



September 24, 2021

To whom it may concern:

We are making three changes to the performance specification of products that use our Quartz Bourdon Tube (QBT) pressure sensors. The mainframe products affected by this specification change are:

- 7250LP Low Pressure Controller/Calibrator
- 7250i Pressure Controller/Calibrator
- 7250xi Pressure Controller/Calibrator
- 7252i Dual Output Digital Pressure Controllers
- 7750i Air Data Test Set
- 7050i Precision Pressure Indicator
- 7050LP Low Pressure Precision Pressure Indicator

These changes are being made after an extensive evaluation of As-Found data on over 2000 units that have been returned to Fluke for calibration. These specification changes apply to the entire population of QBT products we have produced under the above model numbers.

1. Revised Warmup Specification

Table 1. Revised Warmup Specifications

Condition	New Warmup Time Specification*	Old Warmup Time Specification
Powered off >6 hours (cold)	24 hours	2 – 3 hours
Powered off <6 hours	Minimum 3 hours or 4 times the time powered off	Red indicator on the front panel, depends upon time off

**This specification supersedes all other published warmup specifications*

The recommendation from previous engineering design and test data was 2-3 hours required before use. This warmup period aligned with the amount of time it took for the internal oven to come up to temperature and stabilize at that temp. A deeper investigation showed that some instruments are not likely to meet stated specifications in that short of time. Even a brief interruption of line power could take 3 hours to stabilize due to the immediate duty cycle of the heater.

2. Revised Zero Drift Specification

Table 2. Revised Zero Drift Specification

Class	Model	Zero Drift Specification*
i-class	7250i, 7252i, 7050i, 7750i	< 0.0004% FS / hour
xi-class	7250xi	< 0.0002 % FS / hour
LP-class	7250LP, 7050LP, 7252i ranges < 25 kPa	< 0.001% FS / hour
Standard-class	7250, 7252, 7050	< 0.00017% FS / hour

**This specification supersedes all other published Zero Drift specifications*

Zero drift can be observed by placing the instrument in vent mode for gauge pressure sensors or measure mode under vacuum for absolute pressure sensors, zeroing the instrument, and then observing the reading over a period of 1 hour. Zero Drift may be evaluated any time after the instrument has fully met its Revised Warmup Specification. Full Scale (FS) is defined as the maximum positive pressure of the QBT pressure sensor.

3. Revised Precisionⁱ and Total Uncertainty Specificationsⁱⁱ

Table 3. Revised Precision and Total Uncertainty Specifications

Class	Model	Precision Specification	Total Uncertainty Specification
<i>i-class</i>	7250i, 7252i, 7050i, 7750i	±(0.005 % of reading) from 40 % FS to 100 % FS. ±(0.005 % of 40 % FS) from 0 % FS to 40 % FS. Neg. Gauge (opt): Greater of ±(0.005 % of 40 % FS) or 0.00075 psi (0.005 kPa).	40 % FS to 100 % FS: 90 days: ±0.006 % reading 1 year: ±0.009 % reading
<i>xi-class</i>	7250xi	±(0.005 % of reading) from 20 % FS to 100 % FS. ±(0.005 % of 20 % FS) from 0 % FS to 20 % FS. Neg. Gauge (opt): Greater of ±(0.005 % of 20 % FS) or 0.00075 psi (0.005 kPa).	20 % FS to 100 % FS: 90 days: ±0.006 % reading 1 year: ±0.009 % reading
<i>STD class</i>	7250, 7252, 7050	Unchanged	Unchanged
LP-class		Precision Specification	
	7250LP, 7050LP, 7252i ranges < 25 kPa	±(0.005 % of reading) from 25 % FS to 100 % FS. ±(0.005 % of 25 % FS) from 0 % FS to 25 % FS. Neg. Gauge (opt): ±(0.005 % of reading) from 25 % FS to 100 % FS. ±(0.005 % of 25 % FS) from 0 % FS to 25 % FS.	
LP-class		Total Uncertainty Specification	
	7250LP, 7050LP, 7252i ranges < 25 kPa	±(0.009 % of reading) from 25 % FS to 100 % FS. Below 25 % of FS: root-sum-square of ±(0.005 % of 25 % of FS) & ±(0.0075 % of reading).	

The precision specification is being changed to better reflect measured performance found in the extensive evaluation recently completed. This change applies to the entire population of current model QBT products. Conformance to the total uncertainty specification can be found in an evaluation of the As-Found measurements taken during the annual calibration service. Conformance to the precision specification is used as the adjustment specification for As-Left data. Fluke Service will be using the above performance specifications to evaluate pass/fail criteria on all QBT products.

Sincerely,



Wally Miller
Product Manager
Fluke Calibration

ⁱ Precision is defined as the combined effects of linearity, repeatability, and hysteresis throughout the operating temperature range.

ⁱⁱ Total uncertainty is the maximum deviation from the true value of pressure including precision, stability, temperature effects and the calibration standard at a 95% (k=2) confidence interval. This assumes routine zeroing of the instrument, for i-Class, xi Class and STD Class within 5 hours; LP-Class within 1 hour. Expression of uncertainty conforms with the recommendations of the ISO Guide to the Expression of Uncertainty in Measurement.