



# ENERGY EFFICIENT TECHNOLOGIES

AS GREEN  
AS ONLY BIOSAFETY CABINET  
CAN BE



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**MICROBIOLOGICAL  
SAFETY CABINET**  
Class II type A2

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[www.lamsys.com](http://www.lamsys.com)



ENERGY SAVING  
CO<sub>2</sub> EMISSION  
HEAT EMISSION

# ENERGY SAVING EC FANS



The Microbiological Safety Cabinets Class II NEOTERIC use radial, energy-efficient and noise-free EC fans, which allow cutting down the operation costs significantly and reducing levels of acoustic noise and vibration, resulting in comfortable operating conditions.



## KEY BENEFITS OF USING THE EC FANS:

- Monitoring and fine adjusting of operating modes with the microprocessor control system
- Low energy consumption
- Low heat emission
- Low noise level
- No vibration
- Longer operating life

Picture: Hanover fair, 2013. A prototype of serially produced microbiological safety cabinet of the LAMSYSTEMS brand produced under EBM-PAPST's request for visual demonstration of EC fan application in the finished product.

POWER CONSUMPTION OF THE CABINET

# 0.11 kW

## COMPARISON



	Power capacity kW	Power consumption per year kWh <sup>[2]</sup>	Co <sub>2</sub> emissions t/year <sup>[3]</sup>	Neoteric	
				SAVING	Co <sub>2</sub> REDUCTION
<b>Neoteric</b>	0,11 <sup>[1]</sup>	228,8	0,114	45%	45%
Alternative*	0,16**	332,8	0,166		

\* A model of equipment with analogous technical characteristics by the known manufacturer was taken for comparison

\*\* Information is taken from the official advertising materials of the manufacturer

- [1] – The measurements are taken under the operating mode - the fan motor is on, the light in the working chamber is on, the load on the built-in outlets unit is excluded  
 [2] – 8 hours per day, 5 days, 52 weeks  
 [3] – Each kWh of produced energy accounts for 0.5 kg of CO<sub>2</sub> emission (source: [http://www.carbonindependent.org/sources\\_home\\_energy.htm](http://www.carbonindependent.org/sources_home_energy.htm))



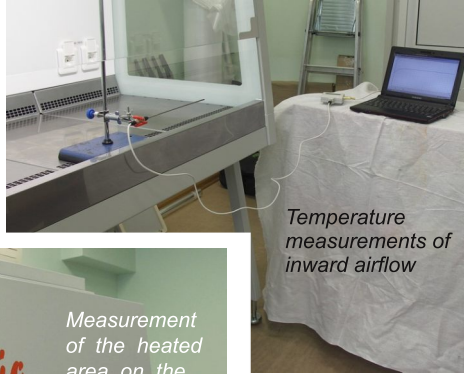
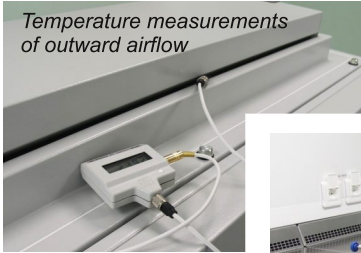
LOW ENERGY CONSUMPTION GIVES LOW LEVEL OF HEAT EMISSION, WHICH DECREASES NECESSITY IN ROOM AIR CONDITIONING AND, THEREFORE, THE COSTS OF IT.

# ACCURATE CALCULATIONS. HONEST RESULTS.

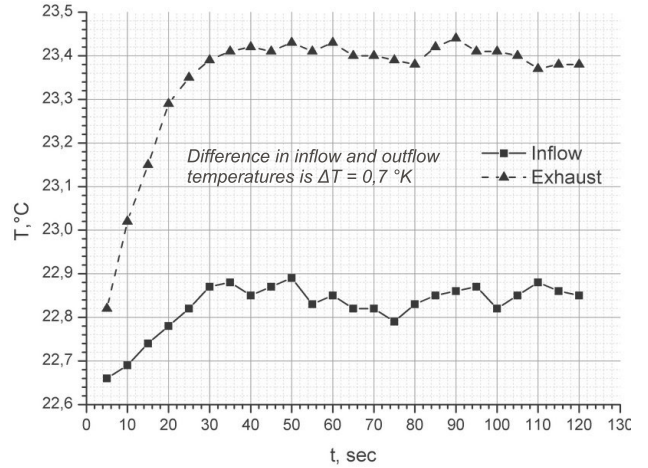
# HEAT EMISSION READING & CALCULATIONS

Microbiological safety cabinets are the source of heat emissions, high level of which may cause increase in room temperature and decrease of air humidity at the workstations, leading to operator's discomfort, decrease in efficiency, tiredness, skin irritation and itchiness.

Main heat emitting elements in the microbiological safety cabinet are the fan, the fluorescent lamp, and a front panel where convective heat abstraction into environment takes place.

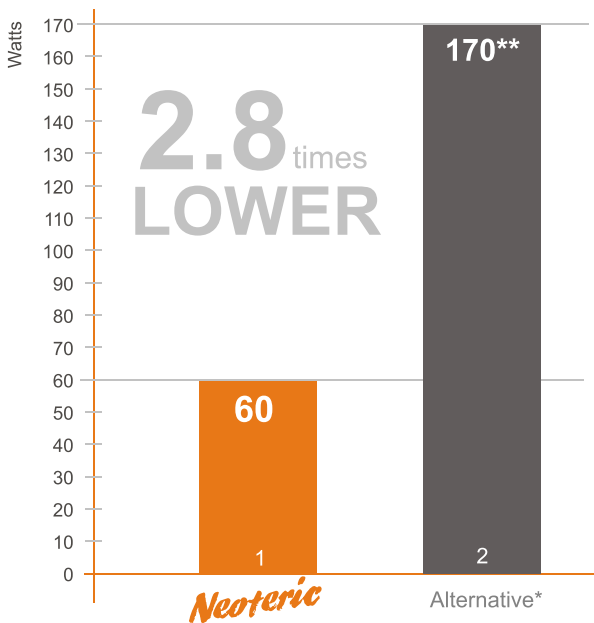


Graph: Recording of airflow temperature.



TOTAL HEAT EMISSION OF THE CABINET **60w**  
DURING THE OPERATING MODE

## COMPARISON



	Desktop laser printer when printing .....	215 W
	Working person .....	180 W
	Resting person .....	100 W
	Switched on monitor (19") .....	80 W
	<b>Neoteric</b> IN THE OPERATING MODE*** .....	<b>60 W</b>

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\*\*\* the fan motor is on, the light in the working chamber is on, the load on the built-in outlets unit is excluded

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## Microbiological Safety CABINET Class II type A2

LOW 0,11<sup>kW</sup>  
POWER CONSUMPTION

LOW  
LEVEL OF CO<sub>2</sub> EMISSIONS  
114,4 kg/year

LOW  
LEVEL OF HEAT EMISSION  
60<sup>w</sup>

LOW



**LAMSYSTEMS**



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