Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 05/27/17

Kidde Fire Systems

Kidde Fire Systems - Flow Calculation Software v4.0.0 (Novec 1230)
UL: EX4674 / Component of FM Approved System

Eastern Fire Protection

170 Kittyhawk Ave
Auburn, ME 04210
Phone: 207-784-1507
File Name: NSB Flow Calc.FC4

Consolidated Report

Customer Information

Company Name: Hebert Construction
Address: 9 Gould Rd
Lewiston, ME 04240

Phone:
Contact: Simon Hebert
Title:

Project Data

Project Name: Norway Savings Bank
Designer: CRM
Number:
Account:
Location: Server Room
Description:

Enclosure Report

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

Enclosure 1 Server Room

Enclosure Temperature: Number of Nozzles: 2

Calculation Date/Time: Thursday, April 6, 2017, 2:36:24 PM
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Kidde Fire Systems

Consolidated Report

Minimum:	70 F	Width:	0.0 ft
Maximum:	70 F	Length:	0.0 ft
Max. Concentration:	5.14 %	Height:	0.0 ft
Design Concentration:		Volume:	0.0 ft ^{3}
Adjusted:	5.14 %	Non-permeable:	0.0 ft ^{3}
Minimum:	4.70 %	Total Volume:	3738.0 ft ^{3}
Min. Agent Required:	159.5 lb		
Adjusted Agent Required:	175.0 lb		

Agent Source Report

Agent:	Novec / Propellant N2
(Novec 1230 is a Trademark of 3M)	
Cylinder Name:	200 lb Cylinder w/LLI
Cylinder Part Number:	45-100201-101
Agent Per Cylinder:	175.0 lb
Fill Density:	61.2 lbs / cubic ft
Number of Main Cylinders:	1
Number of Reserve Cylinders:	0
Cylinder Empty Weight:	133.0 lb
Weight, All Cylinders + Agent:	308.0 lb
Floor Area Per Cylinder:	1.01 ft ^{2}
Floor Loading Per Cylinder:	305 lbs / ft ^{2}

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Consolidated Report

Parts Report

Total Agent Required: 175.0 lb

Cylinder Name: 200 lb Cylinder w/LLI (Part: 45-100201-101)

Number of Cylinders: 1

Nozzle	Type	Nozzle Diameter	Drill Size	Nozzle Area	Part Number
E1-N1	360-SS	1-1/4 in	Q	0.6926 in ²	45-194626-186
E1-N2	180-SS	1-1/4 in	Q	0.6926 in ²	45-194616-186

Pipe & Fittings	Type	Diameter	Length	Elbows (90)	Elbows (45)	Tees	Unions
	40T	1-1/4 in	19.75 ft	4	0	0	0
	40T	1-1/2 in	6.25 ft	1	0	1	0

Other Objects	Name	Quantity	Part Number
	2 in. Valve Outlet Adapter	1	283905

System Acceptance Report

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

System Discharge Time:	6.6 seconds
Percent Agent In Pipe:	22.4%
Percent Agent Before First Tee:	15.9%
Dead Volume:	0.0% (0.0 lb)
Enclosure Number:	1
Enclosure Name:	Server Room
Minimum Design Concentration:	4.70%
Adjusted Design Concentration:	5.14%

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Kidde Fire Systems

Consolidated Report

Predicted Concentration: 5.14%
Maximum Expected Agent Concentration: 5.14% (At 70 F)

Nozzle	Minimum Agent Required	Adjusted Agent Required	Predicted Agent Delivered	Average Nozzle Pressure
E1-N1	79.8 lb	87.5 lb	88.6 lb	68 psig
E1-N2	79.8 lb	87.5 lb	86.4 lb	64 psig

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Pipe Network Report

Description	Pipe Section	Start Node	End Node	Pipe Type	Pipe Diameter	Pipe Length	Union	Total Elevation Change	Total Equivalent Length	Nozzle Name	Nozzle Size	Nozzle Type	Nozzle Area
Cylinder - On	Man./End	0	2		2 in	3.96 ft	0	3.96 ft	50.00 ft				
Adapter	System	2	3		2 in	0.26 ft	0	------	9.00 ft				
Pipe	System	3	4	40T	1-1/4 in	1.00 ft	0	------	1.00 ft				
Elbow (90)	System	4	5	40T	1-1/4 in	------	0	------	3.70 ft				
Pipe	System	5	6	40T	1-1/4 in	5.50 ft	0	5.50 ft	5.50 ft				
Elbow (90)	System	6	7	40T	1-1/4 in	------	0	------	3.70 ft				
Pipe	System	7	8	40T	1-1/4 in	2.25 ft	0	------	2.30 ft				
Elbow (90)	System	8	9	40T	1-1/2 in	------	0	------	4.30 ft				
Pipe	System	9	10	40T	1-1/2 in	6.25 ft	0	------	6.30 ft				
Tee	System	10	11	40T	1-1/4 in	------	0	------	7.50 ft				
Pipe	System	11	12	40T	1-1/4 in	7.00 ft	0	------	7.00 ft				
Elbow (90)	System	12	13	40T	1-1/4 in	------	0	------	3.70 ft				
Pipe&Nozzle	System	13	14	40T	1-1/4 in	1.25 ft	0	-1.25 ft	1.30 ft	E1-N2	1-1/4 in	180-SS	0.6926 in ²
Tee	System	10	15	40T	1-1/4 in	------	0	------	7.50 ft				
Pipe	System	15	16	40T	1-1/4 in	1.50 ft	0	------	1.50 ft				
Elbow (90)	System	16	17	40T	1-1/4 in	------	0	------	3.70 ft				
Pipe&Nozzle	System	17	18	40T	1-1/4 in	1.25 ft	0	-1.25 ft	1.30 ft	E1-N1	1-1/4 in	360-SS	0.6926 in ²

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CITY OF PORTLAND, MAINE

Consolidated Report

View #: 1 - Isometric View-Node

Key ID: 1803507359

Date: 05/27/17
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Inspections Division
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CITY OF PORTLAND, MAINE RESURGAM

Kidde Fire Systems

Consolidated Report

View #: 5 - Standard Elevation View

Key ID: 1803507359

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Kidde Fire Systems

Consolidated Report

View #: 9 - Standard Plan View

Key ID: 1803507359

Date: 05/27/17

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