FlocSizer

design flow Q =	75700	m3/day	20.00 mgd	Cd =	1.8	flat blades	
detention time t =	30	min		density =	999.3	kg/m3	
water temperature	10	°Celsius		k =	0.25		0.25 w/o stators
				μ =	1.362		0 - 0.15 w/stators

total V 1577.083 m3

three stage arrangement -> ***525.69 m3 per stage***

stage depth = 3.8 m

stage width = 3.8 m

stage length = 36.41 m stage cross section = 138.34 m2

slat area / cross section ratio 0.17 anywhere between 0.15 and 0.20 -> total slat area = 23.52 m2

slat width estimate is as follows:

idealized continuous slat length= 32.76 m

idealized continuous slat width = 0.18 m

wheel diameter = stage depth - 0.20m from surface - 0.20m from bottom = 3.4 m 11.15 feet

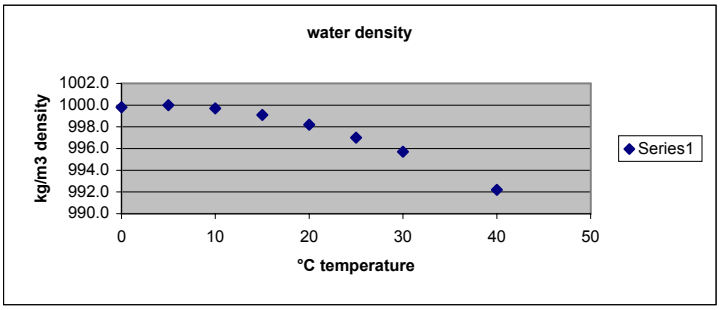
wheel radius = 1.7 m

Roa =	wheel radius	1.70 m	outmost (tip) slat
Ria =	wheel radius - W	1.52 m	
Rob =	wheel radius*0.5	0.85 m	mid-radius slat
Rib =	wheel radius*0.5-W	0.67 m	

	μ*10^3	V	G	stage W	**stage HP**	**N**	tip speed
first stage	1.362	525.69	45	1449.5	**1.94**	**3.93 rpm**	2.30 fps
second stage	1.362	525.69	20	286.3	**0.38**	**2.29 rpm**	1.34 fps
third stage	1.362	525.69	10	71.6	**0.10**	**1.44 rpm**	0.84 fps

water density

°C	density
0	999.8
5	1000.0
10	999.7
15	999.1
20	998.2
25	997.0
30	995.7
40	992.2



absolute or dynamic viscosity * 10^3 (N * s / m2)

°C	μ * 10^3
0	1.781
5	1.518
10	1.307
15	1.139
20	1.002
25	0.89
30	0.798
40	0.653