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Sapphire™ Designer Program - ANSL3.61b
UL: EX4510 FM: 3014140
Project: Telephone Switch Room
File Name: A-2576-2r0; Telephone Switch Room.FLC

**Consolidated Report
Customer Information**

Company Name: Unum
Address: 2211 Congress St.
Portland, ME

Phone:
Contact:
Title:

Project Data

Project Name: Telephone Switch Room
Designer: Engineering Department
Number: NE2576
Account:
Location:
Description:



Consolidated Report Enclosure Information

Elevation: 0 ft (relative to sea level)
Atmospheric Correction Factor: 1

Enclosure Number: 1
Name: Telephone Switch Room
Enclosure Temperature...
Minimum: 65 F
Maximum: 75 F
Maximum Concentration: 4.818 %
Design Concentration...
Adjusted: 4.723 %
Minimum: 4.700 %
Minimum Agent Required: 286.6 lbs
Width: 40.0 ft
Length: 17.8 ft
Height: 9.4 ft

Volume: 6692.8 cubic ft
Non-permeable: 56.4 cubic ft

Total Volume: 6636.4 cubic ft
Adjusted Agent Required: 288.0 lbs
Number of Nozzles: 2



Consolidated Report Agent Information

Agent: Novec / Propellant N2
(Novec is a trademark of 3M)

Adjusted Agent Required: 288.0 lbs
Container Name: 390 lb Cylinder Assembly
Container Part Number: 570640
Number of Main Containers: 1
Number of Reserve Containers: 0
Manifold: No Manifold

Starting Pressure: 360 psig
Pipe Take Off Direction: Horizontal
Agent Per Container: 288.0 lbs
Fill Density: 55.5 lbs / cubic ft
Container Empty Weight: 198.2 lbs
Weight, All Containers + Agent: 486.2 lbs
Floor Area Per Container: 1.40 square ft
Floor Loading Per Container: 348 lbs / square ft

Pipe Network

Part 1 - Pipe			Pipe			
Description	Start	End	Type	Diameter	Length	Elevation
Main Cyl. X 1	0	1		2 in	4.44 ft	4.44 ft
Adaptor	1	2		2 in	0.28 ft	0.00 ft
Pipe	2	3	40T	1-1/2 in	8.33 ft	8.33 ft
Pipe	3	4	40T	1-1/2 in	5.33 ft	0.00 ft
Pipe	4	5	40T	1-1/2 in	2.75 ft	0.00 ft
Pipe	5	6	40T	1-1/4 in	1.20 ft	0.00 ft
Pipe	6	7	40T	1-1/4 in	14.00 ft	0.00 ft
Pipe	7	8	40T	1-1/4 in	3.60 ft	0.00 ft
Pipe/E1-N2	8	9	40T	1-1/4 in	3.50 ft	-3.50 ft
Pipe	5	10	40T	1-1/2 in	14.25 ft	0.00 ft

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Calculation Date/Time: Thursday, November 08, 2012, 9:45:48 AM

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Consolidated Report

Part 1 - Pipe

Description	Start	End	Type	Diameter	Pipe Length	Elevation
Pipe/E1-N1	10	11	40T	1-1/2 in	3.50 ft	-3.50 ft

Part 2 - Equivalent Length

Start	End	90	45	Thru	Side Union	Other	Added	Total
0	1	0	0	0	0	0	0.00 ft	35.0 ft
1	2	0	0	0	0	0 2inadap	0.00 ft	1.2 ft
2	3	1	0	0	0	0	0.00 ft	12.6 ft
3	4	1	0	0	0	0	0.00 ft	9.6 ft
4	5	1	0	0	0	0	0.00 ft	7.1 ft
5	6	0	0	0	1	0	0.00 ft	8.7 ft
6	7	1	0	0	0	0	0.00 ft	17.7 ft
7	8	1	0	0	0	0	0.00 ft	7.3 ft
8	9	1	0	0	0	0	0.00 ft	7.2 ft
5	10	0	0	0	1	0	0.00 ft	23.0 ft
10	11	1	0	0	0	0	0.00 ft	7.8 ft

Part 3 - Nozzles

Start	End	Flow	Name	Size	Type	Nozzle Area
0	1	288.0 lbs				
1	2	288.0 lbs				
2	3	288.0 lbs				
3	4	288.0 lbs				
4	5	288.0 lbs				
5	6	115.2 lbs				
6	7	115.2 lbs				
7	8	115.2 lbs				
8	9	115.2 lbs	E1-N2	1-1/4 in	7 Port - BR	0.5870 square in
5	10	172.8 lbs				
10	11	172.8 lbs	E1-N1	1-1/2 in	7 Port - BR	0.8866 square in

Parts Information



Consolidated Report

Total Agent Required: 288.0 lbs
Container Name: 390 lb Cylinder Assembly (Part: 570640)
Number Of Containers: 1
Field1

Nozzle	Type	Diameter	Nozzle Area	Part Number
E1-N1	7 Port - BR	1-1/2 in	0.8866 square in	570519
E1-N2	7 Port - BR	1-1/4 in	0.5870 square in	570518

Nozzle	Drill Diameter	Drill Size
E1-N1	0.4016 inches	10.20 mm
E1-N2	0.3268 inches	8.30 mm

Pipe:	Type	Diameter	Length
	40T	1-1/4 in	22.30 ft
	40T	1-1/2 in	34.16 ft

'Other' Items:

1 - 2 in Union Adaptor (Part: 570558)

List of 90 degree elbows:

4 - 1-1/2 in

3 - 1-1/4 in

List of Tees:

1 - 1-1/2 in

System Acceptance

System Discharge Time: 9.3 seconds
Percent Agent In Pipe: 28.7%
Percent Agent Before First Tee: 11.9%
Enclosure Number: 1
Enclosure Name: Telephone Switch Room
Minimum Design Concentration: 4.700%
Adjusted Design Concentration: 4.723%
Predicted Concentration: 4.723%

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Maximum Expected Agent Concentration: 4.818% (At 75 F)

Nozzle	Minimum Agent Required	Adjusted Agent Required	Predicted Agent Delivered	Nozzle Pressure (Average)
E1-N1	172.0 lbs	172.8 lbs	172.2 lbs	96 psig
E1-N2	114.6 lbs	115.2 lbs	115.8 lbs	90 psig

Drawing View: 1

