

ECONODRAIN® #24 SYSTEM - HYDRAULIC DATA

Standard Depth & Slope ¹		
EPS Form Number	[Slope [S _t] = 0.5% or 0.005 ft/ft]	
	Min. (in)	Max. (in)
2424	15	15 1/2
2425	15 1/2	16
2426	16	16 1/2
2427	16 1/2	17
2428	17	17 1/2
2429	17 1/2	18
2430	18	18 1/2
2431	18 1/2	19
2432	19	19 1/2
2433	19 1/2	20
2434	20	20 1/2
2435	20 1/2	21
2436	21	21 1/2
2437	21 1/2	22
2438	22	22 1/2
2439	22 1/2	23
2440	23	23 1/2
2441	23 1/2	24
2442	24	24 1/2
2443	24 1/2	25
2444	25	25 1/2
2445	25 1/2	26
2446	26	26 1/2
2447	26 1/2	27
2448	27	27 1/2
2449	27 1/2	28
2450	28	28 1/2
2451	28 1/2	29
2452	29	29 1/2
2453	29 1/2	30
2454	30	30 1/2
2455	30 1/2	31
2456	31	31 1/2
2457	31 1/2	32
2458	32	32 1/2
2459	32 1/2	33
2460	33	33 1/2
2461	33 1/2	34
2462	34	34 1/2
2463	34 1/2	35
2464	35	35 1/2
2465	35 1/2	36
2466	36	36 1/2
2467	36 1/2	37
2468	37	37 1/2
2469	37 1/2	38
2470	38	38 1/2
2471	38 1/2	39
2472	39	39 1/2
2473	39 1/2	40
2474	40	40 1/2
2475	40 1/2	41

Radius Bottom Trench (Std.)			
Q _{max} ² Flow (cfs)	Q _{max} ² Flow (gpm)	(F _k is not a Flow Rate)	
		F _k ³ (cfs)	F _k ³ (gpm)
10.52	4,721	145.74	65,412
11.12	4,991	154.07	69,152
11.72	5,262	162.46	72,917
12.33	5,536	170.90	76,707
12.95	5,811	179.40	80,520
13.56	6,088	187.94	84,354
14.18	6,366	196.53	88,208
14.81	6,645	205.15	92,080
15.43	6,926	213.82	95,969
16.06	7,208	222.52	99,874
16.69	7,491	231.26	103,795
17.32	7,775	240.02	107,729
17.96	8,060	248.82	111,677
18.59	8,345	257.64	115,638
19.23	8,632	266.49	119,611
19.87	8,920	275.37	123,594
20.52	9,208	284.27	127,589
21.16	9,497	293.19	131,593
21.80	9,787	302.13	135,607
22.45	10,077	311.10	139,630
23.10	10,368	320.08	143,661
23.75	10,659	329.08	147,701
24.40	10,951	338.10	151,748
25.05	11,244	347.13	155,802
25.70	11,537	356.18	159,864
26.36	11,831	365.24	163,932
27.01	12,125	374.32	168,007
27.67	12,419	383.41	172,088
28.33	12,714	392.52	176,174
28.99	13,010	401.63	180,266
29.64	13,305	410.76	184,363
30.30	13,601	419.90	188,466
30.96	13,898	429.05	192,573
31.63	14,194	438.22	196,685
32.29	14,492	447.39	200,801
32.95	14,789	456.57	204,922
33.61	15,087	465.76	209,046
34.28	15,385	474.96	213,175
34.94	15,683	484.16	217,308
35.61	15,981	493.38	221,444
36.27	16,280	502.60	225,583
36.94	16,579	511.83	229,726
37.60	16,878	521.07	233,872
38.27	17,178	530.31	238,022
38.94	17,477	539.57	242,174
39.61	17,777	548.82	246,330
40.28	18,077	558.09	250,488
40.95	18,378	567.36	254,649
41.62	18,678	576.64	258,812
42.28	18,979	585.92	262,978
42.96	19,280	595.20	267,146
43.63	19,581	604.50	271,317

Rectangular Trench (Optional Custom)			
Q _{max} ² Flow (cfs)	Q _{max} ² Flow (gpm)	(F _k is not a Flow Rate)	
		F _k ³ (cfs)	F _k ³ (gpm)
12.74	5,718	176.52	79,227
13.34	5,986	184.79	82,939
13.94	6,255	193.11	86,674
14.54	6,525	201.48	90,429
15.15	6,799	209.89	94,205
15.76	7,072	218.34	97,999
16.37	7,348	226.84	101,811
16.99	7,624	235.37	105,640
17.60	7,901	243.93	109,484
18.22	8,180	252.53	113,344
18.85	8,459	261.16	117,218
19.47	8,740	269.82	121,105
20.10	9,021	278.51	125,005
20.73	9,304	287.23	128,918
21.36	9,587	295.97	132,842
21.99	9,871	304.74	136,777
22.63	10,156	313.53	140,722
23.26	10,441	322.34	144,678
23.90	10,727	331.18	148,643
24.54	11,014	340.03	152,618
25.18	11,302	348.91	156,601
25.82	11,590	357.80	160,593
26.47	11,878	366.71	164,593
27.11	12,168	375.64	168,600
27.76	12,457	384.59	172,615
28.40	12,748	393.55	176,637
29.05	13,038	402.52	180,665
29.70	13,330	411.51	184,700
30.35	13,621	420.52	188,742
31.00	13,913	429.54	192,789
31.65	14,206	438.57	196,842
32.30	14,499	447.61	200,901
32.96	14,792	456.66	204,965
33.61	15,086	465.73	209,035
34.27	15,380	474.81	213,109
34.92	15,674	483.90	217,188
35.58	15,969	493.00	221,272
36.24	16,264	502.10	225,360
36.89	16,559	511.22	229,453
37.55	16,855	520.35	233,549
38.21	17,151	529.49	237,650
38.87	17,447	538.63	241,754
39.53	17,744	547.78	245,863
40.19	18,040	556.95	249,975
40.86	18,337	566.12	254,090
41.52	18,635	575.29	258,209
42.18	18,932	584.48	262,331
42.84	19,230	593.67	266,457
43.51	19,528	602.87	270,585
44.17	19,826	612.07	274,717
44.84	20,124	621.28	278,851
45.50	20,423	630.50	282,988

- Standard Depth is measured from the top of the grate rail to the trench invert.
- Q_{max} is based on Manning's Equation n = 0.13 and S_t = 0.5%. The outlet end depth flow area is utilized and the grate area is excluded. The flow values shown do not include site grade slope.
- F_k is used to include site grade slope in trench flow calculations. The equation is: Flow, Q = F_k x (S_s + S_t)^{1/2} where S_s is the site slope and S_t is the trench form slope (ft/ft), (dimensionless).

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