



DE-GROOT LABORATORY EQUIPMENT LTD.
דה-גרוט ציוד מעבדות בע"מ

High-performance Microscopy products

Ver. 4

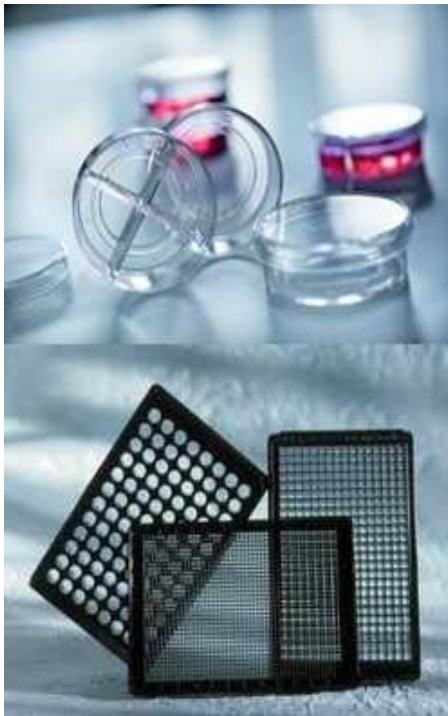


DE-GROOT LABORATORY EQUIPMENT LTD. דה-גרוט ציוד מעבדות בע"מ

לאור ההתפתחות הרבה בתחום המיקרוסקופיה המתקדמת, שמה לה חברת דה-גרוט למטרה, לתת מענה לצרכים המתפתחים בתחום זה החל מזכוכיות מכסה מיוחדות למיקרוסקופים קונפוקלים ועד פלטות עם תחתית זכוכית לגידול תאים ובחינתם תחת מיקרוסקופ

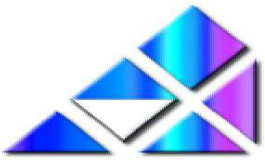
חלק גדול מהמוצרים נמצאים במלאי לאספקה מיידית

אנו שמחים להציג חוברת זו המציגה את מגוון הפתרונות שיש לנו בתחום



עמ' 3	זכוכיות מכסה
עמ' 4	צלחות 29 מ"מ
עמ' 5	צלחות 35 מ"מ
עמ' 6	CELLview
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זכויות מכסה של חברת MARIENFELD

חברת Marienfeld יצאה עם זכויות מכסה בעובי מיוחד של 0.17 ± 0.005 מ"מ ($170 \pm 5 \mu\text{m}$), בהתאם לדרישת יצרניות המיקרוסקופים הקונפוקלים (צייס, אולימפוס, ניקון, לייקה ועוד)

Modern high-performance microscope objectives are designed to be used with cover glasses of a thickness of $170 \mu\text{m}$. The quality of the cover glass, in particular the compliance with the nominal thickness, has thereby a crucial impact on the imaging quality. Variations of thickness reduce the image contrast and result in image defects, most notably in spherical aberration. We produce high-precision cover glasses with thickness No. 1.5H featuring an exceptionally accurate thickness of $170 \mu\text{m} \pm 5 \mu\text{m}$. This new generation of cover glasses are highly recommended for objectives with high numerical aperture and high resolution

The **coverslip thickness** is the least expensive optical component and the most likely to be carelessly chosen. It should be 170 ± 5 micrometers in thickness. James B.Powley. Bio Techniques, Vol 28, 884 (2000).

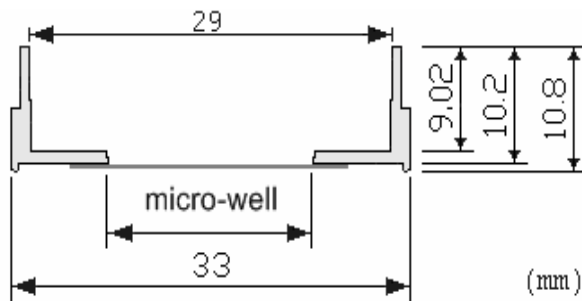
Manufacture Part No.	De-Groot Purchase #	Description
0107032	5-CGP1818	Glass # 1.5H 18x18mm
0107052	5-CGP2222	Glass # 1.5H 22x22mm
0107222	5-CGP2450	Glass # 1.5H 24x50mm
0107242	5-CGP2460	Glass # 1.5H 24x60mm
0117500	5-CGP10	Glass # 1.5H Ø 10mm
0117520	5-CGP12	Glass # 1.5H Ø 12mm
0117530	5-CGP13	Glass # 1.5H Ø 13mm
0117580	5-CGP18	Glass # 1.5H Ø 18mm
0117640	5-CGP24	Glass # 1.5H Ø 24mm
0117650	5-CGP25	Glass # 1.5H Ø 25mm





29 mm Glass Bottom Dishes by *IVS*

We found that a small percentage of microscope adapters are too small for our 35 mm glass bottom dishes. 29 mm glass bottom dishes are designed for these adapters. In general 29 mm glass bottom dishes can fit into adapters that 35 mm glass bottom dishes fit. However 29 mm glass bottom dishes are smaller thus are harder to handle.

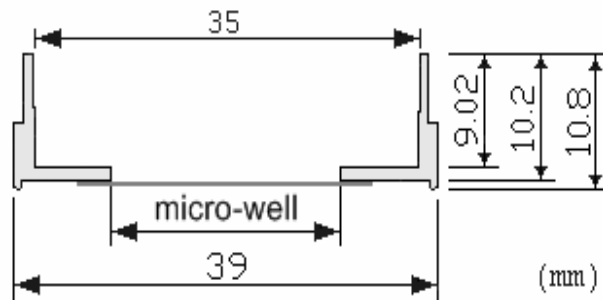


Part No.	De-Groot Purchase #	Micro-well	Glass#
D29-10-0-N	76-D29-10-0-N	10.00mm	# 0
D29-10-1-N	76-D29-10-1-N	10.00mm	# 1
D29-10-1.5-N	76-D29-10-1.5-N	10.00mm	# 1.5
D29-14-0-N	76-D29-14-0-N	14.00mm	# 0
D29-14-1-N	76-D29-14-1-N	14.00mm	# 1
D29-14-1.5-N	76-D29-14-1.5-N	14.00mm	# 1.5
D29-20-0-N	76-D29-20-0-N	20.00mm	# 0
D29-20-1-N	76-D29-20-1-N	20.00mm	# 1
D29-20-1.5-N	76-D29-20-1.5-N	20.00mm	# 1.5



35 mm Glass Bottom Dishes by IVS

Our 35 mm glass bottom dishes have the same size as BD's 35 mm culture dishes. They are slightly bigger than the glass bottom dishes by some other vendors (such as Mattek) that are made from Corning's 35 mm culture dishes. They are bigger and sturdier thus are easier to handle.



Part No.	De-Groot Purchase #	Micro-well	Glass #
D35-10-0-N	76-D35-10-0-N	10.00mm	# 0
D35-10-1-N	76-D35-10-1-N	10.00mm	# 1
D3510-1.5-N	76-D35-10-1.5-N	10.00mm	# 1.5
D35-14-0-N	76-D35-14-0-N	14.00mm	# 0
D35-14-1-N	76-D35-14-1-N	14.00mm	# 1
D35-14-1.5-N	76-D35-14-1.5-N	14.00mm	# 1.5
D35-20-0-N	76-D35-20-0-N	20.00mm	# 0
D35-20-1-N	76-D35-20-1-N	20.00mm	# 1
D35-20-1.5-N	76-D35-20-1.5-N	20.00mm	# 1.5



greiner bio-one

CELLview 35 mm Dish by Greiner Bio-one

The novel CELLview™ glass bottom dish combines the convenience of a standard 35 mm disposable plastic cell culture dish with the optical quality of glass, providing superior high-resolution microscopic images of in-vitro cultures.

The specific design with the embedded glass bottom guarantees a single-plane, flat bottom with a consistent working distance, maximal planarity and optimal thermal conductivity in heated platforms avoiding thermal variations. The CELLview™ dish is also available as a subdivided version with four individual compartments facilitating simultaneous multiplex analysis of different cell lines, various stimulations or diverse transfections, minimizing the amount of required cells and reagents per individual assay.

Features:

- High transparent achromatic borosilicate glass; hydrolytic class 1 (DIN-ISO 719)
- Glass thickness 175µm ±15µm
- Maximal spectral transmission; no autofluorescence; no depolarisation of light
- Available with specific surface treatments increasing the attachment of adherent cells
- Broad range of multiple microscopic applications

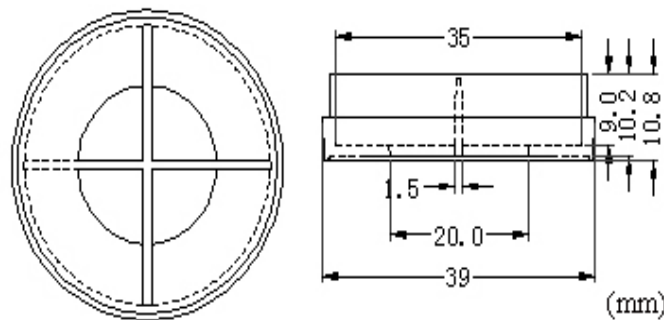


part No .	De-Groot Purchase #	No. of compartments	Surface Treatment
627870	60-627870	4	TC
627975	60-627975	4	Advanced TC
627871	60-627871	4	non treaded
627860	60-627860	1	TC
627965	60-627965	1	Advanced TC
627861	60-627861	1	non treaded



4 Chamber Glass Bottom Dishes by IVS

A 4 Chamber 35mm glass bottom dish has the same size as a 35mm glass bottom dish. However the dish is divided into 4 chambers that quadruples sample size.



Cat. No.	De-Groot Purchase #	Glass #
D35C4-20-0-N	76-D35C4-20-0-N	# 0
D35C4-20-1-N	76-D35C4-20-1-N	# 1
D35C4-20-1.5-N	76-D35C4-20-1.5-N	# 1.5

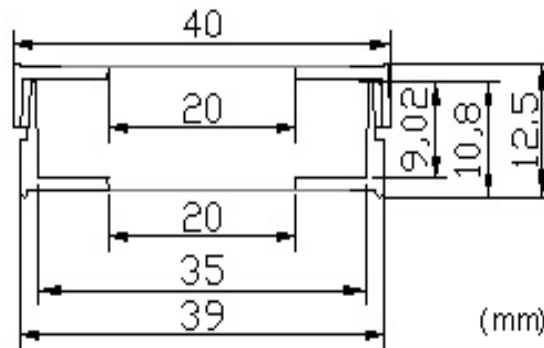


Glass Top Glass Bottom Dish by IVS

Glass top dishes are like regular glass bottom dishes, except that there is a hole in the lid, the hole is covered with a # 0 cover glass.

It is used for differential interference contrast microscopy, also called Nomarski optics

We found that a small percentage of microscope adapters are too small for our 35 mm glass bottom dishes. Please check carefully the dimension of the dishes in product detail page. If your adapter is too small, you should use our D29-14-0-TOP glass top glass bottom dish instead.

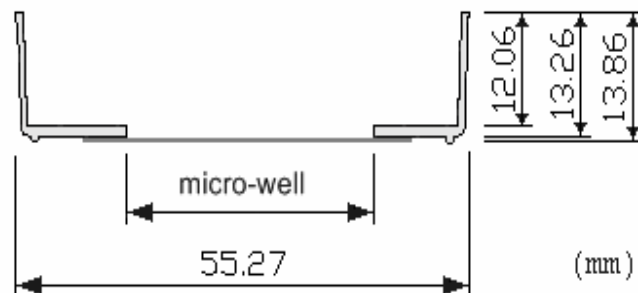
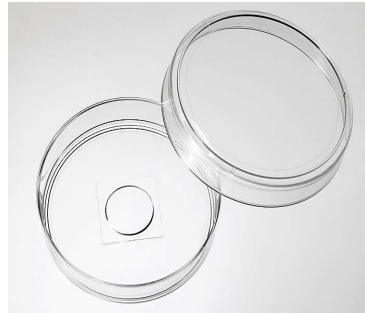


Cat. No.	De-Groot Purchase #	Micro-well	Glass #
D35-20-0-TOP	76-D35-20-0-TOP	20.00 mm	# 0



55 mm Glass Bottom Dishes by IVS

55 mm glass bottom dishes allow a flatter angle for injection, and the 30 mm micro-well dishes have a larger cover glass area that allows more cells for sampling.



Cat. No.	De-Groot Purchase #	Micro-well	Glass#
D60-14-0-N	76-D60-14-0-N	14.00mm	# 0
D60-14-1-N	76-D60-14-1-N	14.00mm	# 1
D60-14-1.5-N	76-D60-14-1.5-N	14.00mm	# 1.5
D60-30-0-N	76-D60-30-0-N	30.00mm	# 0
D60-30-1-N	76-D60-30-N	30.00mm	# 1
D60-30-1.5-N	76-D60-30-1.5-N	30.00mm	# 1.5



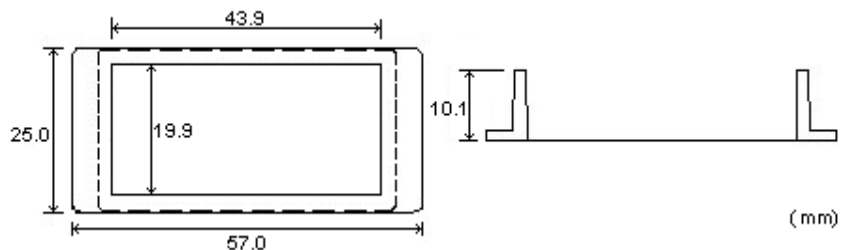
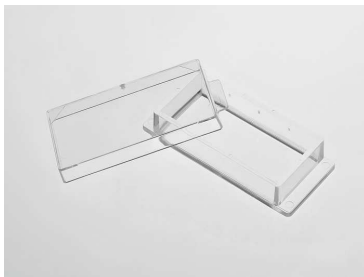
1 Well Chambered Cover Glass with #1.5 high performance cover glass by *IVS*

1 Well Chambered Cover Glass with #1.5 high performance cover glass (0.170±0.005mm). Individually packed, with lid, Sterilized.

Chambered Cover glass is used for high-magnification microscopy and confocal image analysis on microscopes equipped with slide adapters.

Feature :

- Suitable for long term tissue culture
- Manufactured in a class 10,000 clean room
- Plastic frame made from virgin polystyrene, tissue culture treated.
- German cover glass of superior optical quality
- A USP class VI adhesive is used to assemble the cover glass and the plate.
- Sterilized by Gamma radiation.



Cat No.	De-Groot Cat No	Glass #	Pack Size
C1-1.5H-N	76-C1-1.5H-N	1.5H	48



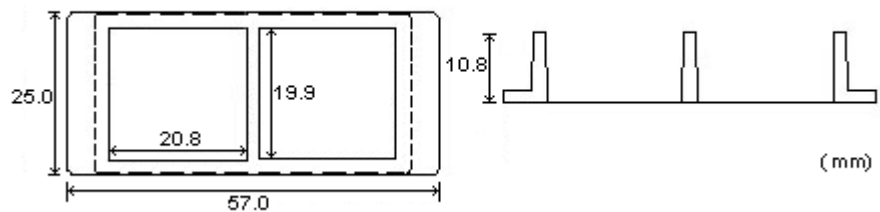
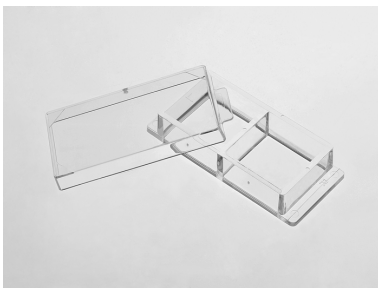
2 Well Chambered Cover Glass with #1.5 high performance cover glass by IVS

2 Well Chambered Cover Glass with #1.5 high performance cover glass (0.170±0.005mm). Individually packed, with lid, Sterilized.

Chambered Cover glass is used for high-magnification microscopy and confocal image analysis on microscopes equipped with slide adapters.

Feature :

- Suitable for long term tissue culture
- Manufactured in a class 10,000 clean room
- Plastic frame made from virgin polystyrene, tissue culture treated.
- German cover glass of superior optical quality
- A USP class VI adhesive is used to assemble the cover glass and the plate.
- Sterilized by Gamma radiation.



Cat No.	De-Groot Cat No.	Glass #	Pack Size
C2-1.5H-N	76-C2-1.5H-N	1.5H	48

Tel:03-9039999 Fax:03-9039090

e-mail :degroot@degroot.co.il

www.degroot.co.il

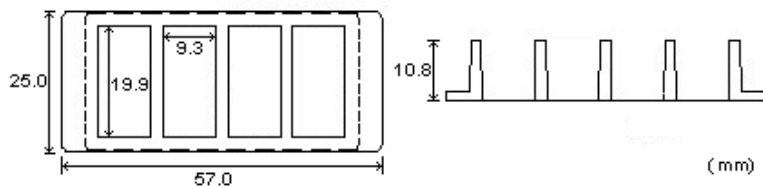
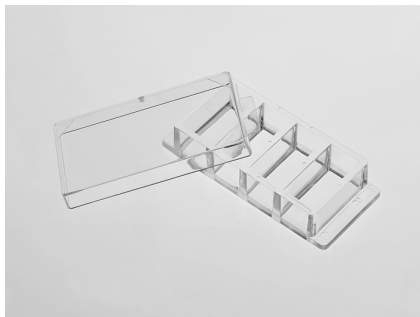


4 Well Chambered Cover Glass with #1.5 high performance cover glass by IVS

4 Well Chambered Cover Glass with #1.5 high performance cover glass (0.170±0.005mm). Individually packed, with lid, Sterilized.
 Chambered Cover glass is used for high-magnification microscopy and confocal image analysis on microscopes equipped with slide adapters.

Feature :

- Suitable for long term tissue culture
- Manufactured in a class 10,000 clean room
- Plastic frame made from virgin polystyrene, tissue culture treated.
- German cover glass of superior optical quality
- A USP class VI adhesive is used to assemble the cover glass and the plate.
- Sterilized by Gamma radiation



Cat No.	De-Groot Cat No.	Glass #	Pack Size
C4-1.5H-N	76-C4-1.5H-N	1.5H	48

Tel:03-9039999 Fax:03-9039090

e-mail :degroot@degroot.co.il

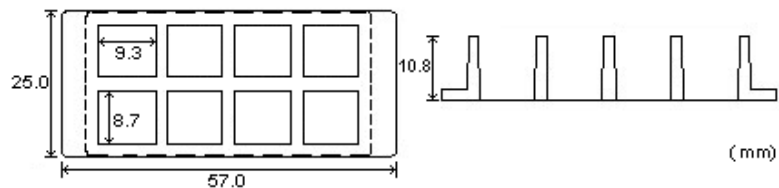
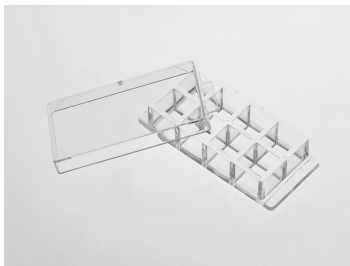
www.degroot.co.il

8 Well Chambered Cover Glass with #1.5 high performance cover glass by IVS

8 Well Chambered Cover Glass with #1.5 high performance cover glass (0.170±0.005mm). Individually packed, with lid, Sterilized. Chambered Cover glass is used for high-magnification microscopy and confocal image analysis on microscopes equipped with slide adapters.

Feature :

- Suitable for long term tissue culture
- Manufactured in a class 10,000 clean room
- Plastic frame made from virgin polystyrene, tissue culture treated.
- German cover glass of superior optical quality
- A USP class VI adhesive is used to assemble the cover glass and the plate.
- Sterilized by Gamma radiation.



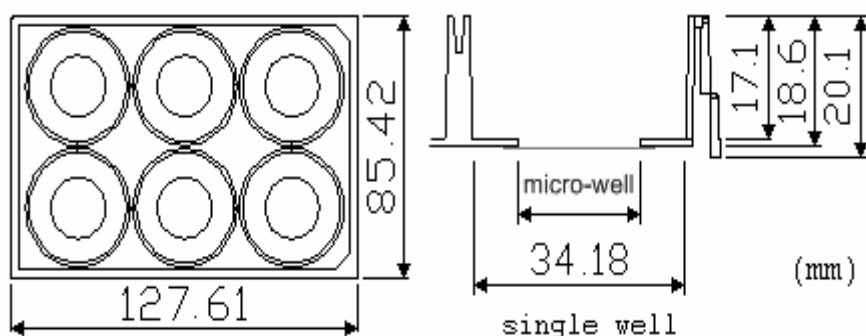
Cat No.	De-Groot cat No.	Glass #	Pack Size
C8-1.5H-N	76-C8-1.5H-N	1.5H	48

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e-mail :degroot@degroot.co.il www.degroot.co.il



6 Micro-well Glass Bottom Plates by IVS

6 micro-well glass bottom plates are easier to handle than glass bottom dishes.
 Also different micro-well size offers the flexibility of different sample size.

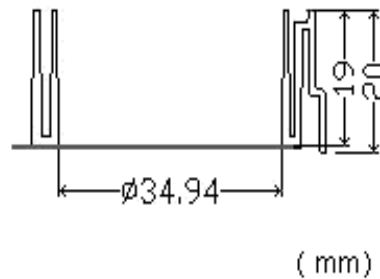
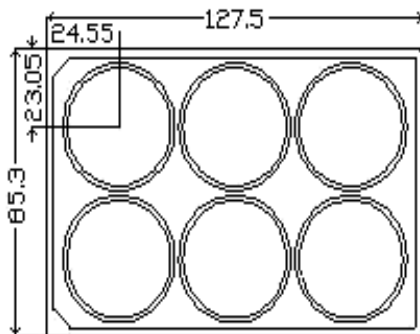


Cat. No.	De-Groot Purchase #	Micro-well	Glass #
P06-10-0-N	76-P06-10-0-N	10.00mm	# 0
P06-10-1-N	76-P06-10-1-N	10.00mm	# 1
P06-10-1.5-N	76-P06-10-1.5-N	10.00mm	# 1.5
P06-14-0-N	76-P06-14-0-N	14.00mm	# 0
P06-14-1-N	76-P06-14-1-N	14.00mm	# 1
P06-14-1.5-N	76-P06-14-1.5-N	14.00mm	# 1.5
P06-20-0-N	76-P06-20-0-N	20.00mm	# 0
P06-20-1-N	76-P06-20-1-N	20.00mm	# 1
P06-20-1.5-N	76-P06-20-1.5-N	20.00mm	# 1.5



6 Well Glass Bottom Plate by IVS

6 well glass bottom plate with high performance # 1.5H cover glass, black polystyrene frame.

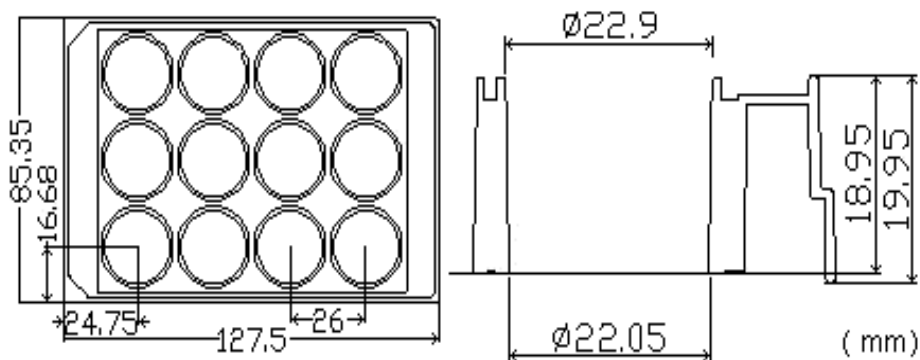


Cat. No.	De-Groot purchase #	Well	Glass #
P06-1.5H-N	76-P06-1.5H-N	34.94mm	# 1.5H



12 Well Glass Bottom Plate by IVS

12 well glass bottom plate with high performance # 1.5H cover glass, Black polystyrene frame



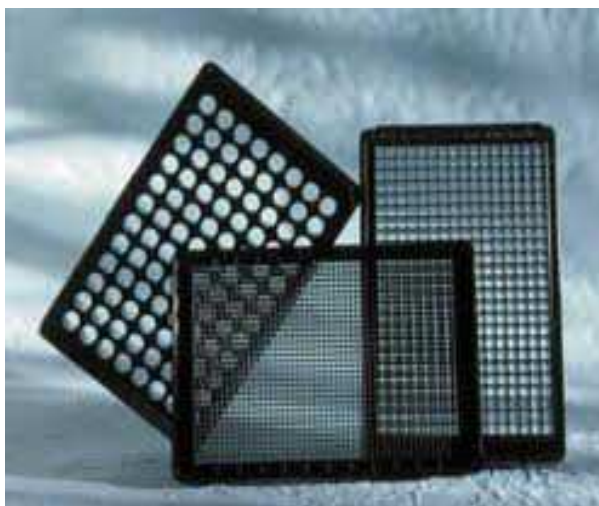
Cat. No.	De-Groot Purchase #	Well	Glass#
P12-1.5H-N	76-P12-1.5H-N	22.05mm	# 1.5H



greiner bio-one

Glass Bottom Plate SensoPlates by Greiner Bio-One

Greiner Bio-One and Aventis Pharma have collaborated to develop a range of unique glass bottom microplates (24, 96, 384, 1536 well). Each microplate incorporates high quality optical glass, with a thickness of 175 μm , bonded to the parent plate. All plates comply to the standardized microplate footprint and offer high quality performance in applications where low autofluorescence and optical clarity are required. Available in opaque black, the plates are ideally suited for high-resolution imaging, sensitive fluorescence and confocal microscopy applications, like single molecule detection (SMD) or fluorescence correlation spectroscopy (FCS).

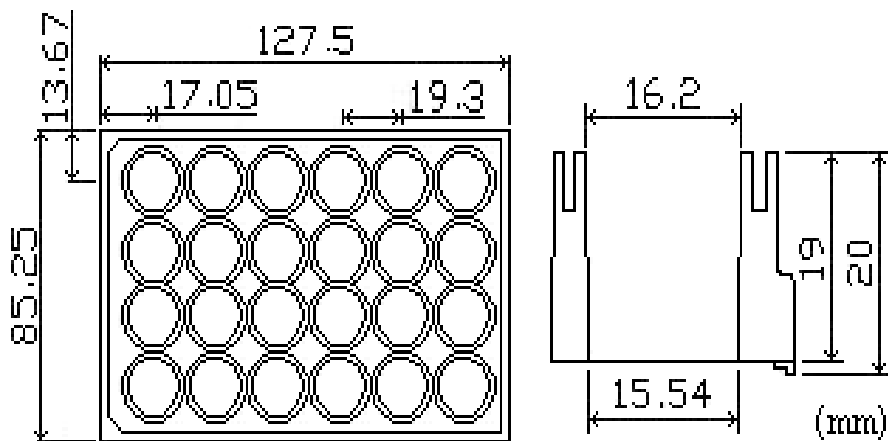


Part No .	De-Groot purchase #	Plate format
662892	60-662892	24 well
655892	60-655892	96 well
781892	60-781892	384 well
788896	60-788896	384 well Small Volume
782892	60-782892	1536well HiBase
783892	60-783892	1536 well LoBase



24 Well Glass Bottom Plate by IVS

24 well glass bottom plate with high performance # 1.5H cover glass, Black polystyrene frame



Cat. No.	De-Groot purchase #	Well	Glass #
P24-1.5H-N	76-P24-1.5H-N	15.54mm	# 1.5H



SCREENSTAR Microplates

For High Content Screening and High Resolution Microscopy

SCREENSTAR microplates are specialized product for sophisticate microscopic applications, like high contest screening (HCS) or high resolution microscopy with water and oil immersion objectives. Manufactured entirely of cycloolefin, the microplates feature a black pigment frame with a 190 µm ultraclear film bottom for ideal compatibility with instrument optic. Well bottoms display excellent optical properties for the highest optical transparency with reduced autofluorescence in the lower UV range, low birefringence and a refractive index of 1.53 comparable to glass. Recessed microplate wells enable complete periphery access for high magnification objectives.

The SCREENSTAR microplates are resistant against polar solvents (DMSO) and combine outstanding glass-like optical properties with an excellent surface for adherent cell culture.

The SCREENSTAR microplates are available in 96 well, 1536 well and now also 384 well format.

Key Facts

- For High resolution microscopy
- For high content screening in drug discovery
- For high magnification and improved resolution
- Universal microscope objective compatibility
- 190 µm thin cycloolefin film bottom
- Refractive index similar to glass (1.53)
- Proven Greiner Bio-One cell culture quality



Ordering Information			
Cat. No	Product Description	Quantity per Bag	Quantity per Case
655866	96 well SCREENSTAR microplate, cycloolefin, black, 190 µm film bottom, TC-treated, sterile, with lid	1	16
789836	384 well SCREENSTAR microplate, cycloolefin, black, 190 µm film bottom, TC-treated, sterile, with ultra low profile lid	10	40
789866	1536 well SCREENSTAR microplate, cycloolefin, black, 190 µm film bottom, TC-treated, sterile without lid	17	68

Tel:03-9039999 Fax:03-9039090

e-mail :degroot@degroot.co.il

www.degroot.co.il



96 Well SCREENSTAR Microplate

- For research and high content screening applications
- Distance between plate rim and inner well bottom: 0.7 mm
- Distance between plate rim and outer well bottom: 0.51 mm
- Ditch at the perimeter can be filled with fluids to minimise edge effects and evaporation
- Round well geometry to reduce optical distortions
- Protective film on optical bottom to diminish airborne contamination and surface defects
- Individually wrapped plate with lid and easy-to-open packaging

384 well SCREENSTAR Microplate

NEW

- For high throughput and high content screening applications
- Distance between plate rim and well bottom: 1.3 mm
- Distance between plate rim and outer well bottom: 1.11mm
- Smooth microplate top absent of alphanumeric coding facilitates flush lid mounting for use within automatic systems and improved heat sealing
- Cell culture treated and sterile, with lid

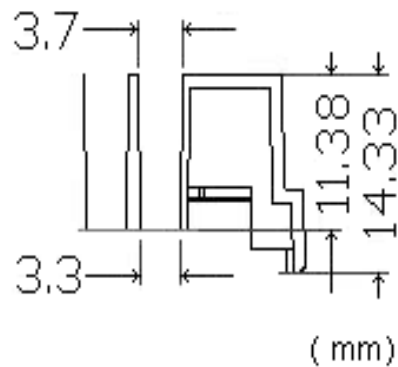
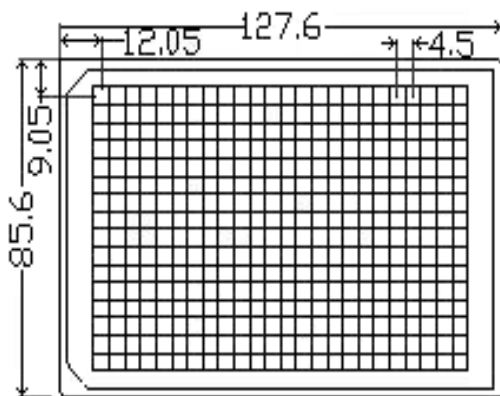
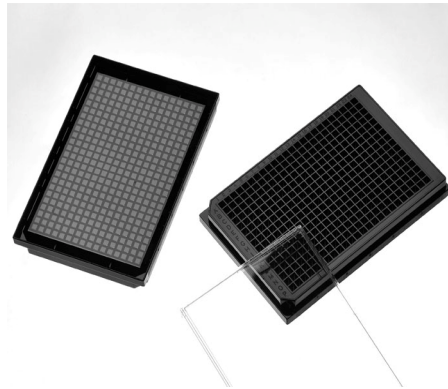
1536 Well SCREENSTAR Microplate

- For high throughput and high content screening applications
- Distance between plate rim and inner well bottom: 0.7 mm
- Distance between plate rim and outer well bottom: 0.51 mm
- Smooth microplate top absent of alphanumeric coding facilitates flush lid mounting for use within automatic systems and improves heat sealing
- Cell culture treated and sterile, available without surface treatment and non-sterile upon request
- Microplates are shrink-wrapped in recyclable PET bags with a stack bottom tray enclosure for optical protection of the film bottom.



384 Well Glass Bottom Plate by IVS

384 well glass bottom plate with high performance # 1.5H cover glass, Black polystyrene frame



Cat. No.	De-Groot purchase #	Well	Glass #
P384-1.5H-N	76-P384-1.5H-N	3.30mm	# 1.5H



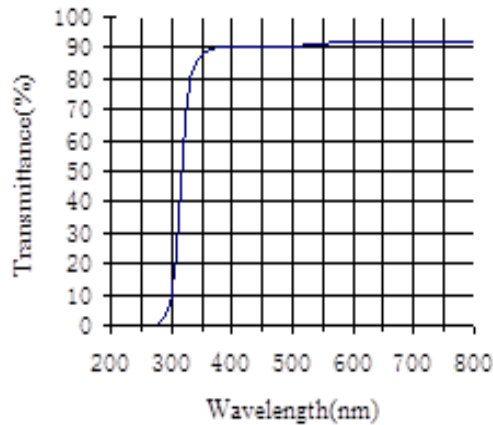
FAQS by IVS

What are the thickness of glass #0, #1, #1.5 and #1.5H?

Glass Number	# 0	# 1	# 1.5	# 1.5H
Glass Thickness (mm)	0.085-0.115	0.13-0.16	0.16-0.19	0.170 ± 0.005

What is the spectral transmittance of the cover glass

Spectral transmittance of the # 1 cover glass used for our glass bottom dish/plate:



What kind of adhesive is used to adhere the dish and cover glass? How can I detach the bottom glass?

We use a USP class VI adhesive to adhere the dish and the cover glass. This adhesive is nontoxic, and it is resistant to water and common fixing reagents such as methanol and ethanol. This makes our glass bottom dishes and glass bottom plates ideal for long term cell culture.

The bad news is that the adherence between the dish and the cover glass is so strong, that it is very difficult to detach the cover glass from the dish.

What is the difference between the plastic surface and glass surface for growing cells?

Most plastic vessels used to culture attached cells are made from polystyrene. Since polystyrene is hydrophobic and most cultured cells can not attach to hydrophobic surface, plastic cell culture vessels are usually surface treated to introduce hydrophilic groups onto the surface to help the attachment of cultured cells.

Glass surface on the other hand, does not need any pre-treatment to allow the attachment of the cultured cells. However the attachment usually is not as strong as that of surface treated polystyrene, our experience indicates that poly-lysine, collagen coating works much better on plastic than on glass. Consequently, poly-lysine or collagen coating on glass are less stable than poly-lysine or collagen coating on surface treated plastics.

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