Natural Gas Pipe Sizing Chart

Natural gas pipe sizing chart, steel, 0.5 in. w.c. drop

Sizing equation for low-pressure systems: $D = Q^{0.381} \div (19.17 \times (\Delta H \div (Cr \times L))^{0.206})$, where D is inside diameter in inches, Q is flow in cubic feet per hour, ΔH is the pressure drop in inches of water column, L is the pipe length in feet and Cr is 0.6094 for natural gas or 1.2462 for propane. Capacities below invert the same equation and are shown in thousands of BTU per hour. Natural gas is taken at 1,000 BTU per cubic foot and propane at 2,516.

Natural gas, Schedule 40 steel, MBH

Pipe length	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
10 ft	173	362	682	1,401	2,100	4,046	6,450	11,407	23,276
20 ft	119	249	469	963	1,443	2,781	4,434	7,841	16,001
30 ft	96	200	377	774	1,159	2,234	3,561	6,298	12,851
40 ft	82	171	322	662	992	1,912	3,048	5,391	11,000
50 ft	72	152	286	587	880	1,695	2,702	4,778	9,750
60 ft	66	137	259	532	797	1,536	2,448	4,329	8,834
80 ft	56	118	222	455	682	1,314	2,095	3,706	7,562
100 ft	50	104	196	403	605	1,165	1,857	3,285	6,702
125 ft	44	92	174	358	536	1,033	1,646	2,911	5,941
150 ft	40	84	158	324	486	936	1,492	2,638	5,383
200 ft	34	72	135	277	416	801	1,277	2,258	4,608

Natural gas, type K copper tube, 0.5 in. w.c. drop

Copper tube sizes are named by outside diameter, so the inside diameter is smaller than the name.

Natural gas, type K copper tube, MBH

Pipe length	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	2"

Pipe length	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	2"
10 ft	55	112	196	278	594	1,069	1,686	3,514
20 ft	38	77	135	191	408	735	1,159	2,416
30 ft	30	62	108	153	328	590	931	1,940
40 ft	26	53	93	131	281	505	797	1,661
50 ft	23	47	82	116	249	448	706	1,472
60 ft	21	43	74	105	225	406	640	1,334
80 ft	18	36	64	90	193	347	548	1,142
100 ft	16	32	56	80	171	308	486	1,012
125 ft	14	29	50	71	152	273	430	897
150 ft	13	26	45	64	137	247	390	813
200 ft	11	22	39	55	118	212	334	696

Natural gas, Schedule 40 steel, 1.0 in. w.c. drop

For systems where the supply pressure allows a larger drop.

Natural gas, Schedule 40 steel, 1.0 in. w.c., MBH

Pipe length	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
10 ft	252	527	992	2,038	3,054	5,885	9,382	16,593	33,859
20 ft	173	362	682	1,401	2,100	4,046	6,450	11,407	23,276
30 ft	139	291	548	1,125	1,686	3,249	5,180	9,161	18,694
40 ft	119	249	469	963	1,443	2,781	4,434	7,841	16,001
50 ft	105	221	416	854	1,279	2,465	3,930	6,950	14,183
60 ft	96	200	377	774	1,159	2,234	3,561	6,298	12,851
80 ft	82	171	322	662	992	1,912	3,048	5,391	11,000
100 ft	72	152	286	587	880	1,695	2,702	4,778	9,750
125 ft	64	134	253	520	780	1,502	2,395	4,235	8,642
150 ft	58	122	229	471	706	1,361	2,170	3,837	7,830

Pipe length	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
200 ft	50	104	196	403	605	1,165	1,857	3,285	6,702

Disclaimer. Estimate only. Gas piping must be sized, installed and inspected by a licensed professional under your local code and the appliance maker's instructions. Charts & Specs is an independent reference site. It is not affiliated with any manufacturer, standards body or code organization, and it uses brand and standard names only to identify what a value applies to.
