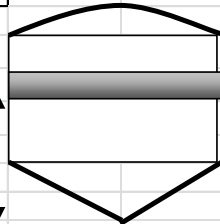


DIGESTER CALCULATIONS				
# of tanks :	1			
Parameter		Unit	Limit	Warning
Digestion period	20.00	d		
Dig Vol.	4,471	m3		
Sludge loading	2.40	kgVS/m3/d	2,4 - 6,41	OK
Digester capacity	3,088	m3		
Volume criteria	0.02	m3/capita	0,02 - 0,04	OK
Population	833,333			
Actual Dig Capacity	16,667	m3		
Dimensions & Geometry				
Parameter	Value	Unit	Limit	Warning
Volume of 1 digester	16,667	m3		
Height	20	m	(27.5m tuzla)	
Area	833.33	m2		
Diameter	32.57	m		
Dactual	33.00	m	(19.25m tuzla)	
Actual area	855	m2		
Side depth	19.49	m		
SELECTED				
			4%	
Diameter	33.00	m	33	
Height	20.00	m	28	
Area:	855	m2		
Total cylindrical volume	17,106	m3		
AREAS				
Side Wall Area, m2=	2073	m2		
% side wall buried:	10%			
Buried sidewall area:	207	m2		
cone floor area	1733	m2		
roof area	3420	m2		
Clearance:	0.60	m		
Scum:	0.60	m		
Height	18.8	m		
Active volume of cylindrical	16,080	m3		
Cone Volume:	285.1	m3		
Cone slope:	0.33			
Cone Depth:	5.5	m		
Grit Collection Depth	2	m		
Grit Accumulation Volume:	37.70	m3		
<b>Active Digester Volume</b>	<b>16,327</b>	m3		
Tot Inactive Volume:	1153.71	m3		
<b>Total Activ+Inactiv Vol:</b>	<b>17,481</b>	m3		
<b>% Active Volume:</b>	<b>93.4%</b>		> 85%, OK !	
Check Loadings				
Digestion period	73.0	day	15 - 25	NOT OK
Ext.low flow digestion	102.3	day	15 - 25	NOT OK
Ext.highflow digestion	56.2	day	15 - 25	NOT OK
Solids loading	0.0	kgVS/m3d	1.6 -4.8	NOT OK



Gas Mixing of Digester	
Gmix:	85 1/sec
Mix Power kW/digester	172.23 kW
Total Mix Power (4+1)	172.23 kW
GAS Flow Rate for Mix	1.55 kg/s
GAS Flow Rate for Mix	5,588 m3/h

Digester Shape			
vertical rise of cover			0.46 m
height of bottom cone			5.50 m
assume only cone part is buried in the ground			

Pressure in Digester	1.03 atm	<40 cm of water
Static Head in Digester	2.4 atm	