



# POWDERED ACTIVATED CARBON DRY CHEMICAL FEED SYSTEM



**WATERCARE SERVICES LTD  
ARDMORE**

**MAY 2001**

***Filtration Technology Ltd***  
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## **WATERCARE SERVICES LTD P.A.C Feed System**

Watercare Services Ltd identified that the possibility existed that in recent year's taste and odours could develop in their treated water as a consequence to Algae being present in storage lakes. Having identified this possibility Watercare Services Ltd sought quotations for the design, building and commissioning of a Powdered Activated Carbon Feed System for their Ardmore facility.

Filtration Technology Ltd was selected for the project.

The system is purpose built for the Ardmore application.

General considerations for the design include standby system redundancy. Fail safe alarms and system protection.

Particular consideration for Ardmore revolved around the need to provide for 1m<sup>3</sup> bag receive and bag changing frequency of up to 12 times per day.

Further expansion to upgrade the facility to receive bulk pneumatic delivery with silo storage was considered during design.

### **Description**

Bag receipt is provided by gantry and electric hoist. Nozzle bottom bags are discharged in either of two receipt bins.

The bins are connected by a common cavity above a partition plate.

Dust is extracted from the cavity vicinity to a DSE element filter and shaker.

The charged bins feed Wallace and Tiernan pulsation feeders.

A low bin level alarm is provided.

Carbon is metered to a Filtration Technology design wetted cone. Here the dry powder is wetted out and carried via a Pemberthy Eductor into the water carrier stream for delivery to the point of application.



## Specifications

Feed Rate : Max 300 kg/hr/unit

First Stage Dilution : 30 m<sup>3</sup>/hr (300 kg)

Bin Capacity : 1.2 m<sup>3</sup> / bin

Low Level Alarm : 0.2 m<sup>3</sup> remaining

### Dust Extraction

Make : Torit DCE

Model : UMA 70 G1AD

### Hoist

Make : Demag

Model : EUDKUN5

Rating : 1 Tonne

### Electric Trolley

### Metering System

Make : Wallace & Tiernan

Model : EA 32-055

Capacity : 600 LPH

Turndown : 10:1



Client : Watercare Services Ltd

Process Design/Build : Filtration Technology Ltd

Project Manager : WSL Design Services

Sub Contractors : Steel Fabrication : Canadian Pacific

Stainless Steel Fabrication : Metal Design Ltd

Electrical and Control : Fred Hansford Electrical