



# Heat-Engineering Trainer

(Refrigeration, Air Conditioning, Boiler, Geothermal)



### Standard Refrigeration trainer (AV-RH-R-1000)

1. The possibility of the experiment on temperature, pressure, automatic control and mechanical trouble
2. The possibility of experiment and theoretical education related to automatic control ,refrigeration system and refrigerator accessories .
3. The experiment on cycle change of refrigeration equipment according to temperature and Mollier diagram drawing in P-I diagram drawing part.
4. Theoretical education of efficiency test and experiment while operating
5. The sequence screen attached to the graphic module control department and power automatic control machine for experiment on temperature, pressure and automatic control and operation
6. The control department is made up of visual lamps separated system from machine department
7. Automatic control with graphic panel and two automatic control modules
- 8 .Data formation by data auto-saving and P-I diagram auto-operation in the system with control program



### Refrigeration & Freezing trainer (AV-RH-R-2000)

1. The possibility of the experiment on temperature, pressure, defrosting auto control of automatic pressure control device and mechanical trouble
2. A check of change of the refrigeration system according to expansion valve's shape and function with connecting expansion valve of other types
3. The experiment on cycle change of refrigeration equipment according to temperature and Mollier diagram drawing in P-I diagram drawing part.
4. Theoretical education of efficiency test and experiment while operating
5. The sequence screen attached to the graphic module control department and power automatic control machine for experiment on temperature, pressure and automatic control and operation
6. The control department is made up of visual lamps separated system from machine department
7. Automatic control with graphic panel and two automatic control modules
8. Data formation by data auto-saving and P-I diagram auto-operation in the system with control program



### Heat Pump Heat accumulation Trainer (AV-RH-R-3000)

1. The possibility of the experiment on temperature, pressure, defrosting auto control of heat accumulation pump device and mechanical trouble
2. The possibility of experiment and theoretical education related to automatic control, refrigeration system and refrigerator accessories .
3. The experiment on cycle change of refrigeration equipment according to temperature and Mollier diagram drawing in P-I diagram drawing part.
4. Secondary heat exchange through heat accumulation tank
5. The possibility of heat carrier's flow control and flow's quantity check
6. Digital pressure switch (high and Low pressure) with the most accurate data
7. Visual heat accumulation tanks by transparent acryl and cool-warm heat system with circulation part
8. The structure to heat accumulation with heat pump and the design to know heat circulation or state and control
9. Data formation by data auto-saving and P-I diagram auto-operation in the system with control program



### Option

- Transparency condenser
- Data acquisition module (MSR1000)
- Control program S/W aid computer
- BLDC compressor
- Transparency accumulator
- Computer Monitoring program S/W (MSM1000)
- Refrigeration simulation training program S/W

### **Air Handling unit Trainer (AV-RH-R-4000)**

1. The possibility of experiment on ventilation system (4-type) and cool - warm condition with heat pump
2. Assistant heat source with heat pump and humidification for both cooling and heating water
3. Humidification device made up of watering or air crossing type, inhalation and emission of conditioning damper and inside made up of inhalation and emission part
4. The structure of humidified cooling or heating water according to user's temperature control
5. The structure to operating system from outside and the structure to control inside temperature and humidity
6. Automatic control by systematic temperature and humidity
7. The sequence screen attached to the graphic module control department and power automatic control machine for experiment on temperature, pressure and automatic control and operation
8. The possibility of cutting the overload, working the pressure switch, alarm bell and a pilot lamp and safe operation with occurring the problem of a thermo-hygrostat
9. Application to refrigeration system for compressor of variable types



### **Refrigerator system Trainer (AV-RH-R-5000)**

1. The possibility of the experiment on temperature, pressure, defrosting automatic Control and mechanical trouble in the automatic pressure control device
2. The comprehension of principle to refrigerator and study to refrigeration and cold system
3. The experiment on cycle change of refrigeration equipment according to temperature from two parallel evaporators and Mollier diagram drawing in P-I diagram drawing part.
4. Theoretical education of a fundamental circuit, application circuit and experiment with evaporation pressure control device
5. The compatibility and expandability of the graphic module control
6. Unlike separated system from machine department , the control department is visual automatic control with graphic panel and two automatic control modules
7. Data formation by data auto-saving and P-I diagram auto-operation in the system with control program



### **ICE-Maker system Trainer (AV-RH-R-6000)**

1. The possibility of the experiment on temperature, pressure, automatic control of the deice with Ice Accumulation and mechanical trouble
2. The comprehension of refrigeration system with Ice thermal storage and deice's principle
3. The experiment on cycle change of refrigeration equipment according to temperature and Mollier diagram drawing in P-I diagram drawing part.
4. Theoretical education and experiment related to efficiency test of deice and Ice storage
5. Theoretical education of a fundamental circuit, application circuit and experiment with Ice storage
6. The sequence screen attached to the graphic module control department and power automatic control machine for experiment on temperature, pressure and automatic control and operation
7. Unlike separated system from machine department , the control department is visual
8. Automatic control with graphic panel and two automatic control modules
9. Data formation by data auto-saving and P-I diagram auto-operation in the system with control program



### Binary Refrigeration Trainer (AV-RH-R-7000)

1. The possibility of the experiment on temperature, pressure, automatic control and mechanical trouble using cascade refrigeration
2. The comprehension of refrigeration system with an extremely low temperature
3. The experiment on cycle change of refrigeration equipment according to temperature and Mollier diagram drawing in P-I diagram drawing part.
4. Low temperature side's evaporator is range of between  $-50^{\circ}\text{C}$  and  $-70^{\circ}\text{C}$
5. Theoretical education of a fundamental circuit, application circuit and experiment by cascade refrigeration system
6. The sequence screen attached to the graphic module control department and power automatic control machine for experiment on temperature, pressure and automatic control and operation
7. Transparent accessories to observe refrigerant state or flow and principle of accessories
8. The control department is made up of visual lamps separated system from machine department
9. Automatic control with graphic panel and two automatic control modules
10. Data formation by data auto-saving and P-I diagram auto-operation in the system with control program



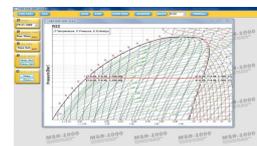
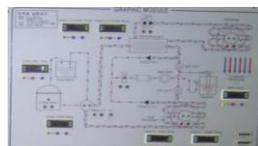
### Two stage-expansion system Trainer (AV-RH-R-7100)

1. Available to experiment and test by temperature or pressure control in two-stage compressing and expansion system.
2. Using solo coolant for two-stage compressing and expansion system.
3. As variable pressure at middle cooling device, available to check temperature change.
4. The sequence screen attached to the graphic module control department and power automatic control machine for experiment on temperature, pressure and automatic control and operation
5. The experiment on cycle change of refrigeration equipment according to temperature and Mollier diagram drawing in P-I diagram drawing part.
6. The control department is made up of visual lamps separated system from machine department
7. Automatic control with graphic panel and two automatic control modules
8. Data formation by data auto-saving and P-I diagram auto-operation in the system with control program



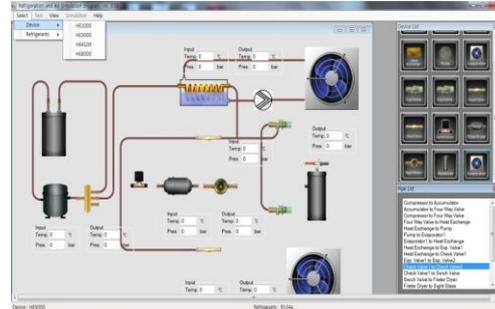
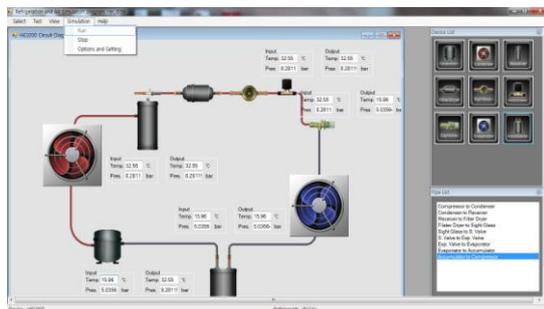
### Automotive Refrigeration Trainer (AV-RH-R-9000)

1. Study for the principle of air-conditioning and refrigeration with a car
2. Study for assembling of air-conditioning system in a car.
3. Operation and experiment of every element for air-conditioning in a car.
4. Experiment for cooling and heating in a car.
5. Training for repair of air-conditioning system in a car.
6. Understanding of the principle and operation for FATC (Full Automatic Temperature Control).
7. Measurement refrigeration ability when the system is in an abnormal condition.
8. Measurement refrigeration ability as RPM of Compressor.
9. Monitoring and recording for data from hardware to computer through software as real time
10. Operation of each element through control panel

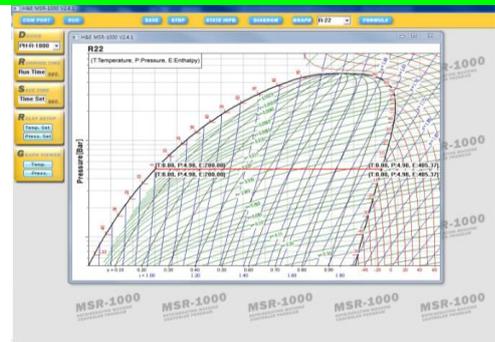
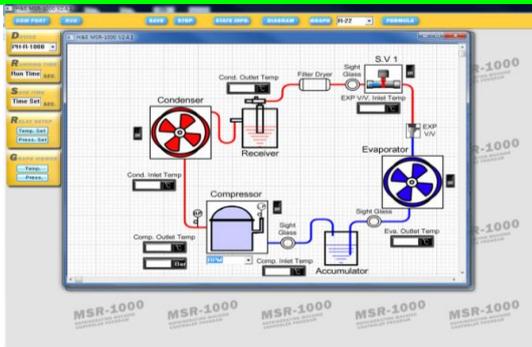


## Software

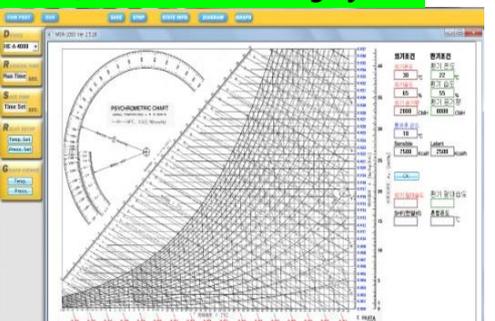
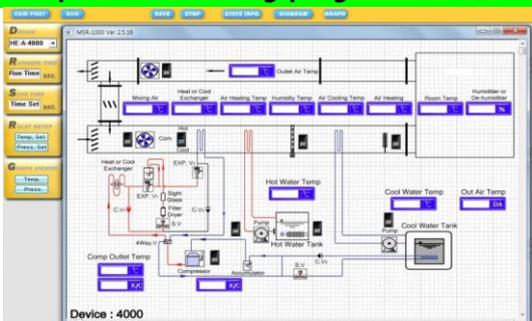
### Refrigeration simulation training program S/W (AV-RA-1000)



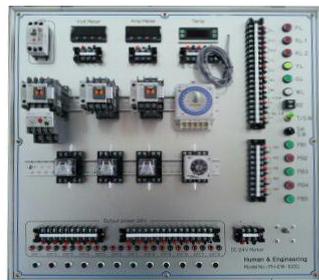
### Computer Monitoring program S/W (AV-MSM1000)/Control program S/W aid computer



### Computer Monitoring program S/W (AV-MSM2000) – Air conditioning system



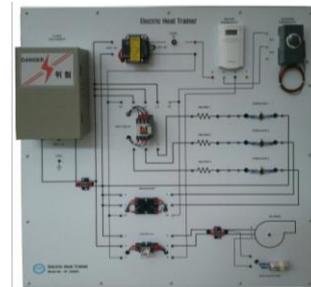
### Electric Control for Refrigeration & Air-conditioning



Ref. Electric Sequence control  
Training Kit  
AV-RH-EW-1000



Ref. PLC control Training Kit  
AV-RH-PL-1000



Electric Heat Trainer  
AV-RH-EW-2000

## Demonstration Facility

**Domestic Air conditioner Trainer  
(AV-RH-A-4100)**



**Industrial Refrigeration  
Demonstrator  
(AV-RH-R-5100)**



**Multi compressor rack Ref.  
Trainer  
(AV-RH-R-7200)**



**Steam Boiler system  
(AV-RH-A-1000GL)**



**Boiler System  
(AV-RH-A-1100GL)**



**Steam Condensing System  
(AV-RH-A-1300GL)**



**Geothermal heat pump system  
(AV-RH-1000GT)**



**Refrigeration Cycle system (Water cooling system)  
(AV-RH-S-1000GL)**



※ The actual product may differ slightly from the above reference drawing.

※ The product function or design may be changed without prior notice for improvement of performance.

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