

1 OPTION I: Desulfurization at FBC furnace by injection of CaCO₃

SO_x solution



CaCO₃ Needed to inject into FBC bed

$$B_j * S_y * K$$

$$B_s = \frac{\text{-----}}{\text{CaCO}_3 * N} * 100 = 86.8 \text{ kg/h}$$

$$\text{CaCO}_3 * N$$

Coal Consumption

$$B_j = 1000 \text{ kg/h}$$

$$\text{Sulfur content } S_y = 1\%$$

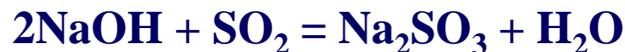
$$\text{Ratio } K = 2.5$$

$$\text{CaCO}_3 = 32$$

$$\text{Efficiency } N = 90\%$$

2 OPTION II: Desulfurization at the Venturi Scrubber by Mixing NaOH

Use the Na solution :



For DF Series, Most of the case, we use Multi cyclone and venturi wet scrubber only, without employment of expensive DeSO_x tower. Specially if you use Indonesian coal of below 1% sulfur content, SO₂ level is lower than the government set value. You have two(2) Options to remove SO₂ according to the content. 1st OPTION is to inject CaCO₃ into the Furnace. 2nd OPTION is NaOH solution to be injected to the venturi water scrubber for reaction as indicated in this paper. In anyway, FBC boiler does not require expensive DeSO_x tower at the exhaust gas area. This is a remarkable advantage of FBC system.