

## Microscopy Tools II: Press-To-Seal™ Silicone Isolators, Secure-Seal™ Spacers, and CoverWell™ Chamber Gaskets

**Table 1.** CoverWell™ incubation chamber gaskets.

Product	Well Dimensions	Depth	Number of Wells	Quantity per Package
Press-to-Seal™ silicone isolators				
P18174	20 mm diameter	0.5 mm	1	50
P18175	20 mm diameter	1.0 mm	1	50
P24740	20 mm diameter	0.5 mm	1	50
P24741	20 mm diameter	1.0 mm	1	50
P24742	2.5 mm diameter	2.0 mm	24	25
P24743	9 mm diameter	0.5 mm	8	25
P24744	9 mm diameter	1.0 mm	8	25
P24748	7 mm × 7 mm	1.0 mm	8	50
P24749	7 mm × 7 mm	1.0 mm	10	50
Secure-Seal™ adhesive spacers				
S24735*	13 mm diameter	0.12 mm	1	100
S24736*	20 mm diameter	0.12 mm	1	100
S24737*	9 mm diameter	0.12 mm	8	100
S24746*	9 mm diameter	0.12 mm	1	100
Press-to-Seal™ silicone sheets (13 cm × 18 cm)				
P18178	NA	0.5 mm	NA	5
P18179	NA	1.0 mm	NA	5
P24745*	NA	0.5 mm	NA	5
*With adhesive on one side. NA: not applicable.				

**Table 2.** CoverWell™ perfusion chamber gaskets.

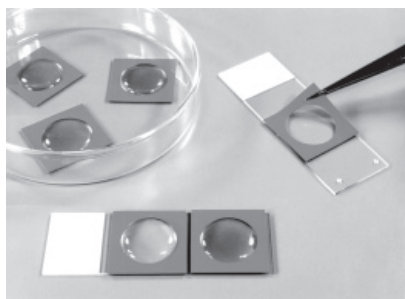
Product	Well Dimensions	Depth	Number of Wells	Approximate Volume per Chamber	Quantity per Package
CoverWell™ incubation chamber gaskets					
C18150	40 mm × 22 mm	0.2 mm	1	200 µL	25
C18151	40 mm × 22 mm	0.5 mm	1	500 µL	50
C18155	13 mm diameter	0.2 mm	1	20 µL	25
C18156	13 mm diameter	0.5 mm	1	20 µL	50
CoverWell™ imaging chamber gaskets					
C18160	20 mm diameter	0.5 mm	1	180 µL	40
C18161	20 mm diameter	1.0 mm	1	300 µL	40
C24726*	20 mm diameter	0.5 mm	1	180 µL	40
C24727*	20 mm diameter	1.0 mm	1	300 µL	40
CoverWell™ perfusion chamber gaskets					
C18120	32 mm × 19 mm	0.5 mm	1	350 µL	40
C18121	32 mm × 19 mm	1.0 mm	1	550 µL	40
C18128	19 mm × 6 mm	0.5 mm	4	70 µL	40
C18135	20 mm diameter	0.5 mm	1	180 µL	40
C18136	20 mm diameter	1.0 mm	1	300 µL	40
C18139	9 mm diameter	0.5 mm	8	35 µL	20
C18140	9 mm diameter	1.0 mm	8	60 µL	20
C18141	9 mm diameter	2.0 mm	8	100 µL	20
C18142	9 mm diameter	2.5 mm	8	150 µL	20
*With adhesive on one side.					

## Introduction

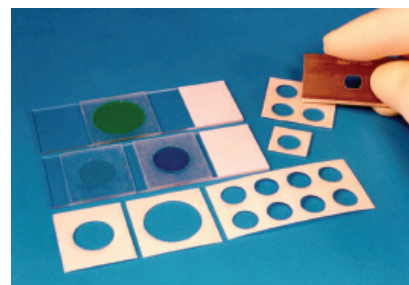
Invitrogen, in association with Grace Bio-Labs, provides exciting new tools for microscopy and imaging applications. The convenient Press-to-Seal™ silicone isolators, Secure-Seal™ spacers, and CoverWell™ chamber gaskets offer researchers a variety of tools that far surpass the conventional methods for reagent and specimen isolation. These gaskets are versatile, easy-to-use, and help reduce reagent use and improve uniformity of staining.

### Press-to-Seal™ Silicone Isolators

Press-to-Seal™ silicone isolators (Figure 1A) are removable hydrophobic barriers that allow ultimate flexibility for isolating specimens. They may be used to isolate cells grown in culture dishes or to separate specimens on microscopy slides during staining procedures. The silicone material is autoclavable and adheres to any smooth surface. Isolators without adhesive can be easily removed and reapplied for multiple incubation steps. Isolators are also available with adhesive on one side for added security or for permanent mounting. The



**Figure 1A.** Press-to-Seal™ silicone isolators.



**Figure 1B.** Secure-Seal™ adhesive spacers.

silicone isolators are available pre-cut to various chamber configurations, allowing up to 24 different specimens or analytical tests on one slide, or as sheet material, which may be easily trimmed to create customized enclosures (Table 1).

### **Secure-Seal™ Adhesive Spacers**

Secure-Seal™ adhesive spacers (Figure 1B, Table 1) are similar to the silicone isolators but are made from ultra-thin adhesive tape. The Secure-Seal™ adhesive spacers can be stacked to any depth desired. For high-resolution microscopy, the specimen and spacer can be sandwiched between two No. 0 glass coverslips.

### **CoverWell™ Incubation Chamber Gaskets**

CoverWell™ incubation chamber gaskets (Table 2) are RNase-free silicone gaskets with a clear plastic cover. The gasket is simply pressed onto a wet or dry microscope slide to form a watertight chamber that holds reactants in place and prevents evaporation. Ideal for immunocytochemistry or *in situ* hybridization, the incubation gasket forms chambers that enclose a large sample area with a small reagent volume, thereby improving the uniformity and sensitivity of assays.<sup>1-3</sup> Incubation chamber gaskets can be easily removed and reapplied for multiple incubation steps.

### **CoverWell™ Imaging Chamber Gaskets**

CoverWell™ imaging chamber gaskets (Table 2) have a thin, UV-transparent plastic coverslip that provides optimal optical properties for direct use with light, epi-fluorescence, or confocal microscopy. By simply pressing an imaging chamber gasket to a microscope slide or coverslip, a sealed chamber is formed to contain mounting medium. The chambers stabilize and support thick and free-floating specimens allowing resolution of internal fine structure without compression or movement artifacts obtained with ordinary coverslips. The flexible plastic coverslip material allows the chambers to be removed from the thinnest glass coverslips without breaking the glass or damaging the specimen. CoverWell™ imaging chamber gaskets with adhesive for added security or for permanent mounting are also available separately.

### **CoverWell™ Perfusion Chamber Gaskets**

CoverWell™ perfusion chamber gaskets (Table 2) are ideal for live cell imaging and ion kinetic studies. Similar to the CoverWell™ imaging chamber gaskets, the perfusion chamber gaskets employ the same silicone gasket technology for creating easy-to-use cell and specimen incubation chambers. Reagents can be quickly added and removed through dual access ports without disturbing or cross-contaminating specimens. CoverWell™ perfusion chamber gaskets are available in various chamber configurations, allowing up to eight different specimens or analytical tests on one coverslip. The access ports can be covered using adhesive seal-tabs, available separately (Cat. no. A18211).

## How to Use

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### Press-To-Seal™ Silicone Isolators

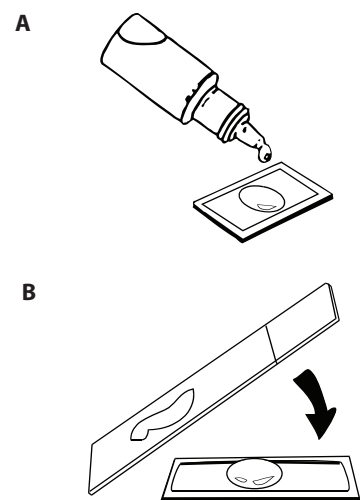
- 1.1 Position a silicone isolator on the surface of a glass coverslip, microscope slide, or culture dish and press to seal. For adhesive silicone isolators, peel off the liner using forceps and place the gasket, adhesive side down, on a slide or coverslip. Press to seal.
- 1.2 Pipet the sample into the well of the isolator. Due to the hydrophobic nature of the silicone, the volume added can exceed the well volume. For volumes less than the well volume, a glass coverslip can be added to the top to create an enclosed chamber.
- 1.3 To remove the silicone isolator, simply peel it off.

### Secure-Seal™ Adhesive Spacers

- 2.1 Using a forceps, remove the clear liner from one surface of the adhesive spacer. The tacky adhesive spacer should remain adhered to the paper liner.
- 2.2 Apply the spacer, with the exposed, tacky side down, onto the surface of a glass slide or coverslip. Press gently to seal.
- 2.3 Remove the paper liner from the adhesive spacer.
- 2.4 To increase the chamber depth, add multiple spacers.
- 2.5 Add the specimen and then mounting medium to the well.
- 2.6 If desired, add a coverslip.

### CoverWell™ Incubation Chamber Gaskets

- 3.1 Peel off the protective liner from a CoverWell™ incubation chamber gasket.
- 3.2 Place the gasket on a flat dry surface with the open-chamber side up.
- 3.3 Pipette the reagent solution into the chamber (Figure 2A).
- 3.4 Place a microscope slide, specimen-side down, over the adhesive surface of the gasket (Figure 2B).  
**Note:** Lower the slide to the chamber, positioning the specimen in the liquid and aligning the edges of the slide with the gasket.
- 3.5 Press gently, but firmly, on the microscope slide to seal.
- 3.6 To remove the gasket, simply peel it off.



**Figure 2.** CoverWell™ incubation chamber gaskets.

## CoverWell™ Imaging Chamber Gaskets

- 4.1 Peel off the protective liner from a CoverWell™ imaging chamber gasket (Figure 3A).
- 4.2 Place the gasket on a flat dry surface with the open-chamber side up.
- 4.3 Aliquot a small amount of mounting medium or reagent into the chamber (Figure 3B).
- 4.4 Place the specimen within the chamber (Figure 3C).
- 4.5 Fill the remaining chamber area with medium or reagent.
- 4.6 Seal the specimen within the chamber by placing a glass coverslip or microscope slide against the gasket surface (Figure 3D).
- 4.7 Press gently around the edges of the coverslip or slide to assure a secure seal.
- 4.8 To remove the gasket, simply peel it off.

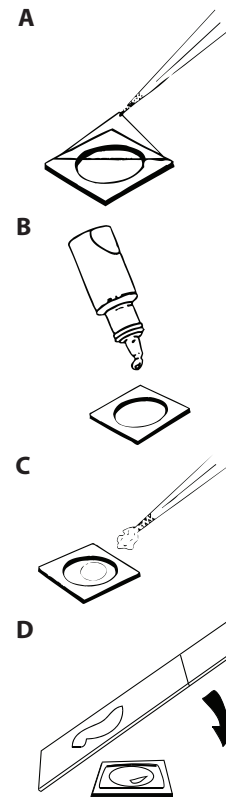


Figure 3. CoverWell™ imaging chamber gaskets.

## CoverWell™ Perfusion Chamber Gaskets

- 5.1 Peel off the protective liner from a CoverWell™ perfusion chamber gasket.
- 5.2 Press the exposed gasket gently, but firmly, onto a glass coverslip or microscope slide.
- 5.3 Fill the gasket chamber by pipetting through access ports (Figure 4A).  
  
**Note:** To prevent air bubbles, angle the pipette tip toward the gasket edge.
- 5.4 The chamber can be drained with a suction aspirator or pipet (Figure 4B).
- 5.5 If desired, the access ports can be sealed using adhesive seal tabs (Cat. no. A18211), sold separately.
- 5.6 To remove the gasket, simply peel it off (Figure 4C).

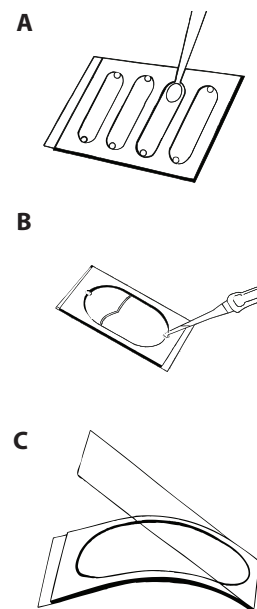


Figure 4. CoverWell™ perfusion chamber gaskets.

## References

1. Biotechniques 20, 641 (1996); 2. Cell Vis 2, 165 (1995); 3. J Histotechnol 18, 115 (1995).

**Product List** Current prices may be obtained from our website or from our Customer Service Department.

Cat. no.	Product Name	Unit Size
C18120	CoverWell™ perfusion chamber gasket, one chamber, 32 mm x 19 mm, 0.5 mm deep *set of 40*	1 set
C18121	CoverWell™ perfusion chamber gasket, one chamber, 32 mm x 19 mm, 1.0 mm deep *set of 40*	1 set
C18128	CoverWell™ perfusion chamber gasket, four chambers, 19 mm x 6 mm, 0.5 mm deep *set of 40*	1 set
C18136	CoverWell™ perfusion chamber gasket, one chamber, 20 mm diameter, 1.0 mm deep *set of 40*	1 set
C18139	CoverWell™ perfusion chamber gasket, eight chambers, 9 mm diameter, 0.5 mm deep *set of 20*	1 set
C18140	CoverWell™ perfusion chamber gasket, eight chambers, 9 mm diameter, 1.0 mm deep *set of 20*	1 set
C18141	CoverWell™ perfusion chamber gasket, eight chambers, 9 mm diameter, 2.0 mm deep *set of 20*	1 set
C18142	CoverWell™ perfusion chamber gasket, eight chambers, 9 mm diameter, 2.5 mm deep *set of 20*	1 set
C18150	CoverWell™ incubation chamber gasket, one chamber, 40 mm x 22 mm, 0.2 mm deep *set of 25*	1 set
C18151	CoverWell™ incubation chamber gasket, one chamber, 40 mm x 22 mm, 0.5 mm deep *set of 50*	1 set
C18155	CoverWell™ incubation chamber gasket, one chamber, 13 mm diameter, 0.2 mm deep *set of 25*	1 set
C18156	CoverWell™ incubation chamber gasket, one chamber, 13 mm diameter, 0.5 mm deep *set of 50*	1 set
C18160	CoverWell™ imaging chamber gasket, one chamber, 20 mm diameter, 0.5 mm deep *set of 40*	1 set
C18161	CoverWell™ imaging chamber gasket, one chamber, 20 mm diameter, 1.0 mm deep *set of 40*	1 set
C24726	CoverWell™ imaging chamber gasket with adhesive, one chamber, 20 mm diameter, 0.5 mm deep *set of 40*	1 set
C24727	CoverWell™ imaging chamber gasket with adhesive, one chamber, 20 mm diameter, 1.0 mm deep *set of 40*	1 set
P18174	Press-to-Seal™ silicone isolator, one well, 20 mm diameter, 0.5 mm deep *set of 50*	1 set
P18175	Press-to-Seal™ silicone isolator, one well, 20 mm diameter, 1.0 mm deep *set of 50*	1 set
P18178	Press-to-Seal™ silicone sheet, 13 cm x 18 cm, 0.5 mm thick *set of 5*	1 set
P18179	Press-to-Seal™ silicone sheet, 13 cm x 18 cm, 1.0 mm thick *set of 5*	1 set
P24740	Press-to-Seal™ silicone isolator with adhesive, one well, 20 mm diameter, 0.5 mm deep *set of 50*	1 set
P24741	Press-to-Seal™ silicone isolator with adhesive, one well, 20 mm diameter, 1.0 mm deep *set of 50*	1 set
P24742	Press-to-Seal™ silicone isolator with adhesive, 24 wells, 2.5 mm diameter, 2.0 mm deep *set of 25*	1 set
P24743	Press-to-Seal™ silicone isolator with adhesive, eight wells, 9 mm diameter, 0.5 mm deep *set of 25*	1 set
P24744	Press-to-Seal™ silicone isolator with adhesive, eight wells, 9 mm diameter, 1.0 mm deep *set of 25*	1 set
P24745	Press-to-Seal™ silicone sheet with adhesive, 13 cm x 18 cm, 0.5 mm thick *set of 5*	1 set
P24748	Press-to-Seal™ silicone isolator, eight well, 7 mm x 7 mm, 1.0 mm deep *set of 50*	1 set
P24749	Press-to-Seal™ silicone isolator, ten well, 7 mm x 7 mm, 1.0 mm deep *set of 100*	1 set
S24735	Secure-Seal™ spacer, one well, 13 mm diameter, 0.12 mm deep *set of 100*	1 set
S24736	Secure-Seal™ spacer, one well, 20 mm diameter, 0.12 mm deep *set of 100*	1 set
S24737	Secure-Seal™ spacer, eight wells, 9 mm diameter, 0.12 mm deep *set of 100*	1 set
S24746	Secure-Seal™ spacer, one well, 9 mm diameter, 0.12 mm deep #SS1X9 *set of 100*	1 set

## Contact Information

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