



SOLID CHAIN



SERVICES OFFERING

On Axel'One, the solid chain revolves around pilots representative of industrial conditions heavily instrumented by online analysis tools..

Axel'One offers a range of services for the generation, isolation, drying and shaping of solids including:

- Feasibility studies, characterization of the phenomena involved, acquisition of dimensioning data, extrapolation
- Preparation of samples
- Access to a wide range of pilot tools

Scale: from 50L to 100L

EXPERTISE

Since 2020, in partnership with the SOLVAY group, AXEL'ONE has built the AdChem4 (Advanced Chemistry Pilot Plant) platform which allows tests to be carried out at the 50-100L scale on solid generation operations, liquid / solid separation, drying and shaping for organic and mineral media.

The associated expertise is:

- Selection and pre-sizing of solid generation, isolation, drying and shaping technology
- powder shaping
- industrialization of processes

Liquid / solid separation pilots

- Micro-hydrocyclone pilot, 10bar, 4000G (0-2000 L / h)
- Nano and ultra filtration pilot
- ATEX continuous decanter centrifuge (1-10kg / h)
- ATEX batch decanter centrifuge (bold 2L, 5500G)
- 700cm2 filter press (5 trays)

Drying pilot

- Conductive dryer (400mL to 30 L): procept, List, microwave assisted planetary mixer (3kW)
- Spinflash type convective dryer (evaporative capacity of 25 kg / h of water, heating 20kW)
- Modular fluidity bed (5 to 15L, 20 to 280 m3 / h gas, max temperature 150 ° C)

Grinding station (1-25kg / h)

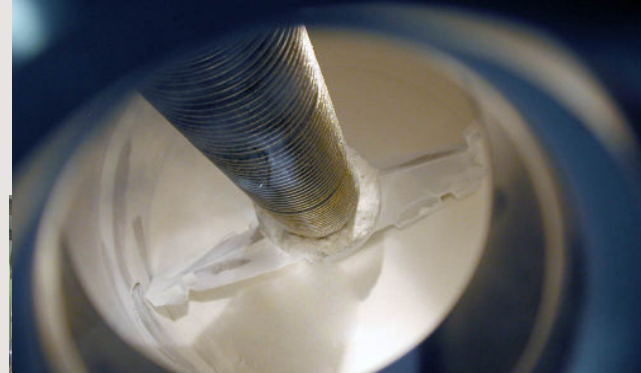
- UPZ100 mechanical crusher with spindles, screens
- AFG100 air jet mill with ceramic nozzles (vulkolan coated)
- ZPS50 mechanical crusher (vulkolan coated)
- ATP50 dynamic selector with ceramic wheel couplable with ZPS or AFG (vulkolan coated)
- Coupled with on-line particle size distribution analysis for self optimization

Mixers

- 111 / 5000
- Translation results
- Conical screw mixer
- Horizontal Rapid Mixer
- List 3L mixer
- WAM 150L mixer (impregnation possible)

But also...

- Compacteuse WP120*40 (20k/h)



Preparing area

- 200L stirred tank, 316L stainless steel, temperature 10-90 ° C, Pressure -1 to 3 barg, nitrogen inerting
- 50 or 100L stirred tank, Glass steel, temperature 10-250 ° C, Pressure 10 to 15 bars
- IBC container zone
- Compatible with organic solvents

Crystallization / Precipitation Zone

- 50L reactor + associated systems (agitation and model injection), glass, temperature 10-90 ° C, pressure -1 to 0.2 barg
- Crystallization by evaporation or cooling
- Precipitation by casting on feet or parallel casting

Drying reception area

- Convective drying: Air / N2, gas temperature 300 ° C max, gas flow rate 400-500 Nm3 / h
- Conductive drying: vacuum 20mb, gas flushing (Air / N2), heat transfer medium (heating) max temperature 180 ° C, P -30kW, (cooling) min temperature 5 ° C, P -20 kW

Liquid-solid separation reception area

- Feeding capacity via preparer or crystallizer
- Utilities: vacuum, coolant, nitrogen air (3 bar, 100Nm cubic / h)



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