COLOCATION INERGEN SYSTEM

NOZZLE PERFORMANCE

AREA	ZONE	PIPE SIZE	NOZZLE CODE	DISCHARGE TIME	CU. FT. DISCHARGED
17	353	3/4	40 T	.4370	1624
14	352	3/4	40 T	.4370	1624

TOTAL QUANTITY OF NITROGEN REQUIRED: 1624
QUANTITY TO BE DISCHARGED IN AREA: 45.42 SECONDS
QUANTITY OF NITROGEN PRESSURIZATION: 185 PSI

ELECTRICAL ROOM INERGEN SYSTEM

NOZZLE PERFORMANCE

NOZZLE	ZONE	PIPE SIZE	NOZZLE CODE	DISCHARGE TIME	CU. FT. DISCHARGED
11	301	1	40 T	.3781	1287

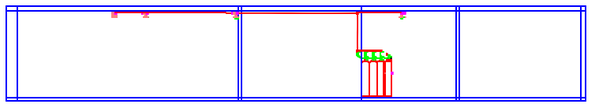
TOTAL QUANTITY OF NITROGEN REQUIRED: 1287
QUANTITY TO BE DISCHARGED IN AREA: 53.61 SECONDS
NITROGEN PRESSURIZATION QUANTITY: 185 PSI

MAIN SWITCH ROOM

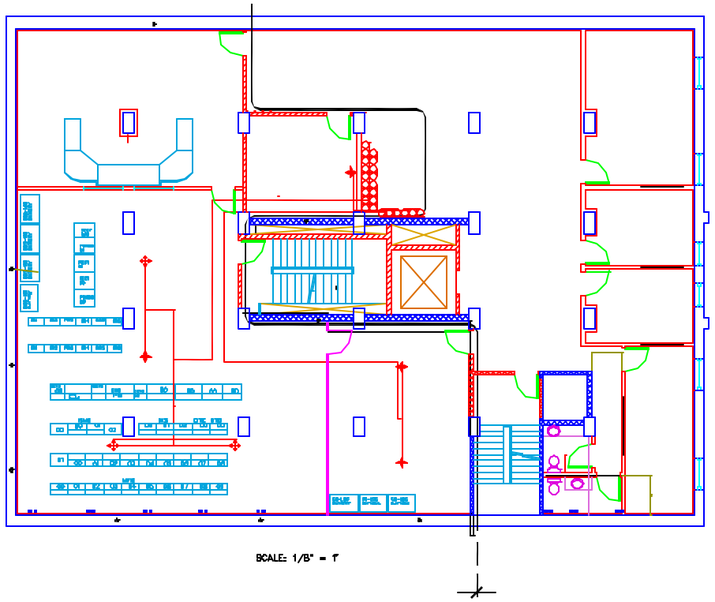
NOZZLE PERFORMANCE

ITEMS	ZONE	PIPE SIZE	NOZZLE CODE	DISCHARGE TIME	CU. FT. DISCHARGED
19	351	1	40 T	.7664	1828
20	350	1	40 T	.7664	1828
21	353	1	40 T	.7698	1836.6
22	354	1	40 T	.7698	1836.6

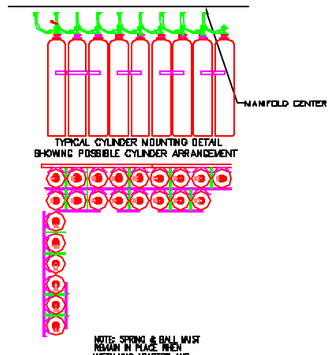
TOTAL QUANTITY OF NITROGEN REQUIRED: 7294
QUANTITY TO BE DISCHARGED IN AREA: 45.81 SECONDS
NITROGEN PRESSURIZATION QUANTITY: 185 PSI



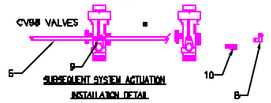
SCALE: 1/8" = 1'



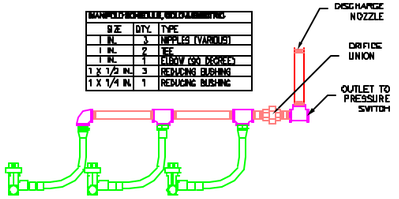
SCALE: 1/8" = 1'



TYPICAL CYLINDER MOUNTING DETAIL
SHOWING POSSIBLE CYLINDER ARRANGEMENT

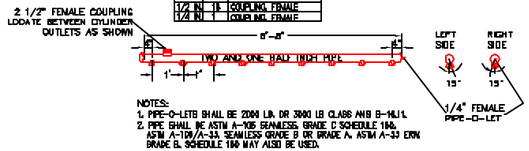


SUBSEQUENT SYSTEM ACTUATION INSTALLATION DETAIL



MANIFOLD SCHEDULE, BOLT DIMENSIONS		
SIZE	QTY.	TYPE
1 IN.	3	NIPPLES (VARIOUS)
1 IN.	2	TEE
1 IN.	1	ELBOW 90Ø DEGREE
1 X 1/2 IN.	3	REDUCING BUSHING
1 X 1/4 IN.	1	REDUCING BUSHING

MANIFOLD SCHEDULE		
SIZE	QTY.	TYPE
2.5 IN.	8' 8"	PIPE (SEE NOTE BELOW)
2.5 IN.	1	FEMALE COUPLING
1/2 IN.	16	COUPLING, FEMALE
1/4 IN.	1	COUPLING, FEMALE



NOTES:
1. PIPE-O-LETS SHALL BE 2000 LB. OR 3000 LB CLASS ANSI B-16.11.
2. PIPE SHALL BE ASTM A-106 SEAMLESS, GRADE C SCHEDULE 160, ASTM A-106/A-53, SEAMLESS GRADE B OR GRADE A, ASTM A-53 ERW GRADE B, SCHEDULE 160 MAY ALSO BE USED.
3. A-120 PIPE SHALL NOT BE USED.
4. WHEN COMPLETED, MANIFOLD SHALL BE HYDROSTATICALLY TESTED OR PRESSURE TESTED WITH AN INERT GAS TO 500 PSI.
5. THE MANIFOLD SHALL BE PRIMED WITH AN ENAMEL METAL PRIMER.
6. THE MANIFOLD SHALL BE FINISHED WITH FIRE RED PAINT.

LEGEND – BILL OF MATERIALS

ITEM	QTY.	NUMBER	DESCRIPTION
1	3	416620	LC-300 CU. FT. CYLINDER W/ CV98 VALVE
2	20	416069	LC-425 CU FT CYLINDER W/ CV98 VALVE
3	23	842424	FLEXIBLE DISCHARGE BEND
4	2	416065	CV-98 ELECTRIC ACTUATOR
5	4	801809	96" ACTUATION HOSE
6	2	802335	20" ACTUATION HOSE
7	1	802336	24" ACTUATION HOSE
8	3	831810	MALE ELBOW
9	2	418356	MALE TEE
10	8	873238	PILOT VALVE ADAPTOR
11	2	419979	1" NPT ORIFICE UNION
12	1	417657	2 1/2" NPT ORIFICE NIPPLE
13	2	846250	PNEUMATIC SWITCH
14	7	418284	WARNING PLATE – INSIDE W/ ALARM
15	6	418356	WARNING PLATE – OUTSIDE W/ ALARM
16	2	417383	3/4" NPT INERGEN NOZZLE
17	1	438143	1" INERGEN NOZZLE 180 DEGREE
18	4	417383	1 1/4" INERGEN NOZZLE 360 DEGREE
19	2	417711	3/4" INERGEN DEFLECTOR SHIELD
20	1	417714	1" INERGEN DEFLECTOR SHIELD
21	4	417717	1 1/4" INERGEN DEFLECTOR SHIELD
22	1	878838	BACK FRAME ASSY. (3 CYLINDER)
23	3	878840	BACK FRAME ASSY. (4 CYLINDER)
24	2	878841	BACK FRAME ASSY. (5 CYLINDER)
25	4	873259	27" CARRIAGE BOLT & NUT (CRL ROW 350, 425)
26	2	873091	CYLINDER CLAMP (3 CYLINDER)
27	1	873092	CYLINDER CLAMP (5 CYLINDER)
28	2	873555	DOUBLE BRACKET FOOT (LEFT SIDE)
29	2	873556	DOUBLE BRACKET FOOT (RIGHT SIDE)

INSTALLATION NOTES FOR INERGEN SYSTEM

THESE SPECIFICATIONS ARE TO APPLY TO ALL INSTALLATIONS OF INERGEN FIRE SUPPRESSION SYSTEMS.

NOTE: PIPE SHALL CONFORM TO ASTM SPECIFICATIONS FOR A53 OR A106 PIPE. A120 SHALL NOT BE USED.

1. ALL THREADED PIPE BEYOND THE ORIFICE UNION TO BE BLACK OR GALVANIZED STEEL OF THE FOLLOWING PIPE SIZE AND GRADE CONSIDERATIONS.

ASTM A-106 SEAMLESS, GRADE C	SCH. 40–THRU 8"
ASTM A-106/A-53 SEAMLESS, GRADE B	SCH. 40–THRU 6"
ASTM A-106/A-53 SEAMLESS, GRADE A	SCH. 40–THRU 2.5"
ASTM A-53 ERW, GRADE B	SCH. 40–THRU 3"
ASTM A-53 ERW, GRADE A	SCH. 40–THRU 1.25"

2. ALL THREADED PIPE USED TO CONSTRUCT THE MANIFOLD, INCLUDING PIPE BEFORE THE ORIFICE UNION TO BE BLACK OR GALVANIZED STEEL OF THE FOLLOWING PIPE SIZE AND GRADE COMBINATIONS.

ASTM A-106 SEAMLESS, GRADE C	SCH. 80–THRU 2.5"
ASTM A-106/A-53 SEAMLESS, GRADE B	SCH. 80–THRU 1.25"
ASTM A-106/A-53 SEAMLESS, GRADE A	SCH. 80–THRU .75"
ASTM A-53 ERW, GRADE B	SCH. 80–THRU 1.0"
ASTM A-53 ERW, GRADE A	SCH. 80–THRU .5"

3. PIPE GRADES MUST BE SUITABLE FOR THE PRESSURES CALCULATED BY ANSUL'S INERCALC PNEUMATIC CALCULATION PROGRAM. CONSULT THE CHART IN ANSUL'S DESIGN MANUAL OR NFPA 2001, A-2.2.1, FOR MAXIMUM PIPE PRESSURES FOR THE DIFFERENT PIPE GRADES.

4. ALL FITTINGS BEYOND THE ORIFICE UNION TO BE 3000# ANSI B-16.3 BLACK OR GALVANIZED MALLEABLE IRON THREADED FITTINGS THROUGH 3" SIZE. FORGED STEEL FITTINGS TO BE USED FOR LARGER SIZES. FLANGED JOINTS TO BE CLASS 600 LB. CLASS 300 MALLEABLE IRON UNIONS OR STREET ELBOWS SHALL NOT BE USED.

5. ALL FITTINGS USED TO CONSTRUCT THE MANIFOLD, INCLUDING FITTINGS BEFORE THE ORIFICE UNION TO BE BLACK OF GALVANIZED FORGED STEEL 2000# OR 3000# ANSI B-16.11.

6. ALL PIPE, FITTINGS AND MANIFOLDS TO BE SUPPLIED BY INTERSTATE FIRE PROTECTION.

7. PIPE LENGTHS GIVEN ARE FROM CENTER TO CENTER OF FITTINGS.

8. ALL DIMENSIONS ARE TO BE FIELD CHECKED, ANY DEVIATIONS FROM THE ARRANGEMENT SHOWN WILL REQUIRE COMPLETE REVIEW OF THE NOZZLE AND LINE PRESSURE CALCULATIONS BY THE DESIGNER.

9. REAM AND CLEAN EACH PIPE SECTION INTERNALLY AFTER PREPARATION AND BEFORE ASSEMBLY BY MEANS OF SWABBING, UTILIZING A SUITABLE NON-FLAMMABLE CLEANER. THE PIPING NETWORK SHALL BE FREE OF PARTICULATE MATTER AND OIL RESIDUE BEFORE INSTALLATION OF NOZZLES OR DISCHARGE DEVICES.

10. THE USE OF PIPE DOPE OR TEFLON TAPE IS RECOMMENDED. APPLY SPARINGLY TO MALE THREADS ONLY.

11. CYLINDERS AND PIPE TO BE SECURELY BRACKETED–ESPECIALLY AT FITTINGS AND NOZZLES.

12. ALL DEAD END PIPE LINES TO BE PROVIDED WITH A CAPPED NIPPLE 2" LONG.

System Information:
INERGEN FIRE SUPPRESSION SYSTEM
COLO, ELECTRIC ROOM AND SWITCH ROOMS

Client:
LIGHTSHIP TELECOM
340 CUMBERLAND AVE.
SECOND FLOOR
PORTLAND, ME.

Interstate FIRE PROTECTION
PO BOX 1005
N. CONWAY, NH 03860
57 CONY STREET
AUGUSTA, ME. 04330

LIGHTSHIP TELECOM
MECHANICAL LAYOUT

Proj. no:	
CAD File:	LIGHTPORTMECH
Drawn By:	RWH
Designed by:	RWH
Checked by:	
Approved by:	
Project Lead:	T. MOONEY
Scale:	NONE

Revisions	Date
1	04/05/01
REV. 1	04/24/01

SHEET :
M–1