We introduce the recent plant test result on dust removal.

The waste gas is treated under the required legal standard by the electrical precipitator and vented from stack chimney.
We tested to remove more submicron particles using a pilot MU-SCRUBBER equipped MU-SSPW element.
A part of actual waste gas exhausted from 250 t/hr boiler through the electrical precipitator by 610,000 m3/hr (420,000 Nm3/hr) was fed to a pilot scrubber.

Waste gas feed conditions were as follows:

1. **Gas feed temperature : 120 deg C**
2. **Dust content in gas feed : 11~17 mg/Nm3**
3. **Dust particle size : less than 1 μ m**

MU-SCRUBBER operating conditions were as follows:

1. **Scrubber was operated in parallel flow.**
2. **Liquid-Gas flow rate (L/G) : 2 liter/m3 , Water was used as scrubbing fluid.**
3. **Liquid-Gas contact mixture time : * 0.15 seconds**
4. **Gas superficial velocity : 7~9 m/sec**

    *** This is the residence time contacting and mixing continuously of liquid and gas in parallel flow in MU-SSPW element.**

Results of test:

1. **Dust content in gas outlet from MU-SCRUBBER was 3~4 mg/Nm3.**
   Dust was effectively knocked down by high velocity fluids and accumulated into bottoms water.
2. **Dust removal efficiency : 76~84 %**
   (Dust removal efficiency can be increased to more than 99% by increasing Liquid-Gas contact mixture time from 0.15 to 0.4~0.6 seconds. We had experiences in actual plants applied MU-SSPW that the efficiency is in proportion to liquid-gas contact mixture time.)

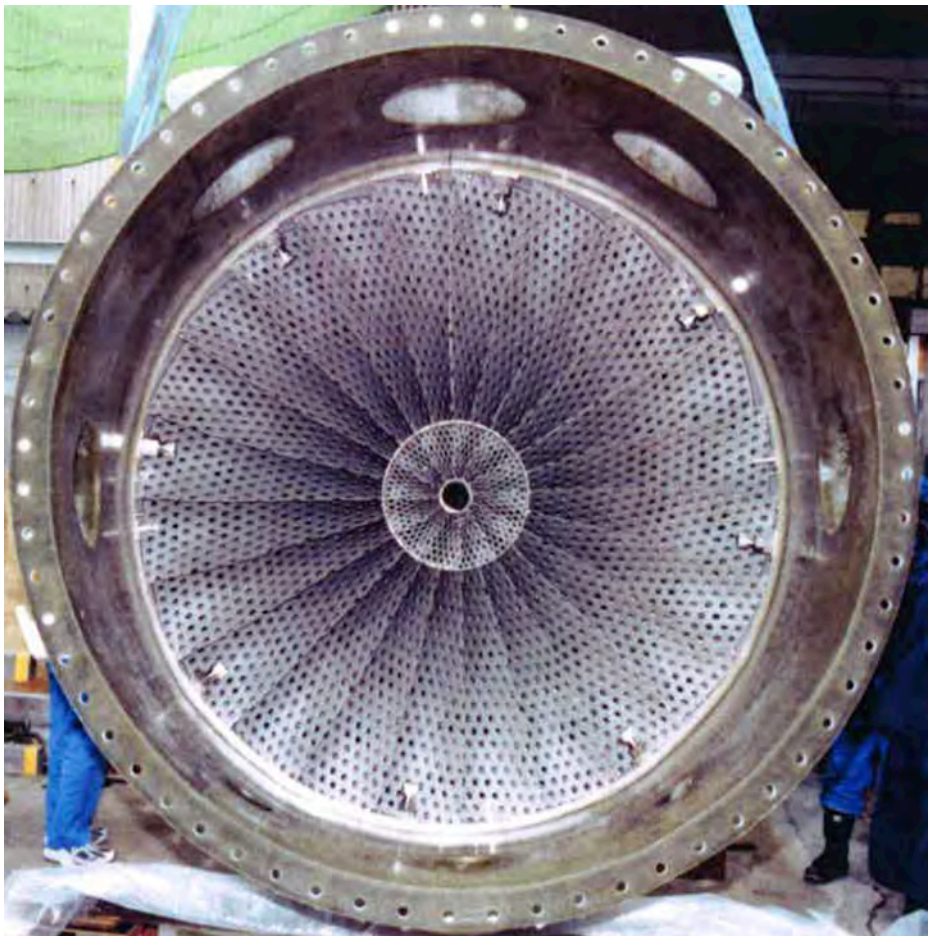
We designed MU-SCRUBBER for actual plant based on test data as follows:

1. **It is recommendable that Three MU-SCRUBBERs (ϕ 3mx10mH) are installed in parallel. The limitation of height for transportation on road is 3m.**
2. **MU-SCRUBBER is effective to compensate an ability of the electrical precipitator. It is effective not only compensation of the electrical**

precipitator but also maintenance free, high performance and compactification.

We expect to expand our MU-SSPW's technology to waste gas treatment of coal boiler and compensation of electrical precipitator.

We will report good performance of MU-SCRUBBER applied to actual plant on the next time.



MU–SSPW(MU Static Spiral Perforated Wings)