

**SISTEM KERJA *SOOT BLOWER* MENGGUNAKAN LIMIT
SWITCH PADA MESIN *BOILER* MB 13
DI PT.INDAH KIAT *PULP AND PAPER* PERAWANG**

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ABSTRAK

Soot Blower merupakan alat yang sangat penting karena berfungsi untuk membersihkan tube pada *boiler* pada *Heat Recovery Area* (HRA) yaitu area *Superheater, Economizer, Reheat*, serta pada *Air Heater* dari kotoran/*slag* yang menempel. *Soot Blower* menyemburkan uap panas *auxiliary* membersihkan dinding luar *tube* dan elemen heat exchanger pada *Air Heater*. Gas bakar sisa pembakaran di Ruang Bakar (*Furnace*) *boiler* dinamakan *flue gas*. Pada *flue gas* hasil pembakaran masih banyak mengandung abu. Abu cair yang terkandung didalam *flue gas* akan melekat dan membeku saat *flue gas* mencapai area pemanasan konveksi di HRA. Pengendapan abu cair akan sangat keras yang dikenal dengan istilah *Bird Nesting*. Jika *limit switch* tidak di pasang, maka motor akan berputar terus menerus dan akan menyebabkan roda gigi atau *beam* akan aus, dan roda gigi *gear box*. Maka *limit switch* sangat penting sebagai pemutus *suplay* ke motor. Proses *blowing* atau penyemprotan uap terhadap jelaga, pada proses ini *power supply* menjadi posisi ON dan akan mengalirkan listrik ke *limit switch* dan motor elektrik. Motor elektrik akan bergerak secara mekanik memutar *gear box* dan *lance tube* yang dihubungkan dengan rantai. Dan fungsi *limit switch* hanya pemutus *supply* ke motor, pada saat motor sudah di posisi penyemprotan. Setelah motor sudah menekan *limit switch* motor akan posisi OFF karena sudah menekan *limit switch* yang sebagai pemutus *suplay* ke motor.

Kata kunci:*Soot Blower, Motor 3 pusa, limit switch.*

**SOOT BLOWER WORKING SYSTEM USING LIMIT SWITCH
ON MB 13 BOILER MACHINE
AT PT.INDAH KIAT PULP AND PAPER PERAWANG**

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ABSTRACT

The Soot Blower is a very important tool because it functions to clean the tubes in the boiler in the Heat Recovery Area (HRA), namely the Superheater, Economizer, Reheat area, as well as the Air Heater from adhering dirt/slag. Soot Blower sprays auxiliary hot steam to clean the outer walls of the tubes and heat exchanger elements in the Air Heater. The remaining combustion gas in the boiler combustion chamber is called flue gas. The flue gas resulting from combustion still contains a lot of ash. The liquid ash contained in the flue gas will stick and freeze when the flue gas reaches the convection heating area in the HRA. The deposition of liquid ash will be very hard, which is known as Bird Nesting. If the limit switch is not installed, the motor will rotate continuously and will cause the gears or beam to wear out, and the gear box gears. So the limit switch is very important as a supply breaker to the motor. The process of blowing or spraying steam against the soot, in this process the power supply becomes the ON position and will supply electricity to the limit switch and electric motor. The electric motor will move mechanically to rotate the gear box and lance tube which are connected by a chain. And the function of the limit switch is only to cut off the supply to the motor, when the motor is in the spraying position. After the motor has pressed the limit switch, the motor will be in the OFF position because it has pressed the limit switch which is the supply breaker to the motor.

Keyword: *Soot blower, 3 phase motor, limit switch.*