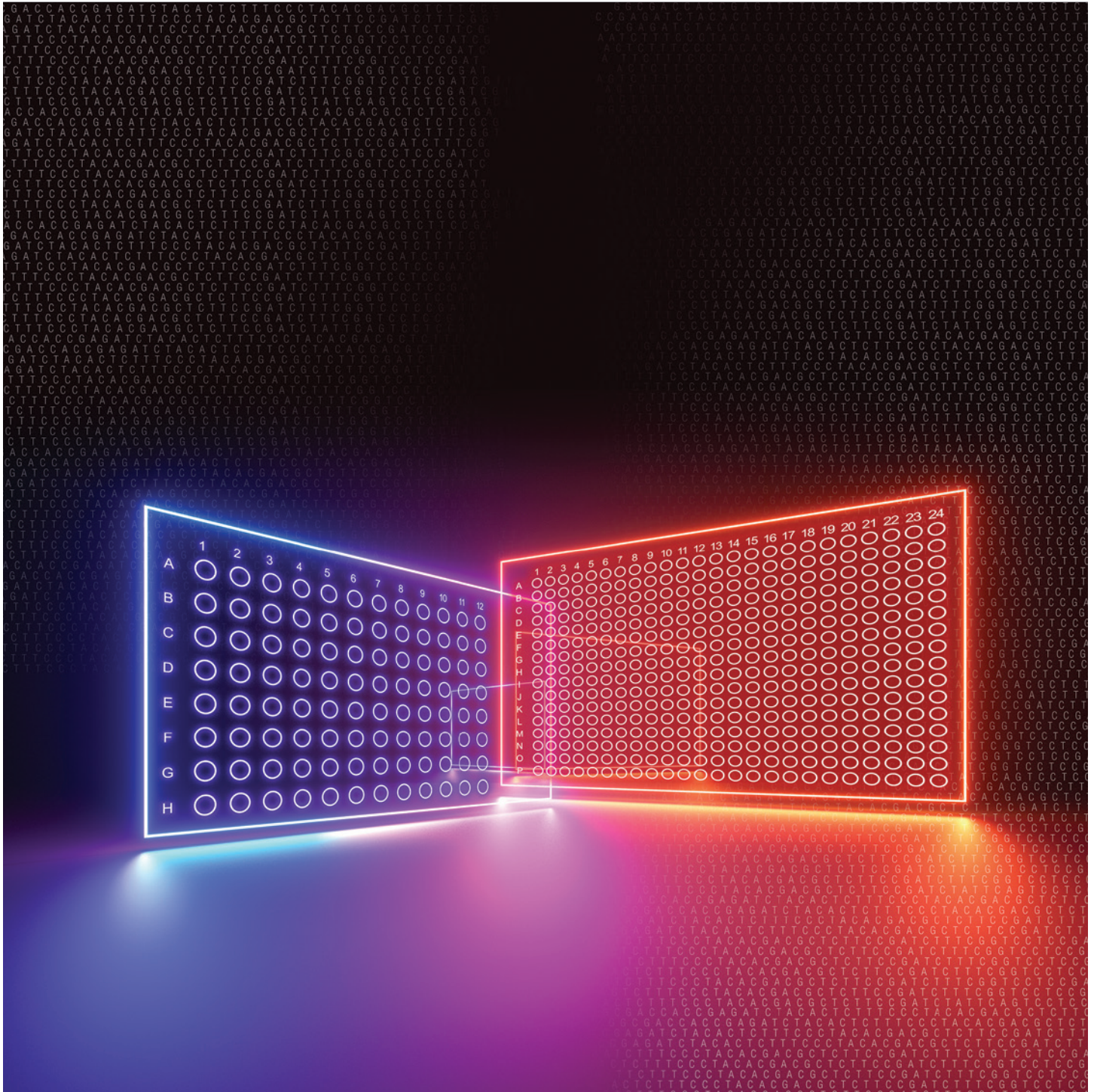


# Hard-Shell™ PCR Plates





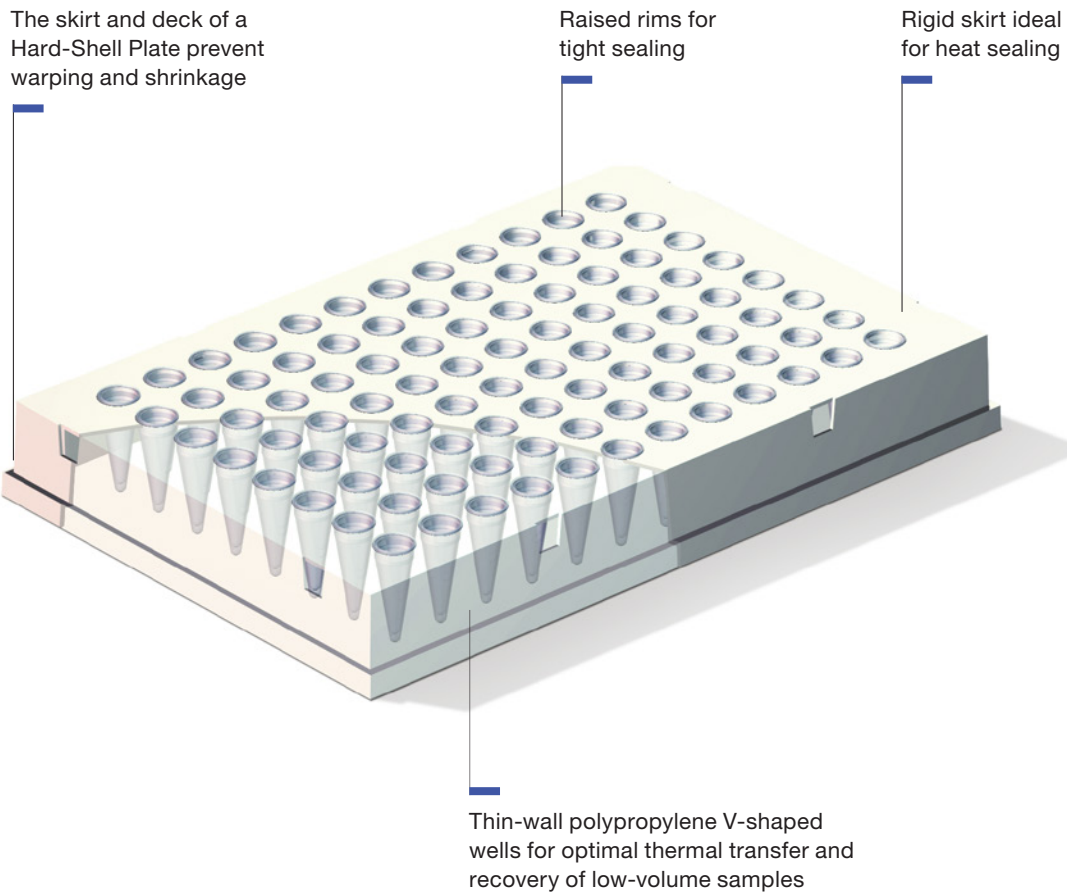
## Two-Component Design for Superior Uniformity and Precise Handling

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Hard-Shell PCR Plates are specifically designed to withstand the stresses of thermal cycling, robotic handling, and heat sealing. They represent an innovative concept in PCR plate design. The skirt and deck are molded from a rigid thermostable polymer, preventing robotic handling problems due to plate warping. This hard shell prevents the distortion and shrinkage that may occur when regular single-component polypropylene PCR plates are exposed to the high temperatures of thermal cycling or heat sealing. The thin-wall wells are molded of virgin polypropylene selected for low DNA binding. The raised rims around each well allow tight sealing using a variety of procedures, including pressure-, adhesive-, and heat-sealing methods.

Visit [bio-rad.com/PCRPlastics](http://bio-rad.com/PCRPlastics) for more information.





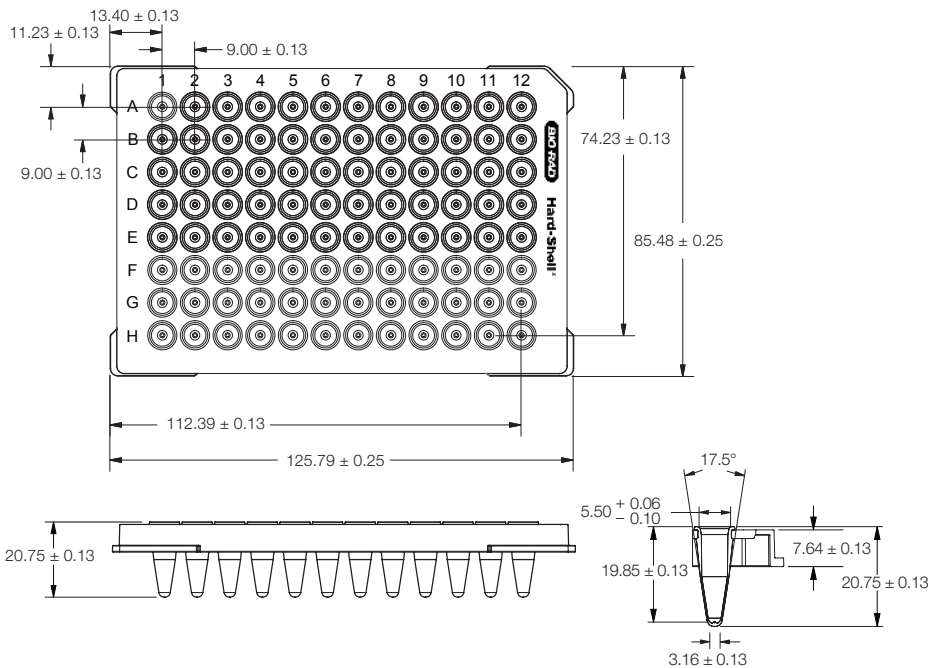
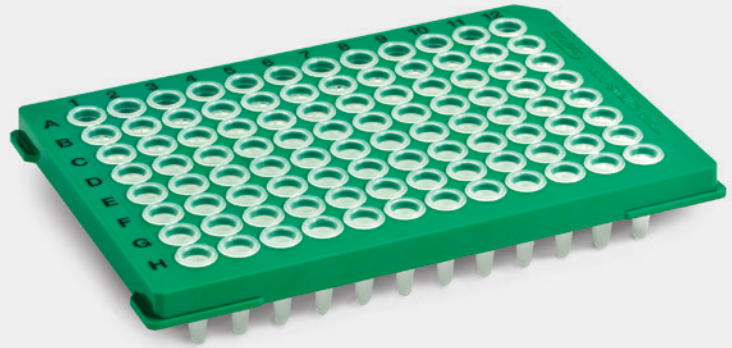
## Key Plate Features

- Thin wall for fast PCR
- 6 plate styles that fit most thermal cyclers, real-time PCR systems, DNA sequencers, and plate readers
- White-well option, which allows increased fluorescent signal strength
- Color-coded skirts available
- Superior stability and flatness, allowing precise positioning for automation
- Extremely uniform wells that reduce well-to-well variability in optical assays, such as those performed in real-time PCR
- Free of DNase, RNase, and human DNA
- ANSI/SBS standard dimensions
- Black or white alphanumeric labeling for easy well identification
- Low-cost, user-readable barcodes to enable convenient database tracking

# High-Profile 96-Well Semi-Skirted PCR Plates

- High-profile wells that fit most thermal cyclers, real-time PCR systems, and DNA sequencers
- Optimal with the CFX Opus Deepwell Real-Time PCR System
- Half-height skirt for stiffness and labeling surface
- Black lettering for easy well identification

Visit [bio-rad.com/PCRPlasticSelector](http://bio-rad.com/PCRPlasticSelector) for instrument compatibility.



Not drawn to scale.  
All dimensions in mm, unless otherwise noted.

Microplate Dimensions		Hard-Shell High-Profile 96-Well Semi-Skirted PCR Plates (HSS-9xxx)
Length at top plane	125.79 mm	
Width at top plane	85.48 mm	
Height overall	20.75 mm	
Well depth	19.85 mm	
Well diameter at opening	5.50 mm	
Well diameter at bottom of conical section	3.16 mm	
Well volume	350 $\mu$ l	
Well spacing	9.00 mm	
Well angle	17.5°	
Well offset		
Left edge to well A1	13.40 mm	
Top edge to well A1	11.23 mm	
Center of A1 to center of A12	99.0 $\pm$ 0.25 mm	
Center of A1 to center of H1	63.0 $\pm$ 0.25 mm	

## Ordering Information

Catalog #	Description
HSS9601	Hard-Shell High-Profile 96-Well Semi-Skirted PCR Plates, clear well, clear shell, 25
HSS9641	Hard-Shell High-Profile 96-Well Semi-Skirted PCR Plates, clear well, green shell, 25
HSS9901	Hard-Shell High-Profile 96-Well Semi-Skirted PCR Plates, clear well, clear shell, barcoded, 25
HSS9665	Hard-Shell High-Profile 96-Well Semi-Skirted PCR Plates, white well, black shell, 25

## PCR Sealers

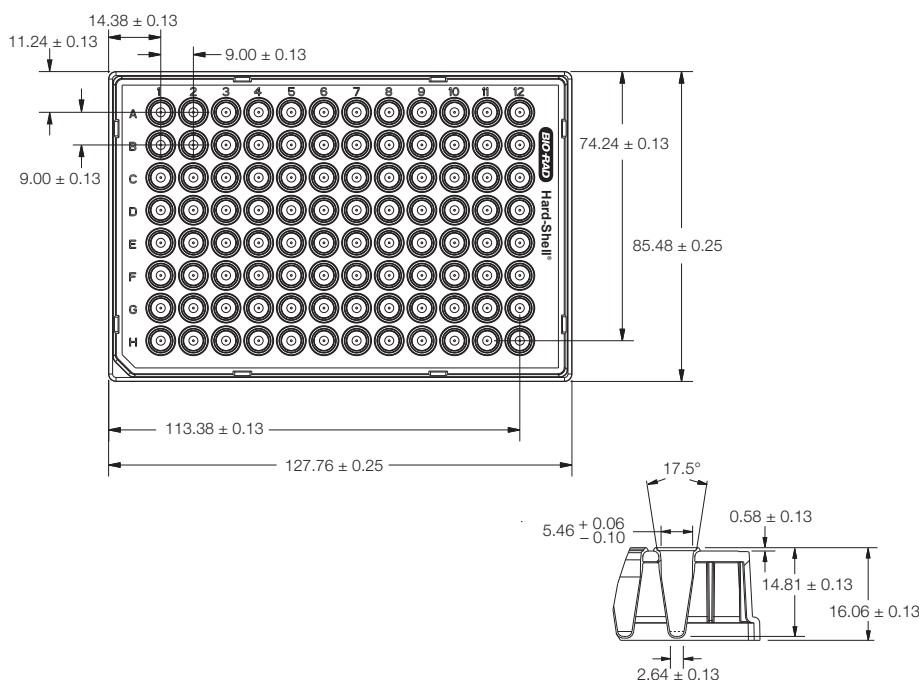
TCS0801	Domed PCR Tube 8-Cap Strips, for tubes and plates, clear, 130 strips
TCS0803	Optical Flat PCR Tube 8-Cap Strips, for tubes and plates, ultraclear, 120 strips
MSB1001	Microseal™ 'B' PCR Plate Sealing Adhesive Film, optically clear, 100 seals
MSC1001	Microseal™ 'C' PCR Plate Sealing Adhesive Film, optically clear, 100 seals
1814000	PX1 PCR Plate Sealer, heat sealing instrument
1814030	PCR Plate Heat Seal, optically clear, 100 seals

# Low-Profile 96-Well Skirted PCR Plates

- Low-profile wells optimized for low-volume reactions and fast PCR
- Optimal with the CFX Opus 96, CFX Opus 96 Dx, CFX Duet, CFX Opus Deepwell, CFX96 Touch, and CFX Connect Real-Time PCR Detection Systems
- Full skirt for robotic handling and labeling surface
- Footprint and well spacing match ANSI/SBS standard dimensions



Visit [bio-rad.com/PCRPlasticSelector](http://bio-rad.com/PCRPlasticSelector) for instrument compatibility.



Hard-Shell Low-Profile 96-Well Skirted PCR Plates (HSP-9xxx)

## Microplate Dimensions

Length at base plane	127.76 mm
Width at base plane	85.48 mm
Height overall	16.06 mm
Well depth	14.81 mm
Well diameter at opening	5.46 mm
Well diameter at bottom of conical section	2.64 mm
Well volume	200 µl
Well spacing	9.00 mm
Well angle	17.5°
Well offset	
Left edge to well A1	14.38 mm
Top edge to well A1	11.24 mm
Left edge to H12	113.38 mm
Top edge to H12	74.24 mm

Not drawn to scale.

All dimensions in mm, unless otherwise noted.

## Ordering Information

Catalog # Description

### Hard-Shell Low-Profile 96-Well Skirted PCR Plates, 50

Clear Wells	White Wells	Black Wells	Shell Color
HSP9601	HSP9655	—	White shell
HSP9611	—	—	Red shell
HSP9621	—	—	Yellow shell
HSP9631	HSP9635	—	Blue shell
HSP9641	HSP9645	—	Green shell
HSP9661	HSP9665	HSP9666	Black shell
HSP9901	HSP9955	—	White shell, barcoded

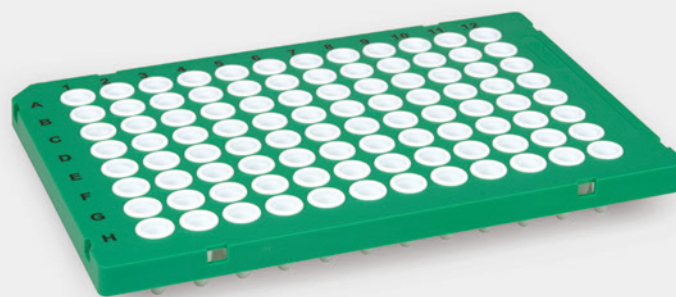
### PCR Sealers

TCS0801	<b>Domed PCR Tube 8-Cap Strips</b> , for tubes and plates, clear, 130 strips
TCS0803	<b>Optical Flat PCR Tube 8-Cap Strips</b> , for tubes and plates, ultraclear, 120 strips
MSB1001	<b>Microseal 'B' PCR Plate Sealing Adhesive Film</b> , optically clear, 100 seals
MSC1001	<b>Microseal 'C' PCR Plate Sealing Adhesive Film</b> , optically clear, 100 seals
1814000	<b>PX1 PCR Plate Sealer</b> , heat sealing instrument
1814030	<b>PCR Plate Heat Seal</b> , optically clear, 100 seals

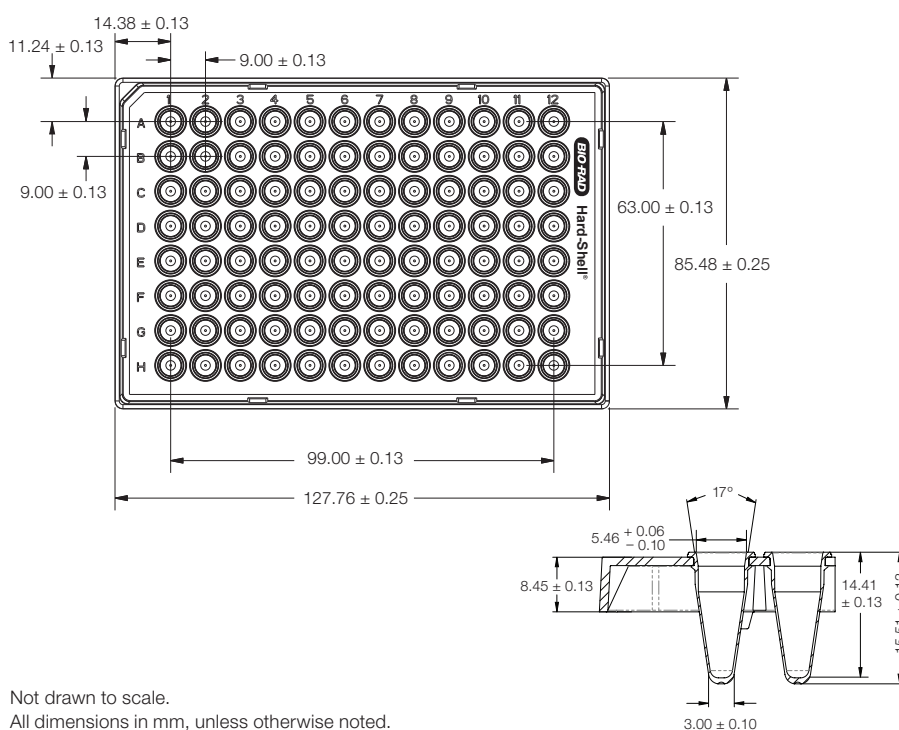


# Low-Profile 96-Well Semi-Skirted PCR Plates

- Low-profile wells optimized for low-volume reactions and fast PCR
- Optimal with the CFX Opus 96, CFX Opus 96 Dx, CFX Duet, CFX Opus Deepwell, CFX96 Touch, and CFX Connect Real-Time PCR Detection Systems
- Rigid skirt ideal for robotic handling
- Rigid plate materials ideal for heat sealing
- Footprint and well spacing match ANSI/SBS standard dimensions



Visit [bio-rad.com/PCRPlasticSelector](http://bio-rad.com/PCRPlasticSelector) for instrument compatibility.



Not drawn to scale.  
All dimensions in mm, unless otherwise noted.

Microplate Dimensions	
Length at base plane	127.76 mm
Width at base plane	85.48 mm
Height overall	15.51 mm
Well depth	14.41 mm
Well diameter at opening	5.46 mm
Well diameter at bottom of conical section	3.00 mm
Well volume	200 µl
Well spacing	9.00 mm
Well angle	17.0°
Well offset	
Left edge to well A1	14.38 mm
Top edge to well A1	11.24 mm
Center of A1 to center of A12	99.00 mm
Center of A1 to center of H1	63.00 mm

## Ordering Information

Catalog #	Description
HSL9601	Hard-Shell Low-Profile 96-Well Semi-Skirted PCR Plates, clear well, clear shell, 25
HSL9901	Hard-Shell Low-Profile 96-Well Semi-Skirted PCR Plates, clear well, clear shell, barcoded, 25
HSL9641	Hard-Shell Low-Profile 96-Well Semi-Skirted PCR Plates, clear well, green shell, 25
HSL9605	Hard-Shell Low-Profile 96-Well Semi-Skirted PCR Plates, white well, clear shell, 25
HSL9905	Hard-Shell Low-Profile 96-Well Semi-Skirted PCR Plates, white well, clear shell, barcoded, 25
HSL9645	Hard-Shell Low-Profile 96-Well Semi-Skirted PCR Plates, white well, green shell, 25

## PCR Sealers

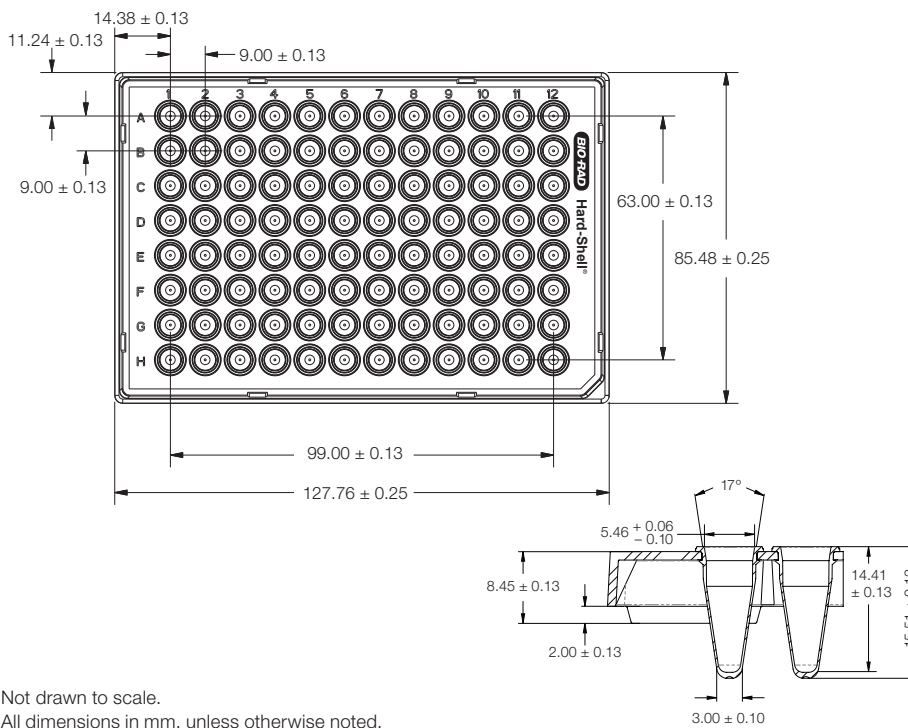
TCS0801	Domed PCR Tube 8-Cap Strips, for tubes and plates, clear, 130 strips
TCS0803	Optical Flat PCR Tube 8-Cap Strips, for tubes and plates, ultraclear, 120 strips
MSB1001	Microseal 'B' PCR Plate Sealing Adhesive Film, optically clear, 100 seals
MSC1001	Microseal 'C' PCR Plate Sealing Adhesive Film, optically clear, 100 seals
1814000	PX1 PCR Plate Sealer, heat sealing instrument
1814030	PCR Plate Heat Seal, optically clear, 100 seals

# Hard-Shell 96-Well PCR Plates

For the Roche LightCycler 480 Real-Time PCR System

- Warp-free skirt and deck for improved robotic handling
- Footprint and well spacing match ANSI/SBS standard dimensions
- Rigid plate materials ideal for heat sealing
- Barcoded on row A side
- Available in clear or white well

Visit [bio-rad.com/PCRPlasticSelector](http://bio-rad.com/PCRPlasticSelector) for instrument compatibility.



**Hard-Shell 96-Well  
480 PCR Plates  
(HSR-99xx)**

Microplate Dimensions	
Length at base plane	127.76 mm
Width at base plane	85.48 mm
Height overall	15.51 mm
Well depth	14.41 mm
Well diameter at opening	5.46 mm
Well diameter at bottom of conical section	3.00 mm
Well volume	200 µl
Well spacing	9.00 mm
Well angle	17.0°
Well offset	
Left edge to well A1	14.38 mm
Top edge to well A1	11.24 mm
Center of A1 to center of A12	99.00 mm
Center of A1 to center of H1	63.00 mm

Not drawn to scale.  
All dimensions in mm, unless otherwise noted.

## Ordering Information

Catalog #	Description
HSR9901	Hard-Shell 96-Well PCR Plates, clear well, clear shell, barcoded, 25
HSR9905	Hard-Shell 96-Well PCR Plates, white well, clear shell, barcoded, 25

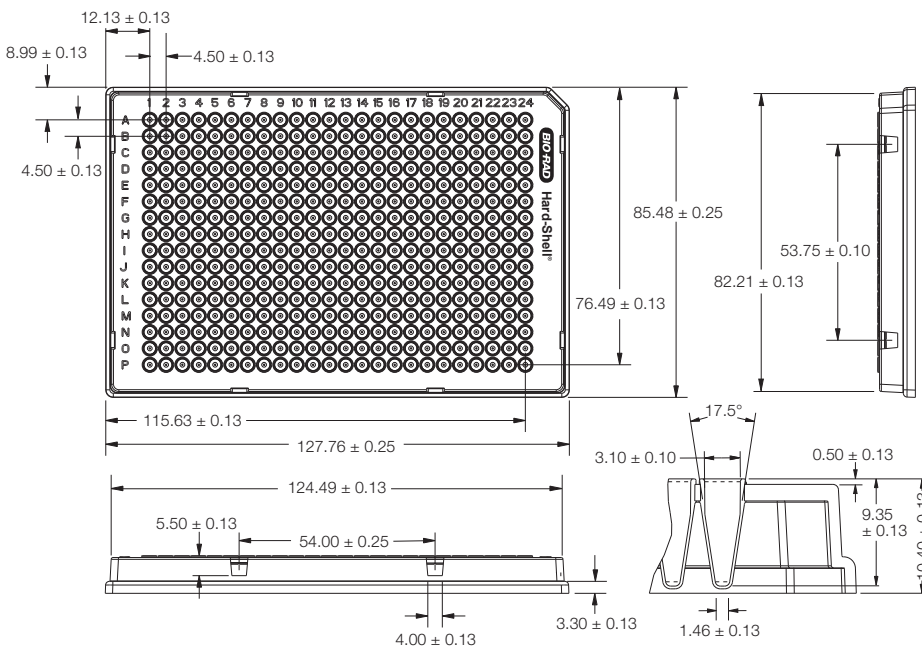
## PCR Sealers

TCS0801	Domed PCR Tube 8-Cap Strips, for tubes and plates, clear, 130 strips
TCS0803	Optical Flat PCR Tube 8-Cap Strips, for tubes and plates, ultraclear, 120 strips
MSB1001	Microseal 'B' PCR Plate Sealing Adhesive Film, optically clear, 100 seals
MSC1001	Microseal 'C' PCR Plate Sealing Adhesive Film, optically clear, 100 seals
1814000	PX1 PCR Plate Sealer, heat sealing instrument
1814030	PCR Plate Heat Seal, optically clear, 100 seals

# 384-Well Standard PCR Plates

- Compatible with most 384-well thermal cyclers, real-time PCR systems, and DNA sequencers
- Warp-free skirt and deck for improved robotic handling
- Footprint and well spacing match ANSI/SBS standard dimensions

Visit [bio-rad.com/PCRPlasticSelector](http://bio-rad.com/PCRPlasticSelector) for instrument compatibility.



**Hard-Shell 384-Well Standard PCR Plates (HSP-3xxx)**

## Microplate Dimensions

Microplate Dimensions	Hard-Shell 384-Well Standard PCR Plates (HSP-3xxx)
Length at base plane	127.76 mm
Width at base plane	85.48 mm
Height overall	10.40 mm
Well depth	9.35 mm
Well diameter at opening	3.10 mm
Well diameter at bottom of conical section	1.46 mm
Well volume	50 $\mu$ l
Well spacing	4.50 mm
Well angle	17.5°
Well offset	
Left edge to well A1	12.13 mm
Top edge to well A1	8.99 mm
Left edge to P24	115.63 mm
Top edge to P24	76.49 mm

Not drawn to scale.

All dimensions in mm, unless otherwise noted.

## Ordering Information

Catalog # Description

### Hard-Shell 384-Well Standard PCR Plates, 50

Clear Wells	White Wells	Black Wells	Shell Color
HSP3801	HSP3805	—	Clear shell
HSP3811	—	—	Red shell
HSP3821	—	—	Yellow shell
HSP3831	—	—	Blue shell
HSP3841	—	—	Green shell
—	HSP3865	HSP3866	Black shell
HSP3901	HSP3905	—	Clear shell, barcoded

### PCR Sealers

MSB1001	Microseal 'B' PCR Plate Sealing Adhesive Film, optically clear, 100 seals
MSC1001	Microseal 'C' PCR Plate Sealing Adhesive Film, optically clear, 100 seals
1814000	PX1 PCR Plate Sealer, heat sealing instrument
1814030	PCR Plate Heat Seal, optically clear, 100 seals

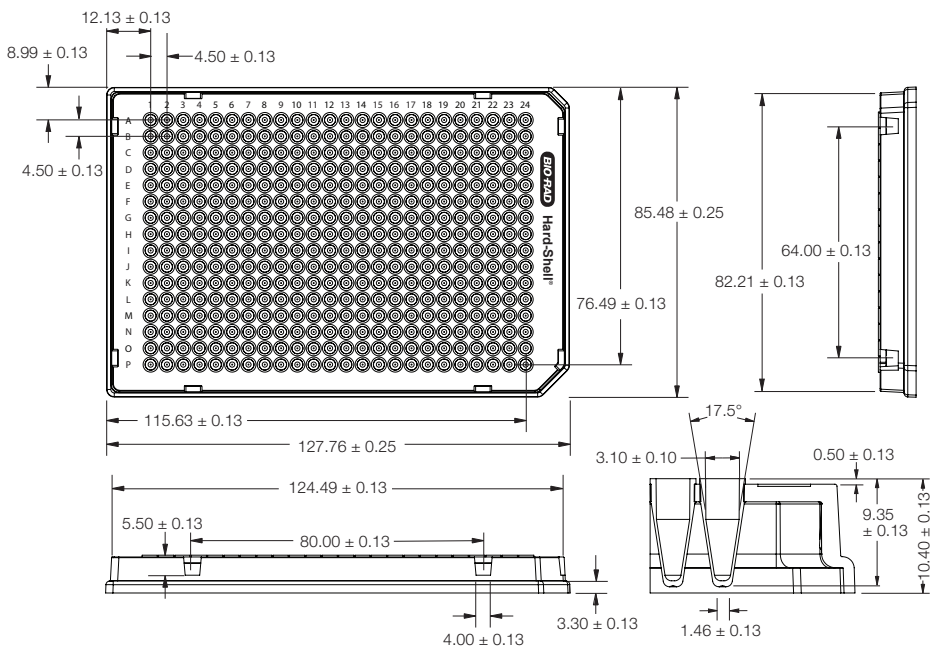
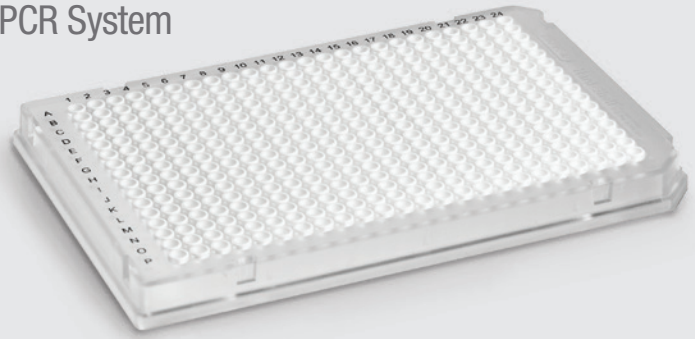


# Hard-Shell 384-Well PCR Plates

For the Roche LightCycler 480 Real-Time PCR System

- Warp-free skirt and deck for improved robotic handling
- Footprint and well spacing match ANSI/SBS standard dimensions
- Barcoded on row A side
- Available in clear or white well

Visit [bio-rad.com/PCRPlasticSelector](http://bio-rad.com/PCRPlasticSelector) for instrument compatibility.



Microplate Dimensions	Hard-Shell 384-Well 480 PCR Plates (HSR-48xx)
Length at base plane	127.76 mm
Width at base plane	85.48 mm
Height overall	10.40 mm
Well depth	9.35 mm
Well diameter at opening	3.10 mm
Well diameter at bottom of conical section	1.46 mm
Well volume	50 µl
Well spacing	4.50 mm
Well angle	17.5°
Well offset	
Left edge to well A1	12.13 mm
Top edge to well A1	8.99 mm
Left edge to P24	115.63 mm
Top edge to P24	76.49 mm

Not drawn to scale.  
All dimensions in mm, unless otherwise noted.

## Ordering Information

Catalog #	Description
HSR4805	Hard-Shell 384-Well 480 PCR Plates, white well, clear shell, barcoded, 50
HSR4801	Hard-Shell 384-Well 480 PCR Plates, clear well, clear shell, barcoded, 50

## PCR Sealers

MSB1001	Microseal 'B' PCR Plate Sealing Adhesive Film, optically clear, 100 seals
MSC1001	Microseal 'C' PCR Plate Sealing Adhesive Film, optically clear, 100 seals
1814000	PX1 PCR Plate Sealer, heat sealing instrument
1814030	PCR Plate Heat Seal, optically clear, 100 seals

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