

# Nozzle Performance Table

|  |      | NOZZLE SIZE (GPM @ 40 PSI) |      |      |      |      |      |      |      |      |      |      |      |       |       |       |       |       |       |       |       |       |
|--|------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|  |      | 02                         | 03   | 035  | 04   | 045  | 05   | 055  | 06   | 065  | 07   | 075  | 08   | 085   | 09    | 10    | 12    | 15    | 20    | 30    | 40    | 60    |
| PRESSURE IN (PSI) POUNDS PER SQUARE INCH | 20   | 0.14                       | 0.21 | 0.25 | 0.28 | 0.32 | 0.35 | 0.39 | 0.42 | 0.46 | 0.49 | 0.53 | 0.56 | 0.60  | 0.63  | 0.70  | 0.84  | 1.05  | 1.40  | 2.10  | 2.80  | 4.21  |
|  | 40   | 0.20                       | 0.30 | 0.35 | 0.40 | 0.45 | 0.50 | 0.55 | 0.60 | 0.65 | 0.70 | 0.75 | 0.80 | 0.85  | 0.90  | 1.00  | 1.20  | 1.50  | 2.00  | 3.00  | 4.00  | 6.00  |
|  | 60   | 0.24                       | 0.37 | 0.43 | 0.49 | 0.55 | 0.61 | 0.67 | 0.73 | 0.80 | 0.86 | 0.92 | 0.98 | 1.04  | 1.10  | 1.22  | 1.47  | 1.84  | 2.45  | 3.67  | 4.90  | 7.35  |
|  | 80   | 0.28                       | 0.42 | 0.49 | 0.57 | 0.64 | 0.71 | 0.78 | 0.85 | 0.92 | 0.99 | 1.06 | 1.13 | 1.20  | 1.27  | 1.41  | 1.70  | 2.12  | 2.83  | 4.24  | 5.66  | 8.49  |
|  | 100  | 0.32                       | 0.47 | 0.56 | 0.63 | 0.71 | 0.79 | 0.87 | 0.95 | 1.03 | 1.11 | 1.19 | 1.26 | 1.34  | 1.42  | 1.58  | 1.90  | 2.37  | 3.16  | 4.74  | 6.32  | 9.49  |
|  | 120  | 0.35                       | 0.52 | 0.62 | 0.69 | 0.78 | 0.87 | 0.95 | 1.04 | 1.13 | 1.21 | 1.30 | 1.39 | 1.47  | 1.56  | 1.73  | 2.08  | 2.60  | 3.46  | 5.20  | 6.93  | 10.39 |
|  | 140  | 0.37                       | 0.56 | 0.67 | 0.75 | 0.84 | 0.94 | 1.03 | 1.12 | 1.22 | 1.31 | 1.40 | 1.50 | 1.59  | 1.68  | 1.87  | 2.24  | 2.81  | 3.74  | 5.61  | 7.48  | 11.22 |
|  | 160  | 0.40                       | 0.60 | 0.70 | 0.80 | 0.90 | 1.00 | 1.10 | 1.20 | 1.30 | 1.40 | 1.50 | 1.60 | 1.70  | 1.80  | 2.00  | 2.40  | 3.00  | 4.00  | 6.00  | 8.00  | 12.00 |
|  | 180  | 0.42                       | 0.64 | 0.75 | 0.85 | 0.95 | 1.06 | 1.17 | 1.27 | 1.38 | 1.48 | 1.59 | 1.70 | 1.80  | 1.91  | 2.12  | 2.55  | 3.18  | 4.24  | 6.36  | 8.49  | 12.73 |
|  | 200  | 0.45                       | 0.67 | 0.78 | 0.89 | 1.01 | 1.12 | 1.23 | 1.34 | 1.45 | 1.57 | 1.68 | 1.79 | 1.90  | 2.01  | 2.24  | 2.68  | 3.35  | 4.47  | 6.71  | 8.94  | 13.42 |
|  | 225  | 0.47                       | 0.71 | 0.83 | 0.95 | 1.07 | 1.19 | 1.30 | 1.42 | 1.54 | 1.66 | 1.78 | 1.90 | 2.02  | 2.13  | 2.37  | 2.85  | 3.56  | 4.74  | 7.12  | 9.49  | 14.23 |
|  | 250  | 0.50                       | 0.75 | 0.88 | 1.00 | 1.13 | 1.25 | 1.38 | 1.50 | 1.63 | 1.75 | 1.88 | 2.00 | 2.13  | 2.25  | 2.50  | 3.00  | 3.75  | 5.00  | 7.50  | 10.00 | 15.00 |
|  | 275  | 0.52                       | 0.79 | 0.92 | 1.05 | 1.18 | 1.31 | 1.44 | 1.57 | 1.70 | 1.84 | 1.97 | 2.10 | 2.23  | 2.36  | 2.62  | 3.15  | 3.93  | 5.24  | 7.87  | 10.49 | 15.73 |
|  | 300  | 0.55                       | 0.82 | 0.96 | 1.10 | 1.23 | 1.37 | 1.51 | 1.64 | 1.78 | 1.92 | 2.05 | 2.19 | 2.33  | 2.46  | 2.74  | 3.29  | 4.11  | 5.48  | 8.22  | 10.95 | 16.43 |
|  | 350  | 0.59                       | 0.89 | 1.04 | 1.18 | 1.33 | 1.48 | 1.63 | 1.77 | 1.92 | 2.07 | 2.22 | 2.37 | 2.51  | 2.66  | 2.96  | 3.55  | 4.44  | 5.92  | 8.87  | 11.83 | 17.75 |
|  | 400  | 0.63                       | 0.95 | 1.11 | 1.26 | 1.42 | 1.58 | 1.74 | 1.90 | 2.06 | 2.21 | 2.37 | 2.53 | 2.69  | 2.85  | 3.16  | 3.79  | 4.74  | 6.32  | 9.49  | 12.65 | 18.97 |
|  | 450  | 0.67                       | 1.01 | 1.18 | 1.34 | 1.51 | 1.68 | 1.84 | 2.01 | 2.18 | 2.35 | 2.52 | 2.68 | 2.85  | 3.02  | 3.35  | 4.02  | 2.03  | 6.71  | 10.06 | 13.42 | 13.42 |
|  | 500  | 0.71                       | 1.06 | 1.24 | 1.41 | 1.59 | 1.77 | 1.94 | 2.12 | 2.30 | 2.47 | 2.65 | 2.83 | 3.01  | 3.18  | 3.54  | 4.24  | 5.30  | 7.07  | 10.61 | 14.14 | 21.21 |
|  | 550  | 0.74                       | 1.11 | 1.30 | 1.48 | 1.67 | 1.85 | 2.04 | 2.22 | 2.41 | 2.60 | 2.78 | 2.97 | 3.15  | 3.34  | 3.71  | 4.45  | 5.56  | 7.42  | 11.12 | 14.83 | 22.25 |
|  | 600  | 0.77                       | 1.16 | 1.35 | 1.55 | 1.74 | 1.94 | 2.13 | 2.32 | 2.52 | 2.71 | 2.90 | 3.10 | 3.29  | 3.49  | 3.87  | 4.65  | 5.81  | 7.75  | 11.62 | 15.49 | 23.24 |
| 650                                      | 0.81 | 1.21                       | 1.40 | 1.61 | 1.81 | 2.02 | 2.22 | 2.42 | 2.62 | 2.82 | 3.02 | 3.22 | 3.43 | 3.63  | 4.03  | 4.84  | 6.05  | 8.06  | 12.09 | 16.12 | 24.19 |       |
| 700                                      | 0.84 | 1.25                       | 1.43 | 1.67 | 1.88 | 2.09 | 2.30 | 2.51 | 2.72 | 2.93 | 3.14 | 3.35 | 3.56 | 3.76  | 4.18  | 5.02  | 6.27  | 8.37  | 12.55 | 16.73 | 25.10 |       |
| 750                                      | 0.87 | 1.30                       | 1.48 | 1.73 | 1.95 | 2.17 | 2.38 | 2.60 | 2.81 | 3.03 | 3.25 | 3.46 | 3.68 | 3.90  | 4.33  | 5.20  | 6.50  | 8.66  | 12.99 | 17.32 | 25.98 |       |
| 800                                      | 0.89 | 1.34                       | 1.52 | 1.79 | 2.01 | 2.24 | 2.46 | 2.68 | 2.91 | 3.13 | 3.35 | 3.58 | 3.80 | 4.02  | 4.47  | 5.37  | 6.71  | 8.94  | 13.42 | 17.89 | 26.83 |       |
| 900                                      | 0.95 | 1.42                       | 1.60 | 1.90 | 2.13 | 2.37 | 2.61 | 2.85 | 3.08 | 3.32 | 3.56 | 3.79 | 4.03 | 4.27  | 4.74  | 5.69  | 7.12  | 9.49  | 14.23 | 18.97 | 28.46 |       |
| 1000                                     | 1.00 | 1.50                       | 1.69 | 2.00 | 2.25 | 2.50 | 2.75 | 3.00 | 3.25 | 3.50 | 3.75 | 4.00 | 4.25 | 5.00  | 6.00  | 7.50  | 10.00 | 15.00 | 20.00 | 30.00 | 32.86 |       |
| 1200                                     | 1.10 | 1.64                       | 1.84 | 2.19 | 2.46 | 2.74 | 3.01 | 3.29 | 3.56 | 3.83 | 4.11 | 4.38 | 4.66 | 4.93  | 5.48  | 6.57  | 8.22  | 10.95 | 16.43 | 21.91 | 32.86 |       |
| 1400                                     | 1.18 | 1.77                       | 1.99 | 2.37 | 2.66 | 2.96 | 3.25 | 3.55 | 3.85 | 4.14 | 4.44 | 4.73 | 5.03 | 5.32  | 5.92  | 7.10  | 8.87  | 11.83 | 17.75 | 23.66 | 35.50 |       |
| 1600                                     | 1.26 | 1.90                       | 2.14 | 2.53 | 2.85 | 3.16 | 3.48 | 3.79 | 4.11 | 4.43 | 4.74 | 5.06 | 5.38 | 5.69  | 6.32  | 7.59  | 9.49  | 12.65 | 18.97 | 25.30 | 37.95 |       |
| 1800                                     | 1.34 | 2.01                       | 2.26 | 2.68 | 3.02 | 3.35 | 3.69 | 4.02 | 4.36 | 4.70 | 5.03 | 5.37 | 5.70 | 6.04  | 6.71  | 8.05  | 10.06 | 13.42 | 20.12 | 26.83 | 40.25 |       |
| 2000                                     | 1.41 | 2.12                       | 2.39 | 2.83 | 3.18 | 3.54 | 3.89 | 4.24 | 4.60 | 4.95 | 5.30 | 5.66 | 6.01 | 6.36  | 7.07  | 8.49  | 10.61 | 14.14 | 21.21 | 28.28 | 42.43 |       |
| 2250                                     | 1.50 | 2.25                       | 2.53 | 3.00 | 3.38 | 3.75 | 4.13 | 4.50 | 4.88 | 5.25 | 5.63 | 6.00 | 6.38 | 6.75  | 7.50  | 9.00  | 11.25 | 15.00 | 22.50 | 30.00 | 45.00 |       |
| 2500                                     | 1.58 | 2.37                       | 2.67 | 3.16 | 3.56 | 3.95 | 4.35 | 4.74 | 5.14 | 5.53 | 5.93 | 6.32 | 6.72 | 7.12  | 7.91  | 9.49  | 11.86 | 15.81 | 23.72 | 31.62 | 47.43 |       |
| 2750                                     | 1.66 | 2.49                       | 2.80 | 3.32 | 3.73 | 4.15 | 4.56 | 4.97 | 5.39 | 5.80 | 6.22 | 6.63 | 7.05 | 7.46  | 8.29  | 9.95  | 12.44 | 16.58 | 24.87 | 33.17 | 49.75 |       |
| 3000                                     | 1.73 | 2.60                       | 2.91 | 3.46 | 3.90 | 4.33 | 4.76 | 5.20 | 5.63 | 6.06 | 6.50 | 6.93 | 7.36 | 7.79  | 8.66  | 10.39 | 12.99 | 17.32 | 25.98 | 34.64 | 51.96 |       |
| 3500                                     | 1.87 | 2.81                       | 3.16 | 3.74 | 4.21 | 4.68 | 5.14 | 5.61 | 6.08 | 6.55 | 7.02 | 7.48 | 7.95 | 8.42  | 9.35  | 11.22 | 14.03 | 18.71 | 28.06 | 37.42 | 56.12 |       |
| 4000                                     | 2.00 | 3.00                       | 3.50 | 4.00 | 4.50 | 5.00 | 5.50 | 6.00 | 6.50 | 7.00 | 7.50 | 8.00 | 8.50 | 9.00  | 10.00 | 12.00 | 15.00 | 20.00 | 30.00 | 40.00 | 60.00 |       |
| 4500                                     | 2.12 | 3.18                       | 3.58 | 4.24 | 4.77 | 5.30 | 5.83 | 6.36 | 6.89 | 7.42 | 7.95 | 8.49 | 9.02 | 9.55  | 10.61 | 12.73 | 15.91 | 21.21 | 31.82 | 42.43 | 63.64 |       |
| 5000                                     | 2.24 | 3.35                       | 3.77 | 4.47 | 5.03 | 5.59 | 6.15 | 6.71 | 7.27 | 7.83 | 8.39 | 8.94 | 9.50 | 10.06 | 11.18 | 13.42 | 16.77 | 22.36 | 33.54 | 44.72 | 67.08 |       |

FLOW IN (GPM) GALLONS PER MINUTE

## Pump & System Guidance

The restriction of the nozzle creates the spraying pressure. The pump only pumps water; it does not create pressure. Selection of the correct nozzle size is essential to attain desired pressure. Note: Worn nozzles are the typical cause of low spraying pressure. Install new nozzle(s) before adjusting pressure regulator. Pumptec recommends using only hardened SS nozzles for all their high performance systems.

Systems pressure, in bypass is created by the pressure regulator which functions like a variable nozzle. Adjust regulator bypass pressure to 25 PSI above spraying pressure created by nozzle.

Inlet water supply lines must be in a continuous downward slope to pump from the supply tank. This allows air to escape, the pump to prime quickly, and the system to operate smoothly.

A priming valve (PPA- 1/2) is recommended to quickly purge air from the system during initial start-up. The priming valve should be located at the outlet of the pump. The pumped fluid can be recycled to solution tank, or for greatest effect, into the vacuum tank.