

Handling of Liquid Mixtures in Constant Pressure (Piston) Cylinders



The liquid hydrocarbon mixture is contained in the Product side of the cylinder. Helium to serve as a pressurising gas is contained in the Pre-charge side. A piston within the cylinder separates the two phases. The Product side of the cylinder also contains a gravimetric mixer.

Directions for use

For full directions on the use of Constant Pressure Cylinders please refer to the Welker® 'Installation, Operation and Maintenance Manual' supplied with the cylinder. However, key points on the handling of your mixture are highlighted below:

- 1) Ensure the liquid hydrocarbon mixture is homogenous before use.
 - a. Within the cylinder homogeneity can be ensured by keeping the pressure of the helium in the Pre-charge side higher than that of the vapour pressure of the hydrocarbon mixture at all times.
 - b. After this is achieved the cylinder should be tipped from side-to-side, you will be able to hear the mixer hit each side, this tipping should be repeated a minimum of 10 times.
- 2) Ensure homogeneity of the mixture is maintained when a sample is taken.
 - a. The sample should be removed slowly, i.e. with some restriction and not allowed to simply flow out.
 - b. The helium in the Pre-charge side should be maintained at a pressure higher than the vapour pressure of the liquid hydrocarbon mixture.

If these precautions are not followed, the composition of the mixture within the cylinder will be compromised.

- 3) It is recommended that the cylinder is to be stored at room temperature, sampling from the cylinder should also be performed at room temperature.
- 4) The pressure inside the cylinder must not exceed 124 bar (at –29 °C to 38 °C).