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Non-destructive testing — Leak testing — Calibration of reference leaks for gases

Essais non destructifs — Contrôle d'étanchéité — Étalonnage des fuites de référence des gaz

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Foreword

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This document was prepared by Technical Committee ISO/TC 135, *Non-destructive testing*, Subcommittee SC 6, *Leak testing*.

Non-destructive testing — Leak testing — Calibration of reference leaks for gases

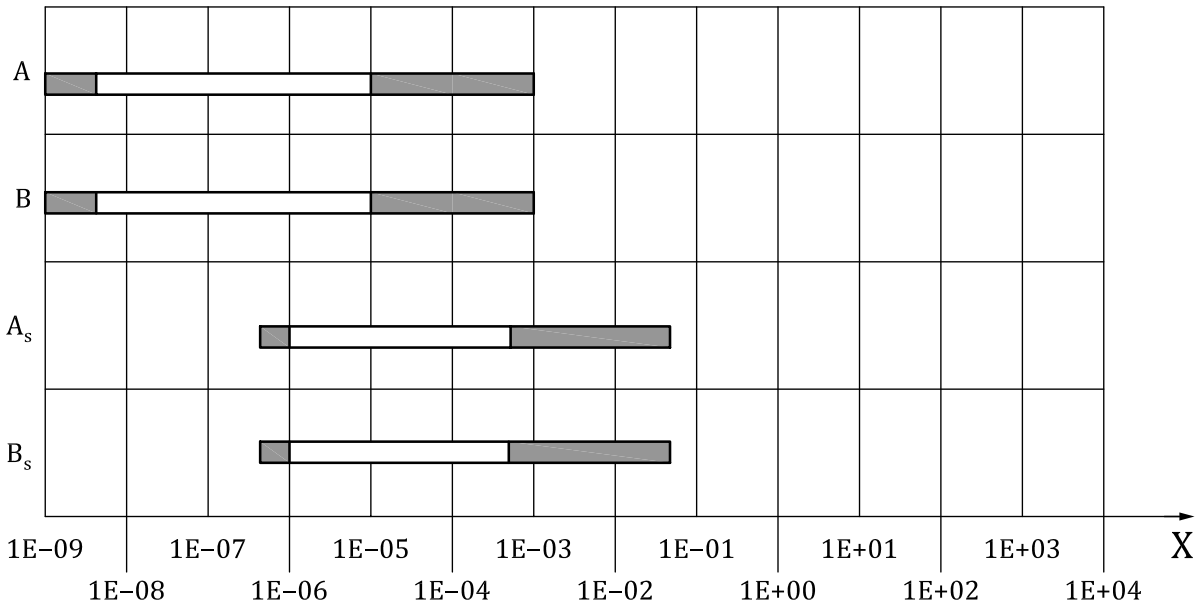
1 Scope

This document specifies the calibration of those leaks that are used for the adjustment of leak detectors for the determination of leakage rate in everyday use. One type of calibration method is a comparison with a reference leak. In this way, the leaks used for routine use become traceable to a primary standard. In other calibration methods, the value of vapour pressure was measured directly or calculated over a known volume.

The comparison procedures are preferably applicable to helium leaks, because this test gas can be selectively measured by a mass spectrometer leak detector (MSLD) (the definition of MSLD is given in ISO 20484).

Calibration by comparison (see methods A, A_S, B and B_S below) with known reference leaks is easily possible for leaks with reservoir and leakage rates below 10^{-7} Pa·m^3/s.

Figure 1 gives an overview of the different recommended calibration methods.



a) Calibration by comparison