

Steel Chimneys & Exhausts

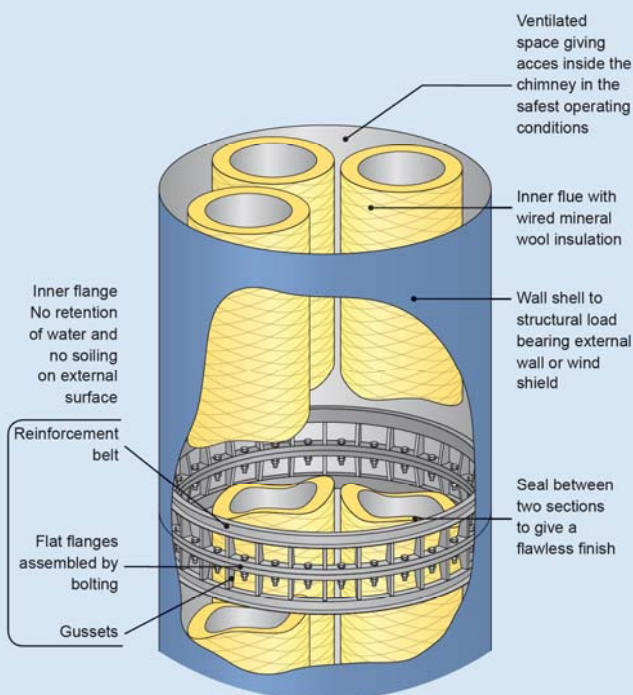
BEIRENS, a complete range of solutions intended for district heating, industrial process and production of energy. Gas, oil or biomass generators from 1 mW to 100 mW.

Suitable for new build or existing applications, Beirens offer is composed of:

- Industrial steel welded chimneys
- Horizontal exhausts
- Standard and made-to-measure silencers for acoustic treatment
- Dynamic absorbers for vibration loading treatment
- Accessories for all applications
- Custom built solutions for boiler rooms and especially with an emphasis on solutions for production of biomass energy
- Turnkey design, supply and installation



SERVICES



- **DESIGN:** Our in-house team of 20 project engineers carry out structural, acoustic, aerodynamic and thermal calculations and expert assessments, to provide a maximum value engineered solution.
- **MANUFACTURING:** All products are manufactured in-house to the highest quality by Beirens, with state-of-art technology respecting the environment and promoting safety. Automated processes provide modern and meticulous manufacture. All welders are EN 287-1 and EN 1418 certified and experts in the processes and techniques required for producing welded assemblies. Beirens also has BS EN15614-1 accreditation.
- **INSTALLATION:** Our installation teams and fitters are highly trained and qualified and fully mobile, acting rapidly and are able to work on all types of installation requirements.
- **MAINTENANCE:** BEIRENS can carry out all the work regarding the visual, vibratory and acoustic improvement, upgrading, and maintenance and safety of any existing chimneys.

Technical data

• STEEL INDUSTRIAL CHIMNEYS

All chimneys and exhausts are manufactured to BS EN 13084 part 1, 6 & 7, they will be CE Marked with a designation suitable for the fuel, the application and the appliance. For example T400-HO-W-L20-1. 4571. G. Designed to comply with the strict requirement of : BS EN 1991-1-4:2005 (Eurocode 1) and BS EN 1993-3-2:2006 (Eurocode 3).

BEIRENS designs all industrial steel chimney types to suit the operating appliance and its site environment (rural or urban).

They are suitable for all fuel types, i.e. gas light and heavy heating oil, biogas and biomass, designed to resist the corrosive affects of the fuel type, i.e. sulfure, chlorine, volatile organic compound, metals, etc.

• VIBRATORY AND ACOUSTIC TREATMENT

BEIRENS designs, manufactures and installs absorbent and reactive made-to-measure silencers, in line with your requirements and operating conditions of the project.

Providing answers to the structural problems resulting from vibration, fatigue and wear, BEIRENS advises designed dynamic vibration absorber solutions.



TURNKEY SOLUTIONS

• THE COMPLETE BEIRENS OFFER BY POUJOULAT

A turnkey package from design to installation

Welded and modular horizontal exhausts

BEIRENS designs, manufactures and installs exhaust ducts or horizontal flues for all types of generators – boilers, motors, turbines, furnaces and ventilators.

Special products and Biomass

With the evolution of renewable energy sources, Poujoulat and Beirens make it a priority to provide adapted chimney and flue solutions. Working in partnership with CERIC Laboratory, they have developed many solutions to problems resulting from the use of renewable energies in industry. These solutions are custom designed and built to the projects requirements. Many are specific to biogas applications, biomass energy boiler rooms and the use of wood, organic and agriculture waste as a fuel.

Accessories

BEIRENS manufactures a wide range of standardised and bespoke equipment for existing applications and new buildings.

Use of such accessories is determined by your technical constraints, legal and operational requirements.



THE 10 BEST PRACTICES

1 PERFECT TERMINAL CAP

The Beirens chimney always comes with a purpose designed cap made from 316L stainless steel to resist the corrosive effects of the smoke fumes even when dew point occurs. The caps are designed to provide the optimum flue gas exit velocity, be resistant to ingress of rain and seal the top of the chimney cladding, whilst allowing for any expansion due to flue gas temperature change.

2 OPTIMUM INSULATION

When designing a chimney, Beirens always makes sure that the correct thickness and density of insulation is applied to the liner thus avoiding condensation in the flue liner and ensuring rapid stabilisation or flue gas temperature, and when necessary will also apply refractory concrete liner.

3 COMPLIANCE WITH LEGISLATION

All Beirens chimneys are designed and fabricated to the latest European standards and regulations, plus Beirens ensure that local regulations e.g. Clean Air Act, are also taken into consideration. Both estimation and installation drawings guarantee a high level of expertise, performance and safety. Chimney structural calculations are made in compliance with BS EN 1993-3-2:2006 (Eurocode 3), then European Community rules governing design and sizing of steel structures. At the same time, the requirements of BS 4076, DIN 4133 and ASME are also considered and met.

4 PROTECTION OF THE INSULATING MATERIAL

When a Beirens chimney is supplied with an insulation layer, it will always be watertight cladded in stainless steel or aluminum material.

5 ATTRACTIVE, FINE FINISHES

The chimneys are normally clad with a self coloured aluminium, or stainless steel providing either a mirror or brushed finish. They can also be painted or powder coated providing customers with a wide range of safety or personal decorative finishes that are guaranteed to enhance the protection from corrosion.

6 MATERIAL PERFORMANCE

We are committed to using innovative materials that are suitable for all your operating constraints (temperatures, fuel composition, etc). The choice of material is made on the basis of thermal, aeraulic, acoustic and work structure expert appraisals conducted by our engineers from the Project Department.

7 OPTIMISATION OF PRESSURE LOSSES

Flue layout design is always optimised to improve the aerodynamic flow and provide minimum resistance to flow.

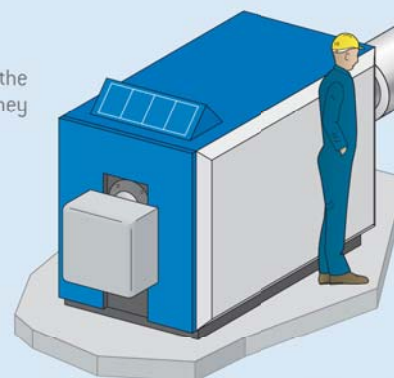
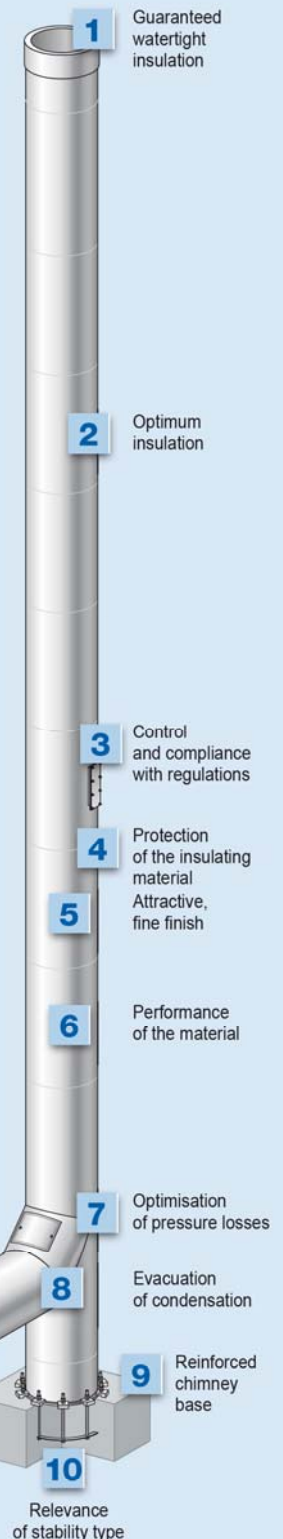
8 EVACUATION OF CONDENSATION

The condensation bottom trap is ideally located as close as possible to the flue gas inlet so as to prevent there being a cold zone at the bottom of the chimney and thus ensure the long life of the chimney.

9 REINFORCED CHIMNEY BASE

All Beirens chimneys are fitted with additional reinforcement belts at the base and any penetration of the flue reinsuring the integrity of the chimney and avoiding the deformation of the chimney load.

10 SUPPORT METHOD



For more details, please refer to Beirens catalogue.

FREE-STANDING



Chimney which base keeps the structure perfectly stable thanks to embedded anchors. Installed inside/outside building.

TIED



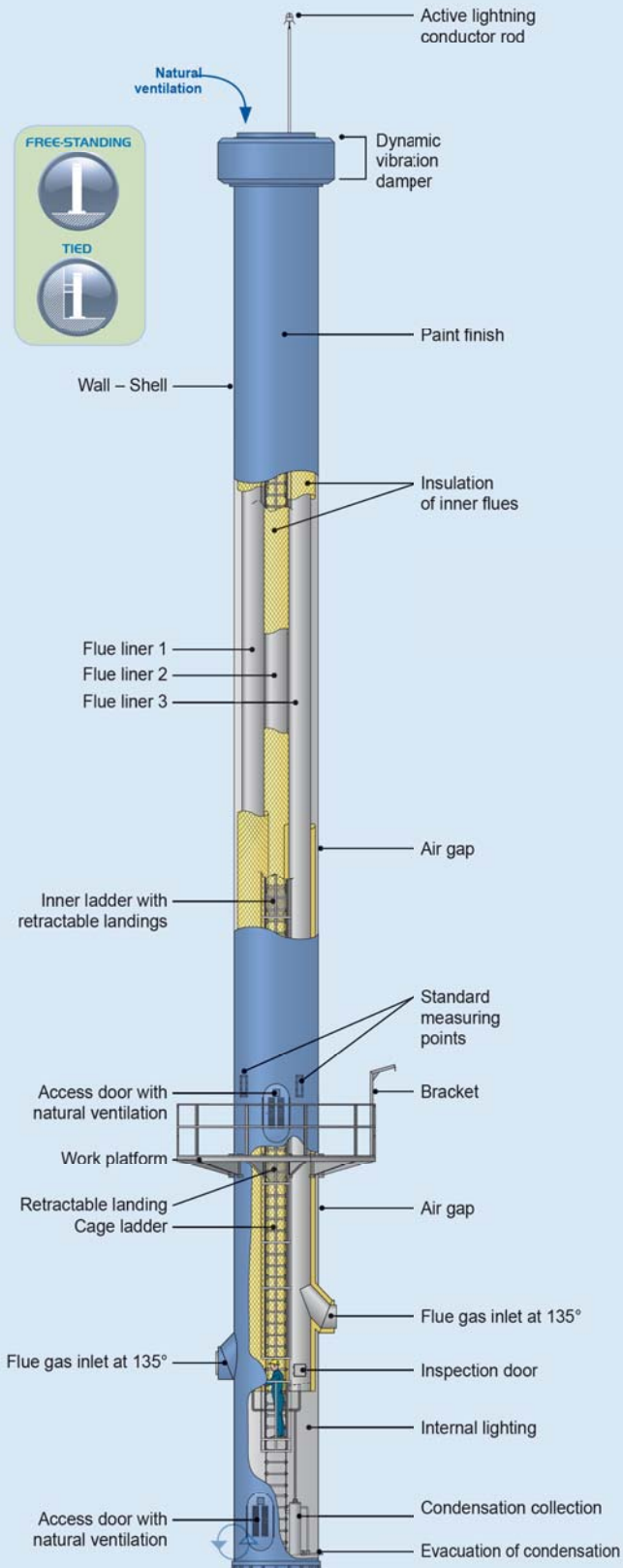
Chimney on which wind stress can be absorbed by connection to a support (wall, roof) enabling free expansion of the flue. Installed inside/outside building.

GUY WIRED



Stability provided through anchoring to the ground with recovery by stainless steel or galvanised guy ropes. Installed inside/outside building.

MULTI-FLUE CHIMNEYS



GIGOGNE CHIMNEYS BY BEIRENSI

