

Accredited entity according to ČSN EN ISO/IEC 17025:2005:

Technické služby ochrany ovzduší Praha a.s.
Emission Calibration Laboratory
Jenečská 146/44, 161 00 Praha 6

The Laboratory is qualified to update standards identifying the calibration procedures.

Measured quantity field: amount of substance

Calibration: Nominal temperature for calibration in the laboratory: $(10 \pm 35) ^\circ\text{C}$
Nominal calibration temperature outside the laboratory: $(-5 \pm 40) ^\circ\text{C}$

Ordinal number ¹⁾	Measured quantity	Measured quantity range	Calibration and Measurement Capability $[\pm]^{2)}$	Method identification
1*	Mass concentration of solid particles	$[\text{mg}/\text{m}^3]$ 1+92 >92+2000	0.7 mg/m^3 4.6 % MV	IP 101-03 (ISO 10155 Chap. 7.3 ISO 9096 EN 1384-1 EN 1384-2)
2a*	Concentration of gaseous components	$[\mu\text{mol}/\text{mol}]$		IP 102-04 (EN ISO 9169, ISO 11095)
	NO	0 + 2 >2 + 2000	0.01 $\mu\text{mol}/\text{mol}$ 0.5 % MV	
	CO	0 + 50 >50 + 8000	0.12 $\mu\text{mol}/\text{mol}$ 0.24 % MV	
	SO ₂	0 + 2 >2 + 2000	0.01 $\mu\text{mol}/\text{mol}$ 0.5 % MV	
	C ₃ H ₈	0 + 5 >5 + 5000	0.01 $\mu\text{mol}/\text{mol}$ 0.2% MV	
	CH ₄	0 + 11 >11 + 15000	0.05 $\mu\text{mol}/\text{mol}$ 0.42% MV	
	n-hexane (C ₆ H ₁₄)	0 + 1 >1 + 2000	0.01 $\mu\text{mol}/\text{mol}$ 1.0 % MV	
	NH ₃	0 + 1 >1 + 2000	0.01 $\mu\text{mol}/\text{mol}$ 1.0 % MV	
	N ₂ O	0 + 220 >220 + 2000	1.1 $\mu\text{mol}/\text{mol}$ 0.5 % MV	
	NO ₂	0 + 0.5 >1 + 1000	0.01 $\mu\text{mol}/\text{mol}$ 2.0 % MV	
		$[\text{mol}/\text{mol}]$		
	O ₂	0 + 0.02 >0.02 + 0.23	0.0001 mol/mol 0.58% MV	
	CO ₂	0 + 0.004 >0.04 + 0.24	0.00001 mol/mol 0.28% MV	

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Ordinal number ¹⁾	Measured quantity	Measured quantity range	Calibration and Measurement Capability $[\pm]^{2)}$	Method identification
2b*	NO ₂ – NO converter efficiency	≤ 500 $\mu\text{mol}/\text{mol}$ NO 1 – 100 %	0.4 % MV	IP 102-05 (EN ISO 9169, US EPA 40 CRF, Ch. I, § 86.332-79)
2c*	Concentration of tracer gas	0 – 100 000 $\mu\text{mol}/\text{mol}$ C ₃ H ₈	0.5 % MV	IP 102-06 (EN 13725, chap. 5, 6, Annex C of the Standard)

¹⁾ Asterisk at the ordinal number identifies the calibrations performed outside/also outside the laboratory premises.

²⁾ Expressed like uncertainty in accordance with the requirements of the document EA 4/02 at $k = 2$.

Explanations and abbreviations:

EN ISO 9169 - Definition and determination of performance characteristics of an automated measuring system
ISO 10155 - Automated monitoring of mass concentrations of particles
EN 13284-1 - Determination of low range mass concentration of dust
EN 13284-2 - Determination of low range mass concentration of dust
ISO 9096 - Determination of mass concentration and mass flow rate of solid particles
ISO 11095 - Linear calibration using reference materials
EN 13725 - Determination of odour concentration by dynamic olfactometry
US EPA 40 CRF - Oxides of nitrogen analyzer calibration - Converter efficiency check
IP - Internal procedure of the Emission Calibration Laboratory
MV - Measured Value

Measured instruments or devices:

(In accordance with the above list of measured quantities and the ranges of measurement the following types of instruments or devices can be measured.)

Ordinal number	Measured instrument/device type
1	Equipment working on the principle of absorption of β -radiation, photometry
2a.	Sources and equipment for the measurement of NO, NO ₂ , N ₂ O, NO _x , CO, SO ₂ , NH ₃ , propane (C ₃ H ₈), methane (CH ₄), hexane (C ₆ H ₁₄), O ₂ , CO ₂ , equipment working on the principle of gas chromatography, FID detection, spectrometry, chemiluminescence, magnetic susceptibility, electrochemical and chemical methods
2b.	NO ₂ – NO Convertors
2c.	Gas mixing and dilution equipment, dynamic olfactometers

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Field of measured quantity: flow rate

Calibration: Nominal temperature for calibration in the laboratory: $(10 \pm 35) ^\circ\text{C}$
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Ordinal number ¹⁾	Measured quantity	Measured quantity range	Calibration and Measurement Capability [± 1] ²⁾	Method identification
3*	Velocity of gas streams in ducts	$3 \pm 30 \text{ m}\cdot\text{s}^{-1}$	3 % MV	IP 103-01 (ISO 10780)
4*	Gas volume flow rate	$1.3 \pm 1.5 \text{ m}^3\cdot\text{h}^{-1}$ s.c. $1.5 \pm 3 \text{ m}^3\cdot\text{h}^{-1}$ s.c. $3 \pm 30 \text{ m}^3\cdot\text{h}^{-1}$ s.c.	1.1 % MV 1.0% MV 0.6% MV	IP 104-01 (EN ISO 5167-1 EN ISO 5167-2 EN ISO 5167-3 EN ISO 5167-4)

¹⁾ Asterisk at the ordinal number identifies the tests performed outside/also outside the laboratory premises.

²⁾ Expressed like uncertainty in accordance with the requirements of the document EA 4/02 at $k = 2$.

Explanations and abbreviations:

EN ISO 5167-1:4 – Measurement of fluid flow by means of pressure difference devices inserted in circular cross-section conduits running full

ISO 10780 – Measurement of velocity of gas streams in ducts

IP – Internal procedure of the Emission Calibration Laboratory

MV – Measured Value

Measured instruments or devices:

(In accordance with the above list of measured quantities and the ranges of measurement the following types of instruments or devices can be measured.)

Ordinal number	Measured instrument/device type
3	Linear velocity probes with pressure difference, ultrasonic gas flow rate meters, mechanical gas flow rate meters
4.	Gas flow sensors

