SONIC CLEANING OF SELECTIVE CATALYST REACTOR (SCR)

Installation of 12 pcs Sonoforce® IKT230/170

Background/Installation

Plant Wansley, belonging to Southern Company, USA has since 2001 equipped the economizers. To keep SCRs clean Sonic Cleaning has proven to be a very efficient solution to both boilers with Kockum Sonics sound emitters type IKT230/170. Due to the excellent cleaning results of these installations the plant decided to install the same type of sonic horns for their Selective Catalyst Reactor (SCR). Cleaning by sound is a relatively cheap method for keeping clean and makes no damage to the structure like for instance steam soot blowing. Also sound reaches into every corner and is a method to continuously remove ash deposits. This keeps the differential pressure over the SCR at a steady level at all times and reduces wear on the catalyst elements, extending the lifetime up to 25%. The catalyst at Wansley has three layers. 4 horns were installed above the first layer and between the layers.

The size of each layer is 52’5” x 46’11” (16 x 14,3 m)
To make sure that the Sound Pressure Level (SPL) is sufficient in the entire volume we use a software model for the SPL calculations. For effective cleaning by sound the SPL shall be at least 135 dB. This is a very reliable and important tool for deciding on where to place the horns and what kind of horns to install.

At plant Wansley there are 2 separate SCRs, one equipped with traditional steam soot blowers and the other one equipped with sound emitters for the cleaning. The diagram from the plant clearly shows that the differential pressure over the 2 identical SCRs is significantly lower using Sonic Cleaning. In addition to this sound reaches into every corner and does no damage to the SCR elements.

Sonic cleaning can be used for ash removal in Superheaters, Economizers, Air Heaters, Electrofilters, Baghouse filters and many more applications.

For further information about our products and our company please contact us.
Sweden: +46 40 671 8800, fax +46 40 21 65 13
USA: +1 9856 46 28 23, fax +1 9856 42 28 83
China: +86 21 5885 27 29, fax +86 21 6853 84 00
E-mail: info@kockumsonics.com, www.kockumsonics.com