Typical Particulate Matter (PM) Emission Levels from Biomass-fuelled Combustors[2]

[2] *Combustors with 60% to 70% of the stochiometric air supply as primary air supply*

boiler output	*secondary filtering technology*	*pellets (8% m.c)*	*chips (35% m.c)*	*bark/hogfuel (50% m.c.)*
> 100 kW	none	50 mg/sm³ to 120 mg/sm³	200 mg/sm³ to 300 mg/sm³	n/a
> 100 kW	cyclone	30 mg/sm³ to 70 mg/sm³	100 mg/sm³ to 150 mg/sm³	n/a
> 500 kW	cyclone	30 mg/sm³ to 70 mg/sm³	100 mg/sm³ to 150 mg/sm³	150 mg/sm³ to 250 mg/sm³
> 500 kW	cyclone & baghouse	10 mg/sm³ to 20 mg/sm³	20 mg/sm³ to 70 mg/sm³	n/a
> 500 kW	cyclone & baghouse (SS bags*)	15 mg/sm³ to 30 mg/sm³	30 mg/sm³ to 70 mg/sm³	50 mg/sm³ to 100 mg/sm³
> 1,000 kW	multicyclone	30 mg/sm³ to 70 mg/sm³	70 mg/sm³ to 120 mg/sm³	120 mg/sm³ to 250 mg/sm³
> 1,000 kW	multicyclone & baghouse	10 mg/sm³ to 20 mg/sm³	20 mg/sm³ to 50 mg/sm³	n/a
> 1,000 kW	cyclone & baghouse (SS bags)	10 mg/sm³ to 20 mg/sm³	20 mg/sm³ to 50 mg/sm³	30 mg/sm³ to 70 mg/sm³
> 13,000 kW	multicyclone	30 mg/sm³ to 70 mg/sm³	70 mg/sm³ to 120 mg/sm³	120 mg/sm³ to 250 mg/sm³
> 13,000 kW	multicyclone & baghouse	10 mg/sm³ to 20 mg/sm³	20 mg/sm³ to 50 mg/sm³	n/a
> 13,000 kW	multicyclone & 2-stage ESP	15 mg/sm³ to 20 mg/sm³	20 mg/sm³ to 50 mg/sm³	30 mg/sm³ to 50 mg/sm³

* *SS bags: stainless steel media*

Note : close-coupled heat gasifiers featuring substochiometric primary air supply typically result in lower PM levels. This may be due to lower air velocities and less carryover of filterable particles from the combustion chambers into the exhaust