1 Purpose

1.1 The purpose is to provide guidelines for field calibration on all analog type pressure gauges.

2 Scope

2.1 This procedure shall cover all analog type pressure gauges that will be commissioned by Therma's Calibration Department.

3 Reference

3.1 Manufacturer's manual for the specific instrument.

4 Responsibility

4.1 Field calibration technician shall perform calibration as per the following procedure.

5 Calibration Equipment and Tools

5.1 Pneumatic Calibrator

5.1.1 Pressure Range: 0.0 to 500.0 PSI

5.1.2 Accuracy: ± 0.25%

5.1.3 Recommended: Trans Cat Pressure Calibrator

5.2 Accessories

5.2.1 Small hand tools

5.2.2 Gauge pointer jack set

5.2.3 Pressure unit conversion table

5.2.4 Miscellaneous tubing, fittings and adapters

5.2.5 Manufacturer's instruction manual

6 Procedures

6.1 Calibrate test instrument (e.g. pressure gauge) with pneumatic calibrator

6.1.1 Connect the pressure gauge to the pneumatic calibrator. Orient the gauge under test, as it would be normally installed.

6.1.2 Exercise the pressure gauge under test by slowly running it up to full-scale deflection and back to zero. Repeat this test for three times.

6.1.3 Determine the gauge under test major scale divisions to the nearest 10% of full scale. While lightly tapping the gauge under test to minimize the effect of hysteresis and dead band.

6.1.4 Set the gauge under test to this value and record the standard readings on a calibration report.

6.1.5 Repeat steps 6.1.3 & 6.1.4 using major scale divisions had 50% and 90% of full scales.

6.1.6 Slowly bring the indication down to 50% of full scale and note the reading. Reduce the pressure to 20% of full scale, then slowly increase the pressure up to 50% of full scale and note reading. The difference between these two readings should not exceed the manufacturer's limit for hysteresis.

6.1.7 Set the gauge to indicate zero. Slowly bring the pressure up to full scale, noting whether the pointer movement is jerky or uneven at any point on the instrument span.

6.2 Calibration Adjustments

6.2.1 If the tolerance is not within the manufacturer's specified accuracy, make a zero adjustment.

6.2.2 Adjust the gauge's zero by turning a screwdriver adjustment on the pointer, or by removing the pointer with a jack set and placing the pointer back to the correct position.

6.2.3 Make span adjustment using manufacturer's instructions if necessary.

6.2.4 After completion of adjustments, repeat the calibration procedures that described in Step 6.1 and record the readings on a pressure gauge calibration form, FN 6.021.1.

6.3 Fill out calibration date & due date on a calibration sticker and attach the sticker to the external surface of the gauge.

6.4 Record all calibration data on the pressure gauge calibration form, FN 6.021.1.

7 Review and Approval

7.1 The field calibration technician shall submit a copy of the pressure gauge calibration form, FN 6.021.1 to project manager.

Document Approval

Robert McCammond
Field Calibration

12/30/04
Date

Quality Assurance Manager

1/5/2005
Date