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WASTE HEAT RECOVERY SYSTEM FOR STATIONARY C.I. ENGINE

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Abstract

Ever increasing demand for energy makes Diesel Generating set (DG Set) more popular and being used as standby unit. The industries as well as farmers are more reliable and comfort to work with Diesel Generating set due to its low start up period and easy to handle. Even though DG sets are more popular but less knowledge is associated with the losses associated with it. Among these, stack losses through flue gases or the exhaust flue gas losses on account of existing flue gas temperature of 350ºc to 550ºc, constitute the major area of concern towards operational economy, also diesel engine produces a large amount of smoke and NOx which is harmful to the environment and the civilization in the nearby vicinity of the industries. It would be realistic to assess the waste recovery potential in relation to quantity, temperature margin, in Kcal/hr. The potential of heat recovery depends upon many factors and attempt is made in the present research to incorporate heat exchanger in the existing Stationary C.I. Engine which also resulted into effective reduction in smoke emissions.

Keywords: Diesel Engine, Losses, waste heat recover, Heat Exchanger, Emissions