

## Flow Calculation from a Nozzle

| <b>↕ Nozzle Discharge ↕</b> |   |             |      |             |      |             |      |             |      |             |      |      |      |          |
|-----------------------------|---|-------------|------|-------------|------|-------------|------|-------------|------|-------------|------|------|------|----------|
| Nozzle Pressure             | Gallons per Minute Discharge for a given Nozzle Diameter (Inches) |             |      |             |      |             |      |             |      |             |      |      |      |          |
|                             | lbs/sq in   | <b>1/16</b> | 1/8  | <b>3/16</b> | 1/4  | <b>5/16</b> | 3/8  | <b>7/16</b> | 1/2  | <b>9/16</b> | 5/8  | 3/4  | 7/8  | <b>1</b> |
| 10                          | 0.38  | 1.48        | 3.3  | 5.9         | 9.24 | 13.3        | 18.1 | 23.6        | 30.2 | 36.9        | 53.3 | 72.5 | 94.8 | 120      |
| 15                          | 0.45  | 1.81        | 4.1  | 7.2         | 11.4 | 16.3        | 22.4 | 28.9        | 36.7 | 45.2        | 65.1 | 88.7 | 116  | 147      |
| 20                          | 0.53  | 2.09        | 4.7  | 8.3         | 13.1 | 18.7        | 25.6 | 33.4        | 42.4 | 52.2        | 75.4 | 102  | 134  | 169      |
| 25                          | 0.59  | 2.34        | 5.3  | 9.3         | 14.6 | 21.0        | 28.7 | 37.3        | 47.3 | 58.2        | 84.0 | 115  | 149  | 189      |
| 30                          | 0.64  | 2.56        | 5.8  | 10.2        | 16.0 | 23.1        | 31.4 | 40.9        | 51.9 | 63.9        | 92.2 | 126  | 164  | 208      |
| 35                          | 0.69  | 2.78        | 6.2  | 11.1        | 17.1 | 25.0        | 33.8 | 44.2        | 56.1 | 69.0        | 99.8 | 136  | 177  | 224      |
| 40                          | 0.74  | 2.96        | 6.7  | 11.7        | 18.4 | 26.6        | 36.2 | 47.3        | 59.9 | 73.8        | 106  | 145  | 189  | 239      |
| 45                          | 0.79  | 3.14        | 7.1  | 12.6        | 19.5 | 28.2        | 38.3 | 50.1        | 63.4 | 78.2        | 113  | 153  | 200  | 254      |
| 50                          | 0.83  | 3.30        | 7.4  | 13.2        | 20.6 | 29.9        | 40.5 | 52.8        | 67.0 | 82.5        | 119  | 162  | 211  | 268      |
| 60                          | 0.90  | 3.62        | 8.2  | 14.5        | 22.6 | 32.6        | 44.3 | 57.9        | 73.3 | 90.4        | 130  | 177  | 232  | 293      |
| 70                          | 0.98  | 3.91        | 8.8  | 15.7        | 24.4 | 35.3        | 47.9 | 62.6        | 79.3 | 97.8        | 141  | 192  | 251  | 317      |
| 80                          | 1.05  | 4.19        | 9.4  | 16.8        | 26.1 | 37.6        | 51.2 | 66.8        | 84.8 | 105         | 151  | 205  | 268  | 339      |
| 90                          | 1.11  | 4.43        | 10.0 | 17.7        | 27.8 | 40.1        | 54.5 | 70.8        | 90.3 | 111         | 160  | 218  | 285  | 360      |
| 100                         | 1.17  | 4.67        | 10.4 | 18.7        | 29.2 | 42.2        | 57.3 | 74.9        | 95   | 117         | 169  | 229  | 300  | 379      |
| 120                         | 1.23  | 5.17        | 11.5 | 20.4        | 31.8 | 46.0        | 62.4 | 81.8        | 103  | 128         | 184  | 250  | 327  | 413      |
| 140                         | 1.28  | 5.70        | 12.4 | 22.1        | 34.4 | 49.8        | 67.6 | 88.3        | 112  | 138         | 199  | 271  | 354  | 447      |
| 160                         | 1.32  | 6.30        | 13.3 | 23.6        | 36.9 | 53.3        | 72.3 | 94.6        | 120  | 148         | 213  | 289  | 378  | 478      |
| 180                         | 1.36  | 6.92        | 14.1 | 25.0        | 39.0 | 56.4        | 76.5 | 100.0       | 127  | 156         | 225  | 306  | 400  | 506      |
| 200                         | 1.38  | 7.52        | 14.9 | 26.4        | 41.1 | 59.5        | 81.6 | 106.0       | 134  | 165         | 238  | 323  | 423  | 535      |

Note: The above discharge rates are theoretical. Actual values will only be 95% of the above values, depending on such factors as shape of the nozzle, bore smoothness, etc.