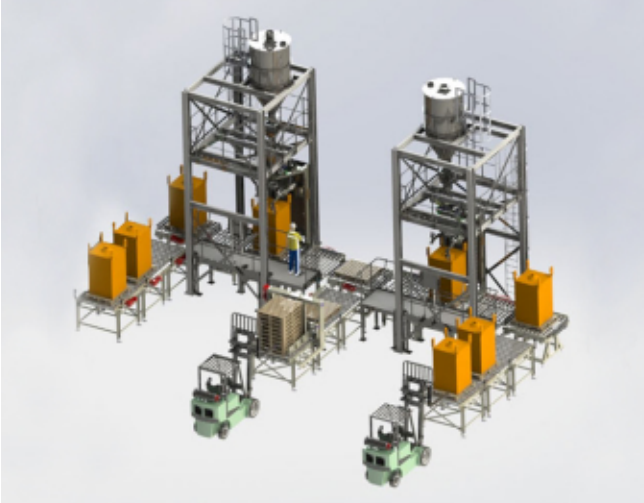
Case Study 0747

PTA POWDER

Hi Speed Jumbo Bag Filling System





THE CLIENT

Asia Pacific Fibres (APF), are a global polyester player and a leading manufacturer of PTA (purified terephthalic acid). Over the past 30 years, APF has evolved into Indonesia's most progressive, flexible and fully integrated polyester producer ranking amongst one of the best in the world.

Reducing workplace risks and ensuring a safe working environment has always been a priority for APF and they are accredited with ISO 45001-2018 certification by SGS. PTA produced at the Karawang facility is the raw material for the production of polyester chips, staple fibers and filament yarns and bottle grade applications.

THE CHALLENGE

- To achieve a high-speed packing line of PTA (white crystalate powder) into bulk bags weighing 1100kg.
- To provide a solution for a product that has very unpredictable flow characteristics, making this powder challenging to weigh accuractely and fill into jumbo bags.
- Owing to the angular shape of PTA crystals they have a tendency to interlock resulting in a powder which settles 'solid', but flows like water and 'flushes' uncontrollably when moving. PTA bridges, then 'rat holes' when discharging from rectangular or circular hoppers or silos of a conventional design.

THE SOLUTION

- To overcome PTA's unpredictable flow characteristics Webster Griffin designed an anti bridging settling hopper to ensure controlled powder discharge - essential for accurate high-speed bag filling.
- The hopper combined with the special design of archimedean evacuation screws allows deaeration of the powder, while preventing rat holes.
- Pressure balance control- for clean accurate packing of dusty, hazardous powders.
- Patented 'semi-suspension' filling technique – provides stable full bag and avoids the need for any hydraulic circuits, valves and pumps.
- Precise electronic load cell weighing with data logging and production reporting.

THE RESULT

- Two hi-speed bulk bag filling lines means that Asia Pacific Fibers can always keep bagging even when carrying out maintenance on one machine.
- Consistent weighing accuracy by gross/net weighing system and the automatic 'on spout' top-up which minimised product 'give away'.
- Combined throughput of the Big Bag Fillers enables the APF to achieve production targets and fulfil their clients orders.
- Clean safe operator environment is provided because during the filling process the bag neck is sealed by the dust-tight inflatable collar while nitrogen in the bag is safely vented back into the circuit by automatically modulated valves.
- Safety is paramount – PTA flows within a controlled nitrogen environment and all machinery within hazardous Zone Ex II D & IS intrinsically safe EX (ATEX) certified.

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ASIA PACIFIC FIBERS
.Winning Together.

Webster Griffin
packed with know how

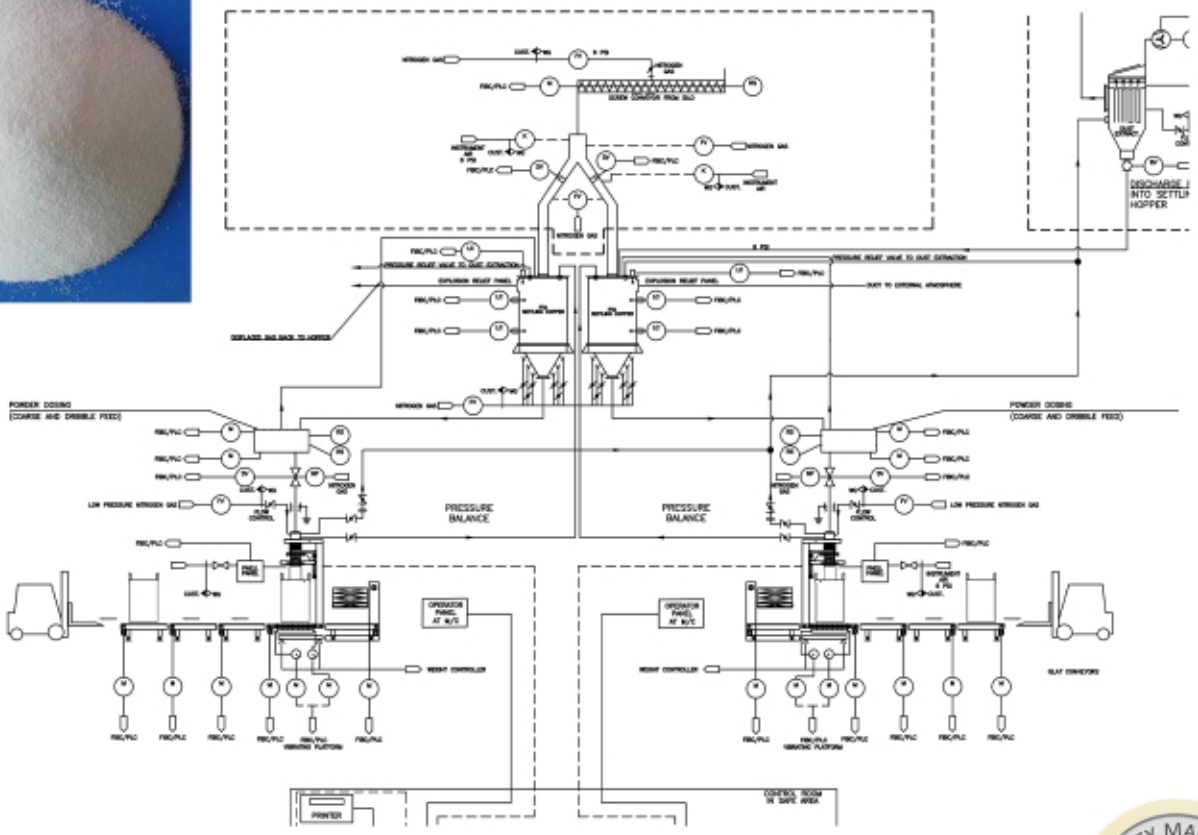
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