

## Bicarbox

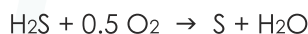
### Structure:

SRP - sulfur removal plant is made as a vertical filters with pelletized material, biogas conditioning and oxygen continuous bed regeneration. Reactors are produced as a stainless steel structure.

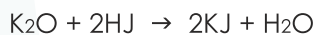
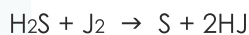
### Process:

Biogas containing H<sub>2</sub>S is fed into filters. Desulfurizing material produced as mixture of activated carbons and additives which mainly increasing H<sub>2</sub>S sorption capacity. H<sub>2</sub>S is fixed on the active surface of bed. Thanks to air regeneration, hydrogen sulfide is oxidized to the elemental sulfur by surface catalytic oxidation. During desulfurization using this method siloxanes and mercaptanes are also removed with high efficiency.

The following chemical reaction equation describe this process:



as well as catalytic equations:



This method required relative humidity < 50%, that why very often Bicarbox S is blocked with Draxel - biogas drying system produced by SiGa-Tech.

Reactions with mercaptane group:



- dry process on fixed bed filters;
- chemisorbtion and surface adsorption;
- continuous regeneration with oxygen;
- potassium iodide impregnated material;
- non-hazardous materials and wastes;
- H<sub>2</sub>S concentration < 600ppm;
- biogas flow up to 2000m<sup>3</sup>/h;
- min. bed life time 180d.



Bicarbox S filters blocked with Draxel (biogas SiGa-Tech drying system).

### Basic equipment:

#### Filters:

- insulated reactor with process pipelines, access manholes, Ex motor and manually operated butterfly valves, air distribution system.

#### Container:

- air supply system, temp. and O<sub>2</sub> conc. measurement, local PLC unit, electrical switch box, Ex. heater.

### Options:

- inlet/ outlet pressure monitoring system;
- inlet/ outlet H<sub>2</sub>S measurement system;
- frost protection.

More options are available on request