

深圳市分流域暴雨强度公式及查算图表

（ 2024 版 ）

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深圳市规划和自然资源局

深圳市水务局

2024 年 12 月

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说 明

本次暴雨强度公式修订依据国家《室外排水设计标准》（GB 50014—2021）和《城市暴雨强度公式编制和设计暴雨雨型确定技术导则》，应用了气象部门已业务化运行的暴雨强度计算系统，样本选用年最大值法，运用皮尔逊-III型分布曲线拟合和最小二乘法求得暴雨强度公式，计算过程规范，公式精度满足规范要求。结合气象数据条件，本次修订首次采用分流域编制，并首次针对深汕特别合作区单独编制暴雨强度公式。新编暴雨强度公式适用于深圳市新建排水管网和旧排水管道改造等工程项目。

1、数据资料年限

深圳国家基本气象站所用数据为近 30 年，即 1994~2023 年雨量数据。深汕特别合作区使用汕尾国家基本气象站 1981-2023 年雨量数据。区域气象站所用数据为近 20 年，即 2004~2023 年雨量资料。

2、分流域和暴雨强度公式推荐

在分析深圳暴雨分布特征和规律的基础上，综合考虑数据条件和暴雨强度公式结果精度，按深圳九大流域和水系，将深圳分为西部流域和水系（茅洲河流域、珠江口水系和观澜河流域）、中部流域和水系（深圳湾水系、深圳河流域和龙岗河流域）和东部流域和水系（坪山河流域、大鹏湾水系和大亚湾水系），分别适用不同的暴雨强度公式。

在对比两个国家气象站和 8 个区域气象站共 10 套暴雨强度公式结果的基础上，综合考虑计算结果偏差以及经济性和安全性，推荐：

西部流域和水系采用福永气象站数据编制的暴雨强度公式结果，

为西部流域和水系暴雨强度公式；

中部流域和水系采用深圳国家基本气象站数据编制的暴雨强度公式结果，为中部流域和水系暴雨强度公式；

东部流域和水系采用沙头角气象站数据编制的暴雨强度公式结果，为东部流域和水系部暴雨强度公式；

深汕特别合作区内气象站观测时间较短，不满足暴雨强度公式编制要求，因其降雨特征与汕尾接近，推荐采用汕尾国家基本气象站数据编制的暴雨强度公式结果。

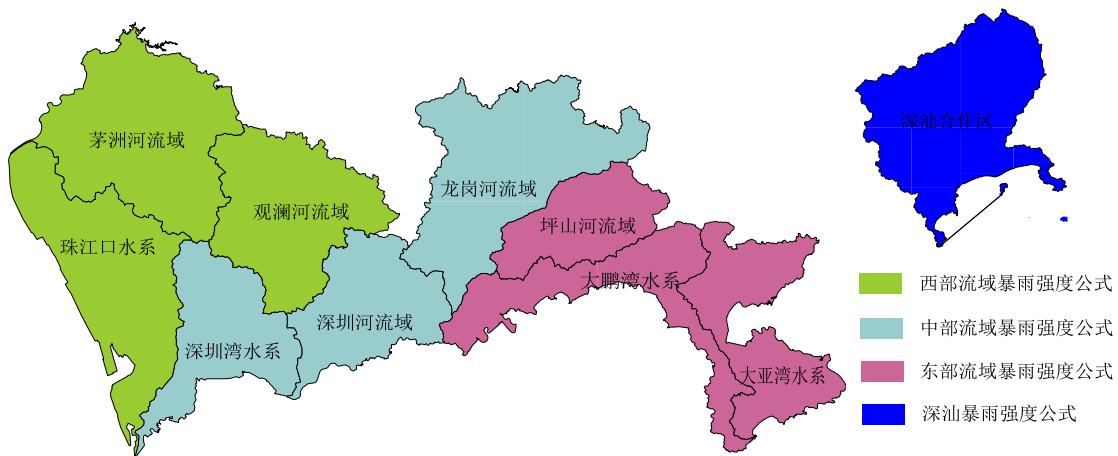


图 1 深圳市暴雨强度公式适用范围示意图

根据深圳市各暴雨强度公式应用的流域范围，各行政区、街道可按如下范围应用暴雨强度公式。

西部流域和水系（茅洲河流域、珠江口水系和观澜河流域）暴雨强度公式应用范围：宝安区、光明区、龙华区；龙岗区平湖街道、坂田街道；南山区南山街道、南头街道。

中部流域和水系（深圳湾水系、深圳河流域和龙岗河流域）暴雨强度公式应用范围：南山区（除南山街道和南头街道）、福田区、罗湖区、龙岗区（除平湖街道、坂田街道）；坪山区坑梓街道、龙田街道。

东部流域和水系（坪山河流域、大鹏湾水系和大亚湾水系）暴雨强度公式应用范围：盐田区、坪山区（除坑梓街道、龙田街道）、大鹏新区。

3、查算方式说明

（1）9 个特定重现期暴雨强度。常用的 1、2、3、5、10、20、30、50、100 年 9 个特定重现期的设计暴雨强度，可根据区域对应直接查询附表 1、附表 2、附表 3 或附表 4，也可以对应通过图 2、图 3、图 4 或图 5 查询（西部流域和水系、中部流域和水系、东部流域和水系和深汕特别合作区单一重现期暴雨强度公式依次见表 1、表 3、表 5、表 7）。

（2）其他重现期暴雨强度。上述 9 个特定重现期之外的其它重现期设计暴雨强度，可用暴雨强度重现期区间参数公式代入下式计算：

$$q = \frac{167A}{(t+b)^n}$$

式中：q—设计暴雨强度[L/(s · hm²)]

t—降雨历时（min）

A—雨力参数

b—地方常数

n—暴雨衰减指数

（A、b、n 按暴雨强度重现期区间参数公式计算，西部流域和水系、中部流域和水系、东部流域和水系和深汕特别合作区公式依次见表 2、表 4、表 6、表 8）

（3）各历时各重现期降雨量。查询各历时各重现期降雨量，若为 5、10、15、20、30、45、60、90、120、150、180 分钟 11 个特定

历时，以及 2、3、5、10、20、50、100 年 7 个特定重现期组合，可通过表 9 至表 12 对应查询，若为其他历时和重现期组合，则在前面（1）或（2）所计算暴雨强度结果的基础上除以 167 再乘以相应的降雨历时（分钟）即可。

表 1 深圳市西部流域和水系单一重现期暴雨强度公式

重现期 P (年)	公 式
P=1	$12140.566 / (t + 33.494)^{1.016}$
P=2	$10533.525 / (t + 30.983)^{0.926}$
P=3	$9728.251 / (t + 30.189)^{0.879}$
P=5	$8777.687 / (t + 29.351)^{0.821}$
P=10	$6110.53 / (t + 25.026)^{0.720}$
P=20	$5013.674 / (t + 21.838)^{0.657}$
P=30	$4574.13 / (t + 20.309)^{0.625}$
P=50	$4088.828 / (t + 18.532)^{0.587}$
P=100	$3487.962 / (t + 16.257)^{0.537}$

表 2 深圳市西部流域和水系暴雨强度重现期区间参数公式

重现期 P (年)	区间	参数	公 式
1—10	II	n	$0.986 - 0.106\ln(P - 0.247)$
		b	$31.178 - 1.281\ln(P - 0.836)$
		A	$67.931 - 10.040\ln(P - 0.378)$
10—100	III	n	$0.848 - 0.068\ln(P - 3.422)$
		b	$30.239 - 3.067\ln(P - 4.527)$
		A	$42.130 - 4.684\ln(P - 6.737)$

表 3 深圳市中部流域和水系单一重现期暴雨强度公式

重现期 P (年)	公 式
P=1	$3785.222 / (t + 16.306)^{0.794}$
P=2	$4728.605 / (t + 18.446)^{0.770}$
P=3	$5062.939 / (t + 19.650)^{0.757}$
P=5	$5422.490 / (t + 21.140)^{0.741}$
P=10	$5226.599 / (t + 21.591)^{0.703}$
P=20	$4760.335 / (t + 20.613)^{0.662}$
P=30	$4573.629 / (t + 20.200)^{0.643}$
P=50	$4367.217 / (t + 19.736)^{0.621}$
P=100	$4111.874 / (t + 19.158)^{0.594}$

表 4 深圳市中部流域和水系暴雨强度重现期区间参数公式

重现期 P (年)	区间	参数	公 式
1—10	II	n	$0.786 - 0.029\text{Ln}(P - 0.247)$
		b	$16.655 + 2.828\text{Ln}(P - 0.116)$
		A	$27.622 + 3.362\text{Ln}(P - 0.771)$
10—100	III	n	$0.762 - 0.037\text{Ln}(P - 5.080)$
		b	$22.609 - 0.760\text{Ln}(P - 6.185)$
		A	$33.652 - 1.991\text{Ln}(P - 6.737)$

表 5 深圳市东部流域和水系单一重现期暴雨强度公式

重现期 P (年)	公 式
P=1	$3246.647 / (t + 16.631)^{0.717}$
P=2	$2531.052 / (t + 12.325)^{0.622}$
P=3	$2277.546 / (t + 10.799)^{0.581}$
P=5	$2004.835 / (t + 9.157)^{0.534}$
P=10	$1995.149 / (t + 8.513)^{0.500}$
P=20	$2096.685 / (t + 8.829)^{0.485}$
P=30	$2155.803 / (t + 8.939)^{0.478}$
P=50	$2230.285 / (t + 9.057)^{0.472}$
P=100	$2331.153 / (t + 9.200)^{0.463}$

表 6 深圳市东部流域和水系暴雨强度重现期区间参数公式

重现期 P (年)	区间	参数	公 式
1—10	II	n	$0.650 - 0.078\text{Ln}(P - 0.574)$
		b	$12.853 - 2.563\text{Ln}(P - 0.771)$
		A	$15.682 - 2.550\text{Ln}(P - 0.771)$
10—100	III	n	$0.513 - 0.011\text{Ln}(P - 6.737)$
		b	$8.372 + 0.183\text{Ln}(P - 7.842)$
		A	$9.953 + 0.870\text{Ln}(P - 0.107)$

表 7 深汕特别合作区单一重现期暴雨强度公式

重现期 P (年)	公 式
P=1	$2799.421 / (t + 13.475)^{0.718}$
P=2	$2630.083 / (t + 12.223)^{0.653}$
P=3	$2537.064 / (t + 11.704)^{0.620}$
P=5	$2423.337 / (t + 11.126)^{0.580}$
P=10	$2599.188 / (t + 11.424)^{0.561}$
P=20	$3120.729 / (t + 12.940)^{0.572}$
P=30	$3407.635 / (t + 13.466)^{0.576}$
P=50	$3759.003 / (t + 14.030)^{0.580}$
P=100	$4225.768 / (t + 14.716)^{0.586}$

表 8 深汕特别合作区暴雨强度重现期区间参数公式

重现期 P (年)	区间	参数	公 式
1—10	II	n	$0.691 - 0.072\text{Ln}(P - 0.312)$
		b	$12.513 - 0.942\text{Ln}(P - 0.640)$
		A	$16.508 - 1.270\text{Ln}(P - 0.182)$
10—100	III	n	$0.554 + 0.007\text{Ln}(P - 7.290)$
		b	$10.749 + 0.877\text{Ln}(P - 7.842)$
		A	$7.280 + 3.929\text{Ln}(P - 1.764)$

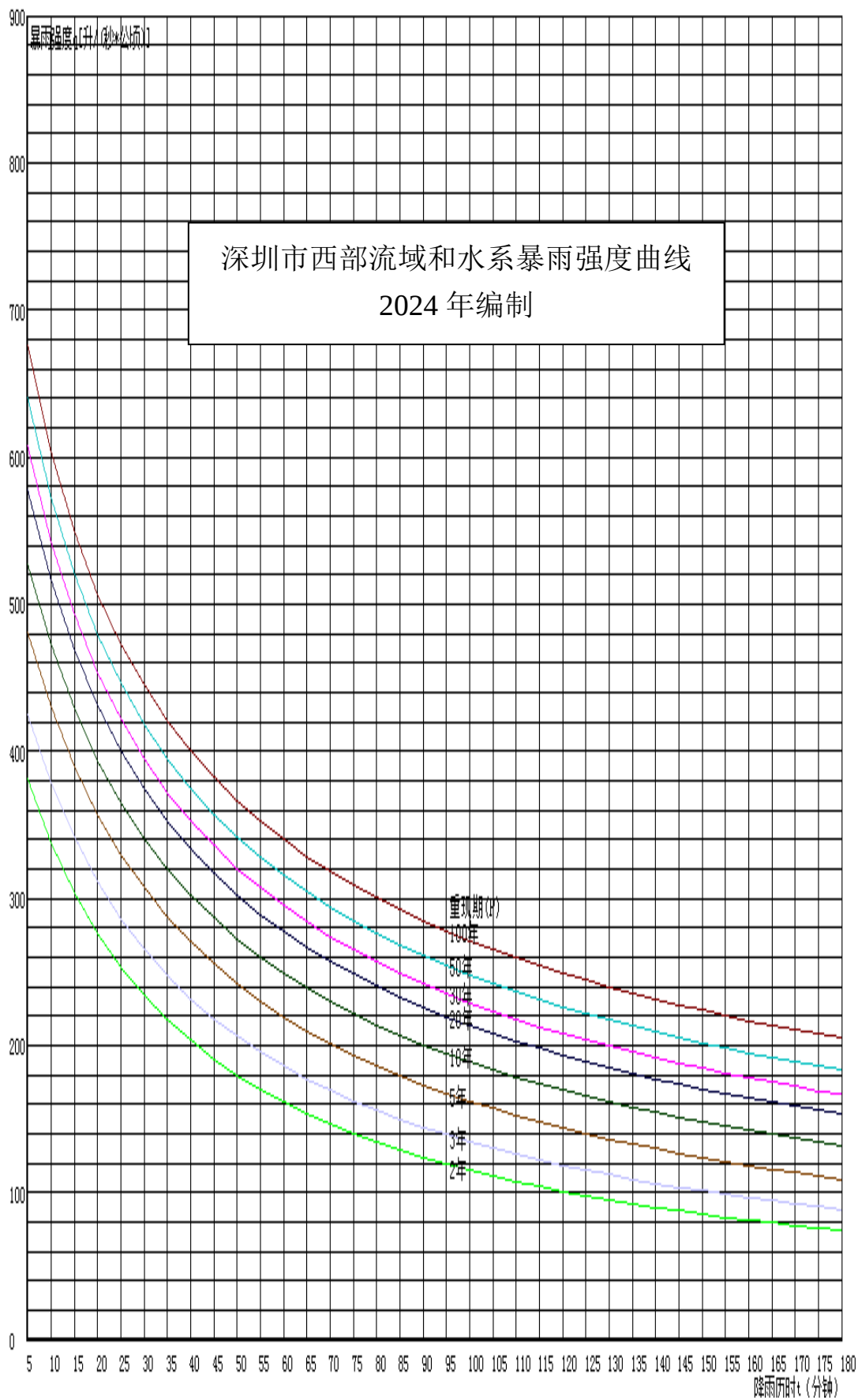


图 2 深圳市西部流域和水系暴雨强度曲线

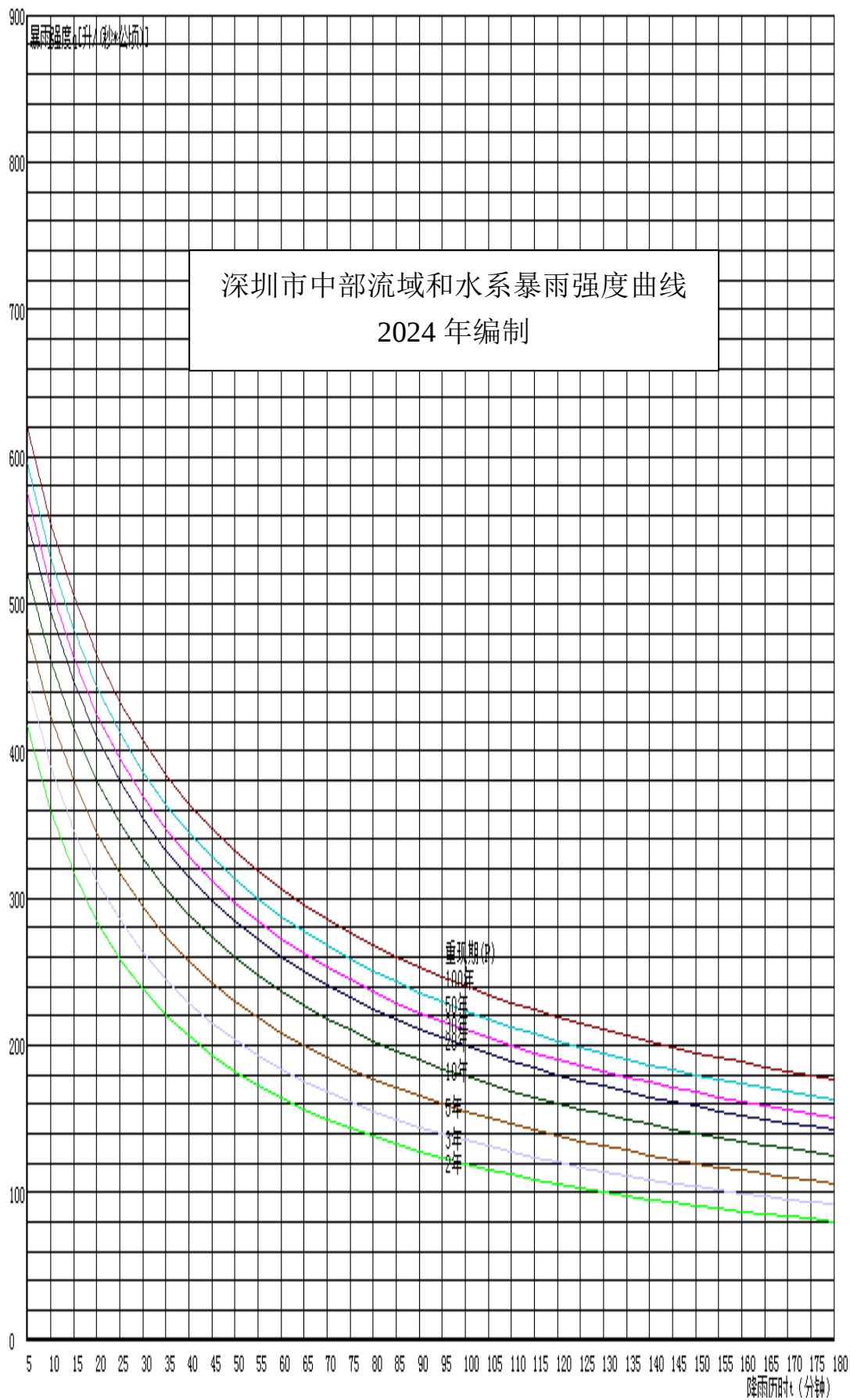


图 3 深圳市中部流域和水系暴雨强度曲线

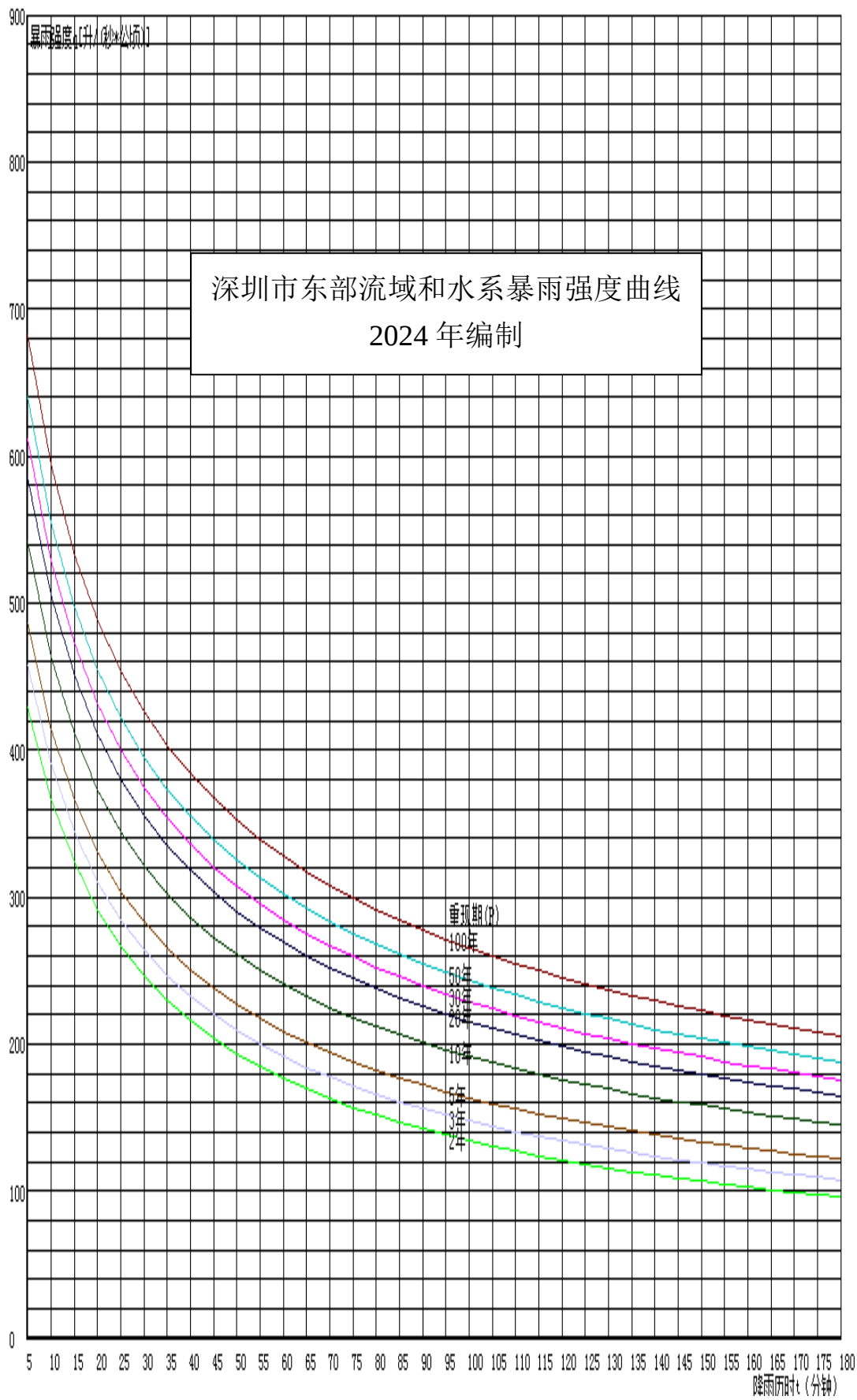


图 4 深圳市东部流域和水系暴雨强度曲线

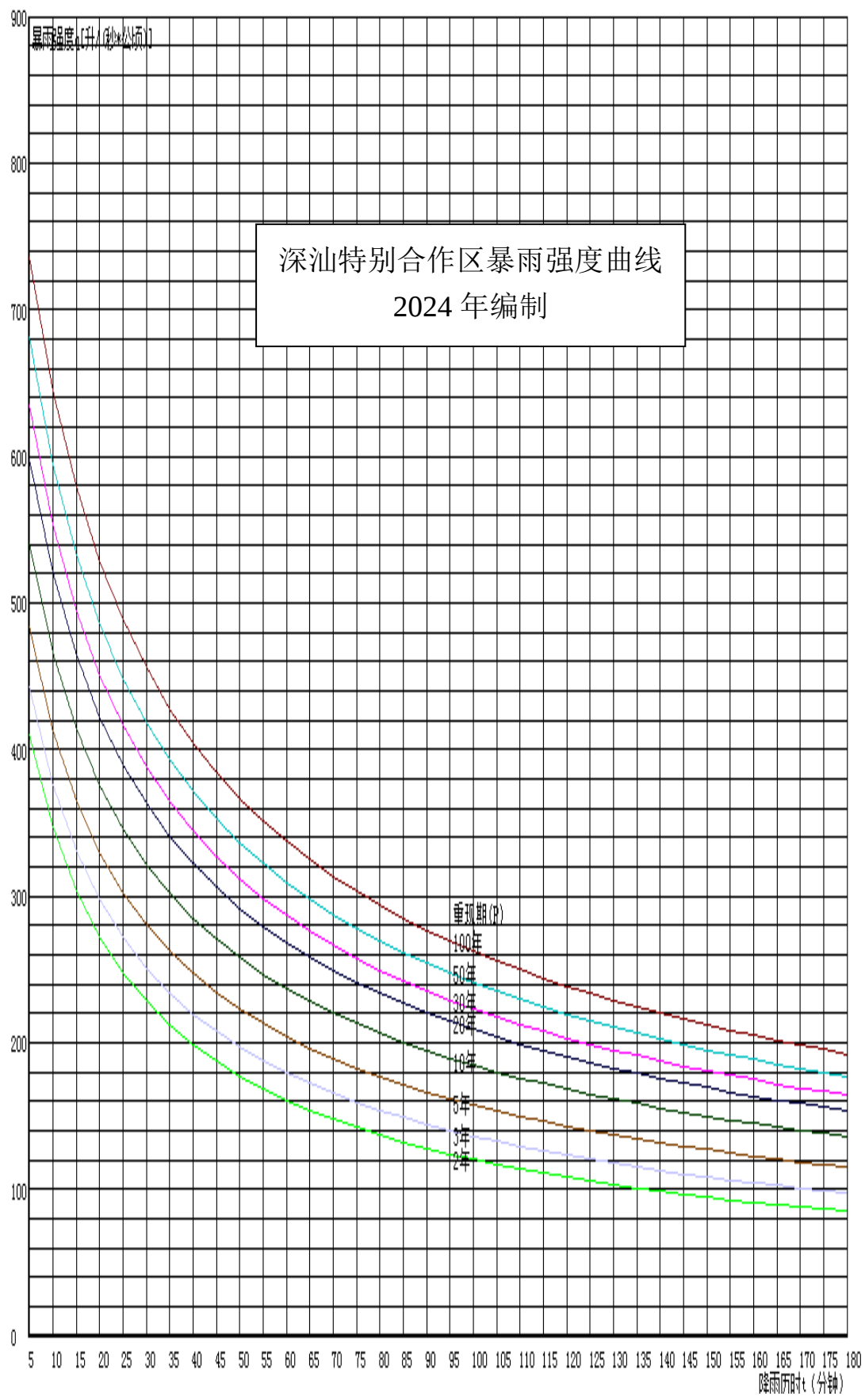


图 5 深汕特别合作区暴雨强度曲线

表 9 深圳市西部流域和水系各历时各重现期降雨量表（单位：mm）

t (min) P (a)	5	10	15	20	30	45	60	90	120	150	180
2	11.426	20.258	27.314	33.099	42.061	51.467	58.078	66.911	72.669	76.803	79.961
3	12.735	22.663	30.664	37.283	47.670	58.802	66.817	77.868	85.356	90.913	95.284
5	14.409	25.775	35.047	42.805	55.182	68.794	78.879	93.290	103.472	111.292	117.624
10	15.796	28.275	38.527	47.195	61.274	77.266	89.585	108.101	121.984	133.174	142.604
20	17.287	30.903	42.119	51.653	67.303	85.430	99.719	121.831	138.961	153.129	165.320
30	18.177	32.480	44.285	54.356	70.988	90.458	105.990	130.378	149.570	165.638	179.598
50	19.173	34.245	46.723	57.416	75.215	96.325	113.407	140.687	162.545	181.097	197.391
100	20.228	36.118	49.336	60.742	79.942	103.125	122.243	153.442	179.013	201.089	220.739

表 10 深圳市中部流域和水系各历时各重现期降雨量表（单位：mm）

t (min) P (a)	5	10	15	20	30	45	60	90	120	150	180
2	12.475	21.499	28.468	34.097	42.804	52.165	59.067	69.047	76.280	81.984	86.717
3	13.398	23.300	31.061	37.398	47.315	58.116	66.167	77.919	86.511	93.327	99.004
5	14.462	25.406	34.128	41.337	52.773	65.423	74.971	89.071	99.489	107.810	114.779
10	15.591	27.625	37.372	45.538	58.706	73.596	85.069	102.391	115.480	126.109	135.124
20	16.653	29.597	40.165	49.092	63.653	80.406	93.548	113.806	129.452	142.371	153.473
30	17.195	30.613	41.611	50.940	66.239	83.984	98.019	119.857	136.888	151.053	163.296
50	17.832	31.811	43.327	53.140	69.339	88.304	103.446	127.255	146.027	161.767	175.460
100	18.568	33.209	45.344	55.747	73.053	93.547	110.095	136.446	157.492	175.310	190.929

表 11 深圳市东部流域和水系各历时各重现期降雨量表（单位：mm）

t (min) P (a)	5	10	15	20	30	45	60	90	120	150	180
2	12.856	21.960	29.049	34.889	44.255	54.968	63.425	76.669	87.117	95.899	103.559
3	13.719	23.387	30.953	37.234	47.433	59.316	68.871	84.137	96.424	106.903	116.147
5	14.579	24.808	32.878	39.648	50.807	64.092	74.996	92.804	107.450	120.137	131.466
10	16.250	27.766	36.957	44.747	57.753	73.492	86.601	108.331	126.464	142.337	156.625
20	17.559	30.236	40.459	49.185	63.855	81.750	96.749	121.770	142.771	161.234	177.908
30	18.320	31.646	42.440	51.681	67.268	86.349	102.390	129.226	151.814	171.710	189.707
50	19.178	33.224	44.647	54.453	71.037	91.401	108.565	137.350	161.635	183.064	202.472
100	20.432	35.537	47.889	58.534	76.610	98.906	117.770	149.524	176.409	200.192	221.775

表 12 深汕特别合作区各历时各重现期降雨量表 (单位: mm)

t (min) P (a)	5	10	15	20	30	45	60	90	120	150	180
2	12.276	20.787	27.311	32.617	41.010	50.440	57.768	69.066	77.843	85.142	91.454
3	13.257	22.540	29.732	35.641	45.105	55.923	64.466	77.859	88.439	97.342	105.112
5	14.464	24.734	32.801	39.511	50.423	63.153	73.396	89.768	102.949	114.191	124.109
10	16.189	27.892	37.194	44.997	57.805	72.906	85.166	104.935	120.984	134.754	146.959
20	17.919	31.137	41.724	50.633	65.263	82.476	96.400	118.736	136.770	152.177	165.788
30	19.023	33.141	44.477	54.025	69.708	88.148	103.044	126.898	146.118	162.515	176.980
50	20.382	35.606	47.863	58.198	75.180	95.136	111.237	136.977	157.674	175.304	190.838
100	22.049	38.628	52.013	63.309	81.873	103.660	121.205	149.178	171.605	190.666	207.430

附表 1 深圳市西部流域和水系暴雨强度（ q ）和降雨强度（ i ）查算表

P=1(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	332.576	27	187.940	53	130.696	79	100.067	105	81.011	131	68.019	157	58.598
2	323.059	28	184.835	54	129.178	80	99.171	106	80.421	132	67.601	158	58.287
3	314.067	29	181.831	55	127.695	81	98.291	107	79.840	133	67.189	159	57.979
4	305.558	30	178.921	56	126.246	82	97.427	108	79.266	134	66.781	160	57.675
5	297.495	31	176.103	57	124.828	83	96.577	109	78.701	135	66.379	161	57.373
6	289.843	32	173.372	58	123.442	84	95.742	110	78.144	136	65.981	162	57.075
7	282.573	33	170.723	59	122.086	85	94.921	111	77.595	137	65.588	163	56.780
8	275.655	34	168.153	60	120.760	86	94.114	112	77.053	138	65.199	164	56.488
9	269.066	35	165.659	61	119.462	87	93.321	113	76.518	139	64.815	165	56.199
10	262.781	36	163.238	62	118.191	88	92.540	114	75.991	140	64.436	166	55.913
11	256.782	37	160.885	63	116.946	89	91.773	115	75.471	141	64.060	167	55.629
12	251.048	38	158.599	64	115.728	90	91.018	116	74.959	142	63.690	168	55.349
13	245.563	39	156.377	65	114.534	91	90.275	117	74.453	143	63.323	169	55.071
14	240.311	40	154.215	66	113.365	92	89.544	118	73.953	144	62.961	170	54.796
15	235.277	41	152.112	67	112.219	93	88.825	119	73.461	145	62.602	171	54.524
16	230.448	42	150.065	68	111.095	94	88.117	120	72.974	146	62.248	172	54.254
17	225.812	43	148.072	69	109.994	95	87.421	121	72.494	147	61.897	173	53.987
18	221.357	44	146.131	70	108.914	96	86.735	122	72.021	148	61.551	174	53.723
19	217.074	45	144.240	71	107.855	97	86.060	123	71.553	149	61.208	175	53.461
20	212.952	46	142.396	72	106.817	98	85.395	124	71.092	150	60.869	176	53.202
21	208.982	47	140.599	73	105.798	99	84.740	125	70.636	151	60.534	177	52.945
22	205.156	48	138.847	74	104.798	100	84.095	126	70.186	152	60.203	178	52.691
23	201.467	49	137.137	75	103.817	101	83.460	127	69.742	153	59.875	179	52.439
24	197.908	50	135.468	76	102.853	102	82.834	128	69.303	154	59.550	180	52.189
25	194.471	51	133.839	77	101.908	103	82.217	129	68.870	155	59.229		
26	191.150	52	132.249	78	100.979	104	81.610	130	68.442	156	58.912		

P=1(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	1.991	27	1.125	53	0.783	79	0.599	105	0.485	131	0.407	157	0.351
2	1.934	28	1.107	54	0.774	80	0.594	106	0.482	132	0.405	158	0.349
3	1.881	29	1.089	55	0.765	81	0.589	107	0.478	133	0.402	159	0.347
4	1.830	30	1.071	56	0.756	82	0.583	108	0.475	134	0.400	160	0.345
5	1.781	31	1.055	57	0.747	83	0.578	109	0.471	135	0.397	161	0.344
6	1.736	32	1.038	58	0.739	84	0.573	110	0.468	136	0.395	162	0.342
7	1.692	33	1.022	59	0.731	85	0.568	111	0.465	137	0.393	163	0.340
8	1.651	34	1.007	60	0.723	86	0.564	112	0.461	138	0.390	164	0.338
9	1.611	35	0.992	61	0.715	87	0.559	113	0.458	139	0.388	165	0.337
10	1.574	36	0.977	62	0.708	88	0.554	114	0.455	140	0.386	166	0.335
11	1.538	37	0.963	63	0.700	89	0.550	115	0.452	141	0.384	167	0.333
12	1.503	38	0.950	64	0.693	90	0.545	116	0.449	142	0.381	168	0.331
13	1.470	39	0.936	65	0.686	91	0.541	117	0.446	143	0.379	169	0.330
14	1.439	40	0.923	66	0.679	92	0.536	118	0.443	144	0.377	170	0.328
15	1.409	41	0.911	67	0.672	93	0.532	119	0.440	145	0.375	171	0.326
16	1.380	42	0.899	68	0.665	94	0.528	120	0.437	146	0.373	172	0.325
17	1.352	43	0.887	69	0.659	95	0.523	121	0.434	147	0.371	173	0.323
18	1.325	44	0.875	70	0.652	96	0.519	122	0.431	148	0.369	174	0.322
19	1.300	45	0.864	71	0.646	97	0.515	123	0.428	149	0.367	175	0.320
20	1.275	46	0.853	72	0.640	98	0.511	124	0.426	150	0.364	176	0.319
21	1.251	47	0.842	73	0.634	99	0.507	125	0.423	151	0.362	177	0.317
22	1.228	48	0.831	74	0.628	100	0.504	126	0.420	152	0.360	178	0.316
23	1.206	49	0.821	75	0.622	101	0.500	127	0.418	153	0.359	179	0.314
24	1.185	50	0.811	76	0.616	102	0.496	128	0.415	154	0.357	180	0.313
25	1.164	51	0.801	77	0.610	103	0.492	129	0.412	155	0.355		
26	1.145	52	0.792	78	0.605	104	0.489	130	0.410	156	0.353		

P=2(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	425.617	27	245.334	53	174.089	79	135.615	105	111.421	131	94.756	157	82.554
2	413.654	28	241.480	54	172.192	80	134.483	106	110.668	132	94.217	158	82.150
3	402.370	29	237.750	55	170.336	81	133.370	107	109.925	133	93.685	159	81.749
4	391.708	30	234.137	56	168.522	82	132.277	108	109.192	134	93.159	160	81.353
5	381.617	31	230.637	57	166.748	83	131.202	109	108.470	135	92.639	161	80.960
6	372.052	32	227.244	58	165.012	84	130.145	110	107.757	136	92.125	162	80.572
7	362.973	33	223.954	59	163.313	85	129.105	111	107.054	137	91.617	163	80.187
8	354.342	34	220.760	60	161.650	86	128.083	112	106.361	138	91.115	164	79.806
9	346.128	35	217.661	61	160.022	87	127.078	113	105.676	139	90.619	165	79.429
10	338.301	36	214.650	62	158.428	88	126.088	114	105.001	140	90.128	166	79.056
11	330.832	37	211.724	63	156.866	89	125.115	115	104.335	141	89.643	167	78.686
12	323.699	38	208.881	64	155.337	90	124.157	116	103.677	142	89.163	168	78.320
13	316.878	39	206.115	65	153.837	91	123.214	117	103.029	143	88.688	169	77.957
14	310.349	40	203.425	66	152.368	92	122.286	118	102.388	144	88.218	170	77.598
15	304.095	41	200.807	67	150.927	93	121.373	119	101.756	145	87.754	171	77.242
16	298.096	42	198.258	68	149.515	94	120.473	120	101.131	146	87.295	172	76.889
17	292.339	43	195.775	69	148.130	95	119.587	121	100.515	147	86.841	173	76.540
18	286.808	44	193.356	70	146.771	96	118.715	122	99.907	148	86.391	174	76.194
19	281.491	45	190.999	71	145.438	97	117.856	123	99.306	149	85.947	175	75.852
20	276.374	46	188.700	72	144.129	98	117.009	124	98.712	150	85.507	176	75.512
21	271.448	47	186.458	73	142.846	99	116.176	125	98.126	151	85.072	177	75.176
22	266.700	48	184.271	74	141.585	100	115.354	126	97.547	152	84.641	178	74.843
23	262.122	49	182.137	75	140.348	101	114.544	127	96.975	153	84.215	179	74.513
24	257.705	50	180.053	76	139.132	102	113.747	128	96.410	154	83.793	180	74.186
25	253.439	51	178.019	77	137.939	103	112.960	129	95.852	155	83.376		
26	249.318	52	176.031	78	136.766	104	112.185	130	95.301	156	82.963		

P=2(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	2.549	27	1.469	53	1.042	79	0.812	105	0.667	131	0.567	157	0.494
2	2.477	28	1.446	54	1.031	80	0.805	106	0.663	132	0.564	158	0.492
3	2.409	29	1.424	55	1.020	81	0.799	107	0.658	133	0.561	159	0.490
4	2.346	30	1.402	56	1.009	82	0.792	108	0.654	134	0.558	160	0.487
5	2.285	31	1.381	57	0.998	83	0.786	109	0.650	135	0.555	161	0.485
6	2.228	32	1.361	58	0.988	84	0.779	110	0.645	136	0.552	162	0.482
7	2.173	33	1.341	59	0.978	85	0.773	111	0.641	137	0.549	163	0.480
8	2.122	34	1.322	60	0.968	86	0.767	112	0.637	138	0.546	164	0.478
9	2.073	35	1.303	61	0.958	87	0.761	113	0.633	139	0.543	165	0.476
10	2.026	36	1.285	62	0.949	88	0.755	114	0.629	140	0.540	166	0.473
11	1.981	37	1.268	63	0.939	89	0.749	115	0.625	141	0.537	167	0.471
12	1.938	38	1.251	64	0.930	90	0.743	116	0.621	142	0.534	168	0.469
13	1.897	39	1.234	65	0.921	91	0.738	117	0.617	143	0.531	169	0.467
14	1.858	40	1.218	66	0.912	92	0.732	118	0.613	144	0.528	170	0.465
15	1.821	41	1.202	67	0.904	93	0.727	119	0.609	145	0.525	171	0.463
16	1.785	42	1.187	68	0.895	94	0.721	120	0.606	146	0.523	172	0.460
17	1.751	43	1.172	69	0.887	95	0.716	121	0.602	147	0.520	173	0.458
18	1.717	44	1.158	70	0.879	96	0.711	122	0.598	148	0.517	174	0.456
19	1.686	45	1.144	71	0.871	97	0.706	123	0.595	149	0.515	175	0.454
20	1.655	46	1.130	72	0.863	98	0.701	124	0.591	150	0.512	176	0.452
21	1.625	47	1.117	73	0.855	99	0.696	125	0.588	151	0.509	177	0.450
22	1.597	48	1.103	74	0.848	100	0.691	126	0.584	152	0.507	178	0.448
23	1.570	49	1.091	75	0.840	101	0.686	127	0.581	153	0.504	179	0.446
24	1.543	50	1.078	76	0.833	102	0.681	128	0.577	154	0.502	180	0.444
25	1.518	51	1.066	77	0.826	103	0.676	129	0.574	155	0.499		
26	1.493	52	1.054	78	0.819	104	0.672	130	0.571	156	0.497		

P=3(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	472.942	27	277.560	53	199.663	79	157.208	105	130.298	131	111.632	157	97.881
2	460.002	28	273.363	54	197.577	80	155.954	106	129.457	132	111.026	158	97.424
3	447.797	29	269.299	55	195.536	81	154.720	107	128.627	133	110.428	159	96.971
4	436.263	30	265.362	56	193.541	82	153.507	108	127.808	134	109.837	160	96.523
5	425.347	31	261.546	57	191.588	83	152.314	109	127.001	135	109.252	161	96.079
6	414.998	32	257.846	58	189.677	84	151.141	110	126.204	136	108.674	162	95.640
7	405.173	33	254.256	59	187.807	85	149.987	111	125.418	137	108.102	163	95.204
8	395.832	34	250.771	60	185.975	86	148.852	112	124.642	138	107.537	164	94.773
9	386.940	35	247.386	61	184.181	87	147.735	113	123.877	139	106.978	165	94.346
10	378.464	36	244.098	62	182.424	88	146.636	114	123.121	140	106.426	166	93.923
11	370.375	37	240.902	63	180.702	89	145.554	115	122.376	141	105.879	167	93.505
12	362.647	38	237.793	64	179.015	90	144.489	116	121.640	142	105.338	168	93.090
13	355.256	39	234.770	65	177.361	91	143.440	117	120.913	143	104.803	169	92.679
14	348.180	40	231.827	66	175.739	92	142.408	118	120.195	144	104.274	170	92.272
15	341.398	41	228.962	67	174.148	93	141.391	119	119.487	145	103.751	171	91.869
16	334.892	42	226.172	68	172.588	94	140.390	120	118.787	146	103.233	172	91.469
17	328.646	43	223.453	69	171.058	95	139.404	121	118.096	147	102.721	173	91.073
18	322.644	44	220.804	70	169.556	96	138.432	122	117.414	148	102.214	174	90.681
19	316.871	45	218.220	71	168.083	97	137.475	123	116.740	149	101.712	175	90.292
20	311.315	46	215.701	72	166.636	98	136.532	124	116.074	150	101.216	176	89.907
21	305.963	47	213.242	73	165.216	99	135.602	125	115.417	151	100.725	177	89.526
22	300.803	48	210.843	74	163.821	100	134.686	126	114.767	152	100.239	178	89.148
23	295.827	49	208.501	75	162.451	101	133.784	127	114.125	153	99.758	179	88.773
24	291.023	50	206.214	76	161.106	102	132.894	128	113.490	154	99.281	180	88.402
25	286.382	51	203.980	77	159.784	103	132.016	129	112.863	155	98.810		
26	281.898	52	201.796	78	158.485	104	131.151	130	112.244	156	98.343		

P=3(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	2.832	27	1.662	53	1.196	79	0.941	105	0.780	131	0.668	157	0.586
2	2.755	28	1.637	54	1.183	80	0.934	106	0.775	132	0.665	158	0.583
3	2.681	29	1.613	55	1.171	81	0.926	107	0.770	133	0.661	159	0.581
4	2.612	30	1.589	56	1.159	82	0.919	108	0.765	134	0.658	160	0.578
5	2.547	31	1.566	57	1.147	83	0.912	109	0.760	135	0.654	161	0.575
6	2.485	32	1.544	58	1.136	84	0.905	110	0.756	136	0.651	162	0.573
7	2.426	33	1.522	59	1.125	85	0.898	111	0.751	137	0.647	163	0.570
8	2.370	34	1.502	60	1.114	86	0.891	112	0.746	138	0.644	164	0.568
9	2.317	35	1.481	61	1.103	87	0.885	113	0.742	139	0.641	165	0.565
10	2.266	36	1.462	62	1.092	88	0.878	114	0.737	140	0.637	166	0.562
11	2.218	37	1.443	63	1.082	89	0.872	115	0.733	141	0.634	167	0.560
12	2.172	38	1.424	64	1.072	90	0.865	116	0.728	142	0.631	168	0.557
13	2.127	39	1.406	65	1.062	91	0.859	117	0.724	143	0.628	169	0.555
14	2.085	40	1.388	66	1.052	92	0.853	118	0.720	144	0.624	170	0.553
15	2.044	41	1.371	67	1.043	93	0.847	119	0.715	145	0.621	171	0.550
16	2.005	42	1.354	68	1.033	94	0.841	120	0.711	146	0.618	172	0.548
17	1.968	43	1.338	69	1.024	95	0.835	121	0.707	147	0.615	173	0.545
18	1.932	44	1.322	70	1.015	96	0.829	122	0.703	148	0.612	174	0.543
19	1.897	45	1.307	71	1.006	97	0.823	123	0.699	149	0.609	175	0.541
20	1.864	46	1.292	72	0.998	98	0.818	124	0.695	150	0.606	176	0.538
21	1.832	47	1.277	73	0.989	99	0.812	125	0.691	151	0.603	177	0.536
22	1.801	48	1.263	74	0.981	100	0.807	126	0.687	152	0.600	178	0.534
23	1.771	49	1.249	75	0.973	101	0.801	127	0.683	153	0.597	179	0.532
24	1.743	50	1.235	76	0.965	102	0.796	128	0.680	154	0.594	180	0.529
25	1.715	51	1.221	77	0.957	103	0.791	129	0.676	155	0.592		
26	1.688	52	1.208	78	0.949	104	0.785	130	0.672	156	0.589		

P=5(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	532.741	27	320.546	53	234.756	79	187.405	105	157.070	131	135.836	157	120.071
2	518.750	28	315.950	54	232.441	80	185.997	106	156.117	132	135.145	158	119.544
3	505.548	29	311.497	55	230.176	81	184.612	107	155.176	133	134.461	159	119.023
4	493.069	30	307.182	56	227.960	82	183.250	108	154.248	134	133.785	160	118.507
5	481.253	31	302.997	57	225.790	83	181.910	109	153.332	135	133.116	161	117.995
6	470.048	32	298.936	58	223.666	84	180.591	110	152.428	136	132.455	162	117.489
7	459.405	33	294.994	59	221.585	85	179.294	111	151.536	137	131.801	163	116.987
8	449.283	34	291.166	60	219.547	86	178.017	112	150.655	138	131.154	164	116.490
9	439.642	35	287.446	61	217.550	87	176.760	113	149.786	139	130.514	165	115.998
10	430.449	36	283.830	62	215.593	88	175.522	114	148.928	140	129.881	166	115.510
11	421.671	37	280.313	63	213.674	89	174.303	115	148.080	141	129.255	167	115.027
12	413.281	38	276.892	64	211.793	90	173.104	116	147.243	142	128.635	168	114.548
13	405.252	39	273.561	65	209.949	91	171.922	117	146.417	143	128.022	169	114.074
14	397.561	40	270.319	66	208.139	92	170.758	118	145.600	144	127.415	170	113.604
15	390.187	41	267.160	67	206.364	93	169.611	119	144.794	145	126.815	171	113.138
16	383.109	42	264.082	68	204.622	94	168.481	120	143.998	146	126.221	172	112.677
17	376.310	43	261.082	69	202.912	95	167.368	121	143.211	147	125.633	173	112.219
18	369.773	44	258.156	70	201.234	96	166.271	122	142.434	148	125.051	174	111.766
19	363.482	45	255.302	71	199.586	97	165.190	123	141.665	149	124.475	175	111.317
20	357.424	46	252.517	72	197.968	98	164.124	124	140.907	150	123.905	176	110.872
21	351.586	47	249.798	73	196.379	99	163.074	125	140.157	151	123.341	177	110.430
22	345.955	48	247.144	74	194.817	100	162.038	126	139.416	152	122.782	178	109.993
23	340.520	49	244.551	75	193.283	101	161.017	127	138.683	153	122.229	179	109.559
24	335.271	50	242.018	76	191.776	102	160.010	128	137.959	154	121.681	180	109.129
25	330.198	51	239.542	77	190.294	103	159.016	129	137.243	155	121.139		
26	325.293	52	237.122	78	188.838	104	158.037	130	136.536	156	120.602		

P=5(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.190	27	1.919	53	1.406	79	1.122	105	0.941	131	0.813	157	0.719
2	3.106	28	1.892	54	1.392	80	1.114	106	0.935	132	0.809	158	0.716
3	3.027	29	1.865	55	1.378	81	1.105	107	0.929	133	0.805	159	0.713
4	2.953	30	1.839	56	1.365	82	1.097	108	0.924	134	0.801	160	0.710
5	2.882	31	1.814	57	1.352	83	1.089	109	0.918	135	0.797	161	0.707
6	2.815	32	1.790	58	1.339	84	1.081	110	0.913	136	0.793	162	0.704
7	2.751	33	1.766	59	1.327	85	1.074	111	0.907	137	0.789	163	0.701
8	2.690	34	1.744	60	1.315	86	1.066	112	0.902	138	0.785	164	0.698
9	2.633	35	1.721	61	1.303	87	1.058	113	0.897	139	0.782	165	0.695
10	2.578	36	1.700	62	1.291	88	1.051	114	0.892	140	0.778	166	0.692
11	2.525	37	1.679	63	1.279	89	1.044	115	0.887	141	0.774	167	0.689
12	2.475	38	1.658	64	1.268	90	1.037	116	0.882	142	0.770	168	0.686
13	2.427	39	1.638	65	1.257	91	1.029	117	0.877	143	0.767	169	0.683
14	2.381	40	1.619	66	1.246	92	1.023	118	0.872	144	0.763	170	0.680
15	2.336	41	1.600	67	1.236	93	1.016	119	0.867	145	0.759	171	0.677
16	2.294	42	1.581	68	1.225	94	1.009	120	0.862	146	0.756	172	0.675
17	2.253	43	1.563	69	1.215	95	1.002	121	0.858	147	0.752	173	0.672
18	2.214	44	1.546	70	1.205	96	0.996	122	0.853	148	0.749	174	0.669
19	2.177	45	1.529	71	1.195	97	0.989	123	0.848	149	0.745	175	0.667
20	2.140	46	1.512	72	1.185	98	0.983	124	0.844	150	0.742	176	0.664
21	2.105	47	1.496	73	1.176	99	0.976	125	0.839	151	0.739	177	0.661
22	2.072	48	1.480	74	1.167	100	0.970	126	0.835	152	0.735	178	0.659
23	2.039	49	1.464	75	1.157	101	0.964	127	0.830	153	0.732	179	0.656
24	2.008	50	1.449	76	1.148	102	0.958	128	0.826	154	0.729	180	0.653
25	1.977	51	1.434	77	1.139	103	0.952	129	0.822	155	0.725		
26	1.948	52	1.420	78	1.131	104	0.946	130	0.818	156	0.722		

P=10(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	584.771	27	355.140	53	265.257	79	215.644	105	183.644	131	161.056	157	144.139
2	569.110	28	350.305	54	262.836	80	214.163	106	182.634	132	160.317	158	143.572
3	554.415	29	345.625	55	260.467	81	212.707	107	181.637	133	159.586	159	143.010
4	540.595	30	341.091	56	258.148	82	211.274	108	180.653	134	158.863	160	142.453
5	527.571	31	336.696	57	255.878	83	209.864	109	179.681	135	158.147	161	141.901
6	515.272	32	332.435	58	253.656	84	208.477	110	178.722	136	157.440	162	141.354
7	503.636	33	328.300	59	251.479	85	207.111	111	177.775	137	156.739	163	140.813
8	492.609	34	324.286	60	249.346	86	205.766	112	176.840	138	156.046	164	140.276
9	482.142	35	320.387	61	247.255	87	204.442	113	175.917	139	155.361	165	139.744
10	472.191	36	316.598	62	245.206	88	203.138	114	175.005	140	154.682	166	139.217
11	462.717	37	312.915	63	243.197	89	201.853	115	174.104	141	154.011	167	138.695
12	453.685	38	309.332	64	241.227	90	200.588	116	173.214	142	153.347	168	138.177
13	445.062	39	305.846	65	239.295	91	199.342	117	172.335	143	152.689	169	137.664
14	436.821	40	302.452	66	237.399	92	198.114	118	171.467	144	152.038	170	137.155
15	428.936	41	299.147	67	235.539	93	196.904	119	170.609	145	151.394	171	136.651
16	421.382	42	295.926	68	233.713	94	195.712	120	169.761	146	150.756	172	136.151
17	414.139	43	292.788	69	231.921	95	194.536	121	168.923	147	150.124	173	135.656
18	407.186	44	289.728	70	230.161	96	193.378	122	168.095	148	149.499	174	135.165
19	400.505	45	286.743	71	228.433	97	192.235	123	167.277	149	148.880	175	134.678
20	394.081	46	283.830	72	226.735	98	191.109	124	166.468	150	148.267	176	134.195
21	387.897	47	280.987	73	225.068	99	189.998	125	165.668	151	147.660	177	133.717
22	381.940	48	278.211	74	223.429	100	188.903	126	164.878	152	147.059	178	133.242
23	376.197	49	275.500	75	221.818	101	187.822	127	164.096	153	146.464	179	132.772
24	370.657	50	272.852	76	220.235	102	186.757	128	163.323	154	145.874	180	132.305
25	365.307	51	270.263	77	218.679	103	185.705	129	162.559	155	145.291		
26	360.138	52	267.732	78	217.149	104	184.668	130	161.803	156	144.712		

P=10(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.502	27	2.127	53	1.588	79	1.291	105	1.100	131	0.964	157	0.863
2	3.408	28	2.098	54	1.574	80	1.282	106	1.094	132	0.960	158	0.860
3	3.320	29	2.070	55	1.560	81	1.274	107	1.088	133	0.956	159	0.856
4	3.237	30	2.042	56	1.546	82	1.265	108	1.082	134	0.951	160	0.853
5	3.159	31	2.016	57	1.532	83	1.257	109	1.076	135	0.947	161	0.850
6	3.085	32	1.991	58	1.519	84	1.248	110	1.070	136	0.943	162	0.846
7	3.016	33	1.966	59	1.506	85	1.240	111	1.065	137	0.939	163	0.843
8	2.950	34	1.942	60	1.493	86	1.232	112	1.059	138	0.934	164	0.840
9	2.887	35	1.918	61	1.481	87	1.224	113	1.053	139	0.930	165	0.837
10	2.827	36	1.896	62	1.468	88	1.216	114	1.048	140	0.926	166	0.834
11	2.771	37	1.874	63	1.456	89	1.209	115	1.043	141	0.922	167	0.831
12	2.717	38	1.852	64	1.444	90	1.201	116	1.037	142	0.918	168	0.827
13	2.665	39	1.831	65	1.433	91	1.194	117	1.032	143	0.914	169	0.824
14	2.616	40	1.811	66	1.422	92	1.186	118	1.027	144	0.910	170	0.821
15	2.568	41	1.791	67	1.410	93	1.179	119	1.022	145	0.907	171	0.818
16	2.523	42	1.772	68	1.399	94	1.172	120	1.017	146	0.903	172	0.815
17	2.480	43	1.753	69	1.389	95	1.165	121	1.012	147	0.899	173	0.812
18	2.438	44	1.735	70	1.378	96	1.158	122	1.007	148	0.895	174	0.809
19	2.398	45	1.717	71	1.368	97	1.151	123	1.002	149	0.891	175	0.806
20	2.360	46	1.700	72	1.358	98	1.144	124	0.997	150	0.888	176	0.804
21	2.323	47	1.683	73	1.348	99	1.138	125	0.992	151	0.884	177	0.801
22	2.287	48	1.666	74	1.338	100	1.131	126	0.987	152	0.881	178	0.798
23	2.253	49	1.650	75	1.328	101	1.125	127	0.983	153	0.877	179	0.795
24	2.220	50	1.634	76	1.319	102	1.118	128	0.978	154	0.873	180	0.792
25	2.187	51	1.618	77	1.309	103	1.112	129	0.973	155	0.870		
26	2.157	52	1.603	78	1.300	104	1.106	130	0.969	156	0.867		

P=20(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	641.974	27	389.621	53	294.346	79	241.977	105	208.124	131	184.126	157	166.070
2	624.151	28	384.467	54	291.790	80	240.414	106	207.053	132	183.339	158	165.462
3	607.525	29	379.481	55	289.289	81	238.875	107	205.995	133	182.560	159	164.861
4	591.973	30	374.656	56	286.842	82	237.361	108	204.951	134	181.790	160	164.264
5	577.387	31	369.982	57	284.447	83	235.871	109	203.921	135	181.028	161	163.674
6	563.675	32	365.452	58	282.101	84	234.405	110	202.903	136	180.273	162	163.088
7	550.756	33	361.060	59	279.803	85	232.961	111	201.899	137	179.527	163	162.508
8	538.558	34	356.799	60	277.552	86	231.539	112	200.906	138	178.788	164	161.933
9	527.019	35	352.662	61	275.346	87	230.140	113	199.926	139	178.057	165	161.363
10	516.084	36	348.644	62	273.184	88	228.761	114	198.958	140	177.333	166	160.798
11	505.704	37	344.739	63	271.064	89	227.403	115	198.001	141	176.617	167	160.238
12	495.835	38	340.943	64	268.985	90	226.065	116	197.056	142	175.908	168	159.683
13	486.438	39	337.251	65	266.946	91	224.746	117	196.123	143	175.206	169	159.133
14	477.477	40	333.658	66	264.946	92	223.447	118	195.200	144	174.511	170	158.587
15	468.921	41	330.160	67	262.982	93	222.167	119	194.289	145	173.823	171	158.046
16	460.741	42	326.753	68	261.055	94	220.905	120	193.387	146	173.142	172	157.510
17	452.913	43	323.433	69	259.164	95	219.661	121	192.497	147	172.468	173	156.979
18	445.411	44	320.197	70	257.306	96	218.435	122	191.617	148	171.800	174	156.452
19	438.214	45	317.041	71	255.482	97	217.225	123	190.746	149	171.139	175	155.929
20	431.305	46	313.963	72	253.690	98	216.033	124	189.886	150	170.484	176	155.411
21	424.663	47	310.959	73	251.929	99	214.856	125	189.035	151	169.835	177	154.897
22	418.273	48	308.026	74	250.199	100	213.696	126	188.194	152	169.192	178	154.387
23	412.121	49	305.162	75	248.499	101	212.552	127	187.363	153	168.556	179	153.881
24	406.192	50	302.365	76	246.827	102	211.422	128	186.540	154	167.926	180	153.380
25	400.473	51	299.631	77	245.183	103	210.308	129	185.727	155	167.301		
26	394.953	52	296.959	78	243.567	104	209.209	130	184.922	156	166.682		

P=20(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.844	27	2.333	53	1.763	79	1.449	105	1.246	131	1.103	157	0.994
2	3.737	28	2.302	54	1.747	80	1.440	106	1.240	132	1.098	158	0.991
3	3.638	29	2.272	55	1.732	81	1.430	107	1.234	133	1.093	159	0.987
4	3.545	30	2.243	56	1.718	82	1.421	108	1.227	134	1.089	160	0.984
5	3.457	31	2.215	57	1.703	83	1.412	109	1.221	135	1.084	161	0.980
6	3.375	32	2.188	58	1.689	84	1.404	110	1.215	136	1.079	162	0.977
7	3.298	33	2.162	59	1.675	85	1.395	111	1.209	137	1.075	163	0.973
8	3.225	34	2.137	60	1.662	86	1.386	112	1.203	138	1.071	164	0.970
9	3.156	35	2.112	61	1.649	87	1.378	113	1.197	139	1.066	165	0.966
10	3.090	36	2.088	62	1.636	88	1.370	114	1.191	140	1.062	166	0.963
11	3.028	37	2.064	63	1.623	89	1.362	115	1.186	141	1.058	167	0.960
12	2.969	38	2.042	64	1.611	90	1.354	116	1.180	142	1.053	168	0.956
13	2.913	39	2.019	65	1.598	91	1.346	117	1.174	143	1.049	169	0.953
14	2.859	40	1.998	66	1.587	92	1.338	118	1.169	144	1.045	170	0.950
15	2.808	41	1.977	67	1.575	93	1.330	119	1.163	145	1.041	171	0.946
16	2.759	42	1.957	68	1.563	94	1.323	120	1.158	146	1.037	172	0.943
17	2.712	43	1.937	69	1.552	95	1.315	121	1.153	147	1.033	173	0.940
18	2.667	44	1.917	70	1.541	96	1.308	122	1.147	148	1.029	174	0.937
19	2.624	45	1.898	71	1.530	97	1.301	123	1.142	149	1.025	175	0.934
20	2.583	46	1.880	72	1.519	98	1.294	124	1.137	150	1.021	176	0.931
21	2.543	47	1.862	73	1.509	99	1.287	125	1.132	151	1.017	177	0.928
22	2.505	48	1.844	74	1.498	100	1.280	126	1.127	152	1.013	178	0.924
23	2.468	49	1.827	75	1.488	101	1.273	127	1.122	153	1.009	179	0.921
24	2.432	50	1.811	76	1.478	102	1.266	128	1.117	154	1.006	180	0.918
25	2.398	51	1.794	77	1.468	103	1.259	129	1.112	155	1.002		
26	2.365	52	1.778	78	1.458	104	1.253	130	1.107	156	0.998		

P=30(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	676.015	27	410.647	53	312.309	79	258.339	105	223.393	131	198.561	157	179.826
2	656.914	28	405.313	54	309.676	80	256.727	106	222.286	132	197.745	158	179.195
3	639.155	29	400.156	55	307.100	81	255.140	107	221.193	133	196.938	159	178.569
4	622.593	30	395.166	56	304.578	82	253.578	108	220.114	134	196.139	160	177.950
5	607.102	31	390.335	57	302.110	83	252.042	109	219.049	135	195.349	161	177.336
6	592.575	32	385.654	58	299.693	84	250.529	110	217.996	136	194.567	162	176.727
7	578.918	33	381.117	59	297.325	85	249.039	111	216.957	137	193.793	163	176.124
8	566.051	34	376.716	60	295.006	86	247.572	112	215.931	138	193.027	164	175.526
9	553.902	35	372.444	61	292.733	87	246.128	113	214.917	139	192.269	165	174.934
10	542.408	36	368.296	62	290.505	88	244.705	114	213.916	140	191.518	166	174.346
11	531.515	37	364.267	63	288.321	89	243.304	115	212.926	141	190.775	167	173.764
12	521.172	38	360.349	64	286.179	90	241.923	116	211.949	142	190.040	168	173.187
13	511.337	39	356.540	65	284.077	91	240.562	117	210.983	143	189.312	169	172.614
14	501.971	40	352.833	66	282.016	92	239.221	118	210.028	144	188.591	170	172.047
15	493.038	41	349.225	67	279.993	93	237.899	119	209.084	145	187.877	171	171.484
16	484.506	42	345.712	68	278.007	94	236.596	120	208.152	146	187.170	172	170.926
17	476.349	43	342.289	69	276.057	95	235.312	121	207.230	147	186.470	173	170.373
18	468.539	44	338.952	70	274.143	96	234.045	122	206.319	148	185.777	174	169.825
19	461.053	45	335.699	71	272.262	97	232.796	123	205.418	149	185.090	175	169.281
20	453.871	46	332.526	72	270.415	98	231.565	124	204.527	150	184.410	176	168.741
21	446.972	47	329.430	73	268.600	99	230.350	125	203.646	151	183.737	177	168.206
22	440.340	48	326.407	74	266.817	100	229.151	126	202.775	152	183.070	178	167.675
23	433.957	49	323.456	75	265.063	101	227.969	127	201.913	153	182.409	179	167.149
24	427.810	50	320.573	76	263.340	102	226.802	128	201.061	154	181.754	180	166.627
25	421.884	51	317.756	77	261.645	103	225.651	129	200.219	155	181.105		
26	416.167	52	315.002	78	259.979	104	224.515	130	199.385	156	180.462		

P=30(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	4.048	27	2.459	53	1.870	79	1.547	105	1.338	131	1.189	157	1.077
2	3.934	28	2.427	54	1.854	80	1.537	106	1.331	132	1.184	158	1.073
3	3.827	29	2.396	55	1.839	81	1.528	107	1.325	133	1.179	159	1.069
4	3.728	30	2.366	56	1.824	82	1.518	108	1.318	134	1.174	160	1.066
5	3.635	31	2.337	57	1.809	83	1.509	109	1.312	135	1.170	161	1.062
6	3.548	32	2.309	58	1.795	84	1.500	110	1.305	136	1.165	162	1.058
7	3.467	33	2.282	59	1.780	85	1.491	111	1.299	137	1.160	163	1.055
8	3.390	34	2.256	60	1.767	86	1.482	112	1.293	138	1.156	164	1.051
9	3.317	35	2.230	61	1.753	87	1.474	113	1.287	139	1.151	165	1.048
10	3.248	36	2.205	62	1.740	88	1.465	114	1.281	140	1.147	166	1.044
11	3.183	37	2.181	63	1.726	89	1.457	115	1.275	141	1.142	167	1.041
12	3.121	38	2.158	64	1.714	90	1.449	116	1.269	142	1.138	168	1.037
13	3.062	39	2.135	65	1.701	91	1.440	117	1.263	143	1.134	169	1.034
14	3.006	40	2.113	66	1.689	92	1.432	118	1.258	144	1.129	170	1.030
15	2.952	41	2.091	67	1.677	93	1.425	119	1.252	145	1.125	171	1.027
16	2.901	42	2.070	68	1.665	94	1.417	120	1.246	146	1.121	172	1.024
17	2.852	43	2.050	69	1.653	95	1.409	121	1.241	147	1.117	173	1.020
18	2.806	44	2.030	70	1.642	96	1.401	122	1.235	148	1.112	174	1.017
19	2.761	45	2.010	71	1.630	97	1.394	123	1.230	149	1.108	175	1.014
20	2.718	46	1.991	72	1.619	98	1.387	124	1.225	150	1.104	176	1.010
21	2.676	47	1.973	73	1.608	99	1.379	125	1.219	151	1.100	177	1.007
22	2.637	48	1.955	74	1.598	100	1.372	126	1.214	152	1.096	178	1.004
23	2.599	49	1.937	75	1.587	101	1.365	127	1.209	153	1.092	179	1.001
24	2.562	50	1.920	76	1.577	102	1.358	128	1.204	154	1.088	180	0.998
25	2.526	51	1.903	77	1.567	103	1.351	129	1.199	155	1.084		
26	2.492	52	1.886	78	1.557	104	1.344	130	1.194	156	1.081		

P=50(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	714.382	27	434.677	53	333.432	79	277.952	105	241.949	131	216.287	157	196.862
2	693.748	28	429.169	54	330.726	80	276.292	106	240.807	132	215.442	158	196.207
3	674.650	29	423.846	55	328.078	81	274.660	107	239.679	133	214.606	159	195.557
4	656.909	30	418.697	56	325.487	82	273.053	108	238.565	134	213.779	160	194.913
5	640.376	31	413.715	57	322.950	83	271.471	109	237.465	135	212.961	161	194.275
6	624.922	32	408.889	58	320.467	84	269.913	110	236.379	136	212.151	162	193.643
7	610.436	33	404.212	59	318.034	85	268.380	111	235.306	137	211.349	163	193.016
8	596.823	34	399.678	60	315.650	86	266.870	112	234.246	138	210.556	164	192.395
9	584.002	35	395.278	61	313.315	87	265.383	113	233.199	139	209.770	165	191.779
10	571.898	36	391.007	62	311.025	88	263.917	114	232.165	140	208.992	166	191.168
11	560.450	37	386.858	63	308.780	89	262.474	115	231.143	141	208.222	167	190.562
12	549.601	38	382.827	64	306.578	90	261.052	116	230.133	142	207.460	168	189.962
13	539.302	39	378.906	65	304.419	91	259.650	117	229.134	143	206.705	169	189.367
14	529.508	40	375.093	66	302.300	92	258.268	118	228.148	144	205.958	170	188.776
15	520.181	41	371.382	67	300.220	93	256.907	119	227.173	145	205.217	171	188.191
16	511.285	42	367.768	68	298.178	94	255.564	120	226.209	146	204.484	172	187.611
17	502.788	43	364.247	69	296.174	95	254.240	121	225.255	147	203.758	173	187.035
18	494.663	44	360.817	70	294.206	96	252.935	122	224.313	148	203.039	174	186.464
19	486.883	45	357.472	71	292.272	97	251.647	123	223.381	149	202.327	175	185.898
20	479.426	46	354.210	72	290.373	98	250.378	124	222.460	150	201.621	176	185.337
21	472.270	47	351.027	73	288.506	99	249.125	125	221.549	151	200.922	177	184.780
22	465.395	48	347.920	74	286.672	100	247.889	126	220.648	152	200.230	178	184.227
23	458.784	49	344.887	75	284.869	101	246.670	127	219.757	153	199.544	179	183.679
24	452.421	50	341.924	76	283.096	102	245.466	128	218.875	154	198.864	180	183.135
25	446.291	51	339.029	77	281.353	103	244.279	129	218.003	155	198.191		
26	440.381	52	336.199	78	279.638	104	243.106	130	217.140	156	197.523		

P=50(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	4.278	27	2.603	53	1.997	79	1.664	105	1.449	131	1.295	157	1.179
2	4.154	28	2.570	54	1.980	80	1.654	106	1.442	132	1.290	158	1.175
3	4.040	29	2.538	55	1.965	81	1.645	107	1.435	133	1.285	159	1.171
4	3.934	30	2.507	56	1.949	82	1.635	108	1.429	134	1.280	160	1.167
5	3.835	31	2.477	57	1.934	83	1.626	109	1.422	135	1.275	161	1.163
6	3.742	32	2.448	58	1.919	84	1.616	110	1.415	136	1.270	162	1.160
7	3.655	33	2.420	59	1.904	85	1.607	111	1.409	137	1.266	163	1.156
8	3.574	34	2.393	60	1.890	86	1.598	112	1.403	138	1.261	164	1.152
9	3.497	35	2.367	61	1.876	87	1.589	113	1.396	139	1.256	165	1.148
10	3.425	36	2.341	62	1.862	88	1.580	114	1.390	140	1.251	166	1.145
11	3.356	37	2.317	63	1.849	89	1.572	115	1.384	141	1.247	167	1.141
12	3.291	38	2.292	64	1.836	90	1.563	116	1.378	142	1.242	168	1.137
13	3.229	39	2.269	65	1.823	91	1.555	117	1.372	143	1.238	169	1.134
14	3.171	40	2.246	66	1.810	92	1.547	118	1.366	144	1.233	170	1.130
15	3.115	41	2.224	67	1.798	93	1.538	119	1.360	145	1.229	171	1.127
16	3.062	42	2.202	68	1.785	94	1.530	120	1.355	146	1.224	172	1.123
17	3.011	43	2.181	69	1.773	95	1.522	121	1.349	147	1.220	173	1.120
18	2.962	44	2.161	70	1.762	96	1.515	122	1.343	148	1.216	174	1.117
19	2.915	45	2.141	71	1.750	97	1.507	123	1.338	149	1.212	175	1.113
20	2.871	46	2.121	72	1.739	98	1.499	124	1.332	150	1.207	176	1.110
21	2.828	47	2.102	73	1.728	99	1.492	125	1.327	151	1.203	177	1.106
22	2.787	48	2.083	74	1.717	100	1.484	126	1.321	152	1.199	178	1.103
23	2.747	49	2.065	75	1.706	101	1.477	127	1.316	153	1.195	179	1.100
24	2.709	50	2.047	76	1.695	102	1.470	128	1.311	154	1.191	180	1.097
25	2.672	51	2.030	77	1.685	103	1.463	129	1.305	155	1.187		
26	2.637	52	2.013	78	1.674	104	1.456	130	1.300	156	1.183		

P=100(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	755.651	27	461.328	53	358.297	79	301.929	105	265.229	131	238.954	157	218.975
2	733.135	28	455.700	54	355.549	80	300.240	106	264.062	132	238.087	158	218.299
3	712.439	29	450.265	55	352.861	81	298.578	107	262.909	133	237.230	159	217.630
4	693.331	30	445.012	56	350.230	82	296.943	108	261.771	134	236.380	160	216.966
5	675.621	31	439.930	57	347.654	83	295.332	109	260.647	135	235.540	161	216.308
6	659.147	32	435.011	58	345.132	84	293.747	110	259.536	136	234.708	162	215.655
7	643.772	33	430.246	59	342.662	85	292.185	111	258.439	137	233.884	163	215.008
8	629.382	34	425.627	60	340.242	86	290.647	112	257.355	138	233.069	164	214.367
9	615.875	35	421.148	61	337.870	87	289.133	113	256.284	139	232.262	165	213.731
10	603.166	36	416.800	62	335.544	88	287.640	114	255.225	140	231.462	166	213.100
11	591.180	37	412.579	63	333.264	89	286.169	115	254.179	141	230.671	167	212.475
12	579.852	38	408.478	64	331.028	90	284.720	116	253.145	142	229.887	168	211.855
13	569.123	39	404.492	65	328.834	91	283.291	117	252.123	143	229.110	169	211.240
14	558.944	40	400.615	66	326.681	92	281.883	118	251.113	144	228.342	170	210.631
15	549.269	41	396.842	67	324.568	93	280.495	119	250.115	145	227.580	171	210.026
16	540.058	42	393.169	68	322.494	94	279.126	120	249.127	146	226.826	172	209.426
17	531.276	43	389.592	69	320.457	95	277.776	121	248.151	147	226.079	173	208.831
18	522.891	44	386.107	70	318.457	96	276.444	122	247.185	148	225.339	174	208.241
19	514.874	45	382.709	71	316.491	97	275.131	123	246.231	149	224.605	175	207.655
20	507.199	46	379.396	72	314.561	98	273.835	124	245.286	150	223.879	176	207.075
21	499.842	47	376.163	73	312.663	99	272.556	125	244.352	151	223.159	177	206.499
22	492.783	48	373.008	74	310.798	100	271.295	126	243.428	152	222.446	178	205.927
23	486.002	49	369.928	75	308.965	101	270.050	127	242.514	153	221.739	179	205.360
24	479.482	50	366.919	76	307.162	102	268.821	128	241.610	154	221.039	180	204.797
25	473.205	51	363.979	77	305.389	103	267.608	129	240.716	155	220.345		
26	467.158	52	361.106	78	303.644	104	266.411	130	239.830	156	219.657		

P=100(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	4.525	27	2.762	53	2.145	79	1.808	105	1.588	131	1.431	157	1.311
2	4.390	28	2.729	54	2.129	80	1.798	106	1.581	132	1.426	158	1.307
3	4.266	29	2.696	55	2.113	81	1.788	107	1.574	133	1.421	159	1.303
4	4.152	30	2.665	56	2.097	82	1.778	108	1.567	134	1.415	160	1.299
5	4.046	31	2.634	57	2.082	83	1.768	109	1.561	135	1.410	161	1.295
6	3.947	32	2.605	58	2.067	84	1.759	110	1.554	136	1.405	162	1.291
7	3.855	33	2.576	59	2.052	85	1.750	111	1.548	137	1.401	163	1.287
8	3.769	34	2.549	60	2.037	86	1.740	112	1.541	138	1.396	164	1.284
9	3.688	35	2.522	61	2.023	87	1.731	113	1.535	139	1.391	165	1.280
10	3.612	36	2.496	62	2.009	88	1.722	114	1.528	140	1.386	166	1.276
11	3.540	37	2.471	63	1.996	89	1.714	115	1.522	141	1.381	167	1.272
12	3.472	38	2.446	64	1.982	90	1.705	116	1.516	142	1.377	168	1.269
13	3.408	39	2.422	65	1.969	91	1.696	117	1.510	143	1.372	169	1.265
14	3.347	40	2.399	66	1.956	92	1.688	118	1.504	144	1.367	170	1.261
15	3.289	41	2.376	67	1.944	93	1.680	119	1.498	145	1.363	171	1.258
16	3.234	42	2.354	68	1.931	94	1.671	120	1.492	146	1.358	172	1.254
17	3.181	43	2.333	69	1.919	95	1.663	121	1.486	147	1.354	173	1.250
18	3.131	44	2.312	70	1.907	96	1.655	122	1.480	148	1.349	174	1.247
19	3.083	45	2.292	71	1.895	97	1.647	123	1.474	149	1.345	175	1.243
20	3.037	46	2.272	72	1.884	98	1.640	124	1.469	150	1.341	176	1.240
21	2.993	47	2.252	73	1.872	99	1.632	125	1.463	151	1.336	177	1.237
22	2.951	48	2.234	74	1.861	100	1.625	126	1.458	152	1.332	178	1.233
23	2.910	49	2.215	75	1.850	101	1.617	127	1.452	153	1.328	179	1.230
24	2.871	50	2.197	76	1.839	102	1.610	128	1.447	154	1.324	180	1.226
25	2.834	51	2.180	77	1.829	103	1.602	129	1.441	155	1.319		
26	2.797	52	2.162	78	1.818	104	1.595	130	1.436	156	1.315		

附表 2 深圳市中部流域和水系暴雨强度（ q ）和降雨强度（ i ）查算表

P=1(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	393.517	27	189.964	53	130.773	79	101.548	105	83.847	131	71.866	157	63.165
2	376.350	28	186.552	54	129.294	80	100.710	106	83.302	132	71.481	158	62.877
3	360.788	29	183.275	55	127.853	81	99.887	107	82.766	133	71.101	159	62.592
4	346.607	30	180.126	56	126.447	82	99.079	108	82.237	134	70.725	160	62.310
5	333.627	31	177.096	57	125.075	83	98.286	109	81.715	135	70.353	161	62.030
6	321.695	32	174.178	58	123.737	84	97.507	110	81.201	136	69.986	162	61.754
7	310.686	33	171.368	59	122.430	85	96.742	111	80.694	137	69.624	163	61.480
8	300.493	34	168.657	60	121.155	86	95.991	112	80.194	138	69.265	164	61.210
9	291.026	35	166.042	61	119.909	87	95.252	113	79.701	139	68.911	165	60.941
10	282.207	36	163.516	62	118.691	88	94.527	114	79.215	140	68.561	166	60.676
11	273.970	37	161.076	63	117.501	89	93.813	115	78.736	141	68.214	167	60.413
12	266.256	38	158.717	64	116.338	90	93.112	116	78.263	142	67.872	168	60.152
13	259.017	39	156.434	65	115.200	91	92.422	117	77.797	143	67.533	169	59.895
14	252.207	40	154.224	66	114.088	92	91.744	118	77.336	144	67.199	170	59.639
15	245.789	41	152.083	67	112.999	93	91.077	119	76.882	145	66.868	171	59.386
16	239.729	42	150.008	68	111.933	94	90.421	120	76.434	146	66.540	172	59.136
17	233.996	43	147.996	69	110.890	95	89.775	121	75.992	147	66.217	173	58.887
18	228.564	44	146.044	70	109.869	96	89.140	122	75.555	148	65.897	174	58.642
19	223.408	45	144.150	71	108.869	97	88.515	123	75.124	149	65.580	175	58.398
20	218.509	46	142.310	72	107.888	98	87.899	124	74.699	150	65.267	176	58.157
21	213.845	47	140.522	73	106.928	99	87.293	125	74.279	151	64.957	177	57.918
22	209.400	48	138.784	74	105.987	100	86.697	126	73.864	152	64.650	178	57.681
23	205.159	49	137.094	75	105.064	101	86.110	127	73.454	153	64.347	179	57.446
24	201.107	50	135.450	76	104.159	102	85.531	128	73.050	154	64.046	180	57.214
25	197.232	51	133.849	77	103.272	103	84.961	129	72.650	155	63.749		
26	193.521	52	132.291	78	102.402	104	84.400	130	72.256	156	63.455		

P=1(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	2.356	27	1.138	53	0.783	79	0.608	105	0.502	131	0.430	157	0.378
2	2.254	28	1.117	54	0.774	80	0.603	106	0.499	132	0.428	158	0.377
3	2.160	29	1.097	55	0.766	81	0.598	107	0.496	133	0.426	159	0.375
4	2.075	30	1.079	56	0.757	82	0.593	108	0.492	134	0.424	160	0.373
5	1.998	31	1.060	57	0.749	83	0.589	109	0.489	135	0.421	161	0.371
6	1.926	32	1.043	58	0.741	84	0.584	110	0.486	136	0.419	162	0.370
7	1.860	33	1.026	59	0.733	85	0.579	111	0.483	137	0.417	163	0.368
8	1.799	34	1.010	60	0.725	86	0.575	112	0.480	138	0.415	164	0.367
9	1.743	35	0.994	61	0.718	87	0.570	113	0.477	139	0.413	165	0.365
10	1.690	36	0.979	62	0.711	88	0.566	114	0.474	140	0.411	166	0.363
11	1.641	37	0.965	63	0.704	89	0.562	115	0.471	141	0.408	167	0.362
12	1.594	38	0.950	64	0.697	90	0.558	116	0.469	142	0.406	168	0.360
13	1.551	39	0.937	65	0.690	91	0.553	117	0.466	143	0.404	169	0.359
14	1.510	40	0.923	66	0.683	92	0.549	118	0.463	144	0.402	170	0.357
15	1.472	41	0.911	67	0.677	93	0.545	119	0.460	145	0.400	171	0.356
16	1.436	42	0.898	68	0.670	94	0.541	120	0.458	146	0.398	172	0.354
17	1.401	43	0.886	69	0.664	95	0.538	121	0.455	147	0.397	173	0.353
18	1.369	44	0.875	70	0.658	96	0.534	122	0.452	148	0.395	174	0.351
19	1.338	45	0.863	71	0.652	97	0.530	123	0.450	149	0.393	175	0.350
20	1.308	46	0.852	72	0.646	98	0.526	124	0.447	150	0.391	176	0.348
21	1.281	47	0.841	73	0.640	99	0.523	125	0.445	151	0.389	177	0.347
22	1.254	48	0.831	74	0.635	100	0.519	126	0.442	152	0.387	178	0.345
23	1.228	49	0.821	75	0.629	101	0.516	127	0.440	153	0.385	179	0.344
24	1.204	50	0.811	76	0.624	102	0.512	128	0.437	154	0.384	180	0.343
25	1.181	51	0.801	77	0.618	103	0.509	129	0.435	155	0.382		
26	1.159	52	0.792	78	0.613	104	0.505	130	0.433	156	0.380		

P=2(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	481.209	27	250.300	53	176.673	79	139.118	105	115.957	131	100.088	157	88.459
2	462.983	28	246.140	54	174.792	80	138.029	106	115.239	132	99.575	158	88.073
3	446.269	29	242.136	55	172.957	81	136.959	107	114.531	133	99.068	159	87.690
4	430.880	30	238.278	56	171.165	82	135.908	108	113.832	134	98.567	160	87.312
5	416.658	31	234.559	57	169.416	83	134.875	109	113.144	135	98.073	161	86.937
6	403.472	32	230.970	58	167.706	84	133.860	110	112.465	136	97.583	162	86.566
7	391.206	33	227.506	59	166.037	85	132.863	111	111.796	137	97.099	163	86.198
8	379.766	34	224.158	60	164.404	86	131.882	112	111.135	138	96.621	164	85.834
9	369.066	35	220.922	61	162.809	87	130.918	113	110.484	139	96.148	165	85.474
10	359.035	36	217.791	62	161.248	88	129.970	114	109.841	140	95.681	166	85.116
11	349.609	37	214.760	63	159.721	89	129.038	115	109.206	141	95.218	167	84.763
12	340.733	38	211.824	64	158.228	90	128.120	116	108.580	142	94.761	168	84.413
13	332.359	39	208.979	65	156.766	91	127.218	117	107.963	143	94.309	169	84.066
14	324.443	40	206.221	66	155.334	92	126.330	118	107.353	144	93.861	170	83.722
15	316.948	41	203.544	67	153.933	93	125.457	119	106.751	145	93.419	171	83.381
16	309.839	42	200.946	68	152.560	94	124.597	120	106.157	146	92.981	172	83.044
17	303.086	43	198.423	69	151.214	95	123.750	121	105.570	147	92.548	173	82.710
18	296.662	44	195.972	70	149.896	96	122.917	122	104.991	148	92.120	174	82.379
19	290.543	45	193.589	71	148.604	97	122.096	123	104.419	149	91.696	175	82.051
20	284.707	46	191.272	72	147.337	98	121.288	124	103.854	150	91.276	176	81.726
21	279.133	47	189.018	73	146.095	99	120.492	125	103.296	151	90.861	177	81.403
22	273.803	48	186.824	74	144.877	100	119.708	126	102.745	152	90.451	178	81.084
23	268.702	49	184.687	75	143.682	101	118.935	127	102.200	153	90.044	179	80.768
24	263.815	50	182.606	76	142.509	102	118.174	128	101.663	154	89.642	180	80.454
25	259.126	51	180.578	77	141.358	103	117.424	129	101.131	155	89.243		
26	254.625	52	178.601	78	140.228	104	116.685	130	100.606	156	88.849		

P=2(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	2.881	27	1.499	53	1.058	79	0.833	105	0.694	131	0.599	157	0.530
2	2.772	28	1.474	54	1.047	80	0.827	106	0.690	132	0.596	158	0.527
3	2.672	29	1.450	55	1.036	81	0.820	107	0.686	133	0.593	159	0.525
4	2.580	30	1.427	56	1.025	82	0.814	108	0.682	134	0.590	160	0.523
5	2.495	31	1.405	57	1.014	83	0.808	109	0.678	135	0.587	161	0.521
6	2.416	32	1.383	58	1.004	84	0.802	110	0.673	136	0.584	162	0.518
7	2.343	33	1.362	59	0.994	85	0.796	111	0.669	137	0.581	163	0.516
8	2.274	34	1.342	60	0.984	86	0.790	112	0.665	138	0.579	164	0.514
9	2.210	35	1.323	61	0.975	87	0.784	113	0.662	139	0.576	165	0.512
10	2.150	36	1.304	62	0.966	88	0.778	114	0.658	140	0.573	166	0.510
11	2.093	37	1.286	63	0.956	89	0.773	115	0.654	141	0.570	167	0.508
12	2.040	38	1.268	64	0.947	90	0.767	116	0.650	142	0.567	168	0.505
13	1.990	39	1.251	65	0.939	91	0.762	117	0.646	143	0.565	169	0.503
14	1.943	40	1.235	66	0.930	92	0.756	118	0.643	144	0.562	170	0.501
15	1.898	41	1.219	67	0.922	93	0.751	119	0.639	145	0.559	171	0.499
16	1.855	42	1.203	68	0.914	94	0.746	120	0.636	146	0.557	172	0.497
17	1.815	43	1.188	69	0.905	95	0.741	121	0.632	147	0.554	173	0.495
18	1.776	44	1.173	70	0.898	96	0.736	122	0.629	148	0.552	174	0.493
19	1.740	45	1.159	71	0.890	97	0.731	123	0.625	149	0.549	175	0.491
20	1.705	46	1.145	72	0.882	98	0.726	124	0.622	150	0.547	176	0.489
21	1.671	47	1.132	73	0.875	99	0.722	125	0.619	151	0.544	177	0.487
22	1.640	48	1.119	74	0.868	100	0.717	126	0.615	152	0.542	178	0.486
23	1.609	49	1.106	75	0.860	101	0.712	127	0.612	153	0.539	179	0.484
24	1.580	50	1.093	76	0.853	102	0.708	128	0.609	154	0.537	180	0.482
25	1.552	51	1.081	77	0.846	103	0.703	129	0.606	155	0.534		
26	1.525	52	1.069	78	0.840	104	0.699	130	0.602	156	0.532		

P=3(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	511.692	27	276.110	53	197.446	79	156.629	105	131.209	131	113.679	157	100.771
2	493.698	28	271.712	54	195.413	80	155.437	106	130.418	132	113.111	158	100.342
3	477.107	29	267.474	55	193.428	81	154.267	107	129.637	133	112.550	159	99.916
4	461.756	30	263.385	56	191.489	82	153.117	108	128.868	134	111.995	160	99.495
5	447.504	31	259.439	57	189.595	83	151.986	109	128.109	135	111.446	161	99.078
6	434.234	32	255.628	58	187.744	84	150.875	110	127.360	136	110.904	162	98.665
7	421.842	33	251.944	59	185.934	85	149.782	111	126.622	137	110.367	163	98.255
8	410.241	34	248.381	60	184.164	86	148.708	112	125.893	138	109.837	164	97.850
9	399.355	35	244.933	61	182.433	87	147.651	113	125.174	139	109.312	165	97.449
10	389.117	36	241.594	62	180.739	88	146.612	114	124.464	140	108.794	166	97.051
11	379.468	37	238.358	63	179.081	89	145.589	115	123.764	141	108.281	167	96.657
12	370.356	38	235.222	64	177.458	90	144.583	116	123.072	142	107.773	168	96.267
13	361.737	39	232.179	65	175.869	91	143.592	117	122.390	143	107.271	169	95.881
14	353.570	40	229.227	66	174.312	92	142.618	118	121.716	144	106.775	170	95.498
15	345.818	41	226.360	67	172.787	93	141.658	119	121.051	145	106.283	171	95.118
16	338.449	42	223.575	68	171.293	94	140.714	120	120.395	146	105.797	172	94.742
17	331.435	43	220.868	69	169.828	95	139.784	121	119.746	147	105.316	173	94.370
18	324.750	44	218.236	70	168.392	96	138.868	122	119.105	148	104.841	174	94.001
19	318.369	45	215.676	71	166.984	97	137.966	123	118.473	149	104.370	175	93.635
20	312.272	46	213.185	72	165.603	98	137.077	124	117.848	150	103.904	176	93.272
21	306.439	47	210.759	73	164.248	99	136.202	125	117.231	151	103.442	177	92.913
22	300.853	48	208.396	74	162.919	100	135.339	126	116.621	152	102.986	178	92.557
23	295.498	49	206.094	75	161.614	101	134.489	127	116.018	153	102.534	179	92.204
24	290.359	50	203.850	76	160.333	102	133.651	128	115.423	154	102.087	180	91.854
25	285.422	51	201.662	77	159.076	103	132.825	129	114.835	155	101.644		
26	280.676	52	199.528	78	157.841	104	132.011	130	114.254	156	101.205		

P=3(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.064	27	1.653	53	1.182	79	0.938	105	0.786	131	0.681	157	0.603
2	2.956	28	1.627	54	1.170	80	0.931	106	0.781	132	0.677	158	0.601
3	2.857	29	1.602	55	1.158	81	0.924	107	0.776	133	0.674	159	0.598
4	2.765	30	1.577	56	1.147	82	0.917	108	0.772	134	0.671	160	0.596
5	2.680	31	1.554	57	1.135	83	0.910	109	0.767	135	0.667	161	0.593
6	2.600	32	1.531	58	1.124	84	0.903	110	0.763	136	0.664	162	0.591
7	2.526	33	1.509	59	1.113	85	0.897	111	0.758	137	0.661	163	0.588
8	2.457	34	1.487	60	1.103	86	0.890	112	0.754	138	0.658	164	0.586
9	2.391	35	1.467	61	1.092	87	0.884	113	0.750	139	0.655	165	0.584
10	2.330	36	1.447	62	1.082	88	0.878	114	0.745	140	0.651	166	0.581
11	2.272	37	1.427	63	1.072	89	0.872	115	0.741	141	0.648	167	0.579
12	2.218	38	1.409	64	1.063	90	0.866	116	0.737	142	0.645	168	0.576
13	2.166	39	1.390	65	1.053	91	0.860	117	0.733	143	0.642	169	0.574
14	2.117	40	1.373	66	1.044	92	0.854	118	0.729	144	0.639	170	0.572
15	2.071	41	1.355	67	1.035	93	0.848	119	0.725	145	0.636	171	0.570
16	2.027	42	1.339	68	1.026	94	0.843	120	0.721	146	0.634	172	0.567
17	1.985	43	1.323	69	1.017	95	0.837	121	0.717	147	0.631	173	0.565
18	1.945	44	1.307	70	1.008	96	0.832	122	0.713	148	0.628	174	0.563
19	1.906	45	1.291	71	1.000	97	0.826	123	0.709	149	0.625	175	0.561
20	1.870	46	1.277	72	0.992	98	0.821	124	0.706	150	0.622	176	0.559
21	1.835	47	1.262	73	0.984	99	0.816	125	0.702	151	0.619	177	0.556
22	1.802	48	1.248	74	0.976	100	0.810	126	0.698	152	0.617	178	0.554
23	1.769	49	1.234	75	0.968	101	0.805	127	0.695	153	0.614	179	0.552
24	1.739	50	1.221	76	0.960	102	0.800	128	0.691	154	0.611	180	0.550
25	1.709	51	1.208	77	0.953	103	0.795	129	0.688	155	0.609		
26	1.681	52	1.195	78	0.945	104	0.790	130	0.684	156	0.606		

P=5(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	546.289	27	307.229	53	223.095	79	178.545	105	150.476	131	130.965	157	116.516
2	528.695	28	302.584	54	220.891	80	177.236	106	149.598	132	130.331	158	116.033
3	512.378	29	298.100	55	218.738	81	175.948	107	148.732	133	129.704	159	115.556
4	497.197	30	293.770	56	216.633	82	174.682	108	147.878	134	129.084	160	115.083
5	483.031	31	289.584	57	214.575	83	173.438	109	147.035	135	128.471	161	114.614
6	469.779	32	285.536	58	212.563	84	172.214	110	146.203	136	127.865	162	114.150
7	457.351	33	281.619	59	210.594	85	171.010	111	145.383	137	127.265	163	113.690
8	445.669	34	277.825	60	208.668	86	169.826	112	144.573	138	126.672	164	113.235
9	434.664	35	274.150	61	206.782	87	168.661	113	143.773	139	126.085	165	112.784
10	424.277	36	270.586	62	204.937	88	167.515	114	142.984	140	125.505	166	112.337
11	414.455	37	267.130	63	203.129	89	166.386	115	142.205	141	124.931	167	111.894
12	405.152	38	263.776	64	201.358	90	165.276	116	141.436	142	124.363	168	111.456
13	396.324	39	260.519	65	199.624	91	164.182	117	140.677	143	123.801	169	111.021
14	387.936	40	257.354	66	197.924	92	163.106	118	139.927	144	123.245	170	110.590
15	379.953	41	254.279	67	196.257	93	162.046	119	139.186	145	122.695	171	110.164
16	372.345	42	251.289	68	194.623	94	161.002	120	138.455	146	122.151	172	109.741
17	365.086	43	248.380	69	193.021	95	159.973	121	137.732	147	121.612	173	109.321
18	358.151	44	245.549	70	191.450	96	158.960	122	137.019	148	121.079	174	108.906
19	351.518	45	242.792	71	189.908	97	157.962	123	136.314	149	120.551	175	108.494
20	345.167	46	240.107	72	188.395	98	156.978	124	135.617	150	120.029	176	108.086
21	339.078	47	237.491	73	186.910	99	156.009	125	134.929	151	119.512	177	107.682
22	333.237	48	234.941	74	185.452	100	155.054	126	134.249	152	119.000	178	107.281
23	327.626	49	232.455	75	184.021	101	154.112	127	133.577	153	118.493	179	106.883
24	322.232	50	230.029	76	182.615	102	153.184	128	132.912	154	117.991	180	106.489
25	317.042	51	227.662	77	181.234	103	152.269	129	132.256	155	117.495		
26	312.045	52	225.351	78	179.878	104	151.366	130	131.607	156	117.003		

P=5(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.271	27	1.840	53	1.336	79	1.069	105	0.901	131	0.784	157	0.698
2	3.166	28	1.812	54	1.323	80	1.061	106	0.896	132	0.780	158	0.695
3	3.068	29	1.785	55	1.310	81	1.054	107	0.891	133	0.777	159	0.692
4	2.977	30	1.759	56	1.297	82	1.046	108	0.885	134	0.773	160	0.689
5	2.892	31	1.734	57	1.285	83	1.039	109	0.880	135	0.769	161	0.686
6	2.813	32	1.710	58	1.273	84	1.031	110	0.875	136	0.766	162	0.684
7	2.739	33	1.686	59	1.261	85	1.024	111	0.871	137	0.762	163	0.681
8	2.669	34	1.664	60	1.250	86	1.017	112	0.866	138	0.759	164	0.678
9	2.603	35	1.642	61	1.238	87	1.010	113	0.861	139	0.755	165	0.675
10	2.541	36	1.620	62	1.227	88	1.003	114	0.856	140	0.752	166	0.673
11	2.482	37	1.600	63	1.216	89	0.996	115	0.852	141	0.748	167	0.670
12	2.426	38	1.579	64	1.206	90	0.990	116	0.847	142	0.745	168	0.667
13	2.373	39	1.560	65	1.195	91	0.983	117	0.842	143	0.741	169	0.665
14	2.323	40	1.541	66	1.185	92	0.977	118	0.838	144	0.738	170	0.662
15	2.275	41	1.523	67	1.175	93	0.970	119	0.833	145	0.735	171	0.660
16	2.230	42	1.505	68	1.165	94	0.964	120	0.829	146	0.731	172	0.657
17	2.186	43	1.487	69	1.156	95	0.958	121	0.825	147	0.728	173	0.655
18	2.145	44	1.470	70	1.146	96	0.952	122	0.820	148	0.725	174	0.652
19	2.105	45	1.454	71	1.137	97	0.946	123	0.816	149	0.722	175	0.650
20	2.067	46	1.438	72	1.128	98	0.940	124	0.812	150	0.719	176	0.647
21	2.030	47	1.422	73	1.119	99	0.934	125	0.808	151	0.716	177	0.645
22	1.995	48	1.407	74	1.110	100	0.928	126	0.804	152	0.713	178	0.642
23	1.962	49	1.392	75	1.102	101	0.923	127	0.800	153	0.710	179	0.640
24	1.930	50	1.377	76	1.094	102	0.917	128	0.796	154	0.707	180	0.638
25	1.898	51	1.363	77	1.085	103	0.912	129	0.792	155	0.704		
26	1.869	52	1.349	78	1.077	104	0.906	130	0.788	156	0.701		

P=10(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	583.986	27	340.856	53	252.186	79	204.371	105	173.872	131	152.475	157	136.509
2	566.472	28	336.009	54	249.836	80	202.955	106	172.913	132	151.776	158	135.974
3	550.178	29	331.326	55	247.538	81	201.562	107	171.967	133	151.085	159	135.445
4	534.975	30	326.798	56	245.291	82	200.192	108	171.033	134	150.402	160	134.920
5	520.752	31	322.417	57	243.093	83	198.845	109	170.111	135	149.726	161	134.400
6	507.411	32	318.176	58	240.942	84	197.519	110	169.201	136	149.058	162	133.885
7	494.869	33	314.068	59	238.836	85	196.215	111	168.303	137	148.396	163	133.375
8	483.052	34	310.085	60	236.774	86	194.931	112	167.416	138	147.742	164	132.869
9	471.897	35	306.223	61	234.755	87	193.667	113	166.541	139	147.095	165	132.368
10	461.345	36	302.475	62	232.778	88	192.423	114	165.676	140	146.454	166	131.872
11	451.348	37	298.837	63	230.840	89	191.198	115	164.823	141	145.820	167	131.380
12	441.860	38	295.303	64	228.940	90	189.992	116	163.980	142	145.193	168	130.892
13	432.841	39	291.868	65	227.078	91	188.804	117	163.147	143	144.573	169	130.409
14	424.255	40	288.528	66	225.253	92	187.634	118	162.325	144	143.958	170	129.930
15	416.071	41	285.280	67	223.462	93	186.482	119	161.512	145	143.350	171	129.455
16	408.258	42	282.119	68	221.706	94	185.346	120	160.709	146	142.748	172	128.985
17	400.792	43	279.041	69	219.983	95	184.227	121	159.916	147	142.153	173	128.519
18	393.649	44	276.044	70	218.291	96	183.124	122	159.132	148	141.563	174	128.056
19	386.806	45	273.123	71	216.631	97	182.037	123	158.358	149	140.979	175	127.598
20	380.244	46	270.276	72	215.002	98	180.966	124	157.593	150	140.401	176	127.144
21	373.946	47	267.500	73	213.401	99	179.910	125	156.836	151	139.828	177	126.693
22	367.894	48	264.792	74	211.829	100	178.868	126	156.088	152	139.262	178	126.247
23	362.075	49	262.149	75	210.285	101	177.841	127	155.349	153	138.700	179	125.804
24	356.473	50	259.570	76	208.768	102	176.829	128	154.618	154	138.145	180	125.365
25	351.077	51	257.051	77	207.277	103	175.830	129	153.896	155	137.594		
26	345.875	52	254.590	78	205.812	104	174.844	130	153.181	156	137.049		

P=10(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.497	27	2.041	53	1.510	79	1.224	105	1.041	131	0.913	157	0.817
2	3.392	28	2.012	54	1.496	80	1.215	106	1.035	132	0.909	158	0.814
3	3.294	29	1.984	55	1.482	81	1.207	107	1.030	133	0.905	159	0.811
4	3.203	30	1.957	56	1.469	82	1.199	108	1.024	134	0.901	160	0.808
5	3.118	31	1.931	57	1.456	83	1.191	109	1.019	135	0.897	161	0.805
6	3.038	32	1.905	58	1.443	84	1.183	110	1.013	136	0.893	162	0.802
7	2.963	33	1.881	59	1.430	85	1.175	111	1.008	137	0.889	163	0.799
8	2.893	34	1.857	60	1.418	86	1.167	112	1.002	138	0.885	164	0.796
9	2.826	35	1.834	61	1.406	87	1.160	113	0.997	139	0.881	165	0.793
10	2.763	36	1.811	62	1.394	88	1.152	114	0.992	140	0.877	166	0.790
11	2.703	37	1.789	63	1.382	89	1.145	115	0.987	141	0.873	167	0.787
12	2.646	38	1.768	64	1.371	90	1.138	116	0.982	142	0.869	168	0.784
13	2.592	39	1.748	65	1.360	91	1.131	117	0.977	143	0.866	169	0.781
14	2.540	40	1.728	66	1.349	92	1.124	118	0.972	144	0.862	170	0.778
15	2.491	41	1.708	67	1.338	93	1.117	119	0.967	145	0.858	171	0.775
16	2.445	42	1.689	68	1.328	94	1.110	120	0.962	146	0.855	172	0.772
17	2.400	43	1.671	69	1.317	95	1.103	121	0.958	147	0.851	173	0.770
18	2.357	44	1.653	70	1.307	96	1.097	122	0.953	148	0.848	174	0.767
19	2.316	45	1.635	71	1.297	97	1.090	123	0.948	149	0.844	175	0.764
20	2.277	46	1.618	72	1.287	98	1.084	124	0.944	150	0.841	176	0.761
21	2.239	47	1.602	73	1.278	99	1.077	125	0.939	151	0.837	177	0.759
22	2.203	48	1.586	74	1.268	100	1.071	126	0.935	152	0.834	178	0.756
23	2.168	49	1.570	75	1.259	101	1.065	127	0.930	153	0.831	179	0.753
24	2.135	50	1.554	76	1.250	102	1.059	128	0.926	154	0.827	180	0.751
25	2.102	51	1.539	77	1.241	103	1.053	129	0.922	155	0.824		
26	2.071	52	1.524	78	1.232	104	1.047	130	0.917	156	0.821		

P=20(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	622.381	27	368.963	53	276.512	79	226.335	105	194.123	131	171.392	157	154.342
2	604.022	28	363.921	54	274.053	80	224.844	106	193.106	132	170.647	158	153.770
3	586.964	29	359.049	55	271.648	81	223.376	107	192.103	133	169.911	159	153.203
4	571.066	30	354.337	56	269.296	82	221.933	108	191.113	134	169.183	160	152.640
5	556.207	31	349.777	57	266.994	83	220.513	109	190.136	135	168.462	161	152.084
6	542.282	32	345.361	58	264.740	84	219.115	110	189.171	136	167.750	162	151.532
7	529.201	33	341.083	59	262.534	85	217.739	111	188.218	137	167.044	163	150.985
8	516.883	34	336.936	60	260.374	86	216.385	112	187.277	138	166.346	164	150.443
9	505.261	35	332.913	61	258.257	87	215.052	113	186.348	139	165.656	165	149.906
10	494.274	36	329.008	62	256.184	88	213.739	114	185.431	140	164.972	166	149.374
11	483.867	37	325.217	63	254.151	89	212.446	115	184.525	141	164.296	167	148.846
12	473.994	38	321.533	64	252.159	90	211.173	116	183.629	142	163.626	168	148.323
13	464.611	39	317.952	65	250.205	91	209.918	117	182.745	143	162.963	169	147.805
14	455.681	40	314.470	66	248.289	92	208.682	118	181.871	144	162.307	170	147.291
15	447.170	41	311.082	67	246.409	93	207.465	119	181.008	145	161.658	171	146.782
16	439.047	42	307.784	68	244.565	94	206.265	120	180.154	146	161.015	172	146.277
17	431.284	43	304.572	69	242.755	95	205.082	121	179.311	147	160.378	173	145.776
18	423.858	44	301.443	70	240.978	96	203.916	122	178.478	148	159.748	174	145.280
19	416.744	45	298.394	71	239.233	97	202.766	123	177.654	149	159.124	175	144.788
20	409.922	46	295.421	72	237.520	98	201.633	124	176.840	150	158.506	176	144.300
21	403.374	47	292.521	73	235.838	99	200.516	125	176.035	151	157.894	177	143.816
22	397.082	48	289.692	74	234.184	100	199.414	126	175.239	152	157.288	178	143.336
23	391.032	49	286.930	75	232.560	101	198.327	127	174.452	153	156.687	179	142.861
24	385.207	50	284.234	76	230.964	102	197.254	128	173.674	154	156.093	180	142.389
25	379.595	51	281.600	77	229.395	103	196.196	129	172.905	155	155.504		
26	374.185	52	279.027	78	227.852	104	195.153	130	172.144	156	154.920		

P=20(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.727	27	2.209	53	1.656	79	1.355	105	1.162	131	1.026	157	0.924
2	3.617	28	2.179	54	1.641	80	1.346	106	1.156	132	1.022	158	0.921
3	3.515	29	2.150	55	1.627	81	1.338	107	1.150	133	1.017	159	0.917
4	3.420	30	2.122	56	1.613	82	1.329	108	1.144	134	1.013	160	0.914
5	3.331	31	2.094	57	1.599	83	1.320	109	1.139	135	1.009	161	0.911
6	3.247	32	2.068	58	1.585	84	1.312	110	1.133	136	1.004	162	0.907
7	3.169	33	2.042	59	1.572	85	1.304	111	1.127	137	1.000	163	0.904
8	3.095	34	2.018	60	1.559	86	1.296	112	1.121	138	0.996	164	0.901
9	3.026	35	1.993	61	1.546	87	1.288	113	1.116	139	0.992	165	0.898
10	2.960	36	1.970	62	1.534	88	1.280	114	1.110	140	0.988	166	0.894
11	2.897	37	1.947	63	1.522	89	1.272	115	1.105	141	0.984	167	0.891
12	2.838	38	1.925	64	1.510	90	1.265	116	1.100	142	0.980	168	0.888
13	2.782	39	1.904	65	1.498	91	1.257	117	1.094	143	0.976	169	0.885
14	2.729	40	1.883	66	1.487	92	1.250	118	1.089	144	0.972	170	0.882
15	2.678	41	1.863	67	1.476	93	1.242	119	1.084	145	0.968	171	0.879
16	2.629	42	1.843	68	1.464	94	1.235	120	1.079	146	0.964	172	0.876
17	2.583	43	1.824	69	1.454	95	1.228	121	1.074	147	0.960	173	0.873
18	2.538	44	1.805	70	1.443	96	1.221	122	1.069	148	0.957	174	0.870
19	2.495	45	1.787	71	1.433	97	1.214	123	1.064	149	0.953	175	0.867
20	2.455	46	1.769	72	1.422	98	1.207	124	1.059	150	0.949	176	0.864
21	2.415	47	1.752	73	1.412	99	1.201	125	1.054	151	0.945	177	0.861
22	2.378	48	1.735	74	1.402	100	1.194	126	1.049	152	0.942	178	0.858
23	2.342	49	1.718	75	1.393	101	1.188	127	1.045	153	0.938	179	0.855
24	2.307	50	1.702	76	1.383	102	1.181	128	1.040	154	0.935	180	0.853
25	2.273	51	1.686	77	1.374	103	1.175	129	1.035	155	0.931		
26	2.241	52	1.671	78	1.364	104	1.169	130	1.031	156	0.928		

P=30(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	641.840	27	383.633	53	289.321	79	237.960	105	204.881	131	181.472	157	163.870
2	623.097	28	378.496	54	286.808	80	236.430	106	203.835	132	180.704	158	163.278
3	605.692	29	373.532	55	284.350	81	234.925	107	202.804	133	179.945	159	162.691
4	589.478	30	368.730	56	281.945	82	233.445	108	201.785	134	179.194	160	162.110
5	574.329	31	364.083	57	279.591	83	231.988	109	200.779	135	178.450	161	161.534
6	560.136	32	359.583	58	277.287	84	230.554	110	199.786	136	177.715	162	160.964
7	546.806	33	355.222	59	275.030	85	229.142	111	198.806	137	176.987	163	160.398
8	534.258	34	350.994	60	272.820	86	227.752	112	197.838	138	176.267	164	159.838
9	522.420	35	346.892	61	270.655	87	226.384	113	196.881	139	175.554	165	159.282
10	511.230	36	342.910	62	268.533	88	225.036	114	195.937	140	174.849	166	158.732
11	500.633	37	339.043	63	266.454	89	223.709	115	195.004	141	174.151	167	158.186
12	490.580	38	335.286	64	264.414	90	222.402	116	194.082	142	173.460	168	157.645
13	481.027	39	331.633	65	262.415	91	221.114	117	193.171	143	172.775	169	157.109
14	471.935	40	328.080	66	260.453	92	219.844	118	192.271	144	172.098	170	156.577
15	463.270	41	324.623	67	258.529	93	218.594	119	191.382	145	171.427	171	156.050
16	455.000	42	321.258	68	256.640	94	217.361	120	190.503	146	170.764	172	155.528
17	447.097	43	317.980	69	254.786	95	216.146	121	189.634	147	170.106	173	155.010
18	439.536	44	314.786	70	252.967	96	214.948	122	188.776	148	169.455	174	154.496
19	432.293	45	311.673	71	251.180	97	213.767	123	187.927	149	168.811	175	153.986
20	425.347	46	308.638	72	249.424	98	212.602	124	187.088	150	168.172	176	153.481
21	418.680	47	305.677	73	247.700	99	211.454	125	186.259	151	167.540	177	152.980
22	412.273	48	302.787	74	246.006	100	210.321	126	185.438	152	166.914	178	152.484
23	406.111	49	299.966	75	244.342	101	209.203	127	184.627	153	166.293	179	151.991
24	400.179	50	297.212	76	242.705	102	208.101	128	183.825	154	165.679	180	151.502
25	394.464	51	294.521	77	241.097	103	207.013	129	183.032	155	165.070		
26	388.952	52	291.892	78	239.515	104	205.940	130	182.248	156	164.467		

P=30(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.843	27	2.297	53	1.732	79	1.425	105	1.227	131	1.087	157	0.981
2	3.731	28	2.266	54	1.717	80	1.416	106	1.221	132	1.082	158	0.978
3	3.627	29	2.237	55	1.703	81	1.407	107	1.214	133	1.078	159	0.974
4	3.530	30	2.208	56	1.688	82	1.398	108	1.208	134	1.073	160	0.971
5	3.439	31	2.180	57	1.674	83	1.389	109	1.202	135	1.069	161	0.967
6	3.354	32	2.153	58	1.660	84	1.381	110	1.196	136	1.064	162	0.964
7	3.274	33	2.127	59	1.647	85	1.372	111	1.190	137	1.060	163	0.960
8	3.199	34	2.102	60	1.634	86	1.364	112	1.185	138	1.055	164	0.957
9	3.128	35	2.077	61	1.621	87	1.356	113	1.179	139	1.051	165	0.954
10	3.061	36	2.053	62	1.608	88	1.348	114	1.173	140	1.047	166	0.950
11	2.998	37	2.030	63	1.596	89	1.340	115	1.168	141	1.043	167	0.947
12	2.938	38	2.008	64	1.583	90	1.332	116	1.162	142	1.039	168	0.944
13	2.880	39	1.986	65	1.571	91	1.324	117	1.157	143	1.035	169	0.941
14	2.826	40	1.965	66	1.560	92	1.316	118	1.151	144	1.031	170	0.938
15	2.774	41	1.944	67	1.548	93	1.309	119	1.146	145	1.027	171	0.934
16	2.725	42	1.924	68	1.537	94	1.302	120	1.141	146	1.023	172	0.931
17	2.677	43	1.904	69	1.526	95	1.294	121	1.136	147	1.019	173	0.928
18	2.632	44	1.885	70	1.515	96	1.287	122	1.130	148	1.015	174	0.925
19	2.589	45	1.866	71	1.504	97	1.280	123	1.125	149	1.011	175	0.922
20	2.547	46	1.848	72	1.494	98	1.273	124	1.120	150	1.007	176	0.919
21	2.507	47	1.830	73	1.483	99	1.266	125	1.115	151	1.003	177	0.916
22	2.469	48	1.813	74	1.473	100	1.259	126	1.110	152	0.999	178	0.913
23	2.432	49	1.796	75	1.463	101	1.253	127	1.106	153	0.996	179	0.910
24	2.396	50	1.780	76	1.453	102	1.246	128	1.101	154	0.992	180	0.907
25	2.362	51	1.764	77	1.444	103	1.240	129	1.096	155	0.988		
26	2.329	52	1.748	78	1.434	104	1.233	130	1.091	156	0.985		

P=50(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	664.536	27	401.191	53	304.830	79	252.136	105	218.069	131	193.880	157	175.637
2	645.381	28	395.951	54	302.257	80	250.563	106	216.990	132	193.085	158	175.023
3	627.603	29	390.886	55	299.739	81	249.016	107	215.925	133	192.299	159	174.414
4	611.050	30	385.987	56	297.275	82	247.493	108	214.874	134	191.521	160	173.811
5	595.590	31	381.244	57	294.863	83	245.994	109	213.836	135	190.752	161	173.213
6	581.111	32	376.651	58	292.502	84	244.519	110	212.811	136	189.990	162	172.620
7	567.516	33	372.200	59	290.189	85	243.067	111	211.799	137	189.237	163	172.033
8	554.721	34	367.883	60	287.924	86	241.636	112	210.799	138	188.491	164	171.451
9	542.653	35	363.695	61	285.704	87	240.228	113	209.811	139	187.752	165	170.874
10	531.247	36	359.629	62	283.528	88	238.841	114	208.836	140	187.022	166	170.302
11	520.446	37	355.679	63	281.395	89	237.474	115	207.872	141	186.298	167	169.735
12	510.200	38	351.841	64	279.303	90	236.128	116	206.919	142	185.582	168	169.173
13	500.465	39	348.109	65	277.252	91	234.802	117	205.978	143	184.873	169	168.616
14	491.200	40	344.479	66	275.239	92	233.495	118	205.048	144	184.171	170	168.064
15	482.370	41	340.945	67	273.264	93	232.206	119	204.129	145	183.476	171	167.516
16	473.943	42	337.505	68	271.326	94	230.936	120	203.221	146	182.788	172	166.973
17	465.889	43	334.154	69	269.423	95	229.684	121	202.323	147	182.106	173	166.434
18	458.183	44	330.889	70	267.555	96	228.450	122	201.435	148	181.431	174	165.900
19	450.802	45	327.705	71	265.720	97	227.233	123	200.558	149	180.763	175	165.371
20	443.722	46	324.600	72	263.917	98	226.032	124	199.690	150	180.101	176	164.846
21	436.926	47	321.571	73	262.146	99	224.848	125	198.832	151	179.445	177	164.325
22	430.395	48	318.615	74	260.406	100	223.680	126	197.984	152	178.795	178	163.808
23	424.113	49	315.728	75	258.696	101	222.528	127	197.145	153	178.152	179	163.296
24	418.065	50	312.909	76	257.014	102	221.391	128	196.315	154	177.514	180	162.788
25	412.237	51	310.154	77	255.361	103	220.269	129	195.494	155	176.883		
26	406.616	52	307.462	78	253.735	104	219.162	130	194.683	156	176.257		

P=50(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.979	27	2.402	53	1.825	79	1.510	105	1.306	131	1.161	157	1.052
2	3.865	28	2.371	54	1.810	80	1.500	106	1.299	132	1.156	158	1.048
3	3.758	29	2.341	55	1.795	81	1.491	107	1.293	133	1.151	159	1.044
4	3.659	30	2.311	56	1.780	82	1.482	108	1.287	134	1.147	160	1.041
5	3.566	31	2.283	57	1.766	83	1.473	109	1.280	135	1.142	161	1.037
6	3.480	32	2.255	58	1.752	84	1.464	110	1.274	136	1.138	162	1.034
7	3.398	33	2.229	59	1.738	85	1.455	111	1.268	137	1.133	163	1.030
8	3.322	34	2.203	60	1.724	86	1.447	112	1.262	138	1.129	164	1.027
9	3.249	35	2.178	61	1.711	87	1.438	113	1.256	139	1.124	165	1.023
10	3.181	36	2.153	62	1.698	88	1.430	114	1.251	140	1.120	166	1.020
11	3.116	37	2.130	63	1.685	89	1.422	115	1.245	141	1.116	167	1.016
12	3.055	38	2.107	64	1.672	90	1.414	116	1.239	142	1.111	168	1.013
13	2.997	39	2.084	65	1.660	91	1.406	117	1.233	143	1.107	169	1.010
14	2.941	40	2.063	66	1.648	92	1.398	118	1.228	144	1.103	170	1.006
15	2.888	41	2.042	67	1.636	93	1.390	119	1.222	145	1.099	171	1.003
16	2.838	42	2.021	68	1.625	94	1.383	120	1.217	146	1.095	172	1.000
17	2.790	43	2.001	69	1.613	95	1.375	121	1.212	147	1.090	173	0.997
18	2.744	44	1.981	70	1.602	96	1.368	122	1.206	148	1.086	174	0.993
19	2.699	45	1.962	71	1.591	97	1.361	123	1.201	149	1.082	175	0.990
20	2.657	46	1.944	72	1.580	98	1.353	124	1.196	150	1.078	176	0.987
21	2.616	47	1.926	73	1.570	99	1.346	125	1.191	151	1.075	177	0.984
22	2.577	48	1.908	74	1.559	100	1.339	126	1.186	152	1.071	178	0.981
23	2.540	49	1.891	75	1.549	101	1.333	127	1.181	153	1.067	179	0.978
24	2.503	50	1.874	76	1.539	102	1.326	128	1.176	154	1.063	180	0.975
25	2.468	51	1.857	77	1.529	103	1.319	129	1.171	155	1.059		
26	2.435	52	1.841	78	1.519	104	1.312	130	1.166	156	1.055		

P=100(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	690.555	27	422.160	53	323.757	79	269.672	105	234.541	131	209.493	157	190.535
2	670.977	28	416.819	54	321.121	80	268.053	106	233.426	132	208.669	158	189.895
3	652.822	29	411.656	55	318.541	81	266.460	107	232.325	133	207.853	159	189.261
4	635.927	30	406.661	56	316.017	82	264.892	108	231.238	134	207.046	160	188.633
5	620.157	31	401.826	57	313.546	83	263.349	109	230.165	135	206.247	161	188.010
6	605.394	32	397.141	58	311.125	84	261.830	110	229.105	136	205.457	162	187.393
7	591.538	33	392.601	59	308.755	85	260.334	111	228.057	137	204.674	163	186.781
8	578.502	34	388.197	60	306.432	86	258.860	112	227.023	138	203.899	164	186.175
9	566.208	35	383.923	61	304.155	87	257.409	113	226.001	139	203.133	165	185.574
10	554.592	36	379.773	62	301.924	88	255.979	114	224.991	140	202.374	166	184.978
11	543.594	37	375.742	63	299.735	89	254.571	115	223.994	141	201.622	167	184.387
12	533.162	38	371.823	64	297.589	90	253.183	116	223.008	142	200.878	168	183.801
13	523.251	39	368.012	65	295.483	91	251.815	117	222.033	143	200.141	169	183.220
14	513.819	40	364.304	66	293.417	92	250.467	118	221.070	144	199.412	170	182.644
15	504.830	41	360.695	67	291.390	93	249.138	119	220.118	145	198.689	171	182.073
16	496.251	42	357.180	68	289.399	94	247.828	120	219.177	146	197.974	172	181.507
17	488.052	43	353.755	69	287.445	95	246.536	121	218.247	147	197.265	173	180.945
18	480.207	44	350.417	70	285.525	96	245.262	122	217.328	148	196.563	174	180.388
19	472.692	45	347.163	71	283.640	97	244.006	123	216.418	149	195.868	175	179.836
20	465.484	46	343.988	72	281.787	98	242.767	124	215.519	150	195.179	176	179.288
21	458.563	47	340.890	73	279.967	99	241.544	125	214.630	151	194.497	177	178.744
22	451.912	48	337.865	74	278.178	100	240.338	126	213.750	152	193.821	178	178.205
23	445.514	49	334.912	75	276.419	101	239.148	127	212.880	153	193.152	179	177.670
24	439.353	50	332.027	76	274.690	102	237.974	128	212.020	154	192.489	180	177.140
25	433.415	51	329.208	77	272.990	103	236.814	129	211.168	155	191.831		
26	427.688	52	326.452	78	271.317	104	235.670	130	210.326	156	191.180		

P=100(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	4.135	27	2.528	53	1.939	79	1.615	105	1.404	131	1.254	157	1.141
2	4.018	28	2.496	54	1.923	80	1.605	106	1.398	132	1.250	158	1.137
3	3.909	29	2.465	55	1.907	81	1.596	107	1.391	133	1.245	159	1.133
4	3.808	30	2.435	56	1.892	82	1.586	108	1.385	134	1.240	160	1.130
5	3.714	31	2.406	57	1.878	83	1.577	109	1.378	135	1.235	161	1.126
6	3.625	32	2.378	58	1.863	84	1.568	110	1.372	136	1.230	162	1.122
7	3.542	33	2.351	59	1.849	85	1.559	111	1.366	137	1.226	163	1.118
8	3.464	34	2.325	60	1.835	86	1.550	112	1.359	138	1.221	164	1.115
9	3.390	35	2.299	61	1.821	87	1.541	113	1.353	139	1.216	165	1.111
10	3.321	36	2.274	62	1.808	88	1.533	114	1.347	140	1.212	166	1.108
11	3.255	37	2.250	63	1.795	89	1.524	115	1.341	141	1.207	167	1.104
12	3.193	38	2.226	64	1.782	90	1.516	116	1.335	142	1.203	168	1.101
13	3.133	39	2.204	65	1.769	91	1.508	117	1.330	143	1.198	169	1.097
14	3.077	40	2.181	66	1.757	92	1.500	118	1.324	144	1.194	170	1.094
15	3.023	41	2.160	67	1.745	93	1.492	119	1.318	145	1.190	171	1.090
16	2.972	42	2.139	68	1.733	94	1.484	120	1.312	146	1.185	172	1.087
17	2.922	43	2.118	69	1.721	95	1.476	121	1.307	147	1.181	173	1.084
18	2.875	44	2.098	70	1.710	96	1.469	122	1.301	148	1.177	174	1.080
19	2.830	45	2.079	71	1.698	97	1.461	123	1.296	149	1.173	175	1.077
20	2.787	46	2.060	72	1.687	98	1.454	124	1.291	150	1.169	176	1.074
21	2.746	47	2.041	73	1.676	99	1.446	125	1.285	151	1.165	177	1.070
22	2.706	48	2.023	74	1.666	100	1.439	126	1.280	152	1.161	178	1.067
23	2.668	49	2.005	75	1.655	101	1.432	127	1.275	153	1.157	179	1.064
24	2.631	50	1.988	76	1.645	102	1.425	128	1.270	154	1.153	180	1.061
25	2.595	51	1.971	77	1.635	103	1.418	129	1.264	155	1.149		
26	2.561	52	1.955	78	1.625	104	1.411	130	1.259	156	1.145		

附表 3 深圳市东部流域和水系暴雨强度（ q ）和降雨强度（ i ）查算表

P=1(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	414.815	27	216.622	53	154.934	79	123.409	105	103.862	131	90.393	157	80.468
2	398.727	28	213.131	54	153.358	80	122.492	106	103.254	132	89.957	158	80.137
3	384.057	29	209.771	55	151.820	81	121.591	107	102.655	133	89.525	159	79.810
4	370.616	30	206.536	56	150.318	82	120.706	108	102.064	134	89.099	160	79.486
5	358.249	31	203.417	57	148.851	83	119.836	109	101.481	135	88.677	161	79.164
6	346.827	32	200.410	58	147.418	84	118.981	110	100.905	136	88.260	162	78.846
7	336.239	33	197.506	59	146.018	85	118.140	111	100.338	137	87.848	163	78.531
8	326.394	34	194.701	60	144.650	86	117.314	112	99.778	138	87.440	164	78.219
9	317.212	35	191.990	61	143.311	87	116.501	113	99.225	139	87.037	165	77.910
10	308.626	36	189.367	62	142.002	88	115.701	114	98.680	140	86.638	166	77.604
11	300.576	37	186.829	63	140.721	89	114.915	115	98.142	141	86.243	167	77.301
12	293.011	38	184.370	64	139.468	90	114.141	116	97.611	142	85.853	168	77.001
13	285.886	39	181.988	65	138.240	91	113.380	117	97.087	143	85.467	169	76.703
14	279.163	40	179.678	66	137.039	92	112.631	118	96.569	144	85.085	170	76.408
15	272.806	41	177.437	67	135.862	93	111.893	119	96.058	145	84.708	171	76.116
16	266.785	42	175.262	68	134.709	94	111.167	120	95.553	146	84.334	172	75.826
17	261.073	43	173.150	69	133.579	95	110.452	121	95.055	147	83.964	173	75.539
18	255.646	44	171.097	70	132.472	96	109.748	122	94.563	148	83.598	174	75.255
19	250.481	45	169.102	71	131.386	97	109.055	123	94.077	149	83.236	175	74.973
20	245.559	46	167.162	72	130.322	98	108.372	124	93.597	150	82.877	176	74.694
21	240.862	47	165.274	73	129.277	99	107.699	125	93.122	151	82.523	177	74.417
22	236.375	48	163.436	74	128.253	100	107.036	126	92.654	152	82.171	178	74.143
23	232.083	49	161.647	75	127.248	101	106.383	127	92.191	153	81.824	179	73.871
24	227.973	50	159.904	76	126.261	102	105.739	128	91.733	154	81.480	180	73.601
25	224.034	51	158.205	77	125.293	103	105.104	129	91.281	155	81.139		
26	220.253	52	156.549	78	124.342	104	104.479	130	90.835	156	80.802		

P=1(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	2.484	27	1.297	53	0.928	79	0.739	105	0.622	131	0.541	157	0.482
2	2.388	28	1.276	54	0.918	80	0.733	106	0.618	132	0.539	158	0.480
3	2.300	29	1.256	55	0.909	81	0.728	107	0.615	133	0.536	159	0.478
4	2.219	30	1.237	56	0.900	82	0.723	108	0.611	134	0.534	160	0.476
5	2.145	31	1.218	57	0.891	83	0.718	109	0.608	135	0.531	161	0.474
6	2.077	32	1.200	58	0.883	84	0.712	110	0.604	136	0.529	162	0.472
7	2.013	33	1.183	59	0.874	85	0.707	111	0.601	137	0.526	163	0.470
8	1.954	34	1.166	60	0.866	86	0.702	112	0.597	138	0.524	164	0.468
9	1.899	35	1.150	61	0.858	87	0.698	113	0.594	139	0.521	165	0.467
10	1.848	36	1.134	62	0.850	88	0.693	114	0.591	140	0.519	166	0.465
11	1.800	37	1.119	63	0.843	89	0.688	115	0.588	141	0.516	167	0.463
12	1.755	38	1.104	64	0.835	90	0.683	116	0.584	142	0.514	168	0.461
13	1.712	39	1.090	65	0.828	91	0.679	117	0.581	143	0.512	169	0.459
14	1.672	40	1.076	66	0.821	92	0.674	118	0.578	144	0.509	170	0.458
15	1.634	41	1.062	67	0.814	93	0.670	119	0.575	145	0.507	171	0.456
16	1.598	42	1.049	68	0.807	94	0.666	120	0.572	146	0.505	172	0.454
17	1.563	43	1.037	69	0.800	95	0.661	121	0.569	147	0.503	173	0.452
18	1.531	44	1.025	70	0.793	96	0.657	122	0.566	148	0.501	174	0.451
19	1.500	45	1.013	71	0.787	97	0.653	123	0.563	149	0.498	175	0.449
20	1.470	46	1.001	72	0.780	98	0.649	124	0.560	150	0.496	176	0.447
21	1.442	47	0.990	73	0.774	99	0.645	125	0.558	151	0.494	177	0.446
22	1.415	48	0.979	74	0.768	100	0.641	126	0.555	152	0.492	178	0.444
23	1.390	49	0.968	75	0.762	101	0.637	127	0.552	153	0.490	179	0.442
24	1.365	50	0.958	76	0.756	102	0.633	128	0.549	154	0.488	180	0.441
25	1.342	51	0.947	77	0.750	103	0.629	129	0.547	155	0.486		
26	1.319	52	0.937	78	0.745	104	0.626	130	0.544	156	0.484		

P=2(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	505.543	27	257.880	53	188.071	79	152.691	105	130.659	131	115.364	157	104.001
2	483.293	28	253.883	54	186.302	80	151.660	106	129.971	132	114.866	158	103.621
3	463.428	29	250.044	55	184.576	81	150.648	107	129.293	133	114.373	159	103.244
4	445.560	30	246.353	56	182.891	82	149.652	108	128.623	134	113.887	160	102.871
5	429.384	31	242.801	57	181.246	83	148.674	109	127.963	135	113.405	161	102.501
6	414.656	32	239.379	58	179.638	84	147.712	110	127.311	136	112.929	162	102.135
7	401.176	33	236.080	59	178.068	85	146.766	111	126.668	137	112.458	163	101.772
8	388.782	34	232.897	60	176.532	86	145.836	112	126.033	138	111.992	164	101.413
9	377.339	35	229.824	61	175.031	87	144.921	113	125.407	139	111.531	165	101.057
10	366.735	36	226.854	62	173.562	88	144.021	114	124.789	140	111.075	166	100.704
11	356.875	37	223.982	63	172.125	89	143.135	115	124.178	141	110.624	167	100.354
12	347.677	38	221.203	64	170.719	90	142.263	116	123.575	142	110.178	168	100.008
13	339.073	39	218.513	65	169.343	91	141.405	117	122.980	143	109.736	169	99.664
14	331.003	40	215.906	66	167.994	92	140.561	118	122.392	144	109.299	170	99.324
15	323.415	41	213.378	67	166.674	93	139.729	119	121.812	145	108.866	171	98.987
16	316.265	42	210.927	68	165.380	94	138.910	120	121.238	146	108.438	172	98.652
17	309.513	43	208.547	69	164.113	95	138.104	121	120.672	147	108.014	173	98.321
18	303.124	44	206.236	70	162.870	96	137.309	122	120.112	148	107.595	174	97.992
19	297.069	45	203.991	71	161.651	97	136.527	123	119.559	149	107.179	175	97.667
20	291.319	46	201.808	72	160.456	98	135.756	124	119.013	150	106.768	176	97.344
21	285.850	47	199.686	73	159.284	99	134.996	125	118.473	151	106.361	177	97.024
22	280.641	48	197.620	74	158.134	100	134.247	126	117.940	152	105.958	178	96.706
23	275.673	49	195.610	75	157.005	101	133.509	127	117.413	153	105.559	179	96.392
24	270.928	50	193.652	76	155.897	102	132.781	128	116.892	154	105.164	180	96.080
25	266.390	51	191.744	77	154.809	103	132.064	129	116.376	155	104.772		
26	262.045	52	189.884	78	153.741	104	131.357	130	115.867	156	104.385		

P=2(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.027	27	1.544	53	1.126	79	0.914	105	0.782	131	0.691	157	0.623
2	2.894	28	1.520	54	1.116	80	0.908	106	0.778	132	0.688	158	0.620
3	2.775	29	1.497	55	1.105	81	0.902	107	0.774	133	0.685	159	0.618
4	2.668	30	1.475	56	1.095	82	0.896	108	0.770	134	0.682	160	0.616
5	2.571	31	1.454	57	1.085	83	0.890	109	0.766	135	0.679	161	0.614
6	2.483	32	1.433	58	1.076	84	0.885	110	0.762	136	0.676	162	0.612
7	2.402	33	1.414	59	1.066	85	0.879	111	0.758	137	0.673	163	0.609
8	2.328	34	1.395	60	1.057	86	0.873	112	0.755	138	0.671	164	0.607
9	2.260	35	1.376	61	1.048	87	0.868	113	0.751	139	0.668	165	0.605
10	2.196	36	1.358	62	1.039	88	0.862	114	0.747	140	0.665	166	0.603
11	2.137	37	1.341	63	1.031	89	0.857	115	0.744	141	0.662	167	0.601
12	2.082	38	1.325	64	1.022	90	0.852	116	0.740	142	0.660	168	0.599
13	2.030	39	1.308	65	1.014	91	0.847	117	0.736	143	0.657	169	0.597
14	1.982	40	1.293	66	1.006	92	0.842	118	0.733	144	0.654	170	0.595
15	1.937	41	1.278	67	0.998	93	0.837	119	0.729	145	0.652	171	0.593
16	1.894	42	1.263	68	0.990	94	0.832	120	0.726	146	0.649	172	0.591
17	1.853	43	1.249	69	0.983	95	0.827	121	0.723	147	0.647	173	0.589
18	1.815	44	1.235	70	0.975	96	0.822	122	0.719	148	0.644	174	0.587
19	1.779	45	1.222	71	0.968	97	0.818	123	0.716	149	0.642	175	0.585
20	1.744	46	1.208	72	0.961	98	0.813	124	0.713	150	0.639	176	0.583
21	1.712	47	1.196	73	0.954	99	0.808	125	0.709	151	0.637	177	0.581
22	1.680	48	1.183	74	0.947	100	0.804	126	0.706	152	0.634	178	0.579
23	1.651	49	1.171	75	0.940	101	0.799	127	0.703	153	0.632	179	0.577
24	1.622	50	1.160	76	0.934	102	0.795	128	0.700	154	0.630	180	0.575
25	1.595	51	1.148	77	0.927	103	0.791	129	0.697	155	0.627		
26	1.569	52	1.137	78	0.921	104	0.787	130	0.694	156	0.625		

P=3(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	542.907	27	276.027	53	203.643	79	166.962	105	144.031	131	128.040	157	116.109
2	517.843	28	271.871	54	201.812	80	165.891	106	143.313	132	127.518	158	115.708
3	495.696	29	267.881	55	200.024	81	164.838	107	142.605	133	127.002	159	115.312
4	475.951	30	264.046	56	198.279	82	163.804	108	141.906	134	126.492	160	114.919
5	458.209	31	260.357	57	196.574	83	162.787	109	141.217	135	125.987	161	114.530
6	442.158	32	256.805	58	194.909	84	161.787	110	140.536	136	125.488	162	114.145
7	427.550	33	253.382	59	193.282	85	160.804	111	139.865	137	124.994	163	113.763
8	414.185	34	250.081	60	191.691	86	159.837	112	139.202	138	124.505	164	113.384
9	401.899	35	246.894	61	190.135	87	158.885	113	138.547	139	124.021	165	113.009
10	390.557	36	243.815	62	188.613	88	157.949	114	137.901	140	123.543	166	112.637
11	380.045	37	240.838	63	187.124	89	157.027	115	137.263	141	123.069	167	112.269
12	370.270	38	237.958	64	185.667	90	156.120	116	136.633	142	122.601	168	111.903
13	361.149	39	235.170	65	184.239	91	155.227	117	136.011	143	122.137	169	111.541
14	352.615	40	232.469	66	182.842	92	154.348	118	135.397	144	121.678	170	111.182
15	344.608	41	229.851	67	181.473	93	153.483	119	134.790	145	121.224	171	110.827
16	337.078	42	227.312	68	180.131	94	152.630	120	134.190	146	120.774	172	110.474
17	329.979	43	224.847	69	178.816	95	151.790	121	133.597	147	120.329	173	110.124
18	323.273	44	222.454	70	177.527	96	150.963	122	133.012	148	119.888	174	109.778
19	316.925	45	220.129	71	176.263	97	150.147	123	132.434	149	119.451	175	109.434
20	310.905	46	217.869	72	175.023	98	149.344	124	131.862	150	119.019	176	109.093
21	305.186	47	215.671	73	173.806	99	148.552	125	131.297	151	118.591	177	108.756
22	299.745	48	213.532	74	172.612	100	147.772	126	130.738	152	118.167	178	108.420
23	294.560	49	211.450	75	171.441	101	147.003	127	130.186	153	117.748	179	108.088
24	289.612	50	209.422	76	170.290	102	146.244	128	129.640	154	117.332	180	107.759
25	284.884	51	207.447	77	169.161	103	145.496	129	129.101	155	116.920		
26	280.360	52	205.521	78	168.051	104	144.758	130	128.567	156	116.513		

P=3(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.251	27	1.653	53	1.219	79	1.000	105	0.862	131	0.767	157	0.695
2	3.101	28	1.628	54	1.208	80	0.993	106	0.858	132	0.764	158	0.693
3	2.968	29	1.604	55	1.198	81	0.987	107	0.854	133	0.760	159	0.690
4	2.850	30	1.581	56	1.187	82	0.981	108	0.850	134	0.757	160	0.688
5	2.744	31	1.559	57	1.177	83	0.975	109	0.846	135	0.754	161	0.686
6	2.648	32	1.538	58	1.167	84	0.969	110	0.842	136	0.751	162	0.684
7	2.560	33	1.517	59	1.157	85	0.963	111	0.838	137	0.748	163	0.681
8	2.480	34	1.497	60	1.148	86	0.957	112	0.834	138	0.746	164	0.679
9	2.407	35	1.478	61	1.139	87	0.951	113	0.830	139	0.743	165	0.677
10	2.339	36	1.460	62	1.129	88	0.946	114	0.826	140	0.740	166	0.674
11	2.276	37	1.442	63	1.121	89	0.940	115	0.822	141	0.737	167	0.672
12	2.217	38	1.425	64	1.112	90	0.935	116	0.818	142	0.734	168	0.670
13	2.163	39	1.408	65	1.103	91	0.930	117	0.814	143	0.731	169	0.668
14	2.111	40	1.392	66	1.095	92	0.924	118	0.811	144	0.729	170	0.666
15	2.064	41	1.376	67	1.087	93	0.919	119	0.807	145	0.726	171	0.664
16	2.018	42	1.361	68	1.079	94	0.914	120	0.804	146	0.723	172	0.662
17	1.976	43	1.346	69	1.071	95	0.909	121	0.800	147	0.721	173	0.659
18	1.936	44	1.332	70	1.063	96	0.904	122	0.796	148	0.718	174	0.657
19	1.898	45	1.318	71	1.055	97	0.899	123	0.793	149	0.715	175	0.655
20	1.862	46	1.305	72	1.048	98	0.894	124	0.790	150	0.713	176	0.653
21	1.827	47	1.291	73	1.041	99	0.890	125	0.786	151	0.710	177	0.651
22	1.795	48	1.279	74	1.034	100	0.885	126	0.783	152	0.708	178	0.649
23	1.764	49	1.266	75	1.027	101	0.880	127	0.780	153	0.705	179	0.647
24	1.734	50	1.254	76	1.020	102	0.876	128	0.776	154	0.703	180	0.645
25	1.706	51	1.242	77	1.013	103	0.871	129	0.773	155	0.700		
26	1.679	52	1.231	78	1.006	104	0.867	130	0.770	156	0.698		

P=5(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	581.388	27	295.124	53	220.981	79	183.363	105	159.725	131	143.148	157	130.714
2	552.953	28	290.855	54	219.106	80	182.262	106	158.983	132	142.606	158	130.296
3	528.179	29	286.760	55	217.275	81	181.179	107	158.250	133	142.069	159	129.881
4	506.348	30	282.825	56	215.488	82	180.115	108	157.528	134	141.539	160	129.471
5	486.923	31	279.042	57	213.743	83	179.069	109	156.814	135	141.013	161	129.064
6	469.495	32	275.401	58	212.037	84	178.040	110	156.110	136	140.494	162	128.661
7	453.747	33	271.893	59	210.370	85	177.028	111	155.415	137	139.980	163	128.261
8	439.427	34	268.510	60	208.740	86	176.032	112	154.729	138	139.471	164	127.865
9	426.333	35	265.246	61	207.146	87	175.052	113	154.051	139	138.967	165	127.472
10	414.301	36	262.093	62	205.586	88	174.087	114	153.382	140	138.469	166	127.083
11	403.195	37	259.045	63	204.060	89	173.138	115	152.721	141	137.976	167	126.698
12	392.904	38	256.097	64	202.566	90	172.203	116	152.068	142	137.488	168	126.315
13	383.333	39	253.244	65	201.102	91	171.283	117	151.423	143	137.004	169	125.936
14	374.402	40	250.479	66	199.669	92	170.377	118	150.786	144	136.526	170	125.560
15	366.044	41	247.800	67	198.265	93	169.484	119	150.157	145	136.052	171	125.187
16	358.201	42	245.202	68	196.888	94	168.605	120	149.535	146	135.583	172	124.818
17	350.822	43	242.680	69	195.539	95	167.739	121	148.920	147	135.119	173	124.452
18	343.863	44	240.231	70	194.216	96	166.885	122	148.313	148	134.659	174	124.088
19	337.287	45	237.852	71	192.919	97	166.044	123	147.712	149	134.204	175	123.728
20	331.059	46	235.540	72	191.645	98	165.214	124	147.119	150	133.753	176	123.371
21	325.151	47	233.290	73	190.396	99	164.397	125	146.532	151	133.306	177	123.016
22	319.536	48	231.102	74	189.170	100	163.591	126	145.952	152	132.864	178	122.665
23	314.191	49	228.971	75	187.966	101	162.796	127	145.379	153	132.426	179	122.316
24	309.095	50	226.896	76	186.785	102	162.012	128	144.812	154	131.992	180	121.971
25	304.229	51	224.874	77	185.624	103	161.239	129	144.251	155	131.562		
26	299.577	52	222.903	78	184.483	104	160.477	130	143.697	156	131.136		

P=5(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.481	27	1.767	53	1.323	79	1.098	105	0.956	131	0.857	157	0.783
2	3.311	28	1.742	54	1.312	80	1.091	106	0.952	132	0.854	158	0.780
3	3.163	29	1.717	55	1.301	81	1.085	107	0.948	133	0.851	159	0.778
4	3.032	30	1.694	56	1.290	82	1.079	108	0.943	134	0.848	160	0.775
5	2.916	31	1.671	57	1.280	83	1.072	109	0.939	135	0.844	161	0.773
6	2.811	32	1.649	58	1.270	84	1.066	110	0.935	136	0.841	162	0.770
7	2.717	33	1.628	59	1.260	85	1.060	111	0.931	137	0.838	163	0.768
8	2.631	34	1.608	60	1.250	86	1.054	112	0.927	138	0.835	164	0.766
9	2.553	35	1.588	61	1.240	87	1.048	113	0.922	139	0.832	165	0.763
10	2.481	36	1.569	62	1.231	88	1.042	114	0.918	140	0.829	166	0.761
11	2.414	37	1.551	63	1.222	89	1.037	115	0.914	141	0.826	167	0.759
12	2.353	38	1.534	64	1.213	90	1.031	116	0.911	142	0.823	168	0.756
13	2.295	39	1.516	65	1.204	91	1.026	117	0.907	143	0.820	169	0.754
14	2.242	40	1.500	66	1.196	92	1.020	118	0.903	144	0.818	170	0.752
15	2.192	41	1.484	67	1.187	93	1.015	119	0.899	145	0.815	171	0.750
16	2.145	42	1.468	68	1.179	94	1.010	120	0.895	146	0.812	172	0.747
17	2.101	43	1.453	69	1.171	95	1.004	121	0.892	147	0.809	173	0.745
18	2.059	44	1.439	70	1.163	96	0.999	122	0.888	148	0.806	174	0.743
19	2.020	45	1.424	71	1.155	97	0.994	123	0.885	149	0.804	175	0.741
20	1.982	46	1.410	72	1.148	98	0.989	124	0.881	150	0.801	176	0.739
21	1.947	47	1.397	73	1.140	99	0.984	125	0.877	151	0.798	177	0.737
22	1.913	48	1.384	74	1.133	100	0.980	126	0.874	152	0.796	178	0.735
23	1.881	49	1.371	75	1.126	101	0.975	127	0.871	153	0.793	179	0.732
24	1.851	50	1.359	76	1.118	102	0.970	128	0.867	154	0.790	180	0.730
25	1.822	51	1.347	77	1.112	103	0.966	129	0.864	155	0.788		
26	1.794	52	1.335	78	1.105	104	0.961	130	0.860	156	0.785		

P=10(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	646.869	27	334.797	53	254.385	79	213.275	105	187.263	131	168.915	157	155.081
2	615.336	28	330.181	54	252.342	80	212.066	106	186.444	132	168.313	158	154.615
3	588.005	29	325.750	55	250.348	81	210.878	107	185.635	133	167.717	159	154.153
4	564.020	30	321.493	56	248.400	82	209.710	108	184.837	134	167.128	160	153.695
5	542.750	31	317.399	57	246.497	83	208.561	109	184.049	135	166.544	161	153.241
6	523.717	32	313.457	58	244.637	84	207.431	110	183.270	136	165.967	162	152.791
7	506.556	33	309.659	59	242.818	85	206.319	111	182.502	137	165.396	163	152.345
8	490.978	34	305.995	60	241.040	86	205.225	112	181.743	138	164.830	164	151.902
9	476.755	35	302.459	61	239.300	87	204.148	113	180.994	139	164.271	165	151.464
10	463.700	36	299.042	62	237.597	88	203.087	114	180.254	140	163.717	166	151.029
11	451.662	37	295.738	63	235.930	89	202.043	115	179.523	141	163.168	167	150.599
12	440.515	38	292.542	64	234.297	90	201.015	116	178.800	142	162.625	168	150.171
13	430.155	39	289.447	65	232.698	91	200.003	117	178.086	143	162.088	169	149.748
14	420.493	40	286.448	66	231.132	92	199.005	118	177.381	144	161.556	170	149.328
15	411.454	41	283.541	67	229.596	93	198.022	119	176.684	145	161.029	171	148.911
16	402.974	42	280.720	68	228.091	94	197.054	120	175.996	146	160.507	172	148.498
17	394.998	43	277.982	69	226.615	95	196.100	121	175.315	147	159.990	173	148.089
18	387.477	44	275.323	70	225.167	96	195.160	122	174.642	148	159.478	174	147.682
19	380.370	45	272.738	71	223.747	97	194.233	123	173.977	149	158.971	175	147.279
20	373.640	46	270.225	72	222.353	98	193.319	124	173.319	150	158.468	176	146.880
21	367.256	47	267.780	73	220.985	99	192.418	125	172.669	151	157.971	177	146.483
22	361.188	48	265.400	74	219.641	100	191.529	126	172.026	152	157.478	178	146.090
23	355.411	49	263.083	75	218.322	101	190.652	127	171.390	153	156.990	179	145.700
24	349.902	50	260.825	76	217.027	102	189.788	128	170.761	154	156.506	180	145.313
25	344.642	51	258.624	77	215.754	103	188.935	129	170.139	155	156.027		
26	339.613	52	256.479	78	214.504	104	188.094	130	169.524	156	155.552		

P=10(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.873	27	2.005	53	1.523	79	1.277	105	1.121	131	1.011	157	0.929
2	3.685	28	1.977	54	1.511	80	1.270	106	1.116	132	1.008	158	0.926
3	3.521	29	1.951	55	1.499	81	1.263	107	1.112	133	1.004	159	0.923
4	3.377	30	1.925	56	1.487	82	1.256	108	1.107	134	1.001	160	0.920
5	3.250	31	1.901	57	1.476	83	1.249	109	1.102	135	0.997	161	0.918
6	3.136	32	1.877	58	1.465	84	1.242	110	1.097	136	0.994	162	0.915
7	3.033	33	1.854	59	1.454	85	1.235	111	1.093	137	0.990	163	0.912
8	2.940	34	1.832	60	1.443	86	1.229	112	1.088	138	0.987	164	0.910
9	2.855	35	1.811	61	1.433	87	1.222	113	1.084	139	0.984	165	0.907
10	2.777	36	1.791	62	1.423	88	1.216	114	1.079	140	0.980	166	0.904
11	2.705	37	1.771	63	1.413	89	1.210	115	1.075	141	0.977	167	0.902
12	2.638	38	1.752	64	1.403	90	1.204	116	1.071	142	0.974	168	0.899
13	2.576	39	1.733	65	1.393	91	1.198	117	1.066	143	0.971	169	0.897
14	2.518	40	1.715	66	1.384	92	1.192	118	1.062	144	0.967	170	0.894
15	2.464	41	1.698	67	1.375	93	1.186	119	1.058	145	0.964	171	0.892
16	2.413	42	1.681	68	1.366	94	1.180	120	1.054	146	0.961	172	0.889
17	2.365	43	1.665	69	1.357	95	1.174	121	1.050	147	0.958	173	0.887
18	2.320	44	1.649	70	1.348	96	1.169	122	1.046	148	0.955	174	0.884
19	2.278	45	1.633	71	1.340	97	1.163	123	1.042	149	0.952	175	0.882
20	2.237	46	1.618	72	1.331	98	1.158	124	1.038	150	0.949	176	0.880
21	2.199	47	1.603	73	1.323	99	1.152	125	1.034	151	0.946	177	0.877
22	2.163	48	1.589	74	1.315	100	1.147	126	1.030	152	0.943	178	0.875
23	2.128	49	1.575	75	1.307	101	1.142	127	1.026	153	0.940	179	0.872
24	2.095	50	1.562	76	1.300	102	1.136	128	1.023	154	0.937	180	0.870
25	2.064	51	1.549	77	1.292	103	1.131	129	1.019	155	0.934		
26	2.034	52	1.536	78	1.284	104	1.126	130	1.015	156	0.931		

P=20(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	692.096	27	369.598	53	283.664	79	239.259	105	210.984	131	190.949	157	175.791
2	660.325	28	364.696	54	281.466	80	237.949	106	210.091	132	190.291	158	175.280
3	632.635	29	359.988	55	279.318	81	236.661	107	209.210	133	189.639	159	174.772
4	608.219	30	355.461	56	277.220	82	235.393	108	208.339	134	188.994	160	174.269
5	586.475	31	351.105	57	275.170	83	234.147	109	207.480	135	188.355	161	173.771
6	566.949	32	346.907	58	273.165	84	232.920	110	206.631	136	187.723	162	173.277
7	549.286	33	342.860	59	271.204	85	231.713	111	205.793	137	187.098	163	172.787
8	533.206	34	338.954	60	269.286	86	230.524	112	204.965	138	186.479	164	172.302
9	518.485	35	335.181	61	267.409	87	229.354	113	204.148	139	185.866	165	171.820
10	504.943	36	331.533	62	265.571	88	228.203	114	203.340	140	185.259	166	171.343
11	492.427	37	328.005	63	263.771	89	227.068	115	202.542	141	184.658	167	170.869
12	480.816	38	324.589	64	262.009	90	225.951	116	201.753	142	184.064	168	170.400
13	470.004	39	321.279	65	260.281	91	224.850	117	200.974	143	183.475	169	169.935
14	459.904	40	318.071	66	258.589	92	223.766	118	200.204	144	182.891	170	169.473
15	450.440	41	314.959	67	256.929	93	222.698	119	199.443	145	182.314	171	169.015
16	441.548	42	311.939	68	255.302	94	221.645	120	198.690	146	181.742	172	168.561
17	433.173	43	309.005	69	253.705	95	220.607	121	197.947	147	181.175	173	168.111
18	425.265	44	306.154	70	252.139	96	219.583	122	197.211	148	180.614	174	167.665
19	417.784	45	303.382	71	250.602	97	218.575	123	196.484	149	180.058	175	167.222
20	410.692	46	300.686	72	249.094	98	217.580	124	195.765	150	179.507	176	166.782
21	403.955	47	298.062	73	247.613	99	216.599	125	195.055	151	178.962	177	166.346
22	397.546	48	295.506	74	246.158	100	215.631	126	194.352	152	178.421	178	165.914
23	391.439	49	293.017	75	244.730	101	214.677	127	193.656	153	177.886	179	165.485
24	385.610	50	290.590	76	243.326	102	213.735	128	192.969	154	177.355	180	165.059
25	380.039	51	288.225	77	241.947	103	212.806	129	192.288	155	176.829		
26	374.707	52	285.917	78	240.592	104	211.889	130	191.615	156	176.308		

P=20(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	4.144	27	2.213	53	1.699	79	1.433	105	1.263	131	1.143	157	1.053
2	3.954	28	2.184	54	1.685	80	1.425	106	1.258	132	1.139	158	1.050
3	3.788	29	2.156	55	1.673	81	1.417	107	1.253	133	1.136	159	1.047
4	3.642	30	2.129	56	1.660	82	1.410	108	1.248	134	1.132	160	1.044
5	3.512	31	2.102	57	1.648	83	1.402	109	1.242	135	1.128	161	1.041
6	3.395	32	2.077	58	1.636	84	1.395	110	1.237	136	1.124	162	1.038
7	3.289	33	2.053	59	1.624	85	1.388	111	1.232	137	1.120	163	1.035
8	3.193	34	2.030	60	1.612	86	1.380	112	1.227	138	1.117	164	1.032
9	3.105	35	2.007	61	1.601	87	1.373	113	1.222	139	1.113	165	1.029
10	3.024	36	1.985	62	1.590	88	1.366	114	1.218	140	1.109	166	1.026
11	2.949	37	1.964	63	1.579	89	1.360	115	1.213	141	1.106	167	1.023
12	2.879	38	1.944	64	1.569	90	1.353	116	1.208	142	1.102	168	1.020
13	2.814	39	1.924	65	1.559	91	1.346	117	1.203	143	1.099	169	1.018
14	2.754	40	1.905	66	1.548	92	1.340	118	1.199	144	1.095	170	1.015
15	2.697	41	1.886	67	1.538	93	1.334	119	1.194	145	1.092	171	1.012
16	2.644	42	1.868	68	1.529	94	1.327	120	1.190	146	1.088	172	1.009
17	2.594	43	1.850	69	1.519	95	1.321	121	1.185	147	1.085	173	1.007
18	2.546	44	1.833	70	1.510	96	1.315	122	1.181	148	1.082	174	1.004
19	2.502	45	1.817	71	1.501	97	1.309	123	1.177	149	1.078	175	1.001
20	2.459	46	1.801	72	1.492	98	1.303	124	1.172	150	1.075	176	0.999
21	2.419	47	1.785	73	1.483	99	1.297	125	1.168	151	1.072	177	0.996
22	2.381	48	1.769	74	1.474	100	1.291	126	1.164	152	1.068	178	0.993
23	2.344	49	1.755	75	1.465	101	1.285	127	1.160	153	1.065	179	0.991
24	2.309	50	1.740	76	1.457	102	1.280	128	1.156	154	1.062	180	0.988
25	2.276	51	1.726	77	1.449	103	1.274	129	1.151	155	1.059		
26	2.244	52	1.712	78	1.441	104	1.269	130	1.147	156	1.056		

P=30(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	719.249	27	389.089	53	299.951	79	253.682	105	224.140	131	203.166	157	187.272
2	687.033	28	384.018	54	297.663	80	252.315	106	223.206	132	202.475	158	186.735
3	658.898	29	379.146	55	295.429	81	250.970	107	222.284	133	201.792	159	186.203
4	634.046	30	374.460	56	293.246	82	249.647	108	221.373	134	201.116	160	185.675
5	611.880	31	369.948	57	291.111	83	248.345	109	220.474	135	200.447	161	185.152
6	591.948	32	365.601	58	289.024	84	247.065	110	219.586	136	199.785	162	184.634
7	573.895	33	361.408	59	286.983	85	245.804	111	218.709	137	199.129	163	184.120
8	557.443	34	357.360	60	284.986	86	244.563	112	217.842	138	198.480	164	183.610
9	542.367	35	353.449	61	283.030	87	243.341	113	216.987	139	197.838	165	183.105
10	528.485	36	349.667	62	281.116	88	242.138	114	216.141	140	197.202	166	182.604
11	515.645	37	346.008	63	279.242	89	240.953	115	215.306	141	196.572	167	182.107
12	503.723	38	342.465	64	277.405	90	239.786	116	214.480	142	195.949	168	181.614
13	492.615	39	339.031	65	275.605	91	238.636	117	213.665	143	195.331	169	181.125
14	482.230	40	335.702	66	273.841	92	237.503	118	212.858	144	194.719	170	180.641
15	472.494	41	332.472	67	272.111	93	236.386	119	212.061	145	194.114	171	180.160
16	463.341	42	329.336	68	270.415	94	235.286	120	211.274	146	193.514	172	179.684
17	454.715	43	326.290	69	268.751	95	234.201	121	210.495	147	192.920	173	179.211
18	446.567	44	323.329	70	267.118	96	233.132	122	209.725	148	192.331	174	178.742
19	438.854	45	320.449	71	265.516	97	232.077	123	208.964	149	191.748	175	178.277
20	431.539	46	317.648	72	263.943	98	231.037	124	208.211	150	191.171	176	177.815
21	424.588	47	314.921	73	262.398	99	230.012	125	207.466	151	190.598	177	177.358
22	417.972	48	312.265	74	260.881	100	229.000	126	206.730	152	190.031	178	176.904
23	411.665	49	309.677	75	259.391	101	228.002	127	206.002	153	189.469	179	176.453
24	405.643	50	307.154	76	257.926	102	227.017	128	205.281	154	188.913	180	176.006
25	399.885	51	304.694	77	256.487	103	226.046	129	204.568	155	188.361		
26	394.373	52	302.294	78	255.073	104	225.087	130	203.863	156	187.814		

P=30(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	4.307	27	2.330	53	1.796	79	1.519	105	1.342	131	1.217	157	1.121
2	4.114	28	2.300	54	1.782	80	1.511	106	1.337	132	1.212	158	1.118
3	3.945	29	2.270	55	1.769	81	1.503	107	1.331	133	1.208	159	1.115
4	3.797	30	2.242	56	1.756	82	1.495	108	1.326	134	1.204	160	1.112
5	3.664	31	2.215	57	1.743	83	1.487	109	1.320	135	1.200	161	1.109
6	3.545	32	2.189	58	1.731	84	1.479	110	1.315	136	1.196	162	1.106
7	3.436	33	2.164	59	1.718	85	1.472	111	1.310	137	1.192	163	1.103
8	3.338	34	2.140	60	1.707	86	1.464	112	1.304	138	1.189	164	1.099
9	3.248	35	2.116	61	1.695	87	1.457	113	1.299	139	1.185	165	1.096
10	3.165	36	2.094	62	1.683	88	1.450	114	1.294	140	1.181	166	1.093
11	3.088	37	2.072	63	1.672	89	1.443	115	1.289	141	1.177	167	1.090
12	3.016	38	2.051	64	1.661	90	1.436	116	1.284	142	1.173	168	1.088
13	2.950	39	2.030	65	1.650	91	1.429	117	1.279	143	1.170	169	1.085
14	2.888	40	2.010	66	1.640	92	1.422	118	1.275	144	1.166	170	1.082
15	2.829	41	1.991	67	1.629	93	1.415	119	1.270	145	1.162	171	1.079
16	2.774	42	1.972	68	1.619	94	1.409	120	1.265	146	1.159	172	1.076
17	2.723	43	1.954	69	1.609	95	1.402	121	1.260	147	1.155	173	1.073
18	2.674	44	1.936	70	1.600	96	1.396	122	1.256	148	1.152	174	1.070
19	2.628	45	1.919	71	1.590	97	1.390	123	1.251	149	1.148	175	1.068
20	2.584	46	1.902	72	1.580	98	1.383	124	1.247	150	1.145	176	1.065
21	2.542	47	1.886	73	1.571	99	1.377	125	1.242	151	1.141	177	1.062
22	2.503	48	1.870	74	1.562	100	1.371	126	1.238	152	1.138	178	1.059
23	2.465	49	1.854	75	1.553	101	1.365	127	1.234	153	1.135	179	1.057
24	2.429	50	1.839	76	1.544	102	1.359	128	1.229	154	1.131	180	1.054
25	2.395	51	1.825	77	1.536	103	1.354	129	1.225	155	1.128		
26	2.362	52	1.810	78	1.527	104	1.348	130	1.221	156	1.125		

P=50(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	750.231	27	410.640	53	317.807	79	269.421	105	238.451	131	216.424	157	199.710
2	717.404	28	405.372	54	315.418	80	267.989	106	237.470	132	215.698	158	199.144
3	688.677	29	400.309	55	313.084	81	266.580	107	236.502	133	214.980	159	198.584
4	663.258	30	395.438	56	310.803	82	265.194	108	235.547	134	214.269	160	198.029
5	640.553	31	390.747	57	308.574	83	263.831	109	234.603	135	213.566	161	197.478
6	620.109	32	386.226	58	306.393	84	262.489	110	233.671	136	212.870	162	196.933
7	601.571	33	381.864	59	304.260	85	261.168	111	232.750	137	212.181	163	196.392
8	584.659	34	377.652	60	302.172	86	259.867	112	231.840	138	211.498	164	195.855
9	569.146	35	373.581	61	300.129	87	258.587	113	230.942	139	210.823	165	195.323
10	554.849	36	369.645	62	298.127	88	257.326	114	230.054	140	210.154	166	194.796
11	541.615	37	365.835	63	296.167	89	256.084	115	229.177	141	209.492	167	194.273
12	529.319	38	362.144	64	294.247	90	254.861	116	228.310	142	208.836	168	193.754
13	517.853	39	358.568	65	292.365	91	253.655	117	227.454	143	208.187	169	193.240
14	507.128	40	355.099	66	290.520	92	252.467	118	226.607	144	207.544	170	192.730
15	497.066	41	351.733	67	288.711	93	251.297	119	225.770	145	206.907	171	192.224
16	487.602	42	348.464	68	286.936	94	250.143	120	224.942	146	206.276	172	191.722
17	478.679	43	345.289	69	285.195	95	249.005	121	224.124	147	205.651	173	191.224
18	470.245	44	342.201	70	283.487	96	247.884	122	223.316	148	205.032	174	190.730
19	462.258	45	339.199	71	281.810	97	246.778	123	222.516	149	204.419	175	190.240
20	454.680	46	336.277	72	280.163	98	245.687	124	221.725	150	203.811	176	189.755
21	447.476	47	333.432	73	278.547	99	244.611	125	220.943	151	203.209	177	189.272
22	440.617	48	330.661	74	276.959	100	243.550	126	220.169	152	202.612	178	188.794
23	434.075	49	327.960	75	275.398	101	242.503	127	219.404	153	202.021	179	188.320
24	427.827	50	325.327	76	273.865	102	241.470	128	218.647	154	201.436	180	187.849
25	421.851	51	322.759	77	272.359	103	240.450	129	217.898	155	200.855		
26	416.128	52	320.253	78	270.878	104	239.444	130	217.157	156	200.280		

P=50(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	4.492	27	2.459	53	1.903	79	1.613	105	1.428	131	1.296	157	1.196
2	4.296	28	2.427	54	1.889	80	1.605	106	1.422	132	1.292	158	1.192
3	4.124	29	2.397	55	1.875	81	1.596	107	1.416	133	1.287	159	1.189
4	3.972	30	2.368	56	1.861	82	1.588	108	1.410	134	1.283	160	1.186
5	3.836	31	2.340	57	1.848	83	1.580	109	1.405	135	1.279	161	1.183
6	3.713	32	2.313	58	1.835	84	1.572	110	1.399	136	1.275	162	1.179
7	3.602	33	2.287	59	1.822	85	1.564	111	1.394	137	1.271	163	1.176
8	3.501	34	2.261	60	1.809	86	1.556	112	1.388	138	1.266	164	1.173
9	3.408	35	2.237	61	1.797	87	1.548	113	1.383	139	1.262	165	1.170
10	3.322	36	2.213	62	1.785	88	1.541	114	1.378	140	1.258	166	1.166
11	3.243	37	2.191	63	1.773	89	1.533	115	1.372	141	1.254	167	1.163
12	3.170	38	2.169	64	1.762	90	1.526	116	1.367	142	1.251	168	1.160
13	3.101	39	2.147	65	1.751	91	1.519	117	1.362	143	1.247	169	1.157
14	3.037	40	2.126	66	1.740	92	1.512	118	1.357	144	1.243	170	1.154
15	2.976	41	2.106	67	1.729	93	1.505	119	1.352	145	1.239	171	1.151
16	2.920	42	2.087	68	1.718	94	1.498	120	1.347	146	1.235	172	1.148
17	2.866	43	2.068	69	1.708	95	1.491	121	1.342	147	1.231	173	1.145
18	2.816	44	2.049	70	1.698	96	1.484	122	1.337	148	1.228	174	1.142
19	2.768	45	2.031	71	1.687	97	1.478	123	1.332	149	1.224	175	1.139
20	2.723	46	2.014	72	1.678	98	1.471	124	1.328	150	1.220	176	1.136
21	2.679	47	1.997	73	1.668	99	1.465	125	1.323	151	1.217	177	1.133
22	2.638	48	1.980	74	1.658	100	1.458	126	1.318	152	1.213	178	1.131
23	2.599	49	1.964	75	1.649	101	1.452	127	1.314	153	1.210	179	1.128
24	2.562	50	1.948	76	1.640	102	1.446	128	1.309	154	1.206	180	1.125
25	2.526	51	1.933	77	1.631	103	1.440	129	1.305	155	1.203		
26	2.492	52	1.918	78	1.622	104	1.434	130	1.300	156	1.199		

P=100(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	795.406	27	442.475	53	344.386	79	292.967	105	259.939	131	236.389	157	218.483
2	761.698	28	436.928	54	341.853	80	291.442	106	258.892	132	235.612	158	217.878
3	732.127	29	431.594	55	339.377	81	289.941	107	257.858	133	234.843	159	217.277
4	705.903	30	426.461	56	336.957	82	288.465	108	256.837	134	234.083	160	216.681
5	682.435	31	421.516	57	334.590	83	287.012	109	255.828	135	233.330	161	216.091
6	661.268	32	416.748	58	332.276	84	285.582	110	254.833	136	232.584	162	215.506
7	642.045	33	412.146	59	330.011	85	284.175	111	253.849	137	231.846	163	214.925
8	624.484	34	407.701	60	327.794	86	282.789	112	252.877	138	231.116	164	214.350
9	608.356	35	403.404	61	325.624	87	281.424	113	251.917	139	230.392	165	213.779
10	593.475	36	399.247	62	323.499	88	280.079	114	250.968	140	229.676	166	213.213
11	579.686	37	395.222	63	321.416	89	278.755	115	250.030	141	228.967	167	212.652
12	566.862	38	391.323	64	319.376	90	277.451	116	249.104	142	228.264	168	212.096
13	554.893	39	387.543	65	317.376	91	276.165	117	248.188	143	227.569	169	211.544
14	543.688	40	383.876	66	315.415	92	274.898	118	247.282	144	226.880	170	210.997
15	533.168	41	380.316	67	313.491	93	273.650	119	246.387	145	226.197	171	210.454
16	523.266	42	376.859	68	311.605	94	272.419	120	245.503	146	225.521	172	209.915
17	513.922	43	373.499	69	309.753	95	271.205	121	244.628	147	224.852	173	209.381
18	505.086	44	370.232	70	307.936	96	270.009	122	243.763	148	224.188	174	208.851
19	496.713	45	367.053	71	306.153	97	268.828	123	242.907	149	223.531	175	208.325
20	488.763	46	363.959	72	304.401	98	267.664	124	242.061	150	222.880	176	207.804
21	481.202	47	360.947	73	302.681	99	266.516	125	241.224	151	222.235	177	207.286
22	473.999	48	358.011	74	300.991	100	265.383	126	240.397	152	221.595	178	206.773
23	467.125	49	355.150	75	299.331	101	264.266	127	239.578	153	220.962	179	206.263
24	460.557	50	352.359	76	297.699	102	263.163	128	238.768	154	220.334	180	205.758
25	454.273	51	349.637	77	296.095	103	262.074	129	237.966	155	219.712		
26	448.251	52	346.980	78	294.518	104	261.000	130	237.173	156	219.095		

P=100(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	4.763	27	2.650	53	2.062	79	1.754	105	1.557	131	1.416	157	1.308
2	4.561	28	2.616	54	2.047	80	1.745	106	1.550	132	1.411	158	1.305
3	4.384	29	2.584	55	2.032	81	1.736	107	1.544	133	1.406	159	1.301
4	4.227	30	2.554	56	2.018	82	1.727	108	1.538	134	1.402	160	1.297
5	4.086	31	2.524	57	2.004	83	1.719	109	1.532	135	1.397	161	1.294
6	3.960	32	2.495	58	1.990	84	1.710	110	1.526	136	1.393	162	1.290
7	3.845	33	2.468	59	1.976	85	1.702	111	1.520	137	1.388	163	1.287
8	3.739	34	2.441	60	1.963	86	1.693	112	1.514	138	1.384	164	1.284
9	3.643	35	2.416	61	1.950	87	1.685	113	1.508	139	1.380	165	1.280
10	3.554	36	2.391	62	1.937	88	1.677	114	1.503	140	1.375	166	1.277
11	3.471	37	2.367	63	1.925	89	1.669	115	1.497	141	1.371	167	1.273
12	3.394	38	2.343	64	1.912	90	1.661	116	1.492	142	1.367	168	1.270
13	3.323	39	2.321	65	1.900	91	1.654	117	1.486	143	1.363	169	1.267
14	3.256	40	2.299	66	1.889	92	1.646	118	1.481	144	1.359	170	1.263
15	3.193	41	2.277	67	1.877	93	1.639	119	1.475	145	1.354	171	1.260
16	3.133	42	2.257	68	1.866	94	1.631	120	1.470	146	1.350	172	1.257
17	3.077	43	2.237	69	1.855	95	1.624	121	1.465	147	1.346	173	1.254
18	3.024	44	2.217	70	1.844	96	1.617	122	1.460	148	1.342	174	1.251
19	2.974	45	2.198	71	1.833	97	1.610	123	1.455	149	1.339	175	1.247
20	2.927	46	2.179	72	1.823	98	1.603	124	1.449	150	1.335	176	1.244
21	2.881	47	2.161	73	1.812	99	1.596	125	1.444	151	1.331	177	1.241
22	2.838	48	2.144	74	1.802	100	1.589	126	1.440	152	1.327	178	1.238
23	2.797	49	2.127	75	1.792	101	1.582	127	1.435	153	1.323	179	1.235
24	2.758	50	2.110	76	1.783	102	1.576	128	1.430	154	1.319	180	1.232
25	2.720	51	2.094	77	1.773	103	1.569	129	1.425	155	1.316		
26	2.684	52	2.078	78	1.764	104	1.563	130	1.420	156	1.312		

附表 4 深汕特别合作区暴雨强度（ q ）和降雨强度（ i ）查算表

P=1(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	410.908	27	196.385	53	137.531	79	108.508	105	90.825	131	78.766	157	69.942
2	391.664	28	192.973	54	136.064	80	107.674	106	90.278	132	78.377	158	69.649
3	374.445	29	189.700	55	134.634	81	106.854	107	89.740	133	77.992	159	69.358
4	358.932	30	186.557	56	133.240	82	106.049	108	89.209	134	77.612	160	69.071
5	344.874	31	183.536	57	131.880	83	105.259	109	88.685	135	77.236	161	68.787
6	332.065	32	180.629	58	130.553	84	104.482	110	88.169	136	76.865	162	68.505
7	320.339	33	177.830	59	129.257	85	103.719	111	87.660	137	76.498	163	68.226
8	309.557	34	175.132	60	127.991	86	102.970	112	87.157	138	76.135	164	67.950
9	299.604	35	172.531	61	126.755	87	102.233	113	86.662	139	75.776	165	67.676
10	290.384	36	170.020	62	125.547	88	101.509	114	86.173	140	75.421	166	67.405
11	281.816	37	167.594	63	124.366	89	100.796	115	85.691	141	75.070	167	67.137
12	273.828	38	165.250	64	123.211	90	100.096	116	85.216	142	74.723	168	66.871
13	266.362	39	162.983	65	122.082	91	99.407	117	84.746	143	74.380	169	66.608
14	259.365	40	160.789	66	120.977	92	98.729	118	84.283	144	74.041	170	66.347
15	252.792	41	158.664	67	119.896	93	98.063	119	83.825	145	73.705	171	66.088
16	246.604	42	156.605	68	118.837	94	97.407	120	83.374	146	73.373	172	65.832
17	240.767	43	154.609	69	117.801	95	96.761	121	82.928	147	73.044	173	65.579
18	235.250	44	152.673	70	116.786	96	96.126	122	82.488	148	72.719	174	65.327
19	230.025	45	150.794	71	115.792	97	95.500	123	82.054	149	72.397	175	65.078
20	225.071	46	148.969	72	114.817	98	94.884	124	81.625	150	72.079	176	64.831
21	220.364	47	147.196	73	113.863	99	94.278	125	81.201	151	71.764	177	64.587
22	215.886	48	145.473	74	112.926	100	93.681	126	80.783	152	71.453	178	64.345
23	211.619	49	143.797	75	112.009	101	93.092	127	80.370	153	71.144	179	64.104
24	207.550	50	142.167	76	111.108	102	92.513	128	79.961	154	70.839	180	63.866
25	203.662	51	140.581	77	110.225	103	91.942	129	79.558	155	70.537		
26	199.944	52	139.036	78	109.359	104	91.379	130	79.159	156	70.238		

P=1(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	2.461	27	1.176	53	0.824	79	0.650	105	0.544	131	0.472	157	0.419
2	2.345	28	1.156	54	0.815	80	0.645	106	0.541	132	0.469	158	0.417
3	2.242	29	1.136	55	0.806	81	0.640	107	0.537	133	0.467	159	0.415
4	2.149	30	1.117	56	0.798	82	0.635	108	0.534	134	0.465	160	0.414
5	2.065	31	1.099	57	0.790	83	0.630	109	0.531	135	0.462	161	0.412
6	1.988	32	1.082	58	0.782	84	0.626	110	0.528	136	0.460	162	0.410
7	1.918	33	1.065	59	0.774	85	0.621	111	0.525	137	0.458	163	0.409
8	1.854	34	1.049	60	0.766	86	0.617	112	0.522	138	0.456	164	0.407
9	1.794	35	1.033	61	0.759	87	0.612	113	0.519	139	0.454	165	0.405
10	1.739	36	1.018	62	0.752	88	0.608	114	0.516	140	0.452	166	0.404
11	1.688	37	1.004	63	0.745	89	0.604	115	0.513	141	0.450	167	0.402
12	1.640	38	0.990	64	0.738	90	0.599	116	0.510	142	0.447	168	0.400
13	1.595	39	0.976	65	0.731	91	0.595	117	0.507	143	0.445	169	0.399
14	1.553	40	0.963	66	0.724	92	0.591	118	0.505	144	0.443	170	0.397
15	1.514	41	0.950	67	0.718	93	0.587	119	0.502	145	0.441	171	0.396
16	1.477	42	0.938	68	0.712	94	0.583	120	0.499	146	0.439	172	0.394
17	1.442	43	0.926	69	0.705	95	0.579	121	0.497	147	0.437	173	0.393
18	1.409	44	0.914	70	0.699	96	0.576	122	0.494	148	0.435	174	0.391
19	1.377	45	0.903	71	0.693	97	0.572	123	0.491	149	0.434	175	0.390
20	1.348	46	0.892	72	0.688	98	0.568	124	0.489	150	0.432	176	0.388
21	1.320	47	0.881	73	0.682	99	0.565	125	0.486	151	0.430	177	0.387
22	1.293	48	0.871	74	0.676	100	0.561	126	0.484	152	0.428	178	0.385
23	1.267	49	0.861	75	0.671	101	0.557	127	0.481	153	0.426	179	0.384
24	1.243	50	0.851	76	0.665	102	0.554	128	0.479	154	0.424	180	0.382
25	1.220	51	0.842	77	0.660	103	0.551	129	0.476	155	0.422		
26	1.197	52	0.833	78	0.655	104	0.547	130	0.474	156	0.421		

P=2(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	487.238	27	239.545	53	171.856	79	138.045	105	117.194	131	102.824	157	92.212
2	464.586	28	235.639	54	170.157	80	137.066	106	116.545	132	102.358	158	91.857
3	444.423	29	231.891	55	168.500	81	136.104	107	115.906	133	101.897	159	91.507
4	426.338	30	228.289	56	166.883	82	135.159	108	115.276	134	101.441	160	91.159
5	410.006	31	224.827	57	165.305	83	134.230	109	114.654	135	100.991	161	90.816
6	395.171	32	221.494	58	163.764	84	133.318	110	114.040	136	100.545	162	90.475
7	381.623	33	218.283	59	162.259	85	132.421	111	113.435	137	100.105	163	90.137
8	369.192	34	215.188	60	160.788	86	131.539	112	112.838	138	99.669	164	89.803
9	357.738	35	212.201	61	159.351	87	130.672	113	112.249	139	99.238	165	89.472
10	347.142	36	209.317	62	157.946	88	129.819	114	111.667	140	98.812	166	89.144
11	337.307	37	206.530	63	156.571	89	128.980	115	111.093	141	98.390	167	88.818
12	328.147	38	203.836	64	155.227	90	128.155	116	110.527	142	97.973	168	88.496
13	319.592	39	201.228	65	153.911	91	127.343	117	109.968	143	97.561	169	88.177
14	311.580	40	198.704	66	152.624	92	126.543	118	109.415	144	97.153	170	87.861
15	304.058	41	196.258	67	151.363	93	125.757	119	108.870	145	96.749	171	87.547
16	296.979	42	193.887	68	150.128	94	124.982	120	108.332	146	96.349	172	87.237
17	290.303	43	191.587	69	148.919	95	124.220	121	107.800	147	95.953	173	86.929
18	283.994	44	189.354	70	147.733	96	123.469	122	107.275	148	95.562	174	86.624
19	278.021	45	187.187	71	146.572	97	122.730	123	106.756	149	95.174	175	86.321
20	272.356	46	185.081	72	145.433	98	122.002	124	106.244	150	94.791	176	86.022
21	266.975	47	183.035	73	144.316	99	121.284	125	105.738	151	94.411	177	85.725
22	261.854	48	181.044	74	143.221	100	120.577	126	105.237	152	94.035	178	85.430
23	256.976	49	179.108	75	142.147	101	119.881	127	104.743	153	93.663	179	85.138
24	252.321	50	177.223	76	141.093	102	119.195	128	104.255	154	93.295	180	84.849
25	247.873	51	175.387	77	140.058	103	118.518	129	103.772	155	92.930		
26	243.619	52	173.599	78	139.042	104	117.851	130	103.295	156	92.569		

P=2(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	2.918	27	1.434	53	1.029	79	0.827	105	0.702	131	0.616	157	0.552
2	2.782	28	1.411	54	1.019	80	0.821	106	0.698	132	0.613	158	0.550
3	2.661	29	1.389	55	1.009	81	0.815	107	0.694	133	0.610	159	0.548
4	2.553	30	1.367	56	0.999	82	0.809	108	0.690	134	0.607	160	0.546
5	2.455	31	1.346	57	0.990	83	0.804	109	0.687	135	0.605	161	0.544
6	2.366	32	1.326	58	0.981	84	0.798	110	0.683	136	0.602	162	0.542
7	2.285	33	1.307	59	0.972	85	0.793	111	0.679	137	0.599	163	0.540
8	2.211	34	1.289	60	0.963	86	0.788	112	0.676	138	0.597	164	0.538
9	2.142	35	1.271	61	0.954	87	0.782	113	0.672	139	0.594	165	0.536
10	2.079	36	1.253	62	0.946	88	0.777	114	0.669	140	0.592	166	0.534
11	2.020	37	1.237	63	0.938	89	0.772	115	0.665	141	0.589	167	0.532
12	1.965	38	1.221	64	0.930	90	0.767	116	0.662	142	0.587	168	0.530
13	1.914	39	1.205	65	0.922	91	0.763	117	0.658	143	0.584	169	0.528
14	1.866	40	1.190	66	0.914	92	0.758	118	0.655	144	0.582	170	0.526
15	1.821	41	1.175	67	0.906	93	0.753	119	0.652	145	0.579	171	0.524
16	1.778	42	1.161	68	0.899	94	0.748	120	0.649	146	0.577	172	0.522
17	1.738	43	1.147	69	0.892	95	0.744	121	0.646	147	0.575	173	0.521
18	1.701	44	1.134	70	0.885	96	0.739	122	0.642	148	0.572	174	0.519
19	1.665	45	1.121	71	0.878	97	0.735	123	0.639	149	0.570	175	0.517
20	1.631	46	1.108	72	0.871	98	0.731	124	0.636	150	0.568	176	0.515
21	1.599	47	1.096	73	0.864	99	0.726	125	0.633	151	0.565	177	0.513
22	1.568	48	1.084	74	0.858	100	0.722	126	0.630	152	0.563	178	0.512
23	1.539	49	1.073	75	0.851	101	0.718	127	0.627	153	0.561	179	0.510
24	1.511	50	1.061	76	0.845	102	0.714	128	0.624	154	0.559	180	0.508
25	1.484	51	1.050	77	0.839	103	0.710	129	0.621	155	0.556		
26	1.459	52	1.040	78	0.833	104	0.706	130	0.619	156	0.554		

P=3(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	524.673	27	262.980	53	191.229	79	155.097	105	132.659	131	117.107	157	105.563
2	500.594	28	258.854	54	189.419	80	154.046	106	131.960	132	116.601	158	105.177
3	479.205	29	254.892	55	187.654	81	153.014	107	131.269	133	116.100	159	104.795
4	460.050	30	251.085	56	185.930	82	151.999	108	130.588	134	115.606	160	104.416
5	442.775	31	247.423	57	184.248	83	151.002	109	129.916	135	115.116	161	104.041
6	427.098	32	243.898	58	182.605	84	150.022	110	129.254	136	114.633	162	103.669
7	412.793	33	240.501	59	180.999	85	149.058	111	128.599	137	114.154	163	103.301
8	399.676	34	237.225	60	179.430	86	148.110	112	127.954	138	113.681	164	102.936
9	387.595	35	234.063	61	177.896	87	147.178	113	127.317	139	113.212	165	102.574
10	376.424	36	231.008	62	176.395	88	146.261	114	126.688	140	112.749	166	102.216
11	366.056	37	228.056	63	174.928	89	145.359	115	126.067	141	112.291	167	101.861
12	356.404	38	225.200	64	173.491	90	144.471	116	125.454	142	111.837	168	101.509
13	347.389	39	222.436	65	172.085	91	143.598	117	124.849	143	111.389	169	101.161
14	338.946	40	219.759	66	170.709	92	142.738	118	124.251	144	110.944	170	100.815
15	331.020	41	217.164	67	169.361	93	141.891	119	123.661	145	110.505	171	100.473
16	323.560	42	214.648	68	168.040	94	141.057	120	123.078	146	110.070	172	100.133
17	316.524	43	212.207	69	166.746	95	140.236	121	122.502	147	109.639	173	99.797
18	309.875	44	209.837	70	165.478	96	139.427	122	121.933	148	109.213	174	99.463
19	303.578	45	207.535	71	164.235	97	138.631	123	121.371	149	108.791	175	99.133
20	297.605	46	205.298	72	163.015	98	137.846	124	120.816	150	108.374	176	98.805
21	291.930	47	203.122	73	161.820	99	137.072	125	120.267	151	107.960	177	98.480
22	286.529	48	201.006	74	160.646	100	136.310	126	119.725	152	107.551	178	98.158
23	281.382	49	198.947	75	159.495	101	135.559	127	119.189	153	107.146	179	97.838
24	276.469	50	196.941	76	158.365	102	134.819	128	118.659	154	106.744	180	97.521
25	271.775	51	194.988	77	157.256	103	134.089	129	118.136	155	106.347		
26	267.283	52	193.085	78	156.167	104	133.369	130	117.618	156	105.953		

P=3(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.142	27	1.575	53	1.145	79	0.929	105	0.794	131	0.701	157	0.632
2	2.998	28	1.550	54	1.134	80	0.922	106	0.790	132	0.698	158	0.630
3	2.869	29	1.526	55	1.124	81	0.916	107	0.786	133	0.695	159	0.628
4	2.755	30	1.504	56	1.113	82	0.910	108	0.782	134	0.692	160	0.625
5	2.651	31	1.482	57	1.103	83	0.904	109	0.778	135	0.689	161	0.623
6	2.557	32	1.460	58	1.093	84	0.898	110	0.774	136	0.686	162	0.621
7	2.472	33	1.440	59	1.084	85	0.893	111	0.770	137	0.684	163	0.619
8	2.393	34	1.421	60	1.074	86	0.887	112	0.766	138	0.681	164	0.616
9	2.321	35	1.402	61	1.065	87	0.881	113	0.762	139	0.678	165	0.614
10	2.254	36	1.383	62	1.056	88	0.876	114	0.759	140	0.675	166	0.612
11	2.192	37	1.366	63	1.047	89	0.870	115	0.755	141	0.672	167	0.610
12	2.134	38	1.349	64	1.039	90	0.865	116	0.751	142	0.670	168	0.608
13	2.080	39	1.332	65	1.030	91	0.860	117	0.748	143	0.667	169	0.606
14	2.030	40	1.316	66	1.022	92	0.855	118	0.744	144	0.664	170	0.604
15	1.982	41	1.300	67	1.014	93	0.850	119	0.740	145	0.662	171	0.602
16	1.937	42	1.285	68	1.006	94	0.845	120	0.737	146	0.659	172	0.600
17	1.895	43	1.271	69	0.998	95	0.840	121	0.734	147	0.657	173	0.598
18	1.856	44	1.257	70	0.991	96	0.835	122	0.730	148	0.654	174	0.596
19	1.818	45	1.243	71	0.983	97	0.830	123	0.727	149	0.651	175	0.594
20	1.782	46	1.229	72	0.976	98	0.825	124	0.723	150	0.649	176	0.592
21	1.748	47	1.216	73	0.969	99	0.821	125	0.720	151	0.646	177	0.590
22	1.716	48	1.204	74	0.962	100	0.816	126	0.717	152	0.644	178	0.588
23	1.685	49	1.191	75	0.955	101	0.812	127	0.714	153	0.642	179	0.586
24	1.656	50	1.179	76	0.948	102	0.807	128	0.711	154	0.639	180	0.584
25	1.627	51	1.168	77	0.942	103	0.803	129	0.707	155	0.637		
26	1.600	52	1.156	78	0.935	104	0.799	130	0.704	156	0.634		

P=5(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	569.977	27	293.296	53	216.937	79	178.074	105	153.729	131	136.730	157	124.035
2	544.374	28	288.924	54	214.999	80	176.938	106	152.966	132	136.175	158	123.609
3	521.678	29	284.726	55	213.107	81	175.822	107	152.214	133	135.626	159	123.188
4	501.388	30	280.690	56	211.260	82	174.724	108	151.471	134	135.083	160	122.770
5	483.113	31	276.805	57	209.456	83	173.645	109	150.739	135	134.546	161	122.355
6	466.545	32	273.064	58	207.693	84	172.584	110	150.016	136	134.015	162	121.945
7	451.439	33	269.458	59	205.970	85	171.540	111	149.302	137	133.490	163	121.538
8	437.594	34	265.978	60	204.285	86	170.514	112	148.597	138	132.970	164	121.135
9	424.849	35	262.618	61	202.638	87	169.504	113	147.902	139	132.455	165	120.736
10	413.066	36	259.372	62	201.026	88	168.510	114	147.215	140	131.946	166	120.340
11	402.133	37	256.232	63	199.449	89	167.532	115	146.537	141	131.443	167	119.948
12	391.954	38	253.194	64	197.904	90	166.569	116	145.867	142	130.944	168	119.559
13	382.448	39	250.252	65	196.392	91	165.621	117	145.206	143	130.451	169	119.173
14	373.544	40	247.401	66	194.911	92	164.687	118	144.553	144	129.962	170	118.791
15	365.184	41	244.637	67	193.461	93	163.768	119	143.907	145	129.479	171	118.413
16	357.314	42	241.956	68	192.039	94	162.863	120	143.270	146	129.000	172	118.037
17	349.890	43	239.353	69	190.645	95	161.971	121	142.640	147	128.526	173	117.665
18	342.871	44	236.825	70	189.278	96	161.092	122	142.017	148	128.057	174	117.296
19	336.223	45	234.368	71	187.938	97	160.226	123	141.402	149	127.593	175	116.930
20	329.915	46	231.980	72	186.624	98	159.373	124	140.794	150	127.133	176	116.567
21	323.919	47	229.657	73	185.334	99	158.532	125	140.194	151	126.677	177	116.207
22	318.211	48	227.396	74	184.068	100	157.703	126	139.600	152	126.226	178	115.851
23	312.769	49	225.194	75	182.825	101	156.886	127	139.013	153	125.780	179	115.497
24	307.574	50	223.050	76	181.605	102	156.080	128	138.432	154	125.337	180	115.146
25	302.607	51	220.961	77	180.407	103	155.285	129	137.858	155	124.899		
26	297.852	52	218.924	78	179.230	104	154.502	130	137.291	156	124.465		

P=5(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.413	27	1.756	53	1.299	79	1.066	105	0.921	131	0.819	157	0.743
2	3.260	28	1.730	54	1.287	80	1.060	106	0.916	132	0.815	158	0.740
3	3.124	29	1.705	55	1.276	81	1.053	107	0.911	133	0.812	159	0.738
4	3.002	30	1.681	56	1.265	82	1.046	108	0.907	134	0.809	160	0.735
5	2.893	31	1.658	57	1.254	83	1.040	109	0.903	135	0.806	161	0.733
6	2.794	32	1.635	58	1.244	84	1.033	110	0.898	136	0.802	162	0.730
7	2.703	33	1.614	59	1.233	85	1.027	111	0.894	137	0.799	163	0.728
8	2.620	34	1.593	60	1.223	86	1.021	112	0.890	138	0.796	164	0.725
9	2.544	35	1.573	61	1.213	87	1.015	113	0.886	139	0.793	165	0.723
10	2.473	36	1.553	62	1.204	88	1.009	114	0.882	140	0.790	166	0.721
11	2.408	37	1.534	63	1.194	89	1.003	115	0.877	141	0.787	167	0.718
12	2.347	38	1.516	64	1.185	90	0.997	116	0.873	142	0.784	168	0.716
13	2.290	39	1.499	65	1.176	91	0.992	117	0.869	143	0.781	169	0.714
14	2.237	40	1.481	66	1.167	92	0.986	118	0.866	144	0.778	170	0.711
15	2.187	41	1.465	67	1.158	93	0.981	119	0.862	145	0.775	171	0.709
16	2.140	42	1.449	68	1.150	94	0.975	120	0.858	146	0.772	172	0.707
17	2.095	43	1.433	69	1.142	95	0.970	121	0.854	147	0.770	173	0.705
18	2.053	44	1.418	70	1.133	96	0.965	122	0.850	148	0.767	174	0.702
19	2.013	45	1.403	71	1.125	97	0.959	123	0.847	149	0.764	175	0.700
20	1.976	46	1.389	72	1.118	98	0.954	124	0.843	150	0.761	176	0.698
21	1.940	47	1.375	73	1.110	99	0.949	125	0.839	151	0.759	177	0.696
22	1.905	48	1.362	74	1.102	100	0.944	126	0.836	152	0.756	178	0.694
23	1.873	49	1.348	75	1.095	101	0.939	127	0.832	153	0.753	179	0.692
24	1.842	50	1.336	76	1.087	102	0.935	128	0.829	154	0.751	180	0.689
25	1.812	51	1.323	77	1.080	103	0.930	129	0.825	155	0.748		
26	1.784	52	1.311	78	1.073	104	0.925	130	0.822	156	0.745		

P=10(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	632.349	27	335.641	53	251.167	79	207.665	105	180.214	131	160.945	157	146.496
2	605.475	28	330.838	54	249.006	80	206.387	106	179.351	132	160.315	158	146.010
3	581.555	29	326.222	55	246.896	81	205.132	107	178.500	133	159.691	159	145.529
4	560.092	30	321.780	56	244.835	82	203.897	108	177.660	134	159.074	160	145.052
5	540.697	31	317.503	57	242.821	83	202.683	109	176.831	135	158.463	161	144.579
6	523.063	32	313.380	58	240.852	84	201.488	110	176.012	136	157.860	162	144.111
7	506.941	33	309.403	59	238.928	85	200.313	111	175.204	137	157.262	163	143.647
8	492.130	34	305.563	60	237.045	86	199.157	112	174.406	138	156.671	164	143.187
9	478.463	35	301.853	61	235.203	87	198.020	113	173.619	139	156.086	165	142.731
10	465.803	36	298.265	62	233.401	88	196.900	114	172.841	140	155.506	166	142.279
11	454.033	37	294.794	63	231.636	89	195.797	115	172.072	141	154.933	167	141.831
12	443.055	38	291.433	64	229.908	90	194.712	116	171.314	142	154.366	168	141.387
13	432.785	39	288.176	65	228.216	91	193.643	117	170.564	143	153.804	169	140.947
14	423.151	40	285.019	66	226.558	92	192.591	118	169.823	144	153.248	170	140.511
15	414.092	41	281.956	67	224.932	93	191.554	119	169.092	145	152.698	171	140.078
16	405.552	42	278.983	68	223.339	94	190.532	120	168.369	146	152.153	172	139.649
17	397.485	43	276.095	69	221.777	95	189.526	121	167.654	147	151.614	173	139.224
18	389.849	44	273.290	70	220.245	96	188.534	122	166.948	148	151.079	174	138.802
19	382.607	45	270.562	71	218.742	97	187.557	123	166.250	149	150.550	175	138.384
20	375.728	46	267.908	72	217.267	98	186.593	124	165.560	150	150.026	176	137.969
21	369.183	47	265.326	73	215.819	99	185.643	125	164.878	151	149.507	177	137.558
22	362.945	48	262.812	74	214.398	100	184.707	126	164.204	152	148.994	178	137.150
23	356.992	49	260.363	75	213.003	101	183.783	127	163.538	153	148.485	179	136.746
24	351.303	50	257.976	76	211.633	102	182.872	128	162.879	154	147.980	180	136.345
25	345.859	51	255.650	77	210.287	103	181.974	129	162.227	155	147.481		
26	340.644	52	253.381	78	208.964	104	181.088	130	161.582	156	146.986		

P=10(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	3.787	27	2.010	53	1.504	79	1.244	105	1.079	131	0.964	157	0.877
2	3.626	28	1.981	54	1.491	80	1.236	106	1.074	132	0.960	158	0.874
3	3.482	29	1.953	55	1.478	81	1.228	107	1.069	133	0.956	159	0.871
4	3.354	30	1.927	56	1.466	82	1.221	108	1.064	134	0.953	160	0.869
5	3.238	31	1.901	57	1.454	83	1.214	109	1.059	135	0.949	161	0.866
6	3.132	32	1.877	58	1.442	84	1.207	110	1.054	136	0.945	162	0.863
7	3.036	33	1.853	59	1.431	85	1.199	111	1.049	137	0.942	163	0.860
8	2.947	34	1.830	60	1.419	86	1.193	112	1.044	138	0.938	164	0.857
9	2.865	35	1.808	61	1.408	87	1.186	113	1.040	139	0.935	165	0.855
10	2.789	36	1.786	62	1.398	88	1.179	114	1.035	140	0.931	166	0.852
11	2.719	37	1.765	63	1.387	89	1.172	115	1.030	141	0.928	167	0.849
12	2.653	38	1.745	64	1.377	90	1.166	116	1.026	142	0.924	168	0.847
13	2.592	39	1.726	65	1.367	91	1.160	117	1.021	143	0.921	169	0.844
14	2.534	40	1.707	66	1.357	92	1.153	118	1.017	144	0.918	170	0.841
15	2.480	41	1.688	67	1.347	93	1.147	119	1.013	145	0.914	171	0.839
16	2.428	42	1.671	68	1.337	94	1.141	120	1.008	146	0.911	172	0.836
17	2.380	43	1.653	69	1.328	95	1.135	121	1.004	147	0.908	173	0.834
18	2.334	44	1.636	70	1.319	96	1.129	122	1.000	148	0.905	174	0.831
19	2.291	45	1.620	71	1.310	97	1.123	123	0.996	149	0.901	175	0.829
20	2.250	46	1.604	72	1.301	98	1.117	124	0.991	150	0.898	176	0.826
21	2.211	47	1.589	73	1.292	99	1.112	125	0.987	151	0.895	177	0.824
22	2.173	48	1.574	74	1.284	100	1.106	126	0.983	152	0.892	178	0.821
23	2.138	49	1.559	75	1.275	101	1.100	127	0.979	153	0.889	179	0.819
24	2.104	50	1.545	76	1.267	102	1.095	128	0.975	154	0.886	180	0.816
25	2.071	51	1.531	77	1.259	103	1.090	129	0.971	155	0.883		
26	2.040	52	1.517	78	1.251	104	1.084	130	0.968	156	0.880		

P=20(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	691.413	27	378.661	53	284.252	79	235.034	105	203.829	131	181.876	157	165.397
2	664.550	28	373.343	54	281.815	80	233.585	106	202.847	132	181.158	158	164.843
3	640.373	29	368.224	55	279.435	81	232.159	107	201.878	133	180.446	159	164.294
4	618.469	30	363.295	56	277.109	82	230.757	108	200.921	134	179.743	160	163.749
5	598.508	31	358.542	57	274.836	83	229.378	109	199.977	135	179.047	161	163.210
6	580.223	32	353.957	58	272.613	84	228.022	110	199.045	136	178.358	162	162.676
7	563.395	33	349.529	59	270.439	85	226.687	111	198.125	137	177.677	163	162.146
8	547.845	34	345.250	60	268.312	86	225.374	112	197.216	138	177.003	164	161.622
9	533.419	35	341.112	61	266.230	87	224.081	113	196.319	139	176.335	165	161.101
10	519.992	36	337.107	62	264.192	88	222.809	114	195.433	140	175.675	166	160.586
11	507.454	37	333.230	63	262.196	89	221.556	115	194.558	141	175.021	167	160.075
12	495.714	38	329.472	64	260.242	90	220.322	116	193.693	142	174.374	168	159.568
13	484.691	39	325.828	65	258.327	91	219.107	117	192.839	143	173.734	169	159.066
14	474.317	40	322.294	66	256.450	92	217.910	118	191.995	144	173.100	170	158.568
15	464.531	41	318.862	67	254.610	93	216.731	119	191.162	145	172.472	171	158.074
16	455.280	42	315.529	68	252.806	94	215.570	120	190.338	146	171.850	172	157.585
17	446.519	43	312.291	69	251.036	95	214.425	121	189.524	147	171.235	173	157.099
18	438.206	44	309.141	70	249.300	96	213.297	122	188.719	148	170.626	174	156.618
19	430.305	45	306.078	71	247.597	97	212.185	123	187.924	149	170.022	175	156.141
20	422.784	46	303.097	72	245.926	98	211.089	124	187.137	150	169.424	176	155.668
21	415.613	47	300.194	73	244.285	99	210.008	125	186.360	151	168.833	177	155.198
22	408.767	48	297.366	74	242.674	100	208.943	126	185.592	152	168.246	178	154.733
23	402.222	49	294.611	75	241.091	101	207.892	127	184.832	153	167.666	179	154.271
24	395.957	50	291.924	76	239.537	102	206.855	128	184.081	154	167.090	180	153.814
25	389.953	51	289.304	77	238.010	103	205.833	129	183.338	155	166.521		
26	384.193	52	286.747	78	236.509	104	204.824	130	182.603	156	165.956		

P=20(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	4.140	27	2.267	53	1.702	79	1.407	105	1.221	131	1.089	157	0.990
2	3.979	28	2.236	54	1.688	80	1.399	106	1.215	132	1.085	158	0.987
3	3.835	29	2.205	55	1.673	81	1.390	107	1.209	133	1.081	159	0.984
4	3.703	30	2.175	56	1.659	82	1.382	108	1.203	134	1.076	160	0.981
5	3.584	31	2.147	57	1.646	83	1.374	109	1.197	135	1.072	161	0.977
6	3.474	32	2.120	58	1.632	84	1.365	110	1.192	136	1.068	162	0.974
7	3.374	33	2.093	59	1.619	85	1.357	111	1.186	137	1.064	163	0.971
8	3.281	34	2.067	60	1.607	86	1.350	112	1.181	138	1.060	164	0.968
9	3.194	35	2.043	61	1.594	87	1.342	113	1.176	139	1.056	165	0.965
10	3.114	36	2.019	62	1.582	88	1.334	114	1.170	140	1.052	166	0.962
11	3.039	37	1.995	63	1.570	89	1.327	115	1.165	141	1.048	167	0.959
12	2.968	38	1.973	64	1.558	90	1.319	116	1.160	142	1.044	168	0.955
13	2.902	39	1.951	65	1.547	91	1.312	117	1.155	143	1.040	169	0.952
14	2.840	40	1.930	66	1.536	92	1.305	118	1.150	144	1.037	170	0.950
15	2.782	41	1.909	67	1.525	93	1.298	119	1.145	145	1.033	171	0.947
16	2.726	42	1.889	68	1.514	94	1.291	120	1.140	146	1.029	172	0.944
17	2.674	43	1.870	69	1.503	95	1.284	121	1.135	147	1.025	173	0.941
18	2.624	44	1.851	70	1.493	96	1.277	122	1.130	148	1.022	174	0.938
19	2.577	45	1.833	71	1.483	97	1.271	123	1.125	149	1.018	175	0.935
20	2.532	46	1.815	72	1.473	98	1.264	124	1.121	150	1.015	176	0.932
21	2.489	47	1.798	73	1.463	99	1.258	125	1.116	151	1.011	177	0.929
22	2.448	48	1.781	74	1.453	100	1.251	126	1.111	152	1.007	178	0.927
23	2.409	49	1.764	75	1.444	101	1.245	127	1.107	153	1.004	179	0.924
24	2.371	50	1.748	76	1.434	102	1.239	128	1.102	154	1.001	180	0.921
25	2.335	51	1.732	77	1.425	103	1.233	129	1.098	155	0.997		
26	2.301	52	1.717	78	1.416	104	1.226	130	1.093	156	0.994		

P=30(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	731.295	27	404.361	53	303.834	79	251.216	105	217.803	131	194.280	157	176.616
2	703.674	28	398.715	54	301.231	80	249.664	106	216.751	132	193.510	158	176.022
3	678.732	29	393.279	55	298.689	81	248.139	107	215.712	133	192.747	159	175.433
4	656.069	30	388.042	56	296.205	82	246.638	108	214.688	134	191.994	160	174.850
5	635.364	31	382.991	57	293.776	83	245.162	109	213.676	135	191.248	161	174.272
6	616.353	32	378.116	58	291.401	84	243.710	110	212.678	136	190.510	162	173.699
7	598.822	33	373.408	59	289.078	85	242.281	111	211.692	137	189.779	163	173.132
8	582.592	34	368.856	60	286.805	86	240.875	112	210.718	138	189.056	164	172.569
9	567.511	35	364.453	61	284.581	87	239.491	113	209.757	139	188.341	165	172.011
10	553.452	36	360.191	62	282.402	88	238.129	114	208.807	140	187.633	166	171.459
11	540.307	37	356.062	63	280.269	89	236.788	115	207.870	141	186.933	167	170.911
12	527.983	38	352.061	64	278.179	90	235.467	116	206.943	142	186.239	168	170.368
13	516.398	39	348.180	65	276.132	91	234.166	117	206.028	143	185.553	169	169.829
14	505.483	40	344.414	66	274.125	92	232.884	118	205.124	144	184.873	170	169.295
15	495.178	41	340.757	67	272.158	93	231.622	119	204.231	145	184.200	171	168.766
16	485.427	42	337.205	68	270.228	94	230.378	120	203.348	146	183.534	172	168.241
17	476.185	43	333.752	69	268.336	95	229.152	121	202.475	147	182.874	173	167.721
18	467.408	44	330.394	70	266.479	96	227.944	122	201.613	148	182.221	174	167.205
19	459.061	45	327.127	71	264.658	97	226.753	123	200.761	149	181.574	175	166.694
20	451.109	46	323.947	72	262.869	98	225.579	124	199.918	150	180.933	176	166.186
21	443.523	47	320.850	73	261.114	99	224.422	125	199.085	151	180.299	177	165.683
22	436.276	48	317.833	74	259.390	100	223.280	126	198.262	152	179.671	178	165.184
23	429.344	49	314.892	75	257.697	101	222.155	127	197.448	153	179.048	179	164.689
24	422.706	50	312.025	76	256.034	102	221.044	128	196.643	154	178.431	180	164.198
25	416.341	51	309.228	77	254.400	103	219.949	129	195.846	155	177.821		
26	410.231	52	306.498	78	252.794	104	218.869	130	195.059	156	177.215		

P=30(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	4.379	27	2.421	53	1.819	79	1.504	105	1.304	131	1.163	157	1.058
2	4.214	28	2.388	54	1.804	80	1.495	106	1.298	132	1.159	158	1.054
3	4.064	29	2.355	55	1.789	81	1.486	107	1.292	133	1.154	159	1.050
4	3.929	30	2.324	56	1.774	82	1.477	108	1.286	134	1.150	160	1.047
5	3.805	31	2.293	57	1.759	83	1.468	109	1.279	135	1.145	161	1.044
6	3.691	32	2.264	58	1.745	84	1.459	110	1.274	136	1.141	162	1.040
7	3.586	33	2.236	59	1.731	85	1.451	111	1.268	137	1.136	163	1.037
8	3.489	34	2.209	60	1.717	86	1.442	112	1.262	138	1.132	164	1.033
9	3.398	35	2.182	61	1.704	87	1.434	113	1.256	139	1.128	165	1.030
10	3.314	36	2.157	62	1.691	88	1.426	114	1.250	140	1.124	166	1.027
11	3.235	37	2.132	63	1.678	89	1.418	115	1.245	141	1.119	167	1.023
12	3.162	38	2.108	64	1.666	90	1.410	116	1.239	142	1.115	168	1.020
13	3.092	39	2.085	65	1.653	91	1.402	117	1.234	143	1.111	169	1.017
14	3.027	40	2.062	66	1.641	92	1.395	118	1.228	144	1.107	170	1.014
15	2.965	41	2.040	67	1.630	93	1.387	119	1.223	145	1.103	171	1.011
16	2.907	42	2.019	68	1.618	94	1.380	120	1.218	146	1.099	172	1.007
17	2.851	43	1.999	69	1.607	95	1.372	121	1.212	147	1.095	173	1.004
18	2.799	44	1.978	70	1.596	96	1.365	122	1.207	148	1.091	174	1.001
19	2.749	45	1.959	71	1.585	97	1.358	123	1.202	149	1.087	175	0.998
20	2.701	46	1.940	72	1.574	98	1.351	124	1.197	150	1.083	176	0.995
21	2.656	47	1.921	73	1.564	99	1.344	125	1.192	151	1.080	177	0.992
22	2.612	48	1.903	74	1.553	100	1.337	126	1.187	152	1.076	178	0.989
23	2.571	49	1.886	75	1.543	101	1.330	127	1.182	153	1.072	179	0.986
24	2.531	50	1.868	76	1.533	102	1.324	128	1.178	154	1.068	180	0.983
25	2.493	51	1.852	77	1.523	103	1.317	129	1.173	155	1.065		
26	2.456	52	1.835	78	1.514	104	1.311	130	1.168	156	1.061		

P=50(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	780.614	27	435.987	53	327.972	79	271.189	105	235.067	131	209.617	157	190.498
2	751.989	28	429.940	54	325.167	80	269.512	106	233.929	132	208.784	158	189.855
3	726.053	29	424.117	55	322.426	81	267.863	107	232.806	133	207.959	159	189.218
4	702.417	30	418.503	56	319.748	82	266.242	108	231.698	134	207.143	160	188.587
5	680.766	31	413.087	57	317.129	83	264.647	109	230.604	135	206.335	161	187.961
6	660.842	32	407.858	58	314.568	84	263.078	110	229.524	136	205.537	162	187.341
7	642.430	33	402.805	59	312.063	85	261.534	111	228.457	137	204.746	163	186.726
8	625.352	34	397.920	60	309.611	86	260.014	112	227.404	138	203.964	164	186.117
9	609.456	35	393.192	61	307.211	87	258.518	113	226.364	139	203.190	165	185.514
10	594.614	36	388.614	62	304.861	88	257.046	114	225.337	140	202.424	166	184.915
11	580.718	37	384.179	63	302.559	89	255.596	115	224.322	141	201.665	167	184.322
12	567.672	38	379.879	64	300.304	90	254.168	116	223.320	142	200.915	168	183.734
13	555.395	39	375.708	65	298.094	91	252.761	117	222.330	143	200.172	169	183.151
14	543.815	40	371.659	66	295.928	92	251.376	118	221.352	144	199.436	170	182.573
15	532.870	41	367.727	67	293.804	93	250.011	119	220.385	145	198.708	171	182.000
16	522.505	42	363.906	68	291.722	94	248.666	120	219.430	146	197.987	172	181.432
17	512.672	43	360.191	69	289.679	95	247.341	121	218.486	147	197.273	173	180.869
18	503.326	44	356.578	70	287.674	96	246.035	122	217.553	148	196.566	174	180.310
19	494.431	45	353.062	71	285.707	97	244.747	123	216.630	149	195.865	175	179.757
20	485.951	46	349.638	72	283.776	98	243.477	124	215.719	150	195.172	176	179.207
21	477.856	47	346.304	73	281.880	99	242.226	125	214.818	151	194.485	177	178.663
22	470.119	48	343.055	74	280.019	100	240.991	126	213.926	152	193.805	178	178.122
23	462.713	49	339.888	75	278.190	101	239.774	127	213.045	153	193.131	179	177.587
24	455.616	50	336.799	76	276.394	102	238.573	128	212.174	154	192.463	180	177.055
25	448.809	51	333.785	77	274.629	103	237.389	129	211.312	155	191.802		
26	442.272	52	330.844	78	272.894	104	236.220	130	210.460	156	191.147		

P=50(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	4.674	27	2.611	53	1.964	79	1.624	105	1.408	131	1.255	157	1.141
2	4.503	28	2.574	54	1.947	80	1.614	106	1.401	132	1.250	158	1.137
3	4.348	29	2.540	55	1.931	81	1.604	107	1.394	133	1.245	159	1.133
4	4.206	30	2.506	56	1.915	82	1.594	108	1.387	134	1.240	160	1.129
5	4.076	31	2.474	57	1.899	83	1.585	109	1.381	135	1.236	161	1.126
6	3.957	32	2.442	58	1.884	84	1.575	110	1.374	136	1.231	162	1.122
7	3.847	33	2.412	59	1.869	85	1.566	111	1.368	137	1.226	163	1.118
8	3.745	34	2.383	60	1.854	86	1.557	112	1.362	138	1.221	164	1.114
9	3.649	35	2.354	61	1.840	87	1.548	113	1.355	139	1.217	165	1.111
10	3.561	36	2.327	62	1.826	88	1.539	114	1.349	140	1.212	166	1.107
11	3.477	37	2.300	63	1.812	89	1.531	115	1.343	141	1.208	167	1.104
12	3.399	38	2.275	64	1.798	90	1.522	116	1.337	142	1.203	168	1.100
13	3.326	39	2.250	65	1.785	91	1.514	117	1.331	143	1.199	169	1.097
14	3.256	40	2.226	66	1.772	92	1.505	118	1.325	144	1.194	170	1.093
15	3.191	41	2.202	67	1.759	93	1.497	119	1.320	145	1.190	171	1.090
16	3.129	42	2.179	68	1.747	94	1.489	120	1.314	146	1.186	172	1.086
17	3.070	43	2.157	69	1.735	95	1.481	121	1.308	147	1.181	173	1.083
18	3.014	44	2.135	70	1.723	96	1.473	122	1.303	148	1.177	174	1.080
19	2.961	45	2.114	71	1.711	97	1.466	123	1.297	149	1.173	175	1.076
20	2.910	46	2.094	72	1.699	98	1.458	124	1.292	150	1.169	176	1.073
21	2.861	47	2.074	73	1.688	99	1.450	125	1.286	151	1.165	177	1.070
22	2.815	48	2.054	74	1.677	100	1.443	126	1.281	152	1.161	178	1.067
23	2.771	49	2.035	75	1.666	101	1.436	127	1.276	153	1.156	179	1.063
24	2.728	50	2.017	76	1.655	102	1.429	128	1.271	154	1.152	180	1.060
25	2.687	51	1.999	77	1.644	103	1.421	129	1.265	155	1.149		
26	2.648	52	1.981	78	1.634	104	1.414	130	1.260	156	1.145		

P=100(年)

t: min; q: L/(s hm²)

t	q	t	q	t	q	t	q	t	q	t	q	t	q
1	841.103	27	474.688	53	357.372	79	295.408	105	255.922	131	228.082	157	207.160
2	811.241	28	468.144	54	354.315	80	293.577	106	254.678	132	227.169	158	206.457
3	784.085	29	461.839	55	351.328	81	291.775	107	253.450	133	226.267	159	205.759
4	759.257	30	455.758	56	348.408	82	290.004	108	252.237	134	225.374	160	205.068
5	736.448	31	449.889	57	345.553	83	288.261	109	251.041	135	224.491	161	204.384
6	715.402	32	444.221	58	342.760	84	286.546	110	249.859	136	223.617	162	203.705
7	695.909	33	438.741	59	340.028	85	284.859	111	248.693	137	222.752	163	203.033
8	677.790	34	433.441	60	337.354	86	283.198	112	247.541	138	221.896	164	202.366
9	660.893	35	428.311	61	334.735	87	281.563	113	246.403	139	221.049	165	201.706
10	645.090	36	423.341	62	332.172	88	279.953	114	245.279	140	220.210	166	201.051
11	630.270	37	418.525	63	329.660	89	278.368	115	244.170	141	219.381	167	200.402
12	616.336	38	413.854	64	327.200	90	276.808	116	243.073	142	218.559	168	199.758
13	603.206	39	409.322	65	324.788	91	275.270	117	241.990	143	217.746	169	199.120
14	590.806	40	404.921	66	322.424	92	273.756	118	240.920	144	216.941	170	198.488
15	579.073	41	400.647	67	320.106	93	272.264	119	239.862	145	216.144	171	197.861
16	567.950	42	396.492	68	317.832	94	270.793	120	238.817	146	215.355	172	197.239
17	557.387	43	392.452	69	315.602	95	269.344	121	237.785	147	214.574	173	196.623
18	547.339	44	388.521	70	313.414	96	267.916	122	236.764	148	213.800	174	196.012
19	537.766	45	384.695	71	311.266	97	266.508	123	235.755	149	213.034	175	195.405
20	528.634	46	380.969	72	309.157	98	265.120	124	234.758	150	212.275	176	194.804
21	519.910	47	377.340	73	307.087	99	263.751	125	233.771	151	211.523	177	194.208
22	511.565	48	373.802	74	305.054	100	262.401	126	232.796	152	210.779	178	193.617
23	503.572	49	370.353	75	303.057	101	261.070	127	231.832	153	210.041	179	193.031
24	495.909	50	366.989	76	301.095	102	259.757	128	230.879	154	209.311	180	192.449
25	488.553	51	363.706	77	299.166	103	258.462	129	229.936	155	208.587		
26	481.486	52	360.501	78	297.271	104	257.184	130	229.004	156	207.871		

P=100(年)

t: min; i: mm/min

t	i	t	i	t	i	t	i	t	i	t	i	t	i
1	5.037	27	2.842	53	2.140	79	1.769	105	1.532	131	1.366	157	1.240
2	4.858	28	2.803	54	2.122	80	1.758	106	1.525	132	1.360	158	1.236
3	4.695	29	2.766	55	2.104	81	1.747	107	1.518	133	1.355	159	1.232
4	4.546	30	2.729	56	2.086	82	1.737	108	1.510	134	1.350	160	1.228
5	4.410	31	2.694	57	2.069	83	1.726	109	1.503	135	1.344	161	1.224
6	4.284	32	2.660	58	2.052	84	1.716	110	1.496	136	1.339	162	1.220
7	4.167	33	2.627	59	2.036	85	1.706	111	1.489	137	1.334	163	1.216
8	4.059	34	2.595	60	2.020	86	1.696	112	1.482	138	1.329	164	1.212
9	3.957	35	2.565	61	2.004	87	1.686	113	1.475	139	1.324	165	1.208
10	3.863	36	2.535	62	1.989	88	1.676	114	1.469	140	1.319	166	1.204
11	3.774	37	2.506	63	1.974	89	1.667	115	1.462	141	1.314	167	1.200
12	3.691	38	2.478	64	1.959	90	1.658	116	1.456	142	1.309	168	1.196
13	3.612	39	2.451	65	1.945	91	1.648	117	1.449	143	1.304	169	1.192
14	3.538	40	2.425	66	1.931	92	1.639	118	1.443	144	1.299	170	1.189
15	3.468	41	2.399	67	1.917	93	1.630	119	1.436	145	1.294	171	1.185
16	3.401	42	2.374	68	1.903	94	1.622	120	1.430	146	1.290	172	1.181
17	3.338	43	2.350	69	1.890	95	1.613	121	1.424	147	1.285	173	1.177
18	3.277	44	2.326	70	1.877	96	1.604	122	1.418	148	1.280	174	1.174
19	3.220	45	2.304	71	1.864	97	1.596	123	1.412	149	1.276	175	1.170
20	3.165	46	2.281	72	1.851	98	1.588	124	1.406	150	1.271	176	1.166
21	3.113	47	2.260	73	1.839	99	1.579	125	1.400	151	1.267	177	1.163
22	3.063	48	2.238	74	1.827	100	1.571	126	1.394	152	1.262	178	1.159
23	3.015	49	2.218	75	1.815	101	1.563	127	1.388	153	1.258	179	1.156
24	2.970	50	2.198	76	1.803	102	1.555	128	1.383	154	1.253	180	1.152
25	2.925	51	2.178	77	1.791	103	1.548	129	1.377	155	1.249		
26	2.883	52	2.159	78	1.780	104	1.540	130	1.371	156	1.245		

