

MEDIUM STREIGHT WASTEWATER	BioCAST DESIGN							
Wastewater flow rate (m ³ /day)	20	50	100	500	1000	1500	2000	5000
Height of reactors (m)	6.1	8	10.2	16.5	19.8	23.2	25.3	34
Surface area of two reactors (m ²)	7.4	13.8	18.2	45	71	88	97	192
Volume of reactor I (m ³)	29	68	119	494	954	1402	1768	4537
External diameter of reactor I (m)	2.6	3.5	4.1	6.5	8.3	9.3	10	13.9
Weight of liquid in reactor I (kg)	29000	68000	119000	494000	954000	1401000	1768000	4537000
Volume of reactor II (m ³)	11	32	49	176	317	448	535	1363
External diameter of reactor II (m)	1.6	2.3	2.5	3.8	4.6	5	5.3	7.3
Weight of liquid in reactor II (kg)	11000	32000	49000	176000	317000	448000	535000	1363000
Overall volume of reactors (m ³)	40	100	168	670	1271	1850	2303	5900
Dry sludge production (kg /day)	3.7	9.3	18.6	93	186	279	372	930
Actual oxygen requirement (Kg /day)	27	67	134	667	1335	2002	2670	6672

Design conditions:

BOD₅ = 1000 mg/L; Total nitrogen = 120 mg/L

Operating temperature = 22 °C

Height of reactors is limited to <25 metres