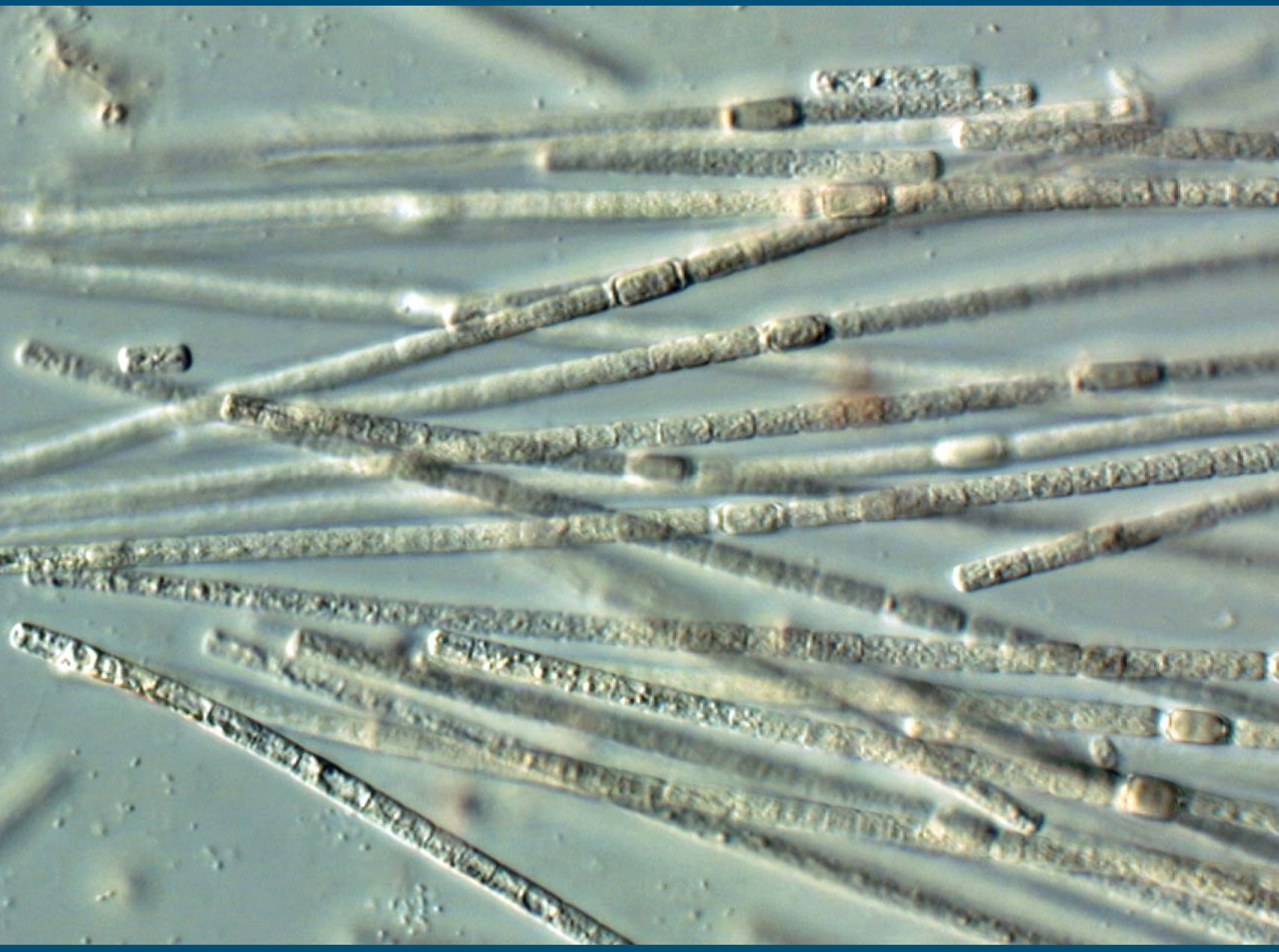
Baltic Sea Environment Proceedings No.106

Biovolumes and Size-Classes of Phytoplankton in the Baltic Sea



Helsinki Commission
Baltic Marine Environment Protection Commission

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Preface

This report on biovolumes and size-classes of phytoplankton in the Baltic Sea has been produced by the HELCOM Phytoplankton Expert Group (PEG). Most laboratories involved in the HELCOM Baltic Monitoring Programme (COMBINE) have contributed to the work, using regional phytoplankton data. Distinct size-classes and biovolumes were agreed upon and established for most Baltic species which are possible to identify using a light microscope and the Utermöhl counting technique.

The need for a comprehensive compilation was recognised already at the beginning of the phytoplankton studies in the framework of the Baltic Monitoring Programme. Since quality assurance of data is an important component of the HELCOM monitoring programme, measures were taken to evaluate and improve the recommended methods through intercalibrations between the different partners. In 1991 HELCOM PEG was established, with the main aim to unify methods of collection, counting and identification of phytoplankton species. Since accurate biomass estimates are important in phytoplankton monitoring, PEG also made considerable efforts to standardise size-classes and biovolumes of phytoplankton species found in the Baltic Sea.

It is recommended that the present list with biovolumes and fixed size-classes be used for the calculation of phytoplankton biomass in routine monitoring of Baltic Sea phytoplankton. This list is meant to be an integral component of HELCOM's phytoplankton counting programme, PhytoWin. The list will be updated as new information is obtained.

The use of a standardised species list with fixed size-classes and biovolumes will be a decisive measure for improving the quality of the phytoplankton counting method and the comparability of results.

Dinophysis norvegica

1 Introduction

Phytoplankton constitutes an elementary component in aquatic ecosystems. Representing the base of the pyramid of productivity, the understanding and modelling of the aquatic ecosystem is not possible without knowledge of the species composition, productivity and biomass of phytoplankton.

The history of quantitative plankton research goes back to Hensen's (1887) pioneering study of plankton standing stock and productivity conducted in the Kiel Bight from 1883 to 1886. Up to the 1920s, microscopic counting of net samples was the conventional method. Already Lohmann (1908) discussed the unsuitability of net sampling for quantitative analysis and carried out filtration and centrifugation to enrich the water sample for microscopic analysis. The rough treatment of the delicate cells with filtration or centrifugation was replaced by a gentle sedimentation technique, using special sedimentation chambers and inverted microscopes. This method, now called the Utermöhl method (Utermöhl 1958), completed by Lund *et al.* (1958) with statistical basics of the precision of the counting method, has become the standard method for quantitative phytoplankton studies in both marine and freshwater environments.

Early monitoring programmes, starting 1902, were co-ordinated by the International Council for the Exploration of the Sea (ICES), with 4 cruises per year, covering most of the Baltic Proper. A short-coming of these early activities was the poor comparability of the data due to the variety of methods applied, concerning sampling, fixatives, counting and mode of calculation. One of the used methods was semi-quantitative, using a dominance scale of 5 classes (cf. ICES 1989). This method was more subjective than the quantitative method, and data from different locations and different seasons could not be compared (Apstein 1904). World War I put a total stop to this research. In the following decades, the main interests shifted to physico-chemical analyses and finally to environmental properties and processes, promoted by improvements in analytical methods, including primary production and chlorophyll measurements.

In the 1960s, eutrophication became obvious in the Baltic Sea. The riparian countries recognised the increasing environmental problems and agreed to establish the Baltic Marine Environment Protection Commission (Helsinki Commission, HELCOM) in 1974. One of the aims was to investigate long-term trends in trophic conditions. Monitoring has been conducted since 1979 through the Baltic Monitoring Programme (BMP), according to a co-ordinated sampling schedule and with binding methods (Edler 1979a, HELCOM 1988). For quantitative phytoplankton analyses, the Utermöhl method was adopted, as suggested by the Baltic Marine Biologists (BMB) following the recommendation by Edler (1979a).

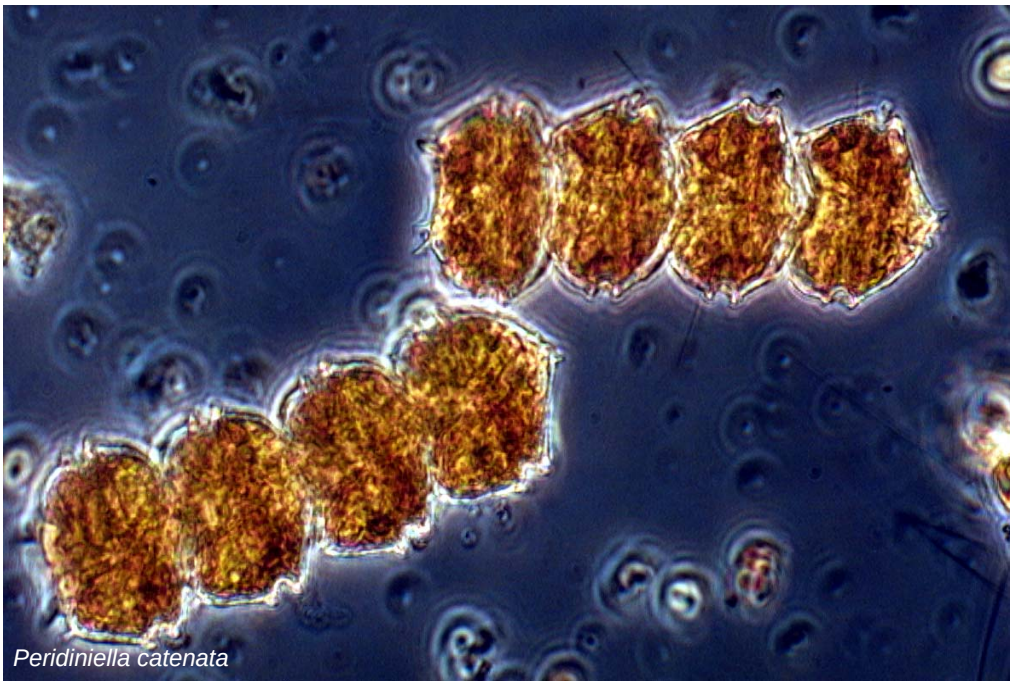
From the beginning of the monitoring programme, HELCOM took measures to evaluate and improve the recommended methods through intercalibrations between the different partners (Edler 1979b, Edler 1983, Niemi *et al.* 1985, HELCOM 1991). The first two intercalibration exercises in Stralsund 1979 and Rönne 1983 revealed the need for regular workshops and training courses for all persons involved in HELCOM phytoplankton counting. The third intercalibration workshop and first training course in Visby, 1990, resulted in the establishment of the HELCOM Phytoplankton Expert Group (PEG), with the aim to reduce the subjective component especially in species identification. The main goal was the improvement of individual knowledge in phytoplankton taxonomy and to agree on the use of the same name for the same taxa. A checklist of phytoplankton species found in the Baltic Sea was established already in 1984 for this purpose, (Edler *et al.* 1984). This checklist was recently revised by Hällfors (2004) and forms the basis of the species list published in this paper.

A further important step for improvement of the phytoplankton analysis has been the development of standard counting and calculation procedures. This has been enabled by computer software. Already in 1993, the Finnish Institute of Marine Research (FIMR) initiated the creation of the programme PHYTO together with the software company Kahma Ky (Helsinki). In 1994 HELCOM bought licenses of this programme for all countries participating in the monitoring of the Baltic Sea. In 2003 the programme was adapted to a user-friendly WINDOWS environment, which ensures that it will be used by all phytoplanktologists working in the combined coastal and open sea monitoring

programme of HELCOM (COMBINE).

The inadequacy of using data on cell concentrations for the estimation of the phytoplankton community has long been recognised. For observations of whole phytoplankton communities, containing a wide range of size-classes, biovolume will give a more accurate picture (Paasche 1960). However, the first data to be obtained from counting is abundance. The phytoplankton biovolume concentration has to be derived from the cell abundance and cell biovolumes. Cell volumes can be calculated from cell-size and shape by use of appropriate geometric formulas. As it is impossible to measure and calculate every individual in routine counting, the same shape and a mean size was originally assumed for each species. This simplification, however, introduces a hardly quantifiable error into the biovolume calculation. As many species show a wide range in size, the calculation was improved by counting in appropriate size-classes. Important goals of the PEG work since 1997 have been the re-evaluation of species-specific geometric formulas and development of size-classes. The use of a standardised species list with fixed size-classes and biovolumes, will be a decisive measure to improve the quality of the phytoplankton counting method. This list is an integral component of the PhytoWin counting and calculation programme.

Achnanthes taeniata



Peridiniella catenata

2 Material and Methods

2.1 General procedure

Phytoplankton samples were collected and treated according to the standard HELCOM (1988) methods in all regions of the Baltic Sea, including the Kattegat and the major gulfs (Bothnia, Finland, Riga and Gdansk). Data received during routine monitoring between 1980 and 2003, by different national laboratories around the Baltic Sea, were mainly used. The participating laboratories presented the most common sizes of all species occurring in their regional areas, based on their earlier measurements using high magnification (400–600 times). When needed, additional measurements were performed with the ambition to measure dimensions of at least 25 cells at each laboratory. The total number of measurements varied between species, but all together more than 100 cells were measured for all dominating taxa. Data from the different laboratories were compared, and clustered cell-sizes were grouped into size-classes. In general, the arithmetic mean of each size-class was used as a standardised biovolume. In some cases there were gaps in size-classes, due to lack of measurements (e.g. *Amphiprora paludosa v. paludosa*, *Gyrosigma macrum*, *Surirella crumena*).

Valid names of the phytoplankton taxa were based on the recent Checklist of Baltic Sea Phytoplankton Species (Hällfors 2004) with few exceptions. The biovolume list includes only taxa, which were measured and could be identified by light microscope. Identification to species level is not always possible in Lugol preserved material and therefore volumes for higher taxonomic ranks are also included in the list. Some newly described taxa, e.g. *Aphanothece parallelliformis* Cronberg (Cronberg 2003), and taxa found and measured after the publication of the Baltic Sea Checklist (Hällfors 2004) were also added to the list. These taxa are marked with an asterisk in the comment column.

2.2 Geometric shapes and equations

For each taxon the best fitting geometric shape and matching equation was used. The survey of phytoplankton species present in the Baltic Sea resulted in 16 basic geometric shapes to be used for the determination of the biovolume of cells. All basic shapes and equations are shown in Table 1. Many of the shapes were used already in the earlier recommendation (Edler 1979a), whereas others are new, and some have been given new names. It should be clear however, that it is not possible to classify each shape of all phytoplankton species into the few basic geometric shapes being used. The aim has been to find shapes, which require as few measurements as possible, but which at the same time reflect the shape of the organism as far as possible.

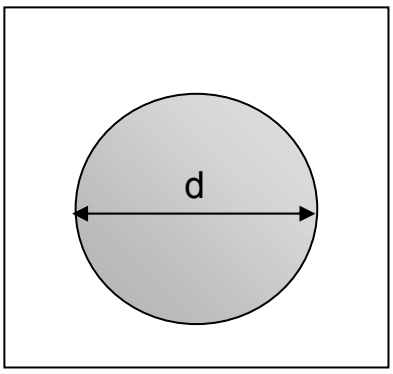
Table 1. **Basic geometric shapes and formulas for the calculation of phytoplankton biovolume. Dimensions to be measured are: d: diameter, h: height, l: length, w: width.**

Sphere

Volume: $V = \pi/6 * d^3$

V: volume

d: diameter

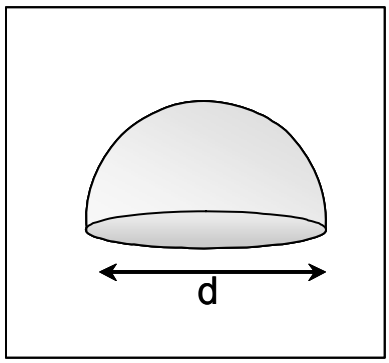


Half Sphere

Volume: $V = \pi/12 * d^3$

V: volume

d: diameter



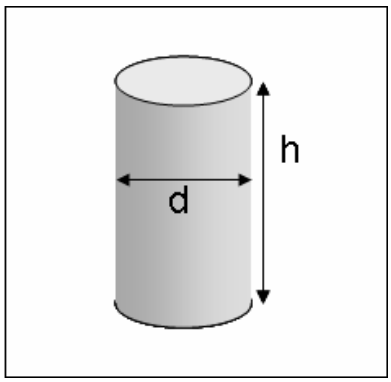
Cylinder

Volume: $V = \pi/4 * d^2 * h$

V: volume

d: diameter

h: height



Oval Cylinder
(ellipsoid or prism on elliptic base)

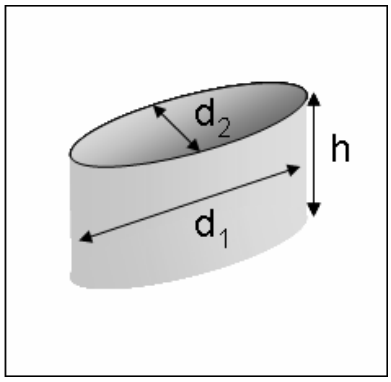
Volume: $V = \pi/4 * d_1 * d_2 * h$

V: volume

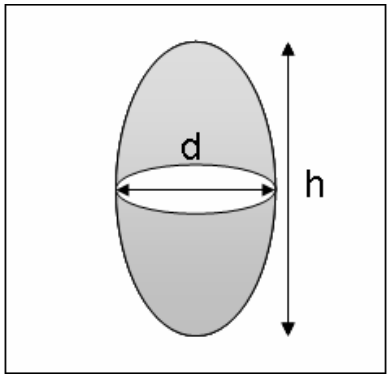
d_1: large diameter

d_2: small diameter

h: height



Rotational Ellipsoid



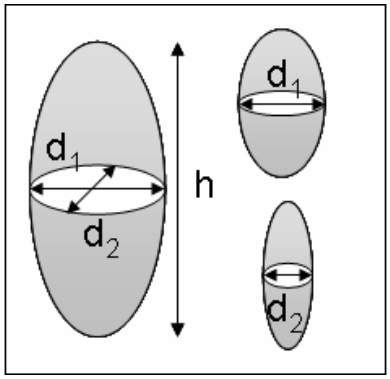
Volume: $V = \pi/6 * d^2 * h$

V: volume

d: diameter

h: height

Flattened Ellipsoid



Volume: $V = \pi/6 * d_1 * d_2 * h$

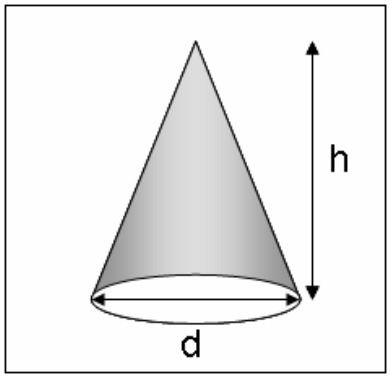
V: volume

d_1: large diameter

d_2: small diameter

h: height

Cone



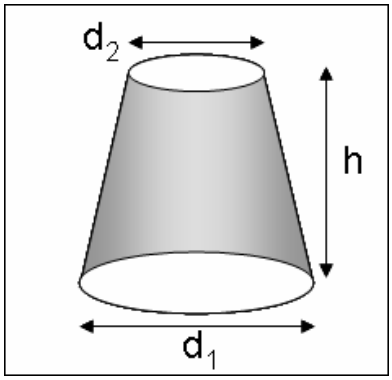
Volume: $V = \pi/12 * d^2 * h$

V: volume

d: diameter

h: height

Truncated Cone



Volume: $V = \pi/12*h*(d_1^2+ d_1d_2+d_2^2)$

V: volume

d_1: large diameter

d_2: small diameter

h: height

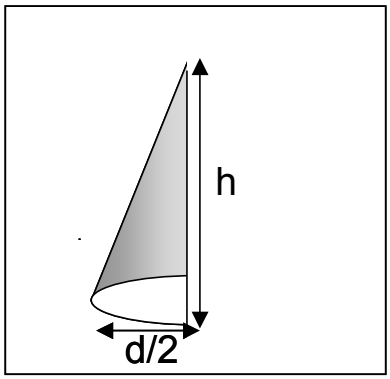
Half Cone

Volume: $V = \pi/24 * d^2 * h$

V: volume

d: diameter

h: height



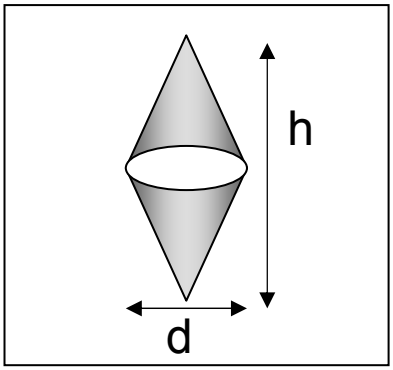
Double Cone

Volume: $V = \pi/12 * d^2 * h$

V: volume

d: diameter

h: height



Parallelepiped

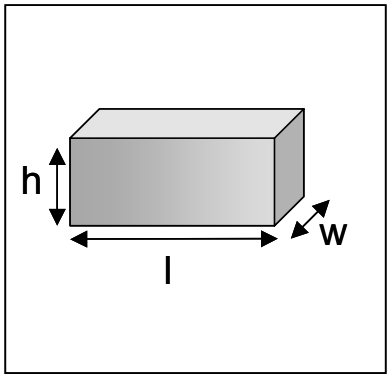
Volume: $V = l * w * h$

V: volume

l: length

h: height

w: width



Half Parallelepiped
(prism on triangular base)

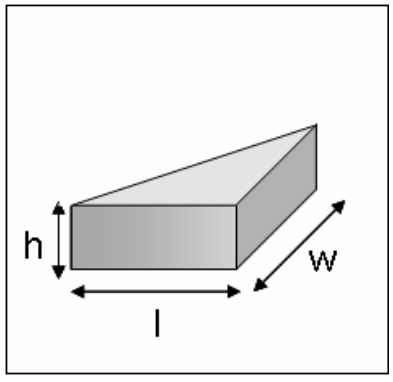
Volume: $V = l * w * h / 2$

V: volume

l: length

h: height

w: width



Trapezoid

Volume: $V = 1/2*h*w*(l_1+l_2)$

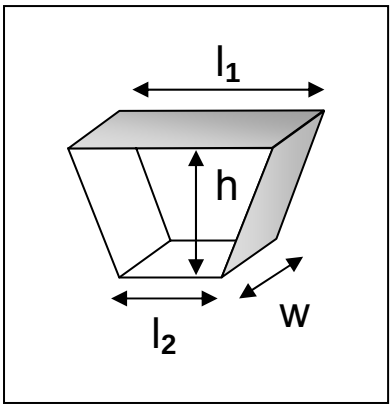
V: volume

l_1: length

l_2: length

h: height

w: width



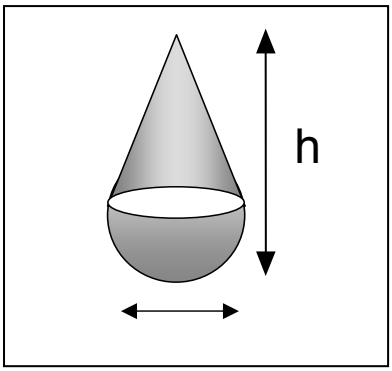
Cone with half Sphere

Volume: $V = \pi /12 * d^2 * h$

V: volume

d: diameter

h: height



Half Cone + cut flattened Ellipsoid

Volume: $V = (\pi/24 * d_1^2 * h_1) + (\pi/6 * d_1 * d_2 * h_2)$

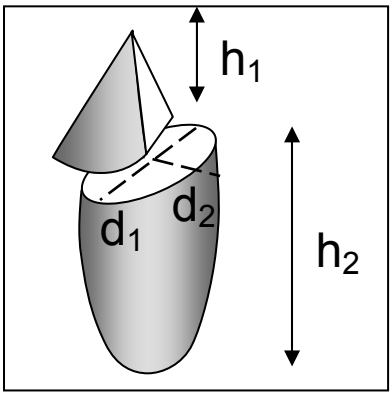
V: volume

d_1: large diameter

d_2: small diameter

h_1: 0.3 * total height of cell

h_2: 0.7 * total height of cell



Monoraphidioid

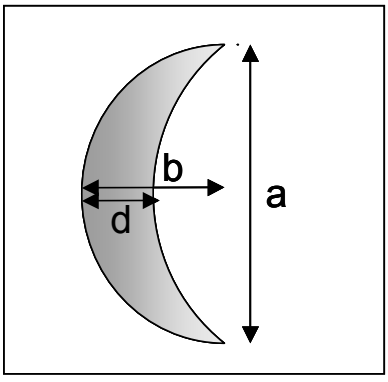
Volume: $V =d^2/8*(2b - d+a)*(\pi^2/6 + 1)$

V: volume

a: large diameter of ellipse

b: small diameter of ellipse

d: diameter of cell



3 Results

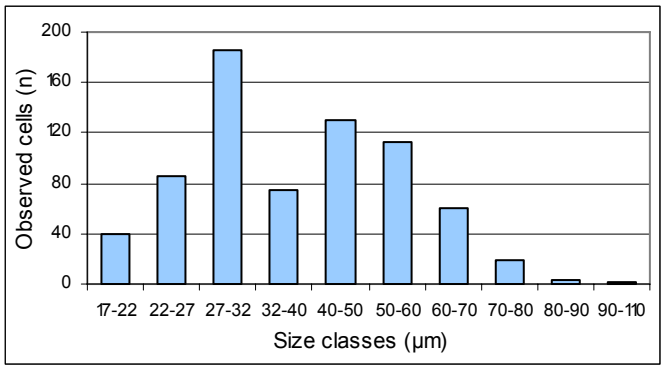


Figure 1. Distribution of cell diameter (apical axis) of *Thalassiosira baltica.*

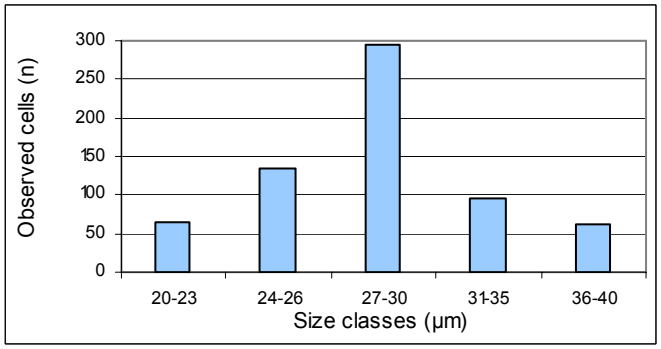


Figure 2. Distribution of cell diameter (cingulum) of *Peridiniella catenata.*

3.1 Definition of size classes

The applied number of size-classes depended on the size variation of each taxon. Taxa showing large size variations were given more size-classes than those with a low variation. As examples, size-classes are presented for three commonly occurring phytoplankton species/genera: *Thalassiosira baltica*, *Peridiniella catenata*, and *Aphanizomenon* sp. Morphometric parameters of *T. baltica* and *P. catenata* showed large size variations, while *Aphanizomenon* sp. showed a small variation.

T. baltica occurs all year round in the Baltic Sea, with a maximum occurrence during the spring bloom, when it may dominate the phytoplankton (Hällfors and Niemi 1981, Andersson *et al.* 1996, HELCOM 1996). The diameter of the valve (apical axis) was measured on 712 cells and 10 size-classes were selected to comprise aggregated size-groups. The diameter ranged from 20 to 100 µm (Figure 1). Two peaks were found, at 30 µm and 45 µm. The average diameter was 41.5 µm, the standard deviation 15.5 and the coefficient of variation was 37%.

P. catenata is one of the most common dinoflagellates during the spring bloom in the Baltic Sea (e.g. Hällfors and Niemi 1981, Andersson *et al.* 1996, HELCOM 1996) and is related to cold water (Edler *et al.* 1984). The size of 580 cells was measured, and the cell sizes were found to be normally distributed. The average cell size was 30 µm, and the coefficient of variation 18%. Five size classes were selected, which comprised clustered cell-sizes (Figure 2).

Aphanizomenon sp. is one of the most common filamentous blue-green algae in the open Baltic Sea (e.g. HELCOM 1996, Larsson *et al.* 2001). It is often referred to *A. flos-aquae*, but recent studies suggest that the Baltic *Aphanizomenon* may be a species of its own (Janson *et al.* 1994). *Aphanizomenon* sp. has its maximum during summer and autumn (e.g. Hällfors and Niemi 1981, Andersson *et al.* 1996, Wasmund 1997, Larsson *et al.* 2001). The diameter of 310 cells collected at open sea stations, ranged from 3-5.2 µm. The average diameter was 4.1 µm and the coefficient of variation ~10%. The results are in agreement with Congestri *et al.* (2003), who reported an average diameter of 4.2 µm for *Aphanizomenon* sp. (range 3-5.6 µm, coefficient of variation ~14%, n=1139). Because of this small variation the biovolume of *Aphanizomenon* sp. was based only on the average diameter.

3.2 Measurement of "hidden" dimensions

Some of the algal dimensions are seldom visible in the microscope during routine analysis. Examples of such hidden dimensions (HD) are the pervalvar axis of many diatoms and the "thickness" of e.g. *Dinophysis* and *Protoperidinium*. As the hidden dimension is needed in the calculation of the cell volume of many phytoplankton species, the HD was measured on fixed and living material. Identified HD-factors are presented in the Comments column of the species list (Annex 1).

Some examples of the relation between HD and visible dimensions are shown in Figures 3 and 4. *Thalassiosira baltica* represents centric diatoms with a cylinder shape, while *Dinophysis acuminata* is an example of a species with a flattened ellipsoid shape.

The volume of *T. baltica* is calculated as a cylinder. The HD is the pervalvar axis (PA) of the cell, and has previously been reported to be about one-third to one-half of the cell diameter (Hasle and Syvertsen 1997). The apical and pervalvar axis (HD) on 163 cells were measured and a weak correlation was found (Figure 3).

T. baltica varies considerably in diameter (20-100 µm). Factors for three size groups (small, medium and large) were calculated according to the common distribution of cell size (Table 2).

The volume of *Dinophysis* species is calculated from the equation of a flattened ellipsoid, which needs a measure of the thickness (width in ventral view) of the organism. Factors for the HD were derived from the ratio between cell thickness (HD) and the cell length (Figure 4, Table 3).

While there is a correlation between length and width (in lateral view), the HD of the cell (width in ventral view) varies. The average HD/Length factor 0.5 was used in the volume calculation because the relatively few measurements did not allow separation of smaller and larger cells.

According to the measurements taken, the Baltic Sea *D. acuminata* is more variable in size, especially in cell width (25-48 µm), than is known from the literature (30-38 µm in Larsen and Moestrup 1989). The range of the length/width ratio is also wider, 1.14 – 1.74, compared to the data in Dodge (1982).

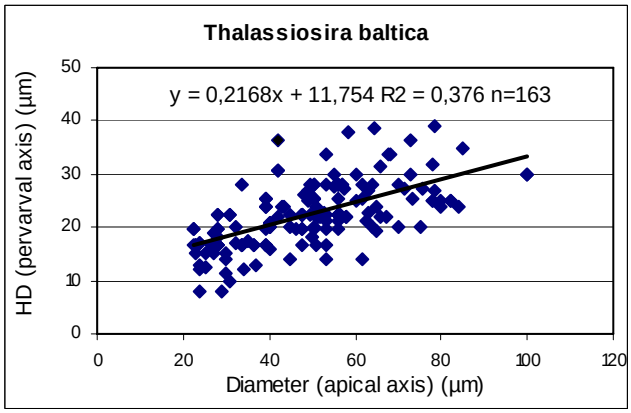


Figure 3. Relation between the hidden dimension (HD, pervalvar axis) and the diameter (apical axis) in *Thalassiosira baltica.*

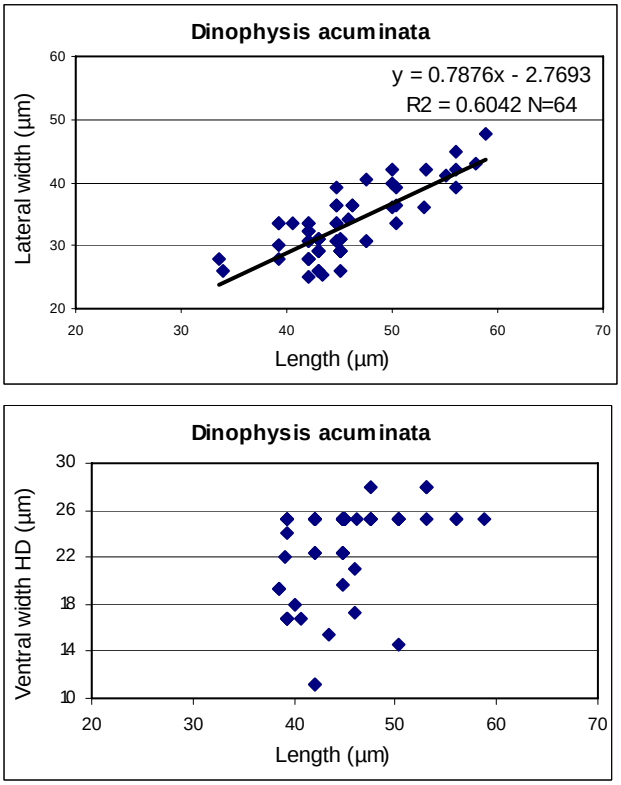


Figure 4. Relation between cell length and "lateral width" (top) and between cell length and the hidden dimension (HD, "ventral width", bottom).

Table 2. **Cell-sizes (µm) and factors calculated from direct measurements of *Thalassiosira baltica*. Bold-marked numbers used for calculation of biovolumes. AA: apical axis, PA: pervalvar axis.**

	<32 µm			32-70µm			>70µm		
	Diameter (AA)	HD (Hidden dimension) (PA)	HD/AA	Diameter (AA)	HD (Hidden dimension) (PA)	HD/AA	Diameter (AA)	HD (Hidden dimension) (PA)	HD/AA
MEDIAN	27	17	0.6	50	22	0.5	78	27	0.3
AVG	27	16	**0.6**	50	23	**0.5**	79	28	**0.35**
STDEV	3	4	0.1	9	5	0.1	8	5	0.1
CV %	10	23	22	18	23	26	10	18	19
MIN	22	8	0.3	32	12	0.2	70	20	0.3
MAX	31	22	0.9	68	39	0.9	100	39	0.5
n	33	33	33	109	109	109	21	21	21

Table 3. ***Dinophysis acuminata*** **cell sizes (µm) and factors calculated from direct measurements. Bold-marked number used for calculation of biovolumes.**

	Length (L)	Lateral width (W)	W/L	Length (L)	Ventral width (HD)	HD/L
MEDIAN	45	31	0.7	45	25	0.5
AVG	45	33	0.7	45	23	**0.5**
CV %	11	16	10.2	11	17	17
MIN	34	25	0.6	39	11	0.3
MAX	59	48	0.9	59	28	0.6
n	64	64	64	60	60	60

3.3 Measurements of complex cell shapes

In some cases, the bizarre shapes of cells require complicated equations for the biovolume calculations. For example, according to earlier recommendations and guidelines (Edler 1979a, HELCOM 1988), a model of a *Ceratium* cell is composed of 4 to 5 geometric shapes, requiring up to 12 length and diameter measurements per cell. Even with this time-consuming procedure, the biovolume cannot be adequately calculated. Especially the flattening of the cell and the excavation of the ventral side cannot be measured in fixed samples, and several assumptions have to be made.

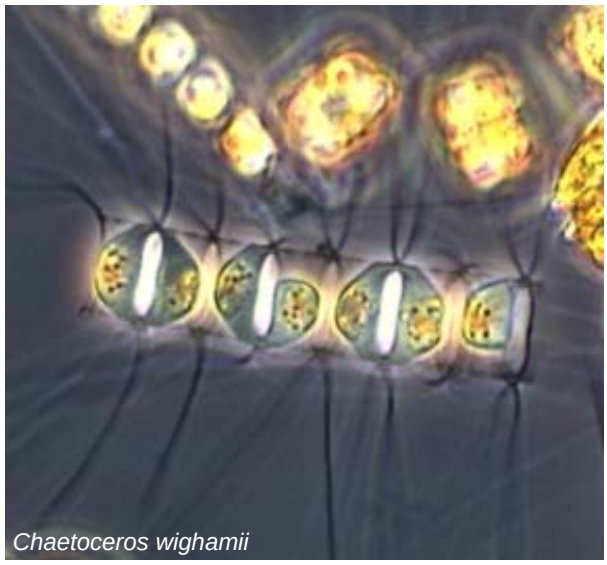
The most relevant dimension for the cell volume is the width at the cingulum, whereas the lengths of the horns contribute much less. The size-classes defined here are based on the extensive measurements by Thomsen (1992) on the temporal variability. If the mean width of the cell for each size-class is defined, the cell volume is found from the correlations determined by Thomsen (1992).

3.4 Biovolumes and size-classes of the Baltic Sea phytoplankton species

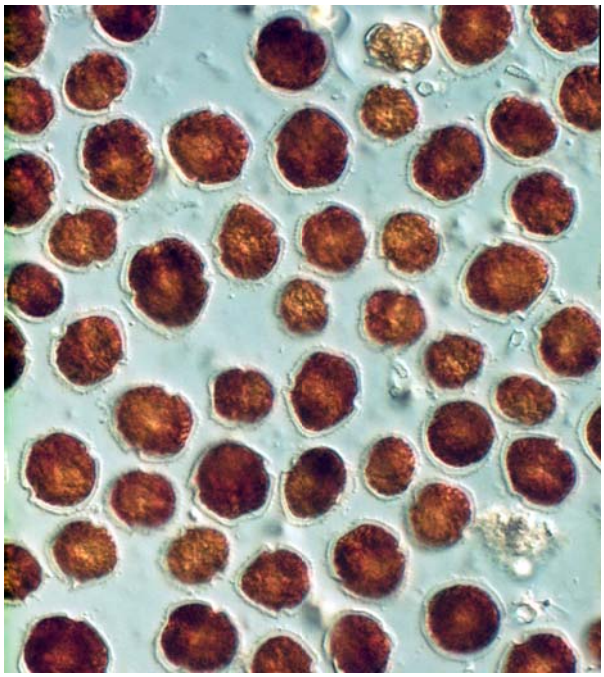
A total of 694 taxa were analysed (Annex 1). Most of these taxa are included in the recent Checklist of Baltic Sea Phytoplankton Species (Hällfors 2004). The study generated information on taxonomic order, species/genera name (Latin name), author(s), size-classes (size-range), geometric shape of the cell, geometric equation, and measurements needed for biovolume calculation; all of which are included in the table. For convenience, the biovolumes were calculated for counting units (called cell number in the table): most often this means single cells and sometimes 100 µm threads, coenobiums and colonies of 4, 8, 16, 20, 50, 100, or 200 cells (HELCOM 1988).

As a result of the large salinity range in the Baltic Sea, the species list covers a wide range of marine and freshwater species. This may make the list too long for practical use in a laboratory conducting phytoplankton monitoring in a restricted area. By extracting suitable data from the net version of the biovolume table into a new spreadsheet the list can easily be adapted to cover the species, equations and biovolumes occurring in a specific region of the Baltic Sea.

Thalassiosira baltica



Chaetoceros wighamii



Woloszynskia halophila

4 Discussion

During the last years, quality assurance criteria have been intensively discussed and developed in both national and international working groups. Phytoplankton monitoring data still show incoherence concerning three main aspects: the use of different names, or invalid synonyms for a specific species, the use of varying geometric forms of species and different biovolume calculations by different laboratories, and finally the severe risk that incomparability will arise when varying phytoplankton size-classes for specific species are used by the different laboratories. On the other hand, the scattering of biovolumes of a given species will most certainly vary from one locality to another and from one season to another.

In order to reduce the high variance in the results of phytoplankton analyses, standardisation of as many steps as possible of the procedures is necessary. The introduction and agreement of different size-classes, biovolume calculations and names as proposed here is the first step to overcome these problems.

Phytoplankton analyses performed in a strict and standardised way have shown to generate coefficient of variations (CV) for biomass concentrations of 27% for autotrophic microplankton and 18% for autotrophic nanoplankton (Andersson and Rudehäll 1993). These CVs may be used as measures for acceptable variability of phytoplankton analysis. A certain small-scale patchiness must be expected. Furthermore, the size and hence biovolume of a given taxon varies due to several factors. The variability and instability in size is dependent on environmental influence, e.g. light and nutrient availability, but also on the mode of the life cycle of different phytoplankton groups.

The use of 16 basic geometric shapes, as used in this study, may be too little to reflect all phytoplankton shapes accurately. The aim, however, was to find a compromise between the accurate shape and as few actual measurements of the phytoplankton cell as possible. This undoubtedly introduces errors, but to an extent that was considered justified by the easier microscopical measurements. The use of cylindrical shape in e.g. *Rhizosolenia* spp. instead of cylinder plus two cones, which is more accurate, but adds two more measurements, may as an extreme result in a 15-20 % overestimate of the individual cell volume. Similarly, some *Chaetoceros* cells will be underestimated by about 10 %, when the volume of setae is not included. The use of agreed geometric shapes and equations will certainly improve the comparability between laboratories, as slightly different shapes and subsequent calculations of the biovolume of a given species have shown to give biovolume differences of factors 1.5 (e.g. *Dinophysis* spp.) to 6 (e.g. *Ditylum brightwellii*).

For many species in the present phytoplankton list, the cell volume is based on measured hidden dimensions. This is an improvement compared to earlier studies, where the hidden dimensions were based on assumptions (Edler 1979a, HELCOM 1988, Hillebrandt 1999, and lists created by the phytoplankton analysers themselves). The list only includes species and genera, which can be identified with the Utermöhl technique. As this list is based on the Checklist of Baltic Sea Phytoplankton Species (Hällfors 2004) it helps to provide comparable and homogeneous data sets of phytoplankton for the HELCOM area. This is an important step forward to achieve high quality and comparable phytoplankton data between different laboratories.

It is obvious that this biovolume list is not static, but a step in a dynamic process. The continuing PEG work will e.g. include upgrading of the list and estimates of carbon biomass. We suggest that the use of the list should be mandatory for laboratories contributing to the HELCOM database. In addition, it may be useful for other phytoplankton research in the Baltic or in other sea areas. This would allow for comparability of various phytoplankton investigations.

Addendum

The available digital version of the present phytoplankton list is an integral component of the phytoplankton counting programme “PhytoWin“.

The programme PhytoWin and the manual are copyright by SoftWare Kahma Ky:

Software Kahma Ky
Koskelantie 35 E 47
FIN 00610 Helsinki, Finland
E-mail: software.kahma@kolumbus.fi
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Nodularia spumigena

Ackowledgements


Anabaena lemmermannii


Dinophysis acuminata


Dinophysis norvegica

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References

Apstein, C., 1904. Die Schätzungsmethode in der Planktonforschung. *Wiss. Meeresunters., Abt. Kiel.* **8:** 105-123.

Andersson, A. Rudehäll, Å., 1993. Proportion of plankton biomass in particulate organic carbon in the northern Baltic Sea. *Mar. Ecol. Prog. Ser.* **95:** 133-139.

Andersson, A., Hajdu, S., Haecky, P., Kuparinen, J., Wikner, J., 1996. Succession and growt limitation of phytoplankton in the Gulf of Bothnia (Baltic Sea). *Mar. Biol.* **126:** 791-801.

Congestri, R., Capucci, E. and Albertano, P., 2003. Morphometric variability of the genus *Nodularia* (Cyanophyceae) in the Baltic natural communities. *Aquat. Microb. Ecol.* **32:** 251-259.

Cronberg, G., 2003. New and interesting cyanoprokaryotes from temperate, brackish ponds and the Baltic Sea. *Algological Studies* **109:** 197-211.

Dodge, J. D., 1982. Marine Dinoflagellates of the British Isles. Her Majesty´s Stationery Office, London, 303 pp.

Edler, L., (ed.). 1979a. Recommendations for marine biological studies in the Baltic Sea. Phytoplankton and chlorophyll. *The Baltic Marine Biologists Publ.* No **5**, 1-38pp.

Edler, L., 1979b. Phytoplankton counts. Results and analysis of the intercalibration experiments. *Interim Baltic Marine Environment Protection Commission*, 1-20pp.

Edler, L., 1983. Report of the phytoplankton counting working group. In: Second Biological Intercalibration Workshop. Baltic Marine Environment Protection Commission - Helsinki Commission. *Baltic Sea Environ. Proc.* No **9,** pp. 29-48.

Edler, L., Hällfors, G. and Niemi, Å., 1984. A preliminary check-list of the phytoplankton of the Baltic Sea. *Acta Bot. Fennica* **128:** 1-26.

Hasle, G. and Syvertsen, E.E., 1997. Marine Diatoms.Chapter 2. In: Tomas, C. R. (ed.) Identifying Marine Phytoplankton. Academic Press, San Diego, pp. 5-385.

Hällfors, G. and Niemi, Å., 1981. Vegetation and primary production. In: Voipio, A. (ed.). The Baltic Sea. *Elsevier Occeanography Series,* **30.** Elsevier**,** Amsterdam, pp. 220-238.

Hällfors, G., 2004. Checklist of Baltic Sea Phytoplankton Species (including some heterotrophic protistan groups) - *Balt. Sea Environ. Proc.* No **95,** 208 pp.

HELCOM, 1988. Guidelines for the Baltic Monitoring Programme for the third stage. Part D. Biological determinands. *Balt. Sea Environ. Proc.* **27 D,** 161 pp.

HELCOM, 1991. Third biological intercalibration workshop, 27-31 August 1990, Visby, Sweden. *Balt. Sea Environ. Proc.* **38,** 153 pp.

HELCOM, 1996. Third periodic assessment of the state of the marine environment of the Baltic Sea, 1986-93; Background document. *Balt. Sea Environ. Proc.* **64 B,** 252 pp..

Hensen, V., 1887. Über die Bestimmung des Plankton's oder des im Meer treibenden Materials an Pflanzen und Thieren. *Bericht d. Kommission z. Wiss. Untersuch. deutscher Meere.* **5,** 108 pp.

Hillebrand, H., Dürselen, C.-D., Kirschtel, D., Pollingher, U. and T. Zohary., 1999. Biovolume calculation for pelagic and benthic microalgae. *J. Phycol.* **35:** 403-424.

ICES, 1989. Baltic Sea patchiness experiment - PEX '86-. Part I: General report (**2** volumes). In: *Cooperative Research Report*. International Council for the Exploration of the Sea, Copenhagen.

Janson, S., Carpenter, E. J. and Bergman, B., 1994. Fine structure and immunolocalisation of proteins in *Aphanizomenon* sp. from the Baltic Sea. *Europ. J. Phycol*. **29:** 203- 211.

Larsen, J. and Moestrup, Ø., 1989. Guide to Toxic and Potentially toxic Marine Algae. The Fish Inspection Service, Ministery of Fisheries, Copenhagen, 61 pp.

Larsson, U., Hajdu, S., Walve, J. and Elmgren, R., 2001. Baltic nitrogen fixation estimated from the summer increase in upper mixed layer total nitrogen. *Limnol. Oceanogr*. **46**: 811-820.

Lohmann, H., 1908. Untersuchungen zur Feststellung des vollständigen Gehaltes des Meeres an Plankton. *Wiss. Meeresuntersuchungen Kiel N.F.* **10:** 130-370.

Lund, J. W. C., Kipling, C. and LeCren, E.D., 1958. The inverted microscope method of estimating algal numbers and the statistical basis of estimations by counting. *Hydrobiologia* **11:** 143-147.

Niemi, Å., Melvasalo, T. and Heinonen, P., 1985. Phytoplankton counting techniques and primary production measurements - comments on the results of intercalibration. *Aqua Fennica* **15:** 89-103.

Paasche, E., 1960. On the Relationship between Primary Production and Standing Stock of Phytoplankton. *Extrait du Journal du Conseil International Pour l'Éxploration de la Mer* Vol XXVI. No **1:** 33-48.

Thomsen, H. A., (ed.). 1992. Plankton i de indre danske farvande. *Havforskning fra Miljøstyrelsen.* Miljøministeriet Miljøstyrelsen. 331 pp.

Utermöhl, H., 1958. Zur Vervollkommnung der quantitativen Phytoplankton-Methodik. *Ass. intern. Limnol. théor.* **9:** 1-38.

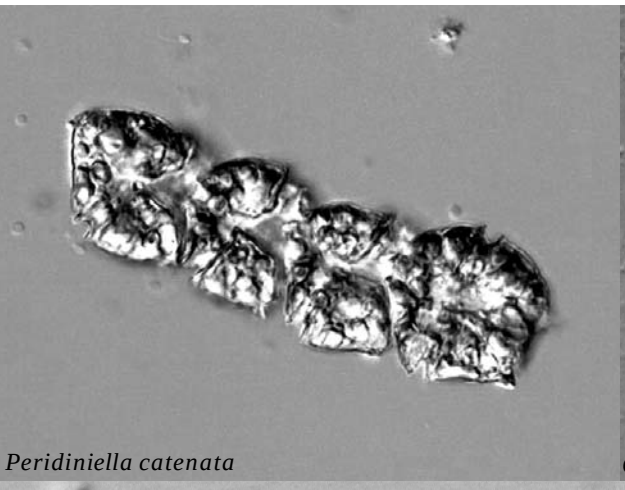
Wasmund, N., 1997. Occurrence of cyanobacterial blooms in the Baltic Sea in relation to environmental conditions. *Int. Revue ges. Hydrobiol*. **82:** 169-184.

Annex 1

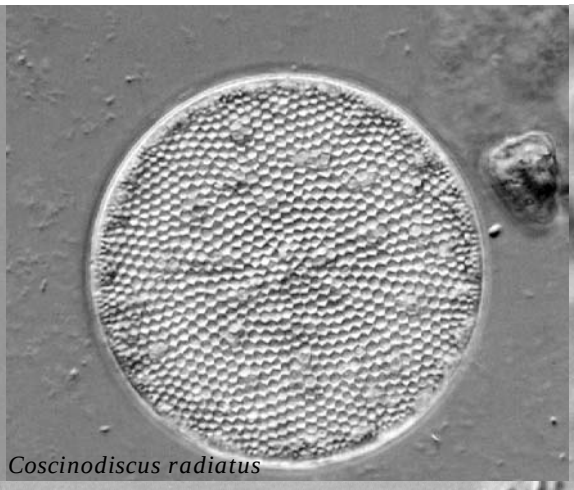
Biovolumes and size-classes of phytoplankton species in the Baltic Sea

See the attached table in PDF format or view the annex in Excel format on:

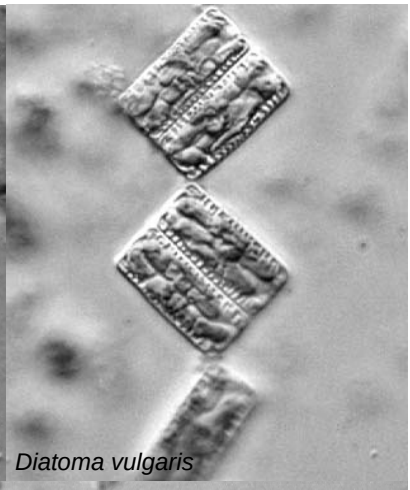
http://www.helcom.fi/groups/monas/en_GB/biovolumes/



Peridiniella catenata



Coscinodiscus radiatus



Diatoma vulgaris

Melosira arctica

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Division CYANOPHYTA (CYANOBACTERIA)														
Class Nostocophyceae (Cyanophyceae)														
Order CHROOCOCCALES														
Aphanocapsa conferta	(W. *et* G.S West) Komarkova-Legnerova *et* Cronberg 1994	A	sphere	1	cell: 1.5-2.4					1.8		1	3.1	*
Aphanocapsa conferta	(W. *et* G.S West) Komarkova-Legnerova *et* Cronberg 1994	A	sphere	2	cell: 1.5-2.4					1.8		20	61	*
Aphanocapsa conferta	(W. *et* G.S West) Komarkova-Legnerova *et* Cronberg 1994	A	sphere	3	cell: 1.5-2.4					1.8		50	153	*
Aphanocapsa conferta	(W. *et* G.S West) Komarkova-Legnerova *et* Cronberg 1994	A	sphere	4	cell: 1.5-2.4					1.8		100	305	*
Aphanocapsa conferta	(W. *et* G.S West) Komarkova-Legnerova *et* Cronberg 1994	A	sphere	5	cell: 1.5-2.4					1.8		200	610	*
Aphanocapsa delicatissima	W. & G.S. West 1912	A	sphere	1	cell: 0.5-1.2					0.9		1	0.3	
Aphanocapsa delicatissima	W. & G.S. West 1912	A	sphere	2	cell: 0.5-1.2					0.9		20	6.4	
Aphanocapsa delicatissima	W. & G.S. West 1912	A	sphere	3	cell: 0.5-1.2					0.9		50	16	
Aphanocapsa delicatissima	W. & G.S. West 1912	A	sphere	4	cell: 0.5-1.2					0.9		100	32	
Aphanocapsa delicatissima	W. & G.S. West 1912	A	sphere	5	cell: 0.5-1.2					0.9		200	64	
Aphanocapsa delicatissima	W. & G.S. West 1912	A	sphere	6	cell: 0.5-1.2					0.9		400	129	
Aphanocapsa delicatissima	W. & G.S. West 1912	A	sphere	7	cell: 0.5-1.2					0.9		600	193	
Aphanocapsa elachista	W. & G.S. West 1894	A	sphere	1	cell: 1.3-2					1.7		1	2.4	
Aphanocapsa elachista	W. & G.S. West 1894	A	sphere	2	cell: 1.3-2					1.7		20	47	
Aphanocapsa elachista	W. & G.S. West 1894	A	sphere	3	cell: 1.3-2					1.7		50	118	
Aphanocapsa elachista	W. & G.S. West 1894	A	sphere	4	cell: 1.3-2					1.7		100	235	
Aphanocapsa elachista	W. & G.S. West 1894	A	sphere	5	cell: 1.3-2					1.7		200	470	
Aphanocapsa holsatica	(Lemmermann) Cronberg & Komárek 1994	A	sphere	1	cell: 1					1		1	0.5	
Aphanocapsa holsatica	(Lemmermann) Cronberg & Komárek 1994	A	sphere	2	cell: 1					1		20	10	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Aphanocapsa holsatica	(Lemmermann) Cronberg & Komárek 1994	A	sphere	3	cell: 1					1		50	26	
Aphanocapsa holsatica	(Lemmermann) Cronberg & Komárek 1994	A	sphere	4	cell: 1					1		100	52	
Aphanocapsa holsatica	(Lemmermann) Cronberg & Komárek 1994	A	sphere	5	cell: 1					1		200	105	
Aphanocapsa incerta	(Lemmermann) Cronberg & Komárek 1994	A	sphere	1	cell: 1					1		1	0.5	
Aphanocapsa incerta	(Lemmermann) Cronberg & Komárek 1994	A	sphere	2	cell: 1					1		20	10	
Aphanocapsa incerta	(Lemmermann) Cronberg & Komárek 1994	A	sphere	3	cell: 1					1		50	26	
Aphanocapsa incerta	(Lemmermann) Cronberg & Komárek 1994	A	sphere	4	cell: 1					1		100	52	
Aphanocapsa incerta	(Lemmermann) Cronberg & Komárek 1994	A	sphere	5	cell: 1					1		200	105	
Aphanocapsa planctonica	(G.M. Smith) Komárek & Anagnostidis 1995	A	sphere	1	cell: 2-3					2.5		1	8.2	
Aphanocapsa planctonica	(G.M. Smith) Komárek & Anagnostidis 1995	A	sphere	2	cell: 2-3					2.5		20	164	
Aphanocapsa planctonica	(G.M. Smith) Komárek & Anagnostidis 1995	A	sphere	3	cell: 2-3					2.5		50	409	
Aphanocapsa planctonica	(G.M. Smith) Komárek & Anagnostidis 1995	A	sphere	4	cell: 2-3					2.5		100	818	
Aphanocapsa planctonica	(G.M. Smith) Komárek & Anagnostidis 1995	A	sphere	5	cell: 2-3					2.5		200	1 635	
Aphanocapsa reinboldii	(P. Richter) Komárek & Anagnostidis 1995	A	sphere	1	cell: 3-4					3.5		1	22	
Aphanocapsa reinboldii	(P. Richter) Komárek & Anagnostidis 1995	A	sphere	2	cell: 3-4					3.5		20	449	
Aphanocapsa reinboldii	(P. Richter) Komárek & Anagnostidis 1995	A	sphere	3	cell: 3-4					3.5		50	1 122	
Aphanocapsa reinboldii	(P. Richter) Komárek & Anagnostidis 1995	A	sphere	4	cell: 3-4					3.5		100	2 244	
Aphanocapsa reinboldii	(P. Richter) Komárek & Anagnostidis 1995	A	sphere	5	cell: 3-4					3.5		200	4 488	
Aphanocapsa rivularis	(Carmichael) Rabenhorst 1865	A	sphere	1	cell: 0.8-4					2.4		1	7.2	
Aphanocapsa rivularis	(Carmichael) Rabenhorst 1865	A	sphere	2	cell: 0.8-4					2.4		20	145	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Aphanocapsa rivularis	(Carmichael) Rabenhorst 1865	A	sphere	3	cell: 0.8-4					2.4		50	362	
Aphanocapsa rivularis	(Carmichael) Rabenhorst 1865	A	sphere	4	cell: 0.8-4					2.4		100	723	
Aphanocapsa rivularis	(Carmichael) Rabenhorst 1865	A	sphere	5	cell: 0.8-4					2.4		200	1 447	
Aphanocapsa spp.		A	sphere	1	cell: 1-2					1.5		1	1.8	
Aphanocapsa spp.		A	sphere	2	cell: 1-2					1.5		20	35	
Aphanocapsa spp.		A	sphere	3	cell: 1-2					1.5		50	88	
Aphanocapsa spp.		A	sphere	4	cell: 1-2					1.5		100	177	
Aphanocapsa spp.		A	sphere	5	cell: 1-2					1.5		200	353	
Aphanocapsa spp.		A	sphere	6	cell: 2-4					3		1	14	
Aphanocapsa spp.		A	sphere	7	cell: 2-4					3		20	283	
Aphanocapsa spp.		A	sphere	8	cell: 2-4					3		50	707	
Aphanocapsa spp.		A	sphere	9	cell: 2-4					3		100	1 413	
Aphanocapsa spp.		A	sphere	10	cell: 2-4					3		200	2 826	
Aphanothece bachmannii	Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	1	cell: 0.8-2x0.5-1				1.25	0.9		1	0.5	
Aphanothece bachmannii	Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	2	cell: 0.8-2x0.5-1				1.25	0.9		20	11	
Aphanothece bachmannii	Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	3	cell: 0.8-2x0.5-1				1.25	0.9		50	26	
Aphanothece bachmannii	Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	4	cell: 0.8-2x0.5-1				1.25	0.9		100	53	
Aphanothece bachmannii	Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	5	cell: 0.8-2x0.5-1				1.25	0.9		200	106	
Aphanothece castagnei	(Kützing) Rabenhorst 1865	A	rotational ellipsoid	1	cell: 4-8x2-4.8				6	3.9		1	48	
Aphanothece castagnei	(Kützing) Rabenhorst 1865	A	rotational ellipsoid	2	cell: 4-8x2-4.8				6	3.9		20	955	
Aphanothece castagnei	(Kützing) Rabenhorst 1865	A	rotational ellipsoid	3	cell: 4-8x2-4.8				6	3.9		50	2 388	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Aphanothece castagnei	(Kützing) Rabenhorst 1865	A	rotational ellipsoid	4	cell: 4-8x2-4.8				6	3.9		100	4 776	
Aphanothece castagnei	(Kützing) Rabenhorst 1865	A	rotational ellipsoid	5	cell: 4-8x2-4.8				6	3.9		200	9 552	
Aphanothece clathrata	W. & G.S. West 1906	A	rotational ellipsoid	1	cell: 0.8-3.5x0.4-2				2.5	1.2		1	1.9	
Aphanothece clathrata	W. & G.S. West 1906	A	rotational ellipsoid	2	cell: 0.8-3.5x0.4-2				2.5	1.2		20	38	
Aphanothece clathrata	W. & G.S. West 1906	A	rotational ellipsoid	3	cell: 0.8-3.5x0.4-2				2.5	1.2		50	94	
Aphanothece clathrata	W. & G.S. West 1906	A	rotational ellipsoid	4	cell: 0.8-3.5x0.4-2				2.5	1.2		100	188	
Aphanothece clathrata	W. & G.S. West 1906	A	rotational ellipsoid	5	cell: 0.8-3.5x0.4-2				2.5	1.2		200	377	
Aphanothece minutissima	(W. West) Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	1	cell: 1-2x0.8-1				1.5	0.9		1	0.6	
Aphanothece minutissima	(W. West) Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	2	cell: 1-2x0.8-1				1.5	0.9		20	13	
Aphanothece minutissima	(W. West) Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	3	cell: 1-2x0.8-1				1.5	0.9		50	32	
Aphanothece minutissima	(W. West) Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	4	cell: 1-2x0.8-1				1.5	0.9		100	64	
Aphanothece minutissima	(W. West) Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	5	cell: 1-2x0.8-1				1.5	0.9		200	127	
Aphanothece smithii	Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	1	cell: 2-3.5x1-1.5				2.75	1.3		1	2.2	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Aphanothece smithii	Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	2	cell: 2-3.5x1-1.5				2.75	1.3		20	45	
Aphanothece smithii	Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	3	cell: 2-3.5x1-1.5				2.75	1.3		50	112	
Aphanothece smithii	Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	4	cell: 2-3.5x1-1.5				2.75	1.3		100	225	
Aphanothece smithii	Komárková-Legnerová & Cronberg 1994	A	rotational ellipsoid	5	cell: 2-3.5x1-1.5				2.75	1.3		200	450	
Aphanothece stagnina	(Sprengel) A. Braun *in* Rabenhorst 1865	A	rotational ellipsoid	1	cell: 3.8-9x3-5				6.4	4		1	54	
Aphanothece stagnina	(Sprengel) A. Braun *in* Rabenhorst 1865	A	rotational ellipsoid	2	cell: 3.8-9x3-5				6.4	4		20	1 072	
Aphanothece stagnina	(Sprengel) A. Braun *in* Rabenhorst 1865	A	rotational ellipsoid	3	cell: 3.8-9x3-5				6.4	4		50	2 679	
Aphanothece stagnina	(Sprengel) A. Braun *in* Rabenhorst 1865	A	rotational ellipsoid	4	cell: 3.8-9x3-5				6.4	4		100	5 359	
Aphanothece stagnina	(Sprengel) A. Braun *in* Rabenhorst 1865	A	rotational ellipsoid	5	cell: 3.8-9x3-5				6.4	4		200	10 718	
Aphanothece parallelliformis	Cronberg 2003	A	cylinder		cell: 1.5-2x0.8-1				1.8	0.9		1	1.1	
Aphanothece spp.		A	rotational ellipsoid	1	cell: 1-2				2	1		1	1.0	
Aphanothece spp.		A	rotational ellipsoid	2	cell: 1-2				2	1		20	21	
Aphanothece spp.		A	rotational ellipsoid	3	cell: 1-2				2	1		50	52	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Aphanothece spp.		A	rotational ellipsoid	4	cell: 1-2				2	1		100	105	
Aphanothece spp.		A	rotational ellipsoid	5	cell: 1-2				2	1		200	209	
Aphanothece spp.		A	rotational ellipsoid	6	cell: 2-4				3	2		1	6.3	
Aphanothece spp.		A	rotational ellipsoid	7	cell: 2-4				3	2		20	126	
Aphanothece spp.		A	rotational ellipsoid	8	cell: 2-4				3	2		50	314	
Aphanothece spp.		A	rotational ellipsoid	9	cell: 2-4				3	2		100	628	
Aphanothece spp.		A	rotational ellipsoid	10	cell: 2-4				3	2		200	1 256	
Chroococcales, unidentified		A	sphere	1	cell: <2					1.5		1	1.8	
Chroococcales, unidentified		A	sphere	2	cell: <2					1.5		20	35	
Chroococcales, unidentified		A	sphere	3	cell: <2					1.5		50	88	
Chroococcales, unidentified		A	sphere	4	cell: <2					1.5		100	177	
Chroococcales, unidentified		A	sphere	5	cell: <2					1.5		200	353	
Chroococcales, unidentified		A	sphere	6	cell: 2-3					2.5		1	8.2	
Chroococcales, unidentified		A	sphere	7	cell: 2-3					2.5		20	164	
Chroococcales, unidentified		A	sphere	8	cell: 2-3					2.5		50	409	
Chroococcales, unidentified		A	sphere	9	cell: 2-3					2.5		100	818	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Chroococcales, unidentified		A	sphere	10	cell: 2-3					2.5		200	1 635	
Chroococcales, unidentified		A	rotational ellipsoid	11	cell: <2				2	1		1	1.0	
Chroococcales, unidentified		A	rotational ellipsoid	12	cell: <2				2	1		20	21	
Chroococcales, unidentified		A	rotational ellipsoid	13	cell: <2				2	1		50	52	
Chroococcales, unidentified		A	rotational ellipsoid	14	cell: <2				2	1		100	105	
Chroococcales, unidentified		A	rotational ellipsoid	15	cell: <2				2	1		200	209	
Chroococcus aphanocapsoides	Skuja 1964	A	sphere	1	cell: 2					2		1	4.2	
Chroococcus aphanocapsoides	Skuja 1964	A	sphere	2	cell: 3					3		1	14	
Chroococcus cumulatus	Bachmann 1921	A	sphere		cell: 5-7					6		1	113	
Chroococcus dispersus	(von Keissler) Lemmermann 1904	A	sphere	1	cell: 3					3		1	14	
Chroococcus dispersus	(von Keissler) Lemmermann 1904	A	sphere	2	cell: 4					4		1	33	
Chroococcus distans	(G.M. Smith) Komárková-Legnerová & Cronberg 1994	A	sphere		cell: 5.5-7.5					6.5		1	144	
Chroococcus limneticus	Lemmermann 1898	A	sphere	1	cell: 6-8					7		1	180	
Chroococcus limneticus	Lemmermann 1898	A	sphere	2	cell: 8-12					10		1	523	
Chroococcus microscopicus	Komárková-Legnerová & Cronberg 1994	A	sphere	1	cell: 0.7-1					0.9		1	0.3	
Chroococcus microscopicus	Komárková-Legnerová & Cronberg 1994	A	sphere	2	cell: 0.7-1					0.9		20	6.4	
Chroococcus microscopicus	Komárková-Legnerová & Cronberg 1994	A	sphere	3	cell: 0.7-1					0.9		50	16	
Chroococcus microscopicus	Komárková-Legnerová & Cronberg 1994	A	sphere	4	cell: 0.7-1					0.9		100	32	
Chroococcus microscopicus	Komárková-Legnerová & Cronberg 1994	A	sphere	5	cell: 0.7-1					0.9		200	64	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Chroococcus minimus	(von Keissler) Lemmermann 1904	A	sphere		cell: 1.7-3					2.5		1	8.2	
Chroococcus minor	(Kützing) Nägeli 1849	A	sphere		cell: 3-4					3.5		1	22	
Chroococcus minutus	(Kützing) Nägeli 1849	A	sphere		cell: 4-10					6		1	113	
Chroococcus turgidus	(Kützing) Nägeli 1849	A	sphere	1	cell: 6-10					8.7		1	345	
Chroococcus turgidus	(Kützing) Nägeli 1849	A	sphere	2	cell: 10-20					15		1	1 766	
Chroococcus turgidus	(Kützing) Nägeli 1849	A	sphere	3	cell: 20-30					25		1	8 177	
Chroococcus spp.		A	sphere	1	cell: <2					1		1	0.5	
Chroococcus spp.		A	sphere	2	cell: 2-4					3		1	14	
Chroococcus spp.		A	sphere	3	cell: 4-6					5		1	65	
Chroococcus spp.		A	sphere	4	cell: 6-8					7		1	180	
Chroococcus spp.		A	sphere	5	cell: 8-10					9		1	382	
Chroococcus spp.		A	sphere	6	cell: 10-20					15		1	1 766	
Chroococcus spp.		A	sphere	7	cell: 20-30					25		1	8 177	
Coelomoron pusillum	(van Goor) Komárek 1989	A	rotational ellipsoid	1	cell: 2x3				3	2		1	6.3	
Coelomoron pusillum	(van Goor) Komárek 1989	A	rotational ellipsoid	2	cell: 2x3				3	2		10	63	
Coelomoron pusillum	(van Goor) Komárek 1989	A	rotational ellipsoid	3	cell: 2x3				3	2		20	126	
Coelomoron spp.		A	rotational ellipsoid	1	cell: 2x3				3	2		1	6.3	
Coelomoron spp.		A	rotational ellipsoid	2	cell: 2x3				3	2		10	63	
Coelomoron spp.		A	rotational ellipsoid	3	cell: 2x3				3	2		20	126	
Coelosphaerium dubium	Grunow *in* Rabenhorst 1865	A	sphere	1	cell: 5-7					6		1	113	
Coelosphaerium dubium	Grunow *in* Rabenhorst 1865	A	sphere	2	cell: 5-7					6		20	2 261	
Coelosphaerium dubium	Grunow *in* Rabenhorst 1865	A	sphere	3	cell: 5-7					6		50	5 652	
Coelosphaerium dubium	Grunow *in* Rabenhorst 1865	A	sphere	4	cell: 5-7					6		100	11 304	
Coelosphaerium dubium	Grunow *in* Rabenhorst 1865	A	sphere	5	cell: 5-7					6		200	22 608	
Coelosphaerium kuetzingianum	Nägeli 1849	A	sphere	1	cell: 2-4					3		1	14	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Coelosphaerium kuetzingianum	Nägeli 1849	A	sphere	2	cell: 2-4					3		20	283	
Coelosphaerium kuetzingianum	Nägeli 1849	A	sphere	3	cell: 2-4					3		50	707	
Coelosphaerium kuetzingianum	Nägeli 1849	A	sphere	4	cell: 2-4					3		100	1 413	
Coelosphaerium kuetzingianum	Nägeli 1849	A	sphere	5	cell: 2-4					3		200	2 826	
Coelosphaerium minutissimum	Lemmermann 1900	A	sphere	1	cell: 1.4					1.4		1	1.4	
Coelosphaerium minutissimum	Lemmermann 1900	A	sphere	2	cell: 1.4					1.4		20	29	
Coelosphaerium minutissimum	Lemmermann 1900	A	sphere	3	cell: 1.4					1.4		50	72	
Coelosphaerium minutissimum	Lemmermann 1900	A	sphere	4	cell: 1.4					1.4		100	144	
Coelosphaerium minutissimum	Lemmermann 1900	A	sphere	5	cell: 1.4					1.4		200	287	
Coelosphaerium subarcticum	Komárek & Komárková-Legnerová 1992	A	sphere	1	cell: 1.2-1.6					1.4		1	1.4	
Coelosphaerium subarcticum	Komárek & Komárková-Legnerová 1992	A	sphere	2	cell: 1.2-1.6					1.4		20	29	
Coelosphaerium subarcticum	Komárek & Komárková-Legnerová 1992	A	sphere	3	cell: 1.2-1.6					1.4		50	72	
Coelosphaerium subarcticum	Komárek & Komárková-Legnerová 1992	A	sphere	4	cell: 1.2-1.6					1.4		100	144	
Coelosphaerium subarcticum	Komárek & Komárková-Legnerová 1992	A	sphere	5	cell: 1.2-1.6					1.4		200	287	
Coelosphaerium spp.		A	sphere	1	cell: 1-2					1.5		1	1.8	
Coelosphaerium spp.		A	sphere	2	cell: 1-2					1.5		20	35	
Coelosphaerium spp.		A	sphere	3	cell: 1-2					1.5		50	88	
Coelosphaerium spp.		A	sphere	4	cell: 1-2					1.5		100	177	
Coelosphaerium spp.		A	sphere	5	cell: 1-2					1.5		200	353	
Coelosphaerium spp.		A	sphere	6	cell: 2-4					3		1	14	
Coelosphaerium spp.		A	sphere	7	cell: 2-4					3		20	283	
Coelosphaerium spp.		A	sphere	8	cell: 2-4					3		50	707	
Coelosphaerium spp.		A	sphere	9	cell: 2-4					3		100	1 413	
Coelosphaerium spp.		A	sphere	10	cell: 2-4					3		200	2 826	
Cyanodictyon balticum	Cronberg 2003	A	cylinder	1	cell: 1x1.5				1.2	1		1	0.9	*

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Cyanodictyon balticum	Cronberg 2003	A	cylinder	2	cell: 1x1.5				1.2	1		20	19	*
Cyanodictyon balticum	Cronberg 2003	A	cylinder	3	cell: 1x1.5				1.2	1		50	47	*
Cyanodictyon balticum	Cronberg 2003	A	cylinder	4	cell: 1x1.5				1.2	1		100	94	*
Cyanodictyon balticum	Cronberg 2003	A	cylinder	5	cell: 1x1.5				1.2	1		200	188	*
Cyanodictyon imperfectum	Cronberg & Weibull 1981	A	sphere	1	cell: 0.4-1					0.8		1	0.3	
Cyanodictyon imperfectum	Cronberg & Weibull 1981	A	sphere	2	cell: 0.4-1					0.8		20	5.4	
Cyanodictyon imperfectum	Cronberg & Weibull 1981	A	sphere	3	cell: 0.4-1					0.8		50	13	
Cyanodictyon imperfectum	Cronberg & Weibull 1981	A	sphere	4	cell: 0.4-1					0.8		100	27	
Cyanodictyon imperfectum	Cronberg & Weibull 1981	A	sphere	5	cell: 0.4-1					0.8		200	54	
Cyanodictyon imperfectum	Cronberg & Weibull 1981	A	sphere	6	cell: 0.4-1					0.8		400	107	
Cyanodictyon planctonicum	Meyer 1994	A	rotational ellipsoid	1	cell: 0.8-1x1-2				1.5	0.9		1	0.6	
Cyanodictyon planctonicum	Meyer 1994	A	rotational ellipsoid	2	cell: 0.8-1x1-2				1.5	0.9		20	13	
Cyanodictyon planctonicum	Meyer 1994	A	rotational ellipsoid	3	cell: 0.8-1x1-2				1.5	0.9		50	32	
Cyanodictyon planctonicum	Meyer 1994	A	rotational ellipsoid	4	cell: 0.8-1x1-2				1.5	0.9		100	64	
Cyanodictyon planctonicum	Meyer 1994	A	rotational ellipsoid	5	cell: 0.8-1x1-2				1.5	0.9		200	127	
Cyanodictyon reticulatum	(Lemmermann) Geitler 1925	A	sphere	1	cell: 1-1.5					1.3		1	1.0	
Cyanodictyon reticulatum	(Lemmermann) Geitler 1925	A	sphere	2	cell: 1-1.5					1.3		20	20	
Cyanodictyon reticulatum	(Lemmermann) Geitler 1925	A	sphere	3	cell: 1-1.5					1.3		50	51	
Cyanodictyon reticulatum	(Lemmermann) Geitler 1925	A	sphere	4	cell: 1-1.5					1.3		100	102	
Cyanodictyon reticulatum	(Lemmermann) Geitler 1925	A	sphere	5	cell: 1-1.5					1.3		200	204	
Cyanodictyon tubiforme	Cronberg 1988	A	rotational ellipsoid	1	cell: 1.9-2.2x2.2-3.8				3	2		1	6.3	*
Cyanodictyon tubiforme	Cronberg 1988	A	rotational ellipsoid	2	cell: 1.9-2.2x2.2-3.8				3	2		20	126	*
Cyanodictyon tubiforme	Cronberg 1988	A	rotational ellipsoid	3	cell: 1.9-2.2x2.2-3.8				3	2		50	314	*

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Cyanodictyon tubiforme	Cronberg 1988	A	rotational ellipsoid	4	cell: 1.9-2.2x2.2-3.8				3	2		100	628	*
Cyanodictyon tubiforme	Cronberg 1988	A	rotational ellipsoid	5	cell: 1.9-2.2x2.2-3.8				3	2		200	1 256	*
Cyanodictyon spp.		A	sphere	1	cell: 1-3					2		1	4.2	
Cyanodictyon spp.		A	sphere	2	cell: 1-3					2		20	84	
Cyanodictyon spp.		A	sphere	3	cell: 1-3					2		50	209	
Cyanodictyon spp.		A	sphere	4	cell: 1-3					2		100	419	
Cyanodictyon spp.		A	sphere	5	cell: 1-3					2		200	837	
Cyanodictyon spp.		A	cylinder	6	cell: 1x1.5				1.2	1.0		1	0.9	
Cyanodictyon spp.		A	cylinder	7	cell: 1x1.5				1.2	1.0		20	19	
Cyanodictyon spp.		A	cylinder	8	cell: 1x1.5				1.2	1.0		50	47	
Cyanodictyon spp.		A	cylinder	9	cell: 1x1.5				1.2	1.0		100	94	
Cyanodictyon spp.		A	cylinder	10	cell: 1x1.5				1.2	1.0		200	188	
Cyanonephron styloides	Hickel 1985	A	rotational ellipsoid	1	cell: 0.8-1.2x2-5.5				3	1		1	1.6	
Cyanonephron styloides	Hickel 1985	A	rotational ellipsoid	2	cell: 0.8-1.2x2-5.5				3	1		20	31	
Cyanonephron styloides	Hickel 1985	A	rotational ellipsoid	3	cell: 0.8-1.2x2-5.5				3	1		50	79	
Cyanonephron styloides	Hickel 1985	A	rotational ellipsoid	4	cell: 0.8-1.2x2-5.5				3	1		100	157	
Cyanonephron styloides	Hickel 1985	A	rotational ellipsoid	5	cell: 0.8-1.2x2-5.5				3	1		200	314	
Cyanonephron spp.		A	rotational ellipsoid	1	cell: 0.8-1.2x2-5.5				3	1		1	1.6	
Cyanonephron spp.		A	rotational ellipsoid	2	cell: 0.8-1.2x2-5.5				3	1		20	31	
Cyanonephron spp.		A	rotational ellipsoid	3	cell: 0.8-1.2x2-5.5				3	1		50	79	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Cyanonephron spp.		A	rotational ellipsoid	4	cell: 0.8-1.2x2-5.5				3	1		100	157	
Cyanonephron spp.		A	rotational ellipsoid	5	cell: 0.8-1.2x2-5.5				3	1		200	314	
Eucapsis alpina	Clements & Shantz 1909	A	sphere		cell: 5-7					6		1	113	
Eucapsis minuta	Fritsch 1912	A	sphere		cell: 2-4					3		1	14	
Eucapsis spp.		A	sphere		cell: 2-4					3		1	14	
Gomphosphaeria aponina	Kützing 1836	A	rotational ellipsoid	1	cell: 8-12x4-6.5				10	5.2		1	142	
Gomphosphaeria aponina	Kützing 1836	A	rotational ellipsoid	2	cell: 8-12x4-6.5				10	5.2		20	2 830	
Gomphosphaeria aponina	Kützing 1836	A	rotational ellipsoid	3	cell: 8-12x4-6.5				10	5.2		50	7 075	
Gomphosphaeria salina	Komárek & Hindák 1988	A	rotational ellipsoid	1	cell: 10.4-15x4-6(10)				12.7	5		1	166	
Gomphosphaeria salina	Komárek & Hindák 1988	A	rotational ellipsoid	2	cell: 10.4-15x4-6(10)				12.7	5		20	3 323	
Gomphosphaeria salina	Komárek & Hindák 1988	A	rotational ellipsoid	3	cell: 10.4-15x4-6(10)				12.7	5		50	8 308	
Gomphosphaeria spp.		A	rotational ellipsoid	1	cell: 3-4x6-8				7	3.5		1	45	
Gomphosphaeria spp.		A	rotational ellipsoid	2	cell: 3-4x6-8				7	3.5		20	898	
Gomphosphaeria spp.		A	rotational ellipsoid	3	cell: 3-4x6-8				7	3.5		50	2 244	
Lemmermanniella pallida	(Lemmermann) Geitler 1942	A	cylinder	1	cell: 0.5-1.6x1.1-3.7				3	1		1	2.4	
Lemmermanniella pallida	(Lemmermann) Geitler 1942	A	cylinder	2	cell: 0.5-1.6x1.1-3.7				3	1		20	47	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Lemmermanniella pallida	(Lemmermann) Geitler 1942	A	cylinder	3	cell: 0.5-1.6x1.1-3.7				3	1		50	118	
Lemmermanniella pallida	(Lemmermann) Geitler 1942	A	cylinder	4	cell: 0.5-1.6x1.1-3.7				3	1		100	236	
Lemmermanniella pallida	(Lemmermann) Geitler 1942	A	cylinder	5	cell: 0.5-1.6x1.1-3.7				3	1		200	471	
Lemmermanniella parva	Hindák 1985	A	cylinder	1	cell: 0.8-1x1-1.8				1.4	0.9		1	0.9	
Lemmermanniella parva	Hindák 1985	A	cylinder	2	cell: 0.8-1x1-1.8				1.4	0.9		20	18	
Lemmermanniella parva	Hindák 1985	A	cylinder	3	cell: 0.8-1x1-1.8				1.4	0.9		50	45	
Lemmermanniella parva	Hindák 1985	A	cylinder	4	cell: 0.8-1x1-1.8				1.4	0.9		100	89	
Lemmermanniella parva	Hindák 1985	A	cylinder	5	cell: 0.8-1x1-1.8				1.4	0.9		200	178	
Lemmermanniella spp.		A	cylinder	1	cell: 0.5-3				2	1		1	1.6	
Lemmermanniella spp.		A	cylinder	2	cell: 0.5-3				2	1		20	31	
Lemmermanniella spp.		A	cylinder	3	cell: 0.5-3				2	1		50	79	
Lemmermanniella spp.		A	cylinder	4	cell: 0.5-3				2	1		100	157	
Lemmermanniella spp.		A	cylinder	5	cell: 0.5-3				2	1		200	314	
Merismopedia elegans	A. Braun *in* Kützing 1849	A	rotational ellipsoid	1	cell: 5-9x5-7				7	6		1	132	
Merismopedia elegans	A. Braun *in* Kützing 1849	A	rotational ellipsoid	2	cell: 5-9x5-7				7	6		4	528	
Merismopedia glauca	(Ehrenberg) Kützing 1845	A	sphere	1	cell: 3-6					5		1	65	
Merismopedia glauca	(Ehrenberg) Kützing 1845	A	sphere	2	cell: 3-6					5		4	262	
Merismopedia punctata	Meyen 1839	A	sphere	1	cell: 2.5-3.6					3		1	14	
Merismopedia punctata	Meyen 1839	A	sphere	2	cell: 2.5-3.6					3		4	57	
Merismopedia punctata	Meyen 1839	A	sphere	3	cell: 2.5-3.6					3		16	226	
Merismopedia tenuissima	Lemmermann 1898	A	sphere	1	cell: 0.4-2.5					1.5		1	1.8	
Merismopedia tenuissima	Lemmermann 1898	A	sphere	2	cell: 0.4-2.5					1.5		16	28	
Merismopedia tenuissima	Lemmermann 1898	A	sphere	3	cell: 0.4-2.5					1.5		32	57	
Merismopedia tenuissima	Lemmermann 1898	A	sphere	4	cell: 0.4-2.5					1.5		64	113	
Merismopedia tenuissima	Lemmermann 1898	A	sphere	5	cell: 0.4-2.5					1.5		96	170	
Merismopedia warmingiana	(Lagerheim) Geitler 1932	A	sphere	1	cell: 0.5-1.2					0.8		1	0.3	
Merismopedia warmingiana	(Lagerheim) Geitler 1932	A	sphere	2	cell: 0.5-1.2					0.8		4	1.1	
Merismopedia warmingiana	(Lagerheim) Geitler 1932	A	sphere	3	cell: 0.5-1.2					0.8		8	2.1	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Merismopedia warmingiana	(Lagerheim) Geitler 1932	A	sphere	4	cell: 0.5-1.2					0.8		16	4.3	
Merismopedia warmingiana	(Lagerheim) Geitler 1932	A	sphere	5	cell: 0.5-1.2					0.8		32	8.6	
Merismopedia warmingiana	(Lagerheim) Geitler 1932	A	sphere	6	cell: 0.5-1.2					0.8		64	17	
Merismopedia spp.		A	sphere	1	cell: <0.5					0.5		1	0.1	
Merismopedia spp.		A	sphere	2	cell: <0.5					0.5		4	0.3	
Merismopedia spp.		A	sphere	3	cell: <0.5					0.5		8	0.5	
Merismopedia spp.		A	sphere	4	cell: <0.5					0.5		16	1.0	
Merismopedia spp.		A	sphere	5	cell: <0.5					0.5		32	2.1	
Merismopedia spp.		A	sphere	6	cell: <0.5					0.5		64	4.2	
Merismopedia spp.		A	sphere	7	cell: 0.5-3					1.8		1	2.8	
Merismopedia spp.		A	sphere	8	cell: 0.5-3					1.8		4	11	
Merismopedia spp.		A	sphere	9	cell: 0.5-3					1.8		8	22	
Merismopedia spp.		A	sphere	10	cell: 0.5-3					1.8		16	45	
Merismopedia spp.		A	sphere	11	cell: 0.5-3					1.8		32	90	
Merismopedia spp.		A	sphere	12	cell: 0.5-3					1.8		64	180	
Microcystis aeruginosa	(Kützing) Kützing 1846	A	sphere	1	cell: 4-6					5		1	65	
Microcystis aeruginosa	(Kützing) Kützing 1846	A	sphere	2	cell: 4-6					5		20	1 308	
Microcystis aeruginosa	(Kützing) Kützing 1846	A	sphere	3	cell: 4-6					5		50	3 271	
Microcystis aeruginosa	(Kützing) Kützing 1846	A	sphere	4	cell: 4-6					5		100	6 542	
Microcystis flos-aquae	(Wittrock *in* Wittrock & Nordstedt) Kirchner 1900	A	sphere	1	cell: 3.5-4.8					4		1	33	
Microcystis flos-aquae	(Wittrock *in* Wittrock & Nordstedt) Kirchner 1900	A	sphere	2	cell: 3.5-4.8					4		20	670	
Microcystis flos-aquae	(Wittrock *in* Wittrock & Nordstedt) Kirchner 1900	A	sphere	3	cell: 3.5-4.8					4		50	1 675	
Microcystis flos-aquae	(Wittrock *in* Wittrock & Nordstedt) Kirchner 1900	A	sphere	4	cell: 3.5-4.8					4		100	3 349	
Microcystis ichtyoblabe	Kützing 1843	A	sphere	1	cell: 2-3.2					2.6		1	9.2	
Microcystis ichtyoblabe	Kützing 1843	A	sphere	2	cell: 2-3.2					2.6		20	184	
Microcystis ichtyoblabe	Kützing 1843	A	sphere	3	cell: 2-3.2					2.6		50	460	
Microcystis ichtyoblabe	Kützing 1843	A	sphere	4	cell: 2-3.2					2.6		100	920	
Microcystis novacekii	(Komárek) Compère 1974	A	sphere	1	cell: 3-5.5					4.2		1	39	
Microcystis novacekii	(Komárek) Compère 1974	A	sphere	2	cell: 3-5.5					4.2		20	775	
Microcystis novacekii	(Komárek) Compère 1974	A	sphere	3	cell: 3-5.5					4.2		50	1 939	
Microcystis novacekii	(Komárek) Compère 1974	A	sphere	4	cell: 3-5.5					4.2		100	3 877	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Microcystis viridis	(A. Braun *in* Rabenhorst) Lemmermann 1902	A	sphere	1	cell: 3.5-7					5		1	65	
Microcystis viridis	(A. Braun *in* Rabenhorst) Lemmermann 1902	A	sphere	2	cell: 3.5-7					5		4	262	
Microcystis viridis	(A. Braun *in* Rabenhorst) Lemmermann 1902	A	sphere	3	cell: 3.5-7					5		20	1 308	
Microcystis viridis	(A. Braun *in* Rabenhorst) Lemmermann 1902	A	sphere	4	cell: 3.5-7					5		50	3 271	
Microcystis viridis	(A. Braun *in* Rabenhorst) Lemmermann 1902	A	sphere	5	cell: 3.5-7					5		100	6 542	
Microcystis wesenbergii	(Komárek) Komárek *in* Kondrat´eva 1968	A	sphere	1	cell: 4-7					5		1	65	
Microcystis wesenbergii	(Komárek) Komárek *in* Kondrat´eva 1968	A	sphere	2	cell: 4-7					5		20	1 308	
Microcystis wesenbergii	(Komárek) Komárek *in* Kondrat´eva 1968	A	sphere	3	cell: 4-7					5		50	3 271	
Microcystis wesenbergii	(Komárek) Komárek *in* Kondrat´eva 1968	A	sphere	4	cell: 4-7					5		100	6 542	
Microcystis spp.		A	sphere	1	cell: 1-3					2		1	4.2	
Microcystis spp.		A	sphere	2	cell: 1-3					2		20	84	
Microcystis spp.		A	sphere	3	cell: 1-3					2		50	209	
Microcystis spp.		A	sphere	4	cell: 1-3					2		100	419	
Microcystis spp.		A	sphere	5	cell: 3-7					5		1	65	
Microcystis spp.		A	sphere	6	cell: 3-7					5		20	1 308	
Microcystis spp.		A	sphere	7	cell: 3-7					5		50	3 271	
Microcystis spp.		A	sphere	8	cell: 3-7					5		100	6 542	
Pannus spumosus	Hickel 1991	A	sphere	1	cell: 1-1.5					1.3		1	1.0	
Pannus spumosus	Hickel 1991	A	sphere	2	cell: 1-1.5					1.3		20	20	
Pannus spumosus	Hickel 1991	A	sphere	3	cell: 1-1.5					1.3		50	51	
Pannus spp.		A	sphere		cell: 1-1.5					1.3		1	1.0	
Pannus spp.		A	sphere		cell: 1-1.5					1.3		20	20	
Pannus spp.		A	sphere		cell: 1-1.5					1.3		50	51	
Radiocystis geminata	Skuja 1948	A	rotational ellipsoid	1	cell: 3x4				4	3		1	19	
Radiocystis geminata	Skuja 1948	A	rotational ellipsoid	2	cell: 3x4				4	3		10	188	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Radiocystis geminata	Skuja 1948	A	rotational ellipsoid	3	cell: 3x4				4	3		20	377	
Radiocystis geminata	Skuja 1948	A	rotational ellipsoid	4	cell: 3x4				4	3		50	942	
Rhabdoderma lineare	Schmidle & Lauterborn 1900	A	cylinder	1	cell: 4-10x1.5-3				7	2.8		1	43	
Rhabdoderma lineare	Schmidle & Lauterborn 1900	A	cylinder	2	cell: 4-10x1.5-3				7	2.8		20	862	
Rhabdoderma spp.		A	cylinder	1	cell: 4-10x1.5-3				8	1.6		1	16	
Rhabdoderma spp.		A	cylinder	2	cell: 4-10x1.5-3				8	1.6		20	322	
Snowella atomus	Komárek & Hindák 1988	A	sphere	1	cell: 0.6-1.4					1		1	0.5	
Snowella atomus	Komárek & Hindák 1988	A	sphere	2	cell: 0.6-1.4					1		10	5.2	
Snowella atomus	Komárek & Hindák 1988	A	sphere	3	cell: 0.6-1.4					1		20	10	
Snowella atomus	Komárek & Hindák 1988	A	sphere	4	cell: 0.6-1.4					1		50	26	
Snowella fennica	Komárek & Komárková-Legnerová 1992	A	rotational ellipsoid	1	cell: 2.8-4.2x1.2-2.8				3	2		1	6.3	
Snowella fennica	Komárek & Komárková-Legnerová 1992	A	rotational ellipsoid	2	cell: 2.8-4.2x1.2-2.8				3	2		10	63	
Snowella fennica	Komárek & Komárková-Legnerová 1992	A	rotational ellipsoid	3	cell: 2.8-4.2x1.2-2.8				3	2		20	126	
Snowella fennica	Komárek & Komárková-Legnerová 1992	A	rotational ellipsoid	4	cell: 2.8-4.2x1.2-2.8				3	2		50	314	
Snowella lacustris	(R. Chodat) Komárek & Hindák 1988	A	rotational ellipsoid	1	cell: 2-4x1.5-3.5				3	2.5		1	10	
Snowella lacustris	(R. Chodat) Komárek & Hindák 1988	A	rotational ellipsoid	2	cell: 2-4x1.5-3.5				3	2.5		10	98	
Snowella lacustris	(R. Chodat) Komárek & Hindák 1988	A	rotational ellipsoid	3	cell: 2-4x1.5-3.5				3	2.5		20	196	
Snowella lacustris	(R. Chodat) Komárek & Hindák 1988	A	rotational ellipsoid	4	cell: 2-4x1.5-3.5				3	2.5		50	491	
Snowella litoralis	(Häyrén) Komárek & Hindák 1988	A	sphere	1	cell: 2.4-4					3.2		1	17	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Snowella litoralis	(Häyrén) Komárek & Hindák 1988	A	sphere	2	cell: 2.4-4					3.2		10	171	
Snowella litoralis	(Häyrén) Komárek & Hindák 1988	A	sphere	3	cell: 2.4-4					3.2		20	343	
Snowella litoralis	(Häyrén) Komárek & Hindák 1988	A	sphere	4	cell: 2.4-4					3.2		50	857	
Snowella septentrionalis	Komárek & Hindák 1988	A	sphere	1	cell: 1.2-3.4					2.3		1	6.4	
Snowella septentrionalis	Komárek & Hindák 1988	A	sphere	2	cell: 1.2-3.4					2.3		10	64	
Snowella septentrionalis	Komárek & Hindák 1988	A	sphere	3	cell: 1.2-3.4					2.3		20	127	
Snowella septentrionalis	Komárek & Hindák 1988	A	sphere	4	cell: 1.2-3.4					2.3		50	318	
Snowella spp.		A	sphere	1	cell: 1-4					2.5		1	8.2	
Snowella spp.		A	sphere	2	cell: 1-4					2.5		10	82	
Snowella spp.		A	sphere	3	cell: 1-4					2.5		20	164	
Snowella spp.		A	sphere	4	cell: 1-4					2.5		50	409	
Synechococcus sp.		A	sphere	3	cell: 2					2		1	4.2	
Synechococcus sp.		A	sphere	4	cell: 2					2		10	42	
Synechococcus sp.		A	sphere	5	cell: 3					3		1	14	
Synechococcus sp.		A	sphere	6	cell: 3					3		10	141	
Woronichinia compacta	(Lemmermann) Komárek & Hindák 1988	A	rotational ellipsoid	1	cell: 3-5.6x1.5-3.4				4.5	2.5		1	15	
Woronichinia compacta	(Lemmermann) Komárek & Hindák 1988	A	rotational ellipsoid	2	cell: 3-5.6x1.5-3.4				4.5	2.5		10	147	
Woronichinia compacta	(Lemmermann) Komárek & Hindák 1988	A	rotational ellipsoid	3	cell: 3-5.6x1.5-3.4				4.5	2.5		20	294	
Woronichinia compacta	(Lemmermann) Komárek & Hindák 1988	A	rotational ellipsoid	4	cell: 3-5.6x1.5-3.4				4.5	2.5		50	736	
Woronichinia elorantae	Komárek & Komárková-Legnerová 1992	A	rotational ellipsoid	1	cell: 2.5-3x1.6-2				2.8	1.8		1	4.7	
Woronichinia elorantae	Komárek & Komárková-Legnerová 1992	A	rotational ellipsoid	2	cell: 2.5-3x1.6-2				2.8	1.8		10	47	
Woronichinia elorantae	Komárek & Komárková-Legnerová 1992	A	rotational ellipsoid	3	cell: 2.5-3x1.6-2				2.8	1.8		20	95	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Woronichinia elorantae	Komárek & Komárková-Legnerová 1992	A	rotational ellipsoid	4	cell: 2.5-3x1.6-2				2.8	1.8		50	237	
Woronichinia fusca	(Skuja) Komárek & Hindák 1988	A	rotational ellipsoid	1	cell: 3-5x2.5-4				4	3.3		1	22	
Woronichinia fusca	(Skuja) Komárek & Hindák 1988	A	rotational ellipsoid	2	cell: 3-5x2.5-4				4	3.3		10	221	
Woronichinia fusca	(Skuja) Komárek & Hindák 1988	A	rotational ellipsoid	3	cell: 3-5x2.5-4				4	3.3		20	442	
Woronichinia fusca	(Skuja) Komárek & Hindák 1988	A	rotational ellipsoid	4	cell: 3-5x2.5-4				4	3.3		50	1 106	
Woronichinia karelica	Komárek & Komárková-Legnerová 1992	A	rotational ellipsoid	1	cell: 3-4.2x1.5-2				3.6	1.8		1	6.1	
Woronichinia karelica	Komárek & Komárková-Legnerová 1992	A	rotational ellipsoid	2	cell: 3-4.2x1.5-2				3.6	1.8		10	61	
Woronichinia karelica	Komárek & Komárková-Legnerová 1992	A	rotational ellipsoid	3	cell: 3-4.2x1.5-2				3.6	1.8		20	122	
Woronichinia karelica	Komárek & Komárková-Legnerová 1992	A	rotational ellipsoid	4	cell: 3-4.2x1.5-2				3.6	1.8		50	305	
Woronichinia naegeliana	(Unger) Elenkin 1933	A	rotational ellipsoid	1	cell: 4.5-6x1.5-5				5	3		1	24	
Woronichinia naegeliana	(Unger) Elenkin 1933	A	rotational ellipsoid	2	cell: 4.5-6x1.5-5				5	3		10	236	
Woronichinia naegeliana	(Unger) Elenkin 1933	A	rotational ellipsoid	3	cell: 4.5-6x1.5-5				5	3		20	471	
Woronichinia naegeliana	(Unger) Elenkin 1933	A	rotational ellipsoid	4	cell: 4.5-6x1.5-5				5	3		50	1 178	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Woronichinia spp.		A	rotational ellipsoid	1	cell: 2-5				3	2		1	6.3	
Woronichinia spp.		A	rotational ellipsoid	2	cell: 2-5				3	2		10	63	
Woronichinia spp.		A	rotational ellipsoid	3	cell: 2-5				3	2		20	126	
Woronichinia spp.		A	rotational ellipsoid	4	cell: 2-5				3	2		50	314	
Order OSCILLATORIALES														
Limnothrix planctonica	(Woloszynska) Meffert 1988	A	cylinder	1	fil.: 2x100				100	2		1	314	
Limnothrix planctonica	(Woloszynska) Meffert 1988	A	cylinder	2	fil.: 2.5x100				100	2.5		1	491	
Limnothrix planctonica	(Woloszynska) Meffert 1988	A	cylinder	3	fil.: 3x100				100	3		1	707	
Limnothrix redekei	(Van Goor) Meffert 1988	A	cylinder	1	fil.: 2x100				100	2		1	314	
Limnothrix redekei	(Van Goor) Meffert 1988	A	cylinder	2	fil.: 3x100				100	3		1	707	
Limnothrix spp.		A	cylinder	1	fil.: 1.5x100				100	1.5		1	177	
Limnothrix spp.		A	cylinder	2	fil.: 2x100				100	2		1	314	
Limnothrix spp.		A	cylinder	3	fil.: 2.5x100				100	2.5		1	491	
Limnothrix spp.		A	cylinder	4	fil.: 3x100				100	3		1	707	
Lyngbya aestuarii	(Mertens *in* Jürgens) Liebman *ex* Gomont 1892	A	cylinder		fil.: 8x100				100	8		1	5 024	
Oscillatoria chlorina	Kützing *ex* Gomont 1892	A	cylinder		fil.: 4x100				100	4		1	1 256	
Oscillatoria limosa	C.A. Agardh *ex* Gomont 1892	A	cylinder		fil.: 10x100				100	10		1	7 850	
Oscillatoria limosa	C.A. Agardh *ex* Gomont 1892	A	cylinder		fil.: 12x100				100	12		1	11 304	
Oscillatoriales, unidentified		A	cylinder	1	fil.: 1x100				100	1		1	79	
Oscillatoriales, unidentified		A	cylinder	2	fil.: 1.5x100				100	1.5		1	177	
Oscillatoriales, unidentified		A	cylinder	3	fil.: 2x100				100	2		1	314	
Oscillatoriales, unidentified		A	cylinder	4	fil.: 2.5x100				100	2.5		1	491	
Oscillatoriales, unidentified		A	cylinder	5	fil.: 3x100				100	3		1	707	
Oscillatoriales, unidentified		A	cylinder	6	fil.: 5x100				100	5		1	1 963	
Oscillatoriales, unidentified		A	cylinder	7	fil.: 7x100				100	7		1	3 847	
Phormidium amphibium	(C.A. Agardh *ex* Gomont) Anagnostidis & Komárek 1988	A	cylinder		fil.: 3.5x100				100	3.5		1	962	
Phormidium spp.		A	cylinder	1	fil.: 1.5x100				100	1.5		1	177	
Phormidium spp.		A	cylinder	2	fil.: 3x100				100	3		1	707	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Phormidium spp.		A	cylinder	3	fil.: 4x100				100	4		1	1 256	
Phormidium spp.		A	cylinder	4	fil.: 6x100				100	6		1	2 826	
Phormidium spp.		A	cylinder	5	fil.: 7x100				100	7		1	3 847	
Phormidium spp.		A	cylinder	6	fil.: 10x100				100	10		1	7 850	
Planktolyngbya contorta	(Lemmermann) Anagnostidis & Komárek 1988	A	cylinder		fil.: 1.5x100				100	1.5		1	177	
Planktolyngbya lacustris	(Lemmermann) Anagnostidis & Komárek 1988	A	cylinder		fil.: 1.5x100				100	1.5		1	177	
Planktolyngbya limnetica	(Lemmermann) Komárková-Legnerová & Cronberg 1992	A	cylinder	1	fil.: 1x100				100	1		1	79	
Planktolyngbya limnetica	(Lemmermann) Komárková-Legnerová & Cronberg 1992	A	cylinder	2	fil.: 2x100				100	2		1	314	
Planktolyngbya spp.		A	cylinder	1	fil.: 1.5x100				100	1.5		1	177	
Planktolyngbya spp.		A	cylinder	2	fil.: 2x100				100	2		1	314	
Planktolyngbya spp.		A	cylinder	3	fil.: 2.5x100				100	2.5		1	491	
Planktothrix agardhii	(Gomont) Anagnostidis & Komárek 1988	A	cylinder	1	fil.: 3.5x100				100	3.5		1	962	
Planktothrix agardhii	(Gomont) Anagnostidis & Komárek 1988	A	cylinder	2	fil.: 5x100				100	5		1	1 963	
Planktothrix mougeotii	(Bory *ex* Gomont) Anagnostidis & Komárek 1988	A	cylinder		fil.: 5x100				100	5		1	1 963	
Planktothrix spp.		A	cylinder	1	fil.: 4x100				100	4		1	1 256	
Planktothrix spp.		A	cylinder	2	fil.: 6x100				100	6		1	2 826	
Planktothrix spp.		A	cylinder	3	fil.: 8x100				100	8		1	5 024	
Prochlorotrix spp.		A	cylinder		fil.: 1.5x100				100	1.5		1	177	*
Pseudanabaena acicularis	(Nygaard) Anagnostidis *et* Komarek 1988	A	cylinder		fil.: 1.5x100				100	1.5		1	177	*
Pseudanabaena limnetica	(Lemmermann) Komárek 1974	A	cylinder	1	fil.: 1x100				100	1		1	79	
Pseudanabaena limnetica	(Lemmermann) Komárek 1974	A	cylinder	2	fil.: 1.5x100				100	1.5		1	177	
Pseudanabaena mucicola	(Naumann & Huber-Pestalozzi) Bourrelly 1970	A	cylinder		fil.: 2x100				100	2		1	314	
Pseudanabaena spp.		A	cylinder	1	fil.: 0.5x100				100	0.5		1	20	
Pseudanabaena spp.		A	cylinder	2	fil.: 1.5x100				100	1.5		1	177	
Pseudanabaena spp.		A	cylinder	3	fil.: 2x100				100	2		1	314	
Romeria spp.		A	cylinder	1	fil.: 0.5x100				100	0.5		1	20	
Romeria spp.		A	cylinder	2	fil.: 1x100				100	1		1	79	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Spirulina major	Kützing *ex* Gomont 1892	A	cylinder		fil.: 1.5x100				100	1.5		1	177	
Spirulina subsalsa	Ørsted *ex* Gomont 1892	A	cylinder		fil.: 1.5x100				100	1.5		1	177	
Spirulina spp.		A	cylinder	1	fil.: 1.5x100				100	1.5		1	177	
Spirulina spp.		A	cylinder	2	fil.: 2x100				100	2		1	314	
Tychonema tenue	(Skuja) Anagnostidis & Komárek 1988	A	cylinder		fil.: 4-5x100				100	4.5		1	1 590	
Achroonema lentum	Skuja 1956	H	cylinder		fil.: 2x100				100	2		1	314	
Achroonema proteiforme	Skuja 1956	H	cylinder	1	fil.: 1-2x100				100	1.5		1	177	
Order NOSTOCALES														
Anabaena affinis	Lemmermann 1897	A	chain of spheres		fil.: 8x100	100				8.5		1	3 781	1
Anabaena baltica	J. Schmidt 1899	A	chain of spheres	1	fil.: 3x100	100				3		1	471	1
Anabaena baltica	J. Schmidt 1899	A	chain of spheres	2	fil.: 6x100	100				5.8		1	1 760	1
Anabaena circinalis	Rabenhorst ex Bornet & Flahault 1886	A	chain of spheres		fil.: 11x100	100				11		1	6 332	1
Anabaena crassa	(Lemmermann) Komárková & Cronberg 1992	A	chain of spheres		fil.: 11x100	100				11		1	6 332	1
Anabaena cylindrica	Lemmermann 1896	A	cylinder	1	fil.: 3-4x100				100	3.5		1	962	
Anabaena cylindrica	Lemmermann 1896	A	cylinder	2	fil.: 4-5x100				100	4.5		1	1 590	
Anabaena flos-aquae	(Lyngbye) Brébisson *in* Brébisson & Godey *ex* Bornet & Flahault 1886	A	chain of spheres	1	fil.: 4x100	100				4		1	837	1
Anabaena flos-aquae	(Lyngbye) Brébisson *in* Brébisson & Godey *ex* Bornet & Flahault 1886	A	chain of spheres	2	fil.: 5x100	100				5		1	1 308	1
Anabaena inaequalis	Kützing *ex* Bornet & Flahault 1886	A	chain of spheres	1	fil.: 4x100	100				4		1	837	1
Anabaena inaequalis	Kützing *ex* Bornet & Flahault 1886	A	chain of spheres	2	fil.: 5x100	100				5		1	1 308	1
Anabaena lemmermannii	P. Richter *in* Lemmermann 1903	A	chain of spheres		fil.: 5x100	100				5		1	1 308	1
Anabaena macrospora	Klebahn 1895	A	chain of spheres		fil.: 6-7x100	100				6.5		1	2 211	1
Anabaena oscillarioides	Bory *ex* Bornet & Flahault 1886	A	chain of spheres		fil.: 5x100	100				5		1	1 308	1
Anabaena planctonica	Brunnthaler 1903	A	chain of spheres	1	fil.: 10x100	100				10		1	5 233	1

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Anabaena planctonica	Brunnthaler 1903	A	chain of spheres	2	fil.: 12x100	100				12		1	7 536	1
Anabaena smithii	(Komárek) M. Watanabe 1991	A	chain of spheres			100				9		1	4 239	1
Anabaena spiroides	Klebahn 1895	A	chain of spheres		fil.: 5x100	100				5		1	1 308	1
Anabaena torulosa	(Carmichael *ex* Harvey *in* Hooker) Lagerheim *ex* Bornet & Flahault 1886	A	chain of spheres		fil.: 4-5x100	100				4.6		1	1 107	1
Anabaena spp.		A	chain of spheres	1	fil.: 4-5x100	100				4.5		1	1 060	1
Anabaena spp.		A	chain of spheres	2	fil.: 5-7x100	100				6		1	1 884	1
Anabaena spp.		A	chain of spheres	3	fil.: 7-9x100	100				8		1	3 349	1
Anabaena spp.		A	chain of spheres	4	fil.: 9-12x100	100				11		1	6 332	1
Anabaena spp.		A	cylinder	5	fil.: 3-4x100				100	3.5		1	962	
Anabaena spp.		A	cylinder	6	fil.: 4-5x100				100	4.5		1	1 590	
Anabaenopsis elenkinii	V. Miller 1923	A	cylinder		fil.: 5.8x100				100	5.8		1	2 641	
Anabaenopsis spp.		A	chain of spheres	1	fil.: 4-5x100	100				4.5		1	1 060	1
Anabaenopsis spp.		A	chain of spheres	2	fil.: 5-6x100	100				5.5		1	1 583	1
Aphanizomenon flos-aquae	(L.) Ralfs *ex* Bornet & Flahault 1886	A	cylinder		fil.: 5x100				100	5		1	1 963	
Aphanizomenon gracile	(Lemmermann) Lemmermann 1910	A	cylinder		fil.: 2.5-3x100				100	2.8		1	615	
Aphanizomenon hungaricum	Komarkova-Legnerova & Matyas	A	cylinder		fil.: 6x100				100	6		1	2 826	*
Aphanizomenon issatschenkoi	(Usacev) Proschkina-Lavrenko 1962	A	cylinder		fil.: 3x100				100	3		1	707	
Aphanizomenon issatschenkoi	(Usacev) Proschkina-Lavrenko 1963	A	cylinder		fil.: 4.5x100				100	4.5		1	1 590	
Aphanizomenon klebahnii	(Elenkin) Pechar & Kalina 2000	A	cylinder		fil.: 5x100				100	5		1	1 963	
Aphanizomenon skujae	Komarkova-Legnerova & Cronberg 1992	A	cylinder		fil.: 2x100				100	2		1	314	*
Aphanizomenon yezoense	Watanabe 1991	A	cylinder		fil.: 3x100				100	3		1	707	
Aphanizomenon sp.		A	cylinder		fil.: 4x100				100	4		1	1 256	2

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Aphanizomenon spp.		A	cylinder	1	fil.: 2x100				100	2		1	314	
Aphanizomenon spp.		A	cylinder	2	fil.: 2.5x100				100	3		1	491	
Aphanizomenon spp.		A	cylinder	3	fil.: 3x100				100	3		1	707	
Aphanizomenon spp.		A	cylinder	4	fil.: 5x100				100	5		1	1 963	
Gloeotrichia echinulata	J.E. Smith *ex* P. Richter 1894	A	cylinder		fil.: 6x100				100	6		1	2 826	
Gloeotrichia spp.		A	cylinder	1	fil.: 6x100				100	6		1	2 826	
Gloeotrichia spp.		A	cylinder	2	fil.: 8x100				100	8		1	5 024	
Gloeotrichia spp.		A	cylinder	3	fil.: 9x100				100	9		1	6 359	
Nodularia baltica	Komárek *et al.* 1993	A	cylinder		fil.: 6x100				100	6		1	2 826	
Nodularia harveyana	Thuret *ex* Bornet & Flahault 1886	A	cylinder		fil.: 4-5x100				100	4.5		1	1 590	
Nodularia litorea	(Kützing) Thuret *ex* Komárek *et al.* 1993	A	cylinder		fil.: 10-18x100				100	14		1	15 386	
Nodularia spumigena	Mertens *ex* Bornet & Flahault 1886	A	cylinder	1	fil.: 6-8x100				100	7		1	3 847	
Nodularia spumigena	Mertens *ex* Bornet & Flahault 1886	A	cylinder	2	fil.: 8-10x100				100	9		1	6 359	
Nodularia spumigena	Mertens *ex* Bornet & Flahault 1886	A	cylinder	3	fil.: 10-12x100				100	11		1	9 499	
Nodularia spp.		A	cylinder	1	fil.: 4-6x100				100	5		1	1 963	
Nodularia spp.		A	cylinder	2	fil.: 6-8x100				100	7		1	3 847	
Nodularia spp.		A	cylinder	3	fil.: 8-10x100				100	9		1	6 359	
Nodularia spp.		A	cylinder	4	fil.: 10-12x100				100	11		1	9 499	
Division CRYPTOPHYTA														
Class Cryptophyceae														
Order CRYPTOMONADALES														
Chroomonas spp.		A	flattened ellipsoid	1	cell: 4x9	9				4	3	1	57	
Chroomonas spp.		A	flattened ellipsoid	2	cell: 7x12	12				7	5.6	1	246	
Cryptomonas erosa	Ehrenberg 1832	A	flattened ellipsoid		cell: 26x14	26				14	11.2	1	2 134	
Cryptomonas obovata	Skuja 1948	A	flattened ellipsoid	1	cell: 15-17	16				8	6.4	1	429	
Cryptomonas obovata	Skuja 1948	A	flattened ellipsoid	2	cell: 17-20	18				10	8	1	754	
Cryptomonas obovata	Skuja 1948	A	flattened ellipsoid	3	cell: 20-26	23				12	9.6	1	1 387	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Cryptomonas obovata	Skuja 1948	A	flattened ellipsoid	4	cell: 26-29	28				14	11.2	1	2 298	
Cryptomonas obovata	Skuja 1948	A	flattened ellipsoid	5	cell: 29-35	33				17	11.9	1	3 494	
Cryptomonas ovata	Ehrenberg 1832	A	flattened ellipsoid	1	cell: 13-16	14				7	6	1	308	
Cryptomonas ovata	Ehrenberg 1832	A	flattened ellipsoid	2	cell: 16-20	19				13	8.4	1	1 086	
Cryptomonas ovata	Ehrenberg 1832	A	flattened ellipsoid	3	cell: 20-26	24				13	8.4	1	1 372	
Cryptomonas ovata	Ehrenberg 1832	A	flattened ellipsoid	4	cell: 26-29	29				14.5	8.4	1	1 849	
Cryptomonas ovata	Ehrenberg 1832	A	flattened ellipsoid	5	cell: 29-35	32				15.5	8.4	1	2 180	
Cryptomonas platyuris	Skuja 1948	A	flattened ellipsoid		cell: 26-30x15-16	28				15.2	10	1	2 227	
Cryptomonas spp.		A	flattened ellipsoid	1	cell: 16-18x7-8	17				7.5	6	1	400	
Cryptomonas spp.		A	flattened ellipsoid	2	cell: 20-26x10-13	23				11.5	9.2	1	1 273	
Cryptomonas spp.		A	flattened ellipsoid	3	cell: 26-30x13-14	28				13.5	10.8	1	2 136	
Cryptomonas spp.		A	flattened ellipsoid	4	cell: 30-35x15-18	32.5				16.5	13.2	1	3 704	
Cryptomonas spp.		A	cone + half sphere	5	cell: 8-12x4-5				10	4.5		1	65	
Cryptomonas spp.		A	cone + half sphere	6	cell: 12-17x6				15	6		1	170	
Cryptomonas spp.		A	cone + half sphere	7	cell: 17-22x6				20	6		1	217	
Cryptomonas spp.		A	cone + half sphere	8	cell: 30-35x20-25				30	23		1	5 744	
Hemiselmis virescens	Droop 1955	A	cone + half sphere		cell: 4-6x3				5	3		1	15	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Hemiselmis spp.		A	cone + half sphere		cell: 4-6x3				5	3		1	15	
Komma caudata	(Geitler) Hill 1991	A	cone + half sphere		cell: 7-9x4-5				8	4.5		1	54	
Plagioselmis prolonga	Butcher 1967	A	cone + half sphere	1	cell: 5-7x3-4				6	3.5		1	25	
Plagioselmis prolonga	Butcher 1967	A	cone + half sphere	2	cell: 7-9x4-5				8	4.5		1	54	
Plagioselmis prolonga	Butcher 1967	A	cone + half sphere	3	cell: 7-9x5-7				8	6		1	104	
Plagioselmis spp.		A	cone + half sphere	1	cell: 5-7x3-4				6	3.5		1	25	
Plagioselmis spp.		A	cone + half sphere	2	cell: 7-9x4-5				8	4.5		1	54	
Plagioselmis spp.		A	cone + half sphere	3	cell: 7-9x5-7				8	6		1	104	
Rhodomonas baltica	Karsten 1898	A	cone + half sphere		cell: 30x12				30	12		1	1 356	
Rhodomonas lacustris v. *lacustris*	Pascher & Ruttner *in* Pascher 1913	A	cone + half sphere		cell: 12-14x7				13	7		1	212	
Rhodomonas lacustris v. *nannoplanctica*	(Skuja) Javornický 1976	A	cone + half sphere		cell: 7-9x4-6				8	5		1	69	
Rhodomonas marina	(Dangeard) Lemmermann 1908	A	cone + half sphere		cell: 20x6				20	6		1	217	
Rhodomonas salina	(Wislouch) Hill & Wetherbee 1989	A	cone + half sphere		cell: 12x6				12	6		1	141	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Rhodomonas spp.		A	cone + half sphere	1	cell: 7-9x4-6				8	5		1	69	
Rhodomonas spp.		A	cone + half sphere	2	cell: 11-14x5-6				13	5.5		1	125	
Teleaulax acuta	(Butcher) Hill 1991	A	cone + half sphere	1	cell: 12-15x5-6				13	5.5		1	125	
Teleaulax acuta	(Butcher) Hill 1991	A	cone + half sphere	2	cell: 13-16x6-7				14	6.5		1	191	
Teleaulax acuta	(Butcher) Hill 1991	A	cone + half sphere	3	cell: 15-18x7-8				17	7.5		1	305	
Teleaulax amphioxeia	(Conrad) Hill 1992	A	cone + half sphere	1	cell: 8-10x4-5				9	4.5		1	60	
Teleaulax amphioxeia	(Conrad) Hill 1992	A	cone + half sphere	2	cell: 10-12x5-6				11	5.5		1	109	
Teleaulax amphioxeia	(Conrad) Hill 1992	A	cone + half sphere	3	cell: 12-16x6-8				14	7		1	224	
Teleaulax spp.		A	cone + half sphere	1	cell: 8-11x4-5				9	4.5		1	60	
Teleaulax spp.		A	cone + half sphere	2	cell: 11-15x5-6				13	5.5		1	125	
Teleaulax spp.		A	cone + half sphere	3	cell: 13-16x6-7				14	6.5		1	191	
Teleaulax spp.		A	cone + half sphere	4	cell: 15-19x6-8				17	7.5		1	305	
Cryptomonadales, unidentified		A	cone + half sphere	1	cell: 3x2				3	2		1	4.2	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Cryptomonadales, unidentified		A	cone + half sphere	2	cell: 6x3.5				6	3.5		1	25	
Cryptomonadales, unidentified		A	cone + half sphere	3	cell: 8x4.5				8	4.5		1	54	
Cryptomonadales, unidentified		A	cone + half sphere	3	cell: 10x5				10	5		1	82	
Cryptomonadales, unidentified		A	cone + half sphere	4	cell: 10-12x7				11	7		1	186	
Cryptomonadales, unidentified		A	cone + half sphere	5	cell: 15x10				15	10		1	523	
Division DINOPHYTA (PYRROPHYTA)														
Class Dinophyceae														
Order PROROCENTRALES														
Prorocentrum balticum	(Lohmann) Loeblich III 1970	A	sphere-10%	1	cell: 10					10		1	471	
Prorocentrum balticum	(Lohmann) Loeblich III 1970	A	sphere-10%	2	cell: 13					13		1	1 035	
Prorocentrum balticum	(Lohmann) Loeblich III 1970	A	sphere-10%	3	cell: 15					15		1	1 590	
Prorocentrum lima	(Ehrenberg) Dodge 1975	A	flattened ellipsoid		cell: 50x60	60				50	28	1	43 960	
Prorocentrum micans	Ehrenberg 1833	A	flattened ellipsoid	1	cell: 50x30	50				30	16.5	1	12 953	
Prorocentrum micans	Ehrenberg 1833	A	flattened ellipsoid	2	cell: 60x40	60				40	22	1	27 632	
Prorocentrum minimum	(Pavillard) Schiller 1933	A	cone-10%	1	cell: 16-18x14-16				17	15		1	901	
Prorocentrum minimum	(Pavillard) Schiller 1933	A	cone-10%	2	cell: 18-20x16-17				19	16.5		1	1 218	
Prorocentrum minimum	(Pavillard) Schiller 1933	A	cone-10%	3	cell: 20-22x17-19				21	18		1	1 602	
Prorocentrum spp.		A	cone-10%	1	cell: 18-20x10-12				19	11		1	541	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Prorocentrum spp.		A	cone-10%	2	cell: 18-20x16-17				19	16.5		1	1 218	
Prorocentrum spp.		A	cone-10%	3	cell: 22-25x19-21				22.5	20		1	2 120	
Prorocentrum spp.		A	flattened ellipsoid	4	cell: 50x30	50				30	16.5	1	12 953	
Prorocentrum spp.		A	flattened ellipsoid	5	cell: 60x40	60				40	22	1	27 632	
Order DINOPHYSALES														
Dinophysis acuminata	Claparède & Lachmann 1859	M	flattened ellipsoid	1	cell: 28-32	30				21	15	1	4 946	HD fact.=0.5
Dinophysis acuminata	Claparède & Lachmann 1859	M	flattened ellipsoid	2	cell: 33-37	35				25	17.5	1	8 014	HD fact.=0.5
Dinophysis acuminata	Claparède & Lachmann 1859	M	flattened ellipsoid	3	cell: 38-42	40				29	20	1	12 141	HD fact.=0.5
Dinophysis acuminata	Claparède & Lachmann 1859	M	flattened ellipsoid	4	cell: 43-47	45				32	22.5	1	16 956	HD fact.=0.5
Dinophysis acuminata	Claparède & Lachmann 1859	M	flattened ellipsoid	5	cell: 48-52	50				36	25	1	23 550	HD fact.=0.5
Dinophysis acuminata	Claparède & Lachmann 1859	M	flattened ellipsoid	6	cell: 53-57	55				40	27.5	1	31 662	HD fact.=0.5
Dinophysis acuta	Ehrenberg 1839	M	flattened ellipsoid	1	cell: 55-57	56				41	28	1	33 644	HD fact.=0.5
Dinophysis acuta	Ehrenberg 1839	M	flattened ellipsoid	2	cell: 58-60	59				43	29.5	1	39 167	HD fact.=0.5
Dinophysis acuta	Ehrenberg 1839	M	flattened ellipsoid	3	cell: 61-65	63				46	31.5	1	47 774	HD fact.=0.5
Dinophysis acuta	Ehrenberg 1839	M	flattened ellipsoid	4	cell: 75	75				55	37.5	1	80 953	HD fact.=0.5
Dinophysis acuta	Ehrenberg 1839	M	flattened ellipsoid	5	cell: 85	85				62	42.5	1	117 214	HD fact.=0.5
Dinophysis dens	Pavillard 1915	M	flattened ellipsoid		cell: 45-50	48				28	19.6	1	13 786	HD fact.=0.7
Dinophysis norvegica	Claperède & Lachmann 1859	M	flattened ellipsoid	1	cell: 40-50	45				31	20.3	1	14 784	HD fact.=0.45
Dinophysis norvegica	Claperède & Lachmann 1859	M	flattened ellipsoid	2	cell: 50-60	55				37	27.5	1	29 287	HD fact.=0.5
Dinophysis norvegica	Claperède & Lachmann 1859	M	flattened ellipsoid	3	cell: 60-70	65				44	32.5	1	48 644	HD fact.=0.5

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Dinophysis norvegica	Claperède & Lachmann 1859	M	flattened ellipsoid	4	cell: 70-80	75				51	37.5	1	75 066	HD fact.=0.5
Dinophysis rotundata	Claperède & Lachmann 1859	H	flattened ellipsoid	1	cell: 30-35	32.5				29	8.1	1	4 042	3; 7; HD fact.=0,25
Dinophysis rotundata	Claperède & Lachmann 1859	H	flattened ellipsoid	2	cell: 35-40	37				33	9.3	1	5 964	3; 7; HD fact.=0,25
Dinophysis rotundata	Claperède & Lachmann 1859	H	flattened ellipsoid	3	cell: 40-45	43				39	10.8	1	9 362	3; 7; HD fact.=0,25
Dinophysis rotundata	Claperède & Lachmann 1859	H	flattened ellipsoid	4	cell: 45-55	50				45	12.5	1	14 719	3; 7; HD fact.=0,25
Dinophysis tripos	Gourret 1883	M	flattened ellipsoid		cell: 75	75				40	24	1	37 680	HD fact.=0.6
Dinophysis spp.		M	flattened ellipsoid	1	cell: 15-20	18				13	8.1	1	961	HD fact.=0.45
Dinophysis spp.		M	flattened ellipsoid	2	cell: 20-25	23				16	10.4	1	2 006	HD fact.=0.45
Dinophysis spp.		M	flattened ellipsoid	3	cell: 25-30	28				20	12.6	1	3 619	HD fact.=0.45
Dinophysis spp.		M	flattened ellipsoid	4	cell: 30-40	35				25	15.8	1	7 068	HD fact.=0.45
Dinophysis spp.		M	flattened ellipsoid	5	cell: 40-45	43				30	19.4	1	13 107	HD fact.=0.45
Dinophysis spp.		M	flattened ellipsoid	6	cell: 45-50	48				34	21.6	1	18 231	HD fact.=0.45
Dinophysis spp.		M	flattened ellipsoid	7	cell: 50-60	55				39	24.8	1	27 427	HD fact.=0.45
Order GYMNODINIALES														
Amphidinium carterae	Hulburt 1957	A	flattened ellipsoid		cell: 15-20x8-10	17				9	5.4	1	432	
Amphidinium crassum	Lohmann 1908	H	flattened ellipsoid	1	cell: 20-24x10-14	22.5				12	8	1	1 136	
Amphidinium crassum	Lohmann 1908	H	flattened ellipsoid	2	cell: 25-30x15-20	27.5				17	11.4	1	2 787	
Amphidinium longum	Lohmann 1908	H	flattened ellipsoid		cell: 30-35x10-12	32				11	7.4	1	1 358	
Amphidinium pellucidum	Herdman 1922	H	flattened ellipsoid		cell: 38-43x20-25	40				22	14.7	1	6 788	
Amphidinium sphenoides	Wulff 1916	H	2 cones		cell: 36x8.5				36	8.5		1	681	
Amphidinium sphenoides	Wulff 1916	H	2 cones		cell: 36x14				36	14		1	1 846	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Amphidinium sphenoides	Wulff 1916	H	2 cones		cell: 45x15				45	15		1	2 649	
Amphidinium spp.		A/H	flattened ellipsoid	1	cell: <10	8				6	3.9	1	92	HD fact.=0.7
Amphidinium spp.		A/H	flattened ellipsoid	2	cell: 10-15	13				9	6.4	1	394	HD fact.=0.7
Amphidinium spp.		A/H	flattened ellipsoid	3	cell: 15-20	18				13	8.8	1	1 047	HD fact.=0.7
Amphidinium spp.		A/H	flattened ellipsoid	4	cell: 20-25	22.5				14	9.5	1	1 502	HD fact.=0.7
Amphidinium spp.		A/H	flattened ellipsoid	5	cell: 25-30	27.5				16	11.2	1	2 579	HD fact.=0.7
Amphidinium spp.		A/H	flattened ellipsoid	6	cell: 30-40	35				25	17.2	1	7 696	HD fact.=0.7
Amphidinium spp.		A/H	flattened ellipsoid	7	cell: 40-45	43				30	21.1	1	14 272	HD fact.=0.7
Amphidinium spp.		A/H	flattened ellipsoid	8	cell: 45-50	48				34	23.5	1	19 852	HD fact.=0.7
Gymnodinium albulum	Lindemann 1928	A	flattened ellipsoid		cell: 15x10	15				10	10	1	785	
Gymnodinium aureolum	(Hulburt) G. Hansen 2000	A	flattened ellipsoid	1	cell: 20-25	23				20	15	1	3 611	
Gymnodinium aureolum	(Hulburt) G. Hansen 2000	A	flattened ellipsoid	2	cell: 26-30	28				23	19	1	6 404	
Gymnodinium galatheanum	Braarud 1957	A	rotational ellipsoid		cell: 13-17x10				13	10		1	680	
Gymnodinium gracile	Bergh 1881	H	flattened ellipsoid	1	cell: 70x30	70				30	21	1	23 079	HD fact.=0.7
Gymnodinium gracile	Bergh 1881	H	flattened ellipsoid	2	cell: 90x50	90				50	35	1	82 425	HD fact.=0.7
Gymnodinium gracile	Bergh 1881	H	flattened ellipsoid	2	cell: 100x60	100				60	42	1	131 880	HD fact.=0.7
Gymnodinium sanguineum	Hirasaka 1924	A	flattened ellipsoid	1	cell: 60x40	60				40	28	1	35 168	HD fact.=0.7
Gymnodinium sanguineum	Hirasaka 1924	A	flattened ellipsoid	2	cell: 80x40	80				40	28	1	46 891	HD fact.=0.7
Gymnodinium sanguineum	Hirasaka 1924	A	flattened ellipsoid	3	cell: 90x45	90				45	31.5	1	66 764	HD fact.=0.7
Gymnodinium simplex	(Lohmann) Kofoid & Swezy 1921	A	flattened ellipsoid	1	cell: 8x6	8				6	4.2	1	106	HD fact.=0.7

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Gymnodinium simplex	(Lohmann) Kofoid & Swezy 1921	A	flattened ellipsoid	2	cell: 10x8-9	10				8.5	6	1	265	HD fact.=0.7
Gymnodinium simplex	(Lohmann) Kofoid & Swezy 1921	A	flattened ellipsoid	3	cell: 14x8-10	14				9	6.3	1	415	HD fact.=0.7
Gymnodinium vestificii	Schütt 1895	H	2 cones	1	cell: 19x12				19	12		1	716	
Gymnodinium vestificii	Schütt 1895	H	2 cones	2	cell: 25x12				25	12		1	942	
Gymnodinium vestificii	Schütt 1895	H	2 cones	3	cell: 29x14				29	14		1	1 487	
Gymnodinium vestificii	Schütt 1895	H	2 cones	4	cell: 35x14				35	14		1	1 795	
Gymnodinium vestificii	Schütt 1895	H	2 cones	5	cell: 47x15				47	15		1	2 767	
Gymnodinium spp.		A/H	flattened ellipsoid	1	cell: 5-10x4-6	7.5				5	4	1	72	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	2	cell: 10-15x7-10	12.5				9	6	1	336	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	3	cell: 15-20x11-13	17.5				12	8	1	921	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	4	cell: 20-25x14-17	22.5				16	11	1	1 957	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	5	cell: 25-35x18-23	30				21	14	1	4 639	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	6	cell: 35-45x30-34	40				32	21	1	14 362	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	7	cell: 45-55x38-42	50				40	27	1	28 051	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	8	cell: 55-65x44-50	60				48	32	1	48 472	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	9	cell: 65-75x54-58	70				56	38	1	76 971	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	10	cell: 75-85x62-68	80				64	43	1	114 896	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	11	cell: 85-100x72-76	93				74	50	1	177 606	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	12	cell: 35-45x18-22	40				20	13	1	5 610	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	13	cell: 45-55x23-27	50				25	17	1	10 957	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	14	cell: 55-65x28-32	60				30	20	1	18 934	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	15	cell: 65-75x33-37	70				35	23	1	30 067	HD fac.=0.67

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Gymnodinium spp.		A/H	flattened ellipsoid	16	cell: 75-85x38-42	80				40	27	1	44 881	HD fac.=0.67
Gymnodinium spp.		A/H	flattened ellipsoid	17	cell: 85-100x43-48	92.5				46.3	31	1	69 377	HD fac.=0.67
Gyrodinium fusiforme	Kofoid & Swezy 1921	H	flattened ellipsoid	1	cell: 70-80x18-22	75				20	13	1	10 519	HD fac.=0.67
Gyrodinium fusiforme	Kofoid & Swezy 1921	H	flattened ellipsoid	2	cell: 70-80x22-27	75				25	17	1	16 436	HD fac.=0.67
Gyrodinium fusiforme	Kofoid & Swezy 1921	H	flattened ellipsoid	3	cell: 70-80x27-32	75				30	20	1	23 668	HD fac.=0.67
Gyrodinium fusiforme	Kofoid & Swezy 1921	H	flattened ellipsoid	4	cell: 70-80x32-37	75				35	23	1	32 214	HD fac.=0.67
Gyrodinium resplendens	Hulburt 1957	A	flattened ellipsoid		cell: 45-50x20-25	48				22	15	1	8 146	HD fac.=0.67
Gyrodinium spirale	(Bergh) Kofoid & Swezy 1921	H	2 cones	1	cell: 70-100x18-22				85	20		1	8 897	
Gyrodinium spirale	(Bergh) Kofoid & Swezy 1921	H	2 cones	2	cell: 70-100x22-27				85	25		1	13 901	
Gyrodinium spirale	(Bergh) Kofoid & Swezy 1921	H	2 cones	3	cell: 70-100x27-32				85	30		1	20 018	
Gyrodinium spirale	(Bergh) Kofoid & Swezy 1921	H	2 cones	4	cell: 70-100x32-37				85	35		1	27 246	
Gyrodinium spirale	(Bergh) Kofoid & Swezy 1921	H	2 cones	5	cell: 70-100x37-42				85	40		1	35 587	
Gyrodinium spirale	(Bergh) Kofoid & Swezy 1921	H	2 cones	6	cell: 100-150x37-42				130	40		1	54 427	
Gyrodinium spirale	(Bergh) Kofoid & Swezy 1921	H	2 cones	7	cell: 100-150x42-47				130	45		1	68 884	
Gyrodinium spirale	(Bergh) Kofoid & Swezy 1921	H	2 cones	8	cell: 100-150x47-52				130	50		1	85 042	
Gyrodinium spp.		A/H	flattened ellipsoid	1	cell: 5-10x4-6	7.5				5.3	4	1	72	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	2	cell: 10-15x7-10	12.5				8.8	6	1	336	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	3	cell: 15-20x11-13	17.5				12.3	8	1	921	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	4	cell: 20-25x14-17	22.5				15.8	11	1	1 957	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	5	cell: 25-35x18-23	30				21	14	1	4 639	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	6	cell: 35-45x30-34	40				32	21	1	14 362	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	7	cell: 45-55x38-42	50				40	27	1	28 051	HD fac.=0.67

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Gyrodinium spp.		A/H	flattened ellipsoid	8	cell: 55-65x44-50	60				48	32	1	48 472	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	9	cell: 65-75x54-58	70				56	38	1	76 971	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	10	cell: 75-85x62-68	80				64	43	1	114 896	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	11	cell: 85-100x72-76	92.5				74	50	1	177 606	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	12	cell: 35-45x18-22	40				20	13	1	5 610	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	13	cell: 45-55x23-27	50				25	17	1	10 957	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	14	cell: 55-65x28-32	60				30	20	1	18 934	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	15	cell: 65-75x33-37	70				35	23	1	30 067	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	16	cell: 75-85x38-42	80				40	27	1	44 881	HD fac.=0.67
Gyrodinium spp.		A/H	flattened ellipsoid	17	cell: 85-100x43-48	92.5				46.3	31	1	69 377	HD fac.=0.67
Katodinium glaucum	(Lebour) Loeblich III 1965	H	half cone + cut flattened ellipsoid	1	cell: 22x16	22				16	8	1	1 253	HD fac.=0.5
Katodinium glaucum	(Lebour) Loeblich III 1965	H	half cone + cut flattened ellipsoid	2	cell: 33-36x14-15	34.5				14.5	7	1	1 613	HD fac.=0.5
Katodinium glaucum	(Lebour) Loeblich III 1965	H	half cone + cut flattened ellipsoid	3	cell: 25-30x20-22	27				21	11	1	2 648	HD fac.=0.5
Katodinium glaucum	(Lebour) Loeblich III 1965	H	half cone + cut flattened ellipsoid	5	cell: 31-33x23-25	32				24	12	1	4 100	HD fac.=0.5
Katodinium glaucum	(Lebour) Loeblich III 1965	H	half cone + cut flattened ellipsoid	4	cell: 50x20	50				20	10	1	4 448	HD fac.=0.5

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Katodinium glaucum	(Lebour) Loeblich III 1965	H	half cone + cut flattened ellipsoid	6	cell: 34-36x26-30	35				28	14	1	6 103	HD fac.=0.5
Katodinium spp.		A/H	half cone + cut flattened ellipsoid	1	cell: 33x14	33				14	7	1	1 439	HD fac.=0.5
Katodinium spp.		A/H	half cone + cut flattened ellipsoid	2	cell: 36x15	36				15	8	1	1 802	HD fac.=0.5
Katodinium spp.		A/H	half cone + cut flattened ellipsoid	3	cell: 50x20	50				20	10	1	4 448	HD fac.=0.5
Polykrikos schwartzii	Bütschli 1873	H	cylinder	1	cell: 40x80				80	40		1	100 480	
Polykrikos schwartzii	Bütschli 1873	H	cylinder	2	cell: 50x60				60	50		1	117 750	
Polykrikos schwartzii	Bütschli 1873	H	cylinder	3	cell: 55x75				75	55		1	178 097	
Polykrikos schwartzii	Bütschli 1873	H	cylinder	4	cell: 60x100				100	60		1	282 600	
Polykrikos schwartzii	Bütschli 1873	H	cylinder	5	cell: 75x160				160	75		1	706 500	
Proterythropsis vigilans	Marshall 1926	H	flattened ellipsoid	1	cell: 20x30	30				20	9	1	2 826	
Proterythropsis vigilans	Marshall 1926	H	flattened ellipsoid	2	cell: 22x42	42				22	10	1	4 836	
Torodinium robustum	Kofoid & Swezy 1921	A	flattened ellipsoid		cell: 22x42	42				22	10	1	4 836	
Gymnodiniales spp.		A/H	sphere-10%	1	cell: <10					10		1	471	
Gymnodiniales spp.		A/H	sphere-10%	2	cell: 10-15					12		1	814	
Gymnodiniales spp.		A/H	sphere-10%	3	cell: 15-20					17		1	2 314	
Gymnodiniales spp.		A/H	sphere-10%	4	cell: 20-27					25		1	7 359	
Gymnodiniales spp.		A/H	sphere-10%	5	cell: 27-40					30		1	12 717	
Gymnodiniales spp.		A/H	sphere-10%	6	cell: 40-50					45		1	42 920	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Gymnodiniales spp.		A/H	sphere-10%	7	cell: 50-70					60		1	101 736	
Gymnodiniales spp.		A/H	sphere-10%	8	cell: 70					70		1	161 553	
Gymnodiniales spp.		A/H	2 cones	9	cell: <10				10	8		1	167	
Gymnodiniales spp.		A/H	2 cones	10	cell: 10-15				12.5	10		1	327	
Gymnodiniales spp.		A/H	2 cones	11	cell: 15-20				17.5	14		1	898	
Gymnodiniales spp.		A/H	2 cones	12	cell: 20-27				23.5	18.8		1	2 173	
Gymnodiniales spp.		A/H	2 cones	13	cell: 27-40				34	27.2		1	6 582	
Gymnodiniales spp.		A/H	2 cones	14	cell: 40-50				45	36		1	15 260	
Gymnodiniales spp.		A/H	2 cones	15	cell: 50-70				60	48		1	36 173	
Gymnodiniales spp.		A/H	2 cones	16	cell: 70				70	56		1	57 441	
Gymnodiniales spp.		A/H	rotational ellipsoid	17	cell: <10				10	8		1	335	
Gymnodiniales spp.		A/H	rotational ellipsoid	18	cell: 10-15				12	9		1	509	
Gymnodiniales spp.		A/H	rotational ellipsoid	19	cell: 15-20				17	11.9		1	1 260	
Gymnodiniales spp.		A/H	rotational ellipsoid	20	cell: 20-27				25	16.3		1	3 455	
Gymnodiniales spp.		A/H	rotational ellipsoid	21	cell: 27-40				32	19.2		1	6 173	
Gymnodiniales spp.		A/H	rotational ellipsoid	22	cell: 40-50				45	24.8		1	14 426	
Gymnodiniales spp.		A/H	rotational ellipsoid	23	cell: 50-70				60	30		1	28 260	
Gymnodiniales spp.		A/H	rotational ellipsoid	24	cell: 70				70	28		1	28 721	
Order OXYRRHINALES														
Oxyrrhis marina	Dujardin 1841	H	flattened ellipsoid		cell: 14x8	14				8	5	1	293	
Order NOCTILUCALES														

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Noctiluca scintillans	(Macartney) Kofoid & Swezy 1921	H	sphere	1	cell: 300-500					400		1	33493333	
Noctiluca scintillans	(Macartney) Kofoid & Swezy 1921	H	sphere	2	cell: 500-700					600		1	113040000	
Noctiluca scintillans	(Macartney) Kofoid & Swezy 1921	H	sphere	3	cell: 700-900					800		1	267946667	
Noctiluca scintillans	(Macartney) Kofoid & Swezy 1921	H	sphere	4	cell: 900-1100					1000		1	523333333	
Pronoctiluca pelagica	Fabre-Domerque 1889	H	flattened ellipsoid		cell: 45x12	35				12	10	1	2 198	4
Order PHYTODINIALES (BLASTODINIALES)														
Dissodinium pseudolunula	Swift *ex* Elbrächter & Drebes 1978	A	monoraphidioid	1	cell: 20-23					22		1	32 500	5; 6
Dissodinium pseudolunula	Swift *ex* Elbrächter & Drebes 1978	A	monoraphidioid	2	cell: 24-26					25		1	43 000	5; 6
Dissodinium pseudolunula	Swift *ex* Elbrächter & Drebes 1978	A	monoraphidioid	3	cell: 27-31					29		1	55 000	5; 6
Order PERIDINIALES														
Diplopsalis lenticula	Bergh 1881	H	sphere	1	cell: 30					30		1	14 130	
Diplopsalis lenticula	Bergh 1881	H	sphere	2	cell: 45					45		1	47 689	
Durinskia baltica	(Levander) Carty & E. R. Cox 1986	A	sphere-20%	1	cell: 18-22					20		1	3 349	
Durinskia baltica	(Levander) Carty & E. R. Cox 1986	A	sphere-20%	2	cell: 23-27					25		1	6 542	
Durinskia baltica	(Levander) Carty & E. R. Cox 1986	A	sphere-20%	3	cell: 28-32					30		1	11 304	
Glenodinium danicum	Paulsen 1907	A	flattened ellipsoid		cell: 18-22	20				20	13	1	2 805	HD fac.=0.67
Glenodinium paululum	Lindemann 1928	A	flattened ellipsoid		cell: 20-25	22.5				18	12	1	2 556	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	1	cell: 5-10x4-6	7.5				5	4	1	72	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	2	cell: 10-15x7-10	12.5				8.8	6	1	336	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	3	cell: 15-20x11-13	17.5				12.3	8	1	921	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	4	cell: 20-25x14-17	22.5				15.8	11	1	1 957	HD fac.=0.67

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Glenodinium spp.		A/H	flattened ellipsoid	5	cell: 25-35x18-23	30				21	14	1	4 639	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	6	cell: 35-45x30-34	40				32	21	1	14 362	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	7	cell: 45-55x38-42	50				40	27	1	28 051	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	8	cell: 55-65x44-50	60				48	32	1	48 472	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	9	cell: 35-45x18-22	40				20	13	1	5 610	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	10	cell: 45-55x23-27	50				25	17	1	10 957	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	11	cell: 55-65x28-32	60				30	20	1	18 934	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	12	cell: 65-75x33-37	70				35	23	1	30 067	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	13	cell: 75-85x38-42	80				40	27	1	44 881	HD fac.=0.67
Glenodinium spp.		A/H	flattened ellipsoid	14	cell: 85-100x43-48	92.5				46.3	31	1	69 377	HD fac.=0.67
Glenodinium spp.		A/H	sphere-25%	15	cell: 5-10					7.5		1	166	
Glenodinium spp.		A/H	sphere-25%	16	cell: 10-15					12.5		1	767	
Glenodinium spp.		A/H	sphere-25%	17	cell: 15-20					17.5		1	2 104	
Glenodinium spp.		A/H	sphere-25%	18	cell: 20-25					22.5		1	4 471	
Glenodinium spp.		A/H	sphere-25%	19	cell: 25-35					30		1	10 598	
Glenodinium spp.		A/H	sphere-25%	20	cell: 35-45					40		1	25 120	
Glenodinium spp.		A/H	sphere-25%	21	cell: 45-55					50		1	49 063	
Heterocapsa cf. *minima*	Pomroy 1989	A	2 cones	1	cell: 7-9				8	7		1	103	
Heterocapsa cf. *minima*	Pomroy 1989	A	2 cones	2	cell: 9-11				10	8		1	167	
Heterocapsa rotundata	(Lohmann) Hansen 1995	A	cone + half sphere	1	cell: 10-12x5-7				11	6		1	132	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Heterocapsa rotundata	(Lohmann) Hansen 1995	A	cone + half sphere	2	cell: 12-15x7-10				13.5	8.5		1	336	
Heterocapsa triquetra	(Ehrenberg) Stein 1883	M	2 cones	1	cell: 15-17x8				16	8		1	268	
Heterocapsa triquetra	(Ehrenberg) Stein 1883	M	2 cones	2	cell: 17-19x11				18	11		1	570	
Heterocapsa triquetra	(Ehrenberg) Stein 1883	M	2 cones	3	cell: 19-21x14-15				20	14.5		1	1 100	
Heterocapsa triquetra	(Ehrenberg) Stein 1883	M	2 cones	4	cell: 22-24x15				23	15		1	1 354	
Heterocapsa triquetra	(Ehrenberg) Stein 1883	M	2 cones	5	cell: 25-28x17-21				27	19		1	2 550	
Heterocapsa triquetra	(Ehrenberg) Stein 1883	M	2 cones	6	cell: 32-34x21-23				33	22		1	4 179	
Heterocapsa spp.		A	cone + half sphere	1	cell: 10-12x 5-7				11	6		1	132	
Heterocapsa spp.		A	cone + half sphere	2	cell: 12-15x 7-10				13.5	8.5		1	336	
Heterocapsa spp.		A	2 cones	3	cell: 15-17x 8				16	8		1	268	
Heterocapsa spp.		A	2 cones	4	cell: 17-19 x11				18	11		1	570	
Heterocapsa spp.		A	2 cones	5	cell: 20x14-15				20	14.5		1	1 100	
Heterocapsa spp.		A	2 cones	6	cell: 23x15				23	15		1	1 354	
Heterocapsa spp.		A	2 cones	7	cell: 25-28x17-21				27	19		1	2 550	
Heterocapsa spp.		A	2 cones	8	cell: 32-34x21-23				33	22		1	4 179	
Kryptoperidinium foliaceum	(Stein) Lindemann 1924	A	sphere-25%		cell: 30					30		1	10 598	
Oblea rotunda	(Lebour) Balech *ex* Sournia 1973	H	sphere-10%		cell: 30					30		1	12 717	
Oblea rotunda complex		A/H	sphere-10%	1	cell: 22-28					25		1	7 359	
Oblea rotunda complex		A/H	sphere-10%	2	cell: 28-33					30		1	12 717	
Oblea rotunda complex		A/H	sphere-10%	3	cell: 34-36					35		1	20 194	
Pentapharsodinium dalei	Indelicato & Loeblich III 1986	A	cone + half sphere	1	cell: <15				14	10		1	497	
Pentapharsodinium dalei	Indelicato & Loeblich III 1986	A	cone + half sphere	2	cell: 15-20				18	14		1	1 282	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Pentapharsodinium dalei	Indelicato & Loeblich III 1986	A	cone + half sphere	3	cell: 20-25				23	20		1	3 454	
Peridinium cinctum	(O.F. Müller) Ehrenberg 1838	A	sphere-20%		cell: 45					45		1	38 151	
Peridinium inconspicuum	Lemmermann 1899	A	flattened ellipsoid		cell: 20x30	30				20	13	1	4 208	
Preperidinium meunieri	(Pavillard) Elbrächter 1993	H	flattened ellipsoid	1	cell: 48x28	48				28	19	1	13 195	
Preperidinium meunieri	(Pavillard) Elbrächter 1993	H	flattened ellipsoid	2	cell: 55x38	55				38	25	1	27 847	
Protoperidinium achromaticum	(Levander) Balech 1974	H	sphere-10%	1	cell: 33-37					35		1	20 194	
Protoperidinium achromaticum	(Levander) Balech 1974	H	sphere-10%	2	cell: 38-42					40		1	30 144	
Protoperidinium bipes	(Paulsen) Balech 1974	H	half cone	1	cell: 18-22x12-14				20	13		1	442	
Protoperidinium bipes	(Paulsen) Balech 1974	H	half cone	2	cell: 23-26x17-21				25	19		1	1 181	
Protoperidinium bipes	(Paulsen) Balech 1974	H	half cone	3	cell: 27-30x22-26				28	24		1	2 110	
Protoperidinium breve	(Paulsen) Balech 1974	H	sphere-10%	1	cell: 23-27					25		1	7 359	
Protoperidinium breve	(Paulsen) Balech 1974	H	sphere-10%	2	cell: 28-32					30		1	12 717	
Protoperidinium breve	(Paulsen) Balech 1974	H	sphere-10%	3	cell: 33-37					35		1	20 194	
Protoperidinium breve	(Paulsen) Balech 1974	H	sphere-10%	4	cell: 38-42					40		1	30 144	
Protoperidinium breve	(Paulsen) Balech 1974	H	sphere-10%	5	cell: 43-47					45		1	42 920	
Protoperidinium breve	(Paulsen) Balech 1974	H	sphere-10%	6	cell: 48-52					50		1	58 875	
Protoperidinium brevipes	(Paulsen) Balech 1974	H	cone + half sphere	1	cell: 18-22				20	20		1	3 140	
Protoperidinium brevipes	(Paulsen) Balech 1974	H	cone + half sphere	2	cell: 23-29				26	26		1	6 899	
Protoperidinium brevipes	(Paulsen) Balech 1974	H	cone + half sphere	3	cell: 30-35				34	31		1	12 447	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Protoperidinium brevipes	(Paulsen) Balech 1974	H	cone + half sphere	4	cell: 36-40				37	37		1	19 881	
Protoperidinium claudicans	(Paulsen) Balech 1974	H	cone + half sphere	1	cell: 83x55				83	55		1	87 465	
Protoperidinium claudicans	(Paulsen) Balech 1974	H	cone + half sphere	2	cell: 84x72				84	72		1	162 778	
Protoperidinium claudicans	(Paulsen) Balech 1974	H	cone + half sphere	3	cell: 85x65				85	65		1	129 901	
Protoperidinium conicoides	(Paulsen) Balech 1973	H	cone + half sphere	1	cell: 44-48				46	46		1	38 204	
Protoperidinium conicoides	(Paulsen) Balech 1973	H	cone + half sphere	2	cell: 48-52				50	50		1	49 063	
Protoperidinium conicoides	(Paulsen) Balech 1973	H	cone + half sphere	3	cell: 52-57				55	55		1	65 302	
Protoperidinium conicum	(Gran) Balech 1974	H	cone + half sphere	1	cell: 52-57				55	55		1	65 302	
Protoperidinium conicum	(Gran) Balech 1974	H	cone + half sphere	2	cell: 57-62				60	50		1	55 604	
Protoperidinium conicum	(Gran) Balech 1974	H	cone + half sphere	3	cell: 72-77				75	75		1	165 586	
Protoperidinium conicum	(Gran) Balech 1974	H	cone + half sphere	4	cell: 77-82				80	80		1	200 960	
Protoperidinium conicum	(Gran) Balech 1974	H	cone + half sphere	5	cell: 87-92				90	90		1	286 133	
Protoperidinium curvipes	(Ostenfeld) Balech 1974	H	cone + half sphere		cell: 75-85				70	70		1	134 628	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Protoperidinium denticulatum	(Gran & Braarud) Balech 1974	H	flattened ellipsoid - 20%		cell: 45-55	50				30	23	1	14 130	
Protoperidinium depressum	(J.W. Bailey) Balech 1974	H	(cone + half sphere)- 20%	1	cell: 65-75				110	70		1	148 731	
Protoperidinium depressum	(J.W. Bailey) Balech 1974	H	(cone + half sphere)- 20%	2	cell: 95-105				100	100		1	314 000	
Protoperidinium depressum	(J.W. Bailey) Balech 1974	H	(cone + half sphere)- 20%	3	cell: 105-115				110	110		1	417 934	
Protoperidinium depressum	(J.W. Bailey) Balech 1974	H	(cone + half sphere)- 20%	4	cell: 115-130				125	90		1	288 252	
Protoperidinium depressum	(J.W. Bailey) Balech 1974	H	(cone + half sphere)- 20%	5	cell: 130-150				140	115		1	546 766	
Protoperidinium divergens	(Ehrenberg) Balech 1974	H	(cone + half sphere)- 20%	1	cell: 80x60				80	60		1	82 896	
Protoperidinium divergens	(Ehrenberg) Balech 1974	H	(cone + half sphere)- 20%	2	cell: 85x65				85	65		1	103 921	
Protoperidinium divergens	(Ehrenberg) Balech 1974	H	(cone + half sphere)- 20%	3	cell: 83x70				83	70		1	121 037	
Protoperidinium granii	(Ostenfeld) Balech 1974	H	(cone + half sphere)- 20%	1	cell: 25-27				35	25		1	6 215	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Protoperidinium granii	(Ostenfeld) Balech 1974	H	(cone + half sphere)-20%	2	cell: 28-30				37	29		1	9 067	
Protoperidinium granii	(Ostenfeld) Balech 1974	H	(cone + half sphere)-20%	3	cell: 31-33				39	32		1	11 790	
Protoperidinium granii	(Ostenfeld) Balech 1974	H	(cone + half sphere)-20%	4	cell: 34-36				40	35		1	14 745	
Protoperidinium granii	(Ostenfeld) Balech 1974	H	(cone + half sphere)-20%	5	cell: 37-39				41	38		1	18 137	
Protoperidinium granii	(Ostenfeld) Balech 1974	H	(cone + half sphere)-20%	6	cell: 40-42				42	41		1	21 993	
Protoperidinium granii	(Ostenfeld) Balech 1974	H	(cone + half sphere)-20%	7	cell: 43-45				47	44		1	27 964	
Protoperidinium leonis	(Pavillard) Balech 1974	H	2 cones-30%		cell: 60				60	60		1	39 564	
Protoperidinium longispinum	(Kofoid) Balech 1974	H	(cone + half sphere)-20%		cell: 70-90				80	60		1	82 896	
Protoperidinium minutum	(Kofoid) Loeblich III 1969	H	sphere-20%	1	cell: 38-42					40		1	26 795	
Protoperidinium minutum	(Kofoid) Loeblich III 1969	H	sphere-20%	2	cell: 43-48					46		1	40 751	
Protoperidinium oblongum	(Aurivillius) Parke & Dodge *in* Parke & Dixon 1976	H	(cone + half sphere)-20%	1	cell: 75-85				80	60		1	82 896	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Protoperidinium oblongum	(Aurivillius) Parke & Dodge *in* Parke & Dixon 1976	H	(cone + half sphere)- 20%	2	cell: 85-95				90	50		1	60 183	
Protoperidinium oblongum	(Aurivillius) Parke & Dodge *in* Parke & Dixon 1976	H	(cone + half sphere)- 20%	3	cell: 95-105				100	70		1	138 474	
Protoperidinium oblongum	(Aurivillius) Parke & Dodge *in* Parke & Dixon 1976	H	(cone + half sphere)- 20%	4	cell: 105-115				110	65		1	126 032	
Protoperidinium oblongum	(Aurivillius) Parke & Dodge *in* Parke & Dixon 1976	H	(cone + half sphere)- 20%	5	cell: 130-150				140	110		1	493 922	
Protoperidinium pallidum	(Ostenfeld) Balech 1973	H	(cone + half sphere)- 20%	1	cell: 52-57				70	55		1	61 740	
Protoperidinium pallidum	(Ostenfeld) Balech 1973	H	(cone + half sphere)- 20%	2	cell: 57-62				80	60		1	82 896	
Protoperidinium pallidum	(Ostenfeld) Balech 1973	H	(cone + half sphere)- 20%	3	cell: 67-72				90	70		1	128 217	
Protoperidinium pellucidum	Bergh 1881	H	(cone + half sphere)- 25%	1	cell: 35-37				42	36		1	15 260	
Protoperidinium pellucidum	Bergh 1881	H	(cone + half sphere)- 25%	2	cell: 38-40				60	40		1	25 120	
Protoperidinium pellucidum	Bergh 1881	H	(cone + half sphere)- 25%	3	cell: 41-43				52	42		1	25 272	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Protoperidinium pellucidum	Bergh 1881	H	(cone + half sphere)-25%	4	cell: 44-46				47	45		1	27 620	
Protoperidinium pellucidum	Bergh 1881	H	(cone + half sphere)-25%	5	cell: 47-49				55	48		1	35 721	
Protoperidinium pellucidum	Bergh 1881	H	(cone + half sphere)-25%	6	cell: 50-52				52	52		1	41 391	
Protoperidinium pentagonum	(Gran) Balech 1974	H	2 cones-30%		cell: 80x60				80	60		1	52 752	
Protoperidinium pyriforme	(Paulsen) Balech 1974	H	cone + half sphere		cell: 50x40				50	40		1	29 307	
Protoperidinium steinii	(E. Jørgensen) Balech 1974	H	(cone + half sphere)-25%	1	cell: 32-37				30	35		1	11 419	
Protoperidinium steinii	(E. Jørgensen) Balech 1974	H	(cone + half sphere)-25%	2	cell: 37-42				50	40		1	21 980	
Protoperidinium subinerme	(Paulsen) Loeblich III 1969	H	(cone + half sphere)-25%	1	cell: 40x40				40	40		1	18 840	
Protoperidinium subinerme	(Paulsen) Loeblich III 1969	H	(cone + half sphere)-25%	2	cell: 46x44				46	44		1	25 836	
Protoperidinium subinerme	(Paulsen) Loeblich III 1969	H	(cone + half sphere)-25%	3	cell: 60x50				60	50		1	41 703	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Protoperidinium thorianum	(Paulsen) Balech 1973	H	rotational ellipsoid-20%	1	cell: 60x50				60	50		1	62 800	
Protoperidinium thorianum	(Paulsen) Balech 1973	H	rotational ellipsoid-20%	2	cell: 70x60				70	60		1	105 504	
Protoperidinium spp.		H	(cone + half sphere)-25%	1	cell: 20x15				20	15		1	1 214	
Protoperidinium spp.		H	(cone + half sphere)-25%	2	cell: 25x20				25	20		1	2 748	
Protoperidinium spp.		H	(cone + half sphere)-25%	3	cell: 30x25				30	25		1	5 213	
Protoperidinium spp.		H	(cone + half sphere)-25%	4	cell: 35x30				35	30		1	8 831	
Protoperidinium spp.		H	(cone + half sphere)-25%	5	cell: 45x30				40	35		1	13 823	
Protoperidinium spp.		H	(cone + half sphere)-25%	6	cell: 45x40				45	40		1	20 410	
Protoperidinium spp.		H	(cone + half sphere)-25%	7	cell: 50x45				50	45		1	28 812	
Protoperidinium spp.		H	(cone + half sphere)-25%	8	cell: 55x50				55	50		1	39 250	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Protoperidinium spp.		H	(cone + half sphere)-25%	9	cell: 60x50				60	55		1	51 945	
Scrippsiella hangoei	(Schiller) Larsen *in* Larsen *et al.* 1995	A	sphere	1	cell: 16-18					16		1	2 144	
Scrippsiella hangoei	(Schiller) Larsen *in* Larsen *et al.* 1995	A	sphere	2	cell: 19-21					20		1	4 187	
Scrippsiella hangoei	(Schiller) Larsen *in* Larsen *et al.* 1995	A	sphere	3	cell: 22-24					23		1	6 367	
Scrippsiella hangoei	(Schiller) Larsen *in* Larsen *et al.* 1995	A	sphere	4	cell: 25-27					26		1	9 198	
Scrippsiella hangoei	(Schiller) Larsen *in* Larsen *et al.* 1995	A	sphere	5	cell: 28-30					29		1	12 764	
Scrippsiella hangoei	(Schiller) Larsen *in* Larsen *et al.* 1995	A	rotational ellipsoid	6	cell: 18x20				20	18		1	3 391	
Scrippsiella hangoei	(Schiller) Larsen *in* Larsen *et al.* 1995	A	rotational ellipsoid	7	cell: 22x25				25	22		1	6 332	
Scrippsiella hangoei	(Schiller) Larsen *in* Larsen *et al.* 1995	A	rotational ellipsoid	8	cell: 26x30				30	26		1	10 613	
Scrippsiella trochoidea	(Stein) Loeblich III 1976	A	cone + half sphere	1	cell: 15x17				17.4	14.5		1	1 356	
Scrippsiella trochoidea	(Stein) Loeblich III 1976	A	cone + half sphere	2	cell: 25x25				25	25		1	6 133	
Scrippsiella trochoidea	(Stein) Loeblich III 1976	A	cone + half sphere	3	cell: 28x30				30	28		1	9 026	
Peridiniales spp.		A/H	sphere-20%	1	cell: <10					8		1	214	
Peridiniales spp.		A/H	sphere-20%	2	cell: 10-15					12		1	723	
Peridiniales spp.		A/H	sphere-20%	3	cell: 15-20					17		1	2 057	
Peridiniales spp.		A/H	sphere-20%	4	cell: 20-27					25		1	6 542	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Peridiniales spp.		A/H	sphere-20%	5	cell: 27-40					32		1	13 719	
Peridiniales spp.		A/H	sphere-20%	6	cell: 40-50					45		1	38 151	
Peridiniales spp.		A/H	sphere-20%	7	cell: 50-70					60		1	90 432	
Peridiniales spp.		A/H	sphere-20%	8	cell: 70					70		1	143 603	
Peridiniales spp.		A/H	2 cones	9	cell: <10				10	8		1	167	
Peridiniales spp.		A/H	2 cones	10	cell: 10-15				12	9		1	254	
Peridiniales spp.		A/H	2 cones	11	cell: 15-20				17	11.9		1	630	
Peridiniales spp.		A/H	2 cones	12	cell: 20-27				25	16.3		1	1 727	
Peridiniales spp.		A/H	2 cones	13	cell: 27-40				32	19.2		1	3 087	
Peridiniales spp.		A/H	2 cones	14	cell: 40-50				45	24.8		1	7 213	
Peridiniales spp.		A/H	2 cones	15	cell: 50-70				60	30		1	14 130	
Peridiniales spp.		A/H	2 cones	16	cell: 70				70	28		1	14 360	
Peridiniales spp.		A/H	rotational ellipsoid	17	cell: <10				10	8		1	335	
Peridiniales spp.		A/H	rotational ellipsoid	18	cell: 10-15				12	9		1	509	
Peridiniales spp.		A/H	rotational ellipsoid	19	cell: 15-20				17	11.9		1	1 260	
Peridiniales spp.		A/H	rotational ellipsoid	20	cell: 20-27				25	16.3		1	3 455	
Peridiniales spp.		A/H	rotational ellipsoid	21	cell: 27-40				32	19.2		1	6 173	
Peridiniales spp.		A/H	rotational ellipsoid	22	cell: 40-50				45	24.8		1	14 426	
Peridiniales spp.		A/H	rotational ellipsoid	23	cell: 50-70				60	30		1	28 260	
Peridiniales spp.		A/H	rotational ellipsoid	24	cell: 70				70	28		1	28 721	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Order GONYAULACALES														
Alexandrium minutum	Halim 1960	A	rotational ellipsoid	1	cell: 23-25				24	24		1	7 235	6
Alexandrium minutum	Halim 1960	A	rotational ellipsoid	2	cell: 26-29				27	28		1	11 078	6
Alexandrium ostenfeldii	(Paulsen) Balech & Tangen 1985	A	rotational ellipsoid	1	cell: 32-37				35	34		1	21 174	6
Alexandrium ostenfeldii	(Paulsen) Balech & Tangen 1985	A	rotational ellipsoid	2	cell: 50-55				54	50		1	70 650	6
Alexandrium tamarense	(Lebour) Balech 1995	A	rotational ellipsoid	1	cell: 25-27				25	26		1	8 844	6
Alexandrium tamarense	(Lebour) Balech 1995	A	rotational ellipsoid	2	cell: 28-30				35	30		1	16 485	6
Alexandrium tamarense	(Lebour) Balech 1995	A	rotational ellipsoid	3	cell: 31-32				33	32		1	17 684	6
Alexandrium spp.		A	rotational ellipsoid	1	cell: 23-25				24	24		1	7 235	6
Alexandrium spp.		A	rotational ellipsoid	2	cell: 26-29				27	28		1	11 078	6
Alexandrium spp.		A	rotational ellipsoid	3	cell: 30-32				33	31		1	16 596	6
Amylax triacantha	(E. Jørgensen) Sournia 1984	A	(cone + half sphere)-25%	1	cell: 35-45x23-26				40	25		1	6 439	
Amylax triacantha	(E. Jørgensen) Sournia 1984	A	(cone + half sphere)-25%	2	cell: 45-55x27-30				50	29		1	10 645	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Amylax triacantha	(E. Jørgensen) Sournia 1984	A	(cone + half sphere)-25%	3	cell: 35-45x34-37				40	35		1	13 823	
Amylax triacantha	(E. Jørgensen) Sournia 1984	A	(cone + half sphere)-25%	4	cell: 47-57x35-40				52	38		1	20 120	
Ceratium furca	(Ehrenberg) Claparède & Lachmann 1859	A		1	cell: 35-45					40		1	30 000	5; 6
Ceratium furca	(Ehrenberg) Claparède & Lachmann 1859	A		2	cell: 45-55					50		1	50 000	5; 6
Ceratium furca	(Ehrenberg) Claparède & Lachmann 1859	A		3	cell: 55-65					60		1	75 000	5; 6
Ceratium fusus	(Ehrenberg) Dujardin 1841	A		1	cell: 15-25					20		1	12 000	5; 6
Ceratium fusus	(Ehrenberg) Dujardin 1841	A		2	cell: 25-35					22		1	27 000	5; 6
Ceratium hirundinella	(O.F. Müller) Schrank 1793	A		1	cell: 110-130					55		1	15 377	5; 7
Ceratium hirundinella	(O.F. Müller) Schrank 1793	A		2	cell: 130-150					55		1	20 403	5; 7
Ceratium hirundinella	(O.F. Müller) Schrank 1793	A		2	cell: 150-180					55		1	25 532	5; 7
Ceratium horridum	(P.T. Cleve) Gran 1902	A		1	cell: 40x200-250					40		1	44 526	5; 6
Ceratium horridum	(P.T. Cleve) Gran 1902	A		2	cell: 50x200-250					50		1	75 961	5; 6
Ceratium horridum	(P.T. Cleve) Gran 1902	A		3	cell: 60x200-250					60		1	123 146	5; 6
Ceratium lineatum	(Ehrenberg) P.T. Cleve 1899	A		1	cell: 25-30					25		1	9 000	5; 6
Ceratium lineatum	(Ehrenberg) P.T. Cleve 1899	A		2	cell: 30-35					30		1	13 000	5; 6
Ceratium lineatum	(Ehrenberg) P.T. Cleve 1899	A		3	cell: 35-40					35		1	17 000	5; 6
Ceratium lineatum	(Ehrenberg) P.T. Cleve 1899	A		4	cell: 40-45					40		1	20 000	5; 6
Ceratium lineatum	(Ehrenberg) P.T. Cleve 1899	A		5	cell: 45-50					50		1	28 000	5; 6
Ceratium longipes	(J.W. Bailey) Gran 1902	A		1	cell: 45-55					50		1	58 000	5; 6
Ceratium longipes	(J.W. Bailey) Gran 1902	A		2	cell: 55-65					60		1	101 250	5; 6
Ceratium macroceros	(Ehrenberg) Vanhöffen 1897	A		1	cell: 40-50					45		1	41 258	5; 6
Ceratium macroceros	(Ehrenberg) Vanhöffen 1897	A		2	cell: 50-60					55		1	60 000	5; 6
Ceratium tripos	(O.F. Müller) Nitzsch 1817	A		1	cell: 30-40					35		1	23 200	5; 6
Ceratium tripos	(O.F. Müller) Nitzsch 1817	A		2	cell: 40-50					45		1	40 300	5; 6
Ceratium tripos	(O.F. Müller) Nitzsch 1817	A		3	cell: 50-60					55		1	63 800	5; 6
Ceratium tripos	(O.F. Müller) Nitzsch 1817	A		4	cell: 60-70					65		1	104 100	5; 6
Ceratium tripos	(O.F. Müller) Nitzsch 1817	A		5	cell: 70-80					75		1	174 800	5; 6
Ceratium tripos	(O.F. Müller) Nitzsch 1817	A		5	cell: 80-90					85		1	210 000	5; 6
Cladopyxis claytonii	R.W. Holmes 1956	A	sphere	1	cell: 14-20					17		1	2 571	
Cladopyxis claytonii	R.W. Holmes 1956	A	sphere	2	cell: 20-25					22.4		1	5 882	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Cladopyxis setifera	Lohmann 1902	A	sphere	1	cell: 10					10		1	523	
Cladopyxis setifera	Lohmann 1902	A	sphere	2	cell: 15					15		1	1 766	
Cladopyxis setifera	Lohmann 1902	A	sphere	3	cell: 17					17		1	2 571	
Cladopyxis setifera	Lohmann 1902	A	sphere	4	cell: 21					21		1	4 847	
Gonyaulax digitale	(Pouchet) Kofoid 1911	A	cone + half sphere	1	cell: 26x44				44	26		1	10 083	
Gonyaulax digitale	(Pouchet) Kofoid 1911	A	cone + half sphere	2	cell: 36x56				56	36		1	25 095	
Gonyaulax digitale	(Pouchet) Kofoid 1911	A	cone + half sphere	3	cell: 43-46x54-60				57	44.5		1	41 065	
Gonyaulax polygramma	Stein 1883	A	cone + half sphere		cell: 30				30	30		1	10 598	
Gonyaulax spinifera	(Claparède & Lachmann) Diesing 1866	A	cone + half sphere	1	cell: 30				35	30		1	11 775	6
Gonyaulax spinifera	(Claparède & Lachmann) Diesing 1866	A	cone + half sphere	2	cell: 35				35	35		1	16 828	6
Gonyaulax spinifera	(Claparède & Lachmann) Diesing 1866	A	cone + half sphere	3	cell: 40				40	40		1	25 120	6
Gonyaulax verior	Sournia 1973	A	(cone + half sphere)-25%	1	cell: 24x40				40	24		1	5 878	
Gonyaulax verior	Sournia 1973	A	(cone + half sphere)-25%	2	cell: 50x64				64	50		1	43 666	
Gonyaulax verior	Sournia 1973	A	(cone + half sphere)-25%	3	cell: 60-64x70-72				71	62		1	76 947	
Gonyaulax spp.		A	sphere-25%	1	cell: 20-25					22		1	4 179	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Gonyaulax spp.		A	sphere-25%	2	cell: 25-35					30		1	10 598	
Gonyaulax spp.		A	sphere-25%	3	cell: 35-45					40		1	25 120	
Gonyaulax spp.		A	sphere-25%	4	cell: 45-55					50		1	49 063	
Lingulodinium polyedrum	(Stein) Dodge 1989	A	rotational ellipsoid	1	cell: 30x30				30	30		1	14 130	
Lingulodinium polyedrum	(Stein) Dodge 1989	A	rotational ellipsoid	2	cell: 34x38				38	34		1	22 989	
Lingulodinium polyedrum	(Stein) Dodge 1989	A	rotational ellipsoid	3	cell: 37x44				44	37		1	31 524	
Lingulodinium polyedrum	(Stein) Dodge 1989	A	rotational ellipsoid	4	cell: 41x50				50	41		1	43 986	
Peridiniella catenata	(Levander) Balech 1977	A	half sphere	1	cell: 20-23					22		1	2 786	
Peridiniella catenata	(Levander) Balech 1977	A	half sphere	2	cell: 24-26					25		1	4 089	
Peridiniella catenata	(Levander) Balech 1977	A	half sphere	3	cell: 27-30					28		1	5 744	
Peridiniella catenata	(Levander) Balech 1977	A	half sphere	4	cell: 31-35					33		1	9 404	
Peridiniella catenata	(Levander) Balech 1977	A	half sphere	5	cell: 36-40					38		1	14 358	
Protoceratium reticulatum	(Claparède & Lachmann) Bütschli 1885	A	sphere-10%	1	cell: 23					23		1	5 731	
Protoceratium reticulatum	(Claparède & Lachmann) Bütschli 1885	A	sphere-10%	2	cell: 30					30		1	12 717	
Protoceratium reticulatum	(Claparède & Lachmann) Bütschli 1885	A	sphere-10%	3	cell: 34-35					34.5		1	19 341	
Pyrophacus horologicum	Stein 1883	A	flattened ellipsoid-20%	1	cell: 60-70	32				65	60	1	52 250	
Pyrophacus horologicum	Stein 1883	A	flattened ellipsoid-20%	2	cell: 70-80	37				75	70	1	81 326	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Pyrophacus horologicum	Stein 1883	A	flattened ellipsoid-20%	3	cell: 80-90	42				85	80	1	119 571	
Dinophyceae cysts			sphere	1	cell: <10					10		1	523	
Dinophyceae cysts			sphere	2	cell: 10-15					12.5		1	1 022	
Dinophyceae cysts			sphere	3	cell: 15-20					17.5		1	2 805	
Dinophyceae cysts			sphere	4	cell: 20-25					22.5		1	5 961	
Dinophyceae cysts			sphere	5	cell: 25-30					27.5		1	10 884	
Dinophyceae cysts			sphere	6	cell: 40					40		1	33 493	
Dinophyceae cysts			sphere	7	cell: 45					45		1	47 689	
Dinophyceae cysts			sphere	8	cell: 50					50		1	65 417	
Division HAPTOPHYTA														
Class Prymnesiophyceae (Haptophyceae)														
Order PRYMNESIALES														
Acanthoica quattrospina	Lohmann 1903	M	rotational ellipsoid		cell: 7-8x14				14	7.5		1	412	
Chrysochromulina hirta	Manton 1978	M	sphere		cell: 7					7		1	180	
Chrysochromulina polylepis	Manton & Parke 1962	M	flattened ellipsoid	1	cell: 7-10	8				6.3	5	1	133	
Chrysochromulina polylepis	Manton & Parke 1962	M	flattened ellipsoid	2	cell: 10-13	11				7	6	1	242	
Chrysochromulina polylepis	Manton & Parke 1962	M	flattened ellipsoid	3	cell: 13-16	15				8	7	1	440	
Chrysochromulina spp.		M	sphere	1	cell: 2-4					3		1	14	
Chrysochromulina spp.		M	sphere	2	cell: 4-6					5		1	65	
Chrysochromulina spp.		M	flattened ellipsoid	3	cell: 4-6	5				5	2.7	1	35	
Chrysochromulina spp.		M	flattened ellipsoid	4	cell: 6-10	8				6.3	5	1	132	
Chrysochromulina spp.		M	flattened ellipsoid	5	cell: 10-15	12				9	8	1	452	
Emiliania huxleyi	(Lohmann) Hay & Mohler 1967	A	sphere	1	cell: 2-4					3		1	14	
Emiliania huxleyi	(Lohmann) Hay & Mohler 1967	A	sphere	2	cell: 4-6					5		1	65	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Phaeocystis globosa	Scherffel 1899	A	sphere-10%		cell: 6					6		1	102	*
Phaeocystis pouchetii	(Hariot) Lagerheim 1893	A	sphere	1	cell: 4-6					5		1	65	
Phaeocystis pouchetii	(Hariot) Lagerheim 1893	A	sphere	2	cell: 7-9					8		1	268	
Phaeocystis spp.		A	sphere		cell: 4-5					4.5		1	48	
Pleurochrysis carterae	(Braarud & Fagerland) Christensen 1978	A	sphere		cell: 10-12					11.2		1	735	
Pleurochrysis spp.		A	sphere		cell: 10-12					11.2		1	735	
Prymnesium spp.		M	rotational ellipsoid		cell: 10-12				11	8		1	368	
Order PAVLOVALES														
Pavlova spp.		A	flattened ellipsoid		cell: 7-9	8				6	4	1	88	
Division CHRYSOPHYTA (HETEROKONTOPHYTA)														
Class Chrysophyceae														
Order OCHROMONADALES														
Dinobryon balticum	(Schütt) Lemmermann 1901	M	rotational ellipsoid	1	cell: 2x10				10	2		1	21	
Dinobryon balticum	(Schütt) Lemmermann 1901	M	rotational ellipsoid	2	cell: 4-5x7-12				9.6	4.5		1	102	
Dinobryon balticum	(Schütt) Lemmermann 1901	M	rotational ellipsoid	3	cell: 6x12				12	6		1	226	
Dinobryon bavaricum	Imhof 1890	M	rotational ellipsoid		cell: 6x10-12				11.2	6		1	211	
Dinobryon cylindricum	Imhof 1890	M	rotational ellipsoid		cell: 5.6x8.4				8.4	5.6		1	138	
Dinobryon divergens	Imhof 1890	M	rotational ellipsoid	1	cell: 4x7				7	4		1	59	
Dinobryon divergens	Imhof 1890	M	rotational ellipsoid	2	cell: 7x14				14	7		1	359	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Dinobryon faculiferum	(Willén) Willén 1992	M	rotational ellipsoid	1	cell: 3x7				7	3		1	33	
Dinobryon faculiferum	(Willén) Willén 1992	M	rotational ellipsoid	2	cell: 4x8				8	4		1	67	
Dinobryon faculiferum	(Willén) Willén 1992	M	rotational ellipsoid	3	cell: 5x7				7	5		1	92	
Dinobryon spp.		M	rotational ellipsoid	1	cell: 3x4				4	3		1	19	
Dinobryon spp.		M	rotational ellipsoid	2	cell: 4x5				5	4		1	42	
Paraphysomonas spp.		H	sphere	1	cell: 3-5					4		1	33	
Paraphysomonas spp.		H	sphere	2	cell: 5-10					7		1	180	
Uroglena americana	Calkins 1892	A	flattened ellipsoid		cell: 8-10	8.7				5	3	1	68	
Uroglena spp.		A	sphere		cell: 3-5					4		1	33	
Order PEDINELLALES														
Apedinella radians	(Lohmann) Campbell 1973	A	sphere	1	cell: 7-8					7.5		1	221	
Apedinella radians	(Lohmann) Campbell 1973	A	sphere	2	cell: 8-9					8.5		1	321	
Apedinella radians	(Lohmann) Campbell 1973	A	sphere	3	cell: 9-10					9.5		1	449	
Apedinella radians	(Lohmann) Campbell 1973	A	sphere	3	cell: 10-11					10.5		1	606	
Pseudopedinella elastica	Skuja 1948	A	sphere	1	cell: 10					10		1	523	
Pseudopedinella elastica	Skuja 1948	A	sphere	2	cell: 12					12		1	904	
Pseudopedinella pyriforme	N. Carter 1937	A	sphere	1	cell: 6					6		1	113	
Pseudopedinella pyriforme	N. Carter 1937	A	sphere	2	cell: 8					8		1	268	
Pseudopedinella tricostata	(Rouchijajnen) Thomsen 1988	A	sphere	1	cell: 4					4		1	33	
Pseudopedinella tricostata	(Rouchijajnen) Thomsen 1988	A	sphere	2	cell: 5					5		1	65	
Pseudopedinella tricostata	(Rouchijajnen) Thomsen 1988	A	sphere	3	cell: 6					6		1	113	
Pseudopedinella spp.		A	sphere	1	cell: 4					4		1	33	
Pseudopedinella spp.		A	sphere	2	cell: 6					6		1	113	
Pseudopedinella spp.		A	sphere	3	cell: 8					8		1	268	
Pseudopedinella spp.		A	sphere	4	cell: 10					10		1	523	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Pseudopedinella spp.		A	sphere	5	cell: 12					12		1	904	
Class Dicyochophyceae														
Order DICTYOCHALES														
Dictyocha speculum	Ehrenberg 1839	A	half sphere		cell: 20					20		1	2 093	
Class Synurophyceae														
Order SYNURALES														
Mallomonas acaroides	Ruttner *in* Pascher 1913	A	flattened ellipsoid		cell: 15-20x10-13	16.8				12.2	10	1	1 073	
Mallomonas akrokomos	Ruttner *in* Pascher 1913	A	cone		cell: 20-22x6-7				21	6.5		1	232	
Mallomonas caudata	Iwanoff 1899 emend. W. Krieger 1930	A	cone + half sphere		cell: 40-45x20-25				42	22		1	6 712	
Synura uvella	Ehrenberg *emend.* Korshikov 1929	A	cone + half sphere	1	cell: 8x10				10	8.4		1	262	
Synura uvella	Ehrenberg *emend.* Korshikov 1929	A	cone + half sphere	2	cell: 15x15				15	15		1	1 325	
Synura spp.		A	cone + half sphere		cell: 8x5				8	5		1	69	
Class Diatomophyceae (Bacillariophyceae)														
Order EUPODISCALES (BIDDULPHIALES, CENTRALES)														
Actinocyclus normanii f. *normanii*	(Gregory *in* Greville) Hustedt 1957	A	cylinder	1	cell: 22-27				25	25		1	12 266	6
Actinocyclus normanii f. *normanii*	(Gregory *in* Greville) Hustedt 1957	A	cylinder	2	cell: 28-32				28	30		1	19 782	6
Actinocyclus normanii f. *normanii*	(Gregory *in* Greville) Hustedt 1957	A	cylinder	3	cell: 33-37				29	35		1	27 887	6
Actinocyclus normanii f. *normanii*	(Gregory *in* Greville) Hustedt 1957	A	cylinder	4	cell: 38-42				35	40		1	43 960	6
Actinocyclus normanii f. *normanii*	(Gregory *in* Greville) Hustedt 1957	A	cylinder	5	cell: 43-47				30	45		1	47 689	6

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Actinocyclus normanii f. *normanii*	(Gregory *in* Greville) Hustedt 1957	A	cylinder	6	cell: 48-52				42	50		1	82 425	6
Actinocyclus normanii f. *subsalsus*	(Juhlin-Dannfelt) Hustedt 1957	A	cylinder	1	cell: 18-22				22	20		1	6 908	6
Actinocyclus normanii f. *subsalsus*	(Juhlin-Dannfelt) Hustedt 1957	A	cylinder	2	cell: 22-27				25	25		1	12 266	6
Actinocyclus normanii f. *subsalsus*	(Juhlin-Dannfelt) Hustedt 1957	A	cylinder	3	cell: 28-32				28	30		1	19 782	6
Actinocyclus normanii f. *subsalsus*	(Juhlin-Dannfelt) Hustedt 1957	A	cylinder	4	cell: 33-37				26	35		1	25 002	6
Actinocyclus normanii f. *subsalsus*	(Juhlin-Dannfelt) Hustedt 1957	A	cylinder	5	cell: 38-42				35	40		1	43 960	6
Actinocyclus normanii f. *subsalsus*	(Juhlin-Dannfelt) Hustedt 1957	A	cylinder	6	cell: 43-47				32	45		1	50 868	6
Actinocyclus octonarius v. *octonarius*	Ehrenberg 1838	A	cylinder	1	cell: 22-27				23.75	25		1	11 652	6
Actinocyclus octonarius v. *octonarius*	Ehrenberg 1838	A	cylinder	2	cell: 28-32				29	30		1	20 489	6
Actinocyclus octonarius v. *octonarius*	Ehrenberg 1838	A	cylinder	3	cell: 33-37				33.25	35		1	31 974	6
Actinocyclus octonarius v. *octonarius*	Ehrenberg 1838	A	cylinder	4	cell: 38-42				38	40		1	47 728	6
Actinocyclus octonarius v. *octonarius*	Ehrenberg 1838	A	cylinder	5	cell: 43-50				42.75	45		1	67 956	6
Actinocyclus octonarius v. *octonarius*	Ehrenberg 1838	A	cylinder	6	cell: 50-60				35.75	55		1	84 893	6
Actinocyclus octonarius v. *octonarius*	Ehrenberg 1838	A	cylinder	7	cell: 60-70				42.25	65		1	140 127	6
Actinocyclus octonarius v. *octonarius*	Ehrenberg 1838	A	cylinder	8	cell: 70-90				52	80		1	261 248	6
Actinocyclus octonarius v. *octonarius*	Ehrenberg 1838	A	cylinder	9	cell: 90-110				65	100		1	510 250	6
Actinocyclus octonarius v. *octonarius*	Ehrenberg 1838	A	cylinder	10	cell: 110-130				65	120		1	734 760	6
Actinocyclus octonarius v. *octonarius*	Ehrenberg 1838	A	cylinder	11	cell: 130-150				91	140		1	1 400 126	6
Actinocyclus octonarius v. *crassus*	(W. Smith) Hendey 1954	A	cylinder	1	cell: 18-22				25	20		1	7 850	6
Actinocyclus octonarius v. *crassus*	(W. Smith) Hendey 1954	A	cylinder	2	cell: 22-27				28	25		1	13 738	6

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Actinocyclus octonarius v. *crassus*	(W. Smith) Hendey 1954	A	cylinder	3	cell: 28-32				32	30		1	22 608	6
Actinocyclus octonarius v. *crassus*	(W. Smith) Hendey 1954	A	cylinder	4	cell: 33-37				38	35		1	36 542	6
Actinocyclus octonarius v. *crassus*	(W. Smith) Hendey 1954	A	cylinder	5	cell: 38-42				45	40		1	56 520	6
Actinocyclus octonarius v. *crassus*	(W. Smith) Hendey 1954	A	cylinder	6	cell: 43-47				48	45		1	76 302	6
Actinocyclus octonarius v. *crassus*	(W. Smith) Hendey 1954	A	cylinder	7	cell: 48-52				50	50		1	98 125	6
Actinocyclus octonarius v. *tenellus*	(Brébisson) Hendey 1954	A	cylinder	1	cell: 15-20				22.4	16.8		1	4 963	6
Actinocyclus octonarius v. *tenellus*	(Brébisson) Hendey 1954	A	cylinder	2	cell: 21-23				22	22		1	8 359	6
Actinocyclus octonarius v. *tenellus*	(Brébisson) Hendey 1954	A	cylinder	3	cell: 24-27				30	25		1	14 719	6
Actinocyclus octonarius v. *tenellus*	(Brébisson) Hendey 1954	A	cylinder	4	cell: 28-32				31	31		1	23 386	6
Actinocyclus octonarius v. *tenellus*	(Brébisson) Hendey 1954	A	cylinder	5	cell: 33-40				36	36		1	36 625	6
Actinocyclus spp.		A	cylinder	1	cell: 18-22				20	20		1	6 280	6
Actinocyclus spp.		A	cylinder	2	cell: 22-27				23.75	25		1	11 652	6
Actinocyclus spp.		A	cylinder	3	cell: 28-32				29	30		1	20 489	6
Actinocyclus spp.		A	cylinder	4	cell: 33-37				33.25	35		1	31 974	6
Actinocyclus spp.		A	cylinder	5	cell: 38-42				38	40		1	47 728	6
Actinocyclus spp.		A	cylinder	6	cell: 43-50				42.75	45		1	67 956	6
Actinocyclus spp.		A	cylinder	7	cell: 50-60				35.75	55		1	84 893	6
Actinocyclus spp.		A	cylinder	8	cell: 60-70				42.25	65		1	140 127	6
Actinocyclus spp.		A	cylinder	9	cell: 70-90				52	80		1	261 248	6
Actinocyclus spp.		A	cylinder	10	cell: 90-110				65	100		1	510 250	6
Actinoptychus senarius	(Ehrenberg) Ehrenberg 1843	A	cylinder		cell: 30-40				25	35		1	24 041	
Attheya decora	T. West 1860	A	oval cylinder	1	cell: 14x18				18	14	4	1	791	
Attheya decora	T. West 1860	A	oval cylinder	2	cell: 16x20				20	16	4	1	1 005	
Attheya decora	T. West 1860	A	oval cylinder	3	cell: 20x20				20	20	4	1	1 256	
Attheya decora	T. West 1860	A	oval cylinder	4	cell: 20x28				28	20	5	1	2 198	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Attheya decora	T. West 1860	A	oval cylinder	5	cell: 20x31				31	20	14	1	6 814	
Attheya longicornis	Crawford & Gardner 1994	A	oval cylinder		cell: 7-8x4-5				8	4	4	1	100	*
Attheya septentrionalis	(Østrup) Crawford *in* Crawford, Gardner & Medlin 1994	A	oval cylinder		cell: 7-8x4-5				8	4	4	1	100	
Aulacoseira granulata v. *granulata*	(Ehrenberg) Simonsen 1979	A	cylinder	1	cell: 4x22				22.4	4		1	281	
Aulacoseira granulata v. *granulata*	(Ehrenberg) Simonsen 1979	A	cylinder	2	cell: 8x28				28	8		1	1 407	
Aulacoseira granulata v. *angustissima*	(O. Müller) Simonsen 1979	A	cylinder	1	cell: 3.5x25				25	3.5		1	240	
Aulacoseira granulata v. *angustissima*	(O. Müller) Simonsen 1979	A	cylinder	2	cell: 5x22				22.4	5		1	440	
Aulacoseira granulata v. *angustissima*	(O. Müller) Simonsen 1979	A	cylinder	3	cell: 5x28				28	5		1	550	
Aulacoseira granulata v. *angustissima*	(O. Müller) Simonsen 1979	A	cylinder	4	cell: 5x38				37.8	5		1	742	
Aulacoseira islandica ssp. *islandica*	(Ehrenberg) Simonsen 1979	A	cylinder	1	cell: 6x12				12	6		1	339	
Aulacoseira islandica ssp. *islandica*	(Ehrenberg) Simonsen 1979	A	cylinder	2	cell: 8x11				11.4	8.4		1	631	
Aulacoseira islandica ssp. *islandica*	(Ehrenberg) Simonsen 1979	A	cylinder	3	cell: 10x22				22.4	9.8		1	1 689	
Aulacoseira islandica ssp. *islandica*	(Ehrenberg) Simonsen 1979	A	cylinder	4	cell: 14x22				22.4	14		1	3 446	
Aulacoseira islandica ssp. *islandica*	(Ehrenberg) Simonsen 1979	A	cylinder	5	cell: 19x22				22.4	19.6		1	6 755	
Aulacoseira islandica ssp. *helvetica*	(O. Müller) Simonsen 1979	A	cylinder	1	cell: 6x12				12	6		1	339	
Aulacoseira islandica ssp. *helvetica*	(O. Müller) Simonsen 1979	A	cylinder	2	cell: 7x20				19.6	7		1	754	
Aulacoseira italica	(Ehrenberg) Simonsen 1979	A	cylinder	1	cell: 6x23				23.2	5.6		1	571	
Aulacoseira italica	(Ehrenberg) Simonsen 1979	A	cylinder	2	cell: 11x28				28	11.2		1	2 757	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	1	cell: 5x45-50				47.5	5		1	932	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	2	cell: 10x30-40				35	10		1	2 748	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	3	cell: 10x70-80				75	10		1	5 888	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	4	cell: 15-17x35-50				42.5	16		1	8 541	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	5	cell: 15x60-70				65	15		1	11 481	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	6	cell: 15-16x100				100	15.5		1	18 860	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	7	cell: 20x40-60				50	20		1	15 700	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	8	cell: 20-21x70-80				79	20.5		1	26 062	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	9	cell: 20x100				100	20		1	31 400	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	10	cell: 21-22x110-130				120	21.5		1	43 544	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	11	cell: 26-28x80-90				85	27		1	48 643	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	12	cell: 30x40-50				45	30		1	31 793	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	13	cell: 30x60-80				70	30		1	49 455	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	14	cell: 40x40-50				45	40		1	56 520	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	15	cell: 40x60-80				70	40		1	87 920	
Cerataulina pelagica	(P.T. Cleve) Hendey 1937	A	cylinder	16	cell: 40x90-100				95	40		1	119 320	
Chaetoceros affinis	Lauder 1864	A	oval cylinder	1	cell: 8x20				20	8	8	1	1 005	
Chaetoceros affinis	Lauder 1864	A	oval cylinder	2	cell: 12-15x15-18				16.5	13.5	11	1	1 923	
Chaetoceros affinis	Lauder 1864	A	oval cylinder	3	cell: 15x25				25	15	10	1	2 944	
Chaetoceros anastomosans v. *externa*	(Gran) Hustedt 1930	A	oval cylinder		cell: 9x16				16	9	6	1	678	
Chaetoceros borealis	J.W. Bailey 1854	A	oval cylinder	1	cell: 8-12x19				19	11	9	1	1 534	HD fac.=0.85
Chaetoceros borealis	J.W. Bailey 1854	A	oval cylinder	2	cell: 13-16x30				30	15	13	1	4 504	HD fac.=0.85
Chaetoceros borealis	J.W. Bailey 1854	A	oval cylinder	3	cell: 17-20x26				26	18	15	1	5 621	HD fac.=0.85
Chaetoceros borealis	J.W. Bailey 1854	A	oval cylinder	4	cell: 21-24x22				22	22	19	1	7 105	HD fac.=0.85
Chaetoceros borealis	J.W. Bailey 1854	A	oval cylinder	5	cell: 25-28x26				26	26	22	1	11 728	HD fac.=0.85
Chaetoceros borealis	J.W. Bailey 1854	A	oval cylinder	6	cell: 29-32x30				28	30	26	1	16 815	HD fac.=0.85
Chaetoceros brevis	Schütt 1895	A	oval cylinder	1	cell: 18-22x8				8	22	18	1	2 487	
Chaetoceros brevis	Schütt 1895	A	oval cylinder	2	cell: 18-22x11				11	22	18	1	3 419	
Chaetoceros brevis	Schütt 1895	A	oval cylinder	3	cell: 18-22x14				14	22	18	1	4 352	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Chaetoceros brevis	Schütt 1895	A	oval cylinder	4	cell: 18-22x16				16	22	18	1	4 974	
Chaetoceros brevis	Schütt 1895	A	oval cylinder	5	cell: 18-22x19				19	22	18	1	5 906	
Chaetoceros calcitrans	(Paulsen) Takano 1968	A	oval cylinder	1	cell: 3x3				3	3	3	1	20	
Chaetoceros calcitrans	(Paulsen) Takano 1968	A	oval cylinder	2	cell: 5x8				8	5	5	1	157	
Chaetoceros calcitrans	(Paulsen) Takano 1968	A	oval cylinder	3	cell: 7x8				8	7	5	1	220	
Chaetoceros calcitrans	(Paulsen) Takano 1968	A	oval cylinder	4	cell: 9x9				9	9	6	1	356	
Chaetoceros ceratosporus v. *ceratosporus*	Ostenfeld 1910	A	oval cylinder	1	cell: 5x3-5				4	5	4	1	67	HD fac.=0.85
Chaetoceros ceratosporus v. *ceratosporus*	Ostenfeld 1910	A	oval cylinder	2	cell: 6-7x9-11				10	6.5	6	1	282	HD fac.=0.85
Chaetoceros ceratosporus v. *ceratosporus*	Ostenfeld 1910	A	oval cylinder	3	cell: 7x13				13	7	6	1	425	HD fac.=0.85
Chaetoceros ceratosporus v. *ceratosporus*	Ostenfeld 1910	A	oval cylinder	4	cell: 11x14				14	11	10	1	1 185	HD fac.=0.7
Chaetoceros compressus	Lauder 1864	A	oval cylinder	1	cell: 5x5				5	5	4	1	83	HD fac.=0.85
Chaetoceros compressus	Lauder 1864	A	oval cylinder	2	cell: 6-7x11-15				13	6.5	6	1	366	HD fac.=0.85
Chaetoceros compressus	Lauder 1864	A	oval cylinder	3	cell: 8x8				8	8	7	1	342	HD fac.=0.85
Chaetoceros compressus	Lauder 1864	A	oval cylinder	4	cell: 10x14				14	10	9	1	934	HD fac.=0.85
Chaetoceros constrictus	Gran 1897	A	oval cylinder	1	cell: 14-15x15				15	15	14	1	2 473	
Chaetoceros constrictus	Gran 1897	A	oval cylinder	2	cell: 16x16				16	16	16	1	3 215	
Chaetoceros constrictus	Gran 1897	A	oval cylinder	3	cell: 14-19x19				19	19	14	1	3 967	
Chaetoceros constrictus	Gran 1897	A	oval cylinder	4	cell: 15-30x30				30	30	15	1	10 598	
Chaetoceros contortus	Schütt 1895	A	oval cylinder	1	cell: 7-12x12				12	12	7	1	791	
Chaetoceros contortus	Schütt 1895	A	oval cylinder	2	cell: 6-9x12				12	9	6	1	509	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Chaetoceros contortus	Schütt 1895	A	oval cylinder	3	cell: 7-14x19				19	14	7	1	1 462	
Chaetoceros convolutus	Castracane 1886	A	oval cylinder	1	cell: 16x19				19	16	16	1	3 818	
Chaetoceros convolutus	Castracane 1886	A	oval cylinder	2	cell: 20x41				41	20	20	1	12 874	
Chaetoceros crinitus	Schütt 1895	A	oval cylinder	1	cell: 8x22				22	8	8	1	1 105	
Chaetoceros crinitus	Schütt 1895	A	oval cylinder	2	cell: 6x6				6	6	6	1	170	
Chaetoceros curvisetus	P.T. Cleve 1889	A	oval cylinder	1	cell: 15				15	15	8	1	1 325	HD fac.=0.5
Chaetoceros curvisetus	P.T. Cleve 1889	A	oval cylinder	2	cell: 25				16	25	13	1	3 925	HD fac.=0.5
Chaetoceros curvisetus	P.T. Cleve 1889	A	oval cylinder	3	cell: 30				20	30	15	1	7 065	HD fac.=0.5
Chaetoceros danicus	P.T.Cleve 1889	A	oval cylinder	1	cell: 10x11				11.2	9.8	7	1	633	HD fac.=0.75
Chaetoceros danicus	P.T.Cleve 1889	A	oval cylinder	2	cell: 15-16x12-17				14.5	15.5	12	1	2 051	HD fac.=0.75
Chaetoceros danicus	P.T.Cleve 1889	A	oval cylinder	3	cell: 17-18x11-13				12	17.5	13	1	2 164	HD fac.=0.75
Chaetoceros danicus	P.T.Cleve 1889	A	oval cylinder	4	cell: 17-18x15-16				16.5	17	13	1	2 807	HD fac.=0.75
Chaetoceros danicus	P.T.Cleve 1889	A	oval cylinder	5	cell: 17-18x19-23				22.4	17	13	1	3 811	HD fac.=0.75
Chaetoceros danicus	P.T.Cleve 1889	A	oval cylinder	6	cell: 20x14-17				15.5	20	15	1	3 650	HD fac.=0.75
Chaetoceros danicus	P.T.Cleve 1889	A	oval cylinder	7	cell: 20x22-26				24	20	15	1	5 652	HD fac.=0.75
Chaetoceros danicus	P.T.Cleve 1889	A	oval cylinder	8	cell: 22-23x16-17				16.5	22.5	17	1	4 918	HD fac.=0.75
Chaetoceros danicus	P.T.Cleve 1889	A	oval cylinder	9	cell: 25x20				20	25	19	1	7 359	HD fac.=0.75
Chaetoceros debilis	P.T. Cleve 1894	A	oval cylinder	1	cell: 12.5-15x7				7	15	11	1	927	HD fac.=0.75
Chaetoceros debilis	P.T. Cleve 1894	A	oval cylinder	2	cell: 11-17.5x15				10	17.5	13	1	1 803	HD fac.=0.75
Chaetoceros debilis	P.T. Cleve 1894	A	oval cylinder	3	cell: 15-20x15				15	20	15	1	3 533	HD fac.=0.75

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Chaetoceros debilis	P.T. Cleve 1894	A	oval cylinder	4	cell: 20x15				15	20	15	1	3 533	HD fac.=0.75
Chaetoceros debilis	P.T. Cleve 1894	A	oval cylinder	5	cell: 33x12				12	33	25	1	7 694	HD fac.=0.75
Chaetoceros decipiens	P.T. Cleve 1873	A	oval cylinder	1	cell: 10-15x11				11	15	10	1	1 295	
Chaetoceros decipiens	P.T. Cleve 1873	A	oval cylinder	2	cell: 16x21				21	16	16	1	4 220	
Chaetoceros decipiens	P.T. Cleve 1873	A	oval cylinder	3	cell: 21-27.5x16				16	27.5	21	1	7 253	
Chaetoceros decipiens	P.T. Cleve 1873	A	oval cylinder	4	cell: 30x19				19	30	30	1	13 424	
Chaetoceros decipiens	P.T. Cleve 1873	A	oval cylinder	5	cell: 30-70x22				22	70	30	1	36 267	
Chaetoceros diadema	(Ehrenberg) Gran 1897	A	oval cylinder	1	cell: 10-20x17				17	20	15	1	4 004	HD fac.=0.75
Chaetoceros diadema	(Ehrenberg) Gran 1897	A	oval cylinder	2	cell: 18-20x15				15	20	15	1	3 533	HD fac.=0.75
Chaetoceros diadema	(Ehrenberg) Gran 1897	A	oval cylinder	3	cell: 15-20x30				30	20	15	1	7 065	HD fac.=0.75
Chaetoceros diadema	(Ehrenberg) Gran 1897	A	oval cylinder	4	cell: 15-20x20				20	20	15	1	4 710	HD fac.=0.75
Chaetoceros diadema	(Ehrenberg) Gran 1897	A	oval cylinder	5	cell: 25-34x27				27	34	26	1	18 376	HD fac.=0.75
Chaetoceros didymus v. *didymus*	Ehrenberg 1845	A	oval cylinder	1	cell: 15-25x10-18				14	20	10	1	2 198	HD fac.=0.5
Chaetoceros didymus v. *didymus*	Ehrenberg 1845	A	oval cylinder	2	cell: 25-35x18-25				21.5	30	15	1	7 595	HD fac.=0.5
Chaetoceros gracilis	Schütt 1895	A	oval cylinder	1	cell: 5x6				6	3	2	1	34	HD fac.=0.8
Chaetoceros gracilis	Schütt 1895	A	oval cylinder	2	cell: 4x5				5	4	3	1	50	HD fac.=0.8
Chaetoceros gracilis	Schütt 1895	A	oval cylinder	3	cell: 5x7				7.25	5	4	1	114	HD fac.=0.8
Chaetoceros gracilis	Schütt 1895	A	oval cylinder	4	cell: 6x8				8	6	5	1	181	HD fac.=0.8
Chaetoceros holsaticus	Schütt 1895	A	oval cylinder	1	cell: 6x8				8	6	5	1	170	HD fac.=0.75
Chaetoceros holsaticus	Schütt 1895	A	oval cylinder	2	cell: 7-8x8				8	7.5	6	1	265	HD fac.=0.75

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Chaetoceros holsaticus	Schütt 1895	A	oval cylinder	3	cell: 8-9x8-12				10	8.5	6	1	425	HD fac.=0.75
Chaetoceros holsaticus	Schütt 1895	A	oval cylinder	4	cell: 10-12x9-12				10.5	11	8	1	748	HD fac.=0.75
Chaetoceros holsaticus	Schütt 1895	A	oval cylinder	5	cell: 13-14x10-12				11	13.5	10	1	1 180	HD fac.=0.75
Chaetoceros holsaticus	Schütt 1895	A	oval cylinder	6	cell: 15x10				10	15	11	1	1 325	HD fac.=0.75
Chaetoceros impressus	K.G. Jensen & Moestrup 1998	A	oval cylinder	1	cell: 16-18x12-13				12.5	17	13	1	2 127	HD fac.=0.75
Chaetoceros impressus	K.G. Jensen & Moestrup 1998	A	oval cylinder	2	cell: 16-18x20-22				21	16.8	13	1	3 722	HD fac.=0.8
Chaetoceros impressus	K.G. Jensen & Moestrup 1998	A	oval cylinder	3	cell: 18-20x18-20				19	18.5	15	1	4 084	HD fac.=0.8
Chaetoceros impressus	K.G. Jensen & Moestrup 1998	A	oval cylinder	4	cell: 20x23-27m				25	20	15	1	5 888	HD fac.=0.75
Chaetoceros impressus	K.G. Jensen & Moestrup 1998	A	oval cylinder	5	cell: 25x20				20	25	19	1	7 359	HD fac.=0.75
Chaetoceros laciniosus	Schütt 1895	A	oval cylinder	1	cell: 6-8x13-21				17	7	7	1	654	
Chaetoceros lacinosus	Schütt 1895	A	oval cylinder	2	cell: 9-13x13-21				18	11	10	1	1 554	
Chaetoceros lacinosus	Schütt 1895	A	oval cylinder	3	cell: 14-18x13-21				18	15	12	1	2 543	
Chaetoceros lacinosus	Schütt 1895	A	oval cylinder	4	cell: 18-20x16-28				21	19	13	1	4 072	
Chaetoceros lauderi	Ralfs *in* Lauder 1864	A	oval cylinder	1	cell: 15-17x28				28	16	9	1	3 165	
Chaetoceros lauderi	Ralfs *in* Lauder 1864	A	oval cylinder	2	cell: 17-19x32				32	18	9	1	4 069	
Chaetoceros lauderi	Ralfs *in* Lauder 1864	A	oval cylinder	3	cell: 20-22x44				44	21	12	1	8 704	
Chaetoceros lorenzianus	Grunow 1863	A	oval cylinder	1	cell: 12x34				34	12	9	1	2 883	
Chaetoceros lorenzianus	Grunow 1863	A	oval cylinder	2	cell: 24x48				48	24	14	1	12 660	
Chaetoceros lorenzianus	Grunow 1863	A	oval cylinder	3	cell: 30x30				30	30	19	1	13 424	
Chaetoceros minimus	(Levander) Marino, Giuffré, Montresor & Zingone 1991	A	cylinder		cell: 4x22				21.5	3.8		1	244	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Chaetoceros muelleri	Lemmermann 1898	A	oval cylinder		cell: 7x9				9	7	6	1	297	
Chaetoceros seiracanthus	Gran 1897	A	oval cylinder	1	cell: 6-8x9-11				10	7	6	1	330	
Chaetoceros seriacanthus	Gran 1897	A	oval cylinder	2	cell: 12-14x9-11				9	13	9	1	827	
Chaetoceros seriacanthus	Gran 1897	A	oval cylinder	3	cell: 15-16x9-11				10	15	11	1	1 295	
Chaetoceros similis	P.T. Cleve 1896	A	oval cylinder	1	cell: 9x10-12				11	9	6	1	490	HD fac.=0.7
Chaetoceros similis	P.T. Cleve 1896	A	oval cylinder	2	cell: 9x13-15				14	9	6	1	623	HD fac.=0.7
Chaetoceros similis	P.T. Cleve 1896	A	oval cylinder	3	cell: 9x15-17				16	9	6	1	712	HD fac.=0.7
Chaetoceros similis	P.T. Cleve 1896	A	oval cylinder	5	cell: 13-15x10-13				9.65	13.5	9	1	966	HD fac.=0.7
Chaetoceros similis	P.T. Cleve 1896	A	oval cylinder	6	cell: 15-17x15-20				17.5	16	11	1	2 462	HD fac.=0.7
Chaetoceros similis	P.T. Cleve 1896	A	oval cylinder	7	cell: 18-21x15-20				18	20	14	1	3 956	HD fac.=0.7
Chaetoceros simplex	Ostenfeld 1901	A	oval cylinder	1	cell: 8-9x8-9				8.5	8.5	7	1	410	HD fac.=0.85
Chaetoceros simplex	Ostenfeld 1901	A	oval cylinder	2	cell: 8-9x10-14				12	8.5	7	1	579	HD fac.=0.85
Chaetoceros simplex	Ostenfeld 1901	A	oval cylinder	3	cell: 8-9x15-16				15.5	8.5	7	1	747	HD fac.=0.85
Chaetoceros simplex	Ostenfeld 1901	A	oval cylinder	4	cell: 8-9x19-20				19.5	8.5	7	1	940	HD fac.=0.85
Chaetoceros simplex	Ostenfeld 1901	A	oval cylinder	5	cell: 10-12x10-11				10.5	11	9	1	848	HD fac.=0.85
Chaetoceros simplex	Ostenfeld 1901	A	oval cylinder	6	cell: 11-12x11-12				11.2	11.2	10	1	937	HD fac.=0.85
Chaetoceros simplex	Ostenfeld 1901	A	oval cylinder	7	cell: 11-13x14				14	12	10	1	1 345	HD fac.=0.85
Chaetoceros simplex	Ostenfeld 1901	A	oval cylinder	8	cell: 14-17x16-17				16.5	15.5	13	1	2 645	HD fac.=0.85
Chaetoceros socialis f. *socialis*	Proschkina-Lavrenko 1963	A	oval cylinder	1	cell: 5x5-6				5.5	5	3	1	54	HD fac.=0.5
Chaetoceros socialis f. *socialis*	Proschkina-Lavrenko 1963	A	oval cylinder	2	cell: 8x6-8				7	8	4	1	176	HD fac.=0.5

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Chaetoceros socialis f. *socialis*	Proschkina-Lavrenko 1963	A	oval cylinder	3	cell: 8x9-11				10	8	4	1	251	HD fac.=0.5
Chaetoceros socialis f. *socialis*	Proschkina-Lavrenko 1963	A	oval cylinder	4	cell: 10x8-10				8	10	5	1	314	HD fac.=0.5
Chaetoceros socialis f. *radians*	(Schütt) Proschkina-Lavrenko 1963	A	oval cylinder		cell: 5x5				5	5	3	1	49	HD fac.=0.5
Chaetoceros subtilis v. *subtilis*	Cleve 1896	A	oval cylinder	1	cell: 2.4x4.5				4.5	2.4	2	1	17	HD fac.=0.85
Chaetoceros subtilis v. *subtilis*	Cleve 1896	A	oval cylinder	2	cell: 3x8-17				12.5	3	3	1	75	HD fac.=0.85
Chaetoceros subtilis v. *subtilis*	Cleve 1896	A	oval cylinder	3	cell: 3x18-22				20	3	3	1	120	HD fac.=0.85
Chaetoceros subtilis v. *subtilis*	Cleve 1896	A	oval cylinder	4	cell: 4x8-17				12.5	4	3	1	133	HD fac.=0.85
Chaetoceros subtilis v. *subtilis*	Cleve 1896	A	oval cylinder	5	cell: 4x18-25				21.5	4	3	1	230	HD fac.=0.85
Chaetoceros subtilis v. *subtilis*	Cleve 1896	A	oval cylinder	6	cell: 5x5				5	5	4	1	83	HD fac.=0.85
Chaetoceros subtilis v. *subtilis*	Cleve 1896	A	oval cylinder	7	cell: 5x8-17				12.5	5	4	1	209	HD fac.=0.85
Chaetoceros subtilis v. *subtilis*	Cleve 1896	A	oval cylinder	8	cell: 5x18-22				20	5	4	1	334	HD fac.=0.85
Chaetoceros subtilis v. *subtilis*	Cleve 1896	A	oval cylinder	9	cell: 6x10-17				13.5	6	5	1	324	HD fac.=0.85
Chaetoceros subtilis v. *subtilis*	Cleve 1896	A	oval cylinder	10	cell: 6x17-20				18.5	6	5	1	444	HD fac.=0.85
Chaetoceros subtilis v. *subtilis*	Cleve 1896	A	oval cylinder	11	cell: 7-8x10				10	7.5	6	1	375	HD fac.=0.85
Chaetoceros subtilis v. *subtilis*	Cleve 1896	A	oval cylinder	12	cell: 8x12				12	8	7	1	512	HD fac.=0.85
Chaetoceros tenuissimus	Meunier 1913	A	oval cylinder	1	cell: 2.5x3				3	2.5	2	1	13	HD fac.=0.87
Chaetoceros tenuissimus	Meunier 1913	A	oval cylinder	2	cell: 3x3-5				4	3	3	1	25	HD fac.=0.87
Chaetoceros tenuissimus	Meunier 1913	A	oval cylinder	3	cell: 4x5				5	4	3	1	55	HD fac.=0.87
Chaetoceros tenuissimus	Meunier 1913	A	oval cylinder	4	cell: 5x5				5	5	4	1	85	HD fac.=0.87
Chaetoceros teres	P.T. Cleve 1896	A	oval cylinder	1	cell: 15-20x20-45				27.5	17.5	15	1	5 619	HD fac.=0.85

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Chaetoceros teres	P.T. Cleve 1896	A	oval cylinder	2	cell: 20x40-60				50	20	17	1	13 345	HD fac.=0.85
Chaetoceros throndsenii v. *throndseinii*	Zingone *in* Marino *et al.* 1991	A	oval cylinder	1	cell: 2x8-12				10	2	2	1	27	HD fac.=0.87
Chaetoceros throndsenii v. *throndseinii*	Zingone *in* Marino *et al.* 1991	A	oval cylinder	2	cell: 3x6-9				7.5	3	3	1	46	HD fac.=0.87
Chaetoceros throndsenii v. *throndseinii*	Zingone *in* Marino *et al.* 1991	A	oval cylinder	3	cell: 3x10-12				11	3	3	1	68	HD fac.=0.87
Chaetoceros throndsenii v. *throndseinii*	Zingone *in* Marino *et al.* 1991	A	oval cylinder	4	cell: 3x13-14				13.5	3	3	1	83	HD fac.=0.87
Chaetoceros throndsenii v. *throndseinii*	Zingone *in* Marino *et al.* 1991	A	oval cylinder	5	cell: 4x10-11				10.5	4	3	1	115	HD fac.=0.87
Chaetoceros wighamii	Brightwell	A	oval cylinder	1	cell: 5x5				5	5	4	1	83	HD fac.=0.85
Chaetoceros wighamii	Brightwell	A	oval cylinder	2	cell: 6x6				6	6	5	1	144	HD fac.=0.85
Chaetoceros wighamii	Brightwell	A	oval cylinder	3	cell: 7x7				7	7	6	1	229	HD fac.=0.85
Chaetoceros wighamii	Brightwell	A	oval cylinder	4	cell: 8x8				8	8	7	1	342	HD fac.=0.85
Chaetoceros wighamii	Brightwell	A	oval cylinder	5	cell: 9x9				9	9	8	1	486	HD fac.=0.85
Chaetoceros wighamii	Brightwell	A	oval cylinder	6	cell: 10x10				10	10	9	1	667	HD fac.=0.85
Chaetoceros wighamii	Brightwell	A	oval cylinder	7	cell: 11-12x11-12				11.5	11.5	9	1	955	HD fac.=0.8
Chaetoceros wighamii	Brightwell	A	oval cylinder	8	cell: 13-14x13-14				13.5	13.5	11	1	1 545	HD fac.=0.8
Chaetoceros wighamii	Brightwell	A	oval cylinder	9	cell: 15-16x15-16				15.5	15.5	12	1	2 339	HD fac.=0.8
Chaetoceros wighamii	Brightwell	A	oval cylinder	10	cell: 17-18x17-18				17.5	17.5	14	1	3 366	HD fac.=0.8
Chaetoceros wighamii	Brightwell	A	oval cylinder	11	cell: 19-20x19-20				19.5	19.5	16	1	4 657	HD fac.=0.8
Chaetoceros wighamii	Brightwell	A	oval cylinder	12	cell: 10-11x6-8				7	10.5	7	1	424	HD fac.=0.7
Chaetoceros wighamii	Brightwell	A	oval cylinder	13	cell: 12x5				5	12	8	1	396	HD fac.=0.7
Chaetoceros wighamii	Brightwell	A	oval cylinder	14	cell: 13x6-8				7	13	9	1	650	HD fac.=0.7

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Chaetoceros wighamii	Brightwell	A	oval cylinder	15	cell: 13x8-10				9	13	9	1	836	HD fac.=0.7
Chaetoceros wighamii	Brightwell	A	oval cylinder	16	cell: 15-17x8-10				8	16	10	1	965	HD fac.=0.6
Chaetoceros wighamii	Brightwell	A	oval cylinder	17	cell: 15-17x11-13				12	16	10	1	1 447	HD fac.=0.6
Chaetoceros wighamii	Brightwell	A	oval cylinder	18	cell: 18-20x11-13				12	19	11	1	2 040	HD fac.=0.6
Chaetoceros wighamii	Brightwell	A	oval cylinder	19	cell: 21-22x14-16				15	21.5	13	1	3 266	HD fac.=0.6
Chaetoceros spp.		A	oval cylinder	1	cell: 3-4x3-4				4	3	3	1	24	HD fac.=0.85
Chaetoceros spp.		A	oval cylinder	2	cell: 5x5				5	5	4	1	83	HD fac.=0.85
Chaetoceros spp.		A	oval cylinder	3	cell: 6x6				6	6	5	1	144	HD fac.=0.85
Chaetoceros spp.		A	oval cylinder	4	cell: 7x7				7	7	6	1	229	HD fac.=0.85
Chaetoceros spp.		A	oval cylinder	5	cell: 8x8				8	8	7	1	342	HD fac.=0.85
Chaetoceros spp.		A	oval cylinder	6	cell: 9x9				9	9	6	1	401	HD fac.=0.7
Chaetoceros spp.		A	oval cylinder	7	cell: 10x10				10	10	7	1	550	HD fac.=0.7
Chaetoceros spp.		A	oval cylinder	8	cell: 3-4x6				6	3.5	2	1	40	HD fac.=0.7
Chaetoceros spp.		A	oval cylinder	9	cell: 5-6x7				7	5.5	4	1	116	HD fac.=0.7
Chaetoceros spp.		A	oval cylinder	10	cell: 6-8x11-13				12	7	5	1	323	HD fac.=0.7
Chaetoceros spp.		A	oval cylinder	11	cell: 8x15-17				16	8	6	1	563	HD fac.=0.7
Coscinodiscus commutatus	Grunow 1884	A	cylinder	1	cell: 70-90				50	80		1	251 200	6
Coscinodiscus commutatus	Grunow 1884	A	cylinder	2	cell: 90-110				57	100		1	447 450	6
Coscinodiscus commutatus	Grunow 1884	A	cylinder	3	cell: 110-130				58	120		1	655 632	6
Coscinodiscus commutatus	Grunow 1884	A	cylinder	4	cell: 130-150				55	140		1	846 230	6

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Coscinodiscus commutatus	Grunow 1884	A	cylinder	5	cell: 150-170				50	160		1	1 004 800	6
Coscinodiscus concinnus	W. Smith 1856	A	cylinder	1	cell: 130-150				70	140		1	1 077 020	6; HD fac.=0.5
Coscinodiscus concinnus	W. Smith 1856	A	cylinder	2	cell: 150-170				80	160		1	1 607 680	6; HD fac.=0.5
Coscinodiscus concinnus	W. Smith 1856	A	cylinder	3	cell: 170-230				80	200		1	2 512 000	6; HD fac.=0.4
Coscinodiscus concinnus	W. Smith 1856	A	cylinder	4	cell: 230-300				79.5	265		1	4 382 567	6; HD fac.=0.3
Coscinodiscus concinnus	W. Smith 1856	A	cylinder	5	cell: 300-370				83.8	335		1	7 378 092	6; HD fac.=0.25
Coscinodiscus granii	Gough 1905	A	cylinder	1	cell: 50-70				42	60		1	118 692	6; HD fac.=0.7
Coscinodiscus granii	Gough 1905	A	cylinder	2	cell: 70-90				56	80		1	281 344	6; HD fac.=0.7
Coscinodiscus granii	Gough 1905	A	cylinder	3	cell: 90-110				70	100		1	549 500	6; HD fac.=0.7
Coscinodiscus granii	Gough 1905	A	cylinder	4	cell: 110-130				72	120		1	813 888	6; HD fac.=0.6
Coscinodiscus granii	Gough 1905	A	cylinder	5	cell: 130-150				70	140		1	1 077 020	6; HD fac.=0.5
Coscinodiscus granii	Gough 1905	A	cylinder	6	cell: 150-170				80	160		1	1 607 680	6; HD fac.=0.5
Coscinodiscus granii	Gough 1905	A	cylinder	7	cell: 170-230				80	200		1	2 512 000	6; HD fac.=0.4
Coscinodiscus granii	Gough 1905	A	cylinder	8	cell: 230-300				79.5	265		1	4 382 567	6; HD fac.=0.3
Coscinodiscus granii	Gough 1905	A	cylinder	9	cell: 300-370				83.8	335		1	7 378 092	6; HD fac.=0.25
Coscinodiscus radiatus	Ehrenberg 1841	A	cylinder	1	cell: 30-40				20	35		1	19 233	6
Coscinodiscus radiatus	Ehrenberg 1841	A	cylinder	2	cell: 40-50				30	45		1	47 689	6
Coscinodiscus radiatus	Ehrenberg 1841	A	cylinder	3	cell: 50-60				30	55		1	71 239	6
Coscinodiscus radiatus	Ehrenberg 1841	A	cylinder	4	cell: 60-70				35	65		1	116 082	6
Coscinodiscus radiatus	Ehrenberg 1841	A	cylinder	5	cell: 70-90				35	80		1	175 840	6
Coscinodiscus radiatus	Ehrenberg 1841	A	cylinder	6	cell: 90-110				30	100		1	235 500	6
Coscinodiscus radiatus	Ehrenberg 1841	A	cylinder	7	cell: 110-130				30	120		1	339 120	6
Coscinodiscus radiatus	Ehrenberg 1841	A	cylinder	8	cell: 130-150				30	140		1	461 580	6
Coscinodiscus radiatus	Ehrenberg 1841	A	cylinder	9	cell: 180				20	180		1	508 680	6
Coscinodiscus wailesii	Gran & Angst 1931	A	cylinder	1	cell: 200-220				140	210		1	4 846 590	6
Coscinodiscus wailesii	Gran & Angst 1931	A	cylinder	2	cell: 220-240				200	240		1	9 043 200	6
Coscinodiscus wailesii	Gran & Angst 1931	A	cylinder	3	cell: 240-260				160	250		1	7 850 000	6
Coscinodiscus wailesii	Gran & Angst 1931	A	cylinder	4	cell: 260-280				200	270		1	11 445 300	6
Coscinodiscus wailesii	Gran & Angst 1931	A	cylinder	5	cell: 280-300				200	290		1	13 203 700	6
Coscinodiscus spp.		A	cylinder	1	cell: 20-30				17.5	25		1	8 586	6; HD fac.=0.7
Coscinodiscus spp.		A	cylinder	2	cell: 30-40				24.5	35		1	23 560	6; HD fac.=0.7
Coscinodiscus spp.		A	cylinder	3	cell: 40-50				31.5	45		1	50 073	6; HD fac.=0.7
Coscinodiscus spp.		A	cylinder	4	cell: 50-60				33	55		1	78 363	6; HD fac.=0.6
Coscinodiscus spp.		A	cylinder	5	cell: 60-70				39	65		1	129 348	6; HD fac.=0.6
Coscinodiscus spp.		A	cylinder	6	cell: 70-90				40	80		1	200 960	6; HD fac.=0.5
Coscinodiscus spp.		A	cylinder	7	cell: 90-110				50	100		1	392 500	6; HD fac.=0.5
Coscinodiscus spp.		A	cylinder	8	cell: 110-130				60	120		1	678 240	6; HD fac.=0.5

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Coscinodiscus spp.		A	cylinder	9	cell: 130-150				70	140		1	1 077 020	6; HD fac.=0.5
Cyclostephanos dubius	(Fricke *in* A. Schmidt) Round 1982	A	cylinder	1	cell: 12-17				10	14		1	1 539	6
Cyclostephanos dubius	(Fricke *in* A. Schmidt) Round 1982	A	cylinder	2	cell: 17-22				11.2	19		1	3 174	6
Cyclotella atomus	Hustedt 1937	A	cylinder	1	cell: 4				2	4		1	25	6
Cyclotella atomus	Hustedt 1937	A	cylinder	2	cell: 5				2.5	5		1	49	6
Cyclotella atomus	Hustedt 1937	A	cylinder	3	cell: 6				3	6		1	85	6
Cyclotella atomus	Hustedt 1937	A	cylinder	4	cell: 7				3.5	7		1	135	6
Cyclotella atomus	Hustedt 1937	A	cylinder	5	cell: 8				4	8		1	201	6
Cyclotella choctawhatcheeana	Prasad *in* Prasad, Nienow & Livingston 1990	A	cylinder	1	cell: 5				3	5		1	59	6
Cyclotella choctawhatcheeana	Prasad *in* Prasad, Nienow & Livingston 1990	A	cylinder	2	cell: 6				4	6		1	113	6
Cyclotella choctawhatcheeana	Prasad *in* Prasad, Nienow & Livingston 1990	A	cylinder	3	cell: 8				5	8		1	251	6
Cyclotella choctawhatcheeana	Prasad *in* Prasad, Nienow & Livingston 1990	A	cylinder	4	cell: 10				6	10		1	471	6
Cyclotella glomerata	Bachmann 1911	A	cylinder	1	cell: 4-6				3	5		1	59	6
Cyclotella glomerata	Bachmann 1911	A	cylinder	2	cell: 6-10				5	8		1	251	6
Cyclotella meneghiniana	Kützing 1844	A	cylinder	1	cell: 7-12				8.4	10		1	659	6
Cyclotella meneghiniana	Kützing 1844	A	cylinder	2	cell: 12-18				15.4	15		1	2 720	6
Cyclotella meneghiniana	Kützing 1844	A	cylinder	3	cell: 18-23				16.8	20		1	5 275	6
Cyclotella meneghiniana	Kützing 1844	A	cylinder	4	cell: 23-28				22.4	25		1	10 990	6
Cyclotella meneghiniana	Kützing 1844	A	cylinder	5	cell: 28-33				28	30		1	19 782	6
Cyclotella meneghiniana	Kützing 1844	A	cylinder	6	cell: 33-38				22.4	35		1	21 540	6
Cyclotella radiosa	(Grunow) Lemmermann 1900	A	cylinder	1	cell: 12-18				10	15		1	1 766	6
Cyclotella radiosa	(Grunow) Lemmermann 1900	A	cylinder	2	cell: 18-23				11.2	20		1	3 517	6
Cyclotella radiosa	(Grunow) Lemmermann 1900	A	cylinder	3	cell: 23-28				16.8	25		1	8 243	6
Cyclotella radiosa	(Grunow) Lemmermann 1900	A	cylinder	4	cell: 28-33				20	30		1	14 130	6
Cyclotella stelligera	P.T. Cleve & Grunow *in* Van Heurck 1882	A	cylinder	1	cell: 10-13				7.2	11		1	684	6
Cyclotella stelligera	P.T. Cleve & Grunow *in* Van Heurck 1882	A	cylinder	2	cell: 13-17				6	15		1	1 060	6
Cyclotella stelligera	P.T. Cleve & Grunow *in* Van Heurck 1882	A	cylinder	3	cell: 17-23				7.2	20		1	2 261	6
Cyclotella spp.		A	cylinder	1	cell: 3-7				3.3	5		1	64	6; HD fac.=0.65
Cyclotella spp.		A	cylinder	2	cell: 7-12				6.5	10		1	510	6; HD fac.=0.65
Cyclotella spp.		A	cylinder	3	cell: 12-17				9.8	15		1	1 722	6; HD fac.=0.65

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Cyclotella spp.		A	cylinder	4	cell: 17-23				10	20		1	3 140	6; HD fac.=0.5
Dactyliosolen fragilissimus	(Bergon) Hasle 1996	A	cylinder	1	cell: 4-6x30-40				34	5		1	667	
Dactyliosolen fragilissimus	(Bergon) Hasle 1996	A	cylinder	2	cell: 8-10x30-60				45	9		1	2 861	
Dactyliosolen fragilissimus	(Bergon) Hasle 1996	A	cylinder	3	cell: 10-12x60-80				70	11		1	6 649	
Dactyliosolen fragilissimus	(Bergon) Hasle 1996	A	cylinder	4	cell: 10-12x80-100				90	11		1	8 549	
Dactyliosolen fragilissimus	(Bergon) Hasle 1996	A	cylinder	5	cell: 12-14x50-80				67	12.5		1	8 218	
Dactyliosolen fragilissimus	(Bergon) Hasle 1996	A	cylinder	6	cell: 19-21x50-70				57	19.5		1	17 014	
Dactyliosolen fragilissimus	(Bergon) Hasle 1996	A	cylinder	7	cell: 30-32x150-200				175	31		1	132 017	
Detonula confervacea	(P.T. Cleve) Gran 1900	A	cylinder	1	cell: 5-6x13-15				14	5.5		1	332	
Detonula confervacea	(P.T. Cleve) Gran 1900	A	cylinder	2	cell: 8-10x12-19				15	9		1	954	
Detonula confervacea	(P.T. Cleve) Gran 1900	A	cylinder	3	cell: 15x20				20	15		1	3 533	
Detonula pumila	(Castracane) Schütt 1896	A	cylinder	1	cell: 18x22				22	18		1	5 524	
Ditylum brightwellii	(T. West) Grunow *in* Van Heurck 1883	A	prism on triangle base	1	cell: 15x100	15		15	100			1	11 250	
Ditylum brightwellii	(T. West) Grunow *in* Van Heurck 1883	A	prism on triangle base	2	cell: 20-22x120-130m	21		21	125			1	27 563	
Ditylum brightwellii	(T. West) Grunow *in* Van Heurck 1883	A	prism on triangle base	3	cell: 23-25x200	24		24	200			1	57 600	
Ditylum brightwellii	(T. West) Grunow *in* Van Heurck 1883	A	prism on triangle base	4	cell: 30x200	30		30	200			1	90 000	
Eucampia zodiacus	Ehrenberg 1839	A	oval cylinder	1	cell: 10x20				10	20	8	1	1 256	HD fac.=0.4
Eucampia zodiacus	Ehrenberg 1839	A	oval cylinder	1	cell: 15x25				15	25	10	1	2 944	HD fac.=0.4
Eucampia zodiacus	Ehrenberg 1839	A	oval cylinder	1	cell: 20x25				20	25	10	1	3 925	HD fac.=0.4
Guinardia delicatula	(P.T. Cleve) Hasle 1996	A	cylinder	1	cell: 10x30				30	10		1	2 355	
Guinardia delicatula	(P.T. Cleve) Hasle 1996	A	cylinder	2	cell: 10x50				50	10		1	3 925	
Guinardia delicatula	(P.T. Cleve) Hasle 1996	A	cylinder	3	cell: 15x50				50	15		1	8 831	
Guinardia flaccida	(Castracane) H. Peragallo 1892	A	cylinder	1	cell: 15x60-80				69	15		1	12 187	
Guinardia flaccida	(Castracane) H. Peragallo 1892	A	cylinder	2	cell: 20x60-80				70	20		1	21 980	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Guinardia flaccida	(Castracane) H. Peragallo 1892	A	cylinder	3	cell: 25x80-100				90	25		1	44 156	
Guinardia flaccida	(Castracane) H. Peragallo 1892	A	cylinder	4	cell: 30x110-130				120	30		1	84 780	
Guinardia flaccida	(Castracane) H. Peragallo 1892	A	cylinder	5	cell: 35x70-80				75	35		1	72 122	
Guinardia flaccida	(Castracane) H. Peragallo 1892	A	cylinder	6	cell: 35x100-150				125	35		1	120 203	
Guinardia flaccida	(Castracane) H. Peragallo 1892	A	cylinder	7	cell: 35x200-300				250	35		1	240 406	
Guinardia flaccida	(Castracane) H. Peragallo 1892	A	cylinder	8	cell: 40x100-200				150	40		1	188 400	
Guinardia flaccida	(Castracane) H. Peragallo 1892	A	cylinder	9	cell: 50x100-150				125	50		1	245 313	
Lauderia annulata	P.T. Cleve 1873	A	cylinder		cell: 33-35x33-35				34	34		1	30 854	
Leptocylindrus danicus	P.T. Cleve 1889	A	cylinder	1	cell: 3x80				80	3		1	565	
Leptocylindrus danicus	P.T. Cleve 1889	A	cylinder	2	cell: 4x40-55				48	4		1	603	
Leptocylindrus danicus	P.T. Cleve 1889	A	cylinder	3	cell: 5x25-30				28	5		1	550	
Leptocylindrus danicus	P.T. Cleve 1889	A	cylinder	4	cell: 5x30-50				40	5		1	785	
Leptocylindrus danicus	P.T. Cleve 1889	A	cylinder	5	cell: 5x50-60				55	5		1	1 079	
Leptocylindrus danicus	P.T. Cleve 1889	A	cylinder	6	cell: 5x70-80				78	5		1	1 531	
Leptocylindrus danicus	P.T. Cleve 1889	A	cylinder	7	cell: 6x25-35				31	6		1	876	
Leptocylindrus danicus	P.T. Cleve 1889	A	cylinder	8	cell: 7-9x35-50				42.5	8		1	2 135	
Leptocylindrus danicus	P.T. Cleve 1889	A	cylinder	9	cell: 9-11x40-60				50	10		1	3 925	
Leptocylindrus minimus	Gran 1915	A	cylinder		cell: 3x20-25				22	3		1	155	
Leptocylindrus spp.		A	cylinder	1	cell: 3x100				100	3		1	707	
Leptocylindrus spp.		A	cylinder	2	cell: 10x100				100	10		1	7 850	
Melosira arctica	(Ehrenberg) Dickie *ex* Ralfs *in* Pritschard 1861	A	cylinder	1	cell: 8x13				13	8		1	653	
Melosira arctica	(Ehrenberg) Dickie *ex* Ralfs *in* Pritschard 1861	A	cylinder	2	cell: 8-10x15-20				17.5	9		1	1 113	
Melosira arctica	(Ehrenberg) Dickie *ex* Ralfs *in* Pritschard 1861	A	cylinder	3	cell: 11-13x20-25				22	12		1	2 487	
Melosira arctica	(Ehrenberg) Dickie *ex* Ralfs *in* Pritschard 1861	A	cylinder	4	cell: 14x15-20				17.5	14		1	2 693	
Melosira arctica	(Ehrenberg) Dickie *ex* Ralfs *in* Pritschard 1861	A	cylinder	5	cell: 14x20-30				25	14		1	3 847	
Melosira arctica	(Ehrenberg) Dickie *ex* Ralfs *in* Pritschard 1861	A	cylinder	6	cell: 15x17-25				20	15		1	3 533	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Melosira arctica	(Ehrenberg) Dickie *ex* Ralfs *in* Pritschard 1861	A	cylinder	7	cell: 17x17-25				20	17		1	4 537	
Melosira arctica	(Ehrenberg) Dickie *ex* Ralfs *in* Pritschard 1861	A	cylinder	8	cell: 19x20-30				26	19		1	7 368	
Melosira moniliformis	(O.F. Müller) C.A. Agardh 1824	A	cylinder		cell: 18-22x20				20	20		1	6 280	
Melosira nummuloides	C.A. Agardh 1824	A	cylinder	1	cell: 9-11x15-20				17.5	10		1	1 374	
Melosira nummuloides	C.A. Agardh 1824	A	cylinder	2	cell: 12-16x25-30				28	14		1	4 308	
Melosira varians	C.A. Agardh 1827	A	cylinder	1	cell: 10-12x25				25	11.2		1	2 462	
Melosira varians	C.A. Agardh 1827	A	cylinder	2	cell: 13-15x20-25				22.4	14		1	3 446	
Melosira varians	C.A. Agardh 1827	A	cylinder	3	cell: 15-17x25-30				28	16		1	5 627	
Odontella aurita	(Lyngbye) C.A. Agardh 1832	A	oval cylinder		cell: 40-50x30-40				44	35	18	1	21 760	
Odontella mobiliensis	(J.W. Bailey) Grunow 1884	A	oval cylinder		cell: 50-70x60-80				60	70	36	1	118 692	
Odontella sinensis	(Greville) Grunow 1884	A	oval cylinder		cell: 120-170x150-200				150	170	50	1	1 000 875	
Porosira glacialis	(Grunow) E. Jørgensen 1905	A	cylinder	1	cell: 30-35				19.8	33		1	16 926	6; HD fac.=0.6
Porosira glacialis	(Grunow) E. Jørgensen 1905	A	cylinder	2	cell: 35-40				22.2	37		1	23 858	6; HD fac.=0.6
Porosira glacialis	(Grunow) E. Jørgensen 1905	A	cylinder	3	cell: 40-45				25.8	43		1	37 448	6; HD fac.=0.6
Porosira glacialis	(Grunow) E. Jørgensen 1905	A	cylinder	4	cell: 45-50				28.2	47		1	48 901	6; HD fac.=0.6
Porosira glacialis	(Grunow) E. Jørgensen 1905	A	cylinder	5	cell: 50-55				31.8	53		1	70 121	6; HD fac.=0.6
Porosira glacialis	(Grunow) E. Jørgensen 1905	A	cylinder	6	cell: 55-60				34.2	57		1	87 226	6; HD fac.=0.6
Porosira glacialis	(Grunow) E. Jørgensen 1905	A	cylinder	7	cell: 60-65				37.8	63		1	117 772	6; HD fac.=0.6
Porosira glacialis	(Grunow) E. Jørgensen 1905	A	cylinder	8	cell: 65-70				40.2	67		1	141 659	6; HD fac.=0.6
Porosira glacialis	(Grunow) E. Jørgensen 1905	A	cylinder	9	cell: 70-75				43.8	73		1	183 227	6; HD fac.=0.6
Porosira glacialis	(Grunow) E. Jørgensen 1905	A	cylinder	10	cell: 75-80				46.2	77		1	215 027	6; HD fac.=0.6
Porosira glacialis	(Grunow) E. Jørgensen 1905	A	cylinder	11	cell: 80-85				49.8	83		1	269 312	6; HD fac.=0.6
Proboscia alata	(Brightwell) Sundström 1986	A	cylinder	1	cell: 4x300-400				350	4		1	4 396	
Proboscia alata	(Brightwell) Sundström 1986	A	cylinder	2	cell: 4x450-650				550	4		1	6 908	
Proboscia alata	(Brightwell) Sundström 1986	A	cylinder	3	cell: 5x340-470				400	5		1	7 850	
Proboscia alata	(Brightwell) Sundström 1986	A	cylinder	4	cell: 6x500-600				560	6		1	15 826	
Proboscia alata	(Brightwell) Sundström 1986	A	cylinder	5	cell: 7x250-400				325	7		1	12 501	
Proboscia alata	(Brightwell) Sundström 1986	A	cylinder	6	cell: 9x300-400				360	9		1	22 891	
Proboscia alata	(Brightwell) Sundström 1986	A	cylinder	7	cell: 10x400-500				450	10		1	35 325	
Proboscia alata	(Brightwell) Sundström 1986	A	cylinder	8	cell: 20x1300				1300	20		1	408 200	
Rhizosolenia hebetata f. *semispina*	(Hensen) Gran 1904	A	cylinder	1	cell: 4x300				300	4		1	3 768	
Rhizosolenia hebetata f. *semispina*	(Hensen) Gran 1904	A	cylinder	2	cell: 5x500				500	5		1	9 813	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Rhizosolenia hebetata f. *semispina*	(Hensen) Gran 1904	A	cylinder	3	cell: 7x400				400	7		1	15 386	
Rhizosolenia hebetata f. *semispina*	(Hensen) Gran 1904	A	cylinder	4	cell: 10x400				400	10		1	31 400	
Rhizosolenia hebetata f. *semispina*	(Hensen) Gran 1904	A	cylinder	5	cell: 10x800				800	10		1	62 800	
Rhizosolenia hebetata f. *semispina*	(Hensen) Gran 1904	A	cylinder	6	cell: 15x400-500				400	15		1	70 650	
Rhizosolenia hebetata f. *semispina*	(Hensen) Gran 1904	A	cylinder	7	cell: 15x800				800	15		1	141 300	
Rhizosolenia pungens	Cleve-Euler 1937	A	cylinder	1	cell: 4x200-300				250	4		1	3 140	
Rhizosolenia pungens	Cleve-Euler 1937	A	cylinder	2	cell: 5x300-400				385	5		1	7 556	
Rhizosolenia pungens	Cleve-Euler 1937	A	cylinder	3	cell: 6x375-450				350	6		1	9 891	
Rhizosolenia pungens	Cleve-Euler 1937	A	cylinder	4	cell: 7x375-450				400	7		1	15 386	
Rhizosolenia pungens	Cleve-Euler 1937	A	cylinder	5	cell: 8x650-700				690	8		1	34 666	
Rhizosolenia pungens	Cleve-Euler 1937	A	cylinder	6	cell: 10x400				400	10		1	31 400	
Rhizosolenia pungens	Cleve-Euler 1937	A	cylinder	7	cell: 15x400-550				475	15		1	83 897	
Rhizosolenia pungens	Cleve-Euler 1937	A	cylinder	8	cell: 20x260				260	20		1	81 640	
Rhizosolenia setigera	Brightwell 1858	A	cylinder	1	cell: 4x300-450				375	4		1	4 710	
Rhizosolenia setigera	Brightwell 1858	A	cylinder	2	cell: 7x400				400	7		1	15 386	
Rhizosolenia setigera	Brightwell 1858	A	cylinder	3	cell: 10x400-450				425	10		1	33 363	
Rhizosolenia setigera	Brightwell 1858	A	cylinder	4	cell: 15x400				400	15		1	70 650	
Rhizosolenia setigera	Brightwell 1858	A	cylinder	5	cell: 20x200-300				220	20		1	69 080	
Rhizosolenia setigera	Brightwell 1858	A	cylinder	6	cell: 20x500-600				520	20		1	163 280	
Rhizosolenia setigera	Brightwell 1858	A	cylinder	7	cell: 25x500-650				575	25		1	282 109	
Rhizosolenia setigera	Brightwell 1858	A	cylinder	8	cell: 50x700				700	50		1	1 373 750	
Rhizosolenia styliformis	Brightwell 1858	A	cylinder		cell: 60x100				100	60		1	282 600	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	1	cell: 2x3-5				4	2		1	13	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	2	cell: 3x3-5				4	3		1	28	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	3	cell: 3x6-8				7	3		1	49	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	4	cell: 4x7-8				7.5	4		1	94	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	5	cell: 5x7-10				8.5	5		1	167	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	6	cell: 6x7-10				8	6		1	226	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	7	cell: 7x7-10				8.5	7		1	327	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	8	cell: 10x5				5	10		1	393	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	9	cell: 2x14				14	2		1	44	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	10	cell: 3x9-14				11	3		1	78	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	11	cell: 3x15-25				19	3		1	134	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	12	cell: 4x9-14				11	4		1	138	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	13	cell: 4x15-25				21	4		1	264	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	14	cell: 5x9-14				11	5		1	216	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	15	cell: 5x15-25				19	5		1	373	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	16	cell: 6x9-14				11	6		1	311	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	17	cell: 6x15-25				19	6		1	537	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	18	cell: 7x9-14				11	7		1	423	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	19	cell: 7x15-25				19	7		1	731	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	20	cell: 8x9-14				11	8		1	553	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	21	cell: 8x15-25				19	8		1	955	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	22	cell: 10x9-14				11	10		1	864	
Skeletonema costatum	(Greville) P.T. Cleve 1878	A	cylinder	23	cell: 10x15-25				21	10		1	1 649	
Skeletonema subsalsum	(Cleve-Euler) Bethge 1928	A	cylinder	1	cell: 3-4x7-10				9.8	3.5		1	94	
Skeletonema subsalsum	(Cleve-Euler) Bethge 1928	A	cylinder	2	cell: 3-4x11-15				13	3.5		1	125	
Skeletonema subsalsum	(Cleve-Euler) Bethge 1928	A	cylinder	3	cell: 3-4x16-20				19.6	3.5		1	188	
Skeletonema subsalsum	(Cleve-Euler) Bethge 1928	A	cylinder	4	cell: 4-5x4.5-7.5				6	4.5		1	95	
Skeletonema subsalsum	(Cleve-Euler) Bethge 1928	A	cylinder	5	cell: 5-6x8-13				10.5	5.5		1	249	
Skeletonema subsalsum	(Cleve-Euler) Bethge 1928	A	cylinder	6	cell: 5-6x13-20				16.5	5.5		1	392	
Skeletonema subsalsum	(Cleve-Euler) Bethge 1928	A	cylinder	7	cell: 6-7x18-22				19.6	6.5		1	650	
Skeletonema subsalsum	(Cleve-Euler) Bethge 1928	A	cylinder	8	cell: 8-9x11-15				13	8.5		1	737	
Stephanodiscus binderanus	(Kützing) W. Krieger 1927	A	cylinder	1	cell: 6-7x10-13				11.6	6.5		1	385	
Stephanodiscus binderanus	(Kützing) W. Krieger 1927	A	cylinder	2	cell: 8-9x13-15				14	8.5		1	794	
Stephanodiscus binderanus	(Kützing) W. Krieger 1927	A	cylinder	3	cell: 10-12x15-20				17	11		1	1 615	
Stephanodiscus binderanus	(Kützing) W. Krieger 1927	A	cylinder	4	cell: 13-15x20-30				25.2	14		1	3 877	
Stephanodiscus hantzschii	Grunow *in* P.T. Cleve & Grunow 1880	A	cylinder	1	cell: 8-9x7-9				8	8.5		1	454	
Stephanodiscus hantzschii	Grunow *in* P.T. Cleve & Grunow 1880	A	cylinder	2	cell: 10-12x8-10				9	11.2		1	886	
Stephanodiscus hantzschii	Grunow *in* P.T. Cleve & Grunow 1880	A	cylinder	3	cell: 13-15x9-11				10	14		1	1 539	
Stephanodiscus hantzschii	Grunow *in* P.T. Cleve & Grunow 1880	A	cylinder	4	cell: 15-16x11-13				12	15.5		1	2 263	
Stephanodiscus hantzschii	Grunow *in* P.T. Cleve & Grunow 1880	A	cylinder	5	cell: 20-25x13-15				14	22.5		1	5 564	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Stephanodiscus minutulus	(Kützing) P.T. Cleve & Möller 1978	A	cylinder		cell: 7-9x6-8				7	8		1	352	
Stephanodiscus neoastraea	Håkansson & Hickel 1986	A	cylinder	1	cell: 20-25				13.5	22.5		1	5 365	6; HD fac.=0.6
Stephanodiscus neoastraea	Håkansson & Hickel 1986	A	cylinder	2	cell: 25-30				16.5	27.5		1	9 795	6; HD fac.=0.6
Stephanodiscus neoastraea	Håkansson & Hickel 1986	A	cylinder	3	cell: 30-35				19.5	32.5		1	16 169	6; HD fac.=0.6
Stephanodiscus neoastraea	Håkansson & Hickel 1986	A	cylinder	4	cell: 35-40				22.5	37.5		1	24 838	6; HD fac.=0.6
Stephanodiscus neoastraea	Håkansson & Hickel 1986	A	cylinder	5	cell: 35-45				25.2	42.5		1	35 731	6; HD fac.=0.6
Stephanodiscus parvus	(Grunow ex Cleve & Möller) Stoermer & Håkansson 1984	A	cylinder		cell: 7-9x6-8				7	8		1	352	
Stephanodiscus rotula	(Kützing) Hendey 1964	A	cylinder	1	cell: 20-25				13.5	22.5		1	5 365	6; HD fac.=0.6
Stephanodiscus rotula	(Kützing) Hendey 1964	A	cylinder	2	cell: 25-30				16.5	27.5		1	9 795	6; HD fac.=0.6
Stephanodiscus rotula	(Kützing) Hendey 1964	A	cylinder	3	cell: 30-35				19.5	32.5		1	16 169	6; HD fac.=0.6
Stephanodiscus rotula	(Kützing) Hendey 1964	A	cylinder	4	cell: 35-40				22.5	37.5		1	24 838	6; HD fac.=0.6
Stephanodiscus rotula	(Kützing) Hendey 1964	A	cylinder	5	cell: 35-45				25.5	42.5		1	36 157	6; HD fac.=0.6
Stephanodiscus spp.		A	cylinder	1	cell: <8				3	5		1	59	6; HD fac.=0.6
Stephanodiscus spp.		A	cylinder	2	cell: 8-13				6	10		1	471	6; HD fac.=0.6
Stephanodiscus spp.		A	cylinder	3	cell: 13-18				9	15		1	1 590	6; HD fac.=0.6
Stephanodiscus spp.		A	cylinder	4	cell: 18-23				12	20		1	3 768	6; HD fac.=0.6
Stephanopyxis turris	(Greville & Arnott *in* Gregory) Ralfs *in* Pritchard 1861	A	cylinder		cell: 28-32				40	30		1	28 260	6
Thalassiosira angulata	(Gregory) Hasle 1978	A	cylinder	1	cell: 20-25				10.8	22.5		1	4 292	6; HD fac.=0.48
Thalassiosira angulata	(Gregory) Hasle 1978	A	cylinder	2	cell: 25-30				13.2	27.5		1	7 836	6; HD fac.=0.48
Thalassiosira angulata	(Gregory) Hasle 1978	A	cylinder	3	cell: 30-35				15.6	32.5		1	12 935	6; HD fac.=0.48
Thalassiosira angulata	(Gregory) Hasle 1978	A	cylinder	4	cell: 35-40				18	37.5		1	19 870	6; HD fac.=0.48
Thalassiosira angulata	(Gregory) Hasle 1978	A	cylinder	5	cell: 40-45				20.4	42.5		1	28 925	6; HD fac.=0.48
Thalassiosira angulata	(Gregory) Hasle 1978	A	cylinder	6	cell: 45-50				22.8	47.5		1	40 382	6; HD fac.=0.48
Thalassiosira angulata	(Gregory) Hasle 1978	A	cylinder	7	cell: 50-55				25.2	52.5		1	54 524	6; HD fac.=0.48
Thalassiosira angulata	(Gregory) Hasle 1978	A	cylinder	8	cell: 55-60				27.6	57.5		1	71 633	6; HD fac.=0.48
Thalassiosira anguste-lineata	(A. Schmidt) G. Fryxell & Hasle 1977	A	cylinder	1	cell: 35-40				14.25	37.5		1	15 731	6; HD fac.=0.38
Thalassiosira anguste-lineata	(A. Schmidt) G. Fryxell & Hasle 1977	A	cylinder	2	cell: 40-45				16.15	42.5		1	22 899	6; HD fac.=0.38
Thalassiosira anguste-lineata	(A. Schmidt) G. Fryxell & Hasle 1977	A	cylinder	3	cell: 45-50				18.05	47.5		1	31 969	6; HD fac.=0.38

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Thalassiosira anguste-lineata	(A. Schmidt) G. Fryxell & Hasle 1977	A	cylinder	4	cell: 50-55				19.95	52.5		1	43 165	6; HD fac.=0.38
Thalassiosira anguste-lineata	(A. Schmidt) G. Fryxell & Hasle 1977	A	cylinder	5	cell: 55-60				21.85	57.5		1	56 710	6; HD fac.=0.38
Thalassiosira anguste-lineata	(A. Schmidt) G. Fryxell & Hasle 1977	A	cylinder	6	cell: 60-65				23.75	62.5		1	72 827	6; HD fac.=0.38
Thalassiosira baltica	(Grunow *in* P.T. Cleve & Grunow) Ostenfeld 1901	A	cylinder	1	cell: 17-22				10	20		1	3 140	6; HD fac.=0.5
Thalassiosira baltica	(Grunow *in* P.T. Cleve & Grunow) Ostenfeld 1901	A	cylinder	2	cell: 22-27				12.5	25		1	6 133	6; HD fac.=0.5
Thalassiosira baltica	(Grunow *in* P.T. Cleve & Grunow) Ostenfeld 1901	A	cylinder	3	cell: 27-32				15	30		1	10 598	6; HD fac.=0.5
Thalassiosira baltica	(Grunow *in* P.T. Cleve & Grunow) Ostenfeld 1901	A	cylinder	4	cell: 32-40				17.5	35		1	16 828	6; HD fac.=0.5
Thalassiosira baltica	(Grunow *in* P.T. Cleve & Grunow) Ostenfeld 1901	A	cylinder	5	cell: 40-50				22.5	45		1	35 767	6; HD fac.=0.5
Thalassiosira baltica	(Grunow *in* P.T. Cleve & Grunow) Ostenfeld 1901	A	cylinder	6	cell: 50-60				27.5	55		1	65 302	6; HD fac.=0.5
Thalassiosira baltica	(Grunow *in* P.T. Cleve & Grunow) Ostenfeld 1901	A	cylinder	7	cell: 60-70				19.5	65		1	64 674	6; HD fac.=0.3
Thalassiosira baltica	(Grunow *in* P.T. Cleve & Grunow) Ostenfeld 1901	A	cylinder	8	cell: 70-80				22.5	75		1	99 352	6; HD fac.=0.3
Thalassiosira baltica	(Grunow *in* P.T. Cleve & Grunow) Ostenfeld 1901	A	cylinder	9	cell: 80-90				25.5	85		1	144 626	6; HD fac.=0.3
Thalassiosira baltica	(Grunow *in* P.T. Cleve & Grunow) Ostenfeld 1901	A	cylinder	10	cell: 90-110				30	100		1	235 500	6; HD fac.=0.3
Thalassiosira decipiens	(Grunow) E. Jørgensen 1905 *sensu* Hasle 1979	A	cylinder	1	cell: 17-22				15	20		1	4 710	6
Thalassiosira decipiens	(Grunow) E. Jørgensen 1905 *sensu* Hasle 1979	A	cylinder	2	cell: 22-27				10	25		1	4 906	6
Thalassiosira decipiens	(Grunow) E. Jørgensen 1905 *sensu* Hasle 1979	A	cylinder	3	cell: 40-50				30	45		1	47 689	6
Thalassiosira eccentrica	(Ehrenberg) P.T. Cleve 1903	A	cylinder	1	cell: 30				24	30		1	16 956	6
Thalassiosira eccentrica	(Ehrenberg) P.T. Cleve 1903	A	cylinder	2	cell: 135				25	135		1	357 666	6
Thalassiosira gravida	P.T. Cleve 1896	A	cylinder	1	cell: 32-37				15	35		1	14 424	6
Thalassiosira gravida	P.T. Cleve 1896	A	cylinder	2	cell: 37-42				15	40		1	18 840	6
Thalassiosira guillardii	Hasle 1978	A	cylinder		cell: 10-15				8	12.5		1	981	6
Thalassiosira hyalina	(Grunow *in* Cleve & Grunow) Gran 1897	A	cylinder		cell: 30-35				19.5	32.5		1	16 169	6

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Thalassiosira hyperborea v. *pelagica*	(Cleve-Euler) Hasle 1989	A	cylinder		cell: 30-35				13	32.5		1	10 779	6
Thalassiosira lacustris	(Grunow *in* Cleve & Grunow 1880) Hasle *in* Hasle & G. Fryxell 1977	A	cylinder	1	cell: 25-30				11	27.5		1	6 530	6; HD fac.=0.4
Thalassiosira lacustris	(Grunow *in* Cleve & Grunow 1880) Hasle *in* Hasle & G. Fryxell 1977	A	cylinder	2	cell: 30-35				13	32.5		1	10 779	6; HD fac.=0.4
Thalassiosira lacustris	(Grunow *in* Cleve & Grunow 1880) Hasle *in* Hasle & G. Fryxell 1977	A	cylinder	3	cell: 35-40				22.5	37.5		1	24 838	6; HD fac.=0.6
Thalassiosira lacustris	(Grunow *in* Cleve & Grunow 1880) Hasle *in* Hasle & G. Fryxell 1977	A	cylinder	4	cell: 80-90				25	85		1	141 791	6
Thalassiosira levanderi	van Goor 1924	A	cylinder	1	cell: 7-9				4.8	8		1	241	6; HD fac.= 0.6
Thalassiosira levanderi	van Goor 1924	A	cylinder	2	cell: 9-11				6	10		1	471	6; HD fac.= 0.6
Thalassiosira levanderi	van Goor 1924	A	cylinder	3	cell: 11-13				7.2	12		1	814	6; HD fac.= 0.6
Thalassiosira levanderi	van Goor 1924	A	cylinder	4	cell: 13-15				8.4	14		1	1 292	6; HD fac.= 0.6
Thalassiosira levanderi	van Goor 1924	A	cylinder	5	cell: 15-17				9.6	16		1	1 929	6; HD fac.= 0.6
Thalassiosira nordenskioeldii	P.T. Cleve 1873	A	cylinder	1	cell: 10-15				11	12.5		1	1 349	6
Thalassiosira nordenskioeldii	P.T. Cleve 1873	A	cylinder	2	cell: 15-20				12	17.5		1	2 885	6
Thalassiosira nordenskioeldii	P.T. Cleve 1873	A	cylinder	3	cell: 20-25				13	22.5		1	5 166	6
Thalassiosira nordenskioeldii	P.T. Cleve 1873	A	cylinder	4	cell: 25-30				14	27.5		1	8 311	6
Thalassiosira nordenskioeldii	P.T. Cleve 1873	A	cylinder	5	cell: 30-35				17	32.5		1	14 096	6
Thalassiosira nordenskioeldii	P.T. Cleve 1873	A	cylinder	6	cell: 35-40				18	37.5		1	19 870	6
Thalassiosira proschkinae	Makarova *in* Makarova, Genkal & Kuzmin 1979	A	cylinder		cell: 5-6				2.7	5.4		1	62	6
Thalassiosira pseudonana	(Hustedt) Hasle & Heimdal 1970	A	cylinder	1	cell: 4-6				3.25	5		1	64	6; HD fac.=0.65
Thalassiosira pseudonana	(Hustedt) Hasle & Heimdal 1970	A	cylinder	2	cell: 6-8				4.55	7		1	175	6; HD fac.=0.65
Thalassiosira punctigera	(Castracane) Hasle 1983	A	cylinder	1	cell: 40-50				22.5	45		1	35 767	* 6; HD fac.=0.5
Thalassiosira punctigera	(Castracane) Hasle 1983	A	cylinder	2	cell: 50-60				27.5	55		1	65 302	* 6; HD fac.=0.5
Thalassiosira punctigera	(Castracane) Hasle 1983	A	cylinder	3	cell: 60-70				32.5	65		1	107 790	* 6; HD fac.=0.5

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Thalassiosira rotula	Meunier 1910	A	cylinder		cell: 40				12	40		1	15 072	6
Thalassiosira weissflogii	(Grunow *in* Van Heurck) G. Fryxell & Hasle 1977	A	cylinder	1	cell: 12-15				10	13		1	1 327	6
Thalassiosira weissflogii	(Grunow *in* Van Heurck) G. Fryxell & Hasle 1977	A	cylinder	2	cell: 15-18				14	16		1	2 813	6
Thalassiosira weissflogii	(Grunow *in* Van Heurck) G. Fryxell & Hasle 1977	A	cylinder	2	cell: 18-22				15	20		1	4 710	6
Thalassiosira spp.		A	cylinder	1	cell: 3-7				3.3	5		1	64	6; HD fac.=0.65
Thalassiosira spp.		A	cylinder	2	cell: 7-12				6.5	10		1	510	6; HD fac.=0.65
Thalassiosira spp.		A	cylinder	3	cell: 12-17				9.8	15		1	1 722	6; HD fac.=0.65
Thalassiosira spp.		A	cylinder	4	cell: 17-22				10	20		1	3 140	6; HD fac.=0.5
Thalassiosira spp.		A	cylinder	5	cell: 22-27				12.5	25		1	6 133	6; HD fac.=0.5
Thalassiosira spp.		A	cylinder	6	cell: 27-32				15	30		1	10 598	6; HD fac.=0.5
Thalassiosira spp.		A	cylinder	7	cell: 32-40				17.5	35		1	16 828	6; HD fac.=0.5
Thalassiosira spp.		A	cylinder	8	cell: 40-50				22.5	45		1	35 767	6; HD fac.=0.5
Thalassiosira spp.		A	cylinder	9	cell: 50-60				27.5	55		1	65 302	6; HD fac.=0.5
Thalassiosira spp.		A	cylinder	10	cell: 60-70				19.5	65		1	64 674	6; HD fac.=0.3
Thalassiosira spp.		A	cylinder	11	cell: 70-90				24	80		1	120 576	6; HD fac.=0.3
Thalassiosira spp.		A	cylinder	12	cell: 90-110				30	100		1	235 500	6; HD fac.=0.3
Centrales, unidentified		A	cylinder	1	cell: 3-7				3.3	5		1	64	6; HD fac.=0.65
Centrales, unidentified		A	cylinder	2	cell: 7-12				6.5	10		1	510	6; HD fac.=0.65
Centrales, unidentified		A	cylinder	3	cell: 12-17				9.8	15		1	1 722	6; HD fac.=0.65
Centrales, unidentified		A	cylinder	4	cell: 17-22				10	20		1	3 140	6; HD fac.=0.5
Centrales, unidentified		A	cylinder	5	cell: 22-27				12.5	25		1	6 133	6; HD fac.=0.5
Centrales, unidentified		A	cylinder	6	cell: 27-32				15	30		1	10 598	6; HD fac.=0.5
Centrales, unidentified		A	cylinder	7	cell: 32-40				17.5	35		1	16 828	6; HD fac.=0.5
Centrales, unidentified		A	cylinder	8	cell: 40-50				22.5	45		1	35 767	6; HD fac.=0.5
Centrales, unidentified		A	cylinder	9	cell: 50-60				27.5	55		1	65 302	6; HD fac.=0.5
Centrales, unidentified		A	cylinder	10	cell: 60-70				19.5	65		1	64 674	6; HD fac.=0.3
Centrales, unidentified		A	cylinder	11	cell: 70-90				24	80		1	120 576	6; HD fac.=0.3
Centrales, unidentified		A	cylinder	12	cell: 90-110				30	100		1	235 500	6; HD fac.=0.3
Order BACILLARIALES (PENNALES)														
Achnanthes taeniata	Grunow *in* Cleve & Grunow 1880	A	parallelepiped	1	cell: 15-20x3	16		4	3			1	192	
Achnanthes taeniata	Grunow *in* Cleve & Grunow 1880	A	parallelepiped	2	cell: 15-20x4	17		5	4			1	340	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Achnanthes taeniata	Grunow *in* Cleve & Grunow 1880	A	parallelepiped	3	cell: 25-30x4	27		5	4			1	540	
Achnanthes taeniata	Grunow *in* Cleve & Grunow 1880	A	parallelepiped	4	cell: 12-15x5	14		6	5			1	420	
Achnanthes taeniata	Grunow *in* Cleve & Grunow 1880	A	parallelepiped	5	cell: 15-20x5	17		6	5			1	510	
Achnanthes taeniata	Grunow *in* Cleve & Grunow 1880	A	parallelepiped	6	cell: 20-25x5	23		6	5			1	690	
Achnanthes taeniata	Grunow *in* Cleve & Grunow 1880	A	parallelepiped	7	cell: 15-20x6	17.5		7	6			1	735	
Achnanthes taeniata	Grunow *in* Cleve & Grunow 1880	A	parallelepiped	8	cell: 20-25x6	22		7	6			1	924	
Achnanthes taeniata	Grunow *in* Cleve & Grunow 1880	A	parallelepiped	9	cell: 25-30x7	27		8	7			1	1 512	
Achnanthes taeniata	Grunow *in* Cleve & Grunow 1880	A	parallelepiped	10	cell: 15-20x8	17		9	8			1	1 224	
Achnanthes taeniata	Grunow *in* Cleve & Grunow 1880	A	parallelepiped	11	cell: 25x10	25		11	10			1	2 750	
Achnanthes spp.		A	parallelepiped	1	cell: 10x2-3	10		5	3			1	150	HD fac.=0.6
Achnanthes spp.		A	parallelepiped	2	cell: 12-17x2.5-3.5	15		5	3			1	225	HD fac.=0.6
Achnanthes spp.		A	parallelepiped	3	cell: 17-22x3.5-4.5	20		6	4.2			1	504	HD fac.=0.7
Achnanthes spp.		A	parallelepiped	4	cell: 25-35x4.5-6.5	30		7	4.9			1	1 029	HD fac.=0.7
Amphiprora paludosa v. *paludosa*	W. Smith 1853	A	oval cylinder	1	cell: 28-36				12	32	14	1	4 220	8
Amphiprora paludosa v. *paludosa*	W. Smith 1853	A	oval cylinder	2	cell: 55-60				20	58	31	1	28 046	8
Amphora coffeaeformis	(C.A. Agardh) Kützing 1844	A	oval cylinder		cell: 25-35				10	30	12	1	2 826	8
Amphora commutata	Grunow *in* Van Heurck 1880	A	oval cylinder		cell: 45-50				19.6	47.6	20	1	14 355	8
Amphora ovalis	(Kützing) Kützing 1844	A	oval cylinder		cell: 55-65				10	60	40	1	18 840	8
Amphora spp.		A	oval cylinder	1	cell: 18-22				8.4	19.6	8	1	1 086	8
Amphora spp.		A	oval cylinder	2	cell: 25-30				10	28	20	1	4 396	8

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Amphora spp.		A	oval cylinder	3	cell: 33-37				14	35	18	1	6 924	8
Amphora spp.		A	oval cylinder	4	cell: 45-50				25.2	47.5	32	1	30 069	8
Asterionella formosa	Hassall 1850	A	parallelepiped	1	cell: 3-4x40-60	50		3.5	3.5			1	613	
Asterionella formosa	Hassall 1850	A	parallelepiped	2	cell: 3-4x60-80	70		3.5	3.5			1	858	
Asterionella formosa	Hassall 1850	A	parallelepiped	3	cell: 3-4x80-100	90		3.5	3.5			1	1 103	
Asterionellopsis glacialis	(Castracane) Round *in* Round, Crawford & D.G. Mann 1990	A	cone + half sphere - 40%	1	cell: 8x70				70	8		1	744	
Asterionellopsis glacialis	(Castracane) Round *in* Round, Crawford & D.G. Mann 1990	A	cone + half sphere - 40%	1	cell: 10x90				90	10		1	1 492	
Asterionellopsis glacialis	(Castracane) Round *in* Round, Crawford & D.G. Mann 1990	A	cone + half sphere - 40%	1	cell: 12x100				100	12		1	2 396	
Asterionellopsis kariana	(Grunow *in* Cleve & Grunow) Round *in* Round, Crawford & D.G. Mann 1990	A	parallelepiped	1	cell: 4x20-30	25		4	4			1	400	
Asterionellopsis kariana	(Grunow *in* Cleve & Grunow) Round *in* Round, Crawford & D.G. Mann 1990	A	parallelepiped	2	cell: 4x30-40	35		4	4			1	560	
Asterionellopsis kariana	(Grunow *in* Cleve & Grunow) Round *in* Round, Crawford & D.G. Mann 1990	A	parallelepiped	3	cell: 4x40-50	45		4	4			1	720	
Caloneis silicula	(Ehrenberg) P.T. Cleve 1894	A	oval cylinder		cell: 40-60				10	48	16	1	6 029	8
Caloneis subsalina	(Donkin) Hendey 1951	A	oval cylinder	1	cell: 40-60				12	47.6	25	1	11 299	8
Caloneis subsalina	(Donkin) Hendey 1951	A	oval cylinder	2	cell: 60-80				14	70	28	1	21 540	8
Campylodiscus clypeus	Ehrenberg 1840	A	oval cylinder		cell: 150-200				60	180	160	1	1 356 480	8

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Cocconeis pediculus	Ehrenberg 1838	A	oval cylinder		cell: 30-35				8.4	33.6	25	1	5 583	8
Cocconeis placentula v. *placentula*	Ehrenberg 1838	A	oval cylinder	1	cell: 23-27				7	25	20	1	2 693	8
Cocconeis placentula v. *placentula*	Ehrenberg 1838	A	oval cylinder	2	cell: 27-33				7	30	22	1	3 693	8
Cocconeis placentula v. *placentula*	Ehrenberg 1838	A	oval cylinder	3	cell: 33-37				8	35	28	1	6 154	8
Cocconeis placentula v. *placentula*	Ehrenberg 1838	A	oval cylinder	4	cell: 38-43				8.4	41	31	1	8 327	8
Cocconeis placentula v. *placentula*	Ehrenberg 1838	A	oval cylinder	5	cell: 43-47				8.4	45	31	1	9 199	8
Cocconeis scutellum v. *scutellum*	Ehrenberg 1838	A	oval cylinder		cell: 20				2	20	20	1	628	8
Cylindrotheca closterium	(Ehrenberg) Reimann & J. Lewin 1958	A	rotational ellipsoid	1	cell: <3x20-25				22	2.8		1	90	9
Cylindrotheca closterium	(Ehrenberg) Reimann & J. Lewin 1958	A	rotational ellipsoid	2	cell: 3-4x25-28				26.5	3.6		1	180	9
Cylindrotheca closterium	(Ehrenberg) Reimann & J. Lewin 1958	A	rotational ellipsoid	3	cell: 4-5x30-35				33	4.5		1	350	9
Cylindrotheca closterium	(Ehrenberg) Reimann & J. Lewin 1958	A	rotational ellipsoid	4	cell: 5-6x22-28				25	5.5		1	396	9
Cymatopleura elliptica	(Brebisson *ex* Kützing) W. Smith 1851	A	oval cylinder	1	cell: 70-90				25	79	52	1	80 620	8
Cymatopleura elliptica	(Brebisson *ex* Kützing) W. Smith 1851	A	oval cylinder	2	cell: 90-110				28	98	64	1	137 859	8
Cymatopleura elliptica	(Brebisson *ex* Kützing) W. Smith 1851	A	oval cylinder	3	cell: 110-130				30	120	76	1	214 776	8
Cymatopleura solea	(Brébisson) W. Smith 1851	A	oval cylinder	1	cell: 80-110x18-20				14	90	19	1	18 793	8
Cymatopleura solea	(Brébisson) W. Smith 1851	A	oval cylinder	2	cell: 110-140x32-35				26.6	130	34	1	90 937	8
Cymbella cistula	(Ehrenberg) Kirchner 1878	A	half parallelepiped		cell: 60-70	65		22	20			1	14 300	8

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Cymbella lanceolata	(Ehrenberg) Kirchner 1878	A	half parallelepiped		cell: 100-150	128		27	27			1	46 656	8
Cymbella obtusiuscula	Kützing 1844	A	half parallelepiped		cell: 20-30	25		11	11			1	1 513	8
Cymbella spp.		A	half parallelepiped	1	cell: 20x5	20		5	5			1	250	
Cymbella spp.		A	half parallelepiped	2	cell: 120x25	120		25	25			1	37 500	
Diatoma constricta	(Grunow *in* Van Heurck) Williams 1985	A	parallelepiped		cell: 55-60	57		10	10			1	5 700	8
Diatoma tenuis	C.A. Agardh 1812	A	parallelepiped	1	cell: 3x30-50	40		3	3			1	360	
Diatoma tenuis	C.A. Agardh 1812	A	parallelepiped	2	cell: 3x50-70	60		3	3			1	540	
Diatoma tenuis	C.A. Agardh 1812	A	parallelepiped	3	cell: 3x70-90	80		3	3			1	720	
Diatoma tenuis	C.A. Agardh 1812	A	parallelepiped	4	cell: 4x30-50	40		4	4			1	640	
Diatoma tenuis	C.A. Agardh 1812	A	parallelepiped	5	cell: 4x50-70	60		4	4			1	960	
Diatoma tenuis	C.A. Agardh 1812	A	parallelepiped	6	cell: 4x70-90	80		4	4			1	1 280	
Diatoma vulgaris v. *vulgaris*	Bory 1824	A	parallelepiped	1	cell: 25-35x10	30		10	5.7			1	1 710	
Diatoma vulgaris v. *vulgaris*	Bory 1824	A	parallelepiped	2	cell: 40-50x14	45		14	14			1	8 820	
Diploneis didyma	(Ehrenberg) P.T. Cleve 1894	A	oval cylinder		cell: 40-45x20				12.6	42	20	1	8 308	
Diploneis elliptica	(Kützing) P.T. Cleve 1891	A	oval cylinder		cell: 30-40x20				14	35	20	1	7 693	
Diploneis interrupta	(Kützing) P.T. Cleve 1894	A	oval cylinder		cell: 50x14				14	50	14	1	7 693	
Eunotia spp.		A	parallelepiped		cell: 400-450	425		5.6	5.6			1	13 328	8
Fragilaria capucina v. capucina	Desmazières 1825	A	parallelepiped	1	cell: 3x25-30	28		3	2.8			1	235	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Fragilaria capucina v. capucina	Desmazières 1825	A	parallelepiped	2	cell: 4x30-40	36		4	4			1	576	
Fragilaria crotonensis	Kitton 1869	A	half parallelepiped	1	cell: 3-4x30-50	40		3.5	3			1	210	
Fragilaria crotonensis	Kitton 1869	A	half parallelepiped	2	cell: 4-5x50-80	65		4.5	4			1	585	
Fragilaria crotonensis	Kitton 1869	A	half parallelepiped	3	cell: 5-6x100-120	115		5.5	5			1	1 581	
Fragilaria heidenii	Østrup 1910	A	half parallelepiped	1	cell: 7x20-30	25		7	5			1	438	
Fragilaria heidenii	Østrup 1910	A	half parallelepiped	2	cell: 8-9x30-40	35		8.5	5.6			1	833	
Fragilaria heidenii	Østrup 1910	A	half parallelepiped	3	cell: 8-9x40-60	56		8.5	5			1	1 190	
Fragilaria istvanffyi	Pantocsek 1902	A	half parallelepiped		cell: 8-9x30-40	35		8.5	5.6			1	833	
Fragilaria spp.		A	half parallelepiped	1	cell: 2-3x15-30	22		2.5	2.5			1	69	
Fragilaria spp.		A	half parallelepiped	2	cell: 3-4x30-40	35		3.5	3.5			1	214	
Fragilaria spp.		A	half parallelepiped	3	cell: 5-6x40-60	50		5.5	5			1	688	
Fragilaria spp.		A	half parallelepiped	4	cell: 7-8x60-80	70		7.5	5			1	1 313	
Fragilariforma virescens	(Ralfs) Williams & Round 1988	A	half parallelepiped	1	cell: 4-5x12-14	13		4.5	4.5			1	132	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Fragilariforma virescens	(Ralfs) Williams & Round 1988	A	half parallelepiped	2	cell: 5-7x15-17	16		6	6			1	288	
Fragilariforma virescens	(Ralfs) Williams & Round 1988	A	half parallelepiped	3	cell: 7-9x18-22	20		8	8			1	640	
Fragilariopsis cylindrus	(Grunow *in* Cleve & Möller) W. Krieger *in* Helmcke & Krieger 1954	A	half parallelepiped		cell: 3-4x15-20	17		3.5	3.5			1	104	
Gomphonema olivaceum v. *olivaceum*	(Hornemann) Brébisson 1838	A	half parallelepiped		cell: 20-30x8-9	25		8.4	6			1	630	
Grammatophora marina	(Lyngbye) Kützing 1844	A	oval cylinder	1	cell: 28x14				14	28	14	1	4 308	
Grammatophora marina	(Lyngbye) Kützing 1844	A	oval cylinder	2	cell: 36x16				16	36	16	1	7 235	
Gyrosigma acuminatum	(Kützing) Rabenhorst 1853	A	parallelepiped-30%	1	cell: 50-80x8-10	65		9	6			1	2 457	
Gyrosigma acuminatum	(Kützing) Rabenhorst 1853	A	parallelepiped-30%	2	cell: 80-120x10-12	100		11	8.4			1	6 468	
Gyrosigma acuminatum	(Kützing) Rabenhorst 1853	A	parallelepiped-30%	3	cell: 120-170x12-14	140		13	9.6			1	12 230	
Gyrosigma acuminatum	(Kützing) Rabenhorst 1853	A	parallelepiped-30%	4	cell: 170-200x14-16	185		15	10			1	19 425	
Gyrosigma attenuatum	(Kützing) Rabenhorst 1853	A	parallelepiped-30%	1	cell: 100-120x15-17	110		16	9.6			1	11 827	HD fac.=0.6
Gyrosigma attenuatum	(Kützing) Rabenhorst 1853	A	parallelepiped-30%	2	cell: 120-150x17-20	135		18.5	11.1			1	19 406	HD fac.=0.6
Gyrosigma attenuatum	(Kützing) Rabenhorst 1853	A	parallelepiped-30%	3	cell: 150-200x20-25	196		22.5	13.5			1	41 675	HD fac.=0.6
Gyrosigma attenuatum	(Kützing) Rabenhorst 1853	A	parallelepiped-30%	4	cell: 200-250x25-30	224		27.5	16.5			1	71 148	HD fac.=0.6

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Gyrosigma attenuatum	(Kützing) Rabenhorst 1853	A	parallelepiped-30%	5	cell: 250-300x30-35	275		33	19.8			1	125 780	HD fac.=0.6
Gyrosigma attenuatum	(Kützing) Rabenhorst 1853	A	parallelepiped-30%	6	cell: 250-300x35-40	282		38	22.8			1	171 027	HD fac.=0.6
Gyrosigma balticum	(Ehrenberg) Rabenhorst 1853	A	parallelepiped-10%		cell: 250-300x25	294		25	32			1	211 680	
Gyrosigma eximium	(Thwaites) Boyer 1927	A	parallelepiped-10%		cell: 50-100x10-15	70		12	12			1	9 072	
Gyrosigma macrum	(W. Smith) Griffith & Henfrey 1856	A	half parallelepiped	1	cell: 100-150x14	112		14	14			1	10 976	
Gyrosigma macrum	(W. Smith) Griffith & Henfrey 1856	A	half parallelepiped	2	cell: 220-250x12	236		12	12			1	16 992	
Gyrosigma strigilis	(W. Smith) P.T. Cleve 1894	A	parallelepiped-30%		cell: 300-400x30-40	362		35	30			1	133 035	
Licmophora gracilis v. *gracilis*	(Ehrenberg) Grunow 1867	A	half parallelepiped		cell: 80-100x30-35	90		32.5	18			1	26 325	
Licmophora spp.		A	half parallelepiped		cell: 55-65	60		20	45			1	27 000	
Mastogloia smithii v. *smithii*	Thwaites *in* W. Smith 1856	A	oval cylinder		cell: 10-15x25-35				12	30.8	12	1	3 482	
Meridion circulare v. *circulare*	(Greville) C.A. Agardh 1831	A	half parallelepiped	1	cell: 20-25x10	22		10	7			1	770	
Meridion circulare v. *circulare*	(Greville) C.A. Agardh 1831	A	half parallelepiped	2	cell: 25-30x8	28		8.3	8.3			1	964	
Navicula capitata v. *capitata*	Ehrenberg 1838	A	half parallelepiped	1	cell: 6x19-21	20		6	6			1	360	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Navicula capitata v. *capitata*	Ehrenberg 1838	A	half parallelepiped	2	cell: 7x19-25	22		7	7			1	539	
Navicula capitata v. *capitata*	Ehrenberg 1838	A	half parallelepiped	3	cell: 8x19-25	22		8.4	8.4			1	776	
Navicula capitata v. *capitata*	Ehrenberg 1838	A	half parallelepiped	4	cell: 11-12x21-23	22		11.2	11.2			1	1 380	
Navicula capitata v. *hungarica*	(Grunow) R. Ross 1947	A	oval cylinder		cell: 7-9x20-25				8.4	22.4	8	1	1 241	
Navicula cari	Ehrenberg 1836	A	parallelepiped-40%		cell: 10-12x35-40	38		11	11.2			1	2 809	
Navicula cryptocephala	Kützing 1844	A	parallelepiped-40%		cell: 8-10x30-35	33.6		9	5			1	907	
Navicula digitoradiata	(Gregory) Ralfs *in* Pritchard 1861	A	oval cylinder		cell: 10-15x40-50				10	45	12	1	4 239	
Navicula gregaria	Donkin 1861	A	parallelepiped-40%		cell: 6-8x12-17	14		7	7			1	412	
Navicula lesmonensis	Hustedt 1957	A	parallelepiped-30%		cell: 6-8x18-20	19		7	6.4			1	596	
Navicula meniscus	Schumann 1867	A	parallelepiped-20%		cell: 14-16x30-40	33		15	15			1	5 940	
Navicula palpebralis	Brébisson *ex* W. Smith 1853	A	parallelepiped-40%		cell: 20-25x50-70	60		22.5	20			1	16 200	
Navicula peregrina v. *peregrina*	(Ehrenberg) Kützing 1844	A	parallelepiped-40%	1	cell: 14x55-80	58		14	12			1	5 846	
Navicula peregrina v. *peregrina*	(Ehrenberg) Kützing 1844	A	parallelepiped-40%	2	cell: 20x80-120	103		20	15			1	18 540	
Navicula peregrina v. *peregrina*	(Ehrenberg) Kützing 1844	A	parallelepiped-40%	3	cell: 23x130	130		23	18			1	32 292	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Navicula platystoma	Ehrenberg 1838	A	parallelepiped-20%		cell: 15-18x28-46	42		17	14			1	7 997	
Navicula reinhardtii	(Grunow) Grunow *in* Cleve & Möller 1877	A	oval cylinder		cell: 15-18x40-50				14	47.6	16.8	1	8 788	
Navicula rhynchocephala	Kützing 1844	A	half parallelepiped		cell: 15-16x40-50	47.6		15.5	15.5			1	5 718	
Navicula transitans v. transitans	Cleve 1883	A	parallelepiped-40%		cell: 6x30-40	35		6	6			1	756	
Navicula tripunctata	(O.F. Müller) Bory 1822	A	parallelepiped-20%		cell: 10x30-50	40		10	10			1	3 200	
Navicula vanhoeffenii	Gran 1897	A	parallelepiped-20%		cell: 12x30-50	40		12	7.8			1	2 995	
Navicula viridula v. viridula	(Kützing) Ehrenberg 1838	A	parallelepiped-30%		cell: 13-15x60-70	63.8		14	7			1	4 377	
Navicula spp.		A	parallelepiped-40%	1	cell: 4-6x20-30	25		5	5			1	375	
Navicula spp.		A	parallelepiped-40%	2	cell: 7-8x30-40	35		7.5	7.5			1	1 181	
Navicula spp.		A	parallelepiped-40%	3	cell: 10x30-40	35		10	10			1	2 100	
Navicula spp.		A	parallelepiped-40%	4	cell: 15x40-60	60		15	12			1	6 480	
Navicula spp.		A	parallelepiped-40%	5	cell: 20x70-90	80		20	15			1	14 400	
Nitzschia acicularis v. acicularis	(Kützing) W. Smith 1853	A	rotational ellipsoid		cell: 3x35-45				40	3		1	188	9

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Nitzschia frigida	Grunow *in* Cleve & Grunow 1880	A	rotational ellipsoid		cell: 4-5x30-50				41	4.5		1	434	
Nitzschia longissima	(Brébisson *in* Kützing) Ralfs *in* Pritchard 1861	A	2 cones	1	cell: 3x65-85				75	3		1	177	
Nitzschia longissima	(Brébisson *in* Kützing) Ralfs *in* Pritchard 1861	A	2 cones	2	cell: 3x85-155				125	3		1	294	
Nitzschia longissima	(Brébisson *in* Kützing) Ralfs *in* Pritchard 1861	A	2 cones	3	cell: 4-6x85-110				96	4.8		1	579	
Nitzschia paleacea	(Grunow) Grunow *in* Van Heurck 1881	A	rotational ellipsoid		cell: 3x30-40				35	3		1	165	
Nitzschia sigmoidea	(Nitzsch) W. Smith 1853	A	parallelepiped		cell: 15-20x150-200	180		18	9			1	29 160	
Nitzschia vitrea	Norman 1861	A	parallelepiped-10%		cell: 7x40-60	50		7	7			1	2 205	
Nitzschia spp.		A	half parallelepiped	1	cell: 3x10	10		3	3			1	45	
Nitzschia spp.		A	half parallelepiped	2	cell: 3x40	40		3	3			1	180	
Nitzschia spp.		A	half parallelepiped	3	cell: 3x70	70		3	3			1	315	
Nitzschia spp.		A	half parallelepiped	4	cell: 7x40	40		7	7			1	980	
Nitzschia spp.		A	half parallelepiped	5	cell: 7x50	50		7	7			1	1 225	
Nitzschia spp.		A	half parallelepiped	6	cell: 8x20	20		8	8			1	640	
Nitzschia spp.		A	half parallelepiped	7	cell: 8x40	40		8	8			1	1 280	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Nitzschia spp.		A	half parallelepiped	8	cell: 8x50	50		8	8			1	1 600	
Nitzschia spp.		A	half parallelepiped	9	cell: 8x100	100		8	8			1	3 200	
Nitzschia spp.		A	half parallelepiped	10	cell: 13x40	40		13	13			1	3 380	
Nitzschia spp.		A	half parallelepiped	11	cell: 13x50	50		13	13			1	4 225	
Nitzschia spp.		A	half parallelepiped	12	cell: 13x100	100		13	13			1	8 450	
Pseudo-nitzschia delicatissima	(P.T. Cleve) Heiden *in* Heiden & Kolbe 1928	A	parallelepiped-10%	1	cell: 1x50-60	55		1	1			1	50	
Pseudo-nitzschia delicatissima	(P.T. Cleve) Heiden *in* Heiden & Kolbe 1928	A	parallelepiped-10%	2	cell: 2x40-50	45		1.9	1.9			1	146	
Pseudo-nitzschia delicatissima	(P.T. Cleve) Heiden *in* Heiden & Kolbe 1928	A	parallelepiped-10%	3	cell: 2-3x50-60	55		2.5	2.5			1	309	
Pseudo-nitzschia pseudodelicatissima	(Hasle) Hasle 1993	A	parallelepiped-10%		cell: 1-2x50-70	60		1.5	1.5			1	122	
Pseudo-nitzschia pungens	(Grunow ex P.T. Cleve) Hasle 1993	A	parallelepiped-20%	1	cell: 3x100-120	110		3	3			1	792	
Pseudo-nitzschia pungens	(Grunow ex P.T. Cleve) Hasle 1993	A	parallelepiped-20%	2	cell: 4x85-130	120		4	3			1	1 152	
Pseudo-nitzschia pungens	(Grunow ex P.T. Cleve) Hasle 1993	A	parallelepiped-20%	3	cell: 5-6x120-130	120		5.5	5			1	2 640	
Pseudo-nitzschia pungens	(Grunow ex P.T. Cleve) Hasle 1993	A	parallelepiped-20%	4	cell: 8x130-150	140		8	5			1	4 480	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Pseudo-nitzschia seriata f. *seriata*	(P.T. Cleve) H. Peragallo *in* H. & M. Peragallo 1900	A	parallelepiped-20%	1	cell: 5x90-110	100		5	5			1	2 000	
Pseudo-nitzschia seriata f. *seriata*	(P.T. Cleve) H. Peragallo *in* H. & M. Peragallo 1900	A	parallelepiped-20%	2	cell: 6x100-110	105		6	6			1	3 024	
Pseudo-nitzschia seriata f. *seriata*	(P.T. Cleve) H. Peragallo *in* H. & M. Peragallo 1900	A	parallelepiped-20%	3	cell: 8x80-100	90		8	8			1	4 608	
Pseudo-nitzschia seriata f. *seriata*	(P.T. Cleve) H. Peragallo *in* H. & M. Peragallo 1900	A	parallelepiped-20%	4	cell: 10x110-120	115		10	10			1	9 200	
Pseudo-nitzschia spp.		A	parallelepiped-20%	1	cell: 3x10	10		3	2			1	48	
Pseudo-nitzschia spp.		A	parallelepiped-20%	2	cell: 3x40	40		3	2			1	192	
Rhoicosphenia abbreviata	(C.A. Agardh) Lange-Bertalot 1980	A	half parallelepiped	1	cell: 23-27x5-6	24		5.5	5.5			1	363	
Rhoicosphenia abbreviata	(C.A. Agardh) Lange-Bertalot 1980	A	half parallelepiped	2	cell: 23-27x10-12	25		11.2	6			1	840	
Staurosira construens v. *construens*	Ehrenberg 1843	A	half parallelepiped		cell: 8-12x10-25	17		10	6			1	510	
Staurosira construens v. *binodis*	(Ehrenberg) Grunow 1862	A	half parallelepiped		cell: 4-6x10-20	15		5	5			1	188	
Staurosira construens v. *venter*	(Ehrenberg) Hamilton 1992	A	oval cylinder		cell: 8-9x10-12				8.3	11.2	8.3	1	606	
Surirella biseriata	Brébisson *in* Brébisson & Godey 1836	A	parallelepiped-20%	1	cell: 55-60x150-200	155		56	40			1	277 760	
Surirella biseriata	Brébisson *in* Brébisson & Godey 1836	A	parallelepiped-20%	2	cell: 60-65x200-250	210		62.5	56			1	588 000	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Surirella capronii	Brébisson *in* Kitton 1869	A	oval cylinder-30%	1	cell: 60-65x130-150				55	140	62	1	262 331	
Surirella capronii	Brébisson *in* Kitton 1869	A	oval cylinder-30%	2	cell: 70-75x150-170				67.2	160	72.8	1	430 119	
Surirella capronii	Brébisson *in* Kitton 1869	A	oval cylinder-30%	3	cell: 80x170-190				72.8	184	80	1	588 853	
Surirella crumena	Brébisson *ex* Kützing 1849	A	oval cylinder	1	cell: 25-27x26-32				16.8	31	27	1	11 038	
Surirella crumena	Brébisson *ex* Kützing 1849	A	oval cylinder	2	cell: 48-50x49-52				28	51	49	1	54 928	
Surirella minuta	Brébisson *in* Kützing 1849	A	oval cylinder	1	cell: 10-13x15-20				11.2	16.8	11.2	1	1 654	
Surirella minuta	Brébisson *in* Kützing 1849	A	oval cylinder	2	cell: 13-15x20-30				14	26.6	14	1	4 093	
Surirella robusta	Ehrenberg 1841	A	oval cylinder		cell: 70-90x140-180				56	160	79	1	555 654	
Surirella spp.		A	oval cylinder	1	cell: 10x15				10	15	10	1	1 178	
Surirella spp.		A	oval cylinder	2	cell: 20x50				20	50	20	1	15 700	
Surirella spp.		A	oval cylinder	3	cell: 40x50				30	50	40	1	47 100	
Surirella spp.		A	oval cylinder	4	cell: 100x150				80	150	100	1	942 000	
Synedra acus v. *acus*	Kützing 1844	A	half parallelepiped	1	cell: 3-4x100-130	113		3.5	3.5			1	692	
Synedra acus v. *acus*	Kützing 1844	A	half parallelepiped	2	cell: 5x130-170	145		5	5			1	1 813	
Synedra acus v. *acus*	Kützing 1844	A	half parallelepiped	3	cell: 6x170-210	190		5.6	5.6			1	2 979	
Synedra berolinensis	Lemmermann 1900	A	half parallelepiped		cell: 2.5-3x30-40	36.4		2.8	2.8			1	143	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Synedra parasitica	(W. Smith) Hustedt 1930	A	half parallelepiped		cell: 7x25-30	28		7	3.5			1	343	
Synedra ulna v. *ulna*	(Nitzsch) Ehrenberg 1832	A	half parallelepiped	1	cell: 5-10x80-130	110		7.5	6			1	2 475	
Synedra ulna v. *ulna*	(Nitzsch) Ehrenberg 1832	A	half parallelepiped	2	cell: 5-10x130-180	160		7.5	6			1	3 600	
Synedra ulna v. *ulna*	(Nitzsch) Ehrenberg 1832	A	half parallelepiped	3	cell: 5-10x180-230	210		7.5	6			1	4 725	
Synedra ulna v. *ulna*	(Nitzsch) Ehrenberg 1832	A	half parallelepiped	4	cell: 5-10x230-300	270		7.5	6			1	6 075	
Tabellaria fenestrata	(Lyngbye) Kützing 1844	A	parallelepiped	1	cell: 6x20-40	28		6	12			1	2 016	
Tabellaria fenestrata	(Lyngbye) Kützing 1844	A	parallelepiped	2	cell: 6x40-50	44.8		6	12			1	3 226	
Tabellaria fenestrata	(Lyngbye) Kützing 1844	A	parallelepiped	3	cell: 8x50-60	53.2		8.3	16			1	7 065	
Tabularia fasciculata	(C.A. Agardh) Williams & Round 1986	A	half parallelepiped	1	cell: 5-6x80-100	95.2		5.6	5.6			1	1 493	
Tabularia fasciculata	(C.A. Agardh) Williams & Round 1986	A	half parallelepiped	2	cell: 8-9x60-80	67.2		8.4	8.4			1	2 371	
Tabularia fasciculata	(C.A. Agardh) Williams & Round 1986	A	half parallelepiped	3	cell: 8-9x150-200	174		8.4	8.4			1	6 139	
Tabularia fasciculata	(C.A. Agardh) Williams & Round 1986	A	half parallelepiped	4	cell: 12x300-350	336		12	12			1	24 192	
Tabularia tabulata	(C.A. Agardh) Snoeijs 1992	A	half parallelepiped	1	cell: 8x100-150	129		8	8			1	4 128	
Tabularia tabulata	(C.A. Agardh) Snoeijs 1992	A	half parallelepiped	2	cell: 14x200-250	238		14	10			1	16 660	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Thalassionema nitzschioides	(Grunow) Grunow ex Hustedt 1932	A	parallelepiped	1	cell: 2x50-55	53		2	2			1	212	
Thalassionema nitzschioides	(Grunow) Grunow ex Hustedt 1932	A	parallelepiped	2	cell: 2-3x55-70	60		2.5	2.5			1	375	
Thalassionema nitzschioides	(Grunow) Grunow ex Hustedt 1932	A	parallelepiped	3	cell: 3x40-50	45		3	3			1	405	
Thalassionema nitzschioides	(Grunow) Grunow ex Hustedt 1932	A	parallelepiped	4	cell: 4x30-50	40		4	4			1	640	
Thalassionema nitzschioides	(Grunow) Grunow ex Hustedt 1932	A	parallelepiped	5	cell: 4x50-80	65		4	4			1	1 040	
Thalassionema nitzschioides	(Grunow) Grunow ex Hustedt 1932	A	parallelepiped	6	cell: 5x40-50	45		5	5			1	1 125	
Thalassionema nitzschioides	(Grunow) Grunow ex Hustedt 1932	A	parallelepiped	7	cell: 6x40-60	50		6	5			1	1 500	
Thalassionema nitzschioides	(Grunow) Grunow ex Hustedt 1932	A	parallelepiped	8	cell: 8x40-60	50		8	6			1	2 400	
Pennales, unidentified		A	half parallelepiped	1	cell: 4-5x10-15	12.5		4.5	4			1	113	
Pennales, unidentified		A	half parallelepiped	2	cell: 4-6x15-25	20		5	4			1	200	
Pennales, unidentified		A	half parallelepiped	3	cell: 4-6x25-35	30		5	4			1	300	
Pennales, unidentified		A	half parallelepiped	4	cell: 4-6x35-50	42		5	4			1	420	
Pennales, unidentified		A	half parallelepiped	5	cell: 4-6x50-70	60		5	4			1	600	
Pennales, unidentified		A	half parallelepiped	6	cell: 4-6x70-100	85		5	4			1	850	
Pennales, unidentified		A	half parallelepiped	7	cell: 7-9x25-35	30		8	7			1	840	
Pennales, unidentified		A	half parallelepiped	8	cell: 7-9x35-50	42		8	7			1	1 176	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Pennales, unidentified		A	half parallelepiped	9	cell: 7-9x50-70	60		8	7			1	1 680	
Pennales, unidentified		A	half parallelepiped	10	cell: 7-9x70-100	85		8	7			1	2 380	
Pennales, unidentified		A	half parallelepiped	11	cell: 9-12x25-35	30		10.5	8			1	1 260	
Pennales, unidentified		A	half parallelepiped	12	cell: 9-12x35-50	42		10.5	8			1	1 764	
Pennales, unidentified		A	half parallelepiped	13	cell: 9-12x50-70	60		10.5	8			1	2 520	
Pennales, unidentified		A	half parallelepiped	14	cell: 9-12x70-100	85		10.5	8			1	3 570	
Pennales, unidentified		A	half parallelepiped	15	cell: 12-20x40-60	50		16	12			1	4 800	
Pennales, unidentified		A	half parallelepiped	16	cell: 12-20x60-90	85		16	12			1	8 160	
Pennales, unidentified		A	half parallelepiped	17	cell: 12-20x90-120	105		16	12			1	10 080	
Pennales, unidentified		A	half parallelepiped	18	cell: 20-30x40-60	50		25	15			1	9 375	
Pennales, unidentified		A	half parallelepiped	19	cell: 20-30x60-90	85		25	15			1	15 938	
Pennales, unidentified		A	half parallelepiped	20	cell: 20-30x90-120	105		25	15			1	19 688	
Class Tribophyceae (Xanthophyceae, Heterokontae)														

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Order MISCHOCOCCALES (HETEROCOCCALES)														
Goniochloris mutica	(A. Braun) Fott 1960	A	half parallelepiped		cell: 10-12	11.4		11.4	3			1	195	
Class Raphidophyceae (Chloromonadophyceae)														
Order CHATTONELLALES														
Chattonella cf. *verruculosa*	Hara et Chihara	A	cone + half sphere	1	cell: 10-20				15	10		1	523	
Chattonella cf. *verruculosa*	Hara et Chihara	A	cone + half sphere	2	cell: 20-30				25	14		1	1 641	
Chattonella cf. *verruculosa*	Hara et Chihara	A	cone + half sphere	3	cell: 30-40				35	17		1	3 290	
Heterosigma akashiwo	(Hada) Hada 1987	A	sphere	1	cell: 15-25					20		1	4 187	
Division EUGLENOPHYTA														
Class Euglenophyceae														
Order EUGLENALES														
Colacium vesiculosum	Ehrenberg 1838	A	rotational ellipsoid		cell: 7x14				14	7		1	359	
Euglena acus	Ehrenberg 1830	A	cone		cell: 7-9x80-120				95	8		1	1 591	
Euglena oxyuris	Schmarda 1846	A	cone		cell: 20-22x120-160				140	21		1	16 155	
Euglena viridis	(O.F. Müller) Ehrenberg 1830	A	rotational ellipsoid		cell: 20-25x50-60				56	22.4		1	7 352	
Euglena spp.		A	cone	1	cell: 8x45-55				50	8		1	837	
Euglena spp.		A	cone	2	cell: 10x60-80				70	10		1	1 832	
Euglena spp.		A	cone	3	cell: 15x40-60				50	15		1	2 944	
Euglena spp.		A	cone	4	cell: 14-15x60-80				70	14.5		1	3 851	
Euglena spp.		A	cone	5	cell: 20-25x60-80				70	22		1	8 865	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Eutreptia lanowii	Steuer 1904	A	rotational ellipsoid		cell: 11-12x15-20				16.8	11.4		1	1 143	
Eutreptia viridis	Perty 1852	A	rotational ellipsoid		cell: 20-25x50-60				56	22.4		1	14 705	
Eutreptia spp.		A	cone	1	cell: 5x20				20	5		1	131	
Eutreptia spp.		A	rotational ellipsoid	2	cell: 5-7x15-20				17.5	6		1	330	
Eutreptia spp.		A	rotational ellipsoid	3	cell: 5-7x20-25				22.5	6		1	424	
Eutreptia spp.		A	rotational ellipsoid	4	cell: 7-9x15-20				17.5	8		1	586	
Eutreptia spp.		A	rotational ellipsoid	5	cell: 7-9x20-30				25	8		1	837	
Eutreptia spp.		A	rotational ellipsoid	6	cell: 9-11x15-20				17.5	10		1	916	
Eutreptia spp.		A	rotational ellipsoid	7	cell: 9-11x20-40				30	10		1	1 570	
Eutreptia spp.		A	rotational ellipsoid	8	cell: 11-13x40-60				50	12		1	3 768	
Eutreptia spp.		A	rotational ellipsoid	9	cell: 13-15x40-60				50	14		1	5 129	
Eutreptia spp.		A	rotational ellipsoid	10	cell: 15-17x40-60				50	16		1	6 699	
Eutreptia spp.		A	rotational ellipsoid	11	cell: 17-22x60-80				70	19		1	13 225	
Eutreptia spp.		A	rotational ellipsoid	12	cell: 22-27x60-80				70	24.5		1	21 989	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Eutreptia spp.		A	rotational ellipsoid	13	cell: 27-32x60-80				70	29.5		1	31 880	
Eutreptiella spp.		A	rotational ellipsoid	1	cell: 5-7x10-15				12.5	6		1	236	
Eutreptiella spp.		A	rotational ellipsoid	2	cell: 5-7x15-20				17.5	6		1	330	
Eutreptiella spp.		A	rotational ellipsoid	3	cell: 5-7x20-25				22.5	6		1	424	
Eutreptiella spp.		A	rotational ellipsoid	4	cell: 7-9x15-20				17.5	8		1	586	
Eutreptiella spp.		A	rotational ellipsoid	5	cell: 7-9x20-25				22.5	8		1	754	
Eutreptiella spp.		A	rotational ellipsoid	6	cell: 7-9x25-30				27.5	8		1	921	
Eutreptiella spp.		A	rotational ellipsoid	7	cell: 9-11x10-15				12.5	10		1	654	
Eutreptiella spp.		A	rotational ellipsoid	8	cell: 9-11x15-20				17.5	10		1	916	
Eutreptiella spp.		A	rotational ellipsoid	9	cell: 9-11x20-30				25	10		1	1 308	
Eutreptiella spp.		A	rotational ellipsoid	10	cell: 9-11x30-40				35	10		1	1 832	
Eutreptiella spp.		A	rotational ellipsoid	11	cell: 9-11x40-60				50	10		1	2 617	
Eutreptiella spp.		A	rotational ellipsoid	12	cell: 11-13x15-20				17.5	12		1	1 319	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Eutreptiella spp.		A	rotational ellipsoid	13	cell: 11-13x20-30				25	12		1	1 884	
Eutreptiella spp.		A	rotational ellipsoid	14	cell: 11-13x30-40				35	12		1	2 638	
Eutreptiella spp.		A	rotational ellipsoid	15	cell: 13-17x40-60				50	15		1	5 888	
Eutreptiella spp.		A	rotational ellipsoid	16	cell: 17-23x50-70				60	19		1	11 335	
Eutreptiella spp.		A	rotational ellipsoid	17	cell: 23-27x60-70				65	25		1	21 260	
Eutreptiella spp.		A	rotational ellipsoid	18	cell: 27-33x70-80				75	30		1	35 325	
Lepocinclis ovum	(Ehrenberg) Lemmermann 1901	A	cone	1	cell: 15-20x20-30				25.2	16.8		1	1 861	
Lepocinclis ovum	(Ehrenberg) Lemmermann 1901	A	cone	2	cell: 22-27x45-50				47.6	25.2		1	7 910	
Phacus longicauda	(Ehrenberg) Dujardin 1841	A	flattened ellipsoid		cell: 15-20x30-40	35				18	3	1	989	
Phacus pleuronectes	(O.F. Müller) Dujardin 1841	A	flattened ellipsoid		cell: 30-40x35-45	40				35	5	1	3 663	
Phacus pyrum	(Ehrenberg) Stein 1878	A	flattened ellipsoid		cell: 18-20x30-35	32				19.6	8.4	1	2 757	
Phacus spp.		A	flattened ellipsoid	1	cell: 25-35x30-40	35				30	5	1	2 748	
Phacus spp.		A	flattened ellipsoid	2	cell: 35-45x40-60	50				40	8	1	8 373	
Trachelomonas hispida	(Perty) Stein 1878 *emend.* Deflandre	A	rotational ellipsoid		cell: 15-20x20-30				25	17		1	3 781	
Trachelomonas volvocina	Ehrenberg 1838	A	sphere		cell: 8-12					10		1	523	
Trachelomonas spp.		A	rotational ellipsoid	1	cell: 6-10x10-15				12.5	8.4		1	462	
Trachelomonas spp.		A	sphere	2	cell: 10-20					15		1	1 766	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Euglenales, unidentified		A	flattened ellipsoid	1	cell: 9x30	30				9	5	1	707	
Euglenales, unidentified		A	flattened ellipsoid	2	cell: 11x75	75				11	5	1	2 159	
Euglenales, unidentified		A	flattened ellipsoid	3	cell: 10x180	180				10	5	1	4 710	
Euglenales, unidentified		A	cone	4	cell: 5x50-70				60	5		1	393	
Division CHLOROPHYTA														
Class Prasinophyceae (Micromonadophyceae)														
Order MAMIELLALES														
Mantoniella squamata	(Manton & Parke) Desikachary 1972	A	rotational ellipsoid		cell: 3-5				4	3.5		1	26	
Micromonas pusilla	(Butcher) Manton & Parke 1960	A	rotational ellipsoid		cell: 1-3				2	1		1	1.0	
Order CHLORODENDRALES														
Nephroselmis spp.		A	rotational ellipsoid		cell: 3-5				2	4		1	17	
Pachysphaera spp.		A	sphere-20%	1	cell: 6-8					7		1	144	
Pachysphaera spp.		A	rotational ellipsoid	2	cell: 14-16x9-10				15	9.5		1	708	
Pseudoscourfieldia marina	(Throndsen) Manton 1975	A	flattened ellipsoid		cell: 3-4	3.4				2.6	1.3	1	6.0	
Pseudoscourfieldia spp.		A	flattened ellipsoid	1	cell: 3-4	3.4				2.6	1.3	1	6.0	
Pseudoscourfieldia spp.		A	flattened ellipsoid	2	cell: 4-6	5				4	2	1	21	
Pterosperma spp.		A	sphere		cell: 15					15		1	1 766	
Pyramimonas virginica	Pennick 1977	A	trapezoid	1	cell: 4x2	2	2	2	4			1	16	
Pyramimonas virginica	Pennick 1977	A	trapezoid	2	cell: 4x3	3	3	3	4			1	36	
Pyramimonas spp.		A	trapezoid	1	cell: 4x3	3	1	3	4			1	24	
Pyramimonas spp.		A	trapezoid	2	cell: 5-7x5	5	3	5	6			1	120	
Pyramimonas spp.		A	trapezoid	3	cell: 8-10x6	6	4	6	9			1	270	
Pyramimonas spp.		A	trapezoid	4	cell: 10-12x9	9	5.6	9	11			1	723	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Tetraselmis cordiformis	(H.J. Carter) F. Stein 1878	A	trapezoid		cell: 16-20	15	9	9	18			1	1 944	
Class Charophyceae														
Order KLEBSORMIDIALES														
Elakatothrix gelatinosa	Wille 1898	A	cone	1	cell: 5x16				16	5		1	105	
Elakatothrix gelatinosa	Wille 1898	A	cone	2	cell: 5x16				16	5		2	209	
Elakatothrix gelatinosa	Wille 1898	A	cone	3	cell: 5x16				16	5		4	419	
Elakatothrix gelatinosa	Wille 1898	A	cone	4	cell: 5x16				16	5		8	837	
Elakatothrix gelatinosa	Wille 1898	A	cone	5	cell: 5x16				16	5		16	1 675	
Elakatothrix genevensis	(Reverdin) Hindák	A	2 cones	1	cell: 3-4x15-20				18	3.5		1	58	
Elakatothrix genevensis	(Reverdin) Hindák	A	2 cones	2	cell: 3-4x15-20				18	3.5		2	115	
Elakatothrix genevensis	(Reverdin) Hindák	A	2 cones	3	cell: 4-6x25-35				30	5		1	196	
Elakatothrix genevensis	(Reverdin) Hindák	A	2 cones	4	cell: 4-6x25-35				30	5		2	393	
Koliella longiseta f. *longiseta*	Hindák	A	2 cones		cell: 2.5-3x100-150				129	2.8		1	265	
Order ZYGNEMATALES														
Closterium acerosum	(Schrank) Ehrenberg ex Ralfs 1848	A	2 cones	1	cell: 20-30x300-350				325	25.2		1	54 005	
Closterium acerosum	(Schrank) Ehrenberg ex Ralfs 1848	A	2 cones	2	cell: 30-35x500-600				550	32.5		1	152 012	
Closterium aciculare	T. West 1860	A	2 cones	1	cell: 5-6x350-400				380	5.6		1	3 118	
Closterium aciculare	T. West 1860	A	2 cones	2	cell: 6x500-550				532	6		1	5 011	
Closterium aciculare	T. West 1860	A	2 cones	3	cell: 6x650-700				677	6		1	6 377	
Closterium acutum v. *acutum*	Brébisson *in* Ralfs 1848	A	2 cones	1	cell: 4x100-150				126	4		1	528	
Closterium acutum v. *acutum*	Brébisson *in* Ralfs 1848	A	2 cones	2	cell: 5x100-150				129	5		1	844	
Closterium acutum v. *acutum*	Brébisson *in* Ralfs 1848	A	2 cones	3	cell: 6x100-150				132	6		1	1 243	
Closterium acutum v. *variabile*	(Lemmermann) W. Krieger 1935	A	2 cones	1	cell: 4x80-100				90	4		1	377	
Closterium acutum v. *variabile*	(Lemmermann) W. Krieger 1935	A	2 cones	2	cell: 5x120-180				150	5		1	981	
Closterium gracile	Brébisson ex Ralfs 1848	A	2 cones		cell: 5x150-200				182	5		1	1 191	
Closterium lineatum	Ehrenberg ex Ralfs 1848	A	2 cones		cell: 15-20x550-600				574	16.8		1	42 392	
Closterium moniliferum	(Bory) Ehrenberg ex Ralfs 1848	A	2 cones		cell: 40x250-350				300	40		1	125 600	
Closterium parvulum	Nägeli 1849	A	2 cones		cell: 10-12x90-110				100	11		1	3 166	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Closterium strigosum	Brébisson 1856	A	2 cones	1	cell: 10-12x200-250				230	11.2		1	7 549	
Closterium strigosum	Brébisson 1856	A	2 cones	2	cell: 12-16x200-250				210	14		1	10 770	
Closterium spp.		A	2 cones	1	cell: 10-11x150-250				200	10		1	5 233	
Closterium spp.		A	2 cones	2	cell: 30x150-200				170	30		1	40 035	
Cosmarium spp.		A	flattened ellipsoid	1	cell: 20	20				15	7	1	1 099	
Cosmarium spp.		A	flattened ellipsoid	2	cell: 35	35				30	15	1	8 243	
Cosmarium spp.		A	flattened ellipsoid	3	cell: 70	70				50	15	1	27 475	
Mougeotia spp.		A	cylinder		cell: 9x75-95				85	9		1	5 405	
Staurastrum spp.		A	two truncated cones		cell: 20				10	14	11.2	1	2 503	
Class Chlorophyceae														
Order VOLVOCALES														
Chlamydocapsa ampla	(Kützing) Fott 1972	A	rotational ellipsoid	1	cell: 7x11				11	7		1	282	
Chlamydocapsa ampla	(Kützing) Fott 1972	A	rotational ellipsoid	2	cell: 7x11				11	7		4	1 128	
Chlamydomonas spp.		A	sphere	1	cell: 5-6					5.6		1	92	
Chlamydomonas spp.		A	sphere	2	cell: 6-10					8.4		1	310	
Chlamydomonas spp.		A	sphere	3	cell: 10-15					12.5		1	1 022	
Chlamydomonas spp.		A	rotational ellipsoid	4	cell: 3-5x5-8				6.5	4		1	54	
Chlamydomonas spp.		A	rotational ellipsoid	5	cell: 5-10x12				12	7.5		1	353	
Chlamydomonas spp.		A	rotational ellipsoid	6	cell: 12x15				15	12		1	1 130	
Chlorogonium maximum	Skuja 1939	A	cone	1	cell: 4x75-85				80	4		1	335	
Chlorogonium maximum	Skuja 1939	A	cone	2	cell: 5-6x75-85				80	5.6		1	656	
Chlorogonium maximum	Skuja 1939	A	cone	3	cell: 8-9x85-95				89.6	8.5		1	1 694	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Chlorogonium minimum	Skuja 1939	A	cone	1	cell: 3-4x25-30				28	3.5		1	90	*
Chlorogonium minimum	Skuja 1939	A	cone	2	cell: 3x55-60				58	3		1	137	*
Eudorina elegans	Ehrenberg 1831	A	sphere	1	cell: 7-10					8.4		1	310	
Eudorina elegans	Ehrenberg 1831	A	sphere	2	cell: 10-15					12.6		1	1 047	
Eudorina unicocca	G.M. Smith 1931	A	sphere	1	cell: 8					8		1	268	
Eudorina unicocca	G.M. Smith 1931	A	sphere	2	cell: 9					9		1	382	
Eudorina unicocca	G.M. Smith 1931	A	sphere	3	cell: 10					10		1	523	
Eudorina unicocca	G.M. Smith 1931	A	sphere	4	cell: 11					11		1	697	
Eudorina unicocca	G.M. Smith 1931	A	sphere	5	cell: 12					12		1	904	
Gonium pectorale	O.F. Müller 1773	A	sphere	1	cell: 5-6					5.5		1	87	
Gonium pectorale	O.F. Müller 1773	A	sphere	2	cell: 5-6					5.5		4	348	
Gonium pectorale	O.F. Müller 1773	A	sphere	3	cell: 5-6					5.5		16	1 393	
Gonium pectorale	O.F. Müller 1773	A	sphere	4	cell: 9-10					9.5		1	449	
Gonium pectorale	O.F. Müller 1773	A	sphere	5	cell: 9-10					9.5		4	1 795	
Gonium pectorale	O.F. Müller 1773	A	sphere	6	cell: 9-10					9.5		16	7 179	
Gonium sociale	(Dujardin) Warming 1876	A	sphere	1	cell: 7-9					8		1	268	
Gonium sociale	(Dujardin) Warming 1876	A	sphere	2	cell: 7-9					8		4	1 072	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	1	cell: 8					8		1	268	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	2	cell: 8					8		8	2 144	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	3	cell: 8					8		16	4 287	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	4	cell: 9					9		1	382	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	5	cell: 9					9		8	3 052	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	6	cell: 9					9		16	6 104	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	7	cell: 10					10		1	523	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	8	cell: 10					10		8	4 187	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	9	cell: 10					10		16	8 373	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	10	cell: 11					11		1	697	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	11	cell: 11					11		8	5 572	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	12	cell: 11					11		16	11 145	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	13	cell: 12					12		1	904	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	14	cell: 12					12		8	7 235	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	15	cell: 12					12		16	14 469	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	16	cell: 13					13		1	1 150	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	17	cell: 13					13		8	9 198	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	18	cell: 13					13		16	18 396	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	19	cell: 14					14		1	1 436	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	20	cell: 14					14		8	11 488	
Pandorina morum	(O.F. Müller) Bory 1824	A	sphere	21	cell: 14					14		16	22 976	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Tetraspora lemmermannii	Fott 1972	A	sphere		cell: 8-9					8.5		1	321	
Order CHLOROCOCCALES														
Actinastrum hantzschii	Lagerheim 1882	A	2 cones	1	cell: 2-3x10-15				12.5	2.5		1	20	
Actinastrum hantzschii	Lagerheim 1882	A	2 cones	2	cell: 2-3x15-20				17.5	2.5		1	29	
Actinastrum hantzschii	Lagerheim 1882	A	2 cones	3	cell: 2-3x20-25				22.5	2.5		1	37	
Ankistrodesmus falcatus	(Corda) Ralfs 1848	A	2 cones	1	cell: 2x35-45				40	2		1	42	
Ankistrodesmus falcatus	(Corda) Ralfs 1848	A	2 cones	2	cell: 3x25-35				28	3		1	66	
Ankistrodesmus falcatus	(Corda) Ralfs 1848	A	2 cones	3	cell: 4x30-35				32.5	4		1	136	
Ankistrodesmus fusiformis	Corda	A	2 cones		cell: 2x35-45				37.5	2		1	39	*
Ankyra lanceolata	(Korshikov) Fott 1957	A	2 cones		cell: 5x25-35				28	5		1	183	
Choricystis chodatii	(Jaag) Fott 1976	A	rotational ellipsoid	1	cell: 1x1-2				1.5	1		1	0.8	
Choricystis chodatii	(Jaag) Fott 1976	A	rotational ellipsoid	2	cell: 1x1-2				1.5	1		4	3.1	
Choricystis chodatii	(Jaag) Fott 1976	A	rotational ellipsoid	3	cell: 1x1-2				1.5	1		16	13	
Choricystis coccoides	(Rodhe & Skuja) Fott 1976	A	rotational ellipsoid	1	cell: 3x8				8	3		1	38	
Choricystis coccoides	(Rodhe & Skuja) Fott 1976	A	rotational ellipsoid	2	cell: 3x8				8	3		4	151	
Choricystis coccoides	(Rodhe & Skuja) Fott 1976	A	rotational ellipsoid	3	cell: 3x8				8	3		16	603	
Closteriopsis longissima	(Lemmermann) Lemmermann 1899	A	2 cones		cell: 5-6x80-100				90	5.5		1	712	
Coelastrum astroideum	De Notaris 1867	A	sphere	1	cell: 5					5		1	65	
Coelastrum astroideum	De Notaris 1867	A	sphere	2	cell: 6					6		1	113	
Coelastrum astroideum	De Notaris 1867	A	sphere	3	cell: 8					8		1	268	
Coelastrum microporum	Nägeli *in* A. Braun 1855	A	sphere		cell: 7-8					7.5		1	221	
Coelastrum reticulatum	(Dangeard) Senn 1899	A	sphere		cell: 7					7		1	180	
Coelastrum sphaericum	Nägeli 1849	A	sphere		cell: 12					12		1	904	
Crucigenia quadrata	Morren 1830	A	sphere	1	cell: 2-3					2.5		4	33	
Crucigenia quadrata	Morren 1830	A	sphere	2	cell: 4-5					4.5		4	191	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Crucigenia quadrata	Morren 1830	A	sphere	3	cell: 5-6					5.5		4	348	
Crucigenia quadrata	Morren 1830	A	sphere	4	cell: 6-7					6.5		4	575	
Crucigenia quadrata	Morren 1830	A	sphere	5	cell: 8-9					8.5		4	1 286	
Crucigenia tetrapedia	(Kirchner) W. & G.S. West 1902	A	parallelepiped		cell: 5x5	5		5	2.5			4	250	
Crucigeniella apiculata	(Lemmermann) Komárek 1974	A	rotational ellipsoid		cell: 5-6x6-8				7	5.5		4	443	
Crucigeniella rectangularis	(Nägeli) Komárek 1974	A	rotational ellipsoid		cell: 4-5x5-7				6	4.5		4	254	
Dactylosphaerium jurisii	Hindák 1977	A	sphere		cell: 4-5					4.5		1	48	
Desmodesmus abundans	(Kirchner) Hegewald 2001	A	rotational ellipsoid	1	cell: 1.5x5-6				5.5	1.5		4	26	
Desmodesmus abundans	(Kirchner) Hegewald 2001	A	rotational ellipsoid	2	cell: 2x6-8				7	2		4	59	
Desmodesmus abundans	(Kirchner) Hegewald 2001	A	rotational ellipsoid	3	cell: 2.5x8-11				9.5	2.5		4	124	
Desmodesmus armatus v. *armatus*	(R. Chodat) Hegewald 2000	A	rotational ellipsoid	1	cell: 2.5-3x7-10				8.5	2.8		4	139	
Desmodesmus armatus v. *armatus*	(R. Chodat) Hegewald 2000	A	rotational ellipsoid	2	cell: 3-3.5x8-12				10	3.3		4	221	
Desmodesmus armatus v. *armatus*	(R. Chodat) Hegewald 2000	A	rotational ellipsoid	3	cell: 4-5x12-16				14	4.5		4	593	
Desmodesmus armatus v. *armatus*	(R. Chodat) Hegewald 2000	A	rotational ellipsoid	4	cell: 8-9x16-18				17	8.3		4	2 452	
Desmodesmus armatus v. *bicaudatus*	(Guglielmetti) Hegewald 2000	A	rotational ellipsoid		cell: 3x10-15				12.5	3		4	236	
Desmodesmus armatus v. *spinosus*	(Fritsch & Rich) Hegewald 2000	A	rotational ellipsoid		cell: 4-7x10-15				12.5	5.5		4	792	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Desmodesmus bicellularis	(R. Chodat) An, Friedl & Hegewald 1999	A	rotational ellipsoid		cell: 2-3x4-6				5	2.5		2	33	
Desmodesmus brasiliensis	(Bohlin) Hegewald 2000	A	rotational ellipsoid		cell: 2.5-3x10-12				11	2.8		4	181	
Desmodesmus communis	(Hegewald) Hegewald 2000	A	rotational ellipsoid	1	cell: 3-4x10-12				11	3.5		4	282	
Desmodesmus communis	(Hegewald) Hegewald 2000	A	rotational ellipsoid	2	cell: 4-6x10-13				12	5		4	628	
Desmodesmus communis	(Hegewald) Hegewald 2000	A	rotational ellipsoid	3	cell: 4-6x13-17				15	5		4	785	
Desmodesmus communis	(Hegewald) Hegewald 2000	A	rotational ellipsoid	4	cell: 7x17-20				18.5	7		4	1 898	
Desmodesmus costato-granulatus	(Skuja) Hegewald 2000	A	rotational ellipsoid		cell: 2x6-8				7	2		4	59	
Desmodesmus denticulatus v. *denticulatus*	(Lagerheim 1882) An, Friedl & Hegewald 1999	A	rotational ellipsoid	1	cell: 3-4x10-15				12.5	3.5		4	321	
Desmodesmus denticulatus v. *denticulatus*	(Lagerheim 1882) An, Friedl & Hegewald 1999	A	rotational ellipsoid	2	cell: 4-5x10-15				12.5	4.5		4	530	
Desmodesmus denticulatus v. *denticulatus*	(Lagerheim 1882) An, Friedl & Hegewald 1999	A	rotational ellipsoid	3	cell: 5-6x12-14				13	5.5		4	823	
Desmodesmus denticulatus v. *denticulatus*	(Lagerheim 1882) An, Friedl & Hegewald 1999	A	rotational ellipsoid	4	cell: 6-8x13-15				14	7		4	1 436	
Desmodesmus denticulatus v. *denticulatus*	(Lagerheim 1882) An, Friedl & Hegewald 1999	A	rotational ellipsoid	5	cell: 8-10x12-15				13.5	9		4	2 289	
Desmodesmus denticulatus v. *linearis*	(Hansgirg) Hegewald 2000	A	rotational ellipsoid		cell: 5-6x10-12				11	5.5		4	697	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Desmodesmus dispar	(Brébisson) Hegewald 2000	A	rotational ellipsoid		cell: 5-7x12-14				13	6		4	980	
Desmodesmus hystrix	(Lagerheim) Hegewald 2000	A	rotational ellipsoid		cell: 2.5-3x10-12				11.2	2.8		4	184	
Desmodesmus intermedius	(R. Chodat) Hegewald 2000	A	rotational ellipsoid		cell: 1.5-2x5-8				6.5	1.8		4	44	
Desmodesmus maximus	(W. & G.S. West) Hegewald 2000	A	rotational ellipsoid	1	cell: 2-3x8-12				10	2.5		4	131	
Desmodesmus maximus	(W. & G.S. West) Hegewald 2000	A	rotational ellipsoid	2	cell: 4-5x8-12				10	4.5		4	424	
Desmodesmus maximus	(W. & G.S. West) Hegewald 2000	A	rotational ellipsoid	3	cell: 4-5x12-15				13.5	4.5		4	572	
Desmodesmus maximus	(W. & G.S. West) Hegewald 2000	A	rotational ellipsoid	4	cell: 6-7x15-18				16.5	6.5		4	1 459	
Desmodesmus maximus	(W. & G.S. West) Hegewald 2000	A	rotational ellipsoid	5	cell: 8-9x12-15				13.5	8.5		4	2 042	
Desmodesmus maximus	(W. & G.S. West) Hegewald 2000	A	rotational ellipsoid	6	cell: 8-9x18-22				20	8.5		4	3 025	
Desmodesmus maximus	(W. & G.S. West) Hegewald 2000	A	rotational ellipsoid	7	cell: 9-10x23-27				25	9.5		4	4 723	
Desmodesmus maximus	(W. & G.S. West) Hegewald 2000	A	rotational ellipsoid	8	cell: 10-12x28-30				29	10.5		4	6 693	
Desmodesmus serratus	Corda, An, Friedl & Hegewald 1999	A	rotational ellipsoid		cell: 4-5x12-15				13.5	4.5		4	572	
Desmodesmus opoliensis v. *opoliensis*	(P. Richter) Hegewald 2000	A	rotational ellipsoid	1	cell: 3-5x12-14				13	4		4	435	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Desmodesmus opoliensis v. *opoliensis*	(P. Richter) Hegewald 2000	A	rotational ellipsoid	2	cell: 6-7x15-20				17.5	6.5		4	1 548	
Desmodesmus protuberans	(Fritsch & Rich) Hegewald 2000	A	rotational ellipsoid		cell: 6-8x12-16				14	7		4	1 436	
Desmodesmus spinosus	(R. Chodat) Hegewald 2000	A	rotational ellipsoid		cell: 4-5x8-12				10.5	4.5		4	445	
Dictyosphaerium ehrenbergianum	Nägeli 1849	A	rotational ellipsoid	1	cell: 3-4x4-7				5.5	3.5		4	141	
Dictyosphaerium ehrenbergianum	Nägeli 1849	A	rotational ellipsoid	2	cell: 4-5x5-7				6	4.5		4	254	
Dictyosphaerium elegans	Bachmann 1913	A	rotational ellipsoid		cell: 3x5				5	3		4	94	
Dictyosphaerium pulchellum	H.C. Wood 1872	A	sphere	1	cell: 3-4					3.5		4	90	
Dictyosphaerium pulchellum	H.C. Wood 1872	A	sphere	2	cell: 4-5					4.5		4	191	
Dictyosphaerium pulchellum	H.C. Wood 1872	A	sphere	3	cell: 5-6					5.5		4	348	
Dictyosphaerium pulchellum	H.C. Wood 1872	A	sphere	4	cell: 6-7					6.5		4	575	
Dictyosphaerium pulchellum	H.C. Wood 1872	A	sphere	5	cell: 7-8					7.5		4	883	
Dictyosphaerium subsolitarium	Van Goor 1924	A	sphere		cell: 3					3		4	57	
Franceia ovalis	(Francé) Lemmermann 1898	A	rotational ellipsoid		cell: 8-9x12-16				14	8.5		1	529	
Golenkinia radiata	R. Chodat 1894	A	sphere		cell: 10-15					12.5		1	1 022	
Granulocystopsis pseudocoronata	(Korshikov) Hindák 1977	A	rotational ellipsoid		cell: 5-9x9-14				12.5	7		1	321	
Kirchneriella contorta	(Schmidle) Bohlin 1897	A	2 cones		cell: 2.5-3x10-12				11.2	2.8		1	23	
Kirchneriella lunaris	(Kirchner) Möbius 1894	A	2 cones		cell: 7x12-16				14	7		1	180	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Lagerheimia ciliata	(Lagerheim) R. Chodat 1895	A	rotational ellipsoid		cell: 8-9x12-14				12.6	8.5		1	476	
Lagerheimia citriformis	(Snow) Collins 1909	A	rotational ellipsoid		cell: 12-16x18-22				19.6	14		1	2 010	
Lagerheimia genevensis	(R. Chodat) R. Chodat 1895	A	rotational ellipsoid		cell: 3x5-6				5.5	3		1	26	
Lagerheimia longiseta v. *longiseta*	(Lemmermann) Wille 1909	A	rotational ellipsoid		cell: 8-9x10-12				11.2	8.5		1	423	
Lagerheimia subsalsa	Lemmermann 1898	A	rotational ellipsoid	1	cell: 3x6				6	3		1	28	
Lagerheimia subsalsa	Lemmermann 1898	A	rotational ellipsoid	2	cell: 4-5x7-9				8	4.5		1	85	
Lagerheimia wratislaviensis	Schröder 1897	A	rotational ellipsoid	1	cell: 3x4				4	3		1	19	
Lagerheimia wratislaviensis	Schröder 1897	A	rotational ellipsoid	2	cell: 3x5-6				5.5	3		1	26	
Micractinium pusillum	Fresenius 1858	A	sphere	1	cell: 3-4					3.5		1	22	
Micractinium pusillum	Fresenius 1858	A	sphere	2	cell: 5-6					5.5		1	87	
Monoraphidium arcuatum	(Korshikov) Hindák 1970	A	2 cones	1	cell: 1.5-2x15-20				17.5	1.8		1	14	
Monoraphidium arcuatum	(Korshikov) Hindák 1970	A	2 cones	2	cell: 1.5-2x25-30				27.5	1.8		1	22	
Monoraphidium arcuatum	(Korshikov) Hindák 1970	A	2 cones	3	cell: 2x35-45				40	2		1	42	
Monoraphidium arcuatum	(Korshikov) Hindák 1970	A	2 cones	4	cell: 4-4.5x50-60				55	4.3		1	266	
Monoraphidium contortum	(Thuret *in* Brébisson) Komárková-Legnerová 1969	A	2 cones	1	cell: 1.2-1.5x15-20				17.5	1.3		1	7.7	
Monoraphidium contortum	(Thuret *in* Brébisson) Komárková-Legnerová 1969	A	2 cones	2	cell: 1.5-2x20-30				25	1.8		1	20	
Monoraphidium contortum	(Thuret *in* Brébisson) Komárková-Legnerová 1969	A	2 cones	3	cell: 2-3x20-30				25	2.5		1	41	
Monoraphidium contortum	(Thuret *in* Brébisson) Komárková-Legnerová 1969	A	2 cones	4	cell: 3-4x20-30				25	3.5		1	80	
Monoraphidium contortum	(Thuret *in* Brébisson) Komárková-Legnerová 1969	A	2 cones	5	cell: 4-5x30-40				35	4.5		1	185	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Monoraphidium convolutum	(Corda) Komárková-Legnerová 1969	A	2 cones	1	cell: 1.5-2x10-12				11	1.8		1	8.8	
Monoraphidium convolutum	(Corda) Komárková-Legnerová 1969	A	2 cones	2	cell: 3x7-8				7.5	3		1	18	
Monoraphidium convolutum	(Corda) Komárková-Legnerová 1969	A	2 cones	3	cell: 3-4x8-9				8.5	3.5		1	27	
Monoraphidium convolutum	(Corda) Komárková-Legnerová 1969	A	2 cones	4	cell: 4-5x9-12				10.5	4.5		1	56	
Monoraphidium griffithii	(Berkeley) Komárková-Legnerová 1969	A	2 cones	1	cell: 3-4x30-35				32.5	3.5		1	104	
Monoraphidium griffithii	(Berkeley) Komárková-Legnerová 1969	A	2 cones	2	cell: 3-4x60-80				70	3.5		1	224	
Monoraphidium komarkovae	Nygaard 1979	A	2 cones	1	cell: 1.5x30-50				40	1.5		1	24	
Monoraphidium komarkovae	Nygaard 1979	A	2 cones	2	cell: 1.5x50-80				65	1.5		1	38	
Monoraphidium komarkovae	Nygaard 1979	A	2 cones	3	cell: 2-3x30-50				40	2.5		1	65	
Monoraphidium komarkovae	Nygaard 1979	A	2 cones	4	cell: 2-3x50-80				70	2.5		1	114	
Monoraphidium minutum	(Nägeli) Komárková-Legnerová 1969	A	2 cones	1	cell: 1-2x5-7				6	1.5		1	3.5	
Monoraphidium minutum	(Nägeli) Komárková-Legnerová 1969	A	2 cones	2	cell: 2-3x7-10				8.5	2.5		1	14	
Monoraphidium minutum	(Nägeli) Komárková-Legnerová 1969	A	2 cones	3	cell: 3x10-20				15	2.8		1	31	
Monoraphidium mirabile	(W. & G.S. West) Pankow 1976	A	2 cones	1	cell: 2.5x85-95				90	2.5		1	147	
Monoraphidium mirabile	(W. & G.S. West) Pankow 1976	A	2 cones	2	cell: 3-3.5x55-65				60	3.2		1	161	
Monoraphidium spp.		A	2 cones	1	cell: 1-2x8-12				10	1.5		1	5.9	
Monoraphidium spp.		A	2 cones	2	cell: 1x50-60				55	1		1	14	
Nephrochlamys subsolitaria	(G.S. West) Korshikov 1953	A	rotational ellipsoid		cell: 2.5-3x5-7				6	2.8		1	25	
Oocystis borgei	Snow 1903	A	rotational ellipsoid	1	cell: 6-8x8-12				10	7		1	256	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Oocystis borgei	Snow 1903	A	rotational ellipsoid	2	cell: 8-10x12-15				13.5	9		1	572	
Oocystis borgei	Snow 1903	A	rotational ellipsoid	3	cell: 10-12x15-17				16	11		1	1 013	
Oocystis borgei	Snow 1903	A	rotational ellipsoid	4	cell: 12-14x17-20				18.5	13		1	1 636	
Oocystis lacustris	R. Chodat 1897	A	rotational ellipsoid	1	cell: 6-8x10-12				11	7		1	282	
Oocystis lacustris	R. Chodat 1897	A	rotational ellipsoid	2	cell: 8-10x12-15				13.5	9		1	572	
Oocystis lacustris	R. Chodat 1897	A	rotational ellipsoid	3	cell: 8-10x20-30				25	9.6		1	1 206	
Oocystis lacustris	R. Chodat 1897	A	rotational ellipsoid	4	cell: 10-12x15-20				17.5	11		1	1 108	
Oocystis lacustris	R. Chodat 1897	A	rotational ellipsoid	5	cell: 12-14x25-35				32.5	13		1	2 874	
Oocystis lacustris	R. Chodat 1897	A	rotational ellipsoid	6	cell: 20-22x25-30				27.5	21		1	6 347	
Oocystis parva	W. & G.S. West 1898	A	rotational ellipsoid		cell: 5-7x8-12				10	6		1	188	
Oocystis pelagica	Lemmermann 1901	A	rotational ellipsoid		cell: 7-9x8-12				10	8		1	335	
Oocystis rhomboidea	Fott 1933	A	rotational ellipsoid		cell:3-4x8-10				9	3.5		1	58	
Oocystis solitaria	Wittrock *in* Wittrock & Nordstedt 1879	A	rotational ellipsoid	1	cell: 6-8x10-13				11.5	7		1	295	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Oocystis solitaria	Wittrock *in* Wittrock & Nordstedt 1879	A	rotational ellipsoid	2	cell: 8-10x13-15				14	9		1	593	
Oocystis solitaria	Wittrock *in* Wittrock & Nordstedt 1879	A	rotational ellipsoid	3	cell: 10-12x15-20				17.5	11		1	1 108	
Oocystis solitaria	Wittrock *in* Wittrock & Nordstedt 1879	A	rotational ellipsoid	4	cell: 12-15x17-22				19.5	13.5		1	1 860	
Oocystis solitaria	Wittrock *in* Wittrock & Nordstedt 1879	A	rotational ellipsoid	5	cell: 15-20x22-25				23.5	17.5		1	3 766	
Oocystis solitaria	Wittrock *in* Wittrock & Nordstedt 1879	A	rotational ellipsoid	6	cell: 20-25x25-30				27.5	22.5		1	7 286	
Oocystis submarina	Lagerheim 1886	A	rotational ellipsoid	1	cell: 4-5x6-8				7	4.5		1	74	
Oocystis submarina	Lagerheim 1886	A	rotational ellipsoid	2	cell: 5-6x8-10				9	5.5		1	142	
Oocystis submarina	Lagerheim 1886	A	rotational ellipsoid	3	cell: 6-8x10-12				11	7		1	282	
Oocystis spp.		A	rotational ellipsoid	1	cell: 3-4x7				7	3.5		1	45	
Oocystis spp.		A	rotational ellipsoid	2	cell: 4-5x7-8				7.5	4.5		1	79	
Oocystis spp.		A	rotational ellipsoid	3	cell: 5-6x8-12				10	5.5		1	158	
Oocystis spp.		A	rotational ellipsoid	4	cell: 6-8x12-17				14.5	7		1	372	
Pediastrum angulosum v. *angulosum*	(Ehrenberg) Meneghini 1840	A	cylinder		coen.: 6-10x30-50				8	40		1	10 048	
Pediastrum biradiatum	Meyen 1829	A	cylinder	1	coen.: 10-12x30-50				11.2	40		1	14 067	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Pediastrum biradiatum	Meyen 1829	A	cylinder	2	coen.: 14-18x50-80				16	65		1	53 066	
Pediastrum boryanum v. *boryanum*	(Turpin) Meneghini 1840	A	cylinder	1	coen.: <5x18-25				5	21.5		1	1 814	
Pediastrum boryanum v. *boryanum*	(Turpin) Meneghini 1840	A	cylinder	2	coen.: 5-7x25-35				6	30		1	4 239	
Pediastrum boryanum v. *boryanum*	(Turpin) Meneghini 1840	A	cylinder	3	coen.: 7-10x35-45				8.5	40		1	10 676	
Pediastrum boryanum v. *boryanum*	(Turpin) Meneghini 1840	A	cylinder	4	coen.: 10-15x45-65				12.5	55		1	29 683	
Pediastrum boryanum v. *boryanum*	(Turpin) Meneghini 1840	A	cylinder	5	coen.: 15-20x65-75				17.5	70		1	67 314	
Pediastrum boryanum v. *boryanum*	(Turpin) Meneghini 1840	A	cylinder	6	coen.: 20-25x75-100				22.5	87.5		1	135 229	
Pediastrum boryanum v. *longicorne*	Reinsch 1867	A	cylinder		coen.: 15-20x65-75				17.5	70		1	67 314	
Pediastrum duplex v. *duplex*	Meyen 1829	A	cylinder	1	coen.: <5x30-40				5	35		1	4 808	
Pediastrum duplex v. *duplex*	Meyen 1829	A	cylinder	2	coen.: 5-8x30-40				6.5	35		1	6 251	
Pediastrum duplex v. *duplex*	Meyen 1829	A	cylinder	3	coen.: 8-10x30-40				9	35		1	8 655	
Pediastrum duplex v. *duplex*	Meyen 1829	A	cylinder	4	coen.: 10-12x30-40				11	35		1	10 578	
Pediastrum duplex v. *duplex*	Meyen 1829	A	cylinder	5	coen.: 5-8x40-60				6.5	50		1	12 756	
Pediastrum duplex v. *duplex*	Meyen 1829	A	cylinder	6	coen.: 8-10x40-60				9	50		1	17 663	
Pediastrum duplex v. *duplex*	Meyen 1829	A	cylinder	7	coen.: 10-12x40-60				11	50		1	21 588	
Pediastrum duplex v. *duplex*	Meyen 1829	A	cylinder	8	coen.: 8-10x60-80				9	70		1	34 619	
Pediastrum duplex v. *duplex*	Meyen 1829	A	cylinder	9	coen.: 10-12x60-80				11	70		1	42 312	
Pediastrum duplex v. *duplex*	Meyen 1829	A	cylinder	10	coen.: 10-12x80-100				11	90		1	69 944	
Pediastrum duplex v. *duplex*	Meyen 1829	A	cylinder	11	coen.: 12-15x80-100				13.5	90		1	85 840	
Pediastrum integrum	Nägeli 1849	A	cylinder		coen.: 12-15x50-80				13.5	65		1	44 774	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Pediastrum kawraiskyi	Schmidle 1897	A	cylinder		coen.: 15-20x60-80				17.5	70		1	67 314	
Pediastrum simplex	Meyen 1829	A	cylinder	1	coen.: 15-20x50-70				17.5	60		1	49 455	
Pediastrum simplex	Meyen 1829	A	cylinder	2	coen.: 25-30x70-90				27.5	80		1	138 160	
Pediastrum tetras	(Ehrenberg) Ralfs 1844	A	cylinder	1	coen.: 4-6x15-20				5	17.5		1	1 202	
Pediastrum tetras	(Ehrenberg) Ralfs 1844	A	cylinder	2	coen.: 4-6x20-35				5	27.5		1	2 968	
Pediastrum tetras	(Ehrenberg) Ralfs 1844	A	cylinder	3	coen.: 4-6x35-50				5	42.5		1	7 090	
Pediastrum tetras	(Ehrenberg) Ralfs 1844	A	cylinder	4	coen.: 6-10x15-20				8	17.5		1	1 923	
Pediastrum tetras	(Ehrenberg) Ralfs 1844	A	cylinder	5	coen.: 6-10x20-35				8	27.5		1	4 749	
Pediastrum tetras	(Ehrenberg) Ralfs 1844	A	cylinder	6	coen.: 10-12x20-35				11	27.5		1	6 530	
Planctococcus sphaerocystiformis	Korshikov 1953	A	sphere		cell: 6-8					7		1	180	
Quadricoccus ellipticus	Hortobágyi 1973	A	rotational ellipsoid	1	cell: 3x7				7	3		1	33	
Quadricoccus ellipticus	Hortobágyi 1973	A	rotational ellipsoid	2	cell: 4x8-9				8.3	4		1	69	
Quadricoccus verrucosus	Fott 1948	A	rotational ellipsoid		cell: 3x6				6	3		1	28	*
Raphidocelis sigmoidea	Hindak 1977	A	2 cones		cell: 2-4x8-12				10	3		1	24	*
Scenedesmus acuminatus	(Lagerheim) R. Chodat 1902	A	2 cones	1	cell: 2-4x10-15				12.5	3		4	118	
Scenedesmus acuminatus	(Lagerheim) R. Chodat 1902	A	2 cones	2	cell: 2-4x15-25				20	3		4	188	
Scenedesmus acuminatus	(Lagerheim) R. Chodat 1902	A	2 cones	3	cell: 4-5x10-15				12.5	5		4	265	
Scenedesmus acuminatus	(Lagerheim) R. Chodat 1902	A	2 cones	4	cell: 5-6x15-25				20	5.5		4	633	
Scenedesmus acuminatus	(Lagerheim) R. Chodat 1902	A	2 cones	5	cell: 6-7x15-25				20	6.5		4	884	
Scenedesmus acutiformis	Schröder 1897	A	2 cones		cell: 3-4x10-12				11	3.5		4	141	
Scenedesmus apiculatus	(W. & G.S. West) R. Chodat 1926 nom. illeg.	A	2 cones		cell: 6-8x15-25				20	7		4	1 026	
Scenedesmus arcuatus v. arcuatus	(Lemmermann) Lemmermann 1899	A	2 cones	1	cell: 5-7x8-13				10.5	6		4	396	
Scenedesmus arcuatus v. arcuatus	(Lemmermann) Lemmermann 1899	A	2 cones	2	cell: 5-7x13-18				15.5	6		4	584	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Scenedesmus caudato-aculeolatus	Chodat 1926	A	rotational ellipsoid		cell: 2-4x8-13				11.2	3		4	211	
Scenedesmus ellipticus	Corda 1835	A	rotational ellipsoid	1	cell: 2x4				4	2		4	33	
Scenedesmus ellipticus	Corda 1835	A	rotational ellipsoid	2	cell: 2-4x7-10				8.5	3		4	160	
Scenedesmus ellipticus	Corda 1835	A	rotational ellipsoid	3	cell: 4-6x10-15				12.5	5		4	654	
Scenedesmus ellipticus	Corda 1835	A	rotational ellipsoid	4	cell: 4-6x15-20				17.5	5		4	916	
Scenedesmus ellipticus	Corda 1835	A	rotational ellipsoid	5	cell: 6-8x15-20				17.5	7		4	1 795	
Scenedesmus ellipticus	Corda 1835	A	rotational ellipsoid	6	cell: 8-10x18-22				19	9		4	3 222	
Scenedesmus obliquus	(Turpin) Kützing 1833	A	2 cones	1	cell: 2-4x8-12				10	3		4	94	
Scenedesmus obliquus	(Turpin) Kützing 1833	A	2 cones	2	cell: 2-4x12-15				13.5	3		4	127	
Scenedesmus obliquus	(Turpin) Kützing 1833	A	2 cones	3	cell: 4-6x12-15				13	4.8		4	313	
Scenedesmus obliquus	(Turpin) Kützing 1833	A	2 cones	4	cell: 4-6x15-20				17.5	4.8		4	422	
Scenedesmus obliquus	(Turpin) Kützing 1833	A	2 cones	5	cell: 6-8x15-20				17.5	7		4	898	
Scenedesmus obliquus	(Turpin) Kützing 1833	A	2 cones	6	cell: 6-8x20-25				22.5	7		4	1 154	
Scenedesmus obtusus	Meyen 1829 *emend.* Hegewald *et al.* 1988	A	rotational ellipsoid	1	cell: 4-6x8-12				10	5		4	523	
Scenedesmus obtusus	Meyen 1829 *emend.* Hegewald *et al.* 1988	A	rotational ellipsoid	2	cell: 6-8x12-15				13.5	7		4	1 385	
Scenedesmus obtusus	Meyen 1829 *emend.* Hegewald *et al* . 1988	A	rotational ellipsoid	3	cell: 8-10x15-20				17.5	9		4	2 967	
Scenedesmus parvus	(G.M. Smith) Bourrelly *in* Bourrelly & Manguin 1952	A	rotational ellipsoid		cell: 2-3x6-8				7.2	2.5		4	94	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Scenedesmus spp.		A	rotational ellipsoid	1	cell: 2-3x5-6				5.5	2.5		4	72	
Scenedesmus spp.		A	rotational ellipsoid	2	cell: 3-4x6-8				7	3.5		4	180	
Scenedesmus spp.		A	2 cones	3	cell: 4-5x8-12				10	4.5		4	212	
Schroederia setigera	(Schröder) Lemmermann 1898	A	2 cones	1	cell: 3-5x60-70				65	4		1	272	
Schroederia setigera	(Schröder) Lemmermann 1898	A	2 cones	2	cell: 5-7x70-90				80	6		1	754	
Selenastrum bibraianum	Reinsch 1867	A	2 cones		cell: 4-6x15-25				20	5		1	131	
Selenastrum gracile	Reinsch 1867	A	2 cones		cell: 1-3x15-20				16.8	2		1	18	
Sphaerocystis planctonica	(Korshikov) Bourrelly 1966	A	sphere		cell: 8-9					8.5		1	321	
Sphaerocystis schroeteri	R. Chodat 1897	A	sphere	1	cell: 5-6					5.5		1	87	
Sphaerocystis schroeteri	R. Chodat 1897	A	sphere	2	cell: 7-8					7.5		1	221	
Sphaerocystis schroeteri	R. Chodat 1897	A	sphere	3	cell: 9-10					9.5		1	449	
Tetraëdron caudatum	(Corda) Hansgirg 1888	A	parallelepiped-25%		cell: 12-16	14		14	5.6			1	823	
Tetraëdron minimum	(A. Braun) Hansgirg 1888	A	parallelepiped	1	cell: 8-10	9		9	8			1	648	
Tetraëdron minimum	(A. Braun) Hansgirg 1888	A	parallelepiped	2	cell: 10-15	12.5		12.5	10			1	1 563	
Tetrastrum elegans	Playfair 1917	A	sphere	1	cell: 2-4					2.8		4	46	
Tetrastrum elegans	Playfair 1917	A	sphere	2	cell: 4-6					5		4	262	
Tetrastrum staurogeniaeforme	(Schröder) Lemmermann 1900	A	sphere	1	cell: 3-4					3		4	57	
Tetrastrum staurogeniaeforme	(Schröder) Lemmermann 1900	A	sphere	2	cell: 4-6					5		4	262	
Tetrastrum spp.		A	sphere		cell: 4-5					4.5		4	191	
Treubaria triappendiculata	Bernard 1908	A	sphere	1	cell: 6-8					7		1	180	
Treubaria triappendiculata	Bernard 1908	A	sphere	2	cell: 8-10					9		1	382	
Treubaria triappendiculata	Bernard 1908	A	sphere	3	cell: 10-12					11		1	697	
Treubaria triappendiculata	Bernard 1908	A	sphere	4	cell: 12-14					13		1	1 150	
Westella botryoides	(W. West) De-Wildeman 1897	A	sphere	1	cell: 2-4					3		1	14	
Westella botryoides	(W. West) De-Wildeman 1897	A	sphere	2	cell: 4-6					5		1	65	
Westella botryoides	(W. West) De-Wildeman 1897	A	sphere	3	cell: 6-8					7		1	180	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Willea irregularis	(Wille) Schmidle 1900	A	rotational ellipsoid	1	cell: 5-8x8-10				9	7		4	923	
Willea irregularis	(Wille) Schmidle 1900	A	rotational ellipsoid	2	cell: 8-10x10-12				11.4	9		4	1 933	
Willea irregularis	(Wille) Schmidle 1900	A	rotational ellipsoid	3	cell: 10-12x15-18				16.8	11.4		4	4 570	
Order MICROSPORALES														
Planctonema lauterbornii	Schmidle 1903	A	rotational ellipsoid	1	cell: 2-3x6-10				8	2.5		1	26	
Planctonema lauterbornii	Schmidle 1903	A	rotational ellipsoid	2	cell: 3-4x10-12				11	3.5		1	71	
Planctonema lauterbornii	Schmidle 1903	A	rotational ellipsoid	3	cell: 3-5x12-17				14.5	4		1	121	
Planctonema lauterbornii	Schmidle 1903	A	rotational ellipsoid	4	cell: 3-5x25-35				30	4		1	251	
Planctonema lauterbornii	Schmidle 1903	A	rotational ellipsoid	5	cell: 5-6x12-17				14.5	5.5		1	230	
Planctonema lauterbornii	Schmidle 1903	A	rotational ellipsoid	6	cell: 5-6x17-25				20	5.5		1	317	
Division ZOOMASTIGOPHORA														
Class Ebriidea														
Order EBRIIDA (ICBN: EBRIALES)														
Ebria tripartita	(Schumann) Lemmermann 1900	H	half sphere-30%	1	cell: 17-23					20		1	1 465	
Ebria tripartita	(Schumann) Lemmermann 1900	H	half sphere-30%	2	cell: 23-27					25		1	2 862	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Ebria tripartita	(Schumann) Lemmermann 1900	H	half sphere-30%	3	cell: 27-33					30		1	4 946	
Ebria tripartita	(Schumann) Lemmermann 1900	H	half sphere-30%	4	cell: 33-37					35		1	7 853	
Ebria tripartita	(Schumann) Lemmermann 1900	H	half sphere-30%	5	cell: 37-43					40		1	11 723	
Class Kinetoplastidea														
Order KINETOPLASTIDA														
Cryptaulax marina	Throndsen 1969	H	rotational ellipsoid		cell: 5-7x8-10				9	6		1	170	
Cryptaulax spp.		H	rotational ellipsoid	1	cell: 3-5x7-9				8	4		1	67	
Cryptaulax spp.		H	rotational ellipsoid	2	cell: 5-7x8-10				9	6		1	170	
Cryptaulax spp.		H	rotational ellipsoid	3	cell: 7-9x14-16				15	8		1	502	
Cryptaulax spp.		H	rotational ellipsoid	4	cell: 9-11x16-20				18	10		1	942	
Incertae sedis														
Katablepharis ovalis	Skuja 1948	H	rotational ellipsoid	1	cell: 5-6x7-9				8	5.5		1	127	
Katablepharis ovalis	Skuja 1948	H	rotational ellipsoid	2	cell: 6-8x8-12				10	7		1	256	
Katablepharis remigera	(Vørs) Clay & Kugrens 1999	H	rotational ellipsoid	1	cell: 5-6x7-9				8	5.5		1	127	
Katablepharis remigera	(Vørs) Clay & Kugrens 1999	H	rotational ellipsoid	2	cell: 6-8x8-12				10	7		1	256	

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Katablepharis remigera	(Vørs) Clay & Kugrens 1999	H	rotational ellipsoid	3	cell: 8-10x12-15				13.5	9		1	572	
Katablepharis spp.		H	rotational ellipsoid	1	cell: 5-6x7-9				8	5.5		1	127	
Katablepharis spp.		H	rotational ellipsoid	2	cell: 6-8x8-12				10	7		1	256	
Leucocryptos marina	(Braarud) Butcher 1967	H	cone + half sphere	1	cell: 4-5x7-10				8.5	4.5		1	57	
Leucocryptos marina	(Braarud) Butcher 1967	H	cone + half sphere	2	cell: 5-6x10-14				12	5.5		1	117	
Leucocryptos spp.		H	cone + half sphere		cell: 4x7				7	4		1	38	
Telonema subtile	Griessmann 1913	H	cone + half sphere	1	cell: 4x7				7	4		1	38	
Telonema subtile	Griessmann 1913	H	cone + half sphere	2	cell: 5-6x8				8	5.5		1	85	
Telonema spp.		H	cone + half sphere		cell: 6-7x12				12	6.5		1	169	
Division Ciliophora														
Class Litostomatea														
Order HAPTORIDA														
Mesodinium rubrum	(Lohmann) Hamburger & Buddenbrock 1911	A	2 spheres * 5/8	1	cell: 10-14					12.5		1	1 278	*
Mesodinium rubrum	(Lohmann) Hamburger & Buddenbrock 1911	A	2 spheres * 5/8	2	cell: 14-16					15		1	2 208	*
Mesodinium rubrum	(Lohmann) Hamburger & Buddenbrock 1911	A	2 spheres * 5/8	3	cell: 16-20					17.5		1	3 506	*

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Mesodinium rubrum	(Lohmann) Hamburger & Buddenbrock 1911	A	2 spheres * 5/8	4	cell: 20-27					22.5		1	7 451	*
Mesodinium rubrum	(Lohmann) Hamburger & Buddenbrock 1911	A	sphere	5	cell: 27-33					30		1	14 130	*
Mesodinium rubrum	(Lohmann) Hamburger & Buddenbrock 1911	A	sphere	6	cell: 33-37					35		1	22 438	*
Mesodinium rubrum	(Lohmann) Hamburger & Buddenbrock 1911	A	sphere	7	cell: 37-45					40		1	33 493	*
Mesodinium rubrum	(Lohmann) Hamburger & Buddenbrock 1911	A	sphere	8	cell: 45-55					50		1	65 417	*
Mesodinium rubrum	(Lohmann) Hamburger & Buddenbrock 1911	A	sphere	9	cell: 55-65					60		1	113 040	*
Others														
Flagellates, unidentified		A/H	rotational ellipsoid	1	cell: <2				2	1.5		1	2.4	10
Flagellates, unidentified		A/H	rotational ellipsoid	2	cell: 2-3				2.5	1.9		1	4.6	10
Flagellates, unidentified		A/H	rotational ellipsoid	3	cell: 3-5				4	3		1	19	10
Flagellates, unidentified		A/H	rotational ellipsoid	4	cell: 5-7				6	4.5		1	64	10
Flagellates, unidentified		A/H	rotational ellipsoid	5	cell: 7-10				8.5	6.4		1	181	10
Flagellates, unidentified		A/H	rotational ellipsoid	6	cell: 10-15				12.5	9.4		1	575	10
Flagellates, unidentified		A/H	rotational ellipsoid	7	cell: 15-20				17.5	13.1		1	1 578	10
Flagellates, unidentified		A/H	sphere	1	cell: <2					2		1	4.2	10
Flagellates, unidentified		A/H	sphere	2	cell: 2-3					2.5		1	8.2	10
Flagellates, unidentified		A/H	sphere	3	cell: 3-5					4		1	33	10
Flagellates, unidentified		A/H	sphere	4	cell: 5-7					6		1	113	10
Flagellates, unidentified		A/H	sphere	5	cell: 7-10					8.5		1	321	10

		Trophy	Geometric shape	Size class No	Cell size range, µm	Length, µm		Width µm	Height µm	Diameter, µm		Number of cells/ counting unit	Calculated volume, µm3	Comment
						l_1	l_2	w	h	d_1	d_2			
Flagellates, unidentified		A/H	sphere	6	cell: 10-15					12.5		1	1 022	10
Flagellates, unidentified		A/H	sphere	7	cell: 15-20					17.5		1	2 805	10
Unicell spp.		A	sphere	1	cell: <2					2		1	4.2	11
Unicell spp.		A	sphere	2	cell: 2-3					2.5		1	8.2	11
Unicell spp.		A	sphere	3	cell: 3-5					4		1	33	11
Unicell spp.		A	sphere	4	cell: 5-7					6		1	113	11
Unicell spp.		A	sphere	5	cell: 7-10					8.5		1	321	11
Unicell spp.		A	sphere	6	cell: 10-15					12.5		1	1 022	11
Unicell spp.		A	sphere	7	cell: 15-20					17.5		1	2 805	11

Abbreviations:

A - Autotrophic
H - Heterotrophic
A/H - Autotrophic or Heterotrophic
M - Mixotrophic
coen. - coenobium
fil. - filament
HD factor - relation between hidden and visible dimensions

Comments:

* - species not included in the recent Checklist of Baltic Sea Phytoplankton Species (Hällfors 2004).
1 - species counted as 100µm filament, comprised spherical cells
2 - most common species, earlier called *Aphanizomenon flos-aque* (see page 14 in the text)
3 - HD factor=0.25 need confirmation
4 - length of cell is measured as total length minus two processes of 5 µm length each
5 - fixed volumes
6 - size class based on cell diameter
7 - size classes based on cell lenght
8 - size classes based on cell apical axis
9 - volume calculated as rotational ellipsoid without narrow empty ends of cell
10 - unidentified cells with flagella, which may belong to different taxonomical groups
11 - unidentified cells without flagella, which may belong to different taxonomical groups

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