

Certificate No. Z/400/2026/1

In the Laboratory of the Environmental Research Center "SORBCHEM" Sp. z o.o., energy and emission tests were conducted on the boiler model:

**MultiKo groszek 20 kW with a nominal power of 20 kW
powered by hard coal**

manufactured by KOTŁOSPAW Sp. z o.o. ul. Szenica 38, 63-300 Pleszew

The purpose of the tests was to confirm compliance with the requirements of the standard PN-EN 303-5+A1:2023-05, which also includes the requirements of Commission Regulation (EU) 2015/1189 of 28 April 2015 and Delegated Commission Regulation (EU) 2015/1187.

The thermal and emission tests conducted confirm that the requirements of the standard PN-EN 303-5+A1:2023-05 are met.

The energy and emission characteristics of the MultiKo groszek 20 kW boiler with a nominal power of 20 kW, serial number 2577/2026, are presented in the table below, based on the test results conducted at the Boiler Testing Laboratory, Laboratory of the Environmental Research Center SORBCHEM Sp. z o.o. Full test results are provided in the test report No. 400/2026 dated 29.04.2026.

Thermal Power [kW]		Thermal Efficiency [%]		Boiler Class	Useful Efficiency [%]		Seasonal Space Heating Efficiency in Active Mode [%]	Seasonal Space Heating Efficiency [%]	Energy Efficiency Index	Energy Efficiency Class
		Criterion: >88.4						Criterion: >77		
Q_n	Q_p	η_n	η_p	5	η_{nGCV}	η_{pGCV}	η_{son}	η_s	EEI	B
20,58	5,94	91,80	90,35		88,16	86,76	87	84	83	

Parameter	Emission			Seasonal Emission E_s	
	Result for Nominal Power [mg/m ³ 13% O ₂]	Result for Partial Power [mg/m ³ 13% O ₂]	Emission Limits	Results [mg/m ³ 13% O ₂]	Seasonal Emission Limits
Dust	20,2	23,5	≤ 40	23	≤ 40
CO	53	275	≤ 500	241	≤ 500
NOx	---	---	---	183	≤ 200
OGC	6,1	10,6	≤ 20	10	≤ 20

Ruda Śląska, 29.04.2026 r.

Head of the Boiler Testing Laboratory
mgr inż. Arkadiusz Ciepliński

President of the Management Board
mgr Zdzisław Brajlich