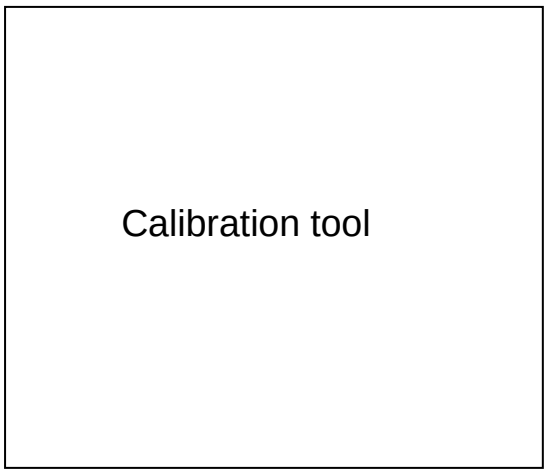

Issue

Calibration failures causing rework and production delays. Failed pressure control units have to be disassembled by removing bellows, followed by a search for a replacement and a re-test. The rework process causes delays in shipments and overdue customer orders.

Breakthrough Strategy

Measure	A gage R&R study was conducted with two calibrators, and the bellows tester. The results indicated that operators were not a problem, rather the parts. Ten sample controller units and one master controller were calibrated, measured, and individually identified.
Analyze	Results of a Matrix Plot indicated that a dimension on the casting base has a critical interaction in calibration failure at 75%. The plot shows that one of the .795 dimensions that supports the bellows should be changed to .810.
Improve	Tally points, operator recording, and DPMO reporting were put in place. Calibration results are recorded daily and posted weekly. The reports are reviewed by the Process and Quality engineer.
Control	Base casting will produce a part within the 75% calibration range if one .795 +/- .005 dimension is at the high end of the tolerance of .810. A second gage R&R was done on the sample parts, indicating inconsistencies.
Results	Change the dimension from .795 to .810. A second dimension identified as the drilled hole pattern was reviewed for out-of-tolerance conditions. The section leader will also monitor the process, with results compared to a 50 week period from the previous year.
Savings	$11,600 for replacement and retest, plus improved customer satisfaction for on-time deliveries.