General information concerning the type

Application no.: ……
Type designation: ……
Manufacturer: ……
Applicant: ……
Instrument category: ……

☐ Complete instrument ☐ Module[1] with error fraction p_i = ☐

Accuracy class[2]: ☐ (I) ☐ (II) ☐ (III) ☐ (IIII)

☐ Self-indicating ☐ Semi-self-indicating ☐ Non-self-indicating

Min = ☐

e = ☐ Max = ☐ d = ☐ n = ☐

e_1 = ☐ Max_1 = ☐ d_1 = ☐ n_1 = ☐
e_2 = ☐ Max_2 = ☐ d_2 = ☐ n_2 = ☐
e_3 = ☐ Max_3 = ☐ d_3 = ☐ n_3 = ☐

T = + ☐ T = – ☐

U_{nom} = ☐ V U_{min} = ☐ V U_{max} = ☐ V f = ☐ Hz Battery, U_{nom} = ☐ V

Zero-setting device:
☐ Non-automatic
☐ Semi-automatic
☐ Automatic zero-setting
☐ Initial zero-setting
☐ Zero-tracking

Tare device:
☐ Tare balancing
☐ Tare weighing
☐ Preset tare device
☐ Subtractive tare
☐ Additive tare

☐ Combined zero/tare device

Initial zero-setting range = ☐ % of Max

Temperature range: ☐ °C

Printer: ☐ Built-in ☐ Connected ☐ Not present but connectable ☐ No connection

Instrument submitted: ……
Identification no.: ……
Software version: ……
Connected equipment: ……
……
Interfaces (number, nature): ……
……
……
Evaluation period: ……
Date of report: ……
Observer: ……

Load cell: ……
Manufacturer: ……
Type: ……
Capacity: ……
Number: ……
Classification symbol: ……

Remarks: ……
……
……
……

[1] The test equipment (simulator or a part of a complete instrument) connected to the module shall be defined in the test form(s) used.

[2] Please note that the class denominations used hereafter in this Recommendation do not include the oval around the number for improved clarity of the Test Report Format's text.

1 WEIGHING PERFORMANCE (A.4.4) (A.5.3.1)

(Calculation of the error)

Application no.: ……

Type designation: ……

Date: ……

Observer: ……

Verification scale interval, *e*: ……

Resolution during test (smaller than *e*): ……

	At start	At max	At end	
Temp.:				°C
Rel. h.:				%
Time:				
Bar. pres.: (only class I)				hPa

Automatic zero-setting and zero-tracking device is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

Initial zero-setting > 20 % of Max: ☐ Yes ☐ No (see R 76-1, A.4.4.2)

$E = I + ½\ e - \Delta L - L$

$E_c = E - E_0$ with E_0 = error calculated at or near zero*

Load, *L*	Indication, *I*		Add. load, Δ*L*		Error, *E*		Corrected error, E_c		mpe
	↓	↑	↓	↑	↓	↑	↓	↑	
	*				*				

Check if $|E_c| \leq |\text{mpe}|$

☐ Passed ☐ Failed

Remarks:

3 ECCENTRICITY (A.4.7)

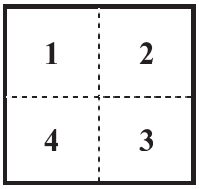
3.1 Eccentricity using weights (A.4.7.1, 2 and 3)

Application no.: ……
Type designation: ……
Date: ……
Observer: ……
Verification scale interval, *e*: ……
Resolution during test (smaller than *e*): ……

	At start	At max	At end	
Temp.:				°C
Rel. h.:				%
Time:				
Bar. pres.:				hPa
(only class I)				

1) Test(s) performed on a mobile instrument (A.4.7.5): ☐ Yes ☐ No
2) In case of "Yes" to 1): A.4.7 and A.4.7.1 to A.4.7.4 have been applied: ☐ Yes ☐ No
3) In case of "No" to 2): Description of eccentricity test(s) (see A.4.7.5) under "Remarks"

Location of test loads: mark on a sketch (see example below) the successive locations of test loads, using numbers which shall be repeated in the table below.



Also indicate in the sketch the location of the display or of another perceptible part of the instrument.

Automatic zero-setting and zero-tracking device is:
☐ Non-existent ☐ Not in operation ☐ Out of working range

$E = I + ½\ e - \Delta L - L$
$E_c = E - E_0$ with E_0 = error calculated at or near zero* determined prior to each measurement

Location	Load, L	Indication, I	Add. load, ΔL	Error, E	Corrected error, E_c	mpe
	*			*		
1						
	*			*		
2						
	*			*		
3						
	*			*		
4						

Check if $|E_c| \leq |\text{mpe}|$

☐ Passed ☐ Failed

Remarks:

3.2 Eccentricity using a rolling load (A.4.7.4)

Application no.: …….
Type designation: …….
Date: ……
Observer: ……
Verification scale interval, *e*: ……
Resolution during test (smaller than *e*): ……

	At start	At max	At end	
Temp.:				°C
Rel. h.:				%
Time:				
Bar. pres.:				hPa
(only class I)				

Number of sections of the divided load receptor ☐ ☐ Undivided load receptor

Location of test loads for each section of the load receptor: mark on a sketch (see example below) the successive locations of test loads, using numbers which shall be repeated in the table below. Also indicate in the sketch the location of the display or of another perceptible part of the instrument.

1	2	3

Automatic zero-setting and zero-tracking device is:
☐ Non-existent ☐ Not in operation ☐ Out of working range

$E = I + ½\ e - \Delta L - L$
$E_c = E - E_0$ with E_0 = error calculated at or near zero*

Section	Direction (← / →)	Location	Load, *L*	Indication, *I*	Add. load, ΔL	Error, *E*	Corrected error, E_c	mpe
			*			*		
			*			*		
			*			*		
			*			*		

Check if $|E_c| \leq |\text{mpe}|$

☐ Passed ☐ Failed

Remarks:

4 DISCRIMINATION AND SENSITIVITY

4.1 Discrimination

4.1.1 Digital indication (A.4.8.2)

Application no.: ……

Type designation: ……

Date: …… Temp.:

Observer: …… Rel. h.:

Verification scale interval, *e*: …… Time:

Scale interval, *d*: …… Bar. pres.:

	At start	At max	At end	
Temp.:				°C
Rel. h.:				%
Time:				
Bar. pres.:				hPa

Load, L	Indication, I_1	Removed load ΔL	Add 1/10 d	Extra load, = 1.4 d	Indication, I_2	$I_2 - I_1$

Check if $I_2 - I_1 \geq d$

☐ Passed ☐ Failed

Remarks:

4.1.2 Analog indication (A.4.8.1)

Application no.: ……

Type designation: ……

Date: …… Temp.:

Observer: …… Rel. h.:

Verification scale interval, *e*: …… Time:

Scale interval, *d*: …… Bar. pres.:

	At start	At max	At end	
Temp.:				°C
Rel. h.:				%
Time:				
Bar. pres.:				hPa

Load, L	Indication, I_1	Extra load = |mpe|	Indication, I_2	$I_2 - I_1$

Check if $I_2 - I_1 \geq 0.7$ mpe

☐ Passed ☐ Failed

Remarks:

4.1.3 Non-self-indicating instrument (A.4.8.1)

Application no.: …….
Type designation: …….
Date: ……
Observer: ……

	At start	At max	At end	
Temp.:				°C
Rel. h.:				%
Time:				
Bar. pres.:				hPa

Load, *L*	Indication, *I*	Extra load, = 0.4 |mpe|	Visible displacement*

* Mark a visible displacement by "+"

Check if there is a visible displacement

☐ Passed ☐ Failed

Remarks:

4.2 Sensitivity (non-self-indicating instrument) (A.4.9)

Application No.: …….
Type designation: …….
Date: ……
Observer: ……

	At start	At max	At end	
Temp:				°C
Rel. h:				%
Time:				
Bar. pres:				hPa

Load L	Extra load = |mpe|	Permanent displacement of indicating element
		mm
		mm
		mm

Check if the permanent displacement is equal to or greater than:
1 mm for an instrument of accuracy class I or II
2 mm for an instrument of accuracy class III or IIII with Max ≤ 30 kg
5 mm for an instrument of accuracy class III or IIII with Max > 30 kg

☐ Passed ☐ Failed

Remarks:

5 REPEATABILITY (A.4.10)

Application no.: …….
Type designation: …….
Date: ……
Observer: ……
Verification scale interval, *e*: ……
Resolution during test (smaller than *e*): ……

	At start	At max	At end	
Temp.:				°C
Rel. h.:				%
Time:				
Bar. pres.: (only class I)				hPa

Automatic zero-setting and zero-tracking device is:

☐ Non-existent ☐ In operation

Load (weighing 1-10) ☐ Load (weighing 11-20) ☐

$E = I + 1/2\ e - \Delta L - L$

	Indication of load, I	Add. load, ΔL	E
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

	Indication of load, I	Add. load, ΔL	E
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

$E_{max} - E_{min}$ (weighing 1-10) ☐ $E_{max} - E_{min}$ (weighing 11-20) ☐

mpe ☐ mpe ☐

Check if a) $E \leq$ mpe (3.6 of R 76-1)

b) $E_{max} - E_{min} \leq$ absolute value of mpe (3.6.1 of R 76-1)

☐ Passed ☐ Failed

Remarks:

7 STABILITY OF EQUILIBRIUM (A.4.12)

Application no.: …….
Type designation: …….
Date: ……
Observer: ……
Verification scale interval, *e*: ……
Resolution during test (smaller than *e*): ……

	At start	At max	At end	
Temp:				°C
Rel. h:				%
Time:				
Bar. pres: (only class I)				hPa

Automatic zero-setting and zero-tracking device is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

In the case of printing or data storage:

No.	Load (about 50 % of Max)	First printed or stored weight value after disturbance and command	Reading during 5 s after print-out or storage	
			minimum value	maximum value
1				
2				
3				
4				
5				

Check if the first printed or stored weight value does not deviate more than 1 *e* from the readings during 5 seconds after print-out or storage (only two adjacent values allowed)

☐ Passed ☐ Failed

In the case of zero-setting or tare balancing:

Zero-setting		$E_0 = I_0 + ½\ e - \Delta L - L_0$			
No.*	Zero-load (< 4 % of Max)	Load, L_0 ** (10 *e*)	Indication, I_0 after zero-setting	Add. load, ΔL	Error, E_0
1					
2					
3					
4					
5					

Tare balancing		$E_0 = I_0 + ½\ e - \Delta L - L_0$			
No.*	Tare load (about 30 % of Max)	Load, L_0 ** (10 *e*)	Indication, I_0, after tare balancing	Add. load, ΔL	Error, E_0
1					
2					
3					
4					
5					

* Apply the zero or tare load, disturb the equilibrium and immediately release zero-setting or tare, apply L_0 if necessary and calculate the error according to A.4.2.3/A.4.6.2 of R 76-1. Perform this five times.

** L_0 (10 *e*) shall be applied only if an automatic zero-setting or zero-tracking device is in operation. L_0 shall be applied after releasing tare or zero-setting, immediately after zero is displayed the first time.

Check if $E_0 \leq 0.25\ e$

☐ Passed ☐ Failed

Remarks:

17 CHECKLIST

Application no.: ……
Type designation: ……

17.1 All types of weighing instruments except non-self-indicating instruments (6.1-6.9, R 76-1)

Requirement	Testing procedures		PASSED	FAILED	Remarks
Descriptive markings					
7.1.1	**A.3**	**Compulsory in all cases:**			
		manufacturer's mark or name			
		accuracy class			
(+3.3.1)		maximum capacity, Max, Max_1, Max_2,...			
		minimum capacity, Min			
(+3.3.1)		verification scale interval, e, e_1, e_2, ...			
7.1.2	**A.3**	**Compulsory if applicable:**			
		name or mark of manufacturer's agent			
		serial number			
		identification marks on separate but associated units			
		type approval mark			
		scale interval, d ($d < e$)			
		software identification (if applicable)			
		maximum tare effect, T (subtractive tare only if T ≠ Max)			
		maximum safe load, Lim (if Lim > Max + T)			
		special temperature limits			
		counting ratio			
		ratio between weight platform and load platform			
		range of plus/minus indication			
7.1.3	**A.3**	**Additional markings:**			
		not to be used for direct sales to the public			
		to be used exclusively for:			
		the stamp does not guarantee ..... / guarantees only			
		to be used only as follows:			
3.2		special applications clearly marked (weighings ranges in classes I and II or II and III)			
4.15		near display "not to be used for direct sales to the public" (for instruments similar to those used for direct sales to the public)			
7.1.4	**A.3**	**Presentation of markings:**			
		indelible			
		easily readable			
		grouped together in a clearly visible place			
		Max, Min, e and d (if $d \neq e$) on or near display permanently shown in a clearly visible position			
		possible to seal and apply a control mark/removal will result in destruction			
		markings B and G			
7.1.4 and 7.1.1 B, 7.1.2 G		additional information shown alternatively on a plate or displayed by a software solution either permanently or accessed by a simple manual command			
7.1.5.1	**A.3**	**Instruments with several load receptors and load measuring devices:**			
		identification mark, Max, Min and e of each load receptor on relating load measuring device (Lim and T = + if applicable)			

Requirement	Testing procedures		PASSED	FAILED	Remarks
7.1.5.2	**A.3**	**Separately-built main parts:**			
		identification mark repeated in descriptive markings			
4.1.1.3		**Suitability for verification:**			
		identification of devices which have been subject to separate type examination			
		Verification marks and sealing			
7.2	**A.3**	**Verification mark:**			
		cannot be removed			
		easy application			
		visibility without the instrument to be moved when it is in service			
7.2.2		**Verification mark support or space:**			
		which ensures conservation of the mark			
		for stamp, stamping area ≥ 150 mm^2			
		for self-adhesive type, ø ≥ 15 mm			
4.1.2.4	**A.3**	**Securing of components and preset controls:**			
		location			
		form			
4.1.2.4		**Securing with software means**			
4.1.2.4 a		legal status of the instrument recognizable			
		evidence of any intervention			
4.1.2.4 b		protection against changes of parameters and the reference numbers			
4.1.2.4 c		facilities for affixing the reference number			
4.1.2.5		**Span adjustment device (automatic or semi-automatic):** Existent ☐ Non-existent ☐			
		external influence impossible after securing			
4.1.2.6		**Gravity compensation:** Existent ☐ Non-existent ☐			
		external influence on or access to impossible after securing			
		Documentation			
8.2.1	**A.1**	**Technical information and data:**			
8.2.1.1,		characteristics of the instrument			
3.10.2		specifications of modules			
3.10.2.1		fractions, p_i (modules tested separately)			
3.10.4		specifications of families			
		specifications of components			
8.2.1.2		applicable descriptive documents (according to nos. 1-11)			
5.3.6.1	**A.1**	specific declaration of the manufacturer			
3.9.1.1		limiting value of tilting defined by the manufacturer			
8.2.2	**A.2**	**Examination of:**			
		documents			
		functions (spot checks)			
		test reports from other authorities			
		Indicating device			
4.2.1		**Reading:**			
		reliable, easy and unambiguous			
		overall inaccuracy ≤ 0.2 *e* (analog indication)			
		size, shape and clarity			
		by simple juxtaposition			
4.2.2.1	**A.3**	**Units of:**			
		mass			
		price			