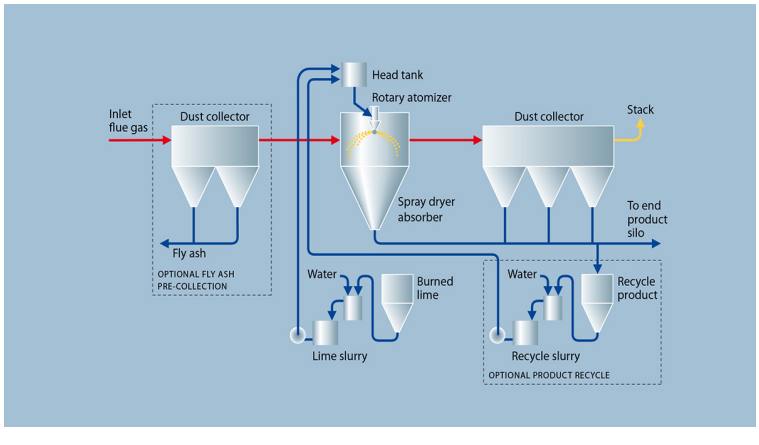
СИСТЕМЫ КОНТРОЛЯ ВЫБРОСОВ

Распылительная сушка SDA

Технические характеристики



The Spray Drying Absorption process – a semi-dry flue gas desulphurization and cleaning process – facilitates a reaction efficiently transforming gaseous pollutants such as e.g. SO2, SO3, HCl, Hg, and dioxins into a slaked lime Ca(OH)2 absorbent to form a stable and dry powdery product that is easy to store and transport.

Benefits
SDA Plant 1200x675
Spray Drying Absorption - the unique use of the spray drying technology for acid-gas absorption - was originally invented by GEA in the 1970s. Ever since, it has been subject to continuous further development and optimized to meet changing conditions and requirements. Hence, the process stands as an efficient, versatile and thoroughly tested technology. Every Spray Drying Absorption process is tailored to meet the client's requirements as well as applicable environmental legislation. The absorbers boast well-proven system features such as e.g. peak-control and activated-carbon injection which have been designed for the purposes of ensuring low mercury and dioxin emission.

Benefits
• High acid-gas removal efficiencies
• Low capital, operating and maintenance costs
• Low power and water consumption – operates on low-quality water
• High plant availability

The Spray Drying Absorption process
SDA Rotary atomizer1200x675
The Spray Drying Absorption process is a semi-dry flue gas desulphurization process. The process uses slaked lime Ca(OH)2 as absorbent and results in a stable and dry end product, mainly consisting of fly ash and various calcium compounds.

Hot, untreated flue gas is introduced into the Spray Dryer Absorber via a flue gas disperser and subsequently comes into contact with a highly reactive absorbent that will be atomized by a Rotary Atomizer. An efficient contact between flue gas and absorbent allows for rapid mass transfer of acidic components from the flue gas into the alkaline absorbent. The absorbent neutralizes the absorbed acid (SO2 + Ca(OH)2 -> CaSO3/CaSO4 + H2O). While this reaction takes place, the water is evaporated, thus forming a dry powder. A fraction of the dry powder will be deposited at the bottom of the absorber chamber and discharged from here, whereas the main part is carried to the downstream dust collector while the cooled flue gas leaves the chamber. The flue gas – now clean – passes from the dust collector to the stack without re-heating.

SDA people 1200x675
The Ca(OH)2 – either purchased as slaked lime or (more frequently and economically) prepared on site from burned lime, CaO – is pumped to the Rotary Atomizer from a buffer tank. After separation, the powder is either transported to an end-product storage facility, or recycled in the process for improved utilization of excess absorbent. The end product from the process is a stable and dry powder. This powder is used all over the world, mainly in road construction, as building materials, and for other purposes in the construction industry.

The Spray Drying Absorption technology features excellent performance for absorption – not only of primary pollutants such as SO2 and HCl. For, due to finely atomized absorbent sprayed into the flue-gas stream and the subsequent dust removal, pollutants such as SO3, HF, etc. will practically be completely removed. This facilitates the use of carbon steel as construction material throughout the flue-gas path. And there are two further benefits: In the first place, the process allows for the use of low-quality process water, such as e.g. waste water or even seawater; and, secondly, as the process generates no waste water, there will be no subsequent waste-water treatment or processing.

More than 200 references
Worldwide, more than 200 Spray Drying Absorption plants are installed at power stations, steel plants, waste incinerator plants, and at plants burning hazardous waste. They all share one common trait: They are operated in accordance with or above required performance stipulations as laid down by local authorities. Even today, the very first plants, installed in the 1980's, are still operating satisfactorily and successfully.

- Total plants built: > 200
- Total number of absorbers: > 350
- Total number of atomizers: > 450
- Process installed at close to 25,000 MWe and 4,300 MWt power-plant capacity
- Process installed at more than 160 incineration lines, worldwide
- Process installed at more than 10,000 m2 sinter band, worldwide

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