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VSA

Science and Veterinary Technologies
Department for Food Safety

Milan, 6 September 2014

Subject: Cleaning and Efficiency System Test

20th April 2014, on your demand we've tested your steam system, the so called "Steam cleaner in continuous 24/24 hours mod. 3500 (C35)", measuring the machine's efficiency in the removal of agents that can cause disease or infection such as germs, viruses and bacteria.

Microorganisms have been used on surfaces made of steel, dropping on the whole dirty area protein-rich and fat organic liquids (milk), and counting the bacteria before and after the operation. Among all the strongest and most resisting, five different kinds of bacteria were chosen for this test:

1. *Escherichia coli*
2. *Staphylococcus aureus*
3. *Pseudomonas aeruginosa*
4. *Bacillus cereus*
5. *Saccaromices cerevisiae*

For every kind of bacteria we've prepared two separated areas of 50x50cm each, the first filled with distilled water, the second with milk. Then each kind of bacteria has been soaked in both substances. Later the personnel from SIEL removed the dirt in every single area using the steam system over cited and then vacuumed.

No chemicals were used throughout the test.

After this we've counted again the remaining bacteria.

Here are the results:

Type of Bacteria	In the Water		In the Milk	
	Before	After	Before	After
<i>E. coli</i>	2312	0	1366	0
<i>S. aureus</i>	1515	0	1582	2
<i>P. aeruginosa</i>	2312	0	2187	0
<i>B. cereus</i>	1221	1	1256	0
<i>S. cerevisiae</i>	2267	0	1958	1

The test was successful and as we can read from the table above this kind of steam and vacuum system is completely safe and can be used in food supply areas.

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Referring to public health, especially general hygiene and the removal of waste and dirt, the test of the steam and vacuum cleaner mod. 3500 (C35) was completely successful.

We've prepared two different kinds of surfaces, and filled up the first one with distilled water and the another one with milk, and then dropping microorganisms into both liquids.

The bacteria in the liquids were 2000 times more numerous of those we can usually find in an average dirty place.

The steam cleans with a temperature of 164°C and then the machine vacuums leaving the surface entirely free from dirt or impurities.

The machine's efficiency test ended up with the following results:

Type of Bacteria	In the Water		In the Milk	
	Number of Bacteria	Number of Bacteria	Number of Bacteria	Number of Bacteria
	Before	After	Before	After
E. coli	2312	0	1366	0
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Mod. 3500 meets all the standards required on the European sanitarian norms D.L. 155/97 H.A.C.C.P. (Hazard Analysis Critical Control Point) and can be used in areas and places where meals are cooked and served, and in food production as well for disinfection those areas, as required by above mentioned regulation.