

Nozzle Size Selection Chart

Determine the nozzle size by the pressure washer's GPM @ PSI (gallons per minute @ a specific pounds per square inch). If the nozzle size is too small, your equipment can be damaged. If the nozzle size is too large, cleaning ability is compromised. Nozzle fan degree does not effect nozzle size selection.

Standard Nozzle Size	Hole Size	Pounds Per Square Inch (PSI)																
		500	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4500	5000
2	.034"/0.86mm	0.71	0.87	1.00	1.12	1.22	1.32	1.41	1.50	1.58	1.66	1.73	1.80	1.87	1.94	2.00	2.12	2.24
2.5	.042"/1.07mm	0.88	1.08	1.25	1.40	1.53	1.65	1.77	1.88	1.98	2.07	2.17	2.25	2.34	2.42	2.50	2.65	2.80
3	.043"/1.09mm	1.06	1.30	1.50	1.68	1.84	1.98	2.12	2.25	2.37	2.49	2.60	2.70	2.81	2.90	3.00	3.18	3.35
3.5	.048"/1.22mm	1.24	1.52	1.75	1.96	2.14	2.32	2.47	2.63	2.77	2.90	3.03	3.15	3.27	3.39	3.50	3.71	3.91
4	.052"/1.32mm	1.41	1.73	2.00	2.24	2.45	2.65	2.83	3.00	3.16	3.32	3.46	3.61	3.74	3.87	4.00	4.24	4.47
4.5	.055"/1.40mm	1.59	1.95	2.25	2.52	2.76	2.98	3.18	3.38	3.56	3.73	3.90	4.06	4.21	4.36	4.50	4.77	5.03
5	.057"/1.45mm	1.77	2.17	2.50	2.80	3.06	3.31	3.54	3.75	3.95	4.15	4.33	4.51	4.68	4.84	5.00	5.30	5.59
5.5	.060"/1.52mm	1.94	2.38	2.75	3.07	3.37	3.64	3.89	4.13	4.35	4.56	4.76	4.96	5.14	5.33	5.50	5.83	6.15
6	.062"/1.57mm	2.12	2.60	3.00	3.35	3.67	3.97	4.24	4.50	4.74	4.97	5.20	5.41	5.61	5.81	6.00	6.36	6.71
6.5	.064"/1.63mm	2.30	2.81	3.25	3.63	3.98	4.30	4.60	4.88	5.14	5.39	5.63	5.86	6.08	6.29	6.50	6.89	7.27
7	.067"/1.70mm	2.47	3.03	3.50	3.91	4.29	4.63	4.95	5.25	5.53	5.80	6.06	6.31	6.55	6.78	7.00	7.42	7.83
7.5	.070"/1.78mm	2.65	3.25	3.75	4.19	4.59	4.96	5.30	5.63	5.93	6.22	6.50	6.76	7.02	7.26	7.50	7.95	8.39
8	.072"/1.83mm	2.83	3.46	4.00	4.47	4.90	5.29	5.66	6.00	6.32	6.63	6.93	7.21	7.48	7.75	8.00	8.49	8.94
8.5	.074"/1.88mm	3.01	3.68	4.25	4.75	5.21	5.62	6.01	6.38	6.72	7.05	7.36	7.66	7.95	8.23	8.50	9.02	9.50
9	.076"/1.93mm	3.18	3.90	4.50	5.03	5.51	5.95	6.36	6.75	7.12	7.46	7.79	8.11	8.42	8.71	9.00	9.55	10.06
9.5	.078"/1.98mm	3.36	4.11	4.75	5.31	5.82	6.28	6.72	7.13	7.51	7.88	8.23	8.56	8.89	9.20	9.50	10.08	10.62
10	.080"/2.03mm	3.54	4.33	5.00	5.59	6.12	6.61	7.07	7.50	7.91	8.29	8.66	9.01	9.35	9.68	10.00	10.61	11.18
11	.083"/2.11mm	3.89	4.76	5.50	6.15	6.74	7.28	7.78	8.25	8.70	9.12	9.53	9.92	10.29	10.65	11.00	11.67	12.30
12	.087"/2.21mm	4.24	5.20	6.00	6.71	7.35	7.94	8.49	9.00	9.49	9.95	10.39	10.82	11.22	11.62	12.00	12.73	13.42
12.5	.089"/2.26mm	4.42	5.41	6.25	6.99	7.65	8.27	8.84	9.38	9.88	10.36	10.83	11.27	11.69	12.10	12.50	13.26	13.98
13	.091"/2.31mm	4.60	5.63	6.50	7.27	7.96	8.60	9.19	9.75	10.28	10.78	11.26	11.72	12.16	12.59	13.00	13.79	14.53
15	.096"/2.44mm	5.30	6.50	7.50	8.39	9.19	9.92	10.61	11.25	11.86	12.44	12.99	13.52	14.03	14.52	15.00	15.91	16.77
20	.109"/2.77mm	7.07	8.66	10.00	11.18	12.25	13.23	14.14	15.00	15.81	16.58	17.32	18.03	18.71	19.36	20.00	21.21	22.36
25	.125"/3.18mm	8.84	10.83	12.50	13.98	15.31	16.54	17.68	18.75	19.76	20.73	21.65	22.53	23.39	24.21	25.00	26.52	27.95
30	.141"/3.58mm	10.61	12.99	15.00	16.77	18.37	19.84	21.21	22.50	23.72	24.87	25.98	27.04	28.06	29.05	30.00	31.82	33.54
40	.156"/3.96mm	14.14	17.32	20.00	22.36	24.49	26.46	28.28	30.00	31.62	33.17	34.64	36.06	37.42	38.73	40.00	42.43	44.72
50	.172"/4.37mm	17.68	21.65	25.00	27.95	30.62	33.07	35.36	37.50	39.53	41.46	43.30	45.07	46.77	48.41	50.00	53.03	55.90
60	.188"/4.78mm	21.21	25.98	30.00	33.54	36.74	39.69	42.43	45.00	47.43	49.75	51.96	54.08	56.12	58.09	60.00	63.64	67.08

Reference / Calculation Guide

Nozzles

$$\text{Nozzle \#} = \text{GPM} \times \sqrt{\frac{4000}{\text{PSI}}}$$

$$\text{GPM} = \text{Nozzle \#} \times \sqrt{\frac{\text{PSI}}{4000}}$$

$$\text{PSI} = \left(\frac{\text{PSI}}{\text{Nozzle}} \right)^2 \times 4000$$

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

Horsepower

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

$$\text{Hydraulic HP} = \frac{\text{GPM} \times \text{PSI}}{1714}$$

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

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

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

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

$$\text{Gasoline HP Industrial Engine} = \frac{\text{GPM} \times \text{PSI}}{1100}$$

$$\text{Gasoline HP Standard Engine} = \frac{\text{GPM} \times \text{PSI}}{900}$$

Conversion Factors

1 inch = 25.4 mm 1 gal H2O = 8.33 lbs 1 gal = 3.79 liter 1 kg = 2.205 lbs
 1 cm = 0.394 inch 1 oz = 23.35 gram 1 liter = 0.2642 gal 1 KW = 1.341 HP

Horsepower (HP) Equations

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

Pulley Equations

Pump Pulley Diameter x Pump RPM = Manufacturer Pulley Diameter x Manufacturer RPM

Questions and Answers

Q: How fast do I turn my pump to give me a desired GPM?

A: Required RPM = $\frac{\text{desired GPM} \times \text{Rated RPM}}{\text{Rated GPM}}$

Q: What size pump pulley do I use to get a certain RPM?

A: Pump Pulley Diameter = $\frac{\text{Motor Pulley Diameter} \times \text{Motor RPM}}{\text{Pump RPM}}$