

**TABLA No3 Pérdida de carga, velocidad y Re en PVC de diferentes diámetros**

$$J=1.131 \times 10^9 (Q/C)^{1.852} / d^{4.871}, \text{ Si } Re > 100,000$$

$$J = 0.473 Q^{1.75} / D^{4.75}, \text{ si } 4,000 \geq Re \leq 100,000$$

**Tabla No 3 Pérdida de Carga, J (mca) x 1M en PVC**

Pulg Ø Nominal (mm) Diametro Interno mm	1"	1 ½"	2"	2 ½"	3"	4"	6"	1"	1 ½"	2"	2 ½"	3"	4"	6"
	25 SDR 26	38 SDR 26	50 SDR 41	62 SDR 41	75 SDR 41	100 SDR 41	150 SDR 41	25 SDR 41	38 SDR 41	50 SDR 41	62 SDR 41	75 SDR 41	100 SDR 41	150 SDR 41
Q l/s	Pérdida de Carga mca x 1 según caudal							V m/s, velocidad recomendada para diseño 1.5 a 2 m/s, no mayores de 2.5 a 3 m/s						
0.25	0.0063	0.0010	0.0003	0.0001	0.0000	0.0000	0.0000	0.3444	0.1600	0.0966	0.0659	0.0445	0.0269	0.0124
0.5	0.0213	0.0034	0.0010	0.0004	0.0002	0.0001	0.0000	0.6889	0.3200	0.1932	0.1318	0.0889	0.0539	0.0248
0.75	0.0433	0.0070	0.0021	0.0009	0.0003	0.0001	0.0000	1.0333	0.4801	0.2898	0.1977	0.1334	0.0808	0.0373
1	0.0716	0.0116	0.0035	0.0014	0.0006	0.0002	0.0000	1.3777	0.6401	0.3864	0.2636	0.1779	0.1078	0.0497
1.25	0.1058	0.0171	0.0052	0.0021	0.0008	0.0002	0.0000	1.7222	0.8001	0.4831	0.3295	0.2224	0.1347	0.0621
1.5	0.1455	0.0236	0.0071	0.0029	0.0011	0.0003	0.0001	2.0666	0.9601	0.5797	0.3954	0.2668	0.1616	0.0745
1.75	0.1906	0.0309	0.0093	0.0038	0.0015	0.0004	0.0001	2.4110	1.1202	0.6763	0.4613	0.3113	0.1886	0.0869
2	0.2407	0.0390	0.0118	0.0047	0.0019	0.0006	0.0001	2.7554	1.2802	0.7729	0.5272	0.3558	0.2155	0.0993
2.25	0.2958	0.0479	0.0145	0.0058	0.0023	0.0007	0.0001		1.4402	0.8695	0.5931	0.4003	0.2425	0.1118
2.5	0.4036	0.0576	0.0174	0.0070	0.0028	0.0008	0.0001		1.6002	0.9661	0.6590	0.4447	0.2694	0.1242
2.75	0.4815	0.0681	0.0205	0.0083	0.0033	0.0010	0.0002		1.7602	1.0627	0.7249	0.4892	0.2963	0.1366
3	0.5657	0.0793	0.0239	0.0096	0.0038	0.0012	0.0002		1.9203	1.1593	0.7908	0.5337	0.3233	0.1490
3.25	0.6561	0.0912	0.0275	0.0111	0.0044	0.0013	0.0002		2.0803	1.2559	0.8567	0.5782	0.3502	0.1614
3.5	0.7526	0.1038	0.0313	0.0126	0.0050	0.0015	0.0002		2.2403	1.3526	0.9226	0.6226	0.3772	0.1739
3.75	0.8552	0.1322	0.0353	0.0142	0.0056	0.0017	0.0003		2.4003	1.4492	0.9885	0.6671	0.4041	0.1863
4	0.9638	0.1490	0.0396	0.0159	0.0063	0.0019	0.0003		2.5604	1.5458	1.0544	0.7116	0.4310	0.1987
4.25	1.0783	0.1667	0.0440	0.0177	0.0070	0.0021	0.0003		2.7204	1.6424	1.1203	0.7561	0.4580	0.2111
4.5	1.1987	0.1853	0.0486	0.0196	0.0077	0.0023	0.0004		2.8804	1.7390	1.1862	0.8005	0.4849	0.2235
4.75	1.3250	0.2048	0.0599	0.0215	0.0085	0.0026	0.0004			1.8356	1.2521	0.8450	0.5119	0.2360
5	1.4570	0.2252	0.0659	0.0236	0.0093	0.0028	0.0004			1.9322	1.3180	0.8895	0.5388	0.2484
5.25	1.5948	0.2465	0.0721	0.0257	0.0101	0.0031	0.0005			2.0288	1.3839	0.9340	0.5657	0.2608
5.5	1.7383	0.2687	0.0786	0.0310	0.0109	0.0033	0.0005			2.1254	1.4498	0.9784	0.5927	0.2732
5.75	1.8875	0.2918	0.0854	0.0336	0.0118	0.0036	0.0006			2.2220	1.5157	1.0229	0.6196	0.2856
6	2.0423	0.3157	0.0924	0.0364	0.0127	0.0039	0.0006			2.3187	1.5816	1.0674	0.6465	0.2980
6.25	2.2026	0.3405	0.0996	0.0392	0.0137	0.0042	0.0007			2.4153	1.6475	1.1119	0.6735	0.3105
6.5	2.3686	0.3661	0.1071	0.0422	0.0147	0.0045	0.0007			2.5119	1.7134	1.1563	0.7004	0.3229

Pulg Ø Nominal (mm) Diametro Interno mm	1"	1 ½"	2"	2 ½"	3"	4"	6"	1"	1 ½"	2"	2 ½"	3"	4"	6"
	25 SDR 26	38 SDR 26	50 SDR 41	62 SDR 41	75 SDR 41	100 SDR 41	150 SDR 41	25 SDR 41	38 SDR 41	50 SDR 41	62 SDR 41	75 SDR 41	100 SDR 41	150 SDR 41
Q l/s	Pérdida de Carga mca x l según caudal							V m/s, velocidad recomendada para diseño 1.5 a 2 m/s, no mayores de 2.5 a 3 m/s						
6.75	2.5401	0.3927	0.1149	0.0452	0.0174	0.0048	0.0008			2.6085	1.7793	1.2008	0.7274	0.3353
7	2.7170	0.4200	0.1229	0.0484	0.0186	0.0051	0.0008			2.7051	1.8452	1.2453	0.7543	0.3477
7.25	2.8995	0.4482	0.1311	0.0517	0.0198	0.0054	0.0009			2.8017	1.9111	1.2898	0.7812	0.3601
7.5	3.0874	0.4773	0.1396	0.0550	0.0211	0.0057	0.0009			2.8983	1.9770	1.3342	0.8082	0.3726
7.75	3.2807	0.5071	0.1484	0.0584	0.0224	0.0061	0.0010			2.9949	2.0429	1.3787	0.8351	0.3850
8	3.4793	0.5379	0.1574	0.0620	0.0238	0.0064	0.0010				2.1088	1.4232	0.8621	0.3974
8.25	3.6834	0.5694	0.1666	0.0656	0.0252	0.0068	0.0011				2.1747	1.4676	0.8890	0.4098
8.5	3.8928	0.6018	0.1761	0.0693	0.0266	0.0071	0.0011				2.2406	1.5121	0.9159	0.4222
8.75	4.1075	0.6350	0.1858	0.0732	0.0281	0.0083	0.0012				2.3065	1.5566	0.9429	0.4346
9	4.3275	0.6690	0.1957	0.0771	0.0296	0.0087	0.0013				2.3724	1.6011	0.9698	0.4471
9.25	4.5527	0.7038	0.2059	0.0811	0.0311	0.0092	0.0013				2.4383	1.6455	0.9968	0.4595
9.5	4.7832	0.7394	0.2163	0.0852	0.0327	0.0096	0.0014				2.5042	1.6900	1.0237	0.4719
9.75	5.0189	0.7759	0.2270	0.0894	0.0343	0.0101	0.0014				2.5701	1.7345	1.0506	0.4843
10	5.2599	0.8131	0.2379	0.0937	0.0360	0.0106	0.0015				2.6360	1.7790	1.0776	0.4967
10.25	5.5060	0.8511	0.2490	0.0981	0.0376	0.0111	0.0016				2.7019	1.8234	1.1045	0.5092
10.5	5.7573	0.8900	0.2604	0.1026	0.0394	0.0116	0.0016				2.7678	1.8679	1.1315	0.5216
10.75	6.0137	0.9296	0.2720	0.1071	0.0411	0.0121	0.0017				2.8337	1.9124	1.1584	0.5340
11	6.2753	0.9701	0.2838	0.1118	0.0429	0.0127	0.0018				2.8996	1.9569	1.1853	0.5464
11.25	6.5420	1.0113	0.2959	0.1165	0.0447	0.0132	0.0018				2.9655	2.0013	1.2123	0.5588
11.5	6.8138	1.0533	0.3082	0.1214	0.0466	0.0137	0.0019					2.0458	1.2392	0.5712
11.75	7.0906	1.0961	0.3207	0.1263	0.0485	0.0143	0.0020					2.0903	1.2662	0.5837
12	7.3726	1.1397	0.3335	0.1313	0.0504	0.0149	0.0021					2.1348	1.2931	0.5961
12.25	7.6596	1.1841	0.3464	0.1364	0.0524	0.0154	0.0021					2.1792	1.3200	0.6085
12.5	7.9516	1.2292	0.3596	0.1417	0.0544	0.0160	0.0022					2.2237	1.3470	0.6209
12.75	8.2486	1.2751	0.3731	0.1469	0.0564	0.0166	0.0025					2.2682	1.3739	0.6333
13	8.5506	1.3218	0.3867	0.1523	0.0585	0.0172	0.0026					2.3127	1.4009	0.6458
13.25	8.8577	1.3693	0.4006	0.1578	0.0606	0.0179	0.0027					2.3571	1.4278	0.6582
13.5	9.1697	1.4175	0.4147	0.1634	0.0627	0.0185	0.0028					2.4016	1.4547	0.6706
13.75	9.4866	1.4665	0.4291	0.1690	0.0649	0.0191	0.0029					2.4461	1.4817	0.6830
14	9.8085	1.5163	0.4436	0.1747	0.0671	0.0198	0.0030					2.4906	1.5086	0.6954
14.25	10.1354	1.5668	0.4584	0.1806	0.0693	0.0204	0.0031					2.5350	1.5356	0.7079
14.5	10.4672	1.6181	0.4734	0.1865	0.0716	0.0211	0.0032					2.5795	1.5625	0.7203
14.75	10.8038	1.6701	0.4886	0.1925	0.0739	0.0218	0.0033					2.6240	1.5894	0.7327
15	11.1454	1.7229	0.5041	0.1985	0.0762	0.0225	0.0034					2.6685	1.6164	0.7451
15.25	11.4919	1.7765	0.5198	0.2047	0.0786	0.0232	0.0035					2.7129	1.6433	0.7575
15.5	11.8432	1.8308	0.5357	0.2110	0.0810	0.0239	0.0036					2.7574	1.6703	0.7699
15.75	12.1994	1.8858	0.5518	0.2173	0.0834	0.0246	0.0037					2.8019	1.6972	0.7824

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	25 SDR 26	38 SDR 26	50 SDR 41	62 SDR 41	75 SDR 41	100 SDR 41	150 SDR 41	25 SDR 41	38 SDR 41	50 SDR 41	62 SDR 41	75 SDR 41	100 SDR 41	150 SDR 41
Q l/s	Pérdida de Carga mca x l según caudal							V m/s, velocidad recomendada para diseño 1.5 a 2 m/s, no mayores de 2.5 a 3 m/s						
16	12.5605	1.9417	0.5681	0.2238	0.0859	0.0253	0.0038					2.8464	1.7241	0.7948
16.25	12.9263	1.9982	0.5846	0.2303	0.0884	0.0261	0.0040					2.8908	1.7511	0.8072
16.5	13.2971	2.0555	0.6014	0.2369	0.0909	0.0268	0.0041					2.9353	1.7780	0.8196
16.75	13.6726	2.1136	0.6184	0.2436	0.0935	0.0276	0.0042					2.9798	1.8049	0.8320
17	14.0529	2.1724	0.6356	0.2503	0.0961	0.0283	0.0043						1.8319	0.8445
17.25	14.4381	2.2319	0.6530	0.2572	0.0987	0.0291	0.0044						1.8588	0.8569
17.5	14.8280	2.2922	0.6707	0.2642	0.1014	0.0299	0.0045						1.8858	0.8693
17.75	15.2227	2.3532	0.6885	0.2712	0.1041	0.0307	0.0047						1.9127	0.8817
18	15.6221	2.4149	0.7066	0.2783	0.1068	0.0315	0.0048						1.9396	0.8941
18.25	16.0263	2.4774	0.7249	0.2855	0.1096	0.0323	0.0049						1.9666	0.9065
18.5	16.4353	2.5406	0.7434	0.2928	0.1124	0.0331	0.0050						1.9935	0.9190
18.75	16.8490	2.6046	0.7621	0.3002	0.1152	0.0340	0.0052						2.0205	0.9314
19	17.2674	2.6693	0.7810	0.3076	0.1181	0.0348	0.0053						2.0474	0.9438
19.25	17.6905	2.7347	0.8001	0.3151	0.1209	0.0357	0.0054						2.0743	0.9562
19.5	18.1184	2.8008	0.8195	0.3228	0.1239	0.0365	0.0055						2.1013	0.9686
19.75	18.5509	2.8677	0.8390	0.3305	0.1268	0.0374	0.0057						2.1282	0.9811
20	18.9882	2.9353	0.8588	0.3383	0.1298	0.0383	0.0058						2.1552	0.9935
20.25	19.4301	3.0036	0.8788	0.3461	0.1328	0.0392	0.0059						2.1821	1.0059
20.5	19.8767	3.0726	0.8990	0.3541	0.1359	0.0401	0.0061						2.2090	1.0183
20.75	20.3279	3.1424	0.9194	0.3621	0.1390	0.0410	0.0062						2.2360	1.0307
21	20.7838	3.2129	0.9400	0.3702	0.1421	0.0419	0.0064						2.2629	1.0431
21.25	21.2444	3.2841	0.9609	0.3785	0.1452	0.0428	0.0065						2.2899	1.0556
21.5	21.7096	3.3560	0.9819	0.3867	0.1484	0.0438	0.0066						2.3168	1.0680
21.75	22.1794	3.4286	1.0032	0.3951	0.1516	0.0447	0.0068						2.3437	1.0804
22	22.6539	3.5019	1.0246	0.4036	0.1549	0.0457	0.0069						2.3707	1.0928
22.25	23.1329	3.5760	1.0463	0.4121	0.1582	0.0466	0.0071						2.3976	1.1052
22.5	23.6166	3.6508	1.0682	0.4207	0.1615	0.0476	0.0072						2.4246	1.1177
22.75	24.1049	3.7262	1.0902	0.4294	0.1648	0.0486	0.0074						2.4515	1.1301
23	24.5977	3.8024	1.1125	0.4382	0.1682	0.0496	0.0075						2.4784	1.1425
23.25	25.0952	3.8793	1.1350	0.4471	0.1716	0.0506	0.0077						2.5054	1.1549
23.5	25.5972	3.9569	1.1577	0.4560	0.1750	0.0516	0.0078						2.5323	1.1673
23.75	26.1038	4.0353	1.1807	0.4650	0.1785	0.0526	0.0080						2.5593	1.1798
24	26.6150	4.1143	1.2038	0.4741	0.1820	0.0537	0.0081						2.5862	1.1922
24.25	27.1307	4.1940	1.2271	0.4833	0.1855	0.0547	0.0083						2.6131	1.2046
24.5	27.6510	4.2744	1.2506	0.4926	0.1890	0.0558	0.0085						2.6401	1.2170
24.75	28.1758	4.3556	1.2744	0.5019	0.1926	0.0568	0.0086						2.6670	1.2294
25	28.7052	4.4374	1.2983	0.5114	0.1963	0.0579	0.0088						2.6940	1.2418



1"	1 ½"	2"	2 ½"	3"	4"	6"
25		50	62	75	100	150
SDR 41	SDR 41	SDR 41	SDR 41	SDR 41	SDR 41	SDR 41
30.4	44.6	57.4	69.5	84.6	108.7	160.1
<i>Re = 352,64 Q / D; Q (L/h) y D (mm)</i>						

10,440	7,116	5,529	4,567	3,751	2,920	1,982
20,880	14,232	11,058	9,133	7,503	5,839	3,965
31,320	21,348	16,588	13,700	11,254	8,759	5,947
41,760	28,464	22,117	18,266	15,006	11,679	7,929
52,200	35,580	27,646	22,833	18,757	14,599	9,912
62,640	42,696	33,175	27,399	22,509	17,518	11,894
73,080	49,812	38,704	31,966	26,260	20,438	13,877
83,520	56,928	44,234	36,532	30,012	23,358	15,859
93,960	64,044	49,763	41,099	33,763	26,278	17,841
104,400	71,161	55,292	45,666	37,515	29,197	19,824
114,840	78,277	60,821	50,232	41,266	32,117	21,806
125,280	85,393	66,350	54,799	45,018	35,037	23,788
135,720	92,509	71,880	59,365	48,769	37,957	25,771
146,160	99,625	77,409	63,932	52,521	40,876	27,753
156,600	106,741	82,938	68,498	56,272	43,796	29,735
167,040	113,857	88,467	73,065	60,024	46,716	31,718
177,480	120,973	93,996	77,632	63,775	49,636	33,700
187,920	128,089	99,526	82,198	67,527	52,555	35,682
198,360	135,205	105,055	86,765	71,278	55,475	37,665
208,800	142,321	110,584	91,331	75,030	58,395	39,647
219,240	149,437	116,113	95,898	78,781	61,315	41,630
229,680	156,553	121,642	100,464	82,533	64,234	43,612
240,120	163,669	127,172	105,031	86,284	67,154	45,594
250,560	170,785	132,701	109,597	90,036	70,074	47,577
261,000	177,901	138,230	114,164	93,787	72,994	49,559
271,440	185,017	143,759	118,731	97,539	75,913	51,541

1"	1 ½"	2"	2 ½"	3"	4"	6"
25		50	62	75	100	150
SDR 41	SDR 41	SDR 41	SDR 41	SDR 41	SDR 41	SDR 41
30.4	44.6	57.4	69.5	84.6	108.7	160.1
<i>Re = 352,64 Q / D; Q (L/h) y D (mm)</i>						
281,880	192,133	149,288	123,297	101,290	78,833	53,524
292,320	199,250	154,818	127,864	105,042	81,753	55,506
302,760	206,366	160,347	132,430	108,793	84,673	57,488
313,200	213,482	165,876	136,997	112,545	87,592	59,471
323,640	220,598	171,405	141,563	116,296	90,512	61,453
334,080	227,714	176,934	146,130	120,048	93,432	63,436
344,520	234,830	182,464	150,697	123,799	96,351	65,418
354,960	241,946	187,993	155,263	127,551	99,271	67,400
365,400	249,062	193,522	159,830	131,302	102,191	69,383
375,840	256,178	199,051	164,396	135,054	105,111	71,365
386,280	263,294	204,580	168,963	138,805	108,030	73,347
396,720	270,410	210,110	173,529	142,557	110,950	75,330
407,160	277,526	215,639	178,096	146,308	113,870	77,312
417,600	284,642	221,168	182,662	150,060	116,790	79,294
428,040	291,758	226,697	187,229	153,811	119,709	81,277
438,480	298,874	232,226	191,796	157,563	122,629	83,259
448,920	305,990	237,756	196,362	161,314	125,549	85,242
459,360	313,106	243,285	200,929	165,066	128,469	87,224
469,800	320,222	248,814	205,495	168,817	131,388	89,206
480,240	327,338	254,343	210,062	172,569	134,308	91,189
490,680	334,455	259,872	214,628	176,320	137,228	93,171
501,120	341,571	265,402	219,195	180,071	140,148	95,153
511,560	348,687	270,931	223,761	183,823	143,067	97,136
522,000	355,803	276,460	228,328	187,574	145,987	99,118
532,440	362,919	281,989	232,895	191,326	148,907	101,100
542,880	370,035	287,518	237,461	195,077	151,827	103,083
553,320	377,151	293,048	242,028	198,829	154,746	105,065
563,760	384,267	298,577	246,594	202,580	157,666	107,047
574,200	391,383	304,106	251,161	206,332	160,586	109,030
584,640	398,499	309,635	255,727	210,083	163,506	111,012
595,080	405,615	315,164	260,294	213,835	166,425	112,995
605,520	412,731	320,694	264,861	217,586	169,345	114,977
615,960	419,847	326,223	269,427	221,338	172,265	116,959
626,400	426,963	331,752	273,994	225,089	175,185	118,942
636,840	434,079	337,281	278,560	228,841	178,104	120,924
647,280	441,195	342,810	283,127	232,592	181,024	122,906
657,720	448,311	348,340	287,693	236,344	183,944	124,889

1"	1 ½"	2"	2 ½"	3"	4"	6"
25		50	62	75	100	150
SDR 41	SDR 41	SDR 41	SDR 41	SDR 41	SDR 41	SDR 41
30.4	44.6	57.4	69.5	84.6	108.7	160.1
<i>Re = 352,64 Q / D; Q (L/h) y D (mm)</i>						
668,160	455,427	353,869	292,260	240,095	186,864	126,871
678,600	462,543	359,398	296,826	243,847	189,783	128,853
689,040	469,660	364,927	301,393	247,598	192,703	130,836
699,480	476,776	370,456	305,960	251,350	195,623	132,818
709,920	483,892	375,986	310,526	255,101	198,542	134,801
720,360	491,008	381,515	315,093	258,853	201,462	136,783
730,800	498,124	387,044	319,659	262,604	204,382	138,765
741,240	505,240	392,573	324,226	266,356	207,302	140,748
751,680	512,356	398,102	328,792	270,107	210,221	142,730
762,120	519,472	403,631	333,359	273,859	213,141	144,712
772,560	526,588	409,161	337,926	277,610	216,061	146,695
783,000	533,704	414,690	342,492	281,362	218,981	148,677
793,440	540,820	420,219	347,059	285,113	221,900	150,659
803,880	547,936	425,748	351,625	288,865	224,820	152,642
814,320	555,052	431,277	356,192	292,616	227,740	154,624
824,760	562,168	436,807	360,758	296,368	230,660	156,607
835,200	569,284	442,336	365,325	300,119	233,579	158,589
845,640	576,400	447,865	369,891	303,871	236,499	160,571
856,080	583,516	453,394	374,458	307,622	239,419	162,554
866,520	590,632	458,923	379,025	311,374	242,339	164,536
876,960	597,749	464,453	383,591	315,125	245,258	166,518
887,400	604,865	469,982	388,158	318,877	248,178	168,501
897,840	611,981	475,511	392,724	322,628	251,098	170,483
908,280	619,097	481,040	397,291	326,380	254,018	172,465
918,720	626,213	486,569	401,857	330,131	256,937	174,448
929,160	633,329	492,099	406,424	333,883	259,857	176,430
939,600	640,445	497,628	410,991	337,634	262,777	178,412
950,040	647,561	503,157	415,557	341,386	265,697	180,395
960,480	654,677	508,686	420,124	345,137	268,616	182,377
970,920	661,793	514,215	424,690	348,889	271,536	184,360
981,360	668,909	519,745	429,257	352,640	274,456	186,342
991,800	676,025	525,274	433,823	356,391	277,376	188,324
1002,240	683,141	530,803	438,390	360,143	280,295	190,307
1012,680	690,257	536,332	442,956	363,894	283,215	192,289
1023,120	697,373	541,861	447,523	367,646	286,135	194,271
1033,560	704,489	547,391	452,090	371,397	289,054	196,254
1044,000	711,605	552,920	456,656	375,149	291,974	198,236

1"	1 ½"	2"	2 ½"	3"	4"	6"
25		50	62	75	100	150
SDR 41	SDR 41	SDR 41	SDR 41	SDR 41	SDR 41	SDR 41
30.4	44.6	57.4	69.5	84.6	108.7	160.1
<i>Re = 352,64 Q / D; Q (L/h) y D (mm)</i>						
1085,760	740,070	575,037	474,922	390,155	303,653	206,166
1127,520	768,534	597,153	493,189	405,161	315,332	214,095
1169,280	796,998	619,270	511,455	420,167	327,011	222,024
1211,040	825,462	641,387	529,721	435,173	338,690	229,954
1252,800	853,926	663,504	547,987	450,179	350,369	237,883
1294,560	882,391	685,621	566,254	465,185	362,048	245,813
1336,320	910,855	707,737	584,520	480,191	373,727	253,742
1336,320	910,855	707,737	584,520	480,191	373,727	253,742
1378,080	939,319	729,854	602,786	495,197	385,406	261,672
1419,840	967,783	751,971	621,052	510,203	397,085	269,601
1461,600	996,248	774,088	639,319	525,209	408,764	277,531
1503,360	1024,712	796,205	657,585	540,214	420,443	285,460
1545,120	1053,176	818,321	675,851	555,220	432,122	293,389
1586,880	1081,640	840,438	694,117	570,226	443,801	301,319
1628,640	1110,104	862,555	712,384	585,232	455,480	309,248
1670,400	1138,569	884,672	730,650	600,238	467,159	317,178
1712,160	1167,033	906,789	748,916	615,244	478,838	325,107