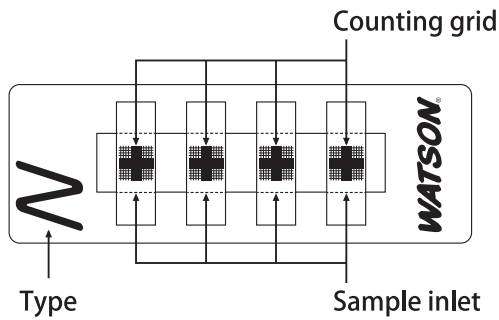


4 Grid Cell Counter Plate

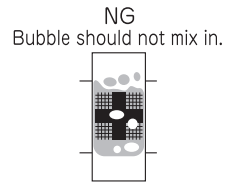
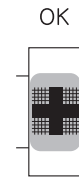
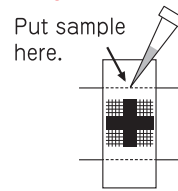


How to use

1. Pipette $6\mu\text{L}$ sample from the sample inlet, slowly.

※Pipette $12\mu\text{L}$ only for Fuchs Rosenthal type.

*When injecting into the sample inlet is difficult, several times of pipetting is needed.



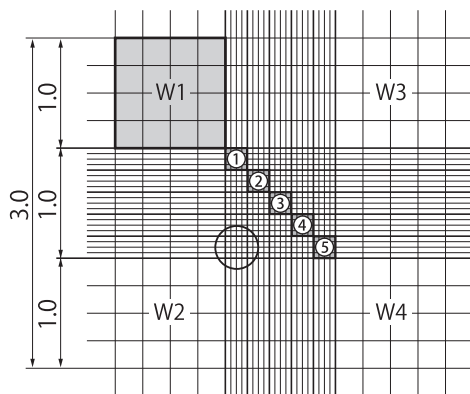
2. Set the plate on a microscope and keep it still for 2-3 minutes.

3. Count cells referring to a rule in "Cell Counting Method"

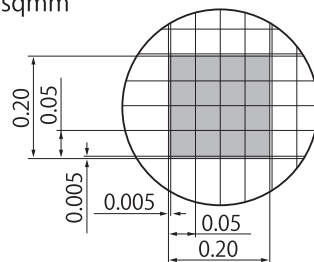
4. Calculate according to the method of each type.

N [Neubauer Improved]

177-112C

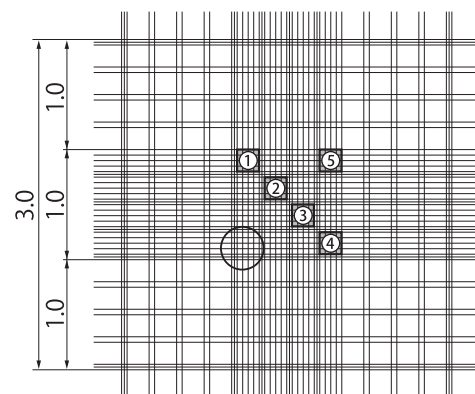


1/10mmdeep, 1/400 & 1/16sqmm

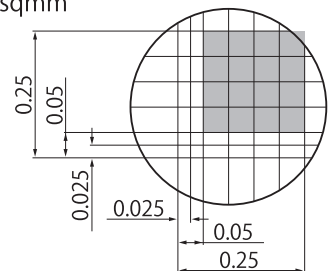


B [Burker-Turk]

177-212C

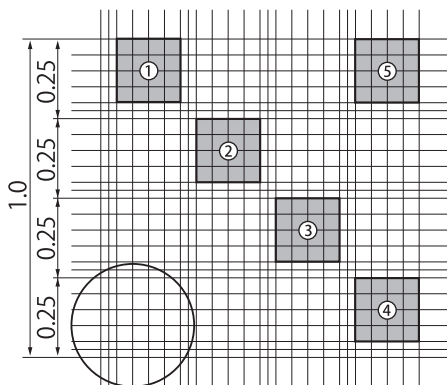


1/10mmdeep, 1/400 & 1/25sqmm

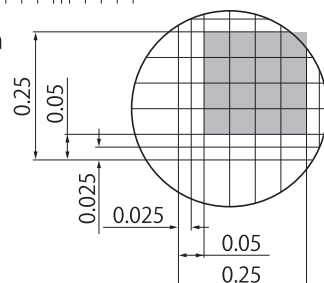


T [Thoma]

177-312C

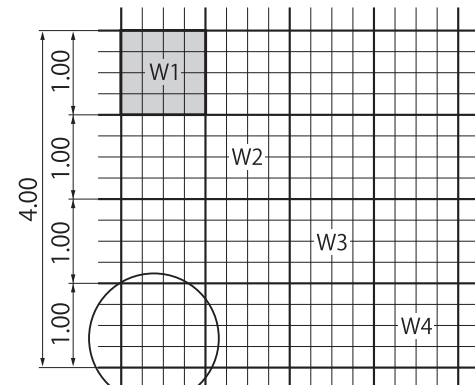


1/10mmdeep, 1/400sqmm

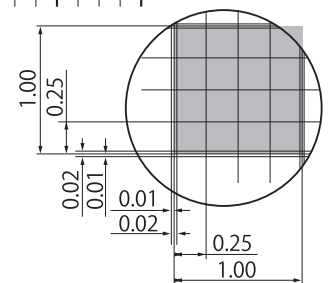


F [Fuchs Rosenthal]

177-512C



1/5mmdeep, 1/400sqmm



Cell Counting Method

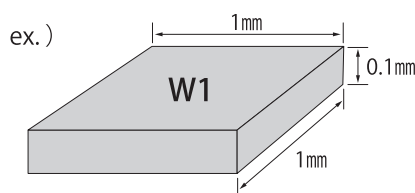
■To count large cells such as cultured cells.

Leukocyte count **A** per 1 μL is calculated by formula below,
when cell counts in large compartments W1,W2,W3,W4
(each amounts to 16 medium compartments) average to be **a**.

$$\mathbf{A = a \times 10 \times \text{Dilution Rate}}$$

※Adjust so that the count in a large compartment
(16 medium compartments) is around 100.

Large compartment dimension



A cube of 1mm × 1mm × 0.1mm

The volume of a large compartment (16 medium compartment) is 1mm × 1mm × 0.1mm = 0.1mm³ = 0.1 μL
When cell count average over W1~W4 is **a**, the cell count per 0.1 μL of the liquid used for counting is **a**.

Therefore, cell count **A** per 1 μL of the original liquid is

$$\mathbf{A = \{a / (1\text{mm} \times 1\text{mm} \times 0.1\text{mm})\} \times \text{Dilution Rate}}$$

$$\mathbf{A = (a / 0.1 \mu\text{L}) \times \text{Dilution Rate}}$$

$$\mathbf{A = a \times 10 \times \text{Dilution Rate}}$$

■To count small cells such as yeasts, blood cells, etc.

Count cells in each compartment ①,②,③,④,⑤ (the total amounts to 80 minimum compartments) and sum up.
Blood cell count **R** per 1 μL is calculated by the formula below when the total blood cell count summed up is **r**.

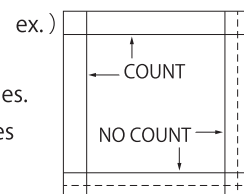
$$\mathbf{R = r \times 50 \times \text{Dilution Rate}}$$

※A gap between the cell counts of any 2 medium compartments
(16 minimum compartments) must not exceed 20.

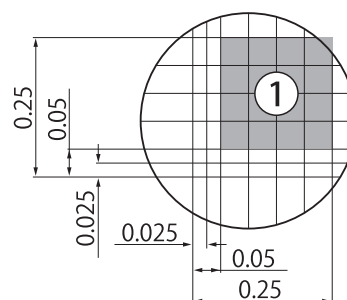
※Any set of 16 minimum compartments can be taken as a medium compartment ①~⑤, but they need to be well spread.

※(1) In case of triple lines,
use the most inner line.

(2) Count cells on the top and left lines.
Cells on the bottom and right lines are not to be counted.



ex.)



The volume of a cube 0.2mm × 0.2mm × 0.1mm is
 $4 \times 10^{-3} \text{mm}^3 = 4 \times 10^{-3} \mu\text{L}$

Sum up the cell counts in ①~⑤.

→ It amounts to the cell count in $5 \times 4 \times 10^{-3} \mu\text{L}$.

When the total cell count of ①~⑤ summed up is **r**,
the cell count in $2 \times 10^{-2} \mu\text{L}$ is **r**.

Therefore, cell count **R** per 1 μL of the original liquid is

$$\mathbf{R = \{r / 5 \times (0.2\text{mm} \times 0.2\text{mm} \times 0.1\text{mm})\} \times \text{Dilution Rate}}$$

$$\mathbf{R = \{r / 2 \times 10^{-2} \mu\text{L}\} \times \text{Dilution Rate}}$$

$$\mathbf{R = r \times 50 \times \text{Dilution Rate}}$$

Something Different.

WATSON BIO LAB
MADE IN JAPAN SINCE 1988

<https://watsonbiolab.com>

Manufactured and sold by:

FUKAEKASEI CO., LTD.

Head Office: 2-2-7 Murotani, Nishi-ku, Kobe 651-2241, JAPAN TEL +81-78-991-4477 FAX +81-78-991-4491
E-mail: info@watson.co.jp