



3103 Mike Collins Drive 800.582.5162
 Eagan, MN 55121 651.452.8452
 jhfoster.com fax 651.681.9368

Air Flow Through An Orifice

Pressure

Up Stream
Pressure

Orifice Diameters

Downstream Pressure = 14.7 psia
Air Temperature = 70 degrees F

| psig | 1/64 | | 1/32 | | 1/16 | | 1/8 | | 1/4 | | 3/8 | |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 0.97 | 0.65 | 0.97 | 0.65 | 0.97 | 0.65 | 0.97 | 0.65 | 0.97 | 0.65 | 0.97 | 0.65 |
| 1.00 | 0.027 | 0.018 | 0.107 | 0.073 | 0.437 | 0.293 | 1.75 | 1.17 | 6.96 | 4.67 | 15.71 | 10.53 |
| 3.00 | 0.046 | 0.031 | 0.188 | 0.126 | 0.752 | 0.504 | 3.01 | 2.01 | 12.03 | 8.06 | 26.97 | 18.07 |
| 5.00 | 0.060 | 0.040 | 0.241 | 0.161 | 0.963 | 0.645 | 3.85 | 2.58 | 15.42 | 10.34 | 34.63 | 23.21 |
| 7.00 | 0.071 | 0.047 | 0.284 | 0.190 | 1.135 | 0.761 | 4.54 | 3.04 | 18.14 | 12.16 | 40.93 | 27.43 |
| 9.00 | 0.081 | 0.054 | 0.321 | 0.215 | 1.280 | 0.858 | 5.14 | 3.45 | 20.47 | 13.72 | 46.27 | 31.01 |
| 12.00 | 0.092 | 0.062 | 0.368 | 0.246 | 1.474 | 0.988 | 5.89 | 3.95 | 23.57 | 15.80 | 52.96 | 35.49 |
| 15.00 | .10 | .068 | .407 | .273 | 1.629 | 1.092 | 6.518 | 4.368 | 26.09 | 17.49 | 58.69 | 39.33 |
| 20.00 | .119 | .079 | .467 | .319 | 1.901 | 1.274 | 7.624 | 5.109 | 30.46 | 20.41 | 68.58 | 45.96 |
| 25.00 | .136 | .091 | .545 | .365 | 2.183 | 1.463 | 8.71 | 5.837 | 34.82 | 23.34 | 78.47 | 52.59 |
| 30.00 | .153 | .103 | .614 | .411 | 2.454 | 1.645 | 9.797 | 6.565 | 39.29 | 26.33 | 88.37 | 59.22 |
| 40.00 | .189 | .126 | .751 | .503 | 3.007 | 2.015 | 12.03 | 8.06 | 48.11 | 32.24 | 108.6 | 72.8 |
| 50.00 | .222 | .149 | .889 | .595 | 3.550 | 2.379 | 14.26 | 9.555 | 56.84 | 38.09 | 128.0 | 85.8 |
| 60.00 | .256 | .171 | 1.028 | .689 | 4.103 | 2.750 | 16.39 | 10.99 | 65.57 | 43.94 | 147.4 | 98.8 |
| 70.00 | .291 | .195 | 1.164 | .780 | 4.646 | 3.114 | 18.62 | 12.48 | 74.40 | 49.86 | 167.8 | 112.5 |
| 80.00 | .325 | .218 | 1.30 | .871 | 5.199 | 3.484 | 20.76 | 13.91 | 83.13 | 55.71 | 187.2 | 125.5 |
| 90.00 | .359 | .241 | 1.436 | .962 | 5.742 | 3.848 | 22.99 | 15.41 | 91.96 | 61.62 | 206.6 | 138.5 |
| 100.00 | .394 | .264 | 1.571 | 1.053 | 6.295 | 4.219 | 25.22 | 16.9 | 100.8 | 67.60 | 227.0 | 152.1 |

| psig | 1/2 | | 5/8 | | 3/4 | | 7/8 | | 1 | |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 0.97 | 0.65 | 0.97 | 0.65 | 0.97 | 0.65 | 0.97 | 0.65 | 0.97 | 0.65 |
| 1.00 | 27.8 | 18.7 | 43.65 | 29.25 | 62.76 | 42.06 | 85.46 | 57.27 | 111.6 | 74.75 |
| 3.00 | 48.0 | 32.2 | 75.18 | 50.38 | 107.7 | 72.15 | 147.4 | 98.8 | 192.1 | 128.7 |
| 5.00 | 61.6 | 41.3 | 96.32 | 64.55 | 138.7 | 92.95 | 189.2 | 126.8 | 246.4 | 165.1 |
| 7.00 | 72.8 | 48.8 | 113.5 | 76.05 | 163.0 | 109.2 | 223.1 | 149.5 | 195.0 | 195.0 |
| 9.00 | 82.2 | 55.1 | 128.0 | 85.80 | 185.3 | 124.2 | 252.2 | 169.0 | 328.8 | 220.4 |
| 12.00 | 94.1 | 63.1 | 147.4 | 98.80 | 211.5 | 141.7 | 288.1 | 193.1 | 376.4 | 252.2 |
| 15.00 | 104.8 | 70.2 | 163.0 | 109.2 | 234.7 | 157.3 | 319.1 | 213.9 | 417.1 | 279.5 |
| 20.00 | 122.2 | 81.9 | 190.1 | 127.4 | 274.5 | 184 | 373.5 | 250.3 | 487.9 | 327 |
| 25.00 | 139.7 | 93.6 | 217.3 | 145.6 | 313.3 | 210 | 426.8 | 286 | 557.8 | 373.8 |
| 30.00 | 157.1 | 105.3 | 245.4 | 164.5 | 354.1 | 237.3 | 481.1 | 322.4 | 628.6 | 421.2 |
| 40.00 | 192.1 | 128.7 | 300.7 | 201.5 | 432.6 | 290 | 588.8 | 394.6 | 769.2 | 515.5 |
| 50.00 | 228.0 | 152.8 | 354.1 | 237.3 | 512.2 | 343.2 | 696.5 | 466.7 | 909.9 | 609.7 |
| 60.00 | 262.9 | 176.2 | 409.3 | 274.3 | 590.7 | 395.9 | 803.2 | 538.2 | 1,050 | 703.3 |
| 70.00 | 297.8 | 199.6 | 464.6 | 311.4 | 669.3 | 448.5 | 910.8 | 610.4 | 1,190 | 797.6 |
| 80.00 | 332.7 | 223 | 520.9 | 349.1 | 747.9 | 501.2 | 1,019 | 630 | 1,330 | 891.2 |
| 90.00 | 367.6 | 246.4 | 574.2 | 384.8 | 827.4 | 554.5 | 1,126 | 754.7 | 1,471 | 985.4 |
| 100.00 | 402.6 | 269.8 | 629.5 | 421.9 | 906 | 607.1 | 1,234 | 826.8 | 1,611 | 1,080 |

Discharge Coefficient
 0.97 Well-rounded orifice
 0.65 Sharp-edge orifice