

**The Appendix is an integral part of
Certificate of Accreditation No. 311/2022 of 22/06/2022**

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Vysoká škola báňská – Technická univerzita Ostrava
Energy Research Center, Testing Laboratory
17. listopadu 2172/15, 708 00 Ostrava - Poruba

The Laboratory is qualified to carry out independent sampling.

Tests:

Ordinal number ¹	Test procedure/method name	Test procedure/method identification ²	Tested object
1a*	Determination of the mass concentration of CO ₂ , SO ₂ , NO _x , CO by automated analyzers (infrared spectroscopy)	VECS 001, cl. 2, 4 to 6 (EPA Test Method 320, ČSN ISO 7935, ČSN ISO 10849, ČSN EN 15058)	Emission
1b*	Determination of the mass concentration of nitrogen oxide (NO _x) by automated analyzers (chemiluminescence)	VECS 005 (ČSN EN 14792)	Emission
1c*	Determination of the mass concentration of oxygen (O ₂) by an automated analyzer (paramagnetic method)	VECS 001, cl. 3 (ČSN EN 14789)	Emission
2-5	Reserved		
5*	Determination of the mass concentration of carbon monoxide (CO) by automated analyzers (infrared spectroscopy)	VECS 001, čl. 3 (ČSN EN 14789)	Emission
6a*	Determination of total mass concentration of organic compounds expressed as total organic carbon (TOC) by automatic analyzers (FID)	VECS 007 (ČSN EN 12619)	Emission
6b*	Determination of total mass concentration of organic compounds expressed as total organic carbon (TOC) by infrared spectroscopy	VECS 007 (EPA Test Method 320)	Emission
7	Determination of the mass concentration of solid pollutants by gravimetry	VECS 003 (ČSN EN 13284-1)	Emission – filtration medium
8-10	Reserved		
11a*	Determination of gas mixture moisture (condensation and absorption method - gravimetry)	VECO 001 - part A, B, C (ČSN EN 14790)	Emission

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Ordinal number ¹	Test procedure/method name	Test procedure/method identification ²	Tested object
11b*	Determination of gas mixture moisture (capacitance detector)	VECO 001 – part D (ČSN EN 14790)	Emission
12*	Determination of pressure	VECO 002 (ČSN ISO 10780 ČSN 07 0240, ČSN 07 0245, ČSN 25 8010, ČSN EN 13229:2002, ČSN EN 13240:2002, ČSN EN 12815:2002, ČSN EN 303-5)	Water, emission, environment, heat-power equipment
13*	Determination of temperature	VECO 003 (ČSN 07 0240, ČSN 07 0245, ČSN 25 8010, ČSN EN 13229:2002, ČSN EN 13240:2002, ČSN EN 12815:2002, ČSN EN 303-5)	Emission, water, environment, heat-power equipment
14a	Determination of ash content by gravimetry, calculation of combustible matter (unburned residue)	VECO 004, excl. chap. 6 (ČSN ISO 1171, ČSN EN 15403, ČSN EN ISO 18122)	Solid fossil fuels, solid biofuels, solid alternative fuels, solid combustion residues
14b	Determination of ash content by thermogravimetry, calculation of combustible matter (unburned residue)	VECO 004, chap. 6 (ČSN ISO 1171, ČSN EN 15403, ČSN EN ISO 18122)	Solid fossil fuels, solid biofuels, solid alternative fuels, solid combustion residues
15a	Determination of Water Content by Gravimetry	VECO 005, excl. chap. 6 (ČSN 44 1377, ČSN ISO 579, ČSN ISO 687, ČSN EN ISO 18134-2, ČSN EN ISO 18134-3, ČSN P CEN/TS 15414-2, ČSN EN 15414-3)	Solid fuels, solid biofuels, solid alternative fuels, solid combustion residues
15b	Determination of water content by thermogravimetry	VECO 005, chap. 6 (ČSN 44 1377, ČSN ISO 579, ČSN ISO 687, ČSN EN ISO 18134-2, ČSN EN ISO 18134-3, ČSN P CEN/TS 15414-2, ČSN EN 15414-3)	Solid fossil fuels, solid biofuels, solid alternative fuels, solid combustion residues
16	Reserved		

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Ordinal number ¹	Test procedure/method name	Test procedure/method identification ²	Tested object
17	Determination of heat output in water	VECT 002 (ČSN 07 0240, ČSN 07 0245, ČSN EN 303-5, ČSN EN 13229:2002, ČSN EN 13240:2002, ČSN EN 12815:2002)	Heat-power equipment
18	Reserved		
19	Determination of water flow rate	VECT 004 (ČSN 07 0240, ČSN EN 297, ČSN EN 303-3, ČSN EN 303-5, ČSN 06 1010, ČSN EN 13229:2002, ČSN EN 13240:2002, ČSN EN 12815:2002, ČSN EN 304)	Heat-power equipment
20 - 21	Reserved		
22a	Determination of the composition of combustion products - mass concentration CO, NO _x , SO ₂ , CO ₂ by automatic analyzers (infrared spectrometry)	VECT 010 (ČSN EN 13229, ČSN EN 13240:2002, ČSN EN 12815:2002, ČSN EN 303-5:2002, ČSN EN 304, Commission Regulation (EU) 2015/1185, Annex III Commission Regulation (EU) 2015/1189, Annex III ČSN EN 15058 ČSN ISO 10849 ČSN ISO 7935 CEN/TS 15883)	Emission from heat-power equipment

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Ordinal number ¹	Test procedure/method name	Test procedure/method identification ²	Tested object
22b	Determination of the composition of combustion products - mass concentration of NO _x by automatic analyzers (chemiluminescence method)	VECT 010 (ČSN EN 13229:2002, ČSN EN 13240:2002, ČSN EN 12815:2002, ČSN EN 303-5, ČSN EN 304, Commission Regulation (EU) 2015/1185, Annex III Commission Regulation (EU) 2015/1189, Annex III ČSN ČSN EN 14792 CEN/TS 15883)	Emission from heat-power equipment
22c	Determination of the composition of combustion products - determination of the mass concentration of oxygen (O ₂) by automatic analyzer (paramagnetic method)	VECT 010 (ČSN EN 13229:2002, ČSN EN 13240:2002, ČSN EN 12815:2002, ČSN EN 303-5, ČSN EN 304, Commission Regulation (EU) 2015/1185, Annex III Commission Regulation (EU) 2015/1189, Annex III)	Emission from heat-power equipment
22d	Determination of the composition of combustion products - Total organic carbon (TOC) by automatic analyzers (FID)	VECT 010 (ČSN EN 13229:2002, ČSN EN 13240:2002, ČSN EN 12815:2002, ČSN EN 303-5, ČSN EN 304, Commission Regulation (EU) 2015/1185, Annex III Commission Regulation (EU) 2015/1189, Annex III ČSN CEN/TS 15883 ČSN EN 12619)	Emission from heat-power equipment
23	Determination of laboratory environment parameters (temperature, relative humidity, atmospheric pressure)	VECO 006 (ČSN 07 0240, ČSN 07 0245, ČSN EN 13229, ČSN EN 13240, ČSN EN 12815, ČSN EN 303-5)	Laboratory environment
24*	Determination of velocity and volume flow of gas	VECS 008 (ČSN ISO 10780)	Emission

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Ordinal number ¹	Test procedure/method name	Test procedure/method identification ²	Tested object
25	Determination of the mass concentration of persistent organic compounds (PCDD/PCDF, PCB, PAH) by calculation from measured values ³	VECS 009 (ČSN EN 1948-1)	Emission
26	Determination of the mass concentration of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl, V, Hg by calculation from measured values ³	VECS 010 (ČSN EN 14385, ČSN EN 13211)	Emission
27	Determination of the mass concentration of gases and vapours (HCl, HF, SO ₂ , ammonia) by calculation from measured values ³	VECS 011 (ČSN EN 1911, ČSN P CEN/TS 17340, ČSN 83 4728)	Emission
28	Determination of the mass concentration of volatile organic compounds (VOC) by calculation from measured values ³	VECS 012 (ČSN P CEN/TS 13649)	Emission
29a*	Determination of the mass concentration of nitrogen monoxide (N ₂ O), nitrogen dioxide (NO ₂), hydrogen chloride (HCl), hydrogen fluoride (HF), ammonia (NH ₃) and sulphur oxide (SO ₃) by automated analyzers (infrared spectroscopy)	VECS 013 A (ČSN ISO 21258 (N ₂ O) EPA Test Metod 320)	Emission
29b*	Determination of the mass concentration of ammonia (NH ₃) by automated analyzers (laser-diode spectroscopy (TDLS))	VECS 013 B (Manual to SICK analyzer GME 700-091)	Emission
30*	Determination of gas mixture moisture by automated analyzer (infrared spectroscopy, Tunable Diode Laser Spectroscopy(TDLS))	VECS 014 B (EPA Test Method 320, ČSN ISO 10155)	Emission

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Ordinal number ¹	Test procedure/method name	Test procedure/method identification ²	Tested object
31*	Determination of dust emissions for small combustion installations – dilution system	VECT 011 (ČSN EN 13229:2002, ČSN EN 13240:2002, ČSN EN 12815:2002, ČSN EN 303-5, DIN plus EN 13229, chap. 4 and Annex C, DIN plus EN 13240, chap.4 and Annex C, DIN plus EN 12815, chap.4 and Annex C, 1. BImSchV, 15a B-VG, ČSN EN 13284-1, ČSN 07 0240, CEN/TS 15883, Commission Regulation (EU) 2015/1185, Annex III Commission Regulation (EU) 2015/1189, Annex III, ČSN EN 13284-1 CEN/TS 15883)	Emission from heat-power equipment
32*	Determination of sampling efficiency of aerosols monitors (gravimetry)	VECO 007 (ČSN EN 60761-2, chap. 14.2)	Aerosol
33 - 34	Reserved		
35	Determination of the content of volatile combustible matter by gravimetry	VECL 001 (ČSN ISO 562, ČSN ISO 5071-1, ČSN EN ISO 18123, ČSN EN 15402)	Solid fossil fuels, solid biofuels, Solid alternative fuels
36	Determination of gross calorific value and calculation of net calorific value	VECL 002 (ČSN ISO 1928, ČSN EN 18125, ČSN EN 15400)	Solid fossil fuels, solid biofuels, solid alternative fuels
37	Determination of carbon, hydrogen and nitrogen by CHN628 analyzer, determination of oxygen – by calculation	VECL 003 (ČSN ISO 29541, ČSN ISO 17247, ČSN EN ISO 16948, ISO16948, ČSN EN ISO 16993, ČSN EN ISO 21663, EN ISO 21663, ČSN 44 1355)	Solid fossil fuels, solid biofuels, solid alternative fuels, solid combustion residues

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Ordinal number ¹	Test procedure/method name	Test procedure/method identification ²	Tested object
38	Determination of total sulphur by high-temperature combustion method by CHN 628 module	VECL 004 (ČSN ISO 19579, ČSN ISO 17247, ČSN EN ISO 16993, ČSN EN ISO 16994, ISO 16994, ČSN EN ISO 21663, EN ISO 21663)	Solid fossil fuels, solid biofuels, solid alternative fuels, solid combustion residues
39	Determination of ash fusibility temperature	VECL 005 (ČSN ISO 540, ISO 540, ČSN EN ISO 21404, EN ISO 21404, ČSN P CEN/TS 15404, CEN/TS 15404)	Solid fossil fuels, solid biofuels, solid alternative fuels, solid combustion residues
40*	Determination of total mass concentration of mercury (Hg) in gas phase by automated analyzer (CVAAS)	VECS 015 (ČSN EN 14884)	Emissions
41	Determination of flash point by closed cup method	VECB 001 (ČSN EN ISO 2719)	Liquids
42	Determination of maximum explosion pressure, maximum rate of explosion pressure rise, lower explosion limit and limit oxygen concentration of dust clouds	VECB 002 (ČSN EN 14034-1+A1, ČSN EN 14034-2+A1, ČSN EN 14034-3+A1, ČSN EN 14034-4+A1)	Dust clouds
43	Determination of maximum explosion pressure and maximum rate of explosion pressure rise of gases and vapours of liquids	VECB 003 (ČSN EN 15967)	Gases and vapours of liquids
44	Determination of upper and lower explosion limit of gases and vapours of liquids	VECB 004 (ČSN EN 1839 ed. 2, cl. 4.5.2)	Gases and vapours of liquids
45	Determination of the limiting oxygen concentration for flammable gases and vapours	VECB 005 (ČSN EN 1839 ed. 2, cl. 4.5.3)	Gases and vapours of liquids

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Ordinal number ¹	Test procedure/method name	Test procedure/method identification ²	Tested object
46	Determination of vapour ignition temperature	VECB 006 (Commission Directive 92/69/EEC, method A.15 ASTM E659)	Vapours of liquids
47	Determination of power input	VECE 001 (ČSN EN 13229:2002, ČSN EN 13240:2002, ČSN EN 12815:2002, ČSN EN 303-5, ČSN 07 0245)	Heat-power equipment
48*	Quality assurance of automated measuring systems	VECS 016 (ČSN EN 14181)	Emission
49	Determination of bulk density	VECL 006 (ČSN ISO 17828, ČSN P CEN/TS 15401)	Solid biofuels, solid alternative biofuels
50	Determination of particle size distribution	VECL 007 (ČSN EN ISO 17827-2, ČSN EN 15415-1)	Solid biofuels, solid alternative biofuels
51	Testing parameters of hot water boilers	VECT 014 (ČSN EN 303-5, Commission Regulation (EU) No. 2015/1189, Annex III)	Heat-power equipment
52	Testing of parameters of local heaters fired by solid fuels for households	VECT 015 (ČSN EN 13229:2002, ČSN EN 13240:2002, ČSN EN 12815:2002, Commission Regulation (EU) No. 2015/1185, Annex III)	Heat-power equipment

¹ asterisk at the ordinal number identifies the tests, which the Laboratory is qualified to carry out outside the permanent laboratory premises

² if the document identifying the test procedure is dated, only these specific procedures are used. If the document identifying the test procedure is not dated, the latest edition of the specified procedure is used (including any changes)

³ laboratory determination of an analyte in the sample is subcontracted to an accredited testing laboratory

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Sampling:

Ordinal number	Sampling procedure name	Sampling procedure identification ¹	Sampled object
1	Sampling of persistent organic compounds (PCDD/PCDF, PCB, PAH) - isokinetic sampling with automatic or manual isokinetic control, filtration condensation method	VECV 001 (ČSN EN 1948-1, ISO 11338-1)	Emission
2	Sampling for the determination of heavy metals (As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl, V, Hg) - isokinetic sampling with automatic or manual isokinetic control and absorption into liquid	VECV 002 (ČSN EN 14385, ČSN EN 13211, ČSN EN 13284-1)	Emission
3	Sampling of gases and vapours (HCl, HF, SO ₂ and NH ₃) by absorption into liquid	VECV 003 (ČSN EN 1911-1, ČSN P CEN/TS 17340, ČSN 83 4728-2, ČSN EN 147)	Emission
4	Sampling of organic compounds by capture on a solid sorbent	VECV 004 (ČSN P CEN/TS 13649)	Emission
5	Sampling of solid pollutants (isokinetic sampling with automatic or manual isokinetic control)	VECV 005 (ČSN EN 13284-1)	Emission

¹ if the document identifying the sampling procedure is dated, only these specific procedures are used. If the document identifying the sampling procedure is not dated, the latest edition of the specified procedure is used (including any changes)

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Assessment of conformity for authorization/notification purposes

Ordinal number	Product/Product group name	Conformity assessment procedure/module/AVCP system	Basic requirements/harmonised technical specifications: product specifications/ characteristics/ technical standards
1.	Construction products acc. to Government Regulation No. 163/2002 Coll.		
1.1	Residential space heating appliances		
1.1.1	- gas fuel equipment for the preparation of hot water and central heating, excluding equipment burning gaseous fuels, heat pumps (area code 10/5 according to Annex No. 2 to the GR No. 163/2002 Coll.)	Gov. Reg. No. 163/2002 Coll., § 7	ČSN EN 303-5:2013
2.	Construction products acc. to Regulation (EU) No. 305/2011		
2.1	Residential space heating appliances		
2.1.1	- residential space heating appliances for use in buildings (area code 27 according to Annex IV. CPR)	Regulation No. 305/2011, Annex V, cl. 1.4 System 3	ČSN EN 12815:2002, ČSN EN 13229:2002, ČSN EN 13240:2002

Explanations and abbreviations:

Emission - waste gas containing pollutants, released in atmosphere in a controlled way

Liquids - combustible liquids with suspended solids and liquids prone to forming a surface film under the specific test conditions

Solid fossil fuels - black coal, brown coal, coke

1. BImSchV - Erste Verordnung zur Durchführung des Bundes-Immissionsschutzgesetzes (Verordnung über kleine und mittlere Feuerungsanlagen) - German regulation implementing the Act on pollution limiting (regulation on small- and medium- sized combustion equipment)

ASTM - American Society For Testing & Materials (American standard)

AVCP - Assessment and Verification of Constancy of Performance

CEN/TS - Technical Specifications issued by the European Committee for Standardization

CPR - Regulation (EU) No. 305/2011 of the European Parliament and of the Council, laying down harmonized conditions for the marketing of construction products

CVAAS - Cold Vapour Atomic Absorption Spectrometry

EPA Test Method - Environmental Protection Agency (USA) method

FID - Flame Ionization Detection

Gov. Reg. 163/2002 Coll.- Government Regulation laying down the technical requirements for specified construction products

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PAH	- Polycyclic Aromatic Hydrocarbons
PCB	- Polychlorinated Biphenyls
PCDD	- Polychlorinated Dibenzodioxins
PCDF	- Polychlorinated Dibenzofurans
TOC	- Total Organic Carbon
TZL	- Solid Pollutants
VECB	- Internal testing procedure in the field of safety
VECE	- Internal testing procedure for electrical characteristics
VECL	- Internal testing procedure in the field of fuels
VECO	- Internal testing procedure for other tests (e.g. basic parameters, temperature, pressure, concentration)
VECS	- Internal testing procedure in the field of combustion products
VECT	- Internal testing procedure in the field of heat-power equipment
VECV	- Internal sampling procedure
VOC	- Volatile Organic Compounds