

Hoefler SE1210 Gel Drying Frame

For air drying gels



Page finder

1. Gel Drying Frame function and description	1
Unpacking	1
Assembly	1
2. Instructions	2
Prepare the gel for drying.....	2
3. Gel Drying Stack Assembly.....	4
4. Drying Gels	6
Air Drying	6
After Gels are Dry.....	6
5. Care and maintenance	7
Cleaning	7
Changing the Gasket.....	7
6. Troubleshooting.....	8
7. Ordering information.....	9

1. Gel Drying Frame function and description

The Hoefer® SE1210 gel drying frames hold gels between cellophane and/or heavy gauge polyester plastic sheets for drying in a rack placed in a fume hood. Each gel frame consists of an inner and outer frame, eight black knobs, and one installed O-ring sealing gasket.

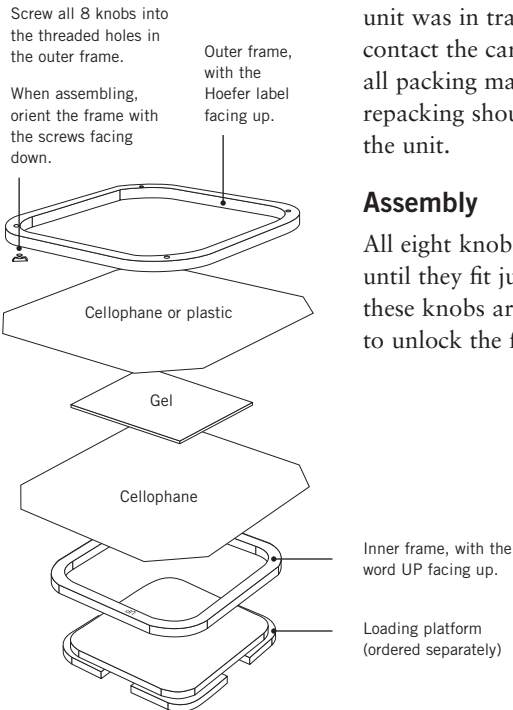
Unpacking

Unwrap all packages carefully and compare contents with the packing list, making sure all items arrived. If any part is missing, contact your local sales office. Inspect all components for damage that may have occurred while the unit was in transit. If any part appears damaged, contact the carrier immediately. Be sure to keep all packing material for damage claims or for repacking should it become necessary to return the unit.

Assembly

All eight knobs are installed into the outer frame until they fit just short of snug. Once installed, these knobs are adjusted by a 1/4-turn to lock or to unlock the frame. See Fig 2 on page 5.

Fig 1. Frame parts and gel drying stack assembly.



Note: This drying method is NOT recommended for:

- Agarose gels, which are generally too thick.
- Polyacrylamide gels attached to treated polyester film.

2. Instructions

Listed below are recommended procedures to ensure optimum drying results for gels of different thicknesses and acrylamide concentrations. Thin gels (0.75 mm or less) are recommended for best results.

Prepare the gel for drying

Thin gels (Gel thickness < 0.75 mm or gel > 0.75 mm and acrylamide $\leq 10\%$ T)

1

Fix and stain the gels according to your preferred protocol.

2

Final soak solution.

Coomassie™ Blue. The final destaining solution should consist of 7% acetic acid, 5% methanol, and 0.5–2% glycerol. (Glycerol maintains the flexibility of the gel, making it less likely to crack.) Equilibrate the gel in this solution for a minimum of 2 hours, but preferably overnight. After destaining, rinse the gel with distilled water for 1–2 minutes to remove excess acetic acid.

Silver stain. Add 0.5–2% glycerol to the final water rinse.

Fluorography. Follow the manufacturer's instructions or your preferred protocol.

3

Load the gel onto the drying frame as described on page 4.

Thick gels (Gel thickness > 0.75 mm and acrylamide > 10% T)

1

Fix, stain and destain the gel according to your preferred protocol. Use a final destaining solution of 7% acetic acid and 5% methanol.

2

Final soak solution.

Coomassie Blue. After the final destain, soak the gel in a solution of 35% ethanol and 0.5–2% glycerol for 1–2 hours. (Ethanol dehydrates the gel, which minimizes cracking during drying. Do not place the gel in the ethanol solution longer than 2 hours, as ethanol will begin destaining the gel.)

Silver stain. Soak gels in 30% ethanol, 5% glycerol for at least 30 min prior to drying.

Fluorography. Follow the manufacturer's instructions or your preferred protocol.

3

Load the gel onto the drying frame as described on page 4.

Note: Unless gel cracking is a recurring problem, prevent gels from becoming tacky by using $\leq 2\%$ glycerol gel soaking solution.

Note: If you soak gels in a solution of ethanol and glycerol you can dry the gels after the preserve step is completed.

3. Gel Drying Stack Assembly

1

Select the drying sheets. You need one sheet of porous cellophane for the bottom and one sheet of either porous cellophane or polyester for the top:

Cellophane. Use for fluorography, thick gels, or to preserve a gel. (Cellophane does not quench the signal of fluor-treated gels.)

Polyester. Use for contact autoradiography for gels ≤ 1 mm. (The polyester peels off once the gel is dried. Place the uncovered side against the X-ray film.)

2

Fully hydrate cellophane sheets in distilled water. This will take several minutes. (Polyester sheets do not require hydration).

3

Unlock the frame knobs and gently pop the inner frame out of the outer frame. Position the inner frame so that the side labeled UP faces up. If using the loading platform (ordered separately), see Fig 1 on page 1 for the platform and inner frame positions.

4

Place a fully hydrated sheet of cellophane over the inner frame (on the loading platform, if available). Pour 5–10 ml of distilled water on the sheet.

5

Assemble the drying stack.

6

Place the gel(s) on the cellophane.

Once all the bubbles are removed, pour 5–10 ml of distilled water on the gel as well as around the edges.

Important! Remove all bubbles from the gel. Push them carefully toward the edge of the gel with gloved finger.

7

Cover the gel with a sheet of polyester or fully hydrated cellophane. Displace any remaining bubbles, working from the center of a single gel or, if several gels are in place, from the center of the frame toward the edge.

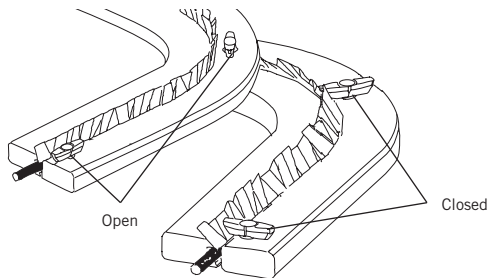
8

Position the outer frame—with the Hoefer label facing up and the knobs facing down—around the inner frame. Press down to engage the two frames. Applying pressure to opposite corners of the frame usually causes the frames to snap together easily. Both upper and lower sheets should be taut.

9

Turn the assembly over to turn each knob 1/4-turn into the locked position as shown in Fig 2. (The long edge of the knob bridges the inner and outer frames.) Locking the two frames together prevents slippage as the gel shrinks during drying.

Fig 2. Locking the frames together.





4. Drying Gels

Air Drying

Place the frames in a suitable rack, preferably in an operating fume hood. If gels positioned vertically are found to slide toward the bottom, reposition them and dry them horizontally. Slipping can be prevented by carefully blotting off excess water before clamping the frame closed.

After Gels are Dry

①

Remove the gels from the frames.

Cellophane. Trim excess wrapping, if desired.

Polyester. For contact autoradiography, peel plastic off before exposing the gel to X-ray film.

②

Rinse frames thoroughly with water and then distilled water after each use.

5. Care and maintenance

Cleaning

Important! Never autoclave or heat any component of the frame above 55 °C.

Clean the frame regularly with mild soap and water, rinse thoroughly with water and distilled water, and allow to air dry. Never use abrasive detergents. Do not expose the frame to solutions or vapors of aromatic or halogenated hydrocarbons, ketones, esters, alcohols (over 30%), or concentrated acids (over 25%).

Changing the Gasket

If the gasket on the inner frame becomes inflexible or no longer holds the gel stack tautly, remove it and install a new gasket, stretching it slightly around three sides and then rolling it into place on the fourth.

6. Troubleshooting

problem	solution
Gel or cellophane cracks <i>All gels</i>	Handle the gel and cellophane with care. Fully hydrate the cellophane with distilled water just before use and avoid stretching it during assembly. <hr/> If the cellophane is drying too quickly, instead of hydrating it in distilled water, soak it in the same glycerol solution used for the gel. <hr/> Always remove all air bubbles before drying.
<i>Gradient gels or gels ≥ 0.75 mm thick with acrylamide $\geq 10\%$ T</i>	Dehydrate the gel in 30% ethanol and 2% glycerol before drying. If gels still crack, increase the percentage of glycerol up to 5%. Note: With a higher percentage of glycerol, a longer drying period is required. The gels may also be flexible and feel tacky when dry.
<i>Fluor-treated gel</i>	Use cellophane instead of polyester. <hr/> Use a thinner gel (≤ 0.75 mm).
Gel dries too slowly or not at all	
<i>Gel dries unevenly</i>	Rotate each frame 180° (front-to-back) every half hour.
<i>Check the gel or stack</i>	Reduce the amount of glycerol to 0.5–2%. <hr/> Check that you are not using two sheets of polyester. At least one sheet must be cellophane.
Gel turns cloudy or white	
<i>Gels ≥ 0.75 mm thick with acrylamide $\geq 10\%$ T</i>	Reduce the percentage of ethanol to 30%. <hr/> Do not soak the gel for more than 2 hours in the ethanol/glycerol dehydration solution. <hr/> After Coomassie Blue staining, be sure to use final destain of 7% acetic acid and 5% methanol before soaking in 35% ethanol/glycerol solution.

7. Ordering information

product	quantity	code no.
Replacement Parts: 20 cm × 20 cm frames and platform.		
Cellophane sheets, 33 cm × 33 cm	50	SE1202
Mylar sheets, 33 cm × 33 cm	25	SE1204
Gel drying frame, 20 cm × 20 cm. Includes inner and outer frames, 8 black knobs and one O-ring sealing gasket. (Order loading platform separately)	1	SE1210
O-ring sealing gasket, 20 cm × 20 cm frame	1	SE1212
Knobs, black	10	SE1213
Gel loading platform, 20 cm × 20 cm	1	SE1214
Outer gel drying frame and 8 knobs, 20 cm × 20 cm	1	SE1215
Inner gel drying frame, 20 cm × 20 cm, and one O-ring sealing gasket	1	SE1216

Replacement Parts: 21 cm × 26 cm frames and platform.

Cellophane sheets, 33 cm × 38 cm	50	SE1202-L
Mylar sheets, 33 cm × 38 cm	25	SE1204-L
Gel drying frame, 21 cm × 26 cm. Includes inner and outer frames, 8 black knobs and one O-ring sealing gasket. (Order loading platform separately)	1	SE1210-L
O-ring sealing gasket, 21 cm × 26 cm frame	1	SE1212-L
Knobs, black	10	SE1213
Gel loading platform, 21 cm × 26 cm	1	SE1214-L
Outer gel drying frame and 8 knobs, 21 cm × 26 cm	1	SE1215-L
Inner gel drying frame, 21 cm × 26 cm, and one O-ring sealing gasket	1	SE1216-L



Hoefler, Inc.

84 October Hill Road
Holliston, MA 01746

Toll Free: 1-800-227-4750

Phone: 1-508-893-8999

Fax: 1-508-893-0176

E-mail: support@hoeflerinc.com

Web: www.hoeflerinc.com

Hoefler is a registered trademark
of Hoefler, Inc.

Coomassie is a trademark of
ICI plc.

© 2012 Hoefler, Inc. —
All rights reserved.

Printed in the USA.

