

Report No. K 3542 2025 T1

**Residential solid fuel burning appliances:
mechanically by wood pellets fed roomheaters, inset appliances and cookers**

**in accordance with
DIN EN 16510-1:2023-02 and DIN EN 16510-2-6:2023-02**

Type:
AP004N_4_06/07/08 EN

Trademark:
PALAZZETTI

Company:
PALAZZETTI LELIO S.p.A.



This accreditation is valid only for the listed standards as stated in the accreditation annex of D-PL-11120-04-00

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Publication of page 2 is permitted.

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Test report

Residential solid fuel burning appliances:

mechanically by wood pellets fed roomheaters, inset appliances and cookers

DIN EN 16510-1: 2023-02 and DIN EN 16510-2-6:2023-02

Historical assessment data based on test report K32242022T1

Applicant/contractor:	PALAZZETTI LELIO S.p.A. Via Roveredo, 103 33080 Porcia (PN) - Italy
Trademark:	PALAZZETTI
Type designations:	AP004N_4_06/07/08 EN
Appliance description:	Mechanical by wood pellets fed roomheater
Test fuel:	Wood pellets Ø 6 mm, Lmax 30 mm, max humidity 6,18%, Norica, class A1 according to EN 17225-2

Specified data by applicant

Type of appliance:	BE		
Type designations:	AP004N_4_06 EN	AP004N_4_07 EN	AP004N_4_09 EN
Heat input:	2,7 kW – 6,5 kW	2,7 kW – 7,8 kW	2,7 kW – 9,2 kW
Space heat output:	2,4 kW – 6,0 kW	2,4 kW – 7,0 kW	2,4 kW – 8,2 kW
Water heat output:	Not applicable		
Max. water pressure:	Not applicable		
Max. water temperature:	Not applicable		

Remark: -

Test basis: DIN EN 16510-1:2023-02 and DIN EN 16510-2-6:2023-02.

Test results: The appliances conform with the requirements of DIN EN 16510-1:2023-02, except for clauses 5.8, 7 and 8, and DIN EN 16510-2-6:2023-02, except for clause 4.9, which are not part of this assessment.

Performance assessments regarding environmental sustainability is not subject of this report. A possible NPD declaration by the manufacturer is also not included in the present report. The appliances conform with the essential declared characteristics of table ZA.1 of DIN EN 16510-2-6:2023-02, documented with test report K 3542 2025 B2.

Dated in Cologne, 2025-08-12

TÜV Rheinland Energy & Environment GmbH
Test Centre according to Construction
Product Regulation 305/2011(CPR)
Notified Body: 2456

Assessor:

Report released after review:

Dipl.-Ing. A. Pomp

Dipl.-Ing. R. Verbert

1 Task

The Test Centre for Energy Appliances was instructed to execute the measurements and calculations on the appliances **AP004N_4_06 EN** and **AP004N_4_08 EN** for the operation with wood pellets according to DIN EN 16510-1:2023-02 and to DIN EN 16510-2-6:2023-02. The clauses 5.8, 7 and 8 of DIN EN 16510-1:2023-02, and clause 4.9 of DIN EN 16510-2-6:2023-02 are not part of this assessment.

The practical tests were carried out by the laboratory CMC Centro Misure Compatibilità S.r.l., via della Fisica 20, Thiene (VI) – Italy, on the 16th, on the 17th and on the 18th of February 2022.

The data documented in this test report are based on historical data of the initial type testing report no.: K3224202T1 issued according to DIN EN 14785.

The manufacturer declares that the construction, functional- and safety-related components and design of models **AP004N_4_06 EN**, **AP004N_4_07 EN** and **AP004N_4_08 EN** are identical to the one documented in the initial type testing report no.: K3224202T1 (see also Annex A02).

Type appliance	Latest report number	New type designations acc. DIN EN 16510-1 + DIN EN 16510-2-6 with report numbers K 3542 2025 T1 and K 3542 2025 B2
AP004N_4_06/07/08	K3224202T1	AP004N_4_06/07/08 EN
Additional identical roomheaters from extension reports		
ECOFIRE MILU 6 ECOFIRE MILU 8	K3254202Z1	ECOFIRE MILU 6 EN ECOFIRE MILU 8 EN

2 Description of the appliance

2.1 Construction

Residential space heating appliances fired by wood pellets without water heat exchanger.

The flue discharge for pellet operation is fan assisted.

The appliances are equipped with an automatic ignition.

The stoves are equipped with horizontal (backside) flue gas outlet.

The appliances are equipped with a frontal convection hot air fan: the user can adjust the speed of the ambient blower from power off to maximum speed.

AP004N_4_06 EN, AP004N_4_07 EN and AP004N_4_08 EN are all identical each other, except than for nominal load power software settings.

The type designation AP004N_4_07 EN is based on families of appliances and was not tested (see Annex G of EN16510-1)

More details in test report K32242022T1

2.2 Photos of the tested appliance



2.3 General technical specified data of the appliances

Model name:		AP004N_4_06 EN
Parameter	Explanation	Specified data by the applicant
P_{nom}	Nominal heat output or a range of outputs (dependent on fuel types), given with 1 decimal	6 kW
P_{SHnom}	Nominal space heat output or a range of outputs (dependent on fuel types), given with 1 decimal	6 kW
P_{Wnom}	Nominal water output (if an integral boiler is fitted) or a range of outputs (dependent on fuel types), given with 1 decimal	--
P_{part}	Part load heat output or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	2.4 kW
P_{SHpart}	Part load space heat output or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	2.4 kW
P_{Wpart}	Part load water output (if an integral boiler is fitted) or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	---
P_{slow}	Heat output at slow combustion or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	--
P_{SHslow}	Space heat output at slow combustion or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	--
P_{Wslow}	Water heat output at slow combustion (if an integral boiler is fitted) or a range of outputs (dependent on fuel types) if specified, with 1 decimal	--
$P_{acc\ in}$	Accumulator heat input, in kW or W for Kachelofen inset appliances only	--
$T_{acc\ in}$	Temperature at the separate heat exchanger inlet, for Kachelofen inset appliances only, given as an integer	--
ζ_{acc}	Flow resistance of the separate heat exchanger as used in the test, for Kachelofen inset appliances only	--
η_{nom}	Appliance efficiency at nominal heat output, given as an integer	91 %
η_{part}	Appliance efficiency at part load heat output, given as an integer	91 %
η_s	Appliance seasonal space heating efficiency at nominal heat output, given as an integer	87 %
EEI	Energy efficiency index, given as an integer	128
$CO_{nom} (13\ \% O_2)$	CO emission at 13 % oxygen content at nominal heat output, given as an integer	50 mg/m ³
$CO_{part} (13\ \% O_2)$	CO emission at 13 % oxygen content at part load heat output if specified, given as an integer	297 mg/m ³
$CO_{slow} (13\ \% O_2)$	CO emission at 13 % oxygen content at heat output at slow combustion if specified, given as an integer	--
$NO_{xnom} (13\ \% O_2)$	NOx emission at 13 % oxygen content at nominal heat output, given as an integer	99 mg/m ³

NO_{xpart} (13 % O_2)	NOx emission at 13 % oxygen content at part load heat output if specified, given as an integer	64 mg/m ³
NO_{xslow} (13 % O_2)	NOx emission at 13 % oxygen content at heat output at slow combustion if specified, given as an integer	--
OGC_{nom} (13 % O_2)	Hydrocarbon emission at 13 % oxygen content at nominal heat output, given as an integer	2 mg/m ³
OGC_{part} (13 % O_2)	Hydrocarbon emission at 13 % oxygen content at part load heat output if specified, given as an integer	4 mg/m ³
OGC_{slow} (13 % O_2)	Hydrocarbon emission at 13 % oxygen content at heat output at slow combustion if specified, given as an integer	--
PM_{nom} (13 % O_2)	Particulate matter emission at 13 % oxygen content at nominal heat output, given as an integer	13 mg/m ³
PM_{part} (13 % O_2)	Particulate matter emission at 13 % oxygen content at part load heat output if specified, given as an integer	5 mg/m ³
PM_{slow} (13 % O_2)	Particulate matter emission at 13 % oxygen content at heat output at slow combustion if specified, given as an integer	--
p_{nom}	Minimum flue draught at nominal heat output, given as an integer	12 Pa
p_{part}	Minimum flue draught at part load heat output if specified, given as an integer	10 Pa
p_{slow}	Minimum flue draught at heat output at slow combustion if specified, given as an integer	--
p_w	Permissible maximum water operating pressure, if applicable, given with 1 decimal	--
d_R	Minimum distances from the rear to combustible material, given as an integer	200 mm
d_S	Minimum distances from the sides to combustible material, given as an integer	200 mm
d_C	Minimum distances from the top to combustible material in the ceiling, given as an integer	750 mm
d_P	Minimum distances from the front to combustible material	800 mm
d_F	Minimum distances from the front to combustible material in bottom front radiation area, given as an integer	1500 mm
d_L	Minimum distances from the front to combustible material in side front radiation area, given as an integer	1500 mm
d_B	Minimum distances below the bottom (not regarding feet) to combustible material, given as an integer	0 mm
d_{non}	Minimum distances to non-combustible walls, given as an integer	0 mm
s	Protective insulation according to manufacturer's instructions	-
el_{SB}	Consumption of electrical auxiliary energy at standby, given with 3 decimals	0.001 kW
el_{max}	Consumption of electrical auxiliary energy at nominal heat output, given with 3 decimals	0.050 kW

$e_{l\min}$	Consumption of electrical auxiliary energy at part load heat output, given with 3 decimals	0.025kW
E, f	Power supply voltage, frequency, given as an integer	230 V, 50 Hz
$W_{\max}$	Maximum electric power input, given as an integer	360 W
T_{snom}	Flue gas outlet temperature at nominal heat output, given as an integer	167 °C
T_{spart}	Flue gas outlet temperature at part load heat output, given as an integer (given for pellet operation only)	93 °C
T_{class}	Chimney designation according to the appropriate chimney standard	T400 G
$\phi_{f,g \text{ nom}}$	Flue gas mass flow at nominal heat output, given with 1 decimal	3.8 g/s
$\phi_{f,g \text{ part}}$	Flue gas mass flow at part load heat output, given with 1 decimal (given for pellet operation only)	3 g/s
V_h	Standing Air Loss, if specified, given with 1 decimal	---
CON or INT	whether the appliance is capable of continuous operation (CON), whether the appliance is capable of intermittent operation (INT)	CON
d_{out}	Diameter of the flue gas outlet, given as an integer	80 mm
L, H, W	Overall dimensions of the appliance (length, height, width), given as an integer	531 x 1020 x 496 mm
m	Mass of the appliance, given as an integer (in relation to the building's statics)	100 kg
m_{chim}	Maximum load of a chimney the appliance may carry, given as an integer	0 kg

Model name:		AP004N_4_07 EN
Parameter	Explanation	Specified data by the applicant
P_{nom}	Nominal heat output or a range of outputs (dependent on fuel types), given with 1 decimal	7 kW
P_{SHnom}	Nominal space heat output or a range of outputs (dependent on fuel types), given with 1 decimal	7 kW
P_{Wnom}	Nominal water output (if an integral boiler is fitted) or a range of outputs (dependent on fuel types), given with 1 decimal	--
P_{part}	Part load heat output or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	2.4 kW
P_{SHpart}	Part load space heat output or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	2.4 kW
P_{Wpart}	Part load water output (if an integral boiler is fitted) or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	---
P_{slow}	Heat output at slow combustion or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	--
P_{SHslow}	Space heat output at slow combustion or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	--
P_{Wslow}	Water heat output at slow combustion (if an integral boiler is fitted) or a range of outputs (dependent on fuel types) if specified, with 1 decimal	--
$P_{acc\ in}$	Accumulator heat input, in kW or W for Kachelofen inset appliances only	--
$T_{acc\ in}$	Temperature at the separate heat exchanger inlet, for Kachelofen inset appliances only, given as an integer	--
ζ_{acc}	Flow resistance of the separate heat exchanger as used in the test, for Kachelofen inset appliances only	--
η_{nom}	Appliance efficiency at nominal heat output, given as an integer	90 %
η_{part}	Appliance efficiency at part load heat output, given as an integer	91 %
η_s	Appliance seasonal space heating efficiency at nominal heat output, given as an integer	86 %
EEI	Energy efficiency index, given as an integer	126
$CO_{nom} (13\ \% O_2)$	CO emission at 13 % oxygen content at nominal heat output, given as an integer	50 mg/m ³
$CO_{part} (13\ \% O_2)$	CO emission at 13 % oxygen content at part load heat output if specified, given as an integer	297 mg/m ³
$CO_{slow} (13\ \% O_2)$	CO emission at 13 % oxygen content at heat output at slow combustion if specified, given as an integer	--
$NO_{xnom} (13\ \% O_2)$	NOx emission at 13 % oxygen content at nominal heat output, given as an integer	99 mg/m ³

NO_{xpart} (13 % O_2)	NOx emission at 13 % oxygen content at part load heat output if specified, given as an integer	64 mg/m ³
NO_{xslow} (13 % O_2)	NOx emission at 13 % oxygen content at heat output at slow combustion if specified, given as an integer	--
OGC_{nom} (13 % O_2)	Hydrocarbon emission at 13 % oxygen content at nominal heat output, given as an integer	2 mg/m ³
OGC_{part} (13 % O_2)	Hydrocarbon emission at 13 % oxygen content at part load heat output if specified, given as an integer	4 mg/m ³
OGC_{slow} (13 % O_2)	Hydrocarbon emission at 13 % oxygen content at heat output at slow combustion if specified, given as an integer	--
PM_{nom} (13 % O_2)	Particulate matter emission at 13 % oxygen content at nominal heat output, given as an integer	13 mg/m ³
PM_{part} (13 % O_2)	Particulate matter emission at 13 % oxygen content at part load heat output if specified, given as an integer	5 mg/m ³
PM_{slow} (13 % O_2)	Particulate matter emission at 13 % oxygen content at heat output at slow combustion if specified, given as an integer	--
p_{nom}	Minimum flue draught at nominal heat output, given as an integer	12 Pa
p_{part}	Minimum flue draught at part load heat output if specified, given as an integer	10 Pa
p_{slow}	Minimum flue draught at heat output at slow combustion if specified, given as an integer	--
p_w	Permissible maximum water operating pressure, if applicable, given with 1 decimal	--
d_R	Minimum distances from the rear to combustible material, given as an integer	200 mm
d_S	Minimum distances from the sides to combustible material, given as an integer	200 mm
d_C	Minimum distances from the top to combustible material in the ceiling, given as an integer	750 mm
d_P	Minimum distances from the front to combustible material	800 mm
d_F	Minimum distances from the front to combustible material in bottom front radiation area, given as an integer	1500 mm
d_L	Minimum distances from the front to combustible material in side front radiation area, given as an integer	1500 mm
d_B	Minimum distances below the bottom (not regarding feet) to combustible material, given as an integer	0 mm
d_{non}	Minimum distances to non-combustible walls, given as an integer	0 mm
s	Protective insulation according to manufacturer's instructions	-
el_{SB}	Consumption of electrical auxiliary energy at standby, given with 3 decimals	0.001 kW
el_{max}	Consumption of electrical auxiliary energy at nominal heat output, given with 3 decimals	0.050 kW

$eI_{\min}$	Consumption of electrical auxiliary energy at part load heat output, given with 3 decimals	0.025kW
E, f	Power supply voltage, frequency, given as an integer	230 V, 50 Hz
$W_{\max}$	Maximum electric power input, given as an integer	360 W
T_{snom}	Flue gas outlet temperature at nominal heat output, given as an integer	184 °C
T_{spart}	Flue gas outlet temperature at part load heat output, given as an integer (given for pellet operation only)	93 °C
T_{class}	Chimney designation according to the appropriate chimney standard	T400 G
$\phi_{\text{f,g nom}}$	Flue gas mass flow at nominal heat output, given with 1 decimal	4.2 g/s
$\phi_{\text{f,g part}}$	Flue gas mass flow at part load heat output, given with 1 decimal (given for pellet operation only)	3 g/s
V_h	Standing Air Loss, if specified, given with 1 decimal	---
CON or INT	whether the appliance is capable of continuous operation (CON), whether the appliance is capable of intermittent operation (INT)	CON
d_{out}	Diameter of the flue gas outlet, given as an integer	80 mm
L, H, W	Overall dimensions of the appliance (length, height, width), given as an integer	531 x 1020 x 496 mm
m	Mass of the appliance, given as an integer (in relation to the building's statics)	100 kg
m_{chim}	Maximum load of a chimney the appliance may carry, given as an integer	0 kg

Model name:	AP004N_4_08 EN
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Parameter	Explanation	Specified data by the applicant
P_{nom}	Nominal heat output or a range of outputs (dependent on fuel types), given with 1 decimal	8.2 kW
P_{SHnom}	Nominal space heat output or a range of outputs (dependent on fuel types), given with 1 decimal	8.2 kW
P_{Wnom}	Nominal water output (if an integral boiler is fitted) or a range of outputs (dependent on fuel types), given with 1 decimal	--
P_{part}	Part load heat output or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	2.4 kW
P_{SHpart}	Part load space heat output or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	2.4 kW
P_{Wpart}	Part load water output (if an integral boiler is fitted) or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	---
P_{slow}	Heat output at slow combustion or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	--
P_{SHslow}	Space heat output at slow combustion or a range of outputs (dependent on fuel types) if specified, given with 1 decimal	--
P_{Wslow}	Water heat output at slow combustion (if an integral boiler is fitted) or a range of outputs (dependent on fuel types) if specified, with 1 decimal	--
$P_{acc\ in}$	Accumulator heat input, in kW or W for Kachelofen inset appliances only	--
$T_{acc\ in}$	Temperature at the separate heat exchanger inlet, for Kachelofen inset appliances only, given as an integer	--
ζ_{acc}	Flow resistance of the separate heat exchanger as used in the test, for Kachelofen inset appliances only	--
η_{nom}	Appliance efficiency at nominal heat output, given as an integer	89 %
η_{part}	Appliance efficiency at part load heat output, given as an integer	91 %
η_s	Appliance seasonal space heating efficiency at nominal heat output, given as an integer	85 %
EEI	Energy efficiency index, given as an integer	125
$CO_{nom} (13\ \% O_2)$	CO emission at 13 % oxygen content at nominal heat output, given as an integer	50 mg/m ³
$CO_{part} (13\ \% O_2)$	CO emission at 13 % oxygen content at part load heat output if specified, given as an integer	297 mg/m ³
$CO_{slow} (13\ \% O_2)$	CO emission at 13 % oxygen content at heat output at slow combustion if specified, given as an integer	--
$NO_{xnom} (13\ \% O_2)$	NOx emission at 13 % oxygen content at nominal heat output, given as an integer	99 mg/m ³

NO_{xpart} (13 % O_2)	NOx emission at 13 % oxygen content at part load heat output if specified, given as an integer	64 mg/m ³
NO_{xslow} (13 % O_2)	NOx emission at 13 % oxygen content at heat output at slow combustion if specified, given as an integer	--
OGC_{nom} (13 % O_2)	Hydrocarbon emission at 13 % oxygen content at nominal heat output, given as an integer	2 mg/m ³
OGC_{part} (13 % O_2)	Hydrocarbon emission at 13 % oxygen content at part load heat output if specified, given as an integer	4 mg/m ³
OGC_{slow} (13 % O_2)	Hydrocarbon emission at 13 % oxygen content at heat output at slow combustion if specified, given as an integer	--
PM_{nom} (13 % O_2)	Particulate matter emission at 13 % oxygen content at nominal heat output, given as an integer	13 mg/m ³
PM_{part} (13 % O_2)	Particulate matter emission at 13 % oxygen content at part load heat output if specified, given as an integer	5 mg/m ³
PM_{slow} (13 % O_2)	Particulate matter emission at 13 % oxygen content at heat output at slow combustion if specified, given as an integer	--
p_{nom}	Minimum flue draught at nominal heat output, given as an integer	12 Pa
p_{part}	Minimum flue draught at part load heat output if specified, given as an integer	10 Pa
p_{slow}	Minimum flue draught at heat output at slow combustion if specified, given as an integer	--
p_w	Permissible maximum water operating pressure, if applicable, given with 1 decimal	--
d_R	Minimum distances from the rear to combustible material, given as an integer	200 mm
d_S	Minimum distances from the sides to combustible material, given as an integer	200 mm
d_C	Minimum distances from the top to combustible material in the ceiling, given as an integer	750 mm
d_P	Minimum distances from the front to combustible material	800 mm
d_F	Minimum distances from the front to combustible material in bottom front radiation area, given as an integer	1500 mm
d_L	Minimum distances from the front to combustible material in side front radiation area, given as an integer	1500 mm
d_B	Minimum distances below the bottom (not regarding feet) to combustible material, given as an integer	0 mm
d_{non}	Minimum distances to non-combustible walls, given as an integer	0 mm
s	Protective insulation according to manufacturer's instructions	-
el_{SB}	Consumption of electrical auxiliary energy at standby, given with 3 decimals	0.001 kW
el_{max}	Consumption of electrical auxiliary energy at nominal heat output, given with 3 decimals	0.050 kW

$e_{l\min}$	Consumption of electrical auxiliary energy at part load heat output, given with 3 decimals	0.025kW
E, f	Power supply voltage, frequency, given as an integer	230 V, 50 Hz
$W_{\max}$	Maximum electric power input, given as an integer	360 W
T_{snom}	Flue gas outlet temperature at nominal heat output, given as an integer	209 °C
T_{spart}	Flue gas outlet temperature at part load heat output, given as an integer (given for pellet operation only)	93 °C
T_{class}	Chimney designation according to the appropriate chimney standard	T400 G
$\phi_{f,g \text{ nom}}$	Flue gas mass flow at nominal heat output, given with 1 decimal	4.2 g/s
$\phi_{f,g \text{ part}}$	Flue gas mass flow at part load heat output, given with 1 decimal (given for pellet operation only)	3 g/s
V_h	Standing Air Loss, if specified, given with 1 decimal	---
CON or INT	whether the appliance is capable of continuous operation (CON), whether the appliance is capable of intermittent operation (INT)	CON
d_{out}	Diameter of the flue gas outlet, given as an integer	80 mm
L, H, W	Overall dimensions of the appliance (length, height, width), given as an integer	531 x 1020 x 496 mm
m	Mass of the appliance, given as an integer (in relation to the building's statics)	100 kg
m_{chim}	Maximum load of a chimney the appliance may carry, given as an integer	0 kg

The specified (declared) heat output, efficiency and emission values are in line with the measured values considering rounding rules of DIN EN 16510-1:2023-02, clause A.5 (see chapter 6.2 of the present report for the resume of the main combustion results).

3 Requirements

- P (pass)
- NA (not applicable)
- F (fail)

3.1 Descriptive features

Requirement acc. to DIN EN 16510-1:2023-02	Clause	Tested Acc.	Requirement complies
Designation of appliances	4.1	-	P
System boundary	4.2	-	NA
Production documentation	4.3	-	P
Construction and materials	4.4	-	P
General construction	4.4.1	-	P
Design, manufacture and assembly	4.4.1.1	-	P
Durability	4.4.1.2	-	P
Integral boiler or heat exchanger	4.4.2	-	NA
General	4.4.2.1	-	NA
Integral boilers constructed of steel	4.4.2.2	-	NA
Integral boilers constructed of cast iron	4.4.2.3	-	NA
Cast iron parts subject to water pressure	4.4.2.3.1	-	NA
Minimum wall thicknesses (cast iron)	4.4.2.3.2	-	NA
Integral Boiler shell tappings	4.4.2.4	-	NA
Introduction	4.4.2.4.1	-	NA
General	4.4.2.4.2	-	NA
Design of all integral boiler waterways	4.4.2.4.3	-	NA
Venting of the water sections	4.4.2.4.4	-	NA
Water tightness	4.4.2.4.5	-	NA
Heat exchangers that are not directly in contact with fire or flue gases	4.4.2.5	-	NA
Cleaning of heating surfaces	4.4.3	-	P
Flue gas outlet	4.4.4	-	P
Flueways	4.4.5	-	P
Components built-in the flue ways	4.4.6	-	NA
Ashpan and ash removal	4.4.7	-	P
Bottomgrate	4.4.8	-	P
Combustion air supply	4.4.9	-	P

Requirement acc. to DIN EN 16510-1:2023-02	Clause	Tested Acc.	Requirement complies
Primary combustion air control device	4.4.9.1	-	P
Secondary combustion air control device	4.4.9.2	-	NA
Damper	4.4.10	-	NA
Charging doors and ash-pit doors	4.4.11	-	NA
Flue bypass device	4.4.12	-	NA
Internal flue gas diverter	4.4.13	-	NA
Front firebars	4.4.14	-	NA
Fossil solid fuel and peat briquettes burning appliances	4.4.15	-	NA
Draught regulator	4.4.16	-	NA
Cut-off device for inset appliances without doors	4.4.17	-	NA
Convection air outlet for inserts for Kachelofen/ Putzofen	4.4.18	-	NA
Oven door of cookers	4.4.19	-	NA
Hotplate and top plate of cookers	4.4.20	-	NA
Main/additional ovens of cookers	4.4.21	-	NA
Ashpit and ashpit cover/door of cookers	4.4.22	-	NA
Oven temperature indicators for cookers	4.4.23	-	NA
Air inlet for pellet appliances according to EN 16510-2-6	4.4.24	-	P
Retort for pellet appliances according to EN 16510-2-6	4.4.25	-	P
Heat output control device for pellet appliances according to EN 16510-2-6	4.4.26	-	P
Hopper for pellet appliances according to EN 16510-2-6	4.4.27	-	P
Sound level	4.5	-	P
Load bearing capacity	4.6	A.4.10.2	P

3.2 Safety requirements

Requirement acc. to DIN EN 16510-1	Clause	Tested Acc.	Requirement complies
Natural draught	5.1	A.4.10.5 A.6.2.8	NA
Open operation of an appliance	5.2	A.4.10.3	NA
Strength and leak tightness of integral boiler shells	5.3	A.4.10.6	P
Temperature rise in the fuel storage (other than the fuel hopper)	5.4	A.4.7 A.4.10	P
Temperature rise of the operating components	5.5	A.4.7	P
Protection of combustible materials	5.6	A.4.10 A.2.2	P
Safety devices for appliances fitted with an integral boiler	5.7	-	NA
General	5.7.1	-	NA
Appliances intended for sealed water systems	5.7.2	-	NA
General	5.7.2.1	-	NA
Thermal discharge control	5.7.2.2	A.4.10.7	NA
Safety heat exchanger	5.7.2.3	A.4.10.7	NA
Safety devices for appliances fitted with a heat exchanger that are not directly in contact with fire	5.7.3	A.4.10.7	NA
Safety requirements of roomsealed appliances	5.9	-	NA
Tightness related to CO-emission	5.9.1	-	NA
Overall leakage rate	5.9.2	-	NA
Minimum distances from non-combustible walls	5.10	A.4.7	P
Requirements for appliances suitable for a shared flue system	5.11	-	NA

3.3 Operation requirements

Requirement acc. to DIN EN 16510-1	Clause	Tested Acc.	Requirement complies
General	6.1	-	P
Flue gas temperature and flue gas outlet temperature	6.2	-	P
General	6.2.1	A.4.7 A.4.8	P
Flue gas temperature at safety test	6.2.2	A.4.10.4	P*
Emissions	6.3	-	P
General	6.3.1	A.4.7 A.4.8	P
Carbon monoxide emission	6.3.2	-	P
NO _x emissions	6.3.3	-	P
Emission of organic gaseous carbon (OGC)	6.3.4	-	P
Particulate matter (PM) emissions	6.3.5	-	P
Threshold levels for emissions according to appliance types	6.3.6	-	P
Efficiency	6.4	-	P
General	6.4.1		P
Seasonal space heating efficiency	6.4.2	A.4.8	P
Energy efficiency index (EEI)	6.4.3	A.6.2.1.6	P
Energy efficiency class	6.4.4	-	P
Flue draught	6.5	A.4.7 / A.4.8 / A.4.10	P
Recovery test	6.6	A.4.9	NA
Refuelling intervals	6.7	-	P
Space heat output	6.8	A.4.7 A.4.8	P
Water heat output	6.9	A.4.7 A.4.8	P
User operations	6.10	-	P
Auxiliary electrical energy consumption	6.11	A.4.7 A.4.8	P
Flue gas mass flow	6.12	A.4.7 A.4.8	P

*) Temperature during safety test historically not recorded. Specified chimney T_{class} designation as the highest among commercially available chimney flue gas pipes (see also manufacturer declaration Annex A02).

3.4 Environmental sustainability, clause 8

Performance assessments regarding environmental sustainability is not considered in the present test procedure. A possible NDP declaration by the manufacturer is also not included in the present procedure.

3.5 Appliance marking

Requirement acc. to DIN EN 16510-1	Clause	Tested Acc.	Requirement complies
Marking and technical datasheet	10	-	P

4 Characteristics

Requirement acc. to DIN EN 16510-2-6	Clause	Tested Acc.	Requirement complies
Load bearing capacity	4.1	-	P
Protection of combustible materials	4.2	-	P
Carbon monoxide emission (CO)	4.3	-	P
Nitrogen oxides (NOx) emissions	4.4	-	P
Emission of organic gaseous compounds (OGC) emissions	4.5	-	P
Particulate matter (PM) emissions	4.6	-	P
Safety and accessibility in use	4.7	-	P
General	4.7.1	-	P
Flue gas outlet temperature at nominal heat output	4.7.2	-	P
Flue gas outlet temperature at part load heat output	4.7.3	-	P
Minimum flue draught at nominal heat output	4.7.4	-	P
Minimum flue draught at part load heat output	4.7.5	-	P
Flue gas mass flow at nominal heat output	4.7.6	-	P
Flue gas mass flow at part load heat output	4.7.7	-	P
Fire safety of installation to the chimney	4.7.8	-	P*
Energy economy and heat retention	4.8	-	P
Space heat output at nominal heat output	4.8.1	-	P
Water heat output, if existing at nominal heat output	4.8.2	-	NA
Efficiency at nominal heat output	4.8.3	-	P
Space heat output at part load heat output	4.8.4	-	P
Water heat output, if existing at part load heat output	4.8.5	-	NA
Efficiency at part load heat output	4.8.6	-	P
Seasonal space heating efficiency at appliance's nominal heat output	4.8.7	-	P
Energy efficiency	4.8.8	-	P
Electric power consumption at nominal heat output, if existing	4.8.9	-	P
Electric power consumption at part load heat output, if existing	4.8.10	-	P
Standby mode power consumption, if existing	4.8.11	-	P

*) Temperature during safety test historically not recorded. Specified chimney T_{class} designation as the highest among commercially available chimney flue gas pipes (see also manufacturer declaration Annex A03).

5 Descriptive features

Requirement acc. to DIN EN 16510-2-6	Clause	Requirement complies
Data for potential use with room ventilation system: type of appliance (in relation to its tightness to the room)	5.1	P
General	5.1.1	P
Tightness related to CO-emissions	5.1.2	NA
Overall tightness	5.1.3	NA
Data for the building's statics: appliance's mass	5.2	P
Materials and construction elements	5.3	P
General	5.3.1	P
General stresses	5.3.2	P
Integral boiler or heat exchanger	5.3.3	NA
Risk of burning fuel falling out	5.4	P
Temperature rise in the fuel storage	5.5	-
Temperature rise in the fuel hopper	5.5.1	P
Safety against back burning through the fuel conveyor system	5.5.2	P
Temperature rise of the operating components	5.6	P
Spillage of the flue gases into the room	5.7	-
Possible spillage of CO, if relevant for the fuel type	5.7.1	NA
Safety test for spillage of combustion gas and discharge of embers	5.7.2	P
Open operation	5.7.3	NA
Ashpan	5.8.3	NA
Bottomgrate	5.8.4	NA
Damper	5.8.5	NA
Fan-cut-out device	5.8.6	NA
Strength and leak tightness of boiler shells	5.9	P

6 Test results

6.1 Energy efficiency

6.1.1 Energy efficiency control features and test data

Type designation		AP004N_4_06 EN			
Working condition	Description	Parameter	Result	Unit	
Nominal heat output	Auxiliary electrical energy consumption at nominal heat output *	el _{max}	0.050	kW	
Part load heat output	Auxiliary electrical energy consumption at part load heat output *,**	el _{min}	0.025	kW	
Standby	Auxiliary electrical energy consumption in standby mode	el _{SB}	0.001	kW	
Type designation		AP004N_4_08 EN			
Working condition	Description	Parameter	Result	Unit	
Nominal heat output	Auxiliary electrical energy consumption at nominal heat output *	el _{max}	0.050	kW	
Part load heat output	Auxiliary electrical energy consumption at part load heat output **, **	el _{min}	0.025	kW	
Standby	Auxiliary electrical energy consumption in standby mode	el _{SB}	0.001	kW	
Room temperature control					
With electronic room temperature control plus week timer					
Controls for indoor heating comfort					
Room temperature control with presence detection			No		
Room temperature control with open window detection			No		
Distance control option			No		

6.1.2 Energy efficiency calculation

Type designation	AP004N_4_06 EN				
Definition	Parameter	Unit	Result	Requirement	
Appliance efficiency at nominal heat output	η_{nom}	%	91	-	
Contributions of controls of indoor heating comfort (mutually exclusive temperature controls)	F(2)	%	7	-	
Contributions of controls of indoor heating comfort	F(3)	%	0	-	
Negative contribution to the seasonal space heating energy efficiency by auxiliary electricity consumption	F(4)	%	1.3	-	
Negative contribution to the energy efficiency index by energy consumption of a permanent pilot flame	F(5)	%	0	-	
Biomass label factor	BLF	---	1.45	-	
Seasonal space heating energy efficiency	η_{s}	%	87	≥ 79	
Energy efficiency index	EEI	---	128	-	
Energy efficiency classification	---	---	A+	-	

Type designation	AP004N_4_08 EN				
Definition	Parameter	Unit	Result	Requirement	
Appliance efficiency at nominal heat output	η_{nom}	%	89	-	
Contributions of controls of indoor heating comfort (mutually exclusive temperature controls)	F(2)	%	7	-	
Contributions of controls of indoor heating comfort	F(3)	%	0	-	
Negative contribution to the seasonal space heating energy efficiency by auxiliary electricity consumption	F(4)	%	1.0	-	
Negative contribution to the energy efficiency index by energy consumption of a permanent pilot flame	F(5)	%	0	-	
Biomass label factor	BLF	---	1.45	-	
Seasonal space heating energy efficiency	η_{s}	%	86	≥ 79	
Energy efficiency index	EEI	---	126	-	
Energy efficiency classification	---	---	A+	-	

6.2 Resume of combustion test results

Type designation		AP004N_4_06 EN			
Definition	Parameter	Unit	Nominal	Partial	Requirement
Fuel consumption	M_h	kg/h	1,39	0,57	-
Minimum refuelling intervals	-	min	180	360	2 x 180 / 360
Flue gas mass flow	$\Phi_{f,g}$	g/s	3,8	2,9	-
Flue gas temperature	T_{fg}	°C	163	93	-
Flue gas outlet temperature	T_{snom}	°C	195	111	-
Flue draught	p_{nom} / p_{part}	Pa	12	10	$\geq 12 / \geq 6$ or declared value
CO ₂ concentration	CO ₂	Vol.-%	12,4	6,2	-
O ₂ concentration	O ₂	Vol.-%	8,3	14,7	-
CO concentration	-	ppm	45	188	-
CO emission (13% O ₂)	$CO_{nom} (13\% O_2) / CO_{part} (13\% O_2)$	mg/m ³	35	297	$\leq 300 / -$
CO emission	-	mg/MJ	23	191	-
NO _x concentration	-	ppm	76	25	-
NO _x emission (13% O ₂)	$NO_{xnom} (13\% O_2) / NO_{xpart} (13\% O_2)$	mg/m ³	99	64	$\leq 200 / -$
NO _x emission	-	mg/MJ	64	41	-
OGC concentration	-	ppm	2	2	-
OGC emission (13% O ₂)	$OGC_{nom} (13\% O_2) / OGC_{part} (13\% O_2)$	mg/m ³	2	4	$\leq 60 / -$
OGC emission	-	mg/MJ	2	3	-
PM concentration*	-	mg	6	1	-
PM emission (13% O ₂)	$PM_{nom} (13\% O_2) / PM_{part} (13\% O_2)$	mg/m ³	13	5	$\leq 20 / -$
PM emission	-	mg/MJ	8	3	-
Heat input	-	kW	6,5	2,7	-
Heat output	P_{nom} / P_{part}	kW	6,0	2,4	-
Water heat output	P_{Wnom} / P_{Wpart}	kW	-	-	-
Space heat output	P_{SHnom} / P_{SHpart}	kW	6,0	2,4	-
Efficiency	η_{nom} / η_{part}	%	91	92	-

*) Average of 3 samples

Type designation	AP004N_4_08 EN
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Definition	Parameter	Unit	Nominal	Partial	Requirement
Fuel consumption	M_h	kg/h	1,95	0,57	-
Minimum refuelling intervals	-	min	180	360	2 x 180 / 360
Flue gas mass flow	$\Phi_{f,g}$	g/s	4,7	2,9	-
Flue gas temperature	T_{fg}	°C	209	93	-
Flue gas outlet temperature	T_{snom}	°C	251	111	-
Flue draught	p_{nom} / p_{part}	Pa	12	10	$\geq 12 / \geq 6$ or declared value
CO ₂ concentration	CO ₂	Vol.-%	14,1	6,2	-
O ₂ concentration	O ₂	Vol.-%	6,6	14,7	-
CO concentration	-	ppm	62	188	-
CO emission (13% O ₂)	CO _{nom} (13% O ₂) / CO _{part} (13% O ₂)	mg/m ³	42	297	$\leq 300 / -$
CO emission	-	mg/MJ	27	191	-
NO _x concentration	-	ppm	87	25	-
NO _x emission (13% O ₂)	NO _{xnom} (13% O ₂) / NO _{xpart} (13% O ₂)	mg/m ³	99	64	$\leq 200 / -$
NO _x emission	-	mg/MJ	64	41	-
OGC concentration	-	ppm	3	2	-
OGC emission (13% O ₂)	OGC _{nom} (13% O ₂) / OGC _{part} (13% O ₂)	mg/m ³	2	4	$\leq 60 / -$
OGC emission	-	mg/MJ	2	3	-
PM concentration*	-	mg	7	1	-
PM emission (13% O ₂)	PM _{nom} (13% O ₂) / PM _{part} (13% O ₂)	mg/m ³	13	5	$\leq 20 / -$
PM emission	-	mg/MJ	9	3	-
Heat input	-	kW	9,2	2,7	-
Heat output	P_{nom} / P_{part}	kW	8,2	2,4	-
Water heat output	P_{Wnom} / P_{Wpart}	kW	-	-	-
Space heat output	P_{SHnom} / P_{SHpart}	kW	8,2	2,4	-
Efficiency	η_{nom} / η_{part}	%	90	92	-

*) Average of 3 samples

6.3 Temperatures

Type designation	AP004N_4_08 EN
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Minimum distances from combustible walls	Unit	Distances at nominal heat output and during temperature safety tests
Backside distance - d_R	mm	100
Sides distance - d_S	mm	200
Sides distance radiation area - d_L	mm	Historical data not available
Front distance - d_p	mm	800
Front distance radiation area - d_F	mm	Historical data not available
Ceiling distance - d_C	mm	750
Bottom distance - d_B	mm	Historical data not available

Position	Unit	Maximum temperature reached. Performance test at nominal heat output and temperature safety tests	Requirement delta ambient
Rear - d_R	K	13	≤ 65
Side - d_S	K	33	
Side radiation area - d_L	K	Historical data not available	
Front - d_p	K	49	
Floor in Front - d_F	K	30	
Bottom - d_B	K	Historical data not available	

Position	Unit	Maximum temperature reached. Performance test at nominal heat output	Requirement delta ambient
Max- Temperature-rise in fuel hopper	K	58	≤ 65
Operation components	K	29	≤ 35

7 Statement of the test results

The appliance types

AP004N_4_06/07/08 EN

with trademark:

PALAZZETTI

of the company:

PALAZZETTI LELIO S.p.A.

conforms with the requirements of DIN EN 16510-1:2023-02, except for clauses 5.8, 7 and 8, and DIN EN 16510-2-6:2023-02, except for clause 4.9, which are not part of this assessment. Performance assessments regarding environmental sustainability is not considered in the present order and is not the subject of this report. A possible NPD declaration by the manufacturer is also not included in the present report.

Test data documented in this report are based on historical data of the initial type testing report no.: K32242022T1 according to DIN EN 14785:2006-09 and Corr. 1 DIN EN 14785:2007-10.

8 Test documents

See test report K3224202T1 for further information.

TÜV Rheinland Energy & Environment GmbH declines any responsibility derived from missing or wrong information in the documents provided by the applicant.

Appendix	Subject	Reference
A 01	Manufacturer declaration	18.02.2025
A 02	Marking plates	
A 03	Declarations of equivalence	18.02.2025