

Fórmula Dr. Poole

Caída de Presión

$$H = \frac{2.S.L.Q^2}{D^5}$$

H= Pérdida de carga en Milímetros de Columna de Agua

S= Densidad del Gas (Natural 0,65)

L= Longitud de Cañería

Q= Caudal en m³

D= Diámetro (en Cm)

Caída de presión por metro Lineal

Densidad **0.65**

Metros **1**

Consumo en m³/h	DIAMETROS									
	0.013	0.019	0.025	0.032	0.038	0.051	0.063	0.076	0.102	0.152
0.25	0.0219	0.0033	0.0008	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
0.50	0.0875	0.0131	0.0033	0.0010	0.0004	0.0001	0.0000	0.0000	0.0000	0.0000
1.00	0.3501	0.0525	0.0133	0.0039	0.0016	0.0004	0.0001	0.0001	0.0000	0.0000
1.25	0.5471	0.0820	0.0208	0.0061	0.0026	0.0006	0.0002	0.0001	0.0000	0.0000
1.50	0.7878	0.1181	0.0300	0.0087	0.0037	0.0008	0.0003	0.0001	0.0000	0.0000
1.75	1.0723	0.1608	0.0408	0.0119	0.0050	0.0012	0.0004	0.0002	0.0000	0.0000
2.00	1.4005	0.2100	0.0532	0.0155	0.0066	0.0015	0.0005	0.0002	0.0000	0.0000
2.25	1.7725	0.2658	0.0674	0.0196	0.0083	0.0019	0.0007	0.0003	0.0001	0.0000
2.50	2.1883	0.3281	0.0832	0.0242	0.0103	0.0024	0.0008	0.0003	0.0001	0.0000
2.75	2.6478	0.3970	0.1007	0.0293	0.0124	0.0028	0.0010	0.0004	0.0001	0.0000
3.00	3.1512	0.4725	0.1198	0.0349	0.0148	0.0034	0.0012	0.0005	0.0001	0.0000
3.25	3.6982	0.5546	0.1406	0.0409	0.0173	0.0040	0.0014	0.0005	0.0001	0.0000
3.50	4.2891	0.6431	0.1631	0.0475	0.0201	0.0046	0.0016	0.0006	0.0001	0.0000
3.75	4.9237	0.7383	0.1872	0.0545	0.0231	0.0053	0.0018	0.0007	0.0002	0.0000
4.00	5.6020	0.8400	0.2130	0.0620	0.0263	0.0060	0.0021	0.0008	0.0002	0.0000
4.25	6.3242	0.9483	0.2404	0.0700	0.0296	0.0068	0.0024	0.0009	0.0002	0.0000
4.50	7.0901	1.0632	0.2696	0.0785	0.0332	0.0076	0.0027	0.0010	0.0002	0.0000
4.75	7.8998	1.1846	0.3004	0.0874	0.0370	0.0085	0.0030	0.0012	0.0003	0.0000
5.00	8.7532	1.3125	0.3328	0.0969	0.0410	0.0094	0.0033	0.0013	0.0003	0.0000
5.25	9.6504	1.4471	0.3669	0.1068	0.0452	0.0104	0.0036	0.0014	0.0003	0.0000
5.50	10.5914	1.5882	0.4027	0.1172	0.0496	0.0114	0.0040	0.0016	0.0004	0.0000
5.75	11.5761	1.7358	0.4401	0.1281	0.0542	0.0125	0.0043	0.0017	0.0004	0.0001
6.00	12.6046	1.8901	0.4792	0.1395	0.0591	0.0136	0.0047	0.0018	0.0004	0.0001
6.25	13.6769	2.0509	0.5200	0.1513	0.0641	0.0147	0.0051	0.0020	0.0005	0.0001
6.50	14.7929	2.2182	0.5624	0.1637	0.0693	0.0159	0.0055	0.0022	0.0005	0.0001
6.75	15.9527	2.3921	0.6065	0.1765	0.0748	0.0172	0.0060	0.0023	0.0005	0.0001
7.00	17.1563	2.5726	0.6523	0.1898	0.0804	0.0185	0.0064	0.0025	0.0006	0.0001
7.25	18.4036	2.7596	0.6997	0.2036	0.0862	0.0198	0.0069	0.0027	0.0006	0.0001
7.50	19.6947	2.9532	0.7488	0.2179	0.0923	0.0212	0.0074	0.0029	0.0007	0.0001
7.75	21.0296	3.1534	0.7996	0.2327	0.0985	0.0226	0.0079	0.0031	0.0007	0.0001
8.00	22.4082	3.3601	0.8520	0.2480	0.1050	0.0241	0.0084	0.0033	0.0008	0.0001
8.25	23.8306	3.5734	0.9060	0.2637	0.1117	0.0256	0.0089	0.0035	0.0008	0.0001
8.50	25.2967	3.7933	0.9618	0.2799	0.1185	0.0272	0.0095	0.0037	0.0009	0.0001
8.75	26.8067	4.0197	1.0192	0.2966	0.1256	0.0288	0.0100	0.0039	0.0009	0.0001
9.00	28.3604	4.2527	1.0783	0.3138	0.1329	0.0305	0.0106	0.0042	0.0010	0.0001
9.25	29.9578	4.4922	1.1390	0.3315	0.1404	0.0322	0.0112	0.0044	0.0010	0.0001
9.50	31.5990	4.7383	1.2014	0.3497	0.1481	0.0340	0.0118	0.0046	0.0011	0.0001
9.75	33.2840	4.9910	1.2655	0.3683	0.1560	0.0358	0.0125	0.0049	0.0011	0.0002
10.00	35.0128	5.2502	1.3312	0.3874	0.1641	0.0377	0.0131	0.0051	0.0012	0.0002
10.50	38.6016	5.7883	1.4676	0.4271	0.1809	0.0415	0.0144	0.0057	0.0013	0.0002
11.00	42.3655	6.3527	1.6108	0.4688	0.1985	0.0456	0.0158	0.0062	0.0014	0.0002
11.50	46.3044	6.9434	1.7605	0.5124	0.2170	0.0498	0.0173	0.0068	0.0016	0.0002
12.00	50.4184	7.5603	1.9169	0.5579	0.2363	0.0543	0.0189	0.0074	0.0017	0.0002
12.50	54.7075	8.2034	2.0800	0.6054	0.2564	0.0589	0.0205	0.0080	0.0018	0.0003
13.00	59.1716	8.8728	2.2497	0.6548	0.2773	0.0637	0.0221	0.0087	0.0020	0.0003
13.50	63.8108	9.5685	2.4261	0.7061	0.2990	0.0687	0.0239	0.0093	0.0021	0.0003
14.00	68.6250	10.2904	2.6092	0.7594	0.3216	0.0738	0.0257	0.0100	0.0023	0.0003
14.50	73.6144	11.0385	2.7988	0.8146	0.3450	0.0792	0.0275	0.0108	0.0025	0.0003
15.00	78.7788	11.8129	2.9952	0.8717	0.3692	0.0848	0.0295	0.0115	0.0026	0.0004
15.50	84.1182	12.6136	3.1982	0.9308	0.3942	0.0905	0.0315	0.0123	0.0028	0.0004
16.00	89.6327	13.4405	3.4079	0.9918	0.4200	0.0965	0.0335	0.0131	0.0030	0.0004
16.50	95.3223	14.2937	3.6242	1.0548	0.4467	0.1026	0.0357	0.0140	0.0032	0.0004
17.00	101.1869	15.1731	3.8472	1.1197	0.4742	0.1089	0.0379	0.0148	0.0034	0.0005
17.50	107.2266	16.0787	4.0768	1.1865	0.5025	0.1154	0.0401	0.0157	0.0036	0.0005
18.00	113.4414	17.0106	4.3131	1.2553	0.5316	0.1221	0.0424	0.0166	0.0038	0.0005
18.50	119.8312	17.9688	4.5560	1.3260	0.5615	0.1290	0.0448	0.0175	0.0040	0.0005
19.00	126.3961	18.9532	4.8056	1.3986	0.5923	0.1360	0.0473	0.0185	0.0043	0.0006
19.50	133.1361	19.9639	5.0619	1.4732	0.6239	0.1433	0.0498	0.0195	0.0045	0.0006
20.00	140.0511	21.0008	5.3248	1.5497	0.6563	0.1507	0.0524	0.0205	0.0047	0.0006
20.50	147.1412	22.0639	5.5944	1.6282	0.6895	0.1583	0.0550	0.0215	0.0049	0.0007
21.00	154.4064	23.1534	5.8706	1.7086	0.7235	0.1662	0.0578	0.0226	0.0052	0.0007
21.50	161.8466	24.2690	6.1535	1.7909	0.7584	0.1742	0.0606	0.0237	0.0054	0.0007
22.00	169.4619	25.4109	6.4430	1.8752	0.7941	0.1824	0.0634	0.0248	0.0057	0.0008
22.50	177.2522	26.5791	6.7392	1.9614	0.8306	0.1907	0.0663	0.0260	0.0060	0.0008
23.00	185.2176	27.7735	7.0420	2.0495	0.8679	0.1993	0.0693	0.0271	0.0062	0.0008
23.50	193.3581	28.9942	7.3516	2.1396	0.9061	0.2081	0.0723	0.0283	0.0065	0.0009
24.00	201.6736	30.2411	7.6677	2.2316	0.9450	0.2170	0.0755	0.0295	0.0068	0.0009
24.50	210.1642	31.5143	7.9905	2.3255	0.9848	0.2262	0.0786	0.0308	0.0071	0.0010
25.00	218.8299	32.8137	8.3200	2.4214	1.0254	0.2355	0.0819	0.0320	0.0074	0.0010
25.50	227.6706	34.1394	8.6561	2.5193	1.0669	0.2450	0.0852	0.0333	0.0077	0.0010
26.00	236.6864	35.4913	8.9989	2.6190	1.1091	0.2547	0.0885	0.0347	0.0080	0.0011
26.50	245.8772	36.8695	9.3484	2.7207	1.1522	0.2646	0.0920	0.0360	0.0083	0.0011
27.00	255.2432	38.2739	9.7044	2.8244	1.1961	0.2747	0.0955	0.0374	0.0086	0.0012
27.50	264.7841	39.7046	10.0672	2.9299	1.2408	0.2849	0.0991	0.0388	0.0089	0.0012
28.00	274.5002	41.1615	10.4366	3.0375	1.2863	0.2954	0.1027	0.0402	0.0092	0.0013
28.50	284.3913	42.6447	10.8127	3.1469	1.3326	0.3060	0.1064	0.0416	0.0096	0.0013
29.00	294.4575	44.1541	11.1954	3.2583	1.3798	0.3169	0.1102	0.0431	0.0099	0.0013
29.50	304.6987	45.6898	11.5848	3.3716	1.4278	0.3279	0.1140	0.0446	0.0102	0.0014
30.00	315.1150	47.2517	11.9808	3.4869	1.4766	0.3391	0.1179	0.0461	0.0106	0.0014

Fórmula Dr. Poole
Caudal en Litros por hora

$$Q = \frac{\sqrt{d^5 \times h}}{2 \times S \times L}$$

H= Pérdida de carga en Milímetros de Columna de Agua

S= Densidad del Gas (Natural 0,65)

L= Longitud de Cañería

Q= Caudal en m³

H= Diámetro (en Cm)

Caída de presión (mm c/a) **10**
Densidad **0.65**

Longitud En Metros	Diámetro								
	0.013	0.019	0.025	0.032	0.038	0.051	0.064	0.076	0.102
2	3.565	9.823	20.165	35.227	55.568	114.070	199.273	314.341	645.279
3	2.911	8.021	16.465	28.763	45.371	93.138	162.705	256.658	526.868
4	2.521	6.946	14.259	24.909	39.293	80.660	140.907	222.273	456.281
5	2.255	6.213	12.753	22.279	35.144	72.144	126.031	198.807	408.110
6	2.058	5.671	11.642	20.338	32.082	65.859	115.050	181.485	372.552
7	1.905	5.251	10.779	18.829	29.702	60.973	106.516	168.022	344.916
8	1.782	4.912	10.082	17.613	27.784	57.035	99.636	157.170	322.640
9	1.680	4.631	9.506	16.606	26.195	53.773	93.938	148.182	304.187
10	1.594	4.393	9.018	15.754	24.851	51.014	89.117	140.577	288.578
12	1.455	4.010	8.232	14.381	22.686	46.569	81.353	128.329	263.434
14	1.347	3.713	7.622	13.314	21.003	43.115	75.318	118.810	243.893
16	1.260	3.473	7.129	12.455	19.646	40.330	70.454	111.136	228.141
18	1.188	3.274	6.722	11.742	18.523	38.023	66.424	104.780	215.093
20	1.127	3.106	6.377	11.140	17.572	36.072	63.016	99.403	204.055
22	1.075	2.962	6.080	10.621	16.754	34.393	60.083	94.777	194.559
24	1.029	2.836	5.821	10.169	16.041	32.929	57.525	90.742	186.276
26	0.989	2.724	5.593	9.770	15.412	31.637	55.268	87.182	178.968
28	0.953	2.625	5.389	9.415	14.851	30.487	53.258	84.011	172.458
30	0.920	2.536	5.207	9.096	14.348	29.453	51.452	81.162	166.610
32	0.891	2.456	5.041	8.807	13.892	28.518	49.818	78.585	161.320
34	0.865	2.382	4.891	8.544	13.477	27.666	48.331	76.239	156.503
36	0.840	2.315	4.753	8.303	13.098	26.887	46.969	74.091	152.094
38	0.818	2.254	4.626	8.082	12.748	26.170	45.716	72.115	148.037
40	0.797	2.197	4.509	7.877	12.425	25.507	44.559	70.289	144.289
42	0.778	2.144	4.400	7.687	12.126	24.892	43.485	68.595	140.811
44	0.760	2.094	4.299	7.510	11.847	24.320	42.485	67.018	137.574
46	0.743	2.048	4.205	7.345	11.587	23.785	41.551	65.545	134.550
48	0.728	2.005	4.116	7.191	11.343	23.285	40.676	64.165	131.717
50	0.713	1.965	4.033	7.045	11.114	22.814	39.855	62.868	129.056
55	0.680	1.873	3.845	6.717	10.596	21.752	38.000	59.942	123.050
60	0.651	1.793	3.682	6.431	10.145	20.826	36.382	57.391	117.811
65	0.625	1.723	3.537	6.179	9.747	20.009	34.955	55.139	113.189
70	0.603	1.660	3.409	5.954	9.393	19.281	33.683	53.133	109.072
75	0.582	1.604	3.293	5.753	9.074	18.628	32.541	51.332	105.374
80	0.564	1.553	3.188	5.570	8.786	18.036	31.508	49.702	102.028
85	0.547	1.507	3.093	5.404	8.524	17.498	30.567	48.218	98.981
90	0.531	1.464	3.006	5.251	8.284	17.005	29.706	46.859	96.193
95	0.517	1.425	2.926	5.111	8.063	16.551	28.914	45.609	93.627
100	0.504	1.389	2.852	4.982	7.859	16.132	28.181	44.455	91.256
110	0.481	1.325	2.719	4.750	7.493	15.381	26.870	42.386	87.009
120	0.460	1.268	2.603	4.548	7.174	14.726	25.726	40.581	83.305
130	0.442	1.218	2.501	4.369	6.892	14.149	24.717	38.989	80.037
140	0.426	1.174	2.410	4.210	6.642	13.634	23.818	37.571	77.126
150	0.412	1.134	2.328	4.068	6.416	13.172	23.010	36.297	74.510
160	0.399	1.098	2.255	3.938	6.213	12.753	22.279	35.144	72.144
170	0.387	1.065	2.187	3.821	6.027	12.373	21.614	34.095	69.990
180	0.376	1.035	2.126	3.713	5.857	12.024	21.005	33.134	68.018
190	0.366	1.008	2.069	3.614	5.701	11.703	20.445	32.251	66.204
200	0.356	0.982	2.016	3.523	5.557	11.407	19.927	31.434	64.528

$$L = \frac{D^5}{2.5 \cdot L \cdot Q^2}$$

L= Longitud de Cañería

Q= Caudal en m³

D= Diámetro (en Cm)

Caída de presión (mm c/a)

DENSIDAD

10

0.65

Consumo m³/h	DIAMETROS								
	0.013	0.019	0.025	0.032	0.038	0.051	0.064	0.076	0.102
0.50	101.66	771.95	3253.01	9927.39	24702.53	104096.28	317676.63	790481.11	3331080.89
1.00	25.41	192.99	813.25	2481.85	6175.63	26024.07	79419.16	197620.28	832770.22
1.13	19.90	151.14	636.90	1943.65	4836.43	20380.66	62196.85	154765.66	652181.24
2.00	6.35	48.25	203.31	620.46	1543.91	6506.02	19854.79	49405.07	208192.56
2.50	4.07	30.88	130.12	397.10	988.10	4163.85	12707.07	31619.24	133243.24
3.00	2.82	21.44	90.36	275.76	686.18	2891.56	8824.35	21957.81	92530.02
3.50	2.07	15.75	66.39	202.60	504.13	2124.41	6483.20	16132.27	67981.24
4.00	1.59	12.06	50.83	155.12	385.98	1626.50	4963.70	12351.27	52048.14
4.50	1.26	9.53	40.16	122.56	304.97	1285.14	3921.93	9759.03	41124.46
5.00	1.02	7.72	32.53	99.27	247.03	1040.96	3176.77	7904.81	33310.81
5.50	0.84	6.38	26.88	82.04	204.15	860.30	2625.43	6532.90	27529.59
6.00	0.71	5.36	22.59	68.94	171.55	722.89	2206.09	5489.45	23132.51
6.50	0.60	4.57	19.25	58.74	146.17	615.95	1879.74	4677.40	19710.54
7.00	0.52	3.94	16.60	50.65	126.03	531.10	1620.80	4033.07	16995.31
7.50	0.45	3.43	14.46	44.12	109.79	462.65	1411.90	3513.25	14804.80
8.00	0.40	3.02	12.71	38.78	96.49	406.63	1240.92	3087.82	13012.03
8.50	0.35	2.67	11.26	34.35	85.48	360.19	1099.23	2735.23	11526.23
9.00	0.31	2.38	10.04	30.64	76.24	321.28	980.48	2439.76	10281.11
9.50	0.28	2.14	9.01	27.50	68.43	288.36	879.99	2189.70	9227.37
10.00	0.25	1.93	8.13	24.82	61.76	260.24	794.19	1976.20	8327.70
10.50	0.23	1.75	7.38	22.51	56.01	236.05	720.36	1792.47	7553.47
11.00	0.21	1.59	6.72	20.51	51.04	215.07	656.36	1633.23	6882.40
11.50	0.19	1.46	6.15	18.77	46.70	196.78	600.52	1494.29	6296.94
12.00	0.18	1.34	5.65	17.24	42.89	180.72	551.52	1372.36	5783.13
12.50	0.16	1.24	5.20	15.88	39.52	166.55	508.28	1264.77	5329.73
13.00	0.15	1.14	4.81	14.69	36.54	153.99	469.94	1169.35	4927.63
13.50	0.14	1.06	4.46	13.62	33.89	142.79	435.77	1084.34	4569.38
14.00	0.13	0.98	4.15	12.66	31.51	132.78	405.20	1008.27	4248.83
14.50	0.12	0.92	3.87	11.80	29.37	123.78	377.74	939.93	3960.86
15.00	0.11	0.86	3.61	11.03	27.45	115.66	352.97	878.31	3701.20
15.50	0.11	0.80	3.39	10.33	25.71	108.32	330.57	822.56	3466.27
16.00	0.10	0.75	3.18	9.69	24.12	101.66	310.23	771.95	3253.01
16.50	0.09	0.71	2.99	9.12	22.68	95.59	291.71	725.88	3058.84
17.00	0.09	0.67	2.81	8.59	21.37	90.05	274.81	683.81	2881.56
17.50	0.08	0.63	2.66	8.10	20.17	84.98	259.33	645.29	2719.25
18.00	0.08	0.60	2.51	7.66	19.06	80.32	245.12	609.94	2570.28
18.50	0.07	0.56	2.38	7.25	18.04	76.04	232.05	577.41	2433.22
19.00	0.07	0.53	2.25	6.87	17.11	72.09	220.00	547.42	2306.84
19.50	0.07	0.51	2.14	6.53	16.24	68.44	208.86	519.71	2190.06
20.00	0.06	0.48	2.03	6.20	15.44	65.06	198.55	494.05	2081.93
20.50	0.06	0.46	1.94	5.91	14.70	61.93	188.98	470.24	1981.61
21.00	0.06	0.44	1.84	5.63	14.00	59.01	180.09	448.12	1888.37
21.50	0.05	0.42	1.76	5.37	13.36	56.30	171.81	427.52	1801.56
22.00	0.05	0.40	1.68	5.13	12.76	53.77	164.09	408.31	1720.60
22.50	0.05	0.38	1.61	4.90	12.20	51.41	156.88	390.36	1644.98
23.00	0.05	0.36	1.54	4.69	11.67	49.19	150.13	373.57	1574.23
23.50	0.05	0.35	1.47	4.49	11.18	47.12	143.81	357.85	1507.96
24.00	0.04	0.34	1.41	4.31	10.72	45.18	137.88	343.09	1445.78
24.50	0.04	0.32	1.35	4.13	10.29	43.36	132.31	329.23	1387.37
25.00	0.04	0.31	1.30	3.97	9.88	41.64	127.07	316.19	1332.43
25.50	0.04	0.30	1.25	3.82	9.50	40.02	122.14	303.91	1280.69
26.00	0.04	0.29	1.20	3.67	9.14	38.50	117.48	292.34	1231.91
26.50	0.04	0.27	1.16	3.53	8.79	37.06	113.09	281.41	1185.86
27.00	0.03	0.26	1.12	3.40	8.47	35.70	108.94	271.08	1142.35
27.50	0.03	0.26	1.08	3.28	8.17	34.41	105.02	261.32	1101.18
28.00	0.03	0.25	1.04	3.17	7.88	33.19	101.30	252.07	1062.21
28.50	0.03	0.24	1.00	3.06	7.60	32.04	97.78	243.30	1025.26
29.00	0.03	0.23	0.97	2.95	7.34	30.94	94.43	234.98	990.21
29.50	0.03	0.22	0.93	2.85	7.10	29.90	91.26	227.08	956.93
30.00	0.03	0.21	0.90	2.76	6.86	28.92	88.24	219.58	925.30

Valores de D⁵ para diferentes diámetros

\emptyset	D ⁵
0.013	3.713
0.019	24.761
0.025	97.656
0.032	335.544
0.038	792.352
0.051	3450.253
0.063	9924.365
0.076	25355.254
0.102	110408.080
0.152	811368.120
0.204	3533058.570

Fórmula Dr. Poole
Caída de Presión

$$H = \frac{2 \cdot S \cdot L \cdot Q^2}{D^5}$$

H= Pérdida de carga en Milímetros de Columna de Agua

S= Densidad del Gas (Natural 0,65)

L= Longitud de Cañería

Q= Caudal en m³

D= Diámetro (en Cm)

% Para Long. Equivalente

15.00

DENSIDAD

00.65

TRAMO	LONGITUD	CAUDAL	DIAMETRO	CAIDA PRESION	TOTALES ACUMULADOS
5-6	39.70	16.98	0.051	4.9597	4.9597
5-4	9.00	13.20	0.051	0.6795	5.6392
4-3	10.75	9.42	0.051	0.4133	6.0525
3-2	9.00	5.64	0.038	0.5402	6.5927
2-1	7.50	1.86	0.025	0.3972	6.9899
Total Primer Ramal					6.9899
7-6	8.00	17.62	0.051	1.0762	1.0762
8-7	9.00	13.84	0.051	0.7470	1.8232
9-8	9.00	10.68	0.051	0.4448	2.2680
10-9	9.00	6.28	0.032	1.5814	3.8494
Total Segundo Ramal					3.8494

Diámetro

$$D = \sqrt{\frac{2 \cdot S \cdot L \cdot Q^2}{H}}$$

DENSIDAD 0.65
CAIDA DE PRESION 10

LONGITUD	CAUDAL	DIAMETRO (En Mts.)
		0.000

	A	D
1		
2		
3	Formula de weymouth (5 a 15 kg/cm2)	
4		
5	Densidad relativa del gas	0.63
6	Diametro interior del caño (mm)	102
7	Longitud en km	0.3
8	Caudal en m3/h	4000
9	Presion inicial manometrica	10
10		
11	Presion final en el extremo de cañeria	9.59
12		
13		
14		
15		
16	RED (SPITZGLASS)	
17		
18	Diametro interior del caño (mm)	52
19	Longitud en km	10
20	Caudal en m3/h	50
21	Presion inicial manometrica	1.6
22		
23	Presion final en el extremo de cañeria	1.21
24		
25		

	A	D
1		
2		
3	Formula de weymouth (5 a 15 kg/cm2)	
4		
5	Densidad relativa del gas	0.63
6	Diametro interior del caño (mm)	102
7	Longitud en km	0.3
8	Caudal en m3/h	4000
9	Presion inicial manometrica	10
10		
11	Presion final en el extremo de cañeria	$=+(\text{RAIZ}((\text{D9} \cdot 14.28 + 14.28)^2 - ((\text{D5} \cdot (\text{D7} / 1.609) \cdot ((\text{D8} / ((0.3048)^3))^2)) / ((786 \cdot ((\text{D6} / 25.4)^{16/3})))))) - 14.28) / 14.28$
12		
13		
14		
15		
16	RED (SPITZGLASS)	
17		
18	Diametro interior del caño (mm)	52
19	Longitud en km	10
20	Caudal en m3/h	50
21	Presion inicial manometrica	1.6
22		
23	Presion final en el extremo de cañeria	$=+(\text{RAIZ}(((\text{D21} + 1)^2) - ((18250 \cdot (1 + (91.44 / \text{D18}) + 0.00118 \cdot \text{D18})) \cdot 0.56 \cdot ((\text{D20}^2) / (\text{D18}^5)) \cdot \text{D19}^{0.99}))) - 1$
24		
25		