



T018 (EN ISO/IEC 17025)



## Determination of the initial efficiency of air filter CD325/600/909/10m<sup>2</sup> according to EN 779:2002

| Requested by: Nordic Air Filtration A/S



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**Task** **Determination of the initial efficiency of air filter CD325/600/909/10m<sup>2</sup> according to EN 779:2002**

**Sample** The customer delivered one air filter of type CD325/600/909/10m<sup>2</sup>.  
  
The sample was received 24.8.2005.  
The measurements were made 7.10.2005.

**Test method** The tests were made according to EN 779:2002 /1/ and were restricted to determination of the initial efficiency. The filter to be tested was mounted on a plate which was installed in the test rig between the test filter duct section and the downstream pressure tap duct section.

The test aerosol was DEHS and the bipolar aerosol charger (neutralizer) was a radioactive Am-241 source. The particle counter was of type PMS LAS-X.

The air flow rate was measured with a calibrated orifice plate with corner pressure tappings. The orifice plate has been calibrated against an orifice plate built according to ISO 5167:1980 /2/.

The instruments used in the measurements are presented in Appendix 2.

The Centre for Metrology and Accreditation has accredited our laboratory (no. T018, FINAS Accreditation) to perform the following measurements mentioned in this test report: EN 779:2002.

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**Results** The initial efficiency test results are presented in Appendix 1.

The results are only valid for the tested filter sample.

**References** /1/ EN 779:2002. Particulate air filters for general ventilation – Determination of the filtration performance.

/2/ ISO 5167:1980. Measurement of fluid flow by means of orifice plates, nozzles and venturi tubes in circular ducts running full.

Espoo, 20.10.2005



Juhani Laine  
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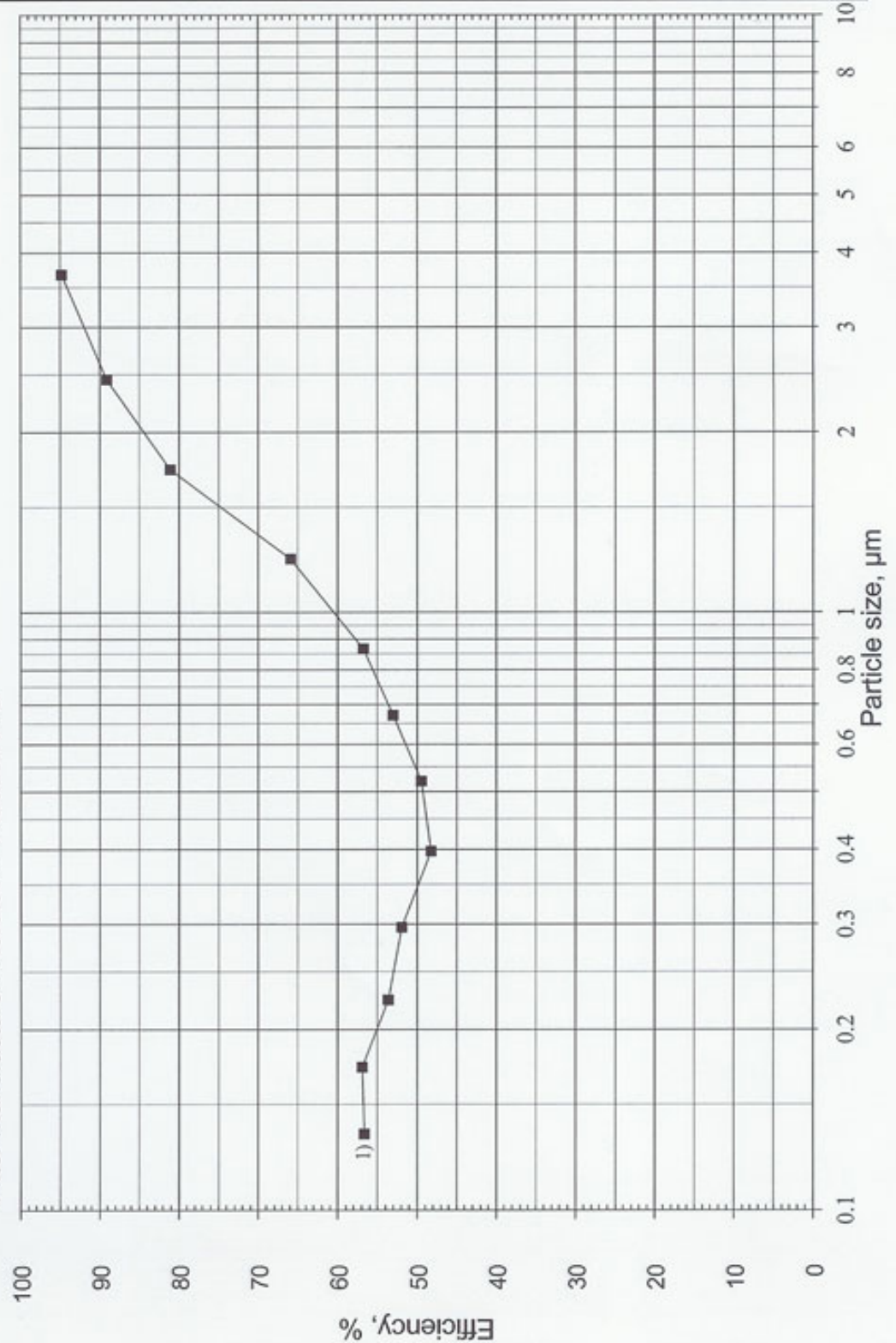
Rolf Holmberg  
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APPENDICES 2

DISTRIBUTION Customer Original ( 2pcs)  
VTT Original

Air filter: CD325/600/909/10m<sup>2</sup>  
 Initial efficiency  
 EN779:2002  
 Test no.: 051959  
 Test aerosol: DEHS  
 Filter manufacturer: Nordic Air Filtration A/S

Air flow rate / pressure drop	Particle size / efficiency
m <sup>3</sup> /s Pa	μm %
1) 0.278 122	0.13 56.6 ± 1.2
	0.17 56.9 ± 2.4
	0.22 53.6 ± 5.0
	0.30 51.9 ± 2.2
	0.40 48.2 ± 3.1
	0.52 49.5 ± 2.6
	0.67 53.0 ± 3.8
	0.87 56.8 ± 2.9
	1.23 65.9 ± 2.8
	1.73 81.1 ± 1.1
	2.45 89.1 ± 1.7
	3.67 94.8 ± 2.8



**Instruments used**

Instrument	Type code	Serial number	Calibration date	Used
Micromanometer	Alnor MP6KS	1020843	4.5.2005	X
	Alnor MP6KS	1020847	4.5.2005	X
Barometer	No. 9002588	-	5.1.2005	X
Hygrometer	Rotronic MS100TST	1188900/6	1.2.2005	X
Temperature meter	Nokeval 538-8	18455014	1.2.2005	X
Balance	Mettler PC8000-S2	A90263	1.2.2005	-
Particle counter	PMS LAS-X	26004-1091-380	27.9.2005	X
	Calibration check with 0.304 µm and 0.993 µm latex particles		5.10.2005	-
Dust feeder	ASHRAE 52-76	-	16.8.2005	-
Orifice plate	φ 216 / 610 x 610	-	8.9.1999	X
	φ 272 / 610 x 610	-	25.5.1999	-
	φ 90 / 610 x 610	-	17.3.2005	-