Hello, this a video for Engineering Measurement & System Monitoring unit, learning outcome two where we have to calibrate sensors.

So, we must compare two pressure sensors, one is the reference so it could be called the calibrated instrument. So, we have a pressure gauge from an industrial rig and an instrument called a digital pressure indicator sometimes called a DRUCK. This instrument can create and measure a pressure, so it is a pressure source.

It has a bleed screw; now it is reading a pressure so we can bleed it and the pressure goes down. Then we can pump the pressure up and the idea is that we can take a series of readings say five to ten readings. What we want to do, is get the needle on one of increments, the instrument has a fine tuning screw to adjust the pressure. Then the reading will be taken from the DRUCK, which has a greater resolution – more decimal places. When we get a series of readings, then a graph can be drawn with the number of the reading on the x axis and the pressure on the y axis. The result would be two pressure line one for the industrial gauge and the other for the DRUCK. The expectation would be that both the line would be parallel but offset from each other, this amount would be the average error and that is the amount the gauge would need to be adjusted to be it closer to reading true. An instrument like this could be checked against a dead weight tester in a laboratory but this is a portable device that can be taken to an industrial rig.

Thank you for listening.