

Wallace & Tiernan® Feed Systems

JETPAK

Powdered activated carbon dosing system

The Wallace & Tiernan® JETPAK dosing system is used for the preparation and metering of powdered activated carbon slurries. Through the use of powdered activated carbon, harmful chlorine compounds, and actually and colloiddally dissolved organic contaminants are removed from pool water, potable water and sewage water. Harmful chlorine compounds, mainly trihalomethanes (THM), chloramines (combined chlorine) and some other halogen compounds (AOX) which can be adsorbed by activated carbon constitute a potential health risk.

General

DIN 19643 (Treatment of Swimming Pool Water) sets the maximum limit values in pool water at 0.2 mg/l for combined chlorine (chloramines) and 0.02 mg/l (20 µg/l) for trihalomethanes. Using powdered activated carbon, these by-products of chlorination are considerably reduced, and as a result the required DIN values are always reached or exceeded. In pool water treatment, powdered activated carbon and flocculants are combined to reduce other load parameters such as the oxidability of water.

JETPAK powdered activated carbon systems may be used for all types of water, including fresh water, sea water, brine and mineral water, in both large and small pools (therapeutic and hospital pools, in clubs, schools and hotels). In order to prevent bacterial growth in the slurry and to avoid deposits of incrustations in the tank caused by precipitated hardness, the pH value of the slurry is lowered below pH 2 by using acidified activated carbon.

The use of powdered activated carbon requires a standardized one-layer filter having a sand particle size of 0.71 to 1.25 mm or a multi-layer filter where the lower layer also has a sand particle size of 0.71 to 1.25 mm. The filter speed should be 30 m/h, the flushing speed 60 m/h.

Benefits:

- Ensures observance of the limit values for chloramines and trihalomethanes in pool water
- Makes your pool more attractive by non-odorous hall air
- One only preparation system for up to three points of application
- Suits all pool filter types
- Clean re-filling possible
- Automatic calculation of duration of injection per point of application
- Feed rate for every point of application individually programmable
- Programmable weekly dosage control
- Status-governed maintenance display



Product Sheet

Theory of operation

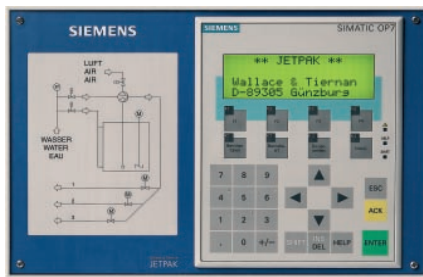
The JETPAK preparation and dosing system for powdered activated carbon slurries consists of a level controlled batching and holding tank, an electric mixer, a water-operated injector combined with electrically operated diaphragm valves and an integral clear text control desk. The system uses humidified and acidified powdered activated carbon which ensures dustfree handling of the carbon. A low-wear injector enables to transfer the slurry to one, two or three points of application. A SIMATIC® S7-200 PLC controller combined with the solenoid and diaphragm valves assigned to the individual points of application provides for automatic sequential feed management.

A simple and clear menu allows the operator to control the flow rate (m³/h), feed rate of activated carbon (g/m³) and strength (g/l) of the powdered activated carbon slurry prepared. From these parameters the duration of injection is automatically computed for every point of application.

This JETPAK control system was specifically developed for feeding powdered activated carbon in swimming pools and includes special safety functions. For example, the injector and feed lines are automatically flushed at regular intervals. Another feature is the automatic protection against an accidental backflow to the slurry tank by defective check valves. The control system also includes a detailed and code-protected service menu for programming and optimizing all parameters.

Note

Feeding of powdered activated carbon always takes place together with flocculation. Dosage of powdered activated carbon slurry should be arranged approx. 10 cm upstream of the flocculant injection.



Multi-function operating panel

Feed system

Dimensions (W x D x H):

1.05 x 0.85 x 1.5 m

Space requirement:

1.5 m x 1.5 m

Weight:

Empty weight approx. 56 kg

Operating weight approx. 460 kg

Useful capacity:

approx. 300 l

Slurry strength:

20, 30 or 40 g/l

Operating water:

Fresh water or potable water

Operating water supply pressure:

min. 6 bar

Operating water quantity:

min. 700 l/h

Enclosure:

IP 54

Power supply:

1/N/PE, 230 V AC, 50 Hz

Fuse 16 A

Length of dosing line:

max. 25 m

Back pressure:

max. 1.5 bar at the injection point

Control

PLC:

SIMATIC® S7-200/CPU 224

Operating panel:

SIMATIC® OP7 with clear and code-protected service menu

Remote diagnosis:

Optionally via external modem

Level control:

Ultrasonic probe with frequency output

Unpowered inputs:

External release for every point of injection

Unpowered Outputs:

Filling demand/Tank MIN,

Release of external booster pump

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