

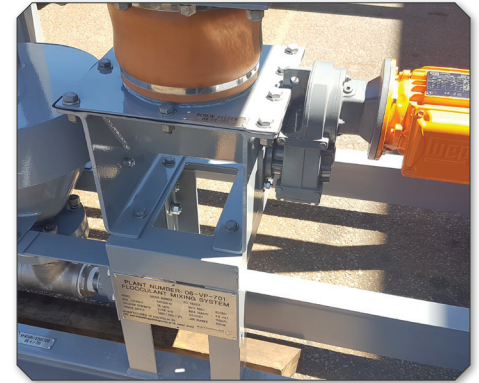
FLOCCULANT MIXING SYSTEM Reagent Plants

PROJECT SCOPE

Bulk Handling Technologies (BHT) have many years of experience in the design and supply of reagent preparation systems and was recently awarded the contract to design and manufacture a dry feed storage, feeding and wetting for powdered flocculant.

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| Project: | Gold Mine, North Africa |
| Material: | Flocculant |
| Equipment: | Flocculant Mixing System |
| Scope: | Design and Manufacture of flocculant mixing system with dry feeding and wetting system |
| Aim: | To achieve the appropriate wetting and ageing of flocculant dry powder into flocculant solution suitable for thickener settling. |

Flocculant is used in solution to 'floculate' or 'agglomerate' fine particles into larger clumps which can increase solids settling, filtration and classification rates in various mineral recovery processes.



DESIGN CHALLENGES AND CONSIDERATIONS

Moisture ingress, or condensation, in dry flocculant storage or handling equipment can lead to serious operating problems. Moisture will cause the powder to agglomerate into large, hard lumps which can damage or block feeders and obstruct pneumatic piping. Proper operating techniques and careful equipment design to account for the operating environment will prevent these issues and ensure reliable, trouble free service.

Once mixed, wet flocculant solution is inherently a very sticky solution which will eventually collect on wetted surfaces, reducing the operating efficiency and potentially damaging machinery. This requires careful design of the flocculant system wetted internals to reduce the likelihood of build-up, while also making provision for suitable inspection and access points to allow easy monitoring of the system and disassembly and cleaning when required.



THE FINAL SOLUTION

The final design included an additional feature which provided self-cleaning of the dry feed screw with an innovative dynamic screening design. This allowed for the conventional static feed cone screen to be removed and also eliminated the need for some guarding due to the inherent safety of the new design. On site, these guards and static screens are often removed and never reinstalled, causing additional blockages and safety concerns. Key features:

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| Plant Production Rate: | Dry Flocculant: 55 kg/hr Final Solution: 22m ³ /hr |
| Solution Strength: | 0.25% w/w |
| Dry Feed Rate: | 300kg/hr |
| Blower Size: | 7.5kW Side Channel Blower |
| Dry Storage Capacity: | 1.6m ³ |
| Mix Tank Capacity: | 67m ³ |
| Agitator Size: | 3kW Dual Impellor Agitator |

The Flocculant Plant was manufactured, assembled and workshop tested by BHT in Perth WA before transport to site for installation and commissioning.



For more information on this project, or any other enquiries, contact us + 61 (0)8 9332 3454 or sales@bulkhandlingtech.com.au