# Super Dry

**World Leading Technology** More Than 40 Years

MSD

Medium Temperature / Low Humidity

New!

SUS

Made of all Stainless Steel **Ultra Low Humidity** 

Silicon • Electronic equipment Semiconductor **Electronic Components • Food Drug and Precision Machinery** Optical Instruments

Revolution of **Low Humidity** Storage!!

- Room temp (25 °C)~ 50 °C + ≤5%RH MSD Series
- Cabinets made of all stainless steel 2%RH SUS Series
- Ultra-low Humidity 1%RH 01 Series
- Ultra-low Humidity 2%RH 02 Series
- High cost performance Humidity 3%RH 03 Series
- Long Term Storage Humidity 20%RH Auto Dry
- **Acrylic Nitrogen Cabinet**



MSD-1206-01

**MSD Series** 

Temperature:

Room Temperature(25°C)~50°C

**Humidity: 1%RH** 

Chips Needed to be Baked

Components that Can not be **Baked at High Temperature** 

**Tape Goods** 



HSD-702-01

#### 01 Series

6 models Humidity:1%RH

**Inner Humidity 1%** Continuous to Keep

(Unloaded at Environment Humidity of 50~60%)



SD-1104-02

#### 02 Series

7 models Humidity:2%RH

Inner Humidity 1%

Continuous to Keep (Unloaded at Environment Humidity of 50~60%)

#### **N2 Saving Dry Cabinet**





**Electronic Dry Cabinet** Combined with N2 **Saving Purging System** Fast Dehumidification and Recovery

Available for all models

The World's Leading Automatic Dry Cabinet Supplier



Manufactured by TOYOLIVING CO.,LTD.











## **History of Totech**

- 1974 The foundation of Toyo Living Co., Ltd. The development of dry unit started.
- 1976 Instead of using silica gel desiccant, the dry unit, which is installed with the new desiccant, has been firstly come into the Japanese market through agents in the field of physical and chemistry.
- 1982 The manufacturer of home electronic applicant, TOSHIBA bought our dry unit, and sold out 13,500 sets only within three months from June to August. (It was promoted on 30-second TV commercial once)
- 1983 With the installation of Shape Memory Alloys (SMA), the dry unit has been firstly come into the optical market in Japan.
- 1987 As the usage of dry cabinet (Auto Dry, with humidity setting 30~50%RH) shift from the optical market to the field of semiconductor, the humidity setting is verified to 3%RH, 2%RH, and 1%RH. Besides, the air clean dry cabinet with a HEPA filter is also developed at this time.
- Beginning of 1990s To meet the storage of semiconductor, the temperature baking dry cabinet is developed, for both dehumidifying and medium temperature baking. (Room Temperature 50 degrees)
- Beginning of 21 century Enter the market of Europe and America.
- 2006 Totech Global Co., Ltd. was established to take in charge of the overseas sales and service of Toyo Living products.
- 2008 Totech Shanghai Co., Ltd. was set up to further expand the global market of Totech dry cabinets.







**Factory** 

## **SUPER DRY FEATURES**

1 Digital Control Panel Adjusting Humidity



**Electronic Effective** Energy-saving

- Features of Super Dry Accord to or even Exceed IPC/JEDEC J-STD-033C
- Perfectly ESD Safe- Fit for Storage of Semiconductor, Electronic Component, Accords to ESD-IEC61340-5-1
- **Warranty Period 2 Years**

#### Series & Features

MSD Series

Medium Temperature: Room temperature (25°C)~50°C

**Low Humidity:** ≤5%RH

MSD Max.(50 °C) Forced convection of inner hot air

Semiconductor, electronic components, powder material, tape material, etc.

SUS Series

Inner Humidity Keeps at 2% or 1%RH

Made of all stainless steel, with ultra low humidity, most suitable for clean rooms and labs.

7 01 Series

**Inner Humidity Keeps at 1%RH** 

Dry storage of IC, silicon wafers, aerospace related instruments and tools, optical components, etc Fast recovery after door open-and-close

Company of the compan

Steady Low Humidity- Long Term Storage

Average door open-close 1~2 times a day keeps at 2%RH Save energy appr.50%

🧰 03 Series

Low Humidity: <3%RH

High cost performance

Reach <3%RH, fit for medium/long term storage of PCB and IC.

💢 20 Series

Medium Humidity: 20~50%RH

Low cost

Reach 20%RH, fit for medium/long term storage.

💢 Auto Dry

Inner Humidity: 20~50%RH

**Inner Humidity Adjustable** Capacity 1160L~121L

★Suitable for Universities, Institutes, Labs, Food, etc.

X Acrylic N2 Cabinet

Dry Unit Optional, <3% or 20~50%RH

**Transparent Nitrogen Cabinet** Easy for observation

#### **MSD Series**

Fast Dehumidifying

Temperature: Room temperature (25°C)~50°C Humidity: ≤5%RH

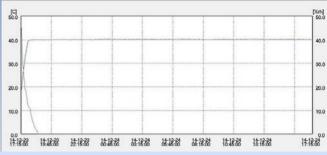


SDM-1206-01









MSD-1202-02 MSD-701-02 MSD-301-02

- Improved heat insulation(MSD-1102-02 Max.50°C) Operate under forced invection of inner hot air and low humidity (≤5%RH), baking dry.
- Baking for semiconductor, PCB, IC and LED, accelerate drying, Improve production efficiency.

#### **Advantages to Items Stored**

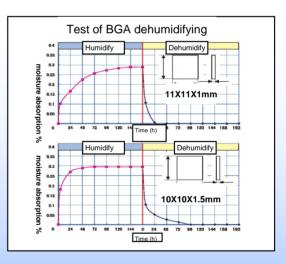
- 1. Mild baking: Cause no flaws to SMDs during dehumidification.
- 2. No need of pre-baking: To prevent the defective products
- 3. Moisture prevention: To prevent moisture absorption in one hour after taken from the cabinet.
- Stainless steel body available

- - Avoid high temperature(>100 $^{\circ}$ C) baking, easy for operation
- 2 Control and show inner humidity on the digital panel
- Accord to IC package management standard IPC/JEDEC J-STD-033C
- 4 Warranty period 2 years

#### Heating to Max 50°C

Hot air blows from bottom to the top, making the temperature even inside cabinet. Precise sensor installed, digital control panel, operation easily. Items cannot be stored on the bottom (air outlet) of cabinet to prevent hot air to be blocked.

Dehumidifying of BGA



[ Note ] \*Specifications are subject to change

Model	SDM-1206-01	MSD-1102-02	MSD-701-02	MSD-301-02
External Dimension W-D-H (mm)	1240x810x1860	1316x702x1897	660x687x1897	660x687x1172
Internal Dimension W·D·H (mm))	1198x658x1569	1217x462x1447	560x478x1447	560x478x722
Capacity (L)	1190	885	450	260
Weight (kg)	235	225	145	126
Power Consumption	Mean 370W/h	Max. 1800W/h	Max. 1500W/h	Max. 1500W/h
Rated Voltage	AC100V, 50/60Hz	AC90~265V, 50/60Hz	AC90~265V, 50/60Hz	AC90~265V, 50/60Hz
Body Material	Steel with ESD safe paint			
Stainless Steel Shelves	5pcs	5pcs	5pcs	2pcs



### **TOTECH SUPER DRY**

#### **Stainless Steel Cabinet**

#### 2%RH (1%RH available)

#### **Made of Stainless Steel**

Cabinet body made of 1.5 mm thick stainless steel SUS304, most suitable for ultra low humidity storage in clean rooms



#### **ESD Safe**

5 methods for 100% perfect EPA!

- 1)Stainless steel body
- 2 Stainless steel shelves
- **3**Conductive windows
- **4**1MΩ earth resistance wire
- SEarth point for wrist strap &Wrist strap

## **SUPER DRY**



Can enable your best achievement in production and development, with highest security and safety.

#### **Digital Panel**

Simple and easy to set humidity Temperature can also be indicated



#### **Humidity Sensor**

High end, high quality sensor to transmit Data to digital panel (Calibratable)

#### **Engine Developed by Toyo Living**

#### **Powerful Dry Unit**

**Application example** 

High Reliability and Stability humidity, quick recovery system works.

Only Super Dry by original TOTECH can supply fully satisfied ESD FREE cabinets, 100% adjustment to IEC-61340-5-1.

SUS-1106-02

SUS-702-02



SUS-480-02

## 1) IC packages



2) Silicon Wafer



3) Liquid Crystal Glass (LCG) Board



4) PCBs



5) Ceramics



6) Optical Fiber. CCD etc



Model	SUS-1106-02	SUS-702-02	SUS-480-02		
External WxHxD (mm)	1200x1840x670	620x1840x780	600x1225x760		
Internal WxHxD (mm)	1190x1560x620	610x1560x730	589x1035x620		
Capacity (L)	1160	680	388		
Rated Voltage	AC220V, 50/60Hz (Other voltage is optional)				
Material	Stainless steel body and shelves, conductive doors				
Stainless Steel Shelves	5 pcs	5 pcs	3 pcs		

#### 01 Series 1%RH (Digital Control Panel: 1%RH)





#### **Superior Recovery after Frequent Door Openings**

01 series are equipped with 2 powerful patented dry units to reach ultra-low humidity min. 1%RH which meets IPC/JEDEC J-STD-033C demands, and provide the most effective solution to

- 1. Micro-cracks in Integrated Circuits like QFP and BGA
- 2. Delaminations in Printed Circuit Boards and Rework Devices
- 3. Defects Caused by Heating in Lead-free SMD Devices







HSD-1106-01

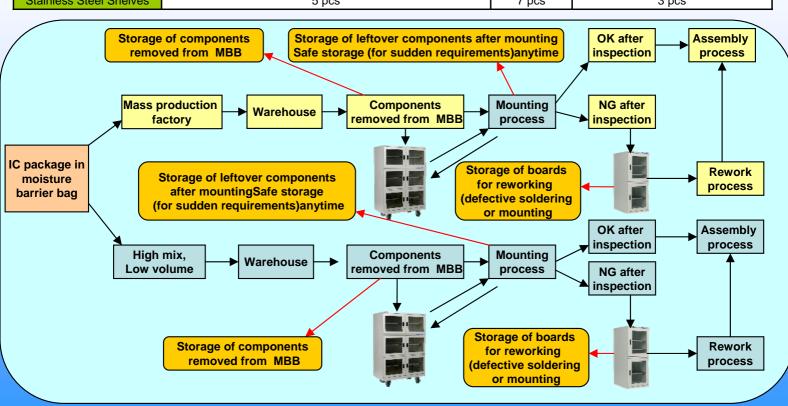
HSD-1104-01

HSD-702-01

HSD-302-01 HSD-502-01

HSD-252-01

Model	HSD-1106-01	HSD-1104-01	HSD-702-01	HSD-302-01	HSD-502-01	HSD-252-01
External WxHxD (mm)	1200x1840x670		620x1840x780	500x1230x640	880x900x740	880x900x380
Internal WxHxD (mm)	1190x1560x620		610x1560x730	490x1160x590	870x830x690	870x830x330
Capacity (L)	11	60	680	340	510	252
Weight (kg)	167	162	117	67	67	46
Mean Power Consumption	56W/h=40.4kW/month			50	6W/h=40.4kW/month	า
Rated Voltage	AC220V, 50/60Hz (Other voltage is optional)					
Material	Steel Body with ESD safe paint,			aint, and Conductive	e Doors	
Stainless Steel Shelves		5 pcs		7 pcs	3 p	CS



#### 02 Series (Digital Control Panel: 2%RH)

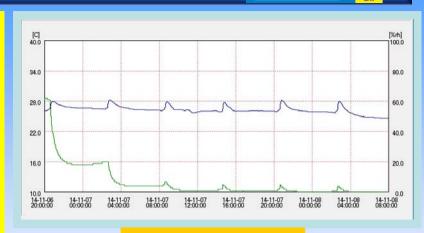




# Medium to Long Term Constant Ultra-Low Humidity Storage

02 series are equipped with 1 patented dry unit to constantly maintain the ultra-low humidity to min. 2%RH, to meet IPC/JEDEC J-STD-033C demands, and are ideal for the moisture proof and anti-oxidation storage of the following items.

- 1.Storage of all kinds of Interacted Circuits and Silicon Wafers etc
- 2. Storage of PDP Inspection Equipments and Liquid Crystal Cleaning Equipments etc
- 3.Storage of Aerospace related instruments and Tools
- 4.Storage of Optical Equipments and Digital Media
- 5.Storage of Chemicals, Medicine, Cultural Assets, etc.



02 series unloaded test















SD-1106-02

SD-1104-02

SD-702-02

SD-302-02

SD-502-02

SD-252-02

SD-151-02

Model	SD-1106-02	SD-1104-02	SD-702-02	SD-302-02	SD-502-02	SD-252-02	SD-151-02
External WxHxD (mm)	1200x1840x670		620x1840x780	500x1230x640	880x900x740	880x900x380	500x630x580
Internal WxHxD (mm)	1190x1560x620		610x1560x730	490x1160x590	870x830x690	870x830x330	490x560x530
Capacity (L)	1160		680	340	510	252	145
Weight (kg)	160	155	110	60	60	39	29
Power	28W/h			28W/h			21W/h
Consumption							
Rated Voltage	AC220V, 50/60Hz (Other voltage is optional)						
Material	Steel body with ESD safe painting and conductive doors						
Shelves		Stainless steel 5p	cs	Stainless 7pcs	;	Stainless steel 3pcs	3

#### **Applications in Production Process**





2) Silicon Wafer



3) Liquid Crystal Glass (LCG) Board



4) PCBs



5) Ceramics



6) Optical Fiber. CCD etc



#### Superior Features of 01 and 02 Series

#### **Engine Developed by Toyo Living**

#### U-2001F Type Dry Unit

#### **High Reliability and Stability**

Till today more than 55,000 Units have been supplied and Used in the world, especially in Japan where strict regulations Exist. Low humidity, Quick recovery system works.



## ESD Safe

#### 6 methods for 100% perfect EPA!

- (1)Conductive coating
- (2) Conductive windows
- 3 1MΩ earth resistance wire
- 4 High end stainless steel shelves
- 5 Earth point for wrist strap
- **6**Wrist strap

## **SUPER DRY**



Can enable your best achievement in production and development, with highest security and safety.

#### **Digital Panel**

Simple and easy to set humidity Temperature can also be indicated



#### **Humidity Sensor**

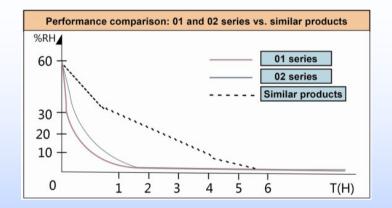
High end, high quality sensor to transmit Data to digital panel (Calibratable)

Only Super Dry by original TOTECH can supply fully Satisfied ESD FREE cabinets, 100% adjustment to IEC-61340-5-1.

#### **Fast dehumidification**

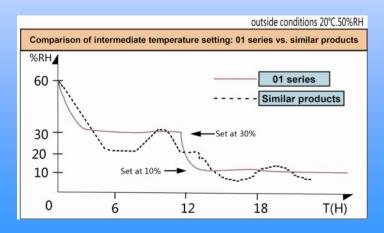
#### <Suitable for production process>

When a door is opened and closed, the fan inside the dry unit operates automatically about 20mins <automatic operation>. This provides faster dehumidification than the previous models and similar products. This new and original feature is indispensable for solving problems of moisture proofing and dehumidification between production line where doors are frequently opened and shut, and in reducing the humidity under highly humid external environment conditions.



#### **Keeping constant humidity**

At one time it was said that, due to the dehumidifier problems, maintaining constant humidity was not just very difficult but impossible, with the 01 and 02 series, improvements in both the software and hardware aspects have made it possible to cope with storage of special devices which you'd better store in the 20~30%RH range.



#### 03 Series

#### ( Humidity Control: <3%RH)



#### **ESD Safe**

## **Super Dry Newly Designed**

Constantly Dehumidifying, reaching min. <3%RH

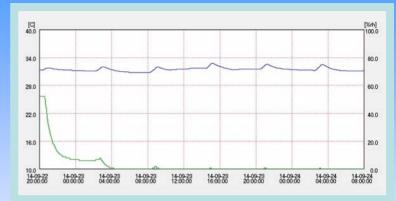
LCD Digital Hygrometer

Cost Low

Meet the requirement of

**IPC/JEDEC J-STD-033C** 



















CSD-1106-03

CSD-1104-03

CSD-702-03

CSD-302-03

CSD-502-03

CSD-252-03

CSD-151-03

Model	CSD-1106-03	CSD-1104-03	CSD-702-03	CSD-302-03	CSD-502-03	CSD-252-03	CSD-151-03
External WxHxD (cm)	120x184x67	120x184x67	62x184x78	50x123x64	88x90x74	88x90x38	50x63x58
Internal WxHxD (cm)	119x156x62	119x156x62	61x156x73	49x116x59	87x83x69	87x83x33	49x56x53
Capacity (L)	1160	1160	680	340	510	252	145
Weight (kg)	160	155	110	60	60	39	29
Voltage	AC220V, 50/60Hz (Other voltage is available)						
Material	ESD safe steel body& shelves, and conductive doors						
Shelves	5pcs 7pcs				3pcs		

#### **Feeder Series ESD** safe

#### (Ask for customized dimensions)

#### Feeder Series (ESD Safe)

Perfect Ultra-Low Humidity Storage for Tape Feeder at 1%RH

**Deep Design Handles Tape Feeders** 

External Dimension	W1200×H1840×D960(mm)
Internal Dimension	W1190×H1506×D910(mm)
Capacity	1708(L)
Weight	197(kg)
Power Consumption	56W/h
Shelves	5 Stainless Shelves
Material	Steel body



Tape feeder can be stored directly inside dry cabinet



SDF-1104-01



SDF-1402-01

Most suitable for trolleys with feeder to put inside cabinet directly, cabinet loading capacity 200kgs.

**Humidity control 1%RH by** digital control panel. Two trolleys can be stored inside.

External Dimension	W1300xH1290xD1090(mm)
Internal Dimension	W1250xH1205xD952 (mm)
Capacity	1400L
Weight	200(Kg)
Power Consumption	56W/h
Shelves	None
Material	Steel body with ESD safe paint

## Super DRY

20 Series

(Humidity Control: 20~50%RH)

**Long Term Storage** 

### **Super Dry Newly Designed**

Best choice for factories, labs and universities

Constantly Dehumidifying, 20%~50%RH

LCD Digital Hygrometer

Cost Low

**ESD Safe Function Optional** 



















CSD-1106-20

CSD-1104-20

CSD-702-20

CSD-302-20

CSD-502-20

CSD-252-20

CSD-151-20

Model	CSD-1106-20	CSD-1104-20	CSD-702-20	CSD-302-20	CSD-502-20	CSD-252-20	CSD-151-20
External WxHxD(cm)	120x184x67	120x184x67	62x184x78	50x123x64	88x90x74	88x90x38	50x63x58
Internal WxHxD(cm)	119x156x62	119x156x62	61x156x73	49x116x59	87x83x69	87x83x33	49x56x53
Capacity(L)	1160	1160	680	340	510	252	145
Weight(kg)	160	155	110	60	60	39	29
Voltage		AC220V, 50/60Hz (Other voltage is available)					
Material	Steel body and shelves						
Shelves	5pcs			7pcs		3pcs	

#### **Pass Box Design** (Ask for details)

Totech Super Dry is available to be made to pass box design.



#### **SDC Series ESD Safe**

**HEPA Clean cabinet** With 6 doors is available



SDC-1204-01

#### **HEPA Clean Cabinet (ESD Safe)**

Equipped with HEPA filter and dry unit, controlling cleanliness and humidity simultaneously. Air cleanliness class 100, humidity 1%RH.

External Dimension	W120 xH184 xD80 (mm)
Internal Dimension	W119xH156xD62 (mm)
Capacity	1100L
Weight	193(Kg)
Power Consumption	56W/h
Shelves	5 Stainless Shelves
Material	Steel Body







## **Auto Dry**

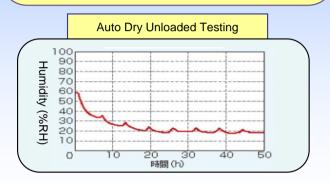
## **Most Economic Choice for Long Term Storage**



Model	ASD-1006	ED-508	ED-268	ED-138	
External (WxHxD)cm	120x184x69	88x90x76	88x90x40	44x90x40	
Internal (WxHxD) cm	119x156x62	87x84x70	87x84x34	42x84x29	
Capacity (L)	1160	510	252	121	
Weight (kg)	155	58	33	21	
Power Consumption	12.6W/h	6.3W/h 1.9W/h			
Voltage	AC220V, 50/60Hz, ( Other voltage is available)				
Material	Steel body with gray painting				
Steel Shelves	5 pcs		3 pcs		

Totech Auto Dry flexible setting 20%~50%RH, fit for long term storage.

- 1. Storage of micro-films and positive/negative films
- 2. Storage of antiques and ancient documents
- 3. Storage of electronic devices, PCB and IC packages before removing from moisture barrier bag
- 4. Storage of powdered medicines and water solution
- 5. Storage of micro-lens and microscope lens etc



#### Storage of Metal Objects and Tools

Recommended Humidity Level: Lower than 40%



Rust and error on the internal precision instrument can be prevented by storing commercial measuring instruments and other precision equipment, special tools, weapons, home equipment with metal parts in a low humidity.

#### **Powders**

Recommended Humidity Level: Lower than 40%



Any powder material for scientific, industrial, medial or household use can be protected from moisture absorption and chemical reaction by storing in a low humidity environment.

#### Stamps, Photos, Albums

Recommended Humidity Level: 30%~50%RH

Prevent discoloration and vellowing.



Humidity is one of the main causes of yellowing and discoloration of stamps and photos. They should be stored in a humidity level of 30~50%, not too high or too low.

#### **Seeds**

Recommended Humidity Level: 30~ 50%

#### **Desirable Humidity Level: Lower than 10%**



There is a strong relationship between seed germination with the moisture level of seed storage environment. A low humidity environment and prevention against water absorption will lead to high germination and growth rate.

#### Camera Lenses

**Recommended Humidity Level: 50%** 



Mold can be prevented on camera lenses, microscopes, binoculars and photography equipment by storing in an Auto Dry cabinet.

#### **Antiques, Arts**

Recommended Humidity Level: 30%~55%RH



The hot summer and dry winter environment must be overcome to maintain the value of the items.

Precise Hygrometer

Aluminium frame and

Acrylic body

Stainless steel shelves

ESD safe

Light, easy to remove

Transparent design, Easy for observation

N2 manual system

pre-installed

## Transparent Acrylic Cabinet

N2 set pre-installed, dry unit 3% or 20%

#### **Fast dehumidification**

Developed out of a robust acrylic material, the Super Dry Acrylic Series is engineered to achieve 3% RH control. Equipped with an N2-Set, the series can be used to store any stock commonly used in laboratories or electronics in a nitrogen atmosphere. Transparent acrylic cabinet serves clear observation of items stored inside, such as powder, chemicals, antiques, and so on.

#### **ESDA Series**

ESD safe, 3%RH











ESDA-200S

**ESDA-800S** ESDA-400S ESDA-200S Model External 1152x1692x517 574x1692x606 574x768x549 WxHxD(mm) Internal 1140x1470x487 561x1470x487 559x737x487 WxHxD(mm) 820 L 400 L 220 L Capacity Weight 85 kg 53 kg 20 kg 10pcs, loading 5pcs, loading 2pcs, loading Stainless Steel 20kg/shelf **Shelves** 20kg/shelf 20kg/shelf

ESDA-800S

ESDA-400S

# 20%RH

#### **SDA Series**







**SDA-400S** 

**SDA-200S** 

Model	SDA-800S	SDA-400S	SDA-200S
External WxHxD(mm)	1152x1692x517	574x1692x606	574x768x549
Internal WxHxD(mm)	1140x1470x487	561x1470x487	559x737x487
Capacity	820 L	400 L	220 L
Weight	85 kg	53 kg	20 kg
Stainless Steel Shelves	10pcs	5pcs	2pcs

## Camera cabinet 25~55%RH



AD-50



ED-106







**Super Case** 

- Set humidity value precisely, display humidity and temperature value
- Set the humidity and door open alarm
- Set the nitrogen purging time
- Lock the panel to avoid unintended changes of setting
- Sensor calibration





◆Extra shelf

Greatly increase the usable space inside Super Dry



SMD single rack (stainless steel)

Suitable for storage of components on tape and reel, can pull out on rail



SMD double rack (stainless steel)

Suitable for storage of components on tape and reel, can pull out on rail



Humidity/ Door open alarm buzzer

Alarm buzzer sounds when its internal humidity/ door open time exceeds set value



❖Humidity alarm light

Alarm light flashes and sounds when its internal humidity exceeds set value



❖Independent Nitrogen purge system (Model TN2-02)

Effective usage of  $\rm N_2$  combined with Super Dry, help to accelerate the recovery time and oxidation prevention. Set the buttons on  $\rm N_2$  purge system itself



❖Nitrogen valve (Model: HN2-01)

Simple N<sub>2</sub> flow meter 0-25L/min adjustable



Nitrogen auto purge system (Model AN2-03)

Effective usage of N<sub>2</sub> combined with Super Dry, help to accelerate the recovery time and oxidation prevention. Set on digital control panel



Adjustable legs

❖Wrist strap connection

Available for effective stabilization

Allows grounding while handling ESD sensitive materials



Data logger with software (model MR6662)

Data logging humidity and temperature, can read and output data by software with a PC



 Network system for humidity and temperature (including module and software)

Far distance humidity and temperature monitoring



❖Castors(4 pcs)

To move the cabinet on floor easily

\*Model No. and dimensions are subject to change.

