



MANUAL FOAM SYSTEM

MODELS:

MFA200 Class A Foam

MFA201 Class B Foam

MFA220 Class A and B Foam

Use this table to select the proper value position to match your water flow when injecting foam

WATER FLOW	VALVE POSITION		
	GPM	1/4%	1/2%
50	0.5	1	2
100	1	2	4
150	1.5	3	6
200	2	4	7
250	2.5	5	8
350	3.5	6.5	9
500	5	8	10
750	6.5	9	11
1000	8	10	

FRC CLASS A FOAM MF 200

Use this table to select the proper value position to match your water flow when injecting foam

WATER FLOW	VALVE POSITION	
	GPM	3%
50	1	2
100	2	4
150	3	6
200	4	7
250	5	8
350	6.5	9
500	8	10
750	9	
1000	10	

FRC CLASS B FOAM MF 201

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Overview

Fire Research Corporation's Manual Foam System consists of a metering valve and eductor. The Class A and B 'dual' system has two independent metering valves utilizing a common eductor. The eductor operates on a venturi principle to create a suction at its intake that pulls the foam into the pump. The metering valve regulates the amount of foam being pulled into the system. The operator must constantly monitor the flow from the pump either by summing the flow meter readings or estimating the flow.

Manual Foam System Components

MFA200 Class A Foam System

Eductor

Panel Mounted Metering Valve

Operator Control Panel

Instruction Panel

MFA201 Class B Foam System

Eductor

Panel Mounted Metering Valve

Operator Control Panel

Instruction Panel

MFA220 Class A and B Foam System

Eductor

Two Panel Mounted Metering Valves

Two Operator Control Panels

Instruction Panels

Specifications

Operator Control Panel

Controls: Selector Knob to Control the Metering Valve

Size: 4 by 6 Inches

Metering Valve

Panel Mounted Variable Orifice Type

Material: Stainless Steel

Inlet/Outlet: Victaulic Type or NPT

Eductor

Dependent upon application.

Capacities

Maximum Intake Pressure:	12 PSI
Maximum Discharge Pressure:	Unlimited
Minimum Discharge Pressure:	130 PSI
MFA200 System Capacity (Class A Concentrate):	5 GPM
MFA201 System Capacity (Class B Concentrate):	30 GPM
System Range	Refer to Table 2

Note: If the foam tank pressure/vacuum relief valve is not operating properly, foam flow rates could be impacted.

Table 1. Foam Systems Range

Model #	Foam Type	Foam %	Water Flows
MF200	Class A	1/4, 1/2, & 1%	50 to 1000 gpm
MF201	Class B	3 & 6%	50 to 1000 gpm

Plumbing Recommendations

(Plumbing not supplied by FRC.)

Refer to Figures 5, 6, and 7 for typical schematics.

Foam Shutoff Valve

¼ Turn Ball Valve

Material: Brass

Inlet/Outlet: NPT Female

Water Valve

¼ Turn Ball Valve

Material: Brass

Inlet/Outlet: NPT Female

Check Valve

Vertical Gate Type

Material: Brass

Inlet/Outlet: NPT Female

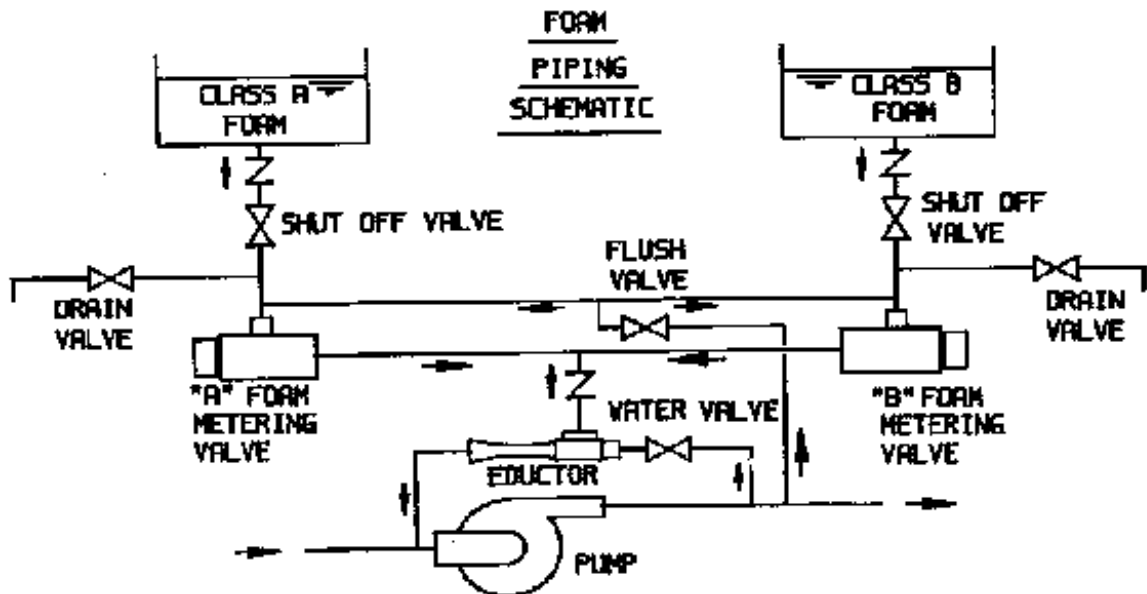


Figure 1. Piping Schematic

INSTALLATION

Note: Installation procedures for the MF200 and MF201 Manual Foam Systems are the same.

Install Metering Valve and Control Panel

Note: The panel mounted metering valve is located behind the operator control panel.

1. Drill one 9/16 inch center hole and four through holes for 1/4-28 screws to mount metering valve. (Refer to Figure 3.)
2. Hold metering valve in position.
3. Line up control panel with mounting holes and install four mounting screws.
4. Close the metering valve by turning the valve shaft fully clockwise.
5. Install the selector knob on the valve shaft with the position indicating line at the OFF position and tighten two set screws.

Installing Eductor

Install eductor with plumbing as recommended in the plumbing schematics. (Refer to Figures 5, 6 or 7 depending on the system being installed.)

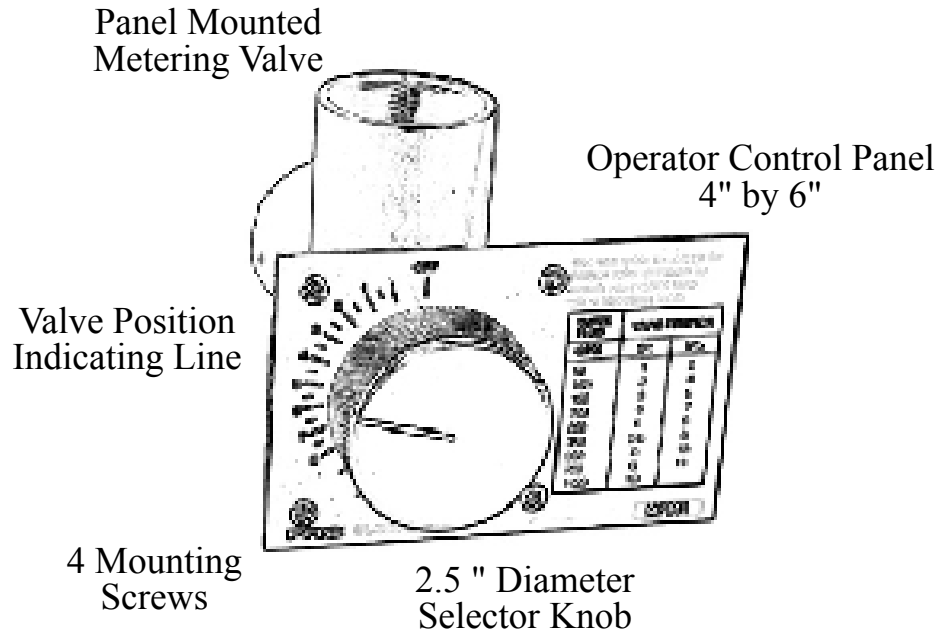


Figure 2. Metering Valve and Control Panel

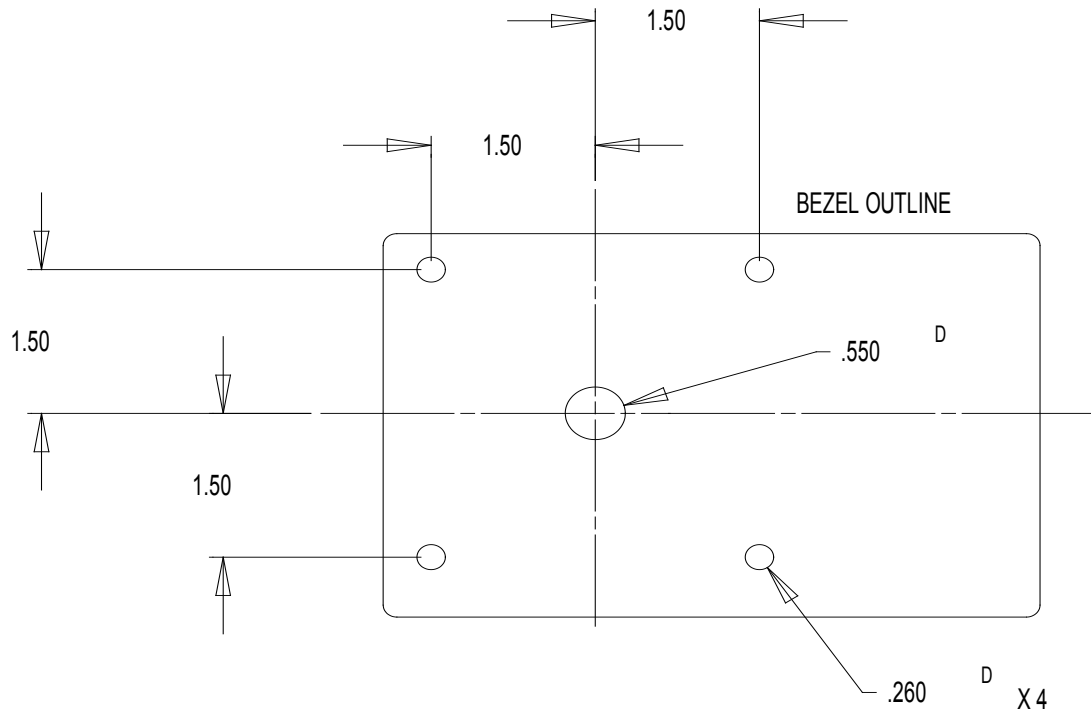


Figure 3. Deminsions for Mounting Holes

OPERATION

Foam flow is controlled by the foam metering valve. This valve is operated by turning the control panel selector knob. Setting the proper valve position is dependent on discharge water flow and the desired foam percentage. The table on the operator control panel is used to determine the proper selector knob position to match water flow at a desired foam percentage.

Note: Operate the valves through entire range monthly to ensure readiness.

Operate Foam System

Note: For MFA220 dual foam system, never have Class A and Class B foam metering valves open at the same time.

Start Foam Flow

1. Determine current pump discharge water flow in GPM.
2. Make sure pump intake pressure is less than 12 PSI.
3. Make sure pump discharge pressure is over 100 PSI.
4. Make sure Tank Fill Valve is shut.
5. Open Eductor Water Valve.
6. Open the Foam Shut Off Valve.

Note: If the foam tank pressure/vacuum relief valve is not operating properly, foam flow rates could be impacted.

7. Select the proper valve position. Refer to the table located on the control panel.
8. Rotate selector knob to selected valve position to open the Foam Metering Valve.

Result: Metered foam will flow into pump intake.

Note: If discharge flow stops rotate the control knob to OFF immediately.

Stop Foam Flow

1. Rotate selector knob to OFF.
2. Close Foam Shut Off Valve.
3. Close Eductor Water Valve.

Note: The system must be flushed after use.

4. Flush the foam system.

Flush Foam System

Note: The foam system must be flushed on the same day it has been used.

1. Flow water at discharge.
2. Open Eductor Water Valve.
3. Open Flush Valve.
4. Rotate Selector Knob to position 10 to fully open Foam Metering Valve.
5. Allow water to flow with valves open for one minute.
6. Rotate selector knob to OFF.
7. Close Flush Valve.
8. Close Eductor Water Valve.

Valve Position
Scale

Valve Position
Table

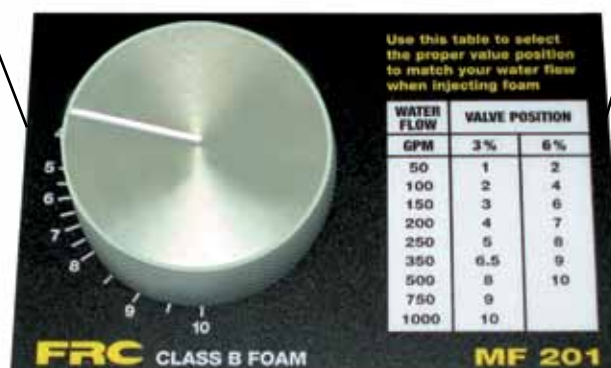
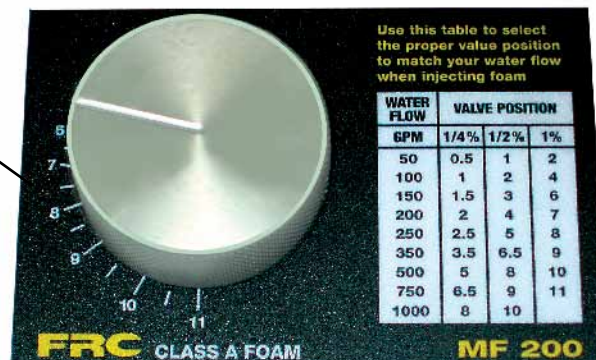


Figure 4. Operator Control Panel

PLUMBING SCHEMATICS

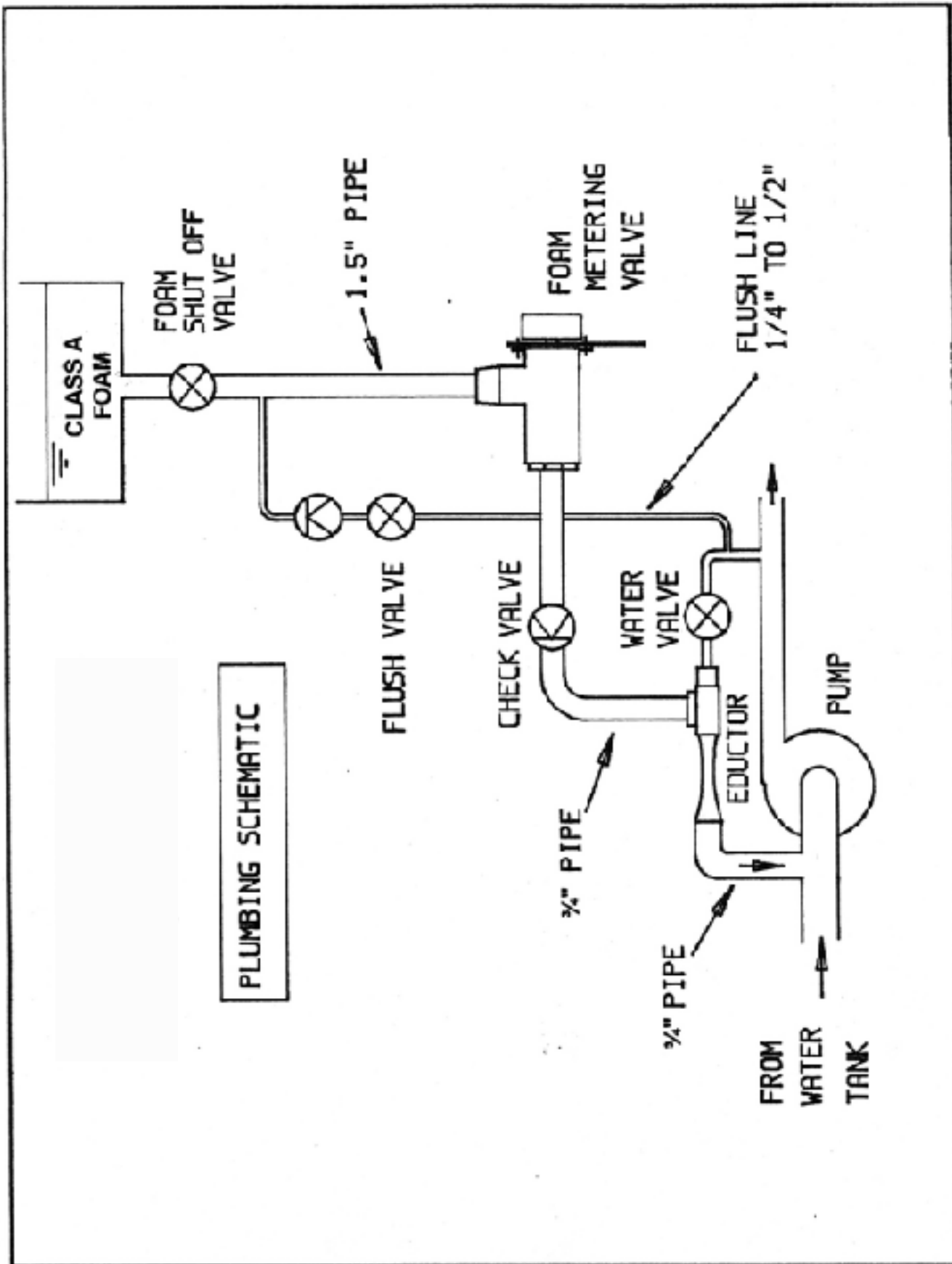


Figure 5. Typical Plumbing Schematic MFA200

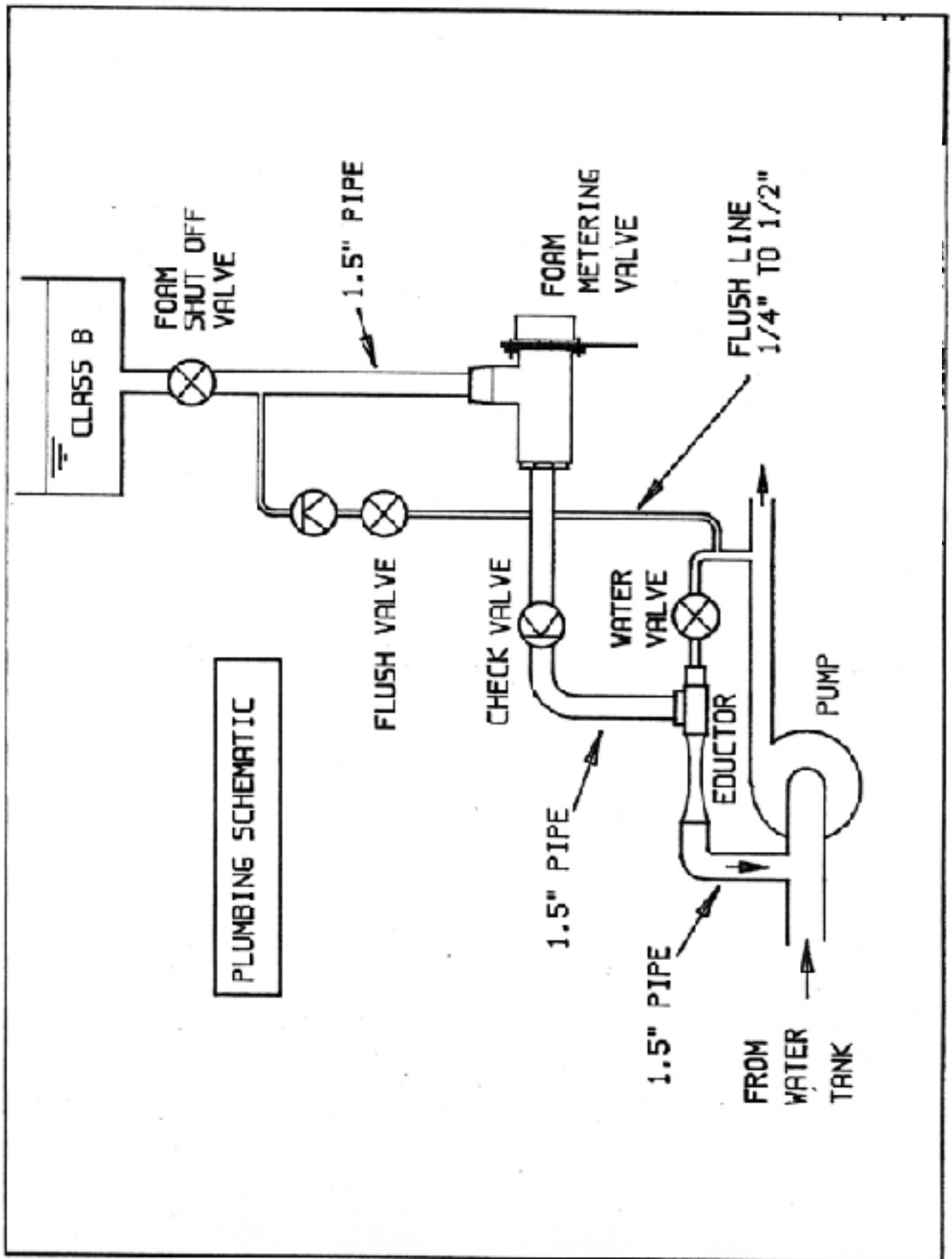


Figure 7. Typical Plumbing Schematic MFA201

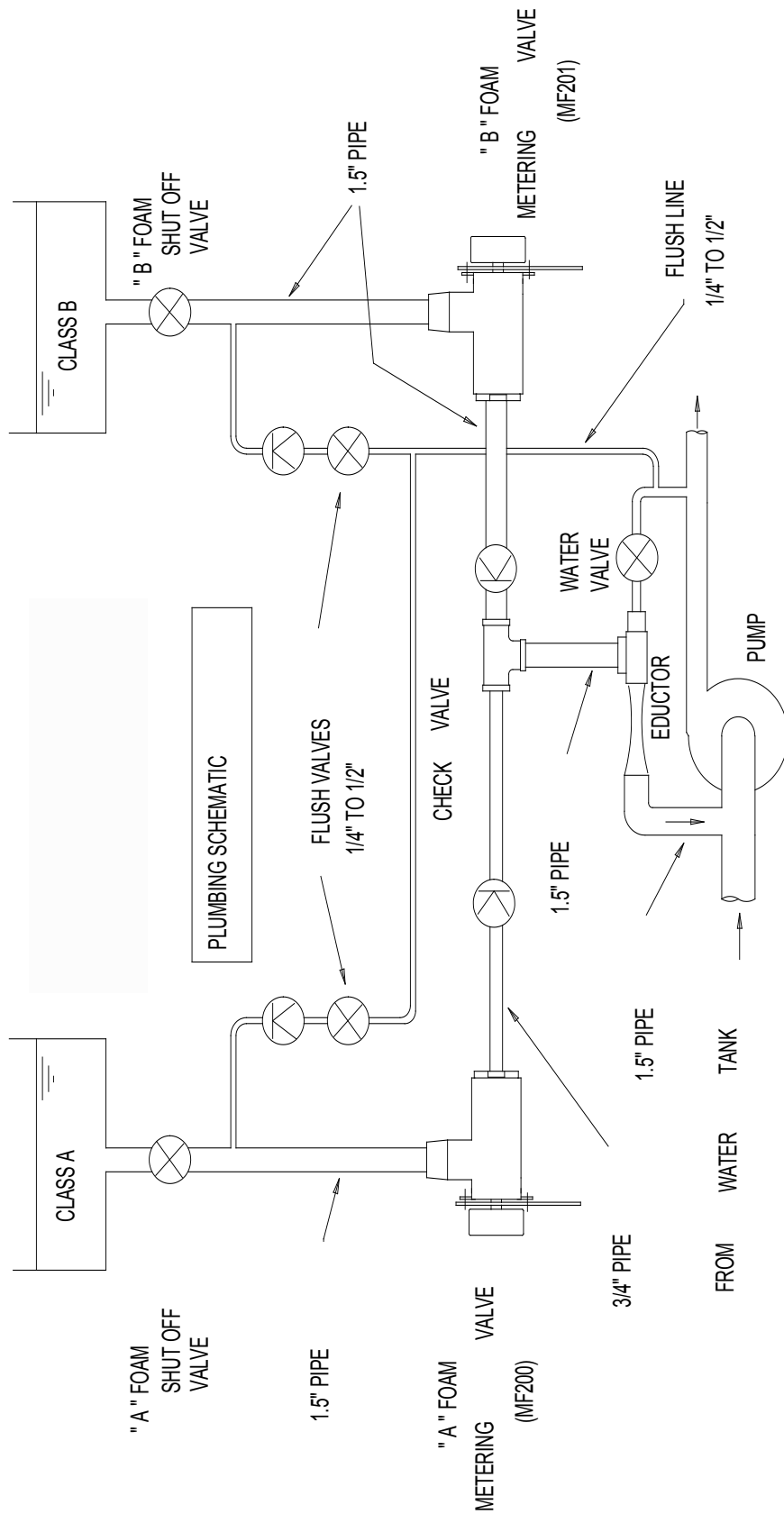


Figure 7. Typical Plumbing Schematic MFA220