

# DEHS-Test according to DIN EN 14644-3

PARMESS

MAM Cleanroom Measurement



In the following, all times are shown in local time with the corresponding UTC offset.

Print date: 14 Apr 2025 09:09:49 (Europe/Berlin (UTC +2:00))

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## Protocol sheet

Building: MKLTST Room: MKLTST\_R02 Equipment No.: Testequipment  
Measurement point: MP-Filter01 Filter class: H14  
Measure. point group: Demo MPG Filter Scan-/Leaktest  
Description: Demo measurement point group for showcasing scan- and leaktests  
Start measuring: 11 Apr 2025 16:49:50 UTC+02:00

## Measuring device used:

Particle measuring device	Name	Flow	Next calibration
Raw air	SIM-SEQ1	472.000 [cm <sup>3</sup> /s]	30 Dec 2050
Clean air	SIM-SEQ2	472.000 [cm <sup>3</sup> /s]	30 Dec 2050

Differential pressure measuring device	Next calibration
DPMD01	02 Apr 2029

Dilution stage	Dilution factor	Next calibration
DS271	100	01 Apr 2026

Probe	Measuring notebook
Demo Probe 01	VMWIN11MOQLERO

## Filter test measurement results

Filter type	Visual Inspection OK	Differential pressure [Pa]			Scan / Leak test ok
		Actual	Max.	Result	
supply air filter	ok	95.0	500.0	ok	ok

Overall result	O
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Measured by: John, Doe (jdoe)

Participants: n.d. n.d.

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## Dynamic measurement

### Probe geometry:

Effective width [cm]: 2.55  
Height [cm]: n.d.  
Diameter [cm]: 3.60

### Parameter scantest

Scan velocity [cm/s]: 5.0  
Track overlap [cm]: 1.0  
 $N_a$  [1]: 0  
 $N_p$  [1]: 4  
 $P_L$  [%]: 0.01  
Flow raw air [m<sup>3</sup>/s]: 0.00047200  
Minimum raw air concentration [1/m<sup>3</sup>]: 166,822,368  
Scan time calculated [min]: 6

### Requirements scantest

Penetration rate filter 0.00500

### Evaluation scantest

Number of possible leaks: 1  
Max. penetration rate: 0.00037

## Measurement results dynamic measurement

No.	Raw air				Clean air			Penetration rate [%]
	Start measuring	Measurement duration [s]	Particle $\geq 0.3\mu\text{m}$ [1/m <sup>3</sup> ]	Requirements fulfilled *	Start measuring	Measurement duration [s]	Particle $\geq 0.3\mu\text{m}$	
1	11 Apr 2025 16:49:50 UTC+02:00	60	298,046,500	Yes	11 Apr 2025 16:49:50 UTC+02:00	60	1,088	0.00037
2	11 Apr 2025 16:50:50 UTC+02:00	60	302,945,100	Yes	11 Apr 2025 16:50:50 UTC+02:00	60	1,103	0.00036
3	11 Apr 2025 16:51:50 UTC+02:00	60	310,262,300	Yes	11 Apr 2025 16:51:50 UTC+02:00	60	872	0.00028
4	11 Apr 2025 16:52:50 UTC+02:00	60	308,674,700	Yes	11 Apr 2025 16:52:50 UTC+02:00	60	645	0.00021

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5	11 Apr 2025 16:53:50 UTC+02:00	60	300,138,900	Yes	11 Apr 2025 16:53:50 UTC+02:00	60	1,022	0.00034
6	11 Apr 2025 16:54:50 UTC+02:00	60	302,996,700	Yes	11 Apr 2025 16:54:50 UTC+02:00	60	713	0.00024
Summary		360	n.d.	Yes	n.d.	360	n.d.	n.d.

\* Particle concentration  $\geq 0.3\mu\text{m}$  [1/m<sup>3</sup>] > Minimum raw air concentration [1/m<sup>3</sup>]

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## Static measurement

### Possible leaks

No.	x-coordinate [cm]	y-coordinate [cm]
1	75.0	105.0

## Measurement results static measurement

### Requirements leaktest

Penetration rate filter 0.00500

Max. allowable total penetration [%]: 0.01

### Evaluation leaktest

Max. penetration rate: 0.00015

			Raw air		Clean air			Result
Leak No.	Sample No.	Start measuring	Measurement duration [s]	Particle $\geq 0,3\mu\text{m}$ [1/m <sup>3</sup> ]	Measurement duration [s]	Acceptance particle count $N_{ar}$ :	Counted particles $\geq 0,3\mu\text{m}$ [1]	OCRN
1	1	11 Apr 2025 16:58:34 UTC+02:00	60	278,566,200	60	732	415	O
1	2	11 Apr 2025 16:59:34 UTC+02:00	60	293,671,500	60	774	239	O
1	3	11 Apr 2025 17:00:34 UTC+02:00	60	285,922,700	60	752	378	O