



Discover the beauty that only the highest-sensitivity MEA can bring to your research!

## Product Manual

# CellSpotter

P/N: MED-CRS24L/M



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## 1. Introduction

### 1-1. CellSpotter

The MED64 Presto CellSpotter is an accessory for the MED64 Presto's MEA Plate. It is intended to be placed onto the MEA Plate, and helps you to plate cells onto recording electrodes in each well of the MEA Plate.

The CellSpotter requires **cloning rings** for its use. A cloning ring is placed into a hole in the CellSpotter, and cells are plated through the cloning ring. Medium is filled through another port (outside the cloning ring) so that plated cells are not moved away from electrodes.



**Figure 1-1.** MED64 Presto CellSpotter. CellSpotter-comfort24 (MED-CRS24L) (left), CellSpotter-eco24 (MED-CRS24M) (right).

### 1-2. Cloning ring

Cloning rings are required for plating cells using the CellSpotter. The holes accommodate the **5 (OD) x 10 (height) mm cloning**. Make sure to use the cloning rings of the appropriate size when plating cells using the CellSpotter.



#### Recommended Cloning rings

Spec. (mm)	Cat. No	Supplier
ID:3.4, OD:5, Height:10	11-0162 (RING-05)	Iwaki
		Fisher

**Figure 1-2.** Cloning rings (left), and recommended model.

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## 2. Instruction for use

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### 2-1. CellSpotter24-comfort

The CellSpotter24-comfort (MED-CRS24L) is compatible for MEA 24well Plate-comfort (MED-Q2430L). Each indentation fits into the wells in the MEA 24well Plate-comfort, and the large central holes are located directly above the 16 recording electrodes. Place the cloning ring into the central hole and pipette cell suspension into the cloning ring so that cells are plated around the recording electrodes. Fill culture medium through one of the side holes (outside the cloning ring) to prevent plated cells from moving away from electrodes.



**Figure 1-3.** CellSpotter24-comfort placed onto the MEA 24well Plate-comfort (left, middle), CellSpotter24-comfort with cloning ring inserted (right).

### 2-2. CellSpotter24-eco

The CellSpotter24-eco (MED-CRS24M) is compatible for the MEA 24well Plate-eco (MED-Q2430M). Each indentation fits into the wells in the MEA 24well Plate-eco. Place the cloning ring into the round hole and pipette cell suspension through the cloning ring so that they are plated on the recording electrodes. Fill culture medium through the side-slot (outside the cloning ring) to prevent plated cells from moving away from electrodes.



**Figure 1-4.** CellSpotter24-eco plated on the MEA 24well Plate-comfort (left, middle), and CellSpotter with cloning ring inserted (right).

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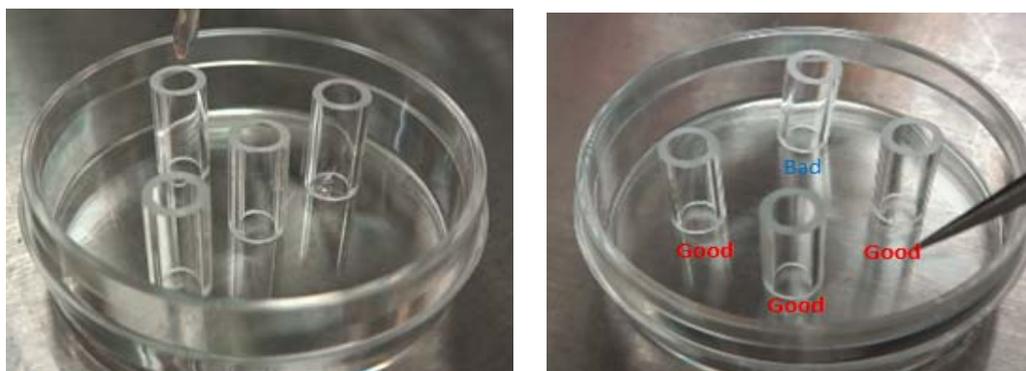
## 2-3. Sterilization

The CellSpotter is NOT sterilized before shipping. Please sterilize it (as well as cloning rings) before use. **Autoclave** is generally recommended.

## 2-4. Preparation for use

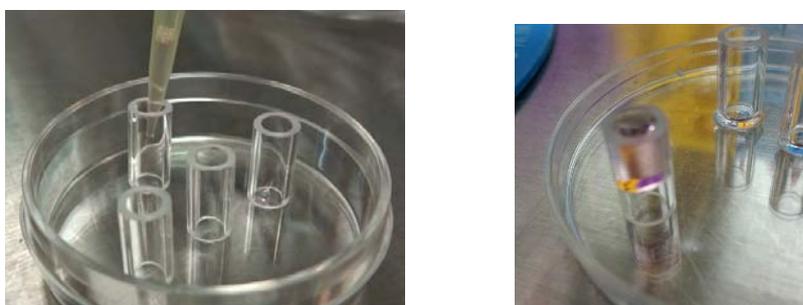
Some of the commercially-available cloning rings have an uneven edges, which can cause cell suspension to leak though the bottom. It is strongly recommended to use the following procedure for successful cell-planting.

1. Place the cloning rings in a petri dish (Figure 2-1, Left).
2. Shake the petri dish. Select only cloning rings that do NOT move (Figure 2-1, Right).



**Figure 2-1.** Cloning ring placed in a petri dish (left). Shake it and select only cloning rings that do NOT move (right).

3. Moisten the inside of the cloning ring by pipetting small amount of medium (Figure 2-2, left).
  - This process will help prevent the cell suspension from sticking in the middle of cloning ring (Figure 2-2, right).



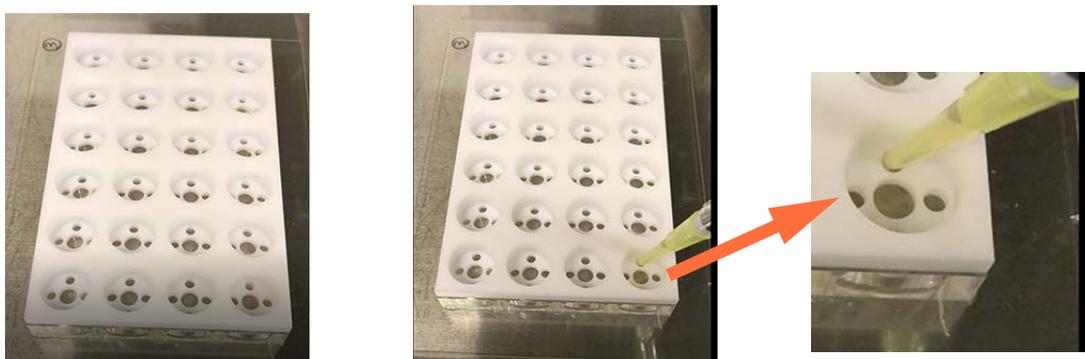
**Figure 2-2.** Moisten the inside of the cloning rings (left) and cell suspension sticking in the middle of cloning ring (right).

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## 2-5. Typical method for plating cells onto electrodes using the CellSpotter

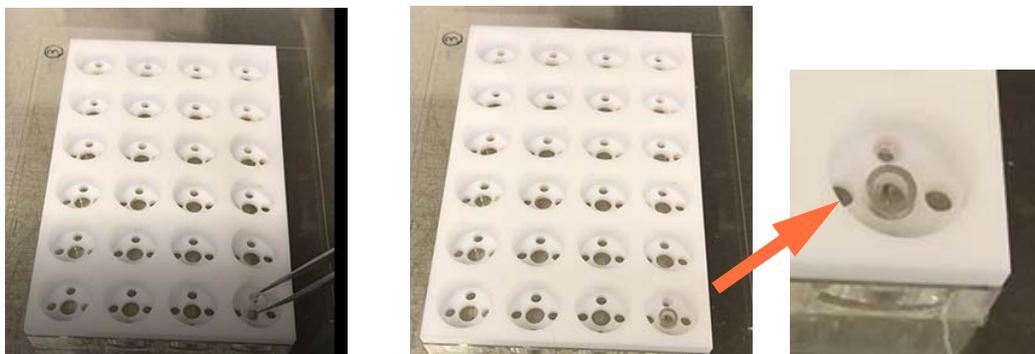
Following is a typical method for plating cells onto electrodes using the CellSpotter24-comfort. The method can be modified depending on your type of cells or/and experiments:

1. Autoclave the CellSpotter as well as cloning rings.
2. Mount the CellSpotter onto the MEA plate which contains pre-coating solution (Figure 2-3, left).
3. Remove the coating solution from each well in the Presto MEA plate through the side-hole (Figure 2-3, right).



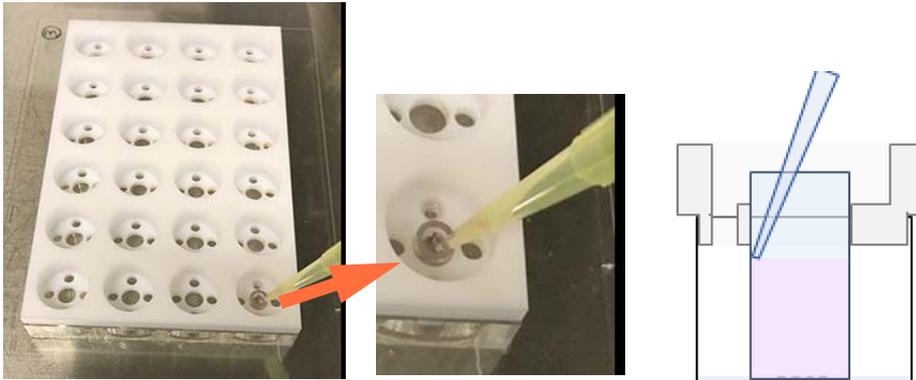
**Figure 2-3.** Placing the CellSpotter onto the MEA plate (left) and remove pre-coating solution from a well through the side-hole (middle, right).

4. Insert the cloning ring into the center-holes of the CellSpotter.



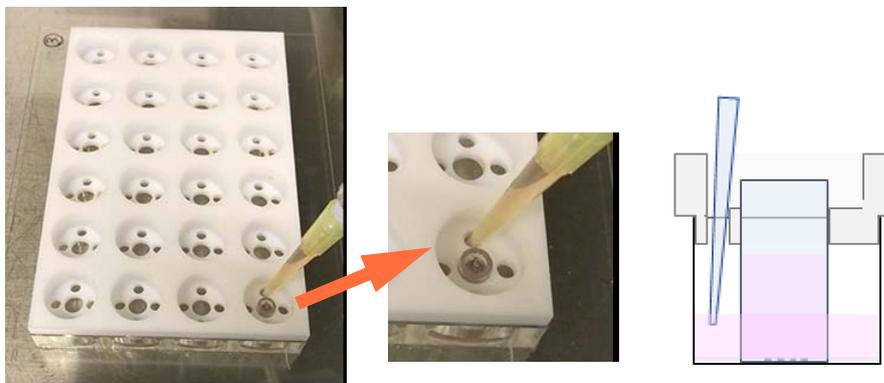
**Figure 2-4.** Place a cloning ring into a center-hole. Make sure the edge of cloning ring sits in the bottom of the MEA Plate.

5. Flood cell suspension into the cloning ring.



**Figure 2-5.** Flood the cell suspension into the cloning ring placed in the center-hole.

6. Add culture medium to the wells through one of the side-holes (Figure 2-6).



**Figure 2-6.** Add culture-medium to the well through one of the side holes.

7. Plate cells onto electrodes in the all wells using the same procedure (#2-5).
8. Incubate at 37°C, 5%CO<sub>2</sub> for one hour.
9. Gently remove the cloning rings from all wells (Figure 2-8, left) and then remove the CellSpotter (Figure 2-7, right).



**Figure 2-7.** Remove the cloning rings (left), and then CellSpotter after removing all cloning rings.

10. Add more culture medium to each well.



**Figure 2-8.** Add 500  $\mu$ L of culture medium to each well.

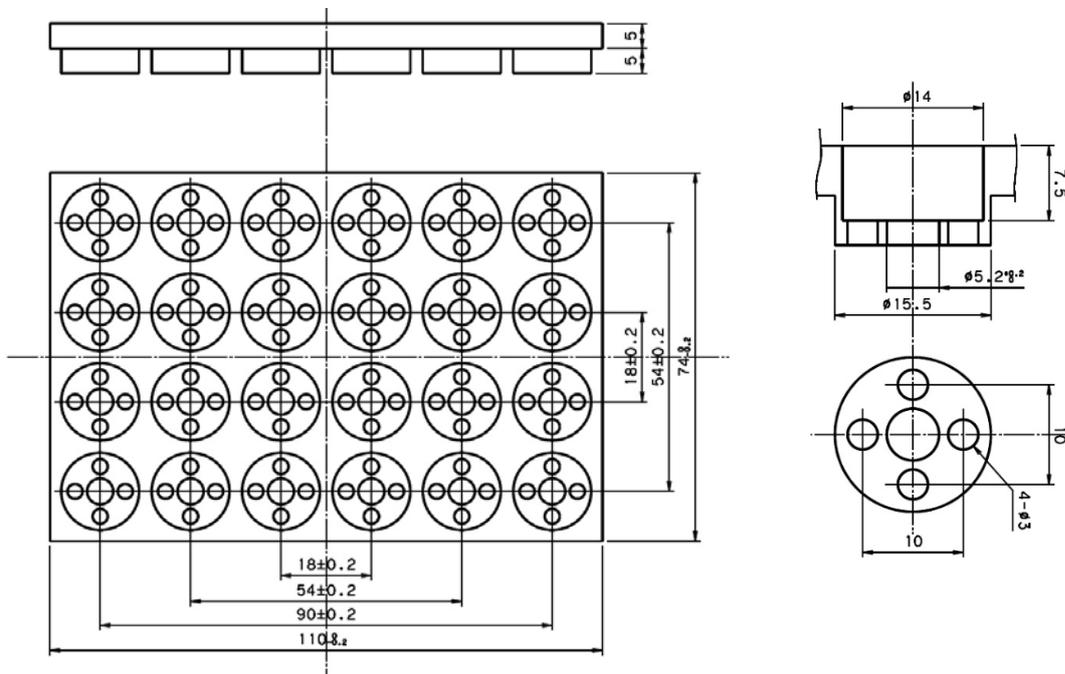
## 2-6. Handling, Storage

- Avoid mechanical shock.
- Store it in cool and dry area.

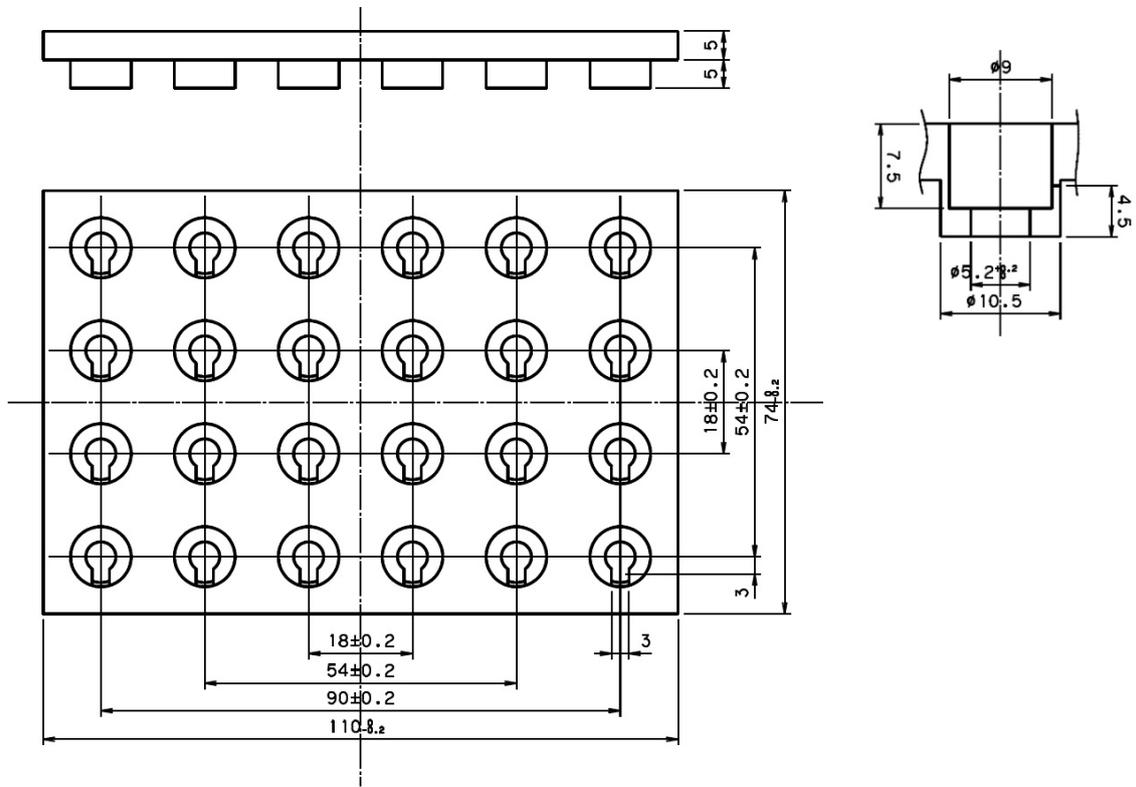
### 3. Specification

Material	Teflon
Size	W 110 x D 74 x H 10 (mm)

#### CellSpotter24-comfort (MED-CRS24L)



### CellSpotter24-eco (MED-CRS24M)





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