CZECH METROLOGY INSTITUTE

Czech Metrology Institute

Okružní 31, 638 00 Brno

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Executive summary for the EC *(not part of this legislation)*

Flow-through vibrational relative density transducers are placed on the market and put into use in the Czech Republic as legally controlled measuring instruments following type approval and initial verification pursuant to Act No 505/1990 on metrology, as amended.This notified legislation concerns national metrology regulation through type approval and verification of measuring instruments used as components of instruments and systems for measuring the flow volume of liquids.

(End of executive summary.)

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PUBLIC DECREE

As the authority with substantive and territorial jurisdiction in the matter of laying down metrological and technical requirements for legally controlled measuring instruments and stipulating the testing methods for type approval and verification of legally controlled measuring instruments pursuant to § 14(1) of Act No 505/1990 on metrology, as amended (hereinafter referred to as the 'Metrology Act'), and in accordance with the provisions of § 172 et seq. of Act No 500/2004, the Administrative Procedure Code (hereinafter referred to as the 'APC'), the Czech Metrology Institute (hereinafter referred to as the 'CMI') commenced ex officio proceedings on 2 February 2017 pursuant to § 46 APC, and, on the basis of supporting documents, issues the following:

I.

DRAFT GENERAL MEASURE

number:0111-OOP-C068-17

laying down the metrological and technical requirements for legally controlled measuring instruments, including testing methods for type approval and verification of the following legally controlled measuring instruments:

'flow-through vibrational relative gas density transducers'

This legislation stipulates metrological and technical requirements for flow-through vibrational relative gas density transducers with an analogue and/or digital output signal used as elements of instruments and systems for measuring liquid flow quantity.

1 Definitions

For the purposes of this general measure, terms and definitions pursuant to VIM and VIML as well as the terms and definitions stated below shall apply.

1.2
relative gas density, density

the proportion of gas density to dry air density under the same temperature and pressure

1.1
flow-through vibrational relative gas density transducer; measuring relative density transducer; transducer; density meter, hydrometer

an element of a measuring instrument or measuring system that converts an input signal concerning measured relative gas density from a relative density sensor to an output signal that has a stipulated relationship to the value of the measured relative density

For the purposes of this legislation, a flow-through vibrational relative gas density transducer is considered to be a flow-through vibrational density meter as an element of measuring instruments or measuring systems for liquid flow quantities.

2 Metrological requirements

Metrological requirements applicable to the placement of relative density transducers on the market are applied during verification.

2.1 Reference conditions

Ambient reference conditions are defined relative to the intended use of the relative density transducers.

2.2 Rated operating conditions

Operating conditions are specified by the manufacturer relative to the intended use of the relative density transducers.

The measuring range of a relative density transducer must correspond to the requirements of its intended measuring application.

All relevant usability conditions for the relative density transducer in relation to the type of application must be met.

2.3 Maximum permissible error

The maximum permissible error for a relative density transducer is stipulated by the manufacturer according to its expected use.At each test point, the following condition must be met:

$$\left|\delta\right| \leq \delta_{\text{dov}} \tag{1}$$

where: δ ..... is the determined measurement error;

δ_{dov} ..... is the maximum permissible error of the relative density transducer.

[1] TNI 01 0115 International Vocabulary of Metrology – Basic and General Concepts and Associated Terms (VIM) and International Vocabulary of Legal Metrology (VIML) are part of the technical harmonisation compendium 'Terminology in the field of metrology', which is publicly accessible at www.unmz.cz

2.3.1 Maximum permissible error under reference conditions

The maximum permissible error of indication for a relative density transducer is the absolute value of the error expressed as a percentage of the output signal range or as a percentage of the measured quantity.It is expressed as the relative density transducer's accuracy class, which, for type approval and verification purposes, is one of the following accuracy classes:

0.1; 0.2; 0.5.

A different form of accuracy specification for the relative density transducer can be chosen on the basis of the type approval decision.

2.3.2 Maximum permissible error under operating conditions

The maximum permissible error for a relative density transducer under operating conditions is stipulated by the manufacturer according to its expected use.The figure used is double the maximum permissible error of the density transducer under reference conditions.

2.3.3 Maximum permissible error during use

Unless otherwise specified by binding legislation, the figure used is double the maximum permissible error under reference conditions according to the measuring instrument type approval certificate.

3 Technical requirements

Technical requirements applicable to placing relative density transducers on the market are applied during verification.

3.1 Measuring instrument design

In general, a relative density transducer is a functional unit comprising a relative density sensor and a module that modifies and amplifies the output signal.This module may also include a means of setting the output signal's zero value and measurement range.The sensor and this module are built into the casing of the relative density transducer.The transducer includes a pressure connector or connectors for connection to the pressure system, and an electrical connector or connectors.

The design of the relative density transducer must take into account the operating conditions for its expected applications.

3.2 Protection from unauthorised tampering

3.2.1 Protection of adjustment elements

The design and implementation of the relative density transducer must make it possible to protect adjustment elements from unauthorised tampering.

3.2.2 External system interface

In the case of relative density transducers equipped with an external system interface that permits parallel or serial communication with an external data collection system, control system or manual terminal, it must be possible to protect transducer parameter changes from unauthorised tampering using this communication.

The method of protection from unauthorised tampering and placement of official marks shall be specified in the measuring instrument's type approval certificate.

3.2.3 Electromagnetic compatibility

Relative density transducers must not be affected by electrical or electromagnetic interference, or must react to it in a defined manner (for example by reporting an error, blocking measurements, etc.).In addition, they must not emit unwanted electromagnetic fields.

During electromagnetic compatibility tests, the measuring instrument must exhibit normal functionality within the maximum permissible error range pursuant to Article 2.3, or react in a defined manner if this is exceeded.

4 Instrument markings

4.1 In general

All inscriptions and markings must be easily visible, legible and indelible under ordinary conditions and must be a source of the information needed for the proper application of the relative density transducer within the measurement system in relation to other system components.

The use of internationally recognised markings and abbreviations is permitted.

4.2 Mandatory labelling

Relative density transducers must be labelled with the following:

a) the manufacturer’s name or mark;
b) the relative density transducer type;
c) its serial number;
d) the set measuring range;
e) the output electrical signal (including units of measurement) and/or type of communication protocol (relevant information applicable to measuring instrument verification);
f) power voltage;
g) type approval mark;
h) accuracy class;
i) the relationship and parameters of dependence of the measured relative density on the output signal value.

If a relative density transducer makes it possible to use various types of output signals, the transducer casing must clearly indicate which output signal is used in the application or which output signal was subject to verification.If a measuring instrument is not labelled in this manner, any of the listed output signals may be used; all listed signals are subject to verification pursuant to this document.

4.3 Marking with official marks

Suitable areas for placement of the type approval mark and official mark(s) must be provided.

For measuring instruments with built-in adjustment elements or means of changing metrological parameters, the access to these elements must be protected in an effective manner.

It must be possible to secure the relative density transducer against unauthorised disassembly or substitution.

5 Type approval of measuring instruments

The type approval process for a relative density transducer includes the following tests and activities:

a) an external inspection;

b) a basic functional test;
   - a measurement accuracy and repeatability test;

c) tests of resistance to interference affecting measured quantities;
   - a test of resistance to ambient temperature limits;
   - a test of the effect of ambient humidity;
   - a vibration resistance test;
   - an installation position influence test;
   - a measuring instrument stability test;

d) supplementary tests for electrically powered measuring instruments:
   - a test of immunity to changes in supply voltage and frequency;
   - an electromagnetic compatibility (EMC) test.

Taking into account the intended use of the relative density transducer, tests other than those listed above may also be performed or, conversely, in justified cases, certain tests may be reduced or omitted entirely.

5.1 External inspection

The following is assessed during an external inspection:

- that the requisite technical documentation pursuant to § 6(2) of the Metrology Act is complete;
- the conformity of the metrological and technical characteristics specified by the manufacturer in the documentation with this regulation's technical and metrological requirements, specified in Articles 2 and 3;
- the completeness and condition of the density transducer according to the prescribed technical documentation.

5.2 Test conditions during type approval

5.2.1 Ambient conditions

During type approval, ambient conditions must be maintained within the following limits depending on the intended use of the measuring instrument:

- ambient temperature;(20 ± 3) °C;
- ambient relative humidity:(60 ± 15) %;
- atmospheric pressure:(86 to 106) kPa, if the effect of atmospheric pressure is relevant.

In justified cases, other ambient reference conditions may also be chosen.

The tests shall be performed under ambient conditions specified for individual tests.

The maximum ambient temperature rate of change during any test may be up to 1 °C every 10 minutes, but no more than 3 °C per hour (or the actual temperature must not change during the test by more than ±1 °C).During the test, the ambient relative humidity must not change by more than 10 %.

5.2.2 Electrical power supply specifications

The reference values of the measuring instrument’s electrical power supply are stipulated by the manufacturer.The normal supply voltage for relative density transducers is 24 VDC.

5.2.3 Load conditions

The relative density transducer being tested must be connected to a load in a manner specified by the manufacturer.The load value usually used for electrically powered measuring transducers is 250 Ω.

5.2.4 Installation position

The relative density transducer must be installed according to the manufacturer's instructions in only one of the stipulated normal operating positions with a tolerance of ±3° or less.

During testing, the relative density transducer must have all of its covers installed.

5.2.5 External vibrations

The installation of a relative density transducer must rule out the effects of ambient vibrations on the transducer.

5.2.6 External physical stress

Aside from manufacturer-recommended installation tools, no external physical stress is permitted.

5.2.7 Test equipment requirements

Suitable equipment that meets the test requirements must be used for the individual type-approval tests of the relative density transducer.

The following equipment is used to test metrological properties:

- a reference gas source with a given purity grade (for methane at least 4.5; for nitrogen or argon at least 5.0, other gases and mixtures with a relative density uncertainty equal to at most ½ the maximum permissible error of the tested measuring instrument under reference conditions);
- devices and/or communications equipment for measurement and indication of the output signal of the tested relative density transducer;
- devices for monitoring measurement conditions: thermometer, hygrometer, etc.;
- auxiliary measuring devices: air pumps, regulators, flow meters, filters, etc.;
- absolute pressure references with measurement uncertainty of at most 0.01 % of the measured value;
- a thermometer for measuring the temperature of the reference gas with a measurement uncertainty of at most 0.1 °C;
- software or calculation procedures to stipulate the density of the reference gas based on its composition, temperature and absolute pressure with a relative density equal to at most ½ the maximum permissible error of the tested measuring instrument under reference conditions.

References used during the test must have valid metrological traceability.

Software and calculation procedures must be validated with regard to their intended application.

5.3 Basic functional tests

5.3.1 Accuracy and repeatability test

The test is performed at a minimum of two test points at a constant temperature using direct comparison with the reference measurement system.The test is performed in at least three repeated cycles involving ascending and descending loading directions.

If it is possible to switch between ranges or change the relative density transducer's settings, tests of parameters relating to accuracy will be performed with the range set to the maximum and minimum values declared by the manufacturer and at one intermediate position.

The differences between the output signal values obtained at various test points with the relative density of the reference gas increasing and decreasing and the corresponding ideal values are recorded as output errors.

Repeatability is determined using the measured and calculated values as the maximum difference between all output values corresponding to any individual input value; this is carried out separately for ascending and descending loading directions.

The condition stipulated in Article 2.3.1 for ambient reference conditions must be met at all test points.

The repeatability value must not exceed one-half of the maximum permissible error under reference conditions specified in Article 2.3.1.

5.4 Tests of resistance to interference affecting measured quantities

5.4.1 Test of resistance to ambient temperature limits

The effect of ambient temperature must be measured within the temperature range stipulated by the manufacturer or within limits suitable for temperatures corresponding to the operating location of the measuring instruments.

The same properties are always to be tested at each of the selected ambient test temperatures, starting with the reference temperature (20 °C).Test temperatures are generally chosen in 20 °C increments until the relevant stipulated temperature limits are reached.The recommended test temperature tolerance is ±2 °C and the rate of ambient temperature change should be less than 1 °C per minute.Two or three temperature cycles shall be performed.A test pursuant to Article 5.3.1 is performed at each test temperature.

The condition stipulated in Article 2.3.2 for ambient operating conditions must be met for at least 90 % of test points.

5.4.2 Test of the effect of ambient humidity

The effect of ambient humidity is determined in a test chamber where the relative humidity is maintained between -3 % to +2 % of the stipulated relative humidity values.

The measuring instrument must be conditioned at reference humidity < 60 % and temperature 40 °C ±2 °C, and subsequently undergo the test pursuant to Article 5.3.1.

The relative humidity is then increased to 93 % over a period of more than 3 hours and maintained at this value for at least 48 hours.The measuring instrument need not be supplied with power during this time.A test pursuant to Article 5.3.1 is then performed.

With the measuring instrument still in operation, the relative humidity must be reduced over a period of more than 3 hours to the original reference value of < 60 %.After at least 12 hours of acclimatisation, the measurement must be repeated.

After the test, a visual inspection of the measuring instrument is performed for any signs of damage to individual parts or of moisture ingress into sealed covers.

The condition stipulated in Article 2.3.2 for ambient operating conditions must be met at all test points.

5.4.3 Vibration resistance test

The test conditions will either be specified by the measuring instrument manufacturer or set with regard to the expected operating environment.Measurement is performed under reference conditions before and after the measuring instrument is subjected to vibrations.

The condition stipulated in Article 2.3.1 must be met at all test points for ambient reference conditions.

5.4.4 Drop and tipping test

Measurements under reference condition are performed before and after the tests.Inputs and power need not be connected during the test.

The measurement transducer, placed in the normal position on a smooth, hard and rigid concrete or steel surface, shall be tilted around one of its bottom edges so that the opposite edge is 50 mm or 100 mm above the test surface or so that the angle between the bottom surface and the test surface is 30° (whichever is more stringent).The measuring instrument shall then be allowed to fall freely onto the test surface.

The transducer shall be subjected to one fall on each of its four lower edges.

The condition stipulated in Article 2.3.2 must be met at all test points before and after the test.

5.4.5 Installation position influence test

If the transducer is position-sensitive, the change to the lower range and span limit caused by a tilt of 10° from the position(s) specified by the manufacturer must be measured and recorded.

Four measurements shall be performed with the transducer tilted in two mutually perpendicular planes.

In cases where, due to the measuring instrument's design, a tilt of 10° is too large, the maximum tilt specified by the manufacturer must be used.If position-dependent measurement error correction cannot be performed for the measuring instrument, the condition stipulated in Article 2.3.1 must be met.

5.4.6 Measuring instrument stability test

The purpose of this test is to simulate measuring instrument ageing and confirm that it meets the given specifications.

First, a test pursuant to Article 5.3.1 is performed. The measuring instrument is then exposed to ambient temperature changes that cycle between the minimum and maximum operating temperature.The measuring instrument is alternately exposed to the maximum operating temperature for one week and then to the minimum temperature for one week.The entire duration of the test shall be 4 weeks.Changes between minimum and maximum temperatures shall take place in steps of 10 $°C \cdot h^{-1}$.After stabilisation under reference conditions for 24 hours, the test pursuant to Article 5.3.1 must be repeated.

At all test points, the absolute value of the error difference before and after the stability test must not exceed the maximum permissible error under reference conditions pursuant to Article 2.3.1.

5.5 Supplementary tests for electrically powered relative density transducers

5.5.1 Tests of immunity to changes in supply voltage and frequency

Tests are performed at a constant output signal value.The condition stipulated in Article 2.3.1 for ambient reference conditions must be met at all test points.

5.5.1.1 Test of immunity to AC supply voltage limit values

Immunity to AC supply voltage limit values shall be tested with the transducer switched on at the lowest specified voltage, at nominal voltage and at the highest specified voltage at nominal frequency.

5.5.1.2 Test of immunity to changes in AC supply voltage frequency

Immunity to changes in AC supply voltage frequency shall be tested with the transducer switched on at the lowest specified frequency, at nominal frequency and at the highest specified frequency at nominal supply voltage.

5.5.1.3 Test of immunity to DC supply voltage limit values

Immunity to DC supply voltage limit values shall be tested with the transducer switched on at limit voltage values of U_{min} and U_{max}, where U_{min} and U_{max} are DC supply voltage limit values specified by the manufacturer of the measuring instrument.

5.5.2 Electromagnetic compatibility tests

During testing, the transducer's output signal is monitored.The condition stipulated in Article 2.3.1 for reference ambient conditions must be met prior to each electromagnetic compatibility test.The difference between the errors recorded before and during electromagnetic compatibility tests must not exceed the maximum permissible error under reference or operating conditions, or the relative density transducer must react in a defined manner.

5.5.2.1 Resistance to supply voltage dips and short interruptions

The transducer's resistance to supply voltage dips is tested at nominal supply voltage.

The supply voltage is reduced to 75 % of the nominal supply voltage for 5 seconds.In order to rule out transients, the ramp-up period should not be shorter than 100 ms.

For DC-powered devices, the interruptions must last 5 ms, 20 ms, 100 ms and 500 ms.

For AC-powered devices, dips always begin when the voltage passes through its zero point, sequentially before both the positive and negative cycle.The interruption must last for 1, 5, 10, and 25 AC voltage cycles.

5.5.2.2 Resistance to asymmetric interference caused by power lines in the 0 to 150 kHz frequency range

The following is applied to transducers with input/output terminals isolated from the ground potential:

- 250 V_{ef} AC at mains frequency consistently on insulated input/output terminals;
- 50 VDC consistently on insulated input/output terminals.

After the test, the transducer must function normally and all measured errors must be within the range of the relative density transducer's permissible errors stipulated in Article 2.3.1.

5.5.2.3 Resistance to symmetric interference

1 V_{ef} AC is applied to the transducer's output terminals at constant output signal voltage.

5.5.2.4 Resistance to bursts (transients)

The relative density transducer's immunity to electrical fast transient/burst disturbances is tested with the transducer switched on using the following voltages:

±2 kV on the AC supply voltage terminals;

±2 kV on the DC supply voltage terminals;

±1 kV on terminals for signal, data, and control lines longer than 3 m;

±2 kV on terminals for signal, data, and control lines that can be connected directly to power grids.

The pulse repetition frequency is 5 kHz, the interval of repetition of groups of pulses is 300 ms and the total duration of the test for each of the inputs and one pulse polarity is at least 1 minute.

During testing, the transducer's output signal shall be monitored.

5.5.2.5 Resistance to surges

The relative density transducer's resistance to surges is tested when it is switched on with a surge of t_r/t_h = 1.2/50 (8/20) μs with the following voltage:

±2 kV asymmetric and ±1 kV symmetric on AC or DC power inputs;

±1 kV asymmetric on signal, data and control lines longer than 30 m not directly connected to the power grid;

±2 kV asymmetric and ±1 kV symmetric on signal, data and control lines.

During testing, the transducer's output signal is monitored.

5.5.2.6 Resistance to a slow, damped oscillatory wave

The relative density transducer's immunity to a slow damped oscillatory wave is tested with the transducer switched on using a slow 1 MHz and 0.1 MHz oscillatory wave, where the voltage of the first peak on the test waveform is 1.0 kV for asymmetric mode and 0.5 kV for symmetric mode.

5.5.2.7 Resistance to conducted disturbances induced by radio frequency fields

The relative density transducer's resistance to conducted disturbances induced by radio frequency fields is tested when it is switched on, over a frequency range of 150 kHz to 80 MHz, with an open-circuit test voltage of 10 V. The disturbance is applied to:

- AC or DC power inputs;
- signal data, and control lines longer than 30 m not directly connected to the power grid;
- signal, data and control lines directly connected to the power grid.

During testing, the transducer's output signal is monitored.

5.5.2.8 Resistance to electrostatic discharge

Immunity to electrostatic discharge is tested with the transducer switched on, using a voltage of ±6 kV for contact discharge and ±8 kV for air discharge.The discharges shall be applied to the transducer's enclosure and the coupling plane adjacent to the transducer.

During testing, the transducer's output signal is monitored.

5.5.2.9 Resistance to a power frequency magnetic field

Long-term immunity to a power frequency magnetic field is tested with the transducer switched on in a 100 A/m magnetic field.The transducer shall be exposed to the field consecutively along all three basic axes.

Short-term resistance to a power frequency magnetic field is tested with the transducer switched on in a 400 A/m magnetic field for 1 second.The transducer must be exposed to the field consecutively along all three basic axes.

5.5.2.10 Resistance to a damped oscillatory magnetic field

Immunity to a damped oscillatory magnetic field is tested with the transducer switched on, in a magnetic field with a peak intensity of 30 A/m and at an oscillation frequency of 0.1 MHz and 1.0 MHz.The transducer shall be exposed to the field consecutively along all three basic axes.During testing, the transducer's output signal is monitored.

5.5.2.11 Resistance to a radiated high-frequency electromagnetic field

Immunity to a radiated radio-frequency electromagnetic field is tested with the transducer switched on, in the frequency range of 80 MHz to 1 GHz at a test field intensity of 10 V/m.The test field shall be amplitude-modulated to a depth of 80 %; the modulation signal shall have a sinusoidal waveform with a modulation frequency of 1 kHz.The frequency step during the wobble of the test field is at most 1 %, the delay for each frequency must not be less than the time needed to examine the tested measuring instrument and/or for any reaction of the tested transducer to interference; in no case may it be shorter than 0.5 s.The test field is applied to all sides of the transducer's cover.

During testing, the transducer's output signal is monitored.

6 Initial verification

Initial verification may only be performed if the density transducer meets the technical and metrological requirements and labelling requirements stipulated in Articles 2, 3, and 4 of this general measure and if it has a valid type-approval certificate.If the manufacturer specifies a functional relationship between the input and output, all calibration constants of this relationship must be known.

The following is performed during initial verification of a relative density transducer:

- a visual inspection, including a labelling check;
- an accuracy test and a repeatability test.

6.1 Visual inspection

The purpose of the visual inspection is to check that:

- the measuring instrument submitted for verification conforms to the approved type;
- the measuring instrument is not physically damaged and that none of its parts are loose;
- the measuring instrument does not show signs of corrosion that would impair its metrological characteristics;
- the content and implementation of markings and inscriptions correspond to the data and requirements specified in the type approval certificate for the measuring instrument.

If the measuring instrument fails to meet external inspection requirements, no further tests are performed.

6.2 Test conditions during verification

6.2.1 Test equipment

The requirements are defined in Article 5.2.7.

6.2.2 Conditions during tests

6.2.2.1 Ambient conditions when testing a relative density transducer

The tests must be performed under the following ambient conditions:

- temperature:(20 ± 5) °C;
- relative humidity:(50 ± 30) %;
- atmospheric pressure:(86 to 106) kPa, if the effect of atmospheric pressure is relevant.

The maximum permitted rate of ambient temperature change during the test is 1 °C per 10 minutes, but no more than 3 °C per hour.

6.2.2.2 Power supply specifications

The requirements are defined in Article 5.2.2.

6.2.2.3 Loading specifications

The requirements are defined in Article 5.2.3.

6.2.2.4 Installation position

Pursuant to Article 5.2.4, the tested transducer must be installed according to the manufacturer's instructions and in accordance with its type approval certificate in its operating position with a tolerance of ±3° or less.

6.2.2.5 External vibration

The requirements are defined in Article 5.2.5.

6.2.2.6 External physical stress

The requirements are defined in Article 5.2.6.

6.3 Accuracy and repeatability test

The relative density transducer's temperature must be sufficiently stabilised.The accuracy test is performed with pure gases or with a gas mixture or mixtures with known relative density.

The test is performed at a minimum of two test points at a constant temperature using direct comparison with the reference measurement system.The test is performed in at least three repeated cycles involving ascending and descending loading directions.

The difference between the output signal values obtained at various test points at increasing and decreasing relative gas densities and their corresponding ideal values are recorded as measurement errors.

Repeatability is determined using the measured and calculated values as the maximum difference between all output values corresponding to any individual input value; this is carried out separately for ascending and descending loading directions.

The condition stipulated in Article 2.3.1 for reference ambient conditions must be met at all test points, as must the condition that the repeatability value at all points equals at most half the maximum permissible error for ambient reference conditions pursuant to Article 2.3.1, or the maximum permissible repeatability value according to the measuring instrument's type-approval certificate.

The measuring instrument must allow for protection against unauthorised tampering in accordance with Articles 3.2 and 4.3.

The official verification mark or marks are affixed to relative density transducers that meet the specified requirements in the spaces specified in the type-approval certificate.

7 Subsequent verification

The subsequent verification procedure is identical to that for initial verification pursuant to Article 6.

8 Measuring instrument check

When checking measuring instruments pursuant to § 11a of the Metrology Act at the request of an entity that could be affected by its incorrect measurement, Chapter 7 is followed.The maximum permissible error used is double the maximum permissible errors pursuant to Chapter 7.

9 Notified standards

For the purposes of specifying the metrological and technical requirements for measuring instruments and specifying the testing methods for their type approval and verification stemming from this general measure, the CMI shall notify Czech technical standards, other technical standards or technical documents of international or foreign organisations, or other technical documents containing more detailed technical requirements (hereinafter referred to as 'notified standards').The CMI shall publish a list of these notified standards attached to the relevant measures, together with the general measure, in a manner accessible to the public (on www.cmi.cz).

Compliance with notified standards or parts thereof is considered, to the extent and under the conditions stipulated by a general measure, to be compliance with the requirements stipulated by this measure to which these standards or parts thereof apply.

Compliance with notified standards is one way of demonstrating compliance with the requirements.These requirements may also be met by using another technical solution guaranteeing an equivalent or higher level of protection of legitimate interests.

II.

G R O U N D S

The CMI issues, pursuant to § 14(1)(j) of the Metrology Act, towards the implementation of § 6(2), § 9(1), § 9(9) and § 11a(3) of the Metrology Act, this general measure, stipulating metrological and technical requirements for specified measuring instruments and tests for the type approval and verification of specified measuring instruments - 'flow-through vibrational relative gas density transducers'.

Implementing Decree No 345/2002 specifying measuring instruments for mandatory verification and measuring instruments subject to type approval, as amended, classifies the measuring instruments under item 1.3.11(g) in the annex entitled ‘List of legally controlled measuring instruments’ as measuring instruments subject to type approval and mandatory verification.

This legislation (general measure) will be notified in accordance with Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services.

III.

I N S T R U C T I O N S

In accordance with § 172(l), in conjunction with § 39(l) APC, the CMI has stipulated a time limit for comments of 30 days as of the date of posting on the official notice board.Comments submitted after this time limit will not be considered.

The persons concerned are hereby invited to comment on this draft general measure.With a view to the provisions of § 172(4) APC, the comments shall be submitted in writing and meet the requirements for submissions in accordance with § 37 APC.

The comments shall include the particulars referred to in § 37(2) APC and clearly state the following: who is making the comments; which general measure they concern; to what extent the comments challenge the measure; how the general measure runs contrary to legislation or how the general measure or the procedure that preceded it is inaccurate; which matters the comments concern and what is being proposed. Said comments must also identify the administrative authority to which they are addressed and be signed by the person making them.

The supporting documents for this draft general measure may be consulted at the Czech Metrology Institute, Legal Metrology Department, Okružní 31, 638 00 Brno, after making arrangements by telephone.

This general measure shall be posted for 15 days.

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RNDr. Pavel Klenovský

Director-General

Person responsible for accuracy: Mgr. Tomáš Hendrych

Posted on: 12 April 2018

Signature of the authorised person confirming posting: .....

Removed on:

Signature of the authorised person confirming removal: .....