



AGIS Fire & Security

Palisadowa 20/22
01-940 Warszawa
Phone: (022)4308301
TFS & BP FM-200 FLOW CALCULATION TSP3.12b
Project: PROMERANIA TECHNOPARK
File Name: Serw A013_1.FLC

Consolidated Report

Customer Information

Company Name: Przedsiębiorstwo Usług Specjalistycznych MVB
Address: Widuchowska 19
71-718 Szczecin

Phone:
Contact:
Title:

Project Data

Project Name: PROMERANIA TECHNOPARK
Designer: Krzysztof Majcher
Number:
Account:
Location:
Description:

Consolidated Report Enclosure Information

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

Enclosure Number:	1
Name:	Przestrzeń właściwa 1
Enclosure Temperature...	
Minimum:	20,0 C
Maximum:	25,0 C
Maximum Concentration:	8,766 %
Design Concentration...	
Adjusted:	8,621 %
Minimum:	8,500 %
Minimum Agent Required:	170,4 kg
Width:	0,00 m
Length:	0,00 m
Height:	0,00 m
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Volume:	251,01 cubic m
Non-permeable:	0,00 cubic m
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Total Volume:	251,01 cubic m
Adjusted Agent Required:	173,0 kg
Number of Nozzles:	2

Consolidated Report Agent Information

Agent: FM-200 / Propellant N2
(FM-200 is a Trademark of DuPont)

Adjusted Agent Required: 173,0 kg
 Container Name: 180L TPED Container Assy
 Container Part Number: 303.205.005
 Number of Main Containers: 1
 Number of Reserve Containers: 0
 Manifold: No Manifold

 Pipe Take Off Direction: Horizontal
 Agent Per Container: 173,0 kg
 Fill Density: 0,961 kg / l
 Container Empty Weight: 127,7 kg
 Weight, All Containers + Agent: 300,7 kg
 Floor Area Per Container: 0,13 square m
 Floor Loading Per Container: 2323 kg /square m

Pipe Network

Part 1 - Pipe			Pipe			
Description	Start	End	Type	Diameter	Length	Elevation
Main Cyl. X 1	0	1		50 mm	1,63 m	1,63 m
Pipe	1	2	DIN244 0	50 mm	3,15 m	3,15 m
Pipe	2	3	DIN244 0	50 mm	3,20 m	0,00 m
Pipe	3	4	DIN244 0	50 mm	2,00 m	0,00 m
Pipe/E1-N1	4	5	DIN244 0	50 mm	0,10 m	0,10 m
Pipe	3	6	DIN244 0	50 mm	1,20 m	0,00 m
Pipe/E1-N2	6	7	DIN244 0	50 mm	0,10 m	0,10 m

Part 2 - Equivalent Length

Start	End	90	45	Thru	Side	Union	Other	Added	Total
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Part 2 - Equivalent Length

Start	End	90	45	Thru	Side	Union	Other	Added	Total
0	1	0	0	0	0	0		0,00 m	10,67 m
1	2	1	0	0	0	0		0,00 m	4,82 m
2	3	1	0	0	0	0		0,00 m	4,88 m
3	4	0	0	0	1	0		0,00 m	5,43 m
4	5	1	0	0	0	0		0,00 m	1,77 m
3	6	0	0	0	1	0		0,00 m	4,60 m
6	7	1	0	0	0	0		0,00 m	1,77 m

Part 3 - Nozzles

Start	End	Flow	Name	Size	Type	Nozzle Area
0	1	173,0 kg				
1	2	173,0 kg				
2	3	173,0 kg				
3	4	86,5 kg				
4	5	86,5 kg	E1-N1	50 mm	360-AL (BSP)	1394,93 square mm
3	6	86,5 kg				
6	7	86,5 kg	E1-N2	50 mm	360-AL (BSP)	1376,27 square mm

Parts Information

Total Agent Required: 173,0 kg

Container Name: 180L TPED Container Assy (Part: 303.205.005)

Number Of Containers: 1

Nozzle	Type	Diameter	Nozzle Area	Part Number
E1-N1	360-AL (BSP)	50 mm	1394,93 square mm	310.205.114
E1-N2	360-AL (BSP)	50 mm	1376,27 square mm	310.205.114

Nozzle	Drill Diameter	Drill Size
E1-N1	14,9000 mm	14.9 mm
E1-N2	14,8000 mm	14.8 mm

Pipe:	Type	Diameter	Length
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Pipe:	Type	Diameter	Length
	DIN2440	50 mm	9,75 m

List of 90 degree elbows:
4 - 50 mm

List of Tees:
1 - 50 mm

System Acceptance

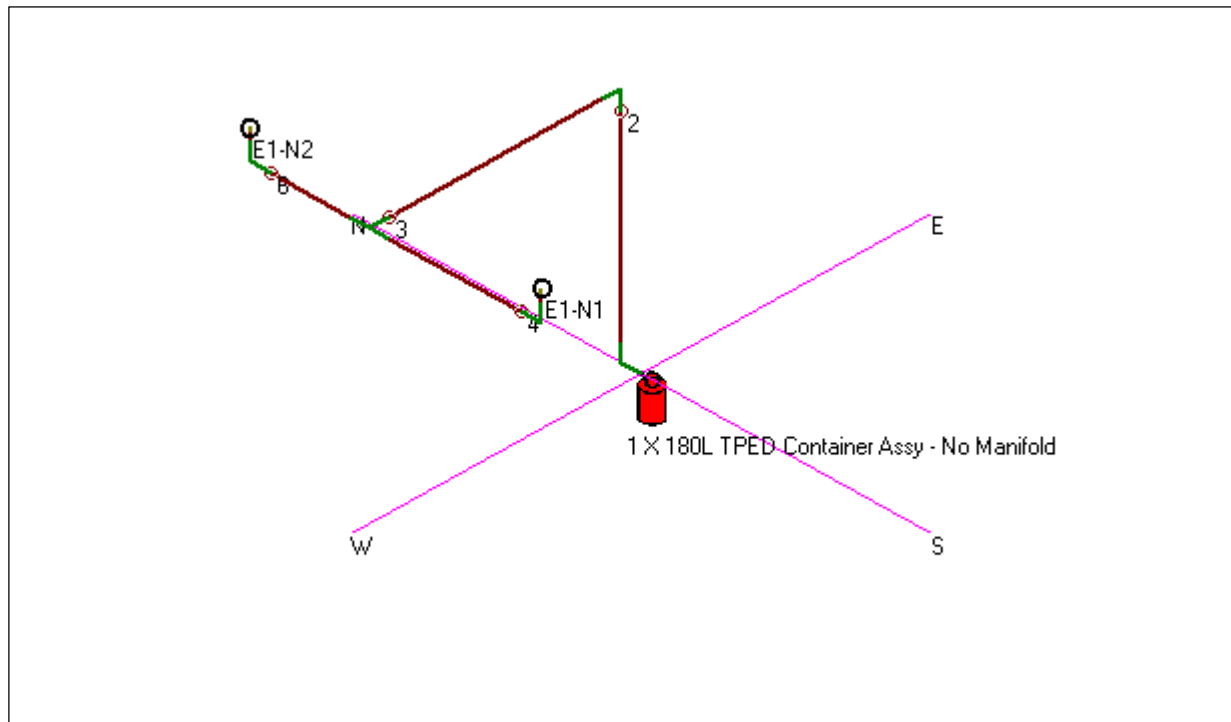
*** WARNING - The data in this project may have been changed after the calculations were performed.**

System Discharge Time: 9,9 seconds
 Percent Agent In Pipe: 20,3%
 Percent Agent Before First Tee: 14,2%
 Enclosure Number: 1
 Enclosure Name: Przestrzeń właściwa 1
 Minimum Design Concentration: 8,500%
 Adjusted Design Concentration: 8,621%
 Predicted Concentration: 8,622%
 Maximum Expected Agent Concentration: 8,766% (At 25,0 C)

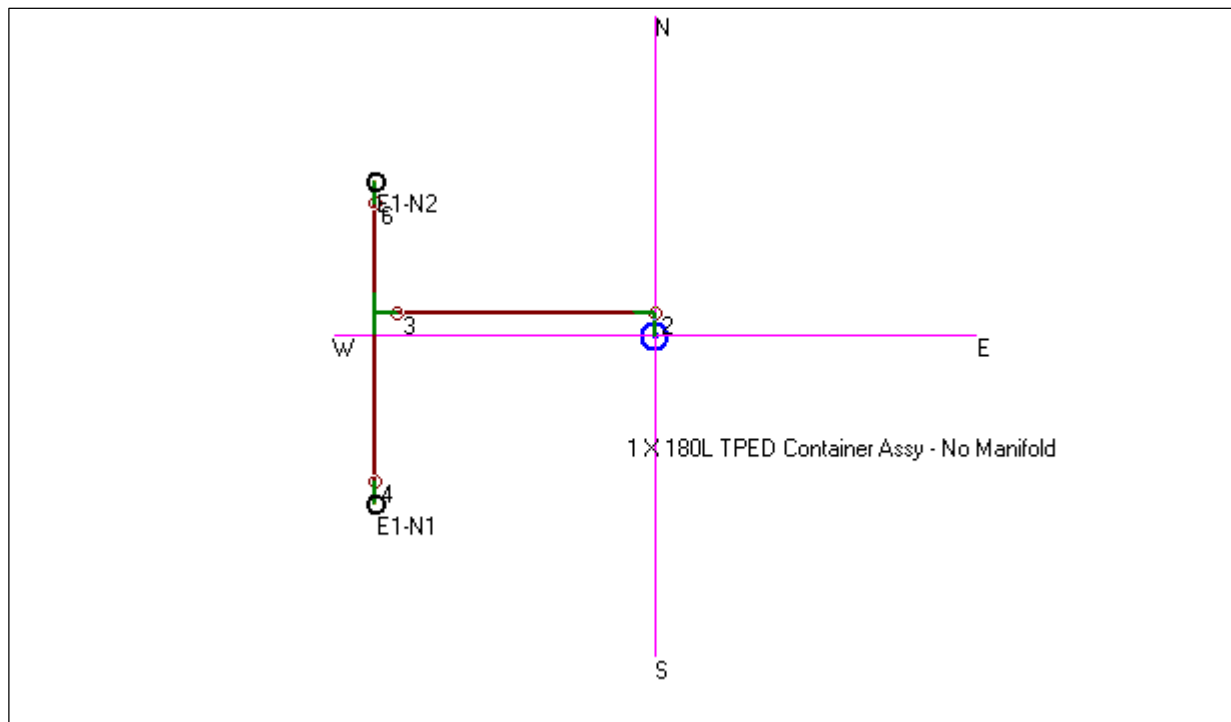
Nozzle	Minimum Agent Required	Adjusted Agent Required	Predicted Agent Delivered	Nozzle Pressure (Average)
E1-N1	85,2 kg	86,5 kg	86,8 kg	5,091 bar
E1-N2	85,2 kg	86,5 kg	86,2 kg	5,186 bar

Consolidated Report

Standard Isometric View



Standard Plan View



Consolidated Report Standard Elevation View

