REHAU®
Unlimited Polymer Solutions

REHAU PEXa PIPING SYSTEMS

PRESSURE LOSS TABLES

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Construction
Automotive
Industry

TABLE OF CONTENTS

For updates to this publication and the most current REHAU technical guidelines, safety information and manufacturer's recommendations, visit **na.rehau.com/resourcecenter**

SCOPE

This technical information applies to the planning, installation and connection of REHAU sustainable products using REHAU's extensive range of PEXa pipes.

Pressure loss tables are typically used when manually designing PEXa piping systems for hydronic applications including radiant heating/cooling, snow and ice melting, soil conditioning, geothermal ground loops, PEX plumbing and water service, energy transfer and outdoor wood boiler. These tables are used to properly size the circulator for the PEXa pipes. The designer must ensure the flow requirement and pressure loss are within the circulator's performance capability. Use the REHAU *LoopCAD® Software* which includes a built-in calculator for pipe pressure losses for additional data not found in these tables.

The designer should also review the pertinent REHAU technical instructions and the REHAU *PEXa Limited Warranty* before beginning to design a system with PEXa pipes.

After reading the appropriate REHAU *Design Guide*, designers should attend the Skill Builders Complete seminar offered by the REHAU Academy, where design techniques are more fully explored. Designers should also periodically check the REHAU Resource Center for the latest updates to the technical instructions.

If you do not have prior experience with hydronic heating systems or require additional assistance, please contact your regional REHAU sales office.

Table 1A: Pressure Loss for Inch-Sized SDR9 REHAU PEXa Carrier Pipe With 100% Water

Flow	Flow Velocity				pressure loss in psi per 100 ft of pipe											
Rate	ft/sec				60°F (16°C) Water				120°F (49°C) Water				180°F (82°C) Water			
GPM	3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"	3/4"
0.1	0.3	0.2	0.1	0.1	0.18	0.06	0.03	0.01	0.09	0.03	0.01	<.01	0.10	0.02	<.01	<.01
0.2	0.6	0.3	0.2	0.2	0.36	0.11	0.05	0.03	0.39	0.10	0.03	0.01	0.33	0.08	0.03	0.02
0.3	0.9	0.5	0.4	0.3	0.98	0.17	0.08	0.04	0.78	0.19	0.08	0.04	0.67	0.16	0.07	0.03
0.4	1.3	0.7	0.5	0.4	1.58	0.39	0.11	0.06	1.28	0.31	0.13	0.06	1.11	0.27	0.11	0.05
0.5	1.6	0.9	0.6	0.4	2.30	0.57	0.24	0.07	1.88	0.46	0.19	0.09	1.64	0.39	0.16	0.08
0.6	1.9	1.0	0.7	0.5	3.14	0.77	0.32	0.16	2.58	0.62	0.26	0.13	2.27	0.54	0.22	0.11
0.7	2.2	1.2	0.8	0.6	4.09	1.00	0.42	0.20	3.38	0.81	0.34	0.16	2.99	0.71	0.29	0.14
0.8	2.5	1.4	1.0	0.7	5.15	1.26	0.52	0.25	4.28	1.03	0.42	0.21	3.79	0.90	0.37	0.18
0.9	2.8	1.6	1.1	0.8	6.31	1.54	0.64	0.31	5.27	1.26	0.52	0.25	4.69	1.11	0.45	0.22
1.0	3.2	1.7	1.2	0.9	7.58	1.84	0.77	0.37	6.35	1.52	0.63	0.30	5.67	1.34	0.55	0.26
1.2	3.8	2.1	1.4	1.1	10.4	2.52	1.04	0.51	8.80	2.09	0.86	0.41	7.89	1.85	0.76	0.36
1.4	4.4	2.4	1.7	1.2	13.6	3.29	1.36	0.66	11.6	2.75	1.13	0.54	10.5	2.44	0.99	0.47
1.6	5.0	2.8	1.9	1.4	17.3	4.15	1.71	0.83	14.8	3.48	1.42	0.68	13.4	3.11	1.26	0.60
1.8	5.7	3.1	2.2	1.6	21.3	5.09	2.10	1.01	18.3	4.29	1.75	0.84	16.6	3.84	1.56	0.74
2.0	6.3	3.5	2.4	1.8	25.7	6.13	2.52	1.22	22.1	5.18	2.12	1.01	20.2	4.65	1.88	0.90
2.2	6.9	3.8	2.6	1.9	30.4	7.24	2.98	1.43	26.4	6.15	2.51	1.20	24.1	5.54	2.24	1.06
2.4	7.6	4.2	2.9	2.1	35.5	8.44	3.47	1.67	30.9	7.20	2.93	1.40	28.3	6.49	2.62	1.24
2.6	8.2	4.5	3.1	2.3	41.0	9.72	3.99	1.92	35.8	8.32	3.38	1.61	32.9	7.52	3.03	1.43
2.8	8.8	4.9	3.4	2.5	46.9	11.1	4.55	2.18	41.1	9.51	3.86	1.84	37.8	8.62	3.47	1.64
3.0	9.5	5.2	3.6	2.6	53.1	12.5	5.13	2.46	46.6	10.8	4.37	2.08	43.1	9.79	3.93	1.86
3.2		5.6	3.8	2.8		14.1	5.75	2.76		12.1	4.90	2.33		11.0	4.42	2.09
3.4		5.9	4.1	3.0		15.7	6.40	3.07		13.5	5.47	2.60		12.3	4.94	2.33
3.6		6.3	4.3	3.2		17.3	7.09	3.39		15.0	6.07	2.88		13.7	5.49	2.59
3.8		6.6	4.6	3.3		19.1	7.80	3.73		16.6	6.69	3.17		15.2	6.06	2.85
4.0		6.9	4.8	3.5		20.9	8.54	4.08		18.2	7.34	3.48		16.7	6.66	3.13
4.2		7.3	5.0	3.7		22.9	9.31	4.45		19.9	8.02	3.80		18.3	7.29	3.43
4.4		7.6	5.3	3.9		24.8	10.1	4.83		21.7	8.73	4.13		19.9	7.94	3.73
4.6		8.0	5.5	4.1		26.9	11.0	5.23		23.6	9.47	4.48		21.7	8.63	4.05
4.8		8.3	5.7	4.2		29.1	11.8	5.64		25.5	10.2	4.84		23.5	9.33	4.38
5.0		8.7	6.0	4.4		31.3	12.7	6.06		27.5	11.0	5.21		25.3	10.1	4.72
5.5		9.6	6.6	4.8		37.2	15.1	7.18		32.8	13.1	6.19		30.3	12.0	5.62
6.0			7.2	5.3			17.6	8.39			15.4	7.25			14.1	6.61
6.5			7.8	5.7			20.4	9.68			17.9	8.40			16.4	7.66
7.0			8.4	6.2			23.3	11.1			20.5	9.62			18.9	8.80
7.5			9.0	6.6			26.4	12.5			23.3	10.9			21.5	10.0
8.0			9.6	7.0			29.7	14.0			26.2	12.3			24.3	11.3
8.5				7.5				15.7				13.7				12.6
9.0				7.9				17.4				15.3				14.1
9.5				8.4				19.2				16.9				15.6
10.0				8.8				21.0				18.6				17.1
11.0				9.7				25.0				22.2				20.5

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.

– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
Example: for 200 lineal ft of pipe, double the value listed in this table.

– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
Example: 1 psi = 2.307 ft of head.

Table 1B: Pressure Loss for Inch-Sized SDR9 REHAU PEXa Carrier Pipe With 100% Water

Flow Rate	Flow Velocity ft/sec				pressure loss in psi per 100 ft of pipe											
					60°F (16°C) Water				120°F (49°C) Water				180°F (82°C) Water			
GPM	1"	1-1/4"	1-1/2"	2"	1"	1-1/4"	1-1/2"	2"	1"	1-1/4"	1-1/2"	2"	1"	1-1/4"	1-1/2"	2"
1	0.5	0.4	0.3	0.1	0.11	0.04	0.01	<.01	0.09	0.04	0.02	<.01	0.08	0.03	0.01	<.01
2	1.1	0.7	0.5	0.3	0.37	0.14	0.07	0.02	0.31	0.12	0.05	0.01	0.27	0.10	0.05	0.01
3	1.6	1.1	0.8	0.4	0.75	0.29	0.13	0.04	0.62	0.24	0.11	0.03	0.55	0.21	0.09	0.03
4	2.1	1.4	1.0	0.6	1.23	0.48	0.22	0.06	1.04	0.40	0.18	0.05	0.92	0.35	0.16	0.04
5	2.7	1.8	1.3	0.7	1.82	0.70	0.32	0.09	1.54	0.59	0.26	0.07	1.39	0.52	0.23	0.06
6	3.2	2.1	1.5	0.9	2.51	0.96	0.44	0.12	2.14	0.82	0.37	0.10	1.93	0.73	0.33	0.09
7	3.7	2.5	1.8	1.0	3.30	1.27	0.57	0.16	2.83	1.07	0.48	0.13	2.56	0.96	0.43	0.12
8	4.3	2.9	2.0	1.2	4.19	1.60	0.72	0.20	3.61	1.37	0.61	0.17	3.27	1.23	0.55	0.15
9	4.8	3.2	2.3	1.3	5.17	1.97	0.89	0.25	4.47	1.69	0.75	0.21	4.07	1.52	0.68	0.18
10	5.3	3.6	2.6	1.5	6.24	2.38	1.07	0.30	5.42	2.04	0.91	0.25	4.94	1.85	0.82	0.22
11	5.9	3.9	2.8	1.6	7.40	2.82	1.27	0.35	6.45	2.43	1.08	0.30	5.90	2.20	0.97	0.26
12	6.4	4.3	3.1	1.8	8.66	3.29	1.48	0.41	7.57	2.84	1.27	0.35	6.94	2.58	1.14	0.31
13	6.9	4.6	3.3	1.9	10.0	3.80	1.70	0.47	8.77	3.29	1.46	0.40	8.06	3.00	1.32	0.36
14	7.5	5.0	3.6	2.1	11.4	4.34	1.94	0.53	10.1	3.77	1.67	0.46	9.26	3.44	1.51	0.41
15	8.0	5.4	3.8	2.2	13.0	4.91	2.20	0.60	11.4	4.27	1.90	0.52	10.5	3.91	1.72	0.46
16	8.5	5.7	4.1	2.4	14.6	5.51	2.47	0.68	12.9	4.81	2.13	0.58	11.9	4.40	1.94	0.52
17	9.1	6.1	4.4	2.5	16.3	6.15	2.75	0.75	14.4	5.38	2.38	0.65	13.3	4.93	2.17	0.58
18	9.6	6.4	4.6	2.7	18.0	6.82	3.04	0.83	16.0	5.97	2.64	0.72	14.9	5.48	2.41	0.65
19		6.8	4.9	2.8		7.52	3.35	0.92		6.60	2.92	0.79		6.07	2.66	0.71
20		7.1	5.1	3.0		8.25	3.68	1.01		7.26	3.20	0.87		6.68	2.93	0.78
22		7.9	5.6	3.3		9.80	4.37	1.19		8.65	3.82	1.03		7.99	3.49	0.93
24		8.6	6.1	3.6		11.5	5.11	1.39		10.2	4.48	1.20		9.41	4.11	1.09
26		9.3	6.7	3.9		13.3	5.91	1.61		11.8	5.19	1.39		10.9	4.77	1.27
28			7.2	4.2			6.75	1.84			5.95	1.60			5.48	1.45
30			7.7	4.5			7.66	2.08			6.76	1.81			6.24	1.65
32			8.2	4.8			8.61	2.34			7.62	2.04			7.05	1.86
34			8.7	5.1			9.62	2.61			8.53	2.28			7.90	2.08
36			9.2	5.4			10.7	2.89			9.49	2.53			8.80	2.32
38			9.7	5.7			11.8	3.19			10.5	2.79			9.75	2.56
40				6.0				3.49				3.07				2.82
42				6.3				3.82				3.36				3.09
44				6.6				4.15				3.66				3.37
46				6.9				4.50				3.97				3.66
48				7.2				4.87				4.30				3.97
50				7.5				5.24				4.64				4.28
52				7.8				5.63				4.99				4.61
54				8.1				6.03				5.35				4.95
56				8.4				6.44				5.72				5.30
58				8.7				6.87				6.11				5.66
60				9.0				7.31				6.51				6.04
65				9.7				8.46				7.56				7.03

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.
– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
  Example: for 200 lineal ft of pipe, double the value listed in this table.
– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
  Example: 1 psi = 2.307 ft of head.

Table 1C: Pressure Loss for Metric-Sized SDR11 REHAU PEXa Carrier Pipe With 100% Water

Flow Rate	ft/sec				pressure loss in psi per 100 ft of pipe											
					60°F (16°C) Water				120°F (49°C) Water				180°F (82°C) Water			
GPM	10.1	25	32	40	10.1	25	32	40	10.1	25	32	40	10.1	25	32	40
0.1	0.4	0.1	<0.1	<0.1	0.29	<.01	<.01	<.01	0.14	<.01	<.01	<.01	0.18	<.01	<.01	<.01
0.2	0.8	0.1	0.1	<0.1	0.58	0.01	<.01	<.01	0.67	<.01	<.01	<.01	0.58	<.01	<.01	<.01
0.3	1.2	0.2	0.1	0.1	1.67	0.02	<.01	<.01	1.34	0.01	<.01	<.01	1.16	0.01	<.01	<.01
0.4	1.6	0.2	0.2	0.1	2.71	0.03	0.01	<.01	2.21	0.03	<.01	<.01	1.93	0.02	<.01	<.01
0.5	2.0	0.3	0.2	0.1	3.97	0.04	0.01	<.01	3.25	0.04	0.01	<.01	2.86	0.03	0.01	<.01
0.6	2.4	0.4	0.2	0.1	5.42	0.04	0.02	<.01	4.48	0.06	0.02	<.01	3.96	0.05	0.01	<.01
0.7	2.8	0.4	0.3	0.2	7.07	0.09	0.02	<.01	5.88	0.07	0.02	<.01	5.22	0.06	0.02	<.01
0.8	3.2	0.5	0.3	0.2	8.90	0.11	0.02	<.01	7.45	0.09	0.03	0.01	6.64	0.08	0.02	<.01
0.9	3.6	0.6	0.3	0.2	10.9	0.14	0.04	<.01	9.18	0.11	0.03	0.01	8.22	0.10	0.03	0.01
1.0	4.0	0.6	0.4	0.2	13.1	0.17	0.05	0.01	11.1	0.13	0.04	0.01	9.95	0.12	0.04	0.01
1.2	4.8	0.7	0.5	0.3	18.1	0.22	0.07	0.03	15.4	0.18	0.06	0.02	13.9	0.16	0.05	0.02
1.4	5.6	0.9	0.5	0.3	23.7	0.29	0.09	0.03	20.3	0.24	0.07	0.03	18.4	0.21	0.06	0.02
1.6	6.3	1.0	0.6	0.4	30.1	0.37	0.11	0.04	25.9	0.30	0.09	0.03	23.6	0.26	0.08	0.03
1.8	7.1	1.1	0.7	0.4	37.1	0.45	0.14	0.05	32.1	0.37	0.11	0.04	29.4	0.32	0.10	0.03
2.0	7.9	1.2	0.8	0.5	44.8	0.54	0.17	0.06	39.0	0.44	0.14	0.05	35.8	0.39	0.12	0.04
2.2	8.7	1.4	0.8	0.5	53.1	0.63	0.20	0.07	46.5	0.52	0.16	0.06	42.8	0.46	0.14	0.05
2.4	9.5	1.5	0.9	0.6	62.1	0.74	0.23	0.08	54.6	0.61	0.19	0.07	50.4	0.54	0.16	0.06
2.6		1.6	1.0	0.6		0.85	0.26	0.09		0.70	0.21	0.08		0.62	0.19	0.07
2.8		1.7	1.1	0.7		0.96	0.30	0.11		0.80	0.24	0.09		0.71	0.22	0.08
3.0		1.9	1.1	0.7		1.08	0.33	0.12		0.91	0.28	0.10		0.81	0.24	0.09
4.0		2.5	1.5	1.0		1.79	0.55	0.19		1.51	0.46	0.16		1.35	0.41	0.14
5.0		3.1	1.9	1.2		2.65	0.81	0.29		2.26	0.68	0.24		2.03	0.61	0.21
6.0		3.7	2.3	1.5		3.66	1.11	0.39		3.13	0.94	0.33		2.83	0.84	0.29
7.0		4.4	2.7	1.7		4.81	1.46	0.51		4.14	1.24	0.43		3.76	1.11	0.39
8.0		5.0	3.0	2.0		6.11	1.85	0.65		5.28	1.58	0.55		4.81	1.42	0.49
10.0		6.2	3.8	2.4		9.11	2.75	0.96		7.95	2.36	0.82		7.28	2.14	0.73
12.0		7.5	4.6	2.9		12.7	3.80	1.33		11.1	3.29	1.14		10.2	2.99	1.02
14.0		8.7	5.3	3.4		16.7	5.01	1.75		14.8	4.36	1.50		13.7	3.98	1.36
16.0			6.1	3.9			6.38	2.22			5.57	1.91			5.11	1.74
18.0			6.8	4.4			7.89	2.74			6.92	2.37			6.36	2.16
20.0			7.6	4.9			9.54	3.30			8.41	2.88			7.75	2.62
22.0			8.4	5.4			11.3	3.92			10.0	3.42			9.27	3.13
24.0			9.1	5.9			13.3	4.59			11.8	4.02			10.9	3.68
26.0			9.9	6.4			15.4	5.30			13.7	4.66			12.7	4.28
28.0				6.9				6.06				5.34				4.91
30.0				7.3				6.87				6.06				5.59
32.0				7.8				7.73				6.83				6.31
34.0				8.3				8.63				7.65				7.08
36.0				8.8				9.58				8.51				7.88
38.0				9.3				10.6				9.41				8.73
40.0				9.8				11.6				10.4				9.62

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.

– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
Example: for 200 lineal ft of pipe, double the value listed in this table.

– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
Example: 1 psi = 2.307 ft of head.

Table 1D: Pressure Loss for Metric-Sized SDR11 REHAU PEXa Carrier Pipe With 100% Water

Flow Rate	Flow Velocity ft/sec				pressure loss in psi per 100 ft of pipe											
					60°F (16°C) Water				120°F (49°C) Water				180°F (82°C) Water			
GPM	50	63	75	90	50	63	75	90	50	63	75	90	50	63	75	90
2	0.3	0.2	0.1	0.1	0.02	<.01	<.01	<.01	0.02	<.01	<.01	<.01	0.01	<.01	<.01	<.01
4	0.6	0.4	0.3	0.2	0.07	0.02	<.01	<.01	0.06	0.02	<.01	<.01	0.05	0.02	<.01	<.01
6	0.9	0.6	0.4	0.3	0.14	0.05	0.02	<.01	0.11	0.04	0.02	<.01	0.10	0.03	0.01	<.01
8	1.3	0.8	0.6	0.4	0.22	0.07	0.03	0.01	0.19	0.06	0.03	0.01	0.17	0.05	0.02	<.01
10	1.6	1.0	0.7	0.5	0.33	0.11	0.05	0.02	0.28	0.09	0.04	0.02	0.25	0.08	0.03	0.01
12	1.9	1.2	0.8	0.6	0.45	0.15	0.06	0.03	0.38	0.13	0.05	0.02	0.34	0.11	0.05	0.02
14	2.2	1.4	1.0	0.7	0.60	0.20	0.09	0.04	0.51	0.17	0.07	0.03	0.46	0.15	0.06	0.03
16	2.5	1.6	1.1	0.8	0.75	0.25	0.11	0.05	0.65	0.21	0.09	0.04	0.58	0.19	0.08	0.03
18	2.8	1.8	1.2	0.9	0.93	0.31	0.13	0.06	0.80	0.26	0.11	0.05	0.72	0.23	0.10	0.04
20	3.1	2.0	1.4	1.0	1.12	0.37	0.16	0.07	0.97	0.32	0.13	0.06	0.87	0.28	0.12	0.05
22	3.4	2.2	1.5	1.1	1.33	0.44	0.19	0.08	1.15	0.38	0.16	0.07	1.04	0.34	0.14	0.06
24	3.8	2.4	1.7	1.2	1.55	0.51	0.22	0.09	1.34	0.44	0.19	0.08	1.22	0.40	0.17	0.07
26	4.1	2.6	1.8	1.2	1.79	0.59	0.25	0.11	1.56	0.51	0.22	0.09	1.42	0.46	0.19	0.08
28	4.4	2.8	1.9	1.3	2.05	0.68	0.29	0.12	1.78	0.58	0.25	0.10	1.62	0.52	0.22	0.09
30	4.7	3.0	2.1	1.4	2.32	0.76	0.33	0.14	2.02	0.66	0.28	0.12	1.84	0.60	0.25	0.10
35	5.5	3.5	2.4	1.7	3.06	1.01	0.43	0.18	2.68	0.87	0.37	0.15	2.46	0.79	0.33	0.14
40	6.3	3.9	2.8	1.9	3.90	1.28	0.54	0.23	3.43	1.11	0.47	0.19	3.15	1.01	0.42	0.18
45	7.0	4.4	3.1	2.2	4.83	1.58	0.67	0.28	4.26	1.38	0.58	0.24	3.93	1.26	0.53	0.22
50	7.8	4.9	3.5	2.4	5.85	1.91	0.81	0.34	5.18	1.67	0.70	0.29	4.79	1.53	0.64	0.26
55	8.6	5.4	3.8	2.6	6.96	2.27	0.96	0.40	6.19	1.99	0.84	0.35	5.73	1.83	0.76	0.31
60	9.4	5.9	4.1	2.9	8.16	2.66	1.13	0.47	7.28	2.34	0.98	0.41	6.76	2.15	0.90	0.37
65		6.4	4.5	3.1		3.07	1.30	0.54		2.71	1.14	0.47		2.50	1.04	0.43
70		6.9	4.8	3.4		3.52	1.49	0.62		3.11	1.30	0.54		2.87	1.19	0.49
75		7.4	5.2	3.6		3.99	1.68	0.70		3.53	1.48	0.61		3.27	1.36	0.56
80		7.9	5.5	3.8		4.49	1.89	0.79		3.99	1.67	0.69		3.69	1.53	0.63
85		8.4	5.9	4.1		5.01	2.11	0.88		4.46	1.86	0.77		4.14	1.71	0.70
90		8.9	6.2	4.3		5.57	2.35	0.97		4.96	2.07	0.85		4.61	1.91	0.78
95		9.4	6.6	4.6		6.15	2.59	1.07		5.49	2.29	0.94		5.10	2.11	0.86
100		9.9	6.9	4.8		6.75	2.84	1.18		6.04	2.52	1.03		5.62	2.32	0.95
105			7.3	5.0			3.11	1.29			2.76	1.13			2.55	1.04
110			7.6	5.3			3.38	1.40			3.00	1.23			2.78	1.13
115			7.9	5.5			3.67	1.52			3.26	1.34			3.02	1.23
120			8.3	5.8			3.97	1.64			3.53	1.45			3.28	1.33
130			9.0	6.2			4.59	1.90			4.10	1.68			3.81	1.55
140			9.7	6.7			5.26	2.17			4.71	1.93			4.39	1.78
150				7.2				2.46				2.19				2.02
160				7.7				2.77				2.47				2.29
170				8.2				3.10				2.76				2.56
180				8.7				3.44				3.07				2.86
190				9.1				3.80				3.40				3.16
200				9.6				4.18				3.74				3.49

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.
– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
  Example: for 200 lineal ft of pipe, double the value listed in this table.
– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
  Example: 1 psi = 2.307 ft of head.

Table 1E: Pressure Loss for Metric-Sized SDR11 REHAU PEXa Carrier Pipe With 100% Water

Flow Rate	Flow Velocity ft/sec				pressure loss in psi per 100 ft of pipe											
					60°F (16°C) Water				120°F (49°C) Water				180°F (82°C) Water			
GPM	110	125	140	160	110	125	140	160	110	125	140	160	110	125	140	160
5	0.2	0.1	0.1	0.1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
10	0.3	0.2	0.2	0.2	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
15	0.5	0.4	0.3	0.2	0.02	<.01	<.01	<.01	0.01	<.01	<.01	<.01	0.01	<.01	<.01	<.01
20	0.6	0.5	0.4	0.3	0.03	0.01	<.01	<.01	0.02	0.01	<.01	<.01	0.02	0.01	<.01	<.01
25	0.8	0.6	0.5	0.4	0.04	0.02	0.01	<.01	0.03	0.02	0.01	<.01	0.03	0.02	<.01	<.01
30	1.0	0.7	0.6	0.5	0.05	0.03	0.02	<.01	0.04	0.02	0.01	<.01	0.04	0.02	0.01	<.01
40	1.3	1.0	0.8	0.6	0.09	0.05	0.03	0.01	0.07	0.04	0.02	0.01	0.07	0.04	0.02	0.01
50	1.6	1.2	1.0	0.8	0.13	0.07	0.04	0.02	0.11	0.06	0.03	0.02	0.10	0.05	0.03	0.02
60	1.9	1.5	1.2	0.9	0.18	0.10	0.06	0.03	0.15	0.08	0.05	0.03	0.14	0.07	0.04	0.02
70	2.3	1.7	1.4	1.1	0.24	0.13	0.07	0.04	0.20	0.11	0.06	0.03	0.18	0.10	0.06	0.03
80	2.6	2.0	1.6	1.2	0.30	0.16	0.09	0.05	0.26	0.14	0.08	0.04	0.23	0.13	0.07	0.04
90	2.9	2.2	1.8	1.4	0.37	0.20	0.12	0.06	0.32	0.17	0.10	0.05	0.29	0.16	0.09	0.05
100	3.2	2.5	2.0	1.5	0.45	0.24	0.14	0.07	0.39	0.21	0.12	0.06	0.35	0.19	0.11	0.06
110	3.5	2.7	2.2	1.7	0.53	0.29	0.17	0.09	0.46	0.25	0.14	0.08	0.42	0.23	0.13	0.07
120	3.9	3.0	2.4	1.8	0.62	0.34	0.19	0.10	0.54	0.29	0.17	0.09	0.50	0.27	0.15	0.08
130	4.2	3.2	2.6	2.0	0.72	0.39	0.22	0.12	0.63	0.34	0.19	0.10	0.58	0.31	0.18	0.09
140	4.5	3.5	2.8	2.1	0.82	0.44	0.26	0.14	0.72	0.39	0.22	0.12	0.66	0.35	0.20	0.11
150	4.8	3.7	3.0	2.3	0.93	0.50	0.29	0.15	0.82	0.44	0.25	0.13	0.75	0.40	0.23	0.12
160	5.1	4.0	3.2	2.4	1.05	0.56	0.33	0.17	0.92	0.50	0.28	0.15	0.85	0.45	0.26	0.14
170	5.5	4.2	3.4	2.6	1.17	0.63	0.36	0.19	1.03	0.55	0.32	0.17	0.95	0.51	0.29	0.15
180	5.8	4.5	3.6	2.7	1.30	0.70	0.40	0.21	1.15	0.61	0.35	0.19	1.06	0.56	0.32	0.17
190	6.1	4.7	3.8	2.9	1.43	0.77	0.44	0.23	1.27	0.68	0.39	0.20	1.17	0.62	0.36	0.19
200	6.4	5.0	4.0	3.0	1.57	0.85	0.49	0.26	1.39	0.75	0.43	0.22	1.29	0.69	0.39	0.20
225	7.2	5.6	4.5	3.4	1.95	1.05	0.60	0.32	1.74	0.93	0.53	0.28	1.61	0.85	0.49	0.25
250	8.0	6.2	5.0	3.8	2.36	1.27	0.73	0.39	2.11	1.13	0.64	0.34	1.96	1.04	0.59	0.31
275	8.8	6.9	5.5	4.2	2.82	1.51	0.87	0.46	2.52	1.35	0.77	0.40	2.35	1.25	0.71	0.37
300	9.7	7.5	6.0	4.6	3.31	1.78	1.02	0.54	2.97	1.58	0.90	0.47	2.77	1.47	0.83	0.43
325		8.1	6.4	4.9		2.06	1.18	0.62		1.84	1.05	0.55		1.71	0.97	0.50
350		8.7	6.9	5.3		2.36	1.35	0.71		2.11	1.20	0.63		1.96	1.11	0.58
375		9.4	7.4	5.7		2.68	1.53	0.81		2.40	1.37	0.71		2.24	1.27	0.66
400		10.0	7.9	6.1		3.02	1.73	0.91		2.71	1.54	0.81		2.53	1.43	0.74
425			8.4	6.5			1.93	1.01			1.73	0.90			1.61	0.83
450			8.9	6.9			2.14	1.13			1.92	1.00			1.79	0.93
475			9.4	7.2			2.37	1.24			2.13	1.11			1.98	1.03
500			9.9	7.6			2.60	1.37			2.34	1.22			2.19	1.13
525				8.0				1.49				1.34				1.24
550				8.4				1.63				1.46				1.36
575				8.8				1.77				1.59				1.48
600				9.1				1.91				1.72				1.60
625				9.5				2.06				1.85				1.73
650				9.9				2.21				2.00				1.86

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.
– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
  Example: for 200 lineal ft of pipe, double the value listed in this table.
– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
  Example: 1 psi = 2.307 ft of head.

Table 2A: Pressure Loss for Inch-Sized SDR9 REHAU PEXa Carrier Pipe With 80% Water / 20% Propylene Glycol

Flow Rate	Flow Velocity ft/sec				pressure loss in psi per 100 ft of pipe											
					60°F (16°C) 20% Glycol				120°F (49°C) 20% Glycol				180°F (82°C) 20% Glycol			
GPM	3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"	3/4"
0.1	0.3	0.2	0.1	0.1	0.38	0.11	0.05	0.03	0.16	0.05	0.02	0.01	0.09	0.03	0.01	<.01
0.2	0.6	0.3	0.2	0.2	0.75	0.23	0.11	0.06	0.32	0.10	0.05	0.02	0.39	0.10	0.03	0.01
0.3	0.9	0.5	0.4	0.3	1.13	0.34	0.16	0.09	0.94	0.14	0.07	0.04	0.77	0.19	0.08	0.04
0.4	1.3	0.7	0.5	0.4	1.51	0.46	0.22	0.12	1.52	0.37	0.09	0.05	1.26	0.31	0.13	0.06
0.5	1.6	0.9	0.6	0.4	1.88	0.57	0.27	0.15	2.22	0.55	0.23	0.11	1.86	0.45	0.19	0.09
0.6	1.9	1.0	0.7	0.5	4.01	0.69	0.33	0.18	3.03	0.74	0.31	0.15	2.56	0.62	0.26	0.12
0.7	2.2	1.2	0.8	0.6	5.18	0.80	0.38	0.21	3.95	0.96	0.40	0.20	3.35	0.81	0.33	0.16
0.8	2.5	1.4	1.0	0.7	6.49	0.92	0.44	0.24	4.98	1.21	0.50	0.24	4.24	1.02	0.42	0.20
0.9	2.8	1.6	1.1	0.8	7.91	1.95	0.49	0.26	6.11	1.48	0.62	0.30	5.22	1.25	0.52	0.25
1.0	3.2	1.7	1.2	0.9	9.46	2.33	0.98	0.29	7.35	1.78	0.74	0.36	6.30	1.50	0.62	0.30
1.2	3.8	2.1	1.4	1.1	12.9	3.17	1.33	0.65	10.1	2.44	1.01	0.49	8.73	2.07	0.85	0.41
1.4	4.4	2.4	1.7	1.2	16.8	4.11	1.72	0.84	13.3	3.19	1.32	0.64	11.5	2.72	1.12	0.54
1.6	5.0	2.8	1.9	1.4	21.1	5.16	2.15	1.05	16.8	4.02	1.66	0.80	14.7	3.45	1.41	0.68
1.8	5.7	3.1	2.2	1.6	25.9	6.31	2.63	1.27	20.7	4.95	2.04	0.98	18.1	4.26	1.74	0.83
2.0	6.3	3.5	2.4	1.8	31.1	7.55	3.14	1.52	25.0	5.95	2.45	1.18	22.0	5.14	2.10	1.00
2.2	6.9	3.8	2.6	1.9	36.7	8.90	3.70	1.79	29.7	7.04	2.89	1.39	26.2	6.11	2.49	1.19
2.4	7.6	4.2	2.9	2.1	42.7	10.3	4.29	2.08	34.7	8.22	3.37	1.62	30.7	7.14	2.90	1.38
2.6	8.2	4.5	3.1	2.3	49.2	11.9	4.92	2.38	40.1	9.47	3.88	1.86	35.6	8.25	3.35	1.60
2.8	8.8	4.9	3.4	2.5	56.0	13.5	5.59	2.70	45.9	10.8	4.42	2.12	40.8	9.44	3.83	1.82
3.0	9.5	5.2	3.6	2.6	63.2	15.2	6.29	3.04	52.0	12.2	4.99	2.39	46.4	10.7	4.33	2.06
3.2		5.6	3.8	2.8		17.0	7.04	3.40		13.7	5.60	2.68		12.0	4.87	2.31
3.4		5.9	4.1	3.0		18.9	7.81	3.77		15.3	6.24	2.98		13.4	5.43	2.58
3.6		6.3	4.3	3.2		20.9	8.63	4.16		16.9	6.90	3.30		14.9	6.02	2.86
3.8		6.6	4.6	3.3		23.0	9.48	4.57		18.7	7.60	3.63		16.5	6.64	3.15
4.0		6.9	4.8	3.5		25.1	10.4	4.99		20.5	8.33	3.97		18.1	7.29	3.45
4.2		7.3	5.0	3.7		27.4	11.3	5.43		22.3	9.09	4.33		19.8	7.97	3.77
4.4		7.6	5.3	3.9		29.7	12.2	5.89		24.3	9.87	4.71		21.6	8.67	4.10
4.6		8.0	5.5	4.1		32.1	13.2	6.36		26.3	10.7	5.09		23.4	9.40	4.44
4.8		8.3	5.7	4.2		34.6	14.2	6.85		28.5	11.5	5.49		25.3	10.2	4.80
5.0		8.7	6.0	4.4		37.2	15.3	7.35		30.6	12.4	5.91		27.3	11.0	5.17
5.5		9.6	6.6	4.8		44.0	18.1	8.68		36.4	14.7	7.01		32.6	13.0	6.15
6.0			7.2	5.3			21.1	10.1			17.3	8.19			15.3	7.20
6.5			7.8	5.7			24.3	11.6			19.9	9.45			17.7	8.34
7.0			8.4	6.2			27.7	13.2			22.8	10.8			20.3	9.55
7.5			9.0	6.6			31.2	15.0			25.9	12.2			23.1	10.8
8.0			9.6	7.0			35.0	16.8			29.1	13.7			26.1	12.2
8.5				7.5				18.6				15.3				13.7
9.0				7.9				20.6				17.0				15.2
9.5				8.4				22.7				18.8				16.8
10.0				8.8				24.9				20.6				18.4
11.0				9.7				29.5				24.5				22.0

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.
– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
  Example: for 200 lineal ft of pipe, double the value listed in this table.
– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
  Example: 1 psi = 2.307 ft of head.

Table 2B: Pressure Loss for Inch-Sized SDR9 REHAU PEXa Carrier Pipe With 80% Water / 20% Propylene Glycol

Flow Rate	Flow Velocity ft/sec				pressure loss in psi per 100 ft of pipe											
					60°F (16°C) 20% Glycol				120°F (49°C) 20% Glycol				180°F (82°C) 20% Glycol			
GPM	1"	1-1/4"	1-1/2"	2"	1"	1-1/4"	1-1/2"	2"	1"	1-1/4"	1-1/2"	2"	1"	1-1/4"	1-1/2"	2"
1	0.5	0.4	0.3	0.1	0.11	0.05	0.02	<.01	0.11	0.04	0.02	<.01	0.09	0.04	0.02	<.01
2	1.1	0.7	0.5	0.3	0.47	0.18	0.05	0.02	0.36	0.14	0.06	0.02	0.30	0.12	0.05	0.01
3	1.6	1.1	0.8	0.4	0.93	0.36	0.17	0.05	0.72	0.28	0.13	0.04	0.62	0.24	0.11	0.03
4	2.1	1.4	1.0	0.6	1.52	0.59	0.27	0.08	1.20	0.46	0.21	0.06	1.03	0.39	0.18	0.05
5	2.7	1.8	1.3	0.7	2.24	0.87	0.39	0.11	1.77	0.68	0.31	0.09	1.53	0.58	0.26	0.07
6	3.2	2.1	1.5	0.9	3.06	1.19	0.54	0.15	2.45	0.94	0.42	0.12	2.13	0.81	0.36	0.10
7	3.7	2.5	1.8	1.0	4.01	1.55	0.70	0.20	3.22	1.23	0.55	0.15	2.81	1.07	0.48	0.13
8	4.3	2.9	2.0	1.2	5.06	1.95	0.88	0.25	4.09	1.56	0.70	0.19	3.58	1.35	0.61	0.17
9	4.8	3.2	2.3	1.3	6.22	2.39	1.08	0.30	5.05	1.92	0.86	0.24	4.44	1.68	0.75	0.21
10	5.3	3.6	2.6	1.5	7.48	2.88	1.30	0.36	6.10	2.32	1.04	0.29	5.38	2.03	0.90	0.25
11	5.9	3.9	2.8	1.6	8.84	3.40	1.54	0.43	7.24	2.75	1.23	0.34	6.41	2.41	1.07	0.29
12	6.4	4.3	3.1	1.8	10.3	3.96	1.79	0.50	8.47	3.21	1.44	0.40	7.52	2.82	1.26	0.34
13	6.9	4.6	3.3	1.9	11.9	4.56	2.06	0.57	9.79	3.71	1.66	0.46	8.71	3.27	1.45	0.40
14	7.5	5.0	3.6	2.1	13.5	5.19	2.34	0.65	11.2	4.24	1.90	0.52	9.99	3.74	1.66	0.45
15	8.0	5.4	3.8	2.2	15.3	5.86	2.64	0.73	12.7	4.80	2.14	0.59	11.3	4.24	1.88	0.51
16	8.5	5.7	4.1	2.4	17.2	6.57	2.96	0.82	14.3	5.39	2.41	0.66	12.8	4.78	2.12	0.57
17	9.1	6.1	4.4	2.5	19.1	7.31	3.29	0.91	16.0	6.02	2.68	0.74	14.3	5.34	2.36	0.64
18	9.6	6.4	4.6	2.7	21.2	8.09	3.64	1.01	17.7	6.68	2.98	0.81	15.9	5.93	2.62	0.71
19		6.8	4.9	2.8		8.91	4.01	1.11		7.36	3.28	0.90		6.56	2.90	0.78
20		7.1	5.1	3.0		9.76	4.39	1.21		8.08	3.60	0.98		7.21	3.18	0.86
22		7.9	5.6	3.3		11.6	5.19	1.43		9.62	4.27	1.16		8.60	3.79	1.02
24		8.6	6.1	3.6		13.5	6.06	1.67		11.3	5.00	1.36		10.1	4.45	1.20
26		9.3	6.7	3.9		15.6	6.98	1.93		13.1	5.79	1.57		11.7	5.16	1.38
28			7.2	4.2			7.97	2.19			6.62	1.80			5.91	1.58
30			7.7	4.5			9.01	2.48			7.51	2.03			6.72	1.80
32			8.2	4.8			10.1	2.78			8.45	2.29			7.58	2.02
34			8.7	5.1			11.3	3.09			9.44	2.55			8.48	2.26
36			9.2	5.4			12.5	3.42			10.5	2.83			9.44	2.51
38			9.7	5.7			13.8	3.77			11.6	3.12			10.4	2.77
40				6.0				4.13				3.42				3.05
42				6.3				4.50				3.74				3.34
44				6.6				4.89				4.07				3.64
46				6.9				5.30				4.42				3.95
48				7.2				5.72				4.77				4.27
50				7.5				6.15				5.14				4.61
52				7.8				6.60				5.53				4.96
54				8.1				7.06				5.92				5.32
56				8.4				7.54				6.33				5.69
58				8.7				8.03				6.75				6.07
60				9.0				8.53				7.18				6.47
65				9.7				9.85				8.32				7.51

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.

– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
Example: for 200 lineal ft of pipe, double the value listed in this table.

– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
Example: 1 psi = 2.307 ft of head.

Table 2C: Pressure Loss for Metric-Sized SDR11 REHAU PEXa Carrier Pipe With 80% Water / 20% Propylene Glycol

Flow Rate	ft/sec				pressure loss in psi per 100 ft of pipe											
					60°F (16°C) 20% Glycol				120°F (49°C) 20% Glycol				180°F (82°C) 20% Glycol			
GPM	10.1	25	32	40	10.1	25	32	40	10.1	25	32	40	10.1	25	32	40
0.1	0.4	0.1	<0.1	<0.1	0.60	0.01	<.01	<.01	0.25	<.01	<.01	<.01	0.14	<.01	<.01	<.01
0.2	0.8	0.1	0.1	<0.1	1.19	0.03	0.01	<.01	0.50	0.01	<.01	<.01	0.67	<.01	<.01	<.01
0.3	1.2	0.2	0.1	0.1	1.79	0.04	0.02	<.01	1.61	0.02	<.01	<.01	1.33	0.01	<.01	<.01
0.4	1.6	0.2	0.2	0.1	2.39	0.06	0.02	<.01	2.61	0.02	<.01	<.01	2.18	0.03	<.01	<.01
0.5	2.0	0.3	0.2	0.1	2.99	0.07	0.03	0.01	3.83	0.03	0.01	<.01	3.22	0.04	0.01	<.01
0.6	2.4	0.4	0.2	0.1	6.87	0.09	0.03	0.01	5.24	0.07	0.01	<.01	4.44	0.06	0.02	<.01
0.7	2.8	0.4	0.3	0.2	8.90	0.10	0.04	0.02	6.84	0.09	0.02	<.01	5.83	0.07	0.02	<.01
0.8	3.2	0.5	0.3	0.2	11.1	0.12	0.04	0.02	8.63	0.11	0.03	<.01	7.39	0.09	0.03	<.01
0.9	3.6	0.6	0.3	0.2	13.6	0.13	0.05	0.02	10.6	0.13	0.04	<.01	9.11	0.11	0.03	0.01
1.0	4.0	0.6	0.4	0.2	16.3	0.15	0.05	0.02	12.8	0.16	0.05	0.02	11.0	0.13	0.04	0.01
1.2	4.8	0.7	0.5	0.3	22.2	0.18	0.07	0.03	17.6	0.22	0.07	0.02	15.3	0.18	0.06	0.02
1.4	5.6	0.9	0.5	0.3	29.0	0.37	0.08	0.03	23.1	0.28	0.09	0.03	20.2	0.24	0.07	0.03
1.6	6.3	1.0	0.6	0.4	36.5	0.47	0.09	0.04	29.3	0.35	0.11	0.04	25.7	0.30	0.09	0.03
1.8	7.1	1.1	0.7	0.4	44.8	0.57	0.18	0.04	36.2	0.43	0.13	0.05	31.9	0.37	0.11	0.04
2.0	7.9	1.2	0.8	0.5	53.9	0.68	0.21	0.05	43.8	0.52	0.16	0.06	38.7	0.44	0.13	0.05
2.2	8.7	1.4	0.8	0.5	63.7	0.80	0.25	0.09	52.0	0.61	0.19	0.07	46.2	0.52	0.16	0.06
2.4	9.5	1.5	0.9	0.6	74.2	0.92	0.29	0.10	60.8	0.71	0.22	0.08	54.2	0.61	0.18	0.07
2.6		1.6	1.0	0.6		1.06	0.33	0.12		0.82	0.25	0.09		0.70	0.21	0.08
2.8		1.7	1.1	0.7		1.20	0.37	0.13		0.93	0.29	0.10		0.80	0.24	0.09
3.0		1.9	1.1	0.7		1.35	0.42	0.15		1.05	0.32	0.11		0.90	0.27	0.10
4.0		2.5	1.5	1.0		2.21	0.68	0.24		1.74	0.53	0.19		1.50	0.45	0.16
5.0		3.1	1.9	1.2		3.24	1.00	0.36		2.58	0.79	0.28		2.24	0.67	0.24
6.0		3.7	2.3	1.5		4.45	1.37	0.49		3.57	1.08	0.38		3.11	0.93	0.33
7.0		4.4	2.7	1.7		5.82	1.78	0.63		4.70	1.42	0.50		4.11	1.23	0.43
8.0		5.0	3.0	2.0		7.35	2.25	0.80		5.96	1.80	0.63		5.25	1.57	0.54
10.0		6.2	3.8	2.4		10.9	3.32	1.17		8.91	2.68	0.94		7.90	2.35	0.81
12.0		7.5	4.6	2.9		15.0	4.57	1.61		12.4	3.71	1.29		11.0	3.27	1.13
14.0		8.7	5.3	3.4		19.7	5.99	2.11		16.4	4.90	1.70		14.7	4.33	1.49
16.0			6.1	3.9			7.59	2.66			6.24	2.16			5.54	1.90
18.0			6.8	4.4			9.35	3.28			7.72	2.67			6.88	2.35
20.0			7.6	4.9			11.3	3.94			9.36	3.23			8.36	2.86
22.0			8.4	5.4			13.4	4.67			11.1	3.84			9.97	3.40
24.0			9.1	5.9			15.6	5.45			13.1	4.49			11.7	3.99
26.0			9.9	6.4			18.0	6.28			15.1	5.20			13.6	4.62
28.0				6.9				7.16				5.94				5.30
30.0				7.3				8.10				6.74				6.03
32.0				7.8				9.09				7.58				6.79
34.0				8.3				10.1				8.47				7.60
36.0				8.8				11.2				9.41				8.46
38.0				9.3				12.4				10.4				9.35
40.0				9.8				13.6				11.4				10.3

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.
– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
  Example: for 200 lineal ft of pipe, double the value listed in this table.
– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
  Example: 1 psi = 2.307 ft of head.

Table 2D: Pressure Loss for Metric-Sized SDR11 REHAU PEXa Carrier Pipe With 80% Water / 20% Propylene Glycol

Flow	Flow Velocity				pressure loss in psi per 100 ft of pipe											
Rate	ft/sec				60°F (16°C) 20% Glycol				120°F (49°C) 20% Glycol				180°F (82°C) 20% Glycol			
GPM	50	63	75	90	50	63	75	90	50	63	75	90	50	63	75	90
2	0.3	0.2	0.1	0.1	0.02	<.01	<.01	<.01	0.02	<.01	<.01	<.01	0.02	<.01	<.01	<.01
4	0.6	0.4	0.3	0.2	0.09	0.03	<.01	<.01	0.06	0.02	<.01	<.01	0.05	0.02	<.01	<.01
6	0.9	0.6	0.4	0.3	0.17	0.06	0.02	0.01	0.13	0.04	0.02	<.01	0.11	0.04	0.02	<.01
8	1.3	0.8	0.6	0.4	0.28	0.09	0.04	0.02	0.22	0.07	0.03	0.01	0.19	0.06	0.03	0.01
10	1.6	1.0	0.7	0.5	0.40	0.14	0.06	0.03	0.32	0.11	0.05	0.02	0.28	0.09	0.04	0.02
12	1.9	1.2	0.8	0.6	0.55	0.19	0.08	0.03	0.44	0.15	0.06	0.03	0.38	0.13	0.05	0.02
14	2.2	1.4	1.0	0.7	0.72	0.24	0.10	0.04	0.58	0.19	0.08	0.03	0.50	0.17	0.07	0.03
16	2.5	1.6	1.1	0.8	0.91	0.31	0.13	0.06	0.74	0.24	0.10	0.04	0.64	0.21	0.09	0.04
18	2.8	1.8	1.2	0.9	1.12	0.38	0.16	0.07	0.91	0.30	0.13	0.05	0.79	0.26	0.11	0.05
20	3.1	2.0	1.4	1.0	1.35	0.45	0.19	0.08	1.09	0.36	0.15	0.06	0.96	0.31	0.13	0.06
22	3.4	2.2	1.5	1.1	1.60	0.53	0.23	0.10	1.30	0.43	0.18	0.08	1.14	0.37	0.16	0.07
24	3.8	2.4	1.7	1.2	1.86	0.62	0.27	0.11	1.52	0.50	0.21	0.09	1.33	0.44	0.19	0.08
26	4.1	2.6	1.8	1.2	2.14	0.71	0.31	0.13	1.75	0.58	0.25	0.10	1.54	0.50	0.21	0.09
28	4.4	2.8	1.9	1.3	2.44	0.81	0.35	0.15	2.00	0.66	0.28	0.12	1.77	0.58	0.24	0.10
30	4.7	3.0	2.1	1.4	2.76	0.92	0.39	0.17	2.27	0.75	0.32	0.13	2.01	0.65	0.28	0.12
35	5.5	3.5	2.4	1.7	3.63	1.20	0.52	0.22	3.00	0.98	0.42	0.17	2.66	0.86	0.37	0.15
40	6.3	3.9	2.8	1.9	4.60	1.52	0.65	0.27	3.82	1.25	0.53	0.22	3.41	1.10	0.47	0.19
45	7.0	4.4	3.1	2.2	5.68	1.88	0.80	0.34	4.74	1.55	0.66	0.27	4.24	1.37	0.58	0.24
50	7.8	4.9	3.5	2.4	6.86	2.26	0.97	0.41	5.74	1.87	0.79	0.33	5.15	1.66	0.70	0.29
55	8.6	5.4	3.8	2.6	8.13	2.68	1.14	0.48	6.84	2.22	0.94	0.39	6.15	1.98	0.83	0.34
60	9.4	5.9	4.1	2.9	9.51	3.13	1.34	0.56	8.02	2.61	1.10	0.46	7.23	2.32	0.98	0.40
65		6.4	4.5	3.1		3.61	1.54	0.65		3.01	1.27	0.53		2.69	1.13	0.47
70		6.9	4.8	3.4		4.13	1.76	0.74		3.45	1.46	0.61		3.09	1.29	0.53
75		7.4	5.2	3.6		4.67	1.99	0.83		3.92	1.65	0.69		3.51	1.47	0.61
80		7.9	5.5	3.8		5.24	2.23	0.93		4.41	1.86	0.77		3.96	1.66	0.68
85		8.4	5.9	4.1		5.85	2.49	1.04		4.93	2.07	0.86		4.43	1.85	0.76
90		8.9	6.2	4.3		6.48	2.75	1.15		5.47	2.30	0.95		4.93	2.06	0.85
95		9.4	6.6	4.6		7.14	3.03	1.27		6.04	2.54	1.05		5.46	2.27	0.93
100		9.9	6.9	4.8		7.84	3.33	1.39		6.64	2.79	1.15		6.01	2.50	1.03
105			7.3	5.0			3.63	1.52			3.05	1.26			2.74	1.12
110			7.6	5.3			3.95	1.65			3.32	1.37			2.99	1.22
115			7.9	5.5			4.28	1.78			3.60	1.49			3.24	1.33
120			8.3	5.8			4.62	1.92			3.90	1.61			3.51	1.44
130			9.0	6.2			5.33	2.22			4.52	1.86			4.08	1.67
140			9.7	6.7			6.10	2.54			5.18	2.13			4.69	1.91
150				7.2				2.87				2.42				2.18
160				7.7				3.23				2.72				2.45
170				8.2				3.60				3.05				2.75
180				8.7				3.99				3.38				3.06
190				9.1				4.40				3.74				3.38
200				9.6				4.83				4.11				3.72

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.

– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
Example: for 200 lineal ft of pipe, double the value listed in this table.

– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
Example: 1 psi = 2.307 ft of head.

Table 2E: Pressure Loss for Metric-Sized SDR11 REHAU PEXa Carrier Pipe With 80% Water / 20% Propylene Glycol

Flow	Flow Velocity				pressure loss in psi per 100 ft of pipe											
Rate	ft/sec				60°F (16°C) 20% Glycol				120°F (49°C) 20% Glycol				180°F (82°C) 20% Glycol			
GPM	110	125	140	160	110	125	140	160	110	125	140	160	110	125	140	160
5	0.2	0.1	0.1	0.1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
10	0.3	0.2	0.2	0.2	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
15	0.5	0.4	0.3	0.2	0.02	0.01	<.01	<.01	0.02	<.01	<.01	<.01	0.01	<.01	<.01	<.01
20	0.6	0.5	0.4	0.3	0.03	0.02	0.01	<.01	0.03	0.01	<.01	<.01	0.02	0.01	<.01	<.01
25	0.8	0.6	0.5	0.4	0.05	0.03	0.01	<.01	0.04	0.02	0.01	<.01	0.03	0.02	0.01	<.01
30	1.0	0.7	0.6	0.5	0.06	0.04	0.02	0.01	0.05	0.03	0.02	<.01	0.04	0.02	0.01	<.01
40	1.3	1.0	0.8	0.6	0.11	0.06	0.03	0.02	0.08	0.05	0.03	0.01	0.07	0.04	0.02	0.01
50	1.6	1.2	1.0	0.8	0.16	0.09	0.05	0.03	0.13	0.07	0.04	0.02	0.11	0.06	0.03	0.02
60	1.9	1.5	1.2	0.9	0.22	0.12	0.07	0.04	0.17	0.09	0.05	0.03	0.15	0.08	0.05	0.03
70	2.3	1.7	1.4	1.1	0.28	0.15	0.09	0.05	0.23	0.12	0.07	0.04	0.20	0.11	0.06	0.03
80	2.6	2.0	1.6	1.2	0.36	0.19	0.11	0.06	0.29	0.16	0.09	0.05	0.26	0.14	0.08	0.04
90	2.9	2.2	1.8	1.4	0.44	0.24	0.14	0.07	0.36	0.20	0.11	0.06	0.32	0.17	0.10	0.05
100	3.2	2.5	2.0	1.5	0.53	0.29	0.17	0.09	0.44	0.24	0.14	0.07	0.39	0.21	0.12	0.06
110	3.5	2.7	2.2	1.7	0.63	0.34	0.20	0.11	0.52	0.28	0.16	0.09	0.46	0.25	0.14	0.08
120	3.9	3.0	2.4	1.8	0.73	0.40	0.23	0.12	0.61	0.33	0.19	0.10	0.54	0.29	0.17	0.09
130	4.2	3.2	2.6	2.0	0.85	0.46	0.27	0.14	0.70	0.38	0.22	0.12	0.63	0.34	0.19	0.10
140	4.5	3.5	2.8	2.1	0.97	0.52	0.30	0.16	0.81	0.43	0.25	0.13	0.72	0.38	0.22	0.12
150	4.8	3.7	3.0	2.3	1.09	0.59	0.34	0.18	0.91	0.49	0.28	0.15	0.81	0.44	0.25	0.13
160	5.1	4.0	3.2	2.4	1.23	0.67	0.38	0.20	1.03	0.55	0.32	0.17	0.92	0.49	0.28	0.15
170	5.5	4.2	3.4	2.6	1.37	0.74	0.43	0.23	1.15	0.62	0.36	0.19	1.03	0.55	0.32	0.17
180	5.8	4.5	3.6	2.7	1.52	0.82	0.47	0.25	1.27	0.69	0.39	0.21	1.14	0.61	0.35	0.18
190	6.1	4.7	3.8	2.9	1.67	0.91	0.52	0.28	1.41	0.76	0.43	0.23	1.26	0.67	0.39	0.20
200	6.4	5.0	4.0	3.0	1.83	0.99	0.57	0.30	1.54	0.83	0.48	0.25	1.39	0.74	0.42	0.22
225	7.2	5.6	4.5	3.4	2.27	1.23	0.71	0.38	1.92	1.03	0.59	0.31	1.72	0.92	0.53	0.28
250	8.0	6.2	5.0	3.8	2.74	1.48	0.86	0.45	2.33	1.25	0.72	0.38	2.10	1.12	0.64	0.34
275	8.8	6.9	5.5	4.2	3.26	1.76	1.02	0.54	2.77	1.49	0.85	0.45	2.51	1.34	0.76	0.40
300	9.7	7.5	6.0	4.6	3.82	2.06	1.19	0.63	3.26	1.75	1.00	0.53	2.95	1.57	0.90	0.47
325		8.1	6.4	4.9		2.38	1.37	0.73		2.02	1.16	0.61		1.83	1.04	0.54
350		8.7	6.9	5.3		2.72	1.57	0.83		2.32	1.33	0.70		2.10	1.20	0.62
375		9.4	7.4	5.7		3.09	1.78	0.94		2.64	1.51	0.79		2.39	1.36	0.71
400		10.0	7.9	6.1		3.47	2.00	1.05		2.97	1.70	0.89		2.70	1.53	0.80
425			8.4	6.5			2.23	1.18			1.90	1.00			1.72	0.90
450			8.9	6.9			2.47	1.31			2.11	1.11			1.91	1.00
475			9.4	7.2			2.73	1.44			2.33	1.22			2.12	1.10
500			9.9	7.6			3.00	1.58			2.57	1.34			2.33	1.21
525				8.0				1.73				1.47				1.33
550				8.4				1.88				1.60				1.45
575				8.8				2.04				1.74				1.58
600				9.1				2.20				1.88				1.71
625				9.5				2.37				2.03				1.84
650				9.9				2.54				2.18				1.98

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.

– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
Example: for 200 lineal ft of pipe, double the value listed in this table.

– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
Example: 1 psi = 2.307 ft of head.

Table 3A: Pressure Loss for Inch-Sized SDR9 REHAU PEXa Carrier Pipe With 50% Water / 50% Propylene Glyco

Flow Rate	Flow Velocity ft/sec				pressure loss in psi per 100 ft of pipe											
					60°F (16°C) 50% Glycol				120°F (49°C) 50% Glycol				180°F (82°C) 50% Glycol			
GPM	3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"	3/4"
0.1	0.3	0.2	0.1	0.1	1.31	0.40	0.19	0.10	0.38	0.12	0.06	0.03	0.17	0.05	0.03	0.01
0.2	0.6	0.3	0.2	0.2	2.63	0.80	0.38	0.21	0.77	0.23	0.11	0.06	0.35	0.11	0.05	0.03
0.3	0.9	0.5	0.4	0.3	3.94	1.20	0.57	0.31	1.15	0.35	0.17	0.09	0.96	0.16	0.08	0.04
0.4	1.3	0.7	0.5	0.4	5.26	1.60	0.76	0.41	1.53	0.47	0.22	0.12	1.56	0.39	0.10	0.05
0.5	1.6	0.9	0.6	0.4	6.57	2.00	0.95	0.51	1.92	0.58	0.28	0.15	2.27	0.56	0.23	0.07
0.6	1.9	1.0	0.7	0.5	7.89	2.39	1.14	0.62	2.30	0.70	0.33	0.18	3.10	0.76	0.32	0.16
0.7	2.2	1.2	0.8	0.6	9.20	2.79	1.33	0.72	5.23	0.82	0.39	0.21	4.04	0.99	0.41	0.20
0.8	2.5	1.4	1.0	0.7	10.5	3.19	1.52	0.82	6.54	0.93	0.44	0.24	5.09	1.24	0.52	0.25
0.9	2.8	1.6	1.1	0.8	11.8	3.59	1.71	0.92	7.98	1.97	0.50	0.27	6.24	1.52	0.63	0.31
1.0	3.2	1.7	1.2	0.9	13.1	3.99	1.90	1.03	9.54	2.35	0.99	0.30	7.50	1.82	0.76	0.37
1.2	3.8	2.1	1.4	1.1	15.8	4.79	2.28	1.23	13.0	3.19	1.34	0.65	10.3	2.49	1.03	0.50
1.4	4.4	2.4	1.7	1.2	18.4	5.59	2.66	1.44	16.9	4.14	1.73	0.84	13.5	3.25	1.35	0.65
1.6	5.0	2.8	1.9	1.4	21.0	6.39	3.04	1.64	21.3	5.20	2.17	1.05	17.1	4.10	1.69	0.82
1.8	5.7	3.1	2.2	1.6	23.7	7.18	3.42	1.85	26.1	6.36	2.65	1.29	21.1	5.04	2.08	1.00
2.0	6.3	3.5	2.4	1.8	26.3	7.98	3.80	2.05	31.3	7.61	3.17	1.54	25.4	6.06	2.50	1.20
2.2	6.9	3.8	2.6	1.9	53.8	8.78	4.18	2.26	37.0	8.97	3.73	1.81	30.1	7.17	2.95	1.42
2.4	7.6	4.2	2.9	2.1	62.3	9.58	4.56	2.46	43.1	10.4	4.32	2.09	35.2	8.36	3.43	1.65
2.6	8.2	4.5	3.1	2.3	71.2	10.4	4.94	2.67	49.5	12.0	4.96	2.40	40.7	9.63	3.95	1.90
2.8	8.8	4.9	3.4	2.5	80.7	20.0	5.32	2.88	56.4	13.6	5.63	2.72	46.5	11.0	4.50	2.16
3.0	9.5	5.2	3.6	2.6	90.6	22.4	5.70	3.08	63.7	15.3	6.34	3.07	52.7	12.4	5.08	2.44
3.2		5.6	3.8	2.8		25.0	6.08	3.29		17.2	7.09	3.42		13.9	5.70	2.73
3.4		5.9	4.1	3.0		27.6	11.6	3.49		19.1	7.87	3.80		15.5	6.34	3.04
3.6		6.3	4.3	3.2		30.4	12.7	3.70		21.1	8.69	4.19		17.2	7.02	3.36
3.8		6.6	4.6	3.3		33.3	13.9	3.90		23.1	9.55	4.60		18.9	7.73	3.69
4.0		6.9	4.8	3.5		36.3	15.2	7.41		25.3	10.4	5.03		20.8	8.46	4.04
4.2		7.3	5.0	3.7		39.4	16.5	8.03		27.6	11.4	5.47		22.7	9.23	4.41
4.4		7.6	5.3	3.9		42.6	17.8	8.68		29.9	12.3	5.93		24.6	10.0	4.79
4.6		8.0	5.5	4.1		46.0	19.2	9.35		32.4	13.3	6.41		26.7	10.9	5.18
4.8		8.3	5.7	4.2		49.4	20.6	10.0		34.9	14.3	6.90		28.8	11.7	5.59
5.0		8.7	6.0	4.4		52.9	22.1	10.7		37.5	15.4	7.41		31.0	12.6	6.01
5.5		9.6	6.6	4.8		62.2	26.0	12.6		44.4	18.2	8.75		36.9	15.0	7.12
6.0			7.2	5.3			30.1	14.6			21.2	10.2			17.5	8.31
6.5			7.8	5.7			34.5	16.7			24.4	11.7			20.2	9.60
7.0			8.4	6.2			39.1	19.0			27.9	13.3			23.1	11.0
7.5			9.0	6.6			44.0	21.3			31.5	15.1			26.2	12.4
8.0			9.6	7.0			49.1	23.8			35.3	16.9			29.4	13.9
8.5				7.5				26.4				18.8				15.6
9.0				7.9				29.1				20.8				17.2
9.5				8.4				31.9				22.9				19.0
10.0				8.8				34.8				25.0				20.9
11.0				9.7				41.0				29.7				24.8

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.
– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
  Example: for 200 lineal ft of pipe, double the value listed in this table.
– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
  Example: 1 psi = 2.307 ft of head.

Table 3B: Pressure Loss for Inch-Sized SDR9 REHAU PEXa Carrier Pipe With 50% Water / 50% Propylene Glycol

Flow Rate	Flow Velocity ft/sec				pressure loss in psi per 100 ft of pipe											
					60°F (16°C) 50% Glycol				120°F (49°C) 50% Glycol				180°F (82°C) 50% Glycol			
GPM	1"	1-1/4"	1-1/2"	2"	1"	1-1/4"	1-1/2"	2"	1"	1-1/4"	1-1/2"	2"	1"	1-1/4"	1-1/2"	2"
1	0.5	0.4	0.3	0.1	0.38	0.17	0.09	0.03	0.11	0.05	0.03	<.01	0.11	0.04	0.02	<.01
2	1.1	0.7	0.5	0.3	0.75	0.34	0.17	0.06	0.47	0.19	0.05	0.02	0.37	0.14	0.06	0.02
3	1.6	1.1	0.8	0.4	1.13	0.51	0.26	0.09	0.94	0.37	0.17	0.05	0.74	0.29	0.13	0.04
4	2.1	1.4	1.0	0.6	1.51	0.68	0.35	0.12	1.54	0.60	0.27	0.08	1.22	0.47	0.21	0.06
5	2.7	1.8	1.3	0.7	3.33	0.85	0.43	0.15	2.25	0.87	0.40	0.11	1.80	0.69	0.31	0.09
6	3.2	2.1	1.5	0.9	4.51	1.01	0.52	0.18	3.09	1.20	0.54	0.15	2.49	0.96	0.43	0.12
7	3.7	2.5	1.8	1.0	5.84	2.29	0.61	0.21	4.04	1.56	0.71	0.20	3.27	1.25	0.57	0.16
8	4.3	2.9	2.0	1.2	7.32	2.86	1.31	0.24	5.10	1.97	0.89	0.25	4.15	1.59	0.71	0.20
9	4.8	3.2	2.3	1.3	8.93	3.49	1.60	0.27	6.26	2.41	1.09	0.31	5.12	1.95	0.88	0.24
10	5.3	3.6	2.6	1.5	10.7	4.17	1.91	0.54	7.53	2.90	1.31	0.37	6.19	2.36	1.06	0.29
11	5.9	3.9	2.8	1.6	12.6	4.89	2.24	0.64	8.91	3.43	1.55	0.43	7.34	2.79	1.25	0.35
12	6.4	4.3	3.1	1.8	14.6	5.67	2.59	0.73	10.4	3.99	1.80	0.50	8.59	3.26	1.46	0.40
13	6.9	4.6	3.3	1.9	16.7	6.50	2.97	0.84	12.0	4.59	2.07	0.58	9.92	3.77	1.69	0.46
14	7.5	5.0	3.6	2.1	19.0	7.37	3.36	0.95	13.6	5.23	2.36	0.66	11.3	4.30	1.93	0.53
15	8.0	5.4	3.8	2.2	21.3	8.29	3.78	1.07	15.4	5.91	2.66	0.74	12.9	4.87	2.18	0.60
16	8.5	5.7	4.1	2.4	23.9	9.26	4.22	1.19	17.3	6.62	2.98	0.83	14.5	5.47	2.44	0.67
17	9.1	6.1	4.4	2.5	26.5	10.3	4.68	1.32	19.3	7.37	3.32	0.92	16.1	6.10	2.73	0.75
18	9.6	6.4	4.6	2.7	29.2	11.3	5.16	1.45	21.3	8.15	3.67	1.02	17.9	6.77	3.02	0.83
19		6.8	4.9	2.8		12.4	5.66	1.59		8.97	4.04	1.12		7.46	3.33	0.91
20		7.1	5.1	3.0		13.6	6.18	1.74		9.83	4.42	1.22		8.19	3.65	1.00
22		7.9	5.6	3.3		16.0	7.27	2.04		11.6	5.23	1.45		9.73	4.33	1.18
24		8.6	6.1	3.6		18.6	8.45	2.37		13.6	6.10	1.68		11.4	5.07	1.38
26		9.3	6.7	3.9		21.4	9.70	2.72		15.7	7.03	1.94		13.2	5.86	1.60
28			7.2	4.2			11.0	3.09			8.03	2.21			6.71	1.82
30			7.7	4.5			12.4	3.47			9.08	2.50			7.60	2.06
32			8.2	4.8			13.9	3.88			10.2	2.80			8.55	2.32
34			8.7	5.1			15.4	4.31			11.4	3.12			9.55	2.59
36			9.2	5.4			17.0	4.76			12.6	3.45			10.6	2.87
38			9.7	5.7			18.7	5.22			13.9	3.80			11.7	3.16
40				6.0				5.71				4.16				3.47
42				6.3				6.21				4.54				3.79
44				6.6				6.73				4.93				4.12
46				6.9				7.27				5.34				4.47
48				7.2				7.83				5.76				4.83
50				7.5				8.40				6.19				5.20
52				7.8				9.00				6.64				5.59
54				8.1				9.61				7.11				5.99
56				8.4				10.2				7.59				6.40
58				8.7				10.9				8.08				6.82
60				9.0				11.5				8.59				7.26
65				9.7				13.3				9.92				8.41

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.
– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
  Example: for 200 lineal ft of pipe, double the value listed in this table.
– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
  Example: 1 psi = 2.307 ft of head.

Table 3C: Pressure Loss for Metric-Sized SDR11 REHAU PEXa Carrier Pipe With 50% Water / 50% Propylene Glycol

Flow Rate	ft/sec				pressure loss in psi per 100 ft of pipe											
					60°F (16°C) 50% Glycol				120°F (49°C) 50% Glycol				180°F (82°C) 50% Glycol			
GPM	10.1	25	32	40	10.1	25	32	40	10.1	25	32	40	10.1	25	32	40
0.1	0.4	0.1	<0.1	<0.1	2.08	0.05	0.02	<.01	0.61	0.02	<.01	<.01	0.28	<.01	<.01	<.01
0.2	0.8	0.1	0.1	<0.1	4.17	0.10	0.04	0.02	1.22	0.03	0.01	<.01	0.55	0.01	<.01	<.01
0.3	1.2	0.2	0.1	0.1	6.25	0.15	0.06	0.02	1.82	0.05	0.02	<.01	1.65	0.02	<.01	<.01
0.4	1.6	0.2	0.2	0.1	8.33	0.21	0.08	0.03	2.43	0.06	0.02	<.01	2.68	0.03	0.01	<.01
0.5	2.0	0.3	0.2	0.1	10.4	0.26	0.10	0.04	3.04	0.08	0.03	0.01	3.92	0.03	0.01	<.01
0.6	2.4	0.4	0.2	0.1	12.5	0.31	0.11	0.05	6.93	0.09	0.03	0.01	5.36	0.04	0.02	<.01
0.7	2.8	0.4	0.3	0.2	14.6	0.36	0.13	0.06	8.97	0.11	0.04	0.02	6.99	0.09	0.02	<.01
0.8	3.2	0.5	0.3	0.2	16.7	0.41	0.15	0.06	11.2	0.12	0.04	0.02	8.81	0.11	0.02	<.01
0.9	3.6	0.6	0.3	0.2	18.8	0.46	0.17	0.07	13.7	0.14	0.05	0.02	10.8	0.14	0.04	<.01
1.0	4.0	0.6	0.4	0.2	20.8	0.52	0.19	0.08	16.4	0.15	0.06	0.02	13.0	0.16	0.05	0.01
1.2	4.8	0.7	0.5	0.3	25.0	0.62	0.23	0.10	22.4	0.18	0.07	0.03	17.9	0.22	0.07	0.02
1.4	5.6	0.9	0.5	0.3	29.2	0.72	0.27	0.11	29.2	0.38	0.08	0.03	23.5	0.29	0.09	0.03
1.6	6.3	1.0	0.6	0.4	33.3	0.82	0.31	0.13	36.8	0.47	0.09	0.04	29.8	0.36	0.11	0.04
1.8	7.1	1.1	0.7	0.4	37.5	0.93	0.34	0.14	45.2	0.57	0.18	0.04	36.8	0.44	0.14	0.05
2.0	7.9	1.2	0.8	0.5	78.7	1.03	0.38	0.16	54.3	0.68	0.21	0.05	44.4	0.53	0.16	0.06
2.2	8.7	1.4	0.8	0.5	92.3	1.13	0.42	0.17	64.1	0.80	0.25	0.09	52.7	0.63	0.19	0.07
2.4	9.5	1.5	0.9	0.6	106.9	1.24	0.46	0.19	74.7	0.93	0.29	0.10	61.7	0.73	0.22	0.08
2.6		1.6	1.0	0.6		1.34	0.50	0.21		1.07	0.33	0.12		0.84	0.26	0.09
2.8		1.7	1.1	0.7		1.44	0.53	0.22		1.21	0.38	0.13		0.95	0.29	0.10
3.0		1.9	1.1	0.7		1.55	0.57	0.24		1.36	0.42	0.15		1.07	0.33	0.12
4.0		2.5	1.5	1.0		2.06	0.76	0.32		2.22	0.69	0.25		1.77	0.54	0.19
5.0		3.1	1.9	1.2		4.80	0.95	0.40		3.27	1.01	0.36		2.63	0.80	0.28
6.0		3.7	2.3	1.5		6.51	2.04	0.48		4.48	1.38	0.49		3.63	1.10	0.39
7.0		4.4	2.7	1.7		8.44	2.63	0.56		5.86	1.80	0.64		4.77	1.45	0.51
8.0		5.0	3.0	2.0		10.6	3.29	1.18		7.40	2.27	0.80		6.06	1.83	0.64
10.0		6.2	3.8	2.4		15.4	4.80	1.72		11.0	3.34	1.18		9.04	2.72	0.95
12.0		7.5	4.6	2.9		21.1	6.53	2.33		15.1	4.60	1.62		12.6	3.77	1.32
14.0		8.7	5.3	3.4		27.5	8.49	3.03		19.9	6.04	2.12		16.6	4.97	1.73
16.0			6.1	3.9			10.7	3.80			7.64	2.68			6.32	2.20
18.0			6.8	4.4			13.1	4.64			9.41	3.30			7.83	2.71
20.0			7.6	4.9			15.7	5.56			11.4	3.97			9.47	3.28
22.0			8.4	5.4			18.5	6.55			13.5	4.70			11.3	3.89
24.0			9.1	5.9			21.4	7.60			15.7	5.49			13.2	4.55
26.0			9.9	6.4			24.6	8.73			18.1	6.32			15.3	5.26
28.0				6.9				9.92				7.21				6.02
30.0				7.3				11.2				8.16				6.82
32.0				7.8				12.5				9.15				7.67
34.0				8.3				13.9				10.2				8.57
36.0				8.8				15.3				11.3				9.51
38.0				9.3				16.8				12.4				10.5
40.0				9.8				18.4				13.6				11.5

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.
– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
  Example: for 200 lineal ft of pipe, double the value listed in this table.
– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
  Example: 1 psi = 2.307 ft of head.

Table 3D: Pressure Loss for Metric-Sized SDR11 REHAU PEXa Carrier Pipe With 50% Water / 50% Propylene Glycol

Flow	Flow Velocity				pressure loss in psi per 100 ft of pipe											
Rate	ft/sec				60°F (16°C) 50% Glycol				120°F (49°C) 50% Glycol				180°F (82°C) 50% Glycol			
GPM	50	63	75	90	50	63	75	90	50	63	75	90	50	63	75	90
2	0.3	0.2	0.1	0.1	0.06	0.03	0.01	<.01	0.02	<.01	<.01	<.01	0.02	<.01	<.01	<.01
4	0.6	0.4	0.3	0.2	0.13	0.05	0.03	0.01	0.09	0.03	<.01	<.01	0.07	0.02	<.01	<.01
6	0.9	0.6	0.4	0.3	0.19	0.08	0.04	0.02	0.17	0.06	0.03	0.01	0.13	0.04	0.02	<.01
8	1.3	0.8	0.6	0.4	0.26	0.10	0.05	0.02	0.28	0.09	0.04	0.02	0.22	0.07	0.03	0.01
10	1.6	1.0	0.7	0.5	0.60	0.13	0.06	0.03	0.41	0.14	0.06	0.03	0.33	0.11	0.05	0.02
12	1.9	1.2	0.8	0.6	0.82	0.28	0.08	0.04	0.56	0.19	0.08	0.03	0.45	0.15	0.06	0.03
14	2.2	1.4	1.0	0.7	1.06	0.36	0.16	0.04	0.73	0.24	0.11	0.04	0.59	0.20	0.08	0.04
16	2.5	1.6	1.1	0.8	1.32	0.45	0.20	0.05	0.92	0.31	0.13	0.06	0.75	0.25	0.11	0.04
18	2.8	1.8	1.2	0.9	1.62	0.55	0.24	0.10	1.13	0.38	0.16	0.07	0.92	0.31	0.13	0.06
20	3.1	2.0	1.4	1.0	1.93	0.65	0.28	0.12	1.36	0.45	0.20	0.08	1.11	0.37	0.16	0.07
22	3.4	2.2	1.5	1.1	2.27	0.77	0.33	0.14	1.61	0.54	0.23	0.10	1.32	0.44	0.19	0.08
24	3.8	2.4	1.7	1.2	2.64	0.89	0.39	0.17	1.88	0.62	0.27	0.11	1.54	0.51	0.22	0.09
26	4.1	2.6	1.8	1.2	3.02	1.02	0.44	0.19	2.16	0.72	0.31	0.13	1.78	0.59	0.25	0.11
28	4.4	2.8	1.9	1.3	3.43	1.16	0.50	0.21	2.46	0.82	0.35	0.15	2.03	0.67	0.29	0.12
30	4.7	3.0	2.1	1.4	3.87	1.30	0.56	0.24	2.78	0.92	0.40	0.17	2.30	0.76	0.32	0.14
35	5.5	3.5	2.4	1.7	5.04	1.69	0.73	0.31	3.66	1.21	0.52	0.22	3.04	1.00	0.42	0.18
40	6.3	3.9	2.8	1.9	6.35	2.13	0.92	0.39	4.64	1.53	0.66	0.28	3.87	1.27	0.54	0.23
45	7.0	4.4	3.1	2.2	7.79	2.61	1.13	0.48	5.72	1.89	0.81	0.34	4.79	1.57	0.67	0.28
50	7.8	4.9	3.5	2.4	9.35	3.13	1.35	0.57	6.90	2.28	0.97	0.41	5.81	1.90	0.80	0.34
55	8.6	5.4	3.8	2.6	11.0	3.69	1.59	0.68	8.19	2.70	1.15	0.48	6.91	2.25	0.95	0.40
60	9.4	5.9	4.1	2.9	12.9	4.30	1.85	0.78	9.58	3.15	1.35	0.56	8.11	2.64	1.12	0.47
65		6.4	4.5	3.1		4.94	2.13	0.90		3.64	1.55	0.65		3.05	1.29	0.54
70		6.9	4.8	3.4		5.62	2.42	1.02		4.16	1.77	0.74		3.49	1.48	0.61
75		7.4	5.2	3.6		6.34	2.73	1.15		4.70	2.00	0.84		3.96	1.67	0.70
80		7.9	5.5	3.8		7.10	3.05	1.29		5.28	2.25	0.94		4.46	1.88	0.78
85		8.4	5.9	4.1		7.89	3.39	1.43		5.89	2.50	1.05		4.98	2.10	0.87
90		8.9	6.2	4.3		8.72	3.75	1.58		6.52	2.77	1.16		5.53	2.33	0.97
95		9.4	6.6	4.6		9.59	4.12	1.74		7.19	3.05	1.28		6.11	2.57	1.07
100		9.9	6.9	4.8		10.5	4.50	1.90		7.89	3.35	1.40		6.71	2.82	1.17
105			7.3	5.0			4.90	2.07			3.66	1.53			3.09	1.28
110			7.6	5.3			5.32	2.24			3.97	1.66			3.36	1.39
115			7.9	5.5			5.75	2.42			4.31	1.80			3.64	1.51
120			8.3	5.8			6.20	2.61			4.65	1.94			3.94	1.63
130			9.0	6.2			7.13	3.00			5.37	2.24			4.56	1.88
140			9.7	6.7			8.13	3.42			6.14	2.56			5.23	2.16
150				7.2				3.86				2.89				2.45
160				7.7				4.32				3.25				2.75
170				8.2				4.81				3.62				3.08
180				8.7				5.32				4.02				3.42
190				9.1				5.85				4.43				3.78
200				9.6				6.41				4.86				4.15

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.
– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
  Example: for 200 lineal ft of pipe, double the value listed in this table.
– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
  Example: 1 psi = 2.307 ft of head.

Table 3E: Pressure Loss for Metric-Sized SDR11 REHAU PEXa Carrier Pipe With 50% Water / 50% Propylene Glycol

Flow	Flow Velocity				pressure loss in psi per 100 ft of pipe											
Rate	ft/sec				60°F (16°C) 50% Glycol				120°F (49°C) 50% Glycol				180°F (82°C) 50% Glycol			
GPM	110	125	140	160	110	125	140	160	110	125	140	160	110	125	140	160
5	0.2	0.1	0.1	0.1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
10	0.3	0.2	0.2	0.2	0.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01
15	0.5	0.4	0.3	0.2	0.02	0.01	<.01	<.01	0.02	0.01	<.01	<.01	0.02	<.01	<.01	<.01
20	0.6	0.5	0.4	0.3	0.03	0.02	0.01	<.01	0.03	0.02	0.01	<.01	0.03	0.01	<.01	<.01
25	0.8	0.6	0.5	0.4	0.07	0.04	0.01	<.01	0.05	0.03	0.02	<.01	0.04	0.02	0.01	<.01
30	1.0	0.7	0.6	0.5	0.09	0.05	0.03	0.02	0.06	0.04	0.02	0.01	0.05	0.03	0.02	<.01
40	1.3	1.0	0.8	0.6	0.15	0.08	0.05	0.03	0.11	0.06	0.03	0.02	0.09	0.05	0.03	0.01
50	1.6	1.2	1.0	0.8	0.22	0.12	0.07	0.04	0.16	0.09	0.05	0.03	0.13	0.07	0.04	0.02
60	1.9	1.5	1.2	0.9	0.30	0.17	0.10	0.05	0.22	0.12	0.07	0.04	0.18	0.10	0.06	0.03
70	2.3	1.7	1.4	1.1	0.40	0.22	0.13	0.07	0.28	0.15	0.09	0.05	0.23	0.13	0.07	0.04
80	2.6	2.0	1.6	1.2	0.50	0.27	0.16	0.09	0.36	0.20	0.11	0.06	0.30	0.16	0.09	0.05
90	2.9	2.2	1.8	1.4	0.61	0.33	0.20	0.10	0.44	0.24	0.14	0.07	0.37	0.20	0.11	0.06
100	3.2	2.5	2.0	1.5	0.73	0.40	0.23	0.13	0.53	0.29	0.17	0.09	0.44	0.24	0.14	0.07
110	3.5	2.7	2.2	1.7	0.87	0.47	0.28	0.15	0.63	0.34	0.20	0.11	0.53	0.29	0.16	0.09
120	3.9	3.0	2.4	1.8	1.01	0.55	0.32	0.17	0.74	0.40	0.23	0.12	0.62	0.33	0.19	0.10
130	4.2	3.2	2.6	2.0	1.16	0.63	0.37	0.20	0.85	0.46	0.27	0.14	0.71	0.39	0.22	0.12
140	4.5	3.5	2.8	2.1	1.32	0.72	0.42	0.22	0.97	0.53	0.31	0.16	0.82	0.44	0.25	0.13
150	4.8	3.7	3.0	2.3	1.49	0.81	0.47	0.25	1.10	0.60	0.35	0.18	0.92	0.50	0.29	0.15
160	5.1	4.0	3.2	2.4	1.66	0.91	0.53	0.28	1.24	0.67	0.39	0.21	1.04	0.56	0.32	0.17
170	5.5	4.2	3.4	2.6	1.85	1.01	0.59	0.31	1.38	0.75	0.43	0.23	1.16	0.63	0.36	0.19
180	5.8	4.5	3.6	2.7	2.05	1.12	0.65	0.35	1.53	0.83	0.48	0.25	1.29	0.69	0.40	0.21
190	6.1	4.7	3.8	2.9	2.25	1.23	0.71	0.38	1.68	0.91	0.53	0.28	1.42	0.77	0.44	0.23
200	6.4	5.0	4.0	3.0	2.46	1.34	0.78	0.42	1.85	1.00	0.58	0.31	1.56	0.84	0.48	0.26
225	7.2	5.6	4.5	3.4	3.03	1.65	0.96	0.51	2.28	1.24	0.71	0.38	1.94	1.04	0.60	0.32
250	8.0	6.2	5.0	3.8	3.65	1.99	1.15	0.61	2.76	1.49	0.86	0.46	2.35	1.26	0.73	0.38
275	8.8	6.9	5.5	4.2	4.32	2.35	1.36	0.73	3.28	1.77	1.02	0.54	2.80	1.50	0.86	0.45
300	9.7	7.5	6.0	4.6	5.04	2.74	1.59	0.85	3.84	2.08	1.20	0.63	3.29	1.77	1.01	0.53
325		8.1	6.4	4.9		3.16	1.83	0.97		2.40	1.38	0.73		2.04	1.17	0.62
350		8.7	6.9	5.3		3.60	2.08	1.11		2.74	1.58	0.83		2.34	1.34	0.71
375		9.4	7.4	5.7		4.07	2.35	1.25		3.11	1.79	0.95		2.66	1.52	0.80
400		10.0	7.9	6.1		4.56	2.64	1.40		3.50	2.01	1.06		3.00	1.72	0.90
425			8.4	6.5			2.94	1.56			2.24	1.18			1.92	1.01
450			8.9	6.9			3.25	1.73			2.49	1.31			2.13	1.12
475			9.4	7.2			3.58	1.90			2.75	1.45			2.36	1.23
500			9.9	7.6			3.92	2.08			3.02	1.59			2.59	1.36
525				8.0				2.27				1.74				1.48
550				8.4				2.47				1.89				1.62
575				8.8				2.67				2.05				1.76
600				9.1				2.88				2.21				1.90
625				9.5				3.10				2.38				2.05
650				9.9				3.32				2.56				2.20

– Flow velocity above 8 fps (2.5 m/s) might result in excessive pressure loss, noise or erosion of the system components.

– Table values shown in pressure loss units of psi per 100 ft (30.5 m) of pipe.
Example: for 200 lineal ft of pipe, double the value listed in this table.

– To express pressure loss in terms of feet of head, multiply the table value by 2.307.
Example: 1 psi = 2.307 ft of head.

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