

DIN EN ISO 29463-5:2022-10 (E)

High-efficiency filters and filter media for removing particles in air - Part 5: Test method for filter elements (ISO 29463-5:2022)

Contents		Page
	European foreword	4
	Foreword	5
	Introduction	6
1	Scope	7
2	Normative references	7
3	Terms, definitions, symbols and abbreviated terms	7
	3.1 Terms and definitions	7
	3.2 Symbols and abbreviated terms	8
4	Efficiency test methods	9
	4.1 Reference efficiency test method	9
	4.2 Alternate efficiency test method for groups H and U filters	9
	4.3 Statistical efficiency test method for low efficiency filters — Group E filters	9
5	Test filter	10
6	Test apparatus	10
	6.1 General	10
	6.2 Test duct	11
	6.2.1 Test air conditioning	11
	6.2.2 Adjustment of the volume flow rate	11
	6.2.3 Measurement of the volume flow rate	11
	6.2.4 Aerosol mixing section	11
	6.2.5 Test filter mounting assembly	12
	6.2.6 Measuring points for the pressure drop	12
	6.2.7 Sampling	12
	6.3 Aerosol generation and measuring instruments	12
	6.3.1 General	12
	6.3.2 Apparatus for testing with a mono-disperse test aerosol	13
	6.3.3 Apparatus for testing with a poly-disperse test aerosol	13
7	Conditions of the test air	17
8	Test procedure	18
	8.1 Preparatory checks	18
	8.2 Starting up the aerosol generator	18
	8.3 Preparation of the test filter	18
	8.3.1 Installation of the test filter	18
	8.3.2 Flushing the test filter	18
	8.4 Testing	18
	8.4.1 Measuring the pressure drop	18
	8.4.2 Testing with a mono-disperse test aerosol	19
	8.4.3 Testing with a poly-disperse test aerosol	19
	8.4.4 Testing filters with charged media	19
9	Evaluation	19
10	Test report	21
11	Maintenance and inspection of the test apparatus	22

Annex A (normative) Alternate efficiency test method from scan testing	23
Annex B (informative) Testing and classification method for filters with MPPS $\leq 0,1 \mu\text{m}$ (e.g. membrane medium filters)	24
Annex C (normative) Method for testing and classification of filters using media with charged fibres	27
Annex D (informative) Traditional efficiency test methods for HEPA and ULPA filters	33
Bibliography	34