



## 2-Inch Parshall Flume Discharge Table

50% Submergence Transition

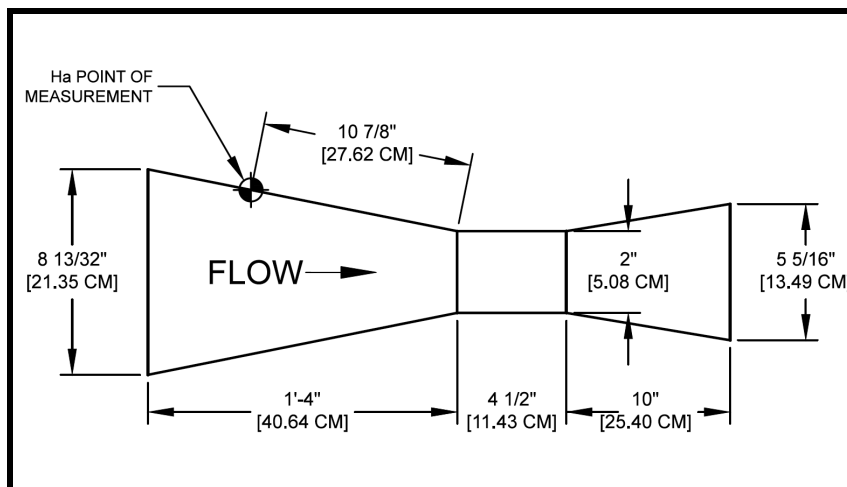
±3-5% Accuracy

Formulas (H in feet):  $CFS = 0.676 H_{ft}^{1.55}$   
 Formulas (H in meters):  $L/S = 120.7 H_m^{1.55}$

$GPM = 303.4 H_{ft}^{1.55}$   
 $M3/HR = 434.6 H_m^{1.55}$

$MGD = 0.4369 H_{ft}^{1.55}$

| 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 | 0.0065                                                               | 2.920 | 0.0042 | 0.1843 | 0.6630 |
| 0.06 | 0.72   | 0.0183 | 0.0086                                                               | 3.874 | 0.0056 | 0.2444 | 0.8795 |
| 0.07 | 0.84   | 0.0213 | 0.0110                                                               | 4.919 | 0.0071 | 0.3104 | 1.117  |
| 0.08 | 0.96   | 0.0244 | 0.0135                                                               | 6.050 | 0.0087 | 0.3818 | 1.374  |
| 0.09 | 1.08   | 0.0274 | 0.0162                                                               | 7.262 | 0.0105 | 0.4583 | 1.649  |
| 0.10 | 1.20   | 0.0305 | 0.0191                                                               | 8.551 | 0.0123 | 0.5396 | 1.941  |
| 0.11 | 1.32   | 0.0335 | 0.0221                                                               | 9.912 | 0.0143 | 0.6255 | 2.251  |
| 0.12 | 1.44   | 0.0366 | 0.0253                                                               | 11.34 | 0.0163 | 0.7158 | 2.575  |
| 0.13 | 1.56   | 0.0396 | 0.0286                                                               | 12.84 | 0.0185 | 0.8103 | 2.916  |
| 0.14 | 1.68   | 0.0427 | 0.0321                                                               | 14.40 | 0.0207 | 0.9089 | 3.271  |
| 0.15 | 1.80   | 0.0457 | 0.0357                                                               | 16.03 | 0.0231 | 1.012  | 3.640  |
| 0.16 | 1.92   | 0.0488 | 0.0395                                                               | 17.72 | 0.0255 | 1.118  | 4.023  |
| 0.17 | 2.04   | 0.0518 | 0.0434                                                               | 19.46 | 0.0280 | 1.228  | 4.419  |
| 0.18 | 2.16   | 0.0549 | 0.0474                                                               | 21.27 | 0.0306 | 1.342  | 4.828  |
| 0.19 | 2.28   | 0.0579 | 0.0515                                                               | 23.12 | 0.0333 | 1.459  | 5.250  |
| 0.20 | 2.40   | 0.0610 | 0.0558                                                               | 25.04 | 0.0361 | 1.580  | 5.685  |
| 0.21 | 2.52   | 0.0640 | 0.0602                                                               | 27.00 | 0.0389 | 1.704  | 6.131  |
| 0.22 | 2.64   | 0.0671 | 0.0647                                                               | 29.02 | 0.0418 | 1.831  | 6.590  |
| 0.23 | 2.76   | 0.0701 | 0.0693                                                               | 31.09 | 0.0448 | 1.962  | 7.060  |
| 0.24 | 2.88   | 0.0732 | 0.0740                                                               | 33.21 | 0.0478 | 2.096  | 7.541  |
| 0.25 | 3.00   | 0.0762 | 0.0788                                                               | 35.38 | 0.0510 | 2.233  | 8.034  |
| 0.26 | 3.12   | 0.0792 | 0.0838                                                               | 37.60 | 0.0541 | 2.373  | 8.537  |
| 0.27 | 3.24   | 0.0823 | 0.0888                                                               | 39.87 | 0.0574 | 2.516  | 9.052  |
| 0.28 | 3.36   | 0.0853 | 0.0940                                                               | 42.18 | 0.0607 | 2.662  | 9.577  |
| 0.29 | 3.48   | 0.0884 | 0.0992                                                               | 44.54 | 0.0641 | 2.810  | 10.11  |
| 0.30 | 3.60   | 0.0914 | 0.1046                                                               | 46.94 | 0.0676 | 2.962  | 10.66  |



Note: Not suitable for use on unscreened sanitary flows

Sources: [Water Measurement Manual](#), 3rd Edition, United States Department of the Interior, Bureau of Reclamation  
 ASTM D 1941-91 (2007): Standard Test Method for Open Channel Flow Measurement of Water with Parshall Flume



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| FEET | INCHES | METERS | CFS    | GPM   | MGD    | L/S   | M3/HR |
|------|--------|--------|--------|-------|--------|-------|-------|
| 0.31 | 3.72   | 0.0945 | 0.1100 | 49.39 | 0.0711 | 3.116 | 11.21 |
| 0.32 | 3.84   | 0.0975 | 0.1156 | 51.88 | 0.0747 | 3.274 | 11.78 |
| 0.33 | 3.96   | 0.1006 | 0.1212 | 54.41 | 0.0784 | 3.433 | 12.35 |
| 0.34 | 4.08   | 0.1036 | 0.1270 | 56.99 | 0.0821 | 3.596 | 12.94 |
| 0.35 | 4.20   | 0.1067 | 0.1328 | 59.61 | 0.0858 | 3.761 | 13.53 |
| 0.36 | 4.32   | 0.1097 | 0.1387 | 62.27 | 0.0897 | 3.929 | 14.14 |
| 0.37 | 4.44   | 0.1128 | 0.1448 | 64.97 | 0.0936 | 4.100 | 14.75 |
| 0.38 | 4.56   | 0.1158 | 0.1509 | 67.71 | 0.0975 | 4.273 | 15.37 |
| 0.39 | 4.68   | 0.1189 | 0.1571 | 70.49 | 0.1015 | 4.448 | 16.01 |
| 0.40 | 4.80   | 0.1219 | 0.1634 | 73.31 | 0.1056 | 4.626 | 16.65 |
| 0.41 | 4.92   | 0.1250 | 0.1697 | 76.18 | 0.1097 | 4.807 | 17.30 |
| 0.42 | 5.04   | 0.1280 | 0.1762 | 79.07 | 0.1139 | 4.990 | 17.95 |
| 0.43 | 5.16   | 0.1311 | 0.1827 | 82.01 | 0.1181 | 5.175 | 18.62 |
| 0.44 | 5.28   | 0.1341 | 0.1894 | 84.99 | 0.1224 | 5.363 | 19.30 |
| 0.45 | 5.40   | 0.1372 | 0.1961 | 88.00 | 0.1267 | 5.553 | 19.98 |
| 0.46 | 5.52   | 0.1402 | 0.2029 | 91.05 | 0.1311 | 5.745 | 20.67 |
| 0.47 | 5.64   | 0.1433 | 0.2097 | 94.14 | 0.1356 | 5.940 | 21.37 |
| 0.48 | 5.76   | 0.1463 | 0.2167 | 97.26 | 0.1401 | 6.137 | 22.08 |
| 0.49 | 5.88   | 0.1494 | 0.2237 | 100.4 | 0.1446 | 6.336 | 22.80 |
| 0.50 | 6.00   | 0.1524 | 0.2309 | 103.6 | 0.1492 | 6.538 | 23.52 |
| 0.51 | 6.12   | 0.1554 | 0.2381 | 106.8 | 0.1539 | 6.742 | 24.26 |
| 0.52 | 6.24   | 0.1585 | 0.2453 | 110.1 | 0.1586 | 6.948 | 25.00 |
| 0.53 | 6.36   | 0.1615 | 0.2527 | 113.4 | 0.1633 | 7.156 | 25.75 |
| 0.54 | 6.48   | 0.1646 | 0.2601 | 116.7 | 0.1681 | 7.366 | 26.51 |
| 0.55 | 6.60   | 0.1676 | 0.2676 | 120.1 | 0.1730 | 7.579 | 27.27 |
| 0.56 | 6.72   | 0.1707 | 0.2752 | 123.5 | 0.1779 | 7.793 | 28.04 |
| 0.57 | 6.84   | 0.1737 | 0.2828 | 126.9 | 0.1828 | 8.010 | 28.82 |
| 0.58 | 6.96   | 0.1768 | 0.2906 | 130.4 | 0.1878 | 8.229 | 29.61 |
| 0.59 | 7.08   | 0.1798 | 0.2984 | 133.9 | 0.1928 | 8.450 | 30.40 |
| 0.60 | 7.20   | 0.1829 | 0.3063 | 137.4 | 0.1979 | 8.673 | 31.21 |
| 0.61 | 7.32   | 0.1859 | 0.3142 | 141.0 | 0.2031 | 8.898 | 32.02 |
| 0.62 | 7.44   | 0.1890 | 0.3222 | 144.6 | 0.2083 | 9.125 | 32.83 |
| 0.63 | 7.56   | 0.1920 | 0.3303 | 148.2 | 0.2135 | 9.354 | 33.66 |
| 0.64 | 7.68   | 0.1951 | 0.3385 | 151.9 | 0.2188 | 9.586 | 34.49 |
| 0.65 | 7.80   | 0.1981 | 0.3467 | 155.6 | 0.2241 | 9.819 | 35.33 |
| 0.66 | 7.92   | 0.2012 | 0.3550 | 159.3 | 0.2294 | 10.05 | 36.18 |
| 0.67 | 8.04   | 0.2042 | 0.3634 | 163.1 | 0.2349 | 10.29 | 37.03 |
| 0.68 | 8.16   | 0.2073 | 0.3718 | 166.9 | 0.2403 | 10.53 | 37.89 |
| 0.69 | 8.28   | 0.2103 | 0.3803 | 170.7 | 0.2458 | 10.77 | 38.76 |
| 0.70 | 8.40   | 0.2134 | 0.3889 | 174.5 | 0.2514 | 11.01 | 39.63 |
| 0.71 | 8.52   | 0.2164 | 0.3976 | 178.4 | 0.2569 | 11.26 | 40.51 |
| 0.72 | 8.64   | 0.2195 | 0.4063 | 182.3 | 0.2626 | 11.51 | 41.40 |
| 0.73 | 8.76   | 0.2225 | 0.4150 | 186.3 | 0.2682 | 11.75 | 42.29 |
| 0.74 | 8.88   | 0.2256 | 0.4239 | 190.2 | 0.2740 | 12.00 | 43.19 |
| 0.75 | 9.00   | 0.2286 | 0.4328 | 194.2 | 0.2797 | 12.26 | 44.10 |
| 0.76 | 9.12   | 0.2316 | 0.4418 | 198.3 | 0.2855 | 12.51 | 45.02 |
| 0.77 | 9.24   | 0.2347 | 0.4508 | 202.3 | 0.2914 | 12.77 | 45.94 |
| 0.78 | 9.36   | 0.2377 | 0.4599 | 206.4 | 0.2973 | 13.03 | 46.87 |
| 0.79 | 9.48   | 0.2408 | 0.4691 | 210.5 | 0.3032 | 13.29 | 47.80 |
| 0.80 | 9.60   | 0.2438 | 0.4783 | 214.7 | 0.3092 | 13.55 | 48.74 |

Sources:

Water Measurement Manual, 3rd Edition, United States Department of the Interior, Bureau of Reclamation

ASTM D 1941-91 (2007): Standard Test Method for Open Channel Flow Measurement of Water with Parshall Flume