

Cole-Parmer®

INSTRUCTION MANUAL

- Covers Items: 78902-80, 78902-81, 78902-85, 78902-86, 78902-87
- Thank you for purchasing a Cole-Parmer **DC-400 desiccator cabinet**
- In order to ensure correct and safe operation, please read this instruction manual carefully
- This manual is for all three types of DC-400 desiccator cabinet. Standard cabinet users can ignore the automatic sections.







SAFETY GUIDANCE

Cole-Parmer Dry Cabinet Acrylic Series







Please read this SAFETY GUIDANCE carefully to avoid any possible danger of electric shock or damage to dry cabinet due to improper use.



WARNING

 <p>Unplug</p>	<p>AUTOMATIC CABINET: Unplug automatic cabinet if there is any smoke or smell coming from it. Do not try to repair the electric unit. Doing so will void your warranty.</p>	 <p>Unplug</p>	<p>AUTOMATIC CABINET: Unplug dry cabinet in case of a spilled liquid inside it. Danger of electric shock!</p>	 <p>Disassemble</p>	<p>AUTOMATIC CABINET: Do not disassemble or reconfigure the automatic unit. Risk of electric shock!</p>
 <p>Danger of fire or damage!</p>	<p>Do not put flammable or explosive materials in automatic cabinet.</p>		<p>AUTOMATIC CABINET: Do not operate automatic dry cabinet in a damp or wet environment. Danger of electric shock!</p>		<p>AUTOMATIC CABINET: Do not damage, twist, pull or place anything heavy on the power cord. Risk of electric shock!</p>

CAUTION

 <p>AUTOMATIC CABINET: Do not block the shutter. Always keep the electric unit upright. Do not place the unit on its side or upside down. Danger of fire or damage!</p>	 <p>AUTOMATIC CABINET: Do not plug or unplug automatic cabinet with a wet hand. Make sure to plug it properly. Risk of electric shock!</p>	 <p>Do not stand on dry cabinet or place anything heavy on it. Risk of tipping cabinet, falling, or injury!</p>
 <p>Do not put any flammable liquids inside cabinet. Danger of explosion and personal injury!</p>	 <p>Do not place any hydrochloric acid, sulphuric acid or other corrosive chemicals inside dry cabinet. Risk of corrosion!</p>	 <p>Caution The viewing windows of cabinet may shatter under impact! Risk of personal injury!</p>

If you have any questions regarding the safe operation of your DC-400 cabinet, please contact us.

Gas Purge Versions

Some versions of the DC-400 are supplied with N₂ flowmeter allowing humidity control of <3%RH or 20%RH and is ideal for moisture-proof and anti-oxidation storage applications

APPLICATIONS

Relative Humidity Ranges

Example humidity ranges and applications

60%~50%RH	Books, Antiques, Paper
55%~40%RH	Optical Equipment, Lenses, Microscopes, Magnifying glasses, Films
45%~30%RH	Precision metal mould, Measuring instruments, Electronic parts, PCB boards, Metal powder, Semi-conductor, Medicine raw material etc.
<30%RH	Test specimen, Standard gauge, Seeds, Pollen
<5%RH	Integrated Circuits (IC), Silicon wafers, etc.

FEATURES

1) Rugged Design

Aluminum frame, acrylic view panels, and stainless-steel shelves.

2) Security

Cabinet can be locked to prevent unauthorized access.

3) Speedy Dehumidification: (Automatic Cabinets)

After recycling the drying agent by heat, the interlocked fan inside the electric dry unit starts to operate accelerate the moisture absorption.

4) Flexible Humidity Setting: (Automatic Cabinets)

The inner humidity can be adjusted by knob to get different values for varieties of items.

5) Easy and convenient setting by knob: (Automatic Cabinets)

To set the knob by turning clockwise or counterclockwise.

6) Constant humidity level: (Automatic Cabinets)

The automatic units control the desiccator module to maintain humidity around the set humidity value.



WORKING PRINCIPLE

Dehumidification (Automatic Cabinets)

The desiccant drying agent is automatically rejuvenated (recycled), requiring no maintenance / user intervention. During the recycling period absorbed moisture will be discharged through the external shutter. After recycling, the shutter will close and the refreshed drying agent will once again absorb moisture inside the dry cabinet. This dehumidification cycle will continue until the set humidity point is achieved. Once the humidity level exceeds the adjusted level, the dehumidification cycle will start again.

The optional gas purge port allows for the flow of dry/inert gas to further reduce the humidity in the cabinet.

Dehumidification (Standard Cabinets)

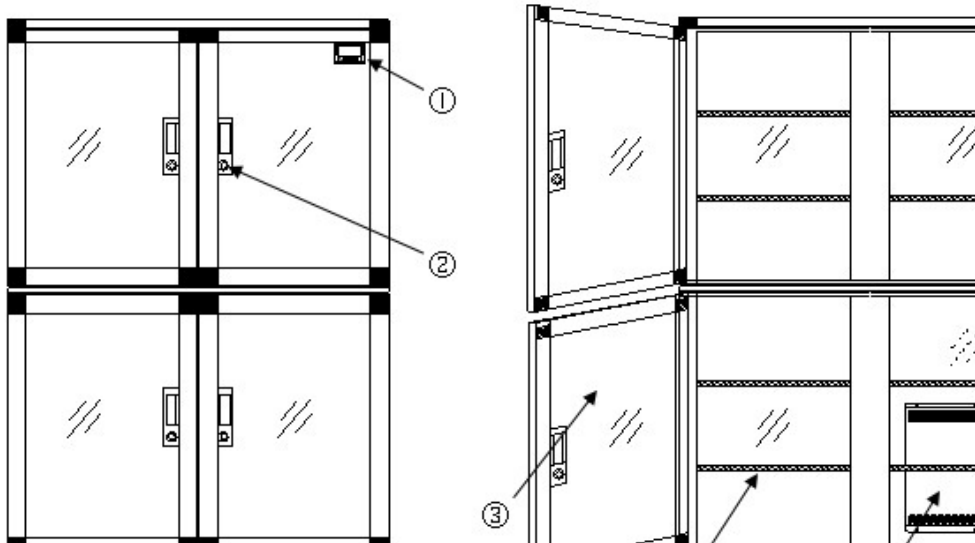
The standard cabinets require a desiccant material to dry the environment. The user is responsible for ensuring the desiccant is functioning and replace or regenerate as needed.



INSTALLATION

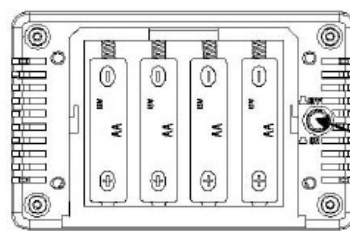
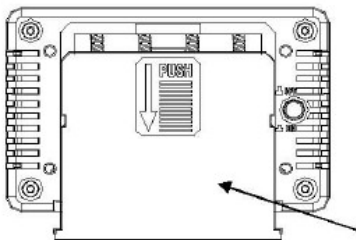
Do not operate **DC-400 Automatic** near the outlet of an air conditioner, places with high temperature, smoke and dust, or in direct sunshine. Ensure the cabinet is on a level surface suitable to handle the weight.

PARTS OF CABINETS



- ① LCD hygrometer (Automatic)
- ② Door lock
- ③ Door
- ④ Shelf
- ⑤ Dry unit (Automatic)
- ⑥ Knob control box (Automatic)

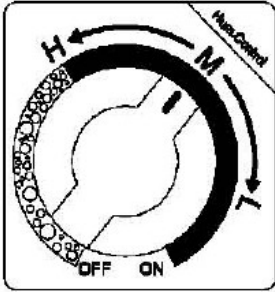
The way to change battery in the LCD hygrometer



1. Power off the hygrometer.
2. Push the cover down and take out the batteries.
3. Put in new batteries and close the cover.

OPERATING INSTRUCTIONS

The knob is nonpolar, with different level “OFF”, “H”, “M”, “L”, humidity can be set to any level.
(Automatic Units)



Humidity setting knob

- “M” ----- Inner humidity 35%~45%RH (Factory setting)
- “L” ----- Inner humidity 25%~35%RH
- “H” ----- Inner humidity 45%~55%RH
- “ON”-----Continuous operation
- “OFF”----- Power off

Humidity can be set to any position between two levels.

Notice during the operation of the Automatic Cabinet:

1. Let the cabinet run unloaded at least 4 hours to make sure it reached the set value.
2. After the items are put into the cabinet, the inner humidity may rise due to the moisture contained inside the items, thus 1-2 days may be required till the humidity reaches the set value.
3. For wet items, such as items packed by paper or cloth, dry them by a fan before putting into dry cabinet.
4. Dry unit will stop absorbing moisture once the set value is reached and will keep around the set value.
5. During dehumidification process, surface of dry unit will become hot for about 30mins, and it will cool in another 30 mins.
6. Keep a space of at least 5 cm at the back so the cabinet to make it expel moisture.

TROUBLESHOOTING

Check the following list before asking for repair services

1) No Display (Automatic)

- Has dry cabinet been switched on?
- Is dry cabinet properly plugged in?
- Is the fuse or the breaker of the electric dry unit damaged?
- Is there any power?

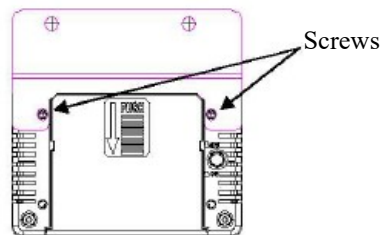
2) Humidity level does not drop down to the desired point

- Is the humidity point set correctly? (Automatic)
- Are the doors of dry cabinet tightly closed?
- Have the doors of dry cabinet been opened frequently?

NOTE: The stored materials and the outside ambient atmosphere will affect the humidity level inside dry cabinet. The humidity level will not rise above the ambient humidity level, as cabinets are not equipped with humidification capability.

Removing the hygrometer

- 1) Open the dry cabinet door on which the hygrometer is installed.
- 2) Remove the 2 screws by a screwdriver.
- 3) Take off the hygrometer shown in picture at right.



Models

Effective Capacity (L / cu ft)	70 / 2.47	50 / 1.76
Approximate External Dimensions (mm / in.) W x D x H	380 x 502 x 581 / 15 x 19.8 x 22.9	400 x 433 x 433 / 15.7 x 17 x 17
Internal Dimensions (mm / in.) W x D x H	310 x 478 x 405 / 12.2 x 18.8 x 15.9	330 x 330 x 335 / 13 x 13 x 13.2
Approximate Weight (kg / lb)	31 / 68	26 / 57
Shelves (pc)	2	1
Body and door	Aluminum frame, acrylic body	
Rated Voltage (V), Automatic	110 V, 50/60 Hz	

*The fuse used for **acrylic automatic cabinet** will stop operation if the temperature inside the cabinet exceeds 172°C.

Please contact our representatives or our service center directly for repair. Do not try to repair the cabinet - doing so will void your warranty.

Cole-Parmer, an Antylia Scientific company

625 East Bunker Court
Vernon Hills, IL 60061-1844

Ph: 1-800-323-4340

Fax: 1-847-247-2929

coleparmer.com

info@coleparmer.com

©2022 Cole-Parmer Instrument Company, LLC.

All rights reserved.