Our powdered activated carbon dosing plant is a system for conveying a precisely definable quantity of powdered activated carbon to the desired place.

**AREAS OF USE**

1.1 Powdered activated carbon (PAC) is used to eliminate micropollutants in wastewater cleaning and drinking water treatment processes. Harmful substances dissolved in the water (e.g. residues of drugs) are adsorbed. Another area of application is the injection of PAC into the flue gas flow of power plants or waste-to-energy plants. Dioxines, furans and notably heavy metals will be adsorbed by the PAC. The removal of mercury is one of the topics of the global environmental policy.

**PROCEDURE**

1.2 The powdered activated carbon is transported into the dosing unit from the storage unit (silo or big bags) by means of a cellular wheel sluice. The dosing is then done by gravimetric weighing and the PAC is transported into a water jet via a wetting cone. The thereby produced suspension can be used by the customer at a desired dosing point.
PLANT DESIGN

1.3

Powdered activated carbon has particular properties that need to be considered when configuring and designing the plant. The adsorbent, for instance, is very abrasive, stimulates corrosion and tends to adhesion. In addition, powdered activated carbon is an explosive substance that falls within the scope of the ATEX Directive.

MAIN ELEMENTS OF THE POWDERED ACTIVATED CARBON DOSING PLANT

2.0

The main assemblies are as follows:

- Powdered activated carbon storage
- Dosing unit
- Wetting system
- Control

STORAGE

2.1

The powdered activated carbon can be stored in a silo or in big bags. The type of storage that is selected depends on the amount consumed and the customer's desired buffer.
DOSSING UNIT

2.2

The dosing unit comprises a differential proportioning weigher system (weighed storage container) and a fine dosing screw. The storage container is filled automatically by means of a cellular wheel sluice. This means that a very high dosing accuracy can be achieved even for minimum amounts of activated carbon.

THE DOSING UNIT ENABLES THE REQUIRED QUANTITY OF PAC TO BE SET PRECISELY. THIS OFTEN ALLOWS TO REDUCE THE NEEDED AMOUNT OF PAC.

WETTING SYSTEM

2.3

The wetting system comprises a wetting cone and a water jet pump. The dosing unit delivers the powdered activated carbon into suspension. The addition of water provided through a bypass from the water pipe brings the powdered activated carbon into suspension. The water jet pump then transports the produced suspension to the desired dosing point.

THE WETTING SYSTEM HAS A SIMPLE DESIGN, MAKING IT VERY MAINTENANCE-FRIENDLY.

CONTROL

2.4

The control system ensures continuous automatic dosing control and regulation and can be included into an existing process control system.
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