

OPERATING & MAINTENANCE INSTRUCTIONS
MODEL APH-1.5
AROUND THE PUMP PROPORTIONER

GENERAL

The Feecon Model APH-1.5 Proportioner is of the Around-the-Pump type. A small percentage of the water pump discharge is passed through the Feecon Eductor to provide the energy required to draw foam concentrate,

wetting agent or any other additive from a tank or storage container into the pump suction line. All components are essentially of bronze or brass construction. Seals are synthetic rubber or teflon.

CAPACITY

The Feecon Model APH-1.5 Proportioner is capable of pro-portioning up to the flows indicated in the following table:

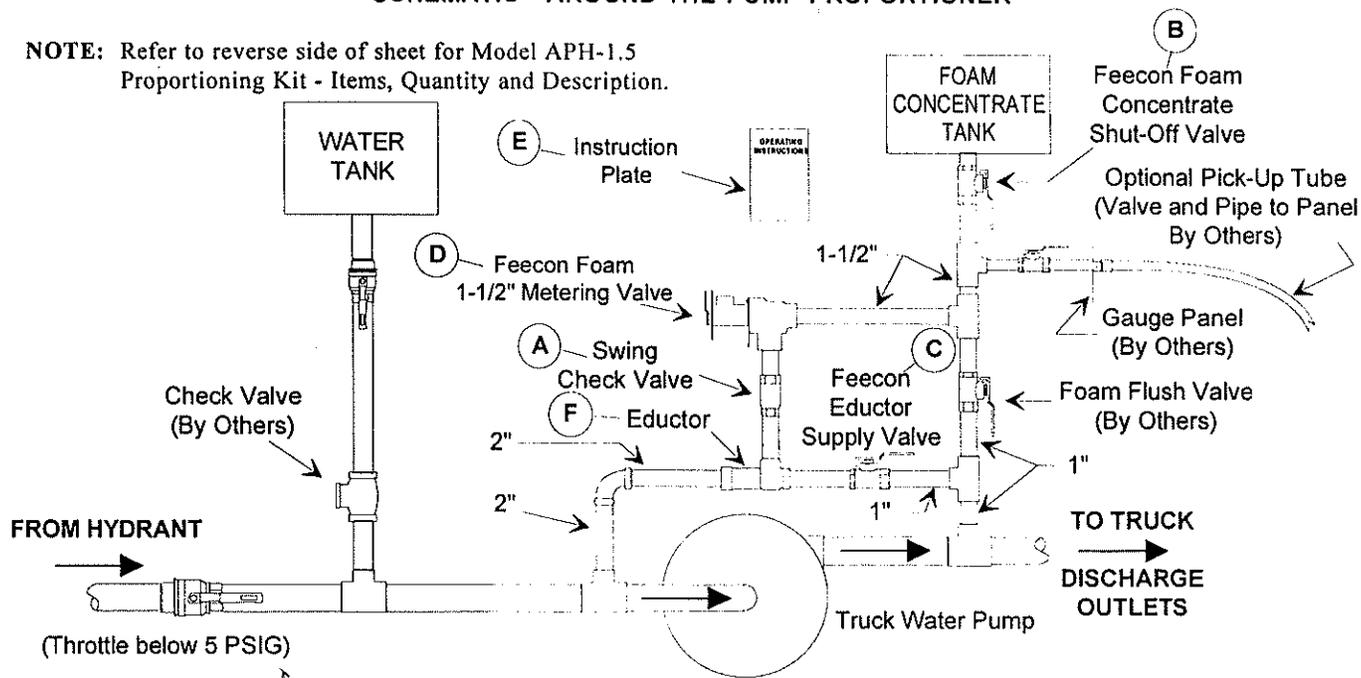
<u>Agent</u>	<u>Flow Rate</u>
6%AFFF	700 gpm
3% Foam Concentrate	1400 gpm
1% Wetting Agent or Hi-Expansion Foam	1400 gpm

OPERATION

1. Open 1" Eductor Valve.
 2. Operator determines flow rate and sets metering valve to deliver proper percentage.
- NOTE:** Instruction Plate mounted on operator's panel gives settings vs. flow rates for various agents.
3. If operating from a hydrant source, check pump suction pressure. Suction pressure must be 5 psi or less or proportioner will not function properly.
 4. Open foam concentrate valve.

SCHEMATIC - AROUND THE PUMP PROPORTIONER

NOTE: Refer to reverse side of sheet for Model APH-1.5 Proportioning Kit - Items, Quantity and Description.



**MODEL APH-1.5
PROPORTIONING KIT**

ITEM	QTY	DESCRIPTION
A	1	1½" Swing Check Valve
B	1	1½" Concentrate Valve
C	1	1" Eductor Valve
D	1	1½" Metering Valve
E	1	Instruction Plate
F	1	Eductor

NOTE:

The Swing Check Valve must be mounted in the horizontal position.

SHUTDOWN

1. Close concentrate valve.
2. Operate the pump with the eductor supply valve open to flush the proportioner, pump and nozzle.
3. Close eductor valve.
4. Open foam flush valve and flush metering valve and check valve.
5. Close foam flush valve.

LIMITATIONS

1. Metering valve must be reset each time the flow rate is changed.
2. Minimum water pressure at the eductor inlet is 125 psi. Water pressure to the eductor shall not exceed 250 psi. For higher pressures, consult Feecon Division of National Foam for a control orifice.
3. The unit will function properly when pumping from the tank or at draft. In hydrant or relay pumping operations, the inlet pressure must be limited. Suction pressure must not exceed 5 psi.

A good alternative is to install a direct tank fill line which does not go through the pump. The pump is then operated continuously from the tank.

4. All discharges must be flushed after operation, even if they were not used.

OPERATING INSTRUCTIONS

**MODEL APH-1.5
FEECON AROUND - THE - PUMP - PROPORTIONER**

1. START AND PRIME PUMP.
2. OPEN THE EDUCTOR VALVE ON DISCHARGE SIDE OF PUMP.
3. OPEN METERING VALVE TO PROPER SETTING.
4. OPEN CONCENTRATE SHUT-OFF VALVE.
5. OPEN NOZZLE AND OPERATE.
6. AFTER OPERATION CLOSE CONCENTRATE SHUT-OFF VALVE.
7. FLUSH WITH CLEAR WATER AFTER USE.

DISCHARGE G. P. M.	METERING VALVE SETTINGS		
	6% FOAM	3% FOAM	1% FOAM
60	1.3	0.9	-
100	2.0	1.3	0.5
200	4.2	2.2	0.9
300	5.2	3.6	1.1
400	5.9	4.6	1.4
500	6.6	5.0	1.7
600	7.7	5.5	2.0
700	8.7	5.9	2.3
800	-	6.2	2.6
900	-	6.7	3.1
1000	-	7.3	3.5
1100	-	7.8	4.0
1200	-	8.4	4.2
1300	-	9.0	4.4
1400	-	10.0	4.6

CAUTION: IF USING HYDRANTS THROTTLE SUCTION PRESSURE TO BELOW 5 PSIG



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Lionville, Pa 19353*

INSTRUCTION PLATE - APH-1.5 PROPORTIONING KIT

MAINTENANCE

The Feecon Model APH-1.5 Proportioner contains no moving parts and is essentially trouble free. Some agents tend to leave a sticky residue which can reduce the carrying capacity of the piping or interfere with proper operation of the check valve. Occasional flushing through the flushing connection with clear water is recommended.

Seals in the metering valve are standard O-ring type and should very seldom require replacement.

The ball valves and check valves are items which should be replaced if operating problems occur.

DATA SHEET #FPR010

AROUND THE PUMP PROPORTIONING KITS

Description

The FEECON Around-The-Pump Proportioner is a simple and inexpensive way to add foam capability to all discharges of a truck. There are two types of AP Kits: one has a manual metering valve and the other has an automatic multi-metering valve. The manual metering valve can be adjusted for different flow rates; the automatic style is used when the flow rates are constant at each outlet on the truck.

The AP System design diverts a portion of the water pump's output from the discharge side of the pump and sends it through an eductor. A vacuum is created at the eductor's foam concentrate inlet, and this vacuum draws foam concentrate through the metering valve and into the eductor. This foam/water mixture is then sent to the suction side of the water pump where it mixes with the incoming water and is distributed throughout the discharge piping.

Features

- Foam At All Outlets
- No Friction Loss or Elevation Restrictions
- Variable Flow Rates
- Simple To Use
- Inexpensive

System Components

- **Eductor**
- **Metering Valve:** Either manual style (mounted on the pump panel), or automatic style.
- **Operations Nameplate:** To be mounted on the pump panel, next to manual metering valve.
- **Swing Check Valve:** To be mounted between the eductor and metering valve.
- **Ball Type Shut-Off Valves:** One valve is installed in the system as the foam concentration tank shut-off, and the other, piped in before the eductor, is installed as the eductor supply valve. These valves can be customer supplied or supplied in Feecon AP Kits.

System Advantages

- **Variable Flow Rate:** The discharge rate can be adjusted for the specific application. The rate is infinitely variable up to the maximum flow of the unit.

- **Variable Pressure:** The system operates at any pressure between 125 & 250 PSI (8.5 & 17 bars).
- The pump engagement procedure is the same with foam or with water.
- **No Back Pressure Restrictions:** The unit is not affected by hose length or elevation loss.
- **No Nozzle Restrictions:** The unit operates with any size or type of fixed gallonage nozzle.

Limitations

- All discharges will have either foam or water at the same time.
- The maximum suction pressure is 5 PSI.
- The unit will function properly from the tank or draft. In hydrant or relay pumping operations, the inlet pressure must be limited. A suitable alternative is to install a direct tank fill line which does not go through the pump. The pump is then operated continuously from the tank.
- All discharges must be flushed after operation, even if they were not used.
- When used with an automatic nozzle the flow must be determined in order to set the metering valve correctly.

Multi-Metering Valve

Designed for applications where the flow rate will be constant from each discharge, such as CFR vehicles. Normally the signal to open the designated foam port is taken from the discharge valve switch, or Flow Switch when a discharge signal is not present. These valves are available with 2" and 2 1/2" inlets and outlets. There are 3, 4, 5 or 6 port units. A different port is required for each different flow. Interchangeable plates are used for 3% and 6% operation. The percentage must be specified. **Additional percentage plates must be ordered separately.**

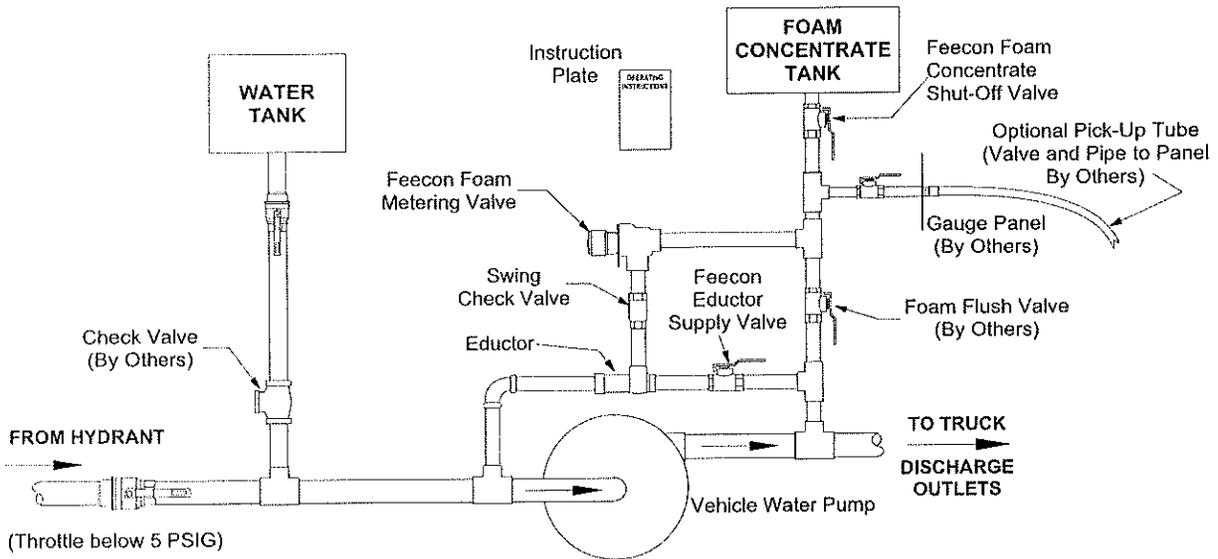
Flow Switch

A Flow Switch is used to activate MMV ports and engine throttle when handline flow is established. It has 1-1/2" grooved connections and activates at about 15 GPM. The maximum flow is 150 GPM.

Optional Pick-Up Tube

Normally the AP kit is used with a built in foam tank. The optional pick-up tube allows the operator to use foam from an alternate source as well as the tank. The normal installation of this option is with an additional shut-off valve behind the panel and a 1-1/2" male inlet through the panel. This inlet requires a 1-1/2" NH thread. The pick-up tube is threaded onto this inlet when required.

The optional pick-up tube is normally used with the APH 1.5. The maximum pick-up rate of this unit is 42 GPM. A 5 gallon pail would be used up in 7 seconds. To maintain this type of flow rate, we recommend that the customer use a large drum or Port-A-Tank so that several people can be pouring foam concentrate into it at the same time.



Ordering Information

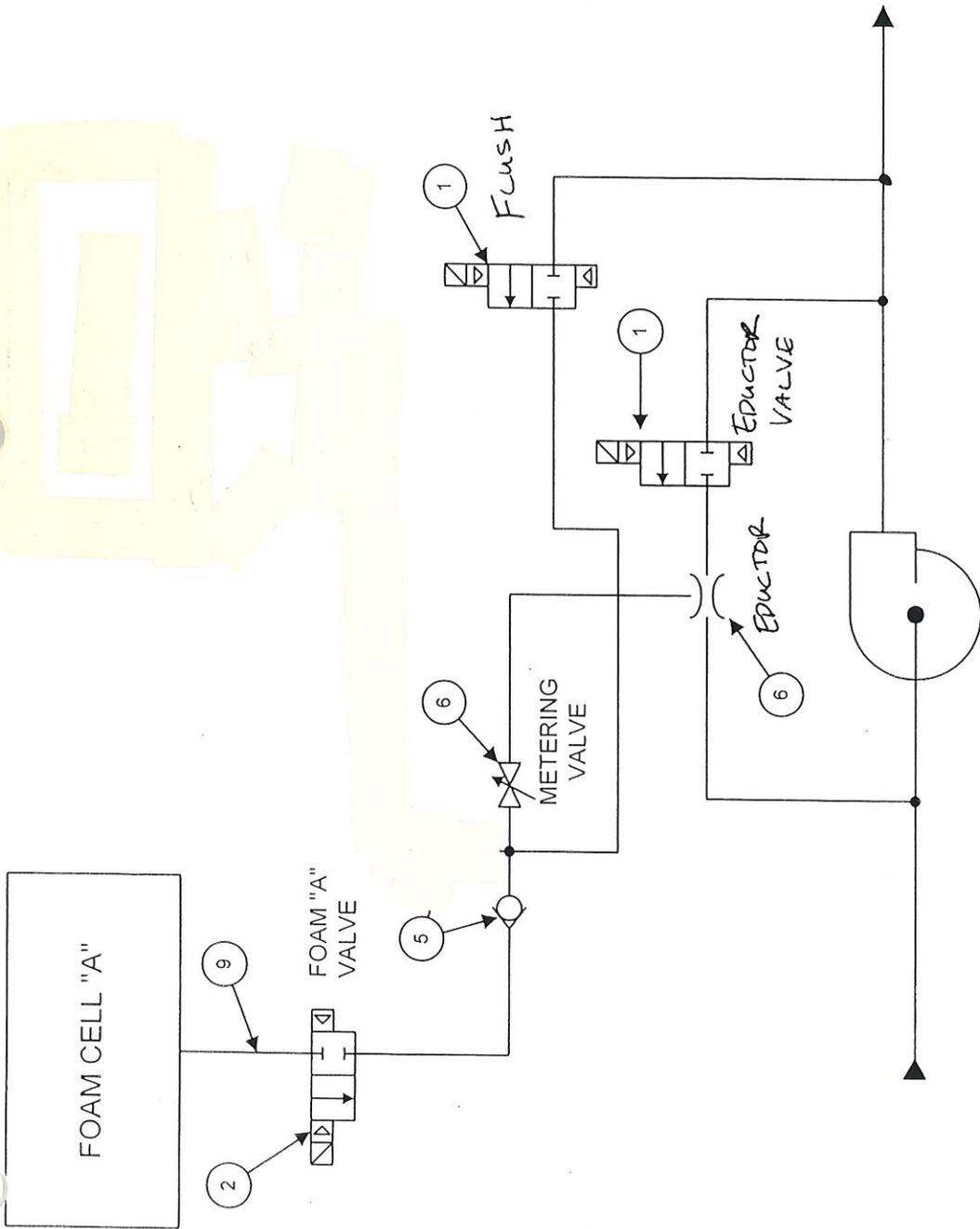
Model or Item	Max. 3% Flow gpm(lpm)	Max. 6% Flow gpm(lpm)	Drive Flow gpm(lpm)	Feecon Part Number	Notes
AP-1.0	400 (1515)	200 (757)	25 (95)	3207-6001-5	Kit with valves
				3217-7003-0	Kit without valves
APH-1.5	1400 (5300)	700 (2650)	85 (322)	3217-7039-5	Kit with valves
				3217-7001-5	Kit without valves
APH-1.5-1%	500 (1900)	250 (950)	85 (322)	3217-7039-6	Kit with valves
				3217-7001-6	Kit with Valves
APH-2.0	2000 (7570)	1000 (3785)	85 (322)	3217-7002-0	Kit with valves
				3217-7002-1	Kit without valves
APH-2.0	2600 (9842)	1300 (4921)	85 (322)	3210-8015-1	Eductor only (use with MMV)
APH-3.0	5000 (18927)	2500 (9464)	150 (568)	3210-8016-0	Eductor only (use with MMV)
Pick-Up Tube				3221-4002-0	
Shut-Off Valve (1-1/2" FNPT x MNH)				1231-1010-7	
Flow Switch				3231-2012-5	

This information is only a general guideline, and each installation may require modifications to meet the applications or requirements of that situation. The company reserves the right to change any portion of this information without notice. Terms and conditions of sale apply and are available on request.

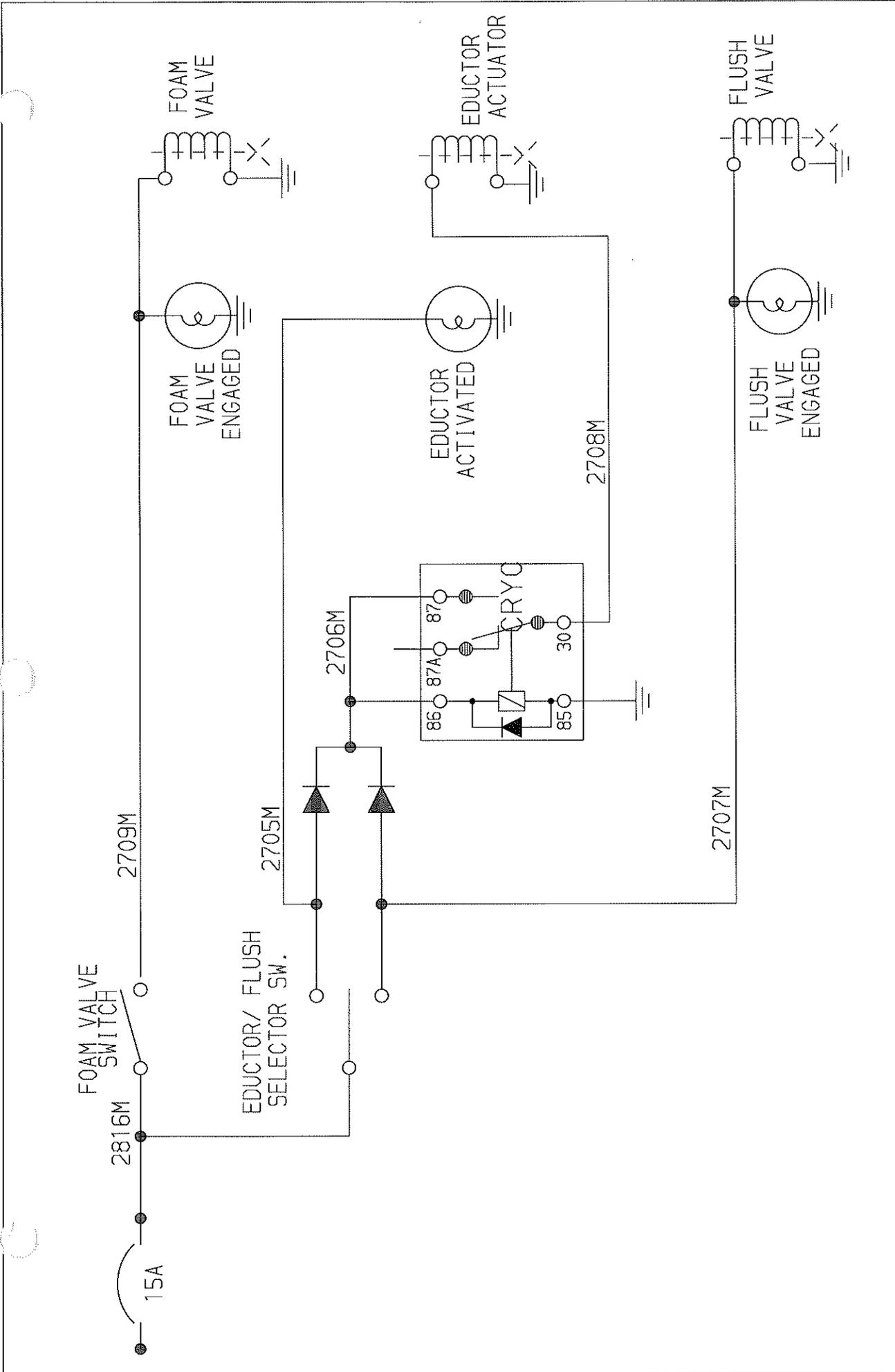
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Fecon 1400



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