OPENCHANNELFLOW

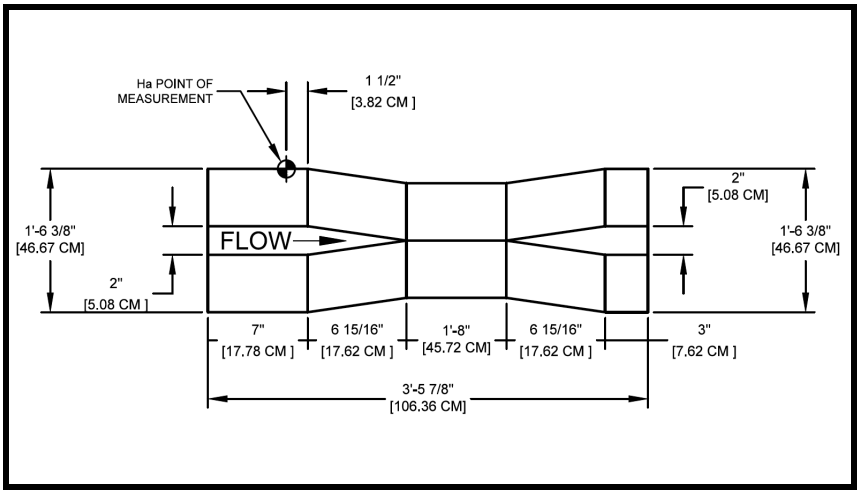
Extra Large 60-Degree-V Trapezoidal Flume Discharge Table

80% Submergence Transition

Formulas (H in feet): CFS = 1.55 $H_{ft.}^{2.63}$ GPM = 695.6 $H_{ft.}^{2.63}$ MGD = 1.002 $H_{ft.}^{2.63}$

Formulas (H in meters): L/S = 1001.3 $H_{m}^{2.63}$ M3/HR = 3605 $H_{m}^{2.63}$

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	0.0009	0.4039	0.0006	0.0255	0.0917
0.07	0.84	0.0213	0.0014	0.6283	0.0009	0.0396	0.1427
0.08	0.96	0.0244	0.0020	0.8976	0.0013	0.0566	0.2038
0.09	1.08	0.0274	0.0027	1.212	0.0017	0.0765	0.2751
0.10	1.20	0.0305	0.0036	1.616	0.0023	0.1020	0.3668
0.11	1.32	0.0335	0.0046	2.064	0.0030	0.1303	0.4687
0.12	1.44	0.0366	0.0058	2.603	0.0037	0.1643	0.5910
0.13	1.56	0.0396	0.0071	3.186	0.0046	0.2011	0.7235
0.14	1.68	0.0427	0.0087	3.905	0.0056	0.2464	0.8865
0.15	1.80	0.0457	0.0104	4.668	0.0067	0.2945	1.060
0.16	1.92	0.0488	0.0123	5.520	0.0079	0.3483	1.253
0.17	2.04	0.0518	0.0145	6.508	0.0094	0.4106	1.478
0.18	2.16	0.0549	0.0168	7.540	0.0109	0.4758	1.712
0.19	2.28	0.0579	0.0194	8.707	0.0125	0.5494	1.977
0.20	2.40	0.0610	0.0222	9.963	0.0143	0.6287	2.262
0.21	2.52	0.0640	0.0253	11.35	0.0164	0.7165	2.578
0.22	2.64	0.0671	0.0286	12.84	0.0185	0.8100	2.914
0.23	2.76	0.0701	0.0321	14.41	0.0207	0.9091	3.271
0.24	2.88	0.0732	0.0360	16.16	0.0233	1.020	3.668
0.25	3.00	0.0762	0.0400	17.95	0.0259	1.133	4.076
0.26	3.12	0.0792	0.0444	19.93	0.0287	1.257	4.524
0.27	3.24	0.0823	0.0491	22.04	0.0317	1.391	5.003
0.28	3.36	0.0853	0.0540	24.24	0.0349	1.529	5.503
0.29	3.48	0.0884	0.0592	26.57	0.0383	1.677	6.032
0.30	3.60	0.0914	0.0648	29.08	0.0419	1.835	6.603



Note: Curve fitted equation accuraty to within 1% of full scale

Source: ISCO Open Channel Flow Measurement Handbook, 6th Edition

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Formulas (H in meters): L/S = 1001.3 $H_{m}^{2.63}$ M3/HR = 3605 $H_{m}^{2.63}$

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.31	3.72	0.0945	0.0706	31.69	0.0456	1.999	7.194
0.32	3.84	0.0975	0.0768	34.47	0.0496	2.175	7.826
0.33	3.96	0.1006	0.0833	37.39	0.0538	2.359	8.488
0.34	4.08	0.1036	0.0901	40.44	0.0582	2.552	9.181
0.35	4.20	0.1067	0.0972	43.62	0.0628	2.753	9.905
0.36	4.32	0.1097	0.1047	46.99	0.0677	2.965	10.67
0.37	4.44	0.1128	0.1126	50.53	0.0728	3.189	11.47
0.38	4.56	0.1158	0.1208	54.22	0.0781	3.421	12.31
0.39	4.68	0.1189	0.1293	58.03	0.0836	3.662	13.18
0.40	4.80	0.1219	0.1383	62.07	0.0894	3.917	14.09
0.41	4.92	0.1250	0.1476	66.24	0.0954	4.180	15.04
0.42	5.04	0.1280	0.1572	70.55	0.1016	4.452	16.02
0.43	5.16	0.1311	0.1673	75.08	0.1081	4.738	17.05
0.44	5.28	0.1341	0.1777	79.75	0.1148	5.032	18.11
0.45	5.40	0.1372	0.1886	84.64	0.1219	5.341	19.22
0.46	5.52	0.1402	0.1998	89.67	0.1291	5.658	20.36
0.47	5.64	0.1433	0.2115	94.92	0.1367	5.990	21.55
0.48	5.76	0.1463	0.2236	100.4	0.1445	6.332	22.78
0.49	5.88	0.1494	0.2361	106.0	0.1526	6.686	24.06
0.50	6.00	0.1524	0.2490	111.8	0.1609	7.052	25.37
0.51	6.12	0.1554	0.2623	117.7	0.1695	7.428	26.73
0.52	6.24	0.1585	0.2761	123.9	0.1784	7.819	28.13
0.53	6.36	0.1615	0.2903	130.3	0.1876	8.221	29.58
0.54	6.48	0.1646	0.3050	136.9	0.1971	8.638	31.08
0.55	6.60	0.1676	0.3201	143.7	0.2069	9.065	32.62
0.56	6.72	0.1707	0.3357	150.7	0.2170	9.507	34.21
0.57	6.84	0.1737	0.3517	157.8	0.2273	9.960	35.84
0.58	6.96	0.1768	0.3682	165.2	0.2380	10.43	37.52
0.59	7.08	0.1798	0.3852	172.9	0.2490	10.91	39.25
0.60	7.20	0.1829	0.4026	180.7	0.2602	11.40	41.02
0.61	7.32	0.1859	0.4206	188.8	0.2718	11.91	42.86
0.62	7.44	0.1890	0.4390	197.0	0.2837	12.43	44.73
0.63	7.56	0.1920	0.4579	205.5	0.2959	12.97	46.66
0.64	7.68	0.1951	0.4773	214.2	0.3085	13.52	48.64
0.65	7.80	0.1981	0.4972	223.1	0.3213	14.08	50.66
0.66	7.92	0.2012	0.5176	232.3	0.3345	14.66	52.74
0.67	8.04	0.2042	0.5386	241.7	0.3481	15.25	54.88
0.68	8.16	0.2073	0.5600	251.3	0.3619	15.86	57.06
0.69	8.28	0.2103	0.5820	261.2	0.3761	16.48	59.31
0.70	8.40	0.2134	0.6045	271.3	0.3907	17.12	61.60
0.71	8.52	0.2164	0.6275	281.6	0.4056	17.77	63.94
0.72	8.64	0.2195	0.6511	292.2	0.4208	18.44	66.35
0.73	8.76	0.2225	0.6752	303.0	0.4364	19.12	68.80
0.74	8.88	0.2256	0.6999	314.1	0.4523	19.82	71.32
0.75	9.00	0.2286	0.7251	325.4	0.4686	20.53	73.89
0.76	9.12	0.2316	0.7509	337.0	0.4853	21.27	76.52
0.77	9.24	0.2347	0.7772	348.8	0.5023	22.01	79.20
0.78	9.36	0.2377	0.8041	360.9	0.5197	22.77	81.94
0.79	9.48	0.2408	0.8315	373.2	0.5374	23.55	84.73
0.80	9.60	0.2438	0.8596	385.8	0.5556	24.34	87.59

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Formulas (H in meters): $L/S = 1001.3\ H_{m}^{2.63}$ $M3/HR = 3605\ H_{m}^{2.63}$

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.81	9.72	0.2469	0.8882	398.6	0.5740	25.15	90.51
0.82	9.84	0.2499	0.9174	411.7	0.5929	25.98	93.48
0.83	9.96	0.2530	0.9472	425.1	0.6122	26.82	96.52
0.84	10.08	0.2560	0.9776	438.7	0.6318	27.69	99.62
0.85	10.20	0.2591	1.009	452.8	0.6521	28.57	102.8
0.86	10.32	0.2621	1.040	466.8	0.6722	29.45	106.0
0.87	10.44	0.2652	1.072	481.1	0.6928	30.36	109.2
0.88	10.56	0.2682	1.105	495.9	0.7142	31.29	112.6
0.89	10.68	0.2713	1.139	511.2	0.7361	32.26	116.1
0.90	10.80	0.2743	1.173	526.4	0.7581	33.22	119.5
0.91	10.92	0.2774	1.207	541.7	0.7801	34.18	123.0
0.92	11.04	0.2804	1.243	557.9	0.8034	35.20	126.7
0.93	11.16	0.2835	1.278	573.6	0.8260	36.19	130.2
0.94	11.28	0.2865	1.315	590.2	0.8499	37.24	134.0
0.95	11.40	0.2896	1.352	606.8	0.8738	38.29	137.8
0.96	11.52	0.2926	1.390	623.8	0.8984	39.36	141.6
0.97	11.64	0.2957	1.429	641.3	0.9236	40.47	145.6
0.98	11.76	0.2987	1.468	658.8	0.9488	41.57	149.6
0.99	11.88	0.3018	1.508	676.8	0.9746	42.71	153.7
1.00	12.00	0.3048	1.548	694.7	1.000	43.84	157.7

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