

PRODUCT CATALOG



BUCHANAN RUBBER LTD.

TERMS AND CONDITIONS OF SALE

TERMS

Net 30 days to approved accounts

RETURNS

Merchandise may not be returned without authorization. Approved return must be prepaid and are subject to a 15% restocking charge.

CONDITION OF SALE

The purchaser agrees to the following provisions:

- a. "The seller shall not be liable in damages for nor deemed to be in default by reason of any failure or delay in shipment of all or any part of this order caused by war, fire, flood, strikes, lockouts, accidents, Act of God, Government order or requirement, interruption or shortage of materials or transportation facilities or other cause or circumstance similar or otherwise beyond its control."
- b. "The seller may decline to deliver hereunder except for cash if at any time the company shall not be satisfied as to the customer's credit or responsibility."
- c. All prices are subject to change without notice.

WARRANTY

"The seller guarantees the said goods against original defects in material or workmanship for one year from the date of shipment provided as follows:

- a. the goods are used, operated and maintained in a competent and normal manner by the buyer and in conformity with the seller's instructions.
- b. the seller's liability under this warranty shall be limited to the replacement or repairs of any defective goods, free of charge to the buyer or, at the seller's option, a refund of the purchase price less an adjusted charge for the service rendered by the defective goods.
- c. any expressed or implied warranty that the goods are adequate for any particular purpose is hereby negated.
- d. with respect to the goods not of the seller's own manufacture, this warranty shall apply only to the extent that the seller is able to enforce a claim for liability against the manufacturer thereof.
- e. the buyer shall give written notice to the seller forthwith after the discovery of any defect and thereafter shall make further use of the goods at his own risk.
- f. the seller shall not be liable for consequential damages arising out of the installation or use of the said goods.
- g. this warranty is given in lieu of all other warranties, implied, statutory, or otherwise."

CLAIMS

Our liability ceases when the goods are delivered to the Transportation Company and we hold receipt for them. Make your claim on the Transportation Companies for concealed as well as apparent damage and advise us.

The information presented in this brochure is to be used as a general guide. This literature and other literature from Buchanan Rubber is to provide product options for further investigation by experienced, technically versed users. Due to the varietal nature of operating conditions and applications, the user is solely responsible for making the final selection of the product with full understanding that the performance and safety criteria of the application are met. The product specifications presented here are subject to change without notice.

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Safety Information : Black Iron fittings are NPS thread and recommended for use with liquids only

CLOSE NIPPLE BLACK



Description	Weight (lbs)	Std Pack Qty	Part #
1/4" CLOSE NIPPLE BLACK	0.02	25	PCN-025-S
3/8" CLOSE NIPPLE BLACK	0.04	25	PCN-038-S
1/2" CLOSE NIPPLE BLACK	0.08	25	PCN-050-S
3/4" CLOSE NIPPLE BLACK	0.11	25	PCN-075-S
1" CLOSE NIPPLE BLACK	0.13	25	PCN-100-S
1-1/4" CLOSE NIPPLE BLACK	0.20	25	PCN-125-S
1-1/2" CLOSE NIPPLE BLACK	0.26	25	PCN-150-S
2" CLOSE NIPPLE BLACK	0.46	25	PCN-200-S
2-1/2" CLOSE NIPPLE BLACK	0.77	25	PCN-250-S
3" CLOSE NIPPLE BLACK	1.04	25	PCN-300-S
4" CLOSE NIPPLE BLACK	1.76	25	PCN-400-S

REDUCING BUSHING BLACK



Description	Weight (lbs)	Std Pack Qty	Part #
3/8"X1/4" REDUCING BUSHING BLACK	0.04	25	PRB-038-025-S
1/2"X1/4" REDUCING BUSHING BLACK	0.09	25	PRB-050-025-S
1/2"X3/8" REDUCING BUSHING BLACK	0.09	25	PRB-050-038-S
3/4"X1/4" REDUCING BUSHING BLACK	0.15	25	PRB-075-025-S
3/4"X3/8" REDUCING BUSHING BLACK	0.15	25	PRB-075-038-S
3/4"X1/2" REDUCING BUSHING BLACK	0.15	25	PRB-075-050-S
1"X3/8" REDUCING BUSHING BLACK	0.22	25	PRB-100-038-S
1"X1/2" REDUCING BUSHING BLACK	0.24	25	PRB-100-050-S
1"X3/4" REDUCING BUSHING BLACK	0.24	25	PRB-100-075-S
1-1/4"X1" REDUCING BUSHING BLACK	0.35	25	PRB-125-100-S
1-1/2"X1" REDUCING BUSHING BLACK	0.46	25	PRB-150-100-S
1-1/2"X1-1/4" REDUCING BUSHING BLACK	0.35	25	PRB-150-125-S
2"X1" REDUCING BUSHING BLACK	0.99	25	PRB-200-100-S
2"X1-1/2" REDUCING BUSHING BLACK	0.68	25	PRB-200-150-S
2-1/2"X1" REDUCING BUSHING BLACK	0.90	25	PRB-250-100-S
2-1/2"X2" REDUCING BUSHING BLACK	0.99	25	PRB-250-200-S
3"X2" REDUCING BUSHING BLACK	2.14	25	PRB-300-200-S
3"X2-1/2" REDUCING BUSHING BLACK	1.92	25	PRB-300-250-S
4"X3" REDUCING BUSHING BLACK	3.15	25	PRB-400-300-S

Air and General Purpose Hose
 Water Suction and Discharge Hose
 Petroleum, Steam and Chemical Hose
 Rubber Material Handling Hose
 Plastic Material Handling Hose
 Food Hose
 Ducting
 Auto Truck and Marine Hose
 Fire Hose
 Welding and Other Hose
 Cam and Groove
 Nipples Menders and Shank Fittings
 Clamps
 High Pressure Fittings
 Mine Fittings
 Air Fittings
 Valves
 Sandblast
 Fire Fittings
 Pipe Fittings
 Sheet Rubber
 Index and Technical Information



REDUCING COUPLING BLACK

Air and General Purpose Hose

Water Suction and Discharge Hose

Petroleum, Steam and Chemical Hose

Rubber Material Handling Hose

Plastic Material Handling Hose

Food Hose

Ducting

Auto Truck and Marine Hose

Fire Hose

Welding and Other Hose

Cam and Groove

Nipples, Menders and Shank Fittings

Clamps

High Pressure Fittings

Mine Fittings

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Valves

Sandblast

Fire Fittings

Pipe Fittings

Sheet Rubber

Index and Technical Information



Description	Weight (lbs)	Std Pack Qty	Part #
3/8"X1/4" REDUCING COUPLING BLACK	0.11	25	PRC-038-025-S
1/2"X1/4" REDUCING COUPLING BLACK	0.15	25	PRC-050-025-S
1/2"X3/8" REDUCING COUPLING BLACK	0.18	25	PRC-050-038-S
3/4"X1/4" REDUCING COUPLING BLACK	0.22	25	PRC-075-025-S
3/4"X3/8" REDUCING COUPLING BLACK	0.26	25	PRC-075-038-S
3/4"X1/2" REDUCING COUPLING BLACK	0.33	25	PRC-075-050-S
1"X3/8" REDUCING COUPLING BLACK	0.37	25	PRC-100-038-S
1"X1/2" REDUCING COUPLING BLACK	0.40	25	PRC-100-050-S
1"X3/4" REDUCING COUPLING BLACK	0.42	25	PRC-100-075-S
1-1/4"X1" REDUCING COUPLING BLACK	0.66	25	PRC-125-100-S
1-1/2"X1" REDUCING COUPLING BLACK	0.81	25	PRC-150-100-S
1-1/2"X1-1/4" REDUCING COUPLING BLACK	0.88	25	PRC-150-125-S
2"X1" REDUCING COUPLING BLACK	1.15	25	PRC-200-100-S
2"X1-1/2" REDUCING COUPLING BLACK	1.41	25	PRC-200-150-S
2-1/2"X1" REDUCING COUPLING BLACK	1.98	25	PRC-250-100-S
2-1/2"X2" REDUCING COUPLING BLACK	2.27	25	PRC-250-200-S
3"X2" REDUCING COUPLING BLACK	3.41	25	PRC-300-200-S
3"X2-1/2" REDUCING COUPLING BLACK	3.52	25	PRC-300-250-S
4"X3" REDUCING COUPLING BLACK	6.00	25	PRC-400-300-S

STRAIGHT COUPLING BLACK

Size	Weight (lbs)	Std Pack Qty	Part #
1/4"	0.09	25	PSC-025-S
3/8"	0.13	25	PSC-038-S
1/2"	0.20	25	PSC-050-S
3/4"	0.31	25	PSC-075-S
1"	0.44	25	PSC-100-S
1-1/4"	0.68	25	PSC-125-S
1-1/2"	0.84	25	PSC-150-S
2"	1.43	25	PSC-200-S
2-1/2"	2.47	25	PSC-250-S
3"	3.48	25	PSC-300-S
4"	5.50	25	PSC-400-S



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1/2" CLOSE NIPPLE BLACK.....	5
3/4" CLOSE NIPPLE BLACK.....	5
1" CLOSE NIPPLE BLACK.....	5
1-1/4" CLOSE NIPPLE BLACK.....	5
1-1/2" CLOSE NIPPLE BLACK.....	5
2" CLOSE NIPPLE BLACK.....	5
2-1/2" CLOSE NIPPLE BLACK.....	5
3" CLOSE NIPPLE BLACK.....	5
4" CLOSE NIPPLE BLACK.....	5
3/8"X1/4" REDUCING BUSHING BLACK.....	5
1/2"X1/4" REDUCING BUSHING BLACK.....	5
1/2"X3/8" REDUCING BUSHING BLACK.....	5
3/4"X1/4" REDUCING BUSHING BLACK.....	5
3/4"X3/8" REDUCING BUSHING BLACK.....	5
3/4"X1/2" REDUCING BUSHING BLACK.....	5
1"X3/8" REDUCING BUSHING BLACK.....	5
1"X1/2" REDUCING BUSHING BLACK.....	5
1"X3/4" REDUCING BUSHING BLACK.....	5
1-1/4"X1" REDUCING BUSHING BLACK.....	5
1-1/2"X1" REDUCING BUSHING BLACK.....	5
1-1/2"X1-1/4" REDUCING BUSHING BLACK.....	5
2"X1" REDUCING BUSHING BLACK.....	5
2"X1-1/2" REDUCING BUSHING BLACK.....	5
2-1/2"X1" REDUCING BUSHING BLACK.....	5
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1"X1/2" REDUCING COUPLING BLACK.....	6
1"X3/4" REDUCING COUPLING BLACK.....	6
1-1/4"X1" REDUCING COUPLING BLACK.....	6
1-1/2"X1" REDUCING COUPLING BLACK.....	6
1-1/2"X1-1/4" REDUCING COUPLING BLACK.....	6
2"X1" REDUCING COUPLING BLACK.....	6
2"X1-1/2" REDUCING COUPLING BLACK.....	6
2-1/2"X1" REDUCING COUPLING BLACK.....	6
2-1/2"X2" REDUCING COUPLING BLACK.....	6
3"X2" REDUCING COUPLING BLACK.....	6
3"X2-1/2" REDUCING COUPLING BLACK.....	6
4"X3" REDUCING COUPLING BLACK.....	6
1/4" STRAIGHT COUPLING BLACK.....	6
3/8" STRAIGHT COUPLING BLACK.....	6
1/2" STRAIGHT COUPLING BLACK.....	6
3/4" STRAIGHT COUPLING BLACK.....	6
1" STRAIGHT COUPLING BLACK.....	6
1-1/4" STRAIGHT COUPLING BLACK.....	6
1-1/2" STRAIGHT COUPLING BLACK.....	6
2" STRAIGHT COUPLING BLACK.....	6
2-1/2" STRAIGHT COUPLING BLACK.....	6
3" STRAIGHT COUPLING BLACK.....	6
4" STRAIGHT COUPLING BLACK.....	6

Temperature Conversions

Start reading either Celsius or Fahrenheit degrees in the shaded column, then look for the Celsius equivalent in the left column, or the Fahrenheit equivalent in the right column.

C	C or F	F	C	C or F	F	C	C or F	F
-73	-100	-148	5.0	41	105.8	33.3	92	197.6
-68	-90	-130	5.6	42	107.6	33.9	93	199.4
-62	-80	-112	6.1	43	109.4	34.4	94	201.2
-57	-70	-94	6.7	44	111.2	35.0	95	203.0
-51	-60	-76	0.72	45	113.0	35.6	96	204.8
-46	-50	-58	7.8	46	114.8	36.1	97	206.6
-40	-40	-40	8.3	47	116.6	36.7	98	208.4
-34	-30	-22	8.9	48	118.4	37.2	99	210.2
-29	-20	-4	9.4	49	120.2	37.8	100	212.0
-23	-10	14	10.0	50	122.0			
-17.8	0	32	10.6	51	123.8	43	110	230
-17.2	1	33.8	11.1	52	125.6	49	120	248
-16.7	2	35.6	11.7	53	127.4	54	130	266
-16.1	3	37.4	12.2	54	129.2	60	140	284
-15.6	4	39.2	12.8	55	131.0	66	150	302
-15.0	5	41.0	13.3	56	132.8	71	160	320
-14.4	6	42.8	13.9	57	134.6	77	170	338
-13.9	7	44.6	14.4	58	136.4	82	180	356
-13.3	8	46.4	15.0	59	138.2	88	190	374
-12.8	9	48.2	15.6	60	140.0	93	200	392
-12.2	10	50.0	16.1	61	141.8	99	210	410
-11.7	11	51.8	16.7	62	143.6	100	212	413.6
-11.1	12	53.6	17.2	63	145.4	104	220	428
-10.6	13	55.4	17.8	64	147.2	110	230	446
-10.0	14	57.2	18.3	65	149.0	116	240	464
-9.4	15	59.0	18.9	66	150.8	121	250	482
-8.9	16	60.8	19.4	67	152.6	127	260	500
-8.3	17	62.6	20.0	68	154.4	132	270	518
-7.8	18	64.4	20.6	69	156.2	138	280	536
-7.2	19	66.2	21.1	70	158.0	143	290	554
-6.7	20	68.0	21.7	71	159.8	149	300	572
-6.1	21	69.8	22.2	72	161.6	154	310	590
-5.6	22	71.6	22.8	73	163.4	160	320	608
-5.0	23	73.4	23.3	74	165.2	166	320	626
-4.4	24	75.2	23.9	75	167.0	170	338	640
-3.9	25	77.0	24.4	76	168.8	171	340	644
-3.3	26	78.8	25.0	77	170.6	177	350	662
-2.8	27	80.6	25.6	78	172.4	182	360	680
-2.2	28	82.4	26.1	79	174.2	186	366	691
-1.7	29	84.2	26.7	80	176.0	188	370	698
-1.1	30	86.0	27.2	81	177.8	193	380	716
-0.6	31	87.8	27.8	82	179.6	198	388	730
0	32	89.6	28.3	83	181.4	199	390	734
0.6	33	91.4	28.9	84	183.2	204	400	752
1.1	34	93.2	29.4	85	185.0	208	406	763
1.7	35	95.0	30.0	86	186.8	210	410	770
2.2	36	96.8	30.6	87	188.6	216	420	788
2.8	37	98.6	31.1	88	190.4	221	430	806
3.3	38	100.4	31.7	89	192.2	227	440	824
3.9	39	102.2	32.2	90	194.0	232	450	842
4.4	40	104.0	32.8	91	195.8			

Distance Conversions

MM	INCHES		MM	INCHES		MM	INCHES		MM	INCHES	
	FRACTION	DECIMAL		FRACTION	DECIMAL		FRACTION	DECIMAL		FRACTION	DECIMAL
0.3969	1/64	0.0156	6.7469	17/64	0.2656	13.0969	33/64	0.5156	19.4469	49/64	0.7656
0.7938	1/32	0.0312	7.1438	9/32	0.2812	13.4938	17/32	0.5312	19.8438	25/32	0.7812
1.1906	3/64	0.0468	7.5406	19/64	0.2968	13.8906	35/64	0.5468	20.2406	51/64	0.7968
1.5875	1/16	0.0625	7.9375	5/16	0.3125	14.2875	9/16	0.5625	20.2375	13/16	0.8125
1.9844	5/64	0.0781	8.3344	21/64	0.3281	14.6844	37/64	0.5781	21.0344	53/64	0.8281
2.3812	3/32	0.0937	8.7312	11/32	0.3437	15.0812	19/32	0.5937	21.4312	27/32	0.8437
2.7781	7/64	0.1093	9.1281	23/64	0.3593	15.4781	39/64	0.6093	21.8281	55/64	0.8593
3.1750	1/8	0.1250	9.5250	3/8	0.3750	15.8750	5/8	0.6250	22.2250	7/8	0.8750
3.5719	9/64	0.1406	9.9219	25/64	0.3906	16.2719	41/64	0.6406	22.6219	57/64	0.8906
3.9688	5/32	0.1562	10.3188	13/32	0.4062	16.6688	21/32	0.6562	23.0188	29/32	0.9062
4.3656	11/64	0.1718	10.7156	27/64	0.4218	17.0656	43/64	0.6718	23.4156	59/64	0.9218
4.7625	3/16	0.1875	11.1125	7/16	0.4375	17.4625	11/16	0.6875	23.8125	15/16	0.9375
5.1594	13/64	0.2031	11.5094	29/64	0.4531	17.8594	45/64	0.7031	24.2094	61/64	0.9531
5.5562	7/32	0.2187	11.9062	15/32	0.4687	18.2562	23/32	0.7187	24.6062	31/32	0.9687
5.9531	15/64	0.2343	12.3031	31/64	0.4843	18.6531	47/64	0.7343	25.0031	63/64	0.9843
6.3500	1/4	0.2500	12.7000	1/2	0.5000	19.0500	3/4	0.7500	25.4000	1	1.0000

Pressure Conversions

Kilo-Pascals (kPa)	Mega-Pascals (Mpa)	Bar (bar)	Kilograms per Square Centimeter (Kgf/cm 2)	lbs per Square Inch (psi)	lbs per Square Inch (psi)	Kilo-Pascals (kPa)	Mega-Pascals (Mpa)	Bar (bar)	Kilograms per Square Centimeter (Kgf/cm 2)
100	0.1	1.00	1.0	14.50	10	68.9	0.07	0.7	0.70
200	0.2	2.00	2.0	29.00	20	137.9	0.14	1.4	1.41
300	0.3	3.00	3.1	43.50	30	206.8	0.21	2.1	2.11
400	0.4	4.00	4.1	58.00	40	275.8	0.28	2.8	2.81
500	0.5	5.00	5.1	72.50	50	344.7	0.34	3.4	3.52
600	0.6	6.00	6.1	87.00	60	413.7	0.41	4.1	4.22
700	0.7	7.00	7.1	101.50	70	482.6	0.48	4.8	4.92
800	0.8	8.00	8.2	116.00	80	551.6	0.55	5.5	5.63
900	0.9	9.00	9.2	130.50	90	620.5	0.62	6.2	6.33
1000	1.0	10.00	10.2	145.00	100	689.0	0.70	6.9	7.00
2000	2.0	20.00	20.4	290.10	200	1379.0	1.40	13.8	14.10
3000	3.0	30.00	30.6	435.10	300	2068.0	2.10	20.7	21.10
4000	4.0	40.00	40.8	580.20	400	2758.0	2.80	27.6	28.10
5000	5.0	50.00	51.0	725.20	500	3447.0	3.40	34.5	35.20
6000	6.0	60.00	61.2	870.20	600	4137.0	4.10	41.4	42.20
7000	7.0	70.00	71.4	1015.30	700	4826.0	4.80	48.3	49.20
8000	8.0	80.00	81.6	1160.30	800	5516.0	5.50	55.2	56.30
9000	9.0	90.00	91.8	1305.30	900	6205.0	6.20	62.1	63.30
10000	10.0	100.00	102.0	1450.00	1000	6895.0	6.90	68.9	70.30
20000	20.0	200.00	204.0	2901.00	2000	13790.0	13.80	137.9	140.70
30000	30.0	300.00	306.0	4351.00	3000	20684.0	20.70	206.8	211.00
40000	40.0	400.00	408.0	5802.00	4000	27579.0	27.60	275.8	281.30
50000	50.0	500.00	510.0	7252.00	5000	34474.0	34.50	344.7	351.60
60000	60.0	600.00	612.0	8702.00	6000	41369.0	41.40	413.7	421.90
70000	70.0	700.00	714.0	10153.00	7000	48263.0	48.30	482.6	492.30
80000	80.0	800.00	816.0	11603.00	8000	55158.0	55.20	551.6	562.60
90000	90.0	900.00	918.0	13053.00	9000	62053.0	62.10	620.5	632.90
100000	100.0	1000.00	1020.0	14504.00	10000	68948.0	68.90	689.0	703.00
200000	100.0	2000.00	2040.0	29008.00	20000	137895.0	137.90	1379.0	1406.00
300000	300.0	3000.00	3060.0	43511.00	30000	206843.0	206.80	2068.0	2110.00
					40000	275790.0	275.80	2758.0	2813.00

Conversion Table - Feet of Water to Inches of Mercury

Feet of Water	1	2	4	6	8	10	12	14	16	20	22	24	26	28	30	32	34
Inches of Mercury	0.9	1.8	3.5	5.3	7.1	8.8	10.6	12.4	14.1	17.7	19.4	21.2	23.0	24.8	26.5	28.3	30.0

Water Flow Pressure Loss

(PSI Per 100 Feet Of Hose)

Flow of water in U.S. gal. per min.	Flow of water in cu. feet per sec.	Actual Internal Diameter, Inches								
		1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
0.5	0.001	0.4								
1.5	0.003	3.02	1.01	0.42						
2.5	0.005	7.75	2.58	1.08						
5	0.011	27.8	9.27	3.86	0.95	0.32	0.13			
10	0.022	99.5	33.2	13.8	3.38	1.14	0.47	0.12		
15	0.033		71.0	29.6	7.25	2.45	1.01	0.25	0.08	
20	0.044		121.0	50.3	12.4	4.15	1.71	0.42	0.14	
25	0.055			76.5	18.7	6.34	2.60	0.64	0.22	
30	0.066			108.0	26.5	8.96	3.68	0.90	0.30	0.13
35	0.077			142.0	34.8	11.8	4.83	1.18	0.40	0.17
40	0.088				44.7	15.1	6.20	1.52	0.51	0.21
45	0.099				55.0	18.6	7.65	1.87	0.63	0.26
50	0.110				67.5	22.8	9.35	2.28	0.78	0.32
60	0.132				94.3	31.8	13.1	3.19	1.08	0.45
70	0.154				126.0	42.5	17.5	4.25	1.44	0.60
80	0.176					54.6	22.5	5.48	1.86	0.77
90	0.198					67.5	27.8	6.80	2.30	0.95
100	0.223					81.5	33.5	8.19	2.78	1.15
125	0.278					124.0	50.6	12.4	4.20	1.73
150	0.334						72.1	17.6	6.97	2.46
175	0.390						94.5	23.1	7.83	3.23
200	0.446						122.0	29.6	10.1	4.15
225	0.501							36.8	12.5	5.15
250	0.557							44.6	15.2	6.28
275	0.613							53.3	18.1	7.45
300	0.688							62.5	21.2	8.75
325	0.724							72.5	24.6	10.2
350	0.780							83.2	28.2	11.7
375	0.836							94.5	32.1	13.3
400	0.891							107.0	36.2	14.9
450	1.00								44.9	18.6
500	1.11								54.5	22.5
600	1.34								76.5	31.6
700	1.56								102.0	42.1
800	1.78								131.0	53.9
900	2.00									66.8
1000	2.23									81.4
1100	2.45									97.0
1200	2.67									114.0
1300	2.90									132.0
1400	3.12									
1500	3.34									
1600	3.56									
1800	4.01									
2000	4.45									

The pressure loss of liquid flowing through a hose depends on the rate of flow, the hose I.D, the smoothness of the tube, the viscosity of the liquid, and the hose length. This chart shows the relationship between rate of flow, I.D and pressure loss for water at 68F with a viscosity of one centipoise. The pressure is directly proportional to the length of the hose, therefore, the data shown, can be extended by use of proportions.

Steam Temperature - Pressure Conversion Guide

Temperature - Pressure equivalents of saturated steam gauge pressure at sea level

Temperature		Lbs. per Sq. Inch	Temperature		Lbs. per Sq. Inch	Temperature		Lbs. per Sq. Inch
F	C		F	C		F	C	
212	100.0	0.0	286	141.1	39.4	336	168.9	97.1
214	101.1	0.6	287	141.7	40.3	337	169.4	98.7
216	102.2	1.2	288	142.2	41.1	338	170.0	100.2
218	103.3	1.8	289	142.8	42.0	339	170.6	101.8
220	104.4	2.5	290	143.3	42.9	340	171.1	103.3
222	105.6	3.2	291	143.9	43.8	341	171.7	105.0
224	106.7	3.9	292	144.4	44.7	342	172.2	106.5
226	107.8	4.6	293	145.0	45.6	343	172.8	108.2
228	108.9	5.3	294	145.6	46.5	344	173.3	109.8
230	110.0	6.1	295	146.1	47.5	345	173.9	111.5
232	111.1	6.9	296	146.7	48.4	346	174.4	113.1
234	112.2	7.7	297	147.2	49.4	347	175.0	114.8
236	113.3	8.5	298	147.8	50.3	348	175.6	116.5
238	114.4	9.4	299	148.3	51.3	349	176.1	118.2
240	115.6	10.3	300	148.9	52.3	350	176.7	119.9
242	116.7	11.2	301	149.4	53.4	352	177.8	123.5
244	117.8	12.1	302	150.0	54.4	354	178.9	127.1
246	118.9	13.1	303	150.6	55.4	356	180.0	130.8
248	120.0	14.1	304	151.1	56.4	358	181.1	134.5
250	121.1	15.1	305	151.7	57.5	360	182.2	138.3
252	122.2	16.2	306	152.2	58.6	362	183.3	142.3
254	123.3	17.3	307	152.8	59.7	364	184.4	146.2
256	124.4	18.4	308	153.3	60.7	366	185.6	150.3
258	125.6	19.6	309	153.9	61.9	368	186.7	154.4
260	126.7	20.7	310	154.4	63.0	370	187.8	158.7
261	127.2	21.4	311	155.0	64.2	372	188.9	163.0
262	127.8	22.0	312	155.6	65.3	374	190.0	167.4
263	128.3	22.6	313	156.1	66.5	376	191.1	171.9
264	128.9	23.2	314	156.7	67.6	378	192.2	176.4
265	129.4	23.9	315	157.2	68.8	380	193.3	181.1
266	130.0	24.5	316	157.8	70.0	382	194.4	185.8
267	130.6	25.2	317	158.3	71.3	384	195.6	190.6
268	131.1	25.8	318	158.9	72.5	386	196.7	195.6
269	131.7	26.5	319	159.4	73.7	388	197.8	200.6
270	132.2	27.2	320	160.0	75.0	390	198.9	205.7
271	132.8	27.9	321	160.6	76.3	392	200.0	210.9
272	133.3	28.6	322	161.1	77.5	394	201.1	216.2
273	133.9	29.3	323	161.7	78.8	396	202.2	221.5
274	134.4	30.0	324	162.2	80.1	398	203.3	227.0
275	135.0	30.8	325	162.8	81.5	400	204.4	232.6
276	135.6	31.5	326	163.3	82.8	402	205.5	238
277	136.1	32.3	327	163.9	84.2	404	206.7	244
278	136.7	33.0	328	164.4	85.6	406	207.8	250
279	137.2	33.8	329	165.0	87.0	408	208.9	256
280	137.8	34.5	330	165.6	88.4	410	210	262
281	138.3	35.3	331	166.1	89.8	412	211.1	268
282	138.9	36.1	332	166.7	91.2	414	212.2	275
283	139.4	36.9	333	167.2	92.7	416	213.3	281
284	140.0	37.7	334	167.8	94.1	418	214.4	288
285	140.6	38.6	335	168.3	95.6	420	215.6	294

Degrees Celsius = 5/9 (Degrees F -32)

Open-End Flow (GPM)

	Pressure at Inlet, psi	Hose Length, feet							
		25	50	75	100	125	150	200	300
1/2" hose	30	10.4	6.2	5.6	4.8	4.3	3.8	3.3	2.6
	40	12.1	8.5	6.2	5.6	5.0	4.5	3.8	3.2
	50	13.8	9.4	7.5	6.4	5.6	5.1	4.0	3.5
	60	15.2	10.4	8.5	7.1	6.2	5.6	4.9	3.8
	70	16.6	11.2	9.0	7.8	6.8	6.2	5.3	4.2
	80	18.0	12.1	9.8	8.5	7.3	6.6	5.6	4.5
5/8" hose	90	19.0	13.0	10.4	8.8	7.7	7.1	6.0	4.8
	100	20.1	13.8	11.0	9.4	8.5	7.5	6.4	4.9
	125	22.8	15.5	12.5	10.5	9.4	8.5	7.2	5.8
	30	18.1	12.5	10.3	8.7	7.7	7.0	6.0	4.9
	40	21.4	14.8	12.5	10.3	9.0	8.3	7.0	5.7
	50	23.9	16.5	13.2	11.4	10.3	9.2	7.9	6.3
3/4" hose	60	26.5	18.1	14.8	12.5	11.2	10.3	8.7	7.0
	70	27.5	20.0	16.0	13.7	12.0	11.0	10.0	7.6
	80	30.6	21.4	16.8	14.8	13.0	11.8	10.3	8.3
	90	32.5	22.5	18.1	15.5	14.0	12.5	10.5	8.7
	100	34.5	23.9	19.0	16.6	14.8	13.2	11.4	9.2
	125	39.0	27.0	21.5	18.5	16.6	15.0	12.9	10.5
1" hose	30	31.0	21.3	17.2	14.8	13.0	11.8	10.2	8.2
	40	36.0	25.0	20.0	17.2	15.2	13.8	11.8	9.4
	50	41.0	28.0	22.5	19.2	17.2	15.5	13.2	10.7
	60	45.5	31.0	25.0	21.3	19.0	17.2	14.8	11.8
	70	49.5	34.0	27.2	23.5	21.0	18.8	17.1	12.8
	80	53.0	36.0	29.1	25.0	22.0	20.0	17.2	13.8
1 1/4" hose	90	56.2	39.0	31.0	27.0	23.8	21.3	18.2	14.8
	100	60.0	41.0	33.0	28.0	25.0	22.6	19.2	15.5
	125	68.0	46.0	37.5	32.0	23.0	25.8	21.8	17.5

	Pressure at Inlet, psi	Hose Length, feet							
		25	50	75	100	125	150	200	300
1" hose	30	68.0	46.2	37.5	32.0	28.5	25.8	22.0	17.8
	40	79.0	54.4	44.0	37.5	33.0	30.0	25.8	20.8
	50	89.0	62.0	49.0	42.0	37.5	34.0	29.0	23.3
	60	100.0	68.0	54.4	46.2	41.8	37.5	32.0	25.8
	70	—	74.0	59.0	51.0	45.0	40.8	37.3	28.0
	80	—	79.0	63.0	54.4	48.0	43.0	37.5	30.0
1 1/8" hose	90	—	84.0	68.0	58.0	51.8	46.2	40.0	32.0
	100	—	89.0	71.0	62.0	54.4	49.0	42.0	34.0
	125	—	101.0	80.0	68.0	62.0	55.8	47.8	38.0
	50	—	110.0	85.0	72.0	56.0	58.0	50.0	42.0
	75	—	130.0	110.0	90.0	80.0	73.0	64.0	52.0
	100	—	150.0	125.0	110.0	92.0	85.0	73.0	58.0
1 3/8" hose	150	—	—	150.0	130.0	120.0	110.0	90.0	67.0
	50	—	140.0	115.0	96.0	85.0	75.0	65.0	54.0
	75	—	170.0	140.0	125.0	110.0	96.0	84.0	67.0
	150	—	—	205.0	170.0	155.0	140.0	125.0	97.0
	50	—	180.0	150.0	130.0	120.0	105.0	90.0	74.0
	75	—	230.0	180.0	160.0	145.0	130.0	120.0	90.0
1 1/2" hose	100	—	260.0	220.0	180.0	170.0	150.0	130.0	105.0
	150	—	—	260.0	230.0	205.0	180.0	160.0	130.0
	75	—	480.0	380.0	330.0	290.0	270.0	230.0	180.0
	100	—	550.0	450.0	380.0	350.0	310.0	260.0	215.0
	125	—	—	550.0	480.0	425.0	380.0	330.0	265.0

Force Chart

Force (In Pounds)

Hose	25	50	75	100	150	200	250	300	500	1000
I.D.	PSI	PSI	PSI	PSI	PSI	PSI	PSI	PSI	PSI	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
2-1/2"	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

Flow Data

This table may be used to determine the pressure loss in hose connected to pneumatic tools. Hose with rough tube may have a friction loss as much as 50% greater than the represented figures. The represented figures apply to hose with smooth inner tube.

Air Flow Pressure Loss

PULSATING FLOW

Cubic feet free air per minute passing through 50 foot lengths of hose

Size of Hose	Gauge press. at line	20	30	40	50	60	70	80	90	100	110	120	130	140	150
Loss of pressure in pounds per square inch - 50 foot hose length															
	50	1.8	5.0	10.1	18.1										
1/2 in.	60	1.3	4.0	8.4	14.8	23.4									
with	70	1.0	3.4	7.0	12.4	20.0	28.4								
couplings	80	0.9	2.8	6.0	10.8	17.4	25.2	34.6							
at each	90	0.8	2.4	5.4	9.5	14.8	22.0	30.5	41.0						
end	100	0.7	2.3	4.8	8.4	13.3	19.3	27.2	36.6						
	110	0.6	2.0	4.3	7.6	12.0	17.6	24.6	33.3	44.5					
3/4 in.	50	0.4	0.8	1.5	2.4	3.5	4.4	6.5	8.5	11.4	14.2				
with	60	0.3	0.6	1.2	1.9	2.8	3.8	5.2	6.8	8.6	11.2				
couplings	70	0.2	0.5	0.9	1.5	2.3	3.2	4.2	5.5	7.0	8.8	11.0			
at each	80	0.2	0.5	0.8	1.3	1.9	2.8	3.6	4.7	5.8	7.2	8.8	10.6		
end	90	0.2	0.4	0.7	1.1	1.6	2.3	3.1	4.0	5.0	6.2	7.5	9.0		
	100	0.2	0.4	0.6	1.0	1.4	2.0	2.7	3.5	4.4	5.4	6.6	7.9	9.4	11.1
	110	0.1	0.3	0.5	0.9	1.3	1.8	2.4	3.1	3.9	4.9	5.9	7.1	8.4	9.9
	50	0.1	0.2	0.3	0.5	0.8	1.1	1.5	2.0	2.6	3.5	4.8	7.0		
1 in.	60	0.1	0.2	0.3	0.4	0.6	0.8	1.2	1.5	2.0	2.6	3.3	4.2	5.5	7.2
with	70		0.1	0.2	0.4	0.5	0.7	1.0	1.3	1.6	2.0	2.5	3.1	3.8	4.7
couplings	80		0.1	0.2	0.3	0.5	0.7	0.8	1.1	1.4	1.7	2.0	2.4	2.7	3.5
at each	90		0.1	0.2	0.3	0.4	0.6	0.7	0.9	1.2	1.4	1.7	2.0	2.4	2.8
end	100		0.1	0.2	0.2	0.4	0.5	0.6	0.8	1.0	1.2	1.5	1.8	2.1	2.4
	110		0.1	0.2	0.2	0.3	0.4	0.6	0.7	0.9	1.1	1.3	1.5	1.8	2.1
	50			0.1	0.2	0.2	0.3	0.4	0.5	0.7	1.1				
1 1/4 in.	60				0.1	0.2	0.3	0.3	0.5	0.6	0.8	1.0	1.2	1.5	
with	70				0.1	0.2	0.2	0.3	0.4	0.5	0.7	0.8	1.0	1.3	
couplings	80				0.1	0.2	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	1.0
at each	90					0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.8
end	100						0.1	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.7
	110							0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.6
	50						0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.6
1 1/2 in.	60							0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5
with	70								0.1	0.2	0.2	0.2	0.3	0.3	0.4
couplings	80									0.1	0.2	0.2	0.2	0.3	0.4
at each															
end	90										0.1	0.2	0.2	0.2	0.3
	100											0.1	0.2	0.2	0.2
	110												0.1	0.2	0.2

For longer or shorter lengths of hose, the friction loss is proportional to the length, e.g., for 25 ft., half of the above; for 150 ft., three times the above, etc.

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