

**LAMPIRAN VI – ANALISIS EFISIENSI BERDASARKAN
KOMPARTEMEN**

IPAL Dokaran										
General spread sheet for baffled septic tank with integrated settler										
daily waste water flow	time of most waste water flow	max peak flow per hour	COD inflow	BOD inflow	COD/BOD ratio	settleable SS/COD ratio	lowest digester temp	desludging interval	HRT in settler (no settler HRT =0)	COD removal rate in settler
m3/day	h	m3/h	mg/L	mg/L	ratio	mg/L	°C	months	h	%
12	8	1.5	153.75	483.87	0.32	0.42	25	12	1.5	23%
treatment data										
BOD removal rate in settler	inflow into baffled reactor		COD/BOD ratio after settler	factors to calculate COD removal rate of baffled reactor			COD rem 25, COD 1500	theor rem rate acc to factors	COD rem rate baffle only	COD out
%	COD (mg/L)	BOD (mg/L)							0.72	
24%	118.3875	365.9	0.32	1	0.95	1	90%	0.84	72%	33.4
dimensions of settler							baffled septic tank			
total COD rem rate	total BOD rem rate	BOD out	inner masonry measurements chosen acc to required volume		sludge accum rate	length of settler	length of settler	max upflow velocity	number of upflow chambers	depth at outlet
78.30%	84.96%	72.79	2.00	1.50	0.004	1.5	1.5	1.8	8	1.5
dimensions of baffled septic tank							status and gp			
length of chambers should not exceed half depth		area of single upflow chamber	width of chambers		actual upflow velocity	width of downflow shaft	actual volume of baffled reactor	actual total HRT	BOD load	biogas
0.75	0.75	0.83	1.11	1.50	1.33	0.25	18	34.29	0.73	0.36

IPAL Grojogan										
General spread sheet for baffled septic tank with integrated settler										
daily waste water flow	time of most waste water flow	max peak flow per hour	COD inflow	BOD inflow	COD/BOD ratio	settleable SS/COD ratio	lowest digester temp	desludging interval	HRT in settler (no settler HRT =0)	COD removal rate in settler
m3/day	h	m3/h	mg/L	mg/L	ratio	mg/L	°C	months	h	%
10.8	8	1.35	352.5	282.26	1.25	0.42	25	12	1.5	23%
treatment data										
BOD removal rate in settler	inflow into baffled reactor		COD/BOD ratio after settler	factors to calculate COD removal rate of baffled reactor			COD rem 25, COD 1500	theor rem rate acc to factors	COD rem rate baffle only	COD out
%	COD (mg/L)	BOD (mg/L)							0.70	
24%	271.425	213.4	1.27	1	0.92	1	90%	0.84	70%	82.6
dimensions of settler								baffled septic tank		
total COD rem rate	total BOD rem rate	BOD out	inner masonry measurements chosen acc to required volume		sludge accum rate	length of settler	length of settler	max upflow velocity	number of upflow chambers	depth at outlet
76.56%	83.06%	47.81	2.00	1.50	0.0042	1.35	1.5	1.8	9	1.5
dimensions of baffled septic tank								status and gp		
length of chambers should not exceed half depth		area of single upflow chamber	width of chambers		actual upflow velocity	width of downflow shaft	actual volume of baffled reactor	actual total HRT	BOD load	biogas
0.75	0.75	0.75	1.00	1.50	1.20	0.25	20.25	42.86	0.34	0.73

IPAL Pamotan Lor										
General spread sheet for baffled septic tank with integrated settler										
daily waste water flow	time of most waste water flow	max peak flow per hour	COD inflow	BOD inflow	COD/BOD ratio	settleable SS/COD ratio	lowest digester temp	desludging interval	HRT in settler (no settler HRT =0)	COD removal rate in settler
m ³ /day	h	m ³ /h	mg/L	mg/L	ratio	mg/L	°C	months	h	%
8.4	8	1.05	410	967.74	0.42	0.42	25	12	1.5	23%
treatment data										
BOD removal rate in settler	inflow into baffled reactor		COD/BOD ratio after settler	factors to calculate COD removal rate of baffled reactor			COD rem 25, COD 1500	theor rem rate acc to factors	COD rem rate baffle only	COD out
%	COD (mg/L)	BOD (mg/L)							0.76	
24%	315.7	731.8	0.43	1	1.00	1	90%	0.84	76%	77.0
dimensions of settler								baffled septic tank		
total COD rem rate	total BOD rem rate	BOD out	inner masonry measurements chosen acc to required volume		sludge accum rate	length of settler	length of settler	max upflow velocity	number of upflow chambers	depth at outlet
81.21%	88.12 %	115.02	2.00	1.50	0.0042	1.5143416	1.5	1.8	5	1.5
dimensions of baffled septic tank								status and gp		
length of chambers should not exceed half depth		area of single upflow chamber	width of chambers		actual upflow velocity	width of downflow shaft	actual volume of baffled reactor	actual total HRT	BOD load	biogas
0.75	0.75	0.58	0.78	1.50	0.93	0.25	11.25	30.61	1.64	0.70

IPAL Nglebeng										
General spread sheet for baffled septic tank with integrated settler										
daily waste water flow	time of most waste water flow	max peak flow per hour	COD inflow	BOD inflow	COD/BOD ratio	settleable SS/COD ratio	lowest digester temp	desludging interval	HRT in settler (no settler HRT =0)	COD removal rate in settler
m ³ /day	h	m ³ /h	mg/L	mg/L	ratio	mg/L	°C	months	h	%
9.6	8	1.2	235	483.87	0.49	0.42	25	12	1.5	23%
treatment data										
BOD removal rate in settler	inflow into baffled reactor		COD/BOD ratio after settler	factors to calculate COD removal rate of baffled reactor			COD rem 25, COD 1500	theor rem rate acc to factors	COD rem rate baffle only	COD out
%	COD (mg/L)	BOD (mg/L)							0.72	
24%	180.95	365.9	0.49	1	0.95	1	90%	0.84	72%	51.0
dimensions of settler								baffled septic tank		
total COD rem rate	total BOD rem rate	BOD out	inner masonry measurements chosen acc to required volume		sludge accum rate	length of settler	length of settler	max upflow velocity	number of upflow chambers	depth at outlet
78.30%	84.96%	72.79	2.00	1.50	0.0042	1.2	1.5	1.8	9	1.5
dimensions of baffled septic tank								status and gp		
length of chambers should not exceed half depth		area of single upflow chamber	width of chambers		actual upflow velocity	width of downflow shaft	actual volume of baffled reactor	actual total HRT	BOD load	biogas
0.75	0.75	0.67	0.89	1.50	1.07	0.25	20.25	48.21	0.52	0.44

IPAL Manding Serut										
General spread sheet for baffled septic tank with integrated settler										
daily waste water flow	time of most waste water flow	max peak flow per hour	COD inflow	BOD inflow	COD/BOD ratio	settleable SS/COD ratio	lowest digester temp	desludging interval	HRT in settler (no settler HRT =0)	COD removal rate in settler
m ³ /day	h	m ³ /h	mg/L	mg/L	ratio	mg/L	°C	months	h	%
9.6	8	1.2	398.75	725.81	0.55	0.42	25	12	1.5	23%
treatment data										
BOD removal rate in settler	inflow into baffled reactor		COD/BOD ratio after settler	factors to calculate COD removal rate of baffled reactor			COD rem 25, COD 1500	theor rem rate acc to factors	COD rem rate baffle only	COD out
%	COD (mg/L)	BOD (mg/L)							0.73	
24%	307.03	548.9	0.56	1	0.97	1	90%	0.84	73%	81.9
dimensions of settler							baffled septic tank			
total COD rem rate	total BOD rem rate	BOD out	inner masonry measurements chosen acc to required volume		sludge accum rate	length of settler	length of settler	max upflow velocity	number of upflow chambers	depth at outlet
79.47 %	86.22 %	100.02	2.00	1.50	0.0042	1.4480129	1.5	1.8	7	1.5
dimensions of baffled septic tank							status and gp			
length of chambers should not exceed half depth	area of single upflow chamber	width of chambers		actual upflow velocity	width of downflow shaft	actual volume of baffled reactor	actual total HRT	BOD load	biogas	
0.75	0.75	0.67	0.89	1.50	1.07	0.25	15.75	37.50	1.00	0.76

IPAL Babadan I										
General spread sheet for baffled septic tank with integrated settler										
daily waste water flow	time of most waste water flow	max peak flow per hour	COD inflow	BOD inflow	COD/BOD ratio	settleable SS/COD ratio	lowest digester temp	desludging interval	HRT in settler (no settler HRT =0)	COD removal rate in settler
m3/day	h	m3/h	mg/L	mg/L	ratio	mg/L	°C	months	h	%
12	8	1.5	397.5	806.45	0.49	0.42	25	12	1.5	23%
treatment data										
BOD removal rate in settler	inflow into baffled reactor		COD/BOD ratio after settler	factors to calculate COD removal rate of baffled reactor			COD rem 25, COD 1500	theor rem rate acc to factors	COD rem rate baffle only	COD out
%	COD (mg/L)	BOD (mg/L)							0.74	
24%	306.07	609.8	0.50	1	0.98	1	90%	0.84	74%	79.3
dimensions of settler								baffled septic tank		
total COD rem rate	total BOD rem rate	BOD out	inner masonry measurements chosen acc to required volume		sludge accum rate	length of settler	length of settler	max upflow velocity	number of upflow chambers	depth at outlet
80.05%	86.85%	106.03	2.00	1.50	0.0042	1.9277876	1.5	1.8	8	1.5
dimensions of baffled septic tank								status and gp		
length of chambers should not exceed half depth		area of single upflow chamber	width of chambers		actual upflow velocity	width of downflow shaft	actual volume of baffled reactor	actual total HRT	BOD load	biogas
0.75	0.75	0.83	1.11	1.50	1.33	0.25	18	34.29	1.22	0.95

IPAL Babadan II										
General spread sheet for baffled septic tank with integrated settler										
daily waste water flow	time of most waste water flow	max peak flow per hour	COD inflow	BOD inflow	COD/BOD ratio	settleable SS/COD ratio	lowest digester temp	desludging interval	HRT in settler (no settler HRT =0)	COD removal rate in settler
m3/day	h	m3/h	mg/L	mg/L	ratio	mg/L	°C	months	h	%
10.8	8	1.35	270	120.97	2.23	0.42	25	12	1.5	23%
treatment data										
BOD removal rate in settler	inflow into baffled reactor		COD/BOD ratio after settler	factors to calculate COD removal rate of baffled reactor			COD rem 25, COD 1500	theor rem rate acc to factors	COD rem rate baffle only	COD out
%	COD (mg/L)	BOD (mg/L)							0.72	
24%	207.9	91.5	2.27	1	0.95	1	90%	0.84	72%	58.6
dimensions of settler								baffled septic tank		
total COD rem rate	total BOD rem rate	BOD out	inner masonry measurements chosen acc to required volume		sludge accum rate	length of settler	length of settler	max upflow velocity	number of upflow chambers	depth at outlet
78.30%	84.96%	18.20	2.00	1.50	0.0042	1.35	1.5	1.8	6	1.5
dimensions of baffled septic tank								status and gp		
length of chambers should not exceed half depth		area of single upflow chamber	width of chambers		actual upflow velocity	width of downflow shaft	actual volume of baffled reactor	actual total HRT	BOD load	biogas
0.75	0.75	0.75	1.00	1.50	1.20	0.25	13.5	28.57	0.22	0.57

IPAL Babadan III										
General spread sheet for baffled septic tank with integrated settler										
daily waste water flow	time of most waste water flow	max peak flow per hour	COD inflow	BOD inflow	COD/BOD ratio	settleable SS/COD ratio	lowest digester temp	desludging interval	HRT in settler (no settler HRT =0)	COD removal rate in settler
m3/day	h	m3/h	mg/L	mg/L	ratio	mg/L	°C	months	h	%
9.6	8	1.2	461.25	161.29	2.86	0.42	25	12	1.5	23%
treatment data										
BOD removal rate in settler	inflow into baffled reactor		COD/BOD ratio after settler	factors to calculate COD removal rate of baffled reactor			COD rem 25, COD 1500	theor rem rate acc to factors	COD rem rate baffle only	COD out
%	COD (mg/L)	BOD (mg/L)							0.72	
24%	355.16	122.0	2.91	1	0.95	1	90%	0.84	72%	100.1
dimensions of settler								baffled septic tank		
total COD rem rate	total BOD rem rate	BOD out	inner masonry measurements chosen acc to required volume		sludge accum rate	length of settler	length of settler	max upflow velocity	number of upflow chambers	depth at outlet
78.30%	84.96%	24.26	2.00	1.50	0.0042	1.2	1.5	1.8	7	1.5
dimensions of baffled septic tank								status and gp		
length of chambers should not exceed half depth		area of single upflow chamber	width of chambers		actual upflow velocity	width of downflow shaft	actual volume of baffled reactor	actual total HRT	BOD load	biogas
0.75	0.75	0.67	0.89	1.50	1.07	0.25	15.75	37.50	0.22	0.87