

UGN® - FILTERING MATERIAL

for exhaust air purification and gas desulphurisation



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UMWELTECHNIK

All UGN exhaust air treatment systems are based on the UgnCleanPellets® filtering material. The UgnCleanPellets® are produced at the company head quarters in Gera. We design the amount, type, and if needed, the mixture, of filtering material according to your specific process requirements.

This guarantees

- perfect degree of purification
- long service life
- low operating costs
- top quality
- optimum availability
- maximum flexibility

UgnCleanPellets® Basis

Application

for degradation of pollutants, impurities, and odorous substances

Usage examples

treatment of exhaust air from wastewater and industrial plants

Product description

biologically reactive filtering material
made of cellulose fibres with added minerals

Theory of operation

pollutant breakdown by microorganisms



UgnCleanPellets® C 3.5

Application

for separation of organic compounds and mercaptans

Usage examples

removal of various volatile organic carbon compounds from exhaust air

Product description

biologically-physically reactive filtering material
made of cellulose fibres with added minerals and containing 35 % activated carbon

Theory of operation

physical binding of non- (or hardly) biodegradable exhaust air components followed by degradation of substances that are biologically present



UgnCleanPellets® S 1.0

Application

For separation of sulphuric compounds

Usage examples

treatment of exhaust air from wastewater and industrial plants containing temporary or discontinuous loads or malodorous substances and pollutants

Product description

biologically-chemically reactive filtering material
made of cellulose fibres with added minerals and containing 10 % iron oxide hydrate

Theory of operation

chemical binding, and complete degradation, of malodorous substances and pollutants



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UgnCleanPellets® S 3.5

Application

for separation of compounds with high and very high sulphur content

Usage examples

desulphurisation of

- biogenic fuel gas → including biogas, fermentation gas, landfill gas, pyrolysis gas, sewer gas
- geogenic gas → geothermics, deep drilling, mining
- gas from industrial production processes → exhaust air from production, oil mills, pyrolysis, coking plants, blast furnaces
- energetic gas → including natural gas, accompanying gases of petroleum, lean gas, sour gas, synthesis gas, gas from petrochemical applications



Product description

biologically-chemically reactive filtering material

made of cellulose fibres with added minerals and containing 35 % iron oxide hydrate

Theory of operation

hydrogen sulphide is chemically bound and transformed to elemental sulphur

UgnCleanTubes® S 3.5

Enhancement of UgnCleanPellets® S 3.5 with the following features

- larger external reactive surface (due to hollow cylinder shape)
- faster separation of high concentration sulphur-containing compounds
- significantly improved flow-through behaviour
- reduced energy demand (reduced differential pressure)
- increased desulphurisation reaction speed
- increased take-up capacity and higher filter volume load



The UgnCleanPellets® use the energy contained in the raw, humid biogas for the desulphurisation process.

A REAL ALTERNATIVE TO ACTIVATED CARBON

Benefits at a glance	UgnCleanPellets®	Aktivkohle
Use of the energy contained in the warm and humid biogas	+++	---
Targeted removal of H ₂ S	+++	---
No corrosion inside the digester and downstream plant components	+++	---
Proper removal of H ₂ S from the digester	+++	---

Therefore, the gas does not require prior drying. This makes our UgnCleanPellets® a price-competitive and efficient alternative for gas treatment by means of activated carbon.

UgnCleanPellets® can also be added to an existing gas treatment system (e.g., desulphurisation using activated carbon or iron chloride) to cut down on running costs.

We are happy to evaluate the potential for changing to our filtering material in your specific case.