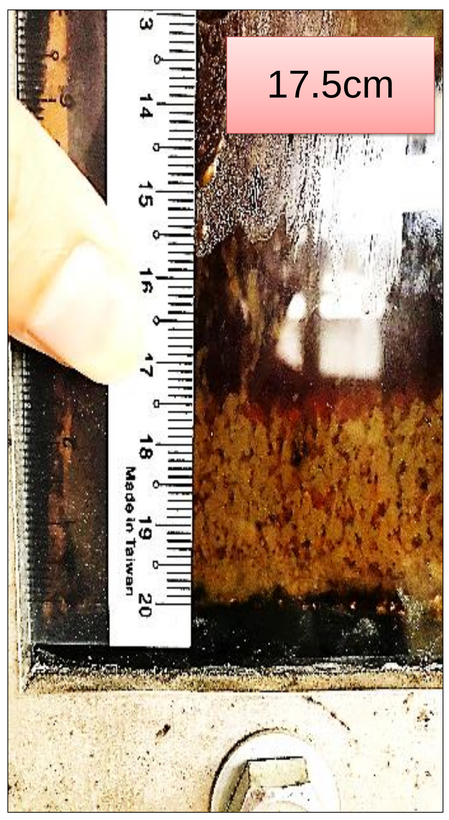
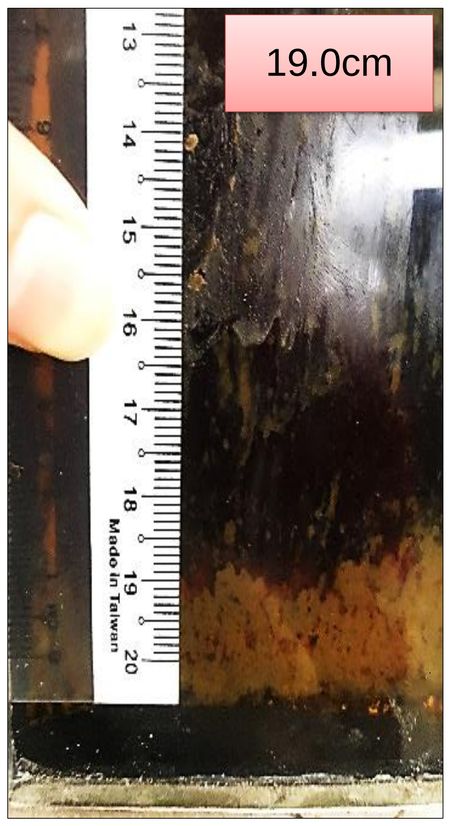
Crude Palm Oil Vacuum Clarifier

PATENT NO : PI 2019006095



After 15 minutes



BRIEF TECHNOLOGY

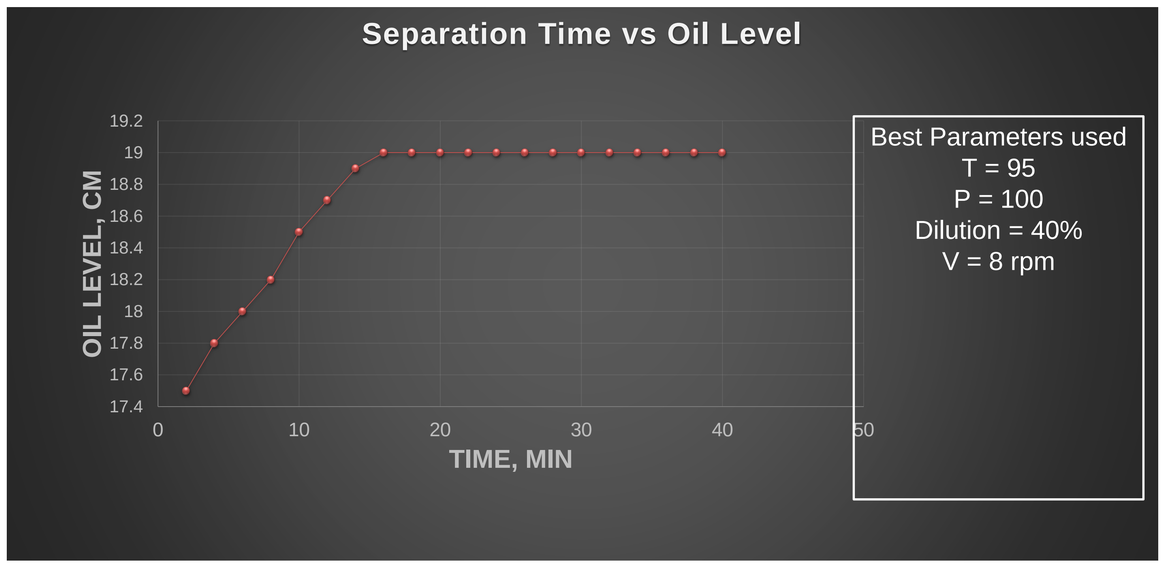
Palm oil clarification process using a vacuum technology improves the existing process which use gravity settling. With this new concept of separation, the oil separation is improved by 300% and oil losses in the sludge is reduced by 50% as well as maintaining the final crude palm oil quality.

Increasing concern on high oil loss at the clarifier station, vacuum assisted palm oil clarifier has been constructed to improve the oil water separation and reduce the oil losses during the process. Conventional process operates on gravitational force thus longer time is required for the oil to settle and complete. This concept can be used in any industry that relates to oil water separation

PROBLEM STATEMENT & CURRENT ISSUES

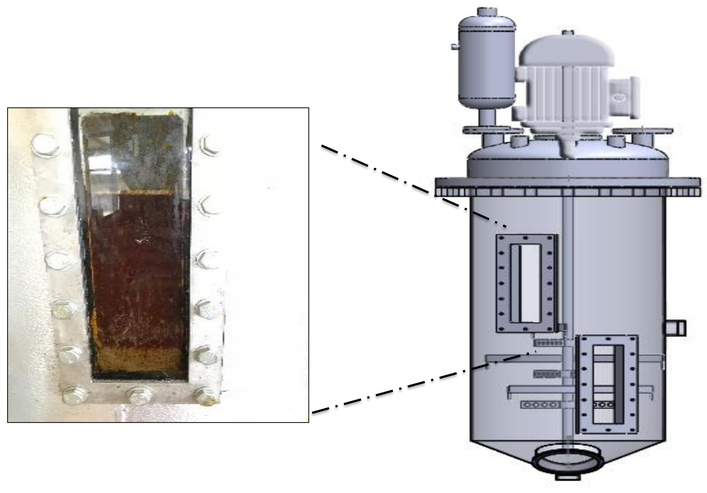
- High oil losses in clarification process causes a detrimental loss in overall throughput, affecting the OER.
- Long retention time rely on gravitational settling where require at least 3 hours for complete separation.

(Both factors affect the Oil Extraction Rate (OER) per mill)



INVENTIVENESS & NOVELTY

- ✓ Creating a vacuum condition in a clarifier tank to enhance the oil water separation and shorten the oil retention time.
- ✓ Vacuum contactor designed with a built-in baffles to increase the surface area of the feed, thus vacuum can be minimized.



ADVANTAGES

- Save energy - This is because the amount of steam/electric use is less as the retention time is short.
- Save Time- Compare to existing technology, it requires 3 hours to complete separation while using vacuum technology, only 30 minutes to complete separation.
- Increase Product Throughput - Product throughput can be increase as the retention time of the separation is much shorter compare to existing technology
- Simple Operating -The concept is using a simple suction to create vacuum in the vessel and not require complex modification to install in the existing technology.

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