

modified Velz as per Wood Drury Middleton

BOD5in	1600 mg/L	theta	1.035	Efluente Industrial
R	5.67	T °C	12	
k20	0.0015	gpm/sq.ft	0.11	Ejemplo Pretratamiento Biológico
As	31	n	0.5	
Depth	6 m			
	19.7 feet			

$k_{20} \cdot A_s \cdot D \cdot (\theta^{(T-20)}) = 0.694953$
 $[Q_i \cdot (R+1)]^n = 0.8511872$

exponent 0.816451121

BODout 170 mg/L percent removal = 89.4 %

flow	2880 m3/day			lbBOD/day per 1,000 cu.ft.	SI units	kgBOD/day per m3	kgBOD/day per m2
flow	0.761 mgd	=	528.4 U.S. gpm	105.9		1.70	10.2
diameter	24.0 m						
	78.7 feet	area =	4864.5 sq.ft.		SI units		
		gpm/sq.ft.	0.11	actual =	0.72 gpm/sq.ft.	42.5 m/day	1.8 m/h

media volume V = 95733.7 cu.ft. 2710.9 m3

R = Qr/Q

related unit processes		m/h			req. torque
primary clarifier at	600 gpd/sq.ft	1.0	40.2 feet dia.	12.3 m dia.	4037 ft.lb
secondary clarifier at	600 gpd/sq.ft.	1.0	40.2 feet dia.	12.3 m dia.	2422 ft. lb