

1. Purpose

Virus inactivation test by [UVC lamp] embedded in bedding cleaner

2. Assessment virus

Type A influenza virus

3. Test items

UV-C lamp embedded in the vacuum cleaner

4. Test method

Virus inactivation test

Test overview:

- ① Put the virus fluid in a plastic chalet.(1mL)
- ② Install the UV-C lamp (cleaner) at a predetermined distance.
- ③ Irradiate for a predetermined time..
- ④ Measure infection value after virus recovery

Test Result

Test item	Ultraviolet intensity (Mw/cm ²)	Irradiation time (Seconds)			
		Before irradiation	2seconds	5seconds	10seconds
RHC	6.0	2.7E+07	9.5E+05	1.30E+05	5.9E+04
RPC	9.8	2.7E+07	2.7E+03	2.1E+02	< 1.3E+01

Infectious titer unit: TCID₅₀/mL

Detection limit: 1.3E+01 TCID₅₀/mL

The decreased number of infection value

Test item	The decreased number of infection value			Reduction rate(%)		
	After 2seconds	After 5seconds	After 10seconds	After 2seconds	After 5seconds	After 10seconds
RHC	1.4	2.3	2.6	96.01	99.49	99.74
RPC	4.0	5.1	>6.3	99.99	>99.99	>99.99

The decreased number of infection value: log₁₀ (Before irradiation / After irradiation)

Reduction Rate (%): $[1 - 1/10^{\text{Decreased number of infection value}}] \times 100$