

SONIC CLEANING

-Adds value to your business!

KOCKUM SONICS

-The original and best

Since the early 70's, Kockum Sonics has developed, manufactured and sold Sonic Cleaning systems. We were the first company in the world to provide this technology to our customers and up to date we have made more than 10.000 installations worldwide.

Sonic cleaning has proved to be a very efficient method for keeping Superheaters, Economizers, Catalytic reactors, Preheaters, Electrofilters and Baghouse filters clean

The main idea of Sonic Cleaning is to continuously keep heat transferring or filter surfaces clean from ash deposits and avoid unnecessary and costly shutdowns.

Compared to other cleaning methods such as steam soot blowing, steel balls, explosives or pulsejet cleaning, Sonic Cleaning is a non wear method that prolongs the lifetime of the tube packages, filters and other installations in the boiler.

By keeping the heat transferring surfaces clean at all time, fuel consumption can be reduced up to 1% and the lifetime of the tube packages increases by 20%.

The amount of money saved can easily be calculated and normally gives a payback time of less than one year.

For KOCKUM SONICS, our clients desires always comes first and we always make our technical proposals in close co-operation to provide the best solution and establish a good longlasting relation.

The environmental benefits by fuelsaving comes for free!

OUR STRENGTH IS YOUR BENEFIT!

SONOFORCE®

-Sonic cleaning by audible sound

We have a wide range of products to suit every application, both with Audible Sound emitters and Infrasound generators. Depending on physical design, temperature, gas flow and the problem with ash deposits we can offer products for every problem!



IKT230/170 is our latest development and it is the most powerful Sonic Horn on the market. It produces up to 153 dB and is 4 times more powerful than our nearest competition. A higher Sound Pressure Level means fewer installations and lower operation- and maintenance costs. The IKT 230/170 is perfect for big applications and applications with severe problems. It is made of stainless steel and can withstand very high temperatures.

Applications: Reheaters, Economizers, Catalytic reactors and Air heaters.



IKT230/220 is our most sold product throughout the years but the development continues to ensure lower maintenance costs and higher reliability. It has recently been modified to make installation and maintenance easier. The output effect has been increased by 60% up to 147dB. The IKT230/220 is the little brother of our IKT230/170 and suitable for smaller applications where the environment might be corrosive or where the temperature is very high.

Applications: Reheaters, Economizers, Catalytic reactors, Air heaters.



IKT150/220 has a smaller diaphragm housing and is suitable for applications where the temperature is lower and less output effect is required.

Applications: Economizers, Air heaters and Filters.



IKT150/360 is basically the same sound emitter as IKT150/220 but the bell piece is shorter. The IKT150/360 is used when there is very limited space for installation.



BH 250 is our budget model and is often used for areas with temperatures up to 300° C.

Applications: Economizers, Air heaters and Filters.

For our sound emitters, we at KOCKUM SONICS can deliver Control Units for Sequence controlling and online fault indicators. We also provide drawings for - or manufacture - Sound Insulation Covers.

Always ready to support you – Our strength is your benefit!

INSONEX® -Sonic cleaning by infra sound

We have been marketing Infra Sound Generating systems since more than 20 years. Our experience in the field comes from more than 200 installations worldwide and we continuously develop our systems to be more user friendly and reliable.

INSONEX® works by Infra Sound which means frequencies lower than 20 Hz. Most of the sound at this frequency can not be heard by the human ear.

The wave length is very large and Infra Sound Generators are used for large applications or installations where the demands for a low level of disturbing noise is high. Our INSONEX® Sonic Cleaning systems can be fitted with various endpieces in different materials for areas with extremely difficult environment or temperatures up to 1250° C (2282 F). At this temperature our INSONEX® HT has totally replaced the use of retractable steam soot blowers.

Application: Large applications, Superheaters, Reheaters, Economizers, Electrostatic precipitators, Marine boilers and Spray Driers



ECONOMIZER sections after one months process without SONIC CLEANING



ECONOMIZER sections after one months process with SONIC CLEANING

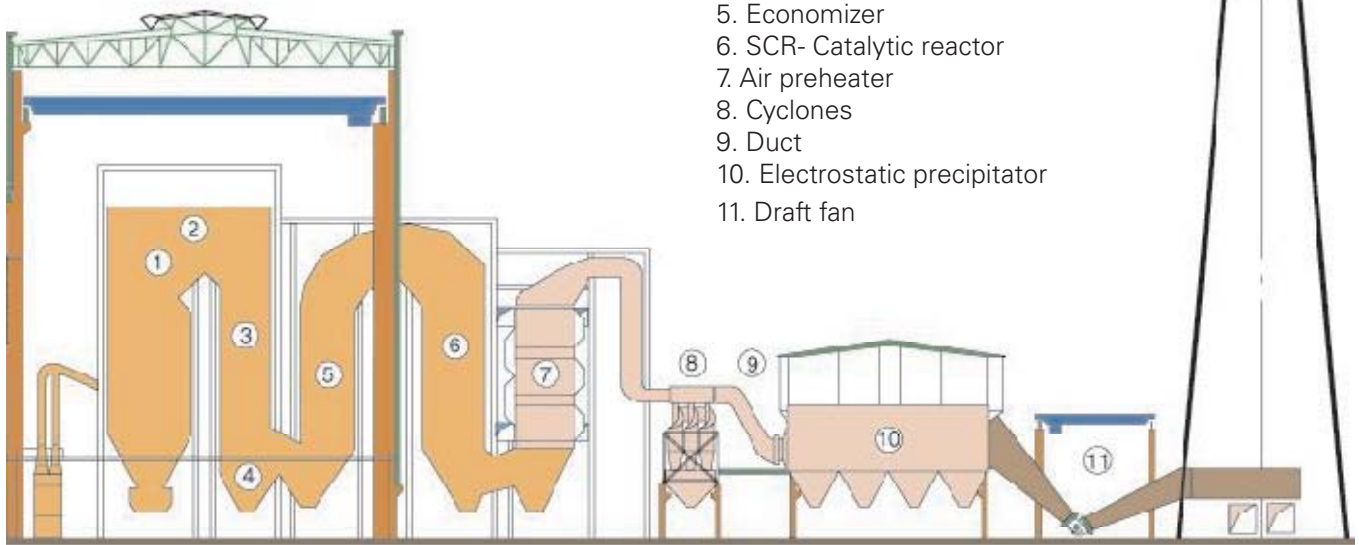


SILo discharge System

KOCKUM SONICS also market a system for SILO and hopper discharge. For this purpose we use an air pulsator in combination with panel activators to fluidize the material without damaging the mechanical structure of the silo

SONIC CLEANING -FOR MULTIPLE PURPOSES

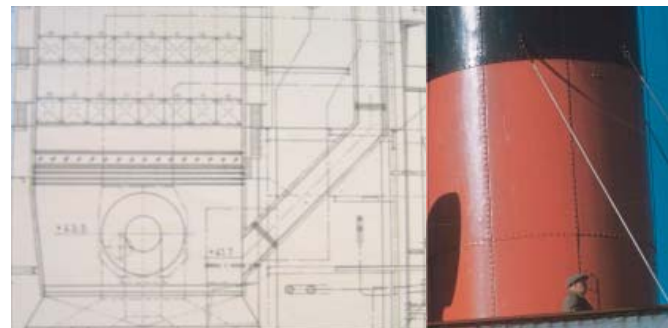
1. Superheater
2. Convection zone
3. Secondary superheater
4. Hopper
5. Economizer
6. SCR- Catalytic reactor
7. Air preheater
8. Cyclones
9. Duct
10. Electrostatic precipitator
11. Draft fan



Different types of FUEL

Our systems have been successfully used for various fuels such as

- Coal
- Oil shale
- Heavy fuel oil
- Wooden waste
- Biomass waste
- Garbage and household waste
- Black and white liquor



HEADQUARTERS:

Kockum Sonics AB, Industrigatan 39, P.O. Box 1035, SE-212 10 Malmö, Sweden,
Tel: +46 (0) 40 671 88 00, Fax: +46 (0) 40 21 65 13
E-mail: info@kockumsonics.com, www.kockumsonics.com

CHINA SUBSIDIARY:

Kockum Sonics China, 2123 Pudong Da Dao 1509,
Dragon Pearl Complex, Shanghai 200135, CHINA
Tel: +86 (21) 5885 27 29, Fax: +86 (21) 6853 84 00

RUSSIA SUBSIDIARY

Kockum Sonics Russia, 14 Obvodny Kanal, RU 193019,
St. Petersburg, RUSSIA
Tel: +7 (8) 812 567 70 04, Fax: +7 (8) 812 567 70 04

UNITED KINGDOM SUBSIDIARY:

Kockum Sonics (UK) Ltd., Unit 7 Leighton Industrial
Park, Billington Road, Leighton Buzzard BEDS LU7 8YL, UK
Tel: +44 (0) 1525 8523 23, Fax: +44 (0) 1525 8535 05

UNITED STATES SUBSIDIARY

Kockum Sonics LLC, 1922-H Corporate Square Blvd,
Slidell, LA 70458, LA, U.S.A
Tel +1 (1) 9856 4628 23, Fax: +1 (1) 9856 4628 83