



EN 1822 - 2009 EPA, HEPA and ULPA filter testing





- EN 1822 describes a test method and classification system for /EPA/HEPA/ULPA filters
- HEPA/ULPA filters have a minimum efficiency (maximum penetration) at a specific particle size = MPPS
- Efficiency is the initial value of a new filter

5.2 Groups of filters

According to this standard, filter elements fall into one of the following Groups:

- Group E: EPA filters (Efficient Particulate Air filter);
- Group H: HEPA filters (High Efficiency Particulate Air filter);
- Group U: ULPA filters (Ultra Low Penetration Air filter).



Table 1 — Classification of EPA, HEPA and ULPA filters

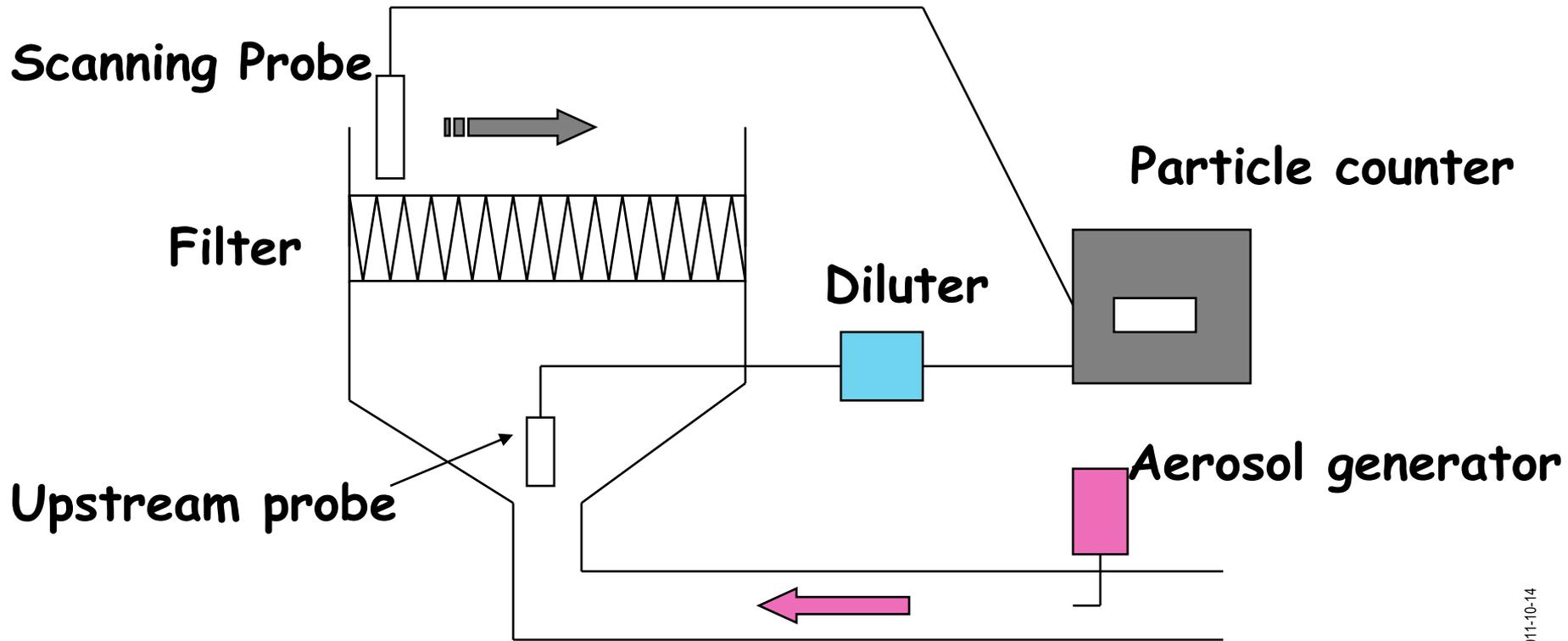
Filter Group Filter Class	Integral value		Local value ^{a b}	
	Efficiency (%)	Penetration (%)	Efficiency (%)	Penetration (%)
E 10	≥ 85	≤ 15	--- ^c	--- ^c
E 11	≥ 95	≤ 5	--- ^c	--- ^c
E 12	≥ 99,5	≤ 0,5	--- ^c	--- ^c
H 13	≥ 99,95	≤ 0,05	≥ 99,75	≤ 0,25
H 14	≥ 99,995	≤ 0,005	≥ 99,975	≤ 0,025
U 15	≥ 99,999 5	≤ 0,000 5	≥ 99,997 5	≤ 0,002 5
U 16	≥ 99,999 95	≤ 0,000 05	≥ 99,999 75	≤ 0,000 25
U 17	≥ 99,999 995	≤ 0,000 005	≥ 99,999 9	≤ 0,000 1

^a See 7.5.2 and EN 1822-4.

^b Local penetration values lower than those given in the table may be agreed between supplier and purchaser.

^c Group E filters (Classes E10, E11 and E12) cannot and shall not be leak tested for classification purposes.

EN 1822 test rig principle



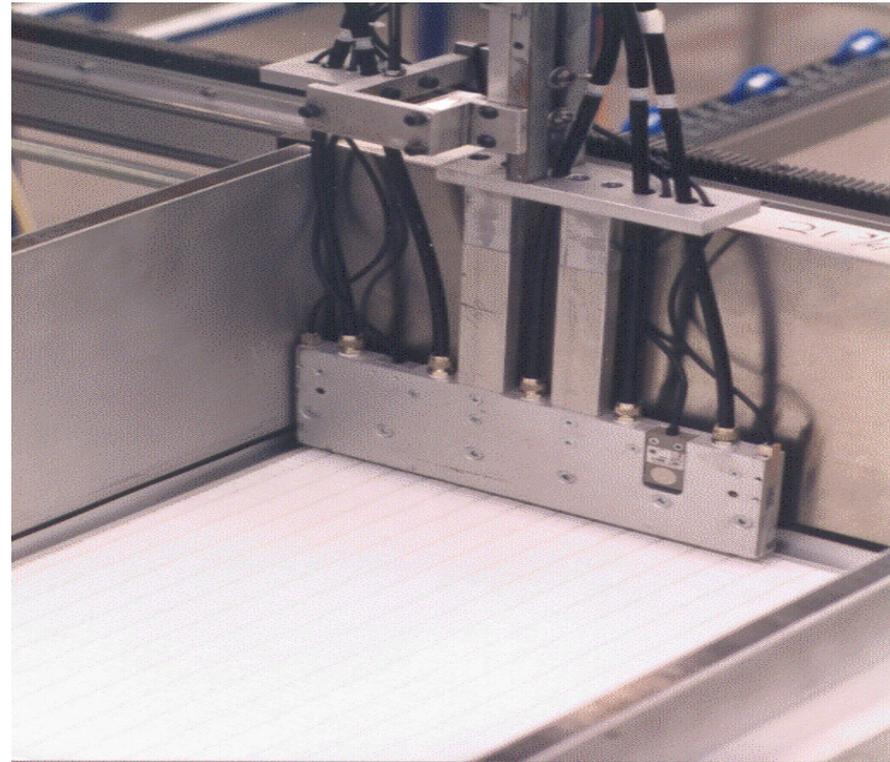
Camfil Farr EN 1822 test rig

- **Test for**
 - Leakage
 - Overall Efficiency
 - Pressure Drop



Camfil Farr EN 1822 test rig

- **Computer -Controlled**
- **6 particle counters(fast & accurate leak detection)**
- **Detects leaks, measures dp and overall efficiency**



Individual scanner report:

- Filter model
- Filter serial number
- Actual pressure drop
- Actual MPPS efficiency
- Leak test/local penetration
- Test air flow

