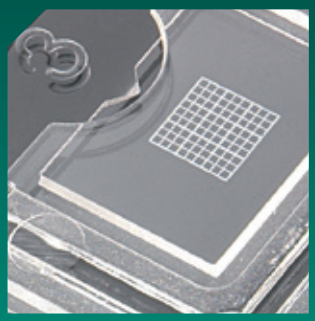
PRECISION **CELL**

VETRI**PLAST**



PENTA**SQUARE**

Plastic **counting chambers**

www.**vacutestkima.it**

VACUTEST**KIMA**

PRECISION **CELL**

The **Precision Cell** slide has been designed to provide still more accuracy, uniformity and safety in the microscopic examination of urinary sediment.

Its structure makes the examination still simpler and more practical, avoiding all possible contamination of samples and facilitating the cell counting in the urine sample.

Within every chamber there are two series of 9 circles each, making a total of 18 circles easily visible at 100x magnification.

These circles mark off a precise volume of urine and thus allow calculation, with a simple procedure, of the number of cells present in 1 ml of urine.

INSTRUCTIONS FOR USE

Procedure for 10 ml of urine sample after centrifugation:

- after having sufficiently stirred the urine sample, pour 10 ml into a conical test tube (REF 18304);
- centrifuge for 5 minutes at 400g or 1500 rpm;
- pour off 9 ml of the top fluid;
- suspend the sediment again, sufficiently stirring the test tube;
- remove the suspension with a Pasteur pipette and fill the chamber in the slide;
- locate the grid at 100x magnification and read at 400x magnification;
- multiply by 1000 the total number of cells counted in one of the two series of 9 circles.

The value thus obtained indicates the number of cells present in 1 ml of urine.

Procedure for 12 ml of urine sample after centrifugation:

- after having sufficiently stirred the sample of urine, pour 12 ml into a urine test tube (REF 18159);
- centrifuge for 5 minutes at 400g or 1500 rpm;
- pour off 11 ml of the top fluid;
- suspend the sediment again, sufficiently stirring the test tube;
- remove the suspension with a Pasteur pipette (code 18434) and fill the chamber in the slide;
- locate the grid at 100x magnification and read at 400x magnification;
- multiply by 833 the total number of figured elements counted in one of the two series of 9 circles.

The value thus obtained indicates the number of cells present in 1 ml of urine.

The above procedures are in accordance with the formula to obtain the quantity of cells per ul or ml of urine. The same can be applied when using Vacutest Kima urine collection vacuum tubes tubes with capacity 9 ml (REF 14930) or 9,5 ml (REF 14850).

$$\frac{n}{k * N * CF} = T_{\mu l}$$ to obtain number of cell per **µl** of urine

$$\frac{n * 1000}{k * N * CF} = T_{ml}$$ to obtain number of cell per **ml** of urine

Where:
n = total number of cells counted
k = 0,01111
N = number of circles observed
CF = concentration factor
$T_{\mu l}$ = total of cells present in 1µl of urine
T_{ml} = total of cells present in 1ml of urine

VACUTESTKIMA

Plastic counting chambers

REF **301890**

PRECISION **CELL**

In the **Vetriplast** slide with counting grid, the microscopic counting of the cells present in the urine sediment, is based on the same principle of the glass counting chambers actually present on the market (Bürker, Thoma-Zeiss, Neubauer).

The above mentioned counting chambers determine, through appropriate calculations, the number of the cells per ml present in a sample of urine.

The surface on which the sample is spread in the chamber is divided in spaces defined by a grid.

Inside the squares, the volume of the samples is predetermined and consequently, through a calculation procedure, there is a direct connection between the number of cells counted and the whole amount in the urine sample under examination.

Vetriplast slide is different from the traditional glass counting chamber for its easiness in the use.

It helps the operator in the daily routine and decreases drastically some possible causes of error with the use of such chambers.

INSTRUCTIONS FOR USE

- After having sufficiently stirred the sample of urine, pour 10 ml into a conical test tube (code 18304);
- centrifuge for 5 minutes at 400g or 1500 rpm.
- Pour off 9 ml of the top fluid;
- Suspend the sediment again, sufficiently stirring the test tube;
- Remove the suspension with a Pasteur capillary pipette and fill the selected cell on the slide.
- Locate the grid at 100x magnification and read afterwards at 400x magnification. The field of reading will include the smallest square of the grid (0,333 x 0,333mm side).

Example of reading and counting the figured elements in the grid

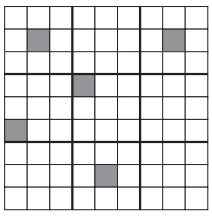
HIGH PRESENCE OF ELEMENTS

Count the number of elements present in 5 different squares, taking care not to count twice the same position. (example n.1)

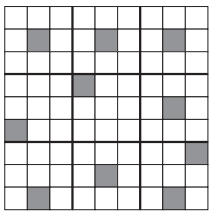
LOW PRESENCE OF ELEMENTS

Count the number of elements present in 10 different squares, taking care not to count twice the same position. (example no.2)

1



2



Apply the following formula to obtain the quantity of cells per ul or ml of urine also when using Vacutest Kima urine collection vacuum tubes with capacity 9 ml (REF 14930) or 9,5 ml (REF 14850).

$$\frac{n}{k * N * CF} = T_{\mu l}$$ to obtain number of cell per **µl** of urine

$$\frac{n * 1000}{k * N * CF} = T_{ml}$$ to obtain number of cell per **ml** of urine

Where:

n = total number of cells counted
k = 0,01111
N = number of small squares observed
CF = concentration factor
$T_{\mu l}$ = total of cells present in 1µl of urine
T_{ml} =total of cells present in 1ml of urine

In the **Vetriplast** slide the volume of the samples limited by the grid is pre-determined and constant in all the cells (every slide is subject to strict quality controls during the production).

The area delimited by the grid is 3 x 3 mm divided in 9 squares with a side of 1 mm each.

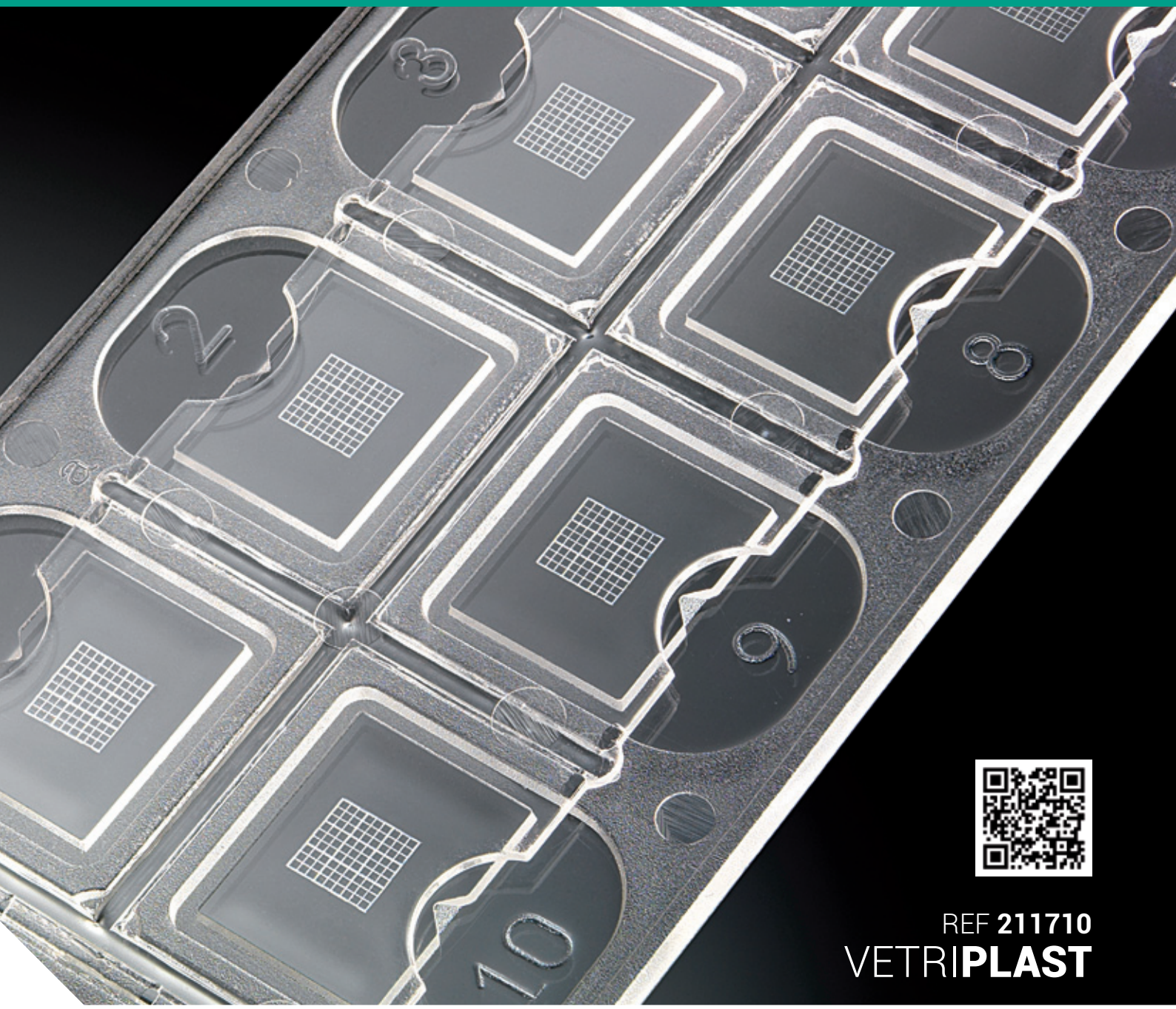
Every square of 1 mm side is further divided in 9 small squares with a side of 0,333mm. Every grid is divided in 81 small squares with a side of 0,333mm.

Capacities

0,9 ul - the whole counting grid

0,1 ul - each of the 9 squares of 1x1 mm side

0,0111 ul - each of the 9 small squares of 0,333 x 0,333 mm side



REF **211710**

VETRI**PLAST**

PENTA**SQUARE**

In the **Pentasquare** slide with counting grid, the microscopic counting of the cells present in the urine sediment, is based on the same principle of the glass counting chambers actually present on the market (Bürker, Thoma-Zeiss, Neubauer).

The above mentioned counting chambers determine, through appropriate calculations, the number of the elements per ml, present in a sample of urine.

The surface on which the sample is spread in the chamber is divided in spaces defined by a grid.

Inside the squares, the volume of the samples is predetermined and consequently, through a calculation procedure, there is a direct connection between the number of cells counted per square and the whole amount in the urine sample under examination.

Pentasquare slide is different from the traditional glass counting chamber for its easiness in the use.

It helps the operator in the daily routine and decreases drastically some possible causes of error with the use of such chambers.

INSTRUCTIONS FOR USE

- After having sufficiently stirred the sample of urine, pour 10 ml into a conical test tube (REF 18304);
- centrifuge for 5 minutes at 400g or 1500 rpm.
- Pour off 9 ml of the top fluid;
- Suspend the sediment again, sufficiently stirring the test tube;
- Remove the suspension with a Pasteur pipette and fill the selected cell on the slide.
- Locate the grid at 100x magnification and read afterwards at 400x magnification. The field of reading will include the smallest square of the grid (0,333 x 0,333 mm side).

Example of reading and counting the figured elements in the grid

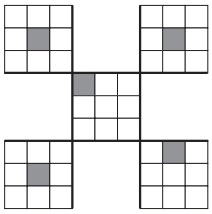
HIGH PRESENCE OF ELEMENTS

Count the number of elements present in 5 different squares, taking care not to count twice the same position. (example n.1)

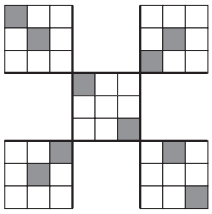
LOW PRESENCE OF ELEMENTS

Count the number of elements present in 10 different squares, taking care not to count twice the same position. (example no. 2)

1



2



Apply the following formula to obtain the quantity of cells per ul or ml of urine also when using Vacutest Kima urine collection vacuum tubes with capacity 9 ml (REF 14930) or 9,5 ml (REF 14850).

$$\frac{n}{k * N * CF} = T_{\mu l}$$ to obtain number of cell per **µl** of urine

$$\frac{n * 1000}{k * N * CF} = T_{ml}$$ to obtain number of cell per **ml** of urine

Where:

n = total number of cells counted
k = 0,01111
N = number of small squares observed
CF = concentration factor
$T_{\mu l}$ = total of cells present in 1µl of urine
T_{ml} = total of cells present in 1ml of urine

In the **Pentasquare** slide the volume of the samples limited by the grid is pre-determined and constant in all the cells (every slide is subject to strict quality controls during the production).

The area delimited by the grid is 3 mm by 3 mm divided in 5 squares with a side of 1 mm.

Every square of 1mm side is also divided in 9 small squares with a side of 0,333 mm.

Every grid is divided in 45 small squares with a side of 0,333 mm.

Capacities

0,5 ul - the whole counting grid

0,1 ul - each of the 5 squares of 1x1mm side

0,0111 ul - each of the 9 small squares of 0,333 x 0,333 mm side

REF **212015**

PENTA**SQUARE**

VACUTESTKIMA

VACUTEST KIMA srl - Via dell'Industria 12 - 35020 Arzergrande (PD) - ITALY
Tel. +39 049 9719511 / 9720624 - Fax +39 049 9719543 / 9720182 - info@vacutestkima.it

www.vacutestkima.it