



Instruction Manual

Vacuum Heated Gel Dryers

GDVH

GDVH35



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PACKING LISTS:

	Main Unit	Mains Lead	Silicone Rubber	Porous gel support	Instruction Manual
GDVH					
GDVH35					

The packing lists should be referred to as soon as the units are received to ensure that all components have been included. The unit should be checked for damage when received.

Please contact your supplier if there are any problems or missing items.

1.Introduction

These gel dryers contain optimal sealing using a silicon rubber mask. The microprocessor controlled temperature (from ambient +5° to 90° with timer from 0 to 999 mins) allows precise control. The gels are heated using a base plate and the vacuum removes the moisture from below to dry the gel homogeneously. When applying the vacuum a groove that frames the drying surface provides a completely tight seal during drying. The drying area for GDVH is 21 x 31 cm and GDVH35 is 35 x 45 cm.

2. Safety

-  Use the same precautions as with any electrical device.
-  Before connecting this device to the electrical supply, check that your supply voltage is within the range stated on the rating label.
-  This device must be earthed.
-  Do not attempt to operate the device if damaged.
-  Place the unit in a safe, dry location.
-  The unit **MUST NOT** touch things in the surrounding area especially not heat sensitive materials.
-  Protect this unit from physical damage, corrosive agents and extreme temperatures.
-  Do not operate in a damp, humid environment where condensing moisture may short out internal electrical components.
-  When moving to or from a cold room, wait at least eight (8) hours for the unit to adopt ambient temperature and for condensing moisture to dry.
-  Do not place any kind of device on top of the Geldryer.
-  Do follow the safety precautions for chemicals/dangerous materials!
-  **WARNING: The Geldryer is designed for use with one voltage supply: 115 Volts, 60 Hz or 230 Volts, 50 Hz. Before connecting this unit to the electrical supply, check that your supply voltage and frequency are within the stated range.**

3.Controls and Features

Please refer to figure 1 below for the location of the following controls and features.

1. RED LED – Indicated on Setting Value
2. RED LED – Indicated on Heating
3. LED Display – for Temperature
4. UP Key -- to increase temperature value
5. DOWN Key - to decrease temperature value
6. START/STOP Key – activate or stop the unit.
7. LED Display – for Timer
8. DOWN Key - to decrease time value
9. UP Key -- to increase time value

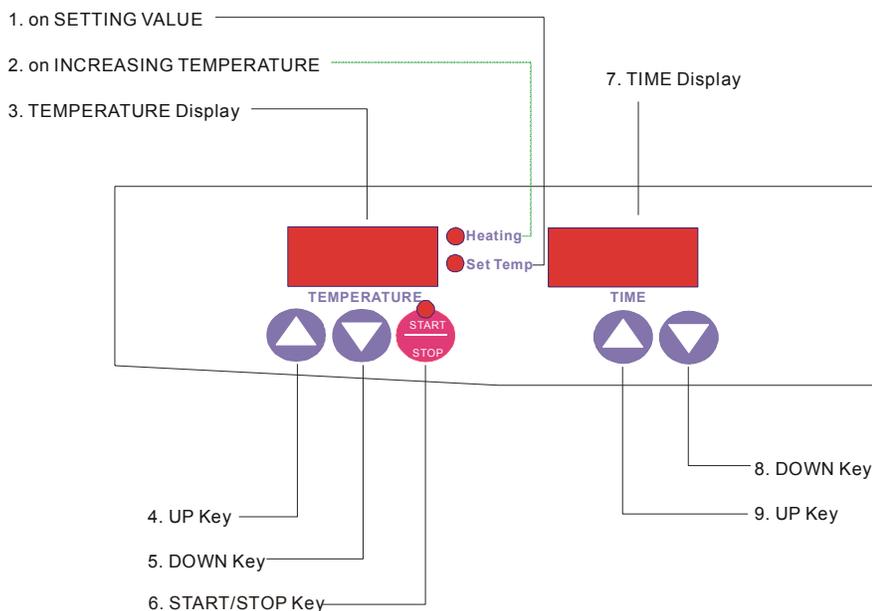


figure 1

4. Operating instructions

 Attention: Always wear gloves when preparing or handling polyacrylamide gels, because acrylamide is neurotoxic.

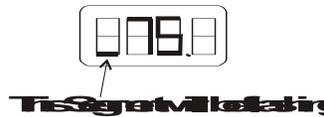
1. Place the Gel Dryer on a sturdy, level surface in a safe, dry place away from laboratory traffic.
2. Ensure that the AC power switch is OFF, then plug the three-pronged power cord into a grounded three-prong AC outlet of the appropriate voltage (115V or 220V as indicated on the rating sticker near the AC cord on the back of the unit).
3. Most polyacrylamide gels are dried at 80°C. Highly cross – linked and very thick gels or gradient gels should be dried at temperatures about 50 to 60°C only.
4. The drying time of a gel depends on size and thickness of the gel and on the capacity of the membrane vacuum pump used. In most cases the drying procedure needs 2 hours. We recommend using the Gelmaster Pump – PUMP as this provides even gel drying with no cracking.
5. Place two layers of filter paper onto the porous gel support.
6. If you wish to evaluate the gel with a densitometer, we recommend placing saran wrap underneath the gel.
7. Place the gel on the filter paper/saran wrap and remove air bubbles.
8. Cover the gel with a slightly larger piece of porous saran wrap.
9. Bring the rubber sealing plate in position and supply a sufficient vacuum.
10. Turn the AC power ON, which is located on the front of the unit.
11. Choose the temperature according to the gel to press the Temperature UP or DOWN key to adjust desired temperature.
12. If you want to set time, you can press TIMER Key UP or DOWN to adjust the time to the appropriate level. The timer will count down when the unit is started. If the timer isn't set then the time will count up.
13. Press the START Key to start heating.



14. When completed, press START Key again to stop the unit. If the timer is set then the unit will stop heating once the set time is complete.
15. An indication that the drying procedure is completed is when the surface of the rubber sealing plate becomes warm above the gel.
16. Keep the gel under vacuum for some more time after stopping the gel dryer because opening the system suddenly with the gel still at a high temperature still might cause the gel to tear.

5. Temperature Calibration

1. Place a 45 mm calibrated laboratory Thermometer onto the centre of the Gel Dryer surface.
2. Switch the main power OFF/ON and press the START key simultaneously. You will hear a “DU~DU” sound from the dryer and you will find the LED segment will be flashing (left down segment). The dryer is now in the Calibration Mode.



3. Press the UP or DOWN key to adjust the display value to the value on the thermometer. Then press the START key.
4. Wait for around 40~50 min until “all LED” is flashing.
5. Adjust the display value to the same as the thermometer. And then press the START key again.
6. The calibration procedure is now completed. Wait for some minutes so that the microprocessor can auto adjust the temperature until the LED display value is the same as on the thermometer.

6. Maintenance and Cleaning

The Gel Dryer may be cleaned with a moist cloth containing a mild soap solution. The blocks are aluminum and may be cleaned with any of the commercial aluminum cleaners on the market taking care to thoroughly rinse any residual cleaning residue before use.

7. Troubleshooting

Problem	Comment
LED does not light up	<ol style="list-style-type: none">1. Check the FUSE to see if it is broken2. Ensure that the AC power switch is ON.3. Check the three-pronged power cord are properly plugged into a grounded three-prong AC outlet of the appropriate voltage.
Timer is running, thermostat is heating, but the gel does not dry or takes extremely long time to dry	<ol style="list-style-type: none">1. Check the temperature setting.2. Check the vacuum: position of the silicone, tubing defects, capacity of the vacuum pump
Gel is torn during drying	<ol style="list-style-type: none">1. Drying time is too short.2. Temperature is too high.3. Vacuum is not sufficient
Gel is distorted during drying	<ol style="list-style-type: none">1. Temperature too high for thick or highly cross-linked or gradient gels.2. The vacuum was switched off to early and the gel was still warm.

8. Additional Information

Specification and ordering information

	GDVH	GDVH\$	GDVH35	GDVH35\$
Drying Area	21 x 31 cm	21 x 31 cm	35 x 45 cm	35 x 45 cm
Replacement Silicon Rubber Order Number	S2131		S3545	
Replacement Supporting Mask order number	M2131		M3545	
Controller	Digitals microprocessor controller			
Display	Two of 4 digital LED			
Operating Temperature Range	Ambient + 5° to 90 °			
Temp. Increment	0.1 Degrees Centigrade			
Temp. uniformity	+/- 0.2 Degrees Centigrade			
Temp. Calibration	Yes			
Timer	0 ~ 999 mins			



Warranty

The omniPAGE Vertical Electrophoresis units have a warranty against manufacturing and material faults of twelve months from date of customer receipt.

If any defects occur during this warranty period, your supplier will repair or replace the defective parts free of charge.

This warranty does not cover defects occurring by accident or misuse or defects caused by improper operation.

Units where repair or modification has been performed by anyone other than your supplier or an appointed distributor or representative are no longer under warranty from the time the unit was modified.

Units which have accessories or repaired parts not supplied by your supplier or its associated distributors have invalidated warranty.

Your supplier cannot repair or replace free of charge units where improper solutions or chemicals have been used. For a list of these please see the Care and Maintenance subsection.

If a problem does occur then please contact your supplier.