

WORLD LPG ASSOCIATION (WLPGA)

SAFETY



ALERT



World LPG Association (WLPGA) Safety Alert - LPG Cylinder Valve Removal

Background

Around the world approximately 200,000 valves are removed from LPG cylinders every day as they are prepared for repair, maintenance, and requalification. Before the valve is removed, all remaining liquid LPG must be evacuated, and the pressure inside the cylinder reduced to atmospheric. If this is not done correctly there is risk of the valve being ejected with force, causing serious injury to the operators. An uncontrolled release of LPG also creates the risk of cold burn, fire, and explosion. A safe process should be used to remove the remaining liquid in the cylinder. This WLPGA Safety Alert refers to the procedure for safely removing the valve from a LPG cylinder and provides advice on reducing the risks surrounding that procedure.



LPG Cylinder Valve Removal

When LPG cylinders are withdrawn from service temporarily – for maintenance, repair, or requalification – or permanently for scrapping, the contents must first be removed. Procedures to do this will first refer to evacuation of contents direct to on-site storage, site vacuum systems (vent stack), and vapour removal (liquid boil off).

The second step is to reduce the pressure in the cylinder down to one atmosphere using site vacuum systems or venting under purpose built local extraction unit hoods. Only then should attempts be made to remove the valve from the cylinder

The following additional advice is provided here to reduce the risks of this procedure:

- Ensure all operators assigned to undertake valve removal are familiar with the process and well trained
- Locate the process in a controlled area, remote from the LPG cylinder filling area
- Eliminate any possible ignition sources
- Check all equipment and tools are fit for purpose and meet ATEX requirements and standards
- Check that the cylinder is liquid free (refer to tare weight) and gas-free
- Introduce the 'whisper test' [refer # below] to check for an open cylinder valve and any positive pressure in the cylinder
- Clearly mark cylinders after the contents have been evacuated for easy identification
- Avoid the use of hand-held valve removal tools
- Use a tool that can mechanically contain any eventual unexpected hazardous valve release
- Fit a guard before removal to protect operators from unexpected hazardous valve release
- Ensure the valve removal tool is not a potential ignition source (not steel)
- Refer to valve manufacturer if considering reconditioning valves

[#](https://www.wlpga.org/wp-content/uploads/2021/08/SOP_103_039_MIL_Traditional_Cylinder-Test.pdf)

For further information contact the WLPGA Core Safety Group through David Tyler (dtyler@wlpga.org)

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