



MEFE
MITCHELL ENGINEERING
FOOD EQUIPMENT PTY LTD

Instruction Manual



Spray Knife Steriliser Wash, Rinse, and Sterilise

CAT 6810W

Revision 3

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1. Important Notes

1.1 Explanation of Pictograms



Danger!

Threat to human life and health



Warning!

Possible damage to the machine



Tip!

Draws attention to the use, e.g. during start up and other useful information.



Accessories Sterilisation



Pressure Washing



Warning!

Warning of electric shock



1.2 General Remarks

Before beginning operations related to installation, cleaning, maintenance and repair of CAT 6810W read this operation manual thoroughly in order to become familiar with all requirements and characteristics when handling this unit.

The CAT 6810W is designed to solely sterilize knives with hot water at about 83°C. It is purpose-designed for commercial use in all hygienic and sanitary areas in the food processing industry.

It is not suitable to heat liquids for food manufacture and/or to prepare food. Any other or improper use is not regarded as being in accordance with the intended purpose of application. We do not take any liability for damages resulting thereof!

Compliance with the information and recommendations contained in this document, safety rules and instructions for start-up and any other instruction is necessary in order to avoid hazards and damage. It is required that all work related to transportation, assembly, installation (connection to water and sewage networks), commissioning, cleaning, maintenance and repairs be performed by qualified personnel with the appropriate permissions. Qualified personnel are persons who, because of their education, experience and training as well as knowledge of relevant standards, accident prevention regulations and operating conditions are authorised to perform the tasks required for mobilisation of equipment hygiene.

In carrying out the above mentioned operations should be observed first of all technical data and information about permissible use, assembly, connected, ambient conditions and operation described in the product documentation.

In order to avoid malfunctions, the recommended maintenance and inspections should be performed by trained personnel.

1. Important Notes Continued



1.3 Transportation and storage

Warning: It is prohibited to install and run devices damaged.
If in doubt, contact details are located at the bottom of every page.

During transportation device should be prevented from slipping, falling over, strong shocks and other mechanical damage.

Before installing and operating the device should be stored in a closed, dry place. It should also be placed in these conditions when not mounted or in use.

2. Spray Knife Steriliser

2.1 Technical Details

Cold water supply connection: 1/2"

Water discharge spout: 25mm

Maximum water temperature: 90°C

Starting: By button press

Sterilisation method: Water at about 83°C or disinfectant liquid

Security level: IP 44

Length (mm)	Width (mm)	Height (mm)	Weight (kg)
210	210	290	4.5

2.2 Intended Use



The steriliser is intended to sterilise knives with hot water at about 83°C

2.3 Design

The construction of the steriliser is shown in figure 1 at end of appendix.

Steriliser is made of the outside housing, inside chamber, mountings made of stainless steel 1.4301 and material cage for placing knives, button starting, water discharge / liquid by nozzles, nozzles, supply pipe / disinfection liquid.

2.4 Installation



Steriliser should be installed as per site's separate technological design.



The device must be installed in place to provide a stable position for performing sterilisation of knives. Device can be mounted on the wall.

***Mounting should guarantee the safe operation of the device.**

To install the steriliser:

- Determine the mounting points of the steriliser.
- Select appropriate mounting pegs depending on wall type (recommended mounting height is 850mm from floor level).
- Connection of the water system (flow is recommended to use a check valve and globe valve with filter).
- Connection to the sewage system.

2. Spray Knife Steriliser Continued

2.5 Operation

Sterilization steps:

- Washed knives put in the special holes of material cage.
- Check connection water and sewage system.
- Push the button there will be tap of hot water / disinfectant liquid by nozzles placing knives in the device, spray / liquid duration is 8 - 10 seconds.
- After sterilization remove knives from the device.

2.6 Cleaning and Maintenance



2.6.1 Cleaning

As the device is not watertight, it is forbidden to wash using pressure devices. **DO NOT:**

- Use chloric detergents for washing the device

Detailed rules for stainless steel cleaning and maintenance have been attached to this OMM (see appendix).

2.6.2 Maintenance

Each time after cleaning the device, check all metal parts in terms of their functioning, material wear and tear as well as device tightness. Repairs and maintenance inspections may be performed only by one trained and authorised person. To adjust the spray duration, turn the screw located in the hole of the push button with a 1.27mm hex key.

2.7 Note



Keep the steriliser clean. Water and dirty knives can contain sediments so periodically checking the device is a must. Sterilisation is possible using appropriate disinfection liquids (prepare the knives for disinfection). It should be connected to disinfection liquid (under pressure min. 0.5 bar) in water connection place.

3. Adjusting Spray time

located on the front of the unit there is a button, on this button there is a hole. This hole is to adjust the spray timing, you will need a 1.27mm hex key. Insert the hex key into the hole and turn left for a longer spray and right for a shorter spray. The time of the spray can be adjusted from 1 second to 2 minutes.

4. OHS Rules

General Industrial Safety regulations apply. Before cleaning is it absolutely required to read data sheets of products applied for cleaning and follow manufacturers guidelines. It is necessary to use Personal Protective Equipment, ensure adequate ventilation and pay attention to fire hazards.

5. Utilisation

The device must be disposed of according to its properties and applicable local regulations.

6. Final Remarks

The manufacturer reserves the right to any construction changes.

7. Appendix

Stainless Steel Maintenance and cleaning

Introduction

The steriliser is made of 304-grade stainless steel. 304 grade stainless steel is austenitic chrome-nickel low carbon steel. It is used in food and chemical industry equipment, etc, This steel is corrosion-resistant in the atmospheric environment, natural water, alkali solutions and some organic and inorganic acids.

Chemical composition of 304 Grade stainless steel:

C	Si	Mn	P	S	N	Cr	Ni
<0.03%	<1.0%	<2.0%	<0.045%	<0.015%	<0.011%	18.0—20.0%	10.0—12.0%

Passive layer

In stainless steels, oxygen reacts with chrome atoms contained in steel. Chrome atoms and oxygen form a layer of chromium oxide which provides a natural protection against corrosion factors, The above phenomenon is called a surface passivation reaction, hence the resulting protective layer is referred to as a passive later.

Corrosion

Although, the passive layer is formed on stainless steel surfaces, there are cases when it corrodes due to the following conditions:

- Influence of hydrochloric acid and chlorine;
- No ongoing maintenance which leads to the formation of strong acid solutions on steel walls (water evaporates and an acid solution remains);
- An environment more aggressive than steel provided for it;
- Contamination during installation and manufacture (lime, cement, foreign metallic inclusions as a result of using angle grinders nearby or unsuitable assembly tools);
- Contact with normal carbon steel (scratching with black steel during transportation or storage);
- Insufficient room ventilation or even their absence in aggressive environments (there must always be an air flow in ventilation ducts).

6. Appendix Continued.

Corrosion Continued

Symptoms of stainless steel corrosion are different. One can notice that corrosion appears usually on various types of internal (non-metallic inclusions, separations, deformations) and external (edges, scratches, dents, residues of scale, sediments etc.) surfaces, while smooth and homogenous surfaces are much more resistant to corrosion.

Therefore, it is necessary to ensure proper pickling and passivation of a surface. The mechanism of destruction and the type of corrosion depend on a specific environment and steel affected by it. The following types of corrosion may occur depending on the environment and stainless steel:

Surface (uniform); Pitting; Intergranular; Stress; Crevice;

Pitting corrosion is the most frequently occurring corrosion caused by inappropriate stainless steel maintenance, more specifically due to the use of chlorinated cleaning agents.

Pitting corrosion is a form of localised environmental attack leading to local losses (pits) in material. It is caused by the influence of galvanic cells formed between a passivated steel surface and clearly localised non-passivation areas laying on it. Oxygen or oxidising substances in a cathodic cell areas (passivated) are required for pitting corrosion to occur. If they are absent, cathodic areas polarize and the cell stops functioning.

Solutions which cause pitting corrosion of stainless steels most frequently are chlorine solutions. For this type of corrosion, condition of a steel surface is very important. The smoother and cleaner the surface, the smaller the intensity of the said corrosion.

A quality assessment of the effects of this type corrosion is difficult since damage can be very serious at a minor weight loss, It is assumed that an average number of pits per area unit and their greatest depth can serve as some indicators.

Cleaning stainless steel

When using stainless steel furniture and equipment, a later of chromium oxide present on the steel surface must be taken care of. Compounds used in food industry which disturb the passive later (chromium oxide) include compounds containing chlorides – salt, disinfectants and acids (water from sauerkraut, cucumbers, acid juices, vinegar, etc.). Water is the most effective neutraliser of chlorides and weak acids.

Of course each material requires to be kept clean. Stainless steel is not an exception to this rule and each user must be aware that regular cleaning and maintenance of stainless products is required.

Cleaning should remove dirt and sediments, which left for too long on a stainless steel surface may initiate corrosion and tarnishing of the surface. In a highly contaminated or aggressive environment (seaside towns, rooms of increased humidity and temperature, rooms requiring frequent use of disinfectants, in particular containing chloride compounds), cleaning should be done more frequently. The frequency of cleaning should be should be empirically determined.

In order to prevent a surface of stainless steel equipment from being destroyed due to inappropriate maintenance, the following guidelines should be complied with:

- The following should not be used: agents containing chlorides and bleach or – under no circumstances – silver cleaners.
- Steel wool, sand paper, rough cleaners, scouring, grinding and polishing powders, etc. shall not be used as they scratch the surface.
- Steel pads for scouring or wire brushes shall not be used – they can leave sediments of carbon steel on the surface which will eventually lead to material rusting.
- First discolouration and dusts appearing during material use can be removed with a regular piece of cloth, chamois leather or a nylon sponge in case of higher contaminations.

6. Appendix Continued.

Cleaning stainless steel Continued.

- If iron particles generated during installation, etc. appear on stainless steel components, they should be immediately removed, Such particles corrode, thus they can break the passive layer protecting stainless steel, leading to corrosion as a result, Such sediments should be removed mechanically or with stainless steel cleaning agents.
- If there are pits on a component, they should be pickled with acid or removed mechanically.
- Local discolouration, grease marks, if small, they can be removed with soap water.
- Products for cleaning stainless steel and alcohol based preparations can be used for cleaning 0 they do not pose a threat to the corrosion properties of stainless steel.
- After cleaning, it is always recommended to polish the surface with a dry piece of cloth.

The table below presents the most frequent types of contaminations and methods of handling:

Contamination	Cleaner
Finger marks	Water with soap and detergent Glass cleaning agents without chlorides
Lime sediment	Vinegar-water solution
Oils and greases	Alcohol-based agents (only with methyl alcohol, isopropyl alcohol) Solvents, e.g. acetone
Paints	Agents for removing paint coating, based on alkaline compounds or solvents
Cement and mortar	Solvent containing a small amount of phosphoric acid, then water
Iron particles - from tools and after contact with structural steel	At an early stage - mechanically If pits appear - with pickling and passivating pastes

The frequency of cleaning components made of stainless steel is individual – it all depends on the degree of wear and contamination. It should be done in such intervals so as to reduce the risk of stainless steel component rusting. The frequency of cleaning stainless steel devices is analogous to the frequency of cleaning household sinks, stainless steel.

6. Appendix Continued.

Figure 1

