

■ 計量法に基づくトレーサビリティ制度 (計量標準供給制度)

Traceability system based on the measurement law (JCSS: Japan calibration service system)

(イ) トレーサビリティとは正確にものを測るためには、計量器が正確な標準器で校正されていることが重要であり、「ユーザーの計測器がどういう経路で校正されたかが分かり、その経路がきちんと国家標準までたどれること」の意味です。

下図は各々の計測器が国家標準まで「校正の鎖」で繋がっている体系図です。

(ロ) JCSS ロゴ付校正証明書とは認定事業者が発行している証明書です。

荏原計器の圧力計の「基準器検査成績書」は独立行政法人産業技術総合研究所から発行されています。

(ハ) ユーザーへ提出できる書類 (ドキュメント)

- ① 製品検査成績表 ② 基準器検査成績書 (コピー) ③ トレーサビリティ体系図 ④ 校正証明書 ⑤ その他

(A) In order to measure things accurately it is important that a measuring device be calibrated by using an accurate standard instrument. The meaning of "traceability" is "to understand the history of calibration of a user's measuring device and rigorously trace the route of that calibration to a national standard."

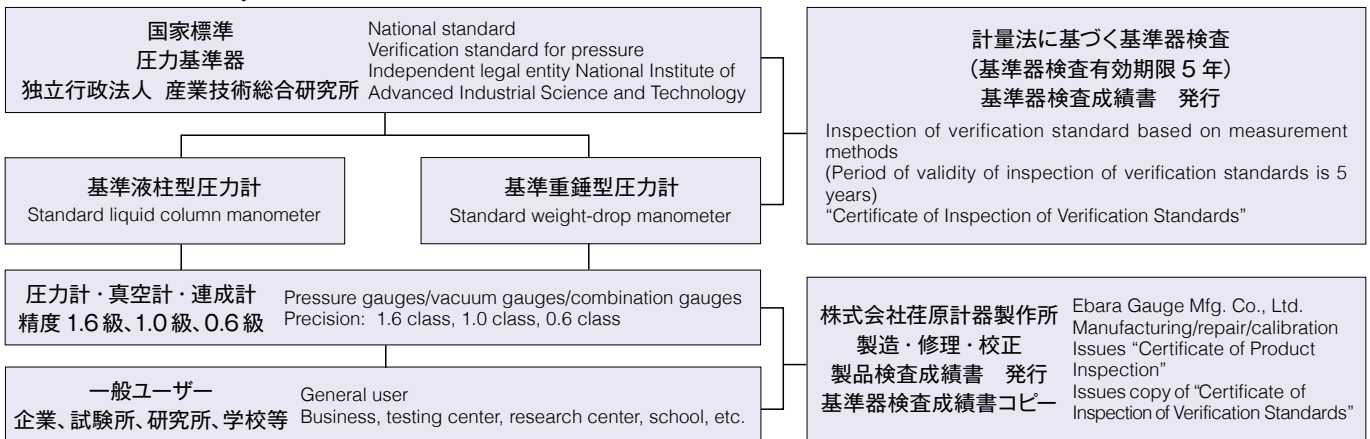
The below diagram is a system chart showing how each measuring device is linked to a national standard by means of a "calibration chain." A calibration certificate bearing the JCSS logo is proof that the certificate has been issued by a certified business operator.

(B) The "Certificate of Inspection of Verification Standards" of a pressure gauge made by Ebara Gauge Mfg. Co., Ltd. is issued by the National Institute of Advanced Industrial Science and Technology, an independent legal entity.

Documents which can be provided to users:

(C) (1) Chart of product inspection results, (2) Certificate of Inspection of Verification Standards, (3) Traceability system chart, (4) Various certificates, (5) Calibration certificate, (5) Other.

■ 圧力トレーサビリティ体系図
Pressure traceability chart



(平成 24 年 4 月現在)

■ 圧力単位比較表

Comparison table of pressure units

| k Pa | MPa | kgf/cm ² | bar | atm | PSI ib/in ² | H ₂ O (Aq) | Hg |
|--------|--------|---------------------|--------|--------|---------------------------|-----------------------|--------|
| | | | | | | m | m |
| 98.07 | 0.098 | 1 | 0.9807 | 0.9678 | 14.22 | 10.000 | 0.7356 |
| 100.00 | 0.1 | 1.0197 | 1 | 0.9869 | 14.50 | 10.197 | 0.7501 |
| 101.32 | 0.1013 | 1.0332 | 1.0133 | 1 | 14.70 | 10.33 | 0.760 |
| 6.894 | 0.0068 | 0.0703 | 0.0689 | 0.0680 | 1 | 0.703 | 0.0517 |
| 1 | 0.001 | 0.0102 | 0.0100 | 0.0099 | 0.0680 | 0.1020 | 0.0075 |
| 133.32 | 0.1333 | 1.3595 | 1.3332 | 1.3158 | 0.1451 | 13.6 | 1 |
| 3.383 | 0.0033 | 0.0345 | 0.0338 | 0.0334 | 19.34 | 0.345 | 0.0254 |
| 9.807 | 0.0098 | 0.1000 | 0.0981 | 0.0967 | 0.491 | 1 | 0.0735 |

■ SI 単位・旧単位の目安早見表

Simple equivalence table for SI units and previously used units

| SI 単位 | | | | 従来の単位 | | |
|---------|------|-------|---------|---------------------|----------------------------|------|
| Pa | kPa | MPa | bar | kgf/cm ² | mmAq mmH ₂ O | cmHg |
| 1 | | | 0.00001 | 0.00001 | 0.1 | |
| 10 | | | 0.0001 | 0.0001 | 1 | |
| 100 | | | 0.001 | 0.001 | 10 | |
| 1000 | 1 | 0.001 | 0.01 | 0.01 | 100 | |
| 10000 | 10 | 0.01 | 0.1 | 0.1 | 1000 | |
| 100000 | 100 | 0.1 | 1 | 1 | 10000 | 76 |
| 1000000 | 1000 | 1 | 10 | 10 | 100000 | |
| | | 10 | 100 | 100 | | |
| | | 100 | 1000 | 1000 | | |
| | | 1000 | 10000 | 10000 | | |