

AFT Arrow Model

Title: AFT Arrow Model
Analysis run on: 11/30/2011 1:57:43 PM
Application version: AFT Arrow Version 4.0 (2007.06.05)
Input File: H:\Projects\University of Wisconsin\10723-00 Platteville Master Plan\Mechanical\Flow Modeling\UWP Steam Flow Phase 1.aro

Execution Time= 1.14 seconds
Total Number Of Pressure Iterations= 68
Total Number Of Flow Iterations= 15
Total Number Of Enthalpy Iterations= 15
Number Of Pipes= 118
Number Of Junctions= 118
Matrix Method= Gaussian Elimination

Length March Solution Method with Mach Number Limits
Segments Per Pipe= 2
Mach Number Increment= 0.01
Pressure Tolerance= 0.0001 relative change
Mass Flow Rate Tolerance= 0.0001 relative change
Enthalpy Tolerance= 0.0001 relative change
Flow Relaxation= (Automatic)
Pressure Relaxation= (Automatic)
Resistance Relaxation= (Automatic)

Fluid Database: AFT Standard
Fluid: Steam
Max Fluid Temperature Data= 1500 deg. F
Min Fluid Temperature Data= 200 deg. F
Molecular Weight =18.016 amu
Gas Constant =0.1102 Btu/lbm-R
Critical Pressure =3208.22 psia
Critical Temperature =1165.09 deg. R
Acentric Factor =0.344
Equation of State= Redlich-Kwong
Enthalpy Model= Generalized
Specific Heat Ratio Accuracy = High
Atmospheric Pressure= 1 atm
Gravitational Acceleration= 1 g
Standard Pressure= 14.696 psia
Standard Temperature= 60 deg. F
Turbulent Flow Above Reynolds Number= 4000
Laminar Flow Below Reynolds Number= 2300

Total Inflow= 72,476 lbm/hr
Total Outflow= 72,476 lbm/hr
Total Energy Inflow= 23,970 Btu/s
Total Energy Outflow= 23,970 Btu/s
Total Heat Transferred Into System= 0.000 Btu/s
Maximum Pressure is 139.7 psia at Junction 1 Outlet
Minimum Pressure is 130.6 psia at Junction 132 Inlet
Maximum Static Temperature is 352.8 deg. F at Junction 116 Inlet
Minimum Static Temperature is 350.7 deg. F at Junction 132 Inlet

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Pipe Output Table

Pipe	Name	Pipe Nominal Size	Length (feet)	Mass Flow (lbm/hr)	Vel. In (feet/min)	Vel. Out (feet/min)	Mach # In	Mach # Out	dP Stag. Total (psid)	P Stag. In (psia)	P Stag. Out (psia)	P Static In (psia)	P Static Out (psia)
1	Pipe	8 inch	73.000	16,235.5	2,586.2	2,588.1	0.026410	0.026428	0.1001282	139.7	139.6	139.6	139.5
2	Pipe	8 inch	244.000	16,235.5	2,588.3	2,594.5	0.026430	0.026493	0.3352203	139.6	139.2	139.5	139.2
3	Pipe	6 inch	170.000	3,797.0	1,050.4	1,050.9	0.010725	0.010730	0.0574951	139.2	139.2	139.2	139.2
4	Pipe	6 inch	170.000	3,797.0	1,050.9	1,051.3	0.010730	0.010734	0.0575256	139.2	139.1	139.2	139.1
5	Pipe	6 inch	53.000	3,797.0	1,051.3	1,051.5	0.010734	0.010736	0.0179443	139.1	139.1	139.1	139.1
6	Pipe	6 inch	298.000	12,438.0	3,442.8	3,467.5	0.035155	0.035403	0.9944153	139.2	138.3	139.1	138.1
7	Pipe	8 inch	367.000	12,438.0	2,002.0	2,006.4	0.020439	0.020483	0.3039093	138.2	137.9	138.2	137.9
8	Pipe	8 inch	306.000	13,455.0	2,170.6	2,175.2	0.022159	0.022205	0.2955780	137.9	137.6	137.9	137.6
9	Pipe	4 inch	82.000	2,309.0	1,466.7	1,467.7	0.014973	0.014982	0.0854340	137.6	137.5	137.6	137.5
10	Pipe	4 inch	38.000	2,309.0	1,467.7	1,468.1	0.014982	0.014987	0.0395966	137.5	137.5	137.5	137.5
11	Pipe	4 inch	138.000	2,875.0	1,826.4	1,829.3	0.018644	0.018673	0.2190094	137.6	137.4	137.6	137.4
12	Pipe	8 inch	289.000	8,271.0	1,336.9	1,338.0	0.013648	0.013658	0.1097412	137.6	137.5	137.6	137.5
13	Pipe	8 inch	382.000	4,858.0	785.8	786.1	0.008022	0.008025	0.0529175	137.5	137.5	137.5	137.5
14	Pipe	4 inch	36.000	4,858.0	3,090.8	3,094.3	0.031552	0.031588	0.1579132	137.5	137.3	137.4	137.2
15	Pipe	6 inch	270.000	13,477.0	3,766.5	3,795.9	0.038454	0.038748	1.0644531	137.9	136.9	137.8	136.7
16	Pipe	6 inch	77.000	13,477.0	3,795.9	3,804.4	0.038748	0.038832	0.3050995	136.9	136.6	136.7	136.4
17	Pipe	6 inch	133.000	3,664.0	1,033.6	1,033.9	0.010549	0.010553	0.0428619	136.6	136.5	136.5	136.5
18	Pipe	6 inch	23.000	3,664.0	1,033.9	1,034.0	0.010553	0.010553	0.0074158	136.5	136.5	136.5	136.5
19	Pipe	6 inch	151.000	3,664.0	1,034.0	1,034.4	0.010553	0.010557	0.0486908	136.5	136.5	136.5	136.4
20	Pipe	6 inch	211.000	1,614.0	455.6	455.7	0.004650	0.004651	0.0146637	136.5	136.4	136.5	136.4
21	Pipe	6 inch	75.000	7,127.0	2,010.8	2,012.1	0.020523	0.020536	0.0862732	136.6	136.5	136.5	136.4
22	Pipe	6 inch	7.000	7,127.0	2,012.2	2,012.3	0.020537	0.020538	0.0080566	136.5	136.5	136.4	136.4
23	Pipe	6 inch	36.000	7,127.0	2,012.4	2,013.0	0.020540	0.020546	0.0414276	136.4	136.4	136.4	136.4
24	Pipe	6 inch	92.000	7,127.0	2,013.1	2,014.7	0.020547	0.020562	0.1059570	136.4	136.3	136.4	136.3
25	Pipe	6 inch	220.000	7,127.0	2,014.8	2,018.5	0.020563	0.020601	0.2537231	136.3	136.0	136.3	136.0
26	Pipe	3 inch	130.000	1,656.0	1,832.9	1,836.7	0.018706	0.018745	0.2868958	136.0	135.7	136.0	135.7
27	Pipe	3 inch	35.000	1,656.0	1,836.8	1,837.8	0.018745	0.018755	0.0773315	135.7	135.7	135.7	135.6
28	Pipe	6 inch	139.000	3,836.0	1,086.3	1,086.7	0.011086	0.011090	0.0490570	136.0	136.0	136.0	136.0
29	Pipe	3 inch	47.000	3,836.0	4,250.9	4,267.6	0.043387	0.043554	0.5310364	136.0	135.4	135.8	135.3
30	Pipe	3 inch	14.000	3,836.0	4,268.8	4,273.8	0.043567	0.043617	0.1586304	135.4	135.2	135.2	135.1
31	Pipe	3 inch	59.000	3,836.0	4,275.1	4,296.4	0.043630	0.043843	0.6707764	135.2	134.5	135.0	134.4
32	Pipe	3 inch	55.000	3,836.0	4,297.7	4,317.9	0.043856	0.044058	0.6285248	134.5	133.9	134.3	133.7
33	Pipe	3 inch	15.000	3,836.0	4,319.2	4,324.8	0.044071	0.044127	0.1719818	133.8	133.6	133.7	133.5
34	Pipe	6 inch	46.000	3,836.0	1,086.7	1,086.8	0.011090	0.011092	0.0162506	136.0	136.0	136.0	136.0
38	Pipe	6 inch	40.000	1,635.0	463.0	463.0	0.004725	0.004725	0.0028687	136.0	136.0	136.0	136.0
39	Pipe	6 inch	36.000	1,635.0	463.0	463.0	0.004725	0.004725	0.0025787	136.0	136.0	136.0	136.0

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Pipe	Name	Pipe Nominal Size	Length (feet)	Mass Flow (lbm/hr)	Vel. In (feet/min)	Vel. Out (feet/min)	Mach # In	Mach # Out	dP Stag. Total (psid)	P Stag. In (psia)	P Stag. Out (psia)	P Static In (psia)	P Static Out (psia)
40	Pipe	6 inch	79.000	1,635.0	463.0	463.0	0.004725	0.004725	0.0056458	136.0	136.0	136.0	136.0
41	Pipe	6 inch	43.000	677.0	191.7	191.7	0.001957	0.001957	0.0006104	136.0	136.0	136.0	136.0
42	Pipe	3 inch	130.000	2,050.0	2,262.1	2,269.3	0.023088	0.023160	0.4317780	136.5	136.0	136.4	136.0
43	Pipe	2 inch	28.000	1,224.0	2,985.6	2,991.3	0.030471	0.030528	0.2583923	136.0	135.8	135.9	135.7
44	Pipe	2 inch	7.000	1,224.0	2,991.7	2,993.2	0.030533	0.030547	0.0646667	135.7	135.7	135.7	135.6
45	Pipe	2 inch	47.000	1,224.0	2,993.6	3,003.3	0.030552	0.030648	0.4351654	135.7	135.2	135.6	135.1
46	Pipe	2 inch	9.000	1,224.0	3,003.7	3,005.6	0.030653	0.030671	0.0834961	135.2	135.1	135.1	135.0
47	Pipe	2 inch	6.000	1,224.0	3,006.0	3,007.3	0.030676	0.030688	0.0556946	135.1	135.0	135.0	135.0
48	Pipe	2 inch	9.000	1,224.0	3,007.7	3,009.6	0.030693	0.030712	0.0836029	135.0	134.9	134.9	134.9
49	Pipe	2 inch	30.000	1,224.0	3,010.1	3,016.3	0.030716	0.030779	0.2791290	134.9	134.6	134.8	134.6
50	Pipe	8 inch	30.000	14,495.7	2,338.0	2,338.6	0.023868	0.023874	0.0334320	138.0	137.9	137.9	137.9
51	Pipe	8 inch	101.000	14,495.7	2,336.1	2,338.0	0.023849	0.023868	0.1125031	138.1	138.0	138.0	137.9
52	Pipe	8 inch	21.000	14,495.7	2,335.5	2,335.9	0.023844	0.023848	0.0233765	138.1	138.1	138.1	138.0
53	Pipe	8 inch	63.000	17,427.6	2,806.2	2,808.3	0.028650	0.028670	0.1002350	138.2	138.1	138.1	138.0
57	Pipe	8 inch	300.000	17,427.6	2,796.6	2,806.2	0.028554	0.028650	0.4763336	138.7	138.2	138.6	138.1
58	Pipe	8 inch	5.000	2,932.0	472.3	472.3	0.004821	0.004821	0.0002747	138.1	138.1	138.1	138.1
59	Pipe	8 inch	153.000	17,427.6	2,791.7	2,796.6	0.028505	0.028554	0.2422943	138.9	138.7	138.9	138.6
60	j99	10 inch	230.000	28,993.4	2,940.2	2,946.7	0.030022	0.030087	0.3069916	139.2	138.9	139.2	138.8
61	Pipe	4 inch	92.000	5,716.0	3,591.2	3,605.4	0.036671	0.036813	0.5480652	139.2	138.7	139.1	138.6
62	Pipe	10 inch	245.000	34,709.2	3,508.8	3,520.5	0.035832	0.035948	0.4633331	139.7	139.2	139.6	139.1
63	Pipe	3 inch	49.000	1,837.0	1,991.0	1,992.8	0.020328	0.020347	0.1292114	138.9	138.8	138.9	138.8
64	Pipe	3 inch	75.000	1,837.0	1,992.9	1,995.8	0.020348	0.020376	0.1980133	138.8	138.6	138.8	138.6
65	Pipe	3 inch	52.000	1,837.0	1,995.9	1,997.9	0.020378	0.020398	0.1374664	138.6	138.4	138.5	138.4
66	Pipe	3 inch	20.000	982.0	1,067.9	1,068.0	0.010902	0.010903	0.0159912	138.4	138.4	138.4	138.4
67	Pipe	8 inch	427.000	9,728.0	1,557.9	1,560.4	0.015906	0.015931	0.2192230	138.9	138.7	138.9	138.7
68	Pipe	8 inch	17.000	9,728.0	1,560.4	1,560.5	0.015931	0.015932	0.0087433	138.7	138.7	138.7	138.7
69	Pipe	8 inch	22.000	853.0	136.8	136.8	0.001397	0.001397	0.0001221	138.7	138.7	138.7	138.7
70	Pipe	8 inch	350.000	8,875.0	1,423.6	1,425.1	0.014535	0.014550	0.1509247	138.7	138.5	138.7	138.5
71	Pipe	3 inch	131.000	1,182.0	1,285.3	1,286.6	0.013122	0.013136	0.1489563	138.5	138.3	138.4	138.3
72	Pipe	8 inch	213.000	8,875.0	1,425.1	1,426.1	0.014550	0.014560	0.0919342	138.5	138.5	138.5	138.4
73	Pipe	8 inch	210.000	7,693.0	1,236.1	1,236.7	0.012620	0.012626	0.0690155	138.5	138.4	138.4	138.4
74	Pipe	6 inch	78.000	1,632.0	454.3	454.3	0.004638	0.004638	0.0054626	138.4	138.4	138.4	138.4
75	Pipe	6 inch	8.000	1,632.0	454.3	454.3	0.004638	0.004638	0.0005646	138.4	138.4	138.4	138.4
76	Pipe	6 inch	8.000	1,632.0	454.3	454.3	0.004638	0.004638	0.0005646	138.4	138.4	138.4	138.4
77	Pipe	6 inch	8.000	1,632.0	454.3	454.3	0.004638	0.004638	0.0005646	138.4	138.4	138.4	138.4
78	Pipe	6 inch	78.000	1,632.0	454.3	454.3	0.004638	0.004638	0.0054626	138.4	138.4	138.4	138.4
79	Pipe	6 inch	210.000	1,990.0	553.9	554.0	0.005655	0.005656	0.0212402	138.4	138.4	138.4	138.4
80	Pipe	3 inch	17.000	995.0	1,082.6	1,082.7	0.011053	0.011054	0.0139313	138.4	138.4	138.4	138.3
81	Pipe	3 inch	23.000	995.0	1,082.7	1,082.9	0.011054	0.011055	0.0188599	138.3	138.3	138.3	138.3

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Pipe	Name	Pipe Nominal Size	Length (feet)	Mass Flow (lbm/hr)	Vel. In (feet/min)	Vel. Out (feet/min)	Mach # In	Mach # Out	dP Stag. Total (psid)	P Stag. In (psia)	P Stag. Out (psia)	P Static In (psia)	P Static Out (psia)
82	Pipe	3 inch	70.000	995.0	1,082.6	1,083.1	0.011053	0.011057	0.0573883	138.4	138.3	138.4	138.3
83	Pipe	3 inch	9.000	995.0	1,083.1	1,083.1	0.011057	0.011058	0.0073853	138.3	138.3	138.3	138.3
84	Pipe	3 inch	8.000	995.0	1,083.2	1,083.2	0.011058	0.011059	0.0065613	138.3	138.3	138.3	138.3
85	Pipe	3 inch	9.000	995.0	1,083.2	1,083.3	0.011059	0.011059	0.0073853	138.3	138.3	138.3	138.3
86	Pipe	3 inch	80.000	995.0	1,083.3	1,083.8	0.011060	0.011065	0.0656433	138.3	138.2	138.3	138.2
87	Pipe	8 inch	372.000	4,071.0	654.4	654.6	0.006681	0.006683	0.0367584	138.4	138.3	138.4	138.3
88	Pipe	3 inch	29.000	1,020.0	1,109.9	1,110.1	0.011332	0.011334	0.0249329	138.3	138.3	138.3	138.3
89	Pipe	6 inch	400.000	3,051.0	849.5	850.1	0.008673	0.008678	0.0900726	138.3	138.3	138.3	138.3
90	Pipe	3 inch	48.000	1,020.0	1,110.7	1,111.0	0.011339	0.011342	0.0412903	138.3	138.2	138.2	138.2
91	Pipe	3 inch	93.000	2,031.0	2,212.3	2,217.1	0.022586	0.022634	0.2993469	138.2	137.9	138.2	137.9
92	Pipe	6 inch	243.000	2,031.0	565.9	566.0	0.005777	0.005778	0.0255432	138.3	138.2	138.3	138.2
93	Pipe	3 inch	12.000	1,020.0	1,113.3	1,113.4	0.011365	0.011366	0.0103455	137.9	137.9	137.9	137.9
94	Pipe	3 inch	168.000	1,011.0	1,103.4	1,104.6	0.011265	0.011276	0.1425018	137.9	137.8	137.9	137.8
95	Pipe	3 inch	38.000	1,011.0	1,104.6	1,104.9	0.011276	0.011279	0.0322418	137.8	137.8	137.8	137.7
96	Pipe	3 inch	60.000	1,011.0	1,104.9	1,105.3	0.011279	0.011283	0.0509338	137.8	137.7	137.7	137.7
97	Pipe	6 inch	340.000	21,345.0	5,896.6	6,039.6	0.060223	0.061653	3.2967529	139.7	136.4	139.4	136.1
98	Pipe	6 inch	243.000	19,670.0	5,564.1	5,649.0	0.056797	0.057646	2.0446930	136.4	134.4	136.1	134.1
99	Pipe	6 inch	215.000	19,670.0	5,649.0	5,727.4	0.057646	0.058431	1.8354340	134.4	132.5	134.1	132.2
100	Pipe	6 inch	208.000	12,096.0	3,518.4	3,536.8	0.035890	0.036074	0.6900635	132.5	131.8	132.4	131.7
101	Pipe	6 inch	15.000	5,578.0	1,630.2	1,630.3	0.016626	0.016627	0.0111542	131.8	131.8	131.8	131.8
102	Pipe	6 inch	238.000	6,518.0	1,905.0	1,908.5	0.019429	0.019464	0.2388763	131.8	131.6	131.8	131.6
103	Pipe	4 inch	430.000	2,770.0	1,840.6	1,849.9	0.018771	0.018865	0.6656036	131.6	130.9	131.6	130.9
104	Pipe	3 inch	62.000	958.0	1,060.3	1,060.7	0.010821	0.010825	0.0481262	136.0	136.0	136.0	136.0
105	Pipe	3 inch	79.000	958.0	1,060.7	1,061.2	0.010825	0.010830	0.0613403	136.0	135.9	136.0	135.9
106	Pipe	6 inch	10.000	2,686.0	757.7	757.7	0.007733	0.007733	0.0018005	136.6	136.6	136.6	136.6
107	Pipe	2 inch	35.000	826.0	2,014.3	2,016.5	0.020558	0.020580	0.1507874	136.0	135.9	136.0	135.8
108	Pipe	3 inch	90.000	855.0	929.8	930.1	0.009492	0.009496	0.0553894	138.4	138.4	138.4	138.4
109	Pipe	3 inch	50.000	855.0	930.1	930.3	0.009496	0.009498	0.0307770	138.4	138.4	138.4	138.3
110	Pipe	3 inch	50.000	855.0	930.4	930.6	0.009498	0.009500	0.0307770	138.4	138.3	138.3	138.3
111	Pipe	3 inch	30.000	855.0	930.6	930.7	0.009500	0.009502	0.0184631	138.3	138.3	138.3	138.3
112	Pipe	3 inch	1.000	855.0	929.7	929.7	0.009492	0.009492	0.0006256	138.4	138.4	138.4	138.4
113	Pipe	2 inch	5.000	186.0	441.6	441.6	0.004509	0.004509	0.0012665	139.7	139.7	139.7	139.7
114	Pipe	3 inch	90.000	3,413.0	3,738.6	3,760.5	0.038167	0.038386	0.8004608	137.5	136.7	137.4	136.6
115	Pipe	3 inch	50.000	3,413.0	3,761.4	3,773.7	0.038394	0.038518	0.4468384	136.7	136.2	136.6	136.1
118	Pipe	3 inch	30.000	1,675.0	1,849.1	1,850.0	0.018871	0.018881	0.0674286	136.4	136.3	136.4	136.3
119	Pipe	6 inch	214.000	7,574.0	2,202.2	2,207.0	0.022463	0.022511	0.2854767	132.5	132.2	132.5	132.2
120	Pipe	6 inch	297.000	7,574.0	2,207.0	2,213.7	0.022511	0.022577	0.3972321	132.2	131.8	132.2	131.8
121	Pipe	4 inch	125.000	6,624.0	4,396.8	4,432.2	0.044847	0.045202	1.0519867	131.8	130.8	131.7	130.6
122	Pipe	6 inch	135.000	950.0	277.6	277.6	0.002831	0.002831	0.0036774	131.8	131.8	131.8	131.8

AFT Arrow Model

Pipe	Name	Pipe Nominal Size	Length (feet)	Mass Flow (lbm/hr)	Vel. In (feet/min)	Vel. Out (feet/min)	Mach # In	Mach # Out	dP Stag. Total (psid)	P Stag. In (psia)	P Stag. Out (psia)	P Static In (psia)	P Static Out (psia)
123	Pipe	3 inch	293.000	950.0	1,084.9	1,086.8	0.011065	0.011084	0.2311554	131.8	131.6	131.8	131.6
125	Pipe	3 inch	264.000	950.0	1,086.8	1,088.5	0.011084	0.011101	0.2086334	131.6	131.4	131.6	131.4
126	Pipe	3 inch	18.000	950.0	1,088.5	1,088.7	0.011101	0.011102	0.0142365	131.4	131.4	131.4	131.4
127	Pipe	4 inch	109.000	3,748.0	2,490.8	2,496.5	0.025403	0.025460	0.3019409	131.6	131.3	131.5	131.2

All Junction Table

Jct	Name	Mass Flow Rate Thru Jct (lbm/hr)
1	Boiler	N/A
2	Bend	16,235.5
3	Pit 9	N/A
4	Bend	3,797.0
5	Bend	3,797.0
6	Williams Fieldhouse	3,797.0
7	PIT 8	12,438.0
10	Bend	2,309.0
11	Karrmann Library	2,309.0
12	Student Center/S9/S10	2,875.0
15	Pioneer Tower/Russell Hall	4,858.0
16	Pit 6	13,477.0
18	Bend	3,664.0
19	Bend	3,664.0
20	Pit 10	N/A
24	Warner Hall	1,614.0
25	Bend	7,127.0
26	Bend	7,127.0
27	Bend	7,127.0
28	Bend	7,127.0
29	Pit 2	N/A
30	Bend	1,656.0
31	Center for Arts/A5/A6	1,656.0
32	Pit 1	3,836.0
33	Bend	3,836.0
34	Bend	3,836.0
35	Bend	3,836.0
36	Bend	3,836.0
37	Ullsvik Center	3,836.0

AFT Arrow Model

Jct	Name	Mass Flow Rate Thru Jct (lbm/hr)
41	Bend	1,635.0
42	Bend	1,635.0
44	Art Building	677.0
45	Pit 12	N/A
46	Bend	1,224.0
47	Bend	1,224.0
48	Bend	1,224.0
49	Bend	1,224.0
50	Bend	1,224.0
51	Bend	1,224.0
52	Gardner Hall	1,224.0
53	Branch	14,495.7
54	Bend	14,495.7
59	Pit 15	17,427.6
60	Tee or Wye	N/A
61	Boebel Hall	2,932.0
62	Pit 16	N/A
63	Pit 17	N/A
64	Ottensman Hall	5,716.0
65	Bend	1,837.0
66	Bend	1,837.0
67	Bend	855.0
68	Royce Hall	982.0
69	Pit 18	9,728.0
70	Tee or Wye	N/A
71	Wilgus Hall/S6	853.0
72	Pit 19	8,875.0
73	Pit 20	N/A
74	Dobson Hall	1,182.0
75	Pit 21	N/A
76	Bend	1,632.0
77	Bend	1,632.0
78	Bend	1,632.0
79	Bend	1,632.0
80	Glenview Commons	1,632.0
81	Branch	N/A
82	Bend	995.0
83	Porter Hall	995.0
84	Bend	995.0

AFT Arrow Model

Jct	Name	Mass Flow Rate Thru Jct (lbm/hr)
85	Bend	995.0
86	Bend	995.0
87	Bend	995.0
88	Melcher Hall	995.0
89	Pit 23	N/A
90	Morrow Hall	1,020.0
91	Pit 24	N/A
92	Hugunin Hall	1,020.0
93	Pit 25	2,031.0
95	Brockert Hall	1,020.0
96	Bend	1,011.0
97	Bend	1,011.0
98	Pickard Hall	1,011.0
99	Pit 26	N/A
100	Pit 27	19,670.0
101	Pit 28	N/A
102	Pit 29	N/A
103	Engineering Hall/A3	5,578.0
104	Pit 30	N/A
105	Southwest Hall	2,770.0
106	Tee or Wye	N/A
107	Bend	958.0
108	Ullrich Hall	958.0
109	Branch	N/A
110	Doudna Hall	2,686.0
111	Brigham	826.0
112	Bend	855.0
113	Bend	855.0
114	Bend	855.0
115	McGregor	855.0
116	Central Heating/F1	186.0
117	Branch	N/A
118	Pit 5	N/A
119	Tee or Wye	N/A
120	Tee or Wye	N/A
121	Branch	3,836.0
122	Branch	17,427.6
123	A1	3,413.0
124	Tee or Wye	N/A

AFT Arrow Model

Jct	Name	Mass Flow Rate Thru Jct (lbm/hr)
125	Bend	3,413.0
127	Bend	4,858.0
129	AR1	1,675.0
130	Branch	7,574.0
131	Branch	N/A
132	A4	6,624.0
133	Bend	950.0
134	Branch	950.0
136	Bend	950.0
137	AR3	950.0
138	R7/S7	3,748.0