A NEW AND COMPLETE PORTFOLIO OF CYCLONES!

Back in 2009, ACS was founded with the purpose of introducing very high efficiency cyclones in the market, aiming to compete with other more complex dedusters (bag filters and ESPs) thanks to numerical optimization and to the introduction of mechanical and electrostatic recirculation (ReCyclone).

After implementing near 200 individual projects in 35 countries for very different applications, we are fortunate to have acquired a better knowledge of our client needs. This resulted in changes in our products and in the way we approach any new project.

First, it is clear that the requirements in dust separation vary immensely. Efficiency itself is not always the main driver and clients rather desire the most cost-effective solution to solve their problem. That frequently occurs in intermediate separation processes for large power, incineration, cement or steel plants, where compact cyclones were developed to meet specified particulate removal at very high temperatures, leading to different benefits. Moreover, in several powder recovery applications, such as spray drying of food ingredients, a balance between efficiency and size has shown to be crucial for the feasibility of projects.

For end stage dedusting, despite being true that particulate matter emission limits (VLEs) are becoming stricter globally, they vary greatly from country to country. Indeed, general VLEs for small to medium size plants can be as low as 20mg/Nm³ in Germany, 50mg/Nm³ in France, up to 100 or 200mg/Nm³ in Poland, 300mg/Nm³ in Finland and 500mg/Nm³ in Brazil. VLEs are also dependent on boiler size, fuel and specific location inside each territory, which can change all these figures.

It is therefore evident that the added value of very high efficiency filters, such as bag or ceramic filters, reaching emissions under 10mg/Nm³, doesn't reward its associated costs and inconveniences in many circumstances. Ideally, clients prefer to invest in more cost efficient technologies that meet current VLEs and which may be adapted when particulate matter regulation changes.

Our research studies in particle agglomeration helped us not only design cyclones that meet very stringent emission limits (down to less than 30mg/Nm³), but also to develop a portfolio of several cyclone families for different VLEs. Notably, the more efficient the solution is, the larger the number of cyclones needed to increase residence time and promote particle agglomeration with impact of space and cost. This "escalading performance" of the technology allows for a very important reduction in investment for moderately strict VLEs (from 70 to 120 mg/Nm³).

Finally, subsequent upgrades with mechanical and electrostatic recirculation allow for future reductions in emissions maintaining all existing cyclones.

On the one hand, we both empowered and simplified the technology, aiming for a solution
with purely mechanical cyclones. On the other hand, we made more flexible, progressive and adaptable to future legislation.

All of this is highlighted in pages 4 to 8 of our new emissions control brochure which we proudly present today!

Pedro Ribas Araújo CEO

Don't miss our NEW Emission Control Brochure!

Exhibitions & Events

Join us at:
Powtech 2017
ACS will be exhibiting on Powtech 2017 presenting our high efficiency cyclones systems for powder recovery. **Ask us for invitations** and schedule a meeting with one of our commercial engineers.

## Projects

**Hurricane HR** cyclone system (4 x Ø750mm) to reduce particulate matter emissions from 8ton/h coal boiler, after an existing pre-separator multicyclone (12096Nm³/h at 220°C)

AES | Durban, South Africa | 2017

**Hurricane HR_MK** cyclone system (8 x Ø900mm) to reduce particulate matter from a biomass boiler burning coal or wood shavings (12960Nm³/h at 180°C).

SouthPine | Windsor | Nelson, New Zealand | 2017

**Hurricane HR** cyclone system (8 x Ø900mm) to reduce particulate matter emissions from 20ton/h coal boiler, after an existing pre-separator multicyclone (38880Nm³/h at 220°C)

AES | Durban, South Africa | 2017

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