OPENCHANNELFLOW

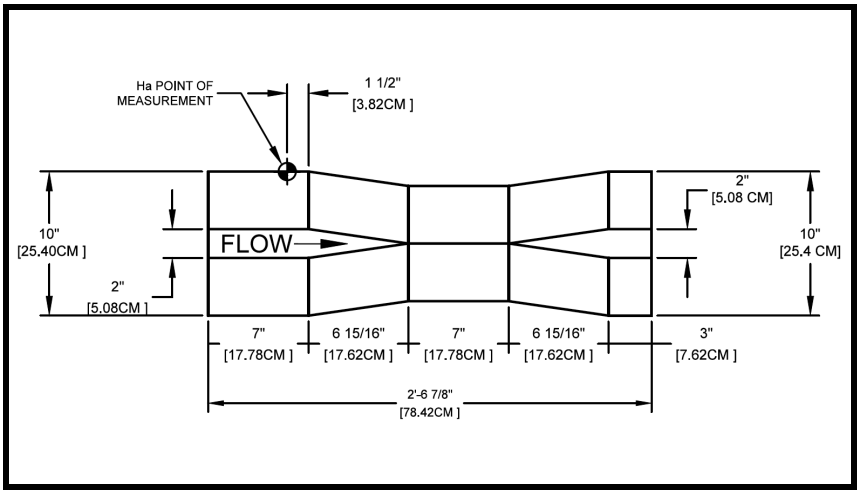
Large 60-Degree-V Trapezoidal Flume Discharge Table

80% Submergence Transition ±2-5% Accuracy

Formulas (H in feet): CFS = 1.55 $H_{ft.}^{2.58}$ GPM = 695.6 $H_{ft.}^{2.58}$ MGD = 1.002 $H_{ft.}^{2.58}$

Formulas (H in meters): L/S = 941.2 $H_{m}^{2.58}$ M3/HR = 3388 $H_{m}^{2.58}$

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					
0.11	1.32	0.0335					
0.12	1.44	0.0366					
0.13	1.56	0.0396					
0.14	1.68	0.0427					
0.15	1.80	0.0457	0.0116	5.208	0.0075	0.3287	1.183
0.16	1.92	0.0488	0.0137	6.152	0.0089	0.3882	1.397
0.17	2.04	0.0518	0.0160	7.194	0.0104	0.4539	1.633
0.18	2.16	0.0549	0.0186	8.337	0.0120	0.5261	1.893
0.19	2.28	0.0579	0.0214	9.584	0.0138	0.6048	2.176
0.20	2.40	0.0610	0.0244	10.94	0.0158	0.6904	2.484
0.21	2.52	0.0640	0.0276	12.41	0.0179	0.7830	2.817
0.22	2.64	0.0671	0.0312	13.99	0.0201	0.8828	3.177
0.23	2.76	0.0701	0.0350	15.69	0.0226	0.9901	3.563
0.24	2.88	0.0732	0.0390	17.51	0.0252	1.105	3.976
0.25	3.00	0.0762	0.0434	19.46	0.0280	1.228	4.418
0.26	3.12	0.0792	0.0480	21.53	0.0310	1.358	4.888
0.27	3.24	0.0823	0.0529	23.73	0.0342	1.497	5.388
0.28	3.36	0.0853	0.0581	26.06	0.0375	1.645	5.918
0.29	3.48	0.0884	0.0636	28.53	0.0411	1.801	6.479
0.30	3.60	0.0914	0.0694	31.14	0.0448	1.965	7.071



Source: Trapezoidal Flumes for Open-Channel Flow Measurement, Transactions of the American Society of Agricultural Engineers, Vol. 3, No. 2, 1960

Measuring Water in Small Channels with WSC Flume, Washington Agricultural Experiment Station, Circular 200, 1952

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Formulas (H in meters): L/S = 941.2 $H_{m}^{2.58}$ M3/HR = 3388 $H_{m}^{2.58}$

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.31	3.72	0.0945	0.0755	33.88	0.0488	2.138	7.693
0.32	3.84	0.0975	0.0820	36.80	0.0530	2.322	8.356
0.33	3.96	0.1006	0.0887	39.81	0.0573	2.512	9.039
0.34	4.08	0.1036	0.0958	43.00	0.0619	2.713	9.762
0.35	4.20	0.1067	0.1033	46.36	0.0668	2.925	10.53
0.36	4.32	0.1097	0.1111	49.86	0.0718	3.146	11.32
0.37	4.44	0.1128	0.1192	53.50	0.0770	3.376	12.15
0.38	4.56	0.1158	0.1277	57.31	0.0825	3.616	13.01
0.39	4.68	0.1189	0.1365	61.26	0.0882	3.866	13.91
0.40	4.80	0.1219	0.1458	65.44	0.0942	4.129	14.86
0.41	4.92	0.1250	0.1554	69.72	0.1004	4.400	15.83
0.42	5.04	0.1280	0.1653	74.19	0.1068	4.682	16.85
0.43	5.16	0.1311	0.1757	78.84	0.1135	4.975	17.90
0.44	5.28	0.1341	0.1864	83.66	0.1205	5.279	18.99
0.45	5.40	0.1372	0.1975	88.65	0.1277	5.594	20.13
0.46	5.52	0.1402	0.2090	93.82	0.1351	5.920	21.30
0.47	5.64	0.1433	0.2210	99.17	0.1428	6.258	22.52
0.48	5.76	0.1463	0.2333	104.7	0.1508	6.607	23.77
0.49	5.88	0.1494	0.2461	110.4	0.1590	6.968	25.07
0.50	6.00	0.1524	0.2592	116.3	0.1675	7.341	26.41

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