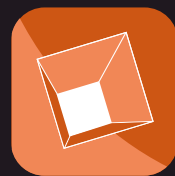


VERSATILITY AND EFFICIENCY ON TOP

ACOUSTIC CLEANING SYSTEM

The power of vibrations



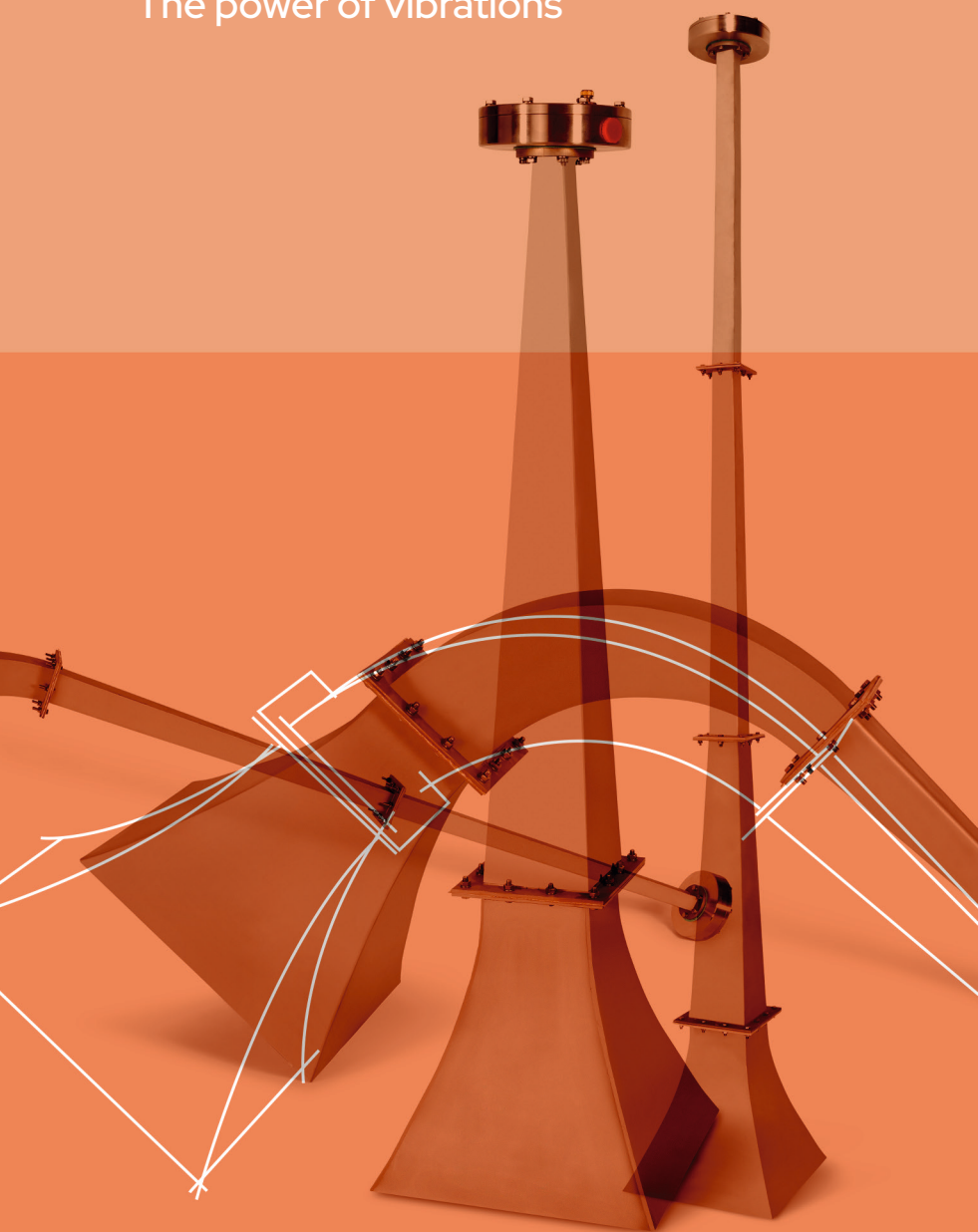
INDUSTRIES

Energy

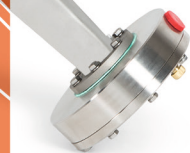
Steel

Waste
treatment

Ceramic



NEW COMPONENT
textile solutions for heat treatment



SAFEFON

THE POWER OF VIBRATIONS

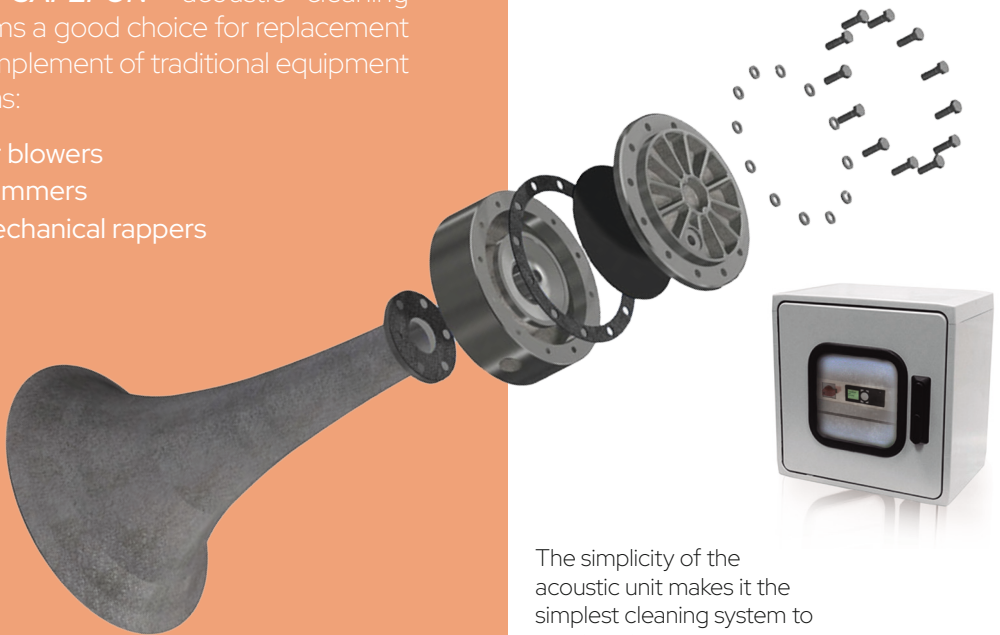
Sound waves of low frequency and high intensity carry, **from the sound generator to every surface on the equipment** to be treated, acoustic energy that upon hitting the deposits, introduce vibrations within, exerting a fluidizing effect.

The sonic pulses are **emitted by a pneumatic generator** and its frequency is then **modulated by a diffuser**.

The diffuser can take **various shapes and dimensions** depending on the requirements of the application and the specific installation needs.

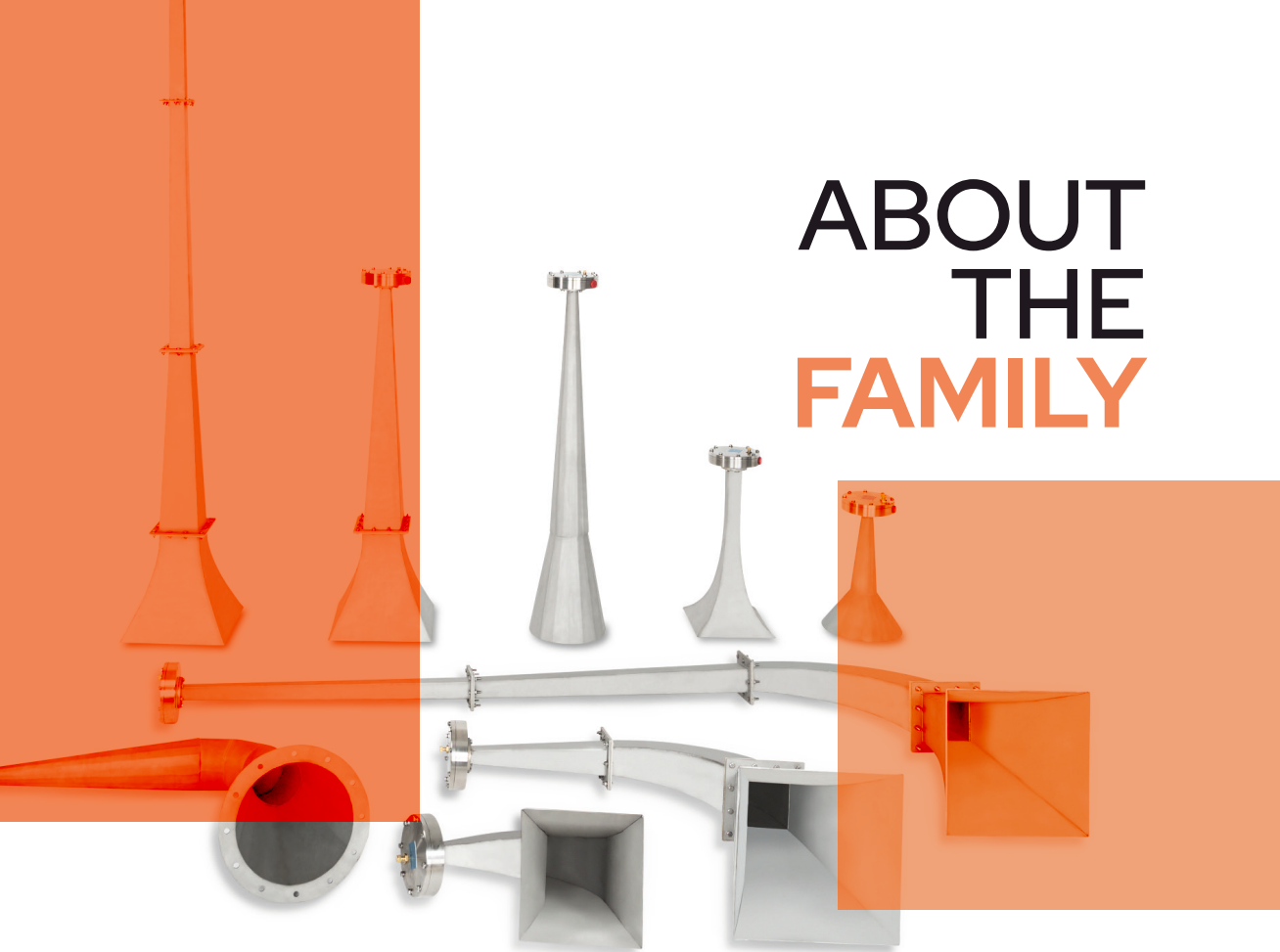
The **simplicity** of operation, **economy** of use, **reliability**, **low maintenance** costs and **operational efficiency** make **SAFEFON®** acoustic cleaning systems a good choice for replacement or complement of traditional equipment such as:

- Air blowers
- Hammers
- Mechanical rappers



The simplicity of the acoustic unit makes it the simplest cleaning system to install and maintain.

ABOUT THE FAMILY



The product range includes equipment with frequencies from 60 Hz to 450 Hz, however given its universal use SAFEFON® has opted to prioritize the production of the following series:

SAFEFON®
series 250

SAFEFON®
series 100

SAFEFON®
series 60

In order to cover a wider range of applications in temperature (up to 1000°C), erosion, aggressive environments, food grade, etc., we manufacture all our standard equipment in stainless steel AISI 316.

MATERIALS

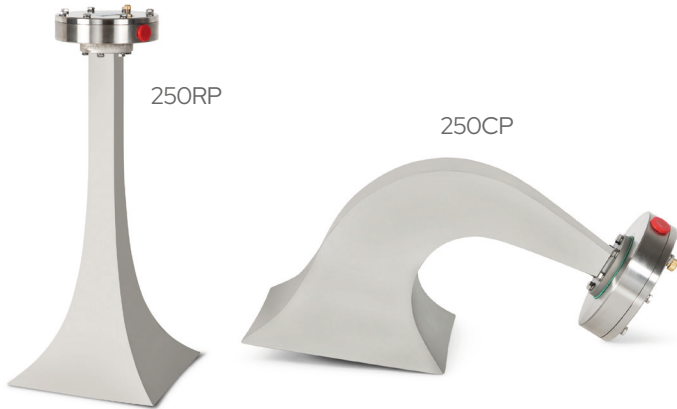
Cover: AISI 316
Body: AISI 316
Diffuser: AISI 310
Diaphragm:
Titanium special alloy

LIMITATIONS

Moisture:
10-15% maximum
Max. temperature:
1000°C

REQUERIMENTS

Air pressure: 5-6 bar
Air consumption:
32 l/s in operation
0.5 l/s at rest
(for cooling)



SAFEFON® series 250

Universal acoustic cleaner: this cleaner, compact size available with straight and curved geometry, is **the most versatile of the whole range.**

To facilitate the assembly we have designed several adapters that simplify the installation.

SAFEFON® series 100

Medium range acoustic cleaner: this cleaner combines a **long wavelength with an average horn size.** Particularly suitable for cleaning convection zones in boiler, precipitators, heat exchangers, baghouses and selective catalytic reduction DeNOx.



SAFEFON® series 60

Powerful acoustic cleaner: this is the right cleaner for applications **where high power and extra reach is needed.**

Straight and curved construction, this blower is particularly suited for large boilers, precipitators, economizers, silos, etc. of large dimensions.

BULK MATERIALS

an industry problem

Application examples

01. CERAMIC INDUSTRY

Ceramic dust or powders

Storage silos | Ceramic dust collectors

02. FOUNDRY AND STEEL MILLS

Steel dust

Bag filter/Baghouse | Cyclones | Ductwork

03. CEMENT CONSTRUCTION

Cement, gypsum, raw materials

Bag filter/Baghouse | Cyclones | ID fans | Storage silos | Feed bins | Ducts

04. FOOD, PHARMA, CHEMICAL

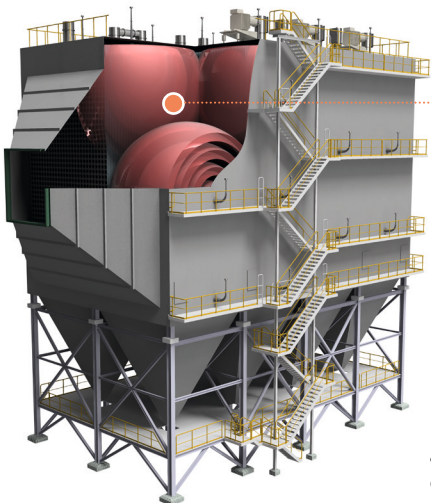
Powder substances, raw materials

Bag filter/Baghouse | Cyclonic separators | ID fans | Storage silos | Feed bins/Hoppers | Ductwork

05. POWER PLANTS

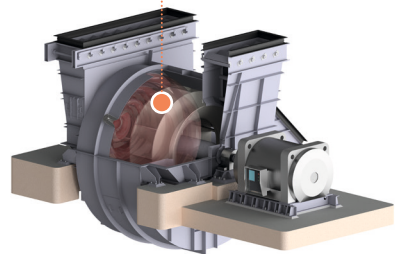
Ashes from combustion

Boiler | Heat exchangers | Gas ducts | Electrostatic precipitator | SCR Selective catalytic reduction | Bag filter/Baghouse



Fan

Acoustic blowing prevents the build-up of deposits on blades that unbalance the rotor and cause dangerous vibrations



Electrostatic precipitator

Rappers can be replaced by an effective set of acoustic units that keeps clean the plates and the electrodes without damaging the structure

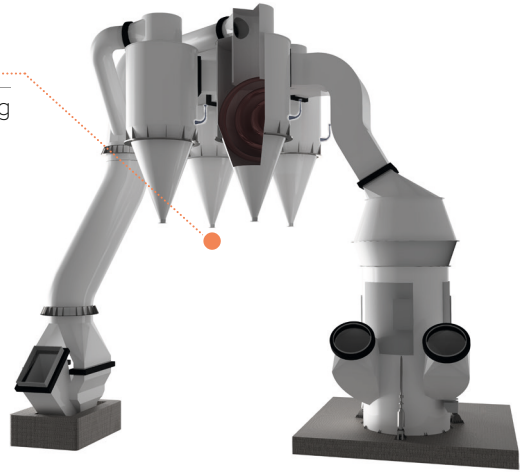
BULK MATERIALS

an industry problem

Application examples

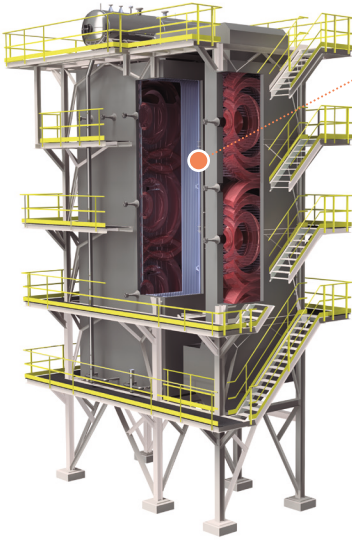
Cyclonic Separators

Acoustic blowers prevent thickening of walls with deposited material



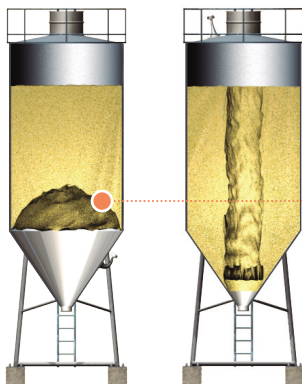
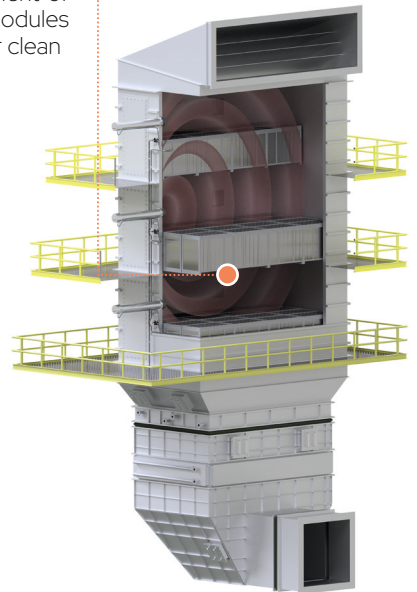
Boilers and heat exchangers

Tube bundles in boilers and heat exchangers clog no more with ash deposits through the safe use of acoustic cleaning



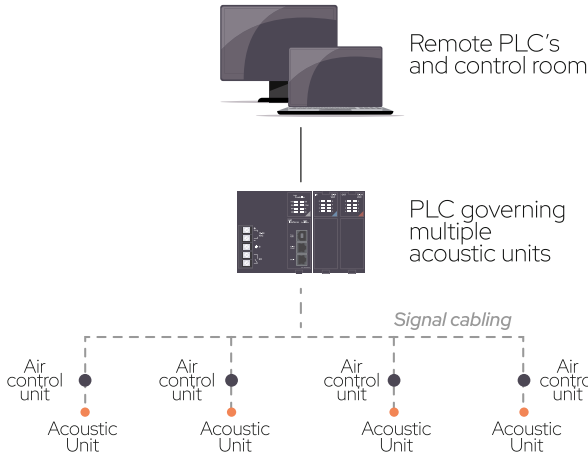
SCR DeNOx

A periodic treatment of the catalytic modules keeps the reactor clean

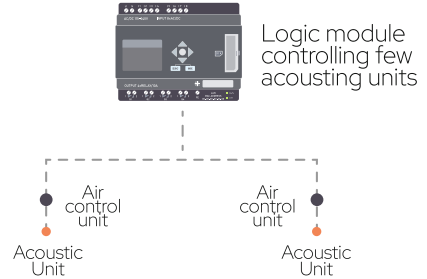


Silos

Sound pulses release the material clogged in the form of arch or chimney



ABOUT THE SYSTEM



An acoustic cleaning unit **can be operated individually, either programmed or sounded on demand**, in simple applications such as storage silos.

However, several acoustic units **may be associated to form a system** of multiple synchronized units.

In the case of a system of up to **10 units** would be easily governed by **logic modules**. In the case of **large systems of 100 or more units**, the control and supervision resides in an **industrial PLC** that can be integrated in the plant Ethernet network.



Heat Exchanger



Filter

SAFEFON® horns provide an effective solution to buildup and material flow problems within a wide range of industries.

ADVANTAGES

- Cleaning of inaccessible parts with continuous plant operation
- Easy installation
- Low costs (installation / maintenance)
- No structural damages
- No corrosion and blockage

WE KNOW HOW TO **PROTECT YOU**

acoustic cleaning system



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