

SAFETY FIRST!

Oils & Fats
Oleochemicals

desmet ballestra

Due to the inherent risks associated with solvent extraction, Desmet Ballestra has invested significantly to **protect your people, your capital investments and the environment.**

Desmet Ballestra's Process Safety Management (PSM) program for Solvent Extraction Plants includes:

- Hazardous Operations (HazOp) analysis conducted by its global experts for all standard solvent extraction plant process sections to minimize risk of fire and explosion
- Layers of Protection Analysis (LOPA) conducted by its global experts for all standard solvent extraction plant process sections to minimize risk of fire and explosion
- Determination of Safety Integrity Level (SIL) loops for most critical controls by its global experts to minimize risk of catastrophic fire and explosion
- Automation Functional Descriptions (AFDs) developed by its global experts for all standard solvent extraction plant process sections integrating the HazOp, LOPA and SIL analysis to ensure that its plants are adequately instrumented and have proper automation programming to minimize the risk of fire and explosion
- In-house automation team to ensure that the solvent extraction plant control system is programmed to match the AFD
- In-house automation team to ensure that the solvent extraction plant control system is inspected via Factory Acceptance Testing (FAT) prior to implementation
- Inclusion of separate, highly robust "Safety PLC" for processing safety critical process signals to minimize the risk of fire and explosion
- Solvent extraction plants designed in full compliance with NFPA36 Solvent Extraction Plants, the globally recognized guide for solvent extraction plant safety
- All pressure vessels in the solvent extraction plant designed to American Society of Mechanical Engineers (ASME) standards and registered as per local requirements
- Vessels designed using ANSYS FEA and Bentley Autopipe Mechanical software to ensure mechanical integrity and minimize risk of fire and explosion during unplanned maintenance
- Pressure drops during unusual conditions are modelled on ASPEN HySys and ASPEN Shell & Tube software to minimize the risk of high operating pressure and release of solvent to atmosphere



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