



Tyco Safety Products 42 bar Novec 1230 FlowCalc TEPG3.71  
Project: Машинный зал. Зона 2 (пом. 110)  
File Name: ГР 2142-10-18 (пом. 110).FLC

## **Consolidated Report Customer Information**

Company Name:  
Address:

Phone:  
Contact:  
Title:

### **Project Data**

Project Name: Машинный зал. Зона 2 (пом. 110)  
Designer:  
Number: ГР 2142-10-18  
Account:  
Location:  
Description: К4=1;  
Площадь 45,15 кв.м;  
Высота  
0,9(фальшпол)+3,0+0,45(фальшпотолок)=4,35м;  
Фальшпотолок "Грильятто" отдельным объемом не  
защищается;  
Объем 196,40 куб.м;

## Consolidated Report Enclosure Information

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

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Enclosure Number: 1  
Name: Основной объем + фальшпотолок  
Enclosure Temperature...  
Minimum: 15,0 C  
Maximum: 25,0 C  
Maximum Concentration: 9,332 %  
Design Concentration...  
Adjusted: 9,014 %  
Minimum: 4,200 %  
Minimum Agent Required: 96,9 kg  
Width: 0,00 m  
Length: 0,00 m  
Height: 0,00 m  
Volume: 0,00 cubic m  
Non-permeable: 0,00 cubic m  
Total Volume: 155,78 cubic m  
Adjusted Agent Required: 218,9 kg  
Number of Nozzles: 1

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Enclosure Number: 2  
Name: Фальшпол  
Enclosure Temperature...  
Minimum: 15,0 C  
Maximum: 25,0 C  
Maximum Concentration: 9,331 %  
Design Concentration...  
Adjusted: 9,013 %  
Minimum: 4,200 %  
Minimum Agent Required: 25,3 kg  
Width: 0,00 m  
Length: 0,00 m  
Height: 0,00 m  
Volume: 0,00 cubic m  
Non-permeable: 0,00 cubic m  
Total Volume: 40,64 cubic m  
Adjusted Agent Required: 57,1 kg  
Number of Nozzles: 1

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## Consolidated Report Agent Information

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

Adjusted Agent Required: 276,0 kg  
 Container Name: 180L Container Assy EC  
 Container Part Number: 303.207.018/42  
 Number of Main Containers: 2  
 Number of Reserve Containers: 0  
 Manifold: K1-80-2

Starting Pressure: 41,4 bar  
 Pipe Take Off Direction: Horizontal  
 Agent Per Container: 138,0 kg  
 Fill Density: 0,758 kg / l  
 Container Empty Weight: 127,7 kg  
 Weight, All Containers + Agent: 531,4 kg  
 Floor Area Per Container: 0,13 square m  
 Floor Loading Per Container: 2060 kg /square m

### Pipe Network

Part 1 - Pipe	Pipe					
Description	Start	End	Type	Diameter	Length	Elevation
Main Cyl. X 2	0	1		50 mm	1,63 m	1,63 m
Manifold X 2	1	2	80T	50 mm	0,74 m	0,62 m
Manifold X 1	2	3	40T	80 mm	1,53 m	0,00 m
Pipe	3	4	40W	80 mm	1,00 m	0,00 m
Pipe	4	5	40W	80 mm	1,40 m	-1,40 m
Pipe	5	6	40W	80 mm	0,40 m	0,00 m
Pipe	6	7	80W	50 mm	0,50 m	0,50 m
Pipe	7	8	80W	50 mm	1,85 m	1,85 m
Pipe	8	9	80W	50 mm	2,70 m	0,00 m
Pipe	9	10	80W	50 mm	0,60 m	0,00 m
Pipe	10	11	80W	50 mm	1,90 m	0,00 m
Pipe	11	12	80W	50 mm	2,90 m	0,00 m
Pipe/E1-N1	12	13	80W	50 mm	0,10 m	-0,10 m

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## Consolidated Report

### Part 1 - Pipe

Description			Pipe			
	Start	End	Type	Diameter	Length	Elevation
Pipe	10	14	40W	40 mm	2,90 m	0,00 m
Pipe	14	15	40W	40 mm	0,60 m	0,00 m
Pipe/E2-N1	15	16	40W	40 mm	3,50 m	-3,50 m

### 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	0	0	0	0	0	50mmDH&CV	0,00 m	12,74 m
2	3	0	0	1	1	0		0,00 m	8,14 m
3	4	0	0	0	0	0		0,00 m	1,01 m
4	5	1	0	0	0	0		9,60 m	12,25 m
5	6	1	0	0	0	0		0,00 m	1,65 m
6	7	1	0	0	0	0		4,80 m	6,13 m
7	8	0	0	0	0	0		0,00 m	1,86 m
8	9	1	0	0	0	0		0,00 m	3,57 m
9	10	0	0	0	0	0		0,00 m	0,61 m
10	11	0	0	1	0	0		0,00 m	2,56 m
11	12	1	0	0	0	0		0,00 m	3,75 m
12	13	1	0	0	0	0		0,00 m	0,94 m
10	14	0	0	0	1	0		0,00 m	4,54 m
14	15	1	0	0	0	0		0,00 m	1,25 m
15	16	1	0	0	0	0		0,00 m	4,15 m

### Part 3 - Nozzles

Start	End	Flow	Name	Size	Type	Nozzle Area
0	1	138,0 kg				
1	2	138,0 kg				
2	3	276,0 kg				
3	4	276,0 kg				
4	5	276,0 kg				
5	6	276,0 kg				
6	7	276,0 kg				
7	8	276,0 kg				
8	9	276,0 kg				
9	10	276,0 kg				
10	11	218,9 kg				
11	12	218,9 kg				

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## Consolidated Report

### Part 3 - Nozzles

Start	End	Flow	Name	Size	Type	Nozzle Area
12	13	218,9 kg	E1-N1	50 mm	16 Port - AL	1438,72 square mm
10	14	57,1 kg				
14	15	57,1 kg				
15	16	57,1 kg	E2-N1	40 mm	7 Port - AL	528,01 square mm

### Parts Information

Total Agent Required: 276,0 kg

Container Name: 180L Container Assy EC (Part: 303.207.018/42)

Number Of Containers: 2

Manifold: K1-80-2 (Part: 307.207.004)

Nozzle	Type	Diameter	Nozzle Area	Part Number
E1-N1	16 Port - AL	50 mm	1438,72 square mm	310.207.018
E2-N1	7 Port - AL	40 mm	528,01 square mm	310.207.015

Nozzle	Drill Diameter	Drill Size
E1-N1	10,7000 mm	10.70 mm
E2-N1	9,8000 mm	9.80 mm

Pipe:	Type	Diameter	Length
	40T	80 mm	1,53 m
	40W	40 mm	7,00 m
	40W	80 mm	2,80 m
	80W	50 mm	10,55 m

'Other' Items:

2 - 50 mm Check&Flex (Part: 306207003/302207005)

List of 90 degree elbows:

2 - 40 mm

4 - 50 mm

2 - 80 mm

List of Tees:

1 - 50 mm

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## Consolidated Report System Acceptance

System Discharge Time: 9,0 seconds  
 Percent Agent In Pipe: 35,0%  
 Percent Agent Before First Tee: 24,2%  
 Enclosure Number: 1  
 Enclosure Name: Основной объем + фальшпотолок  
 Minimum Design Concentration: 4,200%  
 Adjusted Design Concentration: 9,014%  
 Predicted Concentration: 8,955%  
 Maximum Expected Agent Concentration: 9,271% (At 25,0 C)

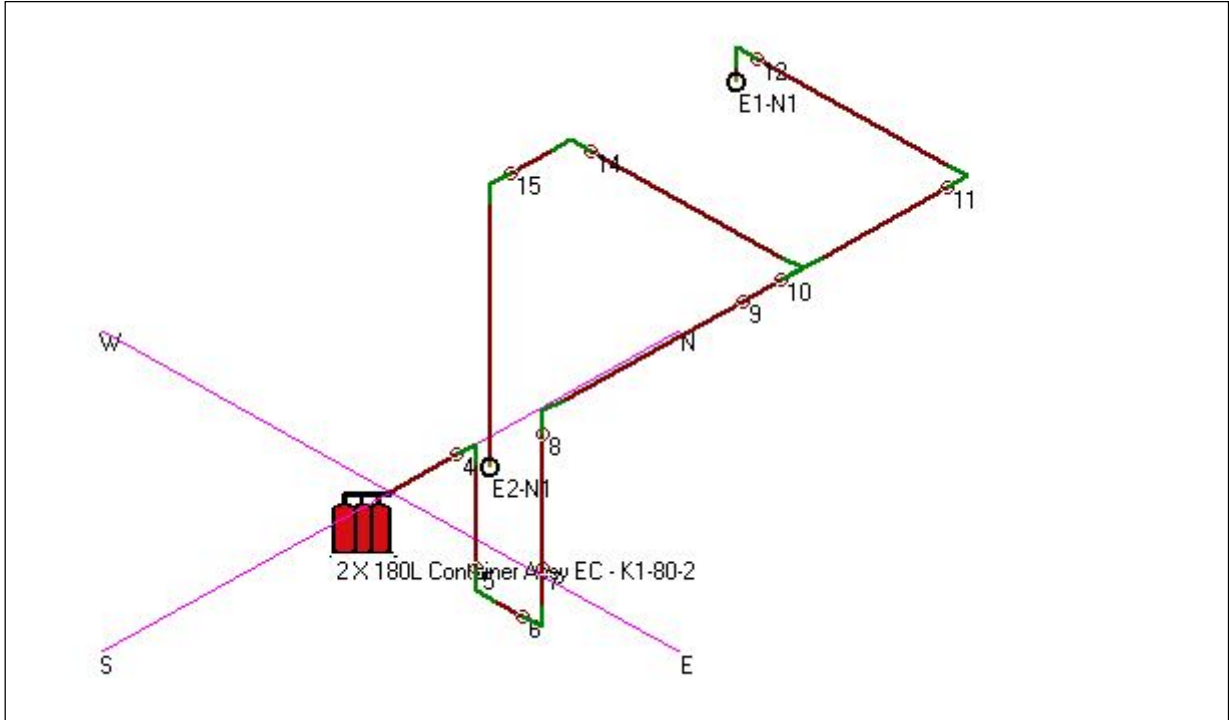
Nozzle	Minimum Agent Required	Adjusted Agent Required	Predicted Agent Delivered	Nozzle Pressure (Average)
E1-N1	96,9 kg	218,9 kg	217,3 kg	8,069 bar

Enclosure Number: 2  
 Enclosure Name: Фальшпол  
 Minimum Design Concentration: 4,200%  
 Adjusted Design Concentration: 9,013%  
 Predicted Concentration: 9,242%  
 Maximum Expected Agent Concentration: 9,567% (At 25,0 C)

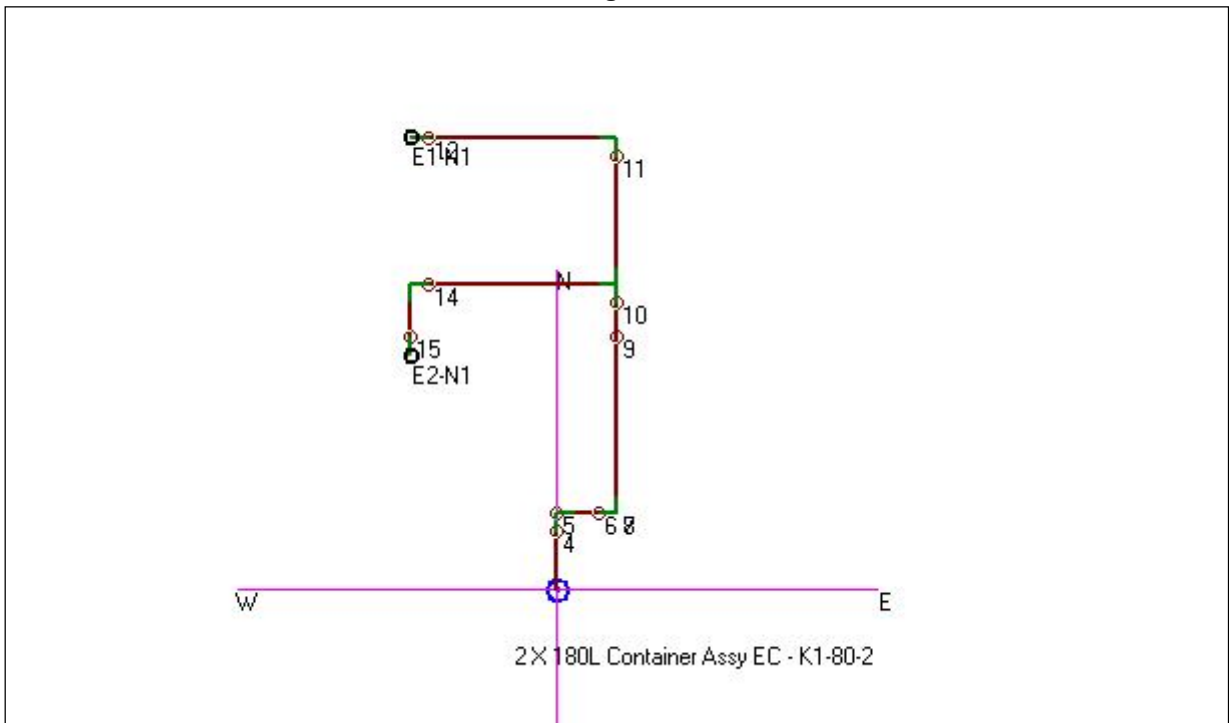
Nozzle	Minimum Agent Required	Adjusted Agent Required	Predicted Agent Delivered	Nozzle Pressure (Average)
E2-N1	25,3 kg	57,1 kg	58,7 kg	9,730 bar

## Consolidated Report

**Drawing View: 1**

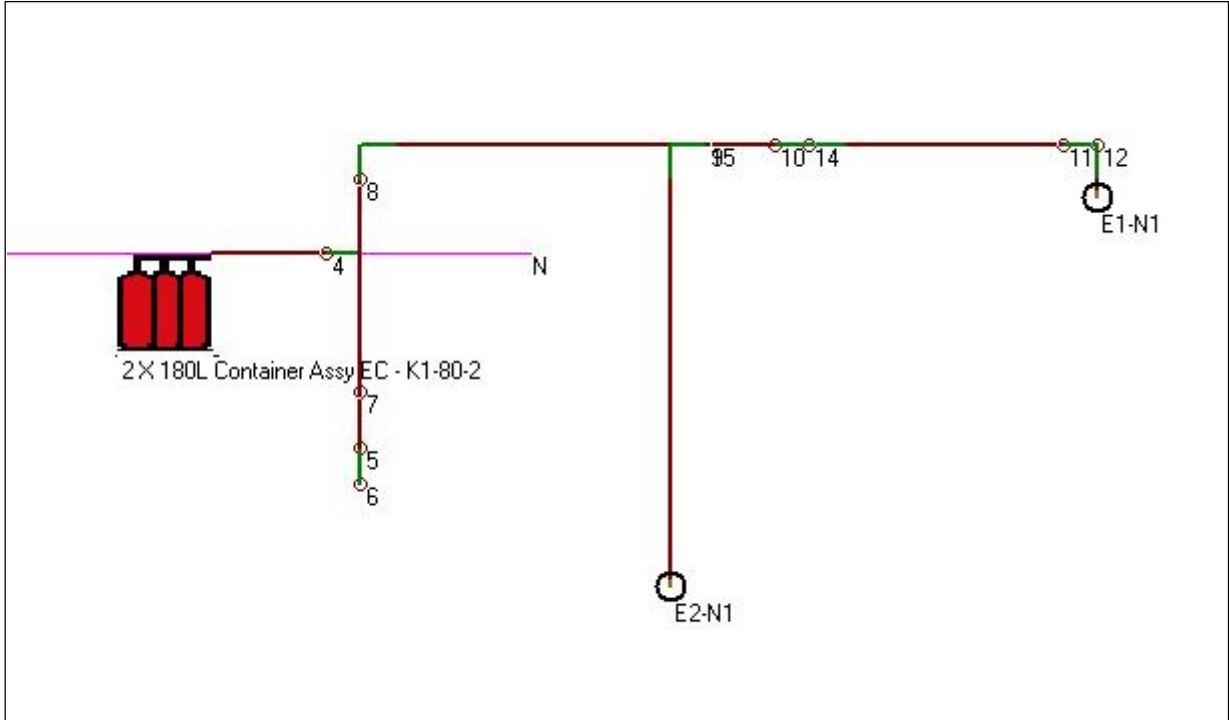


**Drawing View: 5**



# Consolidated Report

## Drawing View: 9







Tyco Safety Products 42 bar Novec 1230 FlowCalc TEPG3.71  
Project: Машинный зал. Зона 3 (пом. 111)  
File Name: ГР 2143-10-18 (пом. 111).FLC

## **Consolidated Report Customer Information**

Company Name:  
Address:

Phone:  
Contact:  
Title:

### **Project Data**

Project Name: Машинный зал. Зона 3 (пом. 111)  
Designer  
Number: ГР 2143-10-18  
Account:  
Location:  
Description: К4=1;  
Площадь 24,2 кв.м;  
Высота  
0,9(фальшпол)+3,0+0,45(фальшпотолок)=4,35м;  
Фальшпотолок "Грильятто" отдельным объемом не  
защищается;  
Объем 105,27 куб.м;

## Consolidated Report Enclosure Information

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

Enclosure Number: 1  
Name: Основной объем + фальшпотолок  
Enclosure Temperature...  
Minimum: 15,0 C  
Maximum: 25,0 C  
Maximum Concentration: 8,758 %  
Design Concentration...  
Adjusted: 8,457 %  
Minimum: 4,200 %  
Minimum Agent Required: 52,0 kg  
Width: 0,00 m  
Length: 0,00 m  
Height: 0,00 m

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Volume: 0,00 cubic m  
Non-permeable: 0,00 cubic m

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Total Volume: 83,49 cubic m  
Adjusted Agent Required: 109,4 kg  
Number of Nozzles: 2

Enclosure Number: 2  
Name: Фальшпол  
Enclosure Temperature...  
Minimum: 15,0 C  
Maximum: 25,0 C  
Maximum Concentration: 8,775 %  
Design Concentration...  
Adjusted: 8,474 %  
Minimum: 4,200 %  
Minimum Agent Required: 13,6 kg  
Width: 0,00 m  
Length: 0,00 m  
Height: 0,00 m

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Volume: 0,00 cubic m  
Non-permeable: 0,00 cubic m

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Total Volume: 21,78 cubic m  
Adjusted Agent Required: 28,6 kg  
Number of Nozzles: 1

## Consolidated Report Agent Information

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

Adjusted Agent Required: 138,0 kg  
 Container Name: 180L Container Assy EC  
 Container Part Number: 303.207.018/42  
 Number of Main Containers: 1  
 Number of Reserve Containers: 0  
 Manifold: No Manifold

Starting Pressure: 41,4 bar  
 Pipe Take Off Direction: Horizontal  
 Agent Per Container: 138,0 kg  
 Fill Density: 0,758 kg / l  
 Container Empty Weight: 127,7 kg  
 Weight, All Containers + Agent: 265,7 kg  
 Floor Area Per Container: 0,13 square m  
 Floor Loading Per Container: 2060 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
Flex Hose	1	2		50 mm	0,12 m	0,00 m
Flex Hose	2	3		50 mm	0,52 m	0,52 m
Pipe	3	4	40W	80 mm	0,25 m	0,25 m
Pipe	4	5	40W	80 mm	2,53 m	0,00 m
Pipe	5	6	40W	80 mm	1,40 m	-1,40 m
Pipe	6	7	40W	80 mm	0,80 m	0,00 m
Pipe	7	8	80W	50 mm	0,50 m	0,50 m
Pipe	8	9	80W	50 mm	1,85 m	1,85 m
Pipe	9	10	80W	50 mm	1,15 m	0,00 m
Pipe	10	11	80W	50 mm	7,80 m	0,00 m
Pipe	11	12	40W	40 mm	0,40 m	0,00 m
Pipe	12	13	40W	40 mm	0,55 m	-0,55 m

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## Consolidated Report

### Part 1 - Pipe

Description	Start	End	Pipe			
			Type	Diameter	Length	Elevation
Pipe	13	14	40W	40 mm	1,20 m	0,00 m
Pipe	14	15	40W	40 mm	0,55 m	0,55 m
Pipe	15	16	40W	40 mm	2,70 m	0,00 m
Pipe	16	17	40W	40 mm	1,40 m	0,00 m
Pipe	17	18	40W	40 mm	1,80 m	0,00 m
Pipe	18	19	80W	32 mm	0,50 m	0,00 m
Pipe	19	20	80W	32 mm	0,55 m	-0,55 m
Pipe	20	21	80W	32 mm	1,20 m	0,00 m
Pipe/E1-N1	21	22	80W	32 mm	0,45 m	0,45 m
Pipe	18	23	80W	32 mm	0,50 m	0,00 m
Pipe/E1-N2	23	24	80W	32 mm	0,10 m	-0,10 m
Pipe	16	25	80W	25 mm	1,80 m	0,00 m
Pipe	25	26	80W	25 mm	0,30 m	0,00 m
Pipe	26	27	80W	25 mm	4,15 m	-4,15 m
Pipe	27	28	80W	25 mm	1,70 m	0,00 m
Pipe/E2-N1	28	29	80W	25 mm	0,40 m	0,40 m

### 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	0	0	0	0	0	50mmFlexN1	0,00 m	0,12 m
2	3	1	0	0	0	0	50mmFlexN2	0,00 m	5,25 m
3	4	0	0	0	0	0		0,00 m	0,24 m
4	5	1	0	0	0	0		0,00 m	3,78 m
5	6	1	0	0	0	0		9,60 m	12,25 m
6	7	1	0	0	0	0		0,00 m	2,04 m
7	8	1	0	0	0	0		4,80 m	6,13 m
8	9	0	0	0	0	0		0,00 m	1,86 m
9	10	1	0	0	0	0		0,00 m	2,01 m
10	11	1	0	0	0	0		0,00 m	8,66 m
11	12	1	0	0	0	0		0,00 m	1,04 m
12	13	1	0	0	0	0		0,00 m	1,19 m
13	14	1	0	0	0	0		0,00 m	1,83 m
14	15	1	0	0	0	0		0,00 m	1,19 m
15	16	1	0	0	0	0		0,00 m	3,35 m
16	17	0	0	1	0	0		0,00 m	1,92 m

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## Consolidated Report

### Part 2 - Equivalent Length

Start	End	90	45	Thru	Side Union	Other	Added	Total
17	18	1	0	0	0	0	0,00 m	2,44 m
18	19	0	0	0	1	0	0,00 m	1,89 m
19	20	1	0	0	0	0	0,00 m	1,10 m
20	21	1	0	0	0	0	0,00 m	1,74 m
21	22	1	0	0	0	0	0,00 m	1,01 m
18	23	0	0	0	1	0	0,00 m	1,89 m
23	24	1	0	0	0	0	0,00 m	0,64 m
16	25	0	0	0	1	0	0,00 m	2,87 m
25	26	1	0	0	0	0	0,00 m	0,73 m
26	27	1	0	0	0	0	0,00 m	4,57 m
27	28	1	0	0	0	0	0,00 m	2,13 m
28	29	1	0	0	0	0	0,00 m	0,82 m

### Part 3 - Nozzles

Start	End	Flow	Name	Size	Type	Nozzle Area
0	1	138,0 kg				
1	2	138,0 kg				
2	3	138,0 kg				
3	4	138,0 kg				
4	5	138,0 kg				
5	6	138,0 kg				
6	7	138,0 kg				
7	8	138,0 kg				
8	9	138,0 kg				
9	10	138,0 kg				
10	11	138,0 kg				
11	12	138,0 kg				
12	13	138,0 kg				
13	14	138,0 kg				
14	15	138,0 kg				
15	16	138,0 kg				
16	17	109,4 kg				
17	18	109,4 kg				
18	19	54,7 kg				
19	20	54,7 kg				
20	21	54,7 kg				

## Consolidated Report

### Part 3 - Nozzles

Start	End	Flow	Name	Size	Type	Nozzle Area
21	22	54,7 kg	E1-N1	32 mm	7 Port - AL	301,06 square mm
18	23	54,7 kg				
23	24	54,7 kg	E1-N2	32 mm	7 Port - AL	301,06 square mm
16	25	28,6 kg				
25	26	28,6 kg				
26	27	28,6 kg				
27	28	28,6 kg				
28	29	28,6 kg	E2-N1	25 mm	16 Port - AL	314,16 square mm

### Parts Information

Total Agent Required: 138,0 kg

Container Name: 180L Container Assy EC (Part: 303.207.018/42)

Number Of Containers: 1

Field1

Nozzle	Type	Diameter	Nozzle Area	Part Number
E1-N1	7 Port - AL	32 mm	301,06 square mm	310.207.013
E2-N1	16 Port - AL	25 mm	314,16 square mm	310.207.012
E1-N2	7 Port - AL	32 mm	301,06 square mm	310.207.013

Nozzle	Drill Diameter	Drill Size
E1-N1	7,4000 mm	7.40 mm
E2-N1	5,0000 mm	5.00 mm
E1-N2	7,4000 mm	7.40 mm

Pipe:	Type	Diameter	Length
	40W	40 mm	8,60 m
	40W	80 mm	4,98 m
	80W	25 mm	8,35 m
	80W	32 mm	3,30 m
	80W	50 mm	11,30 m

'Other' Items:

1 - 50 mm Flexible Discharge Hose (Part: 306.207.003)

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## Consolidated Report

List of 90 degree elbows:

- 4 - 25 mm
- 4 - 32 mm
- 6 - 40 mm
- 3 - 50 mm
- 3 - 80 mm

List of Tees:

- 2 - 40 mm

## System Acceptance

System Discharge Time: 9,8 seconds

Percent Agent In Pipe: 79,2%

Percent Agent Before First Tee: 66,6%

Enclosure Number: 1

Enclosure Name: Основной объем + фальшпотолок

Minimum Design Concentration: 4,200%

Adjusted Design Concentration: 8,457%

Predicted Concentration: 8,471%

Maximum Expected Agent Concentration: 8,772% (At 25,0 C)

Nozzle	Minimum Agent Required	Adjusted Agent Required	Predicted Agent Delivered	Nozzle Pressure (Average)
E1-N1	26,0 kg	54,7 kg	54,6 kg	9,838 bar
E1-N2	26,0 kg	54,7 kg	55,0 kg	10,345 bar

Enclosure Number: 2

Enclosure Name: Фальшпол

Minimum Design Concentration: 4,200%

Adjusted Design Concentration: 8,474%

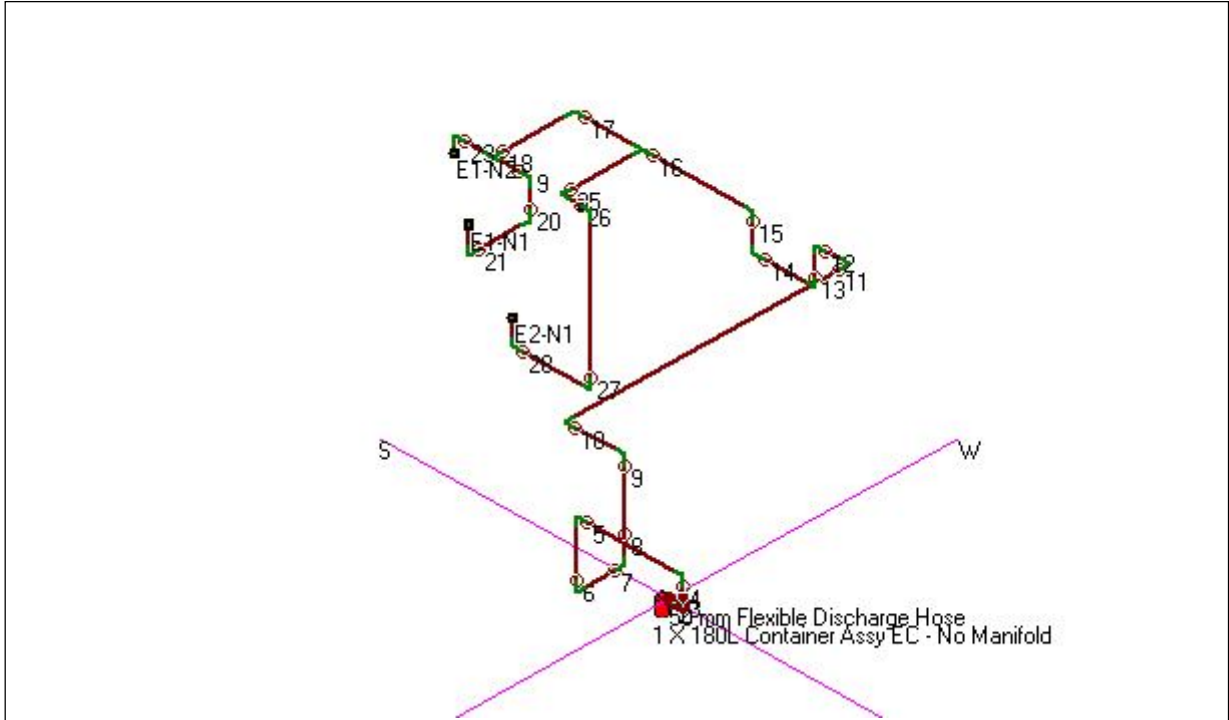
Predicted Concentration: 8,423%

Maximum Expected Agent Concentration: 8,722% (At 25,0 C)

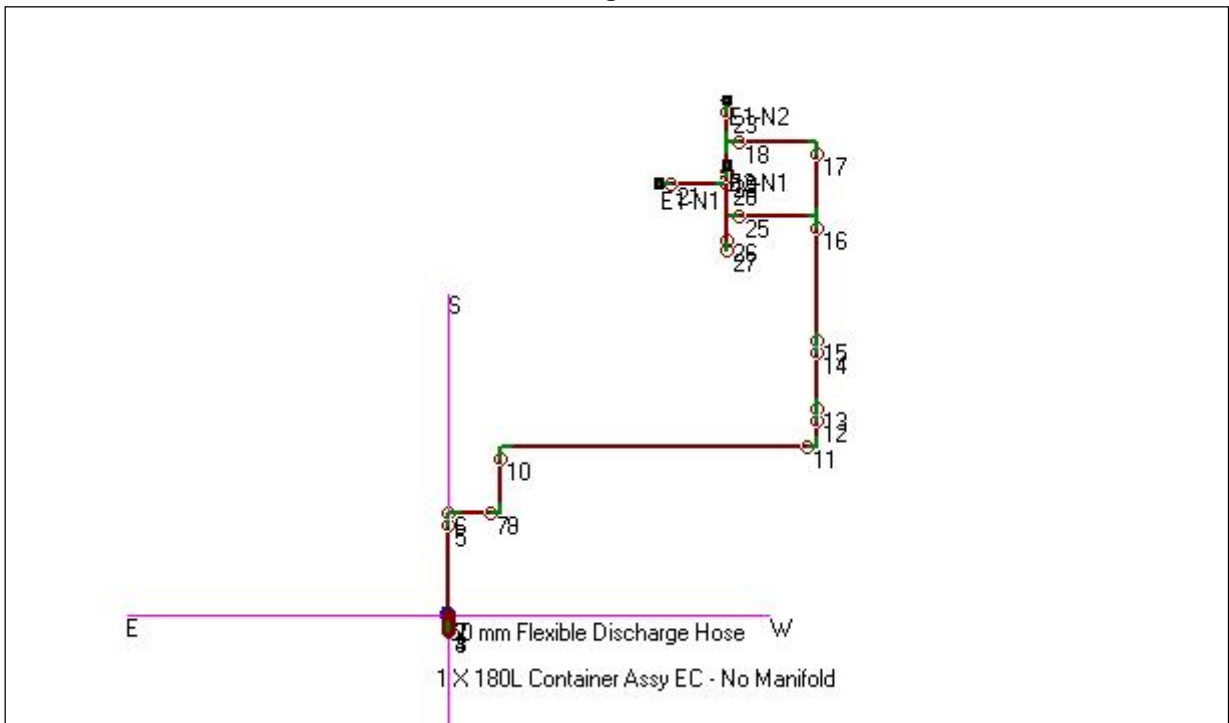
Nozzle	Minimum Agent Required	Adjusted Agent Required	Predicted Agent Delivered	Nozzle Pressure (Average)
E2-N1	13,6 kg	28,6 kg	28,4 kg	6,390 bar

## Consolidated Report

### Drawing View: 1



### Drawing View: 5









Tyco Safety Products 42 bar Novac 1230 FlowCalc TEPG3.71  
Project: Машинный зал. Зона 1 (пом. 114)  
File Name: ГР 2144-10-18 (пом. 114).FLC

## **Consolidated Report Customer Information**

Company Name:  
Address:

Phone:  
Contact:  
Title:

### **Project Data**

Project Name: Машинный зал. Зона 1 (пом. 114)  
Designer:  
Number: ГР 2144-10-18  
Account:  
Location:  
Description: K4=1;  
Площадь 183,15 кв.м;  
Высота  
0,9(фальшпол)+3,0+0,45(фальшпотолок)=4,35м;  
Фальшпотолок "Грильятто" отдельным объемом не  
защищается;  
Объем 796,70 куб.м;

## Consolidated Report Enclosure Information

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

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Enclosure Number: 1  
Name: Основной объем + фальшпотолок (Оси Б-В)  
Enclosure Temperature...  
Minimum: 15,0 C  
Maximum: 25,0 C  
Maximum Concentration: 4,829 %  
Design Concentration...  
Adjusted: 4,656 %  
Minimum: 4,200 %  
Minimum Agent Required: 188,6 kg  
Width: 0,00 m  
Length: 0,00 m  
Height: 0,00 m  
Volume: 0,00 cubic m  
Non-permeable: 0,00 cubic m  
Total Volume: 303,32 cubic m  
Adjusted Agent Required: 210,1 kg  
Number of Nozzles: 2

---

Enclosure Number: 2  
Name: Основной объем + фальшпотолок (Оси В-Г)  
Enclosure Temperature...  
Minimum: 15,0 C  
Maximum: 25,0 C  
Maximum Concentration: 4,829 %  
Design Concentration...  
Adjusted: 4,657 %  
Minimum: 4,200 %  
Minimum Agent Required: 204,3 kg  
Width: 0,00 m  
Length: 0,00 m  
Height: 0,00 m  
Volume: 0,00 cubic m  
Non-permeable: 0,00 cubic m  
Total Volume: 328,54 cubic m  
Adjusted Agent Required: 227,6 kg  
Number of Nozzles: 2

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## Consolidated Report Enclosure Information

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

---

Enclosure Number: 3  
Name: Фальшпол (Оси Б-В)  
Enclosure Temperature...  
Minimum: 15,0 C  
Maximum: 25,0 C  
Maximum Concentration: 4,836 %  
Design Concentration...  
Adjusted: 4,663 %  
Minimum: 4,200 %  
Minimum Agent Required: 49,3 kg  
Width: 0,00 m  
Length: 0,00 m  
Height: 0,00 m

---

Volume: 0,00 cubic m  
Non-permeable: 0,00 cubic m

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Total Volume: 79,13 cubic m  
Adjusted Agent Required: 54,9 kg  
Number of Nozzles: 1

---

Enclosure Number: 4  
Name: Фальшпол (Оси В-Г)  
Enclosure Temperature...  
Minimum: 15,0 C  
Maximum: 25,0 C  
Maximum Concentration: 4,831 %  
Design Concentration...  
Adjusted: 4,658 %  
Minimum: 4,200 %  
Minimum Agent Required: 53,3 kg  
Width: 0,00 m  
Length: 0,00 m  
Height: 0,00 m

---

Volume: 0,00 cubic m  
Non-permeable: 0,00 cubic m

---

Total Volume: 85,71 cubic m  
Adjusted Agent Required: 59,4 kg  
Number of Nozzles: 1

---

## Consolidated Report Agent Information

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

Adjusted Agent Required: 552,0 kg  
 Container Name: 180L Container Assy EC  
 Container Part Number: 303.207.018/42  
 Number of Main Containers: 4  
 Number of Reserve Containers: 0  
 Manifold: K1-80-4

Starting Pressure: 41,4 bar  
 Pipe Take Off Direction: Horizontal  
 Agent Per Container: 138,0 kg  
 Fill Density: 0,758 kg / l  
 Container Empty Weight: 127,7 kg  
 Weight, All Containers + Agent: 1062,8 kg  
 Floor Area Per Container: 0,13 square m  
 Floor Loading Per Container: 2060 kg /square m

### Pipe Network

#### Part 1 - Pipe

Description	Start	End	Type	Diameter	Length	Elevation
Main Cyl. X 4	0	1		50 mm	1,63 m	1,63 m
Manifold X 4	1	2	40T	50 mm	0,74 m	0,62 m
Manifold X 1	2	3	80T	80 mm	2,53 m	0,00 m
Pipe	3	4	40W	80 mm	1,40 m	-1,40 m
Pipe	4	5	40W	80 mm	1,20 m	0,00 m
Pipe	5	6	40W	80 mm	0,50 m	0,50 m
Pipe	6	7	40W	80 mm	1,85 m	1,85 m
Pipe	7	8	40W	80 mm	0,85 m	0,00 m
Pipe	8	9	40W	80 mm	5,00 m	0,00 m
Pipe	9	10	40W	80 mm	5,70 m	0,00 m
Pipe	10	11	40W	65 mm	0,70 m	0,00 m
Pipe	11	12	40W	65 mm	0,55 m	-0,55 m
Pipe	12	13	40W	65 mm	1,20 m	0,00 m

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**Consolidated Report**

**Part 1 - Pipe**

Description	Start	End	Pipe			
			Type	Diameter	Length	Elevation
Pipe	13	14	40W	65 mm	0,55 m	0,55 m
Pipe	14	15	40W	65 mm	0,50 m	0,00 m
Pipe	15	16	40W	65 mm	3,40 m	0,00 m
Pipe	16	17	40W	65 mm	0,80 m	0,00 m
Pipe	17	18	40W	65 mm	2,40 m	0,00 m
Pipe	18	19	80W	50 mm	3,90 m	0,00 m
Pipe/E2-N1	19	20	80W	50 mm	0,10 m	-0,10 m
Pipe	18	21	80W	50 mm	3,90 m	0,00 m
Pipe/E2-N2	21	22	80W	50 mm	0,10 m	-0,10 m
Pipe	16	23	40W	40 mm	0,50 m	0,00 m
Pipe/E4-N1	23	24	40W	40 mm	3,50 m	-3,50 m
Pipe	10	25	40W	65 mm	0,70 m	0,00 m
Pipe	25	26	40W	65 mm	1,80 m	0,00 m
Pipe	26	27	40W	65 mm	0,70 m	0,00 m
Pipe	27	28	40W	65 mm	1,30 m	0,00 m
Pipe	28	29	80W	50 mm	2,90 m	0,00 m
Pipe/E1-N1	29	30	80W	50 mm	0,10 m	-0,10 m
Pipe	28	31	80W	50 mm	4,10 m	0,00 m
Pipe/E1-N2	31	32	80W	50 mm	0,10 m	-0,10 m
Pipe	26	33	40W	40 mm	1,40 m	0,00 m
Pipe/E3-N1	33	34	40W	40 mm	3,50 m	-3,50 m

**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	0	0	0	0	0	50mmDH&CV	0,00 m	12,74 m
2	3	0	0	3	1	0		0,00 m	12,25 m
3	4	1	0	0	0	0		9,60 m	12,25 m
4	5	1	0	0	0	0		0,00 m	2,44 m
5	6	1	0	0	0	0		5,30 m	7,04 m
6	7	0	0	0	0	0		0,00 m	1,86 m
7	8	1	0	0	0	0		0,00 m	2,10 m
8	9	1	0	0	0	0		0,00 m	6,25 m
9	10	0	0	0	0	0		0,00 m	5,70 m
10	11	0	0	0	1	0		0,00 m	3,20 m
11	12	1	0	0	0	0		0,00 m	1,55 m

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## Consolidated Report

### Part 2 - Equivalent Length

Start	End	90	45	Thru	Side Union	Other	Added	Total
12	13	1	0	0	0	0	0,00 m	2,19 m
13	14	1	0	0	0	0	0,00 m	1,55 m
14	15	1	0	0	0	0	0,00 m	1,49 m
15	16	1	0	0	0	0	0,00 m	4,42 m
16	17	0	0	1	0	0	0,00 m	1,62 m
17	18	1	0	0	0	0	0,00 m	3,41 m
18	19	0	0	0	1	0	0,00 m	6,00 m
19	20	1	0	0	0	0	0,00 m	0,94 m
18	21	0	0	0	1	0	0,00 m	6,00 m
21	22	1	0	0	0	0	0,00 m	0,94 m
16	23	0	0	0	1	0	0,00 m	2,13 m
23	24	1	0	0	0	0	0,00 m	4,15 m
10	25	0	0	0	1	0	0,00 m	3,20 m
25	26	1	0	0	0	0	0,00 m	2,80 m
26	27	0	0	1	0	0	0,00 m	1,52 m
27	28	1	0	0	0	0	0,00 m	2,32 m
28	29	0	0	0	1	0	0,00 m	5,00 m
29	30	1	0	0	0	0	0,00 m	0,94 m
28	31	0	0	0	1	0	0,00 m	6,22 m
31	32	1	0	0	0	0	0,00 m	0,94 m
26	33	0	0	0	1	0	0,00 m	3,05 m
33	34	1	0	0	0	0	0,00 m	4,15 m

### Part 3 - Nozzles

Start	End	Flow	Name	Size	Type	Nozzle Area
0	1	138,0 kg				
1	2	138,0 kg				
2	3	552,0 kg				
3	4	552,0 kg				
4	5	552,0 kg				
5	6	552,0 kg				
6	7	552,0 kg				
7	8	552,0 kg				
8	9	552,0 kg				
9	10	552,0 kg				
10	11	287,0 kg				

## Consolidated Report

### Part 3 - Nozzles

Start	End	Flow	Name	Size	Type	Nozzle Area
11	12	287,0 kg				
12	13	287,0 kg				
13	14	287,0 kg				
14	15	287,0 kg				
15	16	287,0 kg				
16	17	227,6 kg				
17	18	227,6 kg				
18	19	113,9 kg				
19	20	113,9 kg	E2-N1	50 mm	16 Port - AL	844,96 square mm
18	21	113,7 kg				
21	22	113,7 kg	E2-N2	50 mm	16 Port - AL	844,96 square mm
16	23	59,4 kg				
23	24	59,4 kg	E4-N1	40 mm	7 Port - AL	765,51 square mm
10	25	265,0 kg				
25	26	265,0 kg				
26	27	210,1 kg				
27	28	210,1 kg				
28	29	105,1 kg				
29	30	105,1 kg	E1-N1	50 mm	16 Port - AL	615,75 square mm
28	31	105,0 kg				
31	32	105,0 kg	E1-N2	50 mm	16 Port - AL	615,75 square mm
26	33	54,9 kg				
33	34	54,9 kg	E3-N1	40 mm	7 Port - AL	538,84 square mm

### Parts Information

Total Agent Required: 552,0 kg  
 Container Name: 180L Container Assy EC (Part: 303.207.018/42)  
 Number Of Containers: 4  
 Manifold: K1-80-4 (Part: 307.207.006)

Nozzle	Type	Diameter	Nozzle Area	Part Number
E1-N1	16 Port - AL	50 mm	615,75 square mm	310.207.018
E1-N2	16 Port - AL	50 mm	615,75 square mm	310.207.018
E2-N1	16 Port - AL	50 mm	844,96 square mm	310.207.018
E2-N2	16 Port - AL	50 mm	844,96 square mm	310.207.018

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Nozzle	Type	Diameter	Nozzle Area	Part Number
E3-N1	7 Port - AL	40 mm	538,84 square mm	310.207.015
E4-N1	7 Port - AL	40 mm	765,51 square mm	310.207.015

Nozzle	Drill Diameter	Drill Size
E1-N1	7,0000 mm	7.00 mm
E1-N2	7,0000 mm	7.00 mm
E2-N1	8,2000 mm	8.20 mm
E2-N2	8,2000 mm	8.20 mm
E3-N1	9,9000 mm	9.90 mm
E4-N1	11,8000 mm	11.80 mm

Pipe:	Type	Diameter	Length
	40W	40 mm	8,90 m
	40W	65 mm	14,60 m
	40W	80 mm	16,50 m
	80T	80 mm	2,53 m
	80W	50 mm	15,20 m

'Other' Items:

4 - 50 mm Check&Flex (Part: 306207003/302207005)

List of 90 degree elbows:

2 - 40 mm  
 4 - 50 mm  
 8 - 65 mm  
 5 - 80 mm

List of Tees:

4 - 65 mm  
 1 - 80 mm

### System Acceptance

System Discharge Time: 9,6 seconds  
 Percent Agent In Pipe: 56,9%  
 Percent Agent Before First Tee: 32,0%  
 Enclosure Number: 1  
 Enclosure Name: Основной объем + фальшпотолок (Оси Б-В)  
 Minimum Design Concentration: 4,200%

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### Consolidated Report

Adjusted Design Concentration: 4,656%  
 Predicted Concentration: 4,650%  
 Maximum Expected Agent Concentration: 4,822% (At 25,0 C)

Nozzle	Minimum Agent Required	Adjusted Agent Required	Predicted Agent Delivered	Nozzle Pressure (Average)
E1-N1	94,3 kg	105,1 kg	104,9 kg	8,636 bar
E1-N2	94,3 kg	105,0 kg	104,9 kg	8,578 bar

Enclosure Number: 2

Enclosure Name: Основной объем + фальшпотолок (Оси В-Г)

Minimum Design Concentration: 4,200%  
 Adjusted Design Concentration: 4,657%  
 Predicted Concentration: 4,686%  
 Maximum Expected Agent Concentration: 4,859% (At 25,0 C)

Nozzle	Minimum Agent Required	Adjusted Agent Required	Predicted Agent Delivered	Nozzle Pressure (Average)
E2-N1	102,2 kg	113,9 kg	114,5 kg	6,205 bar
E2-N2	102,1 kg	113,7 kg	114,5 kg	6,205 bar

Enclosure Number: 3

Enclosure Name: Фальшпол (Оси Б-В)

Minimum Design Concentration: 4,200%  
 Adjusted Design Concentration: 4,663%  
 Predicted Concentration: 4,600%  
 Maximum Expected Agent Concentration: 4,770% (At 25,0 C)

Nozzle	Minimum Agent Required	Adjusted Agent Required	Predicted Agent Delivered	Nozzle Pressure (Average)
E3-N1	49,3 kg	54,9 kg	54,1 kg	8,711 bar

Enclosure Number: 4

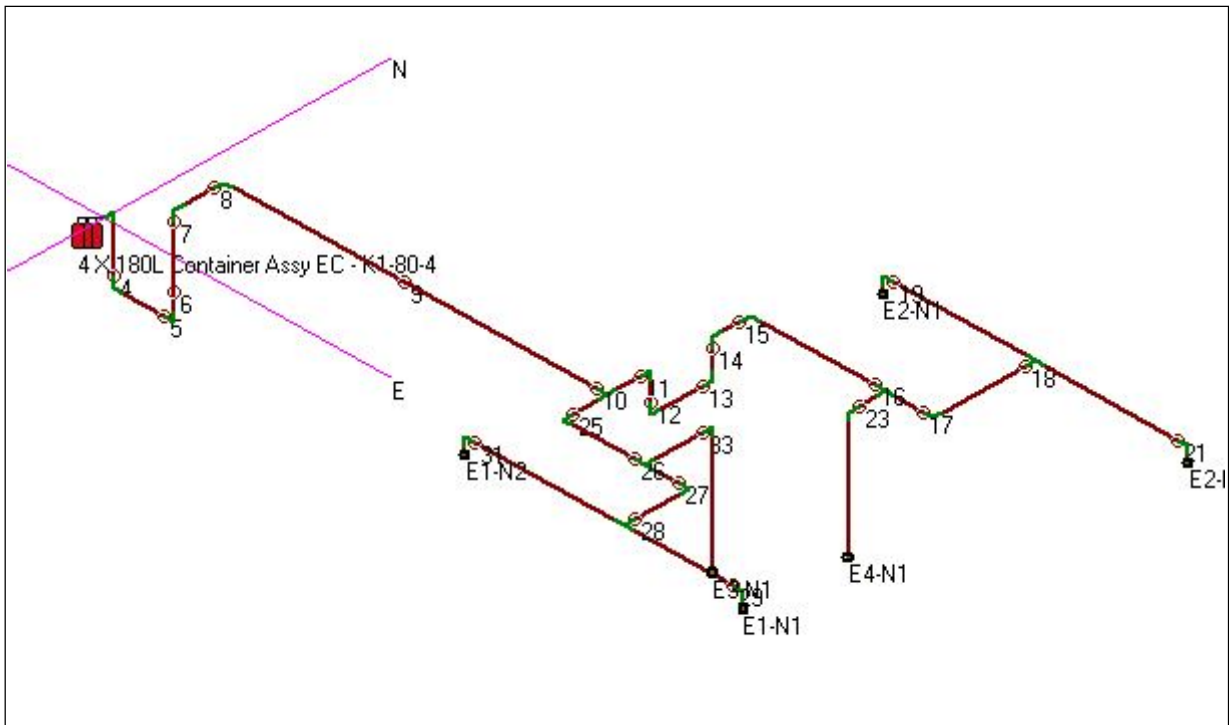
Enclosure Name: Фальшпол (Оси В-Г)

Minimum Design Concentration: 4,200%  
 Adjusted Design Concentration: 4,658%  
 Predicted Concentration: 4,631%  
 Maximum Expected Agent Concentration: 4,803% (At 25,0 C)

### Consolidated Report

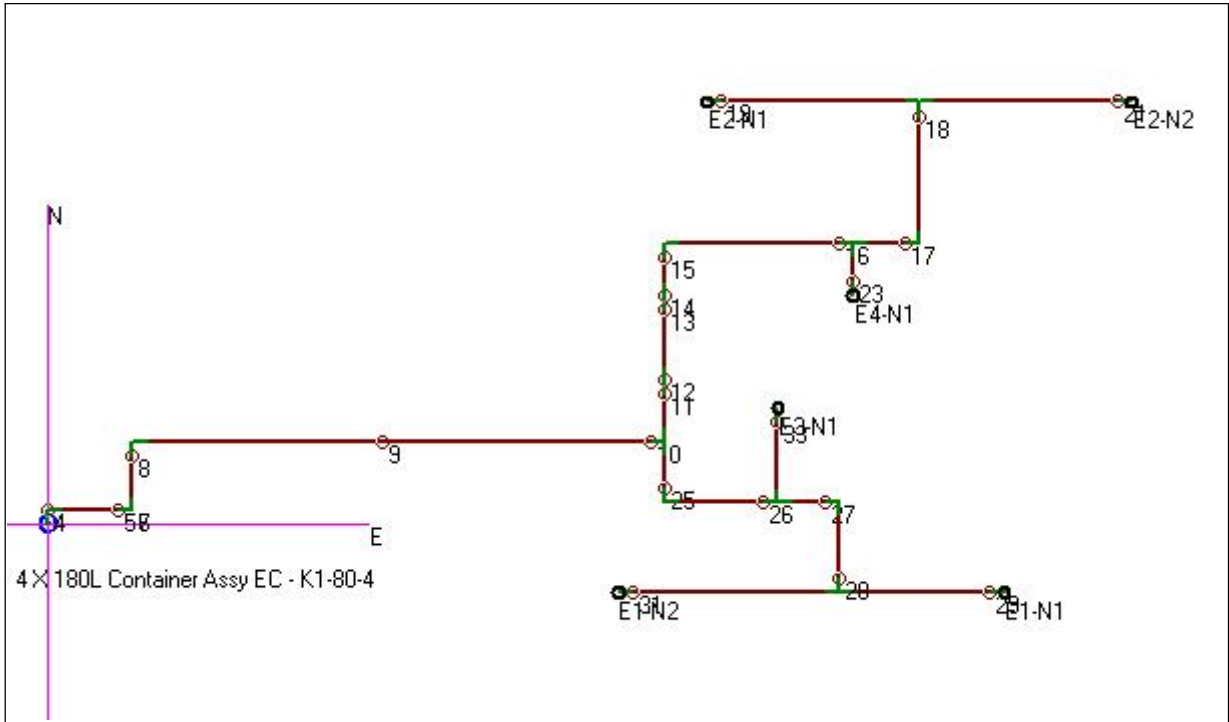
Nozzle	Minimum Agent Required	Adjusted Agent Required	Predicted Agent Delivered	Nozzle Pressure (Average)
E4-N1	53,3 kg	59,4 kg	59,0 kg	6,509 bar

**Drawing View: 1**



## Consolidated Report

Drawing View: 5



Drawing View: 9

