

### Force Chart

- For hose I.D.s from 1-1/4" to 12", the force in pounds is greater than the **PSI**.
- Force is the dynamic power which is exported longitudinally through a hose, toward the ends. To arrive at the number of pounds of force exerted, you multiply the area of the I.D. x the working pressure being used.
- Area of a circle= r<sup>2</sup>x π [3.1416]
- Force = Area x Pressure

Force (In Pounds)

Hose I.D.	25 PSI	50 PSI	75 PSI	100 PSI	150 PSI	200 PSI	250 PSI	300 PSI	500 PSI	1000 PSI
1/4"	1	2	4	5	7	10	12	15	25	49
3/8"	3	6	8	11	17	22	28	33	55	110
1/2"	5	10	15	20	29	39	49	59	98	196
3/4"	11	22	33	44	66	88	110	133	221	442
1"	20	39	59	79	118	157	196	236	393	785
1-1/4"	31	61	92	123	184	245	307	368	614	1227
1-1/2"	44	88	133	177	265	353	442	530	884	1767
2"	79	157	236	314	471	628	785	942	1571	3142
2-1/4"	123	245	368	491	736	982	1227	1473	2454	4909
3"	177	353	530	707	1060	1414	1767	2121	3534	7069
4"	314	628	942	1257	1885	2513	3142	3770	6283	12566
5"	491	982	1473	1964	2945	3927	4909	5891	9818	19635
6"	707	1414	2121	2827	4241	5655	7069	8482	14137	28274
8"	1257	2513	3770	5027	7540	10053	12566	15080	25133	50266
10"	1964	3927	5891	7854	11781	15708	19635	23562	39270	78540
12"	2827	5655	8482	11310	16965	22620	28274	33929	56549	113098

### Safety Products and Recommendations in the Dixon® Product List

#### Safety is everyone's concern!

Dixon provides many safety products designed to protect personnel and property. Recommendations and safety warnings are also included for your review.

Hose and coupling safety .....	page 1115
S.T.A.M.P.E.D.....	page 1116
EZ Boss-Lock handles.....	page 67
Cam & groove safety clips .....	page 72
Air King® – not to be used for steam statement .....	page 190
KingCable® safety cables.....	page 1110
Safety shutoff valves, OSHA REG. 1926.302.....	page 924
<b>30 PSI</b> safety blow guns .....	page 287
Safety vented ball valves .....	page 892
Safety tags and safety tape .....	pages 1076-1077
The importance of whip hose statement.....	page 189

### Mine Safety and Health Administration (MSHA) Regulations

#### 30 CFR Sections 56.13021 and 57.13021

Except where automatic shut-off valves are used, safety chains or other suitable locking devices shall be used at connections to machines of high-pressure hose line of 3/4" inside diameter or larger, and between high-pressure hose lines of 3/4" inside diameter or larger, where a connection failure would create a hazard.

#### 30 CFR Section 75.1730

(e) Safety chains, suitable locking devices, or automatic cut-off valves shall be used at connections to machines of high-pressure hose lines of 3/4" inside diameter or larger, and between high-pressure hose lines of 3/4" inside diameter or larger, where a connection failure would create a hazard. For purposes of this paragraph, high-pressure means pressure of **100 PSI** or more.

#### 30 CFR Section 77.412

(d) Safety chains or suitable locking devices shall be used at connections to machines of high-pressure hose line of 1" inside diameter or larger, and between high-pressure hose line of 1" inside diameter or larger, where a connection failure would create a hazard.

The regulations may be viewed in full on the MSHA website, [msha.gov](http://msha.gov). Please check the website for updates.

