



### Power Requirement Calculations

$$\text{hp} = \frac{\text{gpm} \times \text{psi}}{1,550}$$

$$\text{gpm} = \frac{1,550 \times \text{hp}}{\text{psi}}$$

$$\text{psi} = \frac{1,550 \times \text{hp}}{\text{gpm}}$$

$$\text{kw} = \frac{\text{lpm} \times \text{bar}}{600}$$

### Quick-Reference Pressure

U.S.	Metric	Metric (Rounded)
40,000 psi	2,750 bar	2,750 bar
36,000 psi	2,484 bar	2,500 bar
30,000 psi	2,070 bar	2,070 bar
20,000 psi	1,380 bar	1,400 bar
15,000 psi	1,035 bar	1,050 bar
12,500 psi	861 bar	870 bar
10,000 psi	690 bar	700 bar
5,000 psi	345 bar	350 bar
1,000 psi	69 bar	70 bar



### Pressure Drop (psi)

#### Hose or Lance Size (NPT)

Flow / GPM	Hose or Lance Size (NPT)						
	1/16	1/8	1/4	3/8	1/2	3/4	1
2	680	222	60	10	2	0.3	0.07
4	2,715	890	240	38	9	1.2	0.28
6	6,110	2002	539	86	21	2.7	0.64
8	10,864	3,560	959	154	36	4.8	1.1
10	16,975	5,562	1,498	240	57	7.5	1.8
12		8,010	2,157	346	82	10	2.5
14		10,902	2,93	470	112	15	3.5
16		14,240	3,835	614	146	19	4.6
18		18,022	5,146	778	185	24	5.8
20			5,993	960	228	30	7.1
25			9,363	1,500	356	46	11
30			13,483	2,160	513	67	16
35			18,352	2,940	698	92	22
40				3,840	911	120	28
45				4,861	1,153	152	36
50				6,001	1,424	187	44
55				7,261	1,723	227	54
60				8,641	2,051	270	64
65				10,141	2,407	317	75
70				11,761	2,791	368	87
75				13,502	3,204	422	100

\*Pressure drop per 50-ft sections

### Metric Equivalents

Measurement	Conversion	Example
Length	1 in = 25.4 mm	12 in x 25.4 = 304.8 mm
	1 in = .0254 m	120 in x .0254 = 3.05 m
	1 ft = .3048 m	12 ft x .3048 = 3.68m
	1 mm = .03937 in	100 mm x .03937 = 3.94 in
	1 m = 39.37 in	10 m x 39.37 = 393.7 in
	1 m = 3.281 ft	10 m x 3.281 = 32.81 ft
Weight	1 lb = .454 kg	10 lb x .454 = 4.54 kg
	1 kg = 2.205 lb	10 kg x 2.205 = 22.05 lb
Pressure	1 psi = .069 bar	20,000 psi x .069 = 1,380 bar
	1 bar = 14.5 psi	1,000 bar x 14.5 = 14,500 psi
Flow	1 gpm = 3.785 lpm	30 gpm x 3.785 = 113.55 lpm
	1 lpm = .264 gpm	100 lpm x .264 = 26.4 gpm
Force	1 lb (f) = 4.44 N	100 lb (f) x 4.44 = 444 N
	1 N = .2248 lb (f)	900 N x .2248 = 202.32 lb (f)
Power	1 hp = .7457 kw	50 hp x .7457 = 37.29 kw
	1 kw = 1.341 hp	50 kw x 1.341 = 67.05 hp

