OPENCHANNELFLOW

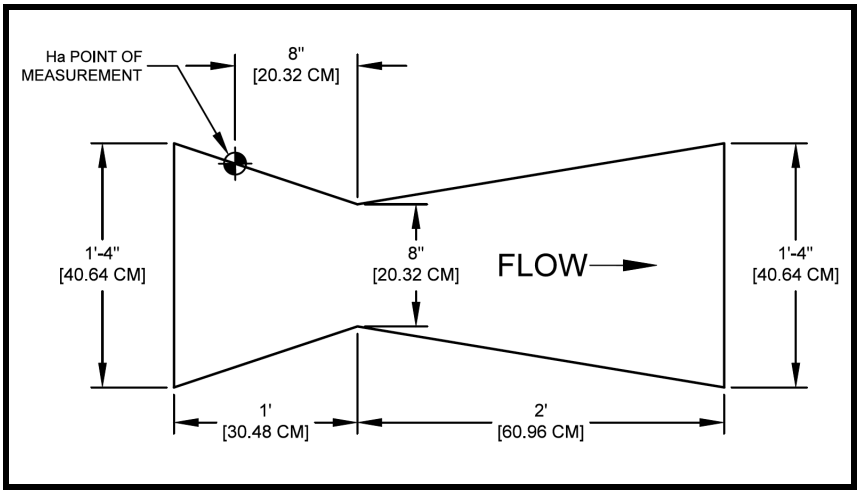
36-Inch L x 8-Inch W Cutthroat Flume Discharge Table

65% Submergence Transition ±3% Accuracy

Formulas (H in feet): CFS = 2.970 $H_{ft.}^{1.84}$ GPM = 1332 $H_{ft.}^{1.84}$ MGD = 1.920 $H_{ft.}^{1.84}$

Formulas (H in meters): L/S = 748.3 $H_{m}^{1.84}$ M3/HR = 2693 $H_{m}^{1.84}$

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.01	0.12	0.0030	Excessive error due to fluid-flow properties and boundary conditions				
0.02	0.24	0.0061					
0.03	0.36	0.0091					
0.04	0.48	0.0122					
0.05	0.60	0.0152					
0.06	0.72	0.0183					
0.07	0.84	0.0213					
0.08	0.96	0.0244					
0.09	1.08	0.0274					
0.10	1.20	0.0305	0.0429	19.27	0.0277	1.216	4.375
0.11	1.32	0.0335	0.0512	22.96	0.0331	1.449	5.213
0.12	1.44	0.0366	0.0600	26.95	0.0388	1.700	6.118
0.13	1.56	0.0396	0.0696	31.22	0.0450	1.970	7.089
0.14	1.68	0.0427	0.0797	35.78	0.0515	2.258	8.125
0.15	1.80	0.0457	0.0905	40.63	0.0585	2.564	9.224
0.16	1.92	0.0488	0.1019	45.75	0.0659	2.887	10.39
0.17	2.04	0.0518	0.1140	51.15	0.0737	3.228	11.61
0.18	2.16	0.0549	0.1266	56.82	0.0818	3.586	12.90
0.19	2.28	0.0579	0.1399	62.76	0.0904	3.961	14.25
0.20	2.40	0.0610	0.1537	68.98	0.0993	4.353	15.66
0.21	2.52	0.0640	0.1681	75.46	0.1087	4.761	17.13
0.22	2.64	0.0671	0.1832	82.20	0.1184	5.187	18.66
0.23	2.76	0.0701	0.1988	89.20	0.1285	5.629	20.25
0.24	2.88	0.0732	0.2150	96.47	0.1389	6.087	21.90
0.25	3.00	0.0762	0.2317	104.0	0.1498	6.562	23.61
0.26	3.12	0.0792	0.2491	111.8	0.1610	7.053	25.38
0.27	3.24	0.0823	0.2670	119.8	0.1725	7.561	27.20
0.28	3.36	0.0853	0.2854	128.1	0.1845	8.084	29.09
0.29	3.48	0.0884	0.3045	136.7	0.1968	8.623	31.03
0.30	3.60	0.0914	0.3241	145.4	0.2095	9.178	33.02



Sources: Cutthroat Flume Discharge Relations, Water Management Technical Paper No. 16, Colorado State University, AER71-72RSB6, March 1972

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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.31	3.72	0.0945	0.3442	154.5	0.2225	9.749	35.08
0.32	3.84	0.0975	0.3649	163.8	0.2359	10.34	37.19
0.33	3.96	0.1006	0.3862	173.3	0.2496	10.94	39.35
0.34	4.08	0.1036	0.4080	183.1	0.2637	11.56	41.58
0.35	4.20	0.1067	0.4304	193.1	0.2781	12.19	43.85
0.36	4.32	0.1097	0.4533	203.4	0.2929	12.84	46.19
0.37	4.44	0.1128	0.4767	213.9	0.3081	13.50	48.58
0.38	4.56	0.1158	0.5007	224.7	0.3236	14.18	51.02
0.39	4.68	0.1189	0.5252	235.7	0.3394	14.87	53.52
0.40	4.80	0.1219	0.5502	246.9	0.3556	15.58	56.07
0.41	4.92	0.1250	0.5758	258.4	0.3721	16.31	58.67
0.42	5.04	0.1280	0.6019	270.1	0.3890	17.05	61.34
0.43	5.16	0.1311	0.6285	282.1	0.4062	17.80	64.05
0.44	5.28	0.1341	0.6557	294.3	0.4238	18.57	66.82
0.45	5.40	0.1372	0.6834	306.7	0.4417	19.35	69.64
0.46	5.52	0.1402	0.7116	319.4	0.4599	20.15	72.51
0.47	5.64	0.1433	0.7403	332.3	0.4785	20.97	75.44
0.48	5.76	0.1463	0.7696	345.4	0.4974	21.79	78.42
0.49	5.88	0.1494	0.7993	358.7	0.5166	22.64	81.45
0.50	6.00	0.1524	0.8296	372.3	0.5362	23.49	84.53
0.51	6.12	0.1554	0.8604	386.1	0.5561	24.37	87.67
0.52	6.24	0.1585	0.8917	400.2	0.5763	25.25	90.86
0.53	6.36	0.1615	0.9235	414.5	0.5968	26.15	94.10
0.54	6.48	0.1646	0.9558	429.0	0.6177	27.07	97.39
0.55	6.60	0.1676	0.9886	443.7	0.6389	28.00	100.7
0.56	6.72	0.1707	1.022	458.6	0.6605	28.94	104.1
0.57	6.84	0.1737	1.056	473.8	0.6823	29.90	107.6
0.58	6.96	0.1768	1.090	489.2	0.7045	30.87	111.1
0.59	7.08	0.1798	1.125	504.9	0.7270	31.86	114.6
0.60	7.20	0.1829	1.160	520.7	0.7499	32.86	118.2
0.61	7.32	0.1859	1.196	536.8	0.7730	33.87	121.9
0.62	7.44	0.1890	1.232	553.1	0.7965	34.90	125.6
0.63	7.56	0.1920	1.269	569.6	0.8203	35.94	129.3
0.64	7.68	0.1951	1.307	586.4	0.8444	37.00	133.1
0.65	7.80	0.1981	1.344	603.4	0.8689	38.07	137.0
0.66	7.92	0.2012	1.383	620.5	0.8936	39.16	140.9
0.67	8.04	0.2042	1.421	638.0	0.9187	40.26	144.8
0.68	8.16	0.2073	1.461	655.6	0.9441	41.37	148.8
0.69	8.28	0.2103	1.501	673.4	0.9698	42.49	152.9
0.70	8.40	0.2134	1.541	691.5	0.9958	43.63	157.0
0.71	8.52	0.2164	1.582	709.8	1.022	44.79	161.2
0.72	8.64	0.2195	1.623	728.3	1.049	45.96	165.4
0.73	8.76	0.2225	1.664	747.0	1.076	47.14	169.6
0.74	8.88	0.2256	1.707	765.9	1.103	48.33	173.9
0.75	9.00	0.2286	1.749	785.1	1.131	49.54	178.3
0.76	9.12	0.2316	1.792	804.5	1.158	50.76	182.7
0.77	9.24	0.2347	1.836	824.0	1.187	52.00	187.1
0.78	9.36	0.2377	1.880	843.8	1.215	53.25	191.6
0.79	9.48	0.2408	1.925	863.9	1.244	54.51	196.1
0.80	9.60	0.2438	1.970	884.1	1.273	55.79	200.7

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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.81	9.72	0.2469	2.015	904.5	1.303	57.08	205.4
0.82	9.84	0.2499	2.061	925.2	1.332	58.38	210.1
0.83	9.96	0.2530	2.108	946.0	1.362	59.70	214.8
0.84	10.08	0.2560	2.155	967.1	1.393	61.03	219.6
0.85	10.20	0.2591	2.202	988.4	1.423	62.37	224.4
0.86	10.32	0.2621	2.250	1010	1.454	63.73	229.3
0.87	10.44	0.2652	2.299	1032	1.486	65.10	234.2
0.88	10.56	0.2682	2.347	1054	1.517	66.48	239.2
0.89	10.68	0.2713	2.397	1076	1.549	67.88	244.2
0.90	10.80	0.2743	2.447	1098	1.581	69.29	249.3
0.91	10.92	0.2774	2.497	1121	1.614	70.71	254.4
0.92	11.04	0.2804	2.548	1143	1.646	72.15	259.6
0.93	11.16	0.2835	2.599	1166	1.680	73.60	264.8
0.94	11.28	0.2865	2.650	1190	1.713	75.06	270.1
0.95	11.40	0.2896	2.703	1213	1.747	76.54	275.4
0.96	11.52	0.2926	2.755	1236	1.781	78.02	280.7
0.97	11.64	0.2957	2.808	1260	1.815	79.53	286.1
0.98	11.76	0.2987	2.862	1284	1.849	81.04	291.6
0.99	11.88	0.3018	2.916	1309	1.884	82.57	297.1
1.00	12.00	0.3048	2.970	1333	1.920	84.11	302.6

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