

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