

# Politecnico di Torino - Dipartimento Energia

## Efficiency Assessment

*Test No.:* 5015 *Petitioner:* Aerosol Technology Lab  
*Date:* 16/11/2023 *Medium:* n ° 4 - PANCO15CNC 3  
*Measurement no.:* 1 *Manufacturer:* USP-Sao Carlos  
*Area [m²]:* 0.001 *Medium type:* Polyacrylonitrile+castor oil+cell. nanocrystals  
*Filter class:* Lot:  
*Aerosol:* DEHS *Air flow rate through filter:* 0.000125556[m³/s] (0.452[m³/h])  
*Sampling cycles:* 6 *Filter air flow resistance [Pa]:* 350  
*Sampling cycle time [s]:* 45 *Air flow rate entering OPC [cm³/min]:* 1000  
*Dilution factor:* 1 *Correlation ratio:* 972-11/16/2023-Mascherine-ops3  
*Neutralizer:* OPC: OPS 3330 ip121  
*Conditioned / Discharged:* No *Test environment:* 25 °C /24% /98300Pa  
*Remarks:* TSI OPS3330 0.452m³/h 7.5l/min  
 Adattore Diameter 40mm 10cm/s. Delta P=350 Pa  
 Pressione all'interno del condotto=20 Pa

Size class [µm]	Particle concentration [#/dm³]		Efficiency [%]	Deviation [+/-]	Uncertainty [+/-]	Meaningful cycles
	Upstream	Downstream				
0.30 - 0.40 µm	30 501	2 087	92.50	0.37	0.39	6
0.40 - 0.55 µm	21 873	1 425	92.85	0.37	0.39	6
0.55 - 0.70 µm	15 818	980	93.21	0.27	0.29	6
0.70 - 1.00 µm	21 474	1 228	93.66	0.40	0.42	6
1.00 - 1.30 µm	6 947	356	94.18	0.42	0.44	6
1.30 - 1.60 µm	11 701	508	95.07	0.40	0.42	6
1.60 - 2.20 µm	12 758	417	96.15	0.44	0.46	6
2.20 - 3.00 µm	4 224	100	97.13	0.48	0.50	6
3.00 - 4.00 µm	1 794	20	98.59	0.25	0.26	6
4.00 - 5.50 µm	428	4	98.75	0.61	0.64	6
5.50 - 7.00 µm	33	1	96.40	3.94	4.13	6
7.00 - 10.00 µm	8	0	100.00	0.00	0.00	6

