



Installation Data Pack for Serta

Pipe Type	America
Date	9/13/22
Installer	Fire Chief Equipment
Units	US
Altitude	0'
Designed with Hole Sizes	1/8"

NICET CERTIFICATION

MICHAEL A. BARCLAY
CERTIFIED ENGINEERING TECHNICIAN
NICET CERTIFICATION NO.: 106070, FIRE ALARM
SYSTEMS LEVEL III, SPECIAL HAZARDS SUPPRESSION
SYSTEMS LEVEL III

 9/15/2022
SIGNATURE

Detector : ASSD #1

Type	VEU
Sensitivity Objective	Early Warning
Endcap Usage	Create a Balanced Design
Application Defaults	default
Aspirator Speed	4
Air Temperature	68.0°F
Absolute Pressure	1013hPa
System Flowrate	119.8l/min
Total Pipe Length	886' 6 1/2"
Number Of Sample Points	32
Maximum Transport Time	108sec
Maximum Allowed TT	120sec
Minimum Hole Flow Rate	2.0l/min
Exhaust Length	0'
Exhaust Diameter	0.874
Exhaust Pressure Drop	0Pa
Invert	No

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Thresholds

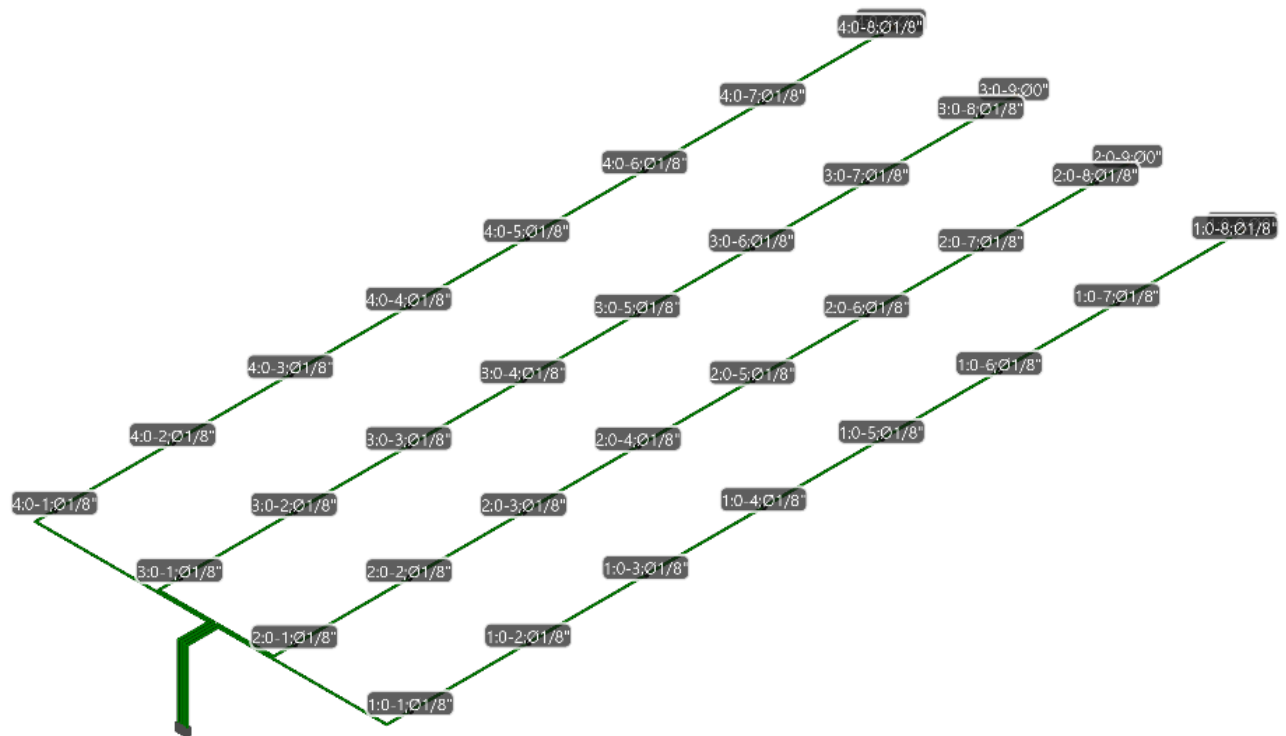
Safety Factor (% reduction in alarm threshold) 0%

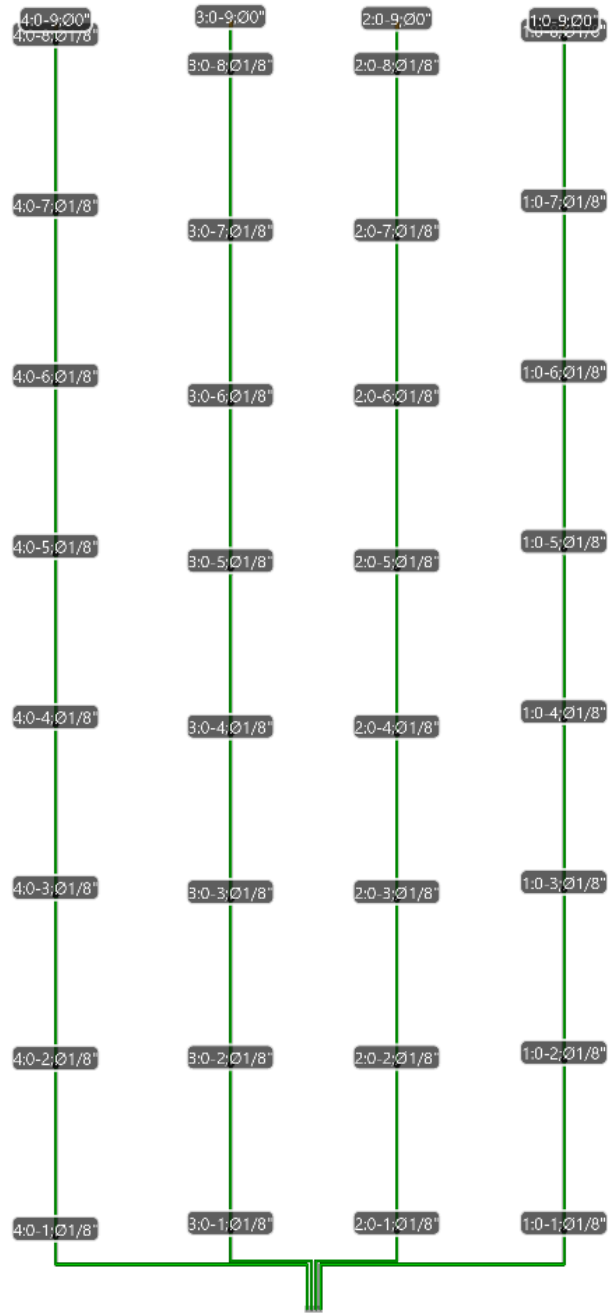
	Alert	Action	Fire 1	Fire 2
Recommended Thresholds (%/ft)	0.0152	0.0268	0.0383	0.0766
Smoke at least sensitive hole (%/ft)	0.5625	0.9844	1.4062	2.8125

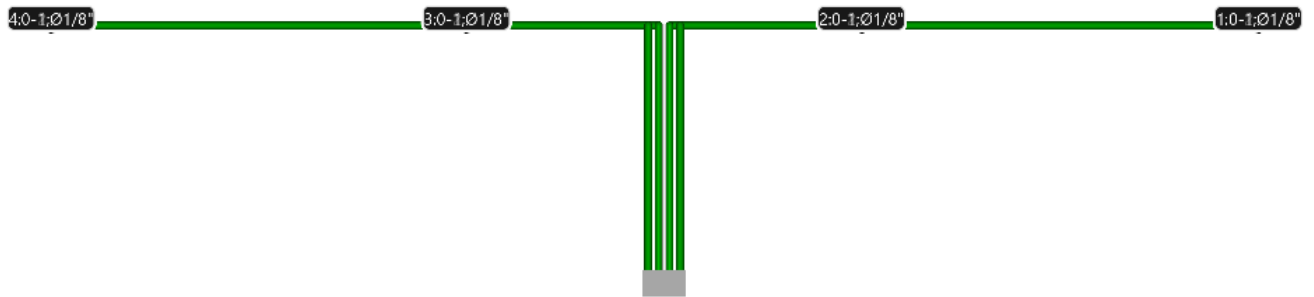
Group Details

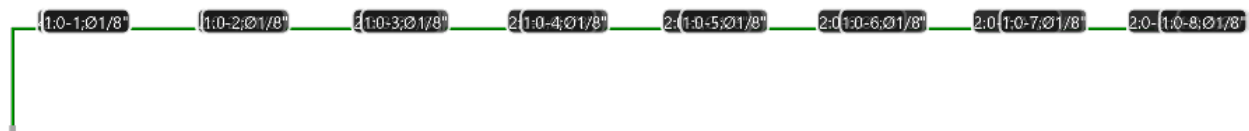
	Hole Sensitivity	Flow	Pressure	Transport Time	Hole Diameter	[Default Group]
Aggregate smoke from holes						0
Group Type						
Max Target Aggregate Sensitivity						
Min Target Aggregate Sensitivity						
Contribution ratio(%)						
Applied Max Aggregate Sensitivity						
Applied Min Aggregate Sensitivity						
Target Suction Pressure						25
Target Balance						70
Exclude from Autobalance						
1:Section0-1	1.0796	4.2	98	14	1/8"	✓
1:Section0-2	1.1497	4.0	87	19	1/8"	✓
1:Section0-3	1.2155	3.8	77	25	1/8"	✓
1:Section0-4	1.2725	3.6	71	32	1/8"	✓
1:Section0-5	1.3212	3.5	66	41	1/8"	✓
1:Section0-6	1.3611	3.4	62	53	1/8"	✓
1:Section0-7	1.3895	3.3	59	71	1/8"	✓
1:Section0-8	1.4044	3.3	58	108	1/8"	✓
2:Section0-1	1.0237	4.5	109	10	1/8"	✓
2:Section0-2	1.0867	4.2	97	14	1/8"	✓
2:Section0-3	1.1456	4.0	87	20	1/8"	✓
2:Section0-4	1.1967	3.8	80	26	1/8"	✓
2:Section0-5	1.2386	3.7	75	34	1/8"	✓
2:Section0-6	1.2726	3.6	71	45	1/8"	✓
2:Section0-7	1.2968	3.5	68	61	1/8"	✓
2:Section0-8	1.3094	3.5	67	95	1/8"	✓
3:Section0-1	1.0237	4.5	109	10	1/8"	✓
3:Section0-2	1.0867	4.2	97	14	1/8"	✓
3:Section0-3	1.1455	4.0	87	20	1/8"	✓
3:Section0-4	1.1966	3.8	80	26	1/8"	✓
3:Section0-5	1.2385	3.7	75	34	1/8"	✓
3:Section0-6	1.2725	3.6	71	45	1/8"	✓
3:Section0-7	1.2967	3.5	68	61	1/8"	✓
3:Section0-8	1.3092	3.5	67	95	1/8"	✓
4:Section0-1	1.0801	4.2	98	14	1/8"	✓
4:Section0-2	1.1504	4.0	86	19	1/8"	✓
4:Section0-3	1.2163	3.8	77	25	1/8"	✓
4:Section0-4	1.2736	3.6	71	32	1/8"	✓
4:Section0-5	1.3224	3.5	65	41	1/8"	✓
4:Section0-6	1.3624	3.4	62	53	1/8"	✓
4:Section0-7	1.3910	3.3	59	71	1/8"	✓
4:Section0-8	1.4059	3.3	58	108	1/8"	

						✓
Number of holes						32
Flow Share(%)						100
Aggregate Sensitivity						
Balance(%)						73
Suction pressure (least)						58

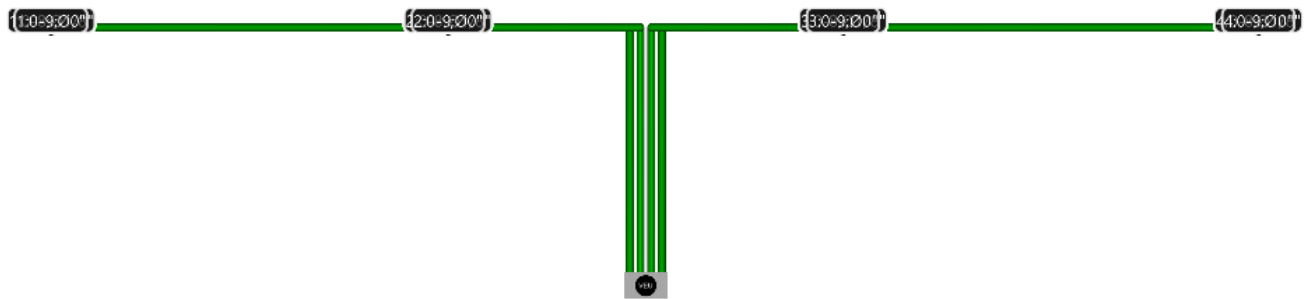








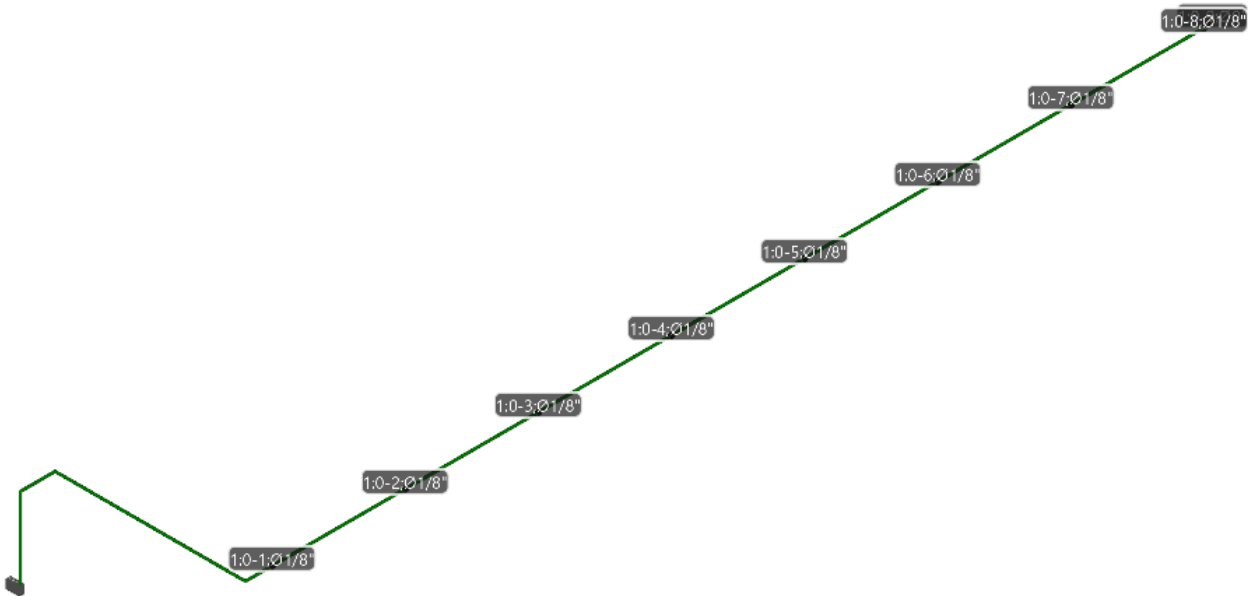
Side ASSD #1



Front ASSD #1

Pipe:P4

Total Pipe Length	235' 10"
Ambient Pressure	0Pa
Sector Pressure	137Pa
Number of Sample Points	8
Pipe Flowrate	29.0l/min



1:0-9;Ø1"

1:0-7;Ø1/8"

1:0-6;Ø1/8"

1:0-5;Ø1/8"

1:0-4;Ø1/8"

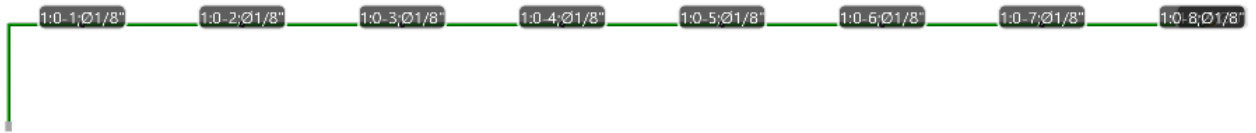
1:0-3;Ø1/8"

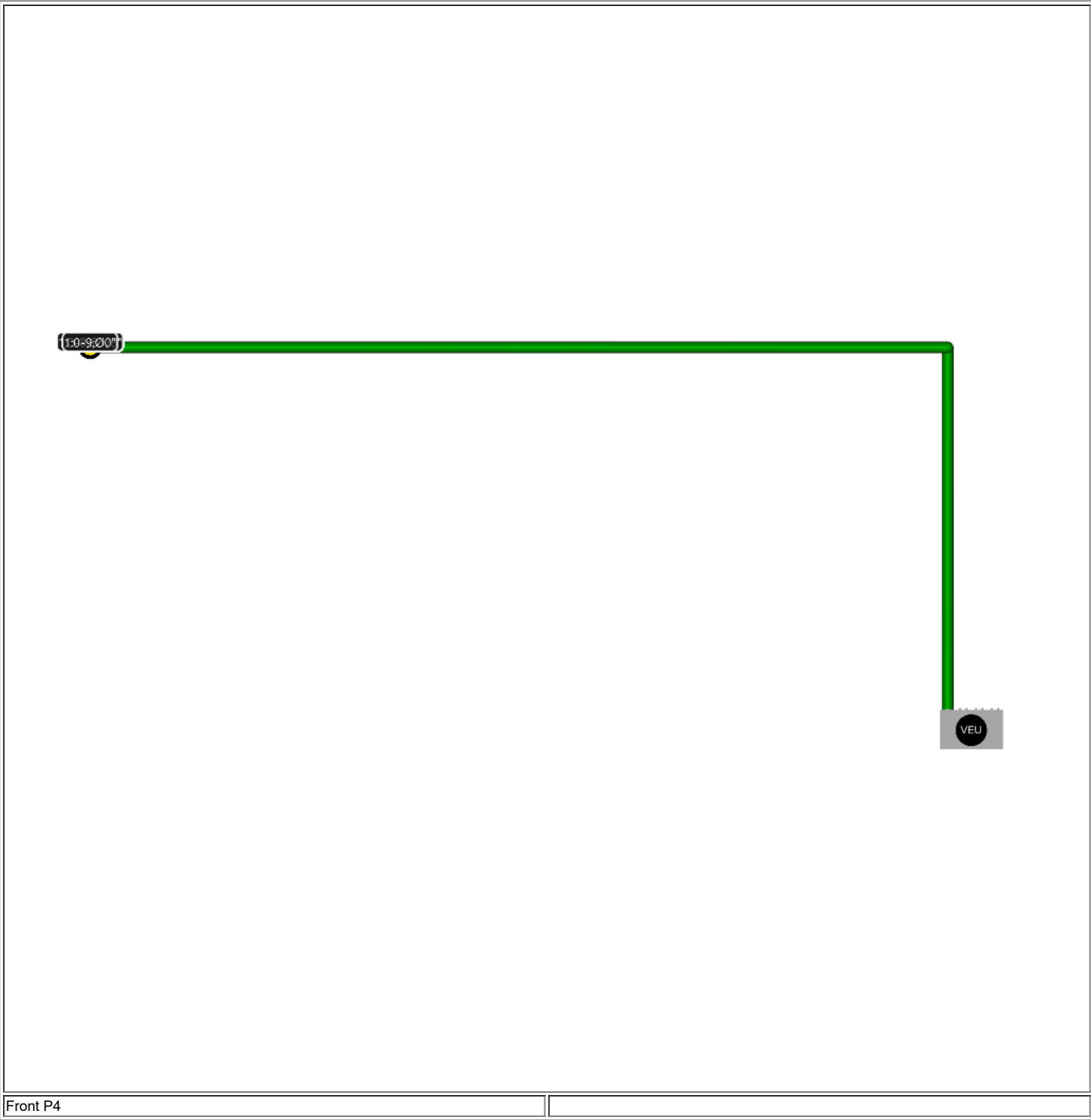
1:0-2;Ø1/8"

1:0-1;Ø1/8"









Section0

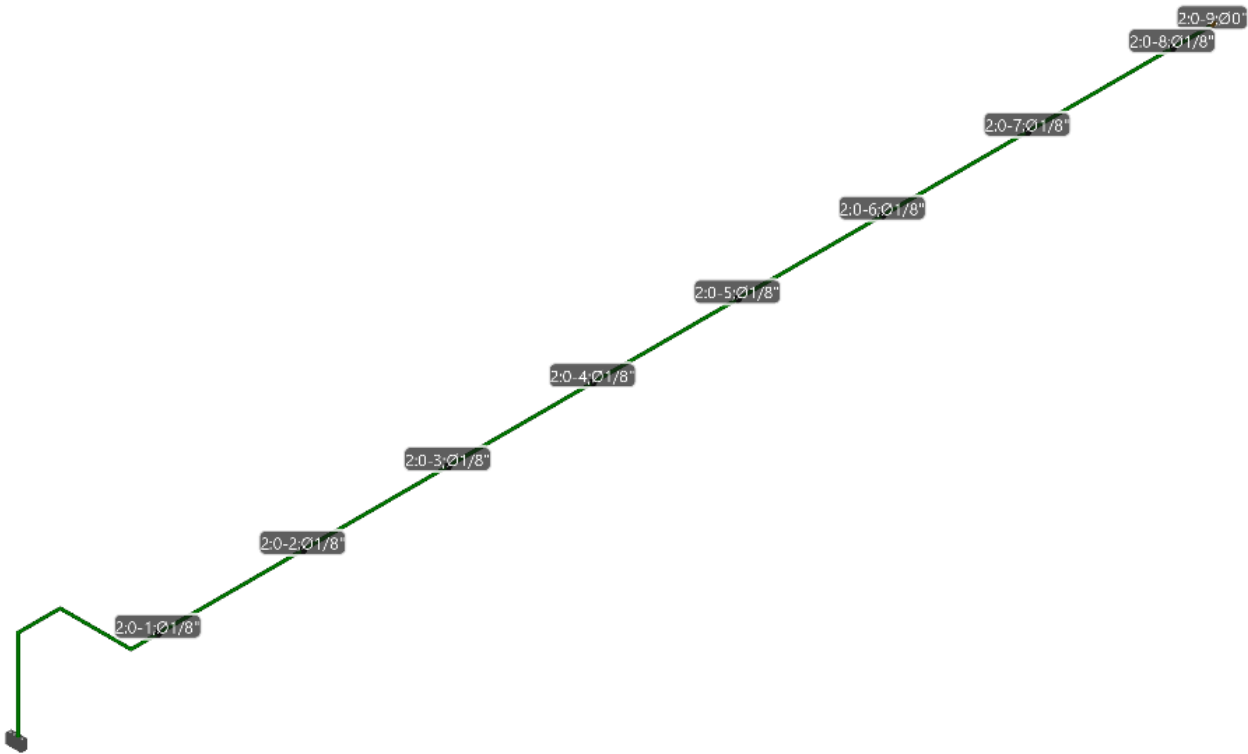
Pipe Diameter 0.874

#		Distance ft	Relative ft	Direction	Hole Diameter in	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/ft	Pipe Diameter in	Capillary Diameter	Intersection Pressure
-	Bend 90	15'	15'	F										
-	Bend 90	21' 6"	6' 6"	R										
-	Bend 90	57'	35' 6"	F										
1:Section0-1	Hole	62'	5'		1/8"		14	98	4.2	3.5	1.0796	0.874		
1:Section0-2	Hole	86' 10"	24' 10"		1/8"		19	87	4.0	3.3	1.1497	0.874		

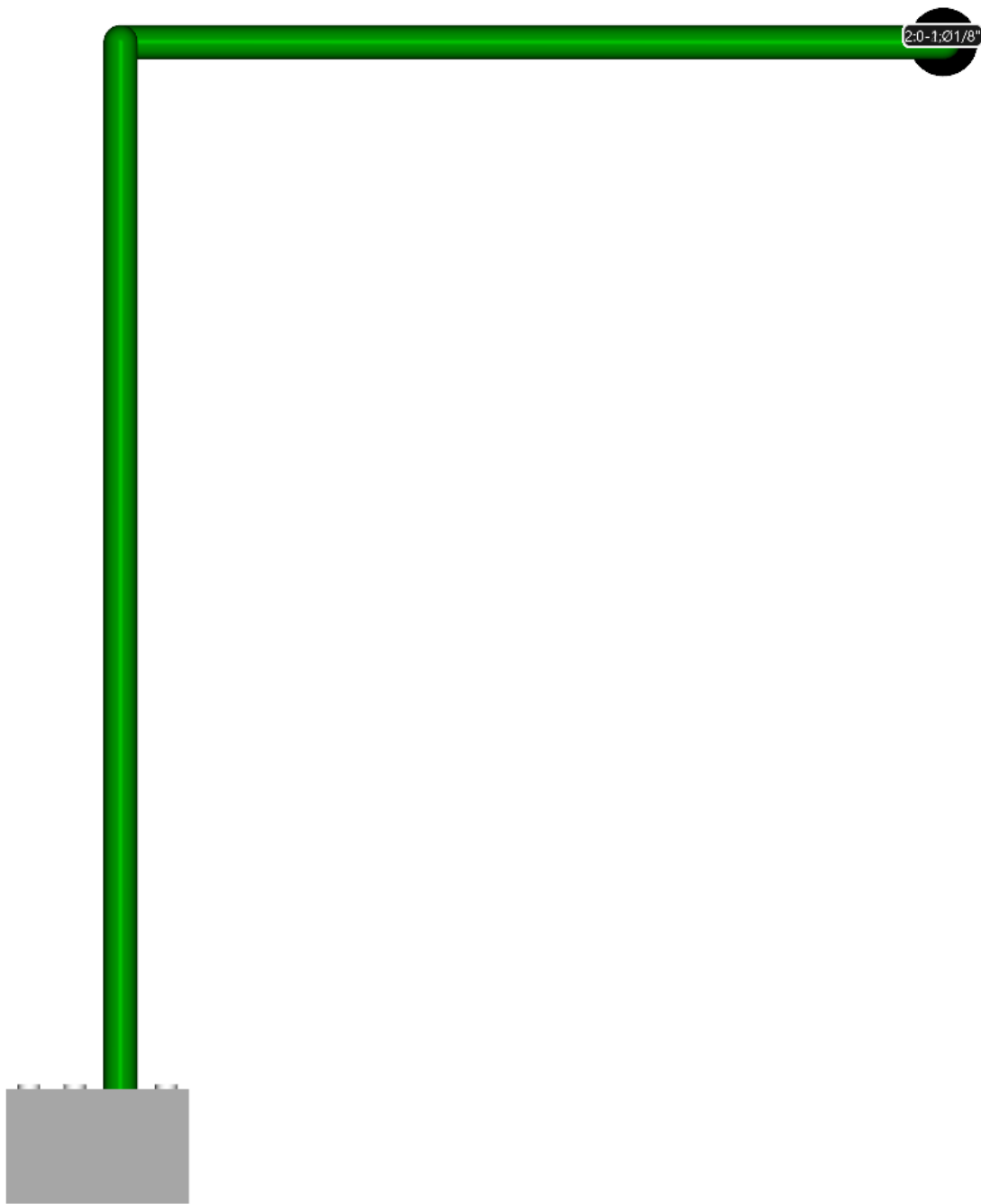
[illegible]

Pipe:P8

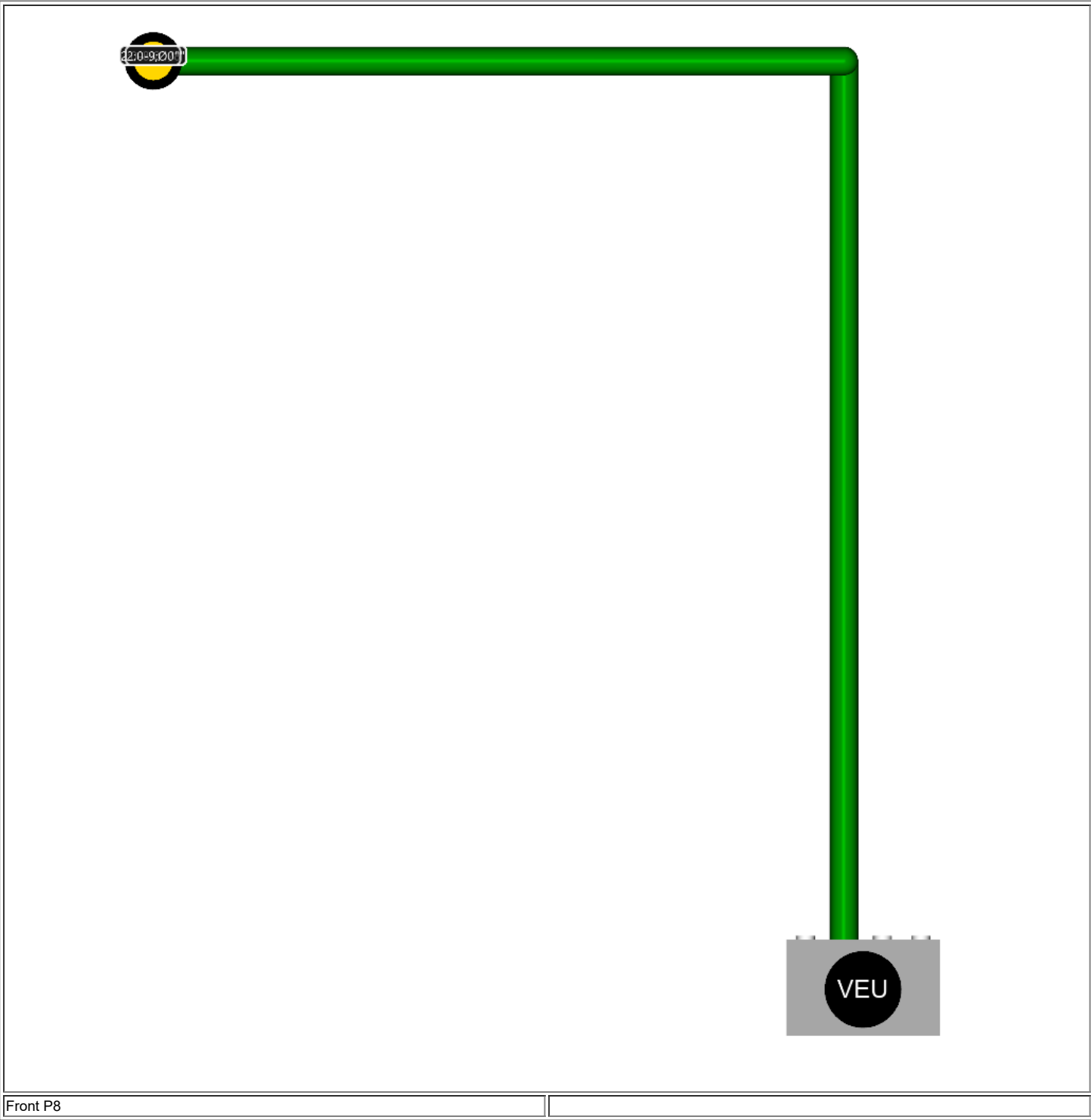
Total Pipe Length	207' 2"
Ambient Pressure	0Pa
Sector Pressure	137Pa
Number of Sample Points	8
Pipe Flowrate	30.9l/min











Section0

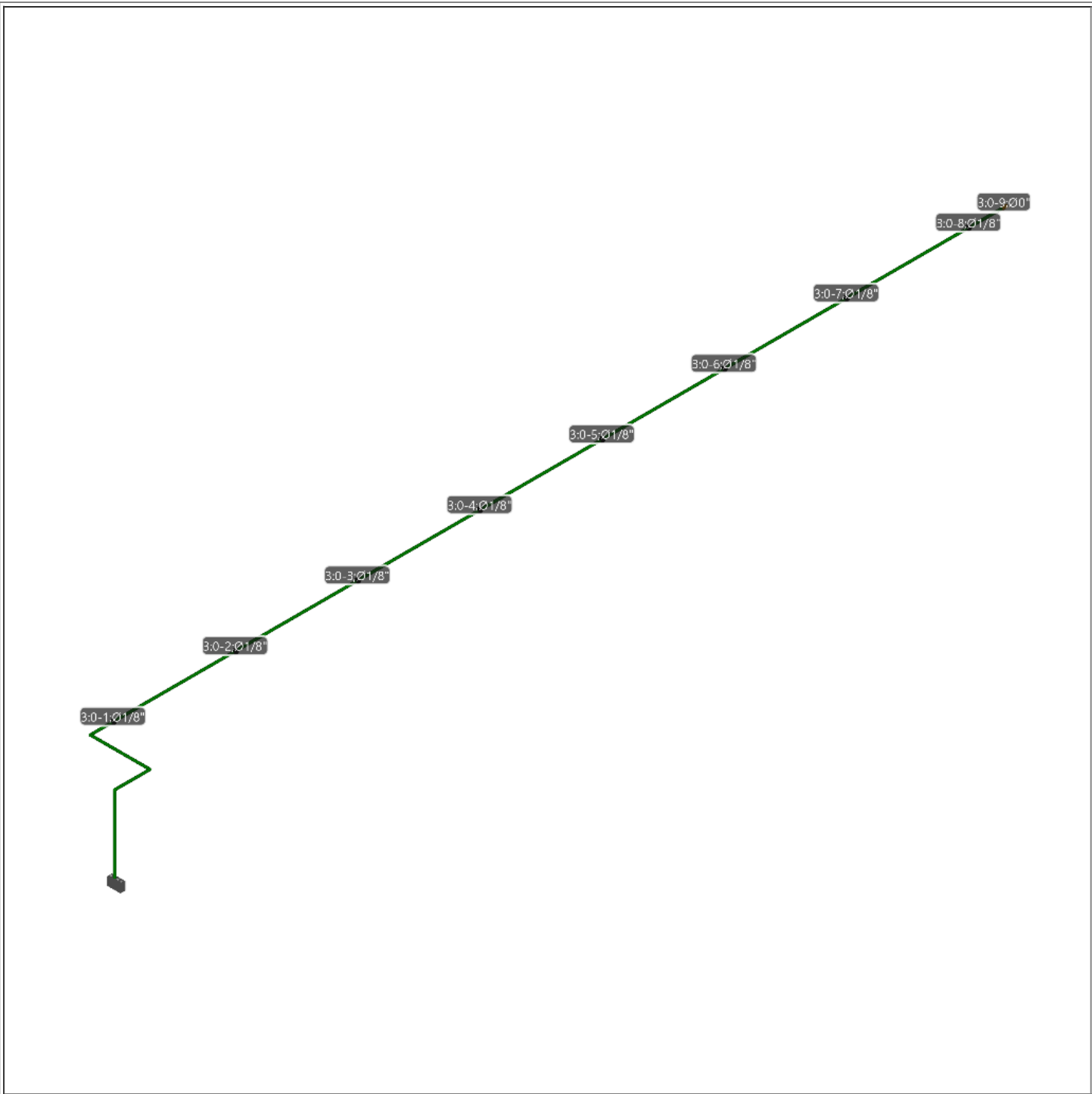
Pipe Diameter 0.874

#		Distance ft	Relative ft	Direction	Hole Diameter in	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/ft	Pipe Diameter in	Capillary Diameter	Intersection Pressure
-	Bend 90	15'	15'	F										
-	Bend 90	22'	7'	R										
-	Bend 90	33' 9 1/2"	11' 9 1/2"	F										
2:Section0-1	Hole	38' 3 1/2"	4' 6"		1/8"		10	109	4.5	3.7	1.0237	0.874		
2:Section0-2	Hole	62' 5"	24' 1 1/2"		1/8"		14	97	4.2	3.5	1.0867	0.874		

[illegible]

Pipe:P12

Total Pipe Length	207' 2"
Ambient Pressure	0Pa
Sector Pressure	137Pa
Number of Sample Points	8
Pipe Flowrate	30.9l/min



3:0-9;Ø0"

3:0-8;Ø1/8"

3:0-7;Ø1/8"

3:0-6;Ø1/8"

3:0-5;Ø1/8"

3:0-4;Ø1/8"

3:0-3;Ø1/8"

3:0-2;Ø1/8"

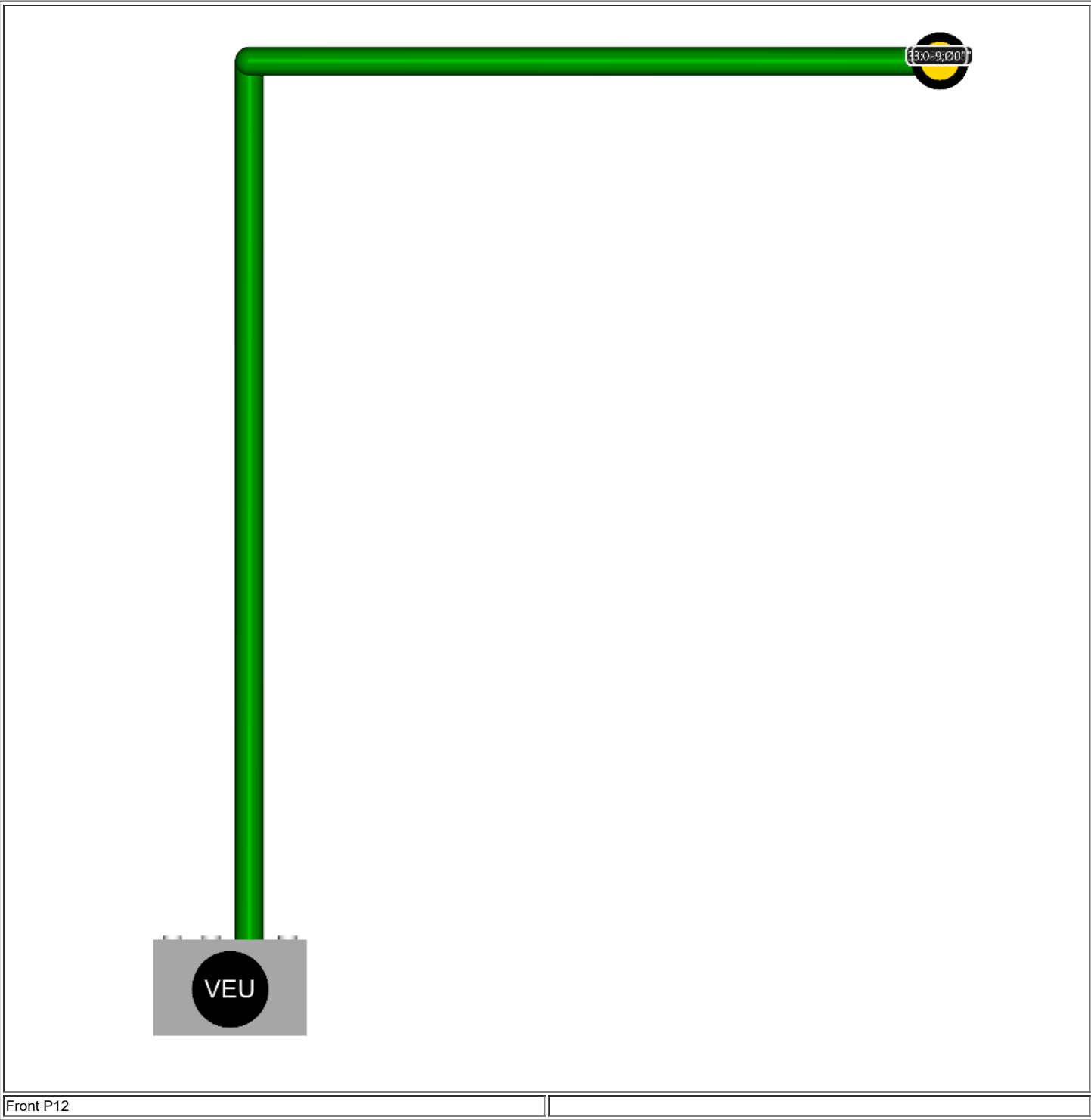
3:0-1;Ø1/8"

3:0-0

3:0-1.01/8"







Section0

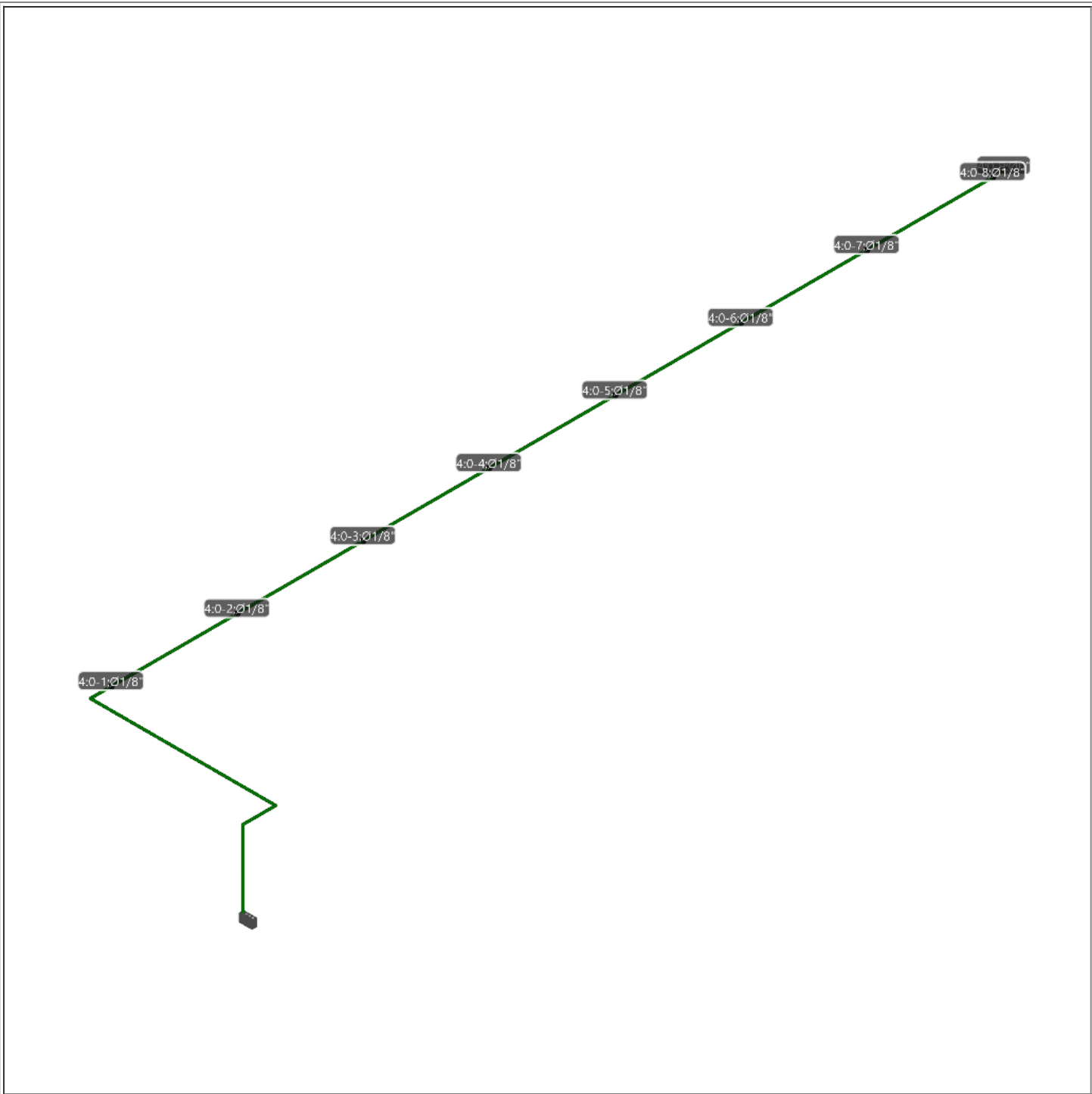
Pipe Diameter 0.874

#		Distance ft	Relative ft	Direction	Hole Diameter in	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/ft	Pipe Diameter in	Capillary Diameter	Intersection Pressure
-	Bend 90	15'	15'	F										
-	Bend 90	22'	7'	L										
-	Bend 90	33' 9 1/2"	11' 9 1/2"	F										
3:Section0-1	Hole	38' 3 1/2"	4' 6"		1/8"		10	109	4.5	3.7	1.0237	0.874		
3:Section0-2	Hole	62' 5"	24' 1 1/2"		1/8"		14	97	4.2	3.5	1.0867	0.874		

[illegible]

Pipe:P16

Total Pipe Length	236' 4 1/2"
Ambient Pressure	0Pa
Sector Pressure	137Pa
Number of Sample Points	8
Pipe Flowrate	29.0l/min



4.0-9:Ø0"
4.0-8:Ø1/8"

4.0-7:Ø1/8"

4.0-6:Ø1/8"

4.0-5:Ø1/8"

4.0-4:Ø1/8"

4.0-3:Ø1/8"

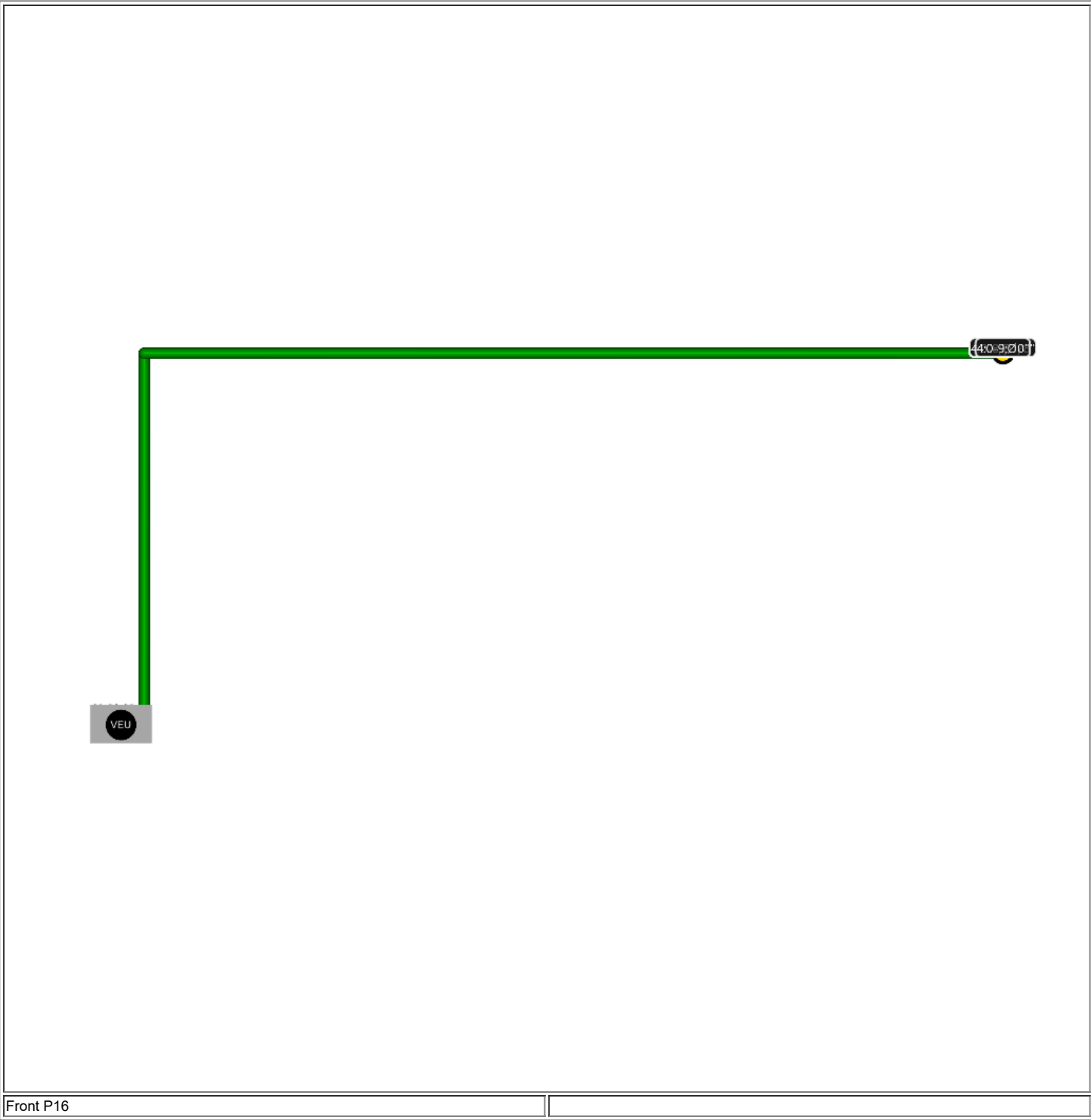
4.0-2:Ø1/8"

4.0-1:Ø1/8"

4:0-1,Ø1/8"







Section0

Pipe Diameter 0.874

#		Distance ft	Relative ft	Direction	Hole Diameter in	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/ft	Pipe Diameter in	Capillary Diameter	Intersection Pressure
-	Bend 90	15'	15'	F										
-	Bend 90	21' 6"	6' 6"	L										
-	Bend 90	58' 1 1/2"	36' 7 1/2"	F										
4:Section0-1	Hole	62' 3"	4' 1 1/2"		1/8"		14	98	4.2	3.5	1.0801	0.874		
4:Section0-2	Hole	87' 1 1/2"	24' 10 1/2"		1/8"		19	86	4.0	3.3	1.1504	0.874		

4:Section0-3	Hole	112'	24' 10 1/2"		1/8"		25	77	3.8	3.1	1.2163	0.874		
4:Section0-4	Hole	136' 10 1/2"	24' 10 1/2"		1/8"		32	71	3.6	3.0	1.2736	0.874		
4:Section0-5	Hole	161' 9"	24' 10 1/2"		1/8"		41	65	3.5	2.9	1.3224	0.874		
4:Section0-6	Hole	186' 7 1/2"	24' 10 1/2"		1/8"		53	62	3.4	2.8	1.3624	0.874		
4:Section0-7	Hole	211' 6"	24' 10 1/2"		1/8"		71	59	3.3	2.8	1.3910	0.874		
4:Section0-8	Hole	236' 4 1/2"	24' 10 1/2"		1/8"		108	58	3.3	2.7	1.4059	0.874		
4:Section0-9	Endcap	238' 7"	2' 2 1/2"		0"							0.874		

