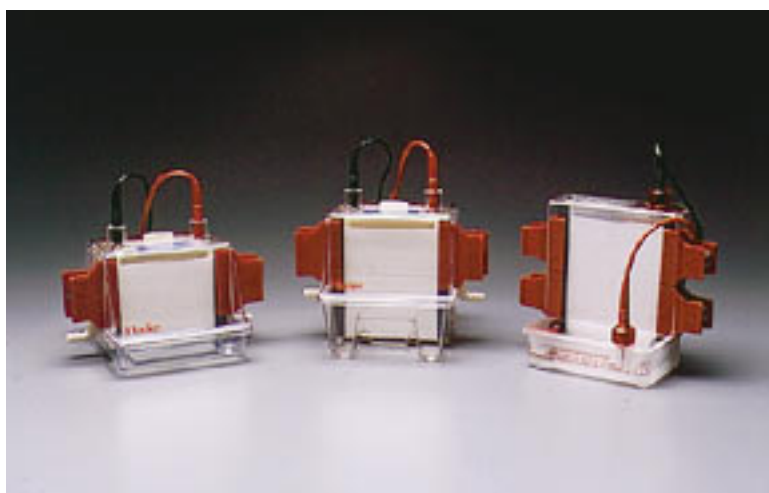


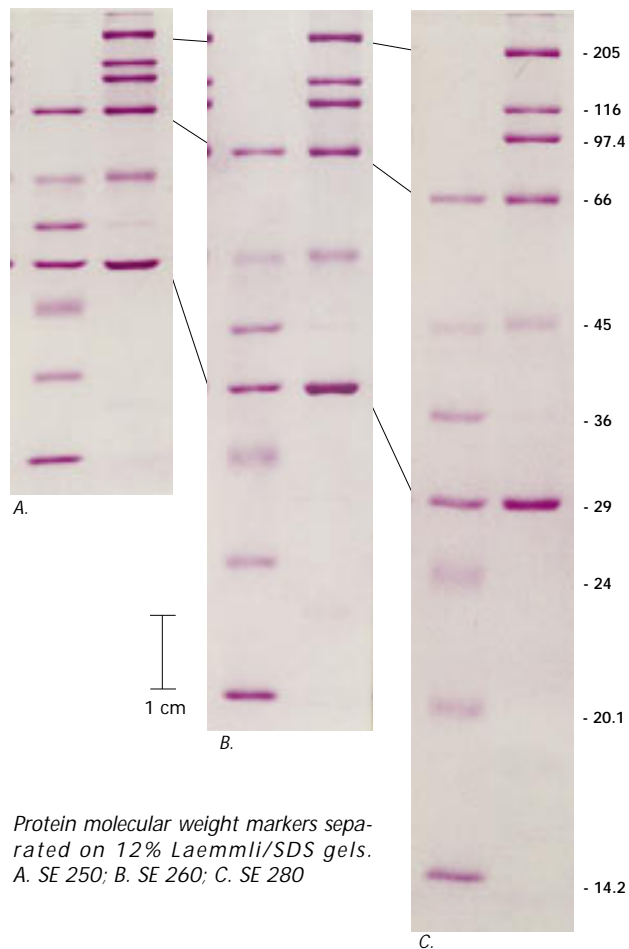
Three Mighty Small™ Vertical Gel Electrophoresis Units

The SE 200 Series

Big Results In Small Gels

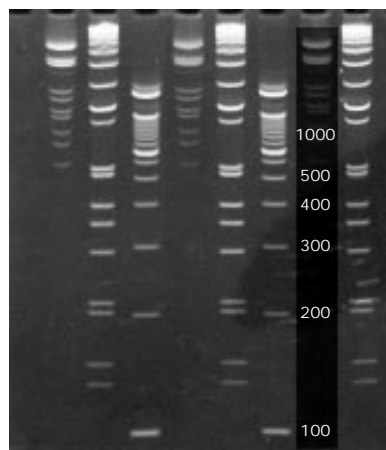


The Mighty Small Vertical Slab Electrophoresis Units. Left to right: SE 250, SE 260, SE 280



Flexibility in the Small Format

- ◆ Three separation lengths
- ◆ Use all popular brands of pre-cast gels
- ◆ Control run temperatures
- ◆ Protein, DNA, gradient and 2-D applications



DNA size markers on 8% acrylamide gel, 1 x TBE, 100 min at 150 V in SE 260.



*The SE 250
Mighty Small II
Vertical Slab
Electrophoresis Unit
for 10 x 8 cm gels.*



*The SE 260
Mighty Small II
Vertical Slab
Electrophoresis Unit
for 10 x 10.5 cm gels.*



*The SE 280
Mighty Small
Vertical Slab
Electrophoresis Unit
for 10 x 12 cm gels.*

SE 250

The SE 250 Mighty Small unit runs two standard 10 x 8 cm mini-gels. The upper buffer chamber is also an efficient heat exchanger for active temperature control. The unit can run 12 tube gels with two tube gel adapter kits. Mini 2-D protein analyses can be completed in less than 4 hours. Available slab casters include 2-, 4-, and 10-place models.

SE 260

Essentially the same compact design as the SE 250, the SE 260 unit runs two 10 x 10.5 cm gels at a time. The additional 2.5 cm of separating length means you have more than 25% extra distance to resolve complex samples. It also means that you can use a variety of 8- and 10-cm long pre-cast gels. Available casters include 2- and 4-place models.

SE 280

The tallest Mighty Small unit, the SE 280 runs a single long gel, 10 x 12 cm, which is more than 50% longer than standard mini-gels. Although it does not have a heat exchanger, complete gel contact with the 100 ml upper buffer reservoir assures even, efficient heat distribution. The SE 280 also accepts the shorter format gels and the tube gel adapter. Casters are available for 2 or 4 gels.

THE INSTRUMENTS

Small But Flexible

The Mighty Small series of vertical electrophoresis units offers you the combined advantages of small format (low reagent requirements, minimal bench space) and efficient cooling, making it ideal for applications such as rapid screening of protein and nucleic acid samples. But small doesn't mean you sacrifice flexibility—you can run slab or tube gels, pour your own or use commercially pre-cast gels, use either acrylamide or agarose, separate DNA or protein, perform both 1-D and 2-D analyses.

Uniform Gel Temperature

For consistent separations and flat bands, the Mighty Small unit gel sandwiches use alumina back plates to enhance temperature uniformity and rapid heat dissipation. Alumina is a tough ceramic that conducts Joule heat away from the gel sandwich into the upper buffer 40 times faster than glass of a comparable thickness. And the Mighty Small alumina plates are only half the thickness of glass to improve heat transfer rates even more. If you need active control of the gel temperature, the upper buffer chamber of the SE 250 and SE 260 models has a built-in heat exchanger that can be attached to an external thermostating system.

Gel Sandwiches Easy to Assemble

Aligning a rectangular plate, a notched plate and two spacers to assemble a mini-gel sandwich can be an awkward task. The patented T-shaped spacers make alignment of the plates quick and virtually foolproof. Gel sandwiches are held in place with simple spring clamps that exert just the right amount of pressure.

Multiple Choice Dimensions

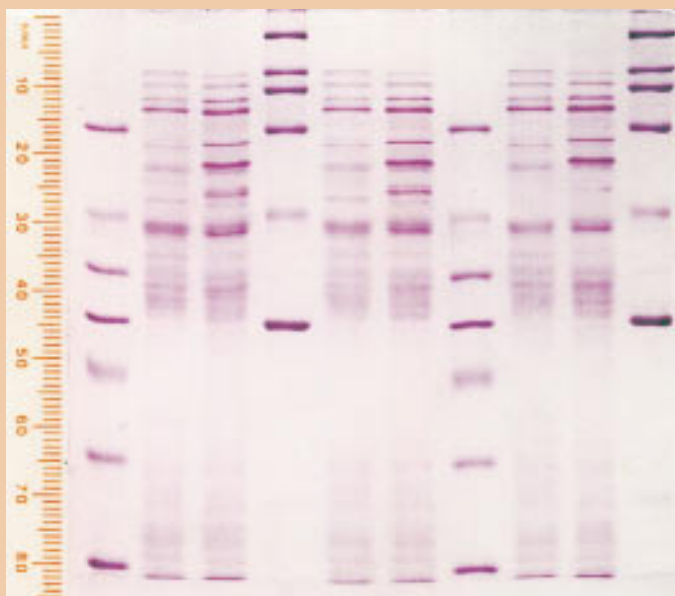
Standard running lengths of gels are 7, 9.5, and 11 cm, but the SE 280 Tall Mighty Small can also accept non-standard lengths. Spacers and combs come in three thicknesses: 0.75, 1.0, and 1.5 cm. And you can choose from 1-, 5-, 9-, 10-, 15-, and 18-well sample combs. The 9- and 18-well combs are quick to load with a multi-channel pipetter.

A Variety of Casting Options

Whether you need one gel or ten, the choice is yours—Mighty Small casting systems allow you to make gels in the quantities you need for your pace of work. Select from 3 styles of casters for single concentration or gradients: a universal dual gel caster; a 4 gel caster for all these sizes; and a 10 gel caster for 10x8 cm gels.

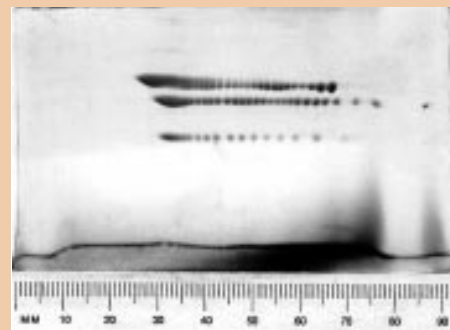
Sturdy and Safe

The Mighty Small units hold up for years, made of impact resistant plastic with non-corroding platinum electrodes. The safety lids shield both upper and lower buffer chambers when units are in use and, to prevent accidental contact, the lids connect and disconnect both high voltage leads simultaneously.

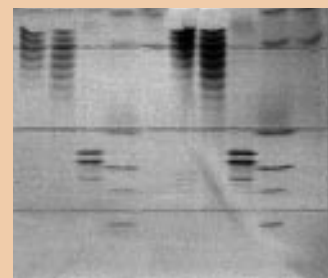


SE 260: Denaturing protein gel. Extracts of two varieties of wheat seed were separated on a 12% SDS Laemmli gel. Lanes 1, 4, 7, and 10 are commercial protein molecular weight standards.

SE 250: Two-dimensional separation. Carbamylated creatine kinase was focused on a pH 4-8 IEF tube gel in the SE 220 adaptor, then the tube gel was applied to a 12% SDS Laemmli gel in the SE 250 for the second dimension separation by size.



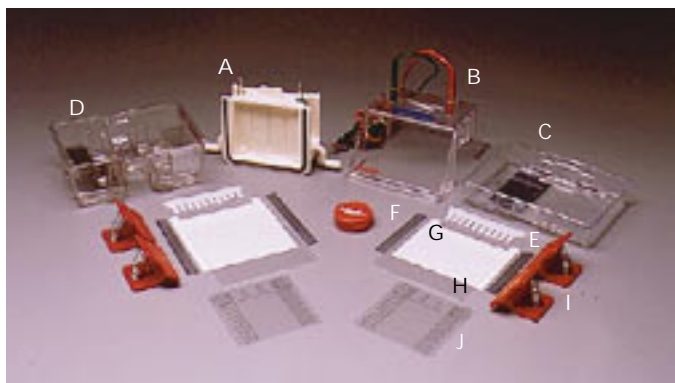
SE 260: Vertical slab isoelectric focusing. Recombinant human monoclonal antibody and recombinant truncated herpes simplex glycoprotein D were separated on a commercially pre-cast pH 3-10 IEF gel. Lanes 1, 2, 6, 7: monoclonal antibodies; lanes 3, 8: HSV glycoprotein D; lanes 4, 5, 9, 10: marker proteins.



APPLICATIONS

Polyacrylamide Gel Electrophoresis

Acrylamide gels are easy to cast and quick to run in the Mighty Small units. Native or denaturing protein and nucleic acid separations are all conveniently run on a Mighty Small vertical unit. A typical 10 x 8 cm SDS acrylamide protein gel is complete in 60 to 100 minutes; and 10 x 8 cm DNA gels in TBE finish in an hour. Impressive resolution of DNA fragments up to 1 kb takes only 100 min at 150 V on the 10 x 10.5 cm SE 260 unit.



SE 250 and SE 260 components. (A) Upper buffer chamber/heat exchanger, (B) safety lid with leads, (C) SE 250 lower buffer chamber, (D) SE 260 lower buffer chamber, (E) comb, (F) T-shaped spacer, (G) alumina notched plate, (H) glass rectangular plate (I) clamps, (J) well-locating decal.

Agarose Gel Electrophoresis

Although traditionally run on horizontal units, agarose gels run on the Mighty Small units show flat, smile-free bands and, with cooling, can be run at higher voltages for quick answers. The ceramic alumina plates means agarose gels have a surface to which they can "cling," so they are less likely to slide out the bottom of the sandwich than with glass plates.

Isoelectric Focusing

Isolated buffer chambers and effective temperature control mean the Mighty Small units are ready for the challenge of isoelectric focusing. You can cast your own IEF slab and tube gels, or use pre-cast slabs for extra convenience.

2-D Electrophoresis

The Mighty Small system is all you need for 2-D electrophoresis. For the first dimension, the Tube Gel Adaptor Kit makes it easy to cast and run 6 identical tube gels, 7.5 cm long x 1.5 mm in diameter, on any Mighty Small vertical unit. Models SE 250 and SE 260 accept two adaptor kits for a total of 12 tube gels. For 2-D protein work, you can have the answer in less than a day—the IEF first dimension gels can be run in as little as 2 hours and the second dimension gels can be run in less than 1 hour.

YOUR GEL CASTING OPTIONS

If you run gels only occasionally and in ones and twos, or you need one or two of the freshest possible gels each day, the SE 245 Dual Gel Caster is the appropriate choice for any Mighty Small unit. Based on the design of the SE 600 standard format gel caster, cam-action clamping assures a tight seal without need for tape or bottom spacers and produces gels that can be run all the way to the bottom.

For more gels, you can save time and improve consistency by choosing the appropriate multiple gel caster to make larger batches at one time. Any extra gels not used the same day can be refrigerated for up to three weeks. Each multi-gel caster comes with a space-saver plate and filler sheets to take up any extra space in the chamber when less than the maximum number of gels is needed.

Cast Gradient Gels to Your Specifications

If you need single concentration gels, just pour the monomer solution carefully in at the top of any of the gel casters. But if you need pore gradient or denaturing gradient gels, the 4- and 10-place casters are designed for producing uniform, consistent gradient gels. As you pump the solution from a gradient maker into the bottom inlet, the gradient stabilizes in the V-shaped cavity beneath the plates before entering the sandwiches. Gels cast at the same time will be virtually identical because all sandwiches fill at the same rate from the same mixture of solution.

Use Commercially Pre-cast Slab Gels for Additional Time-Savings

The consistency, time savings, and convenience of commercially pre-cast gels are attractive to an increasing number of laboratories. Most manufacturers of pre-cast gels have a variety of products that fit the standard Mighty Small II 10 x 8 cm unit. Some pre-cast gels require the additional length of the model SE 260 (10 x 10.5 cm).

Simple Tube Gel Casting

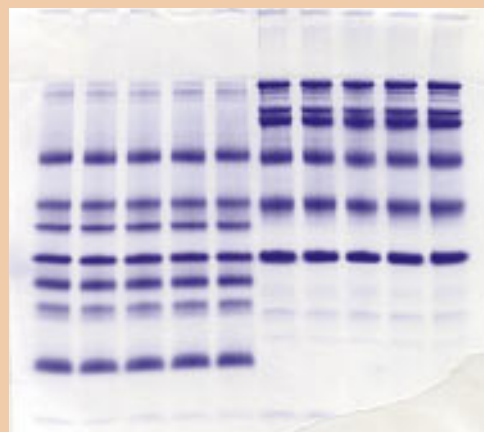
Casting uniform length tube gels with the SE 220 Gel Caster and Adaptor Kit requires no seals or individual measuring. Tubes are filled with the monomer solution simultaneously by hydrostatic displacement, which results in bubble-free gels of identical length in each tube, regardless of variations in tube diameter.



SE 220 Tube Gel Adaptor Kit



SE 275 Mighty Small Four-Gel Caster, SE 215 Mighty Small Multiple Gel Caster, and SE 245 Dual Gel Caster.



Pre-cast Gel

Gel Caster Selection Guide

Gel Unit	Gel Size	Caster for:		
		1-2 gels	2-4 gels	2-10 gels
SE 250	10 x 8	SE 245	SE 275	SE 215
SE 260	10 x 10.5	SE 245	SE 235	—
SE 280	10 x 12	SE 245	SE 295	—

Ordering Information

Mighty Small Electrophoresis Units

For 10 x 8 cm gels

SE 250-10A-.75 Mighty Small II Vertical Slab Gel Electrophoresis Unit, complete, for 2 slab gels, 10 x 8 cm. Includes 10 glass plates, 2 alumina notched plates, 4 clamps, well-locating decal, Spacer-Mate assembly template, Cello-Seal, SE 245 Dual Gel Caster, 2 each 0.75-mm thick 10-well combs and 0.75-mm thick spacer sets.

SE 250 Mighty Small II Vertical Slab Gel Electrophoresis Unit, basic, for 2 slab gels, 10 x 8 cm. Includes 10 glass plates, 2 alumina notched plates, 4 clamps, well-locating decal, Spacer-Mate assembly template, Cello-Seal. (Order combs, spacers, and gel caster separately.)

Dual 2-D System

SE 250-2D-1.5 Mighty Small II Vertical Slab Gel Electrophoresis System for 2-D electrophoresis, 10 x 8 cm. Includes 10 glass plates, 2 alumina notched plates, 4 clamps, well-locating decal, Spacer-Mate assembly template, Cello-Seal, 2 each 1.5-mm thick preparative combs with single-reference well, and SE 220 Tube Gel Adaptor Kit.

For 10 x 10.5 cm gels

SE 260-10A-.75 Mighty Small II Vertical Slab Gel Electrophoresis Unit, complete, for 2 slab gels, 10 x 10.5 cm. Includes 10 glass plates, 2 alumina notched plates, 4 clamps, well-locating decal, Spacer-Mate assembly template, Cello-Seal, SE 245 Dual Gel Caster, 2 each 0.75-mm thick 10-well combs and 0.75-mm thick spacer sets.

SE 260B Mighty Small II Vertical Slab Gel Electrophoresis Unit, basic, for 10 x 10.5 cm gels. For pre-cast gels. Includes 4 clamps, Cello-Seal. (Order combs, spacers, plates and gel caster separately.)

For 10 x 12 cm gels

SE 280 Tall Mighty Small Vertical Slab Gel Electrophoresis Unit, basic, for 1 slab gel, 10 x 12 cm. Includes 5 glass plates, 2 notched alumina plates, 4 clamps, well-locating decal, Spacer-Mate assembly template, and Cello-Seal. (Order comb, spacers and gel caster separately.)

Tube Gel Adaptor

SE 220 Mighty Small Tube Gel Adaptor Kit, for 6 tube gels, 7.5 cm x 1.5 mm ID. Includes 12 gel tubes, SE 225 tube gel caster, 12 O-rings, 24 stoppers and tube gel extractor.

Accessories

Teflon Combs for all Mighty Small Units

Catalog No.	No. of Wells	Comb Thickness (mm)	Well Width (mm)
SE 211A-5-.75	5	0.75	13.0
SE 211A-5-1.0	5	1.00	13.0
SE 211A-5-1.5	5	1.50	13.0
SE 211A-9-1.0	9*	1.00	5.8
SE 211A-10-.75	10	0.75	4.8
SE 211A-10-1.0	10	1.00	4.8
SE 211A-10-1.5	10	1.50	4.8
SE 211A-15-.75	15	0.75	2.9
SE 211A-15-1.0	15	1.00	2.9
SE 211A-15-1.5	15	1.50	2.9
SE 211A-18-1.0	18*	1.00	2.9
SE 211A-R-.75	1/1 [†]	0.75	68.5/5.2
SE 211A-R-1.0	1/1 [†]	1.00	68.5/5.2
SE 211A-R-1.5	1/1 [†]	1.50	68.5/5.2

*Microtiter spacing

[†]Preparative/reference well

Spacers	Thickness (mm)	Length (cm)
For SE 250 (set of 2)		
SE 2119T-2-.75	0.75	8
SE 2119T-2-1.0	1.00	8
SE 2119T-2-1.5	1.50	8
For SE 260 (set of 2)		
SE 2619T-2-.75	0.75	10.5
SE 2619T-2-1.0	1.00	10.5
SE 2619T-2-1.5	1.50	10.5
For SE 280 (set of 2)		
SE 2819T-2-.75	0.75	12
SE 2819T-2-1.0	1.00	12
SE 2819T-2-1.5	1.50	12

Glass and Alumina Plates

For SE 250 (10 x 8 cm)

SE 202GN-5	Notched glass plates, 10 x 8 cm (pkg of 5).
SE 202N	Notched alumina plate, 10 x 8 cm.
SE 202N-10	Notched alumina plates, 10 x 8 cm (pkg of 10).
SE 202P-10	Rectangular glass plates, 10 x 8 cm (pkg of 10).

For SE 260 (10 x 10.5 cm)

SE 262GN-5	Notched glass plates, 10 x 10.5 cm (pkg of 5).
SE 262N-5	Notched alumina plates, 10 x 10.5 cm (pkg of 5).
SE 262P-5	Rectangular glass plates, 10 x 10.5 cm (pkg of 5).

For SE 280 (10 x 12 cm)

- SE 282GN-2 Notched glass plates, 10 x 12 cm (pkg of 2).
 SE 282N-2 Notched alumina plate, 10 x 12 cm (pkg of 2).
 SE 282P-5 Rectangular glass plates, 10 x 12 cm (pkg of 5).

Gel Casters

For 1 or 2 gels, 10 x 8, -10.5, -12 cm

- SE 245 Mighty Small 2-Gel Caster. For 1 or 2 gels. Includes 2 pair of screw clamp assemblies, gaskets, and cams.

For 10 x 8 cm gels

2 to 4 gels

- SE 275 Mighty Small 4-Gel Caster, complete (10 x 8 cm). Includes 4 notched alumina plates, 10 rectangular glass plates, 2 red clamps, 100 sheets wax paper, space-saver plate, 5 filler sheets, set of filler plugs, and Spacer-Mate assembly template. (Order combs and spacers separately.)
- SE 276 Mighty Small 4-Gel Caster, basic (10 x 8 cm). Includes 2 red clamps, space-saver plate, 5 filler sheets, set of filler plugs. (Order combs, spacers, glass and alumina plates, and wax paper separately).

5 to 10 gels

- SE 215 Mighty Small Multiple Gel Caster, complete, for up to 10 gels (10 x 8 cm). Includes 10 notched alumina plates, 20 rectangular glass plates, 2 red clamps, 100 sheets wax paper, space-saver plate, 5 filler sheets, set of filler plugs, and Spacer-Mate assembly template. (Order combs and spacers separately.)
- SE 216 Mighty Small Multiple Gel Caster, basic, for up to 10 gels (10 x 8 cm). Includes 2 red clamps, space-saver plate, 5 filler sheets, set of filler plugs. (Order combs, spacers, glass and alumina plates, and wax paper separately.)

For 10 x 10.5 cm gels

2 to 4 gels

- SE 235 Mighty Small 4-Gel Caster, complete (10 x 10.5 cm). Includes 4 notched alumina plates, 5 rectangular glass plates, 4 red clamps, 100 sheets wax paper, space saver plate, 5 filler sheets, set of filler plugs, and Spacer-Mate assembly template. (Order combs and spacers separately.)

For 10 x 12 cm gels

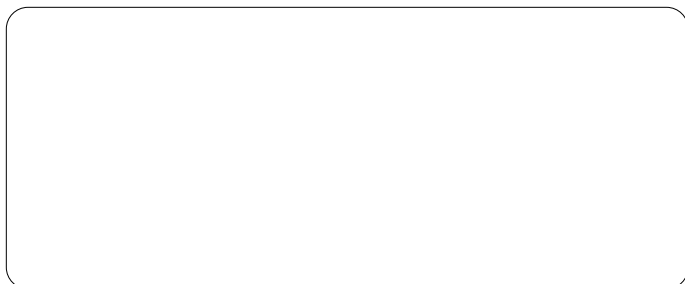
2 to 4 gels

- SE 295 Tall Mighty Small 4-Gel Caster, complete (10 x 12 cm). Includes 4 notched alumina plates, 5 rectangular glass plates, 4 red clamps, 100 sheets wax paper, space-saver plate, 5 filler sheets, set of filler plugs, and Spacer-Mate assembly template. (Order combs and spacers separately.)

Recommended

- PS 500XT Power supply, 500 V, 400 mA, 4 outlets, timer.
 QF 1/4 Female QuickFit tubing connectors, 1/4" (pkg of 2).
 QFX 3/8 Male QuickFit tubing connectors, 3/8" (pkg of 2).
 SE 100 Plate Mate® washer and storage unit.
 SE 1514 Wonder Wedge™ plate separation tool.
 TE 22 Mighty Small Tank Blotter for electrotransfer.

Contact or consult your Amersham Biosciences Catalog for additional accessories and replacement parts.



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