



This paper presents method to detect air leakage of an air conditioning compressor using image processing techniques. Quality of air conditioning compressor should not have air leakage. To test an air conditioning compressor leak, air is pumped into a compressor and then submerged into the water tank. If air bubble occurs at surface of the air conditioning compressor, that leakage compressor must be returned for maintenance. In this work a new method to detect leakage and search leakage point with high accuracy, fast, and precise processes was proposed. In a preprocessing procedure to detect the air bubbles, threshold and median filter techniques have been used. Connected component labeling technique is used to detect the air bubbles while blob analysis is searching technique to analyze group of the air bubbles in sequential images. The experiments are tested with proposed algorithm to determine the leakage point of an air conditioning compressor. The location of the leakage point was presented as coordinated point. The results demonstrated that leakage point during process could be accurately detected. The estimation point had error less than 5% compared to the real leakage point.



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