

Report name: Respirator Face Mask with Valve Quality Test

Date: 2/4/2025

Report number: N03-2575-1

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

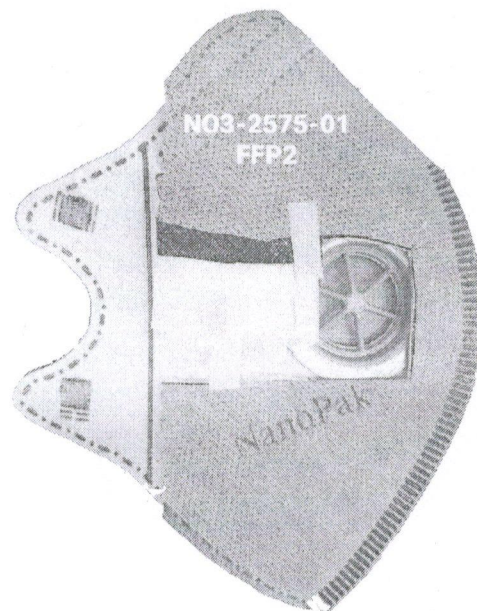
Manufacturer: Nano Pak Co.

Product Name: Respirator Face Mask with Valve

Product Model declared by manufacturer: FFP2

Test requested by: --

Sample obtained from: Nano Pak Co.



Test Conditions

Temperature (°C): 17

RH (%): 27

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.

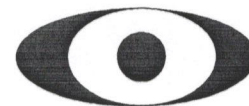
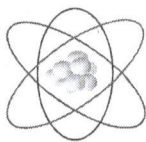
Q (l/min)	5	10	15	20	25	30
$\Delta P(P^2)$	19	33	48	65	85	97

¹Liter Per minute

² Pascale



Yousefi

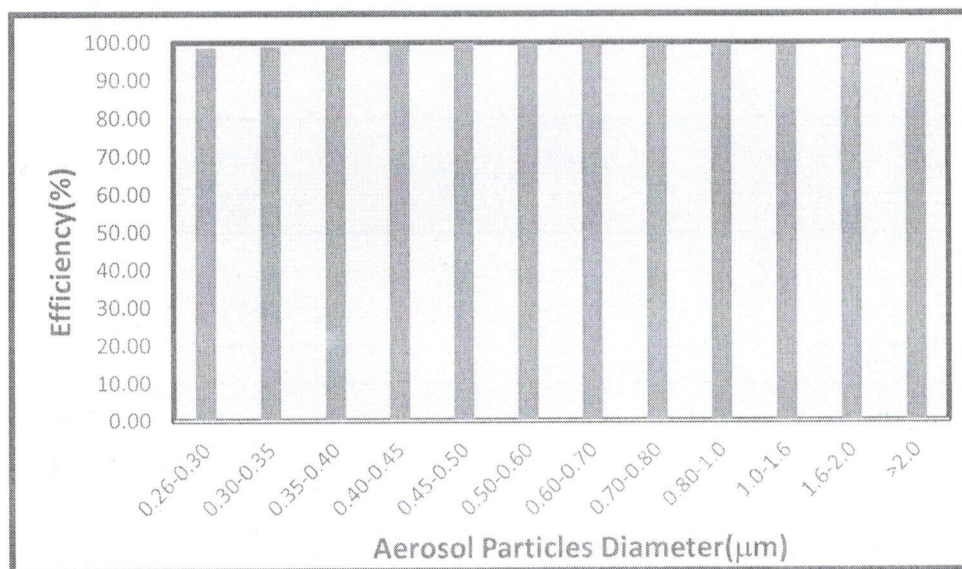


I. Efficiency E

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

Data extracted from Laser Particle Counter (Grimm)

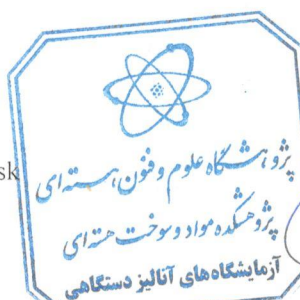
particle size Dp (μm)	Average of 40 measures $N_i^3(\text{p/l})^4$	Average of 40 Measures $N_r^5(\text{p/l})$	Efficiency (%)	Flow rate Q (l/min)
0.26 - 0.30	5.70E+04	8.35E+02	98.54	30
0.30 - 0.35	5.89E+04	6.70E+02	98.86	
0.35 - 0.40	3.61E+04	3.33E+02	99.08	
0.40 - 0.45	1.05E+04	7.27E+01	99.31	
0.45 - 0.50	1.10E+04	3.12E+01	99.72	
0.50 - 0.60	7.54E+03	4.18E+01	99.45	
0.60 - 0.70	5.57E+03	3.52E+01	99.37	
0.70 - 0.80	2.44E+03	1.38E+01	99.43	
0.80 - 1.0	2.44E+03	9.81E+00	99.60	
1.0 - 1.6	8.41E+02	5.81E+00	99.31	
1.6 - 2.0	1.90E+02	5.00E-01	99.74	
>2.0	2.74E+02	4.23E-01	99.85	



³ Particles Number Concentration in upstream of the mask

⁴ Particle per liter

⁵ Particles Number Concentration in downstream of the mask



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