

WATER  
MEASUREMENT  
TABLES

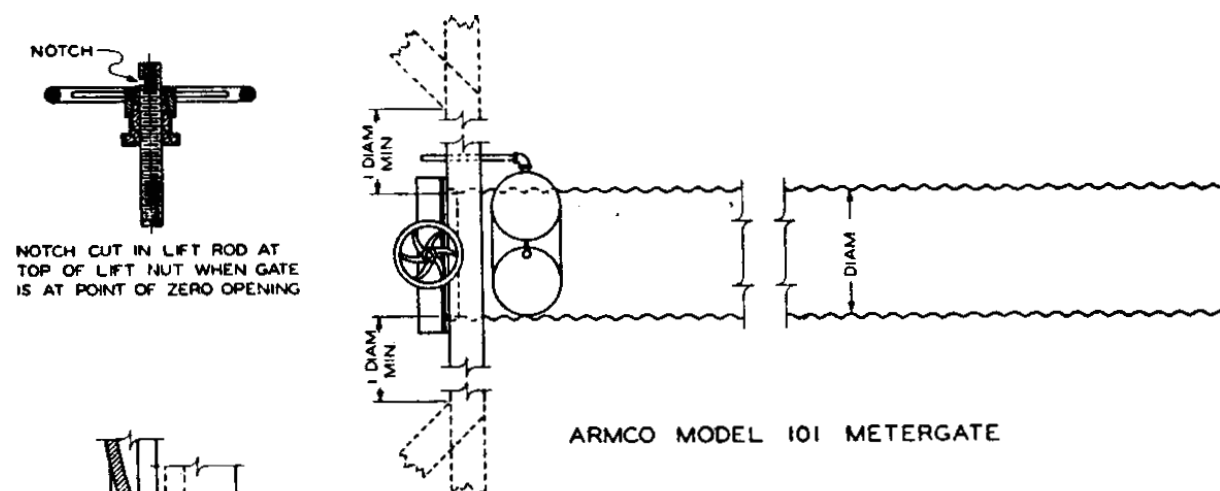
FOR THE ARMCO METERGATE

**NOTE:**

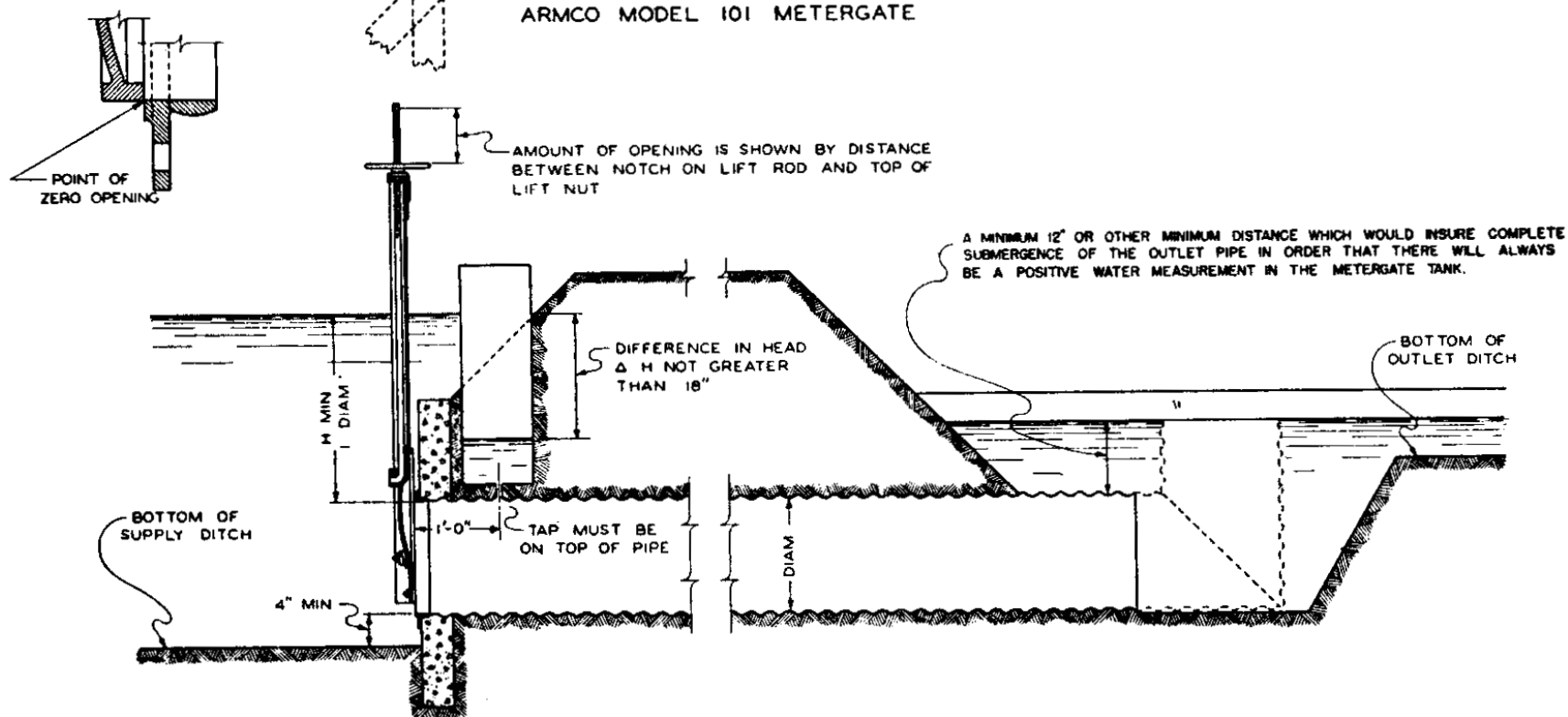
In 1927 the Fresno Irrigation District recognized the need and advantages of having a gate that would both control and measure water with a minimum loss of head.

This district conducted calibration tests on the Armco Model 101 Gate. In 1928 discharge tables derived from this data were published in a booklet titled "Methods and Devices used in the Measurement and Regulation of Flow to Service Ditches, Together with Tables for Field Use." These tables enabled users of the gate to rapidly measure water within the limits of the accuracy of the test and testing facilities available at that time.

Further studies on the Armco Model 101 Gate were made in 1950 by the U. S. Bureau of Reclamation, primarily to determine the limitations of its use. Colorado A & M College cooperated with the Bureau in this work by calibrating additional gates and preparing calibration curves and discharge tables for all sizes of Armco Meter Gates. The results, even with the better laboratory testing equipment available, required only a slight modification of the original tables to meet today's exacting standards of water measurement. The modified tables are printed in this booklet.



ARMCO MODEL 101 METERGATE



INSTALLATION OF ARMCO METERGATE WITH CORRUGATED PIPE

**TABLE I — DISCHARGE DATA — 8' ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches												
	2	2½	3	3½	4	4½	5	5½	6	6½	7	7½	8
	Discharge in Cubic Feet per Second												
1	0.27	0.32	0.38	0.42	0.46	0.51	0.55	0.57	0.59	0.61	0.62	0.63	0.64
1¼	.30	.36	.42	.46	.51	.56	.60	.63	.65	.68	.70	.71	.71
1½	.32	.39	.46	.50	.56	.61	.67	.69	.72	.75	.77	.78	.78
1¾	.35	.42	.49	.54	.60	.66	.72	.75	.78	.81	.83	.84	.85
2	.37	.44	.52	.58	.64	.70	.76	.80	.83	.86	.89	.90	.91
2¼	.39	.46	.54	.61	.67	.74	.80	.84	.88	.92	.94	.96	.97
2½	.41	.49	.57	.64	.70	.77	.85	.89	.93	.96	1.00	1.01	1.02
2¾	.42	.51	.60	.66	.74	.81	.88	.93	.97	1.01	1.04	1.06	1.07
3	.44	.53	.62	.69	.76	.84	.92	.97	1.02	1.06	1.09	1.11	1.12
3¼	.46	.55	.64	.72	.79	.87	.95	1.01	1.06	1.10	1.13	1.15	1.16
3½	.47	.57	.67	.74	.82	.90	.99	1.05	1.10	1.14	1.18	1.20	1.21
3¾	.49	.59	.69	.77	.85	.93	1.02	1.08	1.14	1.18	1.22	1.24	1.26
4	.50	.60	.71	.79	.88	.96	1.05	1.12	1.18	1.22	1.26	1.28	1.30
4¼	.52	.62	.73	.82	.90	.99	1.08	1.15	1.22	1.26	1.30	1.33	1.34
4½	.53	.64	.75	.84	.92	1.02	1.11	1.19	1.25	1.30	1.34	1.37	1.38
4¾	.54	.65	.76	.86	.95	1.04	1.14	1.22	1.29	1.34	1.38	1.41	1.42
5	.56	.67	.78	.88	.97	1.07	1.17	1.25	1.32	1.37	1.42	1.44	1.46
5½	.58	.70	.81	.91	1.01	1.12	1.22	1.31	1.38	1.44	1.49	1.52	1.54
6	.60	.72	.84	.95	1.06	1.17	1.27	1.36	1.44	1.50	1.55	1.58	1.60
6½	.62	.75	.87	.99	1.10	1.22	1.32	1.42	1.50	1.56	1.61	1.65	1.67
7	.64	.77	.90	1.03	1.15	1.26	1.37	1.47	1.55	1.62	1.67	1.71	1.74
7½	.66	.80	.94	1.06	1.19	1.31	1.42	1.53	1.61	1.68	1.73	1.77	1.80
8	.68	.82	.96	1.10	1.22	1.35	1.47	1.58	1.66	1.73	1.79	1.83	1.86
8½	.70	.85	1.00	1.13	1.26	1.39	1.52	1.62	1.71	1.78	1.84	1.88	1.92
9	.72	.87	1.02	1.16	1.30	1.43	1.56	1.67	1.76	1.84	1.89	1.94	1.97
9½	.74	.90	1.05	1.19	1.33	1.47	1.60	1.72	1.81	1.89	1.94	1.99	2.02
10	.76	.92	1.08	1.22	1.37	1.51	1.64	1.76	1.85	1.94	1.99	2.04	2.08
11	.79	.96	1.13	1.28	1.44	1.58	1.72	1.85	1.94	2.03	2.09	2.14	2.18
12	.83	1.01	1.18	1.34	1.50	1.66	1.80	1.93	2.03	2.12	2.18	2.24	2.27
13	.86	1.05	1.23	1.40	1.56	1.72	1.87	2.01	2.12	2.21	2.28	2.33	2.37
14	.89	1.09	1.28	1.45	1.62	1.79	1.94	2.08	2.20	2.29	2.36	2.42	2.46
15	.92	1.13	1.32	1.50	1.68	1.85	2.01	2.16	2.27	2.37	2.44	2.50	2.54
16	.95	1.16	1.37	1.55	1.73	1.91	2.08	2.23	2.35	2.45	2.52	2.58	2.62
17	.98	1.20	1.41	1.60	1.78	1.97	2.14	2.30	2.42	2.52	2.60	2.66	2.71
18	1.01	1.23	1.45	1.64	1.84	2.03	2.20	2.36	2.49	2.60	2.68	2.74	2.79

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE II — DISCHARGE DATA — 10' ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches												
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10
	Discharge in Cubic Feet per Second												
1	0.31	0.39	0.45	0.51	0.56	0.62	0.67	0.72	0.77	0.86	0.93	0.97	0.99
1¼	.34	.43	.50	.56	.62	.69	.75	.80	.86	.96	1.03	1.07	1.10
1½	.37	.47	.54	.61	.68	.75	.81	.87	.94	1.05	1.12	1.17	1.20
1¾	.40	.50	.58	.65	.73	.80	.87	.94	1.01	1.12	1.21	1.27	1.30
2	.43	.53	.62	.69	.78	.85	.93	.99	1.08	1.19	1.29	1.36	1.39
2¼	.46	.56	.65	.73	.82	.89	.98	1.04	1.14	1.26	1.37	1.45	1.48
2½	.49	.59	.68	.77	.86	.93	1.03	1.09	1.20	1.33	1.45	1.53	1.57
2¾	.52	.62	.71	.81	.90	.97	1.08	1.14	1.25	1.39	1.52	1.60	1.65
3	.54	.64	.74	.84	.94	1.01	1.12	1.19	1.30	1.45	1.59	1.67	1.72
3¼	.56	.66	.77	.87	.98	1.05	1.16	1.24	1.35	1.51	1.66	1.74	1.78
3½	.58	.68	.80	.90	1.01	1.09	1.20	1.29	1.40	1.57	1.72	1.80	1.84
3¾	.60	.70	.83	.93	1.04	1.13	1.24	1.34	1.45	1.62	1.78	1.86	1.90
4	.62	.72	.86	.96	1.07	1.17	1.28	1.39	1.50	1.67	1.84	1.92	1.96
4¼	.64	.74	.88	.99	1.10	1.21	1.32	1.43	1.55	1.72	1.89	1.98	2.02
4½	.66	.76	.90	1.02	1.13	1.25	1.36	1.47	1.59	1.77	1.94	2.04	2.08
4¾	.68	.78	.92	1.05	1.16	1.29	1.40	1.51	1.63	1.82	1.99	2.10	2.14
5	.70	.80	.94	1.08	1.19	1.32	1.44	1.55	1.67	1.87	2.04	2.16	2.20
5½	.73	.84	.98	1.13	1.25	1.38	1.51	1.63	1.75	1.96	2.14	2.26	2.32
6	.75	.88	1.02	1.18	1.30	1.44	1.58	1.70	1.83	2.05	2.24	2.36	2.44
6½	.77	.91	1.06	1.22	1.35	1.50	1.64	1.77	1.91	2.14	2.34	2.46	2.55
7	.79	.94	1.10	1.26	1.40	1.56	1.70	1.84	1.98	2.22	2.42	2.56	2.64
7½	.81	.97	1.14	1.30	1.45	1.61	1.76	1.90	2.05	2.30	2.50	2.65	2.73
8	.83	1.00	1.18	1.34	1.50	1.66	1.82	1.96	2.12	2.37	2.58	2.74	2.82
8½	.85	1.03	1.22	1.38	1.55	1.71	1.87	2.02	2.18	2.44	2.66	2.82	2.91
9	.87	1.06	1.26	1.42	1.60	1.76	1.92	2.08	2.24	2.51	2.74	2.90	3.00
9½	.89	1.09	1.30	1.46	1.64	1.81	1.97	2.14	2.30	2.58	2.82	2.98	3.09
10	.91	1.12	1.33	1.50	1.68	1.86	2.02	2.20	2.36	2.65	2.90	3.06	3.17
11	.95	1.17	1.39	1.57	1.76	1.95	2.12	2.30	2.48	2.78	3.04	3.21	3.32
12	.99	1.22	1.45	1.64	1.84	2.04	2.22	2.40	2.59	2.90	3.17	3.36	3.47
13	1.03	1.27	1.51	1.71	1.92	2.12	2.31	2.50	2.70	3.02	3.30	3.50	3.62
14	1.07	1.32	1.56	1.78	1.99	2.20	2.40	2.60	2.80	3.14	3.42	3.62	3.76
15	1.11	1.37	1.61	1.84	2.06	2.28	2.48	2.69	2.90	3.24	3.54	3.74	3.88
16	1.15	1.42	1.66	1.90	2.12	2.36	2.56	2.78	2.99	3.34	3.66	3.86	4.00
17	1.19	1.46	1.71	1.96	2.18	2.43	2.64	2.86	3.08	3.44	3.77	3.98	4.12
18	1.23	1.50	1.76	2.02	2.24	2.50	2.72	2.94	3.17	3.54	3.88	4.10	4.24

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE III — DISCHARGE DATA — 12' ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches														
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
	Discharge in Cubic Feet per Second														
1	0.36	0.46	0.53	0.60	0.67	0.74	0.80	0.86	0.93	1.06	1.16	1.27	1.35	1.38	1.40
1¼	.40	.51	.58	.67	.74	.82	.89	.95	1.03	1.17	1.29	1.41	1.50	1.55	1.57
1½	.44	.55	.63	.73	.81	.89	.97	1.04	1.12	1.28	1.41	1.54	1.64	1.70	1.73
1¾	.47	.59	.68	.78	.87	.95	1.04	1.12	1.21	1.38	1.52	1.66	1.77	1.83	1.86
2	.50	.63	.73	.83	.93	1.01	1.10	1.19	1.29	1.47	1.62	1.77	1.89	1.96	1.99
2¼	.53	.67	.78	.88	.98	1.07	1.16	1.26	1.36	1.55	1.71	1.87	2.00	2.08	2.12
2½	.56	.70	.82	.92	1.03	1.13	1.22	1.32	1.43	1.63	1.80	1.97	2.11	2.20	2.23
2¾	.59	.73	.85	.96	1.08	1.18	1.28	1.38	1.49	1.70	1.88	2.06	2.21	2.31	2.34
3	.61	.76	.88	1.00	1.12	1.23	1.34	1.44	1.55	1.77	1.96	2.14	2.31	2.41	2.45
3¼	.63	.79	.91	1.04	1.16	1.28	1.39	1.50	1.61	1.84	2.04	2.22	2.40	2.50	2.55
3½	.65	.82	.94	1.08	1.20	1.33	1.44	1.56	1.67	1.91	2.12	2.30	2.49	2.59	2.65
3¾	.67	.84	.97	1.11	1.23	1.38	1.49	1.61	1.73	1.98	2.19	2.38	2.57	2.68	2.74
4	.69	.86	1.00	1.14	1.27	1.42	1.54	1.66	1.79	2.04	2.26	2.46	2.65	2.77	2.83
4¼	.71	.89	1.03	1.17	1.31	1.46	1.59	1.71	1.85	2.10	2.33	2.54	2.73	2.86	2.92
4½	.73	.92	1.06	1.20	1.35	1.50	1.64	1.76	1.90	2.16	2.40	2.62	2.81	2.94	3.01
4¾	.75	.94	1.09	1.23	1.39	1.54	1.68	1.81	1.95	2.22	2.47	2.69	2.89	3.02	3.10
5	.77	.96	1.12	1.26	1.42	1.58	1.72	1.86	2.00	2.28	2.54	2.76	2.96	3.10	3.19
5½	.80	1.00	1.17	1.32	1.49	1.66	1.80	1.95	2.10	2.39	2.66	2.89	3.10	3.24	3.34
6	.83	1.04	1.22	1.38	1.56	1.73	1.88	2.04	2.19	2.50	2.78	3.02	3.24	3.38	3.48
6¼	.86	1.08	1.27	1.44	1.62	1.80	1.96	2.12	2.28	2.60	2.89	3.14	3.37	3.52	3.62
7	.89	1.12	1.31	1.49	1.68	1.87	2.04	2.20	2.36	2.70	3.00	3.26	3.50	3.65	3.76
7½	.92	1.16	1.35	1.54	1.74	1.93	2.11	2.28	2.44	2.79	3.10	3.38	3.62	3.78	3.89
8	.95	1.20	1.39	1.59	1.80	1.99	2.18	2.35	2.52	2.88	3.20	3.49	3.74	3.90	4.02
8½	.98	1.24	1.43	1.64	1.86	2.05	2.25	2.42	2.60	2.97	3.30	3.60	3.85	4.02	4.14
9	1.01	1.27	1.47	1.69	1.91	2.11	2.31	2.49	2.68	3.06	3.40	3.70	3.96	4.14	4.26
9½	1.04	1.30	1.51	1.74	1.96	2.17	2.37	2.56	2.75	3.14	3.50	3.80	4.07	4.25	4.38
10	1.07	1.33	1.55	1.79	2.01	2.23	2.43	2.63	2.82	3.22	3.59	3.90	4.18	4.36	4.49
11	1.12	1.39	1.63	1.87	2.11	2.34	2.55	2.76	2.96	3.38	3.76	4.09	4.38	4.57	4.70
12	1.17	1.45	1.70	1.95	2.21	2.44	2.67	2.88	3.10	3.53	3.93	4.27	4.58	4.78	4.92
13	1.22	1.51	1.77	2.03	2.30	2.54	2.78	3.00	3.22	3.68	4.09	4.45	4.77	4.98	5.12
14	1.27	1.57	1.84	2.11	2.38	2.64	2.88	3.11	3.34	3.81	4.24	4.61	4.95	5.17	5.31
15	1.32	1.62	1.90	2.19	2.46	2.73	2.98	3.22	3.46	3.94	4.39	4.77	5.12	5.35	5.49
16	1.36	1.67	1.96	2.26	2.54	2.82	3.08	3.33	3.57	4.07	4.53	4.93	5.29	5.52	5.67
17	1.40	1.72	2.02	2.33	2.62	2.91	3.17	3.43	3.68	4.20	4.67	5.08	5.45	5.69	5.85
18	1.44	1.77	2.08	2.39	2.70	2.99	3.26	3.53	3.79	4.33	4.81	5.23	5.61	5.85	6.02

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE IV — DISCHARGE DATA — 14" ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches																
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12	13	14
	Discharge in Cubic Feet per Second																
1	0.44	0.53	0.62	0.70	0.78	0.86	0.93	1.01	1.07	1.21	1.35	1.49	1.60	1.72	1.81	1.87	1.91
1¼	.49	.59	.68	.77	.86	.95	1.03	1.12	1.19	1.34	1.50	1.65	1.78	1.91	2.01	2.08	2.12
1½	.53	.64	.74	.84	.94	1.03	1.12	1.22	1.30	1.46	1.64	1.80	1.95	2.09	2.20	2.29	2.33
1¾	.57	.69	.79	.91	1.01	1.10	1.21	1.31	1.40	1.57	1.77	1.94	2.09	2.25	2.38	2.47	2.53
2	.60	.73	.84	.96	1.07	1.17	1.28	1.39	1.49	1.67	1.88	2.07	2.23	2.41	2.54	2.65	2.71
2¼	.63	.77	.89	1.01	1.13	1.24	1.35	1.47	1.57	1.77	1.98	2.19	2.37	2.55	2.69	2.82	2.88
2½	.66	.81	.94	1.06	1.19	1.31	1.42	1.54	1.65	1.87	2.08	2.31	2.50	2.68	2.83	2.98	3.03
2¾	.69	.85	.98	1.11	1.24	1.37	1.49	1.61	1.73	1.96	2.18	2.42	2.62	2.81	2.96	3.13	3.18
3	.72	.88	1.02	1.16	1.29	1.43	1.55	1.68	1.81	2.05	2.28	2.53	2.73	2.93	3.09	3.27	3.33
3¼	.75	.91	1.06	1.20	1.34	1.48	1.61	1.75	1.89	2.13	2.37	2.63	2.84	3.05	3.22	3.39	3.47
3½	.78	.94	1.10	1.24	1.39	1.53	1.67	1.82	1.96	2.21	2.46	2.73	2.95	3.16	3.34	3.50	3.60
3¾	.81	.97	1.14	1.28	1.44	1.58	1.73	1.88	2.03	2.29	2.55	2.82	3.05	3.27	3.46	3.61	3.73
4	.83	1.00	1.18	1.32	1.49	1.63	1.79	1.94	2.10	2.36	2.63	2.91	3.15	3.38	3.57	3.72	3.86
4¼	.85	1.03	1.21	1.36	1.53	1.68	1.84	2.00	2.16	2.43	2.71	3.00	3.25	3.49	3.68	3.83	3.98
4½	.87	1.06	1.24	1.40	1.57	1.73	1.89	2.06	2.22	2.51	2.79	3.09	3.35	3.59	3.79	3.94	4.10
4¾	.89	1.09	1.27	1.44	1.61	1.78	1.94	2.12	2.28	2.58	2.87	3.18	3.44	3.69	3.89	4.05	4.21
5	.91	1.12	1.30	1.48	1.65	1.83	1.99	2.18	2.34	2.65	2.95	3.26	3.53	3.79	3.99	4.16	4.31
5½	.95	1.17	1.36	1.55	1.73	1.92	2.09	2.28	2.46	2.77	3.09	3.42	3.70	3.97	4.19	4.36	4.51
6	.99	1.21	1.41	1.62	1.81	2.00	2.19	2.38	2.57	2.89	3.23	3.57	3.86	4.15	4.37	4.55	4.70
6½	1.03	1.25	1.46	1.68	1.88	2.08	2.28	2.48	2.67	3.01	3.36	3.72	4.02	4.32	4.55	4.74	4.89
7	1.07	1.29	1.51	1.74	1.95	2.16	2.36	2.57	2.77	3.12	3.48	3.86	4.17	4.48	4.72	4.92	5.08
7½	1.11	1.33	1.56	1.80	2.02	2.24	2.44	2.66	2.87	3.23	3.60	3.99	4.32	4.63	4.89	5.09	5.26
8	1.15	1.37	1.61	1.86	2.09	2.31	2.52	2.75	2.96	3.34	3.72	4.12	4.46	4.78	5.05	5.25	5.43
8½	1.18	1.41	1.66	1.92	2.16	2.38	2.60	2.84	3.05	3.44	3.84	4.25	4.60	4.93	5.20	5.41	5.59
9	1.21	1.45	1.71	1.98	2.22	2.45	2.68	2.92	3.14	3.54	3.95	4.37	4.73	5.07	5.35	5.57	5.75
9½	1.24	1.49	1.76	2.03	2.28	2.52	2.75	3.00	3.23	3.64	4.06	4.49	4.86	5.21	5.50	5.72	5.91
10	1.27	1.53	1.81	2.08	2.34	2.59	2.82	3.08	3.31	3.74	4.16	4.61	4.99	5.35	5.64	5.87	6.07
11	1.32	1.61	1.90	2.18	2.45	2.71	2.96	3.23	3.48	3.92	4.36	4.83	5.22	5.61	5.92	6.16	6.36
12	1.37	1.68	1.98	2.28	2.56	2.83	3.09	3.37	3.65	4.09	4.56	5.05	5.45	5.86	6.19	6.44	6.65
13	1.42	1.75	2.06	2.37	2.66	2.95	3.22	3.51	3.79	4.26	4.75	5.26	5.68	6.10	6.44	6.70	6.92
14	1.47	1.81	2.14	2.46	2.76	3.06	3.34	3.64	3.92	4.42	4.92	5.46	5.90	6.33	6.68	6.95	7.18
15	1.52	1.87	2.21	2.55	2.86	3.17	3.46	3.77	4.05	4.58	5.09	5.65	6.10	6.55	6.91	7.20	7.43
16	1.57	1.93	2.28	2.63	2.96	3.27	3.57	3.89	4.18	4.73	5.26	5.83	6.30	6.77	7.14	7.44	7.68
17	1.62	1.99	2.35	2.71	3.05	3.37	3.68	4.01	4.31	4.87	5.43	6.01	6.50	6.98	7.36	7.67	7.92
18	1.66	2.05	2.42	2.79	3.14	3.47	3.79	4.13	4.44	5.01	5.59	6.19	6.69	7.19	7.57	7.89	8.15

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE V — DISCHARGE DATA — 15" ARMC0 METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches																	
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12	13	14	15
	Discharge in Cubic Feet per Second																	
1	0.46	0.57	0.66	0.75	0.83	0.91	0.98	1.07	1.14	1.30	1.43	1.58	1.71	1.84	1.94	2.04	2.13	2.18
1¼	.51	.62	.73	.83	.92	1.02	1.09	1.19	1.27	1.44	1.59	1.75	1.90	2.05	2.17	2.29	2.38	2.43
1½	.55	.67	.79	.91	1.00	1.11	1.19	1.30	1.38	1.57	1.74	1.91	2.08	2.24	2.38	2.51	2.62	2.67
1¾	.59	.72	.85	.98	1.08	1.19	1.28	1.39	1.49	1.68	1.87	2.06	2.24	2.41	2.57	2.72	2.83	2.90
2	.63	.77	.90	1.04	1.15	1.27	1.37	1.48	1.59	1.79	1.99	2.20	2.39	2.58	2.75	2.90	3.03	3.09
2¼	.67	.81	.95	1.10	1.22	1.34	1.45	1.57	1.68	1.89	2.11	2.33	2.54	2.73	2.91	3.07	3.22	3.28
2½	.70	.85	1.00	1.15	1.28	1.41	1.53	1.65	1.76	1.99	2.22	2.45	2.68	2.87	3.07	3.24	3.40	3.46
2¾	.73	.89	1.05	1.20	1.33	1.48	1.60	1.73	1.84	2.09	2.33	2.57	2.81	3.01	3.21	3.40	3.57	3.64
3	.76	.93	1.09	1.25	1.38	1.54	1.67	1.80	1.92	2.18	2.43	2.69	2.93	3.14	3.35	3.54	3.73	3.81
3¼	.79	.97	1.13	1.29	1.43	1.60	1.73	1.87	2.00	2.27	2.53	2.80	3.05	3.27	3.49	3.68	3.88	3.97
3½	.82	1.00	1.17	1.33	1.48	1.65	1.79	1.94	2.08	2.36	2.63	2.90	3.17	3.39	3.62	3.82	4.01	4.11
3¾	.85	1.03	1.21	1.37	1.53	1.70	1.85	2.01	2.15	2.44	2.72	3.00	3.28	3.51	3.75	3.96	4.14	4.25
4	.88	1.06	1.25	1.41	1.58	1.75	1.91	2.07	2.22	2.52	2.81	3.10	3.39	3.63	3.87	4.09	4.27	4.39
4¼	.91	1.09	1.29	1.45	1.63	1.80	1.97	2.13	2.29	2.60	2.90	3.20	3.49	3.74	3.99	4.21	4.40	4.53
4½	.93	1.12	1.32	1.49	1.68	1.85	2.03	2.19	2.36	2.68	2.98	3.29	3.59	3.85	4.10	4.33	4.53	4.67
4¾	.95	1.15	1.35	1.53	1.73	1.90	2.09	2.25	2.42	2.75	3.06	3.38	3.69	3.96	4.21	4.45	4.65	4.80
5	.97	1.18	1.38	1.57	1.77	1.95	2.14	2.31	2.48	2.82	3.14	3.47	3.79	4.06	4.32	4.57	4.77	4.92
5½	1.01	1.23	1.44	1.64	1.85	2.05	2.24	2.43	2.60	2.96	3.30	3.63	3.97	4.26	4.54	4.79	5.00	5.14
6	1.05	1.28	1.50	1.71	1.93	2.14	2.34	2.54	2.72	3.09	3.44	3.79	4.15	4.44	4.74	5.00	5.22	5.36
6½	1.09	1.33	1.56	1.78	2.01	2.23	2.44	2.64	2.83	3.22	3.58	3.95	4.32	4.62	4.93	5.20	5.43	5.58
7	1.13	1.38	1.62	1.85	2.09	2.31	2.53	2.74	2.93	3.34	3.72	4.10	4.48	4.79	5.11	5.40	5.64	5.79
7½	1.17	1.42	1.68	1.92	2.16	2.39	2.62	2.84	3.03	3.46	3.85	4.25	4.64	4.96	5.29	5.59	5.84	5.99
8	1.21	1.46	1.73	1.98	2.23	2.47	2.71	2.93	3.13	3.57	3.98	4.39	4.79	5.13	5.47	5.78	6.03	6.19
8½	1.24	1.50	1.78	2.04	2.30	2.55	2.79	3.02	3.23	3.68	4.10	4.52	4.93	5.29	5.64	5.95	6.22	6.38
9	1.27	1.54	1.83	2.10	2.37	2.62	2.87	3.11	3.33	3.79	4.22	4.65	5.07	5.44	5.80	6.12	6.40	6.56
9½	1.30	1.58	1.88	2.16	2.43	2.69	2.95	3.19	3.42	3.89	4.34	4.78	5.21	5.59	5.96	6.29	6.58	6.74
10	1.33	1.62	1.93	2.22	2.49	2.76	3.03	3.27	3.51	3.99	4.45	4.91	5.35	5.73	6.11	6.46	6.75	6.92
11	1.39	1.70	2.03	2.32	2.61	2.90	3.17	3.43	3.68	4.18	4.66	5.14	5.61	6.01	6.41	6.77	7.07	7.26
12	1.45	1.78	2.12	2.42	2.73	3.03	3.31	3.59	3.84	4.37	4.87	5.37	5.86	6.29	6.70	7.07	7.39	7.59
13	1.50	1.85	2.21	2.52	2.84	3.15	3.45	3.73	4.00	4.55	5.07	5.59	6.10	6.54	6.97	7.36	7.69	7.89
14	1.55	1.92	2.29	2.62	2.95	3.27	3.58	3.87	4.15	4.72	5.26	5.80	6.34	6.79	7.24	7.64	7.98	8.19
15	1.60	1.99	2.37	2.71	3.05	3.38	3.70	4.01	4.30	4.88	5.44	6.00	6.56	7.03	7.49	7.91	8.26	8.47
16	1.65	2.05	2.45	2.80	3.15	3.49	3.82	4.14	4.44	5.04	5.62	6.20	6.77	7.26	7.73	8.17	8.53	8.75
17	1.70	2.11	2.52	2.89	3.25	3.60	3.94	4.27	4.57	5.20	5.80	6.39	6.98	7.48	7.97	8.42	8.80	9.02
18	1.75	2.17	2.59	2.97	3.34	3.70	4.05	4.39	4.70	5.35	5.96	6.58	7.18	7.69	8.20	8.66	9.05	9.28

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.



**TABLE VI — DISCHARGE DATA — 16" ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches																		
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12	13	14	15	16
	Discharge in Cubic Feet per Second																		
1	0.49	0.59	0.70	0.79	0.89	0.97	1.05	1.14	1.22	1.37	1.53	1.68	1.83	1.96	2.10	2.24	2.35	2.43	2.47
1¼	.55	.66	.77	.88	.98	1.08	1.16	1.27	1.36	1.52	1.70	1.87	2.04	2.19	2.34	2.50	2.63	2.72	2.78
1½	.59	.72	.84	.96	1.07	1.18	1.27	1.39	1.48	1.66	1.86	2.04	2.22	2.39	2.56	2.74	2.89	2.98	3.05
1¾	.63	.77	.90	1.03	1.15	1.27	1.37	1.49	1.59	1.79	1.99	2.20	2.40	2.57	2.76	2.96	3.12	3.23	3.31
2	.67	.82	.96	1.10	1.23	1.35	1.46	1.59	1.69	1.91	2.12	2.34	2.56	2.74	2.94	3.16	3.31	3.46	3.54
2¼	.71	.86	1.02	1.16	1.30	1.43	1.54	1.68	1.79	2.02	2.25	2.48	2.71	2.91	3.11	3.33	3.50	3.66	3.75
2½	.75	.90	1.07	1.21	1.36	1.50	1.62	1.76	1.89	2.13	2.37	2.61	2.85	3.08	3.28	3.50	3.68	3.85	3.95
2¾	.78	.94	1.12	1.26	1.42	1.57	1.69	1.84	1.98	2.23	2.49	2.74	2.99	3.23	3.44	3.67	3.86	4.03	4.14
3	.81	.98	1.16	1.31	1.48	1.64	1.76	1.92	2.06	2.33	2.60	2.86	3.12	3.37	3.59	3.83	4.04	4.20	4.33
3¼	.84	1.02	1.20	1.36	1.54	1.70	1.84	2.00	2.14	2.43	2.71	2.98	3.25	3.51	3.74	3.99	4.20	4.37	4.51
3½	.87	1.06	1.24	1.41	1.59	1.75	1.91	2.08	2.22	2.52	2.81	3.09	3.37	3.64	3.88	4.14	4.36	4.53	4.69
3¾	.90	1.09	1.28	1.46	1.64	1.81	1.98	2.15	2.30	2.61	2.91	3.20	3.49	3.77	4.02	4.28	4.52	4.69	4.86
4	.93	1.12	1.32	1.51	1.69	1.87	2.05	2.22	2.38	2.69	3.00	3.31	3.61	3.89	4.15	4.42	4.67	4.85	5.02
4¼	.96	1.15	1.36	1.56	1.74	1.93	2.11	2.29	2.45	2.77	3.09	3.41	3.72	4.01	4.28	4.56	4.81	5.00	5.18
4½	.99	1.18	1.40	1.61	1.79	1.99	2.17	2.36	2.52	2.85	3.18	3.51	3.83	4.13	4.40	4.69	4.95	5.15	5.32
4¾	1.02	1.21	1.44	1.65	1.84	2.04	2.23	2.42	2.59	2.93	3.27	3.61	3.94	4.24	4.52	4.82	5.09	5.29	5.46
5	1.04	1.24	1.48	1.69	1.89	2.09	2.29	2.48	2.66	3.01	3.36	3.70	4.04	4.35	4.64	4.95	5.22	5.43	5.59
5½	1.08	1.30	1.55	1.76	1.98	2.19	2.40	2.60	2.79	3.16	3.52	3.88	4.24	4.56	4.87	5.19	5.47	5.69	5.85
6	1.12	1.36	1.61	1.83	2.07	2.28	2.50	2.71	2.91	3.30	3.68	4.05	4.42	4.76	5.08	5.42	5.71	5.94	6.10
6½	1.16	1.41	1.67	1.90	2.15	2.37	2.60	2.82	3.03	3.43	3.83	4.21	4.60	4.96	5.29	5.64	5.95	6.18	6.35
7	1.20	1.46	1.73	1.97	2.23	2.46	2.70	2.93	3.14	3.56	3.97	4.37	4.77	5.15	5.49	5.85	6.18	6.41	6.59
7½	1.24	1.51	1.79	2.04	2.31	2.55	2.80	3.04	3.25	3.69	4.11	4.53	4.94	5.33	5.68	6.06	6.39	6.64	6.82
8	1.28	1.56	1.85	2.11	2.39	2.63	2.89	3.14	3.36	3.81	4.25	4.68	5.11	5.50	5.87	6.26	6.60	6.86	7.05
8½	1.31	1.60	1.90	2.18	2.46	2.71	2.98	3.24	3.46	3.93	4.38	4.82	5.26	5.67	6.05	6.45	6.81	7.07	7.27
9	1.34	1.64	1.95	2.24	2.53	2.79	3.07	3.33	3.56	4.04	4.51	4.96	5.41	5.83	6.23	6.64	7.01	7.27	7.48
9½	1.37	1.68	2.00	2.30	2.60	2.87	3.15	3.42	3.66	4.15	4.63	5.10	5.56	5.99	6.40	6.83	7.20	7.47	7.68
10	1.40	1.72	2.05	2.36	2.67	2.95	3.23	3.51	3.75	4.26	4.75	5.23	5.71	6.15	6.56	7.00	7.39	7.67	7.88
11	1.46	1.80	2.15	2.48	2.80	3.09	3.39	3.68	3.93	4.46	4.98	5.48	5.98	6.45	6.88	7.34	7.74	8.04	8.26
12	1.52	1.88	2.25	2.59	2.92	3.23	3.54	3.84	4.11	4.66	5.20	5.73	6.25	6.74	7.19	7.66	8.09	8.40	8.63
13	1.58	1.96	2.34	2.69	3.04	3.36	3.68	4.00	4.28	4.85	5.41	5.96	6.50	7.01	7.48	7.98	8.41	8.74	8.98
14	1.64	2.04	2.43	2.79	3.15	3.49	3.82	4.15	4.44	5.03	5.61	6.19	6.75	7.28	7.76	8.27	8.73	9.07	9.32
15	1.70	2.11	2.51	2.89	3.26	3.61	3.96	4.29	4.60	5.21	5.81	6.40	6.99	7.54	8.04	8.56	9.04	9.39	9.65
16	1.76	2.18	2.59	2.99	3.37	3.73	4.09	4.43	4.75	5.38	6.00	6.61	7.22	7.79	8.30	8.85	9.34	9.70	9.96
17	1.81	2.25	2.67	3.08	3.48	3.84	4.22	4.57	4.90	5.55	6.19	6.82	7.44	8.03	8.56	9.13	9.63	10.00	10.27
18	1.86	2.31	2.75	3.16	3.58	3.95	4.34	4.70	5.04	5.71	6.37	7.01	7.65	8.25	8.80	9.39	9.90	10.28	10.56

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE VII — DISCHARGE DATA — 18' ARMC0 METERGATE MODEL No. 101**

Head in In's.	Net Gate Opening in Inches																				
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12	13	14	15	16	17	18
	Discharge in Cubic Feet per Second																				
1	0.54	0.66	0.77	0.89	0.99	1.10	1.20	1.30	1.38	1.56	1.73	1.90	2.07	2.25	2.39	2.54	2.71	2.84	2.96	3.07	3.14
1¼	.60	.73	.86	.98	1.09	1.22	1.32	1.43	1.54	1.73	1.92	2.11	2.30	2.50	2.66	2.84	3.02	3.16	3.31	3.44	3.52
1½	.65	.80	.94	1.07	1.19	1.33	1.44	1.56	1.67	1.89	2.10	2.30	2.51	2.72	2.89	3.10	3.31	3.47	3.62	3.75	3.85
1¾	.70	.86	1.01	1.15	1.28	1.43	1.56	1.68	1.80	2.02	2.26	2.48	2.70	2.92	3.12	3.34	3.56	3.74	3.90	4.05	4.15
2	.75	.92	1.07	1.22	1.37	1.52	1.66	1.79	1.92	2.16	2.41	2.65	2.88	3.12	3.35	3.55	3.79	3.99	4.17	4.33	4.43
2¼	.79	.97	1.13	1.29	1.45	1.60	1.75	1.90	2.03	2.29	2.55	2.81	3.06	3.31	3.54	3.77	4.01	4.21	4.41	4.61	4.70
2½	.83	1.02	1.18	1.36	1.52	1.68	1.84	2.00	2.13	2.41	2.69	2.96	3.23	3.49	3.73	3.97	4.21	4.43	4.63	4.84	4.97
2¾	.87	1.06	1.24	1.42	1.59	1.76	1.93	2.09	2.23	2.52	2.82	3.11	3.39	3.66	3.91	4.16	4.41	4.64	4.85	5.06	5.22
3	.90	1.10	1.29	1.48	1.66	1.84	2.01	2.17	2.32	2.63	2.95	3.25	3.54	3.82	4.08	4.35	4.61	4.84	5.07	5.27	5.44
3¼	.93	1.15	1.34	1.54	1.72	1.91	2.09	2.26	2.41	2.74	3.07	3.38	3.68	3.97	4.25	4.53	4.79	5.04	5.28	5.49	5.66
3½	.96	1.19	1.39	1.59	1.78	1.98	2.17	2.35	2.50	2.85	3.18	3.51	3.82	4.12	4.41	4.70	4.97	5.23	5.47	5.70	5.86
3¾	.99	1.23	1.43	1.64	1.84	2.05	2.24	2.43	2.59	2.95	3.29	3.63	3.95	4.27	4.56	4.86	5.15	5.41	5.66	5.90	6.06
4	1.02	1.27	1.48	1.69	1.90	2.11	2.31	2.51	2.68	3.04	3.40	3.75	4.08	4.41	4.71	5.02	5.32	5.59	5.85	6.09	6.26
4¼	1.05	1.30	1.52	1.74	1.95	2.17	2.38	2.59	2.76	3.14	3.51	3.87	4.21	4.54	4.86	5.18	5.48	5.76	6.04	6.28	6.46
4½	1.08	1.33	1.56	1.79	2.01	2.23	2.45	2.66	2.84	3.23	3.61	3.98	4.33	4.67	5.00	5.33	5.64	5.93	6.21	6.46	6.65
4¾	1.11	1.37	1.60	1.83	2.07	2.29	2.52	2.73	2.92	3.32	3.71	4.09	4.45	4.81	5.14	5.47	5.80	6.09	6.38	6.64	6.83
5	1.14	1.40	1.64	1.88	2.13	2.35	2.59	2.80	2.99	3.40	3.80	4.19	4.56	4.93	5.26	5.61	5.95	6.26	6.55	6.81	7.00
5½	1.19	1.47	1.72	1.97	2.23	2.46	2.71	2.94	3.14	3.57	3.99	4.40	4.79	5.16	5.52	5.89	6.24	6.56	6.86	7.15	7.35
6	1.24	1.53	1.78	2.05	2.33	2.57	2.83	3.07	3.28	3.73	4.17	4.59	5.00	5.40	5.77	6.15	6.51	6.85	7.17	7.46	7.67
6½	1.28	1.60	1.85	2.13	2.43	2.68	2.95	3.20	3.42	3.88	4.34	4.78	5.21	5.62	6.01	6.41	6.78	7.13	7.46	7.77	7.99
7	1.33	1.64	1.92	2.21	2.52	2.78	3.06	3.32	3.55	4.02	4.50	4.96	5.40	5.83	6.24	6.65	7.04	7.40	7.74	8.06	8.29
7½	1.37	1.68	1.98	2.29	2.61	2.88	3.17	3.44	3.67	4.16	4.66	5.14	5.59	6.04	6.45	6.88	7.28	7.66	8.01	8.35	8.58
8	1.41	1.74	2.04	2.37	2.69	2.97	3.27	3.55	3.79	4.30	4.81	5.31	5.77	6.24	6.66	7.10	7.52	7.91	8.28	8.61	8.86
8½	1.45	1.79	2.10	2.44	2.78	3.06	3.37	3.66	3.91	4.44	4.96	5.47	5.95	6.43	6.86	7.32	7.75	8.15	8.54	8.88	9.13
9	1.49	1.84	2.16	2.51	2.86	3.15	3.47	3.76	4.02	4.56	5.10	5.63	6.12	6.61	7.06	7.54	7.98	8.39	8.78	9.14	9.40
9½	1.54	1.89	2.22	2.58	2.94	3.24	3.57	3.87	4.13	4.69	5.24	5.79	6.30	6.80	7.26	7.74	8.20	8.62	9.02	9.39	9.66
10	1.59	1.93	2.28	2.65	3.02	3.32	3.66	3.97	4.24	4.81	5.38	5.94	6.46	6.98	7.46	7.95	8.41	8.85	9.26	9.64	9.91
11	1.65	2.03	2.39	2.78	3.16	3.48	3.83	4.16	4.44	5.04	5.64	6.22	6.77	7.31	7.81	8.33	8.82	9.27	9.70	10.10	10.38
12	1.71	2.12	2.50	2.90	3.30	3.64	4.00	4.34	4.64	5.26	5.89	6.50	7.07	7.64	8.16	8.70	9.21	9.69	10.13	10.55	10.84
13	1.77	2.20	2.60	3.02	3.43	3.79	4.16	4.52	4.83	5.48	6.13	6.76	7.36	7.95	8.50	9.05	9.59	10.09	10.55	10.98	11.28
14	1.83	2.28	2.70	3.13	3.56	3.93	4.32	4.69	5.01	5.69	6.36	7.02	7.64	8.25	8.81	9.40	9.95	10.47	10.95	11.40	11.72
15	1.89	2.36	2.80	3.24	3.69	4.07	4.48	4.86	5.19	5.89	6.58	7.26	7.91	8.54	9.12	9.72	10.30	10.82	11.32	11.80	12.12
16	1.95	2.44	2.89	3.35	3.81	4.20	4.62	5.01	5.36	6.08	6.80	7.50	8.16	8.82	9.42	10.04	10.63	11.18	11.70	12.18	12.52
17	2.01	2.52	2.98	3.45	3.93	4.33	4.76	5.16	5.52	6.27	7.01	7.73	8.41	9.09	9.71	10.36	10.96	11.52	12.07	12.56	12.92
18	2.07	2.59	3.06	3.55	4.04	4.46	4.90	5.32	5.69	6.45	7.22	7.96	8.66	9.35	10.00	10.65	11.28	11.87	12.42	12.92	13.28

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE VIII — DISCHARGE DATA — 20" ARMCO METERGATE MODEL No. 101**

Head in In's.	Net Gate Opening in Inches																			
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12	13	14	15	16	17
	Discharge in Cubic Feet per Second																			
1	0.58	0.73	0.86	0.96	1.10	1.21	1.32	1.43	1.54	1.75	1.92	2.12	2.29	2.48	2.66	2.84	3.01	3.16	3.31	3.44
1¼	.66	.81	.96	1.09	1.23	1.35	1.48	1.60	1.72	1.95	2.16	2.37	2.56	2.77	2.98	3.18	3.37	3.54	3.71	3.86
1½	.72	.88	1.04	1.18	1.35	1.47	1.61	1.74	1.88	2.12	2.35	2.58	2.79	3.03	3.25	3.47	3.69	3.88	4.06	4.23
1¾	.77	.95	1.11	1.27	1.44	1.58	1.72	1.87	2.02	2.27	2.52	2.77	3.00	3.26	3.50	3.73	3.95	4.18	4.36	4.55
2	.82	1.01	1.18	1.36	1.53	1.68	1.83	1.99	2.15	2.42	2.69	2.95	3.21	3.48	3.73	3.97	4.20	4.46	4.66	4.85
2¼	.87	1.07	1.25	1.44	1.62	1.78	1.94	2.11	2.27	2.56	2.86	3.13	3.42	3.69	3.96	4.21	4.45	4.72	4.95	5.15
2½	.91	1.12	1.31	1.51	1.70	1.87	2.04	2.21	2.38	2.70	3.02	3.31	3.62	3.89	4.18	4.45	4.70	4.97	5.21	5.43
2¾	.95	1.17	1.37	1.58	1.78	1.96	2.13	2.31	2.49	2.84	3.16	3.49	3.80	4.08	4.39	4.66	4.95	5.21	5.46	5.70
3	.99	1.22	1.43	1.65	1.85	2.04	2.22	2.41	2.60	2.96	3.30	3.64	3.96	4.26	4.58	4.86	5.16	5.44	5.70	5.95
3¼	1.03	1.27	1.49	1.71	1.92	2.12	2.31	2.51	2.71	3.08	3.44	3.79	4.12	4.44	4.77	5.06	5.37	5.66	5.94	6.20
3½	1.07	1.31	1.54	1.77	1.99	2.19	2.40	2.61	2.82	3.20	3.56	3.93	4.28	4.60	4.95	5.25	5.57	5.88	6.16	6.43
3¾	1.10	1.35	1.59	1.83	2.06	2.26	2.49	2.70	2.92	3.31	3.68	4.07	4.43	4.76	5.13	5.44	5.77	6.09	6.38	6.65
4	1.13	1.39	1.64	1.88	2.12	2.33	2.57	2.79	3.02	3.42	3.80	4.20	4.57	4.92	5.29	5.62	5.96	6.29	6.58	6.87
4¼	1.16	1.43	1.69	1.93	2.18	2.40	2.65	2.88	3.12	3.52	3.92	4.33	4.71	5.07	5.45	5.79	6.14	6.48	6.78	7.08
4½	1.19	1.47	1.73	1.98	2.24	2.47	2.73	2.96	3.21	3.62	4.04	4.46	4.85	5.22	5.61	5.96	6.32	6.67	6.98	7.29
4¾	1.22	1.51	1.77	2.03	2.30	2.54	2.80	3.04	3.29	3.72	4.16	4.58	4.99	5.36	5.76	6.13	6.50	6.85	7.18	7.50
5	1.25	1.55	1.81	2.08	2.36	2.61	2.87	3.12	3.37	3.82	4.26	4.70	5.12	5.50	5.91	6.29	6.66	7.03	7.36	7.69
5½	1.31	1.61	1.89	2.18	2.48	2.74	3.02	3.28	3.53	4.01	4.47	4.93	5.36	5.77	6.20	6.59	6.98	7.37	7.72	8.06
6	1.37	1.67	1.97	2.28	2.59	2.86	3.15	3.42	3.69	4.19	4.67	5.15	5.60	6.04	6.48	6.89	7.30	7.70	8.06	8.41
6½	1.42	1.73	2.05	2.38	2.69	2.98	3.28	3.56	3.85	4.36	4.86	5.37	5.84	6.28	6.76	7.17	7.60	8.02	8.40	8.76
7	1.47	1.79	2.12	2.47	2.79	3.09	3.40	3.70	3.99	4.53	5.05	5.57	6.06	6.51	7.01	7.45	7.89	8.32	8.72	9.10
7¼	1.52	1.85	2.19	2.56	2.89	3.20	3.52	3.82	4.13	4.68	5.22	5.76	6.26	6.74	7.25	7.70	8.16	8.61	9.02	9.42
8	1.57	1.91	2.26	2.65	2.98	3.30	3.63	3.94	4.26	4.83	5.39	5.95	6.46	6.96	7.48	7.95	8.43	8.88	9.31	9.72
8½	1.61	1.97	2.33	2.73	3.07	3.40	3.74	4.06	4.39	4.98	5.55	6.13	6.66	7.17	7.70	8.19	8.69	9.15	9.60	10.01
9	1.65	2.02	2.40	2.80	3.16	3.50	3.85	4.18	4.52	5.13	5.71	6.31	6.86	7.38	7.92	8.43	8.95	9.42	9.88	10.30
9¼	1.69	2.07	2.47	2.87	3.25	3.60	3.96	4.30	4.65	5.27	5.87	6.49	7.06	7.59	8.14	8.67	9.20	9.69	10.15	10.59
10	1.73	2.12	2.54	2.94	3.34	3.70	4.07	4.42	4.77	5.41	6.03	6.65	7.25	7.79	8.36	8.90	9.44	9.95	10.41	10.88
11	1.81	2.22	2.67	3.08	3.50	3.87	4.28	4.63	5.00	5.67	6.31	6.97	7.60	8.16	8.76	9.32	9.88	10.42	10.91	11.44
12	1.88	2.32	2.79	3.22	3.66	4.04	4.47	4.84	5.22	5.92	6.59	7.29	7.93	8.53	9.16	9.74	10.32	10.89	11.41	11.93
13	1.95	2.42	2.91	3.36	3.81	4.21	4.64	5.04	5.44	6.17	6.87	7.60	8.26	8.88	9.55	10.13	10.76	11.33	11.88	12.40
14	2.02	2.52	3.02	3.49	3.95	4.38	4.81	5.23	5.64	6.40	7.13	7.89	8.57	9.21	9.90	10.52	11.16	11.77	12.32	12.87
15	2.08	2.61	3.12	3.61	4.09	4.53	4.97	5.41	5.84	6.62	7.38	8.15	8.86	9.53	10.24	10.88	11.53	12.18	12.74	13.30
16	2.14	2.70	3.22	3.73	4.22	4.67	5.13	5.58	6.03	6.84	7.62	8.41	9.15	9.85	10.58	11.23	11.90	12.56	13.16	13.72
17	2.20	2.78	3.32	3.84	4.35	4.81	5.29	5.75	6.22	7.05	7.85	8.67	9.43	10.15	10.90	11.58	12.27	12.94	13.58	14.14
18	2.26	2.86	3.41	3.95	4.47	4.95	5.45	5.92	6.40	7.25	8.08	8.93	9.70	10.44	11.22	11.92	12.64	13.32	13.98	14.56

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE IX — DISCHARGE DATA — 21' ARMCO METERGATE MODEL No. 101**

Head in In's.	Net Gate Opening in Inches																				
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12	13	14	15	16	17	18
	Discharge in Cubic Feet per Second																				
1	0.62	0.77	0.91	1.04	1.16	1.28	1.41	1.53	1.63	1.85	2.07	2.27	2.46	2.63	2.83	3.01	3.21	3.38	3.56	3.73	3.87
1¼	.68	.85	1.00	1.15	1.29	1.42	1.56	1.70	1.81	2.05	2.30	2.51	2.73	2.93	3.14	3.34	3.58	3.76	3.97	4.14	4.29
1½	.74	.93	1.09	1.25	1.40	1.55	1.70	1.85	1.97	2.24	2.50	2.74	2.98	3.19	3.43	3.66	3.91	4.10	4.32	4.51	4.69
1¾	.80	1.00	1.18	1.35	1.51	1.67	1.83	1.99	2.13	2.41	2.68	2.95	3.20	3.44	3.69	3.95	4.19	4.40	4.67	4.87	5.05
2	.85	1.06	1.26	1.44	1.61	1.78	1.95	2.12	2.27	2.57	2.86	3.15	3.40	3.67	3.94	4.21	4.46	4.70	4.99	5.20	5.39
2¼	.90	1.12	1.33	1.52	1.70	1.88	2.07	2.25	2.40	2.72	3.02	3.33	3.60	3.90	4.19	4.46	4.72	4.99	5.27	5.50	5.69
2½	.95	1.18	1.40	1.60	1.79	1.98	2.18	2.36	2.52	2.86	3.18	3.51	3.80	4.11	4.41	4.70	4.98	5.26	5.53	5.77	5.99
2¾	.99	1.23	1.46	1.67	1.87	2.07	2.28	2.47	2.63	2.99	3.34	3.68	3.98	4.31	4.62	4.93	5.22	5.51	5.78	6.04	6.27
3	1.03	1.28	1.52	1.74	1.95	2.16	2.37	2.57	2.74	3.12	3.49	3.84	4.15	4.50	4.83	5.15	5.45	5.76	6.02	6.30	6.55
3¼	1.07	1.33	1.57	1.81	2.03	2.24	2.46	2.66	2.85	3.25	3.63	4.00	4.32	4.68	5.03	5.36	5.67	5.99	6.26	6.56	6.82
3½	1.11	1.38	1.62	1.87	2.10	2.32	2.55	2.75	2.96	3.37	3.76	4.15	4.49	4.86	5.22	5.56	5.88	6.21	6.50	6.81	7.07
3¾	1.15	1.42	1.67	1.93	2.17	2.39	2.63	2.84	3.07	3.49	3.90	4.30	4.65	5.03	5.40	5.76	6.09	6.43	6.73	7.05	7.32
4	1.18	1.46	1.72	1.99	2.23	2.46	2.71	2.93	3.17	3.60	4.03	4.44	4.80	5.20	5.58	5.95	6.29	6.65	6.95	7.28	7.56
4¼	1.21	1.50	1.77	2.05	2.29	2.53	2.79	3.02	3.27	3.71	4.15	4.58	4.95	5.36	5.75	6.13	6.49	6.86	7.16	7.50	7.80
4½	1.24	1.54	1.82	2.11	2.35	2.60	2.87	3.11	3.36	3.82	4.27	4.71	5.09	5.51	5.92	6.31	6.68	7.06	7.37	7.72	8.02
4¾	1.27	1.58	1.87	2.16	2.41	2.67	2.95	3.20	3.45	3.92	4.39	4.84	5.23	5.66	6.08	6.49	6.86	7.25	7.57	7.93	8.24
5	1.30	1.62	1.92	2.21	2.47	2.74	3.03	3.28	3.54	4.02	4.50	4.96	5.36	5.81	6.24	6.65	7.04	7.44	7.77	8.14	8.46
5¼	1.36	1.70	2.01	2.31	2.59	2.88	3.17	3.44	3.71	4.22	4.72	5.20	5.62	6.09	6.54	6.97	7.38	7.80	8.15	8.53	8.87
5½	1.42	1.78	2.10	2.40	2.71	3.01	3.31	3.59	3.88	4.41	4.93	5.43	5.87	6.36	6.83	7.29	7.71	8.15	8.51	8.91	9.26
6	1.47	1.84	2.17	2.49	2.82	3.13	3.45	3.73	4.04	4.59	5.13	5.66	6.11	6.62	7.11	7.58	8.02	8.48	8.86	9.28	9.64
6¼	1.52	1.90	2.24	2.58	2.92	3.25	3.58	3.87	4.19	4.76	5.32	5.87	6.35	6.87	7.38	7.87	8.32	8.80	9.20	9.63	10.00
7	1.57	1.96	2.31	2.67	3.02	3.36	3.71	4.01	4.33	4.93	5.51	6.08	6.57	7.11	7.64	8.15	8.62	9.10	9.51	9.96	10.35
7½	1.62	2.02	2.38	2.76	3.12	3.47	3.83	4.15	4.47	5.10	5.70	6.28	6.79	7.35	7.89	8.41	8.90	9.40	9.82	10.28	10.70
8	1.67	2.08	2.45	2.85	3.22	3.58	3.94	4.28	4.61	5.25	5.88	6.48	7.00	7.57	8.13	8.67	9.17	9.70	10.12	10.60	11.02
8½	1.72	2.14	2.52	2.93	3.31	3.68	4.05	4.41	4.75	5.40	6.04	6.66	7.21	7.79	8.36	8.92	9.44	9.98	10.42	10.90	11.34
9	1.76	2.19	2.59	3.01	3.40	3.78	4.16	4.53	4.88	5.55	6.20	6.84	7.41	8.01	8.59	9.16	9.70	10.26	10.72	11.20	11.66
9¼	1.80	2.24	2.66	3.09	3.49	3.88	4.27	4.64	5.01	5.70	6.37	7.02	7.60	8.22	8.82	9.40	9.96	10.53	11.00	11.50	11.97
10	1.88	2.34	2.79	3.24	3.66	4.07	4.48	4.86	5.25	5.97	6.67	7.36	7.96	8.61	9.25	9.85	10.43	11.03	11.52	12.06	12.54
11	1.96	2.44	2.92	3.38	3.83	4.25	4.69	5.08	5.49	6.24	6.97	7.69	8.31	9.00	9.66	10.30	10.90	11.52	12.03	12.60	13.10
12	2.04	2.54	3.04	3.52	3.99	4.42	4.88	5.29	5.70	6.49	7.26	8.00	8.65	9.37	10.06	10.72	11.34	11.99	12.52	13.11	13.63
13	2.11	2.63	3.15	3.65	4.14	4.59	5.06	5.49	5.92	6.74	7.54	8.31	8.99	9.73	10.45	11.12	11.78	12.45	13.00	13.61	14.16
14	2.18	2.72	3.26	3.78	4.28	4.75	5.23	5.68	6.13	6.97	7.80	8.60	9.29	10.07	10.81	11.51	12.18	12.88	13.45	14.10	14.65
15	2.25	2.81	3.37	3.90	4.42	4.91	5.40	5.87	6.33	7.20	8.05	8.88	9.59	10.40	11.16	11.90	12.58	13.30	13.90	14.55	15.13
16	2.31	2.90	3.47	4.02	4.56	5.06	5.57	6.05	6.52	7.43	8.30	9.15	9.89	10.71	11.50	12.26	12.98	13.72	14.33	15.00	15.60
17	2.37	2.98	3.57	4.14	4.69	5.21	5.74	6.22	6.71	7.64	8.54	9.41	10.18	11.02	11.82	12.60	13.35	14.12	14.74	15.43	16.04
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Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE X — DISCHARGE DATA — 24" ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches												
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10
	Discharge in Cubic Feet per Second												
1	0.70	0.86	1.03	1.18	1.32	1.47	1.60	1.75	1.88	2.12	2.36	2.60	2.83
1¼	.77	.95	1.13	1.30	1.46	1.63	1.78	1.94	2.09	2.35	2.62	2.89	3.14
1½	.83	1.04	1.23	1.41	1.59	1.78	1.94	2.11	2.28	2.57	2.85	3.14	3.42
1¾	.89	1.12	1.32	1.52	1.71	1.92	2.09	2.27	2.45	2.77	3.07	3.38	3.69
2	.95	1.19	1.40	1.62	1.82	2.04	2.23	2.42	2.61	2.96	3.28	3.61	3.94
2¼	1.00	1.26	1.48	1.72	1.93	2.16	2.36	2.56	2.76	3.13	3.48	3.83	4.17
2½	1.05	1.32	1.56	1.81	2.03	2.27	2.48	2.69	2.89	3.29	3.67	4.04	4.40
2¾	1.10	1.38	1.63	1.89	2.13	2.37	2.59	2.81	3.02	3.44	3.85	4.24	4.61
3	1.15	1.44	1.70	1.97	2.22	2.47	2.70	2.93	3.15	3.59	4.02	4.43	4.82
3¼	1.20	1.49	1.77	2.04	2.30	2.57	2.80	3.04	3.28	3.74	4.19	4.61	5.02
3½	1.24	1.54	1.83	2.11	2.38	2.66	2.90	3.15	3.40	3.88	4.34	4.78	5.20
3¾	1.28	1.59	1.89	2.18	2.46	2.74	3.00	3.26	3.52	4.01	4.49	4.95	5.38
4	1.32	1.64	1.95	2.25	2.54	2.82	3.10	3.36	3.64	4.14	4.64	5.11	5.56
4¼	1.36	1.69	2.01	2.32	2.61	2.90	3.19	3.46	3.75	4.27	4.78	5.27	5.73
4½	1.40	1.74	2.06	2.39	2.68	2.98	3.28	3.56	3.86	4.40	4.92	5.42	5.90
4¾	1.44	1.79	2.11	2.45	2.75	3.06	3.37	3.66	3.97	4.52	5.06	5.57	6.06
5	1.47	1.84	2.16	2.51	2.82	3.14	3.46	3.76	4.07	4.64	5.19	5.72	6.22
5½	1.53	1.92	2.26	2.62	2.95	3.29	3.62	3.94	4.26	4.86	5.44	6.00	6.52
6	1.59	2.00	2.36	2.73	3.08	3.44	3.78	4.11	4.45	5.07	5.68	6.26	6.81
6½	1.65	2.08	2.45	2.83	3.20	3.58	3.94	4.28	4.64	5.28	5.92	6.52	7.09
7	1.71	2.15	2.54	2.93	3.32	3.71	4.09	4.44	4.82	5.48	6.14	6.76	7.36
7½	1.77	2.22	2.62	3.03	3.44	3.84	4.23	4.60	4.99	5.68	6.36	7.00	7.62
8	1.83	2.28	2.70	3.13	3.55	3.97	4.37	4.75	5.15	5.87	6.56	7.23	7.86
8½	1.88	2.34	2.78	3.23	3.66	4.09	4.51	4.90	5.31	6.05	6.76	7.45	8.10
9	1.93	2.40	2.86	3.32	3.77	4.21	4.64	5.04	5.46	6.22	6.96	7.66	8.34
9½	1.98	2.46	2.94	3.41	3.87	4.33	4.77	5.18	5.61	6.39	7.16	7.87	8.57
10	2.03	2.52	3.02	3.50	3.97	4.44	4.89	5.31	5.75	6.55	7.34	8.08	8.79
11	2.12	2.63	3.16	3.67	4.16	4.65	5.12	5.57	6.03	6.86	7.70	8.47	9.21
12	2.21	2.74	3.30	3.83	4.35	4.86	5.35	5.82	6.30	7.18	8.04	8.85	9.63
13	2.30	2.85	3.44	3.99	4.53	5.06	5.57	6.06	6.56	7.48	8.37	9.21	10.02
14	2.38	2.96	3.57	4.14	4.70	5.25	5.78	6.29	6.80	7.76	8.69	9.56	10.40
15	2.46	3.06	3.69	4.28	4.86	5.43	5.98	6.51	7.04	8.03	8.98	9.90	10.76
16	2.53	3.16	3.81	4.42	5.02	5.61	6.18	6.73	7.27	8.30	9.29	10.22	11.12
17	2.60	3.25	3.93	4.56	5.17	5.78	6.37	6.93	7.50	8.55	9.58	10.53	11.47
18	2.66	3.34	4.04	4.69	5.32	5.95	6.55	7.13	7.72	8.80	9.85	10.83	11.80

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE X — DISCHARGE DATA — 24' ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches													
	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	Discharge in Cubic Feet per Second													
1	3.05	3.27	3.48	3.71	3.94	4.14	4.33	4.51	4.68	4.83	4.98	5.11	5.19	5.25
1 1/4	3.39	3.64	3.88	4.14	4.38	4.60	4.80	5.00	5.20	5.36	5.53	5.68	5.77	5.85
1 1/2	3.71	3.98	4.23	4.52	4.76	5.02	5.23	5.44	5.65	5.84	6.04	6.21	6.31	6.40
1 3/4	3.99	4.29	4.56	4.86	5.12	5.40	5.62	5.85	6.07	6.28	6.50	6.68	6.79	6.90
2	4.25	4.58	4.86	5.18	5.45	5.74	5.99	6.24	6.47	6.70	6.93	7.13	7.25	7.37
2 1/4	4.50	4.85	5.16	5.49	5.78	6.08	6.35	6.61	6.85	7.10	7.34	7.56	7.69	7.82
2 1/2	4.75	5.11	5.44	5.79	6.10	6.41	6.70	6.97	7.22	7.48	7.73	7.96	8.09	8.24
2 3/4	4.98	5.36	5.71	6.07	6.40	6.73	7.03	7.31	7.57	7.85	8.10	8.34	8.48	8.64
3	5.20	5.60	5.96	6.34	6.68	7.03	7.34	7.64	7.91	8.20	8.45	8.70	8.84	9.02
3 1/4	5.41	5.83	6.21	6.60	6.95	7.31	7.64	7.95	8.23	8.53	8.80	9.06	9.20	9.38
3 1/2	5.61	6.04	6.44	6.84	7.21	7.58	7.92	8.25	8.54	8.85	9.13	9.40	9.55	9.74
3 3/4	5.81	6.25	6.66	7.08	7.47	7.85	8.20	8.54	8.84	9.16	9.45	9.73	9.88	10.07
4	6.00	6.46	6.88	7.32	7.71	8.11	8.47	8.82	9.13	9.46	9.76	10.04	10.21	10.40
4 1/4	6.19	6.66	7.09	7.55	7.95	8.36	8.73	9.09	9.41	9.75	10.06	10.35	10.53	10.73
4 1/2	6.37	6.85	7.30	7.76	8.18	8.60	8.99	9.35	9.69	10.03	10.35	10.65	10.83	11.05
4 3/4	6.55	7.04	7.50	7.97	8.40	8.84	9.24	9.60	9.95	10.30	10.63	10.94	11.13	11.35
5	6.72	7.23	7.70	8.18	8.62	9.07	9.48	9.85	10.21	10.57	10.91	11.23	11.42	11.65
5 1/2	7.04	7.58	8.07	8.58	9.04	9.51	9.94	10.33	10.71	11.10	11.45	11.78	11.98	12.22
6	7.35	7.91	8.43	8.96	9.44	9.93	10.38	10.80	11.19	11.59	11.95	12.30	12.51	12.76
6 1/2	7.65	8.24	8.77	9.33	9.83	10.34	10.80	11.24	11.64	12.06	12.44	12.81	13.02	13.28
7	7.95	8.55	9.10	9.68	10.20	10.73	11.21	11.67	12.09	12.52	12.92	13.30	13.52	13.79
7 1/2	8.23	8.85	9.43	10.02	10.57	11.11	11.61	12.09	12.52	12.96	13.37	13.78	14.00	14.28
8	8.50	9.13	9.73	10.35	10.92	11.47	11.99	12.48	12.93	13.38	13.80	14.23	14.46	14.74
8 1/2	8.76	9.41	10.03	10.67	11.26	11.82	12.35	12.85	13.32	13.79	14.22	14.66	14.90	15.19
9	9.01	9.69	10.33	10.98	11.58	12.17	12.71	13.22	13.71	14.19	14.63	15.08	15.33	15.63
9 1/2	9.25	9.96	10.62	11.28	11.89	12.50	13.06	13.58	14.08	14.58	15.03	15.49	15.75	16.07
10	9.49	10.21	10.89	11.58	12.20	12.82	13.40	13.93	14.44	14.95	15.42	15.89	16.15	16.48
11	9.95	10.70	11.41	12.14	12.78	13.44	14.05	14.61	15.13	15.68	16.17	16.65	16.93	17.28
12	10.40	11.19	11.92	12.68	13.35	14.05	14.68	15.28	15.82	16.39	16.90	17.40	17.69	18.05
13	10.83	11.65	12.41	13.20	13.90	14.63	15.28	15.90	16.48	17.06	17.60	18.12	18.42	18.78
14	11.23	12.08	12.88	13.70	14.42	15.18	15.85	16.50	17.10	17.70	18.25	18.80	19.12	19.50
15	11.62	12.50	13.32	14.17	14.92	15.70	16.40	17.07	17.69	18.31	18.90	19.46	19.79	20.20
16	12.01	12.91	13.76	14.64	15.42	16.22	16.94	17.63	18.28	18.92	19.52	20.10	20.45	20.85
17	12.38	13.31	14.19	15.09	15.90	16.71	17.47	18.18	18.84	19.50	20.12	20.71	21.07	21.48
18	12.74	13.70	14.60	15.52	16.37	17.20	17.99	18.70	19.39	20.06	20.70	21.31	21.68	22.10

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE XI — DISCHARGE DATA — 30" ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches												
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10
	Discharge in Cubic Feet per Second												
1	0.84	1.05	1.25	1.45	1.63	1.84	2.00	2.20	2.34	2.69	3.03	3.35	3.64
1¼	.93	1.17	1.39	1.62	1.82	2.04	2.23	2.45	2.61	2.99	3.36	3.71	4.04
1½	1.01	1.27	1.52	1.76	1.97	2.22	2.43	2.66	2.85	3.25	3.63	4.05	4.41
1¾	1.08	1.37	1.63	1.89	2.12	2.39	2.62	2.87	3.06	3.50	3.88	4.37	4.73
2	1.16	1.46	1.74	2.02	2.27	2.54	2.80	3.05	3.27	3.73	4.13	4.64	5.03
2¼	1.23	1.55	1.85	2.14	2.40	2.69	2.96	3.22	3.46	3.95	4.38	4.90	5.33
2½	1.30	1.63	1.94	2.25	2.52	2.84	3.11	3.38	3.63	4.15	4.63	5.15	5.61
2¾	1.36	1.70	2.03	2.35	2.64	2.98	3.25	3.53	3.80	4.34	4.86	5.40	5.89
3	1.41	1.77	2.11	2.45	2.75	3.11	3.38	3.67	3.95	4.53	5.08	5.64	6.16
3¼	1.46	1.84	2.19	2.55	2.86	3.22	3.50	3.81	4.10	4.71	5.29	5.87	6.41
3½	1.51	1.90	2.27	2.64	2.96	3.33	3.62	3.94	4.25	4.88	5.49	6.09	6.65
3¾	1.56	1.96	2.35	2.72	3.06	3.43	3.74	4.07	4.40	5.05	5.68	6.30	6.88
4	1.61	2.02	2.42	2.80	3.15	3.53	3.85	4.20	4.54	5.21	5.86	6.51	7.10
4¼	1.65	2.08	2.49	2.88	3.24	3.63	3.96	4.33	4.68	5.38	6.04	6.71	7.32
4½	1.69	2.14	2.56	2.96	3.33	3.73	4.07	4.45	4.82	5.54	6.22	6.91	7.54
4¾	1.73	2.20	2.62	3.04	3.42	3.82	4.18	4.57	4.95	5.69	6.39	7.10	7.75
5	1.77	2.25	2.68	3.11	3.50	3.91	4.29	4.69	5.08	5.84	6.56	7.29	7.95
5½	1.85	2.35	2.80	3.25	3.66	4.09	4.50	4.92	5.33	6.12	6.88	7.64	8.34
6	1.93	2.45	2.92	3.39	3.82	4.27	4.70	5.14	5.56	6.39	7.19	7.98	8.70
6½	2.01	2.55	3.04	3.53	3.97	4.44	4.89	5.35	5.79	6.65	7.48	8.31	9.06
7	2.09	2.64	3.15	3.64	4.13	4.61	5.07	5.55	6.01	6.90	7.76	8.62	9.40
7½	2.16	2.72	3.25	3.76	4.27	4.77	5.25	5.75	6.21	7.15	8.03	8.92	9.74
8	2.23	2.80	3.34	3.88	4.41	4.92	5.42	5.94	6.42	7.38	8.30	9.21	10.06
8½	2.30	2.88	3.43	3.99	4.54	5.07	5.59	6.12	6.61	7.60	8.55	9.49	10.36
9	2.36	2.96	3.52	4.10	4.67	5.22	5.75	6.30	6.81	7.82	8.80	9.76	10.66
9½	2.42	3.04	3.61	4.21	4.80	5.36	5.91	6.47	7.00	8.04	9.04	10.03	10.95
10	2.48	3.12	3.70	4.32	4.93	5.50	6.06	6.64	7.18	8.26	9.28	10.30	11.24
11	2.59	3.27	3.88	4.53	5.17	5.78	6.36	6.96	7.53	8.66	9.73	10.80	11.78
12	2.70	3.40	4.05	4.74	5.40	6.04	6.64	7.27	7.86	9.04	10.16	11.28	12.31
13	2.81	3.52	4.21	4.93	5.62	6.28	6.91	7.57	8.19	9.40	10.57	11.74	12.82
14	2.91	3.64	4.37	5.11	5.84	6.51	7.17	7.86	8.49	9.76	10.97	12.18	13.30
15	3.01	3.76	4.52	5.29	6.04	6.74	7.42	8.13	8.79	10.10	11.37	12.62	13.76
16	3.11	3.88	4.67	5.47	6.24	6.96	7.66	8.40	9.08	10.43	11.74	13.03	14.22
17	3.20	3.99	4.81	5.64	6.43	7.18	7.90	8.66	9.36	10.76	12.10	13.43	14.65
18	3.28	4.10	4.95	5.79	6.61	7.39	8.13	8.91	9.63	11.06	12.43	13.81	15.08

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE XI — DISCHARGE DATA — 30" ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches												
	11	12	13	14	15	16	18	20	22	24	26	28	30
	Discharge in Cubic Feet per Second												
1	3.92	4.20	4.48	4.75	5.03	5.28	5.84	6.34	6.76	7.10	7.46	7.70	7.86
1 ¼	4.36	4.67	4.99	5.30	5.61	5.89	6.49	7.04	7.51	7.90	8.31	8.58	8.77
1 ½	4.75	5.11	5.46	5.80	6.12	6.46	7.08	7.67	8.19	8.65	9.07	9.40	9.59
1 ¾	5.11	5.49	5.86	6.22	6.57	6.94	7.60	8.25	8.81	9.29	9.72	10.15	10.32
2	5.45	5.86	6.26	6.63	7.02	7.41	8.11	8.78	9.40	9.91	10.34	10.88	11.04
2 ¼	5.78	6.21	6.64	7.04	7.45	7.86	8.61	9.31	9.94	10.48	10.94	11.56	11.74
2 ½	6.09	6.55	7.00	7.41	7.85	8.29	9.07	9.81	10.48	11.03	11.52	12.16	12.40
2 ¾	6.39	6.87	7.34	7.78	8.23	8.69	9.51	10.28	10.98	11.56	12.08	12.68	13.00
3	6.68	7.17	7.67	8.13	8.60	9.08	9.94	10.75	11.47	12.07	12.62	13.18	13.55
3 ¼	6.95	7.46	7.98	8.46	8.95	9.45	10.34	11.20	11.95	12.57	13.15	13.68	14.05
3 ½	7.21	7.75	8.28	8.78	9.29	9.81	10.74	11.62	12.40	13.06	13.65	14.18	14.52
3 ¾	7.47	8.02	8.57	9.09	9.62	10.14	11.12	12.03	12.83	13.50	14.12	14.67	14.98
4	7.71	8.28	8.85	9.38	9.93	10.47	11.48	12.42	13.25	13.94	14.58	15.15	15.44
4 ¼	7.95	8.54	9.12	9.67	10.23	10.80	11.83	12.80	13.66	14.37	15.03	15.61	15.90
4 ½	8.18	8.79	9.39	9.95	10.53	11.12	12.17	13.17	14.06	14.80	15.47	16.07	16.36
4 ¾	8.40	9.03	9.65	10.23	10.82	11.43	12.51	13.54	14.45	15.20	15.90	16.52	16.82
5	8.62	9.26	9.90	10.50	11.11	11.73	12.84	13.90	14.83	15.60	16.32	16.95	17.26
5 ½	9.05	9.72	10.38	11.02	11.65	12.30	13.47	14.57	15.56	16.36	17.10	17.77	18.10
6	9.45	10.14	10.84	11.50	12.16	12.83	14.06	15.20	16.23	17.08	17.85	18.55	18.90
6 ½	9.84	10.56	11.29	11.96	12.66	13.36	14.63	15.83	16.90	17.77	18.58	19.30	19.65
7	10.20	10.96	11.72	12.42	13.14	13.87	15.19	16.43	17.53	18.45	19.30	20.04	20.40
7 ½	10.56	11.35	12.13	12.85	13.60	14.36	15.72	17.00	18.15	19.10	19.97	20.74	21.12
8	10.90	11.72	12.52	13.27	14.04	14.83	16.23	17.56	18.73	19.72	20.62	21.42	21.82
8 ½	11.23	12.08	12.91	13.68	14.47	15.29	16.73	18.10	19.30	20.32	21.26	22.08	22.52
9	11.56	12.44	13.28	14.07	14.90	15.74	17.21	18.62	19.87	20.91	21.87	22.72	23.17
9 ½	11.89	12.79	13.64	14.46	15.30	16.15	17.68	19.14	20.42	21.49	22.47	23.34	23.80
10	12.20	13.12	14.00	14.85	15.70	16.60	18.15	19.65	20.95	22.06	23.06	23.95	24.40
11	12.79	13.74	14.69	15.57	16.47	17.40	19.03	20.60	21.96	23.13	24.20	25.12	25.58
12	13.36	14.35	15.33	16.26	17.20	18.16	19.88	21.50	22.95	24.15	25.25	26.23	26.72
13	13.90	14.94	15.96	16.93	17.90	18.90	20.70	22.40	23.90	25.15	26.28	27.30	27.80
14	14.43	15.50	16.56	17.56	18.57	19.60	21.48	23.23	24.80	26.10	27.28	28.32	28.85
15	14.93	16.04	17.14	18.18	19.23	20.30	22.23	24.05	25.66	27.00	28.23	29.32	29.86
16	15.42	16.57	17.70	18.77	19.86	20.97	22.95	24.84	26.50	27.87	29.15	30.30	30.84
17	15.90	17.08	18.26	19.36	20.48	21.62	23.66	25.60	27.32	28.73	30.06	31.25	31.80
18	16.36	17.57	18.78	19.90	21.05	22.25	24.34	26.34	28.10	29.56	30.92	32.15	32.70

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.



**TABLE XII — DISCHARGE DATA — 36' ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening In Inches													
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11
	Discharge in Cubic Feet per Second													
1	0.96	1.22	1.47	1.71	1.94	2.16	2.41	2.61	2.82	3.24	3.67	4.05	4.42	4.77
1¼	1.07	1.35	1.62	1.89	2.15	2.41	2.69	2.90	3.12	3.59	4.07	4.50	4.91	5.31
1½	1.17	1.47	1.77	2.06	2.34	2.63	2.94	3.16	3.40	3.92	4.43	4.93	5.36	5.79
1¾	1.26	1.59	1.92	2.22	2.53	2.84	3.18	3.42	3.67	4.24	4.77	5.32	5.79	6.25
2	1.34	1.70	2.05	2.36	2.69	3.04	3.39	3.66	3.92	4.53	5.08	5.68	6.18	6.66
<hr/>														
2¼	1.42	1.80	2.17	2.50	2.85	3.21	3.58	3.87	4.14	4.79	5.38	6.00	6.52	7.04
2½	1.50	1.89	2.28	2.63	3.00	3.37	3.76	4.07	4.35	5.04	5.65	6.30	6.85	7.42
2¾	1.57	1.98	2.39	2.76	3.14	3.52	3.93	4.26	4.55	5.28	5.91	6.60	7.18	7.79
3	1.63	2.06	2.49	2.88	3.28	3.67	4.10	4.45	4.75	5.50	6.17	6.89	7.50	8.13
3¼	1.69	2.14	2.59	3.00	3.41	3.82	4.27	4.63	4.95	5.72	6.42	7.17	7.81	8.46
<hr/>														
3½	1.75	2.21	2.68	3.11	3.53	3.95	4.42	4.79	5.13	5.93	6.66	7.44	8.10	8.78
3¾	1.81	2.28	2.76	3.22	3.65	4.08	4.56	4.95	5.31	6.14	6.90	7.70	8.39	9.09
4	1.86	2.35	2.84	3.31	3.76	4.20	4.68	5.11	5.49	6.34	7.13	7.95	8.66	9.38
4¼	1.91	2.42	2.92	3.40	3.86	4.32	4.81	5.27	5.66	6.54	7.35	8.20	8.93	9.67
4½	1.96	2.49	3.00	3.49	3.96	4.44	4.94	5.42	5.82	6.73	7.56	8.44	9.19	9.95
<hr/>														
4¾	2.01	2.56	3.08	3.58	4.06	4.56	5.07	5.57	5.98	6.92	7.77	8.67	9.45	10.22
5	2.06	2.62	3.16	3.67	4.16	4.68	5.19	5.72	6.14	7.10	7.97	8.89	9.70	10.49
5½	2.16	2.74	3.31	3.84	4.36	4.90	5.43	6.00	6.43	7.44	8.36	9.33	10.17	11.00
6	2.26	2.86	3.45	4.00	4.55	5.11	5.67	6.26	6.71	7.77	8.73	9.73	10.61	11.50
6½	2.35	2.98	3.59	4.16	4.72	5.32	5.91	6.52	6.99	8.09	9.09	10.13	11.04	11.97
<hr/>														
7	2.44	3.09	3.72	4.31	4.89	5.52	6.14	6.76	7.25	8.39	9.43	10.51	11.46	12.41
7½	2.53	3.19	3.85	4.45	5.06	5.72	6.36	7.00	7.51	8.69	9.76	10.89	11.87	12.85
8	2.61	3.29	3.97	4.59	5.23	5.91	6.57	7.23	7.76	8.97	10.09	11.24	12.26	13.28
8½	2.69	3.38	4.08	4.72	5.39	6.09	6.77	7.45	8.00	9.25	10.40	11.59	12.63	13.68
9	2.76	3.47	4.19	4.85	5.55	6.27	6.97	7.66	8.23	9.52	10.70	11.93	13.00	14.08
<hr/>														
9½	2.83	3.56	4.30	4.98	5.70	6.44	7.16	7.87	8.45	9.78	11.00	12.26	13.37	14.47
10	2.90	3.65	4.41	5.11	5.85	6.61	7.35	8.07	8.67	10.03	11.28	12.58	13.71	14.83
11	3.04	3.82	4.60	5.36	6.13	6.92	7.70	8.46	9.10	10.52	11.82	13.18	14.37	15.55
12	3.16	3.98	4.79	5.61	6.40	7.23	8.05	8.85	9.51	10.99	12.35	13.78	15.01	16.25
13	3.28	4.14	4.98	5.85	6.67	7.52	8.39	9.22	9.89	11.44	12.85	14.35	15.62	16.93
<hr/>														
14	3.39	4.29	5.16	6.06	6.91	7.81	8.70	9.56	10.26	11.88	13.33	14.88	16.21	17.58
15	3.50	4.43	5.34	6.27	7.15	8.08	9.00	9.89	10.62	12.30	13.80	15.40	16.78	18.19
16	3.61	4.56	5.51	6.48	7.39	8.34	9.29	10.22	10.98	12.69	14.27	15.90	17.33	18.78
17	3.72	4.69	5.68	6.68	7.62	8.60	9.58	10.54	11.32	13.08	14.70	16.39	17.86	19.34
18	3.82	4.82	5.85	6.87	7.84	8.85	9.86	10.84	11.64	13.45	15.12	16.88	18.39	19.89

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE XII — DISCHARGE DATA — 36' ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches														
	12	13	14	15	16	18	20	22	24	26	28	30	32	34	36
	Discharge in Cubic Feet per Second														
1	5.10	5.47	5.83	6.13	6.50	7.12	7.86	8.43	8.92	9.37	9.84	10.10	10.35	10.56	10.74
1 ¼	5.67	6.10	6.49	6.82	7.22	7.87	8.67	9.30	9.88	10.38	10.89	11.20	11.50	11.74	11.92
1 ½	6.20	6.68	7.08	7.44	7.89	8.59	9.44	10.14	10.81	11.33	11.86	12.24	12.57	12.84	13.02
1 ¾	6.70	7.20	7.63	8.04	8.52	9.28	10.17	10.95	11.65	12.25	12.80	13.24	13.60	13.91	14.09
2	7.17	7.67	8.13	8.60	9.10	9.95	10.87	11.71	12.43	13.09	13.67	14.16	14.54	14.87	15.05
2 ¼	7.61	8.12	8.62	9.12	9.65	10.57	11.52	12.42	13.18	13.86	14.47	15.00	15.39	15.74	15.95
2 ½	8.02	8.56	9.09	9.61	10.18	11.13	12.16	13.10	13.88	14.60	15.21	15.76	16.17	16.54	16.78
2 ¾	8.42	8.98	9.54	10.07	10.68	11.68	12.76	13.73	14.55	15.31	15.93	16.50	16.94	17.34	17.60
3	8.79	9.37	9.95	10.52	11.15	12.20	13.31	14.35	15.20	16.00	16.64	17.23	17.68	18.10	18.38
3 ¼	9.15	9.76	10.35	10.96	11.60	12.70	13.86	14.95	15.83	16.66	17.33	17.94	18.40	18.85	19.14
3 ½	9.49	10.12	10.74	11.37	12.04	13.18	14.37	15.50	16.42	17.28	17.98	18.61	19.08	19.54	19.85
3 ¾	9.82	10.48	11.11	11.77	12.46	13.63	14.89	16.04	16.99	17.89	18.60	19.27	19.74	20.23	20.55
4	10.14	10.83	11.48	12.15	12.87	14.08	15.37	16.56	17.55	18.46	19.20	19.90	20.40	20.89	21.25
4 ¼	10.45	11.16	11.83	12.52	13.27	14.51	15.84	17.08	18.10	19.03	19.80	20.50	21.05	21.53	21.90
4 ½	10.76	11.49	12.18	12.89	13.66	14.94	16.31	17.57	18.61	19.60	20.38	21.10	21.65	22.17	22.55
4 ¾	11.06	11.80	12.52	13.25	14.04	15.35	16.76	18.05	19.13	20.15	20.95	21.68	22.25	22.80	23.20
5	11.34	12.10	12.85	13.60	14.40	15.75	17.20	18.53	19.64	20.65	21.50	22.25	22.80	23.40	23.80
5 ¼	11.90	12.70	13.47	14.25	15.10	16.52	18.03	19.43	20.60	21.65	22.55	23.35	23.90	24.50	24.90
5 ½	12.42	13.26	14.07	14.88	15.77	17.25	18.82	20.28	21.50	22.62	23.55	24.39	24.95	25.60	26.00
5 ¾	12.93	13.80	14.64	15.50	16.41	17.97	19.60	21.13	22.40	23.56	24.50	25.39	26.00	26.65	27.10
6	13.42	14.32	15.20	16.09	17.03	18.64	20.35	21.94	23.25	24.44	25.43	26.33	27.00	27.67	28.15
6 ¼	13.90	14.83	15.74	16.67	17.64	19.30	21.08	22.72	24.08	25.30	26.34	27.25	27.95	28.65	29.15
6 ½	14.35	15.32	16.25	17.20	18.21	19.92	21.75	23.45	24.84	26.13	27.20	28.13	28.85	29.55	30.10
6 ¾	14.79	15.79	16.74	17.72	18.77	20.54	22.42	24.15	25.60	26.95	28.05	29.00	29.75	30.45	31.00
7	15.21	16.25	17.23	18.23	19.31	21.15	23.07	24.85	26.33	27.73	28.85	29.84	30.62	31.35	31.88
7 ¼	15.63	16.68	17.70	18.73	19.84	21.72	23.70	25.55	27.05	28.47	29.63	30.65	31.45	32.20	32.75
7 ½	16.03	17.10	18.17	19.21	20.35	22.27	24.30	26.20	27.75	29.20	30.40	31.45	32.25	33.05	33.60
7 ¾	16.81	17.93	19.05	20.14	21.33	23.35	25.47	27.45	29.10	30.60	31.85	32.95	33.80	34.65	35.20
8	17.58	18.74	19.90	21.05	22.30	24.40	26.62	28.70	30.40	32.00	33.30	34.45	35.35	36.20	36.80
8 ¼	18.30	19.53	20.72	21.92	23.22	25.40	27.75	29.87	31.65	33.32	34.65	35.85	36.80	37.68	38.30
8 ½	18.99	20.25	21.50	22.75	24.10	26.35	28.80	31.00	32.85	34.60	35.98	37.20	38.18	39.10	39.75
8 ¾	19.64	20.95	22.24	23.54	24.93	27.30	29.80	32.10	34.00	35.80	37.25	38.50	39.50	40.45	41.15
9	20.29	21.65	22.98	24.30	25.75	28.20	30.75	33.15	35.10	36.95	38.45	39.80	40.80	41.80	42.50
9 ¼	20.92	22.32	23.69	25.05	26.55	29.03	31.70	34.15	36.20	38.10	39.60	41.10	42.05	43.10	43.80
9 ½	21.54	22.97	24.36	25.78	27.33	29.85	32.63	35.15	37.25	39.20	40.75	42.30	43.25	44.35	45.10

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE XIII — DISCHARGE DATA — 42" ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches												
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10
	Discharge in Cubic Feet per Second												
1	1.08	1.38	1.67	1.95	2.24	2.51	2.79	3.06	3.31	3.82	4.32	4.74	5.19
1¼	1.21	1.54	1.88	2.19	2.51	2.81	3.12	3.43	3.72	4.28	4.84	5.31	5.81
1½	1.33	1.68	2.05	2.38	2.74	3.05	3.40	3.74	4.04	4.65	5.26	5.81	6.35
1¾	1.43	1.81	2.20	2.56	2.96	3.29	3.65	4.02	4.34	4.99	5.65	6.24	6.85
2	1.52	1.93	2.34	2.73	3.15	3.52	3.90	4.28	4.64	5.32	6.02	6.65	7.31
2¼	1.60	2.04	2.48	2.89	3.33	3.74	4.13	4.53	4.92	5.65	6.37	7.03	7.74
2½	1.68	2.14	2.60	3.05	3.50	3.92	4.34	4.76	5.19	5.95	6.70	7.41	8.15
2¾	1.76	2.24	2.72	3.19	3.65	4.10	4.55	4.99	5.42	6.21	7.02	7.77	8.55
3	1.84	2.33	2.84	3.33	3.80	4.28	4.75	5.19	5.65	6.46	7.33	8.11	8.93
3¼	1.92	2.42	2.96	3.47	3.95	4.46	4.93	5.37	5.86	6.71	7.63	8.45	9.30
3½	1.98	2.51	3.08	3.60	4.10	4.64	5.09	5.55	6.06	6.96	7.92	8.76	9.64
3¾	2.04	2.60	3.19	3.72	4.25	4.81	5.25	5.73	6.26	7.21	8.20	9.07	9.98
4	2.10	2.68	3.30	3.83	4.40	4.97	5.41	5.91	6.46	7.45	8.47	9.36	10.30
4¼	2.16	2.76	3.41	3.94	4.54	5.12	5.57	6.09	6.66	7.68	8.73	9.65	10.62
4½	2.22	2.84	3.51	4.05	4.67	5.26	5.73	6.27	6.86	7.90	8.98	9.94	10.93
4¾	2.29	2.92	3.60	4.16	4.79	5.39	5.89	6.45	7.05	8.12	9.23	10.21	11.23
5	2.35	3.00	3.68	4.27	4.90	5.51	6.04	6.62	7.23	8.33	9.47	10.47	11.53
5½	2.47	3.14	3.84	4.46	5.11	5.74	6.33	6.94	7.59	8.74	9.94	10.98	12.08
6	2.57	3.28	3.99	4.65	5.31	5.96	6.61	7.24	7.92	9.12	10.37	11.47	12.62
6½	2.67	3.41	4.14	4.83	5.50	6.18	6.88	7.53	8.24	9.49	10.80	11.93	13.13
7	2.77	3.54	4.29	5.00	5.69	6.40	7.14	7.82	8.55	9.85	11.20	12.38	13.63
7½	2.87	3.66	4.44	5.16	5.88	6.62	7.39	8.10	8.85	10.20	11.60	12.83	14.12
8	2.96	3.78	4.59	5.31	6.07	6.84	7.63	8.36	9.15	10.53	11.98	13.25	14.57
8½	3.05	3.88	4.72	5.46	6.26	7.05	7.87	8.62	9.43	10.85	12.35	13.65	15.02
9	3.13	3.98	4.85	5.61	6.44	7.26	8.10	8.87	9.70	11.17	12.70	14.04	15.45
9½	3.21	4.08	4.97	5.76	6.62	7.45	8.32	9.11	9.97	11.48	13.05	14.43	15.88
10	3.29	4.17	5.09	5.91	6.79	7.65	8.54	9.35	10.22	11.78	13.40	14.82	16.30
11	3.43	4.35	5.31	6.20	7.12	8.02	8.95	9.80	10.72	12.35	14.05	15.53	17.10
12	3.57	4.53	5.52	6.48	7.44	8.38	9.35	10.23	11.20	12.90	14.67	16.22	17.85
13	3.71	4.70	5.73	6.74	7.74	8.72	9.73	10.66	11.66	13.42	15.27	16.90	18.57
14	3.85	4.87	5.93	7.00	8.04	9.05	10.10	11.06	12.10	13.93	15.85	17.52	19.27
15	3.99	5.04	6.13	7.24	8.31	9.37	10.45	11.44	12.52	14.42	16.40	18.13	19.95
16	4.13	5.21	6.34	7.48	8.59	9.67	10.80	11.82	12.93	14.90	16.94	18.73	20.60
17	4.26	5.37	6.53	7.71	8.85	9.97	11.13	12.19	13.33	15.35	17.47	19.30	21.24
18	4.36	5.51	6.71	7.94	9.11	10.26	11.45	12.53	13.72	15.80	17.96	19.87	21.85

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE XIII — DISCHARGE DATA — 42" ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches												
	11	12	14	16	18	20	22	24	28	32	36	40	42
	Discharge in Cubic Feet per Second												
1	5.65	6.05	6.88	7.70	8.48	9.20	9.97	10.63	11.90	12.88	13.38	13.96	14.22
1 ¼	6.31	6.79	7.75	8.64	9.50	10.30	11.13	11.93	13.30	14.38	15.03	15.65	15.96
1 ½	6.90	7.41	8.44	9.38	10.32	11.20	12.13	13.03	14.55	15.68	16.40	17.15	17.42
1 ¾	7.42	7.96	9.06	10.10	11.13	12.08	13.08	14.05	15.65	16.88	17.67	18.38	18.75
2	7.92	8.50	9.67	10.80	11.92	12.93	13.98	15.02	16.68	17.98	18.87	19.58	19.95
2 ¼	8.40	9.03	10.26	11.47	12.65	13.73	14.85	15.93	17.66	19.03	20.00	20.73	21.10
2 ½	8.85	9.52	10.81	12.10	13.33	14.47	15.67	16.80	18.60	20.03	21.10	21.83	22.18
2 ¾	9.29	9.99	11.33	12.70	13.98	15.18	16.45	17.63	19.50	20.99	22.14	22.88	23.18
3	9.69	10.43	11.82	13.27	14.60	15.86	17.18	18.42	20.35	21.90	23.11	23.88	24.15
3 ¼	10.08	10.86	12.30	13.80	15.20	16.50	17.88	19.17	21.20	22.78	24.05	24.85	25.10
3 ½	10.47	11.27	12.77	14.32	15.78	17.13	18.56	19.90	22.00	23.65	24.96	25.80	26.02
3 ¾	10.83	11.66	13.22	14.82	16.32	17.73	19.20	20.60	22.77	24.50	25.84	26.70	26.92
4	11.18	12.03	13.66	15.30	16.85	18.30	19.83	21.28	23.50	25.30	26.66	27.55	27.82
4 ¼	11.53	12.40	14.08	15.77	17.37	18.86	20.44	21.93	24.23	26.06	27.48	28.40	28.70
4 ½	11.87	12.77	14.48	16.23	17.88	19.41	21.03	22.55	24.95	26.80	28.30	29.25	29.55
4 ¾	12.20	13.13	14.88	16.67	18.38	19.95	21.60	23.15	25.66	27.53	29.10	30.05	30.37
5	12.52	13.47	15.26	17.10	18.86	20.47	22.16	23.74	26.32	28.25	29.85	30.80	31.15
5 ½	13.12	14.12	16.00	17.93	19.78	21.46	23.23	24.90	27.60	29.64	31.30	32.30	32.64
6	13.70	14.74	16.72	18.73	20.65	22.40	24.26	26.00	28.80	30.97	32.70	33.74	34.10
6 ½	14.26	15.35	17.40	19.50	21.48	23.32	25.26	27.08	29.97	32.25	34.00	35.12	35.50
7	14.80	15.94	18.05	20.24	22.28	24.20	26.22	28.12	31.10	33.45	35.30	36.46	36.80
7 ½	15.32	16.50	18.68	20.96	23.06	25.06	27.14	29.10	32.20	34.60	36.54	37.74	38.10
8	15.82	17.03	19.29	21.65	23.82	25.90	28.03	30.04	33.26	35.74	37.74	39.00	39.35
8 ½	16.30	17.55	19.88	22.30	24.56	26.70	28.90	30.94	34.30	36.83	38.90	40.20	40.60
9	16.77	18.05	20.46	22.94	25.28	27.46	29.76	31.84	35.30	37.90	40.00	41.35	41.75
9 ½	17.24	18.54	21.03	23.58	25.98	28.22	30.60	32.72	36.25	38.95	41.10	42.50	42.90
10	17.70	19.02	21.60	24.20	26.66	28.98	31.40	33.58	37.20	39.95	42.15	43.60	44.00
11	18.56	19.96	22.63	25.38	27.95	30.38	32.90	35.23	39.00	41.90	44.20	45.70	46.10
12	19.38	20.85	23.63	26.50	29.20	31.68	34.35	36.80	40.73	43.80	46.18	47.70	48.15
13	20.16	21.70	24.60	27.60	30.40	32.93	35.74	38.30	42.40	45.60	48.08	49.65	50.15
14	20.91	22.52	25.55	28.64	31.54	34.18	37.10	39.75	44.00	47.30	49.90	51.60	52.10
15	21.64	23.30	26.44	29.64	32.64	35.38	38.40	41.15	45.55	48.95	51.65	53.40	53.90
16	22.36	24.08	27.30	30.60	33.70	36.55	39.65	42.50	47.05	50.55	53.35	55.20	55.70
17	23.06	24.84	28.14	31.54	34.75	37.70	40.90	43.80	48.50	52.10	55.00	56.85	57.40
18	23.72	25.55	28.95	32.46	35.80	38.80	42.10	45.10	49.90	53.60	56.60	58.50	59.05

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

**TABLE XIV — DISCHARGE DATA — 48" ARMC0 METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening Inches														
	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
	Discharge in Cubic Feet per Second														
1	1.19	1.51	1.85	2.21	2.52	2.84	3.15	3.45	3.75	4.34	4.93	5.48	6.05	6.56	7.12
1¼	1.32	1.69	2.06	2.47	2.80	3.16	3.50	3.83	4.18	4.84	5.48	6.11	6.73	7.30	7.88
1½	1.43	1.87	2.25	2.70	3.06	3.44	3.83	4.19	4.55	5.29	5.98	6.67	7.33	7.96	8.58
1¾	1.54	2.00	2.43	2.91	3.29	3.70	4.13	4.50	4.90	5.70	6.44	7.20	7.90	8.55	9.25
2	1.65	2.12	2.59	3.10	3.52	3.95	4.40	4.80	5.24	6.09	6.90	7.66	8.43	9.08	9.89
2¼	1.75	2.24	2.74	3.29	3.72	4.20	4.66	5.08	5.56	6.46	7.32	8.12	8.95	9.61	10.49
2½	1.84	2.36	2.89	3.47	3.92	4.42	4.92	5.36	5.87	6.80	7.70	8.56	9.44	10.12	11.05
2¾	1.93	2.48	3.02	3.63	4.11	4.64	5.16	5.62	6.14	7.14	8.05	8.97	9.90	10.62	11.60
3	2.01	2.59	3.15	3.79	4.29	4.85	5.39	5.86	6.40	7.46	8.40	9.37	10.33	11.10	12.11
3¼	2.09	2.69	3.27	3.94	4.45	5.05	5.60	6.10	6.66	7.75	8.75	9.76	10.76	11.55	12.60
3½	2.17	2.79	3.39	4.08	4.61	5.23	5.81	6.33	6.89	8.02	9.10	10.13	11.18	11.98	13.08
3¾	2.24	2.88	3.51	4.22	4.77	5.40	6.02	6.56	7.12	8.29	9.42	10.49	11.56	12.40	13.53
4	2.31	2.97	3.63	4.36	4.92	5.56	6.22	6.79	7.35	8.56	9.73	10.83	11.94	12.81	13.98
4¼	2.38	3.06	3.74	4.49	5.07	5.71	6.40	7.00	7.58	8.82	10.03	11.17	12.31	13.20	14.41
4½	2.44	3.15	3.84	4.62	5.20	5.87	6.58	7.19	7.81	9.08	10.32	11.49	12.66	13.59	14.83
4¾	2.51	3.24	3.94	4.74	5.33	6.01	6.76	7.36	8.03	9.34	10.61	11.80	13.00	13.96	15.23
5	2.57	3.32	4.05	4.85	5.46	6.18	6.93	7.55	8.23	9.58	10.88	12.10	13.34	14.32	15.62
5½	2.68	3.47	4.23	5.07	5.73	6.48	7.24	7.92	8.63	10.04	11.40	12.70	14.00	15.01	16.40
6	2.79	3.62	4.41	5.29	5.97	6.75	7.55	8.28	9.01	10.49	11.90	13.26	14.61	15.70	17.13
6½	2.90	3.76	4.59	5.51	6.20	7.02	7.86	8.62	9.38	10.93	12.40	13.81	15.20	16.32	17.83
7	3.00	3.90	4.76	5.72	6.43	7.28	8.16	8.95	9.74	11.32	12.87	14.32	15.78	16.93	18.50
7½	3.10	4.04	4.92	5.92	6.66	7.54	8.54	9.25	10.09	11.72	13.32	14.82	16.34	17.53	19.14
8	3.20	4.16	5.08	6.10	6.88	7.79	8.73	9.55	10.41	12.11	13.75	15.31	16.88	18.13	19.77
8½	3.30	4.28	5.22	6.27	7.10	8.02	9.00	9.85	10.73	12.48	14.18	15.79	17.40	18.67	20.38
9	3.40	4.40	5.37	6.44	7.30	8.25	9.26	10.13	11.04	12.85	14.60	16.24	17.90	19.21	20.97
9½	3.49	4.52	5.52	6.61	7.50	8.48	9.51	10.41	11.35	13.20	15.00	16.68	18.39	19.73	21.56
10	3.58	4.63	5.67	6.77	7.69	8.70	9.76	10.69	11.64	13.53	15.38	17.11	18.87	20.24	22.11
11	3.74	4.85	5.94	7.10	8.05	9.13	10.23	11.20	12.20	14.19	16.13	17.95	19.79	21.23	23.19
12	3.90	5.06	6.20	7.42	8.41	9.53	10.70	11.71	12.76	14.84	16.85	18.77	20.68	22.19	24.22
13	4.05	5.26	6.43	7.72	8.75	9.92	11.12	12.19	13.30	15.42	17.53	19.51	21.52	23.08	25.20
14	4.20	5.46	6.66	8.01	9.08	10.30	11.54	12.64	13.78	16.01	18.20	20.25	22.33	23.96	26.16
15	4.35	5.65	6.89	8.29	9.40	10.65	11.95	13.10	14.26	16.58	18.84	20.96	23.13	24.80	27.08
16	4.50	5.83	7.10	8.56	9.70	11.00	12.34	13.52	14.72	17.11	19.45	21.64	23.87	25.61	27.95
17	4.63	6.01	7.31	8.82	10.00	11.34	12.72	13.93	15.18	17.64	20.05	22.31	24.60	26.40	28.81
18	4.76	6.18	7.52	9.08	10.30	11.67	13.10	14.33	15.61	18.17	20.64	22.97	25.32	27.18	29.66

Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

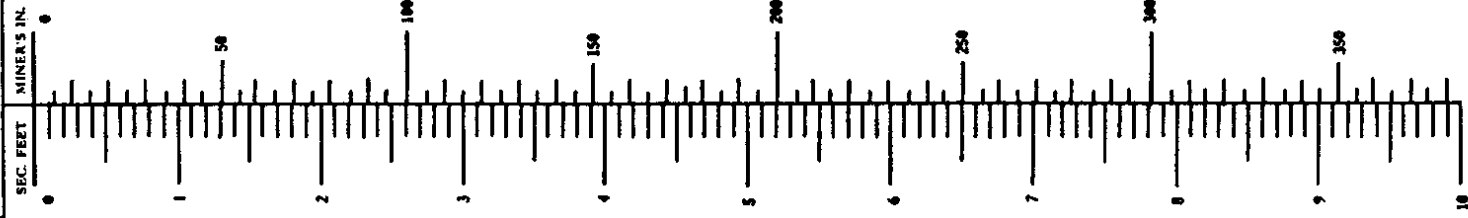
**TABLE XIV — DISCHARGE DATA — 48" ARMCO METERGATE MODEL No. 101**

Head in Inches	Net Gate Opening in Inches													
	14	16	18	20	22	24	26	28	30	34	38	42	46	48
	Discharge in Cubic Feet per Second													
1	8.06	9.00	9.88	10.78	11.73	12.46	13.23	13.92	14.72	15.82	17.00	17.20	17.67	17.78
1 ¼	8.98	10.00	10.94	12.00	12.98	13.81	14.70	15.55	16.32	17.57	18.75	19.10	19.59	19.78
1 ½	9.79	10.91	11.98	13.14	14.22	15.16	16.12	17.05	17.85	19.20	20.30	21.00	21.48	21.68
1 ¾	10.57	11.79	12.92	14.20	15.34	16.37	17.42	18.42	19.23	20.72	21.84	22.63	23.24	23.38
2	11.28	12.60	13.82	15.18	16.42	17.50	18.63	19.70	20.60	22.10	23.33	24.15	24.78	24.98
2 ¼	11.98	13.37	14.67	16.10	17.40	18.57	19.76	20.89	21.83	23.40	24.67	25.60	26.21	26.36
2 ½	12.63	14.10	15.47	16.96	18.34	19.57	20.85	22.02	23.05	24.65	26.00	26.95	27.63	27.74
2 ¾	13.24	14.78	16.21	17.80	19.23	20.52	21.85	23.10	24.15	25.87	27.28	28.30	29.00	29.12
3	13.83	15.43	16.93	18.60	20.10	21.42	22.82	24.13	25.20	27.02	28.50	29.65	30.35	30.50
3 ¼	14.40	16.06	17.62	19.34	20.95	22.30	23.77	25.13	26.25	28.14	29.67	30.90	31.53	31.66
3 ½	14.92	16.67	18.29	20.07	21.71	23.15	24.67	26.09	27.25	29.20	30.80	32.07	32.69	32.81
3 ¾	15.44	17.26	18.93	20.79	22.45	23.96	25.52	26.98	28.18	30.20	31.85	33.17	33.85	33.93
4	15.94	17.82	19.57	21.47	23.19	24.75	26.36	27.85	29.10	31.20	32.90	34.27	34.98	35.05
4 ¼	16.44	18.37	20.16	22.13	23.92	25.52	27.18	28.70	30.00	32.20	33.93	35.32	36.05	36.17
4 ½	16.92	18.90	20.74	22.78	24.62	26.25	27.95	29.53	30.87	33.11	34.90	36.36	37.06	37.20
4 ¾	17.40	19.41	21.31	23.39	25.30	26.97	28.71	30.34	31.72	34.01	35.88	37.34	38.07	38.20
5	17.88	19.91	21.85	23.99	25.95	27.65	29.45	31.14	32.57	34.88	36.80	38.30	39.08	39.20
5 ½	18.73	20.90	22.93	25.19	27.21	29.01	30.88	32.65	34.15	36.60	38.57	40.20	41.00	41.16
6	19.54	21.83	23.96	26.29	28.42	30.32	32.25	34.10	35.67	38.20	40.30	41.97	42.78	42.98
6 ½	20.35	22.72	24.94	27.38	29.60	31.55	33.60	35.50	37.10	39.75	41.95	43.68	44.55	44.70
7	21.10	23.58	25.85	28.40	30.70	32.78	34.87	36.85	38.50	41.30	43.52	45.32	46.23	46.42
7 ½	21.85	24.40	26.76	29.38	31.80	33.90	36.10	38.13	39.85	42.74	45.05	46.90	47.85	48.05
8	22.60	25.20	27.65	30.33	32.80	35.01	37.23	39.40	41.15	44.17	46.50	48.46	49.43	49.62
8 ½	23.30	26.00	28.51	31.27	33.80	36.10	38.40	40.65	42.40	45.50	47.95	49.95	50.96	51.17
9	23.95	26.75	29.34	32.19	34.80	37.15	39.55	41.80	43.65	46.80	49.35	51.40	52.48	52.64
9 ½	24.60	27.47	30.13	33.07	35.75	38.15	40.65	42.91	44.83	48.05	50.70	52.80	53.89	54.10
10	25.22	28.18	30.90	33.93	36.65	39.15	41.67	44.02	46.00	49.29	52.00	54.19	55.26	55.48
11	26.46	29.53	32.41	35.60	38.45	41.10	43.70	46.20	48.30	51.70	54.60	56.83	58.00	58.20
12	27.65	30.86	33.84	37.15	40.20	42.90	45.60	48.25	50.45	54.10	57.00	59.40	60.55	60.75
13	28.75	32.12	35.24	38.65	41.80	44.68	47.50	50.20	52.50	56.25	59.30	61.79	63.00	63.24
14	29.85	33.35	36.60	40.15	43.40	46.35	49.32	52.15	54.50	58.40	61.53	64.15	65.40	65.65
15	30.95	34.50	37.90	41.60	44.95	47.95	51.00	54.00	56.40	60.40	63.70	66.36	67.65	67.93
16	31.95	35.65	39.10	42.95	46.40	49.50	52.68	55.70	58.20	62.40	65.80	68.50	69.85	70.15
17	32.90	36.75	40.30	44.25	47.80	51.00	54.35	57.40	60.00	64.40	67.85	70.63	72.10	72.37
18	33.84	37.80	41.50	45.55	49.20	52.50	55.85	59.03	61.70	66.20	69.80	72.67	74.10	74.48

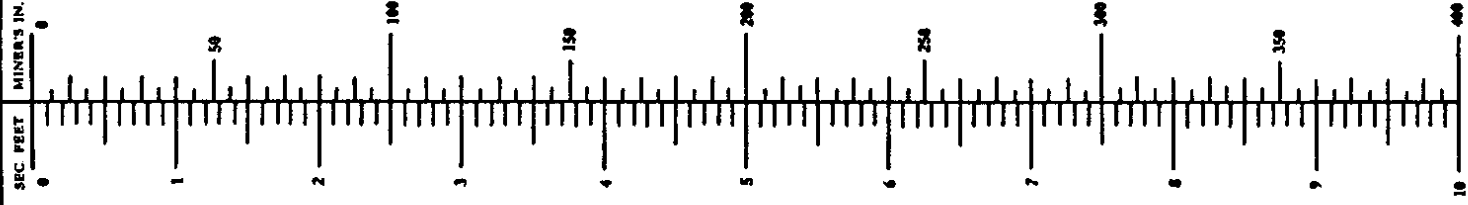
Data derived from Tests by U. S. Bureau of Reclamation and Colorado A & M College.

CONVERSION TABLE  
CUBIC FEET PER SECOND TO MINER'S INCHES

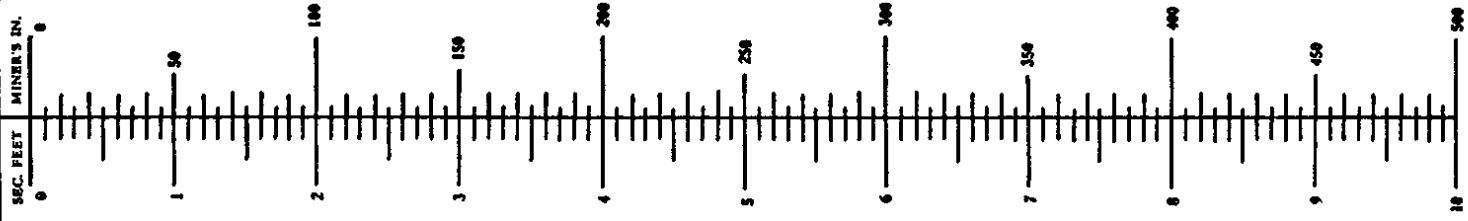
38.4 MINER'S INCHES  
EQUALS  
ONE SECOND FOOT



40 MINER'S INCHES  
EQUALS  
ONE SECOND FOOT



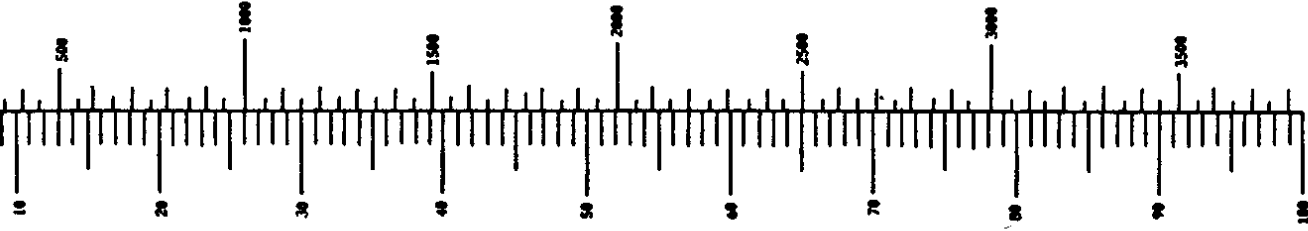
50 MINER'S INCHES  
EQUALS  
ONE SECOND FOOT



CONVERSION TABLE  
CUBIC FEET PER SECOND TO MINER'S INCHES

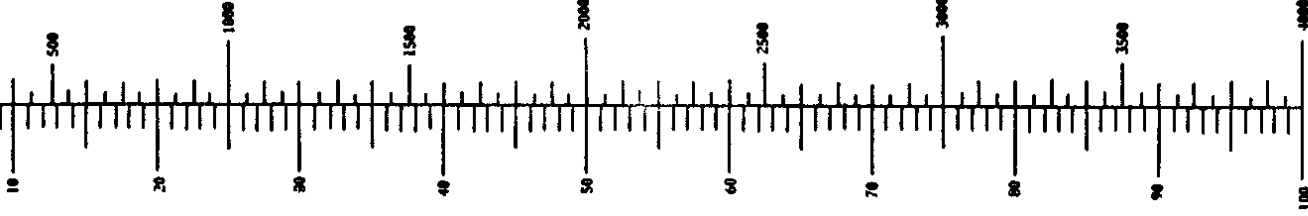
38.4 MINER'S INCHES  
EQUALS  
ONE SECOND FOOT

SEC. FEET MINER'S IN.



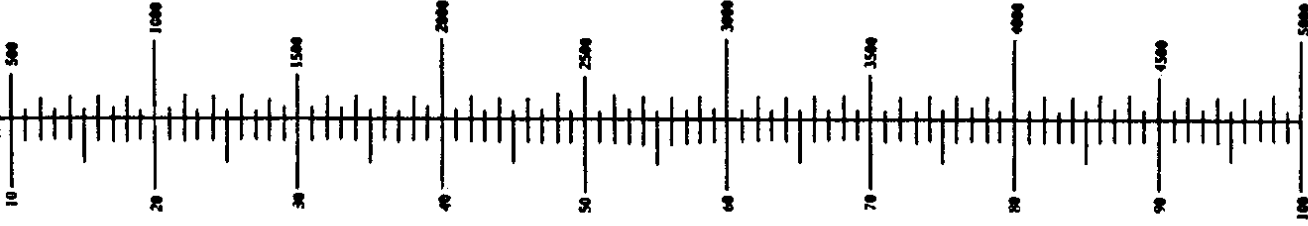
40 MINER'S INCHES  
EQUALS  
ONE SECOND FOOT

SEC. FEET MINER'S IN.



50 MINER'S INCHES  
EQUALS  
ONE SECOND FOOT

SEC. FEET MINER'S IN.





**INCHES AND FRACTIONS  
EXPRESSED IN DECIMALS OF A FOOT**

Inches	Fractions of Inches			
	0	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$
0	.00	.02	.04	.06
1	.08	.10	.12	.15
2	.17	.19	.21	.23
3	.25	.27	.29	.31
4	.33	.35	.38	.40
5	.42	.44	.46	.48
6	.50	.52	.54	.56
7	.58	.60	.62	.65
8	.67	.69	.71	.73
9	.75	.77	.79	.81
10	.83	.85	.88	.90
11	.92	.94	.96	.98
12	1.00	—	—	—

