

Figures

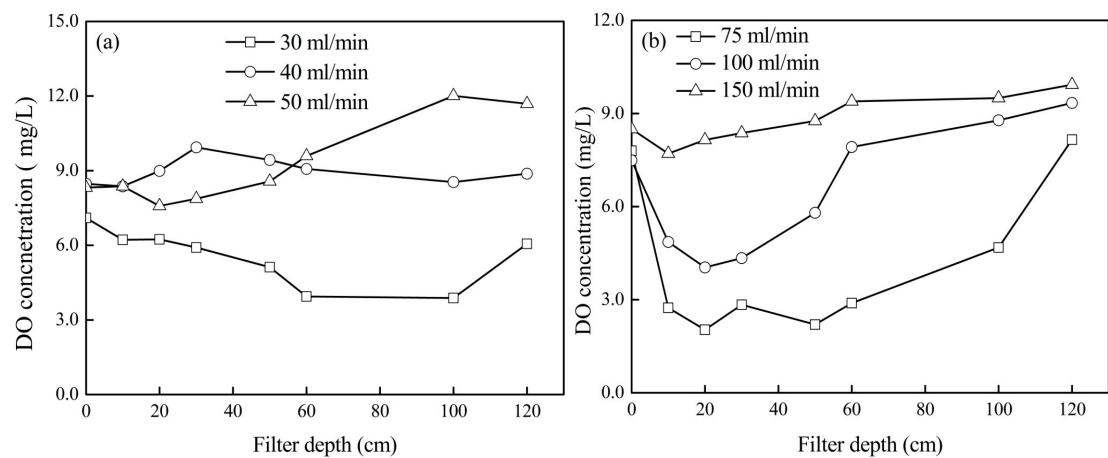


Fig.S1 Dissolved oxygen (DO) concentration depth profiles (aeration from the bottom of the filter bed) with different intensities of aeration: (a) Pure oxygen, (b) compressed air.

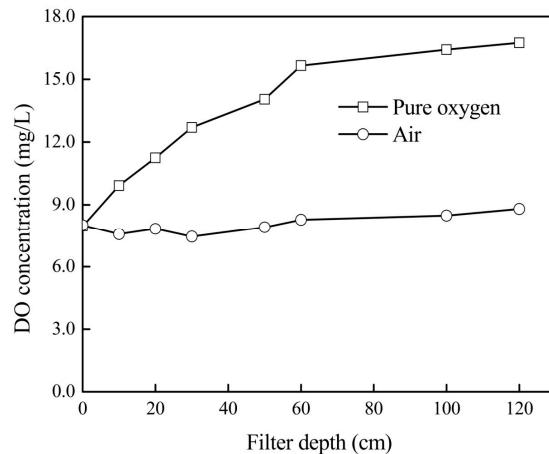


Fig.S2 The DO concentration depth profiles with aeration at 1/3 of the height of filter bed

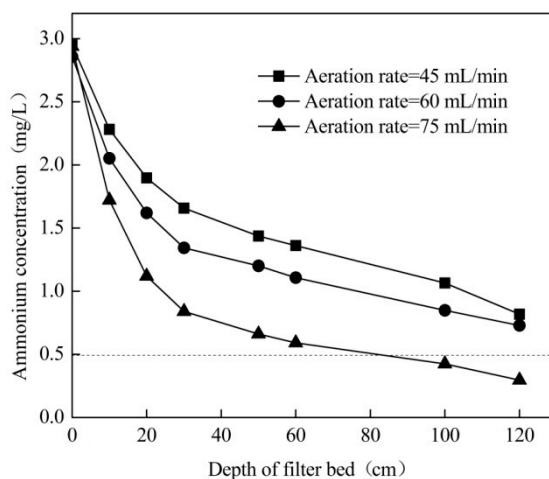


Fig.S3 Ammonium removal efficiency with aeration using ozone

Tables

Table S1 The specific surface area of the MeO_x coated sand.

filter material	Specific surface area (m ² /g)	pore volume (cm ³ /g)	pore diameter (nm)
original	2.902	0.011	14.561
aeration with pure oxygen	2.814	0.010	14.461
aeration with compressed air	2.771	0.010	13.965

Table S2 Concentration of NH₄⁺ and NO₃⁻ in aeration with air, pure oxygen and ozone

	Ammonium (mg/L)		Nitrate (mg/L)		The loss nitrogen(mg/L)
	Influent	Effluent	Influent	Effluent	
Air	3.155	0.323	0.092	2.797	0.127
Pure oxygen	3.055	0.242	0.105	2.876	0.042
Ozone	2.955	0.405	0.122	2.504	0.168