality. A 5 speed manual transmission is cross-sectioned, so internal structure and operating principle can be easily explained. Coloring of cross-sectional area enhances the educational quality. A electric power of single phase AC 220V for motor is used to operate with 12 ~15 rpm. A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels. An user's manual and a cover ≅ L180 W95 H130cm W:400kg

G-1018-No.18

Engine Educational System



▶ FEATURE

• G-1018 shows clearly the operating principle and cross-sectional view of V-6 gasoline engine. Engine specification: 4 cycle, 6 cylinder, water cooled, V head type, 3000cc, DOHC gasoline engine, electronic controlled. Crankshaft, piston, valve, etc are clearly seen by cross-sectioning cylinder and head. Ignition is displayed with bulbs. Intake and exhaust systems, cooling system, fuel system, lubricating system, starting motor, air-con compressor, ignition system, etc are cross-sectioned and can be operated for higher education quality. Coloring of cross-sectional area enhances the educational quality. A electric power of single phase AC 220V for motor is used to operate with 12~15 rpm. Main frame is also rotated with 7~10 rpm for better demonstration. A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels. An user's manual and a cover ≅ ø100 H160 cm W:400kg

G-1014-No.20

SOHC Engine Educational System



▶FEATURE

- G-1014 shows clearly the operating principle and cross-sectional view of SOHC gasoline engine. Engine specification : 4 cycle, 4 cylinder, water cooled, in-line I head type, 2000cc, SOHC gasoline engine, electronic controlled. Crankshaft, piston, valve, etc are clearly seen by cross-sectioning cylinder and head. Ignition is displayed with bulbs. Intake and exhaust systems, cooling system, fuel system, lubricating system, starting motor, air-con compressor, ignition system, etc are cross-sectioned and can be operated for higher education quality. Coloring of cross-sectional area enhances the educational quality. A electric power of single phase AC 220V for motor is used to operate with 12~15 rpm. A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels. An user's manual and a cover ≒ L80 W80 H120cm W:200kg

G-1017-No.22-1

Diesel Engine Educational System



▶FEATURE

- G-1017 shows clearly the operating principle and cross-sectional view of electronic -controlled Diesel engine. Engine specification: 4 cycle, 4 cylinder, water cooled, in-line I head type, 2500cc, Diesel engine. Crankshaft, piston, valve, etc are clearly seen by cross-sectioning cylinder and head. Expansion stroke is displayed with bulbs. Intake and exhaust systems, cooling system, fuel system, lubricating system, starting motor, injection pump, alternator, etc are cross-sectioned and can be operated for higher education quality. Coloring of cross-sectional area enhances the educational quality. A electric power of single phase AC 220V for motor is used to operate with 12~15 rpm. A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels.

G-1016-No.23

Gasoline Engine Educational System



▶FEATURE

- G-1016 shows clearly the operating principle and cross-sectional view of SOHC gasoline engine by manually operating. Engine specification: 4 cycle, 4 cylinder, water cooled, in-line I head type, 1200cc, SOHC gasoline engine, carburetor. Crankshaft, piston, valve, etc are clearly seen by cross-sectioning cylinder and head. Intake and exhaust systems, cooling system, fuel system, lubricating system, starting motor, air-con compressor, ignition system, etc are cross-sectioned and can be operated for higher education quality. Coloring of cross-sectional area enhances the educational quality. A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels. An user's manual and a cover ≒ L80 W70H 120cm W:180kg

G-3033-No.147

Automatic Transmission Structure Educational System (FF type)



FEATURE

- G-3033 helps to understand the operating system and change of speed principle, hydraulic circuit, electric module, clutch and brake of FF type A/T.
- G-3033 is also effective educational internal structure to understand easily A/T system.
- G-3033 shows the cross-sectional view of A/T whose components such as torque converter, planetary gear, brake, hydraulic circuit, oil pump, and turbine shaft are easily seen.
- Coloring of cross-sectional area enhances the educational quality.
- A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels. An user's manual and a cover ≒ L77 W41 H61cm W:49kg

G-2002-No.271

4-Stroke Gasoline Engine Educational System



FEATURE

- G-2002 shows the operating principle and the cross-sectional view of gasoline engine, which is 4-stroke, air-cooled, single cylinder, electronic ignition type, over head valve type and 3 Hp engine.
- Internal structures such as cylinder, piston, crankshaft, cam, and valve, etc are clearly seen by simply disassembling radiator and fuel tank. It is very effective to instruct operating principles of 4 stroke gasoline engine by cross-sectioning intake and exhaust manifolds, fuel tank, filter, carburetor, fuel system, crankshaft, camshaft, alternator, etc.
- A electric motor, powered by single phase AC 220V, drives system with 12~15 rpm.
- Coloring of cross-sectional area enhances the educational quality.
- A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels. An user's manual and a cover ≒ L56 W41 H100cm W:55kg

G-2009-No.275

2-Stroke Gasoline Engine Educational System



FEATURE

- G-2009 shows the operating principle and the cross-sectional view of gasoline engine, which is 2-stroke, air-cooled, single cylinder, small-sized engine.
- It shows clearly scavenging, compression, power, exhaust processes by cross-sectioning cylinder.
- It is very effective to instruct operating principles of 2-stroke gasoline engine as well as technical education by cross-sectioning intake and exhaust manifolds, carburetor, muffler, crankshaft, alternator, etc.
- A electric power of single phase AC 220V is used and system is manually operated.
- Coloring of cross-sectional area enhances the educational quality.
- Mirror stainless steel adjustable base frame. An user's manual and a cover ≒ L40 W30 H40cm W:15kg

G-5000-No.231

Tractor Educational System



▶ FEATURE

- G-5000 shows the operating principle and the cross-sectional view of agricultural middle-sized 4-wheel tractor. G-5000 is very effective to instruct each functioning and power train of tractor as well as technical education such as fault diagnosis, periodic inspection, and maintenance. G-5000 is manufactured to demonstrate engine cylinder, intake and exhaust system, injection nozzle, fuel system, cooling system, transmission, clutch, differential gear, hub, brake, hydraulic system, steering system, and working system, etc. Coloring of cross-sectional area enhances the educational quality. A electric motor, powered by single phase AC 220V, drives whole system with 12~15 rpm. 2 halogen lamps highlights whole system. A robust frame, made of steel and painted, can be easily moved and stopped by using 4 wheels. An user's manual and a cover ≙ L320 W154 H180 cm W800kg - W:1,000kg

G-5001-No.234

Tractor Electrical Wiring Training System



▶ FEATURE

- G-5001 shows functioning and operating principle of electric wiring system of agricultural middle-sized tractor, based on which electric circuitry and its components can be taught. G-5001 is very effective to instruct electric wiring system of tractor as well as technical education such as fault diagnosis, periodic inspection, and maintenance. 98 terminals and colored wiring diagram are installed to enhance educational quality. A electric motor, powered by single phase AC 220V, drives system. A continuous self-charging system is installed and a digital tester for measuring current and voltage is supplied. A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels. An user's manual and a cover ≙ L1940 W600 H1650cm W:200 kg

G-5102-No.236

Tractor Hydraulic Circuit Educational System



▶ FEATURE

- G-5102 shows functioning and operating principle of hydraulic system of agricultural middle-sized tractor as well as technical education such as fault diagnosis, periodic inspection, and maintenance. G-5102 shows the cross-sectional view of power steering, control lever, hydraulic cylinder, hydraulic flow, etc. A electric motor, powered by single phase AC 220V, drives system. A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels. An user's manual and a cover ≙ L190 W120 H190 cm W:300kg

G-5008-No.246

Combine Educational System

▶ FEATURE



• G-5008 shows the operating principle and the internal structure of cutting parts, threshing parts, and power train of 4-row combine. G-5008 is very effective to instruct principles of power generation of 4-stroke Diesel engine, cutting parts, threshing parts as well as technical education such as fault diagnosis, periodic inspection, and maintenance. G-5008 clearly shows below mentioned systems such as power train, cutting system, and threshing system.

1. Power train: engine cylinder, intake and exhaust system, fuel system, lubricating system, cooling system, clutch, etc.
2. Cutting system: lower and upper cutters, upper feeding part, drive shaft, etc.
3. Threshing system: feeding parts, threshing parts, screw, reservoir tank, etc.

A electric motor, powered by single phase AC 220V, drives system with 12 \approx 15 rpm. Coloring of cross-sectional area and 2 halogen lamps enhance the educational quality. A robust frame, made of steel and painted, can be easily moved and stopped by using 4 wheels. An user's manual and a cover.

Power Train \div L300 W160 H245_{cm} W:975kg

Cutting System \div L120 W160 H170_{cm} W:540kg -

Threshing System \div L250 W170 H170_{cm} W:785kg -

G-5006-No.243

Transplanter Educational System(pedestrian type)

▶ FEATURE



• G-5006 shows the operating principle and the cross-sectional view of 4-row power tiller system.

G-5006 is very effective to instruct power-generated principle of 4-stroke gasoline engine, transplanting parts, etc as well as technical education such as fault diagnosis, periodic inspection, and maintenance.

G-5006 clearly shows cylinder, intake and exhaust system, fuel system, cooling system, transmission, clutch, differential gear, hub, brake, transplanting parts, etc. A electric motor, powered by single phase AC 220V, drives system with 12~15 rpm. Coloring of cross-sectional area and 2 halogen lamps enhance the educational quality. A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels.

An user's manual and a cover \approx L205 W150 H135_{cm} W:190kg

G-5007-No.240

Power Tiller Educational System G-5007-No.240

▶ FEATURE



• G-5007 shows the operating principle and the cross-sectional view of power tiller system. G-5001 is very effective to instruct power-generated principle of 4-stroke Diesel engine, tilling parts, etc as well as technical education such as fault diagnosis, periodic inspection, and maintenance. G-5007 clearly shows cylinder, intake and exhaust system, fuel system, cooling system, transmission, clutch, differential gear, hub, brake, tilling parts, etc.

A electric motor, powered by single phase AC 220V, drives system with 12~15 rpm. A single cylinder water-cooled direct injection Diesel engine of 8~10HP is used. Coloring of cross-sectional area enhances the educational quality.

A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels. An user's manual and a cover \approx L293 W90 H160_{cm} W:420kg

MS-ES-0001

Engine Simulator



▶ FEATURE

- 4 cycle, 4 cylinder, water cooled, in-line
- I head type, 1200~2000cc, gasoline engine electronic controlled.
- A robust frame, made of steel and painted can be easily moved and stopped by using 4 wheels.

MS-EC-0002

Engine Educational System



▶ FEATURE

- 4 cycle, 4 cylinder, water cooled, inline I head type, 2000cc, DOHC gasoline engine, electronic controlled.
- Coloring of cross-sectional area enhances the educational quality.
- A robust frame, made of steel and painted, can be easily moved and stopped by using 4 wheels.

MS-EL-0003

Automotive Electric Test / Simulator Training System



▶ FEATURE

- Educational system for electric wiring of 1500~2000cc passenger car.

MS-P-0004

Electric System Educational Model

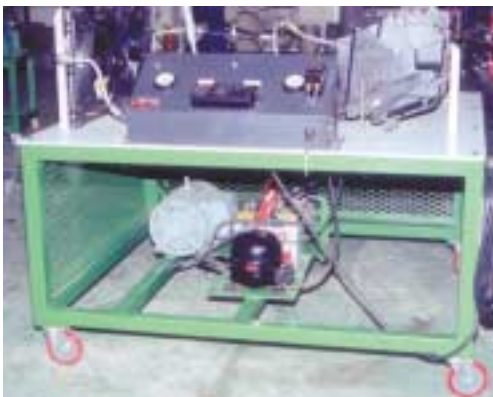


FEATURE

- Protortype vehice made of pipe, which is effective to educate electricand electronic system used in car.

MS-AS-0005

Automtive Air Conditioning Training System



FEATURE

- Air conditioning system of passenger car, whose refrigerang.
- A robusd frame, made of steel and painted, can be easily moved and stopped by using 4 wheels.

MS-382

Aircon Gas Recover / Recycling / Recharging System



FEATURE

- Application refrigerant : HFC-R134a, CFC-R12
- Method of control : Mycom type(Electronic scale, sensor, solenoid)
- Filter : SPORLAN(Catch-All) 33sq.ln
(Block core type moisture, dust etc)
- Scale : 10 ~ 50kg (Electronic scale system)
- Compressor : 220V/110V 3.0A(TECUMSER / 3900BTU)
- Vacuum pump : 220V/110V 2.0A(Oil-less type)
- Tank capacity : 13kg(For intenal tank)
- Case : High impact ABS plastic wood & steel structure
- Using temperature : 15°~ 45°
- Power : AC220V/110V/ 50Hz/60Hz
- Weight : 87kg
- Dimensions : 750° × 500° × 1080mm

SK - 01

Wheel Alignment



FEATURE

- 8 sensors wheel alignment system
- With the use of infrared sensors and precise inclinometer sensors
- Wireless infrared data transmission between 4 measuring heads and the console
- Quick 3 point self-centering clamps
- Need not run-out compensation
- Storing the job's result

SK - 02

Wheel Balancer



FEATURE

- The computerized wheel balancer with 14" color monitor
- Rim diameter : 10 - 24"
- Rim width : 2.5 - 20"
- Max. wheel whight : 75Kg
- Balancing speed : 280 RPM
- Mode : Dynamic, Static, ALU1, ALU2, ALU3
- Weight : 135Kg

SK - 03

Tire Changer



FEATURE

- The semi-automatic tire changer
- Self-centering : outside 12 - 20" inside 11 - 18"
- Bead-breaking power : 2140Kg
- Top rotational torque : 80 - 90Kg/m
- Max. wheel diameter : 920mm
- Wheel width : 320mm
- Bead-breaking blade opening : 280mm
- Weight : 190Kg

SK - 04

Macperson Spring Compressor



FEATURE

- Compression of the spring can be carried out with complete safety
- The time taken to complete the repair is greatly reduced, thereby maximizing profits for your business.
- Capacity : Coil diameter - 300mm
Coil length - 500mm
- Type : Hand type

SK - 05

2 Post Lift



FEATURE

- Twin electric safety deadlock.
- Specially engineered plastic carry guide. (Superior wear-resistant plastic bearing).
- Automatic arm locking device
- Twin wire ropes.
- Max-Capacity : 3,000Kg
- Weight : 700Kg

SK - 06

Automotive Gas Analyzer



FEATURE

- Measuring items : CO, HC, CO₂, O₂, λ, AFR
- Outstanding accuracy, stability and durability
- Temporary pause to measurement (HOLD function RS232 PC program)
- Displaying the data and time of printing
- Six LED indicators
- An integral part of dynamic emission testing system with chassis dynamo and engine tune-up.
- Diesel smoke tester (optional)

G-3051-
No.175-1

ABS Simulator Educational System(Inverter Operation)



FEATURE

- G-3051 is operatint type of A.B.S simulator with 4 sensors and 4 channels G-3051 specification: tires/4 wheel speed sensors, ECU, hydraulic unit, master vacuum system, self-charging and generation of electricity, a vacuum pressure gauge, master cylinder 2 pressure gauges, 4 pressure gauges per each wheel cylinder, digital RPM indicator 4 pieces/ electric-hydraulic circuit, control module, tire-friction control, check terminal of self-diagnostics, ECU solenoid valve, A.B.S change DC terminal, safety S/W, safety key, operation light/ alarm light.

An electric power is 220V or 380V 5 HP, input shaft is 0-450 RPM. A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels. An user's manual and a cover °÷ L170 W120 H165Ø W:600kg

G-3075-
No.215

Electronic Control Suspension(ECS) Educational System



FEATURE

- G-3075 is a simulated ECS to explain position control, damping force control, height control, air-pressure control, indicator light control and self-diagnostics, etc.

A robust frame, made of steel and painted, can be moved easily and stopped by using 6 wheels.

An user's manual and a cover °÷ L2400 W1200 H1400Ø W:450kg

G-30601-
No.198

Electronically-Controlled Power Steering Structure Educational System(EPS)



FEATURE

- G-30601 is electronically-controlled power steering system and its specifications are the same as G-3060. G-30601 includes ECU, wheel speed sensor, and solenoid valve, etc. G-30601 is power steering system which controled oil flow rate according to a vehicle speed.

Helps to understand the operating principle and structure of power steering system, whose components, oil pump, pressure pipe, control valve, chamber of rack-pinion are cleary seen.

The speed of oil pump is adjusted by inverter (0-3500 RPM).

Toe-in, camber, and caster can be measured easily .

An electric power is 220/380V.

A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels. An user's manual and a cover °÷ L1650 W:1800 H1740Ø W:460kg

G-30291-
No. 79

ETACS Computer Simulator Training System



FEATURE

- G-30291 consists of multi function switch, fuse box, lamp, switch, sensors, actuators, and ETACS ECU which can be operated by computer with DAQ software.

G-30291 is effective to educate the operating principle and functioning of ETACS ECU and electronic system.

PC installed at display board system to understand the electronic circuit system.

Interface specification: PIC 16F873A Main CPU, Analog input 5ea, Digital input 7ea, CCP output 1ea, Communication protocol RS232C, Board rate 38400, Data sampling rate 2604/sec/system,

A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels. An user's manual and a cover ∅: L1930 W600 H1650BØ W:245kg

G-30291-
No. 79

ETACS Simulator Training System



FEATURE

- G-30291 consists of multi function switch, fuse box, lamp, switch, sensors, actuators, and ETACS ECU which can be operation.

G-30291 is effective to educate the operating principle and functioning of ETACS ECU and electronic system.

A robust frame, made of steel and painted, can be easily moved and stopped by using 4 wheels. An user's manual and a cover ∅: L1930 W600 H1650BØ W:245kg

G-3032-
No. 145

Automatic Transmission Simulator Educational System (FF type)

FEATURE

- G-3032 helps to understand the operating principle, shifting principle, hydraulic circuit, electric module ,clutch and brake of automatic transmission installed at FF vehicle.

G-3032 is also effective educational simulator by selecting control modes, automatic and manual control modes. G-3032 shows the cross-sectional view of A/T whose components, one-way clutch, brakes, gears, oil pump, turbine shaft, are easily seen.

G-3032 has Korean patent No. 5488 for system and control software. Shift positions are P, R, N, D, 2, L. By selecting manual control mode, stall and low speed mode are very helpful to educate principle of automatic transmission. By selecting automatic control mode, G-3032 is automatically shifted in order of N, D, 2, L by control software. Rotational speed of system can be manually set to desirable rpm.

Digital rpm sensors installed at input and output shafts display rpm, through which gear ratio can be easily educated. Single phase 220V/ DC motor control/ program control/ LCD. A robust frame, made of steel and painted, can be easily moved and stopped by using 4 wheels. G-3032 is new product by prof. Kim Dong-Ki at Incheon polytechnic college. An user's manual and a cover ∅: L100 W80 H130BØ W:184kg



G-3004-
No.26

Engine&A/T Test Simulator Educational System



▶ FEATURE

- G-3004 consists of gasoline engine and automatic transmission, which can be operated.
G-3004 is effective to educate the operating principle and functioning of ECU, TCU, sensors, and actuators.
Pressure gages installed at hydraulic circuit of A/T helps to understand the shifting process.
Engine specification: 4 cycle, 6 cylinder, water cooler, V head type, 3000cc, gasoline engine, electronic controlled.
A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels.
An user's manual and a cover °÷ L1300 W1800 H1130BØ W:460kg

G-3005-
No.27

A/T&Engine Test Simulator Educational System



▶ FEATURE

- G-3005 consists of gasoline engine and automatic transmission, which can be operated.
G-3005 is effective to educate the operating principle and functioning of ECU, TCU, sensors, and actuators.
Pressure gages installed at hydraulic circuit of A/T helps to understand the shifting process.
Engine specification: 4 cycle, 4 cylinder, water cooler, in-line I head type, 2000cc, gasoline engine, electronic controlled.
A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels.
An user's manual and a cover °÷ L180 W120 H120BØ W:550kg

G-3006-
No.28

Engine&A/T Test Simulator Training System



▶ FEATURE

- G-3006 consists of gasoline engine and automatic transmission, which can be operated.
G-3006 is effective to educate the operating principle and functioning of ECU, TCU, sensors, and actuators.
Pressure gages installed at hydraulic circuit of A/T helps to understand the shifting process.
Engine specification: 4 cycle, 4 cylinder, water cooler, in-line I head type, 1800~2000cc, gasoline engine, electronic controlled.
A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels.
An user's manual and a cover °÷ L150 W120 H120BØ W:450kg

G-30081-
No. 33

Gasoline Engine Simulation Educational System



FEATURE

- G-30081 is effective to educate the disassembly and assembly of engine, electric and fuel parts.
Engine specification: 4 cycle, 4 cylinder, water cooler, in-line I head type, 1200~2000cc, gasoline engine, electronic controlled.
A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels.
An user's manual and a cover °÷ L1600 W1350 H1250Ø W:335kg

G-30016-
No. 44

Electronic Control Diesel Engine Simulator(CRDI)



FEATURE

- G-30016 consists of 2,000cc diesel engine, whose components are ECU, electric wiring, fuel, cooling, intake and exhaust systems.
G-30016 is effective to educate various testing for an engine.
A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels.
An user's manual and a cover °÷ L1310 W1390 H1470Ø W:445kg

G-30012-
No. 40

Air Conditioning Simulator Educational System (manually operated)



FEATURE

- G-30012 consists of 1,500?2,000cc gasoline engine and manual type air conditioning system such as heater core, blower, compressor, condenser, and evaporator.
It is effective to educate air conditioning-related principle and maintenance.
A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels.
An user's manual and a cover °÷ L190 W115 H110Ø W:490kg

G-30123-
No. 88

Automotive Electric System Simulator Training System



FEATURE

- G-30123 includes 12 kinds of electric system for automotive. It is effective to understand the circuitry for aforementioned items through practicing.

- A :
1. Starting motor training system
 2. horn training system
 3. cooling fan training system
 4. generator training system
 5. head light training system
 6. rear lamp training system
- B :
7. wiper training system
 8. ignition training system
 9. door lock training system
 10. power window training system
 11. air conditioning training system
 12. electric circuit training system

An user's manual and a cover

≡ A : L223 W85 H181 cm W250kg / B : L223 W85 H181cm W:250kg

G-30142-
No. 72

Automotive Electric Test Simulator Training System



FEATURE

- G-30142 is educational system for electric wiring of 2000cc passenger car. It is effective to educate electric circuitry of automotive vehicle. Single phase 220V, motor, self-charging system
- A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels.
- An user's manual and a cover ÷ L2400 W1000 H1930Ø W:240kg

G-30297-
No. 86-1

Motronic Test Simulator System



FEATURE

- G-30297 explains the principle of electronically controlled S.I. engine, whose control functions are fuel, ignition timing, idle speed control, etc. G-30297 is effective to educate diagnostics, maintenance of electronically controlled engine.
- A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels.
- Direct igniton system : D L I
- Integrated control system : motronic system
- An user's manual and a cover ÷ L1940 W600 H1650Ø W:÷ 200 kg

G-20281-
No. 110

Starting Motor and Alternator Test Training System

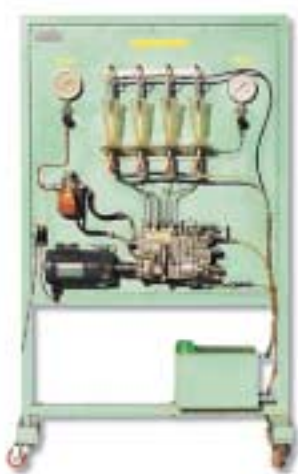


FEATURE

- G-20281 is effective to educate charging system, alternator, starting motor, etc.
voltage-meter, ammeter
- G-20281 has voltmeter and ammeter for measurement.
- A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels.
- G-20281 is equivalent to 10 bulbs are included for measuring electric load.
- An user's manual and a cover °: L:67 W:54 H:80 Ø W:80kg

G-3030-
No. 292

Diesel Fuel System Educational System



FEATURE

- G-3030 is operating type and includes diesel fuel supply system such as fuel tank, fuel pipe, fuel pump, fuel filter, high pressure pipe, injection nozzle, return pipe, etc.
- G-3030, operated by single phase 220V gear motor, is individual injection pump type, which shows the operating principle and structure of governor, timer, injection nozzle.
- Injection pressures and spray pattern can be analyzed by adopting two fuel pressure gauges and visible cylinder.
- A robust frame, made of steel and painted, can be moved easily and stopped by using 4 wheels.
- An user's manual and a cover °: L:120 W:60 H:165 Ø W:120kg

G-6000-
No. 356

Engine Stand



FEATURE

- G-6000 is engine stand to assemble and disassemble engine, which can rotate engine by 360 degree. It has very robust structure.
- G-6000 is very stable through adapting breaker.
- G-6000 can be used in various purposes such as display of engine, transmission, and industrial equipment.
- It is moved easily and stopped by 4 wheels.
- An user's manual °: L:104 W:68 H:95 Ø W:105kg

DYTEK 40/70/
130/230/400

Eddy Current Dynamometer - Machine



▶ FEATURE

- The increasing demands to improve technology of vehicle test systems have become a major concern in line with the development of automotive industry all over the world. Leading suppliers strive arduous efforts to produce better engine related test equipment which is regarded as a basis in testing engines.

DYTEK
2000

Dynamometer Main Control System

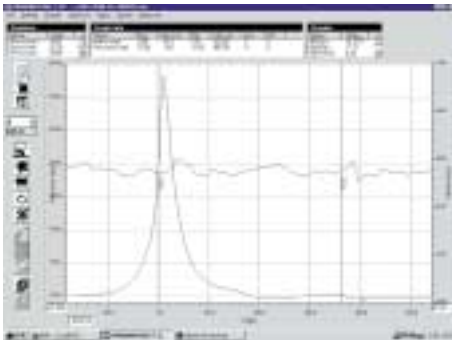


▶ FEATURE

- Our high quality engine dynamometer is the result of ceaseless research and expertise invested for more than 10 years in this field. Advanced know-how and skill in both precision and assembling assure us high competitiveness and therefore produce every year innovative latest systems with high stability and endurance.
- Every unit is subject to stringent inspection to insure high quality and safety, Reliability precision and stability means our Dynamometer Controller

DYTEK
5200

Engine Combustion Analysis System



FEATURE

- Total S/W Package for Combustion Analysis
- Real Time Scanning & Graphic Display
- Real Time Measuring
- Pointing Zoom (Free Scale)
- Pressure Graphs
- Crank Angle Cylinder Pressure
- Crank Angle Intake
- Crank Angle Based Graphs
- P - Θ , P - V Curve, dp/d Θ Q/d Θ - Θ , x - Θ , Poly- Θ , Statistical Service : IMEP Cycle, Pmax/Pmin Cycle Pmax-Hist, Pmin-Hist, Θ Cycle

DYTEK
6000

Chassis Dynamometer



FEATURE

- Our chassis dynamometer is a system to fulfill accurate measurements through simulating on-road driving conditions of four-wheel drive vehicles by giving flywheel inertia and electrical control. Nothing can carry out correct test performance better than our advanced measurement technology. Our product enables the operator to capture quite precise measurement values such as the number of roller rotation and torque by measuring damping force gained from break work. Applications, depending on the vehicle type and performance aims, can be classified according to the missions such as assessment of exhaust gas components, endurance test, general function measurement and further research.
- Among various chassis dynamometers for exhaust gas component measurement, our product is engineered essentially with flywheel-130kw(180ps)/200kw(260ps) Eddy Current Dynamometer equipped with widely accepted Θ ™220mm twin roller which not only answers the E.P.A. standards but offers significant strengths in ease of control, durability covering specific range and competitive cost frames. Materials are carefully adopted by our analysers through perfect examinations and thorough research on the structure and functional characteristics of chassis dynamometer system. Key parts like flywheel and roller are uncomparatively designed with sophisticated design know-how.

DYTEK
5000

Automation System for Dynamometer



FEATURE

- Carrying out high speed integral data acquisition from engine performance test units, our auto measuring system features a wide range of capabilities in accurate data conversion, output in graphs and record by user's easier operation.
- In combustion chamber examination, it presents reliable measurement values of torque, engine speed, pressure, temperature, fuel consumption ratio and throttle on-off effect, etc. Computer base forms signal from sensor units, Interface measurement device, data acquisition board and built-in programmes.

NeoMet 79P | **Portable pH/ISE/mV/ORP/Temp Meter**



FEATURE

- Good Design mark certified - Korean government
- Automatic/Manual calibration for convenient use
- Two-way 232C communication
- pH range : -2.000 to 19.999
- pH relative accuracy : ± 0.002
- Power : 9V Battery and adapter
- Data-log : 50points
- standard accessories
 - Combination pH electrode/temperature probe
 - pH buffer solution set (4,7,10), each 125ml
 - 9V battery and DC adapter

LabMet 720P | **Laboratory pH/mV/Temp Meter**



FEATURE

- Clear custom LCD display
- Automatic/Manual calibration for convenient use
- Two-way 232C communication
- pH range : -2.00 to 19.99
- pH relative accuracy : ± 0.02
- Power : AC/DC adapter
- Data-log : 50points
- Standard accessories
 - Combination pH electrode/temperature probe
 - pH buffer solution set (4,7,10), each 125ml
 - AC/DC adapter

LabMet 750P | **Laboratory pH/ISE/mV/ORP/Temp Meter**



FEATURE

- Dual electrode input and simultaneous display
- Wide and clear graphic LCD display
- Select Ion for accurate measurement
- pH range : -2.000 to 19.999
- pH relative accuracy : ± 0.002
- Power : AC/DC adapter
- Data-log : 200points
- Standard accessories
 - Combination pH electrode/temperature probe
 - pH buffer solution set (4,7,10), each 125ml
 - AC/DC adapter
 - DAPS (Data Acquisition & Processing Software)

NeoMet 29D

Portable Dissolved Oxygen/O₂/Temp Meter



FEATURE

- Good Design mark certified - Korean government
- Automatic/Manual calibration for convenient use
- Two-way 232C communication
- DO range : 0.00 to 19.99mg/L
- DO relative accuracy : $\pm 0.5\%$
- Power : 9V Battery and adapter
- Data-log : 50points
- standard accessories
 - DO polarographic electrode/temp probe
 - DO membrane & filling solution
 - 9V battery and DC adapter

LabMet 215D

Laboratory Dissolved Oxygen/O₂/Temp Meter



FEATURE

- Clear custom LCD display
- Automatic/Manual calibration for convenient use
- Two-way 232C communication
- DO range : 0.00 to 19.99mg/L
- DO relative accuracy : $\pm 0.5\%$
- Power : AC/DC adapter
- Data-log : 50points
- standard accessories
 - DO polarographic electrode/temp probe
 - DO membrane & filling solution
 - AC/DC adapter

LabMet 245D

Laboratory Dissolved Oxygen/O₂/pO₂/Temp Meter



FEATURE

- Wide and clear graphic LCD display
- Automatic/Manual calibration for convenient use
- Two-way 232C communication
- DO range : 0.00 to 19.99mg/L
- DO relative accuracy : $\pm 0.5\%$
- Power : AC/DC adapter
- Data-log : 100points
- standard accessories
 - DO polarographic electrode/temp probe
 - DO membrane & filling solution
 - AC/DC adapter
 - DAPS (Data Acquisition & Processing Software)

NeoMet 47C | Portable Conductivity/TDS/Salinity/Temp Meter



FEATURE

- Good Design mark certified - Korean government
- Automatic/Manual calibration for convenient use
- Two-way 232C communication
- Conductivity range : 0 to 199,999 $\mu\text{S}/\text{cm}$
- Conductivity relative accuracy : $\pm 0.5\%$
- Power : 9V Battery and adapter
- Data-log : 50points
- standard accessories
 - Conductivity cell (K=1.0)/temp probe
 - Conductivity standard solution 1413 μS , 125ml
 - 9V battery and DC adapter

LabMet 430C | Laboratory Conductivity/Salinity/Temp Meter



FEATURE

- Clear custom LCD display
- Automatic/Manual calibration for convenient use
- Two-way 232C communication
- Conductivity range : 0 to 199,999 $\mu\text{S}/\text{cm}$
- Conductivity relative accuracy : $\pm 0.5\%$
- Power : AC/DC and adapter
- Data-log : 50points
- standard accessories
 - Conductivity cell (K=1.0)/temp probe
 - Conductivity standard solution 1413 μS , 125ml
 - AC/DC adapter

LabMet 455C | Laboratory Conductivity/TDS/Salinity/Temp Meter



FEATURE

- Wide and clear graphic LCD display
- Automatic/Manual calibration for convenient use
- Two-way 232C communication
- Conductivity range : 0 to 199,999 $\mu\text{S}/\text{cm}$
- Conductivity relative accuracy : $\pm 0.5\%$
- Power : AC/DC and adapter
- Data-log : 100points
- standard accessories
 - Conductivity cell (K=1.0)/temp probe
 - Conductivity standard solution 1413 μS , 125ml
 - AC/DC adapter
 - DAPS (Data Acquisition & Processing Software)

SOWA
Multi 100

On-line auto water monitoring system



FEATURE

- Measure : pH, EC, Residual Chlorine, Turbidity etc.
- Application : drinking water plant, Sewage water disposal plant, waterworks, etc.
- Real-time based controlling and monitoring
- Auto self-control
- Automatic cleaning and measuring
- Output : 4~20mA(RS232/485, internet, Lan(TCP/IP), Cell phone
- Installation : indoor or outdoor installable
- Special order available depend on user's application
- Dimension : 1600mm(H) × 650mm(W) × 750mm(D)

SOWA
COD200Mn

On-line COD Mn(Chemical Oxygen Demand)



FEATURE

- Analysis method : Potentiometric
- Application : filtration plant, wastewater disposal plant, sewage water disposal plant, lake & river, drinking water etc.
- Range : 0 ~ 200ppm (over 200ppm : user's option)
- Measuring time : 60 minutes
- Measuring electrode : ORP electrode
- Output : 4~20mA(RS232/485, internet, Lan(TCP/IP)
- Auto self-control
- LCD touch screen
- Dimension : 1600mm(H) × 650mm(W) × 750mm(D)

SOWA
pH910 (pH/ORP) ,
DO920 (DO) ,
EC930 (EC/Salinity)

On-line Controller (pH/Oxygen/Conductivity)



FEATURE

- Microprocessor type controller using microchip
- Convenient interactive programmable dialogue manu
- Application : filtration plants, wastewater disposal plant, sewage water disposal plant etc.
- pH range : 0.00 ~ 14.00 (accuracy ± 0.01)
- DO range : 0.00 ~ 19.99ppm (accuracy $\pm 0.5\%$)
- EC range : 0 ~ 199,999 μ S/Cm (accuracy $\pm 0.5\%$)
- Output : 4~20mA(RS232/RS485)
- Control-cut function
- Respond time : about 90% response in 10seconds
- Dimension : 185mm(H) × 210mm(W) × 84mm(D)

GMK-303RS Grain Moisture Meter



FEATURES

- FOR MEASURING MOISTURE CONTENT OF VARIOUS KINDS OF GRAINS
- APPLICATIONS & MEASURING RANGES (303RS)

RICE	9.8 - 26%
PADDY	8.5 - 30%
SOYBEAN	8.5 - 21.5%
RED BEAN	12.5 - 19.7%
BARLEY	8.3 - 30%
WHEAT	9 - 30%
CORN	8.7 - 22.8%

- ACCURACY : $\pm 0.5\%$
- ACCORDING TO KINDS OF GRAINS, THERE ARE THREE MODELS (GMK-303/303RS/303U)

GMK-308 Flour Moisture Meter



FEATURES

- FOR MEASURING MOISTURE CONTENT OF WHEAT POWDER
- MEASURING RANGE : 8.5 - 23.5 %
- ACCURACY : $\pm 0.5\%$
- NON-DESTRUCTIVE TESTING METHOD
- AUTOMATIC TEMPERATURE COMPENSATION
- AVERAGE DATA IS AVAILABLE
- BATTERY REPLACEMENT SIGN APPEARS
- EASY TO USE, COMPACT & QUICK READING

GMK-770S Soil Moisture Meter



FEATURES

- FOR MEASURING MOISTURE CONTENT OF THREE KINDS OF SOIL CLASS
- MEASURING RANGE : 7 - 40 %
- ACCURACY : $\pm 3\%$
- DRIED SOIL WEIGHT % METHOD
- SOIL CLASS

SANDY LOAM	12.5 - 25% CLAY
LOAM	23 - 37.5% CLAY
CLAY LOAM	37.5 - 50% CLAY

- TEMPERATURE OF SOIL IS ALSO POSSIBLE

GMK-315 Honey Moisture Meter



FEATURES

- FOR MEASURING MOISTURE CONTENT OF HONEY
- MEASURING RANGE : 12 - 40 %
- ACCURACY : ± 0.2 %
- POWER SOURCE : 9 VOLT 1 EA
- WEIGHT : ABOUT 1 KG
- SIZE : 158(L), 70 (W), 40 (H) m/m
- TEMPERATURE COMPENSATION IS AUTOMATIC

GMK-701R Digital Refractometer



FEATURES

- SUGAR CONTENT(BRIX %) MEASURABLE
- MEASURING RANGES & APPLICATIONS

MODEL: GMK-701R (0-45 BRIX %)	FRUITS, JUICES, MILK, SOFT DRINKS, COFFEE, TOMATO KETCHUP
MODEL: GMK-702R (45-90 BRIX %)	JAMS, HONEY, RAW LIQUID SUGAR
MODEL: GMK-704R (0-60 BRIX %)	FRUITS, JELLIES, CONCENTRATED JUICES

- ACCURACY : ± 0.2 BRIX %

GMK-825 Citrus Acidity Meter



FEATURES

- CITRIC ACID WEIGHT % MEASURABLE
- APPLICATIONS : CITRUS, ORANGE
- MEASURING RANGE : 0.4 - 3.5 WT%
- ACCURACY: ± 0.1 WT% (MODEL: GMK-815)
 ± 0.05 WT% (MODEL: GMK-825)
- CALIBRATION
 MODEL: GMK-815: AUTOMATIC CALIBRATION
 MODEL: GMK-825 BY STANDARD SOLUTION

LD-FCD

Center Table



MODEL	FCD-300	FCD-360	FCD-420
W	3000	3600	4200
D	1500		
H	800/1800		

FEATURES

- This model is a Furnished Center Table With a Wood Shelf a Laboratory Sink, Electrical Outlets, Water Faucets and Movable Laboratory Drawer Underneath.
Complete and Convenient to use for any kind of lab-work

SPECIFICATION

- Work Top : Lab-Board THK 20m/m
- Panel : Chip-Board with L.P.M Coated
- Frame : Steel Pipe With Powder Coated
- Sink Bowl : Polypropylene or stainless (sus304)

OPTION

- Electric Consent : 220v or 110v 15A
- Water Faucet : 1way, 2way, Mixing

LD-FCJ

Center Table



MODEL	FCJ-240	FCJ-300	FCJ-360
W	2400	3000	3600
D	1500		
H	800		

FEATURES

- This model is a Simple Center Table With a movable Laboratory drawer Underneath Convenient to use.

SPECIFICATION

- Work Top : Lab-Board THK 20m/m
- Panel : Chip-board with L.P.M Coated
- Frame : Steel Pipe With Powder Coated

OPTION

- Electric Consent : 220v or 110v 15A

LD-SCD

Storage Cabinet



FEATURES

- This model is a Storage Cabinet for Chemicals, Labwares and Lab equipment and comprised in a laboratory drawer and cabinet in lower section and shelves with glass doors in upper section

SPECIFICATION

- Cabinet : Chip board with L.P.M Coated
- Drawer : Chip board with L.P.M coated
- Door : Clear Glass THK 3m/m
- Shelf : Chip Board with L.P.M Coated

MODEL	SCA-90	SCA-120	SCA-150
W	900	1200	1500
D	450		
H	1800		

LD-FSD

Side Table



MODEL	FSD-180	FSD-210	FSD-240
W	1800	2100	2400
D	750		
H	800		

FEATURES

- This model is a Side Table With a Movable Laboratory Drawer underneath and to be installed along with the wall.

SPECIFICATION

- Work Top : Lab-Board THK 20m/m
- Panel : Chip-Board with L.P.M Coated
- Frame : Steel Pipe With Powder Coated

LD-SWB

Sink Table



MODEL	SWB-90	SWB-120	SWB-150
W	900	1200	1500
D	750		
H	800		

FEATURES

- This Model is a Sink Table for cleaning of Labwares and Equipments, comprisal in a sink bowl and a cabinet and Furnished with water Faucet.

SPECIFICATION

- Sink Bowl : Polypropylene or Stainless (sus 304)
- Cabinet : Clip board with L.P.M Coated

OPTION

- Trap (siphon) Polypropylene
- Water Faucet : 1way. 3way. Mixing

LD-FHA

Fume Hood



MODEL	FHA-120	FHA-150	FHA-180	FHA-240
W	1200	1500	1800	2400
D	800			
H	2350			

FEATURES

- This model is a Ducted Fume Cup Board to ventilate toxic Chemical vapors and gases and hazard particles. Separated by 2 Parts, Upper and Lower Section and All materials chemical resistant

SPECIFICATION

- Exterior : C.L Board THK 10m/m or SUS304 Plate
- Interior : C.L Board THK 4m/m
- Work Top : Lab-Board or Epoxy THK 20m/m
- Window : Safety Clear Glass THK 5m/m
- Cabinet : Steel Frame with Chip Board Panel or Steel Plate with Powder Coated

OPTION

- Cup Sink , Water Valve & Cock
- Lamp
- Utility (Gas,N2,Vac, Air) Valve & Cock
- Blower (Fan)

CHC - 051 | Ductless Hood



FEATURE

- Ductless fume hood traps harmful gases and fumes with selected filters according to the needs of laboratory workers.
- Microprocessors are built in all models to display the status of the equipments.
- Alarm and LCD display will give warning signals to check filter conditions either after 60 hour operation or by the signal of gas sensor.
- Flowmeter shows the air flow rates inside the hood and entrance.

MODEL	CHC-051			CHC-090		
	W	D	H	W	D	H
Dimensions(mm)						
Interiors	1180	790	865			
Exteriors	1200	830	1270	1210	840	910
Type of filter	G. A. V. B.					
Blower	Centrifugal Blower					
Volume of air treated	530 ±10 m ³ /h					
Voltage/frequency	AC 220V / 60Hz					
Power consumption	250W					
Sound level	65 dB					



CHC - 090 | Moving Table



CHC -052 /053 **Ductless Hood**



FEATURE

MODEL	CHC-052			CHC-053		
Dimensions(mm)	W	D	H	W	D	H
Interiors	880	645	865	880	620	745
Exteriors	900	685	1270	900	650	1100
Type of filter	G. A. V. B.					
Blower	Centrifugal Blower					
Volume of air treated	530 ±10 m ³ /h					
Voltage/frequency	AC 220V / 60Hz					
Power consumption	250W					
Sound level	65 dB					

Manual detection Kit
The manual detection kit inform that filter saturation extent and the necessity of filter exchange.



Filter Type			
Types of Gas Produced	Gases or Vapours	Gases and Fumes	Remark
General Purpose	G	GH	
Acidics	A	AH	Hydrochloric acid, Sulfuric acid, Nitric acid
VOC(Volatile Organic Carbon)	V	VH	Benzene, Toluene, cetone
Basics	B	BH	Ammonia, amines, Pyridine

CHC - 061,
062

Ductless Storage Cabinets



▶ FEATURE

- **FILTER TEST HOLE** - Filter status for change can be decided by color change of detection kit.
- **ELECTRONIC MODULE** - All models are equipped with microprocessor to Display the status of storage cabinet. Every 2000 hours usage or when gas sensor detects abnormal operation condition, electronic module gives alarm and send signal on display. Previous filter exchange time and total usage time are on display.



▶ FEATURE

MODEL	CHC-061			CHC-062		
	W	D	H	W	D	H
Dimensions(mm)	1440	430	1900	720	430	1900
Interiors	1600	450	2150	800	450	2150
Type of filter	G(General Purpose)					
Blower	Centrifugal Blower					
Volume of air treated	100 m ³ /h					
Voltage/frequency	220V / 60Hz					
Power consumption	60W					
Amperage	0.3A					
Sound level	50 dBA					

CHC-001,
002

Local Extractor System







▶ FEATURE

- Local extractor system protects personnels from gases while handling chemicals in the laboratory.
- Users can rotate and move the cap of the system to the positions with easy operation.
- $\varnothing 75 - 1500$

* Fit dissecting small animals like mouse, rat

* Can be operated with ArmHood Sysyem

			
CHC - 006	CHC - 007	CHC - 008	CHC - 009
300 × 300 × 3	200 × 220 × 250/500/750	200 × 220 × 220	$\varnothing 300/400$

DR-8500
-02set

PLC Education Trainer Set



FEATURE

- The PLC Trainer DR-8500-02set is consists of demonstration panel,PLC unit and input/output training kit.
- Built-in push-switch part,display(16hexadecimal), A/D,D/A input terminal& 9-pin connector, lamp, motor,buzzer,rotary table,rectilinear movement table for PLC in/output simulation.
- Speciality moduls(A/D, D/A, HSC, PID, Interface moduls)

DR-1000PF

Pneumatic Application Training System



FEATURE

- The Pneumatic Training System(DR-1000SF) is a com-prehensive training system in pneumatic principles and applications.
- Built-in common equipment part, basic pneumatic experiment part, electro pneumatic experiment part (three main component parts)
- The sources of pneumatic electricity is DC 24V.

DR-
8600-01

Sensor Control Training System



FEATURE

- A sensor experiment apparatus is normally used in the automatized industry areas and composed of a variety of sensors to be understood the characteristics and application of the sensor.
- A sensor experiment apparatus has the device for detecting the materials and shape of the detected objects as well as the sensors, and is capable of making out the appropriate detectable method according to the characteristics of the sensors.
- A sensor experiment apparatus has a simple connection connector for the efficient education of the sensor and the sensor protection circuit and fuse for the safety of the outlet power sensor(DC 24V). Furthermore it can be checked its probable problems concerning disorder by the sensor tester device .

DR-8700
DC-00

Digital Processor Control System



FEATURE

- A digital process unit is used for the detailed experiment of the process control and simple system control.
- A digital process unit has various input signal generator (pressure,temperature,level,load transducer, photo transducer).
- A digital process unit has several kinds of linear output devices.
- A digital process unit has a digitalized process control device.
- A digital process unit has both control and indication function operated by PC and interface (process monitoring software : options)

DR-8500-04P

PLC-Pneumatic Application Training kit.



FEATURE

- The plc-pneumatic training kit is an efficient device that makes it possible to practise plc program and pneumatic training at the same time.
- The plc-pneumatic training kit can practise the electronic pneumatic training, the basic training of the sensor, the point-to-point training of the pneumatic robot, and the wiring of the plc and equipment as well. That's because the plc-pneumatic has also the robot of Athree-axis, x,y,z operated by the pneumatic and the plc kit which controls it.
- The plc-pneumatic training kit is composed of a built-in pneumatic cylinder(double, rotation), a motor, the plc, a solenoid valve, a sensor(photo, proximity), and various terminal stations.

MDA-DSP | DSP TMS320C50 Board



FEATURE

- MDA-DSP Integration Development Environment Program
- Direct input to machine language.
- LCD display function use to key-board.
- I/O Port experiment use to C-Language.
- Analog signal input function use to 16bit A/D converter
- Analog signal output function use to 16 bit D/A converter
- Various command function
- In-output function use to audio or analog signal
- +5V,+12V,-12V S.M.P.S(Free Voltage)Power
- Wood case

MDA-
EMS196

16Bit Micro Controller 80C196KC Emulation Board



FEATURE

- MDA-EMS196 Integration Development Environment Program.
- LED display to current system bus status
- Key Board of various function
- I/O port experiment by C-language.
- Experiments use to micro controller test units.
- Experiments Read/Verify/Write/Erase of 28C256(EEPROM)
- Volt meter, temperature, and photo sensor experiment by A/D converter.
- D.C Motor speed control by PWM of 80C196KC.
- +5V, +12V, -12V S.M.P.S(Free Voltage) Power.
- Various interrupt experiment by PTS
- Wood case

MDA-8086

16Bit Processor 8086 Board



FEATURE

- Program debugging function by PC.
- Program down-load and trace function.
- Display to register contents.
- Memory contents modification and dump function.
- Various command function.
- Include with stepping motor interface circuit.
- LCD Display experiment.
- D/A and A/D converter experiment.
- Sound experiment by speaker.
- interrupt experiment.
- A/D converter experiment by thermistor.
- D/A converter experiment by Level Meter.
- Wood case.

MDA -
68000

16Bit Processor 68000 Board



FEATURE

- RS-232C Communication(Terminal mode and Host mode).
- Down-Load and Up-Load function.
- Program trace function.
- I/O experiment.
- Include matrix(3 color) experiment.
- Interrupt function.
- Disassemble function.
- Register contents modification and display function
- Baud-rate select function.
- various command function.
- software debugging function by break point.
- Wood case

MDA-EMS51

16Bit Micro Controller 8051 Emulation Board



FEATURE

- MDA-EMS51 Integration Development Environment Program.
- I/O port experiment by C-language.
- Key Board function
- I/O port experiments.
- Dot matrix(3 color) experiment.
- Volt meter experiment by A/D converter.
- Sound experiment.
- 8751, 89C51 Read/Verify/Write/Erase function.
- Experiments use to Micro controller test units.
- 16 × 2 Line LCD display function.
- Key-board function.
- Wood case

MDA-Z80

8Bit Processor Z80 Board



FEATURE

- Program debugging function by PC.
- Memory contents modification and dump function.
- Program Down-load and Disassemble.
- Single step function.
- Various command function.
- ROM writer function(2764~27512).
- Stepping motor interface circuit.
- D/A and A/D converter experiment.
- Sound experiment.
- 16 × 2 Line LCD function.
- +5V, +12V, -12V S.M.P.S(Free Voltage) Power.
- D.C moter control
- Wood case.

ANYPA-LAN LAN Protocol Analyzer



DESCRIPTION

- Network Management(NMS)+Protocol Decoder+Net Tools
+Packet Block System + Education Package

FEATURE

- Network Traffic Matrix
- Support Protocol Decoder
- Presentation Statistics Report
 - : Total Packets / Bytes, Broadcast/Multicast/
Unicast Count, Collision, PacketSize Distribution
- Protocol Distribution
- NetTool : Ping, Tracert, Autoscan, Whois, DNSlookup
- Packet Blocking System
- Network Management and R&D
- LAN Protocol Structure Analysis on Network
- Internet Protocol Education Package

PA-200 CDWA Win DM Protocol Analyzer



DESCRIPTION

- Cell (Base Station) Optimized System & CDMA Education Book

FEATURE

- Presentation of Scenario Display for User Convenience
- Temporal Analyzer Graph
- Support Power Control, Vocoder Rate, FER GRAPH
- Cell Site Optimize and Analysis
- Status Information of Mobile Station
- Presentation Accumulated Statistics for Each Channel
- Supported 4 Fingers
- Supply Power for Mobile Phone
- Status Display

OSC-1060 Real Time Analog Oscilloscope



DESCRIPTION

- Measured Waveform Frequency, Voltage and repair or Design of Electronic System

FEATURE

- Frequency : DC ~ 60MHz
- Trigger : 60MHz
- Vert Trigger
- Vertical Sensitivity : 5mV(MAG 1 mV)
- Channel : 2CH
- Trace : 2
- Cooling Fan System

■ 370 × 137 × 416

■ 8.2 Kg

OSC-1030 Real Time Analog Oscilloscope



DESCRIPTION

- Measured Waveform Frequency , Voltage and repair or Design of Electronic System

FEATURE

- Frequency : DC ~ 30MHz
- Trigger : 30MHz
- Vert Trigger
- Vertical Sensitivity : 5mV(MAG 1 mV)
- Channel : 2CH
- Trace : 2
- Cooling Fan System

- 370 × 137 × 416
- 8.2 Kg

FG-8021C 20MHz Function Generator with Counter



DESCRIPTION

- Supply Many Kinds of Waveform for Telecommunication & Electronic System

FEATURE

- Frequency Range : 0.2Hz to 20MHz In the 8 Ranges
- Versatile Waveforms : sine, Triangle, Square,Ramp and pulse, Sawtooth
- 0.2Hz ~ 150MHz INT/EXT Frequency Counter
- Fast, High-Resolution,8 Digits LED Display
- TTL/CMOS Leveled Square Wave Output
- DC Offset Control
- AM/FM Modulation
- Internal/External Burst

- 255 × 80 × 260
- 2.7 Kg

FG-220C 20MHz Function Generator with Counter



DESCRIPTION

- Supply Many Kinds of Waveform for Telecommunication & Electronic System

FEATURE

- Frequency Range : 0.2Hz to 20MHz In the 8 Ranges
- Versatile Waveforms : sine, Triangle, Square, Ramp and pulse, Sawtooth
- 0.2Hz ~ 150MHz INT/EXT Frequency Counter Self
- Made Insert ASIG
- Built-in 6 Digits Green LED Display
- TTL/CMOS Leveled Square Wave Output
- DC Offset Control

- 255 × 80 × 260
- 2.7 Kg

FG-205C 5MHz Function Generator with Counter



DESCRIPTION

- Supply Many Kinds of Waveform for Telecommunication & Electronic System

FEATURE

- Frequency Range : 0.05Hz to 5 MHz In the 7 Ranges
- Versatile Waveforms : sine, Triangle, Square, Ramp and pulse, Sawtooth
- 0.2Hz ~ 150MHz INT/EXT Frequency Counter Self Made Insert ASIG
- Built-in 5 Digits Green LED Display
- TTL/CMOS Leveled Square Wave Output
- DC Offset control

- 255 × 80 × 260
- 2.7 Kg

FG-202C 2MHz Function Generator with Counter



DESCRIPTION

- Supply Many Kinds of Waveform for Telecommunication & Electronic System

FEATURE

- Frequency Range : 0.02Hz to 2 MHz In the 7 Ranges
- Versatile Waveforms : sine, Triangle, Square, Ramp and pulse, Sawtooth
- 0.2Hz ~ 150MHz INT/EXT Frequency Counter Self Made Insert ASIG
- Built-in 5 Digits Green LED Display
- TTL/CMOS Leveled Square Wave Output
- DC Offset control

- 255 × 80 × 260
- 2.7 Kg

FC-155 5.5GHz Reciprocal Frequency Counter



DESCRIPTION

- Measure Frequency, RPM, Period, Time Interval & Others

FEATURE

- Frequency Range : 0.2Hz ~ 5.5GHz
- Built -in CMOS Gate Array
- Fast, High -Resolution 10 Digits Green LED Display
- Self Diagnosis Routine
- INT/EXT Time Base Selectable
- Low Pass Filter (100KHz ,3dB)

- 255 × 80 × 260
- 2.8 Kg

FC-121 2.1GHz Reciprocal Frequency Counter



DESCRIPTION

- Measure Frequency, RPM, Period, Time Interval & Others

FEATURE

- Frequency Range : 0.2Hz ~ 2.1GHz
- Built -in CMOS Gate Array
- Fast, High -Resolution 10 Digits Green LED Display
- Self Diagnosis Routine
- INT/EXT Time Base Selectable
- Low Pass Filter (100KHz ,3dB)

- 255 × 80 × 260
- 2.8 Kg

FC-150U 150MHz Universal Frequency Counter



DESCRIPTION

- Measure Frequency, RPM, Period, Time Interval & Others

FEATURE

- Frequency Range : 0.2Hz ~ 150MHz
- Built -in CMOS Gate Array
- Fast, High -Resolution 10 Digits Green LED Display
- INT/EXT Time Base Selectable
- Low Pass Filter (100KHz ,3dB)
- Universal Function Slope, Trigger, Time,Interval Measurement, Ratio Measurement

- 255 × 80 × 260
- 2.8 Kg

FC-116U 1.6GHz Universal Frequency Counter



DESCRIPTION

- Measure Frequency, RPM, Period, Time Interval & Others

FEATURE

- Frequency Range : 0.2Hz ~ 1.6GHz
- Built -in CMOS Gate Array
- Fast, High -Resolution 10 Digits Green LED Display
- INT/EXT Time Base Selectable
- Low Pass Filter (100KHz ,3dB)
- Universal Function Slope, Trigger, Time,Interval Measurement, Ratio Measurement

- 255 × 80 × 260
- 2.8 Kg

AO-301C | Audio Oscillator (with Counter)



DESCRIPTION

- Products Test for Audio Products

FEATURE

- Frequency Range : 10Hz ~ 1MHz (5Decade Steps)
- Very LOW Distortion : <0.5%
- Output Voltage : 22.6Vp-p Option Circuit
- Built-in 5 Digits Green LED Display
- 400Hz & 1KHz Fixed Special Function
- Sine Wave and Square Wave Easily Choice
- Variabe Frequency with Poly Varicon

- 255 × 90 × 280
- 2.5 Kg

DM-540TR | 4 1/2 Digital Multimeter



DESCRIPTION

- Measure Voltage, Current, Resistance, Diode & Others

FEATURE

- 6 Functions (AC/DC Voltage, AC/DC Current, Resistance and Diode Test)
- 4 1/2 Digits
- High Resolution 10 μ V, 10nA
- High Current Range 10A
- High Voltage Range 1000V
- All Range Protected

- 255 × 80 × 260
- 2.4 Kg

DSP-303DM | DC Switching Power Supply



- 255 × 90 × 270
- 2.2 Kg

FEATURE

- Multi-channel Switching Power Supply
- 5 Channel, 209W High Quality Power Supply (Variable DC ~ 30V / 3A Dual, Fixed DC +12V/1A, -12V/1A, +5V/1A)
- Thermal Shutdown (Fixed DC Output only)
- Compact Size : 255(W) × 80(H) × 260(D) mm
- Current Limit & Over Protection
- Digital Meter

GENERAL SPECIFICATION

- Voltage 0~30V Dual, \pm 12V & 5V Fixed
- Current 0~3A Dual, 1A Fixed
- 3kV (10mA)
- Ripple Voltage < 150mV(p-p)
- Temperature -5°C to +50°C
- Power Free Voltage (90 ~ 260V, 50/60Hz)

DP-303XX DC Power Supply



- 275 × 155 × 285 (DUAL), 142 × 155 × 263 (SINGLE),
- 4 Kg / 8 Kg

GENERAL SPECIFICATION

- Min. Ampere < 100mA
- Ripple Voltage < 1.5mV(p-p)
- Stability < 5mV
- Fixed Output 5V 2A ± 10%
- Temperature 0 to +40 °C
- Power 115 / 230V ± 10%, 50/60Hz

MODEL NO	Variable Voltage	Variable Ampere	Fixed V/A	Display
DP-303SA	0 to 30V	0 to 3A	5V / 2A	Analog Meter (Single)
DP-303SD	0 to 30V	0 to 3A	5V / 2A	Digital Meter (Dual)
DP-303DD	0 to 30V	0 to 3A	5V / 2A	Digital Meter (Dual)
DP-3010SD	0 to 30V	0 to 3A	5V / 2A	Digital Meter (Single)

US-9123D All in One Instruments



- 370 × 160 × 340
- 15.0Kg

FEATURE

- One Instrument with test and measuring system (Frequency Counter, Function Generator, Digital Multimeter and Dual type Power Supply)
- Ideal for Laboratory, Production Line and R&D Engineer's Working Bench
- High Accuracy and Low cost for Specialist and Hobbyists
- Unique Performance to save space
- Light Weight and Attractive Design
- INT/EXT Time base selectable

US-9123 All in One Instruments



- 370 × 160 × 340
- 15.0Kg

FEATURE

- One Instrument with test and measuring system (Frequency Counter, Function Generator, Digital Multimeter and Single type Power Supply)
- Ideal for Laboratory, Production Line and R&D Engineer's Working Bench
- High Accuracy and Low cost for Specialist and Hobbyists
- Unique Performance to save space
- Light Weight and Attractive Design
- INT/EXT Time base selectable

PM3300 Digital Power Meter (3phase & 1phase)



FEATURE

- High speed Response of Auto Range
- Measurement Range -1P2W, 3P3W, 3A3V
- Phase Detect function
- Rs 232 Interfaces function
- Compare. function (Hi, Go, Lo)
- 4Digits LED Display
- Frequency Bandwidth 40Hz~1000Hz

SPECIFICATIONS

- Operating Temperature : 0°C~+50°C, 40~85RH
- Acline input Voltage : 90~240V 50/60HZ
- Dimensions : 280(W) × 95(M) × 270(D)mm
- Weight : ≐2.5kg

PM-2200 / PM-2200K Digital Power Meter(1phase)



FEATURE

- High Speed Response of outo Range
- Measurement Range - 1P2W, AC/DC
- RS232 Interfaces function
- Compare funtion (Hi, Go, Lo)
- 4Digits green LED Display
- Bandwidth:
 - DC and, 10HZ~100KHZ(PM-2200K)
 - DC and, 10HZ~20KHZ(PM-2200)

SPECIFICATIONS

- Operating Temperature : 0°C~+50°C, 40~85RH
- Acline input Voltage : 90~240V 50/60HZ
- Dimensions : 280(W) × 95(M) × 270(D)mm
- Weight : ≐2.5kg

GPM-600 Graphical Power Meter



FEATURE

- 128 × 64 pixel Large Graphical Display (4000 Count for Power with 5 digit display for energy Integrator) EL Back Light-Contrast adjustable Display
- Direct(1 phase) and Indirect(1 phase or 3 phase) measurement with external Clamp-On Adapter
- Power measurements
 - True Power(KW) - Apparent Power(KVA)
 - Reactive Power(KVAR) - Power Factor(Cos ϕ)
 - Energy Integrator(KWh, KVAh, KVARh)
- Multimeter measurements
 - True RMS Voltage - True RMS Current
 - Frequency (in Voltage mode) - Resistance
 - Continuity
- 8point data memory viewable on the display
- Record mode-MIN, MAX, and AVG
- LOW BAT display
- Safety Compiled to IEC 1010-1

AV-1200 AC/DC Volts & Ammeter



FEATURE

- High Accuracy Measurement ($\pm 0.1\%$) DC, ($\pm 0.2\%$) AC
- Dual Channel (Volt/Amp) Display
- Wide Bandwidth (10Hz~100KHz)
- 4 Digit Green Display LED
- AC Volt & Current True RMS

A2011
A2013

Portable Volts & Ammeter



FEATURE

- The A2013 and A2014 are moving iron and rectifier type instruments using a Taut-Band suspension and hair spring system. These instruments have excellent reproducibility and are highly resistant to vibration and shock.

SPECIFICATIONS

- Principle : Moving iron or Rectifier type
- Operating Temp & Humi : 0~40°C, 40~80% RH
- Rated Accuracy : $\pm 0.5\%$ of full scale value
- Scale Length : Approx. 135mm(5.3/8")
- Frequency Influence : Within 0.2% of indicated value (45 to 65Hz)

A2041
A2042

Portable Wattmeter



FEATURE

- The A2041 and A2042 are electro-dynamometer type and use the hair spring system. These instruments are highly reliable, and designed for use in laboratories for precise measurement of power at DC and commercial frequencies up to 1,000Hz. These instruments are housed in phenol resin cases and shield with double permalloy sheets to block external magnetic fields.

SPECIFICATIONS

- Principle : Electro-dynamometer type
- Rated Accuracy : $\pm 0.5\%$ of full scale value
- Scale Length : Approx. 135mm(5.3/8")
- Frequency Ranges :
 - A2041 ; DC, 25 to 1,000Hz($\cos \phi = 1.0$)
 - DC, 25 to 500Hz($\cos \phi = 0.2$)
 - A2042 ; DC, 25 to 1,000Hz($\cos \phi = 1.0$)

A2038
A2039

Power Factor & Frequency Meter



FEATURE

The A2039 is used for measurement in single-phase and balanced three-phase circuits, from a phase discriminating circuits, the output of the built-in transducer produces a DC proportional to the phase between voltage and current to operate the DC indicator.

SPECIFICATIONS

- A2039
 - Principle : Rectifier Type
 - Rated Accuracy : 3.0%
 - Scale : Power Factor : Lead 0 - 0.3 - 1.0 - 0.3 - 0 Lag
 - Phase Angle : Lead 90° - 0° - 90° Lag
 - Effective Power Factor Measuring Range : Lead 0.5-1.0-0.5 Lag
 - Scale Length : Approx. 135mm(5-3/8")
 - Frequency Influence : Within $\pm 1.5^\circ$ Phase angle at 45~65Hz
- A2038
 - Principle : Frequency sensing transducer
 - Rated Accuracy :
 - $\pm 0.2\%$ of full scale value on 45 to 65Hz range
 - $\pm 1.0\%$ of full scale value on 20 to 100Hz range
 - $\pm 0.5\%$ of full scale value on 100 to 500Hz range
 - Scale Length : Approx. 135mm (5-3/8")

A2707
A2708

Galvanometer



SPECIFICATIONS

- A2707
 - Measuring Range : $\pm 250 \mu V +20\%$, $\pm 250 \mu V -10\%$
 - Maximum Sensitivity : $10 \mu V/\text{div.}$
 - Input Resistance : Approx. $9k \Omega$
- A2708
 - Current Sensitivity : $0.9 \mu A/\text{div.} \pm 10\%$
 - Voltage Sensitivity : $540 \mu V/\text{div.} \pm 15\%$
 - Period : Approx. 1.9 seconds
 - Internal Resistance : 150Ω
 - External Critical Resistance: 450Ω

- Input Resistance : Approx. $9k \Omega$
- Response Time : Approx. 3 seconds
- Common Mode Rejection : More than 140dB at DC and line frequencies (50 or 60Hz)
- Normal Mode Rejection : More than 60dB
- Vibration of pointer : Less than $1 \mu V$ (peak-to-peak)
- Drift :
 - Less than $1 \mu V/10$ minutes or $2 \mu V/20^\circ C$
 - Max. Input Voltage : 5V
 - Power Source :
 - Single 9V battery (JIS 006P, ANSI 6F22, Energieblock 9V or equivalent)
 - Battery Life : Approx. 300 hours (continuous)

A 2061
A 2062

Teaching aid Type Meter



FEATURE

- High resistance to shock and vibration coupled with elimination of friction errors has greatly increased instrument reliability. The instruments, have a Knife-

edge pointer and mirror scale to eliminate parallax error, From every design point the Series M2061 instruments are well suited to applications requiring small testing instruments including laboratories, school, work shops and field uses.

SPECIFICATIONS

- Principle :
 - A2061 : Moving coil type
 - A2062 : 15 to 300V ranges...RMS rectifier type
3/7.5/15V and mA ranges...Moving coil type : with rectifier
 - A2063 : Moving iron type (pivot and jewel system)
- Rated Accuracy :
 - A2061 : $\pm 1.5\%$ of full scale value
 - A2062 and A2063 : $\pm 1.5\%$ of full scale value
- Scale Length Approx. 88mm(3.1/2")
- Pointer : Knife edge pointer (red)

DA-1020S Insulation Tester



SPECIFICATIONS

Model No	Rated V	Scale range	ACV
DA1020s	1000V 2000M Ω	0-2-1000-2000M Ω 0-600V	0-600V
DA1010s	500V 1000M Ω	0-1-500-1000M Ω 0-600V	0-600V
DA1001s	500V 1000M Ω	0-0.1-50-100M Ω 0-600V	0-600V

EST-6060 Earth Resistance Tester



FEATURE

- Measurement Range : 0~10/100/1000 Ω
- Earth resistance accuracy : $\pm 2.5\%$
- Earth Voltage : AC 0~30V
- Dimension : 125(H) \times 173(W) \times 110(D)mm

AD3001
AD3002

CLamp on Tester



SPECIFICATIONS

AD3001 AC3002	
AC Current	6, 15, 60, 150, 300A 15, 60, 150, 300, 600A $\pm 3\%$
AC Voltage	150, 300, 750V $\pm 3\%$
DC Voltage	75V $\pm 3\%$
Resistance Ω	1K Ω ~100K Ω 30 Ω $\pm 3\%$
Temperature Scale	-50 $\pm 200^\circ\text{C}$ $\pm 3\%$
Battery	1.5V App-8
Meter	Taut Band, Hair Spring
Clamp core Jaw Dia	33mm
Withstand Voltage	2500V AC
Maximum Cir Voltage	750V AC
Fuse	AC 250V
Dimensions	190(L) \times 63(W) \times 34(D)mm
Weight	340g
Accessories	Carring case, Test lead

MIT 3290 (2.9GHz) | RF Field Strength Analyzer



- The World-First Hand-Held Field Strength Analyzer with Wide Band Reception ranging 100kHz to 2,900MHz and Scan Speed 125Ch/sec.max

MIT 3201 (2GHz) | RF Field Strength Analyzer



FEATURE

- 100kHz~2,060MHz measurement range
- Measures and demodulates W-FM / N-FM / AM / SSB signals
- Measured level of 160 Channels can be displayed simultaneously on the LCD
- PLL tuning system for precise frequency tuning
- Built-in Frequency Counter and speaker
- LED Backlight LCD (192X192 dots)
- RS232C for PC interface and printer (8 pin mini Din)
- Menu driven for various function
- 4 types of Sweep mode (Single, Normal, Free run, Free single)
- Up to 1,600 different frequency and name of channels can be saved, recalled and edited

- The World-First Hand-Held Field Strength Analyzer with Wide Band Reception ranging 100kHz to 2,060MHz.

MIT 4260 (2.6GHz) / 3100 (1GHz) | Spectrum Analyzer



- MIT 4260 is a low-priced spectrum analyzer of digital type and displays spectrum on the screen of Oscilloscope. It also provides high accuracy as it processes signal digitally.
- MITech has 2 Models of 1GHz(MIT3100) and 2.6GHz(MIT4260).
- For 1GHz Model, optional Tracking Generator can be installed.

FEATURE

- Accurate, Stable Frequency and Level
- Digitally Synthesized RF System
- Frequency Range of 10MHz~1GHz(3100) / 2.6GHz(4260)
- Input Levels of -100dBm to +20dBm
- On-screen Markers for Signal Level readout
- Front panel setup save and recall
- Flicker-free scope display
- Option : Tracking Generator (only for 3100) and High Stability Oscillator

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E-mail : mit@mitechin.com URL <http://www.mitechin.com>

MIT SA-3090 (3GHz) | Portable Spectrum Analyzer



- The SA3090 is a small Portable Spectrum Analyzer for laboratory and field measurements. With an integrated battery and an operating duration of 5h, it is best suited for mobile usage, to qualify Indoor Cable-networks, field-strength measurements and diagnosis of local spurious signals.

MIT H DAS-040/020 | PCI Data Acquisition System



High Speed AD Converter with DIO Card for PCI Bus MIT HDAS-040

HDAS040 is a family of 40M SPS, 8MB(512k WORD) on-board memory, 12 bit IBM-PC Based acquisition card for PCI Bus

▶ FEATURE

- Single Ended 2Channel Analog Input
- PCI BUS Interface
- 12Bit Resolution
- Real 20MB/s Transfer Rate
- Single 80M(PP Mode)/Dual 40M Sampling Rate
- 8MB Onboard Buffer Memory
- Programmable Sampling & Data Number
- 120MHz Full Power Bandwidth
- 8Bit Digital Input/Output
- 68dB SNR(Signal to Noise Ratio)

MIT6800 Series | Digital Storage Oscilloscope



MIT6800 Series oscilloscopes feature real-time vector displays that give you a clear and accurate picture of your waveforms. The digital architecture of MIT6800 oscilloscopes gives you a multitude of features that help you get your job done easier and faster. MIT6800 series two-channel oscilloscope brings all the benefits of deeper memory, high-definition display and flexible triggering to those value-minded designers with lower channel requirements. This series' color LCD display dedicates a different color for each trace and its associated readouts, enabling easy identification between the traces and readouts for each channel

▶ FEATURE

- Bandwidth : 200M / 100M / 60M / 40M
- 15 Automatic Measurements
- Sample Rate (Realtime) : 1GSa/s
- Dual Language User Interface
- Equivalent Sampling Rate : 10GSa/s
- 5 Waveforms and 5 Setup Memories
- 2 Channels
- Built-in FFT Functions
- Extended capabilities are provided with Option
- Memory : 16K per Channel
- Display : Color VGA LCD of Monochrome LCD
- Auto set
- EM3-232 (RS232C Communication Module)
- Auto Calibration
- EM3-CM (RS232C & GPIB Communication Module)
- Ultrascope : Free PC Control Software

MIT 6700 Series | **Read-Out Oscilloscope**



FEATURE

- Read Out Function
- ImV / Div High Sensitivity (6704)
- ATL MAG : Measurable at the same time 2 Sweep (x1, x10) waveforms
- ATL TRIG : Operatable stable even from two different signals
- Measurable stable TV signal with TV operating signal circuit
- Auto focus function

MIT 2700 | **RF Power Meter**



FEATURE

- Lightweight, hand-held instrument
- Frequency range : up to 2GHz
- Hold / Run modes
- Meter zero function
- 3 1/2 Digit LCD
- CW power 0.1mW to 500mW(limited duration up to 1W)
- Full-scale ranges : 1.999mW, 19.99mW, 199.9mW, 1999mW
- High-impact case, rugged design
- Low Battery detect and display

MIT 9216A | **Digital LCR Meter**



MIT 9216A is a useful too measuring a device characteristics with various functions.

It has more than 13 orders of magnitude, basic accuracy of 0.05% and 5 test frequencies.

FEATURE

- Basic accuracy of 0.05%
- 5 Test frequencies
- Store up to 9 setups in the memory
- Remote over RS-232C and GPIB/Handler(Optional) Interface

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MIT
9301 / 9302

Arbitrary & Function Generator



FEATURE

- DDS(Direct Digital Synthesizer) technology
- Function : Sine, Square, Triangle, Ramp, Noise and Arbitrary waveform
- Frequency Range : 0.0000001Hz to 31MHz
- Frequency Resolution : 0.0000001Hz
- Frequency Accuracy : ± 3 ppm
- Modulation : AM, FM, PM, Burst
- Arbitrary Waveform of 40M sample/sec, up to 16k sample point
- RS-232 Interface (standard)
- GPIB Interface (option)
- Arbitrary Waveform Composer (option)

MIT G605

Sweep Function Generator



FEATURE

- Two function generators and 100MHz equal-accuracy counter are incorporated in the Instrument
- The main function generator uses large-scale single chip precision function generator IC with high reliability and performance/price ratio
- Single-chip microprocessor is used for intelligent management and measurement of integral-period frequency. So the user can see directly and accurately (especially in low frequency) the frequency and amplitude of the main function output signal.
- The high reliability of the instrument is ensured by the LSIs and High-grade components used in the carefully designed circuit. Its MTBF is long as thousands of hours.

MIT
1800C /
2650C /
4000C

Microwave Frequency Counter



FEATURE

- Wide Measure Range and Dynamic Range, High Accuracy
- Advanced Design, compact, High Reliability
- High Performance / Low Price and Mini-Size

MIT U3000A | Universal Counter



FEATURE

- Measurable up to 3GHz Frequency Range
- Variable Measurement & Auto Check (Self Test) Function
- Large Sized LCD for 20 X 2 Lines
- Convenient Analyze with GPIB Module. (Option)

MIT 4000 | Digital Multi Meter



FEATURE

- Display : 4 3/4 Digits, Dual Display, 50000Counts
- Measurement Function of Wide-Band : 5000mA ~ 10A
- Resolution : 0.01mV, 0.01Ω
- Measurement Function of Low Voltage : Min. 2500mA
- Accuracy : 0.05% (DC Volt)
- Measurement Function of Zener-Diode : 20V
- Measurement Function of True RMS (AC+DC)
- Memory Location Function
- Measurement Function of Frequency, Capacitance
- Go-NoGo Function
- Pulse Width, Duty, Temperature
- Auto Back Light / Auto Power Off
- Measurement Function of Peak to Peak
- Interface : RS-232C

PULSE Catcher | Electro Magnetic Meter



Products Information

Advice for measuring the electromagnetic fields generated by electric products. It also measures the electromagnetic fields. For use dependant on frequency and measuring scope to meet the needs of users. The electromagnetic field measuring industry intends to reduce interference caused by the electromagnetic fields generated from electric and electronic products. We are leaders in the measuring industry. Using this technology, we can be a first class industry and achieve customers' satisfaction through good quality products.

FEATURE

- Portable type Reasonable price
- Compatible design
- ON/OFF toggle switch / Hold Switch
- Battery status

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 E-mail : mit@mitechin.com URL http://www.mitechin.com

PULSE
 PSMA01A / 02
 / 03 / 04

Magnetic Field



FEATURE

PSMA01A

- Portable economy version
- Automatic step adjustment
- Data holding function
- Measuring unit conversion switch
- Battery indicated
- Includes free high-quality carrying bag
- Designed for users' convenience

PSMA02 / 03

- Save Function (Max 50 Data)
- Auto Save Function (Max 50 Data)
- Erase Data in Memory
- Search Maximum Data
- Confirm Data in Memory all time
- Convert Unit of Measurement to Gauss and Tesla

PSMA04

- Detect 3-Axis (X, Y, Z)
- Combine 3-Axis' output
- Save Function (Max 50 Data)
- Auto Save Function (Max 50 Data)
- Erase Data in Memory
- Search Maximum Data
- Confirm Data in Memory all time
- Convert Unit of Measurement to Gauss and Tesla
- Auto Step / Portable case / Battery Status

PULSE E-
 tester

Electric Field



FEATURE

- Portable type / Reasonable price
- Compatible design
- ON / OFF toggle switch
- Hold Switch
- Battery Status

PULSE E-
 PSEL02/03

Electric Field



FEATURE

- Bench Type / Reasonable Cost
- Minimum influence from the human body
- Save (Max. 50 Data)
- Auto Save (Max. 50 Data)
- Erase Date in Memory
- Confirm Data in Memory all time
- Convert Unit of measurement to Gauss and Tesla

PULSE E-
 PSEL02A

Electric Field

FEATURE

- High sensitivity plate type electric field sensor
- Data Storage Function (Max. 50 Data)
- Stored Data Deletion Function
- Maximum Value Search Function
- Stored Data Search Function
- Rechargeable Battery (Adapter DC 24V)
- Battery Indicated



WS-100B

Basic Electricity, Electronics Circuit Trainer**FEATURE**

- f AC/DC Circuit & Electronics Circuit Test
- f The Parts of AC & DC are consist of resistance, series and parallel connection, voltage drop and ohm's law experiment.
- f The part of electronic circuits could be test out not only basic semiconductor but also variable application experiment
- f The parts are consist of variable AC/DC experimental module that able to use independently experimentation

WST-8

Sequence Trainer (Portable Type)**FEATURE**

- f This Equipment is designed for from sequential control circuit up to Star-Delta Starting Circuit of Induction Motor.
- f It is possible to connect with P.L.C trainer for Motor Operation Test.
- f There is a experimental Manual for Sequence Trainer.
- f Assignments & Experiments : 15 Items
- f Dimension : 720(W) ; 470(D) ; 220(H)

WST-9

DC Servo Motor Trainer**FEATURE**

- f This equipment could be test out principle and introduction of DC servo PID controller operation and position control.
- f This equipment could be test out computer PID Control, Digital Control analog control experiment and print out. the result of experiment with file saving.
- f This angular control system is using for position control, there is a brake system for constant revolution experiment.
- f There is a experimental manual for DC servo motor trainer.
- f Dimension : 650(W) ; 300(D) ; 520(H)mm

WST-23 Power Electronics Trainer (Board Type)



FEATURE

- Diode Rectification Board (WST-2301)
- Single Phase Control Board (WST-2302)
- Three Phase Control Board (WST-2303)
- Single Phase AC Control Board (WST-2304)
- Three Phase AC Control Board (WST-2305)
- Switching Board(SCR) (WST-2306)
- DC Power Control Board (WST-2307)
- Single Phase Inverter Board (WST-2308)
- Three Phase Inverter Board (WST-2309)
- Single Phase Cyclo Converter Board (WST-2310)
- Dimension : 600(W) ; 300(D) ; 450(H) mm

WST-33 Power Electronics Trainer (Frame Module Type)



FEATURE

- This equipment could be experiment of rectifier phase control, AC control, Switching, inverter and converter.
- In order to avoid time waste when it connect to wire the terminal makes circular terminal and banana jacks.
- The variable control terminal or check point make be terminal box.
- This equipment provides variable experiment and convenient.

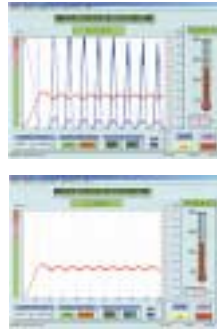
WST-33S Power Electronics Trainer (Combi Board Type)



FEATURE

- This equipment manufactured console type hence it can use anywhere with power supply.
- Every experimental board contains transformer, gate circuit, drive circuit, variable resistance
- 1-Phase Phase Control Rectification(Full-wave)Block
- 1-Phase AC Power Control Block
- 3-Phase AC Power Control Block
- DC Power Control Block (Chopper)
- 1-Phase Voltage Type Inverter Block
- 3-Phase Phase Control Rectification(Full-wave)Block
- Variable Load Block (R. XL)

WST-25

Automatic Control Trainer (P.I.D Control, Frame Type)**FEATURE**

- f This equipment is consist of independently P.I.D module the driving part has to contains not virtual but real level control, temperature control and servo motor sets.
- f This equipment can print out graph and numerical data through computer interface.
- f The Cabinet slider of module storage is made of plastic die making for hardness and convenient.
- f WST25-11 : Level Control System Device
- f WST25-13 : Temperature Control System Device
- f WST25-20 : Servo System Device

WST-25A

Automatic Control Trainer (P.I.D Control, Board Type)**FEATURE**

- f P.I.D device installed separately part the Level control system that belong to driver part establish not cyber real things.
- f The output data from driving part could be collect as graphic and numericals and Reprint them.
- f WST-25A-M : System Controller
- f WST25-11 : Level Control System Device
- f WST25-13 : Temperature Control System Device
- f WST25-20 : Servo System Device

WST-35

Automatic Control Trainer (Sequence Control, Plug Board Type)**FEATURE**

- f This equipment has plug type module which could be connect each experimental module.
- f Sequential control and electrical pneumatic sequential control could be possible with magnetic contact devices and P.L.C and then every module could be connect P.L.C.
- f The cover of each module printed device symbol and Wiring.
- f The job sheets are consist of over 15 magnetic contact sequential jobs and over 10 electrical jobs
- f The P.L.C module could be connect with notebook computer for not only drawing of ladder diagram but also program recording.

WSB-60

Programmable Logic Control Trainer (Portable Type)



FEATURE

- f It can be P.L.C training without other devices.
- f The approach switch, photo sensor and small induction motor combined and display revolution detecting.
- f The push button switch can be assist program simulator.
- f The output lamp and buzzer could be assist program simulator.
- f The input output module and sensor contain power supply.
- f Whenever necessary every module can be changeable for input and output module with easy attaching type.
- f The experimental manual contains from basic to applications.

WSC-1

Mini Auto Door System Trainer

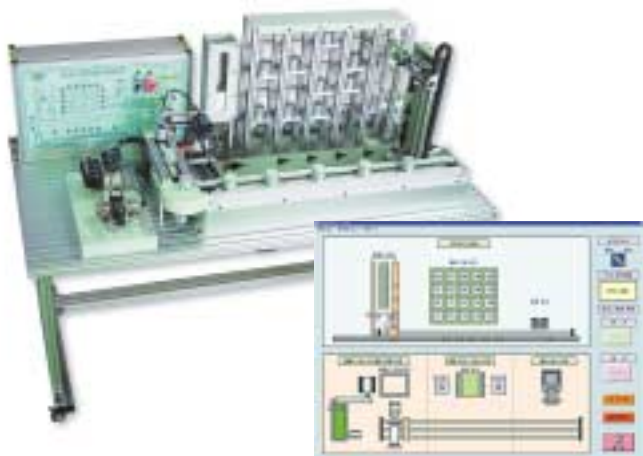


FEATURE

- f This equipment is kind of application program device of P. L. C trainer.
- f Realistic simulation of complicated auto door system.
- f Fundamentals on a auto door system by the sensor detecting.
- f Door Part : AL Profile & Smog Acryl
- f Driving Part : DC 24V 30:1
- f Type : Portable Type
- f Controller Part
- f Dimension : 720(W) ; 470(D) ; 420(H) mm

WSR-6

Auto Storage System Trainer



FEATURE

- f This equipment drives induction motor and air cylinder system to auto storage and take out storage goods with 3 axis control auto storage ware house system for accuracy actuating.
- f It can controlled manual and auto.
- f It makes opening type to find out mechanical structure.
- f According to internal air supply system the equipment operate without any other device.
- f There is a experimental manual of auto storage system.
- f Dimension : 1400(W) ; 800(D) ; 1400(H) mm

WSM-5

Electric Machine Structure Exp. Trainer



FEATURE

- f This device developed for study of electrical machine. The equipment contains there are field coils around modular pole and circular yokes.
- f The rotor sets central of yokes. permanent magnet and field coil DC generator, rotary field type and rotary type generator, rotary converter and generator, permanent magnet & DC motor, synchronous motor & 3 ϕ induction motor, shading coil type 1 ϕ induction motor etc.
- f The rotor classified by 6 different type as it were. T type rotor for DC machine and rotary field type 3 ϕ generator, squirrel rotor for rotary converter and revolving-armature type generator, rotary compass for rotating field and disk rotor.
- f There is a experimental manual of 9 generators and 14 motors experimental.

WSM-10

DC Shunt Motor & Synchronous Ge. Trainer



FEATURE

- f This equipment is consist of DC machine and synchronous machine which are designed portable type.
- f The structure of synchronous machine is rotating type.
- f When a synchronous machine uses as a motor, as start winding makes short circuit to obtain starting torque like an induction motor, and then removal short circuit it can run equipment acceleration revolution.
- f The power supply for only DC motor operation, has established various type for speed control experiment. Also exciting power supply of synchronous generator has set internal separately.

WSM-24

Transformer Experimental Trainer



FEATURE

- f This equipment contains three single transformers.
- f The equipment can be experiment of principal, current ratio, polarity, parallel connection etc.
- f Also voltmeter & ampere meter attached in out side for convenient experiment.
- f 1 Phase Transformer 300VA : 3 EA
 - *Primary : 0 / 110 / 220 / 380V
 - *Secondary : 0 / 110 / 220 / 380V
- f AC Voltage Meter
- f AC Ampere Meter
- f Dimension : 800(W) ; 430(D) ; 340(H) mm

WSP-3

Electro-Pneumatic Trainer (Board Type)



FEATURE

- f 2 Port Valve Board (WSP-3P01)
- f 3 Port Valve Board (WSP-3P02)
- f Differential Cylinder Board (WSP-3P03)
- f 4 Port Valve Board (WSP-3P04)
- f 2 Way Valve Board (WSP-3P05)
- f 3 Way Valve Board (WSP-3P06)
- f Logic Circuit Board (WSP-3P07)
- f Basic Circuit Board (WSP-3P08)
- f Applied Circuit Board (WSP-3P09)
- f P. L. C Circuit Board (WSP-3P10)
- f Panel Dimension : 800(W) ; 600(H) mm

WSP-4

Electro-Pneumatic Trainer (Quick Module Type)



FEATURE

- f This Equipment contains solenoid valve, all sorts of switch, relay, sensor for basic electro pneumatic to application practice.
- f This equipment is designed pneumatic modular type & modular type that use at the AL injection molding board.
- f Clearance of AL injection molding board is 305fi
- f Attach method of each kind module is quick & easy type. It is plastic injection molding type plastic injection molding size is 100(W) ; 85(D) ; 15(H)fi
- f The graphic symbol plate with magnet is helpful to teach.
- f There is a experimental manual of electro pneumatic control & knowledge.

WSH-4

Application Hydraulic Trainer (Quick Module Type)



FEATURE

- f This equipment is designed hydraulic modular type that use at the AL Profile board iron working table contains 4 wheels at the bottom for easy moving.
- f There is an over 40 liter oil tank at the working table, the working table contains relief valve attach for safety.
- f Attach method of Each kind module is quick & easy type. It is Plastic injection molding type. plastic injection molding size is 100(W) ; 85(D) ; 15(H)fi
- f Clearance of AL injection molding board is 305fi
- f There is a experimental manual of hydraulic control & knowledge.
- f The graphic symbol plate with magnet is helpful to teach.

TCC-480B Semiconductor Tester

- TCC-480B is a semiconductor tester which designed to determine characteristics and quality of diodes and transistors. The DC parameters of a transistor being tested are directly readable on the tester. The traced curves are displayed on an oscilloscope which is not part of the tester TCC-480B. TCC-480B improves productivity and easy to operate and useful results are obtained in a short period of time. When the tester is configured as a Curve Tracer, two of the same type of transistors can be loaded in each socket at the same time, and comparison measurements can be made.

EDC-1630 Digital LCR Meter

- EDC-1630 is a high-class digital LCR meter that displays the menus and parameter values on large LCD (100°ø77mm). It is a multi-function LCR meter capable of measuring general LCR as well as LR and CR circuit impedance characteristics with 0.02% accuracy. The LCR Meter measures deviation value and deviation rate(%) with respect to designated standard values. It enables to set deviation range up to 14 grades and automatically separate measured parts (LCR) by BIN numbers. EDC-1630 is a perfect tool for LCR mass production line or subdivided parts inspection.

DSA-8410 1GHz Spectrum Analyzer

- The Spectrum Analyzer will be an essential measurement tool in characterizing RF signals in the frequency range from 1MHz to 1GHz. Its frequency range covers the signals used for radio communications in general and VHF and UHF signals. For RF signal characterizations, it can be effectively used for measuring spurious signals and detecting EMI levels from a signal source. Another area where it is treated valuable is in analyzing CATV and cable transmission systems that are now gaining popularity. DSA-8410 is a must tool in operation and maintenance of such systems.

DSG-0200 | 200MHz Digital RF Signal Generator



- DSG-0200 is a high frequency signal generator that adopted high-performance DSP Processor and Direct Digital Synthesizer (DDS). DSG-0200 is capable of outputting 1Hz resolution at 100kHz ~ 200MHz and outputting 0.1dB resolution in the range of -130dBm ~ 13dBm(-17dBm ~ 126 dBm). Having adopted 0.5 ppm high stability TCXO, the Signal Generator guarantees high frequency accuracy and reliability. It provides modulation in CW, FM, AM, PM, FSK, ASK and PSK, and SWEEP function as standard.

SG-1240 | 1040MHz AM/FM Signal Generator



- SG-1240 is a high-performance RF signal generator based upon PLL synthesizer. The Signal Generator features AM, FM and Phase modulation from 10kHz to 1040MHz. Presetting output parameters can be done easily by storing desired data into the memory of the instrument. Its memory offers a maximum of 100 storage space. Any stored data can be promptly recalled by entering address. If desired, preset data can be protected against accidental erase. Also, it comes with "remote control functions" triggered by GPIB interface or Remote Controller. SG-1240 is excellent choice for production test or laboratory use.

ED-345BM | AC/DC Power Supply



- This variable AC/DC voltage power supply, ED-345BM, was designed with special considerations for R & D needs today. It features variable voltage output (AC 0 ~ 240V and DC 0 ~ 50V) and overload protection. It can be found particularly useful in the educational training sector where there is a high probability of overload or short circuits. The AC input cords and outlets of ED-345BM can and will be customized if there is requirement in a certain territory

ED-7850

Pneumatic Application Experimental System



- ED-7850 Pneumatic application experimental system consists of various types of pneumatic parts. Especially, with more than 50 types of Pneumatic circuit parts, more than 50 types of option components and various electronic sensors, wide range of experiment on automated devices can be performed. The user can put parts on aluminum profile type and connect power supply unit, power distribution terminal module, relay module, digital counter module, switch module to the electric circuit. As an option, special function such as air compressor and electrical parts can be added for complete experiments.

ED-7950

Hydraulic Application Experimental System



- ED-7950 Hydraulic application experimental system ensures to perform experiment on properties of hydraulic circuit. Moreover, through such experiment, various application technologies can be understood using hydraulic parts with various functions. Especially, with more than 50 types of Pneumatic circuit parts, more than 50 types of option components and various electronic sensors, wide range of experiment on automated devices can be performed. The user can put parts on aluminum profile type and connect power supply unit and modules to the electric circuit.

ED-4260

Modular System PLC Trainer



- ED-4260 PLC Trainer consists of PLC unit, main frame, input controls and output simulation modules, plus option modules. The GLOFA series PLC unit, in particular, used for this trainer features easy network configuration and automatic control. The main advantage ED-4260 is that it can separate PLC input control from output simulation system, thus enabling a variety of input conditions and methods, as well as system control to be experimented selectively. In addition, it comes with various types of PLC input/output modules as optional items such as analog input, analog output and PID control. These modules enable diversified application and R&D experiments.

ED-7220C | 5-Joint Arm Robot Trainer



- The educational robot trainer is based on a 5-joint arm system is quite popular in the industry. Each robotic joint is driven accurately by the DC servo motor with built-in rotary encoder. The robot trainer features easy operation and visually demonstrates main driving mechanisms such as timing belt to the user. Control of the gripper and joints is enabled by the RS-232 interface to IBM-compatible PC and C language-based commands. It also features a software called ED-72C RoboTalk which holds over one hundred command languages. The robot trainer can mobilize itself, and this is the heart of simulating automated assembly line.

ED-4160 | Flow Control Trainer



- Composed of industry-standard parts, ED-4160 enables the user to perform various experiments including temperature PID control, Controller programming, Analog values control, and design and organizing Analog control meter. ED-4160 offers monitoring and control functions using HMI software. It uses pipeline of the Brass quality and is capable of detection and correction against an error that occurs during the course of control processing. Equipped with Fieldbus module, ED-4160 will do perfect processing performance.

ED-5920 | Module-Type LonWorks System



- ED-5920 is a LonWorks-based IBS experiment system that IBS components were composed of rack-type modules. The LonWorks System's general experiment modules are digital in/output module, analog in/output module, temperature control module, gas detection module, light control module, electric-powered blind module, and power supply module. Users can install a real equipment onto module and check how it works. For operation impossible to work in real life, simulation is also possible

ED-2000E | Basic Electricity & Electronics Trainer



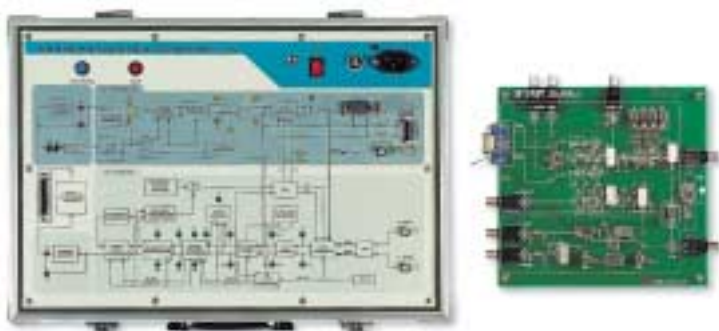
- ED-2000E is a demonstration system designed to offer experiments on the fundamentals of basic AC and DC circuits. Experiments that can be performed with ED-2000E range from simple Ohm's law to electromagnetics. Experimental board is installed on the board rack (BR-3) which can have up to three boards. The ED-2000 E system requires 120V AC or DC 0 ~ 12V depending on the type of experimental boards. For DC power needs, ED recommends model ED-345BM power supply as an option.

ED-6800 | Sensor Application Trainer



- ED-6800B offers complete training opportunities for learning specific characteristics and usage of 16 most popular sensors available in the industry. Main experiments offered by ED-6800B are sensor AMP and comparator, A/D and D&A converter, temperature, photo, rotary encoder, ultrasonic and resonance, and sensor switches. With ED-6800B, the user can do experiments in Windows environment on PC directly and store the result of experiments after analysis.

ED-2930 | DS-SS CDMA Trainer



- ED-2930 CDMA Trainer is developed to educate the trainees to understand the basic principles of digital and spread spectrum communication system. This equipment well serves as a basis for CDMA digital mobile communication system covering theory, design and practice. All design and analysis tasks will be accomplished on the PC windows. ED-2930 will bring up engineers for development of future mobile system.

ED-3000 Microwave Trainer



- Communications systems at microwave frequencies are superior over other types of systems due to the properties of microwaves which is similar to the properties of lights. The high directivity of microwaves significantly improve signal to noise ratio. The ED-3000 Microwave Training System offers comprehensive experiments on the properties of microwaves. The dynamic topics in experiments cover from generation of microwave signals to the study of wave guides using the X-band frequencies. The ED-3000 system is consisted of 15 main components and peripheral equipment including a power supply.

ED-3200 Antenna Trainer



- ED-3200 Antenna Trainer consists of 10 types of antennas depending on propagation pattern, gain, and operation principles of antenna. It includes RF source unit, which generates RF current (at 500MHz, 2GHz or 10GHz), and controller being able to control antenna rotation. Also, it provides software, which is operated on IBM-compatible PC 486 or higher for simulating radiation pattern and characteristics of antenna.

VIS Virtual Instrument System



- VIS is a complete system that collects data needed for experiment in real time and analyzes the collected data through VIS equipment, that is, DSO, AD Converter, DI, DMM, Frequency Counter on PC. The analyzed data are displayed in graph, and users can do application experiments. Through real time collection of data, VIS will increase accuracy in experiment and have a great impact on learning the core principle of measurement.



CPS-40K03VIT
(CPS-60K02VIT)

DC High Voltage Generators



FEATURE

- This model is highly efficient for switching system of DC high voltage generator and possible to apply to each kind of CPT/CDT test equipment, medical instrument, laboratory, test instrument, etc.
- INPUT POWER : AC110V/220V $\pm 10\%$, 50/60Hz
- OUTPUT VOLTAGE : DC 0~40kV (0~60kV)
- OUTPUT CURRENT : DC 0~3mA (0~2mA)
- OUTPUT POWER : 120 WATT
- LOAD REGULATION : 0.01% at full load
- DVP, CV, CC FUNCTION
- DIGITAL METER (VOLT/AMPERE)
- OUTPUT TIME TRIP CONTROL : 999.9 MIN.
- VOLTAGE OUPUT DISTRIBUTION : 5CH.

CPS-40K03M
(CPS-60K02M)

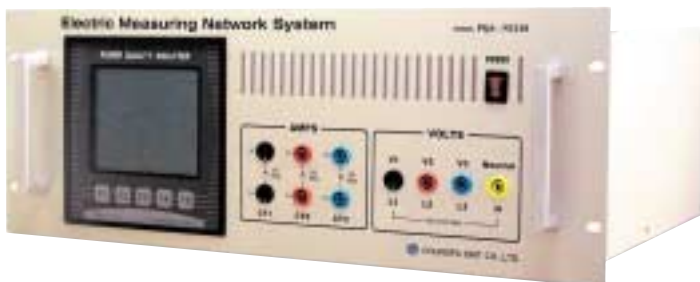
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- OUTPUT VOLTAGE : DC 0~40kV (0~60kV)
- OUTPUT CURRENT : DC 0~3mA (0~2mA)
- OUTPUT POWER : 120 WATT
- LOAD REGULATION : 0.01% at full load
- LINE REGULATION : 0.01% at $\pm 10\%$ input change
- DVP, CV, CC FUNCTION
- Voltage Monitor : 40kV(60kV) $\rightarrow 10V \pm 2\%$
- Current Monitor : 3mA(2mA) $\rightarrow 10V \pm 2\%$

PQA-N312SR | Ragged Power Quality Analyzer



FEATURE

- Ultra-rapid (cycle by cycle,) advanced electrical network analysis
- Complete network harmonics analysis, up to the 63rd harmonic
- High visibility, 5" graphic LCD screen with backlight
- Comprehensive data logging
- Feeder transformer analysis
- Up to 2048 KB of flash memory
- User-friendly PC software (PowerIQ)

PQA-N312SB | Portable Power Quality Analyzer



FEATURE

- Ultra-rapid (cycle by cycle,) advanced electrical network analysis
- Complete network harmonics analysis, up to the 63rd harmonic
- High visibility, 5" graphic LCD screen with backlight
- Comprehensive data logging
- Feeder transformer analysis
- Up to 2048 KB of flash memory
- User-friendly PC software (PowerIQ)

PQA-MN312S | Power Quality Analyzer Network System



FEATURE

- PQA view: Electric Measuring Data View
 - TFT 12.1"LCD XGA 1024 × 768 Touch screen
 - Network connection all PQA controlling data and monitoring
- PQA-N312SR : Electric Measuring Network System
 - Included THD, 63th harmonic measurement.
 - Max 256 sampling of real-time data analyze
- PowerIQ - Electric Measuring Manager
 - PowerIQ Software
 - Pentium IV 1.4GHz CPU, 20GB HDD
- System Console
 - All kinds cable and storage clamp



TK - 4002 Digital Multimeter



FEATURE

- Convenient & safety Holster
- 3 3/4digit, 4000 count
- High speed bar-graph
- Over load protection
- Auto power off(30min.)
- Temperature measurement
- Capacitance check
- Frequency test, true rms function
- MIN/MAX function
- Range hold, Data hold

TK - 4001 Digital Multimeter



FEATURE

- Convenient & safety Holster
- 3 3/4digit, 4000 count
- High speed bar-graph
- Over load protection
- Auto power off(30min.)
- hFE measurement
- Capacitance check, Frequency test
- MIN/MAX function
- Range hold
- Data hold

TK - 4004 Digital Insulation Tester



FEATURE

- Microprocessor controlled IC
- 3 3/4Digit, 4000 count
- Bar-graph
- Over load protection
- Auto power off(10min.)
- Auto range
- Data hold
- Continuity test
- ACV measurement(Beeps over the 600V)
- 250V/500V/1000V - 4000M Ω

TK - 600A Digital Clamp Meter



FEATURE

- Small & Compact
- 3 3/4digit, 3400 count
- Full range over load protection
- Auto power off(10min.)
- Clamp jew size(36mm)
- Auto range
- Data hold
- Power supply LR44 or SR44 2pcs
- Weight Approx 330g
- Accessories : Manual, Test leads, Carrying case

TK - 2000AD Digital Clamp Meter



FEATURE

- 3 3/4digit, 4000 count
- High speed bar-graph
- Full range over load protection
- Auto power off(30min.)
- Clamp jew size(55mm)
- Auto range
- Frequency measurement
- Range hold, Data hold
- Weight Approx. 375g
- Accessories : Manual, Test leads, Carrying case

TK - 5001 TK - 5002 Analog Clamp Meter



FEATURE

- Safety-oriented design features fused test lead
- With the range of AC 300A(TK-5001), 600A(TK-5002)
- Ohmmeter circuit tested to 250V over voltage - OK!
- Convenient meter lock
- Clamp core jew size (33mm)
- Weight Approx. 340g
- Power source R6(1.5V) × 1
- Accessories : Manual, Test leads Carrying case



TK - 3200A

Digital Pocket Multimeter



FEATURE

- Small & Compact
- 3 3/4 digit, 3200 count
- Full range protection
- Convenient range
- Auto power off(10min.)
- High speed bar-graph
- Data hold
- Diode open voltage Approx. 2.3V
- Dimension 71(W) × 112(H) × 16(D)mm
- Weight Approx. 100g

TK - 3201

Digital Pocket Multimeter



FEATURE

- Small & Pocket
- 3 3/4 digit, 3200 count
- Over load protection
- Auto power off(10min.)
- Bar-graph
- Data hold
- Battery test(1.5V/9V)
- Dimension 54(W) × 108(H) × 12(D)mm
- Power supply LR44 or SR44 × 2pcs
- Weight Approx. 110g

TK - 2040

Digital Earth Tester



FEATURE

- Measurement current : 2mA 630Hz
- Earth test voltage : AC 60V max.
- Power source : R6(1.5V) × 8pcs
- Automatic Digital Earth Tester
- Voltage Drop System
- Auto Range
- Convenient Carrying Case
- Weight Approx. 2.2Kg
- Accessories : One set of measuring cords
Two auxiliary earth rods, Carrying case, Manual

TKE - 1030

Automatic Earth Resistance Tester



FEATURE

- VOLTAGE DROP SYSTEM enabled the TKE-1030 to present Automatic EARTH RESISTANCE measurements with one depression of POWER Switch only.
- TKE-1030 has been designed handy and very compact arranging function switches in an ideal layout
- Simple Measurements are available by shorting P terminal and C terminal with attached cord

TKM - 910
TKM - 920

Analog Insulation Tester



FEATURE

- Small & light
- Core-magnet type meter
- Internal battery checking function
- LED lamp for high voltage power source (500V/1000V)
- Continuity test
- ACV measurement
- TKM-910 : (500V/1000M Ω) 0-1-500-1000M Ω
- TKM-920 : (1000V/2000M Ω) 0-2-1000-2000M Ω

TM - 502TR

Analog Multimeter



FEATURE

- Continuity checking with an LED indicator and Beeper
- Series capacitor terminal(OUTPUT) to detect only AC signal
- Fuse & diode protection
- DC current amplification factor(hFE)
- insert hFE internal(on scale) directly
- Continuity : Beeper(50 Ω or less) LED light(at below 10 Ω)
- size & Weight : 150 × 100 × 38 Approx 260g(NET)

8 0 1 3 || 1.5GHz Frequency Counter



- Push-scanning for selecting Function and Gate time
- Low-pass filter(100 kHz, -3 dB) installed for removing noise signal in low frequency measuring
- AC/DC coupling function (Selectable AC/DC Coupling)
- 10:1 Input Attenuation (Selectable x1/x10 Attenuator)
- Data hold function

▶ FEATURE

- Frequency measuring range ;
0.1 Hz to 100 MHz in A input
80 MHz to 1.5 GHz in C input
- Period and Total measurement for input A
- RPM measurement for input A
- 9 Digit display with 0.01 mHz resolution in 1 Sec (With external reference signal)
- RS-232C serial interface function for communicating with computer
- High sensitivity External reference input function (≥ 1.5 Vrms)
- Reciprocal technique for high resolution at low counting frequencies
- Self check function executed to perform a automatic self diagnosis of various counter function

8 0 2 3 || 1.5GHz Universal Counter



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- Data hold function

▶ FEATURE

- Frequency measuring range ;
0.1 Hz to 100 MHz in A, B input
80 MHz to 1.5 GHz in C input
- Period and Total measurement for input A
- Time interval and Ratio measurement for input A and B
- Trigger level adjustment for input A
- Separate and Common mode selectable for input A and B
- Slope mode selectable for input A and B
- 9 Digit display with 0.01 mHz resolution in 1 Sec.
- RS-232C serial interface function for communicating wit computer

8030 || 3.0GHz Frequency Counter



FEATURE

- Frequency measuring range ;
 0.1 Hz to 100 MHz in A input
 80 MHz to 3.0 GHz in C input
 - Period and Total measurement for input A
 - RPM measurement for input A
 - 9 Digit display with 0.01 mHz resolution in 1 Sec (With external reference signal)
 - RS-232C serial interface function for communicating with computer
 - High sensitivity External reference input function (≥ 1.5 Vrms)
 - Reciprocal technique for high resolution at low counting frequencies
 - Self check function executed to perform a automatic self diagnosis of various counter function
- Push-scanning for selecting Function and Gate time
 - Low-pass filter(100 kHz, -3 dB) installed for removing noise signal in low frequency measuring
 - AC/DC coupling function (Selectable AC/DC Coupling)
 - 10:1 Input Attenuation (Selectable x1/x10 Attenuator)
 - Data hold function

8030U || 3.0GHz Universal Counter



FEATURE

- Frequency measuring range ;
 0.1 Hz to 100 MHz in A, B input
 80 MHz to 3.0 GHz in C input
 - Period and Total measurement for input A
 - Time interval and Ratio measurement for input A and B
 - Trigger level adjustment for input A
 - Separate and Common mode selectable for input A and B
 - Slope mode selectable for input A and B
 - 9 Digit display with 0.01 mHz resolution in 1 Sec (With external reference)
 - RS-232C serial interface function for communicating wit computer
- High sensitivity External reference input function (≥ 1.5 Vrms)
 - Reciprocal technique for high resolution at low counting frequencies
 - Self check function executed to perform a automatic self diagnosis of various counter function
 - Push-scanning for selecting Function and Gate time
 - Low-pass filter (100 kHz, -3 dB) installed for removing noise signal in low frequency measuring
 - AC/DC coupling function (Selectable AC/DC Coupling)
 - 10:1 Input Attenuation (Selectable x1/x10 Attenuator)

8 0 3 7 || 3.7GHz Frequency Counter



- Low-pass filter(100 kHz, -3 dB) installed for removing noise signal in low frequency measuring
- AC/DC coupling function (Selectable AC/DC Coupling)
- 10:1 Input Attenuation (Selectable x1/x10 Attenuator)
- Data hold function

▣ FEATURE

- Frequency measuring range ;
 - 0.1 Hz to 100 MHz in A input
 - 80 MHz to 3.7 GHz in C input
- Period, Total and RPM measurement for input A
- 9 Digit display with 0.01 mHz resolution in 1 Sec(By Ext. Reference Signal)
- RS-232C serial interface function for communicating with computer
- High sensitivity External reference input function (≥ 1.5 Vrms)
- Reciprocal technique for high resolution at low counting frequencies
- Self check function executed to perform a automatic self diagnosis of various counter function
- Push-scanning for selecting Function and Gate time

8 2 0 2 || 1.5GHz Universal Counter



▣ FEATURE

- 4-in-1 Sweep, Function & Pulse Generator and Frequency Counter
- Versatile waveforms for Sine, Square, Triangle, Ramp, Pulse, Sawtooth and DC outputs
- 0.02 Hz to 2 MHz Frequency Output in 7 Range
- Built in 6digit Internal and External Counter Display (Up to 50MHz)
- Internal and External linear Sweep control from 1:1 to 100:1
- Variable Symmetry for generating Sawtooth and Pulse waveforms
- TTL and CMOS leveled Square waveform output
- Variable DC Offset control
- Variable Output level control with 20 dB Attenuator and Amplitude control

8 2 1 0 | 10MHz Sweep / Function Generator



FEATURE

- 4-in-1 Sweep, Function & Pulse Generator and Frequency Counter
 - Versatile waveforms for Sine, Square, Triangle, Ramp, Pulse, Sawtooth and DC outputs
 - 0.1 Hz to 10 MHz Frequency Out put in 7 Ranges
 - Built in 7digits External Counter Display measuring up to 110MHz
 - Internal and External linear Sweep control from 1:1 to 100:1
 - Variable Symmetry for generating Sawtooth and Pulse waveforms
 - TTL leveled Square waveform output
 - Variable DC Offset control
- Variable Output level control with 20 dB Attenuator and Amplitude control

8 2 2 0 | 20MHz Sweep / Function Generator



FEATURE

- 4-in-1 Sweep, Function & Pulse Generator and Frequency Counter
 - Versatile waveforms for Sine, Square, Triangle, Ramp, Pulse, Skewed Sine and TTL square
 - 0.2 Hz to 20 MHz Frequency Out put (Sine wave) in 8 Ranges
 - Built in 8digits External Counter Display measuring up to 3.0GHz
 - Internal and External linear Sweep control from 1:1 to 10:1
 - Variable Symmetry for generating Sawtooth(Ramp), Skewed Sine and Pulse waveforms
 - Variable DC Offset control
- Variable Output level control with 20 dB Attenuator and Amplitude control

8 3 0 2 | Digital Multimeter



FEATURE

- Bench type Digital Multimeter with 4 1/2 digit (LED)display.
- Basic accuracy for DCV ; 0.05 %
- Overload protection on all range
- AC/DC Voltage measurement (Up to DC1000V, AC750V)
- AC/DC Current measurement (Up to 10A)
- Resistance measurement (Up to 20Mohm)
- Frequency Measurement (Up to 200kHz)
- Audible continuity test and Diode test

SG-5800 FM Signal Generator



FEATURE

- The model SG-5800 is a high performance synthesized signal generator with good FM capability. Optimized function for the 5.7GHz ~ 5.9GHz ISM Band cordless telephone. Low cost solution for the cordless telephone production line with MM-2600, DD-5601.

SG-1505 DAB Signal Generator



FEATURE

- The model SG-1505 is a high-performance RF synthesized signal generator. It is designed to convert signals generated by an OFDM signal generator into signals in the tuner reception frequency Bands conformable to the European DAB (Digital Audio Broadcast) standards. It covers the frequency Band III (87.5 ~ 108MHz), Band L (174 ~ 250MHz) and Band L (1452 ~ 1492MHz), and controls output level in units of 0.1dB from 0dBm to -120dBm and the frequency in units of 1Hz. Also, it is possible to store and recall 300 setting points and is suited for developing and manufacturing of DAB system.

SG-1501 / SG-1501M FM/AM Signal Generator



FEATURE

- The model SG-1501/SG-1501M is synthesized signal generator with a frequency range of 100kHz to 150MHz that generates CW and FM/AM modulation signals, and output range of 20dB μ to 100dB μ . This advanced FM/AM signal generator is fitted with a GPIB interface for controlling its function externally.

SG-2000 | Signal Generator



FEATURE

- The model SG-2000 is a high performance synthesized signal generator with good FM capability. Optimized function for the 900MHz ~ 1000MHz, 2.4GHz ~ 2.5GHz ISM Band cordless telephone. Low cost solution for the cordless telephone production line with MM-2500, DD-5601.

SG-1710 | FM/AM Signal Generator



FEATURE

- The model SG - 1710 is a high-performance general purpose 200kHz to 1000MHz synthesized signal generator with low phase noise and very good FM/AM capability. The product is designed for manual as well as ATE applications and is ideally suited for various test tasks during product development and manufacturing of RF products such as cellular radios or cordless phones.

DD-5700 | SMS Telephone Analyzer



FEATURE

- DD-5700 SMS (Short Message Service) Telephone Analyzer is adopted Italian & Korean SMS as standard protocol. Transmitted FSK data from wired SMS Terminal is displayed on large LCD. Basically DD-5700 supports the functions of caller ID and the measurement of FSK signal, ACK Tone and MFC Dial tone from SMS Terminal. DD-5700 is ideally suited for the SMS telephone production line and R&D.

DD-5601 Telephone Analyzer



FEATURE

- DD-5601 is used testing communication equipment like cordless phones that are connected to telephone lines. It works by minimizing EMI noises emitted by telephone lines and especially by LED window. The two tone generator in the unit allows tests on HA(Home Automation) devices connected to the telephone line by giving out various simulated signals. For user's convenience, easy changes of ring signal, tone level and access to program mode are provided. Any error that occurs during fast re-dial can be verified with the View Mode that replays the test results one by one with the key.

DD-5300 Caller ID/Call Waiting Tester



FEATURE

- DD-5300 Caller ID/Call Waiting Tester is used in developing, manufacturing and servicing phone with caller ID and call-waiting features. It is designed to check the response with these features by providing edit function for messages and easy control of signals. The ext. Mode of DD-5300 is programmed with enhanced compatibility with existing telephone testers (e. g. DD-5500), allowing and easy and automatic switch.

DD-5220 Tel-line Simulator



FEATURE

- The model DD-5220 is revolutionary designed for simulated transmission test of FAX, video-phone, MODEM and other H/A devices as if they are operated in telephone line. This model adopts signal of TDX 10 as default one and enables to control the Tone frequency, level and ON/OFF time by program.

MM-2600 | Communication Tester



FEATURE

- MM-2600 is used in testing RF Level, Modulation, Frequency simultaneously which covers frequency range from 5.7GHz to 5.9GHz.

The product provides high-speed, high resolution frequency counter by adopting interpolator & OCXO, more stable measurement in RF level with frequency-temperature calibration technology and high accuracy FM modulation Analyzer in 5.7 ~ 5.9GHz frequency band.

MM-2600 is suitable for manufacturing line of wireless telecommunication by enhancing your competitive edge with low cost solution.

MM-2500 | Communication Tester



FEATURE

- MM-2500 is used in testing RF Level, Modulation, Frequency simultaneously which has wide frequency range from 20MHz to 2.5GHz.

The product provides high-speed measurement by adopting interpolator & OCXO, more stable measurement in RF level with frequency-temperature calibration technology and lower distortion in 2.0 ~ 2.5GHz with built in down converter specially designed to obtain better demodulation.

MM-2500 is suitable for manufacturing line of wireless telecommunication by enhancing your competitive edge with low cost solution.

MM-2200 | Modulation Meter



FEATURE

- The model MM-2200 FM-AM modulation analyzer combines high accuracy and ease of operation by automatic frequency acquisition

The product is specially designed to meet the various test needs during production and service of cordless telephones, walkie talkies, and mobile radio communication equipments for frequency range of 1.5MHz to 2 GHz

FM deviations is measured in 5 ranges from 3kHz to 100kHz full scale, and AM depth is measured in 4 ranges from 10% to 100% full scale.

DM-2100 Distortion Meter



FEATURE

- The model DM-2100 is designed to speed up measurement of DISTORTION, SINAD, FREQUENCY RESPONSE and S/N RATION in radio sets, stereo amplifiers, tape recorders, other audio and cordless telephone, radio communication sets, and audio equipment.

SM-8100 Sinad Meter



FEATURE

- The model SM-8100 is a revolutionary designed automatic distortion meter for real time measurement of sinad sensitivity. Simplifies and speed alignment procedures, saving hours of the radio engineer's time. The model complies with EIA RS-204A, it should be used when testing receivers for cordless-phone, transmitter and cellular radio.

FC-300 Frequency Counter



FEATURE

- The model FC - 300 is a RF Frequency Counter designed for system and bench use with max 9 digits resolution, featuring RS-232C and GPIB interfaces with full remote control capability. The frequency range is from 10Hz to 3GHz and High speed, High resolution Measurements are possible. It is also equipped with the measurement functions for period, peak voltage and auto trigger, auto limiting test. The model FC-300 is suited for use in R&D sections and production line such as cellular phone, personal radios, pagers and other equipment.

DM-500 Digital Multi-Meter



FEATURE

- The model DM - 500 is a digital multi-meter designed for system and bench use with the maximum 5^{1/2} digits display, featuring RS-232 and GPIB interfaces with full remote control capability. It is provided with the measurement functions for DC voltage/current, AC voltage/current, 4 or 2wire resistance, frequency, period, diodes, continuity and math. Functions such as null, dB, dBm, limit test, and min/max/avg are easily selected. The model DM - 500 is provided with a variety of interfaces for use in R&D sections and automatic production line.

DAB-200 DAB Distributor



FEATURE

- The model DAB-200 is DAB distributor to convert one "IF" or "I/Q" input signal generated by Encoder System to max 5 channel's IF output signal with Gain 1. The product is suitable for the Production Line of DAB Receiver in Low cost by distributing IF Signal of Encoder to RF up converter in multi channel through DAB-200.

SA-3000 Spectrum Analyzer



FEATURE

- The model SA-3000 is a compact, lightweight and low price spectrum analyzer that covers a frequency range of 100kHz to 3GHz. It has superior basic performance and simple, easy to operate. And it can be used in a wide range for many applications, such as developing, manufacturing of RF communication products and field service.

HI-AnyNET
8051/80196 /AVR
/ PIC Combo

Embedded Network & Microprocessor Trainer



FEATURE

- Experiment device that is embedded with network and microprocessor for education by DUAL BOOTING type. AnyNET Combo can make experiment on data transfer to internet and you can choose each experiments. AnyNET Combo can make experiment on module control on network by various microprocessors (8051/80196/AVR/PIC/SA1110) and support trouble shooting by code source and circuit diagram. You can control I/O port, DOT, DC MOTOR, STEPPING MOTOR. You can enjoy all experiments, basic to expert course of HI-AnyNET 8051/80196/AVR/PIC Combo provides.

HI-8051A
HI-80196A

Microprocessor Trainer



FEATURE

- Most general type microprocessor training kit HI-8051A/80186A have test point, so that you can measure alternation data by oscilloscope when you make experiment on A/D, D/A. Can make experiment on CPU Writer by 40P Textool Socket. DC Motor, Dot Matrix, Timer, Counter, I/O Port simulation, Stepping Motor, Sound Control by MCU.

HI-AEB V6.0 PC Interface Trainer



FEATURE

- HI-AEB V6.0 make experiment control on each device with PCI Interface card (HI-PCI V1.0). This experimental device contains 5V relay and LED for I/O control, DOT Matrix, DC Motor, Stepping Motor, LCD, FND, AUDIO, KEY and A/D, D/A control devices. HI-PCI V 1.0 card have digital I/O, A/D and D/A converter. Support Visual Basic, Visual C++ programming.

HI-2212 Motor Control trainer



FEATURE

- HI-2212 PC Interfaced Stepping Motor Trainer can control stepping motor by PC or microprocessor. Left/right movement, speed and positioning control. Positioning. left/right 1 phase, 2 phase, 1-2 phase and stop operation is possible from programming and manual operation. Stepping motor driving status is displayed on LEDs (Red, Green). Easy to move and store, with storage bag.

HVS-2100/2200/2300 Digital Security System



FEATURE

- Image compression method HI-MPEG (within 1~5K Byte per Frame)
 Frame Rate
 - 4 channel (120/120 FPS)
 - 8 channel (240/240 FPS)
 - 16 channel (240/240 FPS)
- Power and system monitoring through Watch-Dog function. Remote view, access and control via PSTN, ISDN, LAN and Internet. NTSC/PAL support

ROYAL-2500 | Universal Test Bench



FEATURE

- Mainshaft revolution : 200 - 2,500 r.p.m
- Motor : AC220V, 3Phase, 3.7 kw (Royal 2500)
- Tachometer : Tacho-generator type, pnp sensor
- Ammeter : 0 - ± 9999 A, Digital type
- Volt meter : 0 - ± 9999 V, Digital type
- Megohm meter : 600ACV / 0 - 1000, ∞ Ω
- Dwell angle RPM meter : 0 - 1,000 V, 4,5,6,8 Cyl
- Vacuum pump : Electric operated
- Vacuum gauge : 0 - 76 c:mHg
- Torque meter : M=3, 0-6kg-m DP=10,0-5 kg-m
- Field resistance : Variable enameled resistance
- Standard spark gap : 6 set synchronizing adjustment type
- Starter test device : prony brake(sk type) with ring gear.

ROYAL-2500 | Diesel Injection Pump Test



FEATURE

- Mainshaft revolution : 0 - 3,500 r.p.m
- Motor : AC220V, 3Phase, 3.7 kw
- RPM meter : Tacho-generator type, pnp sensor,
- Cylinder Test : 8 cyliner
- Injection mount : 180°, Swing type
- Vacuum gauge : 0-76 c:mHg
- Applicable Pump : sung kwang type, B type pump
- Measuring Cylinder cup : 32cc :8ea , 150cc :8ea
- Fuel tank : 35L.
- AUTO TEMP. ADJUST: AC220V, 1KW
- Vacuum pump : Electric operation
- Vacuum pressure gauge : 6kg/ cm^2 / 30kg/ cm^2
- Feal Feed pump : Gear pump high, Low pressure

SK-PLC-
30N-PN

PLC/Pneumatics Trainer



FEATURE

- PLC : -cpu : $0.5\mu s$ / step
 - digit input/output : 32point / 32point
 - option : a/d input, d/a output, h.s.count
- Trainer : bcd(16bit) disit sw & display
 - led : 16ea, pb:8ea, ss:8ea, AC • DC power
 - DC motor , stepper motor, photo sensor : 2ea
 - buzzer, a/d input(4-20mA,0-10V), encoder etc.
- Pneumatics mouldle
 - double cylinder : 3ea , Single cylinder : 1ea
 - 5/2 d.sol:2ea 5/2 s.sol:2ea 3/2 sol: 1ea etc.

SK-AU-10

Production Automation Trainer



FEATURE

- Table Size: 800(L) × 750(W) × 750(H)mm(profile)
- Distribute Module : Tower's storage Rack
 - Cylinder : 60mm more, Sensor: 2 ea
- Drilling Module : electric drill transfer & cylinder 1ea, sensor : 2ea
- Transfer Module : product transfer cylinder
- Sensor Module : optical sensor : 3ea
- Ejecting Module : incongruity product removal cylinder 1ea, Sensor : 2 ea
- Conveyor Module : conveyor belt etc.
- Carry Module : rotate cylinder, chuck cylinder.

SK-RO-10n

Pneumatics Robot Trainer



FEATURE

- Table Size: 800(L) × 800(W) × 750(H)mm (profile)
- Robot system
 - R axis : air cushion, working angle $\pm 180^\circ$
 - X axis : moving distance 60mm less, LM guide
 - Y axis : moving distance 75mm less, LM guide
 - Z axis : strike 250mm, pay load 1kgf,
- Distribute Module : Tower's storage Rack
 - Cylinder : 60mm more, Sensor: 2 ea
- PLC trainer : CPU $0.5\mu s$ step
 - Digit input/output : 32point / 32point
- Control panel , tower lamp(red,green,buzzer)

NETS | **Label Printing Scale NETS**

FEATURE

- Elegant design
- Graphic message displays for PLU name & advertising
- Easy to change label rolls
- By printer cartridge
- Dynamic memory management
- Latest TCP/IP net work
- Label & receipt printing
- Large memory of 256KB to 2MB

SPECIFICATIONS

Model	NETS		
Maximum Capacity	6kg	15kg	30kg
Minimum Graduation	2g	5g	10g
Maximum Tare	Full Tare		
Internal Resolution	1/60,000		
AD Conversion Speed	9 ~14 times/sec.		
Widths(mm)	60/58/56		
Paper/Label/Printing	35,40,60,80,100		
Available Labels(mm)	Max. ø120(1,200 labels at 40mm length)		
Label Roll Size(mm)	80-100		
Printing Speed(mm)	60		
Speed PLU Keys	Standard Memory(0.5MB):1000labels at 500 characters Extended Memory(1MB)		
PLU memory	LED Price(8), Weight(5), Unit price(7)		
Numeric Displays(digit)	LCD Graphic 256 × 32 pixels		
Message Display	Zero, Net, Stable, Save, Acc, Day.(kg, lb, \$/kg, \$/lb)		
Designators(kg ↔ lb version)	415(16.3) × 260(10.2)		
Platter Size mm(inch)	W460(18.1) × D440(17.3) × H470(18.5)		
Product Size mm(inch)	AC100 ~ 240/50, 60 Hz (Free Voltage)		
Power Source	Printing : Approx. 100W max. Stand by : Approx. 40W		
Power Consumption			

PC-100
 PC-100E

Price Computing Scale



FEATURE

- Increase your sales with better convenience and accuracy
- The PC-100 supports you, faster and stable weighing plus versatile features which help better convenient transactions in all sales

SPECIFICATIONS

Model	PC-100, PC-100E		
Maximum Capacity	6kg/15lb	15kg/30lb	30kg/60lb
Minimum Graduation	2g/0.005lb	5g/0.01lb	10g/0.02lb
Maximum Tare	-6kg/-15lb	-15kg/-30lb	-30kg/-60lb
Internal Resolution	60,000 counts		
AD Conversion Speed	9times/sec.		
Direct PLU	32PLU(Pole type)		
Indirect PLU	200		
Numeric Displays(digit)	VFD Price(6), Weight(5), Unit price(6)/ PC-100E(LED)		
Designators(kg ↔ lb version)	Zero, Net, Stable, Save, Acc, Day, (kg, lb, \$/kg, \$/lb)		
Platter Size mm(inch)	350(13.8) × 270(10.6)		
Product Size mm(inch)	Poled — 365(14.4) × 365(14.4) × 470(18.5) No poled — 365(14.4) × 365(14.4) × 160(4.0)		
Power Source	AC115, 230/50, 60Hz		
Options	1. Battery power pack 2. RS-232 interface 3. kg ↔ lb conversion		

JW-1 Load Cell Balance

FEATURE

- Advanced technology supports precise weighing and convenience
- High 1/30,000 weighing resolution
- AERO SPACE design
- Density measurement
- Parts counting of light weight components
- Percentage calculation
- Weight conversion of 8 units


SPECIFICATIONS

Model	JW-1					
Maximum Capacity	200g	300g	600g	1,500g	2,000g	3,000g
Minimum Graduation	0.01g	0.01g	0.02g	0.05g	0.1g	0.1g
Maximum Tare	-200g	-300g	-600g	-1,500g	-2,000g	-3,000g
A/D Conversion Speed	3 times/1 second					
Display	Liquid Crystal Display 6 digits					
Auxiliary Displays	Zero, Stable, Tare, Batt					
Weighing Pan Size	123 mm ø			180 mm ø		
Product Size	(W)280mm/11" × (D)250mm/9.8" × (H)65mm/2.6"					
Power Source	Power Adapter DC 9V/300mA or Dry Cell 1.5V x 6EA					
Modes	g, pcs, %, c.t, oz, lb, dwt, GN, kg, toz					
Counting						
Minimum Unit Weight	0.01g		0.02g	0.05g	0.1g	
Maximum Quantity	20,000	30,000		30,000	20,000	30,000
Sampling	10,20,50,100 pieces					
Percentage						
Minimum Percent	0.1%					
Maximum Percent	2000.0%	3000.0%			2000.0%	3000.0%
Options	1. Battery operation					
	2. Density measurement hook					
	3. RS-232 Interface					
	4. Custom formula applications					

AC-100
 JW-1C

Parts Counting Scale



FEATURE

- Ease your counting with better convenience and accuracy
 - Precise 6 digit unit weight
 - Unit weight memories
 - One touch unit weight setting
 - Up to 999,999 pieces ADD up
 - Count limit high & low



SPECIFICATIONS

Model	AC-100			JW-1C			
	5kg	10kg	20kg	200g	500g	1kg	2kg
Maximum Capacity	5kg	10kg	20kg	200g	500g	1kg	2kg
Minimum Graduation	0.5g	1g	2g	0.02g	0.05g	0.1g	0.2g
Maximum Tare	-5g	-10kg	-20kg				
Unit Weight Resolution	0.05g	0.1g	0.2g	0.002g	0.005g	0.01g	0.02g
Minimum Unit Weight	0.25g	0.5g	1g	0.01g	0.025g	0.05g	0.1g
Display Resolution	1/10,000						
Internal Resolution	100,000 counts						
A/D Conversion Speed	6 times/sec.						
Indirect Unit Weigh Memory	200						
Display(digit)	VFD Count(6), Weight(5), Unit weight(6)			LED Count(6), Weight(5), Unit weight(6)			
Designators	Zero, Net, Stable, Acc,LS, LU			Zero, Net, Stable			
Platter Size mm(inch)	350(13.8) × 270(10.6)			φ123mm		φ180mm	
Product Size mm(inch)	365(14.4) × 365(14.4) × 160(4.0)			(W)280mm × (D)250mm × (H)65mm			
Power Source	AC115, 230/50, 60Hz			DC Adaptor 9V/300mA or Dry Battery AAM 1.5V × 6			

Appendix



Appendix

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TOWARD MUTUAL PROSPERITY

Korea Scientific Instruments Industry Cooperative has been devoting to enhancement of science and technology standard for under developed countries of the world taking advantage of international public fund to supply its scientific instruments and providing support for development of science education and scientific technology.



'Mobile Training Unit' Project for Indonesia (1989)



'Model School' Project for Uzbekistan (2000)



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