5th World Conference on
Sustainability, Energy and Environment

Prague, Czech Republic 18 – 20 September 2025

Liquefied Petroleum Gas (LPG) Transferring Unit

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Abstract

Liquefied Petroleum Gas (LPG) is a relatively widespread fuel used in a variety of applications such as cooking, transport and also industrial applications. LPG is a broad term, since its composition can vary but it is mostly composed of propane and butane or a mix of propane and butane. The convenience of LPG exists due to its physical properties which allow it to be contained in liquid form at room temperature and reasonable pressures presenting good energy density. The storage pressure is useful to deliver the fuel to burners. LPG also burns cleanly due to its chemical composition and efficient combustion. However, LPG use is hindered by the fact that it cannot be transferred easily from one container to another and therefore typically the LPG bottle/cylinder will be replaced, or filling has to be done at an industrial facility. This paper presents a setup designed, built, tested and used at the University of Malta that facilitated the filling of LPG at the thermodynamics laboratory thus making LPG usage much more convenient for our testing needs associated with engines.

Keywords: autogas, butane, LPG filling, propane