

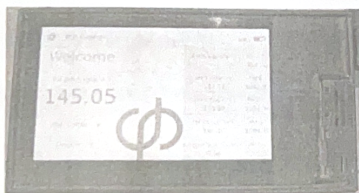


Date: 10.03.2023

Honorable Hospital Director.
Dr. Varhram,

Respectfully, following the request from the Scientific Deputy of the Presidency, the Operational Headquarters of the National Staff for Fighting Coronavirus, and Dr. Kamal Heidari, the esteemed Deputy of Health at the Ministry of Health with reference number 2430/300 dated 19/06/1401 regarding the evaluation of the performance of Novin Electronic Wal Pasargad's knowledge-based company's invention for measuring the performance of the DP air purification device using a HEPA filter at Dr. Masih Daneshvari Hospital, the results of the evaluations are hereby presented.

The device is equipped with a particle measurement sensor from Sensirion, Switzerland, which is installed outside the device and is capable of measuring the environment from 0.5 to 10 micrograms per cubic meter and records and stores the sample every 5 seconds.



Scanning system



dp industrial

Execution method:

Location and duration of installation: Infectious and pulmonary patients' emergency department for 3 weeks.

Specifications of the department: Equipped with two entrance doors, 6 windows, approximately 100 square meters in area and 300 cubic meters in volume.

Installation method in the department: Positioned at a height of 2.5 meters from the ground, in the center of the room.

Volume settings: 1200 cubic meters per hour, equivalent to four times the volume of the air in the environment.

The data and analysis of one of the peak times of air pollution both inside and outside the department were examined, showing a result of a 98.2% reduction in air pollution for particles of 0.5 micrograms.

Due to its hanging design and ability to compress and disperse air in a 360-degree manner, and considering that aerosols and micron-sized particles, which are lighter than air, tend to move upwards, the device has shown good air purification capability.

test	mass m ³ PM ₁₀	mass PM _{2.5}	mass PM ₄	mass PM ₁₀	[N(A)/cm ³ cm] 0.5	[N(A)/cm ³ cm] 1.0	number number 2.5	number number 4.0	number number 10
monitoring-chart	209.12	221.13	221.13	221.13	1463.27	1663.96	1668.92	1669.56	1669.93
purifier	3.87	4.09	4.09	4.09	26.27	30.71	30.85	30.87	30.87
	-98.15%	-98.15%	-98.15%	-98.15%	-98.20%	-98.15%	-98.15%	-98.15%	-98.15%

According to the department staff, the device did not cause any disturbance or noise pollution and has contributed to the patients' peace of mind and reduced stress among staff during cold weather when the windows need to be closed.

Based on observations and the results of the test, the use of this technology is recommended for high-traffic centers such as hospitals, medical clinics, and schools.

At the end of the trial period, a meeting was held with the participation of the Head of Medical Engineering, the Head Nurse of the Infectious Emergency Department, the Head of the Virology Research Center at Dr. Masih Daneshvari Hospital, representatives from the DP company, the Secretary of the National Coronavirus Headquarters, the Head of the Health and Wellness Office at the Ministry of Education, and the Deputy of the Environmental and Occupational Health Center at the Ministry of Health and Medical Education. The meeting led to the discussion and exchange of

views that resulted in the presentation of this report.

واحد مهندسی پزشکی

دکتر مجید رستگار وامش

مرکز آموزشی، پژوهشی، درمانی سبیل و بیمارستان رازی
دکتر مجید رستگار وامش
واحد تجهیزات پزشکی