

APPENDIX A

PRESSURE LOSS TABLES FOR RAU-PE-XA

Cold water at 25°C

Peak Flow Rate Qs (l/s) (0.01 to 0.50)	PN 20 16 x 2.2		PN 20 20 x 2.8		PN 20 25 x 3.5		PN 20 32 x 4.4	
	D _o (mm) = 16.00 D _i (mm) = 11.60		D _o (mm) = 20.00 D _i (mm) = 14.40		D _o (mm) = 25.00 D _i (mm) = 18.00		D _o (mm) = 32.00 D _i (mm) = 23.20	
	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)
0.01	0.0226	0.095	0.0082	0.061	0.0029	0.039	0.0009	0.024
0.02	0.0720	0.189	0.0261	0.123	0.0092	0.079	0.0028	0.047
0.03	0.1437	0.284	0.0518	0.184	0.0181	0.118	0.0055	0.071
0.04	0.2355	0.378	0.0846	0.246	0.0295	0.157	0.0090	0.095
0.05	0.3464	0.473	0.1241	0.307	0.0432	0.196	0.0131	0.118
0.06	0.4755	0.568	0.1701	0.368	0.0591	0.236	0.0178	0.142
0.07	0.6224	0.662	0.2222	0.430	0.0771	0.275	0.0232	0.166
0.08	0.7864	0.757	0.2802	0.491	0.0970	0.314	0.0292	0.189
0.09	0.9674	0.852	0.3442	0.553	0.1190	0.354	0.0357	0.213
0.10	1.1648	0.946	0.4139	0.614	0.1429	0.393	0.0429	0.237
0.11	1.3786	1.041	0.4892	0.675	0.1687	0.432	0.0505	0.260
0.12	1.6085	1.135	0.5700	0.737	0.1964	0.472	0.0588	0.284
0.13	1.8542	1.230	0.6563	0.798	0.2259	0.511	0.0675	0.308
0.14	2.1156	1.325	0.7480	0.860	0.2572	0.550	0.0768	0.331
0.15	2.3926	1.419	0.8451	0.921	0.2903	0.589	0.0866	0.355
0.16	2.6850	1.514	0.9474	0.982	0.3252	0.629	0.0969	0.378
0.17	2.9927	1.609	1.0549	1.044	0.3618	0.668	0.1077	0.402
0.18	3.3156	1.703	1.1677	1.105	0.4002	0.707	0.1191	0.426
0.19	3.6536	1.798	1.2856	1.167	0.4402	0.747	0.1309	0.449
0.20	4.0066	1.892	1.4086	1.228	0.4820	0.786	0.1432	0.473
0.21	4.3745	1.987	1.5367	1.289	0.5254	0.825	0.1560	0.497
0.22	4.7572	2.082	1.6698	1.351	0.5705	0.865	0.1693	0.520
0.23	5.1548	2.176	1.8079	1.412	0.6173	0.904	0.1831	0.544
0.24	5.5670	2.271	1.9510	1.474	0.6658	0.943	0.1973	0.568
0.25	5.9939	2.366	2.0991	1.535	0.7158	0.982	0.2120	0.591
0.26	6.4354	2.460	2.2521	1.596	0.7675	1.022	0.2272	0.615
0.27	6.8915	2.555	2.4101	1.658	0.8209	1.061	0.2429	0.639
0.28	7.3620	2.649	2.5729	1.719	0.8758	1.100	0.2590	0.662
0.29	7.8470	2.744	2.7406	1.781	0.9324	1.140	0.2755	0.686
0.30	8.3464	2.839	2.9131	1.842	0.9905	1.179	0.2926	0.710
0.31	8.8602	2.933	3.0905	1.903	1.0503	1.218	0.3101	0.733
0.32	9.3883	3.028	3.2727	1.965	1.1116	1.258	0.3280	0.757
0.33	9.9307	3.123	3.4597	2.026	1.1745	1.297	0.3464	0.781
0.34	10.4873	3.217	3.6515	2.088	1.2390	1.336	0.3652	0.804
0.35	11.0582	3.312	3.8481	2.149	1.3050	1.375	0.3845	0.828
0.36	11.6433	3.406	4.0494	2.210	1.3726	1.415	0.4043	0.852
0.37	12.2426	3.501	4.2555	2.272	1.4418	1.454	0.4244	0.875
0.38	12.8560	3.596	4.4663	2.333	1.5125	1.493	0.4451	0.899
0.39	13.4836	3.690	4.6819	2.395	1.5848	1.533	0.4661	0.923
0.40	14.1252	3.785	4.9021	2.456	1.6586	1.572	0.4876	0.946
0.41	14.7810	3.880	5.1271	2.517	1.7339	1.611	0.5096	0.970
0.42	15.4507	3.974	5.3567	2.579	1.8108	1.650	0.5319	0.994
0.43			5.5911	2.640	1.8892	1.690	0.5547	1.017
0.44			5.8301	2.702	1.9691	1.729	0.5780	1.041
0.45			6.0737	2.763	2.0505	1.768	0.6016	1.065
0.46			6.3221	2.825	2.1335	1.808	0.6257	1.088
0.47			6.5750	2.886	2.2180	1.847	0.6502	1.112
0.48			6.8326	2.947	2.3039	1.886	0.6752	1.135
0.49			7.0949	3.009	2.3914	1.926	0.7006	1.159
0.50			7.3617	3.070	2.4804	1.965	0.7264	1.183

PRESSURE LOSS TABLES FOR RAU-PE-XA

Cold water at 25°C

Peak Flow Rate Qs (l/s) (0.05 to 2.50)	PN 20 32 x 4.4		PN 20 40 x 5.5		PN 20 50 x 6.9		PN 20 63 x 8.6	
	D _o (mm) = 32.00 D _i (mm) = 23.20		D _o (mm) = 40.00 D _i (mm) = 29.00		D _o (mm) = 50.00 D _i (mm) = 36.20		D _o (mm) = 63.00 D _i (mm) = 45.80	
	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)
0.05	0.0134	0.118	0.0046	0.076	0.0016	0.049	0.0005	0.030
0.10	0.0429	0.237	0.0149	0.151	0.0052	0.097	0.0017	0.061
0.15	0.0866	0.355	0.0300	0.227	0.0105	0.146	0.0035	0.091
0.20	0.1432	0.473	0.0495	0.303	0.0173	0.194	0.0057	0.121
0.25	0.2120	0.591	0.0731	0.378	0.0254	0.243	0.0083	0.152
0.30	0.2926	0.710	0.1006	0.454	0.0350	0.291	0.0114	0.182
0.35	0.3845	0.828	0.1320	0.530	0.0458	0.340	0.0150	0.212
0.40	0.4876	0.946	0.1671	0.606	0.0579	0.389	0.0189	0.243
0.45	0.6016	1.065	0.2059	0.681	0.0713	0.437	0.0232	0.273
0.50	0.7264	1.183	0.2483	0.757	0.0858	0.486	0.0279	0.303
0.55	0.8617	1.301	0.2942	0.833	0.1016	0.534	0.0330	0.334
0.60	1.0075	1.419	0.3435	0.908	0.1185	0.583	0.0385	0.364
0.65	1.1637	1.538	0.3963	0.984	0.1366	0.632	0.0443	0.395
0.70	1.3301	1.656	0.4525	1.060	0.1558	0.680	0.0505	0.425
0.75	1.5067	1.774	0.5120	1.135	0.1761	0.729	0.0571	0.455
0.80	1.6933	1.892	0.5749	1.211	0.1976	0.777	0.0640	0.486
0.85	1.8900	2.011	0.6411	1.287	0.2202	0.826	0.0712	0.516
0.90	2.0966	2.129	0.7105	1.363	0.2438	0.874	0.0788	0.546
0.95	2.3132	2.247	0.7832	1.438	0.2686	0.923	0.0868	0.577
1.00	2.5396	2.366	0.8592	1.514	0.2944	0.972	0.0951	0.607
1.05	2.7758	2.484	0.9383	1.590	0.3214	1.020	0.1037	0.637
1.10	3.0218	2.602	1.0207	1.665	0.3493	1.069	0.1126	0.668
1.15	3.2775	2.720	1.1062	1.741	0.3784	1.117	0.1219	0.698
1.20	3.5429	2.839	1.1949	1.817	0.4084	1.166	0.1316	0.728
1.25	3.8179	2.957	1.2867	1.892	0.4396	1.215	0.1415	0.759
1.30	4.1025	3.075	1.3817	1.968	0.4717	1.263	0.1518	0.789
1.35	4.3968	3.194	1.4798	2.044	0.5049	1.312	0.1624	0.819
1.40	4.7006	3.312	1.5810	2.120	0.5392	1.360	0.1733	0.850
1.45	5.0140	3.430	1.6853	2.195	0.5744	1.409	0.1846	0.880
1.50	5.3369	3.548	1.7927	2.271	0.6107	1.457	0.1961	0.910
1.55	5.6692	3.667	1.9031	2.347	0.6480	1.506	0.2080	0.941
1.60	6.0111	3.785	2.0167	2.422	0.6863	1.555	0.2202	0.971
1.65	6.3624	3.903	2.1333	2.498	0.7257	1.603	0.2327	1.002
1.70	6.7231	4.021	2.2529	2.574	0.7660	1.652	0.2456	1.032
1.75			2.3756	2.649	0.8073	1.700	0.2587	1.062
1.80			2.5014	2.725	0.8497	1.749	0.2722	1.093
1.85			2.6301	2.801	0.8930	1.797	0.2859	1.123
1.90			2.7619	2.877	0.9373	1.846	0.3000	1.153
1.95			2.8967	2.952	0.9826	1.895	0.3144	1.184
2.00			3.0345	3.028	1.0289	1.943	0.3291	1.214
2.05			3.1754	3.104	1.0762	1.992	0.3441	1.244
2.10			3.3192	3.179	1.1245	2.040	0.3594	1.275
2.15			3.4660	3.255	1.1738	2.089	0.3750	1.305
2.20			3.6158	3.331	1.2240	2.138	0.3909	1.335
2.25			3.7686	3.406	1.2752	2.186	0.4071	1.366
2.30			3.9244	3.482	1.3274	2.235	0.4236	1.396
2.35			4.0831	3.558	1.3806	2.283	0.4404	1.426
2.40			4.2448	3.634	1.4347	2.332	0.4576	1.457
2.45			4.4095	3.709	1.4898	2.380	0.4750	1.487
2.50			4.5771	3.785	1.5458	2.429	0.4927	1.517

PRESSURE LOSS TABLES FOR RAU-PE-XA

Cold water at 25°C

Peak Flow Rate Qs (l/s) (0.51 to 1)	PN 20 20 x 2.8		PN 20 25 x 3.5		PN 20 32 x 4.4		PN 20 40 x 5.5	
	D _o (mm) = 20.00 D _i (mm) = 14.40		D _o (mm) = 25.00 D _i (mm) = 18.00		D _o (mm) = 32.00 D _i (mm) = 23.20		D _o (mm) = 40.00 D _i (mm) = 29.00	
	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)
0.51	7.6332	3.132	2.5709	2.004	0.7526	1.206	0.2572	0.772
0.52	7.9093	3.193	2.6628	2.043	0.7792	1.230	0.2662	0.787
0.53	8.1900	3.254	2.7563	2.083	0.8063	1.254	0.2754	0.802
0.54	8.4752	3.316	2.8513	2.122	0.8338	1.277	0.2847	0.818
0.55	8.7651	3.377	2.9477	2.161	0.8617	1.301	0.2942	0.833
0.56	9.0596	3.439	3.0457	2.201	0.8900	1.325	0.3037	0.848
0.57	9.3586	3.500	3.1451	2.240	0.9188	1.348	0.3135	0.863
0.58	9.6622	3.561	3.2460	2.279	0.9479	1.372	0.3234	0.878
0.59	9.9704	3.623	3.3484	2.319	0.9775	1.396	0.3334	0.893
0.60	10.2831	3.684	3.4522	2.358	1.0075	1.419	0.3435	0.908
0.61	10.6004	3.746	3.5575	2.397	1.0379	1.443	0.3538	0.924
0.62	10.9223	3.807	3.6643	2.436	1.0687	1.467	0.3642	0.939
0.63	11.2487	3.868	3.7726	2.476	1.1000	1.490	0.3748	0.954
0.64	11.5796	3.930	3.8823	2.515	1.1316	1.514	0.3855	0.969
0.65	11.9151	3.991	3.9935	2.554	1.1637	1.538	0.3963	0.984
0.66	12.2551	4.053	4.1062	2.594	1.1961	1.561	0.4073	0.999
0.67			4.2203	2.633	1.2290	1.585	0.4184	1.014
0.68			4.3358	2.672	1.2623	1.609	0.4296	1.029
0.69			4.4529	2.712	1.2960	1.632	0.4410	1.045
0.70			4.5714	2.751	1.3301	1.656	0.4525	1.060
0.71			4.6913	2.790	1.3646	1.680	0.4641	1.075
0.72			4.8127	2.829	1.3995	1.703	0.4759	1.090
0.73			4.9355	2.869	1.4348	1.727	0.4878	1.105
0.74			5.0598	2.908	1.4705	1.751	0.4999	1.120
0.75			5.1856	2.947	1.5067	1.774	0.5120	1.135
0.76			5.3127	2.987	1.5432	1.798	0.5243	1.151
0.77			5.4414	3.026	1.5801	1.821	0.5368	1.166
0.78			5.5714	3.065	1.6174	1.845	0.5494	1.181
0.79			5.7029	3.105	1.6552	1.869	0.5621	1.196
0.80			5.8359	3.144	1.6933	1.892	0.5749	1.211
0.81			5.9703	3.183	1.7319	1.916	0.5879	1.226
0.82			6.1061	3.222	1.7708	1.940	0.6010	1.241
0.83			6.2434	3.262	1.8101	1.963	0.6142	1.257
0.84			6.3821	3.301	1.8499	1.987	0.6276	1.272
0.85			6.5222	3.340	1.8900	2.011	0.6411	1.287
0.86			6.6637	3.380	1.9305	2.034	0.6547	1.302
0.87			6.8067	3.419	1.9715	2.058	0.6685	1.317
0.88			6.9511	3.458	2.0128	2.082	0.6824	1.332
0.89			7.0970	3.497	2.0545	2.105	0.6964	1.347
0.90			7.2443	3.537	2.0966	2.129	0.7105	1.363
0.91			7.3930	3.576	2.1392	2.153	0.7248	1.378
0.92			7.5431	3.615	2.1821	2.176	0.7392	1.393
0.93			7.6946	3.655	2.2254	2.200	0.7538	1.408
0.94			7.8476	3.694	2.2691	2.224	0.7684	1.423
0.95			8.0020	3.733	2.3132	2.247	0.7832	1.438
0.96			8.1578	3.773	2.3577	2.271	0.7982	1.453
0.97			8.3151	3.812	2.4026	2.295	0.8132	1.469
0.98			8.4737	3.851	2.4479	2.318	0.8284	1.484
0.99			8.6338	3.890	2.4935	2.342	0.8437	1.499
1.00			8.7953	3.930	2.5396	2.366	0.8592	1.514

PRESSURE LOSS TABLES FOR RAU-PE-XA

Cold water at 25°C

Peak Flow Rate Qs (l/s) (2.60 to 7.50)	PN 20		PN 20	
	50 x 6.9		63 x 8.6	
	D _o (mm) = 50.00 D _i (mm) = 36.20		D _o (mm) = 63.00 D _i (mm) = 45.80	
	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)
2.60	1.6609	2.526	0.5290	1.578
2.70	1.7797	2.623	0.5665	1.639
2.80	1.9025	2.721	0.6052	1.700
2.90	2.0290	2.818	0.6451	1.760
3.00	2.1593	2.915	0.6861	1.821
3.10	2.2935	3.012	0.7283	1.882
3.20	2.4314	3.109	0.7717	1.942
3.30	2.5732	3.206	0.8162	2.003
3.40	2.7187	3.303	0.8619	2.064
3.50	2.8679	3.401	0.9088	2.124
3.60	3.0210	3.498	0.9568	2.185
3.70	3.1777	3.595	1.0059	2.246
3.80	3.3383	3.692	1.0562	2.307
3.90	3.5025	3.789	1.1076	2.367
4.00	3.6705	3.886	1.1602	2.428
4.10	3.8423	3.984	1.2139	2.489
4.20	4.0177	4.081	1.2688	2.549
4.30			1.3247	2.610
4.40			1.3818	2.671
4.50			1.4401	2.731
4.60			1.4994	2.792
4.70			1.5599	2.853
4.80			1.6215	2.914
4.90			1.6842	2.974
5.00			1.7481	3.035
5.10			1.8130	3.096
5.20			1.8791	3.156
5.30			1.9463	3.217
5.40			2.0146	3.278
5.50			2.0840	3.338
5.60			2.1545	3.399
5.70			2.2261	3.460
5.80			2.2989	3.521
5.90			2.3727	3.581
6.00			2.4476	3.642
6.10			2.5237	3.703
6.20			2.6008	3.763
6.30			2.6790	3.824
6.40			2.7584	3.885
6.50			2.8388	3.945
6.60			2.9203	4.006
6.70			3.0029	4.067
6.80			3.0867	4.128
6.90			3.1715	4.188
7.00			3.2574	4.249
7.10			3.3444	4.310
7.20			3.4324	4.370
7.30			3.5216	4.431
7.40			3.6119	4.492
7.50			3.7032	4.552

PRESSURE LOSS TABLES FOR RAU-PE-XA

Hot water at 60°C

Peak Flow Rate Qs (l/s) (0.01 to 0.50)	PN 20 16 x 2.2		PN 20 20 x 2.8		PN 20 25 x 3.5		PN 20 32 x 4.4	
	D _o (mm) = 16.00 D _i (mm) = 11.60		D _o (mm) = 20.00 D _i (mm) = 14.40		D _o (mm) = 25.00 D _i (mm) = 18.00		D _o (mm) = 32.00 D _i (mm) = 23.20	
	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)
0.01	0.0184	0.095	0.0066	0.061	0.0023	0.039	0.0007	0.024
0.02	0.0590	0.189	0.0212	0.123	0.0074	0.079	0.0023	0.047
0.03	0.1191	0.284	0.0426	0.184	0.0148	0.118	0.0045	0.071
0.04	0.1968	0.378	0.0702	0.246	0.0243	0.157	0.0073	0.095
0.05	0.2913	0.473	0.1036	0.307	0.0358	0.196	0.0107	0.118
0.06	0.4020	0.568	0.1426	0.368	0.0492	0.236	0.0147	0.142
0.07	0.5286	0.662	0.1871	0.430	0.0644	0.275	0.0192	0.166
0.08	0.6705	0.757	0.2368	0.491	0.0814	0.314	0.0243	0.189
0.09	0.8277	0.852	0.2918	0.553	0.1001	0.354	0.0298	0.213
0.10	0.9999	0.946	0.3519	0.614	0.1205	0.393	0.0358	0.237
0.11	1.1869	1.041	0.4170	0.675	0.1426	0.432	0.0424	0.260
0.12	1.3885	1.135	0.4871	0.737	0.1664	0.472	0.0494	0.284
0.13	1.6047	1.230	0.5622	0.798	0.1918	0.511	0.0568	0.308
0.14	1.8353	1.325	0.6421	0.860	0.2188	0.550	0.0648	0.331
0.15	2.0802	1.419	0.7269	0.921	0.2474	0.589	0.0731	0.355
0.16	2.3394	1.514	0.8165	0.982	0.2776	0.629	0.0820	0.378
0.17	2.6127	1.609	0.9108	1.044	0.3094	0.668	0.0913	0.402
0.18	2.9001	1.703	1.0099	1.105	0.3427	0.707	0.1010	0.426
0.19	3.2016	1.798	1.1136	1.167	0.3775	0.747	0.1112	0.449
0.20	3.5171	1.892	1.2221	1.228	0.4139	0.786	0.1218	0.473
0.21	3.8464	1.987	1.3352	1.289	0.4519	0.825	0.1329	0.497
0.22	4.1897	2.082	1.4530	1.351	0.4913	0.865	0.1444	0.520
0.23	4.5468	2.176	1.5754	1.412	0.5323	0.904	0.1563	0.544
0.24	4.9178	2.271	1.7024	1.474	0.5747	0.943	0.1686	0.568
0.25	5.3025	2.366	1.8340	1.535	0.6186	0.982	0.1814	0.591
0.26	5.7009	2.460	1.9701	1.596	0.6641	1.022	0.1946	0.615
0.27	6.1131	2.555	2.1109	1.658	0.7110	1.061	0.2082	0.639
0.28	6.5390	2.649	2.2561	1.719	0.7594	1.100	0.2222	0.662
0.29	6.9785	2.744	2.4059	1.781	0.8092	1.140	0.2366	0.686
0.30	7.4317	2.839	2.5602	1.842	0.8606	1.179	0.2514	0.710
0.31	7.8985	2.933	2.7191	1.903	0.9134	1.218	0.2667	0.733
0.32	8.3789	3.028	2.8824	1.965	0.9676	1.258	0.2824	0.757
0.33	8.8729	3.123	3.0502	2.026	1.0233	1.297	0.2984	0.781
0.34	9.3805	3.217	3.2225	2.088	1.0804	1.336	0.3149	0.804
0.35	9.9016	3.312	3.3993	2.149	1.1390	1.375	0.3318	0.828
0.36	10.4362	3.406	3.5806	2.210	1.1990	1.415	0.3491	0.852
0.37	10.9844	3.501	3.7663	2.272	1.2605	1.454	0.3668	0.875
0.38	11.5461	3.596	3.9564	2.333	1.3234	1.493	0.3849	0.899
0.39	12.1213	3.690	4.1510	2.395	1.3877	1.533	0.4034	0.923
0.40	12.7100	3.785	4.3501	2.456	1.4535	1.572	0.4223	0.946
0.41	13.3121	3.880	4.5536	2.517	1.5207	1.611	0.4416	0.970
0.42	13.9277	3.974	4.7615	2.579	1.5893	1.650	0.4613	0.994
0.43	14.5568	4.069	4.9738	2.640	1.6593	1.690	0.4813	1.017
0.44			5.1906	2.702	1.7307	1.729	0.5018	1.041
0.45			5.4117	2.763	1.8036	1.768	0.5227	1.065
0.46			5.6373	2.825	1.8778	1.808	0.5440	1.088
0.47			5.8673	2.886	1.9535	1.847	0.5656	1.112
0.48			6.1017	2.947	2.0306	1.886	0.5877	1.135
0.49			6.3404	3.009	2.1091	1.926	0.6101	1.159
0.50			6.5836	3.070	2.1890	1.965	0.6329	1.183

PRESSURE LOSS TABLES FOR RAU-PE-XA

Hot water at 60°C

Peak Flow Rate Qs (l/s) (0.05 to 2.50)	PN 20 32 x 4.4		PN 20 40 x 5.5		PN 20 50 x 6.9		PN 20 63 x 8.6	
	D _o (mm) = 32.00 D _i (mm) = 23.20		D _o (mm) = 40.00 D _i (mm) = 29.00		D _o (mm) = 50.00 D _i (mm) = 36.20		D _o (mm) = 63.00 D _i (mm) = 45.80	
	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)
0.05	0.0107	0.118	0.0037	0.076	0.0013	0.049	0.0004	0.030
0.10	0.0358	0.237	0.0124	0.151	0.0043	0.097	0.0014	0.061
0.15	0.0731	0.355	0.0252	0.227	0.0088	0.146	0.0029	0.091
0.20	0.1218	0.473	0.0418	0.303	0.0145	0.194	0.0047	0.121
0.25	0.1814	0.591	0.0620	0.378	0.0215	0.243	0.0070	0.152
0.30	0.2514	0.710	0.0858	0.454	0.0296	0.291	0.0096	0.182
0.35	0.3318	0.828	0.1130	0.530	0.0389	0.340	0.0126	0.212
0.40	0.4223	0.946	0.1435	0.606	0.0494	0.389	0.0160	0.243
0.45	0.5227	1.065	0.1773	0.681	0.0609	0.437	0.0197	0.273
0.50	0.6329	1.183	0.2143	0.757	0.0735	0.486	0.0238	0.303
0.55	0.7529	1.301	0.2546	0.833	0.0872	0.534	0.0281	0.334
0.60	0.8825	1.419	0.2979	0.908	0.1019	0.583	0.0329	0.364
0.65	1.0216	1.538	0.3444	0.984	0.1177	0.632	0.0379	0.395
0.70	1.1703	1.656	0.3941	1.060	0.1345	0.680	0.0433	0.425
0.75	1.3284	1.774	0.4467	1.135	0.1523	0.729	0.0490	0.455
0.80	1.4960	1.892	0.5025	1.211	0.1712	0.777	0.0550	0.486
0.85	1.6728	2.011	0.5612	1.287	0.1910	0.826	0.0613	0.516
0.90	1.8590	2.129	0.6230	1.363	0.2118	0.874	0.0679	0.546
0.95	2.0545	2.247	0.6878	1.438	0.2337	0.923	0.0749	0.577
1.00	2.2593	2.366	0.7556	1.514	0.2565	0.972	0.0821	0.607
1.05	2.4733	2.484	0.8263	1.590	0.2803	1.020	0.0897	0.637
1.10	2.6965	2.602	0.9001	1.665	0.3050	1.069	0.0975	0.668
1.15	2.9289	2.720	0.9767	1.741	0.3307	1.117	0.1057	0.698
1.20	3.1704	2.839	1.0564	1.817	0.3574	1.166	0.1141	0.728
1.25	3.4211	2.957	1.1389	1.892	0.3851	1.215	0.1229	0.759
1.30	3.6810	3.075	1.2244	1.968	0.4137	1.263	0.1319	0.789
1.35	3.9499	3.194	1.3128	2.044	0.4433	1.312	0.1412	0.819
1.40	4.2280	3.312	1.4041	2.120	0.4738	1.360	0.1509	0.850
1.45	4.5151	3.430	1.4984	2.195	0.5052	1.409	0.1608	0.880
1.50	4.8113	3.548	1.5955	2.271	0.5376	1.457	0.1710	0.910
1.55	5.1166	3.667	1.6955	2.347	0.5710	1.506	0.1815	0.941
1.60	5.4310	3.785	1.7984	2.422	0.6053	1.555	0.1923	0.971
1.65	5.7543	3.903	1.9042	2.498	0.6405	1.603	0.2034	1.002
1.70	6.0868	4.021	2.0129	2.574	0.6767	1.652	0.2148	1.032
1.75			2.1245	2.649	0.7137	1.700	0.2264	1.062
1.80			2.2389	2.725	0.7518	1.749	0.2384	1.093
1.85			2.3562	2.801	0.7907	1.797	0.2506	1.123
1.90			2.4764	2.877	0.8306	1.846	0.2631	1.153
1.95			2.5994	2.952	0.8714	1.895	0.2759	1.184
2.00			2.7253	3.028	0.9131	1.943	0.2890	1.214
2.05			2.8540	3.104	0.9558	1.992	0.3023	1.244
2.10			2.9856	3.179	0.9993	2.040	0.3160	1.275
2.15			3.1200	3.255	1.0438	2.089	0.3299	1.305
2.20			3.2573	3.331	1.0892	2.138	0.3441	1.335
2.25			3.3974	3.406	1.1356	2.186	0.3585	1.366
2.30			3.5404	3.482	1.1828	2.235	0.3733	1.396
2.35			3.6861	3.558	1.2310	2.283	0.3883	1.426
2.40			3.8348	3.634	1.2800	2.332	0.4037	1.457
2.45			3.9862	3.709	1.3300	2.380	0.4192	1.487
2.50			4.1405	3.785	1.3809	2.429	0.4351	1.517

PRESSURE LOSS TABLES FOR RAU-PE-XA

Hot water at 60°C

Peak Flow Rate Qs (l/s) (0.51 to 1.00)	PN 20 20 x 2.8		PN 20 25 x 3.5		PN 20 32 x 4.4		PN 20 40 x 5.5	
	D _o (mm) = 20.00 D _i (mm) = 14.40		D _o (mm) = 25.00 D _i (mm) = 18.00		D _o (mm) = 32.00 D _i (mm) = 23.20		D _o (mm) = 40.00 D _i (mm) = 29.00	
	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)
0.51	6.8312	3.132	2.2703	2.004	0.6561	1.206	0.2221	0.772
0.52	7.0831	3.193	2.3530	2.043	0.6797	1.230	0.2300	0.787
0.53	7.3394	3.254	2.4371	2.083	0.7037	1.254	0.2381	0.802
0.54	7.6001	3.316	2.5225	2.122	0.7281	1.277	0.2463	0.818
0.55	7.8652	3.377	2.6094	2.161	0.7529	1.301	0.2546	0.833
0.56	8.1346	3.439	2.6977	2.201	0.7780	1.325	0.2630	0.848
0.57	8.4084	3.500	2.7874	2.240	0.8036	1.348	0.2715	0.863
0.58	8.6866	3.561	2.8784	2.279	0.8295	1.372	0.2802	0.878
0.59	8.9691	3.623	2.9709	2.319	0.8558	1.396	0.2890	0.893
0.60	9.2560	3.684	3.0647	2.358	0.8825	1.419	0.2979	0.908
0.61	9.5473	3.746	3.1600	2.397	0.9095	1.443	0.3070	0.924
0.62	9.8429	3.807	3.2566	2.436	0.9370	1.467	0.3162	0.939
0.63	10.1429	3.868	3.3546	2.476	0.9648	1.490	0.3255	0.954
0.64	10.4472	3.930	3.4539	2.515	0.9930	1.514	0.3349	0.969
0.65	10.7559	3.991	3.5547	2.554	1.0216	1.538	0.3444	0.984
0.66	11.0689	4.053	3.6568	2.594	1.0506	1.561	0.3541	0.999
0.67			3.7604	2.633	1.0800	1.585	0.3639	1.014
0.68			3.8653	2.672	1.1097	1.609	0.3738	1.029
0.69			3.9716	2.712	1.1398	1.632	0.3839	1.045
0.70			4.0792	2.751	1.1703	1.656	0.3941	1.060
0.71			4.1882	2.790	1.2012	1.680	0.4043	1.075
0.72			4.2987	2.829	1.2324	1.703	0.4148	1.090
0.73			4.4104	2.869	1.2641	1.727	0.4253	1.105
0.74			4.5236	2.908	1.2961	1.751	0.4360	1.120
0.75			4.6381	2.947	1.3284	1.774	0.4467	1.135
0.76			4.7540	2.987	1.3612	1.798	0.4576	1.151
0.77			4.8713	3.026	1.3943	1.821	0.4687	1.166
0.78			4.9899	3.065	1.4278	1.845	0.4798	1.181
0.79			5.1099	3.105	1.4617	1.869	0.4911	1.196
0.80			5.2313	3.144	1.4960	1.892	0.5025	1.211
0.81			5.3541	3.183	1.5306	1.916	0.5140	1.226
0.82			5.4782	3.222	1.5656	1.940	0.5256	1.241
0.83			5.6037	3.262	1.6010	1.963	0.5374	1.257
0.84			5.7305	3.301	1.6367	1.987	0.5492	1.272
0.85			5.8587	3.340	1.6728	2.011	0.5612	1.287
0.86			5.9883	3.380	1.7093	2.034	0.5733	1.302
0.87			6.1192	3.419	1.7462	2.058	0.5856	1.317
0.88			6.2515	3.458	1.7834	2.082	0.5979	1.332
0.89			6.3852	3.497	1.8211	2.105	0.6104	1.347
0.90			6.5202	3.537	1.8590	2.129	0.6230	1.363
0.91			6.6566	3.576	1.8974	2.153	0.6357	1.378
0.92			6.7944	3.615	1.9361	2.176	0.6486	1.393
0.93			6.9335	3.655	1.9752	2.200	0.6615	1.408
0.94			7.0740	3.694	2.0147	2.224	0.6746	1.423
0.95			7.2158	3.733	2.0545	2.247	0.6878	1.438
0.96			7.3590	3.773	2.0947	2.271	0.7011	1.453
0.97			7.5035	3.812	2.1353	2.295	0.7146	1.469
0.98			7.6494	3.851	2.1763	2.318	0.7281	1.484
0.99			7.7967	3.890	2.2176	2.342	0.7418	1.499
1.00			7.9453	3.930	2.2593	2.366	0.7556	1.514

PRESSURE LOSS TABLES FOR RAU-PE-XA

Hot water at 60°C

Peak Flow Rate Qs (l/s) (2.60 to 7.50)	PN 20 50 x 6.9		PN 20 63 x 8.6	
	D _o (mm) = 50.00 D _i (mm) = 36.20		D _o (mm) = 63.00 D _i (mm) = 45.80	
	Head loss (kPa/m)	Velocity (m/s)	Head loss (kPa/m)	Velocity (m/s)
2.60	1.4854	2.526	0.4677	1.578
2.70	1.5935	2.623	0.5013	1.639
2.80	1.7053	2.721	0.5361	1.700
2.90	1.8207	2.818	0.5720	1.760
3.00	1.9397	2.915	0.6089	1.821
3.10	2.0623	3.012	0.6470	1.882
3.20	2.1885	3.109	0.6861	1.942
3.30	2.3183	3.206	0.7263	2.003
3.40	2.4517	3.303	0.7676	2.064
3.50	2.5887	3.401	0.8100	2.124
3.60	2.7292	3.498	0.8535	2.185
3.70	2.8734	3.595	0.8980	2.246
3.80	3.0211	3.692	0.9436	2.307
3.90	3.1724	3.789	0.9903	2.367
4.00	3.3272	3.886	1.0381	2.428
4.10	3.4857	3.984	1.0869	2.489
4.20	3.6477	4.081	1.1369	2.549
4.30			1.1878	2.610
4.40			1.2399	2.671
4.50			1.2930	2.731
4.60			1.3472	2.792
4.70			1.4024	2.853
4.80			1.4587	2.914
4.90			1.5161	2.974
5.00			1.5745	3.035
5.10			1.6340	3.096
5.20			1.6945	3.156
5.30			1.7561	3.217
5.40			1.8188	3.278
5.50			1.8825	3.338
5.60			1.9473	3.399
5.70			2.0131	3.460
5.80			2.0800	3.521
5.90			2.1479	3.581
6.00			2.2169	3.642
6.10			2.2870	3.703
6.20			2.3580	3.763
6.30			2.4302	3.824
6.40			2.5034	3.885
6.50			2.5776	3.945
6.60			2.6529	4.006
6.70			2.7293	4.067
6.80			2.8067	4.128
6.90			2.8851	4.188
7.00			2.9646	4.249
7.10			3.0451	4.310
7.20			3.1267	4.370
7.30			3.2093	4.431
7.40			3.2930	4.492
7.50			3.3777	4.552