

Report name: Respirator Face Mask with Valve Quality Test

Date: 2/4/2025

Report number: N03-2575-2

Laboratory Data

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Test Laboratory: Safety & Environmental Laboratory

Operator: H. Yousefi

Supervisor: Dr. R. Torkaman

Particle Counter(s): Laser Particle Counter (Grimm)

Manometer: Kimo MP 202

Device Manufacturer's Data

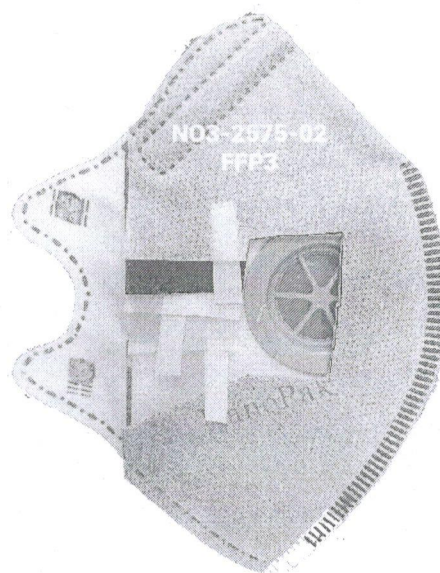
Manufacturer: Nano Pak Co.

Product Name: Respirator Face Mask with Valve

Product Model declared by manufacturer: FFP3

Test requested by: --

Sample obtained from: Nano Pak Co.



Test Conditions

Temperature (°C): 18

RH (%): 28

Air flow rates (l/min¹): 5, 10, 15, 20, 25, 30

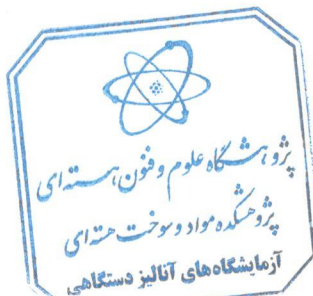
Respirator Face Mask with Valve Quality Test

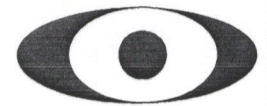
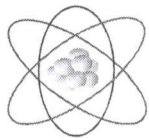
Note: The entire surface area of the mask was used for its quality test.

Q (l/min)	5	10	15	20	25	30
$\Delta P(P^2)$	23	39	60	79	98	117

¹Liter Per minute

² Pascale



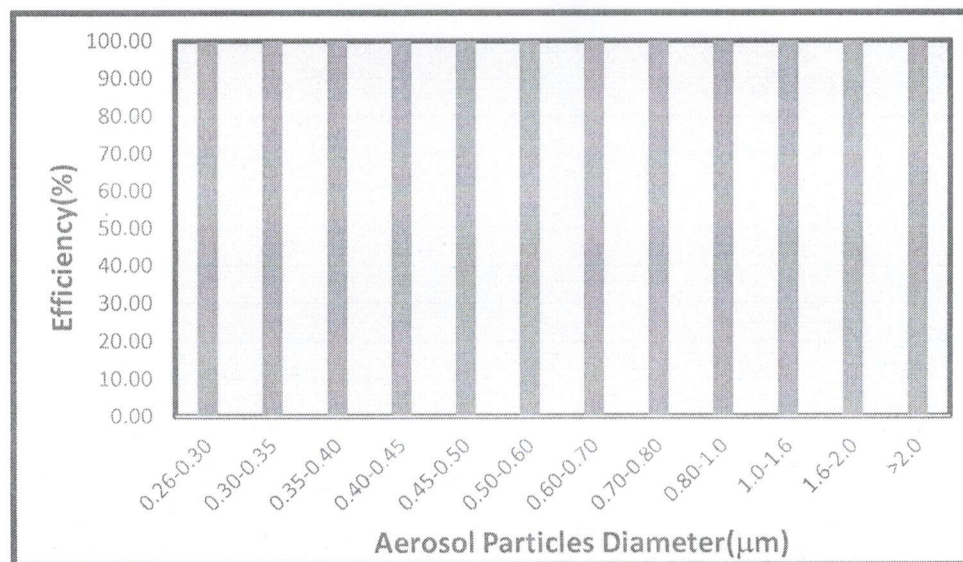


I. Efficiency E

a. Removal efficiency in term of aerosol particle size(Dp)

Data extracted from Laser Particle Counter (Grimm)

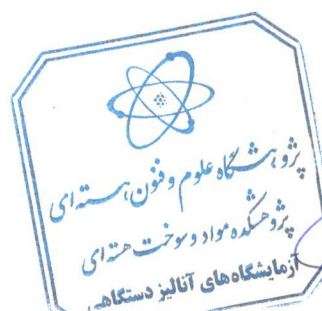
particle size Dp (μm)	Average of 40 measures $N_i^3(\text{p/l})^4$	Average of 40 Measures $N_i^5(\text{p/l})$	Efficiency (%)	Flow rate Q (l/min)
0.26 - 0.30	5.46E+04	2.18E+02	99.60	30
0.30 - 0.35	5.76E+04	1.03E+02	99.82	
0.35 - 0.40	3.54E+04	1.73E+01	99.95	
0.40 - 0.45	1.05E+04	8.21E-01	99.99	
0.45 - 0.50	1.11E+04	5.00E-01	100.00	
0.50 - 0.60	7.61E+03	0.00E+00	100.00	
0.60 - 0.70	5.51E+03	0.00E+00	100.00	
0.70 - 0.80	2.45E+03	0.00E+00	100.00	
0.80 - 1.0	2.46E+03	0.00E+00	100.00	
1.0 - 1.6	8.05E+02	0.00E+00	100.00	
1.6 - 2.0	1.75E+02	0.00E+00	100.00	
>2.0	2.65E+02	0.00E+00	100.00	



³ Particles Number Concentration in upstream of the mask

⁴ Particle per liter

⁵ Particles Number Concentration in downstream of the mask



Yousefi