

Review of literature on steam accumulator sizing in palm oil mill

ABSTRACT

Previous work in the area of improving the performance of steam system in palm oil mills can be found in books and journals published by Malaysian Palm Oil Board (MPOB). However, very little data has been published on operating experiences and scientific facts as well as economic aspects of back pressure vessel system. The data is also often found to be contradictory with the actual industrial requirement in handling pressure fluctuation of steam line in palm oil mill. Furthermore, there is very scarce literature on proper sizing methods for back pressure vessel. The design of back pressure vessel in palm oil mills is still largely based on undeveloped approaches and is carried out by individuals lacking exposure to the palm oil milling industry. The size of back pressure vessel varies between 1 to 12 m³ and the choice is usually dictated by the manufacturer and the capacity of steam consumed by turbine. But, this size is always found to be insufficient to control the steam distribution to sterilisers and other heating processes.

Keyword: Palm oil mill; Steam accumulator; Steam pressure; Specific steam storage capacity; Sterilisers