

# Systems of flue gases dedusting

## Technical description:

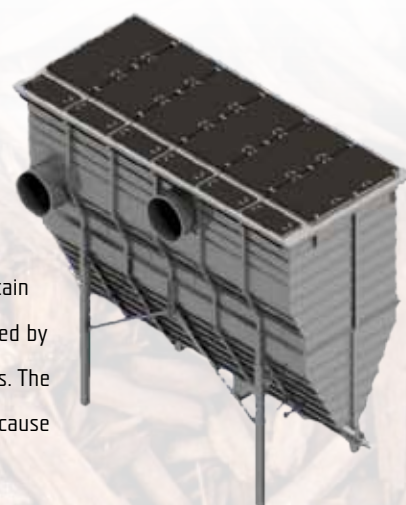
From the biomass boiler the flue gases are exhausted by a steel pipe provided with insulation through the multicyklon using a flue fan. In multicyklonu it comes to the initial stage of separation of fly ash, the concentration of solids will be reduced to a value of about  $250 \text{ mg/m}^3$ . The second degree of separation of solids from the flue gases is done in the bag filter or electrofilter for the concentration of solids less than  $20 \text{ mg/m}^3$ . (in case of 11% excess  $\text{O}_2$ )

## BAG FILTER

### For the separation of solids from the flue gases of boilers for combustion of straw.

Principle:

The flue gases are passed through to the lower chamber provided with a throat. From the ceiling of the chamber are fabric hoses attached to the wire supporting basket. The flue gases using a fan filter are sucked through the fabric hoses, the fly ash adheres on the outer surface of the hoses. During a certain contamination of the surface of the hoses are regenerated by using compressed air – the hose is shaken by the pulse of compressed air, ash fly falls from the hoses into the throat and is taken away to the ash ways. The allowed range of flue gases temperature is  $100\div 150^\circ\text{C}$ . The ash way is equipped with a bypass flap because of raids and emergency conditions.



## ELECTROSTATIC PRECIPITATOR

### For the separation of concentration of solids from the flue gases of boilers for combustion of wood biomass.

Principle:

The flue gases enter to the electrofilter by the system of partition walls. The separation of the dust particles occurs by passage of flue gases through a system of high voltage electrodes and settling electrodes (plates). By applying a negative high voltage of  $30\div 100 \text{ kV}$  is formed between the high voltage electrodes and the grounded collection plates strong electric field, the dust particles contained in the passing flue gases acquire a negative charge and are attracted to positively charged collection plates. The dust particles released during their cleaning by mechanical rapping slip into the throat of electrofilter, which is provided with a screw conveyor and a rotary feeder for smooth bringing out of separated particles of dust.

The box of the part of electrofilter is provided with a massive insulation, in order to avoid local cooling of the flue gases, and subsequent condensation of water vapour or acids. The throat is electrically heated, the separated fly ash is taken into the ash container.

