



**Fuel Additive Laboratory for Heavy Oil(Top)**



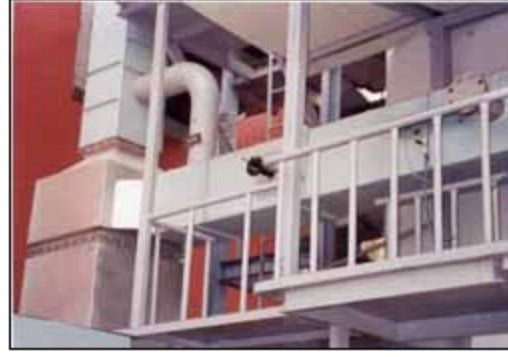
**Boiler for testing reduction of particles in heavy oil(1.5ton)**

- Type : smoke-tube boiler
- Fuel : B - C O i l
- Rated evaporation cap. : 1,500 kg / h r (M C R)
- Max. available pressure : 14 kg f / cm<sup>2</sup> (operation pressure:2 ~ 5 kg f / cm<sup>2</sup>)
- Rated heat efficiency : 90%
- Heating surface area : 42m<sup>2</sup>
- Burner type : rotary burner(R B S - 2 . 5 type)
- Supply Cap. of heavy oil : 25 ~ 250 kg / h r (Supply temp. of heavy oil: 85 ~ 90°C)



**Boiler for testing fuel additive performance**

- Spec. : small cap. smoke-tube type steam boiler
- Dimensions : 1,160 x 1,940 x 1,520 mm (WxLxH)
- Fuel Consumption : 17.3 liter/H (heavy oil), 16 liter/H (light oil)



**Boiler Flue Gas Pipeline for testing reduction of particles in heavy oil(360 x 360mm) and the position to measure particle concentration(Bottom).**



**Flue Gas Analyzer**

- Model : PG-250, PS-200 (Manufacturer : Horiba)
- Applicable Gas Type : O<sub>2</sub>, CO<sub>2</sub>, CO, NO, SO<sub>2</sub>



**Isokinetic Stack Sampling System**

- Model : Method 5/17/23 Sampling Train (manufacturer : Clean Air Express)
- Application : Measurement of discharge particle concentration in exhaust gas



**Viscometer**

- Model : LVDV III+ (Manufacturer : Brookfield)
- Range of Measurement : 12 - 600,000 cps
- Application : measuring viscosity of heavy oil, dispersion of fuel additive for heavy oil and etc



**Centrifuge**

- Model : MEGA-17R (Manufacturer : Hanil Science Industrial)
- RPM : max. 17,000
- Application : measuring dispersion of fuel additive for heavy oil, separating asphaltene from heavy oil and etc



**Automatic Particle Concentration Tester**

- Model : DR-290 II (Manufacturer : DURAG)
- Application : Automatically measuring particle concentration in flue gas



**Mixing tank for mixing the fuel additive for heavy oil**