Calibration of Oil Free Gauges

This document describes the method for handling pressure gauges which are required to be **kept** oil free. This method is **not** designed for cleaning and testing gauges which have not been designed to be oil free or have oil contamination. It is generally considered that once a bourdon tube gauge has been contaminated it is not possible to clean it with certainty. Gauges that are observed to be contaminated are not tested and the customer is advised they are not suitable for use on oxygen. Gauges should be marked up for use on oxygen as per AS1349-1986.

Upon receipt, an oil free gauge is put into a re-sealable plastic bag marked oil free and is only removed for calibration.

Gauges with a range below 8000 kPa are tested using bottled BOC industrial dry nitrogen, Gas Code 032 unless requested to use high purity dry nitrogen, Gas Code 034. Gauges with a range above 8000 kPa are tested using distilled water using an oil to distilled water interface. The interface includes a cleaned, oil free rubber sack and is connected to a hydraulic dead weight tester. Pneumatic oil free instruments are connected to a dedicated oil free dead weight tester, which is thoroughly cleaned from any oil contamination. All fittings and components that the gauge will connect to are cleaned with thinners and then dried prior to testing.

Gauges tested with distilled water are assumed to be clean as received and tested on a rig that has been degreased for the purpose. After testing the water in the gauge is shaken onto a clean piece of paper in order to observe any potential contamination. Water is removed from the test instrument connection port as best as possible with the use of shaking, paper towel, pipe cleaners and blowing with dry nitrogen where appropriate.

The gauge is then returned in the sealed plastic bag.

Although every care is taken, the responsibility of the above method being suitable for the subsequent use of the gauge is left to the customer.