

# CAPACITY OF PIPES FOR NATURAL GAS



Estimated maximum capacity of pipes in GJ/hr for natural gas (Highveld conditions)  
 Energy content = 0.041 GJ/Sm<sup>3</sup> Patm = 88 kPa P1 = 103 kPa 0.041 191 P2 = 95 kPa 183 Please note: S-S Schedule 40 API 5L and straight pipe length assumed

Pipe size	Length of pipe in metres																
inches	I.D [mm]	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160
1	26.6	5.5	3.8	3.0	2.6	2.3	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2
2	52.5	32.8	22.5	18.1	15.5	13.7	12.4	11.4	10.6	10.0	9.4	9.0	8.6	8.2	7.9	7.6	7.3
3	77.9	92.4	63.5	51.0	43.6	38.7	35.0	32.2	30.0	28.1	26.6	25.2	24.1	23.1	22.2	21.3	20.6
4	102.3	188.7	129.7	104.2	89.2	79.0	71.6	65.9	61.3	57.5	54.3	51.6	49.2	47.1	45.3	43.6	42.1
5	128.1	340.4	234.0	187.9	160.8	142.5	129.1	118.8	110.5	103.7	98.0	93.0	88.8	85.0	81.7	78.7	76.0
6	154.1	552.8	379.9	305.1	261.1	231.4	209.7	192.9	179.5	168.4	159.1	151.1	144.1	138.0	132.6	127.7	123.3
8	202.7	1134.5	779.8	626.2	535.9	475.0	430.4	395.9	368.3	345.6	326.4	310.0	295.8	283.3	272.1	262.2	253.2
10	254.5	2060.9	1416.4	1137.5	973.5	862.8	781.8	719.2	669.1	627.8	593.0	563.2	537.3	514.5	494.3	476.2	459.9
12	304.9	3310.4	2275.2	1827.1	1563.8	1385.9	1255.8	1155.3	1074.8	1008.4	952.5	904.7	863.1	826.5	794.0	764.9	738.7

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Pipe size	Length of pipe in metres																
inches	I.D [mm]	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320
1	26.6	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.8
2	52.5	7.1	6.9	6.7	6.5	6.3	6.2	6.0	5.9	5.7	5.6	5.5	5.4	5.3	5.2	5.1	5.0
3	77.9	19.9	19.3	18.8	18.3	17.8	17.3	16.9	16.5	16.2	15.8	15.5	15.2	14.9	14.7	14.4	14.2
4	102.3	40.8	39.5	38.4	37.3	36.4	35.4	34.6	33.8	33.1	32.4	31.7	31.1	30.5	30.0	29.4	28.9
5	128.1	73.5	71.3	69.2	67.3	65.6	63.9	62.4	61.0	59.7	58.4	57.2	56.1	55.1	54.1	53.1	52.2
6	154.1	119.4	115.7	112.4	109.3	106.5	103.8	101.4	99.0	96.9	94.9	92.9	91.1	89.4	87.8	86.2	84.8
8	202.7	245.0	237.5	230.7	224.4	218.5	213.1	208.0	203.3	198.9	194.7	190.7	187.0	183.5	180.2	177.0	174.0
10	254.5	445.0	431.5	419.0	407.6	397.0	387.1	377.9	369.3	361.2	353.6	346.5	339.7	333.3	327.3	321.5	316.1
12	304.9	714.8	693.1	673.1	654.7	637.6	621.8	607.0	593.2	580.2	568.0	556.6	545.7	535.5	525.7	516.5	507.7

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Pipe size	Length of pipe in metres																
inches	I.D [mm]	330	340	350	360	370	380	390	400	410	420	430	440	450	460	470	480
1	26.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
2	52.5	4.9	4.9	4.8	4.7	4.7	4.6	4.5	4.5	4.4	4.3	4.3	4.2	4.2	4.1	4.1	4.0
3	77.9	13.9	13.7	13.5	13.3	13.1	12.9	12.7	12.6	12.4	12.2	12.1	11.9	11.8	11.6	11.5	11.4
4	102.3	28.5	28.0	27.6	27.2	26.8	26.4	26.0	25.7	25.3	25.0	24.7	24.4	24.1	23.8	23.5	23.2
5	128.1	51.3	50.5	49.7	49.0	48.3	47.6	46.9	46.3	45.7	45.1	44.5	43.9	43.4	42.9	42.4	41.9
6	154.1	83.4	82.0	80.8	79.5	78.4	77.2	76.2	75.1	74.1	73.2	72.3	71.4	70.5	69.7	68.9	68.1
8	202.7	171.1	168.4	165.8	163.3	160.8	158.5	156.3	154.2	152.2	150.2	148.3	146.5	144.7	143.0	141.3	139.7
10	254.5	310.8	305.9	301.1	296.6	292.2	288.0	284.0	280.1	276.4	272.8	269.4	266.0	262.8	259.7	256.7	253.8
12	304.9	499.3	491.3	483.7	476.3	469.3	462.6	456.2	450.0	444.0	438.2	432.7	427.3	422.2	417.2	412.4	407.7