

溝型柵渠(B型) 流速・流量表 (マンニング公式による満水時)

$$\text{径深 } R = \frac{A}{P} \quad (\text{m})$$

$$\text{流速 } V = \frac{1}{N} \cdot I^{1/2} \cdot R^{2/3} \quad (\text{m/sec})$$

$$\text{流量 } Q = A \cdot V \quad (\text{m}^3/\text{sec})$$

No. 1

呼 び	400 × 600		600 × 600		800 × 600		1000 × 600		1200 × 600		600 × 900	
通水断面積A(m ²)	0.2379		0.3579		0.4779		0.5979		0.7179		0.5338	
潤 辺 P (m)	1.5399		1.7399		1.9399		2.1399		2.3399		2.2970	
径 深 R (m)	0.1545		0.2057		0.2464		0.2794		0.3068		0.2324	
粗 度 係 数 N	0.019		0.021		0.022		0.022		0.023		0.019	
勾 配 I	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
1 / 50	2.1431	0.5098	2.3467	0.8399	2.5265	1.2074	2.7473	1.6426	2.7970	2.0080	2.8135	1.5018
80	1.6943	0.4031	1.8552	0.6640	1.9974	0.9546	2.1720	1.2986	2.2112	1.5874	2.2243	1.1873
100	1.5154	0.3605	1.6593	0.5939	1.7865	0.8538	1.9427	1.1615	1.9778	1.4199	1.9895	1.0620
150	1.2373	0.2944	1.3549	0.4849	1.4587	0.6971	1.5862	0.9484	1.6148	1.1593	1.6244	0.8671
200	1.0716	0.2549	1.1733	0.4199	1.2633	0.6037	1.3737	0.8213	1.3985	1.0040	1.4068	0.7509
250	0.9584	0.2280	1.0495	0.3756	1.1299	0.5400	1.2286	0.7346	1.2509	0.8980	1.2583	0.6717
300	0.8749	0.2081	0.9580	0.3429	1.0314	0.4929	1.1216	0.6706	1.1419	0.8198	1.1486	0.6131
350	0.8100	0.1927	0.8870	0.3175	0.9549	0.4563	1.0384	0.6209	1.0572	0.7590	1.0634	0.5676
400	0.7577	0.1803	0.8297	0.2969	0.8933	0.4269	0.9713	0.5807	0.9889	0.7099	0.9947	0.5310
450	0.7144	0.1700	0.7822	0.2799	0.8422	0.4025	0.9158	0.5476	0.9323	0.6693	0.9378	0.5006
500	0.6777	0.1612	0.7421	0.2656	0.7989	0.3818	0.8688	0.5195	0.8845	0.6350	0.8897	0.4749
600	0.6187	0.1472	0.6774	0.2424	0.7293	0.3485	0.7931	0.4742	0.8074	0.5796	0.8122	0.4336
700	0.5728	0.1363	0.6272	0.2245	0.6752	0.3227	0.7343	0.4390	0.7475	0.5366	0.7519	0.4014
800	0.5358	0.1275	0.5867	0.2100	0.6316	0.3018	0.6868	0.4106	0.6992	0.5020	0.7034	0.3755
900	0.5051	0.1202	0.5531	0.1980	0.5955	0.2846	0.6476	0.3872	0.6593	0.4733	0.6632	0.3540
1000	0.4792	0.1140	0.5247	0.1878	0.5649	0.2700	0.6143	0.3673	0.6254	0.4490	0.6291	0.3358
1500	0.3913	0.0931	0.4284	0.1533	0.4613	0.2205	0.5016	0.2999	0.5107	0.3666	0.5137	0.2742
2000	0.3389	0.0806	0.3710	0.1328	0.3995	0.1909	0.4344	0.2597	0.4422	0.3175	0.4449	0.2375
流量のアップ率(%)	15.8		4.8		0		0		-4.3		15.8	

溝型柵渠(B型) 流速・流量表 (マンニング公式による満水時)

流速 V (m/sec)
流量 Q (m³/sec)

No. 2

呼 び	800 × 900		1000 × 900		1200 × 900		1500 × 900		2000 × 900		2500 × 900	
通水断面積A(m ²)	0.7138		0.8938		1.0738		1.3438		1.7938		2.2438	
潤 辺 P (m)	2.4970		2.6970		2.8970		3.1970		3.6970		4.1970	
径 深 R (m)	0.2859		0.3314		0.3707		0.4203		0.4852		0.5346	
粗 度 係 数 N	0.02		0.021		0.022		0.022		0.024		0.024	
勾 配 I	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
1 / 50	3.0687	2.1904	3.2250	2.8825	3.3172	3.5620	3.6069	4.8470	3.6385	6.5267	3.8814	8.7091
80	2.4261	1.7318	2.5496	2.2788	2.6225	2.8160	2.8515	3.8318	2.8765	5.1599	3.0685	6.8851
100	2.1699	1.5489	2.2804	2.0382	2.3456	2.5187	2.5505	3.4274	2.5728	4.6151	2.7446	6.1583
150	1.7717	1.2646	1.8620	1.6643	1.9152	2.0565	2.0824	2.7983	2.1007	3.7682	2.2409	5.0281
200	1.5344	1.0953	1.6125	1.4413	1.6586	1.7810	1.8034	2.4234	1.8192	3.2633	1.9407	4.3545
250	1.3724	0.9796	1.4423	1.2891	1.4835	1.5930	1.6130	2.1675	1.6272	2.9189	1.7358	3.8948
300	1.2528	0.8942	1.3166	1.1768	1.3542	1.4541	1.4725	1.9787	1.4854	2.6645	1.5846	3.5555
350	1.1599	0.8279	1.2189	1.0895	1.2538	1.3463	1.3633	1.8320	1.3752	2.4668	1.4670	3.2917
400	1.0850	0.7745	1.1402	1.0191	1.1728	1.2594	1.2752	1.7136	1.2864	2.3075	1.3723	3.0792
450	1.0229	0.7301	1.0750	0.9608	1.1057	1.1873	1.2023	1.6157	1.2128	2.1755	1.2938	2.9030
500	0.9704	0.6927	1.0198	0.9115	1.0490	1.1264	1.1406	1.5327	1.1506	2.0639	1.2274	2.7540
600	0.8859	0.6324	0.9310	0.8321	0.9576	1.0283	1.0412	1.3992	1.0503	1.8840	1.1205	2.5142
700	0.8202	0.5855	0.8619	0.7704	0.8866	0.9520	0.9640	1.2954	0.9724	1.7443	1.0374	2.3277
800	0.7672	0.5476	0.8063	0.7207	0.8293	0.8905	0.9017	1.2117	0.9096	1.6316	0.9704	2.1774
900	0.7233	0.5163	0.7601	0.6794	0.7819	0.8396	0.8502	1.1425	0.8576	1.5384	0.9149	2.0529
1000	0.6862	0.4898	0.7211	0.6445	0.7418	0.7965	0.8065	1.0838	0.8136	1.4594	0.8679	1.9474
1500	0.5603	0.3999	0.5888	0.5263	0.6056	0.6503	0.6585	0.8849	0.6643	1.1916	0.7086	1.5900
2000	0.4852	0.3463	0.5099	0.4557	0.5245	0.5632	0.5703	0.7664	0.5753	1.0320	0.6137	1.3770
流量のアップ率(%)	10		4.8		0		0		-8.3		-8.3	

溝型柵渠(B型) 流速・流量表 (マンニング公式による満水時)

流速 V (m/sec)
流量 Q (m³/sec)

No. 3

呼 び	3000 × 900		800 × 1200		1000 × 1200		1200 × 1200		1500 × 1200		2000 × 1200	
通水断面積A(m ²)	2.6938		0.9503		1.1903		1.4303		1.7903		2.3903	
潤 辺 P (m)	4.6970		3.0712		3.2712		3.4712		3.7712		4.2712	
径 深 R (m)	0.5735		0.3094		0.3639		0.4120		0.4747		0.5596	
粗 度 係 数 N	0.025		0.019		0.02		0.021		0.021		0.022	
勾 配 I	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
1 / 50	3.9048	10.5188	3.4049	3.2357	3.6042	4.2901	3.7287	5.3332	4.0980	7.3366	4.3653	10.4344
80	3.0870	8.3158	2.6918	2.5580	2.8494	3.3916	2.9478	4.2162	3.2398	5.8002	3.4510	8.2489
100	2.7611	7.4379	2.4076	2.2879	2.5485	3.0335	2.6366	3.7711	2.8977	5.1878	3.0867	7.3781
150	2.2544	6.0729	1.9658	1.8681	2.0809	2.4769	2.1528	3.0791	2.3660	4.2358	2.5203	6.0243
200	1.9524	5.2594	1.7025	1.6179	1.8021	2.1450	1.8644	2.6667	2.0490	3.6683	2.1826	5.2171
250	1.7463	4.7042	1.5227	1.4470	1.6118	1.9185	1.6675	2.3850	1.8327	3.2811	1.9522	4.6663
300	1.5941	4.2942	1.3901	1.3210	1.4714	1.7514	1.5222	2.1772	1.6730	2.9952	1.7821	4.2598
350	1.4759	3.9758	1.2869	1.2229	1.3623	1.6215	1.4093	2.0157	1.5489	2.7730	1.6499	3.9438
400	1.3806	3.7191	1.2038	1.1440	1.2743	1.5168	1.3183	1.8856	1.4489	2.5940	1.5434	3.6892
450	1.3016	3.5063	1.1350	1.0786	1.2014	1.4300	1.2429	1.7777	1.3660	2.4455	1.4551	3.4781
500	1.2348	3.3263	1.0767	1.0232	1.1397	1.3566	1.1791	1.6865	1.2959	2.3200	1.3804	3.2996
600	1.1272	3.0365	0.9829	0.9340	1.0404	1.2384	1.0764	1.5396	1.1830	2.1179	1.2601	3.0120
700	1.0436	2.8112	0.9100	0.8648	0.9633	1.1466	0.9965	1.4253	1.0952	1.9607	1.1667	2.7888
800	0.9762	2.6297	0.8512	0.8089	0.9010	1.0725	0.9322	1.3333	1.0245	1.8342	1.0913	2.6085
900	0.9204	2.4794	0.8025	0.7626	0.8495	1.0112	0.8789	1.2571	0.9659	1.7293	1.0289	2.4594
1000	0.8731	2.3520	0.7614	0.7236	0.8059	0.9593	0.8338	1.1926	0.9163	1.6405	0.9761	2.3332
1500	0.7129	1.9204	0.6217	0.5908	0.6580	0.7832	0.6808	0.9737	0.7482	1.3395	0.7970	1.9051
2000	0.6174	1.6632	0.5384	0.5116	0.5699	0.6784	0.5896	0.8433	0.6480	1.1601	0.6902	1.6498
流量のアップ率(%)	-12		15.8		10		4.8		4.8		0	

溝型柵渠(B型) 流速・流量表 (マンニング公式による満水時)

流速 V (m/sec)
流量 Q (m³/sec)

No. 4

呼 び	2500 × 1200		3000 × 1200		1000 × 1500		1200 × 1500		1500 × 1500		2000 × 1500	
通水断面積A(m ²)	2.9903		3.5903		1.4861		1.7861		2.2361		2.9861	
潤 辺 P (m)	4.7712		5.2712		3.8455		4.0455		4.3455		4.8455	
径 深 R (m)	0.6267		0.6811		0.3865		0.4415		0.5146		0.6163	
粗 度 係 数 N	0.023		0.024		0.019		0.02		0.021		0.022	
勾 配 I	V	Q	V	Q	V	Q	V	Q	V	Q	V	Q
1 / 50	4.5029	13.4650	4.5615	16.3772	3.9494	5.8692	4.0999	7.3228	4.3246	9.6702	4.6554	13.9015
80	3.5599	10.6452	3.6062	12.9473	3.1223	4.6401	3.2412	5.7891	3.4189	7.6450	3.6804	10.9900
100	3.1840	9.5211	3.2255	11.5805	2.7926	4.1501	2.8991	5.1781	3.0579	6.8378	3.2918	9.8296
150	2.5998	7.7742	2.6336	9.4554	2.2802	3.3886	2.3671	4.2279	2.4968	5.5831	2.6878	8.0260
200	2.2515	6.7327	2.2808	8.1888	1.9747	2.9346	2.0499	3.6613	2.1623	4.8351	2.3277	6.9507
250	2.0138	6.0219	2.0400	7.3242	1.7662	2.6247	1.8335	3.2748	1.9340	4.3246	2.0819	6.2168
300	1.8383	5.4971	1.8622	6.6859	1.6123	2.3960	1.6738	2.9896	1.7655	3.9478	1.9005	5.6751
350	1.7019	5.0892	1.7241	6.1900	1.4927	2.2183	1.5496	2.7677	1.6345	3.6549	1.7596	5.2543
400	1.5920	4.7606	1.6127	5.7901	1.3963	2.0750	1.4495	2.5890	1.5290	3.4190	1.6459	4.9148
450	1.5010	4.4884	1.5205	5.4591	1.3165	1.9565	1.3666	2.4409	1.4415	3.2233	1.5518	4.6338
500	1.4239	4.2579	1.4425	5.1790	1.2489	1.8560	1.2965	2.3157	1.3675	3.0579	1.4722	4.3961
600	1.2999	3.8871	1.3168	4.7277	1.1401	1.6943	1.1835	2.1138	1.2484	2.7915	1.3439	4.0130
700	1.2035	3.5988	1.2191	4.3769	1.0555	1.5686	1.0957	1.9570	1.1558	2.5845	1.2442	3.7153
800	1.1257	3.3662	1.1404	4.0944	0.9873	1.4672	1.0250	1.8308	1.0811	2.4174	1.1638	3.4752
900	1.0613	3.1736	1.0752	3.8603	0.9309	1.3834	0.9664	1.7261	1.0193	2.2793	1.0973	3.2766
1000	1.0069	3.0109	1.0200	3.6621	0.8831	1.3124	0.9168	1.6375	0.9670	2.1623	1.0410	3.1085
1500	0.8221	2.4583	0.8328	2.9900	0.7211	1.0716	0.7485	1.3369	0.7896	1.7656	0.8499	2.5379
2000	0.7120	2.1291	0.7212	2.5893	0.6245	0.9281	0.6482	1.1578	0.6838	1.5290	0.7361	2.1981
流量のアップ率(%)	-4.3		-8.3		15.8		10		4.8		0	

溝型柵渠(B型) 流速・流量表 (マンニング公式による満水時)

流速 V (m/sec)
 流量 Q (m³/sec)

No. 5

呼 び	2500 × 1500		3000 × 1500	
通水断面積A(m ²)	3.7361		4.4861	
潤 辺 P (m)	5.3455		5.8455	
径 深 R (m)	0.6989		0.7674	
粗 度 係 数 N	0.022		0.023	
勾 配 I	V	Q	V	Q
1 / 50	5.0625	18.9140	5.1539	23.1209
80	4.0023	14.9530	4.0745	18.2786
100	3.5798	13.3745	3.6443	16.3487
150	2.9229	10.9202	2.9756	13.3488
200	2.5313	9.4572	2.5769	11.5602
250	2.2640	8.4585	2.3049	10.3400
300	2.0668	7.7218	2.1041	9.4392
350	1.9135	7.1490	1.9480	8.7389
400	1.7899	6.6872	1.8222	8.1746
450	1.6875	6.3047	1.7180	7.7071
500	1.6009	5.9811	1.6298	7.3114
600	1.4614	5.4599	1.4878	6.6744
700	1.3530	5.0549	1.3774	6.1792
800	1.2656	4.7284	1.2885	5.7803
900	1.1933	4.4583	1.2148	5.4497
1000	1.1320	4.2293	1.1524	5.1698
1500	0.9243	3.4533	0.9410	4.2214
2000	0.8005	2.9907	0.8149	3.6557
流量のアップ率(%)	0		-4.3	