

Calculation of Oxygen Capacity Diffused Aeration (Coarse or Fine Bubble)

at _____ day MCRT

Required Input Data

- (1) Oxygen Required, O_{2REQ} _____ lb/day
- (2) Oxygen transfer Efficiency, OTE _____ %

Assumptions

- (3) Specific Weight of Air = 0.075 lb/ft³
- (4) Oxygen Content of Air = 20% (by weight)
- (5) Blower Capacity = 20 scfm/Hp (at 12 ft water depth)

Determine Air Required

(6) Air =
$$\frac{(O_{2REQ})}{(OTE/100)(0.015 \text{ lb } O_2/\text{cf air})(1440 \text{ min/day})}$$

(7) Air =
$$\frac{(\text{_____})}{(\text{_____}/100)(0.015 \text{ lb } O_2/\text{cf air})(1440 \text{ min/day})}$$

Air = _____ cfm

Determine Blower Horsepower

(8) Blower Hp = $\frac{\text{(Air)}}{(20 \text{ scfm/Hp})}$

(9) Blower Hp = $\frac{\text{(_____)}}{(20 \text{ scfm/Hp})}$  Enter from line (7)

Blower Hp = _____ Hp