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| **LIST OF PROCESS EQUIPMENT**  Below is the list of key process equipment used in the dry laundry production process at the Ibadan plant -  **Crutcher –** This is a vessel where all the solid and liquid materials (capable of withstanding high temperatures) are mixed to form a homogenous Crutcher mix / Slurry**.**  **Drop Tank / Ageing Vessel—This tank serves as a holding tank or a buffer tank between batch crutching and continuous spraying. It also ensures a homogenous mix between crutcher batches. It has a capacity about 2.5 times the size of the crutcher**.  **Low Pressure Pump** – This pump is also called a Booster pump and it main function is to provide a minimum inlet pressure of 3 to 5 bars to the high-pressure pump to prevent cavitation.  **Magnetic Strainer** – This is designed to catch metals and prevent the booster pump from being blocked or damaged.  **ODOS System –** Also known as One Degree of Separation, it is used to add HLAS and Caustic Soda directly to the slurry line. It benefits are reduced water load in the tower and increased tower capacity and reduction in energy**.**  **Rietz Filter –** Also known as slurry disintegrator, the mill in the rietz breaks the lumps from the crutcher mix into small sizes and pushes it through a basket with mesh sizes small than that of the tower nozzles**.**  **High-Pressure Pump –** This pump increases the slurry pressure to the range of 70 to 90bars to allow for proper atomization of the slurry in the tower.  **Air Injection System / IKA Mixer –** Its basic function is for density control. Air is injected into the slurry before the slurry being fed to the tower to control density of BG. The IKA mixer serves to mix the air injected into the slurry line with the slurry to form a mixture before the slurry is fed into the tower**.**  **Spray Drying Tower –** The spray drying tower consists mainly of: ***tower nozzles*** for the atomization of the slurry to form tiny droplets in the tower, ***air heater*** for drying of the tiny droplets of atomized slurry from the tower nozzles, and ***tower belts*** to collect the dried slurry droplets or base powder from the spray drying process and transfer it to the next stage**.**  **Air Lift –** It performs several functions among which are lifting the powder from the tower belts to the top of the process, cooling the blown powder and classifies the large particles which falls out as wet scrap**.**  **Parallel Wire Screen –** Its main function is to separate the oversize particles from good quality powder.  **Low-In-Weight Feeders** – This is a device used for the accurate feeding of powdered materials into the mix drum. There are different types of LIW feeders such as *belt feeders*, *screw feeders* and *vibratory tray feeders*, and its application is based on the property of the material to be handled by the feeder.  **Mix Drum** – The mix drum is a closed rotating drum and its main function is to mix the blown powder with the dry add materials and liquid spray on to give a homogenous mix. The powder also cools while mixing is going on in the drum. |