Akvilon

INSTALLATION MANUAL

Single-Wall Chimney System RENOFAST

Rīga – 2023

Terminology

Key Chimney System Components:

Single-wall chimney — a stainless steel flue pipe with a single wall, designed for the evacuation of combustion products and for relining brick or ceramic chimney shafts.

Chimney lining — the process of inserting a flue pipe into an existing chimney shaft to protect the walls and improve draft.

Tee (T-piece) — a system element with 45° or 90° outlets used for connecting a heating appliance and for condensate removal.

Condensate collector — an element that collects and removes condensate from inside the chimney system.

Inspection hatch – an access element for inspecting and cleaning the chimney.

Spacer rings – centering elements that keep the chimney liner centered within the shaft.

Connection clamp – a fastener that ensures secure and sealed pipe connections.

Stainless steel rivets (A2, A4) – fixing elements used to permanently connect flue parts. Use of other materials is prohibited.

Operating Modes and Technical Parameters

Wet mode (W) – operation mode where condensate formation inside the flue is possible.

Dry mode (D) – operation mode where condensate formation is not expected.

Temperature classes:

- **T200** — maximum flue gas temperature up to 200°C.
- **T600** — maximum flue gas temperature up to 600°C.

Soot fire resistance:

- **G** — chimney is resistant to soot fire
- **O** — chimney is not intended for operation during soot fire.

Minimum clearance to combustible materials:

- **500 mm** — for RENOFAST T600 models.
- **0 mm** — for RENOFAST T200 models.

Steel Grades

EN 1.4301 (AISI 304) – stainless steel with basic corrosion resistance**.**

EN 1.4404 (AISI 316L) – stainless steel with enhanced resistance to acid condensates.

Chimney Termination Elements

Closure plate with storm collar (cap) – element that protects the flue from precipitation.

Deflector – improves draft stability and prevents wind-induced backflow.

Spark arrestor – prevents the release of sparks from the chimney.

Draft stabilizer – improves and regulates draft under variable pressure conditions**.**

Additional Definitions

Operational draft – the pressure difference ensuring effective flue gas removal**.**

Drainage – system for condensate discharge to sewer or collection tank**.**

Features of a single-wall chimney system

Unique product identification number: Stainless steel single-wall chimneys and chimney liners **RENOFAST**

Intended use: For the evacuation of combustion products from heating appliances into the atmosphere or to existing chimneys. Designed to protect the inner walls of brick and ceramic chimneys**.**

Manufacturer: SIA "Akvilon", Reg. No. 50003057361, Riga, Mazā Rencēnu iela 6, LV-1073

Assessment and verification of constancy of performance (AVCP) system according to CPR Annex V: System 2+

Declared Performance Characteristics:

RENOFAST 200	**EN 1856-2**	**T200**	**P1**	**W**	**V_m**	**L20050-60**	**O(00)**
RENOFAST 200 plus	**EN 1856-2**	**T200**	**P1**	**W**	**V_m**	**L50050-60**	**O(00)**
RENOFAST 600	**EN 1856-2**	**T600**	**N1**	**D**	**V_m**	**L20050-60**	**G(500)**
RENOFAST 600 plus	**EN 1856-2**	**T600**	**N1**	**D**	**V_m**	**L50050-60**	**G(500)**

Temperature class
(T200-200°C, T600-600°C)

Pressure type
(N1-40 Pa, P1-200Pa)

Resistance to condensate
(W-wet, D–dry)

Corrosion resistance
(V_m – depends on material type and thickness)

Liner specification
(L50 - EN 1.4404, L20 - EN 1.4301)

Soot fire resistance and distance to combustible materials (mm)
(G: yes or O: no)

1. Description of the Single-Wall Chimney System

RENOFAST is a modular single-wall stainless steel chimney system (grades EN 1.4404/1.4301), designed for relining brick chimneys and connecting heating appliances. It is CE-certified and complies with EN 1856-2:2009**.**

The system is suitable for heating appliances operating on gas, solid, or liquid fuels, provided that the flue gas temperature does not exceed the limits specified by the chimney manufacturer, including proper selection of steel grade, wall thickness, and operating mode (wet or dry). The chimney system must be selected in compliance with the heating appliance manufacturer's requirements and applicable building codes.

Key Specifications of **RENOFAST** Systems**:**

RENOFAST T200 — a single-wall chimney system designed for gas and liquid fuel heating appliances operating in wet mode (W) and not producing soot. Not intended for use during internal soot fire (O). Minimum distance to combustible materials: 0 mm (00). Maximum flue gas temperature: 200°C (T200 class). The inner lining is made of EN 1.4301 stainless steel. **RENOFAST 200 plus** models are made from EN 1.4404.
RENOFAST T600 — a single-wall chimney system designed for gas, liquid, and solid fuel heating appliances operating in dry mode (D). Resistant to internal soot fire (G). Minimum distance to combustible materials: 500 mm (500). Maximum flue gas temperature: 600°C (T600 class). The inner lining is made of EN 1.4301 stainless steel. **RENOFAST 600 plus** models are made from EN 1.4404.

2. Installation Rules for Single-Wall Chimney Systems

Compliance with the installation rules for the RENOFAST single-wall chimney system, as outlined in this manual, and adherence to safety and fire protection requirements ensures the manufacturer's warranty. These rules apply only to RENOFAST chimneys with diameters from 80 mm to 250 mm.

NB! When selecting a suitable chimney system, current legislation and the manufacturer's installation requirements must be observed.

Before installing the chimney system into an existing brick shaft, an opening must be prepared by removing part of the masonry and cleaning residual combustion products from the inner walls. The opening must match the dimensions of the tee, inspection hatch, and condensate outlet. The height of the tee connection must not be lower than the connection point of the heating appliance. The flue should be installed from the top or, if possible, from the bottom of the shaft using cables or other mechanical aids.

Vertical sections and 45° tee connections (for diameters up to 250 mm) are connected using a plain-end slip-fit design oriented in the direction of condensate flow (opposite to the flue gas direction), with arrows pointing upwards. The joints are secured with locking bands or riveted (4–6 rivets per connection). For diameters above 250 mm, rivets and wide locking bands must be used (6–16 rivets depending on the pipe diameter). Only stainless steel rivets (A2, A4) are permitted. All joints must be sealed with fire-resistant sealant to ensure complete tightness. Locking bands provide additional reinforcement and sealing.

Horizontal sections from 90° tee connections must follow the flue gas flow direction, with the arrow pointing toward the heating appliance. The maximum length of a horizontal section is 2000 mm. The minimum required slope is 20 mm per 1000 mm, with as few bends as possible.

The flue must be centered in the shaft using spacer rings every 3 meters.

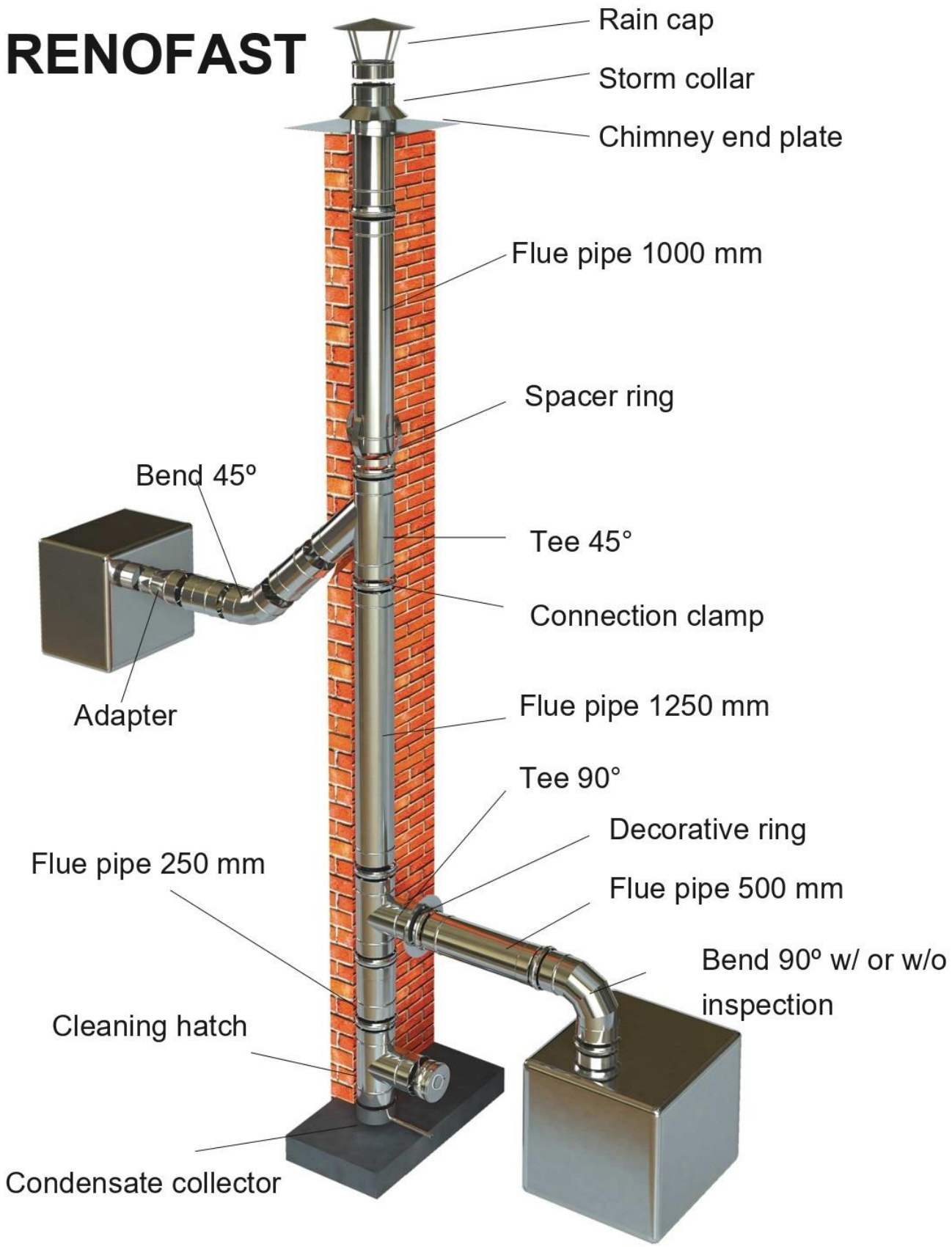
To prevent precipitation from entering the channel, install a chimney end plate with a storm collar and a rain cap at the top. Depending on the installation conditions, a deflector, spark arrestor, or draft stabilizer may be used instead.

After chimney insertion, the opening in the brick shaft must be sealed.

All installation materials must be fire- and corrosion-resistant. The total chimney height from the ash grate to the flue outlet must not be less than 5 meters.

A maximum of two heating appliances may be connected to a single flue shaft if they are located in the same apartment and on the same floor. When connecting two flues, a 12 cm thick divider wall of at least 1 meter high from the connection base must be built.

It is not permitted to install chimney elements in such a way that the connection joints are located inside walls or between floors. For RENOFAST T600 chimneys, the minimum safe distance to combustible or semi-combustible materials must be at least 500 mm.


RENOFAST
Rain cap
Storm collar
Chimney end plate
Flue pipe 1000 mm
Spacer ring
Bend 45°
Tee 45°
Connection clamp
Adapter
Flue pipe 1250 mm
Tee 90°
Decorative ring
Flue pipe 250 mm
Flue pipe 500 mm
Bend 90° w/ or w/o inspection
Cleaning hatch
Condensate collector

3. Inspection, Cleaning, and Storage

Inspection hatches must be installed with a diameter not less than the flue; however, for straight chimneys shorter than 7 meters, hatches may be omitted.

During installation, a visual inspection of the chimney components must be carried out. All elements must be clean, dry, and free of damage.

The lower part of the chimney or the tee with a condensate drain or shut-off damper must be freely accessible for maintenance and must not pose a risk to surrounding structures. A condensate collector or drainage system must be connected to the drain outlet.

Before inspecting the chimney, it is necessary to ensure that there are no foreign objects or packaging residues inside the flue channel. Draft should be checked using a piece of burning paper.

Chimney inspection and cleaning must be performed by certified chimney sweeps.
The chimney must be inspected and cleaned at least twice a year: once before the heating season and once during it. If necessary, inspection and cleaning should be carried out more frequently.

During inspection, the visual condition of the chimney and its joints is assessed. If damage is found, defective elements must be replaced.

The inspection hatch must be used to check the cleanliness of the flue and the quality of the draft.

If soot deposits or blockages are visible inside the chimney, or if there is no draft, the flue must be cleaned from the top.

Only non-metallic tools designed for stainless steel chimneys may be used for cleaning.

RENOFAST chimney components by SIA “Akvilon” must be transported strictly in an upright (vertical) position using covered vehicles. Placing any load on top of the chimney elements is strictly prohibited.

Chimney parts must be stored indoors in a dry environment. Contact with precipitation is not allowed.

4. Warranty

SIA “Akvilon” warrants the repair or replacement of any manufacturing defects within two years of purchase, as required by Latvian law.

The warranty is valid only if the chimney is connected to a CE-certified heating appliance and operated in accordance with the manufacturer’s guidelines using suitable fuel.
The flue gas temperature must not exceed:

- **200°C** for RENOFAST 200 models
- **600°C** for RENOFAST 600 models

The warranty remains valid only if the installation, maintenance, and transport of the product are carried out in accordance with the instructions provided by SIA “Akvilon” in this manual and in compliance with applicable Latvian building regulations.

The manufacturer may deny warranty claims in the following cases:

- Violation of this manual’s requirements;
- Failure to clean the chimney regularly;
- Unauthorized repair or modification of parts;
- Damage due to force majeure (e.g., storm, hail, lightning, icing, falling snow);
- Mechanical damage during installation (e.g., hammering, chiseling) or surface damage with abrasive tools;
- Chemical corrosion caused by aggressive substances;
- Intentional or negligent actions by the user or third parties;
- Exceeding maximum allowed temperatures;
- Use of inappropriate materials for burning, such as waste or chemically treated substances.

5. Contacts

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