



High Pressure Flow of Natural Gas in DriscoPlex[®] Pipe

Inlet Pressure: 5 psig
Pressure Drop: 0.5 psig

Length (ft)	Calculated Flow (Natural Gas) (Cubic Feet of Gas Per Hour)								
	CTS			IPS					
Nom OD	1/2	1	3/4	1	1-1/4	1-1/2	2	3	4
DR	7	11.5	11	11	10	11	11	11.5	11.5
ID	0.436	0.918	0.848	1.062	1.308	1.534	1.917	2.855	3.670
10	481	3413	2771	5007	8672	13181	23704	67535	130791
20	331	2346	1904	3442	5960	9059	16292	46416	89892
30	266	1884	1529	2764	4786	7275	13083	37274	72186
40	227	1612	1309	2365	4096	6226	11197	31902	61782
50	202	1429	1160	2096	3631	5518	9924	28274	54756
60	183	1295	1051	1899	3290	5000	8992	25618	49613
70	168	1191	967	1747	3026	4600	8272	23568	45643
80	156	1108	899	1626	2815	4279	7696	21926	42462
90	147	1040	844	1525	2642	4015	7221	20572	39841
100	139	982	797	1441	2495	3793	6821	19432	37634
125	123	870	707	1277	2212	3361	6045	17223	33354
150	111	789	640	1157	2004	3046	5477	15605	30221
175	102	726	589	1064	1843	2802	5039	14356	27803
200	95	675	548	990	1715	2607	4688	13356	25865
250	84	598	486	878	1520	2310	4155	11837	22924
300	76	542	440	795	1377	2093	3764	10725	20771
350	70	499	405	732	1267	1926	3463	9867	19109
400	65	464	377	681	1179	1792	3222	9179	17777
450	61	435	353	639	1106	1681	3023	8613	16680
500	58	411	334	603	1045	1588	2856	8135	15756
600	53	373	302	547	947	1439	2587	7371	14276
700	48	343	278	503	871	1324	2380	6782	13133
800	45	319	259	468	810	1231	2214	6309	12218
900	42	299	243	439	760	1155	2078	5919	11464
1000	40	283	229	415	718	1091	1963	5591	10829
1500	32	227	184	333	577	876	1576	4490	8696
2000	27	194	158	285	493	750	1349	3843	7443

1. Average ID used in all calculations. It equals the nominal OD minus 2.12 times the minimum wall thickness.
2. For flow in BTU/hr at sea level multiply flow by 1000. Heat value of Natural Gas is 1000 BTU/scf at sea level.
3. Calculations used high pressure (>1.5 psi) equation from Chapter 12, National Fuel Gas Code (2002).

$$Q = \frac{2284 D^{2.63}}{C_R^{0.541}} \cdot \left[\frac{(p_1 + 14.7)^2 - (p_2 + 14.7)^2}{L} \right]^{0.541}$$

Q = Flow (cubic ft per hr), D = ID (in), Cr = 0.6094 (natural gas), p1 = upstream pressure (psi),
 p2 = downstream pressure (psi), L = equivalent length (ft)

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