



*Register of Gas Installers of Ireland
Unit 9, KCR Industrial Estate,
Ravensdale Park, Kimmage,
Dublin 12
T. 01 4997998
Email: info@rgii.ie*

Technical Bulletin

Over-Pressure failure of single stage propane cylinder regulators (11 – 47kg)

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BACKGROUND:

RGII is aware of over-pressure events with LPG cylinder installations. In several cases, a single stage propane cylinder regulator had failed due to; incorrect positioning of the vent, water ingress leading to icing and/or extended use (above recommended manufacturer's instructions or >10 years).

Any regulator found to be at the end of its service life or suspected to be at end of life, should be replaced with a regulator which has OPSO (Over Pressure Shut Off) protection fitted.

The date of manufacture is stamped on the body of the regulator.

SAFETY ACTIONS:

Action required

Regulators should be installed, maintained and replaced as specified in the manufacturer instructions, or in the absence of any manufacturer instructions, after 10 years in service.

To avoid the vent opening becoming blocked regulators designed for outdoor use should be at least 500 mm above ground level.

To prevent ingress and accumulation of water inside the body of the regulator **it is very important that regulators are always positioned as per manufacturer's instructions (normally with vent opening facing downwards to avoid water and/or dirt ingress).**

RGII recommend upgrading of existing domestic installations fitted with a single stage regulator without protection, to regulators with over pressure or excess flow protection, as per Irish Standard I.S. 813:2014+A1:2017 Domestic Gas Installations (reference B3.4.3.1).

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On Non-Domestic (I.S. 820:2019) installations, it is a requirement to have an over pressure protection device fitted on an LPG cylinder single stage regulator system (reference B3.4.3.1).

Figure 1 below shows single stage regulators with OPSO protection device incorporated in the regulator.

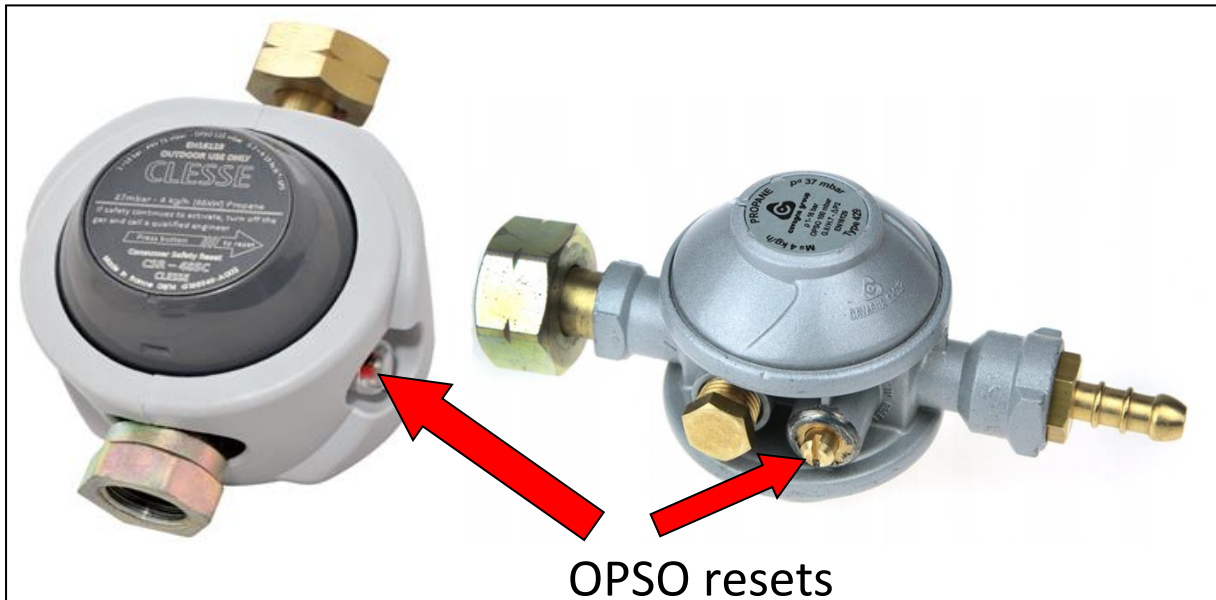


Figure 1

Hazards

Where over pressurisation of an installation occurs, pipework and appliances are subjected to pressures well above their design and testing limits. This can cause leakage of high volumes of gas into properties and becomes a serious safety hazard.



Figure 2

Signs of corrosion or wear and tear on a regulator

Figure 2 shows a single stage regulator with signs of corrosion, this regulator should be replaced with a new single stage regulator with overpressure protection (OPSO) device fitted.

END