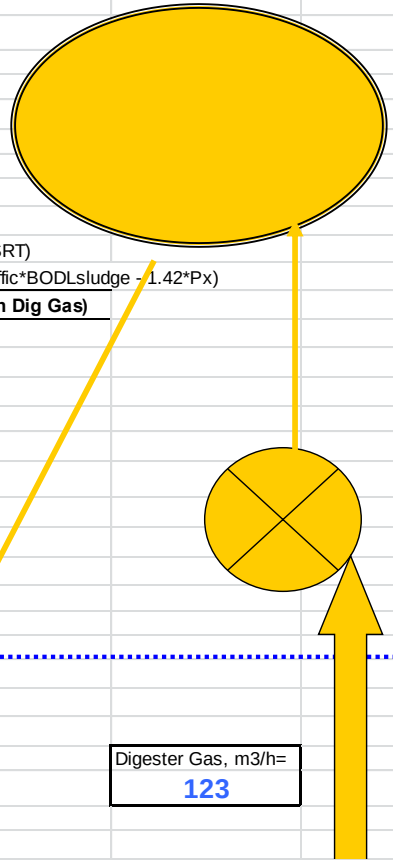
ANAEROBIC DIGESTER

GAS PRODUCTION			
1) GAS PROD BASED ON BOD LOAD	**Value**	**Unit**	
BOD5thickened sludge	3,990	kg/d	
BODLof thickened sludge	5,868		
SRT of Anaerobic Process	20.00	d	
Px (of digestion)	165	kg/d	
Volume of methane	1,766	m3/d	
Digester gas produced (based on BODL)	2,944	m3/d	
2) GAS PROD BASED ON VSS LOAD			
Gas production Rate, m^3/kg VSS load	0.6	(0,5-0,75)	=Y*Effic*BODL/(1+kd*SRT)
Gas Produced	4,446	m^3/day	= (m3CH4/kgBODL)*(Effic*BODLsludge - 1.42*Px)
3) GAS PROD BASED ON VSS DESTROYED			**=Vol CH4/(% CH4 in Dig Gas)**
Gas production Rate, m3/kgVSS destroyed	0.9	(0,75-1,12)	
Gas Produced	3,468	m^3/day	
4) GAS PROD BASED ON CAPITA			
Gas production Rate, m3/capita	0.032	(0,03-0,04)	
Gas produced	26,667	m^3/day	
Selected Digester gas produced	123	m3/h	
Min	2,944	m3/day	
Max	4,446	m3/day	



GAS STORAGE SPHERE		
Total Gas Storage Days:	3	d
Total Gas Stored(at STP; 0oC,1atm)	8831.450597	m3
No of Storage Tanks:	1	
Storage Pressure:	5	atm
Storage temp:	50	oC
Storage Volume	2089.786478	m3
Diameter of Sphere:	15.86234625	m
Selected Diameter:	**45**	m
Calculated Volume of Sphere	**47713.05**	m3

DIGESTER GAS COM PRESSOR		
Gas Produced at STP:	0.034095139	kg/s
Gas Compressed/Gas Productn Rat	1.5	
Gas Compressed	0.051142709	kg/s
High Press Gas Compres Power:	**11.70568016**	kW
	15.63878869	hP

Digester Gas, m3/h=
123

	J/d	**kW**
SensibeHeat req for raw sludge	**22,024,800,000**	254.9