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Translation from Bulgarian

**MINISTRY OF HEALTH
NATIONAL CENTRE OF INFECTIOUS AND PARASITIC DISEASES
WHO COLLABORATING CENTRE
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PROTOCOL

From testing №4/31.08.2011

LABORATORY OF DISINFECTION, STERILIZATION AND BIOINDICATORS

1. Name of the product for testing

"Eco- Svezhest"05 – flow-through system for fresh air

2. Applicant for the testing

"MMotors" Ad

3 "Malak Iskar" str

Etropole

3. Method of testing

Testing of sterilization and disinfection installations. Code 6.009

/in compliance with Order № 332 of 25.07.2006 for paid services, performed by NCIPD/

4. Date of receiving the authorization letter

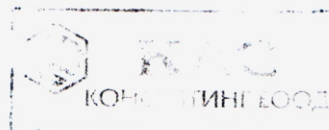
12.05.2011

5. Date of performing the testing

04.07.2011 – 26.08.2011

6. Description of the product being tested:

"Eco- Svezhest"05 – flow-through system is intended for providing fresh air inside premises. It is equipped with a system with a hydrostat, a filter with active charcoal and a heater. The system is designed for local ventilation of residential, public and administrative premises, as well as for non-surgical (with low or without special requirements for air quality) rooms in medical healthcare institutions and hospitals.



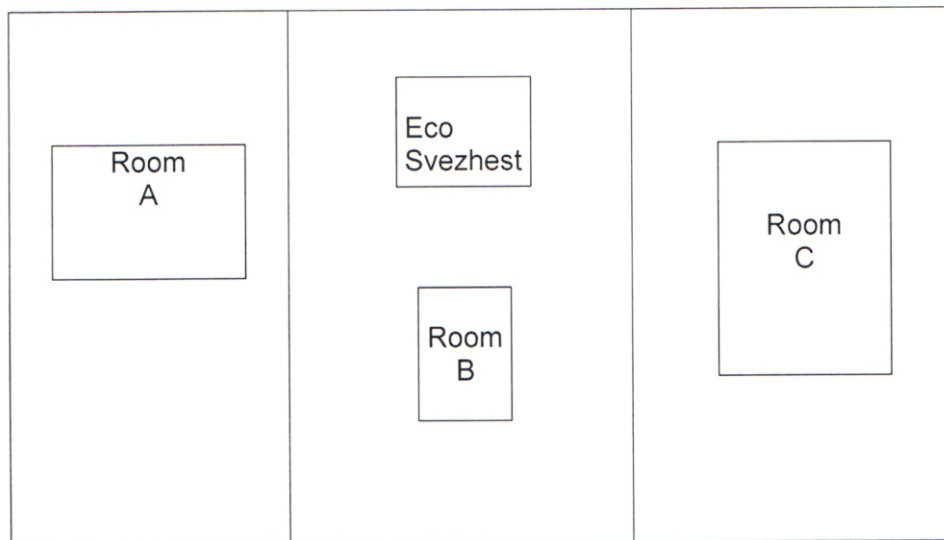
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7. Description of the test:

7.1. General terms

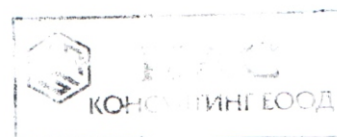
The testing of flow-through system "Eco-Svezhest"05 was performed in accordance with Instruction №3 of the Ministry of Healthcare of 02.09.1998. The system "Eco-Svezhest"05 was installed on 24.06.2011 in a trial room (B) of the laboratory "Disinfection, sterilization and bio indicators" at NCIPD, by technicians of the Contractor. Room (B) was connected by a door with two more rooms (A and C), as the total area of the three rooms is 24 m² and the volume is 85 m³. Room (B) is with volume 35m³. Rooms (A) and (C) are with volume 25m³.

The control of the air was performed along with the sedimentation method of Koch, which provides a tentative, quality assessment of the air micro flora in the trial room. In line with Section II p.7 of Instruction №3, open Petri with blood agar were set up at specified places in the room being tested for 120 minutes. The samples were cultivated for 48 hours at 37 degrees Centigrade, after which the present colonies were counted. The efficiency of flow-through system "Eco-Svezhest"05 was evaluated in (%) in comparison with the results for the air quality in the trial room with and without an operating system, at two different experimental set ups.



7.2. Description of experimental set up

The quality of the air was recorded in the three, connected between each other, rooms (A; B; C). The testing was performed under the conditions of constant people's access to room (B), as well as at the constant inflow of fresh air from a window in Room (A) and from a door in Room (C). originally the control was performed in 10 consecutive days in the three rooms, at the described conditions, at "Eco Svezhest"05 system switched off. In each of the rooms three Petri were set up, as the results were presented as average number of colonies per each room/day. The received results provided the idea of normal air microbial contamination in the trial rooms. In the following 10 days the procedure was repeated under the same



conditions but with a switched on at full capacity for a whole day system. The available difference in the air quality showed achieved efficiency at highly compromising conditions and continuous operation of the system.

7.3. Description of experimental set up II

The quality of the air was recorded only in room (B), where the flow-through system was installed. The testing was performed in conditions of limited access of people to room (B), and a limited air in- flow in rooms (A) and (C), by closing the doors. The efficiency of the system was recorded per each day within 10 consecutive days. At the beginning of each day three samples for two hours were set up, with system switched off. After that the system was switched on at maximum speed for two hours, after which 3 samples were set up again. The results were presented as an average number of colonies/day before and after the operation of "Eco – Svezhest"05 system. The available difference in the air quality showed the efficiency of the system at the moment of its operating.

8. Results of the testing:

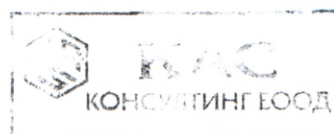
8.1. Results of the experimental set up.I

| Day | Average number coe/day at switched off system "Eco-Svezhest"05 | | | Day | Average number coe/day at switched on system "Eco-Svezhest"05 | | |
|-----|--|--------------|--------------|-----|---|--------------|--------------|
| | RoomA | Room B | Room C | | Room A | Room B | Room C |
| 1 | 51 | 65 | >100 | 11 | >100 | 25 | >100 |
| 2 | 69 | 48 | 78 | 12 | >100 | 28 | 92 |
| 3 | 75 | 72 | 96 | 13 | >100 | 47 | >100 |
| 4 | 47 | 83 | 95 | 14 | 87 | 45 | >100 |
| 5 | >100 | 54 | 75 | 15 | 93 | 32 | 85 |
| 6 | >100 | >100 | >100 | 16 | 97 | 56 | 89 |
| 7 | >100 | 86 | 79 | 17 | >100 | 10 | 75 |
| 8 | 80 | 54 | 78 | 18 | 89 | 37 | 82 |
| 9 | >100 | 63 | 82 | 19 | 73 | 35 | 91 |
| 10 | 97 | 49 | >100 | 20 | 84 | 29 | 78 |
| | - Ka=81.9 | - Kb=67.4 | - Kc=88.3 | | - Xa=92.3 | - Xb=34.4 | - Xc=89.2 |

The results show 49% reduction of the total microbial background in Room(B), in which a flow-through system "Eco-Svezhest"05 was installed. This requires that at installing the system the volume of the room should be considered and the manufacturer's recommendations for its use should be observed.

| Day | Average number coe/ in Room B at the beginning of the day at switched off system "Eco-Svezhest"05 | Average number coe/ in Room B at the end of the day after the operation of system "Eco-Svezhest"05 | Efficiency in percent |
|-----|--|---|-----------------------|
| 1 | 31 | 5 | 83.87 |
| 2 | 42 | 7 | 83.33 |
| 3 | 33 | 10 | 69.70 |
| 4 | 38 | 1 | 97.37 |

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| | | | |
|----|-----------|---|---------|
| 5 | 78 | 4 | 85.72 |
| 6 | 36 | 9 | 75 |
| 7 | 22 | 6 | 72.73 |
| 8 | 10 | 2 | 80 |
| 9 | 7 | 1 | 57.2 |
| 10 | 8 | 0 | 100 |
| - | Kb= 25.55 | - | Xa= 5.1 |
| - | | - | Eb=80.5 |

In the room where the system was installed the average reduction of the normal micro flora of the air is 80%.

9. Conclusion:

The performed tests show that flow-through system for fresh air "Eco-Svezhest"05 reduces effectively the normal micro flora of air and can be recommended for application in practice, at the strict adherence to the manufacturer's instructions for installation, volume of room and conditions of use.

Person performing the test: signature /illegible/
/M. Stoyanov/
signature /illegible/
/ Sv. Yordanova/

Round stamp of NCIPD- Sofia
Head of Department DDD: signature
/illegible/
/S. Grueva/

*The undersigned Hristina Ivanova Kalaydzhieva, hereby certify the fidelity of the done by me translation from Bulgarian into English of the attached document (Protokol).
The translation consists of 4 (four) pages.
Translator: Hristina Ivanova Kalaydzhieva.*

