Installation Data Pack for Draper Tools - North Baddesley Site

Address	Test Valley Business Centre North Baddesley Southampton Hampshire SO52 9DW
Pipe Type	Europe
Date	01/10/08
Installer	CLFS
Calculated By	Ian Wilson
Units	Metric
Altitude	0.0m
Designed with Hole Sizes	3.0mm

Detector : Detector No. 1

Flow Calculations found there were problems with this detector. Check below for errors (marked as !?) or warnings (marked as !).

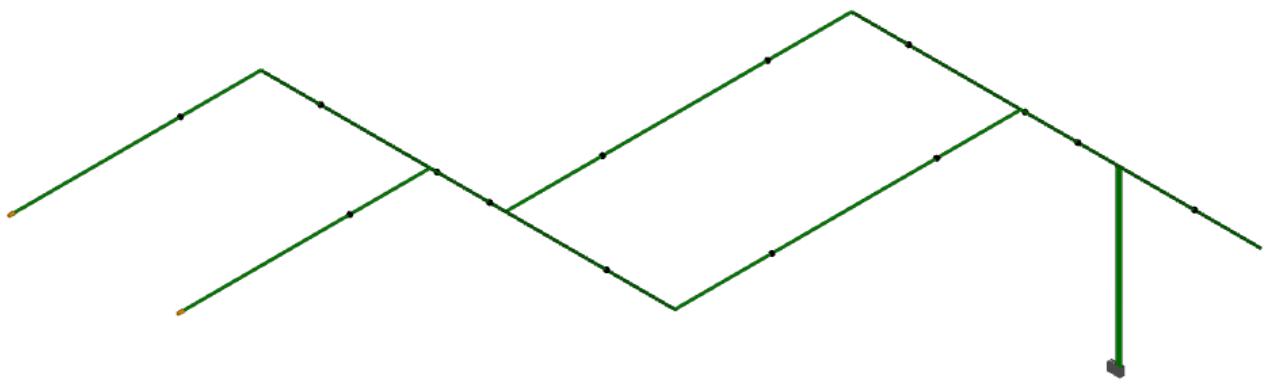
Type	VESDA VLP
Endcap Usage	Create a Balanced Design
Application	default
Aspirator Speed	3750
Fire	0.200%/m
Air Temperature	20.0°C
Absolute Pressure	1013hPa
System Flowrate	66.1l/min
Total Pipe Length	186.9m
Number Of Sample Points	16
Maximum Transport Time	111
Minimum Hole Flow Rate	2.0l/min
Exhaust Length	0.0m
Exhaust Diameter	21.0mm
Exhaust Pressure Drop	0Pa
Inverted Detector	No

Sampling Point Sensitivity

Threshold	Level	Classification	Hole Aggregation
Fire	0.200%/m	Class C	1

Group Details

	Hole Sensitivity	Pressure	Transport Time	Hole Diameter	[Default Group]
Group Type					
Max Target Aggregate Sensitivity					0.300
Min Target Aggregate Sensitivity					0.100
Contribution ratio(%)					100
Applied Max Aggregate Sensitivity					0.300
Applied Min Aggregate Sensitivity					0.100
Target Suction Pressure					25
Target Balance					70
Exclude from Autobalance					0
1:Section0-1	2.718	155	13	3.0	X
1:Section0-2	2.938	133	18	3.0	X
1:Section0-3	3.157	115	24	3.0	X
1:Section0-4	3.357	102	32	3.0	X
1:Section0-5	3.555	90	43	3.0	X
1:Section0-6	3.701	84	56	3.0	X
1:Section0-7	3.810	79	75	3.0	X
1:Section0-8	3.294	76	111	3.0	X
2:Section0-1	2.605	169	10	3.0	X
2:Section0-2	2.811	145	15	3.0	X
2:Section0-3	3.015	126	21	3.0	X
2:Section0-4	3.202	112	28	3.0	X
2:Section0-5	3.388	100	39	3.0	X
2:Section0-6	3.520	92	51	3.0	X
2:Section0-7	3.619	87	69	3.0	X
2:Section0-8	3.126	85	104	3.0	X
Number of holes					16
Flow Share(%)					100
Aggregate Sensitivity					0.200
Balance(%)					!? 68
Suction pressure (least)					76



Isometric Detector No. 1	

Pipe:Right

Total Pipe Length 96.9m
Ambient Pressure 0Pa
Sector Pressure 224Pa
Number of Sample Points 8
Pipe Flowrate 32.3l/min

Section0

Pipe Diameter 21.0mm

#		Distance m	Relative m	Direction	Hole Diameter mm	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/m	Pipe Diameter mm	Capillary Diameter	Intersection Pressure
-	**Bend 90**	10.50	10.50	R										
-	**Bend 90**	19.00	8.50	BU										
1:Section0-1	**Hole**	24.67	5.67		3.0		13	155	4.9	7.4	2.718	21.0		
1:Section0-2	**Hole**	34.70	10.03		3.0		18	133	4.5	6.8	2.938	21.0		
-	**Bend 45**	39.60	4.90	B										
1:Section0-3	**Hole**	44.72	5.12		3.0		24	115	4.2	6.3	3.157	21.0		
1:Section0-4	**Hole**	54.75	10.03		3.0		32	102	3.9	6.0	3.357	21.0		
-	**Bend 45**	60.65	5.90	BU										
1:Section0-5	**Hole**	66.55	5.90		3.0		43	90	3.7	5.6	3.555	21.0		
1:Section0-6	**Hole**	76.58	10.03		3.0		56	84	3.6	5.4	3.701	21.0		
-	**Bend 45**	81.71	5.13	B										
1:Section0-7	**Hole**	86.61	4.90		3.0		75	79	3.5	5.2	3.810	21.0		
1:Section0-8	**Endcap**	96.91	10.30		3.0		111	76	4.0	6.1	3.294	21.0		

Pipe:Left

Total Pipe Length 90.0m
Ambient Pressure 0Pa
Sector Pressure 224Pa
Number of Sample Points 8
Pipe Flowrate 33.8l/min

Section0

Pipe Diameter 21.0mm

#		Distance m	Relative m	Direction	Hole Diameter mm	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/m	Pipe Diameter mm	Capillary Diameter	Intersection Pressure
-	**Bend 90**	10.50	10.50	L										
-	**Bend 90**	12.10	1.60	BU										
2:Section0-1	**Hole**	17.77	5.67		3.0		10	169	5.1	7.7	2.605	21.0		
2:Section0-2	**Hole**	27.80	10.03		3.0		15	145	4.7	7.1	2.811	21.0		
-	**Bend 45**	32.70	4.90	B										
2:Section0-3	**Hole**	37.82	5.12		3.0		21	126	4.4	6.6	3.015	21.0		
2:Section0-4	**Hole**	47.85	10.03		3.0		28	112	4.1	6.2	3.202	21.0		
-	**Bend 45**	53.75	5.90	BU										
2:Section0-5	**Hole**	59.65	5.90		3.0		39	100	3.9	5.9	3.388	21.0		
2:Section0-6	**Hole**	69.68	10.03		3.0		51	92	3.8	5.7	3.520	21.0		
-	**Bend 45**	74.81	5.13	B										
2:Section0-7	**Hole**	79.71	4.90		3.0		69	87	3.7	5.5	3.619	21.0		
2:Section0-8	**Endcap**	90.01	10.30		3.0		104	85	4.2	6.4	3.126	21.0		

Detector : Detector No. 2

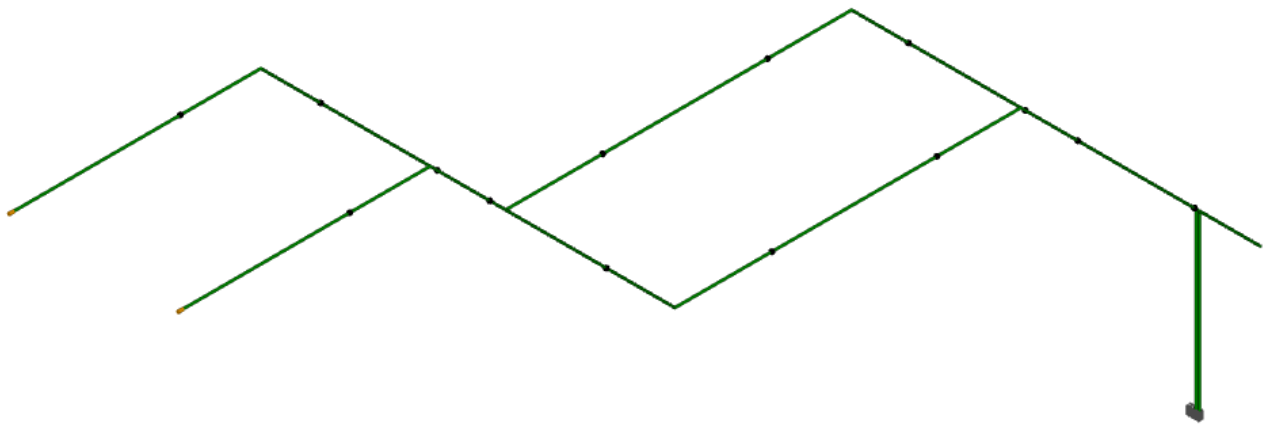
Type	VESDA VLP
Endcap Usage	Create a Balanced Design
Application	default
Aspirator Speed	3750
Fire	0.245%/m
Air Temperature	20.0°C
Absolute Pressure	1013hPa
System Flowrate	66.1l/min
Total Pipe Length	186.9m
Number Of Sample Points	16
Maximum Transport Time	109
Minimum Hole Flow Rate	2.0l/min
Exhaust Length	0.0m
Exhaust Diameter	21.0mm
Exhaust Pressure Drop	0Pa
Inverted Detector	No

Sampling Point Sensitivity

Threshold	Level	Classification	Hole Aggregation
Fire	0.245%/m	Class C	1

Group Details

	Hole Sensitivity	Pressure	Transport Time	Hole Diameter	[Default Group]
Group Type					
Max Target Aggregate Sensitivity					0.345
Min Target Aggregate Sensitivity					0.145
Contribution ratio(%)					100
Applied Max Aggregate Sensitivity					0.345
Applied Min Aggregate Sensitivity					0.145
Target Suction Pressure					25
Target Balance					70
Exclude from Autobalance					0
1:Section0-1	3.232	164	11	3.0	X
1:Section0-2	3.490	141	16	3.0	X
1:Section0-3	3.745	122	22	3.0	X
1:Section0-4	3.979	108	29	3.0	X
1:Section0-5	4.212	97	40	3.0	X
1:Section0-6	4.379	89	52	3.0	X
1:Section0-7	4.504	85	71	3.0	X
1:Section0-8	3.891	82	106	3.0	X
2:Section0-1	3.286	159	12	3.0	X
2:Section0-2	3.550	136	17	3.0	X
2:Section0-3	3.813	118	23	3.0	X
2:Section0-4	4.053	104	31	3.0	X
2:Section0-5	4.292	93	42	3.0	X
2:Section0-6	4.465	86	54	3.0	X
2:Section0-7	4.595	81	73	3.0	X
2:Section0-8	3.971	79	109	3.0	X
Number of holes					16
Flow Share(%)					100
Aggregate Sensitivity					0.245
Balance(%)					70
Suction pressure (least)					79



Isometric Detector No. 2	

Pipe:Right

Total Pipe Length 92.1m
Ambient Pressure 0Pa
Sector Pressure 224Pa
Number of Sample Points 8
Pipe Flowrate 33.3l/min

Section0

Pipe Diameter 21.0mm

#		Distance m	Relative m	Direction	Hole Diameter mm	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/m	Pipe Diameter mm	Capillary Diameter	Intersection Pressure
-	**Bend 90**	10.50	10.50	R										
-	**Bend 90**	14.20	3.70	BU										
1:Section0-1	**Hole**	19.87	5.67		3.0		11	164	5.0	7.6	3.232	21.0		
1:Section0-2	**Hole**	29.90	10.03		3.0		16	141	4.6	7.0	3.490	21.0		
-	**Bend 45**	34.80	4.90	B										
1:Section0-3	**Hole**	39.92	5.12		3.0		22	122	4.3	6.5	3.745	21.0		
1:Section0-4	**Hole**	49.95	10.03		3.0		29	108	4.1	6.2	3.979	21.0		
-	**Bend 45**	55.85	5.90	BU										
1:Section0-5	**Hole**	61.75	5.90		3.0		40	97	3.8	5.8	4.212	21.0		
1:Section0-6	**Hole**	71.78	10.03		3.0		52	89	3.7	5.6	4.379	21.0		
-	**Bend 45**	76.91	5.13	B										
1:Section0-7	**Hole**	81.81	4.90		3.0		71	85	3.6	5.4	4.504	21.0		
1:Section0-8	**Endcap**	92.11	10.30		3.0		106	82	4.2	6.3	3.891	21.0		

Pipe:Left

Total Pipe Length 94.8m
Ambient Pressure 0Pa
Sector Pressure 224Pa
Number of Sample Points 8
Pipe Flowrate 32.7l/min

Section0

Pipe Diameter 21.0mm

#		Distance m	Relative m	Direction	Hole Diameter mm	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/m	Pipe Diameter mm	Capillary Diameter	Intersection Pressure
-	**Bend 90**	10.50	10.50	L										
-	**Bend 90**	16.90	6.40	BU										
2:Section0-1	**Hole**	22.57	5.67		3.0		12	159	4.9	7.5	3.286	21.0		
2:Section0-2	**Hole**	32.60	10.03		3.0		17	136	4.6	6.9	3.550	21.0		
-	**Bend 45**	37.50	4.90	B										
2:Section0-3	**Hole**	42.62	5.12		3.0		23	118	4.2	6.4	3.813	21.0		
2:Section0-4	**Hole**	52.65	10.03		3.0		31	104	4.0	6.0	4.053	21.0		
-	**Bend 45**	58.55	5.90	BU										
2:Section0-5	**Hole**	64.45	5.90		3.0		42	93	3.8	5.7	4.292	21.0		
2:Section0-6	**Hole**	74.48	10.03		3.0		54	86	3.6	5.5	4.465	21.0		
-	**Bend 45**	79.61	5.13	B										
2:Section0-7	**Hole**	84.51	4.90		3.0		73	81	3.5	5.3	4.595	21.0		
2:Section0-8	**Endcap**	94.81	10.30		3.0		109	79	4.1	6.2	3.971	21.0		

Detector : Detector No. 3

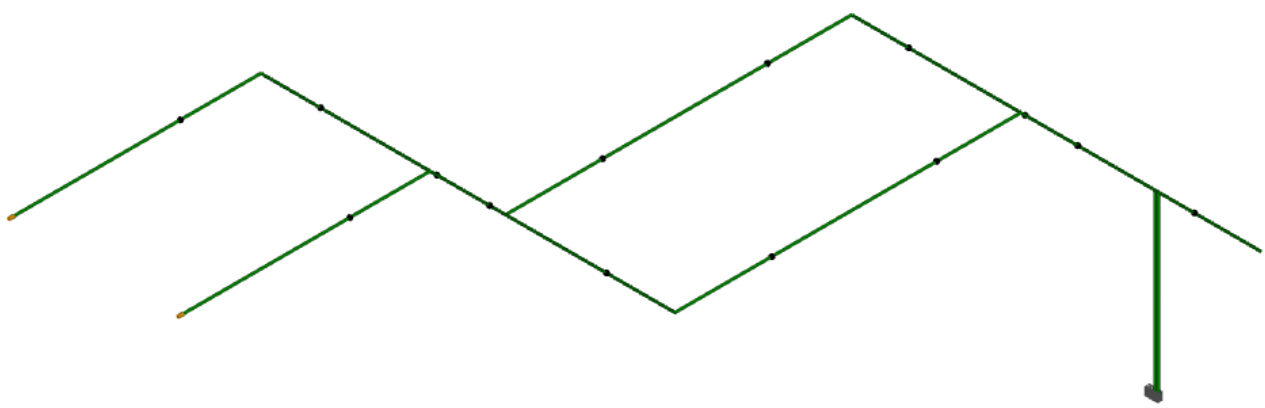
Type	VESDA VLP
Endcap Usage	Create a Balanced Design
Application	default
Aspirator Speed	3750
Fire	0.200%/m
Air Temperature	20.0°C
Absolute Pressure	1013hPa
System Flowrate	66.1l/min
Total Pipe Length	186.9m
Number Of Sample Points	16
Maximum Transport Time	109
Minimum Hole Flow Rate	2.0l/min
Exhaust Length	0.0m
Exhaust Diameter	21.0mm
Exhaust Pressure Drop	0Pa
Inverted Detector	No

Sampling Point Sensitivity

Threshold	Level	Classification	Hole Aggregation
Fire	0.200%/m	Class C	1

Group Details

	Hole Sensitivity	Pressure	Transport Time	Hole Diameter	[Default Group]
Group Type					
Max Target Aggregate Sensitivity					0.300
Min Target Aggregate Sensitivity					0.100
Contribution ratio(%)					100
Applied Max Aggregate Sensitivity					0.300
Applied Min Aggregate Sensitivity					0.100
Target Suction Pressure					25
Target Balance					70
Exclude from Autobalance					0
1:Section0-1	2.679	159	12	3.0	X
1:Section0-2	2.894	136	17	3.0	X
1:Section0-3	3.108	118	23	3.0	X
1:Section0-4	3.304	105	31	3.0	X
1:Section0-5	3.498	93	42	3.0	X
1:Section0-6	3.639	86	54	3.0	X
1:Section0-7	3.745	81	73	3.0	X
1:Section0-8	3.237	79	109	3.0	X
2:Section0-1	2.641	164	11	3.0	X
2:Section0-2	2.852	140	16	3.0	X
2:Section0-3	3.061	122	22	3.0	X
2:Section0-4	3.252	108	29	3.0	X
2:Section0-5	3.442	96	40	3.0	X
2:Section0-6	3.578	89	53	3.0	X
2:Section0-7	3.681	84	71	3.0	X
2:Section0-8	3.180	82	106	3.0	X
Number of holes					16
Flow Share(%)					100
Aggregate Sensitivity					0.200
Balance(%)					71
Suction pressure (least)					79



Isometric Detector No. 3	

Pipe:Right

Total Pipe Length 94.6m
Ambient Pressure 0Pa
Sector Pressure 224Pa
Number of Sample Points 8
Pipe Flowrate 32.8l/min

Section0

Pipe Diameter 21.0mm

#		Distance m	Relative m	Direction	Hole Diameter mm	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/m	Pipe Diameter mm	Capillary Diameter	Intersection Pressure
-	**Bend 90**	10.50	10.50	R										
-	**Bend 90**	16.70	6.20	BU										
1:Section0-1	**Hole**	22.37	5.67		3.0		12	159	4.9	7.5	2.679	21.0		
1:Section0-2	**Hole**	32.40	10.03		3.0		17	136	4.6	6.9	2.894	21.0		
-	**Bend 45**	37.30	4.90	B										
1:Section0-3	**Hole**	42.42	5.12		3.0		23	118	4.3	6.4	3.108	21.0		
1:Section0-4	**Hole**	52.45	10.03		3.0		31	105	4.0	6.1	3.304	21.0		
-	**Bend 45**	58.35	5.90	BU										
1:Section0-5	**Hole**	64.25	5.90		3.0		42	93	3.8	5.7	3.498	21.0		
1:Section0-6	**Hole**	74.28	10.03		3.0		54	86	3.6	5.5	3.639	21.0		
-	**Bend 45**	79.41	5.13	B										
1:Section0-7	**Hole**	84.31	4.90		3.0		73	81	3.5	5.3	3.745	21.0		
1:Section0-8	**Endcap**	94.61	10.30		3.0		109	79	4.1	6.2	3.237	21.0		

Pipe:Left

Total Pipe Length 92.3m
Ambient Pressure 0Pa
Sector Pressure 224Pa
Number of Sample Points 8
Pipe Flowrate 33.3l/min

Section0

Pipe Diameter 21.0mm

#		Distance m	Relative m	Direction	Hole Diameter mm	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/m	Pipe Diameter mm	Capillary Diameter	Intersection Pressure
-	**Bend 90**	10.50	10.50	L										
-	**Bend 90**	14.40	3.90	BU										
2:Section0-1	**Hole**	20.07	5.67		3.0		11	164	5.0	7.6	2.641	21.0		
2:Section0-2	**Hole**	30.10	10.03		3.0		16	140	4.6	7.0	2.852	21.0		
-	**Bend 45**	35.00	4.90	B										
2:Section0-3	**Hole**	40.12	5.12		3.0		22	122	4.3	6.5	3.061	21.0		
2:Section0-4	**Hole**	50.15	10.03		3.0		29	108	4.1	6.2	3.252	21.0		
-	**Bend 45**	56.05	5.90	BU										
2:Section0-5	**Hole**	61.95	5.90		3.0		40	96	3.8	5.8	3.442	21.0		
2:Section0-6	**Hole**	71.98	10.03		3.0		53	89	3.7	5.6	3.578	21.0		
-	**Bend 45**	77.11	5.13	B										
2:Section0-7	**Hole**	82.01	4.90		3.0		71	84	3.6	5.4	3.681	21.0		
2:Section0-8	**Endcap**	92.31	10.30		3.0		106	82	4.2	6.3	3.180	21.0		

Detector : Detector No. 4

Flow Calculations found there were problems with this detector. Check below for errors (marked as !?) or warnings (marked as !).

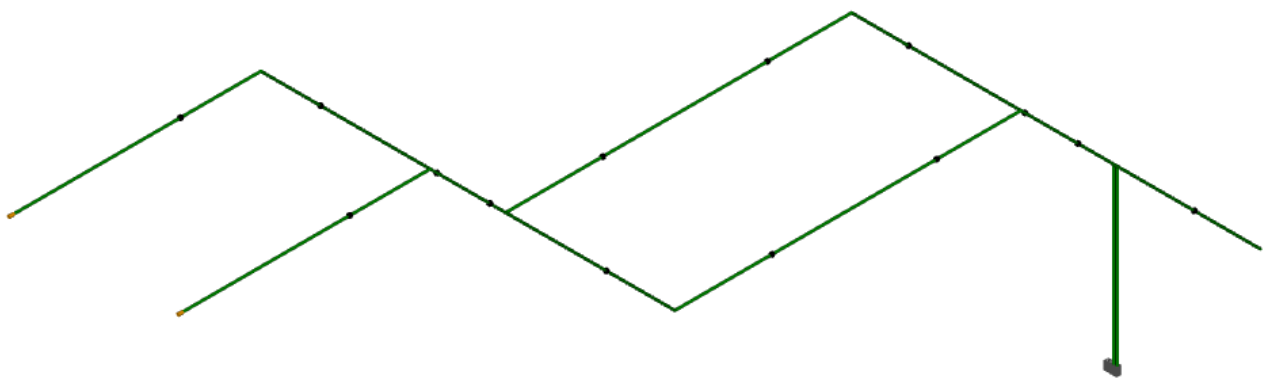
Type	VESDA VLP
Endcap Usage	Create a Balanced Design
Application	default
Aspirator Speed	3750
Fire	0.200%/m
Air Temperature	20.0°C
Absolute Pressure	1013hPa
System Flowrate	66.1l/min
Total Pipe Length	186.9m
Number Of Sample Points	16
Maximum Transport Time	111
Minimum Hole Flow Rate	2.0l/min
Exhaust Length	0.0m
Exhaust Diameter	21.0mm
Exhaust Pressure Drop	0Pa
Inverted Detector	No

Sampling Point Sensitivity

Threshold	Level	Classification	Hole Aggregation
Fire	0.200%/m	Class C	1

Group Details

	Hole Sensitivity	Pressure	Transport Time	Hole Diameter	[Default Group]
Group Type					
Max Target Aggregate Sensitivity					0.300
Min Target Aggregate Sensitivity					0.100
Contribution ratio(%)					100
Applied Max Aggregate Sensitivity					0.300
Applied Min Aggregate Sensitivity					0.100
Target Suction Pressure					25
Target Balance					70
Exclude from Autobalance					0
1:Section0-1	2.721	155	13	3.0	X
1:Section0-2	2.942	132	18	3.0	X
1:Section0-3	3.161	114	25	3.0	X
1:Section0-4	3.362	101	32	3.0	X
1:Section0-5	3.561	90	43	3.0	X
1:Section0-6	3.707	83	56	3.0	X
1:Section0-7	3.817	79	76	3.0	X
1:Section0-8	3.299	76	111	3.0	X
2:Section0-1	2.601	169	10	3.0	X
2:Section0-2	2.807	145	15	3.0	X
2:Section0-3	3.011	126	21	3.0	X
2:Section0-4	3.197	112	28	3.0	X
2:Section0-5	3.383	100	39	3.0	X
2:Section0-6	3.515	93	51	3.0	X
2:Section0-7	3.614	88	69	3.0	X
2:Section0-8	3.121	85	103	3.0	X
Number of holes					16
Flow Share(%)					100
Aggregate Sensitivity					0.200
Balance(%)					!? 68
Suction pressure (least)					76



Isometric Detector No. 4	

Pipe:Right

Total Pipe Length 97.1m
Ambient Pressure 0Pa
Sector Pressure 224Pa
Number of Sample Points 8
Pipe Flowrate 32.2l/min

Section0

Pipe Diameter 21.0mm

#		Distance m	Relative m	Direction	Hole Diameter mm	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/m	Pipe Diameter mm	Capillary Diameter	Intersection Pressure
-	**Bend 90**	10.50	10.50	R										
-	**Bend 90**	19.20	8.70	BU										
1:Section0-1	**Hole**	24.87	5.67		3.0		13	155	4.9	7.4	2.721	21.0		
1:Section0-2	**Hole**	34.90	10.03		3.0		18	132	4.5	6.8	2.942	21.0		
-	**Bend 45**	39.80	4.90	B										
1:Section0-3	**Hole**	44.92	5.12		3.0		25	114	4.2	6.3	3.161	21.0		
1:Section0-4	**Hole**	54.95	10.03		3.0		32	101	3.9	5.9	3.362	21.0		
-	**Bend 45**	60.85	5.90	BU										
1:Section0-5	**Hole**	66.75	5.90		3.0		43	90	3.7	5.6	3.561	21.0		
1:Section0-6	**Hole**	76.78	10.03		3.0		56	83	3.6	5.4	3.707	21.0		
-	**Bend 45**	81.91	5.13	B										
1:Section0-7	**Hole**	86.81	4.90		3.0		76	79	3.5	5.2	3.817	21.0		
1:Section0-8	**Endcap**	97.11	10.30		3.0		111	76	4.0	6.1	3.299	21.0		

Pipe:Left

Total Pipe Length 89.8m
Ambient Pressure 0Pa
Sector Pressure 224Pa
Number of Sample Points 8
Pipe Flowrate 33.9l/min

Section0

Pipe Diameter 21.0mm

#		Distance m	Relative m	Direction	Hole Diameter mm	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/m	Pipe Diameter mm	Capillary Diameter	Intersection Pressure
-	**Bend 90**	10.50	10.50	L										
-	**Bend 90**	11.90	1.40	BU										
2:Section0-1	**Hole**	17.57	5.67		3.0		10	169	5.1	7.7	2.601	21.0		
2:Section0-2	**Hole**	27.60	10.03		3.0		15	145	4.7	7.1	2.807	21.0		
-	**Bend 45**	32.50	4.90	B										
2:Section0-3	**Hole**	37.62	5.12		3.0		21	126	4.4	6.6	3.011	21.0		
2:Section0-4	**Hole**	47.65	10.03		3.0		28	112	4.1	6.3	3.197	21.0		
-	**Bend 45**	53.55	5.90	BU										
2:Section0-5	**Hole**	59.45	5.90		3.0		39	100	3.9	5.9	3.383	21.0		
2:Section0-6	**Hole**	69.48	10.03		3.0		51	93	3.8	5.7	3.515	21.0		
-	**Bend 45**	74.61	5.13	B										
2:Section0-7	**Hole**	79.51	4.90		3.0		69	88	3.7	5.5	3.614	21.0		
2:Section0-8	**Endcap**	89.81	10.30		3.0		103	85	4.2	6.4	3.121	21.0		

Detector : Detector No. 5

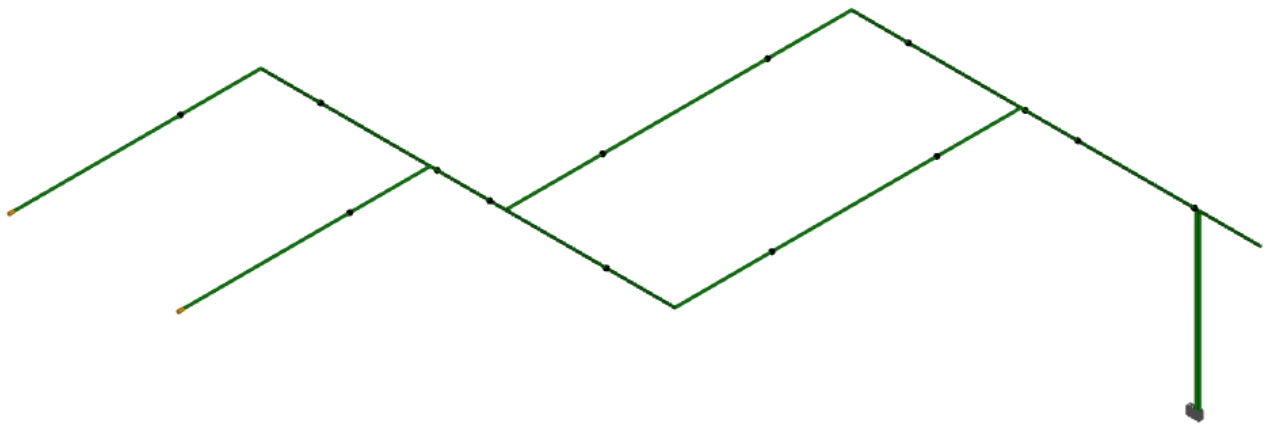
Type	VESDA VLP
Endcap Usage	Create a Balanced Design
Application	default
Aspirator Speed	3750
Fire	0.200%/m
Air Temperature	20.0°C
Absolute Pressure	1013hPa
System Flowrate	66.1l/min
Total Pipe Length	186.9m
Number Of Sample Points	16
Maximum Transport Time	109
Minimum Hole Flow Rate	2.0l/min
Exhaust Length	0.0m
Exhaust Diameter	21.0mm
Exhaust Pressure Drop	0Pa
Inverted Detector	No

Sampling Point Sensitivity

Threshold	Level	Classification	Hole Aggregation
Fire	0.200%/m	Class C	1

Group Details

	Hole Sensitivity	Pressure	Transport Time	Hole Diameter	[Default Group]
Group Type					
Max Target Aggregate Sensitivity					0.300
Min Target Aggregate Sensitivity					0.100
Contribution ratio(%)					100
Applied Max Aggregate Sensitivity					0.300
Applied Min Aggregate Sensitivity					0.100
Target Suction Pressure					25
Target Balance					70
Exclude from Autobalance					0
1:Section0-1	2.638	164	11	3.0	X
1:Section0-2	2.849	141	16	3.0	X
1:Section0-3	3.057	122	22	3.0	X
1:Section0-4	3.248	108	29	3.0	X
1:Section0-5	3.438	97	40	3.0	X
1:Section0-6	3.574	89	52	3.0	X
1:Section0-7	3.677	85	71	3.0	X
1:Section0-8	3.176	82	106	3.0	X
2:Section0-1	2.682	159	12	3.0	X
2:Section0-2	2.898	136	17	3.0	X
2:Section0-3	3.112	118	23	3.0	X
2:Section0-4	3.309	104	31	3.0	X
2:Section0-5	3.503	93	42	3.0	X
2:Section0-6	3.645	86	54	3.0	X
2:Section0-7	3.751	81	73	3.0	X
2:Section0-8	3.242	79	109	3.0	X
Number of holes					16
Flow Share(%)					100
Aggregate Sensitivity					0.200
Balance(%)					70
Suction pressure (least)					79



Isometric Detector No. 5

Pipe:Right

Total Pipe Length 92.1m
Ambient Pressure 0Pa
Sector Pressure 224Pa
Number of Sample Points 8
Pipe Flowrate 33.3l/min

Section0

Pipe Diameter 21.0mm

#		Distance m	Relative m	Direction	Hole Diameter mm	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/m	Pipe Diameter mm	Capillary Diameter	Intersection Pressure
-	**Bend 90**	10.50	10.50	R										
-	**Bend 90**	14.20	3.70	BU										
1:Section0-1	**Hole**	19.87	5.67		3.0		11	164	5.0	7.6	2.638	21.0		
1:Section0-2	**Hole**	29.90	10.03		3.0		16	141	4.6	7.0	2.849	21.0		
-	**Bend 45**	34.80	4.90	B										
1:Section0-3	**Hole**	39.92	5.12		3.0		22	122	4.3	6.5	3.057	21.0		
1:Section0-4	**Hole**	49.95	10.03		3.0		29	108	4.1	6.2	3.248	21.0		
-	**Bend 45**	55.85	5.90	BU										
1:Section0-5	**Hole**	61.75	5.90		3.0		40	97	3.8	5.8	3.438	21.0		
1:Section0-6	**Hole**	71.78	10.03		3.0		52	89	3.7	5.6	3.574	21.0		
-	**Bend 45**	76.91	5.13	B										
1:Section0-7	**Hole**	81.81	4.90		3.0		71	85	3.6	5.4	3.677	21.0		
1:Section0-8	**Endcap**	92.11	10.30		3.0		106	82	4.2	6.3	3.176	21.0		

Pipe:Left

Total Pipe Length 94.8m
Ambient Pressure 0Pa
Sector Pressure 224Pa
Number of Sample Points 8
Pipe Flowrate 32.7l/min

Section0

Pipe Diameter 21.0mm

#		Distance m	Relative m	Direction	Hole Diameter mm	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/m	Pipe Diameter mm	Capillary Diameter	Intersection Pressure
-	Bend 90	10.50	10.50	L										
-	Bend 90	16.90	6.40	BU										
2:Section0-1	Hole	22.57	5.67		3.0		12	159	4.9	7.5	2.682	21.0		
2:Section0-2	Hole	32.60	10.03		3.0		17	136	4.6	6.9	2.898	21.0		
-	Bend 45	37.50	4.90	B										
2:Section0-3	Hole	42.62	5.12		3.0		23	118	4.2	6.4	3.112	21.0		
2:Section0-4	Hole	52.65	10.03		3.0		31	104	4.0	6.0	3.309	21.0		
-	Bend 45	58.55	5.90	BU										
2:Section0-5	Hole	64.45	5.90		3.0		42	93	3.8	5.7	3.503	21.0		
2:Section0-6	Hole	74.48	10.03		3.0		54	86	3.6	5.5	3.645	21.0		
-	Bend 45	79.61	5.13	B										
2:Section0-7	Hole	84.51	4.90		3.0		73	81	3.5	5.3	3.751	21.0		
2:Section0-8	Endcap	94.81	10.30		3.0		109	79	4.1	6.2	3.242	21.0		

Detector : Detector No. 6

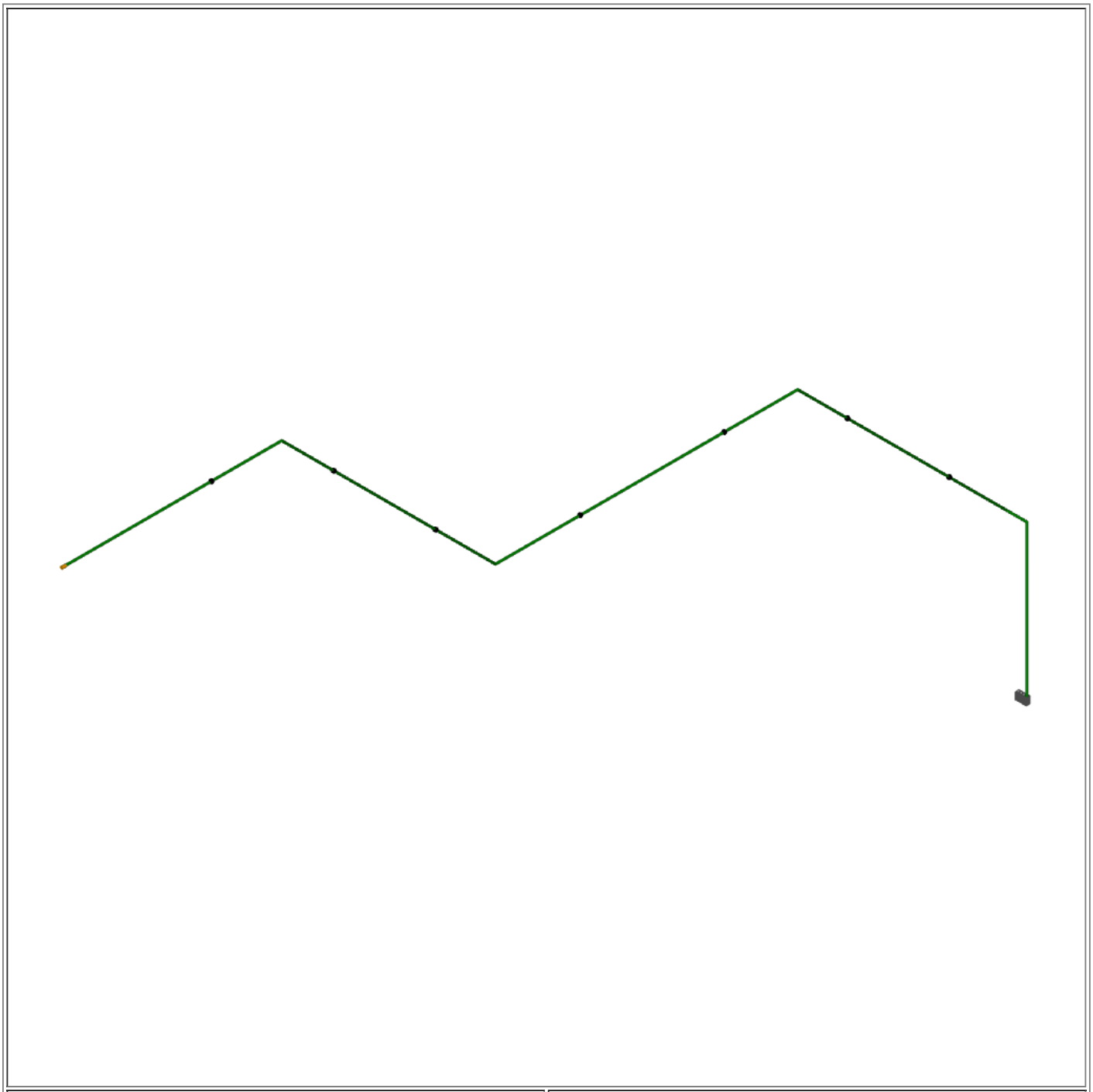
Type	VESDA VLP
Endcap Usage	Create a Balanced Design
Application	default
Aspirator Speed	3300
Fire	0.200%/m
Air Temperature	20.0°C
Absolute Pressure	1013hPa
System Flowrate	32.1l/min
Total Pipe Length	89.8m
Number Of Sample Points	8
Maximum Transport Time	109
Minimum Hole Flow Rate	2.0l/min
Exhaust Length	0.0m
Exhaust Diameter	21.0mm
Exhaust Pressure Drop	0Pa
Inverted Detector	No

Sampling Point Sensitivity

Threshold	Level	Classification	Hole Aggregation
Fire	0.200%/m	Class C	1

Group Details

	Hole Sensitivity	Pressure	Transport Time	Hole Diameter	[Default Group]
Group Type					
Max Target Aggregate Sensitivity					0.300
Min Target Aggregate Sensitivity					0.100
Contribution ratio(%)					100
Applied Max Aggregate Sensitivity					0.300
Applied Min Aggregate Sensitivity					0.100
Target Suction Pressure					25
Target Balance					70
Exclude from Autobalance					0
1:Section0-1	1.326	153	10	3.0	X
1:Section0-2	1.433	131	15	3.0	X
1:Section0-3	1.540	114	22	3.0	X
1:Section0-4	1.638	100	29	3.0	X
1:Section0-5	1.736	89	40	3.0	X
1:Section0-6	1.807	83	53	3.0	X
1:Section0-7	1.861	78	73	3.0	X
1:Section0-8	1.609	75	109	3.0	X
Number of holes					8
Flow Share(%)					100
Aggregate Sensitivity					0.200
Balance(%)					71
Suction pressure (least)					75



Isometric Detector No. 6	

Pipe:Left

Total Pipe Length	89.8m
Ambient Pressure	0Pa
Sector Pressure	202Pa
Number of Sample Points	8
Pipe Flowrate	32.1l/min

Section0

Pipe Diameter 21.0mm

#		Distance m	Relative m	Direction	Hole Diameter mm	Capillary Length	Transport Time sec	Pressure Pa	Flow l/min	Flow %	Hole Sensitivity %/m	Pipe Diameter mm	Capillary Diameter	Intersection Pressure
-	**Bend 90**	10.50	10.50	L										
-	**Bend 90**	11.90	1.40	BU										
1:Section0-1	**Hole**	17.57	5.67		3.0		10	153	4.8	15.1	1.326	21.0		
1:Section0-2	**Hole**	27.60	10.03		3.0		15	131	4.5	14.0	1.433	21.0		
-	**Bend 45**	32.50	4.90	B										
1:Section0-3	**Hole**	37.62	5.12		3.0		22	114	4.2	13.0	1.540	21.0		
1:Section0-4	**Hole**	47.65	10.03		3.0		29	100	3.9	12.2	1.638	21.0		
-	**Bend 45**	53.55	5.90	BU										
1:Section0-5	**Hole**	59.45	5.90		3.0		40	89	3.7	11.5	1.736	21.0		
1:Section0-6	**Hole**	69.48	10.03		3.0		53	83	3.6	11.1	1.807	21.0		
-	**Bend 45**	74.61	5.13	B										
1:Section0-7	**Hole**	79.51	4.90		3.0		73	78	3.4	10.7	1.861	21.0		
1:Section0-8	**Endcap**	89.81	10.30		3.0		109	75	4.0	12.4	1.609	21.0		