

Lampiran 2

Data Pengukuran Kecepatan Model Test Bendungan Gongseng



DATA PENGUKURAN KECEPATAN Q_{2th}
ORIGINAL DESIGN

PELIMPAH

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
II		0.13	0.17	0.23	2.42	3.01	4.20	3.21	22.69	0.23	0.03	subkritis
I	10	0.10	0.10	0.13	1.82	1.82	2.42	2.02	14.26	0.14	0.02	subkritis
0	10	1.10	1.00	1.10	19.43	17.68	19.43	18.85	133.26	1.33	0.49	subkritis
1	3	3.30	3.80	3.10	57.52	66.13	54.08	59.24	418.90	4.19	1.14	superkritis
2	3	9.30	9.70	8.80	160.10	166.91	151.60	159.54	1128.08	11.28	3.06	superkritis

SALURAN SAMPING

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
1		8.70	8.70	8.70	149.89	149.89	149.89	149.89	1059.91	10.60	2.87	superkritis
2	41.5	1.70	1.70	1.70	29.87	29.87	29.87	29.87	211.21	2.11	0.46	subkritis
3	42	0.70	0.70	0.70	12.43	12.43	12.43	12.43	87.90	0.88	0.20	subkritis
4	10	1.17	0.87	1.23	20.59	15.35	21.75	19.23	135.99	1.36	0.32	subkritis

SALURAN TRANSISI

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
5	14	1.00	1.03	2.17	17.68	18.26	37.96	24.63	174.20	1.74	0.46	subkritis
6	21.5	1.00	1.13	2.87	17.68	20.01	50.05	29.25	206.82	2.07	0.55	subkritis
7	20	0.87	0.87	2.40	15.35	15.35	41.99	24.23	171.35	1.71	0.45	subkritis
8	20	1.00	0.90	2.93	17.68	15.93	51.20	28.27	199.92	2.00	0.55	subkritis
9	20	0.87	0.90	1.77	15.35	15.93	31.03	20.77	146.87	1.47	0.34	subkritis
10	20	0.50	0.80	2.37	8.92	14.18	41.42	21.51	152.07	1.52	0.36	subkritis
11	15	0.70	1.20	1.50	12.43	21.17	26.39	20.00	141.42	1.41	0.32	subkritis
12	30	0.77	0.70	1.80	13.60	12.43	31.60	19.21	135.85	1.36	0.31	subkritis
13	30	1.20	0.87	2.20	21.17	15.35	38.53	25.02	176.91	1.77	0.42	subkritis
14	17	1.40	0.80	2.13	24.66	14.18	37.38	25.41	179.65	1.80	0.44	subkritis
15	21	0.90	1.13	1.63	15.93	20.01	28.71	21.55	152.40	1.52	0.37	subkritis
16	20	0.90	0.80	1.53	15.93	14.18	26.97	19.03	134.57	1.35	0.33	subkritis
17	20	1.13	0.90	1.83	20.01	15.93	32.18	22.71	160.58	1.61	0.42	subkritis
18	20	0.97	1.00	1.47	17.10	17.68	25.82	20.20	142.83	1.43	0.37	subkritis

SALURAN PELUNCUR

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
19	15	1.87	1.93	2.43	32.76	33.92	42.57	36.42	257.50	2.57	0.69	subkritis
20	14	2.93	3.57	3.13	51.20	62.11	54.65	55.99	395.90	3.96	1.41	superkritis
21	14	5.10	5.70	6.00	88.43	98.71	103.84	96.99	685.84	6.86	2.65	superkritis
22	12	8.50	7.40	9.10	146.49	127.74	156.70	143.64	1015.72	10.16	4.28	superkritis
23	15	7.60	10.70	8.30	131.15	183.90	143.08	152.71	1079.83	10.80	4.28	superkritis
24	21	13.60	14.80	13.50	233.06	253.37	231.37	239.27	1691.89	16.92	7.52	superkritis
25	20	17.50	16.60	17.70	298.99	283.80	302.37	295.05	2086.34	20.86	9.67	superkritis
26	20	17.50	18.10	19.20	298.99	309.12	327.67	311.93	2205.67	22.06	11.37	superkritis
27	20	21.20	19.20	20.30	361.38	327.67	346.22	345.09	2440.14	24.40	12.58	superkritis
28	20	19.20	18.90	19.30	327.67	322.61	329.36	326.55	2309.05	23.09	11.20	superkritis
29	18.5	6.40	7.40	7.60	110.67	127.74	131.15	123.19	871.09	8.71	4.27	superkritis

STILLING BASIN

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
30	20	0.40	0.77	0.70	7.15	13.60	12.43	11.06	78.21	0.78	0.11	subkritis
31	20	0.30	0.57	0.40	5.38	10.09	7.15	7.54	53.32	0.53	0.07	subkritis
32	29	0.40	0.47	0.47	7.15	8.33	8.33	7.94	56.11	0.589	0.08	subkritis

TERMINAL CHANNEL

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
33	60		0.9			15.35		15.35	108.55	1.09	0.214	subkritis
34	60		0.7			13.02		13.02	256.03	2.55	0.187	subkritis
35	60		1.2			21.17		21.17	149.71	1.50	0.311	subkritis
36	20		2.1			36.23		36.23	256.16	2.55	0.640	subkritis

SALURAN PENGARAH HILIR DAN SUNGAI

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
37	30		1.9			32.76		32.76	231.65	2.32	0.562	subkritis
38	30		2.8			48.90		48.90	345.79	3.46	1.073	superkritis

DATA PENGUKURAN KECEPATAN Q_{100th}
ORIGINAL DESIGN

PELIMPAH

No sec	Jarak Sec (cm)	h Pitot _{rerata}			V _{model} (cm/dt)			V _{model rerata} (cm/dt)	V _{prototipe} (cm/dt) (m/dt)		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
II		0.10	0.17	0.17	1.82	3.01	3.01	2.61	18.48	0.18	0.02	subkritis
I	10	0.13	0.13	0.10	2.42	2.42	1.82	2.22	15.67	0.16	0.02	subkritis
0	10	2.60	2.60	2.70	45.45	45.45	47.18	46.03	325.45	3.25	0.87	subkritis
1	3	3.80	3.80	4.00	66.13	66.13	69.56	67.27	475.68	4.76	0.96	subkritis
2	3	4.40	4.60	4.70	76.43	79.86	81.58	79.29	560.67	5.61	1.07	superkritis

SALURAN SAMPING

No sec	Jarak Sec (cm)	h Pitot _{rerata}			V _{model} (cm/dt)			V _{model rerata} (cm/dt)	V _{prototipe} (cm/dt) (m/dt)		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
1												
2	41.5											
3	42											
4	10	2.40	1.90	1.70	41.99	33.34	29.87	35.07	247.96	2.48	0.41	subkritis

SALURAN TRANSISI

No sec	Jarak Sec (cm)	h Pitot _{rerata}			V _{model} (cm/dt)			V _{model rerata} (cm/dt)	V _{prototipe} (cm/dt) (m/dt)		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
5	14	2.20	0.87	2.20	38.53	15.35	38.53	30.81	217.84	2.18	0.33	subkritis
6	21.5	2.00	0.83	1.40	35.07	14.77	24.66	24.83	175.59	1.76	0.29	subkritis
7	20	2.10	1.07	1.60	36.80	18.85	28.13	27.93	197.48	1.97	0.33	subkritis
8	20	2.00	1.53	1.57	35.07	26.97	27.55	29.87	211.19	2.11	0.35	subkritis
9	20	2.00	1.37	1.43	35.07	24.08	25.24	28.13	198.89	1.99	0.33	subkritis
10	20	1.50	1.00	1.50	26.39	17.68	26.39	23.49	166.10	1.66	0.28	subkritis
11	15	1.50	1.10	1.20	26.39	19.43	21.17	22.33	157.91	1.58	0.26	subkritis
12	30	2.27	1.60	1.40	39.69	28.13	24.66	30.83	217.97	2.18	0.37	subkritis
13	30	2.47	1.53	1.70	43.15	26.97	29.87	33.33	235.68	2.36	0.42	subkritis
14	17	2.07	2.30	1.67	36.23	40.26	29.29	35.26	249.33	2.49	0.43	subkritis
15	21	2.03	2.47	1.90	35.65	43.15	33.34	37.38	264.30	2.64	0.46	subkritis
16	20	2.17	2.27	1.77	37.96	39.69	31.03	36.22	256.14	2.56	0.45	subkritis
17	20	2.27	2.63	1.93	39.69	46.03	33.92	39.88	281.97	2.82	0.51	subkritis
18	20	2.53	2.80	2.30	44.30	48.90	40.26	44.49	314.58	3.15	0.59	subkritis

SALURAN PELUNCUR

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
19	15	2.80	3.63	2.97	48.90	63.26	51.78	54.65	386.41	3.86	0.74	subkritis
20	14	4.60	5.30	4.60	79.86	91.86	79.86	83.86	592.99	5.93	1.26	superkritis
21	14	6.80	7.93	7.33	117.51	136.84	126.61	126.98	897.91	8.98	2.11	superkritis
22	12	9.93	10.67	10.17	170.87	183.33	174.84	176.35	1246.95	12.47	3.15	superkritis
23	15	11.53	12.87	11.60	198.04	220.64	199.17	205.95	1456.30	14.56	3.51	superkritis
24	21	16.70	17.55	16.15	285.49	299.84	276.19	287.17	2030.61	20.31	5.76	superkritis
25	20	19.05	19.60	17.95	325.14	334.42	306.59	322.05	2277.24	22.77	6.73	superkritis
26	20	22.00	21.30	22.75	374.85	363.06	387.47	375.13	2652.54	26.53	8.04	superkritis
27	20	26.80	25.60	23.70	455.55	435.39	403.45	431.47	3050.92	30.51	9.25	superkritis
28	20	29.85	28.55	30.20	506.74	484.93	512.61	501.43	3545.62	35.46	11.09	superkritis
29	18.5	29.85	28.55	30.20	506.74	484.93	512.61	501.43	3545.62	35.46	10.56	superkritis

STILLING BASIN

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
30	20											
31	20	0.77	1.07	1.10	13.60	18.85	19.43	17.29	122.27	1.22	0.15	subkritis
32	29	0.83	1.07	1.07	14.77	18.85	18.85	17.49	168.25	1.68	0.15	subkritis

TERMINAL CHANNEL

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
33	60		1.7			29.87		29.87	211.21	2.11	0.214	subkritis
34	60		1.7			29.29		29.29	325.12	3.25	0.587	subkritis
35	60		2.6			46.03		46.03	325.45	3.25	0.311	subkritis
36	20		3.7			64.41		64.41	455.42	3.55	0.640	subkritis

SALURAN PENGARAH HILIR DAN SUNGAI

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
37	30		1.9			32.76		32.76	231.65	2.32	0.562	su
38	30		2.8			48.90		48.90	345.79	3.46	1.073	sup

DATA PENGUKURAN KECEPATAN Q_{2th}
FINAL DESIGN

PELIMPAH

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata}	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
II		0.13	0.17	0.23	2.42	3.01	4.20	3.21	22.69	0.23	0.03	subkritis
I	10	0.10	0.10	0.13	1.82	1.82	2.42	2.02	14.26	0.14	0.02	subkritis
0	10	1.10	1.00	1.10	19.43	17.68	19.43	18.85	133.26	1.33	0.49	subkritis
1	3	3.30	3.80	3.10	57.52	66.13	54.08	59.24	418.90	4.19	1.14	superkritis
2	3	9.30	9.70	8.80	160.10	166.91	151.60	159.54	1128.08	11.28	3.06	superkritis

SALURAN SAMPING

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata}	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
1		8.70	8.70	8.70	149.89	149.89	149.89	149.89	1059.91	10.60	2.87	superkritis
2	41.5	1.70	1.70	1.70	29.87	29.87	29.87	29.87	211.21	2.11	0.46	subkritis
3	42	0.70	0.70	0.70	12.43	12.43	12.43	12.43	87.90	0.88	0.20	subkritis
4	10	1.17	0.87	1.23	20.59	15.35	21.75	19.23	135.99	1.36	0.32	subkritis

SALURAN TRANSISI

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata}	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
5	14	1.00	1.03	2.17	17.68	18.26	37.96	24.63	174.20	1.74	0.46	subkritis
6	21.5	1.00	1.13	2.87	17.68	20.01	50.05	29.25	206.82	2.07	0.55	subkritis
7	20	0.87	0.87	2.40	15.35	15.35	41.99	24.23	171.35	1.71	0.45	subkritis
8	20	1.00	0.90	2.93	17.68	15.93	51.20	28.27	199.92	2.00	0.55	subkritis
9	20	0.87	0.90	1.77	15.35	15.93	31.03	20.77	146.87	1.47	0.34	subkritis
10	20	0.50	0.80	2.37	8.92	14.18	41.42	21.51	152.07	1.52	0.36	subkritis
11	15	0.70	1.20	1.50	12.43	21.17	26.39	20.00	141.42	1.41	0.32	subkritis
12	30	0.77	0.70	1.80	13.60	12.43	31.60	19.21	135.85	1.36	0.31	subkritis
13	30	1.20	0.87	2.20	21.17	15.35	38.53	25.02	176.91	1.77	0.42	subkritis
14	17	1.40	0.80	2.13	24.66	14.18	37.38	25.41	179.65	1.80	0.44	subkritis
15	21	0.90	1.13	1.63	15.93	20.01	28.71	21.55	152.40	1.52	0.37	subkritis
16	20	0.90	0.80	1.53	15.93	14.18	26.97	19.03	134.57	1.35	0.33	subkritis
17	20	1.13	0.90	1.83	20.01	15.93	32.18	22.71	160.58	1.61	0.42	subkritis
18	20	0.97	1.00	1.47	17.10	17.68	25.82	20.20	142.83	1.43	0.37	subkritis

SALURAN PELUNCUR

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata}	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
19	15	1.87	1.93	2.43	32.76	33.92	42.57	36.42	257.50	2.57	0.69	subkritis
20	14	2.93	3.57	3.13	51.20	62.11	54.65	55.99	395.90	3.96	1.41	superkritis
21	14	5.10	5.70	6.00	88.43	98.71	103.84	96.99	685.84	6.86	2.65	superkritis
22	12	8.50	7.40	9.10	146.49	127.74	156.70	143.64	1015.72	10.16	4.28	superkritis
23	15	7.60	10.70	8.30	131.15	183.90	143.08	152.71	1079.83	10.80	4.28	superkritis
24	21	13.60	14.80	13.50	233.06	253.37	231.37	239.27	1691.89	16.92	7.52	superkritis
25	20	17.50	16.60	17.70	298.99	283.80	302.37	295.05	2086.34	20.86	9.67	superkritis
26	20	17.50	18.10	19.20	298.99	309.12	327.67	311.93	2205.67	22.06	11.37	superkritis

27	20	21.20	19.20	20.30	361.38	327.67	346.22	345.09	2440.14	24.40	12.58	superkritis
28	20	19.20	18.90	19.30	327.67	322.61	329.36	326.55	2309.05	23.09	11.20	superkritis
29	18.5	6.40	7.40	7.60	110.67	127.74	131.15	123.19	871.09	8.71	4.27	superkritis

STILLING BASIN

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata}	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
30	20	0.40	0.77	0.70	7.15	13.60	12.43	11.06	78.21	0.78	0.11	subkritis
31	20	0.30	0.57	0.40	5.38	10.09	7.15	7.54	53.32	0.53	0.07	subkritis
32	29	0.40	0.47	0.47	7.15	8.33	8.33	7.94	56.11	0.56	0.08	subkritis

TERMINAL CHANNEL

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata}	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
33	26	0.37	0.87	0.33	6.56	15.35	5.97	9.30	65.73	0.66	0.16	subkritis
34	28	0.30	0.73	0.67	5.38	13.02	11.85	10.08	71.28	0.71	0.18	subkritis
35	40	0.70	1.20	0.70	12.43	21.17	12.43	15.34	108.50	1.09	0.28	subkritis
36	40	0.60	1.97	0.60	10.67	34.49	10.67	18.61	131.62	1.32	0.34	subkritis
37	40	0.60	0.70	0.60	10.67	12.43	10.67	11.26	231.24	2.31	0.95	subkritis
38	40	0.80	0.70	0.80	14.18	12.43	14.18	13.60	96.16	0.96	0.27	subkritis
39	40	1.00	0.90	1.00	17.68	15.93	17.68	17.10	120.91	1.21	0.36	subkritis
40	40	2.30	2.20	2.20	40.26	38.53	38.53	39.11	276.56	2.77	1.00	subkritis

SALURAN PENGARAH HILIR DAN SUNGAI

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata}	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
41	42	2.20	2.10	2.00	38.53	36.80	35.07	36.80	260.24	2.60	0.53	subkritis
42	40	0.70	0.90	1.00	12.43	15.93	17.68	15.35	108.53	1.09	0.22	subkritis
43	40	0.20	0.30	0.30	3.61	5.38	5.38	4.79	33.87	0.34	0.07	subkritis
44	40	0.50	0.60	0.60	8.92	10.67	10.67	10.09	71.33	0.71	0.16	subkritis
45	40	0.80	0.70	0.60	14.18	12.43	10.67	12.43	87.89	0.88	0.20	subkritis
46	40	0.50	0.80	0.70	8.92	14.18	12.43	11.84	83.74	0.84	0.25	subkritis
47	40	0.80	1.20	1.00	14.18	21.17	17.68	17.68	125.01	1.25	0.43	subkritis
48	60	1.00	0.70	0.50	17.68	12.43	8.92	13.01	91.99	0.92	0.49	subkritis
49	48	0.90	0.80	0.60	15.93	14.18	10.67	13.60	96.15	0.96	0.50	subkritis

**DATA PENGUKURAN KECEPATAN Q_{100th}
FINAL DESIGN**

PELIMPAH

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata}	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
II		0.10	0.17	0.17	1.82	3.01	3.01	2.61	18.48	0.18	0.02	subkritis
I	10	0.13	0.13	0.10	2.42	2.42	1.82	2.22	15.67	0.16	0.02	subkritis
0	10	2.60	2.60	2.70	45.45	45.45	47.18	46.03	325.45	3.25	0.87	subkritis
1	3	3.80	3.80	4.00	66.13	66.13	69.56	67.27	475.68	4.76	0.96	subkritis
2	3	4.40	4.60	4.70	76.43	79.86	81.58	79.29	560.67	5.61	1.07	superkritis

SALURAN SAMPING

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototipe		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
1												
2	41.5											
3	42											
4	10	2.40	1.90	1.70	41.99	33.34	29.87	35.07	247.96	2.48	0.41	subkritis

SALURAN TRANSISI

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototipe		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
5	14	2.20	0.87	2.20	38.53	15.35	38.53	30.81	217.84	2.18	0.33	subkritis
6	21.5	2.00	0.83	1.40	35.07	14.77	24.66	24.83	175.59	1.76	0.29	subkritis
7	20	2.10	1.07	1.60	36.80	18.85	28.13	27.93	197.48	1.97	0.33	subkritis
8	20	2.00	1.53	1.57	35.07	26.97	27.55	29.87	211.19	2.11	0.35	subkritis
9	20	2.00	1.37	1.43	35.07	24.08	25.24	28.13	198.89	1.99	0.33	subkritis
10	20	1.50	1.00	1.50	26.39	17.68	26.39	23.49	166.10	1.66	0.28	subkritis
11	15	1.50	1.10	1.20	26.39	19.43	21.17	22.33	157.91	1.58	0.26	subkritis
12	30	2.27	1.60	1.40	39.69	28.13	24.66	30.83	217.97	2.18	0.37	subkritis
13	30	2.47	1.53	1.70	43.15	26.97	29.87	33.33	235.68	2.36	0.42	subkritis
14	17	2.07	2.30	1.67	36.23	40.26	29.29	35.26	249.33	2.49	0.43	subkritis
15	21	2.03	2.47	1.90	35.65	43.15	33.34	37.38	264.30	2.64	0.46	subkritis
16	20	2.17	2.27	1.77	37.96	39.69	31.03	36.22	256.14	2.56	0.45	subkritis
17	20	2.27	2.63	1.93	39.69	46.03	33.92	39.88	281.97	2.82	0.51	subkritis
18	20	2.53	2.80	2.30	44.30	48.90	40.26	44.49	314.58	3.15	0.59	subkritis

SALURAN PELUNCUR

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototipe		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
19	15	2.80	3.63	2.97	48.90	63.26	51.78	54.65	386.41	3.86	0.74	subkritis
20	14	4.60	5.30	4.60	79.86	91.86	79.86	83.86	592.99	5.93	1.26	superkritis
21	14	6.80	7.93	7.33	117.51	136.84	126.61	126.98	897.91	8.98	2.11	superkritis
22	12	9.93	10.67	10.17	170.87	183.33	174.84	176.35	1246.95	12.47	3.15	superkritis
23	15	11.53	12.87	11.60	198.04	220.64	199.17	205.95	1456.30	14.56	3.51	superkritis
24	21	16.70	17.55	16.15	285.49	299.84	276.19	287.17	2030.61	20.31	5.76	superkritis
25	20	19.05	19.60	17.95	325.14	334.42	306.59	322.05	2277.24	22.77	6.73	superkritis
26	20	22.00	21.30	22.75	374.85	363.06	387.47	375.13	2652.54	26.53	8.04	superkritis
27	20	26.80	25.60	23.70	455.55	435.39	403.45	431.47	3050.92	30.51	9.25	superkritis
28	20	29.85	28.55	30.20	506.74	484.93	512.61	501.43	3545.62	35.46	11.09	superkritis
29	18.5	29.85	28.55	30.20	506.74	484.93	512.61	501.43	3545.62	35.46	10.56	superkritis

STILLING BASIN

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototipe		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
30	20											
31	20	0.77	1.07	1.10	13.60	18.85	19.43	17.29	122.27	1.22	0.15	subkritis
32	29	0.83	1.07	1.07	14.77	18.85	18.85	17.49	123.73	1.237	0.16	subkritis

TERMINAL CHANNEL

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
33	26	1.00	1.00	0.97	17.68	17.68	17.10	17.49	123.66	1.24	0.23	subkritis
34	28	1.40	1.73	1.63	24.66	30.45	28.71	27.94	197.55	1.98	0.39	subkritis
35	40	1.20	1.10	1.00	21.17	19.43	17.68	19.43	137.37	1.37	0.26	subkritis
36	40	1.10	1.10	1.00	19.43	19.43	17.68	18.85	133.26	1.33	0.25	subkritis
37	40	1.20	1.20	1.10	21.17	21.17	19.43	20.59	333.25	3.33	0.79	subkritis
38	40	1.80	1.80	1.80	31.60	31.60	31.60	31.60	223.48	2.23	0.45	subkritis
39	40	1.80	1.80	1.70	31.60	31.60	29.87	31.03	219.39	2.19	0.45	subkritis
40	40	2.70	2.70	2.70	47.18	47.18	47.18	47.18	333.59	3.34	0.81	subkritis

SALURAN PENGARAH HILIR DAN SUNGAI

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
41	42	2.80	4.00	3.90	48.90	69.56	67.84	62.10	439.14	4.39	0.82	subkritis
42	40	0.20	0.30	0.30	3.61	5.38	5.38	4.79	33.87	0.34	0.06	subkritis
43	40	0.30	0.30	0.60	5.38	5.38	10.67	7.15	50.53	0.51	0.09	subkritis
44	40	1.20	1.50	0.30	21.17	26.39	5.38	17.65	124.80	1.25	0.24	subkritis
45	40	1.90	1.60	0.80	33.34	28.13	14.18	25.22	178.32	1.78	0.36	subkritis
46	40	1.40	1.40	1.40	24.66	24.66	24.66	24.66	174.34	1.74	0.35	subkritis
47	40	1.40	1.40	1.10	24.66	24.66	19.43	22.91	162.02	1.62	0.32	subkritis
48	60	2.60	2.10	0.90	45.45	36.80	15.93	32.73	231.43	2.31	0.54	subkritis
49	48	1.90	1.70	1.50	33.34	29.87	26.39	29.87	211.20	2.11	0.48	subkritis

**DATA PENGUKURAN KECEPATAN Q_{1000th}
FINAL DESIGN**

PELIMPAH

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
II		0.13	0.13	0.10	2.42	2.42	1.82	2.22	15.67	0.16	0.02	subkritis
I	10	0.10	0.13	0.13	1.82	2.42	2.42	2.22	15.67	0.16	0.02	subkritis
0	10	3.35	3.15	3.75	58.38	54.94	65.27	59.53	420.93	4.21	1.05	superkritis
1	3	4.30	4.20	4.10	74.71	73.00	71.28	73.00	516.17	5.16	1.10	superkritis
2	3	6.20	6.00	6.00	107.26	103.84	103.84	104.98	742.30	7.42	1.14	superkritis

SALURAN SAMPING

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
1		2.27	3.47	2.03	39.69	60.39	35.65	45.24	319.92	3.20	0.52	subkritis
2	41.5	2.70	2.97	1.67	47.18	51.78	29.29	42.75	302.28	3.02	0.45	subkritis
3	42	3.53	4.70	2.80	61.54	81.58	48.90	64.01	452.59	4.53	0.73	subkritis
4	10	2.00	2.67	2.20	35.07	46.60	38.53	40.07	283.33	2.83	0.47	subkritis

SALURAN TRANSISI

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata} (cm/dt)	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan		(cm/dt)	(m/dt)		
5	14	2.47	2.53	3.20	43.15	44.30	55.80	47.75	337.63	3.38	0.51	subkritis
6	21.5	2.87	3.00	2.80	50.05	52.35	48.90	50.44	356.64	3.57	0.60	subkritis
7	20	2.43	2.40	2.40	42.57	41.99	41.99	42.19	298.30	2.98	0.50	subkritis
8	20	2.47	2.43	2.37	43.15	42.57	41.42	42.38	299.66	3.00	0.49	subkritis
9	20	2.43	2.43	2.37	42.57	42.57	41.42	42.19	298.30	2.98	0.50	subkritis
10	20	2.37	2.43	2.43	41.42	42.57	42.57	42.19	298.30	2.98	0.50	subkritis
11	15	2.57	2.30	2.30	44.87	40.26	40.26	41.80	295.58	2.96	0.49	subkritis
12	30	3.13	2.63	2.53	54.65	46.03	44.30	48.32	341.71	3.42	0.58	subkritis
13	30	3.27	2.93	2.87	56.95	51.20	50.05	52.73	372.89	3.73	0.66	subkritis
14	17	2.63	2.70	3.03	46.03	47.18	52.93	48.71	344.43	3.44	0.60	subkritis
15	21	2.60	2.60	2.90	45.45	45.45	50.63	47.18	333.58	3.34	0.58	subkritis
16	20	2.90	2.60	2.90	50.63	45.45	50.63	48.90	345.79	3.46	0.61	subkritis
17	20	3.27	3.10	3.07	56.95	54.08	53.50	54.84	387.79	3.88	0.70	subkritis
18	20	3.37	3.63	3.43	58.67	63.26	59.82	60.58	428.38	4.28	0.80	subkritis

SALURAN PELUNCUR

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata} (cm/dt)	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan		(cm/dt)	(m/dt)		
19	15	4.83	4.53	4.33	83.86	78.72	75.29	79.29	560.67	5.61	1.07	superkritis
20	14	6.73	6.73	6.57	116.37	116.37	113.52	115.42	816.13	8.16	1.74	superkritis
21	14	9.23	9.13	8.90	158.97	157.27	153.30	156.51	1106.71	11.07	2.60	superkritis
22	12	11.50	12.07	11.90	197.47	207.08	204.26	202.94	1435.00	14.35	3.62	superkritis
23	15	13.47	13.97	14.00	230.81	239.27	239.84	236.64	1673.29	16.73	4.04	superkritis
24	21	17.40	15.80	17.27	297.31	270.28	295.05	287.55	2033.26	20.33	5.77	superkritis
25	20	21.07	19.10	20.87	359.13	325.99	355.76	346.96	2453.38	24.53	7.25	superkritis
26	20	23.73	23.00	24.67	404.01	391.68	419.71	405.13	2864.71	28.65	8.69	superkritis
27	20	27.80	25.40	27.70	472.34	432.03	470.66	458.35	3240.99	32.41	9.83	superkritis
28	20	29.23	27.55	29.13	496.40	468.14	494.72	486.42	3439.50	34.40	10.76	superkritis
29	18.5	30.85	27.50	32.35	523.51	467.31	548.65	513.15	3628.55	36.29	10.80	superkritis

STILLING BASIN

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata} (cm/dt)	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan		(cm/dt)	(m/dt)		
30	20											
31	20											
32	29	0.8	1.1	1.1	14.77	18.85	18.85	17.49	124.26	1.24	0.156	Subkritis

TERMINAL CHANNEL

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata}	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
33	26											
34	28	8.10	11.10	4.20	139.68	190.69	73.00	134.45	950.73	9.51	1.89	superkritis
35	40	4.00	7.00	4.50	69.56	120.92	78.15	89.54	633.17	6.33	1.18	superkritis
36	40	5.90	5.50	3.90	102.13	95.28	67.84	88.42	625.21	6.25	1.17	superkritis
37	40	5.50	5.90	3.30	95.28	102.13	57.52	84.98	600.88	6.01	1.16	superkritis
38	40	4.30	4.00	2.80	74.71	69.56	48.90	64.39	455.33	4.55	0.92	subkritis
39	40	3.20	4.20	3.10	55.80	73.00	54.08	60.96	431.04	4.31	0.89	subkritis
40	40	4.60	3.50	4.10	79.86	60.96	71.28	70.70	499.94	5.00	1.21	superkritis

SALURAN PENGARAH HILIR DAN SUNGAI

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata}	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
41	42	4.20	6.10	5.80	73.00	105.55	100.42	92.99	657.52	6.58	1.23	superkritis
42	40	6.00	1.50	3.30	103.84	26.39	57.52	62.58	442.54	4.43	0.79	subkritis
43	40	0.60	1.30	1.30	10.67	22.91	22.91	18.83	133.18	1.33	0.24	subkritis
44	40	1.20	1.00	1.00	21.17	17.68	17.68	18.85	133.26	1.33	0.25	subkritis
45	40	2.10	1.40	1.30	36.80	24.66	22.91	28.12	198.87	1.99	0.40	subkritis
46	40	3.90	3.90	3.80	67.84	67.84	66.13	67.27	475.68	4.76	0.97	subkritis
47	40	4.20	4.20	4.00	73.00	73.00	69.56	71.85	508.08	5.08	1.00	subkritis
48	60	4.40	4.40	4.40	76.43	76.43	76.43	76.43	540.45	5.40	1.25	superkritis
49	48	4.60	4.00	3.40	79.86	69.56	59.24	69.56	491.84	4.92	1.11	superkritis

**DATA PENGUKURAN KECEPATAN Q_{PMF}
FINAL DESIGN**

PELIMPAH

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata}	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
II												
I	10											
0	10	3.33	3.13	2.97	58.10	54.65	51.78	54.84	387.79	3.88	0.78	subkritis
1	3											
2	3											

SALURAN SAMPING

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model rerata}	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
1												
2	41.5											
3	42											
4	10	4.10	4.90	4.40	71.28	85.01	76.43	77.57	548.52	5.49	0.58	subkritis

SALURAN TRANSISI

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
5	14	4.40	4.40	8.17	75.29	76.43	76.43	76.05	537.75	5.38	0.578	subkritis
6	21.5	4.33	4.63	8.23	76.43	75.29	80.43	77.38	547.19	5.47	0.592	subkritis
7	20	4.27	4.27	8.04	73.00	74.14	74.14	73.76	521.57	5.22	0.583	subkritis
8	20	4.50	4.23	8.10	74.14	78.15	73.57	75.29	532.36	5.32	0.605	subkritis
9	20	3.97	4.07	7.80	68.70	68.99	70.71	69.47	491.21	4.91	0.568	subkritis
10	20	3.83	3.33	8.07	73.57	66.70	58.10	66.12	467.55	4.68	0.532	subkritis
11	15	3.87	3.53	8.13	74.71	67.27	61.54	67.84	479.71	4.80	0.545	subkritis
12	30	4.40	3.97	8.70	85.58	76.43	68.99	77.00	544.47	5.44	0.630	subkritis
13	30	5.27	4.63	9.20	95.85	91.29	80.43	89.19	630.69	6.31	0.763	subkritis
14	17	5.67	5.33	9.31	98.14	98.14	92.43	96.23	680.48	6.80	0.838	subkritis
15	21	4.40	4.27	8.29	77.58	76.43	74.14	76.05	537.75	5.38	0.643	subkritis
16	20	4.97	4.60	8.78	87.29	86.15	79.86	84.43	597.04	5.97	0.721	subkritis
17	20	6.00	5.73	9.65	105.55	103.84	99.28	102.89	727.52	7.28	0.926	subkritis
18	20	6.67	6.43	10.08	115.23	115.23	111.24	113.90	805.40	8.05	1.065	superkritis

SALURAN PELUNCUR

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
19	15	8.00	8.00	7.57	137.97	137.97	130.59	135.51	958.20	9.58	1.29	superkritis
20	14	9.13	9.33	9.13	157.27	160.67	157.27	158.40	1120.08	11.20	1.59	superkritis
21	14	11.33	12.30	12.03	194.65	211.04	206.52	204.07	1442.98	14.43	2.15	superkritis
22	12	11.33	12.30	12.03	194.65	211.04	206.52	204.07	1442.98	14.43	2.28	superkritis
23	15	11.33	12.30	12.03	194.65	211.04	206.52	204.07	1442.98	14.43	2.35	superkritis
24	21	11.33	12.30	12.03	194.65	211.04	206.52	204.07	1442.98	14.43	2.52	superkritis
25	20	23.40	22.45	23.10	398.41	382.42	393.36	391.40	2767.58	27.68	4.90	superkritis
26	20	28.27	29.40	30.23	480.17	499.19	513.17	497.51	3517.94	35.18	6.16	superkritis
27	20	34.33	29.80	35.10	581.87	505.90	594.71	560.83	3965.65	39.66	7.71	superkritis
28	20	34.33	29.80	35.10	581.87	505.90	594.71	560.83	3965.65	39.66	7.61	superkritis
29	18.5	34.33	29.80	35.10	581.87	505.90	594.71	560.83	3965.65	39.66	8.08	superkritis

STILLING BASIN

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
30	20											
31	20	17.50	15.00	22.50	298.99	256.75	383.26	313.00	2213.27	22.13	3.96	superkritis
32	29											

TERMINAL CHANNEL

No sec	Jarak Sec (cm)	h Pitot rerata			V _{model} (cm/dt)			V _{model} rerata	Vprototype		Fr	Jenis Aliran
		Kiri	Tengah	Kanan	Kiri	Tengah	Kanan	(cm/dt)	(cm/dt)	(m/dt)		
33	26											
34	28	17.20	18.10	15.30	293.93	309.12	261.83	288.29	2038.53	20.39	3.84	superkritis
35	40											
36	40											
37	40	11.40	10.40	9.90	195.78	178.80	170.31	181.63	1284.30	12.84	1.94	superkritis
38	40											
39	60											
40	48											

