Replacing Outdated Gauge, Sensor, and Transmitter Calibrators



A local peaking power plant with four combustion turbines was looking to replace some older pressure calibrators for their instrumentation and control technicians. These instruments would calibrate gauges, sensors, and transmitters for parameters such as steam pressures, differential pressures for level and flow, fuel pressures, and more. The team was looking to replace basic pressure calibrators.



Our Solution

Our HPC40 Series with a 30 psi low-pressure sensor and a 3000 psi high-pressure sensor was determined to be a good fit for the applications that they had described. The dual range calibrator allowed them to use the 30 psi sensor for their low range and vacuum applications and the 3000 psi range for their higher range applications. We demonstrated the unit using our T-975 handpump as the pressure source and the XP2i pressure gauge as a simulated unit under test. Our CPF hose and pressure fittings provided the connections. The lead technician was impressed that the finger-tight CPF fittings did not require tools or thread tape throughout the demonstration, and it took minutes to set up and break down the test. In addition to the T-975, we introduced the T-620 hydraulic handpump for their higher pressure applications. As a result, the customer ended up choosing one of our complete pressure pump systems, including the HPC40 calibrator, the T-975 pneumatic hand pump, the T-620 hydraulic hand pump, and the CPF fittings, all in a waterproof carrying case.



The customer was very impressed by the ease of setup and use of the HPC40 pressure calibrator. They felt that the Advanced Simplicity interface combined with the color display was better than any calibrator that they had seen. We showed them that the unit could power a transmitter and perform a scaled calibration: including the error calculation and an indication of leak rate. Displaying the error calculation and leak rate directly made their preventative maintenance much easier. We also demonstrated the unit's loop capabilities and confirmed that this would replace their current loop calibrators. Additionally, the HPC40 can read their installed 2, 3, and 4-wire RTD sensors and eliminate another handheld product they periodically used.

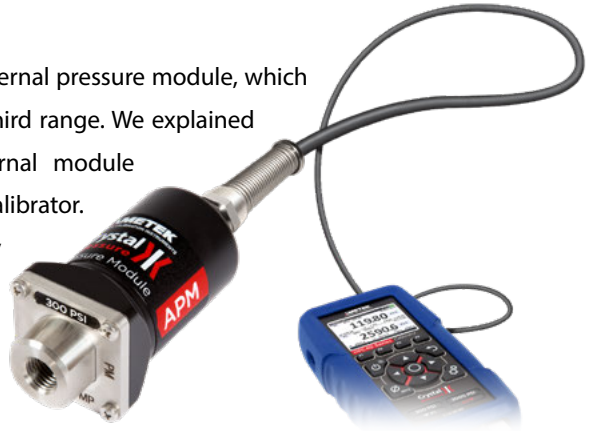
As the discussions continued, they explained that they occasionally performed high-pressure hydraulic tests at approximately 8000 psi, which required yet another calibrator.

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Crystal pressure

Case Study Peaking Power Plant

CAL-017



We demonstrated our APM CPF external pressure module, which connects to the HPC40, adding a third range. We explained how a single high-pressure external module could combine with any HPC40 calibrator. No matter which technician's daily calibration tasks included the high-pressure hydraulic tests, they could use the same APM CPF module to perform it. Because this task was only occasionally performed, sharing a single high-pressure module was yet another feature that made their jobs more manageable and resulted in less equipment to maintain.



Finally, we highlighted the BARO module option of the HPC40, which provides a real-time barometric reading and allows the calibrator to change from gauge pressure measurement to absolute pressure measurement without the need of changing modules or sensors. It turns out that they had a few applications where they measured absolute pressures and previously needed additional modules or calibrators to take those measurements. They also had an emissions check that required a barometric reading. They would call a local airport, several miles away for that reading, as they could not check their pressure real-time onsite. This led to the potential for additional uncertainty as the barometric reading at the airport could have differed from the onsite reading. Adding the BARO option to the HPC40 allowed them to get the onsite reading whenever they needed it.

For the many reasons stated above, the customer ordered multiple HPC40 Pump System kits with the BARO option. They also ordered high-pressure APM CPF external modules along with additional CPF fittings. The technicians were highly pleased with the multi-use equipment.

JOFRA calibration



At a later meeting to train them on the HPC40 units, they advised that their dry-block temperature calibrator was old and regularly needed service. We showed them the new CTC Series temperature calibrator that uses the same Advanced Simplicity interface as the HPC40. It was an easy decision for them to order the CTC, as not only was the calibrator better than the one they had, but they had no challenges with learning how to use the unit as they were already familiar with the operating system. In addition, it would be even easier if they had to train a new technician.

In the final twist, they returned to us later and replaced a few digital gauges with the XP2i they had initially seen in the first demonstration.

What started as a demonstration for a customer looking to replace a single pressure calibrator turned into a meeting that solved several problems, saving money in equipment and maintenance costs. With a single HPC40 calibrator, the customer was able to replace:



- The original pressure calibrator they contacted us about
- Their loop calibrator
- A handheld calibrator that read their RTDs
- A high-pressure calibrator for their hydraulic applications
- An absolute pressure calibrator
- The phone call to the airport

In the end, we were able to supply equipment with more features, better flexibility, and increased ease of use. We eliminated several pieces of equipment and reduced their efforts in maintaining the test equipment. To sum it up, we offered solutions and not just replacement products.

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SENSORS, TEST & CALIBRATION **Ph:** 805-595-5477 • **Email:** crystal@ametek.com • **Web:** ametekcalibration.com