

Boilers and steam system



SUSTENT

Helping enterprises become
more Resource Efficient

Boiler



-
- Condensate Recovery
 - Proper Insulation
 - Flue Gas Analysis
 - Leakage

What do you see?



Condensate flowing out of a pipe

Condensate recover



- An opportunity to save resources!
- A chance to measure the **flow rate** of the water
- A chance to measure the **temperature** of the water and the bore well water temperature



What does this mean ?

- $Q = m * c_p * dT$
- $Q = 1 \text{ [l/s]} * 1 \text{ [kg/l]} * 4.2 \text{ [kJ/kg}^\circ\text{C]} * 70 \text{ [}^\circ\text{C]}$
- $Q = 294 \text{ [kJ/s]}$
- Consumption of oil = 0.0082 [kg/s]

Result:

Annual loss = 72 million MMK

What do you see now?



Money flowing out of a water pipe

Why Condensate recover is MUST



-
- Recovers HEAT
 - Recovers WATER
 - Saves FUEL
 - Saves MONEY (Water bill+ FUEL bill)

Insulation



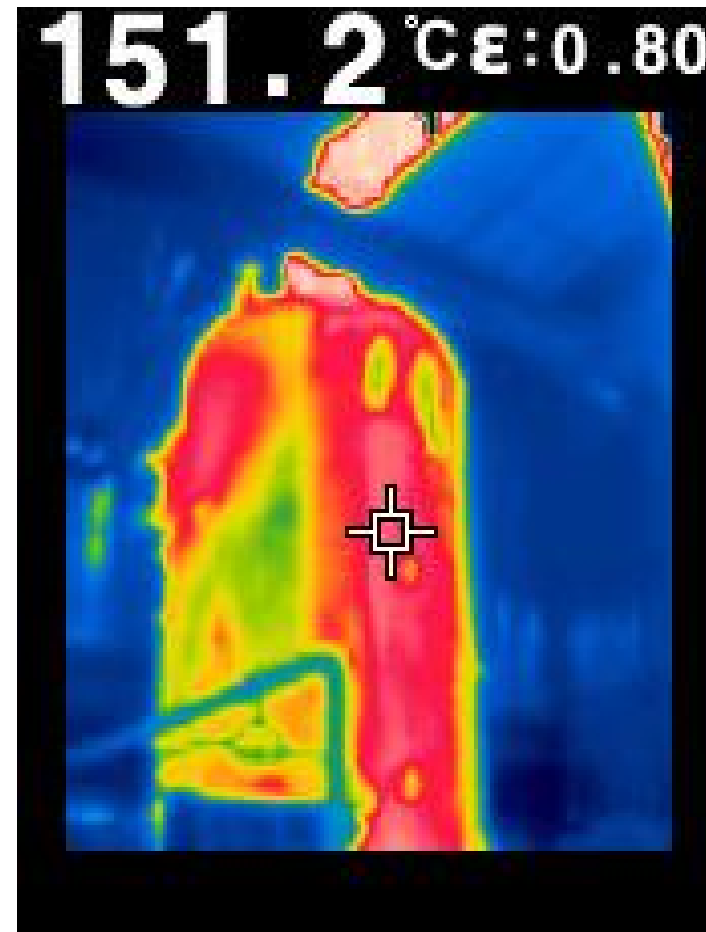
Better maintenance of insulation



Insulation



Uninsulated Boiler



Uninsulated Water Feed tank



Insulation: Monitoring



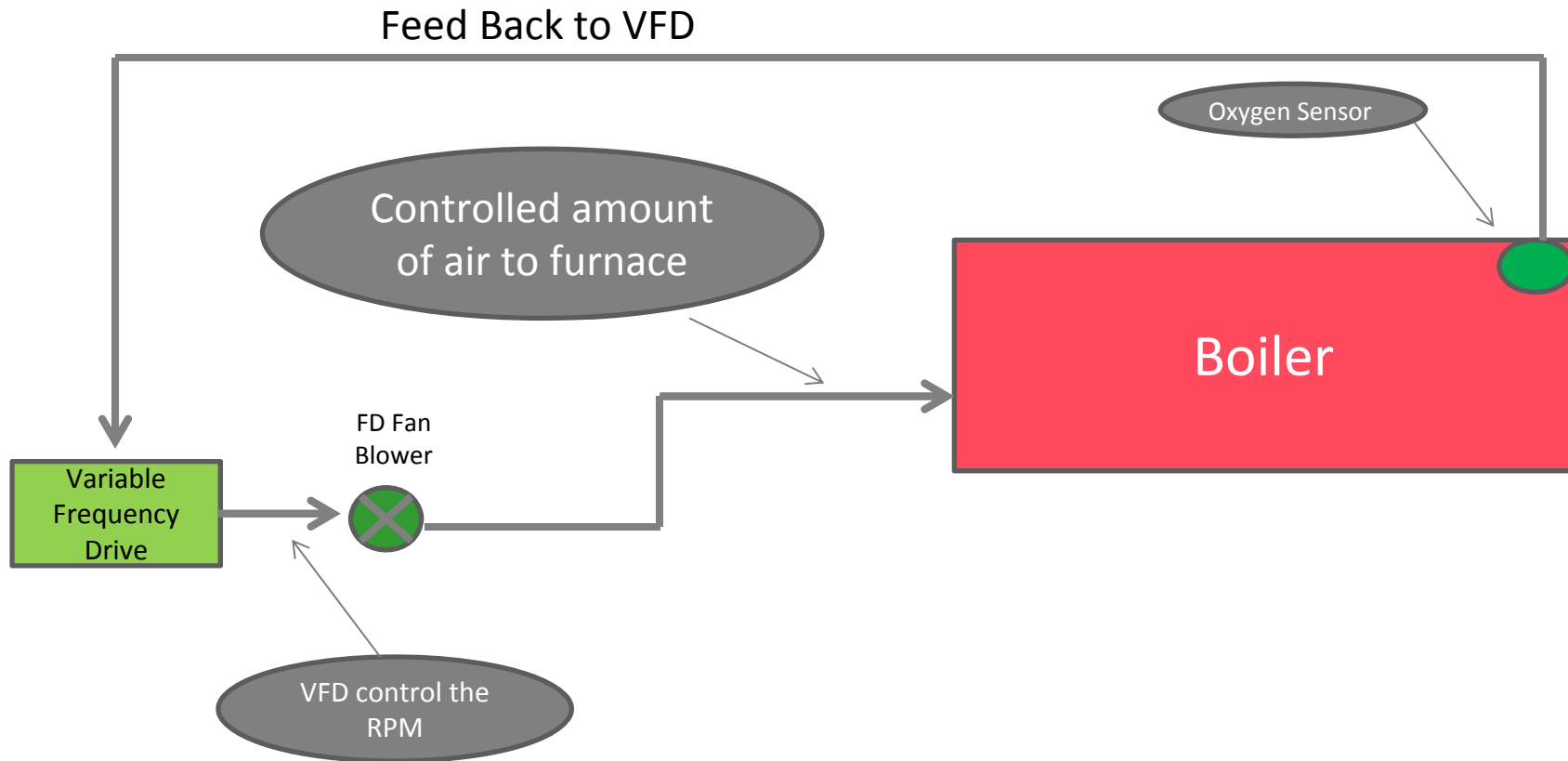
- Steam Pipe line
- Condensate Line
- Boiler
- Feed Water tank or storage tank



Flue Gas Analysis



- Excess air /Oxygen control



FGA: Provision for testing



Steam Leakage





Thank you for your attention!

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