



Technical Bulletin

SUBJECT: GAUGE REQUIREMENTS

1. *Extract from 49CFR 173.34.e.(4) (iii) A*

"The pressure-indicating device, as part of the retest apparatus, is accurate to within + or - 1% of the prescribed test pressure of any cylinder tested that day. The pressure-indicating device, itself, must be certified as having an accuracy of + or - 0.5%, or better, of its full range and must permit readings of pressure from 90% to 110% of the minimum prescribed test pressure of the cylinder to be tested. The accuracy of the pressure indicating device within the test system can be demonstrated at any point within 500 psi of the actual test pressure for test pressures at or above 3000 psi, or 10% of the actual test pressure for test pressures below 3000 psi.."

2. *Accuracy*

- For a test pressure of 10,000 psi, the gauge must read to 110% of this, i.e. 11,000 psi.
- If the gauge has an accuracy of 0.5% of full-scale, the gauge is only accurate to 55 psi. This means at any given reading, the gauge might be up to 55 psi in error.
- Since that gauge must be accurate to 1% of the prescribed test pressure, at pressures below 5,500 psi, the gauge general inaccuracy of 55 psi exceeds this 1% figure. The gauge is therefore not suitable for use below 5,500 psi

The chart below lists some ranges for popular gauge ranges and is based at more than the DOT prescribed accuracy of 1/4%. **N.B. Galiso master gauges are 1/4 % accurate !**

Gauge max value psi	Max test pressure psi	Accuracy of gauge %	Gauge possible error /psi	Minimum test pressure psi
11,000	10,000	0.25%	27.5	2,750
6,600	6,000	0.25%	16.5	1,650
4,000	3,636	0.25%	10	1,000
2,500	2,273	0.25%	6.25	625
1,500	1,364	0.25%	3.75	375

3. *Use of calibration cylinder*

The calibration cylinder must be used to verify equipment at 500 psi intervals above 3000 psi and within 10% of test pressure below 3000 psi.

See relevant 49 CFR and CGA pamphlets. The items below are not intended as a replacement for DOT specific training. Information is given for guidance only and as a quick reference. The appropriate DOT regulations **must** be referred to for further clarification.

EUROPEAN SALES & SERVICE COORDINATORS FOR  GALISO PRODUCTS