



Plant Technology

The standardized AK-DOS® range Storage & Dosing System for Powdered Activated Carbon

Eliminates micropollutants from conventionally treated wastewater



WWTP Steinhäule



WWTP Dülmen



Water Treatment Plant Berlin



AK-DOS® Leasing Systems



The fourth treatment stage

Directive 2013/39/EU

In 2015 EU-wide regulations for discharge limits of micropollutants had been drastically tightened. Many of these human and ecotoxicological relevant substances are insufficiently eliminated by existing plant technologies hence entering our waters. With AK-DOS® micropollutants are bound tightly to powder activated carbon and are eliminated from our waters safely, reliably and for good. Compliance with the new regulations is achieved.

AK-DOS®
works
reliably at
highest levels
of availability

Our first AK-DOS® storage and dosing system was successfully commissioned in October 2011 at the WWTP Association Böblingen-Sindelfingen. It worked straightaway and has been operating reliably and at highest levels of availability ever since. Based on the extremely good results achieved and on the proven technology we have designed new series for small to large wastewater treatment plants.

Dosing of various
powder activated
carbon qualities

Powder activated carbon of various qualities from different suppliers can be dosed and stored with AK-DOS®.

AK-DOS® is highly
cost efficient
due to accurate PAC
dosing at all inflow
conditions

The cost-benefit-record impresses by numerous expense reducing features, including a space saving small footprint. AK-DOS® doses „as much as necessary, but as little as possible“, thereby reducing costs for PAC and interruptions for refilling the silo. Maintenance is limited to only a few hours per month. In contrast to other methods PAC is non-toxic, breakdown products requiring additional filtering do not occur and costly energy intensive provisions are not required.

AK-DOS® is safe
ensured by a com-
prehensive safety
concept and docu-
mentation package

Proven technology and safe guarding systems are prerequisite for highest levels of availability. The safety concept of AK-DOS® includes, redundant dosing units, a system effectively retaining the fluidised state of the powder activated carbon as well as an alarm and extinguishing system for smouldering fires. Fully documented ex-protective measures and the CE marking are key to successfully gain approval of operation.

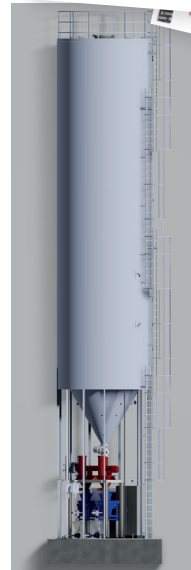
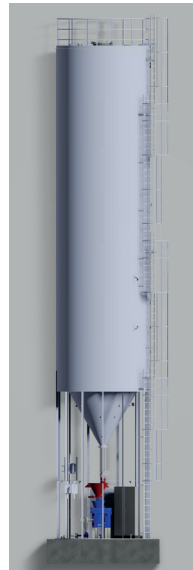
AK-DOS® systems
are in operation in ...

Albstadt-Ebingen, Lautlingen, Lahr, Dülmen, Sindelfingen, Steinhäule, Mannheim, Berlin, as well as multiple leasing units for tests in Germany and the Netherlands.

The AK-DOS® range

PAC Storage and Dosing Systems

AK-DOS® systems do what they are supposed to do: reliably eliminate micropollutants at highest levels of availability. Our AK-DOS® range is the logical continuation of the, since October 2011, proven in practice concept. The use of the most reliable components, a coherent safety concept and extremely good results at all inflows makes AK-DOS® the solution of your choice.



Type	AK-DOS® 1/1.1 Leasing systems/ smaller WWTPs	AK-DOS® 4/1.1 Leasing systems/ smaller WWTPs	AK-DOS® 100/80 Lahr / Dülmen	AK-DOS® 200/125 Sindelfingen	AK-DOS® 400/300 Ulm
PAC dosing					
Dosing range	0.1 to 1 kg/h	0.4 to 20 kg/h	10 to 100 kg/h	10 to 200 kg/h	10 to 400 kg/h
Dosing accuracy	< 1%	< 1%	< 1%	< 1%	< 1%
No. of dosing lanes	1	1	1	2	4
Dosing redundancy	on request	on request	standard	standard	standard
No. of scales	1	1	1	2	4
Hybrid scale	- tare weight via mech. spring system - mechanical overload protection	- tare weight via mech. spring system - mechanical overload protection	- oil damping system - tare weight via mech. spring system - mechanical overload protection	- feeding bin - oil damping system - tare weight via mech. spring system - mechanical overload protection	- feeding bin - oil damping system - tare weight via mech. spring system - mechanical overload protection
Installation					
PAC storage containers	including container exchanger	including container exchanger	silos Ø 3.3 m	silos Ø 3.8 m	silos Ø 3.8 m
Footprint	7.35 m²	7.35 m²	9.62 m²	12.57 m²	35.77 m²
Overall height	5.8 m	5.8 m	16 m	16 m	20 m
Net PAC volume	1.5 m³	1.5 m³	80 - 102 m³	125 m³	300 m³
PAC type	for all marketable powder activated carbon qualities - e.g Norit SAE Super / Donau Carbon Carbopal AP				
Bulk density, pounded	300 - 600 kg/m³				
Documentation					
CE-marked / Ex-proof certificate / GTÜ testing for the standardized AK-DOS® range					

Remark: We have multiple leasing AK-DOS® systems available for up scaling tests under ambient conditions.



SÜLZLE KOPF GmbH
Stützenstrasse 6
72172 Sulz a. N.
Germany

phone +49 7454 75-280
fax +49 7454 75-224

mail anlagenbau@suelzle-kopf.de
web suelzle-kopf.de

Part of the SÜLZLE Group.