European Bottled Watercooler Association
www.ebwa.org

EBWA CODE OF GOOD HYGIENIC PRACTICE

FINAL VERSION

EBWA Hygiene Code for Watercoolers/HACCP
Adopted on 21 June 2000

By the Board of EBWA

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PART A: INTRODUCTION

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I. INTRODUCTION

The European Bottled Watercooler Association (EBWA) represents the interests of the watercooler sector in Europe. Its membership includes national associations of bottlers and distributors of bottled watercoolers and directly associated supplier companies. The reach of EBWA not just extends to the (at present) 15 Member States of the European Union but also to most other European States. Insofar as most of these States are either associated to the European Union and/or have started accession negotiations to the European Union, it has been decided to base the activities of the European Bottled Watercooler Association on European law as far as appropriate.

This Code of Practice refers to EU Council Directive 93/43/EC dated 14 June 1993 with regard to food hygiene (PbEC L 175): hereafter referred to as Directive 93/43/EC. This Code of Practice implements article 6 of said Directive 93/43/EC, which determines that representatives of sectors of the food industry can draw up European hygiene codes describing how certain foods and drinks can be prepared and handled hygienically so that they meet the requirement of the appropriate EU legislation.

On the basis of the above, the European Bottled Watercooler Association (EBWA) has decided to draw up a hygiene code for the European watercooler sector (hereafter referred to as the "Code"), which takes into account the following:

Legislation currently in force, Directive 80/777/EEC of 15 July 1980 (PbEC L229) relating to the use and marketing of natural mineral water, as most recently amended on 28 October 1996 by Directive 96/70/EC in amendment of Directive 80/777/EEC (PbEC L 229) and Directive 98/83/EC of 3 November 1998 (PbEC L 330) in amendment of Directive 80/778/EEC of 15 July 1980 (PbEC L229) relating to the quality of water intended for human consumption; Codex Alimentarius: Recommended International Good Practice Guidelines – Basics of Food Hygiene, revised version CL 1994/4-FH, January 1994; Codex: Guidelines for the Application of the HACCP System (WHO/FNU/FOS/93.3) approved at the 20th meeting of the joint FAO/WHO Codex Alimentarius Commission in 1993.

After discussion with the European Commission, on ……. (date), the present Code has been approved as the Code of Hygienic Practice for the European Bottled Watercooler Association by the European Commissioner responsible for Food Safety.

II. PURPOSE AND SCOPE

This Code does not preclude the right of National Associations to draw up their own Hygiene Code based on appropriate national law. National Associations in EU Member States can refer to Directive 93/43/EC article 5.1 as a legal basis for a national Code of Hygienic Practice and National Associations outside the European Union, for whom European legislation does not apply, can refer to the appropriate national law and Codex International standards. But this Code must serve as a framework Code for national hygiene codes insofar as appropriate regarding applicable national law.

Implementation of the recommendations in the Code is a prerequisite of EBWA membership insofar as appropriate concerning different national legal requirements. Where there are considerable divergences in the appropriate national legislation, these should be reflected in a national Code of Hygienic Practice approved by EBWA.

The Code is intended as a reference for the European Bottled Watercooler Association, the European and national legislative and regulatory authorities, those national regulatory bodies charged with inspecting Food Safety and all other interested parties.

NB: The Code has not been drawn up to replace any legal regulations, but further supplements the legal regulations set out in the appropriate EU Directives. This Code is based on HACCP but it should be implemented and adapted individually by each company (see page 7). The third-party inspection agency and Health Inspectorates will use the Code as a guideline during company inspections and will also pay attention to company-specific implementation.

The operational parts of this Code are structured as follows:

1. The first operational section of this Code (Part B) consists of general recommendations which, among other things, relate to the construction of factories, equipment, hygiene management and general administration.

2. The numbers in Part C and in Part D correspond to the following brief flow chart of a typical Watercooler Company operation:

    1) Primary Production
    2) Incoming Goods
    3) Water Treatment
    4) Packaging
    5) Cleaning and Checking Packaging
    6) Filling and Sealing Packaging (Contact Tank)
    7) End Product
    8) Cleaning and Disinfection Company/Machines
    9) Distribution
    10) Cleaning and Disinfection of Watercoolers

3. The second operational section (Part C) provides greater detail on the production of water for watercoolers. In addition to general control points, 5 critical control points (CCPs) are set out in the process for the production of water for watercoolers: these are indicated separately in the more detailed flow chart and in the description of the relevant processing stage, which follow in Part D.

4. The third operational section (Part D) consists of the schematic HACCP analysis.

5. Following the operational sections of this Code an Annex sets out recommended forms and procedures. (Part E)

6. On the basis of this Code an Inspection Plan has been developed to ensure certifiability in Part F. Each requirement marked in parts B, C and D by a "?" will receive two points on a point scale.

III. RESPONSIBILITY

The starting point is that water for watercoolers is by nature and composition a safe foodstuff; there is little risk of the consumption of water causing such harm that the safety and health of the consumer are endangered.

The general guidelines in Part B of this Code relates to the safe and hygienic treatment of water. The watercooler companies are of the opinion that all the guidelines contained in this Code should be a good reflection of what is generally understood as good hygienic business practice. The provisions of the "Recommended International Good Practice Guidelines – Basics of Food Hygiene" were taken into account when drawing up the general guidelines.

As according to Directive 93/43/EC, every watercooler company in the EU must identify each aspect of its activities, which has a decisive impact on the safety of the product water. In order to achieve this, the following activities, which are developed in the HACCP system, must be carried out:

- Analysing the potential risks to water during processing;
- Investigating at which points the water could be put at risk during water treatment;
- Indicating critical points, being the points set out above which are critical for water safety;
- Describing/Laying out relevant control and monitoring procedures for the critical points;
- Repeating the work set out above at set times, and also when the water production or treatment process is changed.

Suitable safety procedures must then be drawn up, applied, implemented and repeated in order to guarantee the safety of the water treated in the company. In this respect, in accordance with article 3.1 of the Directive 93/43/EC, production and treatment are taken to mean the entire process of preparation, processing, handling, packaging, transport, distribution and sale.

In accordance with the "Guidelines for Applying the HACCP System" of the Codex Alimentarius, an HACCP system should be company-specific. That is to say that for each location and for each product an HACCP analysis should be carried out and a guarantee system introduced. Water for watercoolers forms a coherent product group in which intrinsic product and process characteristics can be easily compared. Given this fact, the European Bottled Watercooler Association has chosen to include in Part D of the Code of Practice a general process description of the treatment and filling of water, followed by a general HACCP analysis for watercoolers. The process description is a flow chart in which the production of water for watercoolers is divided into ten processing stages. This process description includes the purpose of a particular treatment, the apparatus which is generally used and which details should normally be checked and recorded.

After carrying out the HACCP analysis, critical points (CCPs) should be able to be identified at 5 places in the process; these are indicated in the flow chart as well as in the text of the process description.

The European Bottled Watercooler Association would like to point out at this stage the high importance of Management Supervision in HACCP. Management should be the driving force.

IV. APPLICATION OF THE HYGIENE CODE IN THE INDIVIDUAL COMPANY

The hygiene code provides a general supplement to HACCP and helps in setting up an individual HACCP plan. In order to apply the Code correctly, the following stages should be observed by the Watercooler Company:

1. The appointment of a person responsible for introducing the Code into the company;
2. Examining whether all the basic conditions in part B of this Code has been complied with and taking appropriate measures if found necessary;
3. Examining whether the processes described in part C of this Code corresponds to the working practices in the company;
4. Working out the indicated points of action for the company and setting them out in a documentation system;
5. The introduction of specifications, recording forms and instructions arising out of the action points;
6. The documentation of recordings, as well as the interpretation of these figures;
7. Any necessary adaptation of management measures.

V. DEFINITIONS AND ABBREVIATIONS

The following terms in the Code are given the meanings indicated here.

1. Measures and Processes	
AP	A noteworthy point in process controls.
Control measure	Any measure which is necessary within a process in order to bring a hazard under control. The term preventative measure is also used here.
CCP	Critical Control Point: a stage or phase in the process, which can be controlled in order to eliminate a hazard or to return it to an acceptable level.
Corrective measures	The procedure, which must be followed whenever it appears from the measuring results that a hazard is no longer under control. The procedures can relate to correction of the process stage or to the end product.
Disinfection	The reduction of the number of cultivable microorganisms to an acceptable level by means of applying suitable disinfectants and/or suitable and specific physical methods.
HACCP	Hazard Analysis Critical Control Points: a system which monitors the safety of food in a production process by identifying specific hazards and establishing the points at which and the measures with which they can be controlled.
Hazard	The possibility of the presence or absence of a situation, which can be to the detriment of the health of the consumer. Hazards can be of a microbiological, chemical or physical nature.
Hygiene	All measures necessary to guarantee the safety and soundness of drinking water during its preparation, processing, handling, packaging, transporting, distribution and sale.
Carbon Filter	A casing filled with activated carbon for filtering water in order to improve the odour and taste of water.
Critical Limit	The value of a measurement which forms the boundary between controlling and not controlling a hazard.

Micron Filter	A filter consisting of membranes with pores up to 1 micron for filtering water in order to remove bacteria and solid particles from the water.
Mineral Injection	Various minerals that are added in a mixture to the water during the production process in order to enrich the water.
Monitors	A planned series of observations, which measure whether a hazard is being controlled.
Reverse Osmosis	The process by which water is passed through small pores in a series of membranes under high pressure in order to remove microorganisms and heavy metals from the water.
Ozonisation	The treatments of water with ozone gas during storage or filling in order to kill any microorganisms, which may be present.
Process Stage	A particular functional phase in a process.
Production Batch	A collection of sales units of a food or drink produced, manufactured or packaged under practically identical conditions, the size of which is determined by the retailer involved.
Cleaning	The removal of food residues and other (in) definable waste.
RO Membranes	Semi-permeable membranes used for reverse osmosis.
Scope	Viewpoint from which hazards are assessed.
Flow Chart	A detailed description of all the consecutive stages in a process, generally consisting of a graphic illustration of each stage, supplemented with relevant information.
Safe	The status of a water which is not harmful to the health of the consumer.
2. Types of Water	
Spring water	Spring water as defined in the EU-Directive 80/777/EEC as amended by EU-Directive 96/70/EC.
Drinking water	Water that meets the requirements of EU-Directive 98/83/EC on the quality of water intended for human consumption amending Directive 80/778/EEC. Drinking Water might be submitted to further conditioning treatments before bottling (e.g. Mineralisation, softening, etc.).
Natural mineral water	Natural Mineral Water as defined in the EU-Directives 80/777 as amended by EU-Directive 96/70/EC.
Water intended for Watercoolers	In this Code such water will be referred to as product water. It is water, which is intended, or made suitable for human consumption, and which is supplied to the consumer cooled and/or heated.
Process water	Water for the various process stages, not intended as water for watercoolers. Also referred to as water for non-product purposes.
Watercooler	The machine intended for the cooling and/or heating and supplying of water intended for human consumption, spring and natural mineral water.

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PART B: GENERAL POINTS

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I. HYGIENE MANAGEMENT

1. General

? In addition to factory building and layout, which needs to take hygiene issues into consideration at the design and implementation stage, it is extremely important that all employees, particularly production employees, demonstrate hygienically responsible conduct while carrying out their work.

? Hygiene management should be aimed at creating and maintaining a cheerful, clean environment, which provides safeguards for the treatment of water/filling of watercoolers, which meet intrinsic safety and hygiene requirements.

2. Personal hygiene

? It is important that all production employees observe good personal hygiene. Their behaviour should also be responsible from a hygienic point of view and they should carry out their work in compliance with applicable hygiene rules and regulations. As a rule, they must wash their hands before starting work and after every visit to the toilet.

3. Medical examination

? Production workers must undergo a medical examination at the start of their employment and whenever there are grounds for this thereafter. Employees suffering from an infectious or contagious illness, or another illness or injury which could lead to product infection must be excluded from production activities.

(It is helpful to have the services of a company doctor to carry out pre-employment medical checks and advise on any relevant medical matters, which may arise. If the product is not treated consideration should be given to screening employees for intestinal pathogens.)

4. Personal grooming

? Production employees must always appear well groomed; while at work they must wear clean, protective clothing and, if necessary, headgear.

5. Hygiene regulations during production

? Production employees must not smoke or eat in areas where this is not permitted, especially in production areas. Employees must not wear jewellery in production areas.

? Smaller wounds, cuts, grazes or sores should be covered by conspicuously coloured food type dressings. They should be accounted for at the end of each shift and replaced with a new one before each shift and as required.

? Packaging intended for water must not be used for any other purpose. Product bottles can all too often be considered ideal containers for nuts and bolts, lubricants, cleaners etc. and it

is strongly advocated that disciplinary action should be taken if this were to take place. Any misused bottle must be destroyed.

6. Visitors

? Every visitor or business associate must be informed about the hygiene regulations in force and the need for compliance when visiting the company.

7. Supervision

? All the management is responsible for supervising compliance with the hygiene regulations at all times.

II. TRAINING

1. General

? Production employees must be properly trained and well supervised. They must be fully aware of the relevant hygiene principles. After starting employment, particularly during the induction period, special attention must be paid to hygiene, HACCP and safety awareness.

Note: The EBWA Training & Education Committee offers Hygiene Awareness Courses that are open to all staff of member companies. Following such a course is recommended for all production and distribution personnel, even where it is not a legal requirement.

2. Insight and responsibilities

? Managers and directors of watercooler companies must have a complete knowledge of food hygiene in order to be able to assess potential risks and to take the necessary measures. Management must show that hygiene is extremely important by setting a good example, motivating employees, involving them in resolving bottlenecks, and as far as possible drawing up working instructions together with the employees.

Note: The EBWA Training & Education Committee offers a Plant Operators Course to all senior personnel of member companies. Making the attendance of such courses mandatory to senior personnel is recommended by EBWA, even where it is not a legal requirement.

? The person employed to implement the Hygiene Code in the company must preferably have taken a course and/or additional training in the field of HACCP and preferably also quality assurance.

? All employees must be aware of their role in protecting the products against contamination and damage. They are jointly responsible for the good and hygienic treatment of the products in the company. Employees must have the necessary knowledge to allow them to handle the products hygienically. People who handle chemicals must be trained in safe handling techniques. The employer should advise employees of their duties to report illness.

3. Training plan

? There must be a staff-training plan relating to hygiene, and the training received by each employee must be documented. An evaluation of the employees' training must be carried out at least once a year. If necessary, a course or additional training should be undertaken in order to bring the necessary knowledge and skills up to standard.

III. DESIGN AND ARRANGEMENT OF WORK AREAS

1. General conditions

The nature of the work in watercooler companies means that:

a) The design and arrangement of work areas must make adequate maintenance, cleaning and disinfection possible;
b) Equipment, which comes into direct contact with food, must be of suitable quality and be easy to clean;
c) Temperature, relative humidity and atmosphere must be able to be controlled where necessary in production areas;
d) Infestation by pests must be effectively prevented.

Attention must therefore be paid at the design and construction stage to general hygiene aspects, a good location and the provision of adequate space and other facilities in order to be able to facilitate an effectively controlled production process.

2. Specific conditions

? Buildings and facilities must be in a good state of repair.

? They must be easy to clean in a verifiable manner, provide good production routing to avoid cross-contamination and create suitable climatological conditions for raw materials, production process and end product

? Sufficient working space must be available to carry out the cleaning programme.

2.1. Security

? The company must be protected with a suitable security system.

2.2. Company site

? The site around the company must have a good drainage system and be free from waste. It is recommended that a management system be developed and implemented. It is important to extend good housekeeping practice to the perimeter of the site, keeping grass cut and litter cleared. Maintaining a tidy exterior will enhance the image of the company, will maintain employee moral and reduce the risk of rodent activity.

2.3. Maintenance

? All openings, which may possibly give direct access to the outside air, such as doors, windows, ventilation openings and drains, must be adequately protected and maintained in order to prevent the entry of pests.

? The inside of buildings must be well maintained and have a neat and tidy appearance. Production areas should not be decorated during production. Where feasible it is advocated that an annual shutdown for general routine repairs and decorations should be planned. Where more extensive structural alterations and repairs are undertaken, strictly adequate screenings must be provided if production is to continue without causing any contamination to product water from dust and debris.

3. Extraction installations

Installations for the extraction of natural mineral and spring water, and water from a private spring, must be constructed such that every possibility of contamination is prevented. Natural mineral or spring water must also retain the characteristics it had at the time of extraction. The spring or extraction point must be protected against the risk of contamination. The collection installations, the supply pipelines and the tanks must be made of a material suitable for water so that any chemical, physical-chemical and bacteriological change to this water is avoided. (For specific requirements, see Parts C and D.)

4. Production areas

Maintaining product integrity for water to be bottled is a matter, which requires much consideration. Water is the world's best solvent – it will dissolve or absorb all manners of substances. It is therefore highly vulnerable to picking up taste and/or odour taints as well as undergoing compositional alterations. It is well worth using stainless steel, grade 316, for all pipework, tanks and bottling equipment.

4.1. General requirements

The design and arrangement of the production hall must:

- ? Facilitate proper cleaning and disinfection;
- ? Protect the product against contamination by foreign material;
- ? Prevent the occurrence of condensation and mould;
- ? Prevent cross-contamination between and during production;
- ? Provide good atmospheric conditions for hygienic production;
- ? Be provided with washing facilities with hot and cold water;
- ? Be equipped with an effective ventilation system;
- ? Be provided with satisfactory lighting;
- ? Be equipped with an adequate drainage system.

4.2. Specific requirements

- ? Floors must be made of acid-resistant material and must be easy to clean.
- ? Walls must be impenetrable to water and must have a smooth, mould-resistant, washable surface.
- ? Ceilings must be mould-resistant and washable.
- ? All doors must self-closing and should have a smooth, non-absorbent surface. The number of entrances must be kept to a practical minimum.
- ? All surfaces must be resistant to universal cleaning agents and mould.
- ? Windows must be properly provided with screens or must not be able to be opened if forced.
- ? Lighting in the production areas must be provided with a protective casing to prevent any product contamination in the event of a bulb breaking.
- ? Other fittings such as stairs, steps, platforms etc must be hygienically designed.

? In those areas of the processing establishment where containers are exposed to the external environment (i.e. on the loading dock), especially prior to filling and sealing, specific preventive measures should be incorporated into the facility's design to avoid contamination of the containers used for production of bottled water.

4.3. Air Quality and Ventilation

Adequate natural or mechanical ventilation should be provided to:

- ? Minimise airborne contamination from aerosols and condensation droplets in area of water storage/handling
- ? Control ambient temperatures.
- ? Control odours affecting the product water.

? Control humidity.

? Ventilation systems should be designed and constructed so that air does not flow from contaminated areas (e.g. lavatories, cafeterias) to clean areas. Ventilation systems can be adequately cleaned and maintained.

4.4. Storage facilities

Adequate facilities for the storage of product water, the storage of any products needed in the operation and of non-food chemicals (e.g. cleaning materials, lubricants and fuels) shall be provided.

Storage facilities should be designed and constructed to:

? Permit adequate maintenance and cleaning.
? Avoid pest access and harborage.
? Effectively protect product water from contamination during storage.
? Minimise the deterioration of product water by temperature, light and humidity.

(A minimum recommended storage temperature for bottled product water is + 4°C. If water is allowed to freeze it expands and this will cause breakage/explosion of bottles and/or increase the risk of failure during distribution and consequent risk to the safety of the consumer.)

? Separate, secure storage facilities for cleaning materials and hazardous substances should be provided.

IV. EFFECTIVE CONTROL SYSTEM

1. Aim

The setting up of an effective control system should guarantee that production and storage areas are neat and tidy, that production equipment is well maintained and cleaned and the pests are effectively prevented and/or combated. From a hygiene point of view we differentiate between the following areas of consideration:

2. General

? Buildings and production equipment must be well maintained. All commodities, tools, replacement parts, packaging materials and other auxiliary items not in use during production must be stored elsewhere. Water hoses must be equipped with a spray head and kept on reels if they are not in use. If necessary, sufficient waste bins should be provided and must be regularly emptied. Industrial cleaning agents must be handled carefully and used in accordance with the supplier's instructions.

? Care should be taken in the selection of paint used. Paint should be selected specifically for use in a food-manufacturing environment and with minimum odour.

3. Cleaning and disinfection

? Each establishment must have a cleaning and disinfection programme, observance of which guarantees that all the rooms are properly cleaned and that special attention is paid to critical rooms, equipment and materials.

? Two types of cleaning and disinfection can be distinguished in a watercooler company, which should be applied in accordance with suitably matched procedures:

a) Manual
b) Cleaning in place, or C.I.P.

? Adequate equipment (scouring) sponges, scrubbing brushes, special sponges for the internal cleaning of apparatus and operational appliances (foam cleaners, wet/dry vacuum cleaners) must be available.

? Containers for waste, by-products, maintenance, technical products, disinfection materials, as well as for inedible or dangerous substances shall be specifically identifiable and suitably constructed (made of impervious materials). Containers for dangerous substances shall be immediately identifiable and lockable.

4. Production equipment

? A high standard of maintenance should prevail and any damaged equipment should be promptly reported and attended to. A preventative maintenance schedule is recommended. The use of string or tape to effect even temporary repairs should be discouraged. No small items like nuts and bolts or washers are abandoned in open bottle areas.

? Multiple use equipment and containers contacting product water shall be designed and constructed to be adequately cleanable, disinfectable and maintainable. These should be made of non-toxic materials.

? Equipment should be durable and movable or capable of being disassembled to allow for maintenance, cleaning disinfecting and monitoring.

? Equipment used to heat, cool, store and transport water shall be designed to rapidly achieve the required output and water temperatures, and maintain them. Covering of conveyors from rinsing to after capping is essential. (Sound proofing equipment may give some protection.)

? Equipment allows ambient temperatures to be monitored and controlled. Equipment has effective means of controlling/monitoring the necessary characteristics.

? It is essential that any lubricants used are not only suitable for food use, but that they specifically have no adverse affect on water or its containers.

5. Main Operation System

? It is of vital importance that all parts of the installation to be cleaned are designed in such a way that there are no internal surfaces in contact with product water, which cannot be reached by C.I.P.

? All the pipelines must be made of material, which is suitable for water, and such that any chemical, physical-chemical and bacteriological changes to the water is avoided. The internal surface should be smooth. The pipelines should be rigid and self-draining in design, with as few connections as possible.

? Dedicated Water Lines: If a bottling line is exclusively used for the bottling of water, a cold detergent sanitisation process can be used. This CIP must be carried out on a regular basis (Minimum twice weekly). The sanitiser must penetrate all areas of product flow.

(It is recommended that product water be run through the line for waste for a short time, say 10 to 15 minutes, prior to start up each day. After line changeovers have taken place for

different bottle types/sizes, it is recommended to CIP the line. A hot CIP system at 80°C or higher can have the added benefit of killing microorganisms without direct contact. Though non-product water may be considered suitable for rinsing after CIP, the final rinse should always be with product water.)

? Non-Dedicated Lines: Where a line is used for other drinks as well as water, it is essential to use a rigorous cleaning procedure prior to each water run. Care must be taken to ensure that all pipework and sight glasses of the filler and carbonator are cleaned and all fruit cells, which may have collected in the machinery, are removed. Traces of sugar and fruit cells are difficult to eradicate and encourage bacterial growth.

(It is advisable to flood the filler several times and check the water from the carborator for cells. Snift valves of the filler give great cause for concern and it is recommended that they be removed and placed in detergent prior to the final rinses of the filler. The condition of the rinse water is critical and must be suitable hygienic standard. Even after such rigorous procedures it is advisable to ensure that there is no carry over of taste and odour from the flavoured product. Observations on colour and clarity should also be made.)

? Storage and mixing tanks must be equipped with internal spray heads for efficient cleaning.

? Pumps and control taps must also have a smooth internal surface without cracks or inaccessible corners.

? All traces of sanitiser must be removed prior to the equipment (lines, pumps and tanks) returning to service. Care must be taken to ensure that the rinsing water is of a suitable hygienic standard (see Part C, II. 3.).

? Written procedures should be prepared, setting out the name of the person responsible for the work and the way in which the progress and the results of the work are recorded.

6. Pest prevention and control

Pests are taken to mean rodents, insects and birds. Pests cause unhygienic conditions and must be effectively prevented and/or combated. A control programme aimed at this is based on the following principles:

- ? Preventing pests from entering the building
- ? Eliminating any hiding places for pests
- ? Preventing pests from obtaining food
- ? Eradicating all pests in the building

It is a requirement that all bottling plants retain the services of a competent pest control contractor for drawing up and implementing a good control programme. (Note: Rodents in particular are attracted to the storage area by wooden pallets and paper labels.)

7. Evaluation of control systems

? The above control systems relating to maintenance, cleaning and disinfection, and pest prevention and control, must be regularly evaluated and adapted to changing circumstances every two years.

V. DATA RECORDING, RECALL PROCEDURES AND LABELLING

1. Recording and reporting

? Production and quality reports must be kept for each batch produced, with details of raw materials, packaging materials, natural and spring water and/or drinking water, filling, packaging, storage and distribution. These reports on the relevant production batch must be kept for at least two years.

? Each container of product shall be permanently marked to identify the producer and the lot.

2. Recall

? There must be effective procedures for handling complaints from consumers, authorities or elsewhere and any recall of products. These procedures must enable a complaint to be traced back to recorded data.

? Complaints and any recalls should be dealt with in the shortest possible time, and the procedure should clearly indicate which member of staff is responsible. Recalled products must be stored under supervision until they are destroyed or otherwise made unsuitable for human consumption.

3. Labelling

? All Watercooler products shall be accompanied by or bear adequate information to enable a person to handle, display, store, prepare and use the product safely and correctly and each container of product shall be labelled accordingly.

? All bottles of water shall be labelled in accordance with all relevant legislation and shall display in a prominent position a production "Batch No." for purposes of traceability and a "Best Before Date", which shall not "ceed 12 months. The consumer shall be advised the significance of "Batch No." so that they are able to implement a stock rotation system.

(Note: It could be of added benefit to producers to consider marking each container with the number of container cycles (i.e. how many times the container has been refilled).

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PART C: PROCESS DESCRIPTION
PRODUCTION OF WATER FOR WATERCOOLERS

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PREFIX: GENERAL PROCESS PLAN FOR WATERCOOLERS

1. Primary Production	
Origin of Water	Protection of Water Supplies

2. Incoming Goods	
Incoming goods are product water, process water, chemicals, packaging and watercoolers.	
Watercoolers	Water
Packaging	Chemicals

3. Water Treatment	
The way in which water is treated differs from company to company. All the possible treatment phases are set out in the process plan. In practice, some companies do not implement all these phases, or do so in a different order. On the basis of this plan, the companies draw up their own processing plan.	
Iron Removal	(Pre)Filtration (coarse sand filter)
(Pre-) Storage (ionisation)	Filtration (media or activated charcoal filter)
Softening	Mineral Injection
Filtration (0.5-5.0 micron filter)	Storage (ozone/UV)
Reverse Osmosis (RO membranes)	Ozonisation (as treatment/before filling)

4. Packaging	
The bottles (11.3 l, 13.5 l, 18.9 l or 22.7l) are made of refillable glass or polycarbonate (or PET). The top is made of polyethylene. The neck of the bottle is – in the majority of cases – a protected seal.	
Glass	Polycarbonate
PET	

5. Cleaning and Checking Packaging

The process of cleaning and checking the bottles is as follows:

a) Removal of top and visual inspection
b) Pre-rinsing (with water up to 65°C)
c) Warm water soap bath (45-65°C) basic acid

d) Disinfection with cold water (drinking water with disinfectant or drinking water with hydrogen peroxide or ozonised drinking water)
e) Subsequent rinsing with cold water (with UV treated drinking water or ozonised Drinking water or tap water).

Top Removal	Sniffing
Prerinsing	
Washing Bottles	Washing Tops
Disinfecting	Subsequent Rinsing

6. Filling and Sealing Packaging (Contact Tank)

Before filling, the water in the contact tank is ozone-treated or additional minerals are added by way of a mineral injection, depending on the production process. During filling it is important to monitor the ozone concentration in the water. Depending on the production process the tops are decontaminated with water containing ozone; nitrogen (instead of oxygen) can also be added between the water and the top.

Filling: Ozonisation	Filling: Mineral Injection Water
Sealing: Top Decontamination	Sealing: Nitrogen (between Water and Top)

7. End Product

In connection with possible ozonisation during filling, a quarantine period may be required before the bottles (on pallets) are distributed.

Quarantine	Distribution

8. Cleaning and Disinfection of Company/Machines

The different modes of cleaning are manual cleaning, Cleaning in Place (CIP) and the disinfection of tanks/pipelines with water containing disinfectant, or water saturated with ozone.

CIP	Pipelines (Rinsing with Disinfectant/ Ozone circulation)

9. Distribution

10. Cleaning and Disinfection of Cooler

The watercoolers should be completely cleaned/sanitised every 13 weeks and technically checked at least once a year. Important aspects of this include:

The reservoir (disposable/removable/fixed)
The air filter
The tap point
The water guard.

Water Guard	Reservoir
Air Filter	Tap Point (Bulk Transportation)

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I. PRIMARY PRODUCTION/SCOPE OF WATER FOR WATER COOLERS

There are different kinds of water used in the production process for water for watercoolers. When natural mineral or spring water is used, there is a strict approval process prior to use to guarantee the intrinsic safety of the raw material. Its underground origins mean that this water is of a constant composition and is naturally clean. Verification of drinking water and water from own spring does not need approval by the relevant authorities. This water should anyway be periodically analysed with regard to its microbiological, chemical and sensory properties in accordance with relevant national legislation.

If the supply of the product water intended for bottling is from:

? A private well or source recognised to deliver spring water or natural mineral water, then the EU-Directives 96/70/EC and 80/777/EEC lay down the requirements.

? A private well or source for regular potable water. Applicable is EU-Directive 98/83. This holds only minimum requirements to which a Member State may add additional requirements. So for every production unit, the national additional requirements are to be added to this Code. Respect of legal requirements depends on outside control (outside laboratory) or on self-control. Even when an outside laboratory carries out control, there is an in-house requirement for sampling.

? The public water supply, assurances about acceptability of the drinking water and conformity with EU-Directive 98/83 are to be given by the supply authority or from an independent laboratory. In-house sampling should be added to increase safety.

1. General Objectives of Primary Production

Primary production is the sourcing or procurement of water intended for bottling (=product water). Primary production should be managed in such a way that ensures that water is safe and suitable for its intended use. This will include:

a) Avoiding the use of areas where the environment poses a threat to the safety of water in resource and production sites.
b) Controlling contaminants, pests and diseases in such a way as not to pose a threat to water safety.
c) Adopting practices and measures to ensure water is produced under the appropriate hygienic conditions.

2. Precautions in selecting a resource site for natural mineral and/or spring water

Before a spring can be used for natural mineral or spring water, the company must be in possession of an authorisation issued by the relevant national authorities. Authorisation is granted on the basis of a number of regulations and criteria. The results of the following studies must be considered when applying for authorisation:

a) Geological and hydrological study
b) Physical, chemical and physical-chemical study;
c) Microbiological study
d) Also pharmacological, physiological and clinical studies for natural spring water.

? The validity of an authorisation is fixed for a standard length of time. At least twice a year approved natural mineral and spring water must be comprehensively analysed by an independent laboratory in terms of microbiological, sensory and chemical parameters.

? Above the relevant legal minimum requirements set by the relevant national legislation, watercooler companies should have product water from all wells or springs periodically

analysed for microbiological constancy by the companies' own laboratory or by an outside laboratory. A constant sampling practice is advised as good practice.

? A hydrogeologist should determine the watershed and the wider perimeter for sources of contamination. These areas are critical therefore *all possible precautions* should be taken within the protected perimeter (zone of production) to avoid any pollution of, or external influence on, the quality of the ground or surface water. Disposal of pollutants such as micro-organisms, fertilisers, hydrocarbons, detergents, pesticides, phenolic compounds, toxic metals, radioactive substances and other soluble organic and inorganic substances should not be possible nor should drinking water resources be in the path of potential sources of underground contamination, such as sewers, septic tanks, industrial waste ponds, gas or chemical tanks, pipelines and waste disposal sites.

3. Protection of water supplies

? It is not easy to distinguish between protected and unprotected ground water. Ground water supplies should be tested regularly for constancy of biological (including microbial), chemical, physical and radiological characteristics. The hydrogeological evaluation and historical constancy pattern of a particular water supply determine the frequency of testing. If contamination is detected, and the chosen corrective action is ineffective, production of bottled water should cease until the water quality has returned to established parameters. Any underground supply, from which water is collected, should be approved by an official authority having jurisdiction or by an appropriate third party with expertise.

? Surface waters intended for bottling should be protected from contamination to the fullest extent possible. Treatment(s) must be adequate to eliminate toxic or pathogenic contaminants. Stringency in determining which surface waters are suitable for bottling should be the rule, even when treatment(s) is foreseen.

4. Sampling Analysis, Disposition

? Above the relevant legal minimum requirements set by the relevant national legislation, watercooler companies should have all water for watercoolers periodically analysed by the companies' own laboratory and/or by an outside laboratory. A constant sampling and monitoring practice is considered "de rigeur" by EBWA.

? Sampling analysis for water intended for bottling shall be subject to the following procedure:

a) EU-Directive 98/83 established the minimum requirements for product water sampling (Annex I, A&B).
b) A Company sampling scheme and procedure should be laid down that at least doubles EU and/or national sampling requirements.
c) The control of adherence to the European and national requirements should ideally be by an outside laboratory having a certification and taking part in a quality assurance program.
d) A procedure should be set in place to cope with cases of non-conformity.
e) A procedure should be set in place for holding product until analysis results have been evaluated.

5. Hygienic extraction or collection of water

? The extraction, collection or tapping, of water intended for bottling should be conducted in such a manner as to prevent other than the intended water from entering the extraction or collection device and should also be conducted in a hygienic manner to prevent any contamination. Where sampling points are necessary, they should be designed and operated to prevent any contamination of the water.

? The immediate surroundings of the extraction, collection or tapping area should be protected by limiting access only to authorised persons. Wellheads and spring outflows should be protected by a suitable structure to prevent entry by unauthorised individuals, pests, dusts, and other sources of contamination such as extraneous matter, drainage, flood waters and infiltration water.

? Methods and procedures for maintaining the extraction, collection or tapping facilities should be hygienic. They should not be a potential hazard to humans or a source of contamination for the water. Wells should be disinfected following construction and development of new wells nearby, after pump repair or replacement, or any well maintenance activity such as testing for and finding indicator organisms, pathogens, or abnormal plate counts in the water, and whenever biological growth inhibits proper operation. Water collection chambers should be disinfected within a reasonable time before use. Extraction devices such as those used for bore holes should be constructed and maintained in a manner that avoids contamination of the water and minimises hazards to human health.

6. Storage and transport of water intended for bottling

? When storage and transport of the water intended for bottling from the point of origin to the processing plant is necessary, these operations must be conducted in a hygienic manner to prevent any contamination. Directing the supply of water through piping from the point of origin wherever possible is one of the preferred means of avoiding risks of contamination from bulk transport. In any case, such transport of natural mineral water and spring water is only allowed through piping. Container transfer is forbidden!

? In the case of some manufacturers, the production site and final filling site are located separately. Movement in bulk or by pipeline therefore takes place. From the point of view of hygiene, movement by pipeline is preferable, but when carried out properly movement in bulk, where applicable, should not involve any additional risks.

? Conveyances and bulk containers, where not prohibited, for transporting water intended for bottling should be kept in an appropriate state of cleanliness, repair and condition. Containers and conveyances, particularly in bulk transport, shall be used only for transporting food liquids, preferably only for water intended for bottling. When this cannot be achieved, conveyances and bulk containers must be cleaned thoroughly and disinfected as is necessary to prevent contamination.

II. INCOMING GOODS

There are a number of groups of incoming goods apart from the water intended for bottling, chemicals, packaging, process water and watercoolers. All incoming goods must comply with the applicable legal requirements and the specifications set by the customer. They must regularly (via an inspection system) undergo a check on arrival (see appendix 1). If the goods are not in order, they are returned to the supplier (see appendix 2).

1. Packaging

The end product is filled into polycarbonate containers, and a small part into glass. The packaging is not produced itself, but is bought in ready-made and is provided with descriptions (by means of printing, film label etc). In future, other plastics such as PET may also be used. The containers are closed with plastic seals.

? As with the chemicals, the packaging must be suitable for the purpose: that is to say that it must be intended for filling with water and must meet the requirements in force.

? Incoming inspection takes place by way of a visual inspection and periodic consideration of analysis results in accordance with the specifications set for the supplier. A “food grade” declaration corresponding to the relevant national regulations must also be submitted with the packaging.

2. Process water

? This refers to water used for cleaning and disinfection purposes (process water), not for product water to be bottled. For cleaning and disinfection purposes an ample supply of potable water distinct from that intended for bottling and in compliance with Section 4.4.1 of the Codex Alimentarius Recommended International Code of Practice – General Principles of Food Hygiene, CAC/RCP 1-1969, Rev. 3-1997 under adequate pressure and of suitable temperature should be available with adequate facilities for its storage, where necessary, and distribution, and with adequate protection against contamination. The standards of potability should not be less than those laid down in EU Directive 98/83 of 3 Nov. 1998 on the quality of water intended for human consumption.

? Water not intended for bottling should be carried in completely separate lines from water intended for bottling. These lines should be identified, preferably by different colours. There must be no cross connections. Water not intended for bottling should be potable if there is a chance that it comes into direct or indirect contact with water that is intended for bottling; otherwise it may be non-potable (if used for such operations as steam production or refrigeration where there is no direct or indirect contact with water for bottling).

3. Watercoolers

The containers/bottles of water are placed on the water coolers; suppliers provide these. Within the watercooler sector there are different types of watercooler on the market, which can differ from each other in terms of their tap point, connection of the container and/or reservoir. Also, some watercoolers also have a hot water tank in addition to a cold one.

? The watercoolers must be safe and suitable for their intended purpose, i.e. that they are for the drawing off of hot and/or cold water and must meet the valid requirements for this.

? Watercoolers must at least meet the requirements of the EC Machine Directive 89/392/EEC of 14 June 1989 (PbEC L 183), most recently amended on 14 June 1993 via Directive 93/86/EEC (PbEC L 175). Incoming inspection takes place by way of visual inspection and periodic consideration of analysis results in accordance with the supplier’s specifications.

4. Control of incoming product water hazards

Product water hazards shall be controlled through a HACCP system. Operators shall:
? Identify any operations critical to the safety of the product water.
? Implement effect control procedures at those steps.
? Monitor control procedures to ensure continuing effectiveness.
? Review control procedures periodically, and whenever the operations change.
? Perform required regulatory testing at frequency specified.

? Waters from drinking water systems intended for bottling should meet all public drinking water standards (i.e. chemical, microbiological, physical, radiological) established by the relevant official authority. [For documentation of an approved source, firms using waters from tap water systems may use drinking water system testing results showing full compliance with drinking water standards established by the official authority having jurisdiction.]

? No waters intended for bottling or other ingredients should be accepted if it is known to contain any traces of human parasites, undesirable micro-organisms, residues of pesticides

(either unauthorised or exceeding the limits laid down) or toxic substances. Water intended for bottling should be of a quality (i.e. microbiological, chemical, physical, radiological), such that treatment (including multiple barrier treatments such as combinations of filtration, chemical disinfection, etc.) of that water during processing results in finished bottled drinking water products that are safe and of suitable quality for consumption. Generally, the higher the quality of the water intended for bottling, the less treatment is required to produce safe bottled drinking water products.

? Surface waters should be tested for safety frequently and treated as necessary. When natural mineral water or spring water are used for bottling, the limitations of treatment laid down in the applicable body of law shall be respected. A [hazard] analysis of the supply of water intended for bottling for pathogenic microorganisms or harmful substances should be the basis for treating other waters intended for bottling during processing to reduce, remove or prevent growth of microorganisms or to reduce or remove chemical or radiological substances. A HACCP analysis should be conducted to determine if there is a need for treatment and, if so, the type and degree of treatment(s). Waters originating from protected underground supplies are less likely to require treatment than waters originating from surface supplies or unprotected underground supplies.

5. Chemicals

? Various chemicals are used both in the treatment of water, and for cleaning and disinfection. All chemicals must be approved by the authorities, must be suitable for the purpose and must satisfy the internal specifications relating to composition and pollution.

CCP The risk is chemical pollution. Therefore the chemicals supplied must be of pro-analysis quality. The chemicals must be provided with clear labels and must be periodically checked. The supplier must make certificates of analysis available on delivery. If necessary, additional laboratory tests must be carried out to verify the specifications.

III. WATER TREATMENT

Water for watercoolers is by nature and composition a safe foodstuff. Through various water treatments during the production process of water for watercoolers, the quality of the water as safe drinking water is ensured. As described in control of product water hazards above, various kinds of water can be used as a starting point. A number of producers of water for watercoolers use spring or natural mineral water, where the permitted treatment methods remain restricted to iron removal and, if necessary, filtration. The way in which the water is treated varies from company to company. All the possible treatment phases are dealt with in this Code. In practice, some companies do not use all these methods or use them in a different sequence. This should be taken into account when implementing the Code at company level.

? When necessary, treatment of waters intended for bottling, to reduce, remove or prevent growth of micro-organisms, may include the application of chemical processes (such as chlorination, ozonisation, carbonation) and physical agents or processes (such as high heat, ultraviolet radiation, filtration). These treatments can be used singly or in combination as multiple barriers. Treatments vary in their effectiveness against specific organisms. Bottled waters produced with the use of an adequate multiple barrier treatment technique will be less likely to contain micro-organisms of public health concern.

? When necessary, treatments to remove or reduce chemical substances may include chemical and particulate (mechanical) filtration such as achieved with surface filters (e.g. pleated membrane filters) or depth filters (e.g. sand or compressed fibre (cartridge) filters), activated carbon filtration, demineralisation (deionisation, water softening, reverse osmosis,

nano-filtration) and aeration. These treatments for chemicals may not adequately reduce or remove microorganisms and, likewise, treatments for microorganisms may not adequately reduce or remove chemicals and particulate matters.

? All treatments of water intended for bottling should be carried out under controlled conditions to avoid any type of contamination by the process itself, and there must not be left any toxic by-products of health concern in accordance with the relevant legislation in force.

1. Time and Temperature Control

Where heating and temperature affect the safety of the water used for consumption, time and temperature will be effectively controlled. This may be the case in thermal sanitation procedures.

? Have all critical heating steps been identified and listed in writing.
? Have all these steps been specified on paper (tolerances for time and temperature).
? Have the control procedures for these steps been established and laid down on paper.
? Is there a recording system for the control results?
? Are temperature control devices checked regularly.

2. Iron and Manganese removal

Iron removal by way of aeration serves to remove unsuitable elements, such as iron, manganese and sulphur compounds. These elements can produce an abnormal smell and clouding of the water. It is mainly spring water that is treated in this way, as other methods with the same effect are not permitted. In some companies the de-ironised water is put into interim storage.

? The equipment and operating procedure should be of an appropriate type. Documentation and specifications should be available. The operations should be recorded in the sense of a run performance (material installed when, times, amounts passed, remarks, deviations). Adequate methods and procedures for control of the adequacy of these operations should be set in place.

3. Filtration and/or prefiltration

Both solid particles and microorganisms can be removed from the water by means of a filter system, depending on the size of the pores and the composition of the filter. The filter system comprises a series of filters with a decreasing pore size. This avoids the need to replace expensive and delicate filters more frequently.

? The filter materials, formats, brands, equipment and operating procedures for all filtration operations should be of an appropriate type. Documentation and specifications should be available. The operations should be recorded in the sense of a run performance (material, membranes installed when, times, amounts passed, remarks, deviations). Adequate methods and procedures for control of the adequacy of these operations should be set in place.

3.1. Rapid filtration

Depending on the origin of the water (particularly in the case of water from an underground spring, from which iron has been removed), sand, sediment or insoluble particles may be present in the water. These are removed by means of a filter.

? The medium used must be hygienic and must preferably be approved. After a certain time and/or litres of filtrate, the medium must be rinsed, removing any residue on the medium. This is also known as regeneration. As this filtration has no effect on microbiological composition, it is also suitable for spring water.

3.2. Mechanical and Membrane filtration

? Filters with a pore size of more than 1µm are usually referred to as mechanical or sediment filters. According to the filtration mechanism they can be barrier or depth filters. They are not intended to remove microorganisms but only suspended inert particles. Filters with a pore size of less than 1-micron can remove microorganisms; this method is not suitable for natural mineral and spring water. In the watercooler sector 1 micron and 0.5-micron filters are mainly used. The smaller the pores, the more or larger filters and a higher pressure are required to prevent the flow of water from becoming blocked (permeate flux). Depending on the pore size and also on the involved separation mechanism the membrane filtration is usually divided into Microfiltration (inert and microorganisms separation); Ultrafiltration (organic molecules removal); Nanofiltration (or “Softening membrane” for large ions removal) and Reverse Osmosis (ion separation).

? The effectiveness of the filters can decrease over the course of time due to contamination and/or deposits. Signs that the filter has to be replaced/cleaned, include a poorer permeate flux and the presence of more bacteria in the filtered water than expected (in the case of filters ? than 1 micron). Prompt regeneration (rinsing the filters clean) and/or replacement of the filters prevents problems in further processing, particularly damage to the membranes.

3.3. Activated carbon filtration

Organic molecules are removed using an activated carbon filter. So-called trihalomethanes may be present in mains water as a result of chlorine treatment. Organic contaminants (pesticides etc) are also removed in this way.

? The effectiveness of the filters can decrease over the course of time due to contamination and/or deposits. Signs that the filter has to be replaced/cleaned, include a poorer permeate flux and the presence of more bacteria in the filtered water than expected (in the case of filters ? than 1 micron). Prompt regeneration (rinsing the filters clean) and/or replacement of the filters prevents problems in further processing, particularly damage to the membranes.

4. Softening

Depending on the composition of the water, scale prevention may be necessary before further processing through ion exchange resins (softening) or through chemical conditioners used to keep Calcium and Magnesium in suspension.

? The equipment and operating procedures for all softening operations should be of an appropriate type, with documentation and specification being available. The operations should be recorded in the sense of a run performance (material, equipment installed when, times, amounts passed, remarks, deviations). Adequate methods and procedures for control of the adequacy of these operations should be set in place.

5. Reverse osmosis

In reverse osmosis (also known as RO), the water is passed at high pressure through the pores of membranes. These pores are so small that in principle bacteria, parasites and contaminants are held back. The required pressure depends on the concentration of particles still present in the water (ppm). The membranes are synthetic and consist of various types:

a) Polyamides
b) TFC (thin film composite)
c) Cellulose acetate
d) Cellulose triacetate

? Each type of membrane functions optimally under different circumstances. In general it can be said that the temperature and the pH of the water passing through negatively affect the capacity and service life. Chlorine and other oxidants, which must be removed before being in contact with them, attack polyamides and TFC membranes. It is extremely important to " monitor" these two factors continuously.

? The filter materials, formats, brands, equipment and operating procedures for all RO-operations should be of an appropriate type. Documentation and specifications should be available. The operations should be recorded in the sense of a run performance (material, membranes installed when, times, amounts passed, remarks, deviations). Adequate methods and procedures for control of the adequacy of these operations should be set in place.

CCP The risk is that microorganisms will penetrate due to membrane contamination or rupture; this must be controlled and prevented. An initial indication of membrane contamination is a loss of capacity: the quantity of processed water runs back (permeate flux). Continuous monitoring of the temperature and the pH of the introduced water and subsequent periodic checking of the hardness and the ppm/tds content ensures that the membranes are cleaned and, if necessary, replaced in time. The total colony number can be determined periodically for verification. A calibration programme must also be set up for the measuring apparatus used.

6. Mineral injection

A number of manufacturers add a mixture of minerals (including potassium, calcium, magnesium etc) to the water. Some only do this at a later stage in the process, but the method remains the same. The required quantity is added by means of one or more pumps, which operate, by pulse or by percolating the water through filters containing minerals, which are progressively dissolved.

? The minerals must be added in the correct quantities in order to prevent quality problems. In addition, possible microbiological contamination from the injectors or the injected fluid must be taken into account. Oxidisation of the added minerals should also be taken into account during ozonisation after mineral injection. The conductivity of the water is used to monitor the quantity added.

? The equipment and operating procedure should be of an appropriate type. Documentation and specifications should be available. The operations should be recorded in the sense of a run performance (material, times, amounts passed, remarks, deviations). Adequate methods and procedures for control of the adequacy of these operations should be set in place.

7. Storage under ozone/UV circulation

Before the water is filled into the containers it is stored. Ozone or UV light is used to prevent any bacterial growth during storage. Since the water is almost bacteria-free after reverse osmosis, particular attention should be paid to cleaning and disinfection of the storage tank.

? The equipment and operating procedures used should be of an appropriate type. Documentation and specifications should be available. The operations should be recorded in the sense of a run performance (material, times, amounts passed, remarks, deviations). Adequate methods and procedures for control of the adequacy of these operations should be set in place.

7.1. Ozonisation

A special machine is used to produce ozone gas, which is then introduced into the storage tank. As ozone is an isotope of oxygen, it will oxidise any present organic material and thus kill bacteria. Due to its instability, ozone is converted back into oxygen over time.

? The concentration of ozone must be adjusted to the intended use to avoid the presence of excessive ozone levels in the water at the time of filling. The formation of unwanted by-products (such as bromate) must be prevented. The duration of the treatment as well as the oxidation/reduction potential are further important process parameters. Regular monitoring of the ozone content and the microbiological condition of the water is necessary (to determine the effectiveness).

? The equipment and operating procedure for ozonisation should be of an appropriate type. Documentation and specifications should be available. The operations should be recorded in the sense of a run performance (material, times, amounts passed, remarks, deviations). Adequate methods and procedures for control of the adequacy of these operations should be set in place.

7.2. Ultraviolet light

Ultraviolet radiation destroys the DNA structure of microorganisms. By means of UV lamps placed in the storage tank the growth of microorganisms is prevented. In addition, UV light prevents any excess of ozone.

The effectiveness of UV disinfection and ozone reduction depends on:

a) The service life of the lamp (regular replacement is necessary),
b) The degree of contamination of the water (if this is too high the effectiveness of UV is substantially less),
c) The disinfection method used (set-up)

? A note of the number of hours the lamp is in use must be kept so that it can be replaced in good time. Periodic checking of the degree of contamination of the water (which in view of the preceding process of reverse osmosis should be low) is recommended.

? The equipment and operating procedure for UV-operations should be of an appropriate type. Documentation and specifications should be available. The operations should be recorded in the sense of a run performance (material, times, amounts passed, remarks, deviations). Adequate methods and procedures for control of the adequacy of these operations should be set in place.

8. Storage without ozone/UV circulation

Depending on the production process the water is also stored without subsequent microbiological processing in the form of ozone treatment or UV circulation before the water is filled into the containers.

CCP The risk is of microbiological contamination of the water. As short a storage period as possible should be aimed for. The cleaning and disinfection of the storage tanks requires special attention to prevent bacterial contamination of the practically bacteria-free water. The microbiological condition of the water must be checked on a regular basis.

IV. PACKAGING

In addition to the incoming inspection, the storage conditions should also be considered with regard to packaging.

? Glass or plastic containers can be stored in the open air, provided that they are adequately protected against moisture, dust, exceptional weather conditions and pests. Containers should be stored upside down. Protection against excessive heat and sunlight is also necessary in the case of plastic containers. All containers must be washed before filling, irrespective of whether they are being used for the first time or have been returned by the customer.

? Closures must be stored in a clean dry place. They must be protected against heat, dust, pests and chemicals. The closures are preferably rinsed (with or without ozonisation) before being placed on the containers.

V. CLEANING AND INSPECTION OF PACKAGING

1. Visual inspection of refillable containers

? Refillable containers are first checked for any contamination before the top is removed and they are washed in the container washing machine. This check is carried out as a visual inspection. Containers on arrival must be specially examined and discarded in case of doubt.

? The use of a sniffer is recommended as good practice. The plastic containers, which are used in this sector, are not to be used for other purposes due to the volume and sealing mechanisms used.

2. Cleaning of containers

? The container washing machine must supply clean containers to the filling line. The machine programme consists of the following phases: prerinsing, treating with cleaning agent, rinsing, treating with disinfectant, final rinsing.

? During prerinsing the container is cleaned of any liquid residue and dirt. During the following phase the container is exposed to warm water with cleaning agents, whereby the still present dirt is dissolved and removed from both the inside and outside. As no paper labels are used, an alkali bath is not necessary. In the final phase the containers are rinsed thoroughly whereby all remnants of the cleaning agent are removed.

CCP The risk is of contaminated containers due to unsatisfactory cleaning; the containers must be clean after cleaning. The temperature of the water and the concentration of the cleaning fluid must be measured during cleaning.

3. Check

? The container washing machine must be set to the correct cleaning agent temperature and concentration. After the correct setting has been determined, it must be maintained and controlled. The temperature is preferably read off from the machine, and the thermometer must be regularly calibrated so that the temperature shown can be trusted.

? To verify cleaning, the containers must be regularly checked for microbiological and/or chemical contamination. Microbiological contamination points to inadequate cleaning, and chemical contamination to incorrect dosage and/or an inadequate rinsing process.

4. Inspection of cleaned containers

? After the containers come out of the machine, they must be regularly checked. Containers still containing fluid must be put through the washing process again before they can be taken to the filler.

VI. FILLING AND SEALING PACKAGING

1. Filling

During the filling process the containers are filled with the correct quantity of water. Various types of filling machine are in use in the water cooler sector. In some companies minerals are injected during the filling process. For the description of this processing stage, please see above.

? The filling machine is a critical part of the filling process and must be kept clean by a procedure to be established by the company. The microbiological condition of the machine must be verified using so-called contact prints and, if necessary, the cleaning and disinfection process must be adjusted. Each company can determine for itself how often contact prints are made as long as a regular procedure is in place.

2. Sealing

? In order to prevent subsequent contamination during the filling process, the containers are sealed immediately after filling. This seal must be hermetic to prevent adulteration and/or contamination; disposable tops are used for the seals. To seal the packaging, nitrogen is normally used to expel the air from the packaging. The tops must not be stored in the immediate vicinity of the filling machine. The tops are preferably decontaminated during the sealing process.

? The sealing machine must be cleaned and disinfected before use. In addition, random checks of the proper functioning of the machine should be made by inspecting the sealed containers. This inspection consists of checks during sealing and checking of the already sealed packaging for leakage.

3. Packing

? Each container must be labelled with the necessary legal information. As a minimum, this information consists of the name of the producer or packer, the name of the product, the contents and the best before date, as well as the production batch. The latter may be shown as an abbreviated code. The purpose of indicating the production batch is to be able to trace back any complaints and to implement a recall if necessary. Otherwise, separate listing of the production batch is not necessary if the best before date is shown in day/month/year format. If minerals are added, depending on the purpose of the addition (enrichment or restoration), legally stipulated information must be shown on the packaging to indicate this addition. This information must be added in a format that cannot be removed.

? The design of the container and the material used must have the following characteristics:

a) The container should have some impact resistance.
b) The dimensional characteristics of the neck of the container should remain.
c) The supplier of the containers should hold certificates of insurance for materials in contact with food and have a quality assurance system.
d) The colour of the container should not change over time.

? The cleaning instructions for the packaging should preferably also be present on the packaging, by way of a sticker for example. If required they can also be shown on a card

attached to the watercooler. Before the containers are delivered, they are randomly checked for the presence of all information.

VII. END PRODUCT

1. Storage

? Products must be stored under the correct conditions. The storage area should be enclosed and well ventilated, and must have enough space for effective storage and pest control programmes.

? The containers/bottles are usually quite cold and damp when they arrive from the production area. If they are stored in this condition, mould can form on the labels and boxes. Good ventilation in the form of a natural draught and/or forced air circulation is essential. Ideally the temperature should be kept at between 10°C and 20°C. The products must also be protected against frost.

2. Storage of water treated with ozone

? For water that has been treated with ozone, depending on the treatment process, a quarantine period of at least 8 hours should be observed in addition to the general regulations and guidelines. After this period the ozone content has fallen to less than 0.02 ppm.

3. Warehousing and stock control

? The storage area must be set up in such a way that good hygiene can be observed. For example, this means that there must be sufficiently wide walkways and that, as far as possible, all goods are stored on pallets. All due attention must be paid to keeping the store clean and tidy. Any breakages or damage must be cleared up as quickly as possible.

? The storage procedures operated in the storage area must be based on the principle of “first in, first out”.

VIII. CLEANING AND DISINFECTION OF COMPANY/MACHINES

1. Cleaning of company

? Work areas, storerooms and means of transport must be kept neat and tidy. In order to avoid all cleaning work being carried out at one time and/or certain areas not receiving sufficient attention, a cleaning schedule must be drawn up. It must clearly show which areas must be cleaned in what way, how often and by whom, and with what materials. Cleaning materials, such as cloths and brushes, must also be cleaned when finished.

? The proper application of the cleaning schedule must be periodically assessed. The items to be visually inspected can be included in a checklist based on the cleaning schedule. The result of the assessment must be recorded and discussed internally. If necessary the schedule must be adjusted (i.e. the frequency of certain areas can, for example, be reduced, while other areas receive more attention).

? Any new plant and equipment should receive very thorough cleaning prior to use to remove any residual grease, lubricant or solvent used in its manufacture. This may mean using a hot caustic wash.

2. Cleaning of machines

? Manual cleaning: In manual cleaning the machines, storage tanks, pipelines and other equipment are rinsed, cleaned and disinfected with water containing disinfectant. This should be done in the most conscientious manner possible and following suppliers' specifications.

? Cleaning in Place: In CIP cleaning storage tanks and pipelines are rinsed and disinfected by both ozone and water containing disinfectant. This should be done regularly, conscientiously and should follow any specifications given by suppliers.

Important parameters of both methods are:

a) The agent used and the accompanying solution concentration,
b) The temperature (recommended is at least 80°C),
c) The contact time,
d) The mechanical effect.

? It is important to check the final rinsing water for remnants of disinfectants and/or detergents. The effectiveness must be able to be assessed periodically by taking microbiological samples.

? Where small parts, e.g. filling nozzles etc., are sanitised separately from CIP, designated sinks or other equipment should be used which are not shared with tasks such as cleaning of labelling parts for the removal of glue.

IX. DISTRIBUTION

1. Movement of end product

? Packaged end products must be able to be moved without being damaged. Transportation must therefore take place in suitable, clean and covered means of transport. At all stages of delivery to the customer the watercooler and the water containers should be:

a) The watercooler should be properly and effectively wrapped with cling film to reduce risk of contamination. The containers should be securely stored in the vehicle.
b) Both should be kept clean and undamaged.
c) Both should be handled with care and in such a manner as to reduce/prevent damage to the wrapping of the cooler and the container itself.

2. Suitable means of transportation

? In all cases transportation must take place in suitable means of transport. It is important that the transport used is exclusively intended for food products. In addition, the nature of the previous load transported is of extreme importance if contamination (particularly microbiological) and the transfer of odours and/or tastes are to be prevented.

? Hauliers must be able to state the nature of the previous load. Clarify with hauliers the previous loads, which would make the means of transport unsuitable for transporting water. The means of transport must be thoroughly cleaned and disinfected; a certificate must be requested ("sterility declaration"). The means of transport should be sealed after cleaning and sterilisation. It is preferable to reseal the means of transportation after loading.

X. CLEANING AND DISINFECTION OF WATER COOLERS

Bottled watercoolers are freestanding units which may have refrigeration or heating and which dispense water from a returnable refillable container into a cup. Bottles are normally 22.7 litres, 18.9 litres or 11-litre size.

1. The design of the watercooler

The watercooler is the apparatus on which the bottle/container of water is placed, after which the consumer can draw off cold and/or hot water for consumption. Various types of water coolers are on the market. These types differ in their tap point, connection of the container and the reservoir. A number of important components are described below and see appendix 3 for a drawing of the various parts of the watercooler.

? Within the framework of HACCP it is important that the design of the watercooler is such that there is no additional risk of contamination and it can be easily cleaned. In all cases it must satisfy the EC machine directive.

? Watercooler design materials and construction must be in compliance with the relevant standards as amended from time to time. All water contact surfaces/ materials must be in compliance with the relevant legislation for food contact, ensuring that contamination does not take place. The Bayonet-and-Valve or any other closed reservoir system for water coolers, used in conjunction with the specified bottle caps, is the only approved system by which bottled water may be transferred from the bottle to the cooler reservoir.

? Distributors who supply cups should ensure that the material of construction meets the relevant legislation by the supplier providing a copy of a valid certificate of compliance for the product (cups).

? Where cups are supplied for use with hot water provided by coolers, these cups must be of such specification that will withstand the temperature of the water dispensed without excessive deformation, or danger to the consumer. Disposable drinking cups shall be supplied wrapped to protect them from risk of contamination and must be stored in a clean dry place until required for installation in the cup dispenser which should be fitted with a lid.

2. The connection

This is point at which the container of water is connected to the water cooler. The open container is then connected to the watercooler, which means that it is vulnerable to contamination from outside. For this reason all watercoolers are secured with a so-called bayonet system. Older types of watercoolers sometimes still have an “open” connection point where the container is in direct contact with the reservoir. Contamination can easily occur with these watercoolers:

a) Condensation on the container outside can be introduced into the cooler reservoir;
b) When changing the container (often the hand is held over the open container to prevent water spillage).

? These “open” watercoolers are strongly discouraged by EBWA.

3. The reservoir

There are three different types of watercooler, some have a fixed reservoir, some have a removable reusable reservoir and some have a removable disposable reservoir.

? This affects the cleaning of the machine, but should not cause problems in terms of hygiene quality. It is important that the fixed reservoir is easily accessible from outside and can be easily cleaned. An advantage of the removable reusable reservoir is that cleaning can

take place centrally rather than at the customer's premises. Both of the types described above have a rubber ring with the bayonet fitting. This ring ensures airtight sealing of the watercooler. Procedures should be in place to ensure proper cleaning of reservoirs.

4. The cold water/hot water tank

? Some watercoolers are fitted with both a cold water and a hot water tank. In both cases the temperature of the tank is important. The growth of micro-organisms is always strongly inhibited at temperatures below 7°C and above 65°C. In the case of the hot water tank in particular it is important that it is able to heat the water rapidly and to keep it up to temperature for an extended period of time. The throughput rate of the water is also important. The water is normally drawn off at 80°C.

5. The air filter

? As it is used, the water container empties and the water removed is replaced with air, otherwise a vacuum would be produced in the container. This air comes from outside and can thus lead to contamination. All watercoolers must therefore be fitted with a ?5 microns air filter.

6. The tap point

? The design of the tap point varies depending on the type and make of watercooler. It is important that these tap points can be properly cleaned. Possible contamination by the user must also be taken into account.

7. Cleaning and disinfection of watercoolers

The watercoolers form an important link in the chain of a sound end product: a cup of cold or hot water. Both the maintenance of the watercooler and its correct use by the consumer are of vital importance.

? The requirement to keep watercoolers clean and maintained in good repair and condition is satisfied by a programme of sanitisation. Cooler sanitisation is required at least on a 26-week schedule as an absolute minimum that is to say two times per year +/- 3 weeks. EBWA recommends increasing the sanitisation frequency to four times a year that is to say every 13 weeks +/- 3 weeks as good practice. The sanitisation frequency is subject to specific local conditions like the place of installation and the type of water used. The relevant National Associations of EBWA are free to impose a higher frequency if they so consider necessary. The timing from sanitisation to sanitisation shall be counted from when the cooler was last sanitised and not from the date it was delivered to the customer. All personnel undertaking sanitisation are required to conform to the requirements concerning personal hygiene and the use of proper procedures, equipment and materials.

CCP Watercoolers that are not cleaned, maintained and regularly sanitised can foster microbiological contamination especially in the reservoirs, tap points and pipelines.

? All Service Engineers must have a full understanding of the hygiene standards required at the watercooler location as detailed below, particularly where they are required to work within a watercooler loaded with a bottle of water. Upon completion of any electrical or mechanical maintenance to a watercooler it must be cleaned and sanitised in conformity with the requirements below. Personnel undertaking sanitisation should have appropriate training. They should undertake an industry approved hygiene awareness course within twelve months of appointment and be given appropriate training before commencing employment.

8. Cleaning and disinfection principles

In order to guarantee the quality of the drawn-off water, the watercooler must be cleaned and disinfected. Various methods are used within the watercooler sector, including the following:

a) Combined cleaning and disinfecting agent;
b) Separate cleaning and subsequent disinfection;
c) Disinfection using ozone.

? At least four times a year the watercooler must be thoroughly cleaned and disinfected. It is also advisable for the supplier of the container to clean the tap points each time that the container is changed. All traces of disinfectant must be removed before a new container can be connected.

? Within the sector it is usual for the customer to have a choice between a service package and carrying out the cleaning/disinfection himself. In view of the importance of a clean (microbiologically safe) watercooler, cleaning/disinfection of the watercooler by the supplier is strongly recommended. This is also preferable from the point of view of product liability.

9. Different types of watercoolers in relation to cleaning

Watercoolers with a fixed or reusable reservoir can be cleaned on the customer's premises or elsewhere. If it is done elsewhere, all the parts to be cleaned (including the tap points and the connection) are preferably taken back to the supplier. At the customer's premises the watercooler is fitted with new (cleaned) parts. This avoids any risk of rushing the cleaning due to pressure of time. In the case of watercoolers with a disposable reservoir, full consideration must be given to the other parts during cleaning.

? All chemicals used for cleaning, descaling and sanitising watercoolers should be:

a) Of approved material and concentration for food equipment use and bearing in mind the composition of materials within the cooler construction. Follow the cooler and chemical manufacturers recommendations.
b) Stored before use in a manner, which ensures that they are not contaminated.
c) Left in the cooler reservoir for the recommended time period bearing in mind the composition of materials within the cooler construction and to maximise disinfection.
d) Used according to the cooler and chemical manufacturers recommendations.
e) Drained out after disinfection and flushed to removes all traces from the cooler.
f) Only used once and disposed of in a manner consistent with their hazardous nature and following the chemical manufacturers recommendations.

10. Maintenance

? In addition to cleaning and disinfection of the watercooler, due attention must be paid to maintenance. Important components must be replaced in good time, therefore once annually during the cleaning procedure (2 to 4 times per year) the watercooler should bear a technical inspection on all technical parts. Here the air filter must be replaced to prevent the filter from contaminating the incoming air and thereby the water. Periodically all the rubber seals must be replaced. Through extended use and the action of disinfectants, microscopic cracks can occur in the rubber seals in which bacteria flourish. The hot water tank is descaled during annual inspection to prevent lime-scale from being introduced into the water.

11. Use by the consumer

The consumer too must use the watercooler in the correct manner. The supplier is responsible for training the consumer properly. Not only the location of the cooler (out of direct sunlight), but also the hygienic replacement of containers and keeping the tap point clean are important for a good end product.

? A distributor should provide each new customer with a leaflet explaining watercooler sanitisation and offering a service to carry it out. If the consumer is unwilling to bear the cost

of sanitisation, then the distributor should furnish the customer with instructions on how to sanitise the cooler. The date of the sanitisation should be recorded on a label/record card affixed to the cooler, or kept nearby so that the sanitisation record can be inspected and certified by a third party auditor. The name and telephone number of the distributor should be clearly displayed in a prominent position on every watercooler.

(An example of cleaning instructions is set out in Appendix 4, as well as instructions for the customer on how to use the water cooler (Appendix 5). Cleaning/disinfection and maintenance must be recorded for each water cooler. An example of this is also provided (Appendix 6). It is advisable to leave a record card of this type with the client.)

12. Location of Watercoolers on Client Premises

Watercoolers must not be located:

- ? In any area where the environment offers any risks of contamination of the water.
- ? Outside in the open air or in direct sunlight.
- ? In a dusty, unventilated, or humid environment.
- ? On an uneven or sloping surface or in or close to a lavatory.
- ? In damp areas, beneath leaking pipes or where water may collect underfoot.
- ? In a thoroughfare or fire escape route.
- ? In front of or within 20 cm of a heating radiator.
- ? Where the cooler supplier's staff may find access extremely difficult.
- ? Coolers should not be installed in premises with inadequate washing facilities.

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PART D: HACCP ANALYSIS

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I. MICROBIOLOGY OF BOTTLED WATER

1. Non-Mineral/Non-Spring Water

Applicable are the parameters from Annex I, part A of EU-Directive 98/83 on the quality of water for human consumption, which set out the following limits until 12 hours after bottling:

Escherichia coli	0/250 ml
Enterococci	0/250 ml
Pseudomonas aerruginosa	0/250 ml
Colony count at 22°C (72h)	? 100/ml
Colony count at 37°C (44h)	? 20/ml

2. Natural Mineral/Spring Water

Escherichis coli	0/250 ml at 37°/44,75°C
And other coliforms	
Faecal Streptococci	0/250 ml
Pseudomonas aerruginosa	0/250 ml
Sulphite reducing anaeroles	0/50 ml

Colony count at 20-22°C (72h) and 37°C (44h) to be done

II. CHEMICAL AND INDICATOR PARAMETERS OF BOTTLED WATER

Acrylamide	0,10 µg/l	Nickel	20 µg/l
Antimony	5,0 µg/l	Nitrate	50 mg/l
Arsenic	10 µg/l	Nitrite	0,50 mg/l
Benzene	1,0 µg/l	Pesticides	0,10 µg/l
Benzo(a)pyrene	0,010 µg/l	Pesticides – Total	0,50 µg/l
Boron	1,0 mg/l	Polycyclic aromatic hydrocarbons	Sum/concentration 0,10 µg/l
Bromate	10 µg/l	Selenium	10 µg/l
Cadmium	5,0 µg/l	Tetrachloroethene	Sum/concentration 10 µg/l
Chromium	50 µg/l	Trichloroethene	
Copper	2,0 mg/l	Trihalomethanes – Total	Sum/concentration 100 µg/l
Cyanide	50 µg/l	Vinyl chloride	0,50 µg/l
1,2-dichlorethane	3,0 µg/l		
Epichlorohydrin	0,10 µg/l		
Fluoride	1,5 mg/l		
Lead	10 µg/l		
Mercury	1,0 µg/l		

III. SUMMARY OF CCP-POINTS

After analysis of the microbiological, chemical and physical risks in the production process of water for watercoolers, the following points appear to involve potential risks:

1. Incoming goods	-> Chemical Contamination.
2. Water Treatment (reverse osmosis)	-> High Microbiological contamination.
3. Storage without Ozonisation or UV	-> High Microbiological growth.
4. Cleaning/Checking Packaging	-> Reuse of dirty returned containers.
5. Cleaning and disinfection of watercoolers	-> As everywhere, neglect bears risks

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IV. THE DECISION STRUCTURE FOR CCP RISKS

Is there a preventative measure for the risk? — Adapt process

Yes — No

Is checking necessary? — Yes

No — No CCP — Stop

Is this measure necessary to eliminate the risk or to reduce it to an acceptable level?

Yes — No

Can deviations occur outside specifications up to unacceptable level?

Yes — No — No CCP — Stop

Will a following stage eliminate or reduce the risk? — No

Yes — No CCP — Stop — CCP

V. HACCP SHEETS

HACCP-Sheet 1: Process Stage	Primary Production
HACCP-Sheet 2: Process Stage	Incoming Goods
HACCP-Sheet 3: Process Stage	Water Treatment
HACCP-Sheet 4: Process Stage	Packaging
HACCP-Sheet 5: Process Stage	Cleaning and Inspection of Packaging
HACCP-Sheet 6: Process Stage	Filling and Sealing of Packaging
HACCP-Sheet 7: Process Stage	End Product
HACCP-Sheet 8: Process Stage	Cleaning and Disinfection of Company/Machines
HACCP-Sheet 9: Process Stage	Distribution
HACCP-Sheet 10: Process Stage	Cleaning and Disinfection of Watercoolers

Process stage 1: PRIMARY PRODUCTION

Stage(s)	***Risks*** **Hazard(s)**	**Preventative measures**	***AP/CCP***	**Critical limit(s)**
Selection of Resource site and/or other water supply.	Contamination of the water from possible environmental pollution.	Good Selection. Hydrogeological and other Studies. Sampling of water.	***AP*** Selection of resource site and/or other water supply.	Critical limits are reached when the water can not be rendered safe by treatments.
Ground water (spring, well or other source)	Contamination of the water from possible environmental pollution and possible contamination during extraction and collection.	1) Limit access by humans/animals. 2) Build a suitable structure against all forms of contamination. 3) Disinfect wells/ equipment regularly.	***AP*** Extraction and collection of product water.	Critical limits are reached when the water can not be rendered safe by treatments.
Surface water	Contamination of the water from possible environmental pollution.	Check the assurances given by the relevant supply authority by own analysis.	**AP** Surface water collection.	Critical limits are reached when the water can not be rendered safe by treatments.
Tap water	Contamination of the water from possible environmental pollution.	Check the assurances given by the relevant supply authority by own analysis.	**AP** Use of tap water from public water supply.	Critical limits are reached when the water can not be rendered safe by treatments.

Process stage 2: INCOMING GOODS

Stage(s)	***Risks*** **Hazard(s)**	**Preventative measures**	***AP/CCP***	**Critical limit(s)**
Incoming water coolers	Contamination of the water cooler and possible defects	Compliance with EC machine directive standards	***AP*** water coolers	Internal standards, Machine directive standards
Incoming packaging	Does not meet legal or internal specifications	Define packaging specifications with supplier	***AP*** packaging	Internal standards
Bringing in natural mineral or spring water	Chemical and microbiological contamination (*)	Secure the water inlet point	***AP*** sampling point/ point of receipt	Those of EU-Directives 80/777/EEC and 96/70/EC.
Bringing in drinking water	Chemical and microbiological contamination (*)	Check Compliance with EU-Directive 98/83/EC.	***AP*** Water receiving point	Those of EU-Directives 80/778/EEC and 98/83/EC.

* Name specifically in own company

Stage(s)	***Risks*** **Hazard(s)**	**Preventative measures**	***AP/CCP***	**Critical limit(s)**
Bringing in water from own spring	*Chemical and microbiological contamination*	Compliance with internal specifications	***AP*** Point of receipt, water	Internal standards
Bringing in processing water	*Chemical and microbiological contamination*	Compliance with internal specifications	***AP*** Sampling point	Internal standards
Chemicals	*Chemical contamination*	Compliance with internal specifications	***CCP*** Chemicals	Internal standards

Process stage 3: WATER TREATMENT

Stage(s)	***Risks*** **Hazard(s)**	**Preventative measures**	***AP/CCP***	**Critical limit(s)**
Filtration and/or prefiltration	*Contamination of filters*	Maintenance of filters	***AP*** filter	Internal standards
Reverse osmosis (RO)	*Penetration of microorganisms*		***CCP***	
Mineral injection	*Incorrect dose*	Check dose and mix composition	***AP*** Mix composition, mineral dose	Internal specs., supplier specs., and act on the addition of micronutrients to Foodstuffs
	Microbiological contamination of injection equipment	Cleaning and dis-infection	***AP*** injector	Internal specs.

Stage(s)	***Risks*** **Hazard(s)**	**Preventative measures**	***AP/CCP***	**Critical limit(s)**
Storage under ozone/UV circulation	*Too high ozone concentration*	Regular monitoring	***AP*** Water	Internal standards
	Defective UV lamp	Preventative maintenance UV lamps	***AP*** UV lamp	Internal standards
Storage without ozone/UV circulation	*Microbiological contamination*	Regular monitoring	***CCP*** Water	Internal standards

Process stage 4: PACKAGING

Stage(s)	***Risks*** **Hazard(s)**	**Preventative measures**	***AP/CCP***	**Critical limit(s)**
Not applicable				

Process stage 5: CLEANING AND INSPECTION OF PACKAGING

Stage(s)	***Risks*** **Hazard(s)**	**Preventative measures**	***AP/CCP***	**Critical limit(s)**
Cleaning of containers	*Inadequately cleaned containers*	Automatic checking of temperature and cleaning agent	***AP*** Container	Internal standards and supplier specifications
Inspection of cleaned containers	*Inadequately cleaned or damaged containers*	Regular checking	***AP*** Container	Internal standards

Process stage 6: FILLING AND SEALING PACKAGING

Stage(s)	***Risks*** **Hazard(s)**	**Preventative measures**	***AP/CCP***	**Critical limit(s)**
Filling of containers	*Microbiological contamination*	Cleaning and dis-infection of filling machine	***AP*** Filling machine	Internal standards
Sealing containers	*Subsequent contamination*	Cleaning and dis-infection	***AP*** Sealing machine	Internal standards

Process stage 7: END PRODUCT

Stage(s)	***Risks*** **Hazard(s)**	**Preventative measures**	***AP/CCP***	**Critical limit(s)**
Not applicable				

Process stage 8: CLEANING AND DISINFECTION OF COMPANY/MACHINES

Stage(s)	***Risks*** **Hazard(s)**	**Preventative measures**	***AP/CCP***	**Critical limit(s)**
Cleaning company	*Contamination due to inadequate hygiene*	Observe/draw up internal hygiene schedule	***AP*** General hygiene	Internal standards
Cleaning machine	*Microbiological contamination as a result of poor hygiene*	Observe/draw up internal hygiene schedule	***AP*** Sampling schedule CIP conditions if available	Internal micro-biological standards

Process stage 9: DISTRIBUTION

Stage(s)	***Risks*** **Hazard(s)**	**Preventative measures**	***AP/CCP***	**Critical limit(s)**
Bulk movement	*Microbiological contamination, odour and taste transfer*	Sole use of means of transport exclusively intended for food transportation	***AP*** Freight trucks	Internal standards

Process stage 10: CLEANING AND DISINFECTION OF WATER COOLERS

Stage(s)	***Risks*** **Hazard(s)**	**Preventative measures**	***AP/CCP***	**Critical limit(s)**
Cleaning principles and dis-infection instructions	*Microbiological contamination due to inadequate hygiene*	Intensive cleaning and disinfection of the water cooler at least once a year	***AP*** Reservoir, pipe-lines and tap points	Internal standards
Maintenance	*Microbiological contamination due to inadequate hygiene*	Cleaning and disinfection of the water cooler	***AP*** Air filter, hot water tank, rubber seals	Internal standards
Use by consumer	*Microbiological contamination due to incorrect use*	Proper instruc-tions, maintenance and use	***AP*** Water cooler	Internal standards

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PART E: APPENDICES

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Appendix 1: INCOMING GOODS INSPECTION PLAN

Use this checklist and recording form to indicate that you have inspected the incoming goods.

Date	Time	Supplier	Goods/Product	Correct Yes/No	Initials

Appendix 2 INCOMING INSPECTION: FEEDBACK TO SUPPLIER

Supplier report

Within the framework of HACCP, the goods and produced delivered by you have undergone an incoming inspection. Among other things, this inspection looked at the overall condition of the goods or products, the packaging and the accompanying specifications.

It has appeared that the requirements relating to the following points have not been (fully) met:

? the required specification is missing

? the packaging is not in order, i.e.……..

? the goods or product exhibit the following shortfalls:…….

……

? ……

……

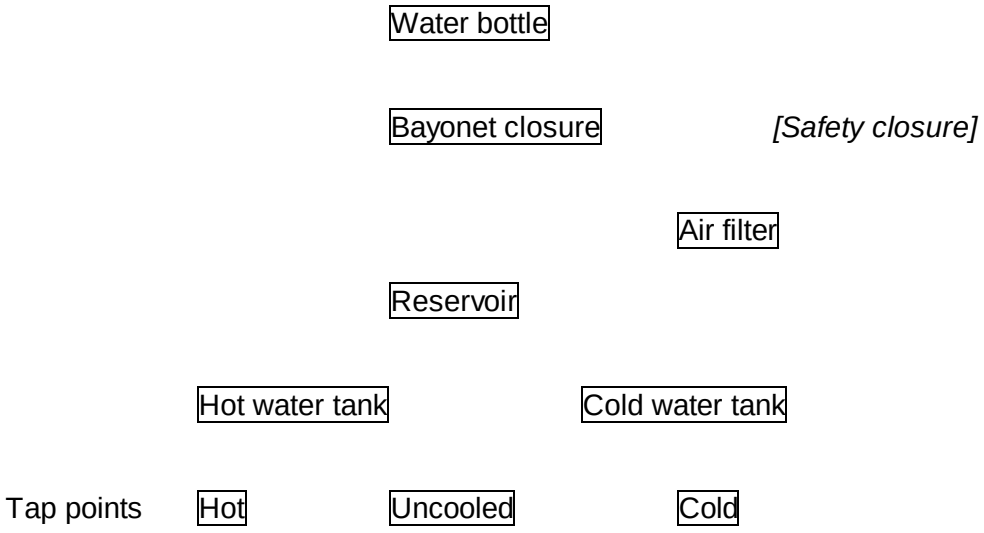
……

We look forward to your response as soon as possible.

Our fax number:

Appendix 3

WATER COOLER PLAN



Appendix 4 INSTRUCTIONS FOR SANITARY MAINTENANCE OF WATERCOOLER

1. First ask whether the watercooler is operating properly.
2. Pull the plug out of the socket.
3. Remove the bottle/container from the watercooler
4. Release the water cooler from the taps
5. Empty the reservoir / remove the watercooler
6. Remove the taps from the reservoir
7. Clean the bayonet closure
8. Wash your hands and put on gloves
9. Clean the reservoir/place the new reservoir in the watercooler
10. Clean the air filter and replace it if necessary
11. Reassemble the watercooler
12. Depending on the type of watercooler, rinse the cleaned reservoir with clean water
13. Clean the outside of the watercooler
14. Clean the drip tray

15. Insert the plug into the socket and check whether the watercooler is operating properly

16. Enter the work carried out into the maintenance chart

17. Fill in the cleaning coupon and have it signed by the client

18. Hand in replaced parts for inspection

Appendix 5 OPERATING INSTRUCTIONS FOR THE CONSUMER

1. Installing and starting to use the watercooler

? Place the watercooler at a central and accessible point
? Do not place the watercooler: in direct sunlight
in a dusty environment
in the vicinity of a dustbin, toilet or source of heat
? Remove the security seal from the top of the container
? Place the container upside down on the watercooler and lower it over the pin of the bayonet closure
? Check whether water is coming out of the taps
? The blue tap supplies chilled water
? The red tap supplies hot water
? The white tap supplies uncooled water
? Insert the plug into the socket
? The watercooler is ready to be used

2. Changing the container

? Change the container as soon as it is empty; this ensures that the water reservoir is not drained
? Remove the empty container
? Remove the safety seal from the top of the container
? Clean the bayonet fitting
? Place the container upside down on the water cooler and lower it over the pin of the bayonet fitting
? Check whether water is coming out of the taps

NB
In the case of glass containers: avoid jolts and when changing the container check for the presence of any glass splinters.

3. Maintaining and cleaning the watercooler

? Keep the outside of the watercooler clean
? Empty and clean the drip tray regularly
? Have the watercooler serviced at least once a year

Appendix 6. WATER COOLER MAINTENANCE RECORD

Name of customer:

Serial no:

Cooler type:

Date	Work carried out	Initials

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PART F: EBWA INSPECTION PLAN

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I. GUIDELINES FOR THE INSPECTION PLAN

§ 1: This Code of Practice does not preclude the right of National Associations to draw up their own Hygiene Code based on appropriate national law. National Associations in EU Member States can refer to Directive 93/43/EC article 5.1 as a legal basis for a national Code of Practice and National Associations outside the European Union, for whom European legislation does not apply, can refer to the appropriate national law. But this Code of Practice should serve as a framework Code of Practice for national hygiene codes insofar as appropriate regarding applicable national law.

§ 2: Implementation of the recommendations in the Code of Practice is a prerequisite of EBWA membership insofar as appropriate concerning different national legal requirements. Where there are considerable divergences in the appropriate national legislation, these should be reflected in a national Code of Practice approved by EBWA.

§ 3: The Code of Practice is intended as a reference for the European Bottled Watercooler Association, the European and national legislative and regulatory authorities, those national regulatory bodies charged with inspecting Food Safety and all other interested parties.

§ 4: The Code of Practice has not been drawn up to replace any legal regulations, but further supplements the legal regulations set out in the appropriate EU Directives. This Code of Practice is based on HACCP but it should be implemented and adapted individually by each company (see §§ 7, 8). The independent auditor charged by EBWA to carry out self-regulatory inspections will use the Code of Practice as a guideline during company inspections and will also pay attention to company-specific implementation.

§ 5: As according to Directive 93/43/EC, every watercooler company in the EU must identify each aspect of its activities, which has a decisive impact on the safety of the treated water. In order to achieve this an HACCP-Analysis must be carried out:

§ 6: Suitable safety procedures must then be drawn up, applied, implemented and repeated in order to guarantee the safety of the water treated in the company. In this respect, in accordance with article 3.1 of the Directive 93/43/EC, production and treatment are taken to mean the entire process of preparation, processing, handling, packaging, transport, distribution and sale.

§ 7: The hygiene code provides a general supplement to HACCP and helps in setting up an individual HACCP plan. In order to apply the Code of Practice correctly, the following stages should be observed by the watercooler Company:

1. The appointment of a person responsible for introducing the Code into the company;
2. Examining whether all the basic conditions in part B of this Code of Practice has been complied with and taking appropriate measures if found necessary;
3. Examining whether the processes described in part C of this Code of Practice corresponds with the working practices in the company;

4. Working out the indicated points of action for the company and setting them out in a documentation system;
5. The introduction of specifications, recording forms and instructions arising out of the action points;
6. The documentation of recordings, as well as the interpretation of these figures;
7. Any necessary adaptation of management measures.

§ 8: Water for watercoolers forms a coherent product group in which intrinsic product and process characteristics can be easily compared. Given this fact, the European Bottled Watercooler Association has chosen on the basis of this Code of Practice to develop an Inspection Plan to ensure certifiability of the Code of Practice.

§ 9: Each requirement marked in parts B and C by a "?" can receive "2 points" for full compliance, "1 point" for partial compliance and "0 points" for failure to comply. These points will then be added up for the final result. (Note: There is a certain overlap, with some requirements specified more than once. This signifies the importance of such requirements.)

§ 10: In addition, the critical points (CCPs) identified at 5 places in the process after carrying out the HACCP-Analysis, are mandatory requirements. Here, plus in some other cases, companies must have satisfactory procedures in place.

§ 11: Companies are judged to be in compliance with the EBWA Code of Practice, when they have achieved the following final scores:

a) Full EBWA member: 95% and 5 CCP's
b) New EBWA member: 80% and 5 CCP's

§ 12: The certification of compliance to the EBWA Code of Practice will be certified by an independent certification authority chosen by each National Association for its territory. Should no such independent certification authority be chosen by the appropriate National Association, EBWA will appoint such an authority for that territory.

§ 13: Only the certification of compliance to the EBWA Code of Practice will entitle a company to use the EBWA-logo on its stationary (not bottle labels).

II. INSPECTION PLAN FOR WATERCOOLER COMPANIES

PART B: GENERAL POINTS ON GOOD HYGIENE FOR WATERCOOLER COMPANIES		
Full Compliance	**Partial Compliance**	**Score**
Part B: I. Hygiene Management		
? Employees demonstrate responsible conduct.	One or two exceptions.	
? Aim is to create a cheerful and clean environment for the production of watercooler water.	Subjective opinion.	
? Employees observe good personal hygiene.	One or two exceptions.	
? Medical examination of employees.	One exception.	
? Personal grooming of employees.	One or two exceptions.	
? Smoking, eating, jewellery in production.	Only in cases with jewellery	
? Smaller wounds covered/Count of bandages	If bandages are not counted.	
? Misuse of water packaging.	One exception.	
? Visitors are informed about hygiene.	One exception.	
? All management responsibility.	No exceptions allowed	
= 20 points		xx/20
Part B: II. Training		
? Employees properly trained and supervised.	One or two exceptions.	
? Knowledge of managers and directors, motivation of employees.	One or two exceptions.	
? HACCP-course for production managers.	If there is only 1 person.	
? Hygiene awareness of employees.	One exception.	
? Staff training plan/Documentation	Faulty documentation	
= 10 points		xx/10
Part B: III. Design and Arrangement of Work Areas		
? Buildings and facilities in good state of repair.	Subjective opinion.	
? Easy to clean.	One or two exceptions.	
? Sufficient working space for cleaning.	One or two exceptions.	
? Security System in place.	If only for production area.	
? Grounds have a good drainage system and are free from waste.	One of the two not correct.	
? All openings are protected and maintained.	One or two exceptions.	
? The insides are well maintained, neat and tidy and there is no unprotected decoration work.	One or two exceptions.	
? Production hall design must facilitate proper cleaning and disinfection.	If a number of design faults make cleaning more difficult.	
? Production hall design must protect the product against contamination by foreign material.	Single design faults where contamination could occur.	
? Production hall design must prevent the occurrence of condensation and mould.	Even slight infractions incur a 1-point penalty.	

? Production hall design must prevent cross-contamination between/during production.	Even slight infractions incur a 1-point penalty.	
? Production hall design must provide good atmospheric conditions for hygienic production.	Even slight infractions incur a 1-point penalty.	
? Production hall design must provide washing facilities with hot and cold water.	If washing facilities miss hot water for instance.	
? Production hall design must be equipped with an effective ventilation system. (General)	Minor design faults incur a 1-point penalty.	
? Production hall design must be provided with satisfactory lighting.	If the state of repair of the lighting is faulty.	
? Production hall design must be equipped with an adequate drainage system.	Temporary blockages of drainage incur penalty.	
? Floors must be made of acid-resistant material and easy to clean.	Minor design faults incur a 1-point penalty.	
? Walls must be impenetrable to water and have a smooth, mould-resistant surface.	Even slight infractions incur a 1-point penalty.	
? Ceilings must be mould-resistant and washable.	Even slight infractions incur a 1-point penalty.	
? All doors: self-closing with a smooth, non-absorbent surface. Doors kept to a minimum.	Too many doors or wrong doors incur penalty.	
? All surfaces must be resistant to universal cleaning agents and mould.	Minor design faults incur a 1-point penalty.	
? Windows are properly provided with screens or must not be able to be opened if forced.	Minor design faults incur a 1-point penalty.	
? Lighting in the production areas must have a protective casing.	Minor design faults incur a 1-point penalty.	
? Other fittings such as stairs, steps, platforms etc. must be hygienically designed.	Minor design faults incur a 1-point penalty.	
? Hygiene in processing establishment areas like the loading dock etc. presents no dangers.	Minor design faults incur a 1-point penalty.	
? Ventilation minimises airborne contamination.	Slight infractions incur point.	
? Ventilation controls ambient temperature.	Slight infractions incur point.	
? Ventilation controls odours.	Slight infractions incur point.	
? Ventilation controls humidity.	Slight infractions incur point.	
? Storage facilities permit adequate maintenance and cleaning.	Minor design faults incur a 1-point penalty.	
? Storage facilities avoid pest access and harborage.	Minor design faults incur a 1-point penalty.	
? Storage facilities effectively protect product water from contamination during storage.	Minor design faults incur a 1-point penalty.	
? Storage facilities minimise the deterioration of product water by temperature, light, humidity.	Minor design faults incur a 1-point penalty.	
? Separate, secure storage facilities for cleaning materials and hazardous substances.	Minor design faults incur a 1-point penalty.	
= 70 points		xx/70
Part B: IV. Effective Control System		
? Buildings and all kinds of equipment must be well maintained.	See list in CoP, if there is at least one serious problem.	
? Selection of paint used.	Flaking, or wrong paint.	
? Cleaning and Disinfection Program in place.	If there are flaws in program.	

? Manual cleaning with suitable procedure.	If there are flaws in practice.	
? Cleaning in place with suitable procedure.	If there are flaws in practice.	
? Adequate cleaning equipment provided.	No staff tooth brushes used.	
? Production equipment should have a high standard of maintenance.	Minor faults incur a 1-point penalty and major faults incur a 2-point penalty.	
? Good design of production equipment.		
? Equipment should be durable and movable.		
? Equipment designed to maintain output.		
? Equipment designed to allow monitoring.		
? Lubricants have no adverse effect on water.		
? Waste containers identifiable and lockable.		
? No parts that cannot be reached by CIP.		
? Requirements for pipeline design.		
? Requirements for Dedicated Water Lines.		
? Requirements for Non-dedicated Water Lines.		
? Storage and mixing tanks are equipped with internal spray heads.		
? Pumps and control taps have a smooth internal surface without cracks etc.		
? All traces of sanitiser must be removed prior to equipment returning to service.		
? Written procedures that state the person responsible, work progress and results.	No exceptions allowed.	
? Preventing pests from entering the building.	Minor infractions.	
? Eliminating any hiding places for pests.	Minor infractions.	
? Preventing pests from obtaining food.	Minor infractions.	
? Eradicating all pests from the building.	Minor infractions.	
? **All control systems regularly evaluated.**	No exceptions allowed.	
= 52 points		xx/52
Part B: V. Data Recording, Recall Procedures and Labelling		
? Keeping of production and quality records.	No exceptions allowed.	
? Marking of each container (producer/lot).	No exceptions allowed.	
? Procedures for complaints and recalls.	No exceptions allowed.	
? Complaints and recalls to be dealt with asap.	No exceptions allowed.	
? All products bear adequate information.	No exceptions allowed.	
? Batch number/best before date on container.	No exceptions allowed.	
= 12 points		xx/12
+ 6 points for innovative ideas concerning general requirements.		xx/6
Total Part B: = 170 points		**xx/170**

PART C: PROCESS DESCRIPTION PRODUCTION OF WATER FOR WATERCOOLERS		
Full Compliance	**Partial Compliance**	**Score**
Part C: I. Primary Production		
? Requirements of EU-Directives 80/777/EEC and 96/70/EC are met for springs/wells or sources for spring and natural mineral water.	No exceptions allowed.	
? Requirements of EU-Directive 98/83/EC are met for springs/wells or sources for regular drinking water.	No exceptions allowed.	
? Requirements of EU-Directive 98/83/EC are met for water from public water supply.	No exceptions allowed.	
? Comprehensive analysis twice a year by an independent laboratory for spring or natural mineral water.	No exceptions allowed.	
? Further to above analysis periodic analysis and sampling of all product water.	Constant sampling – 1 point. Constant analysis – 2 points.	
? All possible precaution should be taken against contamination of source perimeter.	No exceptions allowed.	
? Regular testing for constancy.	No exceptions allowed.	
? Stringency in selecting surface waters.	No exceptions allowed.	
? Constant sampling practice.	No exceptions allowed.	
? Procedure for sampling analysis.	No exceptions allowed.	
? Hygienic extraction, collection or tapping.	No exceptions allowed.	
? Suitable structure limits access to and protects the wellhead/source.	No exceptions allowed.	
? Hygienic methods and procedures for extraction, collection and tapping facilities.	Minor infractions incur a 1-point penalty.	
? Hygienic storage and transport of product water from source to production site.	Minor infractions incur a 1-point penalty.	
? Conveyances and bulk containers should be kept clean and in good repair.	Minor infractions incur a 1-point penalty.	
= 30 points		xx/30
Part C: II. Incoming Goods		
? All chemicals must be approved and suitable.	CCP-No exception allowed.	
? All packages must be approved and suitable.	Minor infractions.	
? Process water fulfils standards of 98/83/EC.	No exceptions allowed.	
? Process water is separate from product water.	No exceptions allowed.	
? Watercoolers must be safe and suitable.	Suppliers responsibility.	
? Watercoolers must pass a visual inspection.	No exceptions allowed.	
? To control product water hazards operators shall identify any operations critical to safety.	Slight problems with procedure incur a 1-point penalty.	
? Implementation of control procedures at those operations (above).	Slight problems with procedure incur a 1-point penalty.	
? Monitoring of control procedures.	Slight procedural problems.	

? Periodic review of control procedure.	Slight procedural problems.	
? Perform required regulatory testing at frequency specified.	No exceptions allowed.	
? Water from drinking water systems should meet all public drinking water standards.	No exception allowed.	
? Stringency in choosing water supply.	No exceptions allowed.	
? HACCP-Analysis to determine the need for which kinds of treatment.	No exceptions allowed.	
= 28 points		xx/28
Part C: III. Water Treatment		
? Water is treated when necessary.	No exceptions allowed.	
? Water is treated both for chemicals and microorganisms where necessary.	No exceptions allowed.	
? All treatments shall be carried out under controlled conditions.	Slight procedural problems incur a 1-point penalty.	
? Temperature: all critical heating steps to be identified and listed in writing.	Slight procedural problems incur a 1-point penalty.	
? Temperature: Specification of steps on paper (tolerances for time and temperature).	Slight procedural problems incur a 1-point penalty.	
? Temperature: Control procedures to be established and listed on paper.	Slight procedural problems incur a 1-point penalty.	
? Temperature: Recording system for control results in place.	Slight procedural problems incur a 1-point penalty.	
? Temperature: Regular checks on control devices should be carried out.	Slight procedural problems incur a 1-point penalty.	
? Iron removal: Appropriate equipment and procedure, run performance records.	Slight procedural problems incur a 1-point penalty.	
? Filtration: Appropriate equipment and procedure, run performance records.	Slight procedural problems incur a 1-point penalty.	
? Rapid Filtration: Approved hygienic medium and medium regeneration operation in place.	Slight procedural problems incur a 1-point penalty.	
? Membrane Filtration: Filter sizes used are 1 micron or 0.5 micron.	Slight procedural problems incur a 1-point penalty.	
? Activated Carbon Filtration: Prompt regeneration and/or replacement of filters.	Slight procedural problems incur a 1-point penalty.	
? Softening: Appropriate equipment and procedure, run performance records.	Slight procedural problems incur a 1-point penalty.	
? Reverse Osmosis: Monitoring of temperature and pH of the water passing through.	CCP-Risk of membrane rupture or contamination, therefore no exceptions to good operations are allowed.	
? Reverse Osmosis: Appropriate equipment and procedure, run performance records.		
? Mineral Injection: Correct quantities injected and microbiology and oxidisation checked.	Slight procedural problems incur a 1-point penalty.	
? Mineral Injection: Appropriate equipment and procedure, run performance records.	Slight procedural problems incur a 1-point penalty.	
? Storage under ozone/UV: Appropriate equipment and procedure, run performance records.	Slight procedural problems incur a 1-point penalty.	
? Ozonisation: Adjustments to the concentration of ozone and regular monitoring of ozone content and microbiological condition in place.	Slight procedural problems incur a 1-point penalty.	

? Ozonisation: Appropriate equipment and procedure, run performance records.	Slight procedural problems incur a 1-point penalty.	
? Ultraviolet Light: Periodic checking on the lamp operation hours.	Slight procedural problems incur a 1-point penalty.	
? Ultraviolet Light: Appropriate equipment and procedure, run performance records.	Slight procedural problems incur a 1-point penalty.	
? Storage without ozone/UV: Storage period as short as possible.	Slight procedural problems incur a 1-point penalty.	
= 48 points		xx/48
Part C: IV. Packaging		
? Protection of stored containers from heat, dust, pests and chemicals. All containers must be washed before filling.	Only problems with storage incur a 1-point penalty. If containers are not washed before filling company will under no circumstance receive certification.	
? Closures stored in a clean dry place and protected against heat, dust, pests and chemicals.		
= 4 points		x/4
Part C: V. Cleaning and Inspection of Packaging		
? Visual inspection of refillable containers.	Three exceptions per/day.	
? No container with broken bayonet fitting used.	Three exceptions per/day.	
? Container washing machine program phases: prerinsing, treating with cleaning agent, rinsing, treating with disinfectant, final rinsing.	CCP-Risk of container contamination, therefore no exceptions to good practice are allowed. If the procedure for washing containers before filling is not satisfactory the company will under no circumstance receive certification by EBWA.	
? In the final rinsing all remnants of cleaning agents are removed.		
? Container washing: Check correct cleaning agent temperature and concentration.		
? Container washing: Regular microbiological/ chemical checks for containers after washing.		
? Containers coming out must be visually checked, if still containing fluid are washed again.		
= 14 points		xx/14
Part C: VI. Filling and Sealing Packaging		
? The filling machine must be kept clean and contact prints should be made.	Slight procedural problems incur a 1-point penalty.	
? Containers sealed immediately after filling.	Slight procedural problems.	
? Cleaning/disinfection of sealing machine before use and visual inspection of containers.	Slight procedural problems incur a 1-point penalty.	
? Proper labelling of container.	Slight procedural problems.	
? Cleaning instructions for container attached.	Slight procedural problems.	
= 10 points		xx/10

Part C: VII. End Product		
? Products stored under correct conditions.	Slight procedural problems.	
? Storage temperature at 10°C-20°C.	Slight procedural problems.	
? 8h quarantine for water treated with ozone.	Slight procedural problems.	
? Good warehousing and stock control.	Slight procedural problems.	
? Principle of “first in, first out”.	Slight procedural problems.	
= 10 points		xx/10
Part C: VIII. Cleaning and Disinfection of Company/Machines		
? Cleaning schedule in place.	Slight procedural problems.	
? Periodic assessment of cleaning schedule.	Slight procedural problems.	
? Prior to use cleaning of new plant/equipment.	Slight procedural problems.	
? Manual cleaning done properly every time.	Slight procedural problems.	
? Cleaning in place to be done properly.	Slight procedural problems.	
? Check final rinsing water for remnants of detergents and/or disinfectants.	Slight procedural problems incur a 1-point penalty.	
? Separate CIP for small technical parts.	Slight procedural problems.	
= 14 points		xx/14
Part C: IX. Distribution		
? Transportation of watercoolers and of product water (containers) should keep both clean and undamaged through secure storing.	No exceptions allowed.	
? Bulk movement to final filling site should preferably be by pipeline.	If one of the following two points is OK, no reductions.	
? Transportation in suitable means of transport.	Not own transport minus 1.	
? Hauliers must state previous load; if unsafe for water cleaning and disinfection before use.	If outside hauliers are used, no exceptions are allowed.	
= 8 points		xx/8
Part C: X. Cleaning and Disinfection of Watercoolers		
? Design of the watercooler is satisfactory.		
? Closed reservoir system used.		
? Cups comply with the relevant legislation.		
? Cups shall be supplied wrapped until instal-lation. Cup dispenser has a lid.		
? No coolers with “open” connection point used.		
? Reservoirs easily cleaned and accessible.		
? Hot water tank should heat water rapidly and be able to keep that temperature constant.		
? All coolers fitted with correct air filter.		
? Tap points cleanable and properly designed.		
? Watercooler sanitisation is required on a 13-week schedule (four times a year).	2 times a year = 1 point.	
? Service engineers fully trained.		
? Cleaning of tap points each container-change.		

? Cleaning of cooler by clients is not the norm.		
? Proper use and storage of chemicals used for cleaning and sanitising cooler.		
? All watercoolers should have a technical service performed on them once a year.		
? Sanitisation information supplied to consumer when not by company itself.		
? Location of coolers: Not in an area of environmental risks.		
? Location of coolers: Not in open air or direct sunlight.		
? Location of coolers: Not in a dusty, unventilated or humid environment.		
? Location of coolers: Not on an uneven or sloping surface or close to a lavatory.		
? Location of coolers: Not in damp areas, beneath leaking pipes or where water may collect.		
? Location of coolers: Not in a thoroughfare or fire escape route.		
? Location of coolers: Not in front of or within 20 cm from a radiator.		
? Location of coolers: Not where service engineers find access extremely difficult.		
? Location of coolers: Not on premises with inadequate washing facilities.		
= 50 points		xx/50
+ 14 points for innovative ideas concerning watercooler operations.		xx/14
Total Part C: = 230 points		**xx/230**

TOTAL RESULTS		
Total of inspection of Part B requirements.	170 possible	170
	Minus not applicable	xx
	Minus failures	xx
	Total Part B	**xx**
Total of inspection of Part C requirements.	230 possible	230
	Minus not applicable	xx
	Minus failures	xx
	Total Part C	**xx**
Combined Results	**Total**	**xx**