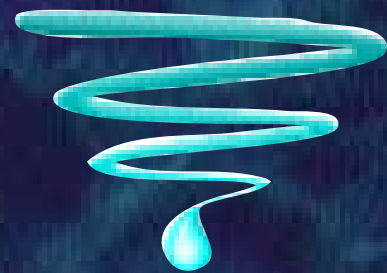


AJM Chemical Handling

The Essential Guide to.....

Process Control,
Chemical Bunding
&
Polymer Dosing
Systems



*Water &
Wastewater
Treatment
Engineers*

AJM Environmental Services Pty Ltd



Wastewater

Industrial

Potable Water

Stormwater

Chemicals are used by most industries in a variety of applications. They may be dosed into product lines, for cleaning, scale inhibitors or used for the treatment of water and wastewater.

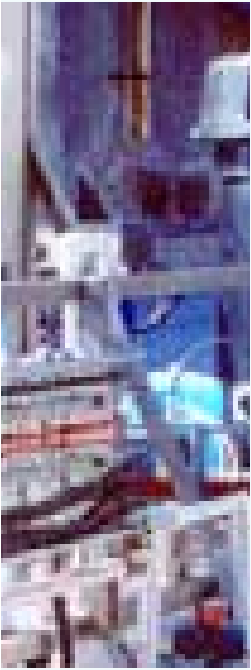
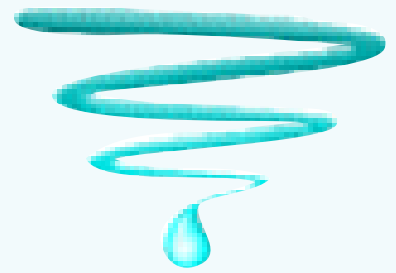
AJM Environmental Services is a company specialising in all aspects of the design and construction of water and wastewater treatment plants. The knowledge required to design and construct chemical storage handling and process control systems is therefore an essential and integral component of the company's business.

AJM's responsibility is always to ensure that the requirements covering the control, handling, storage and dosing of chemicals are properly assessed, designed and constructed in accordance with both client specifications and legislation, in particular those concerning occupational health and safety.

With more than 15 years experience in design and construction of complete chemical handling facilities, you can be sure that AJM will construct a system to meet your specific requirements and comply with all appropriate standards.

*AJM Environmental Services is an
Australian company.*

Expertise in all aspects of process control and chemical handling



Installation

The design of a chemical dosing plant takes into consideration many factors such as the necessary dosing rates, dilution methods, injection points, proper mixing, aging (in the case of most polymers), flow paced dosing, pH control, materials of construction plus many other factors to ensure that each particular process is optimised.

Construction

Of equal importance are the design considerations regarding the delivery and storage of the chemical. As many chemicals are corrosive or dangerous, at least to some degree, there is strict legislation governing chemical storage and delivery methods.

Such legislation takes into account factors such as bunding, crest locus limits, methods of refilling storage tanks or replacing intermediate containers, signage, safety equipment, personal protective clothing and the provision of safety showers and fire extinguishes to name just a few.

Design

AJM supply a range of convenient bulky bin bunds as well as having expertise in the design and construction of large scale storage facilities and sophisticated process control systems.

Bulk chemical storage



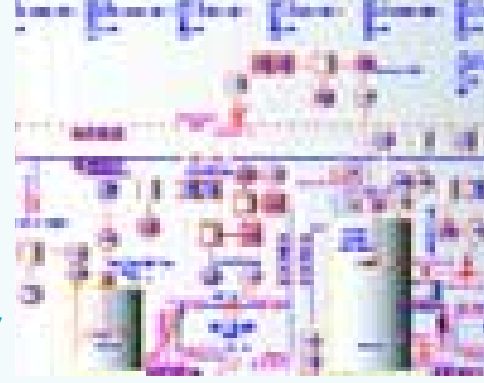
Flocculant blending and dosing equipment



Bunding and chemical dosing



Process Control Systems



IBC Bunds



Secure bund to floor



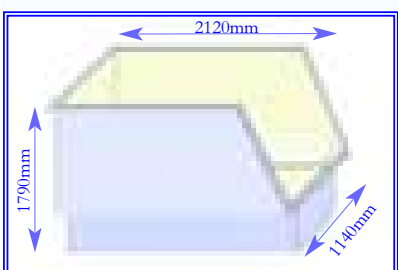
Lift bulky bin with a forklift



Locate bulky bin on rails



Push back into position



Dimensions

IBC's, often referred to as bulky bins are a convenient method of storing low volume chemicals.

A major benefit of IBC's is that transfer of liquids is not necessary as the entire unit is replaceable.

IBC's typically have a capacity of up to 1000L and are a chemically resistant tank usually located within a galvanised frame designed for lifting by a forklift.

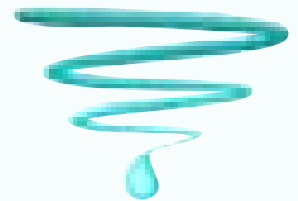
The AJM BB range of bunds are a safe and economical containment device specifically designed for IBC's.

Designed to accommodate a standard 1200mm square IBC, the BB range of bunds provide full containment spill protection whilst allowing simple change over of bins.

Bunds are generally fabricated in corrosion resistant derekane fibreglass however other materials can be supplied depending on the specific chemical.

Bunds are supplied with safety and warning signs as standard. Options are available for dosing pumps brackets, dosing pumps, suction lances and other ancillary items .

- **Simple**
- **Convenient**
- **Easy to install**
- **Low cost**
- **Full legislative compliance**



Acids Caustic Coagulants

Bulk Chemical Storage

Bulk Storage generally refers to storage of chemicals in quantities greater than 200L or chemicals not contained in transportable containers..

In such cases, a bulk storage tank is supplied that is designed to allow the safe delivery and transfer of chemicals from a tanker or other suitable vehicle.

AJM's expertise extends to the design and construction of complete high quality bulk storage facilities that will comply with all aspects of Australian standards including Occupational Health and Safety requirements.

AJM fabricate bulk storage tanks in corrosion resistant materials suitable for each particular chemical. Such materials include mild steel, stainless steel, fibreglass and a several plastics. The design also encompasses a bund, generally constructed in concrete with a capacity no less than 110% of the volume of the tank. Consideration to the crest locus limits which determines the height of the wall is made as shown in figure 1.

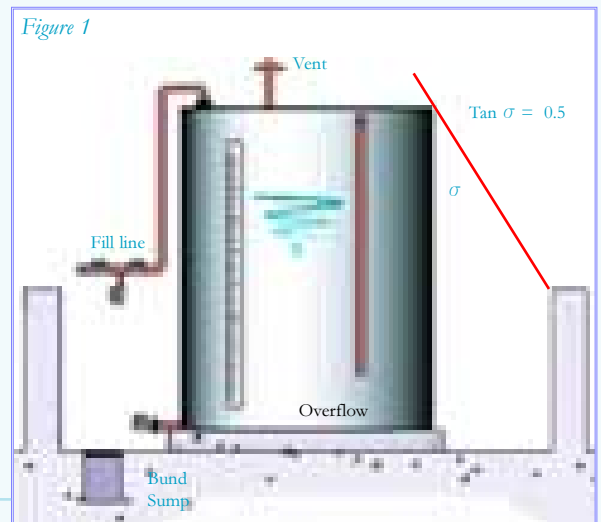
To ensure full compliance with occupational health and safety requirements, AJM bulk storage facilities also comprise properly designed filling lines, tanker loading bays, appropriate signage, provision of safety showers and protective clothing.

AJM can also supply high quality dosing equipment, tank level sensors and any other instrumentation to suit each application.



Bulk acid storage facility in Port Kembla, NSW.

AJM maintain up to date knowledge on all environmental and OH&S legislation to ensure that when we discuss chemical handling with clients, we have a thorough understanding of all technical and legal requirements associated with any particular project.



Polymer Blending and Dosing

Polymers or flocculants are commonly used in water and wastewater treatment processes. They are compounds that can be supplied in powder, latex or emulsion form.

Most polymers will require dilution and an aging period to allow full activation and optimisation of the efficiency of the product.

AJM have developed polymer systems that cover the entire range of commercial liquid, or solid polymers and flocculants with various level of automation.

The TMP range is designed for manual or semi-automated blending and dosing with liquid or powdered polymers. These models are economical and designed for relatively low usage rates and in non continuous dosing applications.

The PBT range is designed for higher dose rates and continuous usage. The PBT range is a fully automated system that comprises, raw chemical storage, blending, aging and dosing. This is assembled on a skid using only the highest quality components.



PBT1000 unit with multiple dosing pumps installed at a mine site NSW



PBT500 unit in Mulwala NSW



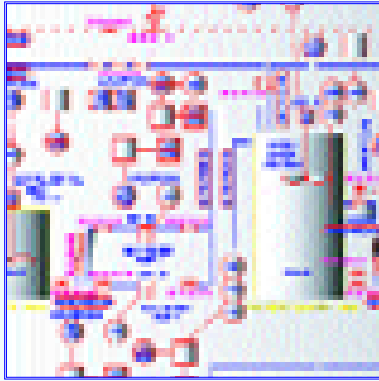
TMP5000 to be installed at a STP in Tasmania

Standard Polymer Equipment

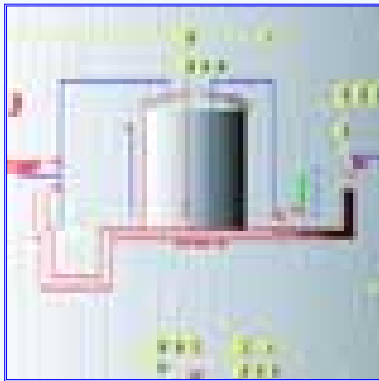
Rates stated will vary depending on type of polymer used. Larger units are available in the PBT range.

Model	Manual System	Semi Auto	Fully Auto	Capacity
TMP1000	●	●		1kg/day
TMP2000	●	●		2kg/day
TMP5000	●	●		5kg/day
PBT500		●	●	0.5kg/hr
PBT1000		●	●	1.0kg/hr
PBT1500		●	●	1.5kg/hr

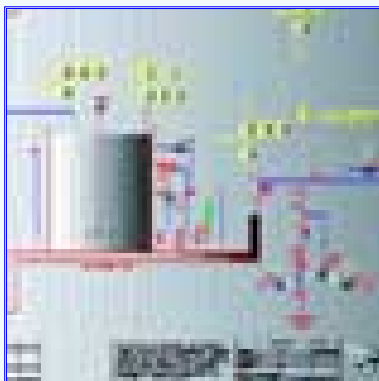
Liquids Powders
Emulsions



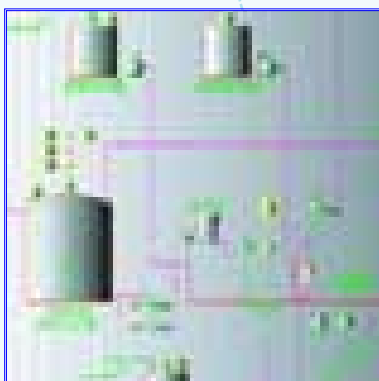
Liquid Polymer



Bulk Storage



Bulk Slurries



Process Control

Lime Silos

Screw Feeders

Dosing Pumps

Control Systems

SCADA

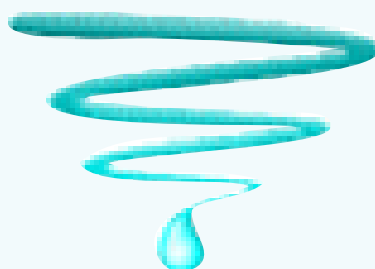
Process Design

Chemical storage and dosing systems are usually just one integral component of a complete process control system or wastewater treatment plant.

From small pH correction facilities to large scale lime silos, AJM have the skills and expertise to design and construct complete turnkey operations.

To ensure such projects are facilitated promptly and efficiently, all process, mechanical and electrical design are conducted in house by qualified engineers. AJM assigns highly experienced, multi disciplined project managers to look after each project from award to completion. Customer satisfaction is the highest priority.

At AJM we pride ourselves in delivering high quality work, on time. Always.



Waste Minimisation Techniques

Feasibility Studies

Project Management

Installation

Mechanical Design

Process Design

Turnkey projects

Commissioning

Control Panel fabrication

Electrical Design

Hydraulics

Service

PLC Programming

Consultancy

Chemical Handling

Plant Upgrades

Environmental Audits

Steelwork Fabrication

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