



### Activated carbon filters

**Type: Junior, Eco, Basis, Maxi**

The 3-chamber-filter is designed for the fine desulfurization in biogas plants.

This system filters very safely the sulphureous substances and other materials which are harmful to the engines.

Due to that maximal utilization of the activated charcoal, the operating costs will be minimal. Especially with the sulfur-peaks occurring in the biogas, guarantees the filter is full performance. Furthermore, the wear of the engine, the catalyst and the exhaust gas heat exchanger will be minimized !

### Features

- completely stainless steel (1.4571)
- gas inlet,- gas outlet
- inside insulated
- gas heating integrated (optional)
- nominal size DN150 – DN250

### Performance Characteristics

- integrable in every plant concept because of the modular construction
- optional nonstop/maintenance-module makes the small standing time of the engine possible
- quick-change-system of the filters without any contact to the activated charcoal
- long durability due to the high quality stainless steel construction
- minimal operating costs because of the optimal utilization of activated carbon with maximal safety against breakthrough of H S and sulfur peaks at
- Pressure stable, even at high temperatur-es up to + /- 200 mbar
- standard thermally insulated

### Advantages

- maximum loading of any activated carbon
- fast and secure exchange of carbon
- filter replacement without system downtime
- fast and easy installation

### Technical Data

- maximum pressure up to -30 to +50 mbar (standard version)
- maximum pressure up to -200 to +200 mbar (special version)
- maximum temperature 50 °C

Filter	Non-Stopp	Junior	Eco	Basis	Maxi
Height (mm) approx.	2.800	2.800	3.800	3.800	3.800
Width (mm) approx.	760	760	913	1.400	1.700
Depth (mm) approx.	760	760	913	1.400	1.700
Volume (m <sup>3</sup> ) approx.	0,86	0,63	1,47	3,40	6,00
Weight (kg) (without coal) about	220	230	335	580	775
Capacity (kg) (standard coal) about	1x 250	3x 120	3x 240	3x500	3x 1.000
Flow rate max (Nm <sup>3</sup> /h) about	250	200	400	750	2.000
Flanges (all PN 10)	DN 150	DN 150	DN 150/200	DN 200	DN 250

max. H<sub>2</sub>S concentration:

Input side: 300 ppm  
 (Short-term peaks possible, but note:  
 this results in reduced filter life time)

Oxygen content of biogas 0.2 – 0.4 Vol%

Ball valves 2" for gas and oxygen depletion

H<sub>2</sub>S in the effluent of the activated carbon filter: <1 ppm

### Calculation:

Gas composition approximately 55 % (CH<sub>4</sub>)  
 approximately 45 % (CO<sub>2</sub>)  
 Gas temperature min. 25°C  
 at 60% relative humidity  
 Upstream desulfurization < 300 ppm  
 short-term peaks up to 1100 ppm