



## New and more compact high efficiency cyclones for the food and pharmaceutical industries!

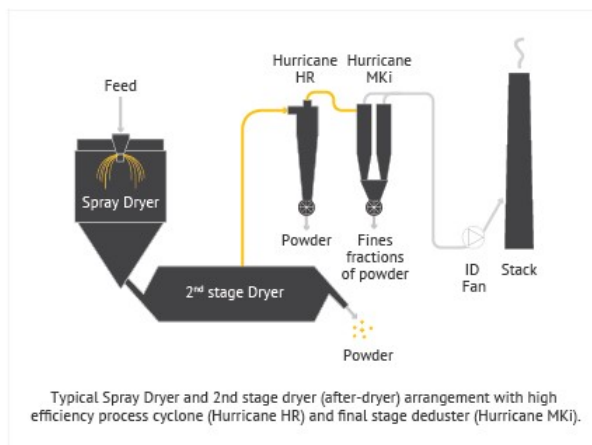
Facing several demands from food ingredients manufacturers, ACS recently developed a new family of cyclones to exempt the use of bag filters in spray drying processing.

ACS has been supplying cyclones for several important players, such as [Arla Foods](#) in the Food industry or [Hovione](#) in the pharmaceutical industry, aiming to increase the recovery of valuable powder downstream of Spray Dryers and before the end-stage filters (typically bag filters or scrubbers).

Very recently, following the introduction of the so-called "agglomerator cyclone" (**Hurricane MK**), ACS developed a new related cyclone family (**Hurricane MKi**) to be placed at the end of the process line, instead of the bag filter, reaching emissions as low as 30mg/Nm<sup>3</sup> ( see figure ). When comparing with the original MK, these new cyclones are more compact and can usually fit inside Spray Dryer room.

In Croatia, ACS is starting a new project with French based [Lactalis](#) - the largest dairy products group in the world – to reduce its emissions of whey powder while recovering more powder for the process. The cyclones will be easily and automatically cleaned (CIP) and the company will avoid the maintenance and product loss associated to bag filters or scrubbers.

With the introduction of this new cyclone family, ACS is able to provide to its clients with a complete package of powder recovery and emission control equipment after the Spray Dryer, including high efficiency process and end-stage cyclones!



Pedro Ribas Araújo CEO

A handwritten signature in black ink, appearing to read "Pedro Ribas Araújo".

## Recent Projects:

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### Votorantim Metais (Combio Energias Renováveis)



Our project at Combio Energias Renováveis is already under installation and commissioning.

The **ReCyclone® MH** is intended to reduce PM emissions from a biomass boiler burning wood chips at a maximum flow rate of 101 206m<sup>3</sup>/h at 160°C. Expected maximum emissions of 45mg/Nm<sup>3</sup> with a 1.2kPa pressure drop, thus complying with the government emissions limit.

Combio provides financial and environmental gains to companies in the industrial sector, implementing projects for sustainable and efficient steam generation.

Combio Energia Renováveis | Minas Gerais, Brazil | 2016

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### Florestal





In Rio Grande do Sul, Brasil, ACS installed earlier this year a **ReCyclone® MH\_MK** cyclone system to reduce particle emissions from a biomass boiler. The client is [Florestal, S.A.](#) located in the city of Lajeado. Official results finally came out proving our cyclones great performance for this type of application as we achieved  $56\text{mg}/\text{Nm}^3$  at the outlet, complying with environmental legislation –  $70\text{mg}/\text{Nm}^3$ .

In fact, our future in biomass boilers market seems to be bright in Brasil.

Florestal | Brazil | 2016



**Hurricane® HR** cyclone system optimised to reduce the amount of particulate matter (coffee grounds) from a rotary dryer at a flow rate of  $32\,796\text{m}^3/\text{h}$  at  $79^\circ\text{C}$ .

Colcafé | Medellín, Colombia | 2016



**Hurricane® HR\_MK**i optimised to reduce the quantity of particulate matter leaving from a coal boiler  $25\,485\text{m}^3/\text{h}$  at  $104^\circ\text{C}$ .

Agrosan / Proteicol | Bogotá, Colombia | 2016



**Hurricane® HR\_MK**i optimised to reduce particulate matter from a biomass boiler burning wood shavings after a multicyclone operating at a flow rate of  $10\,300\text{m}^3/\text{h}$  at  $236^\circ\text{C}$ .

PFR - Resolute | Quebec, Canada | 2016



Since 1925, France

**Hurricane® HR** cyclone system, to recover particles of borosilicate glass, on the grind milling process line, operating at  $1\,250\text{m}^3/\text{h}$  at  $80^\circ\text{C}$ . Due to great results we had in our first commissioning, this is the second system we are supplying this company.

Le Creuset | Fresnoy-le-Grand, France | 2016



**Hurricane® HR\_MK** cyclone systems to reduce flue gas particulate from 3 biomass boilers, operating between a flow rate of  $1\,165\text{m}^3/\text{h}$  and  $1\,800\text{m}^3/\text{h}$  at  $180^\circ\text{C}$ .

Saelen Energie | France | 2016



**Hurricane® HR\_MK**i cyclone system for emission control and whey powder recovery placed after the process cyclones of the spray dryer operating at a flow rate of  $49\,955\text{m}^3/\text{h}$  at  $78^\circ\text{C}$ .

Lactalis | Bjelovar, Croatia | 2016

## Exhibitions & Events

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ACS will be exhibiting at [POMREQ 2016](#) between the 29<sup>th</sup> and the 30<sup>th</sup> of November in Kuala Lumpur, Malaysia.

We will be showcasing our installations in Malaysia and sharing the recent results.

**POMREQ | KUALA LUMPUR, MALAYSIA | 2016**

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ACS will be exhibiting at [POLLUTEC 2016](#) (LYON EUREXPO FRANCE) from the 29<sup>th</sup> of November to the 2<sup>nd</sup> of December 2016 in Lyon, France.

Join us at **stand no C150 in Hall 5**.

**POLLUTEC 2016 | LYON, FRANCE | 2016**

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