

Naiad Copperas Saturator & Liquid Dosing System

Naiad Copperas Saturator Key Features

Copperas crystal – easy to transport and can offer long term savings and security of supply - Copperas 20% iron, Liquid 10-14% iron.

The saturator is designed to store and dose copperas efficiently but can also dose liquid chemical. This enables the site owner to select the most cost effective chemical and accommodate changes in the chemical supply market.

In liquid mode, the saturator stores liquid chemical and doses it by way of dedicated liquid pumps.

In either mode, the system is self sufficient and reliable – it is PLC-driven and requires minimal operator input.

Construction

Double-skinned cylindrical tank and hopper (12m long, 2.5m deep.) on concrete plinth.

Concrete surrounds tank / hopper - extends to plinth for GRP kiosk. The kiosk houses pumps, valves and controller.

Stainless steel grille within fill hopper.

Hopper secured by lockable doors.



Saturator Installations

- Basingstoke** STW (100 000 PE)
Two-year full scale trial of 36-m³ saturator.
- Rye Meads** (St Albans) STW (450 000 PE)
Two 55-m³ saturators.
- Crawley** STW (170 000 PE)
Two 55-m³ saturators.
- Cheltenham** STW (160 000 PE)
Two 55-m³ saturators.
- Mansfield** STW (160 000 PE)
Two 55-m³ saturators.
- Barnhurst** (Wolverhampton) STW
Two 55-m³ saturators.
- Roundhill** (Stourbridge) STW
Two 55-m³ saturators.

Pumps and Controller

Process controlled by PLC. Operator keys in load at touch-screen HMI and presses 'Start'.

PLC calculates dose rate and displays refill date and time.

Dosing skid with Duty/Standby copperas and liquid dosing pumps.

Four-pump skids (duty /standby)



Key Features of the Saturator

The saturator can make use of copperas crystal or liquid chemicals allowing most cost effective chemical to be selected.

In copperas mode, crystal is continuously dissolved, diluted and dosed to works.

In either mode, dosing and P removal are effective and reliable.

Pumps have no glands or in-line strainers can handle particulate material and require little maintenance. Long term savings are associated

with the use of crystal. Copperas 20% iron; Liquid chemical 10-14% iron.



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Naiad/Verder Package Dosing Systems

Our Package Dosing Systems comprise Tank / Bund / Kiosk / Pumps and Dose Control Panel and have been developed by combining Naiad and Verder's experience and resources.

We have process design expertise specific to the water industry as well as extensive manufacturing facilities supported by a team of qualified installation and commissioning engineers.

A Naiad Package Dosing System has performed faultlessly at Scania's Training Centre in Loughborough for nearly 10 years. The unit doses ferrous chloride to a small activated sludge plant and consistently meets the Environment Agency's consents.

Our Systems offer copperas dosing, liquid dosing or both and are specified through discussions with the end user. They're factory assembled by Verder in Leeds, transported to site, off-loaded and installed on pre-prepared plinth before being commissioned by Verder and Naiad.



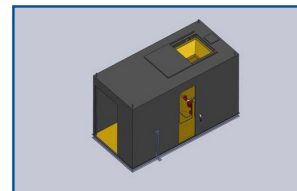
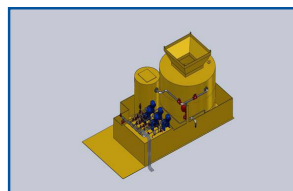
DuraDose Package

A Naiad/Verder Dosing Package has recently been developed for AES Kilroot Power Station serving Belfast. The unit doses copperas to cooling water.

The package can dose either copperas or liquid and the illustrations below show the complete unit with kiosk and the unit with kiosk removed.

At Solihull STW we are currently installing Lime Dosing with pH based control.

Verder's peristaltic pumps are well suited to handling lime and similar chemical slurries.



Summary

Our chemical dosing systems (Copperas Dual Chemical Saturator, Package Dosing Plant, Site-Specific Installations) are all specified, designed, manufactured, installed, commissioned and supported by teams of expert engineers.

They are fully automatic, effective and reliable. Verder's peristaltic pumps provide robust and precise dosing.

The systems can also offer long-term savings associated with copperas crystal (copperas 20% iron liquid chemical 10-14% iron) and enable the site owner to select the most economic chemical on the market.

We offer a complete service from process design to site commissioning and support. This includes detailed 3-D CAD drawings which are issued for discussion and approval at an early stage.

Site-specific Dosing Systems

We design and install systems to meet specific physical, operational or performance needs.

These comprise steel or plastic tanks in a concrete bund with a GRP kiosk for pumps and dose control panel. We have installed for 1) DOE (NI) - Dungannon, Banbridge, Portadown and Craigavon 2) AW - Fakenham & Dereham 3) SWW - Barnstaple, Pottington & Velator 4) UU - Windermere, Hawkshead & Ambleside 5) Thames - Ashford & Alton 6) Severn Trent - Tenbury Wells (magnesium hydroxide).

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