



AUTOMATED DILUTION WATER SYSTEM FOR PALM OIL MILL



PT. Simolindo Global Indonesia

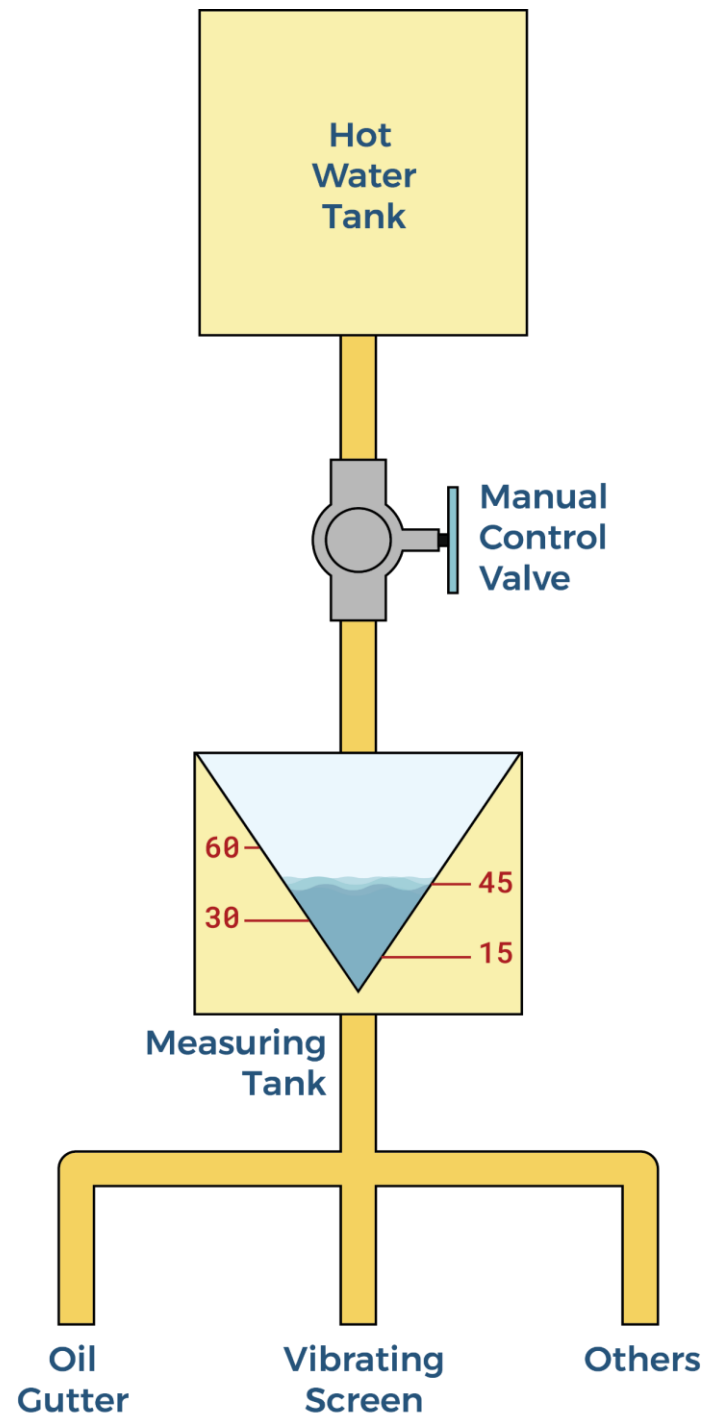
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EXISTING

AUTOMATED WATER DILUTION SYSTEM FOR PALM OIL MILL

Existing working Procedure:

1. Hot water flow from Hot Water Tank
2. Using manual control valve to control mass flow of water
3. Using measuring tank to indicate the water flow



Disadvantages :

1. Difficult to adjust a constant hot water flow rate.
2. Fluctuated volume of Hot Water Tank give different flow rate to the output.
3. Need more attention and supervision to stabilize the flow rate.
4. Consumed more water, and unstable solution concentration.
5. More water in solution, more centrifuge machine on operation. More sludge produce at Sludge Tank.

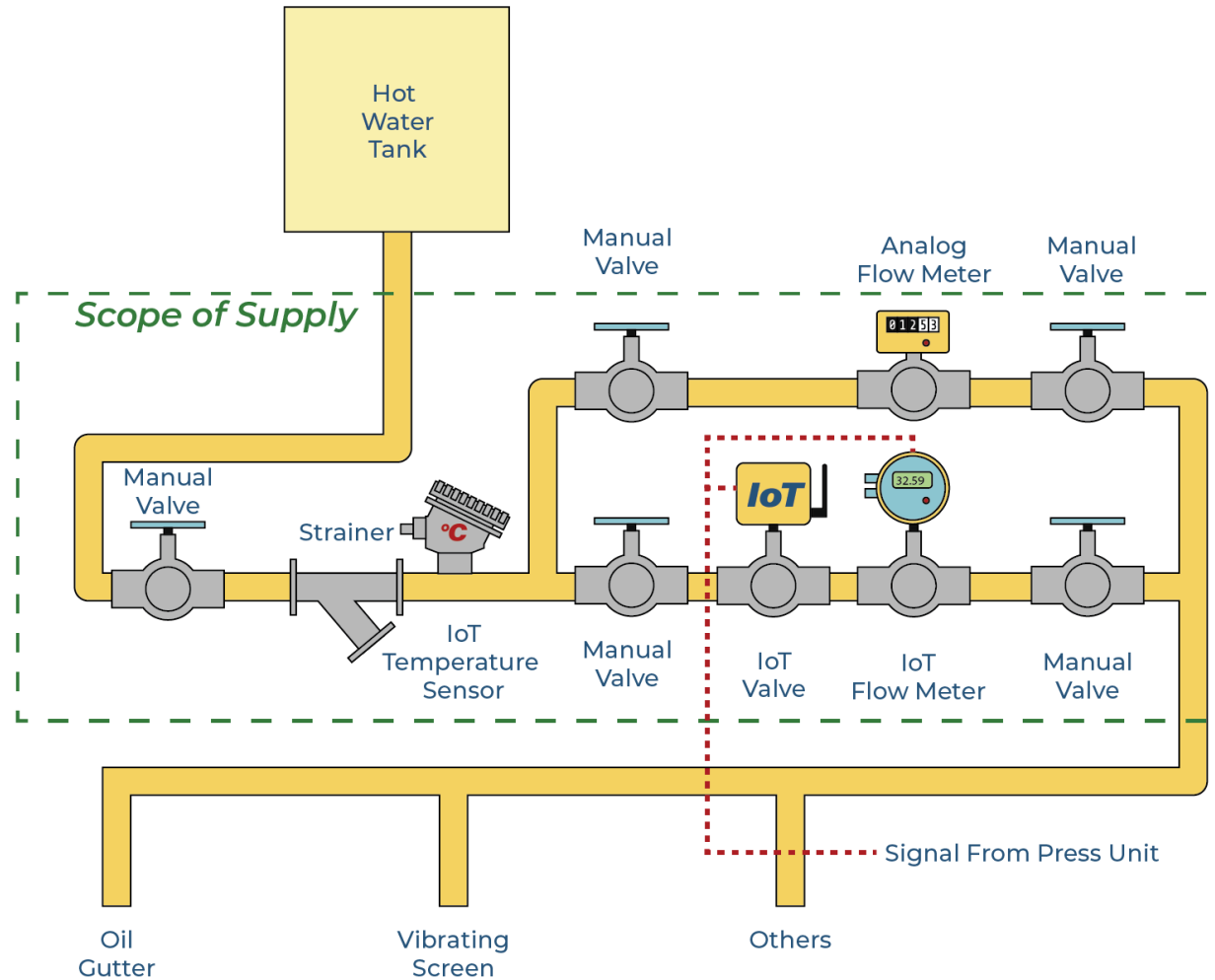
Automated Dilution Water System



PROPOSED AUTOMATED WATER DILUTION SYSTEM FOR PALM OIL MILL

Working Procedure :

1. Signal taken from press unit (how many presses are in operating)
2. By knowing numbers of presses in operation, also known how much dilution water needed.
3. lot flowmeter read the existing flowrate in.
4. The microcontroller will adjust the lot Valve to open or close to meet the needed for water dilution via signal from press unit.
5. Incase any repair at IoT line, the water flow can use by pass system using analog flow meter for temporary



Advantages :

1. Supply of hot water can be adjusted automatically precise as required.
2. Microcontroller will organize the flow corresponding to the running Mill capacity.
3. At the beginning mill processing , standard figures for water flow rate can be set for every single press machine.
4. The figures/system can be monitored via computers and *Smartphone*
5. Save water consumed as well as energy produced.

Water Dilution Calculation for POM

Press capacity 15 tph per unit

DCO approximately 60 – 70 % to FFB

Dilution water approximately 30 % to DCO

Calculation water dilution base on Press Unit running :

1 Press : 2.70 – 3.15 m³/hr

2 Press : 5.40 – 6.30 m³/hr

3 Press : 8.10 – 9.45 m³/hr

4 Press : 10.80 – 12.60 m³/hr

THANK YOU