5 in 1 Force Verification System

Limit your Risk and Keep your Bottom Line Intact!

To ensure your measurements are accurate, put practices in place to monitor your processes. The Morehouse force verification system can be used for:

- Force Verification
- Statistical Process Control (SPC)
- Interlaboratory Comparison (ILC)
- Proficiency Testing
- Repeatability and Reproducibility test

The 5 in 1 Force Verification System includes:

1. Morehouse Ultra-Precision Load Cell
2. High Accuracy Digital Indicator (Sensing A/D USB)
3. Mini Computer with Morehouse Software
4. Load Cell Cable
5. Custom Cut Pelican Case

Force Verification

Have you ever questioned if your system is functioning properly? A good force measurement system can take guesswork out of the equation. The ability to obtain objective evidence based on a quick measurement provides the verification needed to ensure proper operation.

Statistical Process Control (SPC)

This process is similar to verification, with the exception of a documented control process in which an artifact is used to monitor performance of the measurement process. A good load cell system can be used as a check standard to monitor that the process is in control. It can provide the objective evidence and reduce risk. If the process is continually monitored and an out-of-control situation is found, the root cause analysis can be performed to ensure proper corrective action before the machine or process actually goes out of tolerance.

Interlaboratory Comparison (ILC)

Interlaboratory Comparison can be used to meet the requirement of ISO/IEC section 7.7.1 & 7.7.2(b) (ILC). The force system can be used to compare machines, operators, or processes. If you are using control charts and the process output is approaching control limits, the system can test what the issue is and determine which machine, operator, or process needs to be corrected.

Proficiency Testing

This often requires an artifact with a very low uncertainty. If the load cell system is calibrated by deadweight primary standards, the system can be used to satisfy Proficiency Testing requirements. This needs to be communicated upfront as compliance with ISO 17043 requires a PT provider. Morehouse works with several providers and can facilitate the request.

Repeatability and Reproducibility

Per ISO 5725, the general term for variability between repeated measurements is precision. Two conditions of precision, termed repeatability and reproducibility conditions, have been found necessary and, for many practical cases, useful for describing the variability of a measurement method, under repeatability conditions. A device with very high resolution and low overall uncertainty will allow the end user to lower their Calibration and Measurement Capability (CMC). When calculating CMC, the resolution of the system being used must be figured into the calculations. The lab will need to perform repeatability studies. An artifact with low sensitivity to side loading, temperature compensation and stability will be a lab's best asset. A good system will often decrease the variation in output between multiple measurements. It will also allow the lab to test the true performance between technicians. Repeatability and reproducibility data may be derived from control charts if they are set up properly.