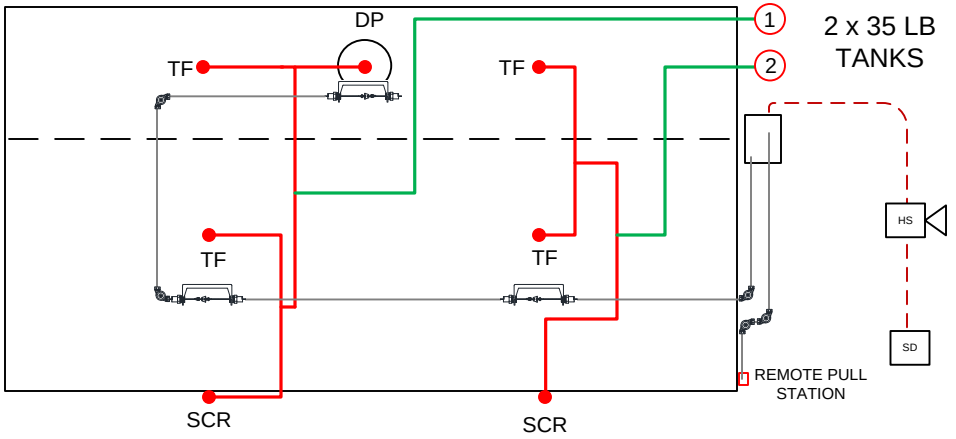
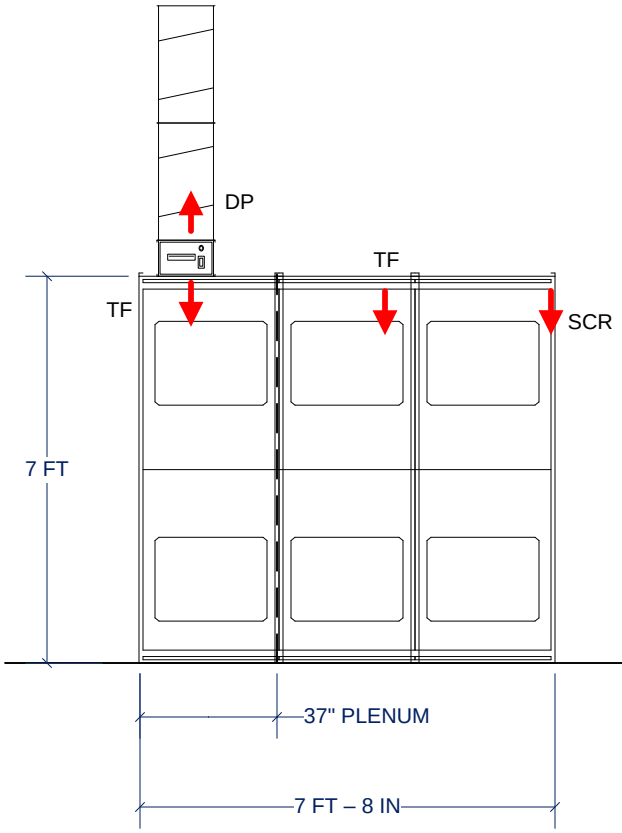
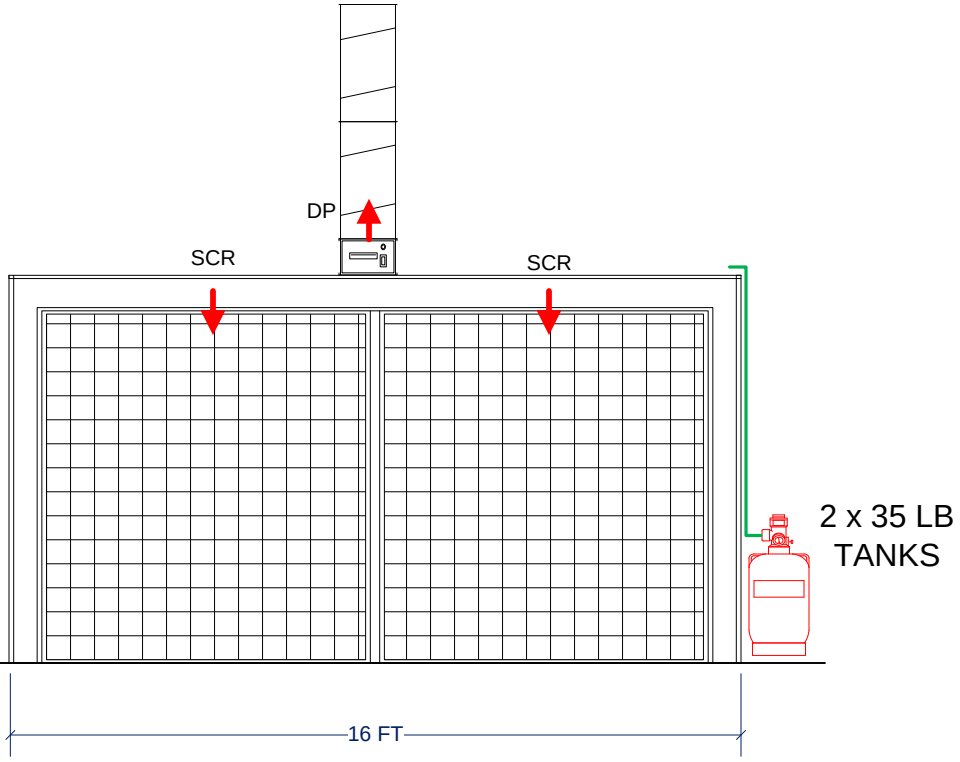
AMEREX

FUSIBLE LINKS RATED AT
286 DEG F

OPEN FACE SPRAY BOOTH







PIPE SIZES
1" Ø PIPE
3/4" Ø PIPE

SEE PIPING LAYOUT AND LIMITATIONS ON PAGES 3 THRU 5

PRE-ENGINEERED SYSTEM SHOP DRAWING ONLY – NOT TO SCALE

EXAMPLE DRAWINGS PROVIDED BY: http://www.firesystemdrawings.com

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360-473-5290

SOME RESTAURANT
123 MAIN STREET
BREMERTON, WA 98337

SIZE	FSCM NO	DWG	REV
		FIRE SYSTEM	

SCALE N/A SHEET 1 OF 8

PART NUMBER	DESCRIPTION	QTY
16207	IS35ABC TANK	2
14929	CYLINDER BRACKET	2
18000	MRM II	1
12524	MICROSWITCH	2
18312	ALARM INITIATING MICROSWITCH	1
16172	TOTAL FLOOD NOZZLE	4
16190	DUCT NOZZLE	1
16192	SCREENING NOZZLE	2
10147	PNUMATIC CONTROL HEAD	2
12856	NITROGEN CYLINDER	1
12508	DETECTOR	3
12327	FUSIBLE LINK - 280 F	3
12309	CORNER PULLEY	25
14320	MANUAL PULL STATION	1

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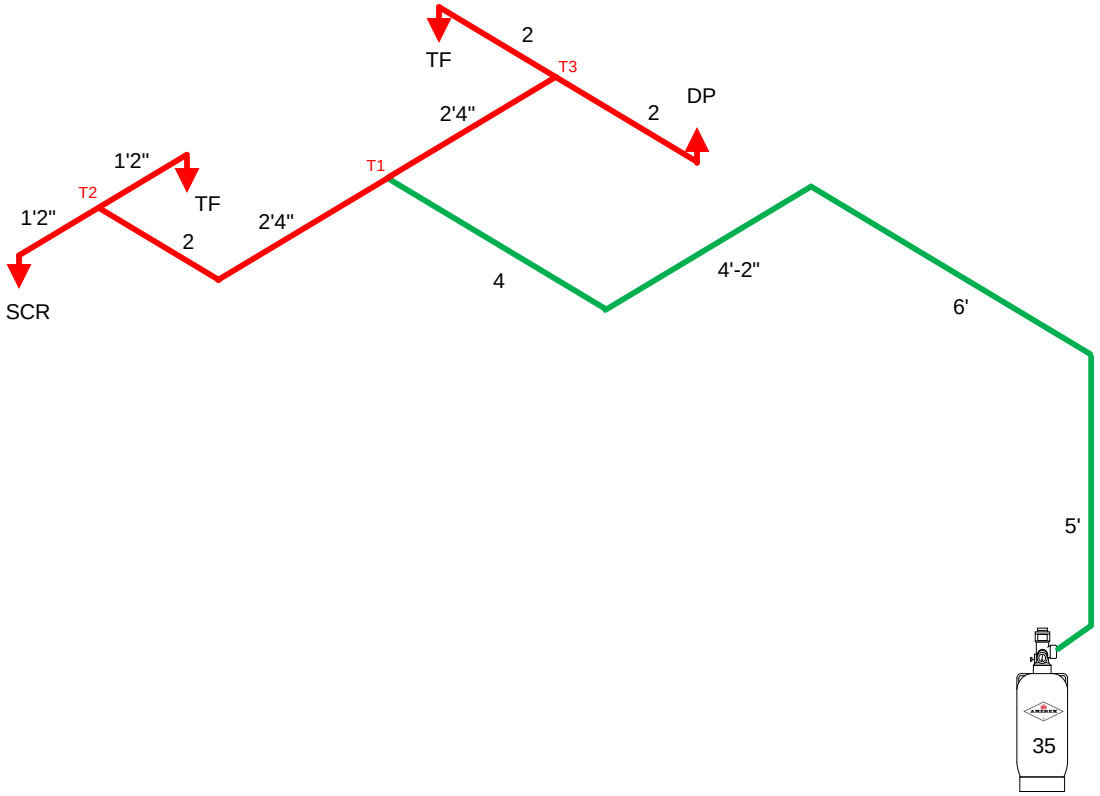
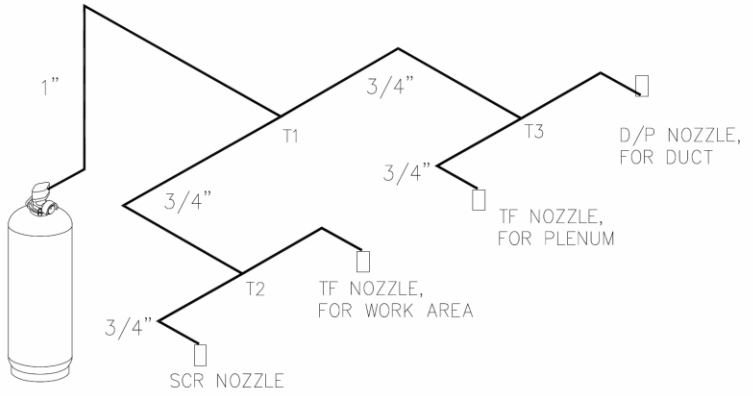
		FIRE SYSTEM	

SCALE N/A



PIPING ISOMETRIC TANK #1
NOT TO SCALE
35 LB TANK



Open Front Paint Spray Booth, IS35ABC, Four Nozzles, With Duct Protection:

Cylinder Size	Nozzle Quantity	Nozzle Type	Piping Section	Pipe Size, in.	Maximum Length, ft.	Maximum # of Elbows
IS35ABC	4		Cylinder to T1	1	22	4
			T1 to T2/T3	¾	10	1
		SCR	T2 to SCR	¾	8	2
		TF	T2 to TF (Work Area)	¾	8	2
		TF	T3 to TF (Plenum)	¾	8	2
		D/P	T3 to D/P (Duct)	¾	10	3

The maximum elevation of any D/P nozzle above cylinder is 23'4". The maximum elevation of the remaining nozzles is 12 feet above cylinder.

PIPE SIZES
1" Ø PIPE
3/4" Ø PIPE

ALL PIPING LENGTHS SUBJECT TO FIELD VERIFICATION AND ADJUSTMENT BASED ON ACTUAL INSTALLATION CONDITIONS AND TANK LOCATIONS – TOTAL PIPE LENGTH AND FITTING COUNT SHALL NEVER EXCEED MAXIMUM ALLOWED AS DETERMINED BY THE SYSTEM MANUFACTURER

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		FIRE SYSTEM	

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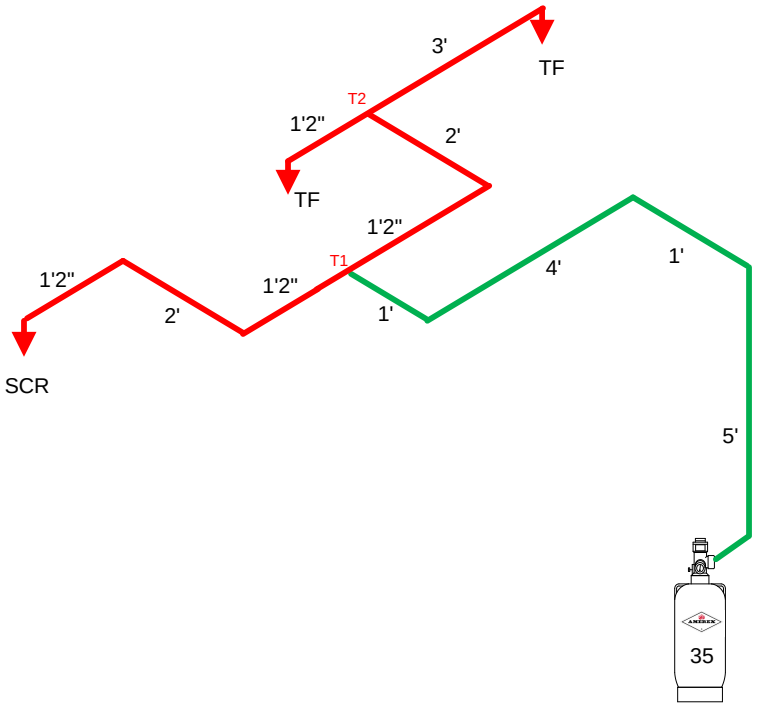
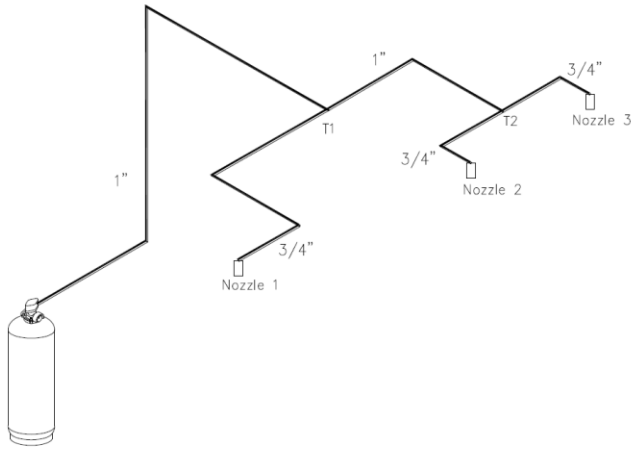
SHEET 3 OF 8



PIPING ISOMETRIC TANK #2
NOT TO SCALE
35 LB TANK



Open Front Paint Spray Booths,
SCREEN, WORK AREA, PLENUM, and DUCT Coverages, IS35ABC, Three Nozzles:

Cylinder Size	Nozzle Qty.	Nozzle Type	Piping Section	Pipe Size, in.	Maximum Length, ft.	Maximum # of Elbows
IS35ABC	3	Any of the following three combinations: -N1: D/P -N2 / N3: TF **or** -N1: TF -N2: SCR -N3: TF **or** -N1 / N2 / N3: TF	Cylinder to T1	1	20	3
			T1 to T2	1	8	2
			T1 to N1	¾	14	3
			T2 to N2/N3	¾	8	2

The maximum nozzle elevation above cylinder is 12 feet.

PIPE SIZES
1" Ø PIPE
3/4" Ø PIPE

ALL PIPING LENGTHS SUBJECT TO FIELD VERIFICATION AND ADJUSTMENT BASED ON ACTUAL INSTALLATION CONDITIONS AND TANK LOCATIONS – TOTAL PIPE LENGTH AND FITTING COUNT SHALL NEVER EXCEED MAXIMUM ALLOWED AS DETERMINED BY THE SYSTEM MANUFACTURER

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SIZE	FSCM NO	DWG	REV
		FIRE SYSTEM	

SCALE N/A SHEET 4 OF 8

3A.5.1 Open Front Paint Spray Booths (OFPSB) Nozzle Coverages

Work Area and Plenums:
The Amerex Industrial System is flexible enough to protect a wide variety of Open Front Booth dimensions. The maximum parameters for each Module are given in the following table:

Protection	Nozzle Used	Dimensions Per Nozzle L x W x H	Maximum Specifications	Nozzle Location within Protection Zone	Nozzle Offset*	Nozzle Orientation
Screening	SCR	-- 8' x 12'	Side = 8'	Length-At Front Edge Width-Center	0" to 6"	Vertical, Pointing downward; nozzle holes parallel with booth front
Work Area	TF	8' x 8' x 12'	Area = 64 $ft.^2$ Side = 8'	Length-Center Width-Center	0" to 6"	Vertical, Pointing Downward
Plenum	TF	4' x 8' x 12'	Volume = 384$ft.^3$ Area = 32$ft.^2$ Side = 8'	Length-Center Width-Center	0" to 6"	Vertical, Pointing Downward

*Nozzle Offset is the maximum distance from the tip of the nozzle to the nearest edge of the protected zone.

GENERAL NOTES:

1.System shall be Pre-Engineered

2.System shall be manufactured by AMEREX COPORATION – TRUSSVILLE AL

3.AMEREX INDUSTRIAL SYSTEMS have the following Listings and Approvals:

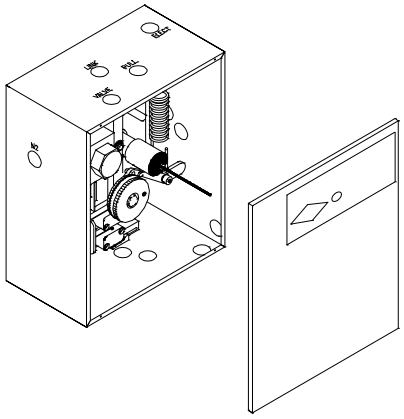
Underwriters Laboratories Inc, UL EX 5208

4.System Temperature Limitations – -20F min / 120F Max

5.Installation requirements, nozzle limitations and design criteria shall comply with the AMEREX INDUSTRIAL DRY CHEMICAL FIRE SUPPRESSION SYSTEM manual and all addendums as published by AMERX CORPORATION

6.All required electrical work shall be performed by others and is not included on this shop drawing.

7.All required plumbing work shall be performed by others and is not included on this shop drawing



Mechanical Release Module II (Item 5): The new MRM II combines the same features and functionality of the 11977 MRM along with increased detection capabilities and a far simpler means of setting the detection cable tension. The MRM II is available in the following configurations, now pre-installed in its own enclosure:

P/N 18000: MRM II with red-painted steel enclosure
P/N 18001: MRM II with stainless steel enclosure

The method of setting the detection cable tension on the MRM II does not require the use of any tools (once the cable is locked down into the large, knurled wind-up spool). A large lever to the right of the spool is used to increase the cable tension. Alignment of the bottom edge of the lever with markings on a label on the mounting plate indicates when the proper tension has been reached. In addition to being easier to set up, lowering cable tension to change out detection links is now also much simpler.

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		FIRE SYSTEM	

SCALE N/A SHEET 5 OF 8

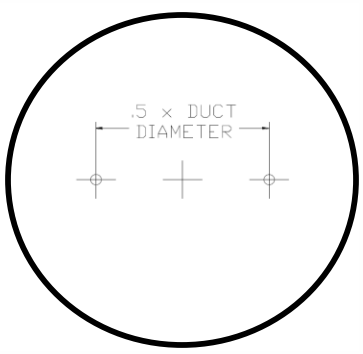
3A.4.3 Duct Coverage, VPSB

The D/P Nozzle will protect either round or rectangular ducts up to 28 feet in length. Any change in duct direction or additional length requires an additional D/P nozzle. The duct nozzle must be centered at the duct entrance, pointed in the direction of air flow. The tip of the duct nozzle must be within 6" of the duct entrance.

Round Ducts

Maximum Diameter, Single Nozzle = 46 Inches
Maximum Diameter, Two Nozzles = 52 Inches
(nozzle spacing: .5 x duct diameter, located on the same plane)

Spacing for two nozzles, protecting a duct diameter larger than 46", up to 52" maximum



Rectangular Ducts

The following table shows sample maximum rectangular dimensions, based on the following two requirements:
Maximum Perimeter = 144.5 Inches
Maximum Diagonal = 46 Inches

Rectangular Ducts	
Side 1, Inches	Side 2, Inches, Maximum
12	44.4
14	43.8
16	43.1
18	42.3
20	41.4
22	40.4
24	39.2
26	37.9
28	36.5
30	34.8
32	33.0
32.5	32.5
34	31.0
36	28.6
38	25.9
40	22.7
42	18.7
44	13.4

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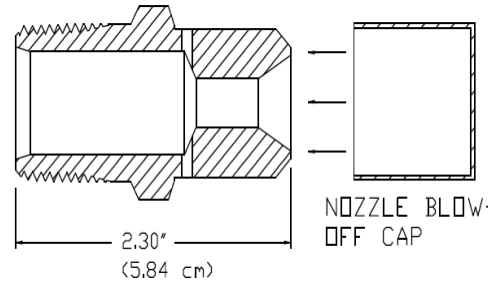
		FIRE SYSTEM	

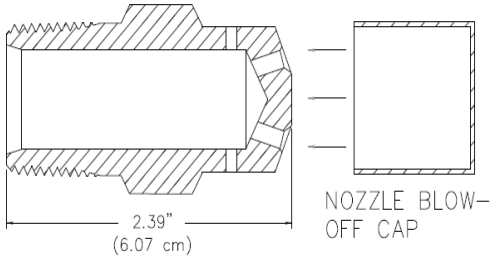
SCALE N/A SHEET 6 OF 8

DISCHARGE NOZZLES



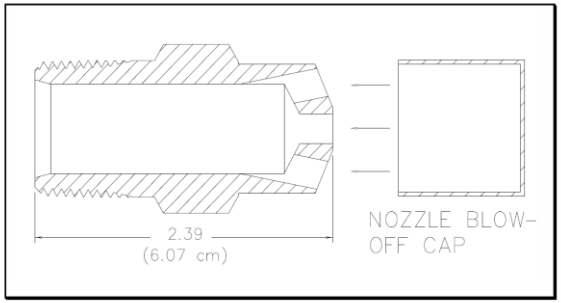
Duct and Plenum (D/P) Nozzle, (P/N 16190)

This nozzle is designed to protect exhaust ducts and certain plenums in Vehicle and Open Front Spray Booths (see Chapter 3A).



Total Flood (TF) Nozzle (P/N 16172)

This nozzle is designed for Total Flooding Application of Dry Chemical Agent into an enclosure with no more than 5% total uncloseable openings. See Chapter 3A for other limitations. It is also used in Vehicle Paint Spray Booth and Open Front Spray Booth applications (see Chapter 3A).

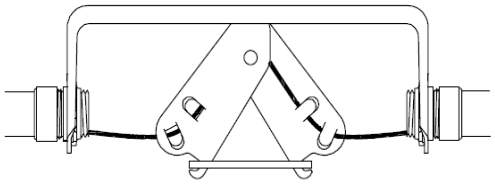


Screening (SCR) Nozzle (P/N 16192)

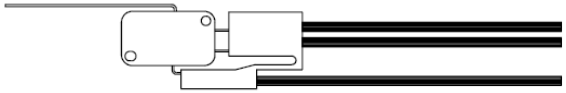
This nozzle is designed to protect the opening of the Work Area in an Open Front Spray Booth (see Chapter 3A).

Detector – MRM Installations (Item 23): P/N 12508

Each Detector in the Amerex Industrial System is comprised of three parts. The Detector Bracket, Detector Linkage, and the Fusible Link or Job Link (ordered separately). The Bracket serves as support for the Linkage and is attached to a rigid surface. The Linkage supports the Link and a continuous Cable under tension. At a predetermined temperature, the Link will separate, relieving tension on the Cable and actuating the system.



MICRO SWITCH - SPDT



RED: COMMON
YELLOW: N.O.
BLACK: N.C.

Part Number	Contacts	Rating
12524	SPDT Single-Pole, Double-Throw	21A 1HP 125m 250, 277 VAC 2HP 250, 277 VAC

Warning: Power to electrical appliances should never be run through the Microswitch. The switch should be used to operate a separate, contractor-supplied, electrical contactor or magnetic switch of sufficient rating to handle the power requirements of the appliances. All electrical field wiring should be performed by a licensed electrician.

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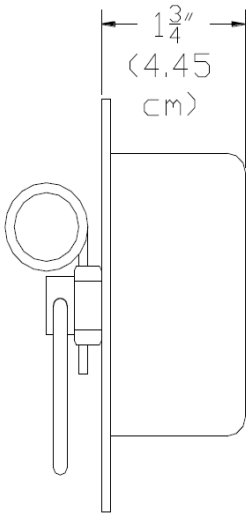
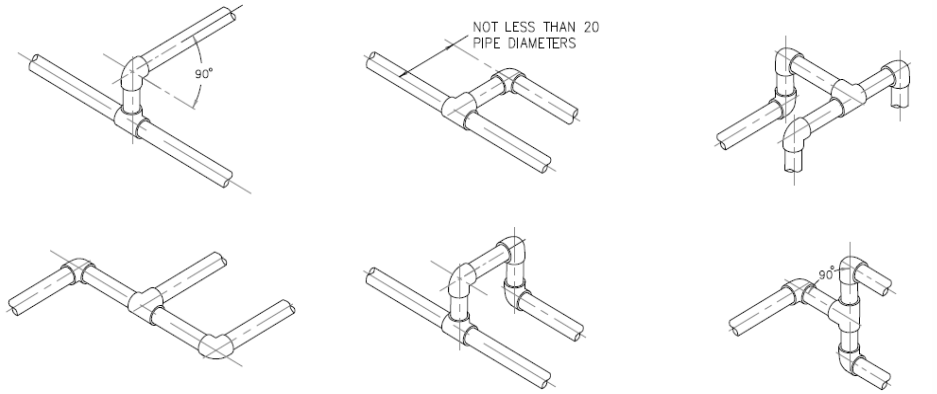
SCALE N/A



Manual Pull Station (Oversized)– MRM Installations (Item 32): This Manual Pull Station may be either surface or recess mounted. The oversized cover is large enough to cover the sheet rock access hole and remain attractive and functional. Every Amerex Industrial System must use at least one Manual Pull Station **(P/N 14320).** This device provides a means of discharging the system manually. **Manual Pull Stations should be located in a Path of Egress and mounted at a height conforming with the Local Authority Having Jurisdiction**

The flow of the mixture of dry chemical and gas does not strictly follow general hydraulic principles because it is a two-phase flow. Changes in direction of flow cause separation of expellant gas and dry chemical. To provide proper distribution of dry chemical upon splitting the stream, special attention must be given to the method in which an approach is made to a tee after a change in direction. Certain acceptable methods are shown below, which are taken from NFPA 17, the Standard for Dry Chemical Extinguishing Systems:



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		FIRE SYSTEM	

SCALE N/A SHEET 8 OF 8