

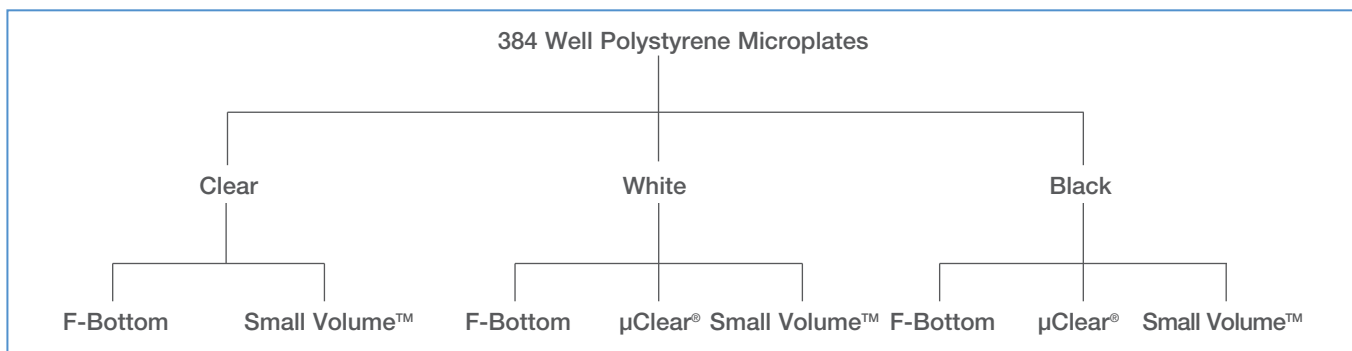
384 Well Microplates

Drug screening has undergone rapid development over the past few years. The number of tests with new targets and the number of active agents to be tested is constantly increasing. Volume reduction, simple testing and cost savings are some of the highest priorities and high format microplates with a low well volume are one of the most important tools in achieving this. One of the first higher format microplates was the 384 well plate, launched by Greiner Bio-One in 1994/1995. Compared with the 96 well standard microplate, the number of wells is quadrupled in this microplate, combined with a volume

reduction from 382 μl to 131 μl . The well-to-well spacing is 4.5 mm (96 well plate: 9 mm). The external dimensions of the 384 well microplates are compatible with standard equipment and automated systems.

The 384 well microplates are available as black and white clear bottom plates ($\mu\text{Clear}^{\text{®}}$), in FLUOTRAC[™], LUMITRAC[™], MICROLON[®], CELLSTAR[®], UV-Star[®] or non-binding quality.

384 Well Polystyrene Microplates



384 well microplates are available in the following versions:

- ☞ Sterile or non sterile
- ☞ Cell culture treated (→ p. 1 | 16 ff.)
- ☞ In medium binding or high binding quality
- ☞ In non-binding quality (→ p. 2 | 32)
- ☞ In UV-Star[®] quality (→ p. 2 | 37)
- ☞ With or without lid
- ☞ Barcode-labelled on request (→ p. 14 | 4)

Improved Rounded Square Well Design

All wells of the 384 well microplates, with the exception of the 384 well Small Volume[™] microplate, are rounded square wells, i.e. they are square with rounded corners (Fig. 2).

This design combines the advantages of the square well, i.e. flexible working volume of 15 – 110 μl , with the advantages of a round well, such as reduced wicking and bubbling.

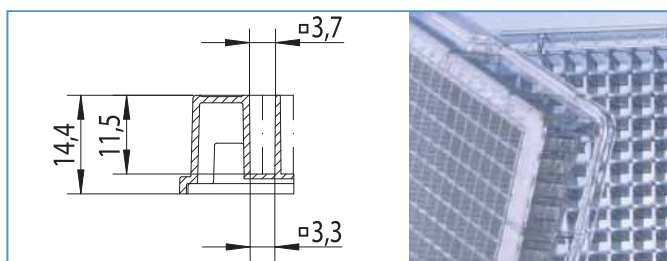


Figure 1:
 Well profile: 384 well, polystyrene
 Total volume: 131 μl
 Working volume: 15 – 110 μl
 Growth area: 10 mm²

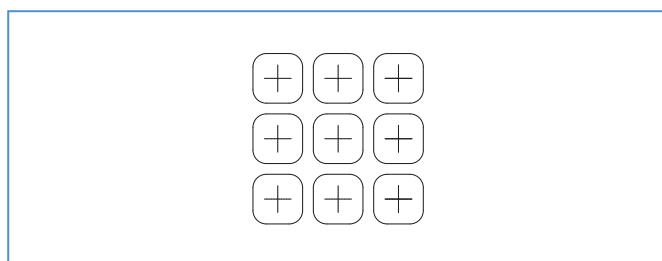


Figure 2:
 Rounded square well design with improved corner radius of 1 mm

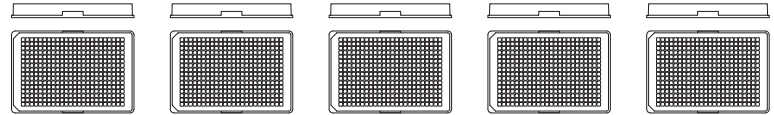


781 061, 781 1XX

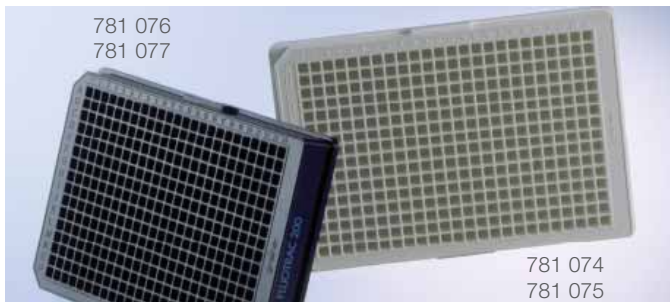
384 Well Polystyrene Microplates solid bottom, clear

↳ Cell Culture Microplates p. 1 | 16

Free of detectable
DNase, RNase,
human DNA
non-pyrogenic



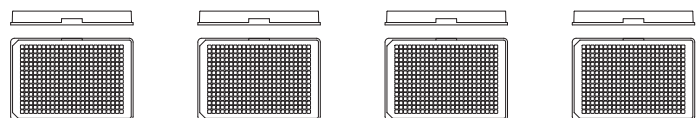
Cat.-No.	781 101	781 061	781 162	781 185	781 186
Well profile	F-bottom	F-bottom	F-bottom	F-bottom	F-bottom
Bottom	solid	solid	solid	solid	solid
Colour	clear	clear	clear	clear	clear
Binding	-	high binding	-	-	-
Sterile	-	+	+	+	+
Lid	-	-	-	+	+
Quantity per bag/case	10/100	10/40	10/100	1/32	8/32

781 076
781 077781 074
781 075

384 Well Polystyrene Microplates solid bottom, white / black

↳ Cell Culture Microplates p. 1 | 16

Free of detectable
DNase, RNase,
human DNA
non-pyrogenic



Cat.-No.	781 074	781 075	781 077	781 076
Well profile	F-bottom	F-bottom	F-bottom	F-bottom
Bottom	solid	solid	solid	solid
Colour	white	white	black	black
Binding	LUMITRAC™ 600 high binding	LUMITRAC™ 200 med. binding	FLUOTRAC™ 600 high binding	FLUOTRAC™ 200 med. binding
Sterile	+	-	+	-
Lid	-	-	-	-
Quantity per bag/case	10/40	10/40	10/40	10/40

1 Cell/
Tissue Culture

2 HTS-
Microplates

3 Immunology/
HLA

4 Microbiology/
Bacteriology

5 Tubes/Multi-
Purpose Beakers

6 Liquid
Handling

7 Molecular
Biology

8 Protein
Crystallisation

9 Separation

10 Biochips/
Microfluidics

11 Cryo-
Technics

12 Lids/Sealers/
CapMats

13 Reaction Tubes/
Analyser Cups

14 Accessories

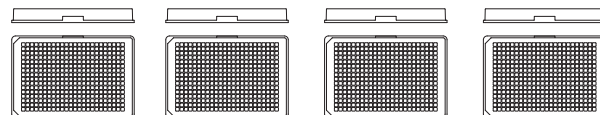


384 Well Polystyrene Microplates

µClear®, white / black

- ▶ Cell Culture Microplates p. 1 | 17
- ▶ UV-Star® Microplates p. 2 | 37

Free of detectable
DNase, RNase,
human DNA
non-pyrogenic



Cat.-No.	781 094	781 095	781 097	781 096
Well profile	F-bottom	F-bottom	F-bottom	F-bottom
Bottom	µClear®	µClear®	µClear®	µClear®
Colour	white	white	black	black
Binding	high binding	med. binding	high binding	med. binding
Sterile	+	-	+	-
Lid	-	-	-	-
Quantity per bag/case	10/40	10/40	10/40	10/40

384 Well Polypropylene Microplates

Polypropylene (PP) has low biomolecular binding characteristics, a high temperature tolerance and is resistant to many standard laboratory chemicals, such as DMSO.

From black polypropylene microplates for fluorescence to white microplates for luminescence assays, the 384 well polypropylene programme has all you need.

384 well polypropylene microplates are available in the following versions:

- ☞ Sterile
- ☞ Non-sterile
- ☞ Natural, black or white
- ☞ Barcode-labelled on request (→ p. 14 | 4)

In addition to the 384 Deep Well MASTERBLOCK® (→ p. 2 | 26), 384 well F-bottom (Fig. 1) and V-bottom (Fig. 2) polypropylene microplates extend the range of polypropylene microplates.

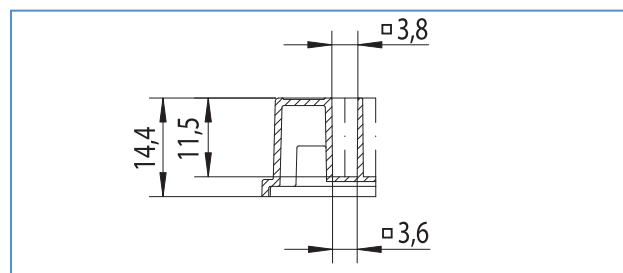


Figure 1:
Well profile: 384 well F-bottom, polypropylene
Total volume: 152 µl
Working volume: 15 – 145 µl

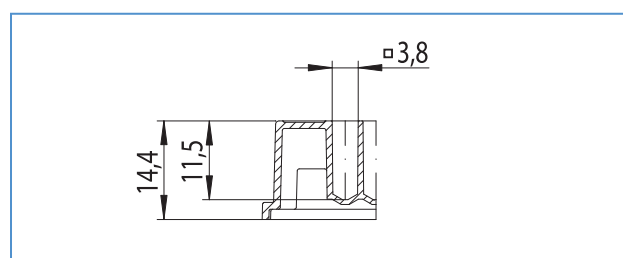
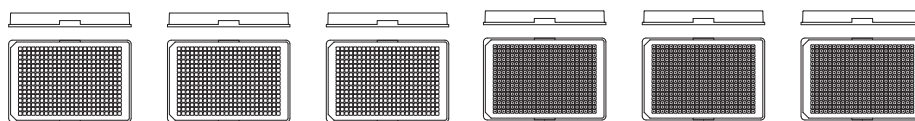


Figure 2:
Well profile: 384 well V-bottom, polypropylene
Total volume: 130 µl
Working volume: 13 – 120 µl



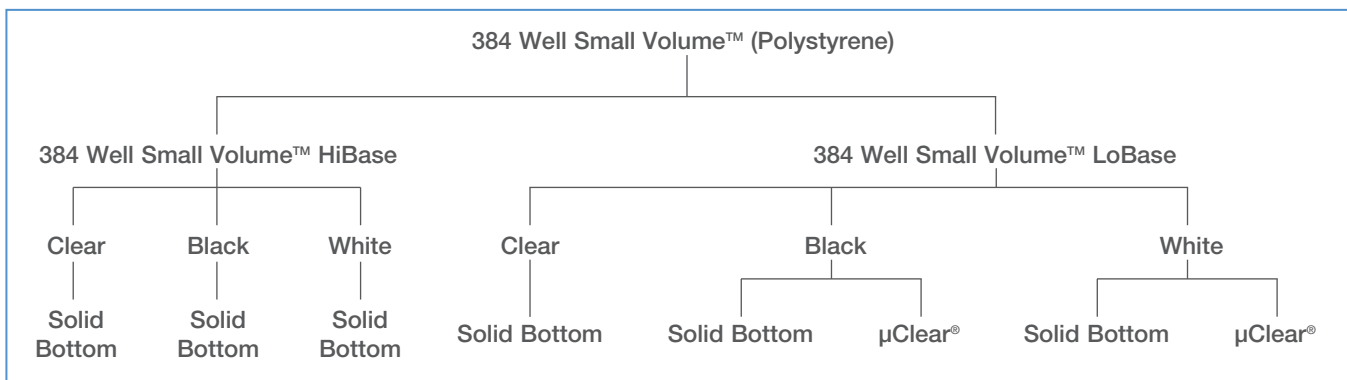
384 Well Polypropylene Microplates solid bottom, natural / white / black

Free of detectable
DNase, RNase,
human DNA
non-pyrogenic



Cat.-No.	781 201	781 207	781 209	781 280	781 287	781 289
Well profile	F-bottom	F-bottom	F-bottom	V-bottom	V-bottom	V-bottom
Bottom	solid	solid	solid	solid	solid	solid
Colour	natural	white	black	natural	white	black
Binding	-	-	-	-	-	-
Sterile	-	-	-	-	-	-
Lid	-	-	-	-	-	-
Quantity per bag/case	10/100	10/100	10/100	10/100	10/100	10/100

384 Well Small Volume™ LoBase and HiBase Polystyrene Microplates



A small sample volume is an important goal in high-throughput screening. The substances to be tested and the reagents used are usually scarce, expensive and time-consuming to produce. In addition to a high degree of automation and the use of sensitive reader systems, the introduction of higher format microplates, such as the 384 well or the 1536 well microplate, has made a decisive contribution to reducing the sample volume.

The potential for savings in the 384 well microplate with an average working volume of 70 – 80 μl is relatively limited and successful use of 1536 well microplates requires considerable optimisation work on the instrumentation to be used. In order to enable a savings potential in the 384 well format comparable to a 1536 well microplate, Greiner Bio-One developed a new platform with the 384 well Small Volume™ microplates. They have round wells with a conical geometry (Fig. 1 and Fig. 2). The wells have a total volume of 28 μl and a working volume of between 4 μl and 25 μl . Two different 384 well Small Volume™ microplate versions are available:

384 well Small Volume™ HiBase polystyrene microplates:

- Perfect for top reading even at low working volumes
- Savings in reagent similar to 1536 well microplates
- Suited for transmission, fluorescence and luminescence applications
- Excellent optical properties
- Available in med. binding or high binding quality (MICROLON®, FLUOTRAC™, LUMITRAC™)
- Available cell culture treated (→ p. 1 | 17)
- Available in non-binding quality (→ p. 2 | 32)

384 well Small Volume™ LoBase polystyrene microplates:

- Perfect for bottom reading even at low working volumes
- Savings in reagent similar to 1536 well microplates
- Suited for transmission, fluorescence and luminescence applications
- Excellent optical properties
- Available cell culture treated (→ p. 1 | 17)
- Available in med. binding or high binding quality

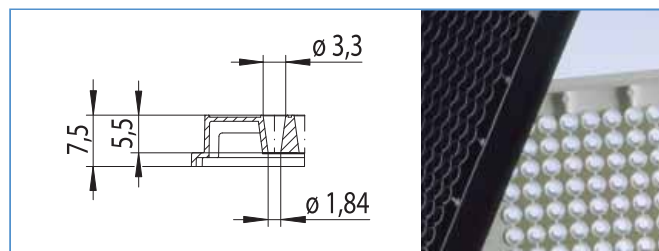


Figure 2:
Well profile: 384 well Small Volume™, LoBase
Total volume: 28 μl
Working volume: 4 – 25 μl
Growth area: 2.7 mm^2

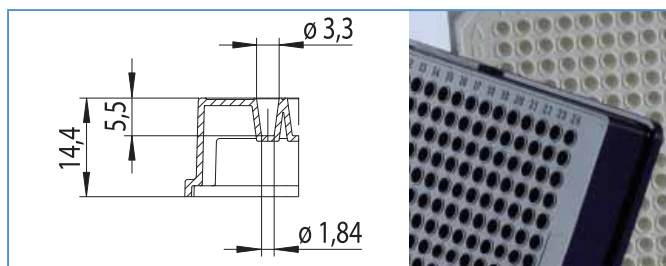
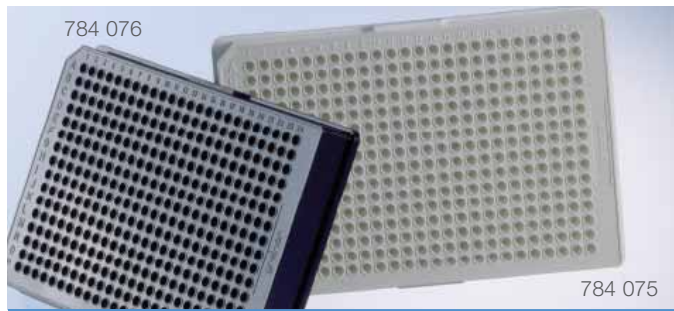


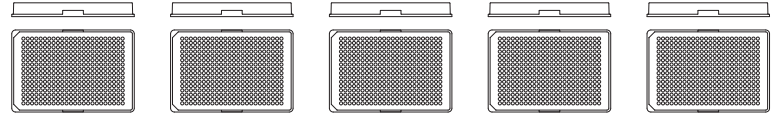
Figure 1:
Well profile: 384 well Small Volume™, HiBase
Total volume: 28 μl
Working volume: 4 – 25 μl
Growth area: 2.7 mm^2



384 Well Small Volume™ HiBase Polystyrene Microplates

Cell Culture Microplates p. 1 | 17

Free of detectable
DNase, RNase,
human DNA
non-pyrogenic



Cat.-No.	784 101	784 075	784 075-25	784 076	784 076-25
Well profile	Small Volume™	Small Volume™	Small Volume™	Small Volume™	Small Volume™
Bottom	solid	solid	solid	solid	solid
Colour	clear	white	white	black	black
Binding	-	med. binding	med. binding	med. binding	med. binding
Sterile	-	-	-	-	-
Lid	-	-	-	-	-
Quantity per bag/case	10/40	10/40	25/150	10/40	25/150
Plate design	HiBase	HiBase	HiBase	HiBase	HiBase

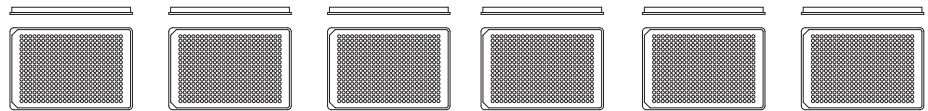


384 Well Small Volume™ LoBase Polystyrene Microplates

Cell Culture Microplates p. 1 | 17

Cat.-No. 788 096 also available in cycloolefin
(Cat.-No. 788 876)

Free of detectable
DNase, RNase,
human DNA
non-pyrogenic



Cat.-No.	788 101	788 161	788 075	788 076	788 095	788 096
Well profile	Small Volume™	Small Volume™	Small Volume™	Small Volume™	Small Volume™	Small Volume™
Bottom	solid	solid	solid	solid	µClear®	µClear®
Colour	clear	clear	white	black	white	black
Binding	-	-	med. binding	med. binding	med. binding	med. binding
Sterile	-	+	-	-	-	-
Lid	-	-	-	-	-	-
Quantity per bag/case	10/80	10/80	10/80	10/80	10/80	10/80
Plate design	LoBase	LoBase	LoBase	LoBase	LoBase	LoBase

384 Deep Well Small Volume™ Polypropylene Microplate

The 384 Deep Well Small Volume™ polypropylene microplate offers new possibilities for drug discovery:

- ☞ Standardised plate geometry (conform to ANSI 1-2004)
- ☞ Large working volume from 1 µl to 90 µl (Fig. 1)
- ☞ Dead volume below 1 µl
- ☞ Focused liquid samples (Fig. 2)
- ☞ No loss of valuable compounds

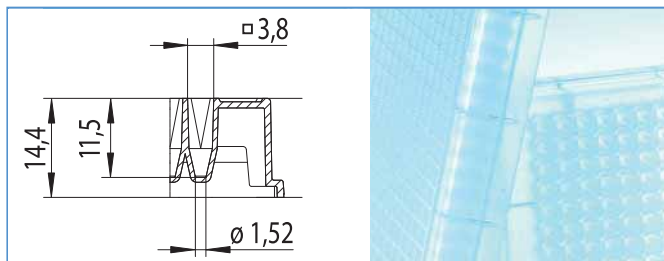


Figure 1:
Well profile: 384 Deep Well Small Volume™
Total volume: 107 µl (21 µl in the frustrum)
Working volume: 1 – 90 µl

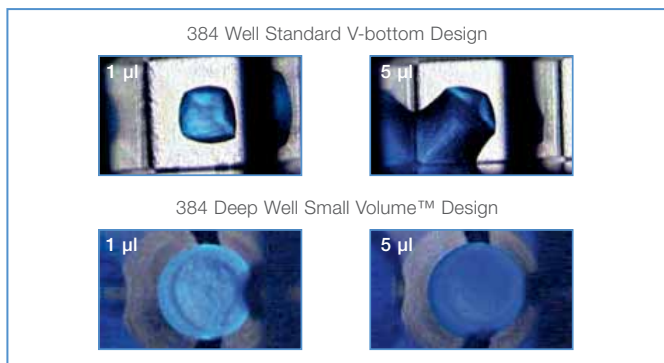


Figure 2: Location of liquid at the bottom of different microplate wells

The 384 Deep Well Small Volume™ polypropylene microplate is especially suited

☞ For direct compound transfer and preparation of assay-ready plates:

The focused aggregation of even small sample volumes in the well centres (Fig. 2) allows the transfer of small amounts of highly concentrated compound solutions with pin tools or capillary-based liquid handling systems. Direct compound transfer of 50 nl from storage to assay plate is possible and pre-dilution of concentrated compounds becomes redundant.

☞ For pre-dilutions:

If pre-dilution of compounds is required by the application, e.g. for sensitive cell-based assays, the working volume of 90 µl allows a high dilution under the cell toxicity level of DMSO.

☞ As storage plate:

Polypropylene, the base polymer of the 384 Deep Well Small Volume™ microplate has low binding characteristics, a high temperature tolerance, and is resistant to many standard laboratory chemicals, such as DMSO.

☞ For sealing:

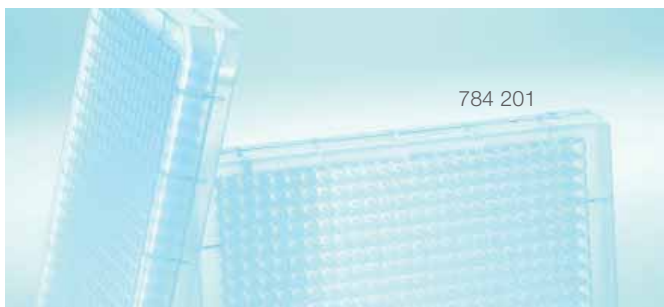
The square well geometry at the top of the wells with pronounced sealing rims facilitates heat sealing.

☞ For automation:

The standardised microplate footprint and well geometry enables efficient integration with automated systems.



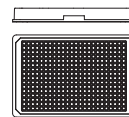
Further information on 384 Deep Well Small Volume™ Polypropylene Microplates
→ **Forum No. 11: 384 Well Storage Plate**
reducing compound consumption and supporting assay miniaturisation (F073 000)



384 Deep Well Small Volume™ Polypropylene Microplate

- White and black versions are available on request

Free of detectable
DNase, RNase,
human DNA
non-pyrogenic



Cat.-No.	784 201
Well profile	Small Volume™
Bottom	solid
Colour	natural
Sterile	-
Lid	-
Quantity per bag/case	10/100
Plate design	Deep Well