

Chapter 5: Sizing/Capacity Tables

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5.1 Fitting Adjustment Values for Determining Run Length

Table 5.1 Length to Add to Each Run for Each Fitting

Fitting	Pipe Size	Add
Coupler	½"	1.6'
	¾"	2.2'
	1"	2.9'
	1¼"	3.5'
	1½"	4.2'
	2"	3.4'
Elbow	½"	3.2'
	¾"	4.4'
	1"	5.7'
	1¼"	6.9'
	1½"	8.2'
	2"	8.3'
Tee (In Line Flow)	½"	2.1'
	¾"	2.9'
	1"	3.7'
	1¼"	4.5'
	1½"	5.3'
	2"	4.8'
Tee (line to branch flow)	½"	3.8'
	¾"	5.3'
	1"	6.8'
	1¼"	8.4'
	1½"	9.9'
	2"	10.4'

5.2 Natural Gas Sizing Tables

Table 5.2 Low Pressure Natural Gas (Less than 2 PSI with 0.3 in. w.c. drop)

Maximum Capacity of HOME-FLEX Underground® Poly Pipe in BTU/h (British Thermal Units per Hour) of Natural Gas by Length of Piping Run

(Approximate 1,000 BTU/h Natural Gas per 1 CFH; based on a 0.6 specific gravity of gas)

Minimum Gas Pressure: **6-7 in w.c. (¼ PSI)**

Pressure Drop: **0.3 in w.c.**

Run (ft.)	IPS Pipe Size (SDR)					
	½" (SDR 9.3)	¾" (SDR 11)	1" (SDR 11)	1¼" (SDR 10)	1½" (SDR 11)	2" (SDR 11)
10	153k	305k	551k	955k	1,440k	2,590k
20	105k	210k	379k	656k	991k	1,780k
30	84k	169k	304k	527k	796k	1,430k
40	72k	144k	260k	451k	681k	1,220k
50	64k	128k	231k	400k	604k	1,080k
60	58k	116k	209k	362k	547k	983k
70	53k	107k	192k	333k	503k	904k
80	50k	99k	179k	310k	468k	841k
90	46k	93k	168k	291k	439k	789k
100	44k	88k	159k	275k	415k	745k
125	39k	78k	141k	243k	368k	661k
150	35k	71k	127k	221k	333k	598k
175	32k	65k	117k	203k	306k	551k
200	30k	60k	109k	189k	285k	512k
250	27k	54k	97k	167k	253k	454k
300	24k	48k	88k	152k	229k	411k
350	22k	45k	81k	139k	211k	378k
400	21k	42k	75k	130k	196k	352k
450	19k	39k	70k	122k	184k	330k
500	18k	37k	66k	115k	174k	312k

k = 1,000 BTU/h EXAMPLE: 10k = 10,000 BTU/h = 10 CFH (Cubic Feet per Hour) of Natural Gas

Table 5.3 Low Pressure Natural Gas (Less than 2 PSI with 0.5 in. w.c. drop)

Maximum Capacity of HOME-FLEX Underground® Poly Pipe in BTU/h (British Thermal Units per Hour) of Natural Gas by Length of Piping Run

(Approximate 1,000 BTU/h Natural Gas per 1 CFH; based on a 0.6 specific gravity of gas)

Minimum Gas Pressure: **6-7 in w.c. (¼ PSI)**

Pressure Drop: **0.5 in w.c.**

Run (ft.)	IPS Pipe Size (SDR)					
	½" (SDR 9.3)	¾" (SDR 11)	1" (SDR 11)	1¼" (SDR 10)	1½" (SDR 11)	2" (SDR 11)
10	201k	403k	726k	1,260k	1,900k	3,410k
20	138k	277k	499k	865k	1,310k	2,350k
30	111k	222k	401k	695k	1,050k	1,880k
40	95k	190k	343k	594k	898k	1,610k
50	84k	169k	304k	527k	796k	1,430k
60	76k	153k	276k	477k	721k	1,300k
70	70k	140k	254k	439k	663k	1,190k
80	65k	131k	236k	409k	617k	1,110k
90	61k	123k	221k	383k	579k	1,040k
100	58k	116k	209k	362k	547k	983k
125	51k	103k	185k	321k	485k	871k
150	46k	93k	168k	291k	439k	789k
175	43k	86k	154k	268k	404k	726k
200	40k	80k	144k	249k	376k	675k
250	35k	71k	127k	221k	333k	598k
300	32k	64k	115k	200k	302k	542k
350	29k	59k	106k	184k	278k	499k
400	27k	55k	99k	171k	258k	464k
450	26k	51k	93k	160k	242k	435k
500	24k	48k	88k	152k	229k	411k

k = 1,000 BTU/h

EXAMPLE: 10k = 10,000 BTU/h = 10 CFH (Cubic Feet per Hour) of Natural Gas

Sizing/Capacity Tables

Table 5.4 Elevated Pressure Natural Gas (2 PSI with 1 PSI drop)

Maximum Capacity of HOME-FLEX Underground® Poly Pipe in BTU/h (British Thermal Units per Hour) of Natural Gas by Length of Piping Run

(Approximate 1,000 BTU/h Natural Gas per 1 CFH; based on a 0.6 specific gravity of gas)

Minimum Gas Pressure: **6-7 in w.c. (¼ PSI)**

Pressure Drop: **1 PSI**

Run (ft.)	IPS Pipe Size (SDR)					
	½" (SDR 9.3)	¾" (SDR 11)	1" (SDR 11)	1¼" (SDR 10)	1½" (SDR 11)	2" (SDR 11)
10	1,860k	3,720k	6,710k	11,600k	17,600k	31,600k
20	1,280k	2,560k	4,610k	7,990k	12,100k	21,700k
30	1,030k	2,050k	3,710k	6,420k	8,690k	17,400k
40	878k	1,760k	3,170k	5,490k	8,300k	14,900k
50	778k	1,560k	2,810k	4,870k	7,350k	13,200k
60	705k	1,410k	2,550k	4,410k	6,660k	12,000k
70	649k	1,300k	2,340k	4,060k	6,130k	11,000k
80	603k	1,210k	2,180k	3,780k	5,700k	10,200k
90	566k	1,130k	2,050k	3,540k	5,250k	9,610k
100	535k	1,070k	1,930k	3,350k	5,050k	9,080k
125	474k	949k	1,710k	2,970k	4,480k	8,050k
150	429k	860k	1,550k	2,690k	4,060k	7,290k
175	395k	791k	1,430k	2,470k	3,730k	6,710k
200	368k	736k	1,330k	2,300k	3,470k	6,240k
250	326k	652k	1,180k	2,040k	3,080k	5,530k
300	295k	591k	1,070k	1,850k	2,790k	5,010k
350	272k	544k	981k	1,700k	2,570k	4,610k
400	253k	506k	913k	1,580k	2,390k	4,290k
450	237k	475k	856k	1,480k	2,240k	4,020k
500	224k	448k	809k	1,400k	2,120k	3,800k
550	213k	426k	768k	1,330k	2,010k	3,610k
600	203k	406k	733k	1,270k	1,920k	3,440k
650	194k	389k	702k	1,220k	1,840k	3,300k
700	187k	374k	674k	1,170k	1,760k	3,170k
750	180k	360k	649k	1,130k	1,700k	3,050k
800	174k	348k	627k	1,090k	1,640k	2,950k
850	168k	336k	607k	1,050k	1,590k	2,850k
900	163k	326k	588k	1,020k	1,540k	2,770k
950	158k	317k	572k	990k	1,500k	2,690k
1000	154k	308k	556k	963k	1,450k	2,610k
1100	146k	293k	528k	915k	1,380k	2,480k
1200	139k	279k	504k	873k	1,320k	2,370k
1300	134k	267k	482k	836k	1,260k	2,270k
1400	128k	257k	463k	803k	1,210k	2,180k
1500	124k	247k	446k	773k	1,170k	2,100k
1600	119k	239k	431k	747k	1,130k	2,030k
1700	115k	231k	417k	723k	1,090k	1,960k
1800	112k	224k	404k	701k	1,060k	1,900k
1900	109k	218k	393k	680k	1,030k	1,850k
2000	106k	212k	382k	662k	1,000k	1,800k

k = 1,000 BTU/h

EXAMPLE: 10k = 10,000 BTU/h = 10 CFH (Cubic Feet per Hour) of Natural Gas

5.3 Liquid Petroleum (LP) Gas Sizing Tables

Table 5.5 Low Pressure LP (Less than 11 in. w.c. with 0.5 in. w.c. drop)

Maximum Capacity of HOME-FLEX Underground® Poly Pipe in BTU/h (British Thermal Units per Hour) of Liquid Propane (LP) Gas by Length of Piping Run

(Approximate 2,520 BTU/h LP Gas per 1 CFH; based on a 1.52 specific gravity of gas)

Minimum Gas Pressure: **11 in. w.c.**

Pressure Drop: **0.5 in. w.c.**

Intended Use: PE Pipe Sizing Between Integral Second-Stage Regulator at Tank or Second-Stage (Low-Pressure) Regulator and Building

Run (ft.)	IPS Pipe Size (SDR)					
	½" (SDR 9.3)	¾" (SDR 11)	1" (SDR 11)	1¼" (SDR 10)	1½" (SDR 11)	2" (SDR 11)
10	340k	680k	1,230k	2,130k	3,210k	5,770k
20	233k	468k	844k	1,460k	2,210k	3,970k
30	187k	375k	677k	1,170k	1,770k	3,180k
40	160k	321k	580k	1,000k	1,520k	2,730k
50	142k	285k	514k	890k	1,340k	2,420k
60	129k	258k	466k	807k	1,220k	2,190k
70	119k	237k	428k	742k	1,120k	2,010k
80	110k	221k	398k	690k	1,040k	1,870k
90	103k	207k	374k	648k	978k	1,760k
100	98k	196k	353k	612k	924k	1,660k
125	87k	173k	313k	542k	819k	1,470k
150	78k	157k	284k	491k	742k	1,330k
175	72k	145k	261k	452k	683k	1,230k
200	67k	135k	243k	420k	635k	1,140k
250	60k	119k	215k	373k	563k	1,010k
300	54k	108k	195k	338k	510k	916k
350	50k	99k	179k	311k	469k	843k
400	46k	92k	167k	289k	436k	784k
450	43k	87k	157k	271k	409k	736k
500	41k	82k	148k	256k	387k	695k

k = 1,000 BTU/h

EXAMPLE: 252k = 252,000 BTU/h = 100 CFH (Cubic Feet per Hour) of LP Gas

Table 5.6 Elevated Pressure LP (2 PSI with 1 PSI drop)

Maximum Capacity of HOME-FLEX Underground® Poly Pipe in BTU/h (British Thermal Units per Hour) of Liquid Propane (LP) Gas by Length of Piping Run

(Approximate 2,520 BTU/h LP Gas per 1 CFH; based on a 1.52 specific gravity of gas)

Minimum Gas Pressure: **2 PSI**

Pressure Drop: **1 PSI**

Intended Use: PE Pipe Sizing Between 2 PSI Service Regulator and Line Pressure Regulator

Run (ft.)	IPS Pipe Size (SDR)					
	½" (SDR 9.3)	¾" (SDR 11)	1" (SDR 11)	1¼" (SDR 10)	1½" (SDR 11)	2" (SDR 11)
10	3,130k	6,260k	11,300k	19,600k	29,500k	53,100k
20	2,150k	4,300k	7,760k	13,400k	20,300k	36,500k
30	1,730k	3,450k	6,230k	10,800k	16,300k	29,300k
40	1,480k	2,690k	5,330k	9,240k	14,000k	25,100k
50	1,310k	2,620k	4,730k	8,190k	12,400k	22,200k
60	1,190k	2,370k	4,280k	7,420k	11,200k	20,100k
70	1,090k	2,180k	3,940k	6,830k	10,300k	18,500k
80	1,010k	2,030k	3,670k	6,350k	9,590k	17,200k
90	952k	1,910k	3,440k	5,960k	9,000k	16,200k
100	899k	1,800k	3,250k	5,630k	8,500k	15,300k
125	797k	1,600k	2,880k	4,990k	7,530k	13,500k
150	722k	1,450k	2,610k	4,520k	6,830k	12,300k
175	664k	1,330k	2,400k	4,160k	6,280k	11,300k
200	618k	1,240k	2,330k	3,870k	5,840k	10,500k
250	548k	1,100k	1,980k	3,430k	5,180k	9,300k
300	496k	994k	1,790k	3,110k	4,690k	8,430k
350	457k	914k	1,650k	2,860k	4,320k	7,760k
400	425k	851k	1,530k	2,660k	4,020k	7,220k
450	399k	798k	1,440k	2,500k	3,770k	6,770k
500	377k	754k	1,360k	2,360k	3,560k	6,390k
550	358k	716k	1,290k	2,240k	3,380k	6,070k
600	341k	683k	1,230k	2,140k	3,220k	5,790k
650	327k	654k	1,180k	2,040k	3,090k	5,550k
700	314k	628k	1,130k	1,960k	2,970k	5,330k
750	302k	605k	1,090k	1,770k	2,670k	4,800k
800	292k	585k	1,050k	1,830k	2,760k	4,960k
850	283k	566k	1,020k	1,770k	2,670k	4,800k
900	274k	549k	990k	1,710k	2,670k	4,800k
950	266k	533k	961k	1,670k	2,520k	4,520k
1000	259k	518k	935k	1,620k	2,450k	4,400k
1100	246k	492k	888k	1,540k	2,320k	4,170k
1200	234k	470k	847k	1,470k	2,220k	3,980k
1300	225k	450k	811k	1,410k	2,120k	3,810k
1400	216k	432k	779k	1,350k	2,040k	3,660k
1500	208k	416k	751k	1,300k	1,960k	3,530k
1600	201k	402k	725k	1,260k	1,900k	3,410k
1700	194k	389k	702k	1,220k	1,840k	3,300k
1800	188k	377k	680k	1,180k	1,780k	3,200k
1900	183k	366k	661k	1,140k	1,730k	3,110k
2000	178k	356k	643k	1,110k	1,680k	3,020k

Table 5.7 Elevated Pressure Liquid Propane (LP) (10 PSI with 1 PSI drop)**Maximum Capacity of HOME-FLEX Underground® Poly Pipe in BTU/h (British Thermal Units per Hour) of Liquid Propane (LP) Gas by Length of Piping Run**

(Approximate 2,520 BTU/h LP Gas per 1 CFH; based on a 1.52 specific gravity of gas)

Minimum Gas Pressure: **10 PSI**Pressure Drop: **1 PSI**

Intended Use: PE Pipe Sizing Between First-Stage Pressure Regulator and Second-Stage (Low Pressure) Regulator

Run (ft.)	IPS Pipe Size (SDR)					
	½" (SDR 9.3)	¾" (SDR 11)	1" (SDR 11)	1¼" (SDR 11)	1½" (SDR 11)	2" (SDR 11)
30	2,140k	3,920k	7,740k	13,420k	20,300k	36,400k
40	1,840k	3,670k	6,630k	11,480k	17,300k	31,200k
50	1,630k	3,260k	5,870k	10,180k	15,400k	27,600k
60	1,470k	2,950k	5,320k	9,220k	13,900k	25,000k
70	1,360k	2,710k	4,900k	8,480k	12,800k	23,000k
80	1,260k	2,530k	4,560k	7,890k	11,900k	21,400k
90	1,180k	2,370k	4,270k	7,400k	11,200k	20,100k
100	1,120k	2,240k	4,040k	6,990k	10,600k	19,000k
125	990k	990k	3,580k	6,200k	9,360k	16,800k
150	897k	897k	3,240k	5,620k	8,480k	15,200k
175	826k	826k	2,980k	5,170k	7,800k	14,000k
200	778k	778k	2,780k	4,810k	7,260k	13,000k
225	721k	721k	2,600k	4,510k	6,810k	12,200k
250	681k	681k	2,460k	4,260k	6,430k	11,600k
275	646k	646k	2,340k	4,050k	6,110k	11,000k
300	617k	617k	2,230k	3,860k	5,830k	10,470k
350	567k	567k	2,050k	3,550k	5,360k	9,640k
400	528k	528k	1,910k	3,300k	4,990k	8,970k
450	495k	495k	992k	3,100k	4,680k	8,410k
500	468k	468k	937k	2,930k	4,420k	7,950k
600	424k	424k	849k	2,650k	4,010k	7,200k
700	390k	390k	781k	2,440k	3,690k	6,620k
800	363k	363k	726k	2,270k	3,430k	6,160k
900	340k	340k	682k	2,130k	3,220k	5,780k
1000	322k	322k	644k	2,010k	3,040k	5,460k
1500	258k	258k	517k	933k	1,616k	4,390k
2000	221k	221k	443k	498k	1,383k	3,750k

k = 1,000 BTU/h

EXAMPLE: 252k = 252,000 BTU/h = 100 CFH (Cubic Feet per Hour) of LP Gas