Gas Pipe Sizing Calculator and Chart

Natural gas capacity, Schedule 40 steel, 0.5 in. w.c. drop

Thousands of BTU per hour (MBH) a pipe can carry over the length shown. Always round up to the next size.

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 pipe, 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

Propane capacity, Schedule 40 steel, 0.5 in. w.c. drop

Propane, Schedule 40 steel pipe, MBH

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

Pipe length	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
10 ft	296	619	1,166	2,394	3,588	6,914	11,023	19,493	39,778
20 ft	203	425	801	1,646	2,467	4,753	7,577	13,400	27,345
30 ft	163	342	644	1,322	1,981	3,817	6,086	10,762	21,962
40 ft	140	292	551	1,132	1,696	3,267	5,209	9,212	18,798
50 ft	124	259	488	1,003	1,503	2,896	4,617	8,165	16,662
60 ft	112	235	442	909	1,362	2,624	4,184	7,399	15,098
80 ft	96	201	379	778	1,166	2,246	3,581	6,333	12,923
100 ft	85	178	336	689	1,033	1,991	3,174	5,613	11,454
125 ft	75	158	298	611	916	1,765	2,813	4,975	10,152
150 ft	68	143	270	554	830	1,599	2,549	4,508	9,199
200 ft	59	122	231	474	710	1,369	2,182	3,859	7,874

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.