

Project ref/no = NADRAZI PARDUBICE  
Client ref/no = SUDOP  
Address/notes 1 =  
Address/notes 2 =  
Address/notes 3 =  
Building ref/no =  
Hazard classification =  
System/design ref (MR/MF) = [MR] [Selected 24 most favourable heads]  
Installation ref/no = GARAZE  
Drawing(s) ref/no =  
Drawing(s) dates/issues =  
Reviewer/Insurance/Fire =  
Designer/Dept = Ing. Ondrej Krupka  
Comments 1 = Sprinkplan s.r.o.  
Comments 2 = projekty pozarnich sprinkleru  
Start X Y + building DXF = www.sprinkplan.cz  
Design area sq.m = 144  
Elbows welded above mm = 50  
Specific gravity = 1.00  
Node no for zero datum = 0  
Design authority = EN12845 Rules (latest) using Hazen-williams formula

Installer/designer = Program provided free by Alan Ashfield

The user name and contact details are stored  
in the file USERINFO.TXT which you can either  
delete and re-enter OR amend with NOTEPAD.

Telephone no(s) =  
FAX no(s) =  
Registration = 21848 from 09 únor 2021 [CE1926CC]  
Reference = krupk on NTB to Bullzip PDF Printer  
Data file = [From HV DPS2.dxf] last amended

All pages checked by . . . . .

Sprinklers operating = 24 out of 165 entered  
Area of operation = 147.13 sq.m  
Max area per head = 7.254 sq.m  
Min head density = 6.864 mm/min at node 320  
Min head pressure = 0.350 bars at node 224  
Max head pressure = 0.452 bars at node 237  
Max head height = 3.250 m  
Most remotest head node = 224  
Pipes = 204 + 55 with zero flow  
Min pipe size = 40 mm  
Max pressure drop = 0.290 bars in pipe 119 120  
Max pressure drop/metre = 21.99 mbar/m in pipe 125 220  
Max velocity = 3.68 m/s in pipe 118 119  
Hydrants / hoses reels = 0 L/min  
Volume of pipework = 1.352 cu.m

SOURCE DUTY = 1196.6 L/min at 1.614 bars [node 100]

#### OPERATING SPRINKLER HEADS AND HYDRANTS

Node no	Size mm	"K" factor	Flows Min	in L/min Actual	L/min +%	A r e a sq.m	Density Min	mm/min Actual	Pipe mm	MRH #	Height m	P r e s s u r e s Min Normal V e l	b a r Total
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#### HYDRAULICALLY SIGNIFICANT PIPES

N o d e s Start End	S i z e mm ref	F l o w L/min	Length m	Direction <>~slope	Fittings +options	Equiv len m	Vel m/s	Static m	Height end m	P r e s s u r e s Start Frict V e l	b a r End
100	110 100 DIN	1196.6	1.000	North			2.18		0.000	1.614 0.005	1.609
110	111 100 DIN	1196.6	2.650	Up	W	1.40	2.18	2.650	2.650	1.609 0.022	1.328
111	112 100 DIN	1196.6	2.127	@277	W	1.40	2.18		2.650	1.328 0.019	1.309
112	113 100 DIN	1196.6	17.577	@ 8	W	1.40	2.18		2.650	1.309 0.102	1.207
113	114 100 DIN	1196.6	2.715	@ 98	W	1.40	2.18		2.650	1.207 0.022	1.185
114	115 100 DIN	1196.6	0.326	@191	W	1.40	2.18		2.650	1.185 0.009	1.176
115	116 100 DIN	1196.6	2.350	Down	WSVBV	11.10	2.18	-2.350	0.300	1.176 0.072	1.334
116	117 100 DIN	1196.6	1.096	@ 97	W	1.40	2.18		0.300	1.334 0.013	1.321
117	118 100 DIN	1196.6	2.350	Up	WSVBV	11.10	2.18	2.350	2.650	1.321 0.072	1.019
118	119 80 DIN	1196.6	2.326	@188	W	1.10	3.68		2.650	1.019 0.065	0.953

HYDRAULICALLY SIGNIFICANT PIPES

N o d e s	S i z e	F l o w	Length	Direction	Fittings	Equiv	Vel	Static	Height	P r e s s u r e s	b a r
Start	End	mm ref	m	<>~slope	+options	len m	m/s	m	end m	Start Frict v e l	End
119	120	80 DIN	1196.6	@ 98	W	1.10	3.68		2.650	0.953 0.290	0.663
120	121	80 DIN	1196.6	0.600 up	W	1.10	3.68	0.600	3.250	0.663 0.032	0.572
121	122	80 DIN	1196.6	1.096 @187	W	1.10	3.68		3.250	0.572 0.042	0.530
122	123	80 DIN	1011.4	1.168 @190			3.11		3.250	0.530 0.016	0.513
123	124	80 DIN	811.5	2.326 @188			2.49		3.250	0.513 0.022	0.492
124	125	80 DIN	623.3	2.715 @188			1.92		3.250	0.492 0.016	0.476
125	126	80 DIN	411.7	2.263 @188			1.27		3.250	0.476 0.006	0.470
126	127	80 DIN	232.9	2.390 @188			0.72		3.250	0.470 0.002	0.468
127	128	80 DIN	42.5	1.294 @189			0.13		3.250	0.468 0.000	0.468
128	129	40 DIN	42.5	5.820 @ 98	E	1.20	0.52		3.250	0.468 0.008	0.460
129	130	40 DIN	42.5	0.707 @185	E	1.20	0.52		3.250	0.460 0.002	0.458
130	131	40 DIN	42.5	1.937 @ 98	E	1.20	0.52		3.250	0.458 0.004	0.454
131	132	40 DIN	42.5	2.978 @ 99			0.52		3.250	0.454 0.003	0.451
132	133	40 DIN	42.5	3.041 @ 99			0.52		3.250	0.451 0.003	0.448
133	134	40 DIN	42.5	2.969 @ 97			0.52		3.250	0.448 0.003	0.444
134	135	40 DIN	42.5	0.326 @101			0.52		3.250	0.444 0.000	0.444
135	136	40 DIN	42.5	0.320 South	E	1.20	0.52		3.250	0.444 0.002	0.442
136	137	40 DIN	42.5	0.653 @101	E	1.20	0.52		3.250	0.442 0.002	0.440
137	138	40 DIN	42.5	0.326 @ 11	E	1.20	0.52		3.250	0.440 0.002	0.438
138	139	40 DIN	42.5	2.000 @ 97	E	1.20	0.52		3.250	0.438 0.004	0.435
139	140	40 DIN	42.5	3.041 @ 99			0.52		3.250	0.435 0.003	0.431
140	141	40 DIN	42.5	2.905 @ 98			0.52		3.250	0.431 0.003	0.428
141	142	40 DIN	42.5	2.978 @ 99			0.52		3.250	0.428 0.003	0.425
142	143	40 DIN	42.5	2.969 @ 97			0.52		3.250	0.425 0.003	0.421
143	144	40 DIN	42.5	3.041 @ 99			0.52		3.250	0.421 0.003	0.418
144	145	40 DIN	42.5	2.978 @ 99			0.52		3.250	0.418 0.003	0.415
145	146	40 DIN	42.5	3.032 @ 97			0.52		3.250	0.415 0.003	0.411
146	147	40 DIN	42.5	2.978 @ 99			0.52		3.250	0.411 0.003	0.408
147	148	40 DIN	42.5	2.969 @ 97			0.52		3.250	0.408 0.003	0.404
148	149	40 DIN	42.5	3.041 @ 99			0.52		3.250	0.404 0.003	0.401
149	150	40 DIN	42.5	2.978 @ 99			0.52		3.250	0.401 0.003	0.398
150	151	40 DIN	42.5	3.032 @ 97			0.52		3.250	0.398 0.003	0.394
151	152	40 DIN	42.5	2.978 @ 99			0.52		3.250	0.394 0.003	0.391
152	153	40 DIN	42.5	2.978 @ 99			0.52		3.250	0.391 0.003	0.388
153	154	40 DIN	42.5	2.905 @ 98			0.52		3.250	0.388 0.003	0.384
154	155	40 DIN	42.5	0.389 @100			0.52		3.250	0.384 0.000	0.384
155	156	40 DIN	42.5	4.842 @ 8	E	1.20	0.52		3.250	0.384 0.007	0.377
156	157	65 DIN	7.0	1.747 @ 98	T	3.80	0.03		3.250	0.377 0.000	0.377
156	191	65 DIN	35.5	0.264 @284	T	3.80	0.15		3.250	0.377 0.000	0.377
191	192	65 DIN	26.4	0.898 @274			0.11		3.250	0.377 0.000	0.377
192	193	65 DIN	8.7	13.450 @278			0.04		3.250	0.377 0.000	0.377
193	194	65 DIN	8.7	1.358 @ 8	W	0.88	0.04		3.250	0.377 0.000	0.377
194	195	65 DIN	8.7	0.516 @ 7			0.04		3.250	0.377 0.000	0.377
195	196	65 DIN	-23.1	0.590 @ 13			0.10		3.250	0.377 0.000	0.377
196	197	65 DIN	-19.4	2.127 @ 7			0.08		3.250	0.377 0.000	0.377
197	198	65 DIN	-27.2	2.326 @ 8			0.11		3.250	0.377 0.000	0.377
198	200	65 DIN	-28.6	0.264 @ 14			0.12		3.250	0.377 0.000	0.377
200	201	40 DIN	-28.6	0.202 @288	E	1.20	0.35		3.250	0.377 0.001	0.378
201	202	40 DIN	-28.6	2.199 @ 8	E	1.20	0.35		3.250	0.378 0.002	0.379
125	220	40 DIN	211.6	0.326 @101	T	2.40	2.57		3.250	0.476 0.060	0.416
220	221	40 DIN	159.9	2.969 @ 97			1.94		3.250	0.416 0.039	0.377
221	222	40 DIN	110.8	2.978 @ 99			1.35		3.250	0.377 0.020	0.358
222	223	40 DIN	63.0	3.032 @ 97			0.76		3.250	0.358 0.007	0.351
223	224	40 DIN	15.6	2.978 @ 99			0.19		3.250	0.351 0.001	0.350
224	225	40 DIN	-31.7	3.041 @ 99			0.39		3.250	0.350 0.002	0.352
225	226	40 DIN	-31.7	2.969 @ 97			0.39		3.250	0.352 0.002	0.354
226	227	40 DIN	-31.7	3.041 @ 99			0.39		3.250	0.354 0.002	0.356
227	228	40 DIN	-31.7	2.969 @ 97			0.39		3.250	0.356 0.002	0.358
228	229	40 DIN	-31.7	3.041 @ 99			0.39		3.250	0.358 0.002	0.360
229	230	40 DIN	-31.7	2.915 @ 99			0.39		3.250	0.360 0.002	0.362
230	231	40 DIN	-31.7	3.485 @ 97			0.39		3.250	0.362 0.002	0.364
231	232	40 DIN	-31.7	2.525 @ 99			0.39		3.250	0.364 0.002	0.366
232	233	40 DIN	-31.7	3.041 @ 99			0.39		3.250	0.366 0.002	0.368
233	234	40 DIN	-31.7	2.969 @ 97			0.39		3.250	0.368 0.002	0.370
234	235	40 DIN	-31.7	3.041 @ 99			0.39		3.250	0.370 0.002	0.372
235	236	40 DIN	-31.7	1.484 @ 97			0.39		3.250	0.372 0.001	0.373
122	237	40 DIN	185.2	2.136 @ 99	T	2.40	2.25		3.250	0.530 0.078	0.452
237	238	40 DIN	131.4	3.557 @ 98			1.60		3.250	0.452 0.032	0.419
238	239	40 DIN	79.6	3.620 @ 98			0.97		3.250	0.419 0.013	0.406
239	240	40 DIN	28.6	2.453 @ 98			0.35		3.250	0.406 0.001	0.405

HYDRAULICALLY SIGNIFICANT PIPES

N o d e s	S i z e	F l o w	Length	Direction	Fittings	Equiv	vel	Static	Height	P r e s s u r e s	b a r
Start	End	mm ref	m	<>~slope	+options	len m	m/s	m	end m	Start Frict v e l	End
240	241	40 DIN	28.6	1.032 @ 7	E	1.20	0.35		3.250	0.405 0.001	0.404
241	242	40 DIN	28.6	0.580 @ 96	E	1.20	0.35		3.250	0.404 0.001	0.403
242	243	40 DIN	28.6	2.969 @ 97			0.35		3.250	0.403 0.002	0.401
243	244	40 DIN	28.6	3.041 @ 99			0.35		3.250	0.401 0.002	0.399
244	245	40 DIN	28.6	3.041 @ 99			0.35		3.250	0.399 0.002	0.398
245	246	40 DIN	28.6	2.905 @ 98			0.35		3.250	0.398 0.002	0.396
246	247	40 DIN	28.6	3.041 @ 99			0.35		3.250	0.396 0.002	0.395
247	248	40 DIN	28.6	2.969 @ 97			0.35		3.250	0.395 0.002	0.393
248	249	40 DIN	28.6	3.104 @ 98			0.35		3.250	0.393 0.002	0.391
249	250	40 DIN	28.6	1.946 @100			0.35		3.250	0.391 0.001	0.390
250	251	40 DIN	28.6	0.326 @ 11	E	1.20	0.35		3.250	0.390 0.001	0.389
251	252	40 DIN	28.6	1.032 @ 97	E	1.20	0.35		3.250	0.389 0.001	0.388
252	253	40 DIN	28.6	2.978 @ 99			0.35		3.250	0.388 0.002	0.387
253	254	40 DIN	28.6	2.905 @ 98			0.35		3.250	0.387 0.002	0.385
254	255	40 DIN	28.6	3.041 @ 99			0.35		3.250	0.385 0.002	0.383
255	256	40 DIN	28.6	1.484 @ 97			0.35		3.250	0.383 0.001	0.383
123	257	40 DIN	199.8	1.810 @ 98	T	2.40	2.43		3.250	0.513 0.083	0.430
257	258	40 DIN	147.4	2.978 @ 99			1.79		3.250	0.430 0.034	0.397
258	259	40 DIN	97.0	3.032 @ 97			1.18		3.250	0.397 0.016	0.381
259	260	40 DIN	47.6	2.978 @ 99			0.58		3.250	0.381 0.004	0.377
260	261	40 DIN	-1.5	3.041 @ 99			0.02		3.250	0.377 0.000	0.377
261	262	40 DIN	-1.5	2.969 @ 97			0.02		3.250	0.377 0.000	0.377
262	263	40 DIN	-1.5	2.978 @ 99			0.02		3.250	0.377 0.000	0.377
263	264	40 DIN	-1.5	3.041 @ 99			0.02		3.250	0.377 0.000	0.377
264	265	40 DIN	-1.5	2.969 @ 97			0.02		3.250	0.377 0.000	0.377
265	266	40 DIN	-1.5	2.978 @ 99			0.02		3.250	0.377 0.000	0.377
266	267	40 DIN	-1.5	2.969 @ 97			0.02		3.250	0.377 0.000	0.377
267	268	40 DIN	-1.5	3.104 @ 98			0.02		3.250	0.377 0.000	0.377
268	269	40 DIN	-1.5	2.915 @ 99			0.02		3.250	0.377 0.000	0.377
269	270	40 DIN	-1.5	3.032 @ 97			0.02		3.250	0.377 0.000	0.377
270	271	40 DIN	-1.5	3.041 @ 99			0.02		3.250	0.377 0.000	0.377
271	272	40 DIN	-1.5	3.041 @ 99			0.02		3.250	0.377 0.000	0.377
272	273	40 DIN	-1.5	1.358 @ 98			0.02		3.250	0.377 0.000	0.377
198	275	40 DIN	1.5	0.771 @275	T	2.40	0.02		3.250	0.377 0.000	0.377
275	273	40 DIN	1.5	1.358 @278			0.02		3.250	0.377 0.000	0.377
127	277	40 DIN	190.4	0.320 East	T	2.40	2.31		3.250	0.468 0.049	0.419
277	278	40 DIN	138.7	2.978 @ 99			1.68		3.250	0.419 0.030	0.389
278	279	40 DIN	88.8	2.978 @ 99			1.08		3.250	0.389 0.013	0.376
279	280	40 DIN	39.8	2.969 @ 97			0.48		3.250	0.376 0.003	0.373
280	281	40 DIN	-9.1	3.041 @ 99			0.11		3.250	0.373 0.000	0.373
281	282	40 DIN	-9.1	3.041 @ 99			0.11		3.250	0.373 0.000	0.373
282	283	40 DIN	-9.1	2.969 @ 97			0.11		3.250	0.373 0.000	0.373
283	284	40 DIN	-9.1	3.041 @ 99			0.11		3.250	0.373 0.000	0.373
284	285	40 DIN	-9.1	2.969 @ 97			0.11		3.250	0.373 0.000	0.374
285	286	40 DIN	-9.1	2.978 @ 99			0.11		3.250	0.374 0.000	0.374
286	287	40 DIN	-9.1	2.905 @ 98			0.11		3.250	0.374 0.000	0.374
287	288	40 DIN	-9.1	3.557 @ 98			0.11		3.250	0.374 0.000	0.374
288	289	40 DIN	-9.1	2.652 @ 98			0.11		3.250	0.374 0.000	0.374
289	290	40 DIN	-9.1	2.978 @ 99			0.11		3.250	0.374 0.000	0.375
290	291	40 DIN	-9.1	3.032 @ 97			0.11		3.250	0.375 0.000	0.375
291	292	40 DIN	-9.1	2.978 @ 99			0.11		3.250	0.375 0.000	0.375
292	293	40 DIN	-9.1	2.978 @ 99			0.11		3.250	0.375 0.000	0.375
293	294	40 DIN	-9.1	1.484 @ 97			0.11		3.250	0.375 0.000	0.375
126	295	40 DIN	178.8	1.810 @ 98	T	2.40	2.17		3.250	0.470 0.068	0.402
295	296	40 DIN	128.1	2.969 @ 97			1.56		3.250	0.402 0.026	0.377
296	297	40 DIN	79.0	3.041 @ 99			0.96		3.250	0.377 0.011	0.366
297	298	40 DIN	30.6	2.978 @ 99			0.37		3.250	0.366 0.002	0.364
298	299	40 DIN	-17.7	3.032 @ 97			0.21		3.250	0.364 0.001	0.365
299	300	40 DIN	-17.7	2.978 @ 99			0.21		3.250	0.365 0.001	0.365
300	301	40 DIN	-17.7	2.969 @ 97			0.21		3.250	0.365 0.001	0.366
301	302	40 DIN	-17.7	3.041 @ 99			0.21		3.250	0.366 0.001	0.367
302	303	40 DIN	-17.7	2.978 @ 99			0.21		3.250	0.367 0.001	0.367
303	304	40 DIN	-17.7	2.969 @ 97			0.21		3.250	0.367 0.001	0.368
304	305	40 DIN	-17.7	2.978 @ 99			0.21		3.250	0.368 0.001	0.369
305	306	40 DIN	-17.7	3.032 @ 97			0.21		3.250	0.369 0.001	0.369
306	307	40 DIN	-17.7	3.041 @ 99			0.21		3.250	0.369 0.001	0.370
307	308	40 DIN	-17.7	3.041 @ 99			0.21		3.250	0.370 0.001	0.371
308	309	40 DIN	-17.7	2.978 @ 99			0.21		3.250	0.371 0.001	0.371
309	310	40 DIN	-17.7	2.969 @ 97			0.21		3.250	0.371 0.001	0.372
310	311	40 DIN	-17.7	1.548 @ 97			0.21		3.250	0.372 0.000	0.372

HYDRAULICALLY SIGNIFICANT PIPES

N o d e s	S i z e	F l o w	Length	Direction	Fittings	Equiv	vel	Static	Height	P r e s s u r e s	b a r
Start	End	mm ref	m	<~>slope	+options	len m	m/s	m	end m	Start Frict vel	End
202	313	40 DIN	-28.6	1.883 @280	T	2.40	0.35		3.250	0.379 0.002	0.382
313	256	40 DIN	-28.6	1.484 @277			0.35		3.250	0.382 0.001	0.383
197	315	40 DIN	11.1	0.842 @279	T	2.40	0.14		3.250	0.377 0.000	0.376
315	316	40 DIN	11.1	1.350 @275			0.14		3.250	0.376 0.000	0.376
124	318	40 DIN	188.2	1.810 @ 98	T	2.40	2.29		3.250	0.492 0.075	0.417
318	319	40 DIN	136.6	2.978 @ 99			1.66		3.250	0.417 0.029	0.388
319	320	40 DIN	86.7	2.969 @ 97			1.05		3.250	0.388 0.013	0.375
320	321	40 DIN	37.7	3.041 @ 99			0.46		3.250	0.375 0.003	0.373
321	322	40 DIN	-11.1	2.978 @ 99			0.14		3.250	0.373 0.000	0.373
322	323	40 DIN	-11.1	3.032 @ 97			0.14		3.250	0.373 0.000	0.373
323	324	40 DIN	-11.1	2.978 @ 99			0.14		3.250	0.373 0.000	0.374
324	325	40 DIN	-11.1	3.104 @ 98			0.14		3.250	0.374 0.000	0.374
325	326	40 DIN	-11.1	2.905 @ 98			0.14		3.250	0.374 0.000	0.374
326	327	40 DIN	-11.1	3.041 @ 99			0.14		3.250	0.374 0.000	0.374
327	328	40 DIN	-11.1	2.905 @ 98			0.14		3.250	0.374 0.000	0.375
328	329	40 DIN	-11.1	3.104 @ 98			0.14		3.250	0.375 0.000	0.375
329	330	40 DIN	-11.1	2.978 @ 99			0.14		3.250	0.375 0.000	0.375
330	331	40 DIN	-11.1	2.969 @ 97			0.14		3.250	0.375 0.000	0.376
331	332	40 DIN	-11.1	3.041 @ 99			0.14		3.250	0.376 0.000	0.376
332	333	40 DIN	-11.1	2.978 @ 99			0.14		3.250	0.376 0.000	0.376
333	316	40 DIN	-11.1	1.358 @ 98			0.14		3.250	0.376 0.000	0.376
157	335	50 DIN	7.0	2.453 @ 8	T	2.90	0.05		3.250	0.377 0.000	0.377
335	336	50 DIN	3.4	2.136 @ 9			0.03		3.250	0.377 0.000	0.377
336	337	40 DIN	3.4	2.191 @277	E	1.20	0.04		3.250	0.377 0.000	0.377
337	338	40 DIN	3.4	3.041 @279			0.04		3.250	0.377 0.000	0.377
338	339	40 DIN	3.4	2.978 @279			0.04		3.250	0.377 0.000	0.377
339	340	40 DIN	3.4	3.032 @277			0.04		3.250	0.377 0.000	0.377
340	341	40 DIN	3.4	1.810 @278			0.04		3.250	0.377 0.000	0.377
192	343	40 DIN	17.7	0.384 South	T	2.40	0.21		3.250	0.377 0.001	0.376
343	344	40 DIN	17.7	0.516 @277	E	1.20	0.21		3.250	0.376 0.000	0.376
344	345	40 DIN	17.7	3.104 @278			0.21		3.250	0.376 0.001	0.375
345	346	40 DIN	17.7	2.915 @279			0.21		3.250	0.375 0.001	0.374
346	347	40 DIN	17.7	2.969 @277			0.21		3.250	0.374 0.001	0.374
347	348	40 DIN	17.7	1.557 @280			0.21		3.250	0.374 0.000	0.373
348	349	40 DIN	17.7	2.969 @277			0.21		3.250	0.373 0.001	0.373
349	311	40 DIN	17.7	1.494 @280			0.21		3.250	0.373 0.000	0.372
191	352	40 DIN	9.1	1.294 @189	T	2.40	0.11		3.250	0.377 0.000	0.376
352	353	40 DIN	9.1	1.548 @187			0.11		3.250	0.376 0.000	0.376
353	354	40 DIN	9.1	2.915 @279	E	1.20	0.11		3.250	0.376 0.000	0.376
354	355	40 DIN	9.1	2.969 @277			0.11		3.250	0.376 0.000	0.376
355	356	40 DIN	9.1	3.041 @279			0.11		3.250	0.376 0.000	0.376
356	357	40 DIN	9.1	4.399 @278			0.11		3.250	0.376 0.000	0.375
357	294	40 DIN	9.1	1.548 @277			0.11		3.250	0.375 0.000	0.375
195	365	40 DIN	31.7	2.073 @279	T	2.40	0.39		3.250	0.377 0.003	0.374
365	236	40 DIN	31.7	1.484 @277			0.39		3.250	0.374 0.001	0.373
197	368	40 DIN	-3.4	1.557 @100	T	2.40	0.04		3.250	0.377 0.000	0.377
368	341	40 DIN	-3.4	1.747 @ 98			0.04		3.250	0.377 0.000	0.377
335	370	40 DIN	3.7	1.747 @278	T	2.40	0.04		3.250	0.377 0.000	0.377
370	371	40 DIN	3.7	3.104 @278			0.04		3.250	0.377 0.000	0.377
371	372	40 DIN	3.7	2.905 @278			0.04		3.250	0.377 0.000	0.377
372	373	40 DIN	3.7	3.041 @279			0.04		3.250	0.377 0.000	0.377
373	374	40 DIN	3.7	1.231 @279			0.04		3.250	0.377 0.000	0.377
196	376	40 DIN	-3.7	3.041 @ 99	T	2.40	0.04		3.250	0.377 0.000	0.377
376	374	40 DIN	-3.7	1.223 @ 96			0.04		3.250	0.377 0.000	0.377

KEY TO FITTINGS AND PIPEWORK QUANTITIES (Above pipes only)

E = Screwed elbow, W = Welded elbow, H = 45deg elbow, T = Branch tee/cross, J = Through tee  
GV = Gate valve, SV = Swinging valve, MV = Mushroom valve, BV = Butterfly valve, GL = Globe valve

DIN = DIN 2440/2458 "C"wet=120 "C"dry=100(d) "C"nfpa=120 Total = 531.18 m  
 Sizes = 40 50 65 80 100 mm  
 Bores = 41.80 53.00 70.90 83.10 107.90 mm  
 Lengths = 440.59 4.59 23.54 30.27 32.19 m

AACALC7 [130114] by Alan Ashfield, 9 Hyde Gardens, Langtoft, Peterborough PE6 9LT, UK  
For more information about AACALC7, please visit [www.freehc.net](http://www.freehc.net)