



A VERY GOOD START IN 2019!

With a food ingredients boost!

2019 has been our best start to the year ever! Despite the strong orders in the renewables area, the main reason behind good results lies on the much stronger contribution of the food ingredients projects to our project portfolio.

Starting with the “green” Emissions Control area in **Brazil**, ACS secured an order for two **Hurricane HR** systems, each composed of forty Ø1000mm **Hurricane HR cyclones** for two 100ton/h, 67 barg steam boilers. Our client is Brazilian based **Dan Power**, a company focused on medium to large size biomass boilers for which ACS had supplied the first dedusting equipment in 2018 with very good results. The systems, conceived for final stage dedusting, are located in Corn Ethanol production facilities in the Mato Grosso region.

In **Portugal** we started a project aiming to improve pre-separation of ash before an ESP for a Biomass Power Plant located in the Oporto district. The plant, producing 10MWe, had operational problems in the former Multicyclone due to abrasion resulting from high silica content in the fuel (forestry residues). Additionally, energy consumption due to high pressure drop of the pre-separator was compromising the plant’s efficiency. Our solution (picture below), already implemented for other biomass boilers, such as for **Valmet** in the Pulp and Paper industry, is based on two Ø2500mm **Hurricane SD** cyclones with max pressure drop below 0,8kPa.

Still in **Portugal**, another order was secured for two Ø2500mm **Hurricane AT** cyclones, targeting a good compromise between efficiency and size, for olive pomace drying, an industry facing rising pressure of the authorities for emission reduction. The system is expected to reach 99,3% efficiency, thereby strongly minimizing the solids content entering into a final wet system to be installed in the future.

Switching to **Powder Recovery**, our biggest project so far is underway. ACS was chosen by one of the world largest Demineralized Whey Powder producers, based in Europe, to solve a problem which is simultaneously an emission, yield and sanitary challenge.

Indeed, companies producing powder ingredients for infant formulas are discouraged from using Bag Filters, let alone Wet Scrubbers, in their powder processing lines due to contamination risks. Very high efficiency cyclones are therefore the most straight-forward solution.

With the experience gathered throughout several years in pharmaceutical cyclones design for companies as **Hovione** or **Teva**, we are able to combine that know-how and excellency

in GMP manufacturing with our unique expertise in numerical optimization and agglomeration modeling, resulting in state-of-the-art cyclones. In this particular case, ACS is supplying four food grade Ø2900mm **Hurricane RE** cyclones to replace an existing wet-scrubber, thereby increasing recovered powder in over 100t/year.

We are determined to make this project another success story!



Pedro Ribas Araújo CEO

Latest Projects



HURRICANE SD cyclone system upstream of an ESP for the capture of particles (fly ash) from a biomass combustion boiler (2SD Ø2500)

OPERATING CONDITIONS

Particles [Fly ash from wood waste combustion]
Power of boiler [170t/h steam / 30MWel]
Actual Gas Flow Rate [170 571m³/h at 200°C]
Operating pressure drop [<0,83 KPa]

CENTRAL BIOMASSA TERRAS DE SANTA MARIA | Oliveira de Azeméis, Portugal | 2019

2 Hurricane MK cyclone systems (2 x 40HR x Ø1150mm) to reduce Particulate Matter (PM) from 100t/h biomass boilers (295 035m³/h at



170°C)

[Dan Power | Mato Grosso, Brasil | 2019](#)



Hurricane AT cyclone system (2AT x Ø2500mm) to reduce Particulate Matter (PM) from a olive bagasse dryer (97 421m³/h at 89°C)

[CASA ALTA | Beja, Portugal | 2019](#)

UNDISCLOSED

Hurricane RE cyclone systems (4REx Ø2900mm) for emissions control and powder recovery of demineralized whey powder (98 317m³/h at 70°C)

[Undisclosed | France | 2019](#)



Hurricane HR cyclone system (1HR x Ø400mm) to capture waste particles from the combined flow of a deduster and tablet press (765m³/h at Ambient Temperature).

[ACTAVIS | New Jersey, USA | 2019](#)



Hurricane HR cyclone system (1HR x Ø1300mm) optimized to collect amino powder in a spray drying process (11 863m³/h at 200°C).

[PULSEDRY | Illinois, USA | 2019](#)



Hurricane HC cyclone systems (1HCØ75) to separate particulate matter at high temperature from milena type gasification syngas (26m³/h at 750°C)

[TNO | Le petten, The Netherland | 2019](#)



Two Hurricane MK cyclone systems (16MKØ900) to reduce Particulate Matter (PM) from a Palm Shell BFB boiler and a Rice Husk BFB boiler both operating at 22 500m³/h at 230°C .

[BASUKI | Jakarta, Indonesia | 2019](#)

