



15-Inch Palmer-Bowlus Flume Discharge Table

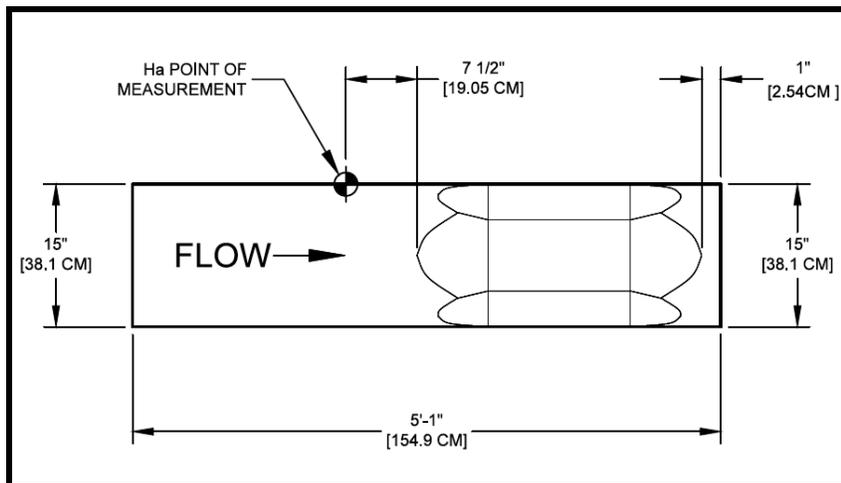
85% Submergence Transition

Formulas (H in feet): CFS = 3.79 H_{ft.}^{1.9}
 Formulas (H in meters): L/S = 1056.5 H_m^{1.9}

GPM = 1701 H_{ft.}^{1.9} MGD = 2.45 H_{ft.}^{1.9}
 M3/HR = 3671 H_m^{1.9}

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.01	0.12	0.0030					
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	0.1088	48.83	0.0703	3.081	11.09
0.15	1.80	0.0457	0.1220	54.75	0.0788	3.455	12.43
0.16	1.92	0.0488	0.1358	60.95	0.0878	3.846	13.84
0.17	2.04	0.0518	0.1503	67.45	0.0971	4.256	15.32
0.18	2.16	0.0549	0.1653	74.19	0.1068	4.681	16.84
0.19	2.28	0.0579	0.1811	81.28	0.1170	5.129	18.45
0.20	2.40	0.0610	0.1974	88.59	0.1276	5.590	20.12
0.21	2.52	0.0640	0.2144	96.22	0.1386	6.072	21.85
0.22	2.64	0.0671	0.2319	104.1	0.1499	6.567	23.63
0.23	2.76	0.0701	0.2501	112.2	0.1616	7.083	25.49
0.24	2.88	0.0732	0.2689	120.7	0.1738	7.615	27.40
0.25	3.00	0.0762	0.2883	129.4	0.1863	8.165	29.38
0.26	3.12	0.0792	0.3083	138.4	0.1993	8.731	31.42
0.27	3.24	0.0823	0.3290	147.7	0.2126	9.317	33.53
0.28	3.36	0.0853	0.3502	157.2	0.2263	9.918	35.69
0.29	3.48	0.0884	0.3720	167.0	0.2404	10.54	37.91
0.30	3.60	0.0914	0.3945	177.1	0.2550	11.17	40.20

Excessive error due to fluid-flow properties and boundary conditions



Note: Formulas fit data within 1% of full scale

Sources: [Isco Open Channel Flow Measurement Handbook](#), 6th Edition



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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.31	3.72	0.0945	0.4176	187.4	0.2699	11.83	42.55
0.32	3.84	0.0975	0.4414	198.1	0.2853	12.50	44.98
0.33	3.96	0.1006	0.4657	209.0	0.3010	13.19	47.45
0.34	4.08	0.1036	0.4907	220.2	0.3171	13.90	50.00
0.35	4.20	0.1067	0.5164	231.8	0.3337	14.62	52.62
0.36	4.32	0.1097	0.5427	243.6	0.3507	15.37	55.30
0.37	4.44	0.1128	0.5697	255.7	0.3682	16.13	58.05
0.38	4.56	0.1158	0.5973	268.1	0.3860	16.92	60.86
0.39	4.68	0.1189	0.6256	280.8	0.4043	17.72	63.75
0.40	4.80	0.1219	0.6547	293.8	0.4231	18.54	66.71
0.41	4.92	0.1250	0.6844	307.2	0.4423	19.38	69.74
0.42	5.04	0.1280	0.7149	320.8	0.4620	20.25	72.85
0.43	5.16	0.1311	0.7460	334.8	0.4821	21.13	76.02
0.44	5.28	0.1341	0.7780	349.2	0.5028	22.03	79.28
0.45	5.40	0.1372	0.8106	363.8	0.5239	22.96	82.60
0.46	5.52	0.1402	0.8441	378.8	0.5455	23.90	86.01
0.47	5.64	0.1433	0.8783	394.2	0.5676	24.87	89.50
0.48	5.76	0.1463	0.9133	409.9	0.5903	25.86	93.07
0.49	5.88	0.1494	0.9492	426.0	0.6135	26.88	96.72
0.50	6.00	0.1524	0.9858	442.4	0.6371	27.92	100.5
0.51	6.12	0.1554	1.023	459.1	0.6612	28.97	104.2
0.52	6.24	0.1585	1.062	476.6	0.6864	30.08	108.2
0.53	6.36	0.1615	1.101	494.1	0.7116	31.18	112.2
0.54	6.48	0.1646	1.141	512.1	0.7374	32.31	116.3
0.55	6.60	0.1676	1.182	530.5	0.7639	33.47	120.4
0.56	6.72	0.1707	1.223	548.9	0.7904	34.64	124.6
0.57	6.84	0.1737	1.266	568.2	0.8182	35.85	129.0
0.58	6.96	0.1768	1.309	587.5	0.8460	37.07	133.4
0.59	7.08	0.1798	1.354	607.7	0.8751	38.35	138.0
0.60	7.20	0.1829	1.399	627.9	0.9042	39.62	142.6
0.61	7.32	0.1859	1.445	648.5	0.9339	40.92	147.2
0.62	7.44	0.1890	1.492	669.6	0.9643	42.25	152.0
0.63	7.56	0.1920	1.539	690.7	0.9947	43.58	156.8
0.64	7.68	0.1951	1.588	712.7	1.026	44.97	161.8
0.65	7.80	0.1981	1.638	735.1	1.059	46.39	166.9
0.66	7.92	0.2012	1.688	757.6	1.091	47.80	172.0
0.67	8.04	0.2042	1.739	780.5	1.124	49.25	177.2
0.68	8.16	0.2073	1.791	803.8	1.158	50.72	182.5
0.69	8.28	0.2103	1.844	827.6	1.192	52.22	187.9
0.70	8.40	0.2134	1.897	851.4	1.226	53.72	193.3
0.71	8.52	0.2164	1.951	875.6	1.261	55.25	198.8
0.72	8.64	0.2195	2.006	900.3	1.296	56.81	204.4
0.73	8.76	0.2225	2.062	925.4	1.333	58.40	210.1
0.74	8.88	0.2256	2.118	950.6	1.369	59.98	215.8
0.75	9.00	0.2286	2.175	976.1	1.406	61.60	221.6
0.76	9.12	0.2316	2.233	1002	1.443	63.24	227.5
0.77	9.24	0.2347	2.291	1028	1.481	64.88	233.5
0.78	9.36	0.2377	2.349	1054	1.518	66.52	239.4

Note: Formulas fit data within 1% of full scale

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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.79	9.48	0.2408	2.409	1081	1.557	68.22	245.5
0.80	9.60	0.2438	2.468	1108	1.595	69.89	251.5
0.81	9.72	0.2469	2.528	1135	1.634	71.59	257.6
0.82	9.84	0.2499	2.589	1162	1.673	73.32	263.8
0.83	9.96	0.2530	2.650	1189	1.713	75.05	270.0
0.84	10.08	0.2560	2.711	1217	1.752	76.78	276.3
0.85	10.20	0.2591	2.773	1245	1.792	78.53	282.6
0.86	10.32	0.2621	2.835	1272	1.832	80.29	288.9
0.87	10.44	0.2652	2.897	1300	1.872	82.04	295.2
0.88	10.56	0.2682	2.960	1328	1.913	83.83	301.6
0.89	10.68	0.2713	3.023	1357	1.954	85.61	308.0
0.90	10.80	0.2743	3.086	1385	1.994	87.40	314.5

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