

**SPECIFICATION
FOR
TESTING EQUIPMENT**

PISTON PROVERS

In accordance with the provisions of section 5(5) of the Weights and Measures Act 1985, the Secretary of State hereby approves the material and form of testing equipment of the following description for use by inspectors of weights and measures when testing cold-water meters.

**S J Bennett
National Weights and Measures Laboratory
Stanton Avenue
Teddington
Middlesex
TW11 0JZ**

Department of Trade & Industry

STD 4827

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SPECIFICATION FOR TESTING EQUIPMENT**PISTON PROVERS****MATERIAL**

1 The piston and cylinder assembly and all associated pipework shall be constructed of non-porous materials of adequate strength and stability. The piston and cylinder assembly shall be made of material which is resistant to corrosion and compatible with water.

FORM

2 In the case of a prover without the facility for providing incremental output the referred delivered nominal volumes are 5 litres, 10 litres or multiples of 10 litres for metric provers and 1 gallon or multiples of 1 gallon for imperial provers.

3 The form of the cylinder may be straight or U shaped and the piston disc-shaped for the former and spherical for the latter. The displacement of the piston may be measured by reference to measured distances between external sensing elements or by a linear displacement transducer.

4 Any means of adjustment or components the alteration or removal of which could materially affect the metrological performance of the piston prover shall be sealed to prevent unauthorised adjustment or tampering.

5 Where there are moving components which pass through the wall of the prover, eg push rod(s) or position sensors, either the sealing shall be easily inspected for leaks or there shall be a leak detection system so that any leakage is apparent to the user.

6 Where possible the piston should be designed to incorporate a leak detection system so that any water by-passing the piston seal(s) can be readily detected.

INSCRIPTIONS

7 The following data shall be marked permanently, legibly and conspicuously on the main body of the prover:

- (a) the manufacturer's name
- (b) a serial number or other unique identification number;
- (c) the nominal volume of the prover (volume corresponding to an end-to-end motion of the piston).

APPENDIX

NOTES FOR THE GUIDANCE OF TRADING STANDARDS OFFICERS

8 A piston prover used for the verification testing of cold-water meters is an “EX” device, that is it delivers a known quantity of water.

9 Calibration may be carried out by volumetric or gravimetric means using appropriate calibrated vessels or weighing machines.

10 Some provers are mechanically adjustable, these should be calibrated and set to nominal. Others are not directly adjustable, but their readouts can be scaled by a software settable calibration factor.