

## Monitoring and Recording of Casing and Tubing Pressures

Of the many components involved in oil and gas extraction, two of the most critical—and that require constant, close attention—are the Casing and Tubing. The Casing lines the wellbore, insulating it and protecting the surrounding soil and groundwater from contaminants like mud and fracking fluids. It's constructed to withstand high loads and stabilize the wellbore, protecting it from collapse or failure.



The Tubing, located within the Casing, is the pipe or conduit that transports the oil and gas from deep inside the well to the surface. By closely monitoring Casing and Tubing pressures, operators collect important information about well safety and performance.

Among other things, Casing pressure indicates the build-up of gas pressure in the outer walls of a well. Monitoring the Casing pressure helps prevent cracks in the well casing, increasing the life of drilling equipment and, perhaps most critically, to prevent blowout.

Operators measure the Tubing head pressure at the wellhead. Flowing Tubing Pressure (FTP) is a good indicator of the health of a well, and is given special attention since pressure naturally declines over time as a well ages. Therefore, to keep proper records and to make appropriate adjustments, well operators must record a well's Casing and Tubing pressure simultaneously.

### The nVision Reference Recorder is the Solution

Using Crystal's versatile reference recorder, simultaneous tests can be completed on the surface, saving both time and money. The nVision reference recorder can record two pressures simultaneously at up to 10 times per second, and store 500,000 readings.

nVision graphs your latest recorded data on its large LCD screen, allowing you visualize data in real time as it's being recorded. With the ability to zoom in and out, pan across, and download data, even while even while recording, nVision makes it easy to identify trends or anomalies.

We designed the nVision reference recorder to protect its highly accurate sensor modules against rough handling, over-pressure, and caustic chemicals; and we've made them easy to change in the field, so you can switch configurations and keep on working!



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