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STATUTORY INSTRUMENTS

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**1995 No. 735**

**The Measuring Equipment (Capacity Measures  
and Testing Equipment) Regulations 1995**

**PART I  
GENERAL**

**Citation, commencement, revocation and saving**

1.—(1) These Regulations may be cited as the Measuring Equipment (Capacity Measures and Testing Equipment) Regulations 1995 and shall come into force on 10th April 1995.

(2) The Regulations specified in the first column of Schedule 1 to these Regulations are hereby revoked to the extent specified in the third column of that Schedule save in relation to capacity measures passed as fit for use for trade and stamped before these Regulations come into force; and accordingly, these Regulations shall not apply to those measures.

**Interpretation**

2.—(1) In these Regulations—

“the Act” means the Weights and Measures Act 1985;

“BS 604: 1982” means the British Standard specification for graduated glass measuring cylinders<sup>(1)</sup>;

“BS 1922: 1987” means the British Standard specification for glass dispensing measures for pharmaceutical purposes<sup>(2)</sup>;

“BS 6001: Part 1: 1991” means the British Standard specification for sampling procedures for inspection by attributes<sup>(3)</sup>;

“BS 6002: Part 1: 1993” means the British Standard Specification for single sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection<sup>(4)</sup>;

“BS 6696: 1986” means the British Standard methods for use and testing of volumetric glassware<sup>(5)</sup>;

“digital” means capable of assigning only certain discrete values or positions within a continuous range by a series of discontinuous steps;

“discrimination threshold” means, in the case of weighing equipment with a digital indicator, the weight which produces a change of reading of one digit, and in the case of weighing equipment with an analogue indicator, the weight which produces a one millimetre movement

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(1) ISBNNo. 0 580 12515 7, published by the British Standards Institution in April 1952, as amended in February 1982.

(2) ISBN No. 0 580 15701 6, published by the British Standards Institution in April 1953, as amended in January 1969 and January 1987.

(3) ISBN No. 0 580 195732 2, published by the British Standards Institution on 30th March 1972, as amended in May 1991.

(4) ISBN No. 0 580 22581 X, published by the British Standards Institution on 15th November 1993.

(5) ISBN No. 0 580 15076 3, published by the British Standards Institution on 28th February 1986.

of the pointer; and in this definition, “analogue” means capable of assigning any value or position within a continuous range;

“double measure” means a measure comprising two parts, each part being a capacity measure;

“EEA State” means a State which is a Contracting Party to the EEA Agreement other than the United Kingdom but until the EEA Agreement comes into force in relation to Liechtenstein does not include the State of Liechtenstein; and “the EEA Agreement” means the Agreement on the European Economic Area signed at Oporto on 2nd May 1992 as adjusted by the Protocol signed at Brussels on 17th March 1993;

“graduated measure” means a measure with more than four scale marks or, in the case of a measure which is both a metric and imperial measure, in each of metric and imperial units;

“the prescribed limits of error” shall be construed in accordance with regulation 15;

“the stamp” means the prescribed stamp<sup>(6)</sup>;

“sub-divided measure” means a measure with four or fewer scale marks or, in the case of a measure which is both a metric and imperial measure, in each of metric and imperial units; and

“suitable weighing machine” means a weighing machine, which complies with the requirements of the Weights and Measures (Local and Working Standard Weights and Testing Equipment) Regulations 1986<sup>(7)</sup>, having a discrimination threshold and a repeatability in grams not exceeding one-fifth of the appropriate limit of error expressed in millimetres relating to the standard, equipment or measure it is used to test.

(2) The abbreviations of, and symbols for, units of measurement used in these Regulations refer to the relevant units as follows—

gallon	gal
quart	qt
pint	pt
fluid ounce	fl oz
litre	l or L
centilitre	cl or cL
millilitre	ml
degree Celsius	°C.

### Application of Regulations

3.—(1) These Regulations apply to liquid capacity measures and dry capacity measures for use for trade, other than—

- (a) liquid capacity measures to which the Capacity Serving Measures (Intoxicating Liquor) Regulations 1988<sup>(8)</sup> apply;
- (b) liquid capacity measures specified in paragraph 4 of Schedule 4 to the Weights and Measures (Packaged Goods) Regulations 1986<sup>(9)</sup> for use only for making up or checking packages in accordance with section 49(2)(a) of the Act;
- (c) liquid capacity measures for use for measuring liquid lubricants;

<sup>(6)</sup> See S.I. 1968/1615.

<sup>(7)</sup> S.I. 1986/1685.

<sup>(8)</sup> S.I. 1988/120, to which there are amendments not relevant to these Regulations.

<sup>(9)</sup> S.I. 1986/2049, to which there are amendments not relevant to these Regulations.

- (d) liquid capacity measures for use for measuring milk;
- (e) dry capacity measures for use for measuring peas and beans; or
- (f) capacity measures which exceed—
  - (i) 20 litres for metric measures, or
  - (ii) before 1st October 1995, 5 gallons, and on and after that date 16 pints, for imperial measures.

(2) Regulations 4, 5, 6(1)(a) to (d), 7, 9, 10, 12 and 16(3) and (5)(a) below do not apply to dispensing measures for pharmaceutical purposes.

(3) Capacity measures to which these Regulations apply are hereby prescribed for the purposes of section 11(1) of the Act.

(4) Graduated and sub-divided capacity measures referred to in regulation 16(4)(c) below are hereby prescribed as being lawful for use for trade for the purposes of section 10(1)(b) of the Act.

## PART II

### MATERIALS, PRINCIPLES OF CONSTRUCTION AND USE

#### Categories of capacity measures

4. For the purposes of these Regulations, a capacity measure is either—
- (a) a line measure marked with lines which—
    - (i) are conspicuous and durable, and
    - (ii) are marked on the outside surface of a measure which is made of transparent or translucent material and on the inside surface of a measure which is made of opaque material; or
  - (b) a brim measure having a brim in a horizontal plane when the measure is on a flat, horizontal surface.

#### Materials and principles of construction of capacity measures

5. Capacity measures shall be made of any of the following materials—
- (a) aluminium alloy;
  - (b) enamelled metal;
  - (c) glass;
  - (d) plated, tinned, galvanized or stainless steel;
  - (e) plastic material which resists deformation under hand pressure and does not split or show signs of striation after immersion in water at 95 °C for 10 minutes;
  - (f) silver or silver alloy; or
  - (g) any other material which is rigid, stable and sufficiently durable for normal use for trade.

#### Construction of capacity measures

- 6.—(1) Every capacity measure shall be so constructed that—
- (a) it does not rock when its base is on a flat, horizontal surface;
  - (b) its brim and lines are horizontal when its base is on a flat, horizontal surface;

- (c) it remains reasonably perpendicular when rotated about its vertical axis;
  - (d) no air is trapped on filling; and
  - (e) no liquid or solid is trapped on emptying when tilted so that its vertical axis is at an angle of 135 degrees from the vertical for any rotational orientation about that axis.
- (2) Save where paragraph (4) has effect, dispensing measures for pharmaceutical purposes shall comply with the requirements of BS 604: 1982 or BS 1922: 1987.
- (3) In the case of a double measure—
- (a) the measure shall be so constructed that it is readily identifiable as a double measure;
  - (b) the part of the measure having the greater capacity shall have a purported value which is twice that of the part having the lesser capacity; and
  - (c) neither part of the measure shall be a graduated measure or a sub-divided measure.
- (4) Any capacity measure, instead of complying with the requirements of paragraph (1) or (2) above, as the case may be, may comply with—
- (a) a relevant national standard or code of practice issued by a national standards body or similar body in a member State or an EEA State;
  - (b) a relevant international standard officially recognised for use in a member State or an EEA State;
  - (c) a relevant technical provision of mandatory application in relation to marketing or use in a member State or an EEA State; or
  - (d) descriptive technical documents relating to manufacturing processes lawfully carried out in a member State or an EEA State, being documents which are sufficiently detailed to enable the measures to be evaluated (if necessary by the carrying out of tests) as capacity measures for use otherwise than as dispensing measures for pharmaceutical purposes or as such dispensing measures, as may be appropriate,
- being requirements which, in any case, afford in use at least equivalent standards of safety, suitability and fitness for purpose of such measures as does paragraph (1) above and, in the case of dispensing measures for pharmaceutical purposes, BS 604: 1982 or BS 1922: 1987.
- (5) In paragraph (4)(d) above references to descriptive technical documents are references to such documents which are either published and available to members of the public or are made available by the manufacturer on request—
- (a) to any person who is a user or potential user of the capacity measures in question; and
  - (b) to an inspector for the purposes of the performance by him of his functions under the Act or these Regulations relating to inspection, testing, passing as fit for use for trade and stamping of a capacity measure.

### **Purpose and manner of use of capacity measures**

7. No person shall use a capacity measure—
- (a) for the measurement of goods which might affect, or be affected by, the material from which the measure is made,
  - (b) in such a manner that it is exposed to conditions which adversely affects its accuracy or function, or
  - (c) for the measurement of intoxicating liquor before its transfer to a container in which the buyer is to receive it, unless the buyer has a clear and unobstructed view of the measurement and transfer.

## PART III

### TESTING

#### Capacity measures for testing to be clean

8. Every capacity measure submitted for testing shall be in a clean condition.

#### Method of testing of capacity measures

9. Subject to regulation 12 below, the inspector shall test every capacity measure—
  - (a) by trial for use in the manner in which it is to be used as a measure, either for holding or for delivering its contents;
  - (b) by using—
    - (i) where practicable, water or an intended liquid of use, or
    - (ii) in the case of a dry capacity measure where the use of a liquid is impracticable, seeds, glass beads or polystyrene beads of an appropriate and regular size, proper precautions being taken to achieve reliable and consistent results; and
  - (c) subject in the case of dispensing measures for pharmaceutical purposes to regulation 11 below, either—
    - (i) volumetrically, by comparison with one or more local or working standards or by means of appropriate testing equipment which complies with the requirements of the Weights and Measures (Local and Working Standard Capacity Measures and Testing Equipment) Regulations 1990(10); or
    - (ii) gravimetrically, by determining the weight of water of known density using a suitable weighing machine.

#### Testing of nominal capacity and scale marks of capacity measures

10.—(1) The inspector shall test the nominal capacity and all the scale marks or, in the case of a graduated measure, such of them as he considers necessary.

(2) The capacity of a measure shall be the volume at 20 °C when the measure is on a horizontal surface and—

- (a) in the case of a line measure, the bottom part of the meniscus coincides with the top of the line, or
- (b) in the case of a brim measure, the surface of the liquid is in the same plane as the brim.

#### Testing of dispensing measures for pharmaceutical purposes

11. This inspector shall test every dispensing measure for pharmaceutical purposes either—
  - (a) in accordance with the requirements of BS 6696: 1986, using a suitable weighing machine; or
  - (b) volumetrically—
    - (i) by comparison with one or more local standards (other than a brim measure made of metal), or

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(10) S.I. 1990/2626 as amended by regulation 19 of these Regulations.

- (ii) by means of a peristaltic pump dispenser which complies with the requirements of the Weights and Measures (Local and Working Standard Capacity Measures and Testing Equipment) Regulations 1990.

### **Testing of groups of capacity measures**

**12.**—(1) Where—

- (a) a group of capacity measures the same nominal capacity and the same manufacture is submitted for testing; and
- (b) the conditions specified in paragraph (2) below are satisfied with respect to the group, the inspector may, at the request of the person submitting them (“the submitter”), confine the testing to a number of measures determined and selected as specified in paragraph (3) below.

(2) The conditions referred to in paragraph (1)(b) above are that—

- (a) the group shall be clearly identifiable and shall comprise more than 500 but not more than 150,000 measures;
- (b) the measures in the group shall all have been produced by the same production process; and
- (c) the group shall be accompanied by records of the production process and of any subsequent action taken by the manufacturer which are adequate to show that the measures in the group are likely to fall within the prescribed limits of error.

(3) The number of measures referred to in paragraph (1) above shall be determined, and the measures shall be selected, by sampling plans and procedures using samples which the inspector considers to be representative; and the sample of measures shall be tested, in accordance either with paragraph (4) below or, if the submitter so requests, with paragraph (5) below.

(4) Under this paragraph the sample of measures—

- (a) shall be selected and tested in accordance with BS 6001: Part 1: 1991; and
- (b) shall be tested for all the appropriate requirements of these Regulations, including limits of error on capacity conducted either volumetrically or gravimetrically as described in regulation 9(c) above and in accordance with BS 6002: 1993.

(5) Under this paragraph the sample of measures shall be selected in accordance with BS 6001: Part 1: 1991 and—

- (a) the sample shall be tested for all the appropriate requirements of these Regulations except limits of error on capacity; and
- (b) a sub-sample of the measures selected under paragraph (3) above which the inspector considers to be representative, shall be tested gravimetrically as described in regulation 9(c) above and in accordance with BS 6002: 1993.

(6) Under each of paragraphs (4) and (5) above, the test shall provide an acceptable quality level equal to 1 per cent.

(7) If the sample selected as specified in paragraph (3) above satisfies the test specified in paragraph (4) above or both the tests specified in paragraph (5) above, the other measures in the group shall be treated as having satisfied the test or tests as the case may be.

### **Capacity measures imported from another member State or EEA State**

**13.**—(1) In relation to capacity measures imported into Great Britain from another member State or an EEA State, subject to paragraph (4) below, an inspector shall not carry out any test in accordance with the provisions of regulations 8 to 12 above if, together with the measures being imported, he is presented with the requisite documentation.

- (2) In this regulation and in regulation 16 below “requisite documentation” means—
- (a) the test report of an approved body that the capacity measures which are the subject of that report have been tested on the same basis as those set out in regulations 8 to 12 above and stating which tests have been applied to them; and
  - (b) the test results relating to those tests.
- (3) A body is an “approved body” for the purposes of this regulation if it is a body in a member State or EEA State which has the responsibility in that State for metrological control of capacity measures or is a laboratory which has been accredited in a member State or an EEA State as being a body which conforms with the criteria set out in EN 45001(11).
- (4) Nothing in these Regulations shall prevent an inspector testing in accordance with regulations 8 to 12 above where he is not satisfied—
- (a) that the test report or the results presented to him are authentic; or
  - (b) that the test results presented to him are results which in fact relate to the capacity measures being imported.

#### **Provision of material for inspector’s use**

14. For the purposes of the performance by an inspector of his functions under the Act or these Regulations relating to inspection, testing, passing as fit for use for trade and stamping of any capacity measure, a person submitting such a measure to an inspector or who an inspector has reasonable cause to believe has possession of such a measure for use for trade shall, if requested, provide for the inspector’s use such material as the inspector may reasonably require, and any material so provided shall be returned to the person in question.

## **PART IV**

### **SUPPLEMENTARY PROVISIONS**

#### **Prescribed limits of error**

15. The prescribed limits of error—
- (a) for dispensing measures for pharmaceutical purposes, shall be those set out in BS 604: 1982 or BS 1922: 1987, as appropriate, and
  - (b) for all other capacity measures shall,—
    - (i) in the case of line measures, be the amounts set out in column 3 of Schedule 2 to these Regulations in excess and in deficiency, and
    - (ii) in the case of brim measures, be the amounts set out in column 4 of that Schedule in excess only.

#### **Passing as fit for use for trade and stamping**

- 16.—(1) Save in the case of capacity measures imported from another member State or an EEA State, no capacity measure shall be passed as fit for use for trade unless—
- (a) on testing,—
    - (i) it falls within the prescribed limits of error;

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(11) EN 45001 is a European Standard which has the status of a British Standard; it is identical with BS 7501 (ISBN 0 580 17939 7), “General criteria for the operation of testing laboratories”.

- (ii) an inspector is of the opinion that it is not constructed in a manner which facilitates fraudulent use and that it does not bear any decorations or designs which might cause confusion in use; and
    - (iii) it complies with all the appropriate requirements of these Regulations; or
  - (b) in the case of a measure which has not been tested, it forms part of a group of measures treated under regulation 12(7) above as having satisfied the test or tests therein mentioned.
- (2) In the case of capacity measures imported from another member State or an EEA State, no capacity measure shall be passed as fit for use for trade unless—
  - (a) either—
    - (i) where the requisite documentation is presented in accordance with regulation 13 above, the test report recites and the test data confirm to the satisfaction of the inspector that on testing in accordance with provisions of the law of a member State or EEA State it fell within limits of error which afford in use at least an equivalent standard to the prescribed limits of error and, in the case of dispensing measures for pharmaceutical purposes, BS 604: 1982 or BS 1922: 1987; or
    - (ii) in the case of a measure which has not been tested, it formed part of a group of measures treated under provisions of the law of a member State or EEA State corresponding to regulation 12(7) above as having satisfied a relevant test or tests; or
    - (iii) it complies with all the relevant requirements of these Regulations; and
  - (b) the inspector is of the opinion that it is not constructed in a manner which facilitates fraudulent use and that it does not bear any decorations or designs which might cause confusion in use.
- (3) No measure (not being a single measure) shall be passed as fit for use for trade unless it is a double measure.
- (4) Where practicable, the stamp shall be placed on the outside of the measure, adjacent to the marking of the amount of nominal capacity, but in any other case shall be applied to a metal plate permanently attached to the measure.
- (5) No capacity measure shall be stamped unless—
  - (a) its nominal capacity is marked on its outside surface and is so marked conspicuously, legibly and durably—
    - (i) on the body of the measure adjacent to the brim or to the line denoting the nominal capacity or, in the case of a measure without scale marks, at approximately mid-height, or
    - (ii) on a shield or plate permanently attached to the outside of the measure, and not on any handle, rim, edge or stem;
  - (b) in the case of a line measure, its nominal capacity is denoted by a line (which shall, in the case of a measure made of opaque material, be marked on the inside surface);
  - (c) the scale marks are marked on the measure in the same field of view as the mark of the nominal capacity, and
    - (i) in the case of a graduated measure, are numbered at appropriate intervals, and
    - (ii) in the case of a sub-divided measure, are marked with the capacity they are intended respectively to indicate; and
  - (d) any name or trade mark marked on the measure—
    - (i) is in lettering which is smaller than the marking of its nominal capacity, and
    - (ii) is so marked as not to cause confusion with the marking of the nominal capacity.



(6) No graduated or sub-divided measure shall be stamped unless it is made of translucent or transparent material.

(7) For the purposes of paragraph (5)(a) above, the capacity of a measure—

(a) shall be marked,—

(i) before 1st October 1995, in full in gallons, quarts, pints, gills, fluid ounces, litres, centilitres or millilitres, and

(ii) on and after that date in full in pints, litres, centilitres or millilitres,

or by the appropriate abbreviation or symbol in accordance with regulation 2(2) above; and

(b) may be accompanied by a supplementary indication of quantity,—

(i) in the case of a measure marked in gallons, quarts, pints, gills, fluid ounces, expressed in litres, centilitres or millilitres, or

(ii) in the case of a measure marked in litres, centilitres or millilitres, expressed in full in gallons, quarts, pints, gills, fluid ounces,

or by the appropriate abbreviation or symbol in accordance with regulation 2(2) above.

### **Marking of scale marks on graduated or sub-divided measures**

17.—(1) The scale marks of a graduated or sub-divided measure shall be marked with their purported values—

(a) in the case of a metric measure, either in metric units alone or in both metric and imperial units;

(b) in the case of an imperial measure, either in imperial units alone or in both imperial and metric units; and

(c) in the case of a measure which is both a metric and imperial measure, in both metric and imperial units.

(2) In this regulation—

“scale mark” does not include the mark of the nominal capacity; and

“metric measure”, “imperial measure” and “metric and imperial measure” mean, respectively, a measure the nominal capacity of which is given in metric units only, in imperial units only or in both metric and imperial units.

### **Obliteration of stamps**

18.—(1) Subject to paragraphs (2) and (3) below, an inspector shall obliterate the stamp on any capacity measure which—

(a) fails upon testing to fall within the prescribed limits of error; or

(b) fails to comply with any other appropriate requirement of these Regulations.

(2) Where any measure is found not to comply with the requirements of these Regulations only because it falls outside the prescribed limits of error, an inspector may, if he considers the measure can be brought within those limits, instead of immediately obliterating the stamp pursuant to paragraph (1) above, serve upon the person in possession of the measure a notice requiring him to ensure that the measure is brought within those limits before the expiry of 28 days or such shorter time as may be specified in the notice.

(3) If a notice given under paragraph (2) above is not complied with within the period specified in it, the inspector shall obliterate the stamp on the measure to which the notice relates.

(4) An inspector shall obliterate the stamp on any capacity measure which has been the subject of any adjustment, alteration, addition, damage or repair which could, in the opinion of the inspector, have affected its compliance with the appropriate requirements of these Regulations.

## PART V

### TESTING EQUIPMENT—PERISTALTIC PUMP DISPENSERS

#### Peristaltic pump dispensers

**19.** The Weights and Measures (Local and Working Standard Capacity Measures and Testing Equipment) Regulations 1990(**12**) are hereby amended,—

(a) in regulation 2(1), by the insertion after the definition of “multifiller” of the following definition—

““peristaltic pump dispenser” means a device, operating on the peristaltic principle, designed to deliver a known quantity of water for the testing of dispensing measures for pharmaceutical purposes;”;

(b) in Part III, by the insertion after regulation 18 of the following regulation—

#### “Peristaltic pump dispensers

**18A.**—(1) A peristaltic pump dispenser shall have been tested within 6 months before use at the minimum, at the maximum and at five intermediate delivered volumes suitable for the purpose for which it is to be used.

(2) A peristaltic pump dispenser shall be tested by weighing the water delivered by a suitable weighing machine and determining the delivered volume from the weight so ascertained.

(3) The error on a peristaltic pump dispenser shall not exceed the limits of error shown in Schedule 2 to these Regulations.”; and

(c) in Schedule 2, by the insertion at the end of the following table—

#### “Peristaltic pump dispensers

Delivered volume millilitres	Limit of error millilitres
1	0.04
2	0.04
3	0.05
4	0.05
5	0.06
6	0.07
7	0.07
8	0.08

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Delivered volume millilitres	Limit of error millilitres
9	0.08
10	0.08
15	0.10
20	0.12
25	0.12
30	0.13
35	0.13
40	0.14
45	0.14
50	0.15
60	0.16
70	0.17
75	0.17
80	0.18
90	0.20
100	0.20
125	0.25
150	0.30
175	0.35
200	0.40
225	0.40
250	0.40
300	0.42
350	0.42
400	0.45
450	0.45
500	0.50
1000	1.00”.

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10th March 1995

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