

Harp warns of dangerous CO₂ refrigerant practices

UK: A leading refrigerant supplier has warned of highly dangerous installation practices which it says could cause CO₂ refrigerant cylinders to explode.



While the use of CO₂ is increasing, particularly in supermarket refrigeration systems, concerns have been raised that there is insufficient knowledge and experience of using this high pressure refrigerant. This lack of knowledge, according to some in the industry, could potentially put lives at risk.

Harp International, a leading supplier of CO₂ to the refrigeration trade, has observed scorch marks on a number of returned cylinders suggesting that heat, probably from an oxyacetylene torch, had been applied to the casing. In addition, the company has also seen evidence of tampering with the valve.

These actions appear to stem from a lack of knowledge of CO₂, its characteristics and procedures required when charging a system with CO₂.

Harp International points out that when charging an evacuated refrigeration system with liquid CO₂, it is imperative to always break the vacuum with CO₂ vapour and raise the pressure to at least 5.18bar absolute (4.17barg). Failure to do so can result in the formation of dry ice (solid carbon dioxide), blocking the valve and impeding any further transfer of the liquid CO₂ into the refrigeration system.

It would appear that installers not carrying out this procedure correctly have been trying to unblock the iced-up valve with a sharp instrument, such as a screwdriver, and then applying heat directly to the body of the cylinder - a highly dangerous practice.

Bryan Davies, managing director at Harp International, has confirmed that his company has found scorch marks on cylinders and damage to the valve. "We see it often and it is increasing," he says. Possibly 5% of our returned CO₂ cylinders are showing evidence of this sort of tampering.

"Taking a screwdriver to the valve can damage the pressure relief device. Then add heat to the cylinder and you've created a bomb. Unless current practice is improved it's only a matter of time before somebody gets seriously hurt," he warned.

Harp International has released a link to its CO₂ safety information sheet: downloads.harpintl.com

Safety Information