



# REFERENCE

## Nozzle Chart

| NOZZLE SIZE | ORIFICE DIA. | 40 PSI | 100 PSI | 250 PSI | 500 PSI | 600 PSI | 700 PSI | 800 PSI | 1000 PSI | 1200 PSI | 1500 PSI | 2000 PSI | 2500 PSI | 3000 PSI | 3500 PSI | 4000 PSI | 5000 PSI |
|-------------|--------------|--------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 2           | .034         | 0.20   | 0.32    | 0.50    | 0.71    | 0.77    | 0.84    | 0.89    | 1.00     | 1.10     | 1.22     | 1.41     | 1.58     | 1.73     | 1.87     | 2.00     | 2.24     |
| 2.5         | .039         | 0.25   | 0.40    | 0.63    | 0.88    | 0.97    | 1.05    | 1.12    | 1.25     | 1.37     | 1.53     | 1.77     | 1.98     | 2.17     | 2.34     | 2.50     | 2.80     |
| 3           | .043         | 0.30   | 0.47    | 0.75    | 1.06    | 1.16    | 1.25    | 1.34    | 1.50     | 1.64     | 1.84     | 2.12     | 2.37     | 2.60     | 2.81     | 3.00     | 3.35     |
| 3.5         | .048         | 0.35   | 0.55    | 0.88    | 1.24    | 1.36    | 1.46    | 1.57    | 1.75     | 1.92     | 2.14     | 2.47     | 2.77     | 3.03     | 3.24     | 3.40     | 3.85     |
| 4           | .052         | 0.40   | 0.63    | 1.00    | 1.41    | 1.55    | 1.67    | 1.79    | 2.00     | 2.19     | 2.45     | 2.83     | 3.16     | 3.46     | 3.74     | 4.00     | 4.47     |
| 4.5         | .055         | 0.45   | 0.71    | 1.13    | 1.59    | 1.74    | 1.88    | 2.01    | 2.25     | 2.46     | 2.76     | 3.18     | 3.56     | 3.90     | 4.21     | 4.50     | 5.03     |
| 5           | .057         | 0.50   | 0.79    | 1.25    | 1.77    | 1.94    | 2.09    | 2.24    | 2.50     | 2.74     | 3.06     | 3.54     | 3.95     | 4.33     | 4.68     | 5.00     | 5.59     |
| 5.5         | .060         | 0.55   | 0.87    | 1.38    | 1.94    | 2.13    | 2.30    | 2.46    | 2.75     | 3.01     | 3.37     | 3.89     | 4.35     | 4.76     | 5.14     | 5.50     | 6.15     |
| 6           | .062         | 0.60   | 0.95    | 1.50    | 2.12    | 2.32    | 2.51    | 2.68    | 3.00     | 3.29     | 3.67     | 4.24     | 4.74     | 5.20     | 5.61     | 6.00     | 6.71     |
| 6.5         | .064         | 0.65   | 1.03    | 1.63    | 2.30    | 2.52    | 2.72    | 2.91    | 3.25     | 3.56     | 3.98     | 4.60     | 5.14     | 5.63     | 6.08     | 6.50     | 7.27     |
| 7           | .067         | 0.70   | 1.11    | 1.75    | 2.47    | 2.71    | 2.93    | 3.13    | 3.50     | 3.83     | 4.29     | 4.95     | 5.53     | 6.06     | 6.55     | 7.00     | 7.83     |
| 7.5         | .070         | 0.75   | 1.19    | 1.88    | 2.65    | 2.90    | 3.14    | 3.35    | 3.75     | 4.11     | 4.59     | 5.30     | 5.93     | 6.50     | 7.02     | 7.50     | 8.39     |
| 8           | .072         | 0.80   | 1.26    | 2.00    | 2.83    | 3.10    | 3.35    | 3.58    | 4.00     | 4.38     | 4.90     | 5.66     | 6.32     | 6.93     | 7.48     | 8.00     | 8.94     |
| 8.5         | .074         | 0.85   | 1.34    | 2.13    | 3.01    | 3.29    | 3.56    | 3.80    | 4.25     | 4.66     | 5.21     | 6.01     | 6.72     | 7.36     | 7.95     | 8.50     | 9.50     |
| 9           | .076         | 0.90   | 1.42    | 2.25    | 3.18    | 3.49    | 3.76    | 4.02    | 4.50     | 4.93     | 5.51     | 6.36     | 7.12     | 7.79     | 8.42     | 9.00     | 10.06    |
| 9.5         | .078         | 0.95   | 1.50    | 2.38    | 3.36    | 3.68    | 3.97    | 4.25    | 4.75     | 5.20     | 5.82     | 6.72     | 7.51     | 8.23     | 8.89     | 9.50     | 10.62    |
| 10          | .080         | 1.00   | 1.58    | 2.50    | 3.54    | 3.87    | 4.18    | 4.47    | 5.00     | 5.48     | 6.12     | 7.07     | 7.91     | 8.66     | 9.35     | 10.00    | 11.18    |
| 11          | .083         | 1.10   | 1.74    | 2.75    | 3.89    | 4.26    | 4.60    | 4.92    | 5.50     | 6.02     | 6.74     | 7.78     | 8.70     | 9.53     | 10.29    | 11.00    | 12.30    |
| 12          | .087         | 1.20   | 1.90    | 3.00    | 4.24    | 4.65    | 5.02    | 5.37    | 6.00     | 6.57     | 7.35     | 8.49     | 9.49     | 10.39    | 11.22    | 12.00    | 13.42    |
| 12.5        | .089         | 1.25   | 1.98    | 3.13    | 4.42    | 4.84    | 5.23    | 5.59    | 6.25     | 6.85     | 7.65     | 8.84     | 9.88     | 10.83    | 11.69    | 12.50    | 13.98    |
| 13          | .091         | 1.30   | 2.06    | 3.25    | 4.60    | 5.03    | 5.44    | 5.81    | 6.50     | 7.12     | 7.96     | 9.19     | 10.28    | 11.26    | 12.16    | 13.00    | 14.53    |
| 14          | .093         | 1.40   | 2.21    | 3.50    | 4.95    | 5.42    | 5.86    | 6.26    | 7.00     | 7.67     | 8.57     | 9.90     | 11.07    | 12.12    | 13.10    | 14.00    | 15.65    |
| 15          | .096         | 1.50   | 2.37    | 3.75    | 5.30    | 5.81    | 6.27    | 6.71    | 7.50     | 8.22     | 9.19     | 10.61    | 11.86    | 12.99    | 14.03    | 15.00    | 16.77    |
| 20          | .109         | 2.00   | 3.16    | 5.00    | 7.07    | 7.75    | 8.37    | 8.94    | 10.00    | 10.95    | 12.25    | 14.14    | 15.81    | 17.32    | 18.71    | 20.00    | 22.36    |
| 25          | .125         | 2.50   | 3.95    | 6.25    | 8.84    | 9.68    | 10.46   | 11.18   | 12.50    | 13.69    | 15.31    | 17.68    | 19.76    | 21.65    | 23.39    | 25.00    | 27.95    |
| 30          | .141         | 3.00   | 4.74    | 7.50    | 10.61   | 11.62   | 12.55   | 13.42   | 15.00    | 16.43    | 18.37    | 21.12    | 23.72    | 25.98    | 28.06    | 30.00    | 33.54    |
| 40          | .156         | 4.00   | 6.32    | 10.00   | 14.14   | 15.49   | 16.73   | 17.89   | 20.00    | 21.91    | 24.49    | 28.28    | 31.62    | 34.64    | 37.42    | 40.00    | 44.72    |
| 50          | .172         | 5.00   | 7.91    | 12.50   | 17.68   | 19.36   | 20.92   | 22.36   | 25.00    | 27.39    | 30.62    | 35.36    | 39.53    | 43.30    | 46.77    | 50.00    | 55.90    |
| 60          | .188         | 6.00   | 9.49    | 15.00   | 21.21   | 23.24   | 25.10   | 26.83   | 30.00    | 32.86    | 36.74    | 42.43    | 47.43    | 51.96    | 56.12    | 60.00    | 67.08    |

## Nozzles

|            |                                      |   |                                  |
|------------|--------------------------------------|---|----------------------------------|
| Nozzle # = | GPM                                  | X | $\sqrt{\frac{4000}{\text{PSI}}}$ |
| GPM =      | Nozzle #                             | X | $\sqrt{\frac{4000}{\text{PSI}}}$ |
| PSI =      | $\frac{\text{GPM}^2}{\text{Nozzle}}$ | X | 4000                             |

## Horsepower

|   |   |                                 |
|---|---|---------------------------------|
| $\frac{\text{GPM} \times \text{PSI}}{1460}$ | = | Electric Brake HP               |
| $\frac{\text{GPM} \times \text{PSI}}{1714}$ | = | Hydraulic HP                    |
| $\frac{\text{GPM} \times \text{PSI}}{1100}$ | = | Gasoline HP (Industrial Engine) |
| $\frac{\text{GPM} \times \text{PSI}}{900}$  | = | Gasoline HP (Standard Engine)   |

$$\text{GPM} = \frac{\text{HP} \times 1460}{\text{PSI}}$$

$$\frac{\text{Rated GPM}}{\text{Rated RPM}} = \frac{\text{Desired GPM}}{\text{Desired RPM}}$$

$$\text{PSI} = \frac{\text{HP} \times 1460}{\text{GPM}}$$

$$\frac{\text{Motor Pulley OD}}{\text{Pump RPM}} = \frac{\text{Pump Pulley OD}}{\text{Motor RPM}}$$

$$\text{Torque} = \text{HP} \times 5252$$

$$\text{Drive Ration} = \frac{D}{d}$$