

Hazen-Williams Head Loss and Flow Velocity for SDR11 Geothermal Loop Pipe

Flow (US GPM)	Velocity (FPS)	Head Loss (FT/100')	Flow (US GPM)	Velocity (FPS)	Head Loss (FT/100')	Flow (US GPM)	Velocity (FPS)	Head Loss (FT/100')			
3/4" IPS	1	.057	0.22	11/4" IPS	20	4.55	12.41	2" IPS	100	11.12	20.96
3/4" IPS	2	1.14	0.79	11/4" IPS	25	5.69	18.77	2" IPS	125	13.89	31.69
3/4" IPS	3	1.70	1.68	11/4" IPS	30	6.83	26.31	2" IPS	150	16.67	44.42
3/4" IPS	4	2.27	2.86	11/4" IPS	35	7.96	35.00				
3/4" IPS	5	2.84	4.32	11/4" IPS	40	9.10	44.82				
3/4" IPS	6	3.41	6.05	11/4" IPS	45	10.24	55.74	3" IPS	25	1.28	0.24
3/4" IPS	7	3.98	8.06	11/4" IPS	50	11.38	67.75	3" IPS	50	2.56	0.88
3/4" IPS	8	4.54	10.32					3" IPS	75	3.84	1.87
3/4" IPS	9	5.11	12.83	11/2" IPS	5	0.87	0.24	3" IPS	100	5.12	3.18
3/4" IPS	10	5.68	15.59	11/2" IPS	10	1.74	0.87	3" IPS	125	6.40	4.80
3/4" IPS	15	8.52	33.04	11/2" IPS	15	2.60	1.85	3" IPS	150	7.68	6.73
				11/2" IPS	20	3.47	3.15	3" IPS	175	8.96	8.96
1" IPS	1	0.36	0.07	11/2" IPS	30	5.21	6.67	3" IPS	200	10.24	11.47
1" IPS	2	0.72	0.26	11/2" IPS	40	6.94	11.36	3" IPS	250	12.80	17.34
1" IPS	3	1.09	0.56	11/2" IPS	50	8.68	17.18	3" IPS	300	15.36	24.31
1" IPS	4	1.45	0.96	11/2" IPS	60	10.42	24.08				
1" IPS	5	1.81	1.45	11/2" IPS	70	12.15	32.03	4" IPS	50	1.55	0.26
1" IPS	10	3.62	5.22	11/2" IPS	80	13.89	41.02	4" IPS	75	2.32	0.55
1" IPS	15	5.43	11.06					4" IPS	100	3.10	0.93
1" IPS	20	7.24	18.84	2" IPS	10	1.11	0.29	4" IPS	125	3.87	1.41
1" IPS	30	10.87	39.91	2" IPS	15	1.67	0.62	4" IPS	150	4.64	1.98
1" IPS	50	18.11	102.79	2" IPS	20	2.22	1.06	4" IPS	175	5.42	2.63
				2" IPS	30	3.33	2.25	4" IPS	200	6.19	3.37
1 1/4" IPS	5	1.14	0.47	2" IPS	40	4.45	3.84	4" IPS	250	7.74	5.10
1 1/4" IPS	10	2.28	1.68	2" IPS	50	5.56	5.81	4" IPS	300	9.29	7.15
1 1/4" IPS	15	3.41	3.57	2" IPS	75	8.34	12.31	4" IPS	350	10.83	9.51

Geothermal Loop Piping Components



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CLIMATEMASTER®
 The Global Leader

Features and Performance Guide

The highest-quality, closed-loop solution for heat pump systems

At ClimateMaster, we are committed to excellence. Every inch of pipe and every fitting is meticulously manufactured to meet and exceed our exact specifications.

Geothermal Loop Pipe

Part Number	Pipe Diameter	Pipe Length	Package Type	Pipe Type	Coils Per Pallet
GP4L100	0.75" IPS	100	Bundle 5x20'	SDR11	NA
GP4C200	0.75" IPS	200	Coil	SDR11	13
GP4C300	0.75" IPS	300	Coil	SDR11	10
GP4C500	0.75" IPS	500	Coil	SDR11	8
GP4C600	0.75" IPS	600	Coil	SDR11	8

GP5L100	1.00" IPS	100	Bundle 5x20'	SDR11	NA
GP5C300	1.00" IPS	300	Coil	SDR11	10

GP6L100	1.25" IPS	100	Bundle-5x 20'	SDR11	NA
GP6C100	1.25" IPS	100	Coil	SDR11	14
GP6C300	1.25" IPS	300	Coil	SDR11	14

GP8L100	2.00" IPS	100	Bundle-5x20'	SDR11	NA
GP8C100	2.00" IPS	100	Coil	SDR11	10
GP8C300	2.00" IPS	300	Coil	SDR11	7

Coils with U-Bend Attached					
GP4C350U	0.75" IPS	350	2-175' Coils	SDR11	5
GP4C410U	0.75" IPS	410	2-205' Coils	SDR11	5
GP4C510U	0.75" IPS	510	2-255' Coils	SDR11	5

• New 50 Year Limited Warranty on all new U-Bends.

Geothermal Loop Pipe Features:

- Designed for socket or butt fusion connection
- Internal banding for easy handling and control
- 50 year warranty
- Coils marked in 2 foot increments

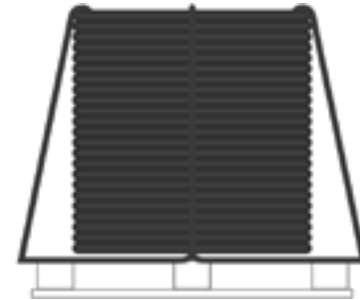
Specifications for ClimateMaster Geothermal Loop Pipe & Fittings

General: All pipe and heat fused materials are manufactured from a virgin, high density, polyethylene 3408 material manufactured in accordance with ASTM D-2513 sections 4.1 and 4.2. Pipe shall be manufactured to outside diameters, wall thickness, and respective tolerances as specified in ASTM D-3035, D-2447 or F-714.

Material: The material shall maintain a 1600 psi Hydrostatic Design Basis at 73.4°F per ASTM D-2837. This material shall be a high density, polyethylene 3408 having a cell classification of PE345464C as specified in ASTM D-3350. ClimateMaster acknowledges Solvay Polymers, Inc., Houston, TX, as the primary supplier of high density polyethylene resin (K44-15-23) specifically for this use.



U-Bend Coils



Coils on Pallet



100' Pipe Bundle

ClimateMaster's Dual Coil "Bullet" Fitting - the easiest to install. Period.

The unique Dual Coil "Bullet" Fitting is a one piece fitting designed to keep the coil in place as the fitting is projected into the ground. The fitting also has vents to better move aside dirt for smoother projections. It keeps the pipe centered in the hole and saves time and effort at installation.



The Dual Coil 3/4" "Bullet" Fitting also is the narrowest one- piece fitting available! You can save money by reducing your bore hole from 4" to 3". It's the kind of smart engineering our customers expect from ClimateMaster, and it's the kind of customer oriented solution we deliver!

A size for every project

ClimateMaster flexible polyethylene pipe can be special ordered in a variety of sizes, from 3/4" to 4" diameters. We also produce pipe for a wide range of pressures, starting at 100 PSI all the way to 267 PSI.

No matter what your project, installing ClimateMaster pipe will make installation go smoother, save money in drilling bore holes, and save time with fewer fusions and easier installation.

Socket Fusion Fittings

Part Number	Description	Box Quantity
Fusion Coupling		
GFC44	0.75" x 0.75"	50 X
GFC55	1.00" x 1.00"	100 X
GFC64	1.25" x 0.75"	20 X
GFC65	1.25" x 1.00"	50 X
GFC66	1.25" x 1.25"	20 X
GFC85	2.00" x 1.00"	50 X
GFC86	2.00" x 1.25"	10 X
GFC88	2.00" x 2.00"	10 X

Fusion Elbow 90 degrees		
GFE44	0.75" x 0.75"	50 X
GFE54	1.00" x 0.75"	50 X
GFE55	1.00" x 1.00"	75 X
GFE64	1.25" x 0.75"	20 X
GFE66	1.25" x 1.25"	20 X
GFE88	2.00" x 2.00"	10 X

Fusion Elbow 45 Degrees		
GF45E66	1.25" x 1.25"	10 X

Fusion Tee		
GFT444	0.75" x 0.75" x 0.75"	35 X
GFT555	1.00" x 1.00" x 1.00"	50 X
GFT644	1.25" x 0.75" x 0.75"	10 X
GFT664	1.25" x 1.25" x 0.75"	10 X
GFT666	1.25" x 1.25" x 1.25"	10 X
GFT884	2.00" x 2.00" x 0.75"	5 X
GFT885	2.00" x 2.00" x 1.00"	20 X
GFT888	2.00" x 2.00" x 2.00"	5 X

Fusion U-Bend Fitting		
GFEU44	0.75" x 0.75" Street el	50 X
GFEU55	1.00" x 1.00" Street el	1 X
GFEU66F	1.25" x 1.25" Short female	10 X
GFEU66M	1.25" x 1.25" Short male	10 X

Part Number	Description	Box Quantity
Fusion Cap		
GFCP4	0.75"	50 X
GFCP5	1.00"	50 X
GFCP6	1.25"	25 X
GFCP8	2.00"	10 X

Fusion Header - Pre Assembled		
GFK644K02	1.25" Inlet x (3) 0.75" Outlets	1 X
GFK644K03	1.25" Inlet x (4) 0.75" Outlets	1 X
GFK644K04	1.25" Inlet x (5) 0.75" Outlets	1 X
GFK644K05	1.25" Inlet x (6) 0.75" Outlets	1 X
GFK644K06	1.25" Inlet x (7) 0.75" Outlets	1 X

Fusion X Male Swivel Adapter - For use w/90B0001N02		
GFMC56S	1.00" Fusion x 1.25" Brass Swivel NPT	10 X
GFMC66S	1.25" Fusion x 1.25" Brass Swivel NPT	10 X

Fusion X Male Adapter		
GFMA44	0.75" x 0.75" MPT Brass	25 X
GFMA55	1.00" x 1.00" MPT Brass	50 X
GFMA65	1.25" x 1.00" MPT Brass	10 X
GFMA66	1.25" x 1.25" MPT Brass	10 X
GFMA88	2.00" x 2.00" MPT Brass	5 X

Fusion Male Threaded H.P. Tee (Fusion X Male Nominal Thread X FPT)		
GFMT453	0.75" x 1.00" MNT x 0.50" FPT	50 X
GFMT553	1.00" x 1.00" MNT x 0.50" FPT	50 X

Fusion Ball Valve		
GFFVA44	0.75" x 0.75"	1 X
GFFVA55	1.00" x 1.00"	1 X