

Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (recast) (Text with EEA relevance)

Status: EU Directives are being published on this site to aid cross referencing from UK legislation. After IP completion day (31 December 2020 11pm) no further amendments will be applied to this version.

ANNEX VII

SPECIFIC REQUIREMENTS

2. Accuracy classification and maximum permissible errors (MPEs)

2.1. For quantities equal to or greater than 2 litres the MPE on indications is:

TABLE 2

	Accuracy Class				
	0,3	0,5	1,0	1,5	2,5
Measuring systems (A)	0,3 %	0,5 %	1,0 %	1,5 %	2,5 %
Meters (B)	0,2 %	0,3 %	0,6 %	1,0 %	1,5 %

2.2. For quantities less than two litres the MPE on indications is:

TABLE 3

Measured volume V	MPE
$V < 0,1 \text{ l}$	$4 \times$ value in Table 2, applied to 0,1 L
$0,1 \text{ l} \leq V < 0,2 \text{ l}$	$4 \times$ value in Table 2
$0,2 \text{ l} \leq V < 0,4 \text{ l}$	$2 \times$ value in Table 2, applied to 0,4 L
$0,4 \text{ l} \leq V < 1 \text{ l}$	$2 \times$ value in Table 2
$1 \text{ l} \leq V < 2 \text{ l}$	Value in Table 2, applied to 2 L

2.3. However, no matter what the measured quantity may be, the magnitude of the MPE is given by the greater of the following two values:

- the absolute value of the MPE given in Table 2 or Table 3,
- the absolute value of the MPE for the minimum measured quantity (E_{\min}).

2.4.1. For minimum measured quantities greater than or equal to 2 litres the following conditions apply:

Condition 1

E_{\min} shall fulfil the condition: $E_{\min} \geq 2 R$, where R is the smallest scale interval of the indication device.

Condition 2

E_{\min} is given by the formula:

$$E_{\min} = (2MMQ) \times (A / 100)$$

, where:

- MMQ is the minimum measured quantity,
- A is the numerical value specified in line A of Table 2.

2.4.2. For minimum measured quantities of less than two litres, the above mentioned condition 1 applies and E_{\min} is twice the value specified in Table 3, and related to line A of Table 2.

2.5. *Converted indication*

In the case of a converted indication the MPEs are as in line A of Table 2.

2.6. *Conversion devices*

MPEs on converted indications due to a conversion device are equal to $\pm (A - B)$, A and B being the values specified in Table 2.

Parts of conversion devices that can be tested separately

(a) *Calculator*

MPEs on quantities of liquid indications applicable to calculation, positive or negative, are equal to one-tenth of the MPEs as defined in line A of Table 2.

(b) *Associated measuring instruments*

Associated measuring instruments shall have an accuracy at least as good as the values in Table 4:

TABLE 4

MPE on Measurements	Accuracy classes of the measuring system				
	0,3	0,5	1,0	1,5	2,5
Temperature	$\pm 0,3 \text{ }^\circ\text{C}$	$\pm 0,5 \text{ }^\circ\text{C}$			$\pm 1,0 \text{ }^\circ\text{C}$
Pressure	Less than 1 MPa: $\pm 50 \text{ kPa}$ From 1 to 4 MPa: $\pm 5 \%$ Over 4 MPa: $\pm 200 \text{ kPa}$				
Density	$\pm 1 \text{ kg/m}^3$		$\pm 2 \text{ kg/m}^3$		$\pm 5 \text{ kg/m}^3$

These values apply to the indication of the characteristic quantities of the liquid displayed by the conversion device.

(c) *Accuracy for calculating function*

The MPE for the calculation of each characteristic quantity of the liquid, positive or negative, is equal to two fifths of the value fixed in (b).

2.7. The requirement (a) in point 2.6 applies to any calculation, not only conversion.

2.8. The measuring system shall not exploit the MPEs or systematically favour any party.