

## Protocol algenbepaling met behulp van Bürker-türk

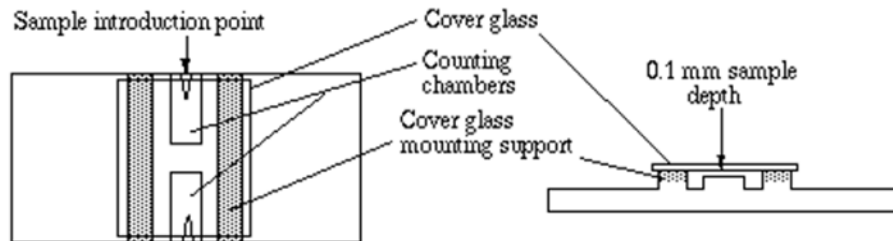
### Determination of cell concentrations using haematocytometer according to Bürker

Bürker Haematocytometer (a modified protocol of Worksheet 2.2. in Lavens and Sorgeloos, 1996; <http://www.fao.org/DOCREP/003/W3732E/w3732e0b.htm>)

Cells are counted under the microscope using a Bürker haematocytometer with two rafters on the upper surface allowing for two subsamples to be examined (each measuring 1.0\*1.0 mm). It has the following characteristics:

#### Bürker

Depth (mm)	0.100
Surface of smallest square (in mm <sup>2</sup> )	0.0400
Minimal cell concentration (in cells ml <sup>-1</sup> )	10 <sup>6</sup>



#### Protocol:

- 1) Dilute sample if needed (use formalin 4% to fixate moving algal cells)
- 2) Clean slide and cover-class with Kleenex-paper, press cover glass onto the slide until the Newton diffraction rings appear
- 3) Fill both slides of the counting chamber under the cover-glass with a single smooth flow of suspension using a Pasteur pipet (avoid air bubbles), total volume of each chamber 0.1 mm<sup>3</sup>
- 4) The central grid of each chamber is sub-divided into 144 squares; estimate cell density as follows:
- 5) Count the number of cells in 25 squares (the two diagonals plus one square); on each square, the cells on the center and two borders (upper and left or lower and right border)
- 6) The same procedure is followed with the second chamber
- 7) The average cell number is calculated to have the mean number of algae cells per 1/10 of a microliter; this number is multiplied by 10,000 to know the cells per milliliter present in the algae culture
- 8) For greater accuracy make three duplicate counts (3 separate dilutions each counted in two rafters)

#### Voorbeeld berekening

Voor het berekenen van het aantal algen per milliliter wordt gebruik gemaakt van de volgende formule:  
= (aantal algen \* 1000) / (aantal hokjes \* 0,004). Stel nu dat er in 25 hokjes van de Bürker-türk bij elkaar opgeteld 270 algen aanwezig zijn. Het aantal algen per milliliter is dan: = (270 \* 1000) / (25 \* 0,004) = 2.700.000 algen per milliliter.

Bron: Pauline Kamermans, Mascha Dedert, Henrice Jansen, Tim Schellekens & Aad Smaal (2012) Zeeuwse Tong Werkpakket 2. Schelpdieren: groei en gedrag van schelpdieren in vijverteelt; resultaten 2012.