



Around-the-Pump (RTP) Foam System Installation Instructions

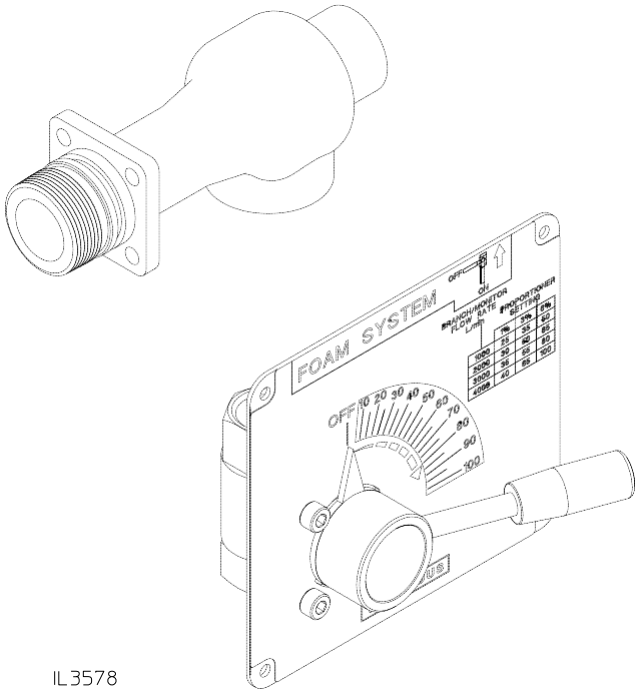


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Read through the installation instructions carefully before installing your Waterous RTP Foam System.

NOTE: Instructions subject to change without notice

Safety Information

Read through the safety information and instructions carefully before installing and operating your Waterous Around-the-Pump Foam System.



WARNING

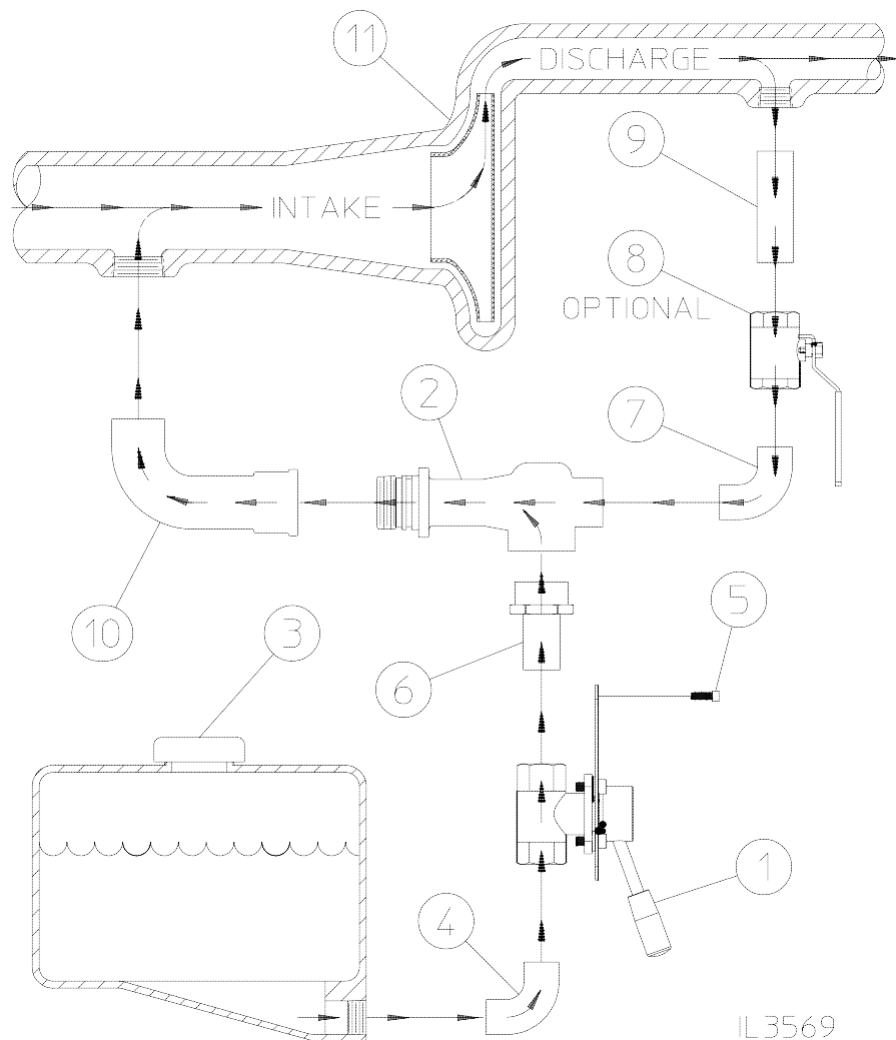
Read these instructions to ensure proper installation of the foam system. Also, to ensure the safety of the equipment and personnel, follow the information below:

- All personnel who may be expected to operate this equipment must be thoroughly trained in its safe and proper use.
- Become thoroughly familiar with the operating characteristics of this equipment.
- Always open and close valves slowly to avoid water hammer.

System Components

Ref. No.	Component	Qty	Size	Furnished By:
1	Proportioning Valve	1	-	Waterous
2	Eductor	1	-	
3	Foam Concentrate Tank	1	-	
4	Piping from Foam Tank to Proportioning Valve	1	1 in. / 25 mm Minimum	Truck Builder
5	Proportioning Valve Mounting Hardware	4	1/4 in. or 6 mm	
6	Piping from Proportioning Valve to Eductor	1	1-1/2 in. / 38 mm Minimum reduced to 1 in. / 25 mm Minimum	
7	Piping from Eductor to Discharge Side Ball Valve	1	1 in. / 25 mm Minimum	
8	Eductor Motive Flow Valve	1	1 in. / 25 mm	
9	Piping from Water Pump Discharge to Eductor Motive Flow Valve	1	1 in. / 25 mm Minimum	
10	Piping from Eductor to Water Pump Intake	1	2 in. / 50 mm Minimum	
11	Water Pump	1	-	

System Components



Overview

The Waterous Around-The-Pump (RTP) Foam System is a simple and inexpensive way to add foam capability to all discharges of the fire pump. The Waterous RTP Foam System consists of an eductor (jet pump) and panel mounted foam proportioning valve. A table on the foam control panel makes setting the proportioner for 1, 3 and 6% foam easy and accurate.

The RTP foam system is activated by a portion of the pump discharge diverted to the eductor motive flow inlet. Dis-

charge pressure is converted to velocity in the eductor, which causes the pressure to drop below 1 atmosphere. Foam concentrate is then drawn (moved by atmospheric pressure) through the proportioning valve and into the eductor. The foam concentrate mixes with the motive flow water flowing through the eductor, then enters the fire pump intake through the eductor discharge. Further mixing with the pump intake flow completes the 1, 3 or 6% foam solution. The foam solution then enters the pump and is distributed to the pump discharges.

Features

- Foam at all discharges
- 1, 3 and 6% foam proportioning
- Easy to use
- Can be installed on most fire pumps
- Inexpensive

Limitations

- No special considerations are required to operate the RTP foam system when pumping from tank or draft. However, operating from a pressurized source such as a hydrant or relay can affect the quality of the foam produced. In these cases, it is recommended to maintain a minimum of 116 psi (8 bar) above the intake pressure at the discharge, to produce a desirable foam product and maintain proportioner accuracy.
- All pump discharges will have foam at the same time.
- All discharges must be flushed with water after operation, even if they were not used. RTP foam systems distribute foam solution to all interior surfaces of the pump and valves. Pump corrosion and stuck valves may result if foam solution is not flushed from the pump after foam system use.

Installation Instructions

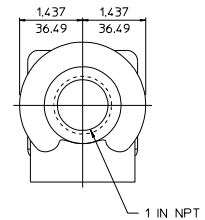
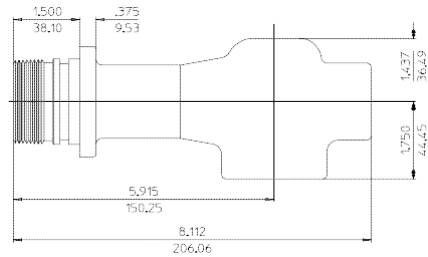
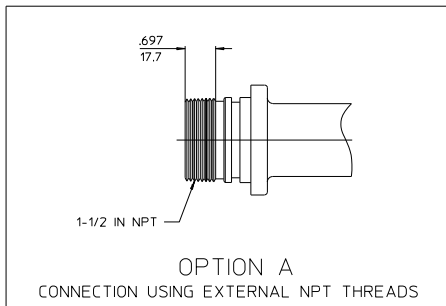
Eductor

- Two options are available for connecting the eductor to the fire pump intake piping.

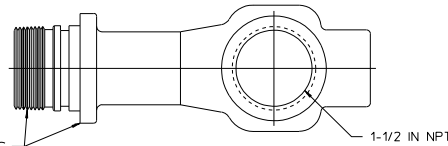
Option A: Pipe connection using 1-1/2 in. NPT female threads. See Option A detail below.

Option B: Flange connection using the eductor 4-bolt flange with an O-ring seal. See Option B detail below for recommended mating fitting dimensions and O-ring.

Eductor Connection

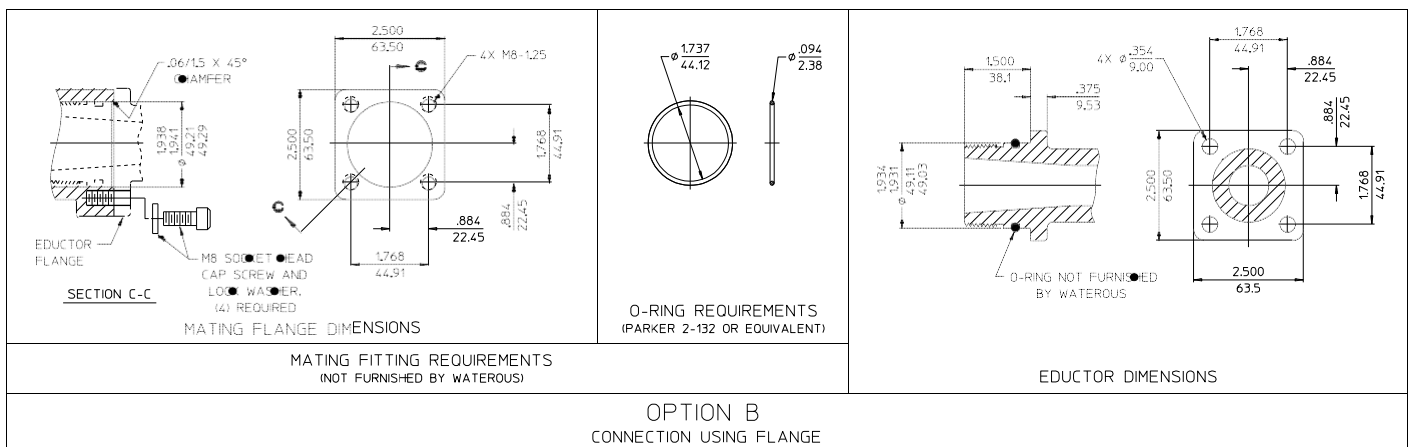


ALL DIMENSIONS SHOWN
AS INCH/MILLIMETER (INCH
MILLIMETER)



SEE OPTIONS A & B FOR CONNECTION METHODS

EDUCTOR DIMENSIONS



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Eductor (Cont'd)

2. Select a location near the fire pump intake piping to install the eductor. Ideally the eductor should be connected directly to a port in the intake piping.

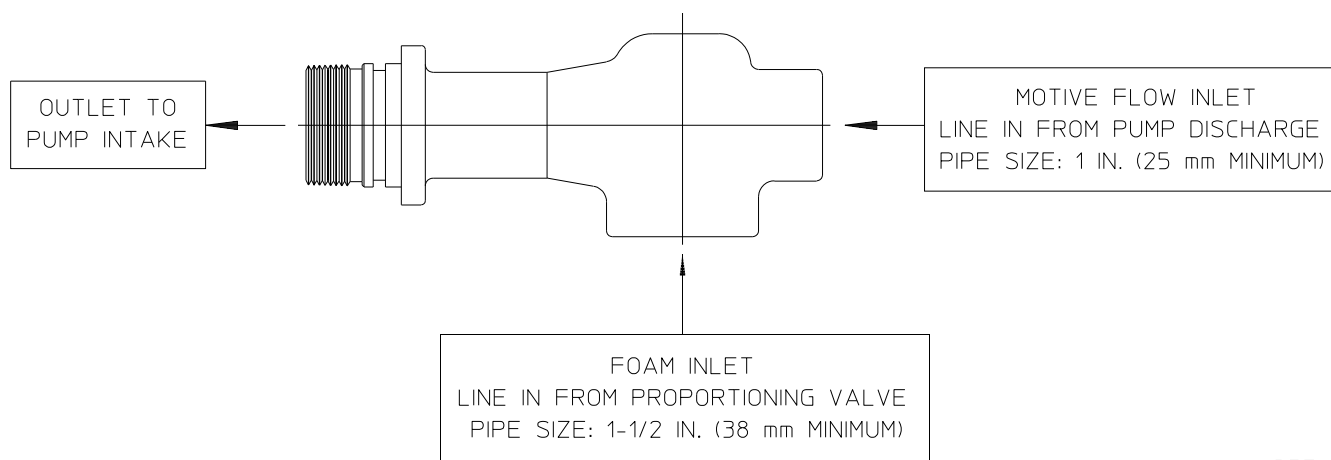
If the eductor must be remote from the pump intake, the distance between the eductor outlet and the intake piping should be minimized.

Plumbing size for this connection should be 2 inches minimum with no sharp bends. Install the eductor with the foam inlet port facing down (see detail below).

3. Connect the eductor motive flow inlet to the pump discharge using hose or pipe, 1 inch minimum (see detail below).

Select a suitable ball valve and install between the eductor motive flow inlet and the pump discharge. This ball valve may be used to shut off flow to the eductor when the foam system is not in use.

Eductor Installation



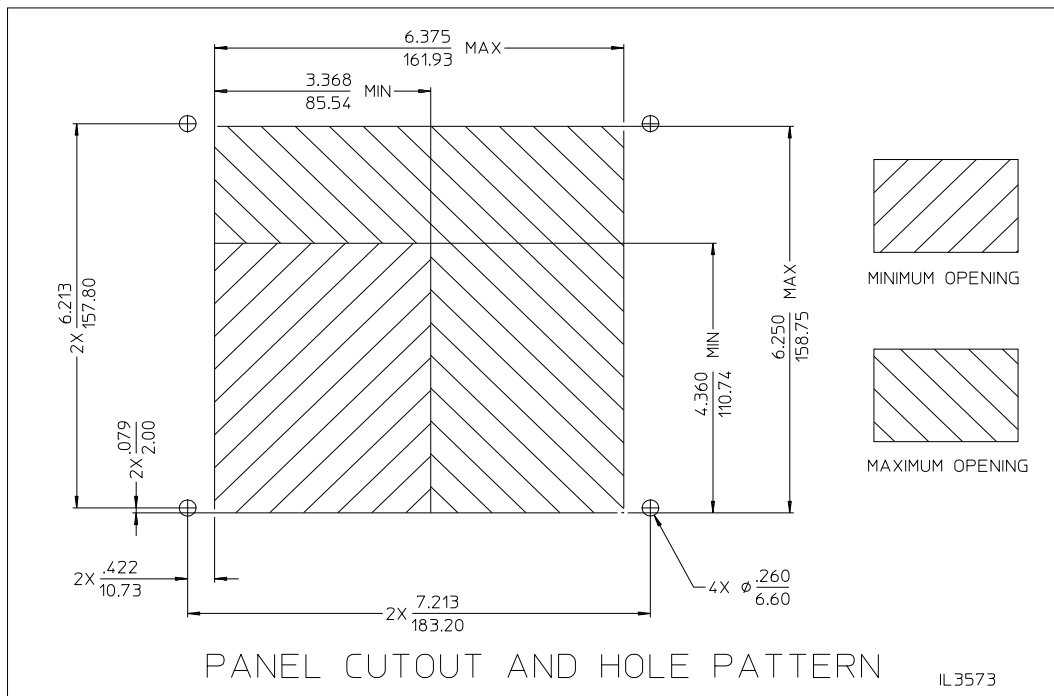
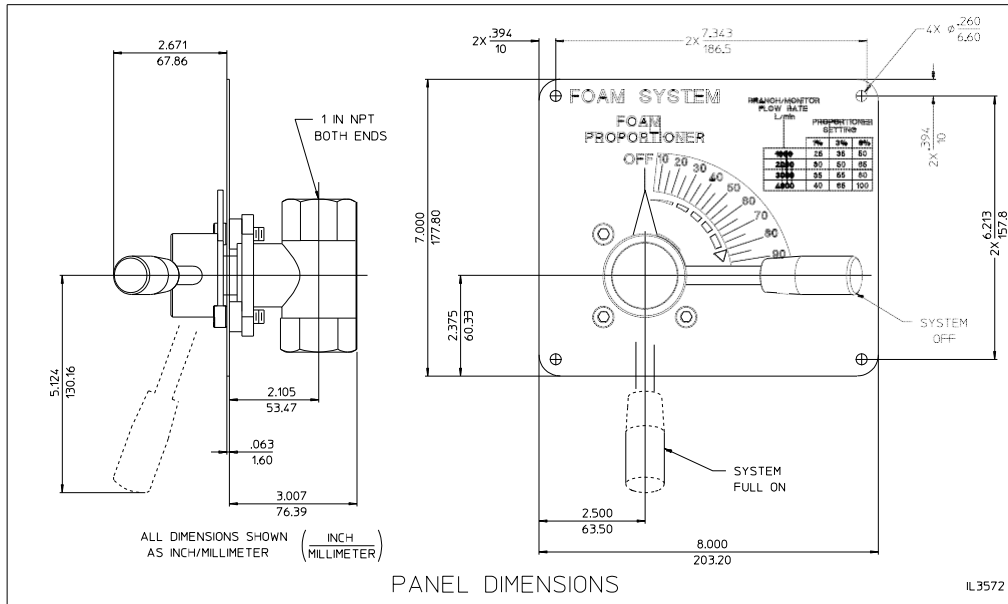
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Foam Proportioner

1. Foam proportioner dimensions are shown below. Select a mounting location for the control panel and mark the location for panel cutout and mounting screws. Panel opening may be any size between the minimum and the maximum dimensions show. Mounting holes are sized for 6 mm screws. See Panel Cutout and Hole Pattern detail below.

Make sure there is clearance behind the panel for the proportioning valve hose or piping connection before cutting.

Foam Proportioner



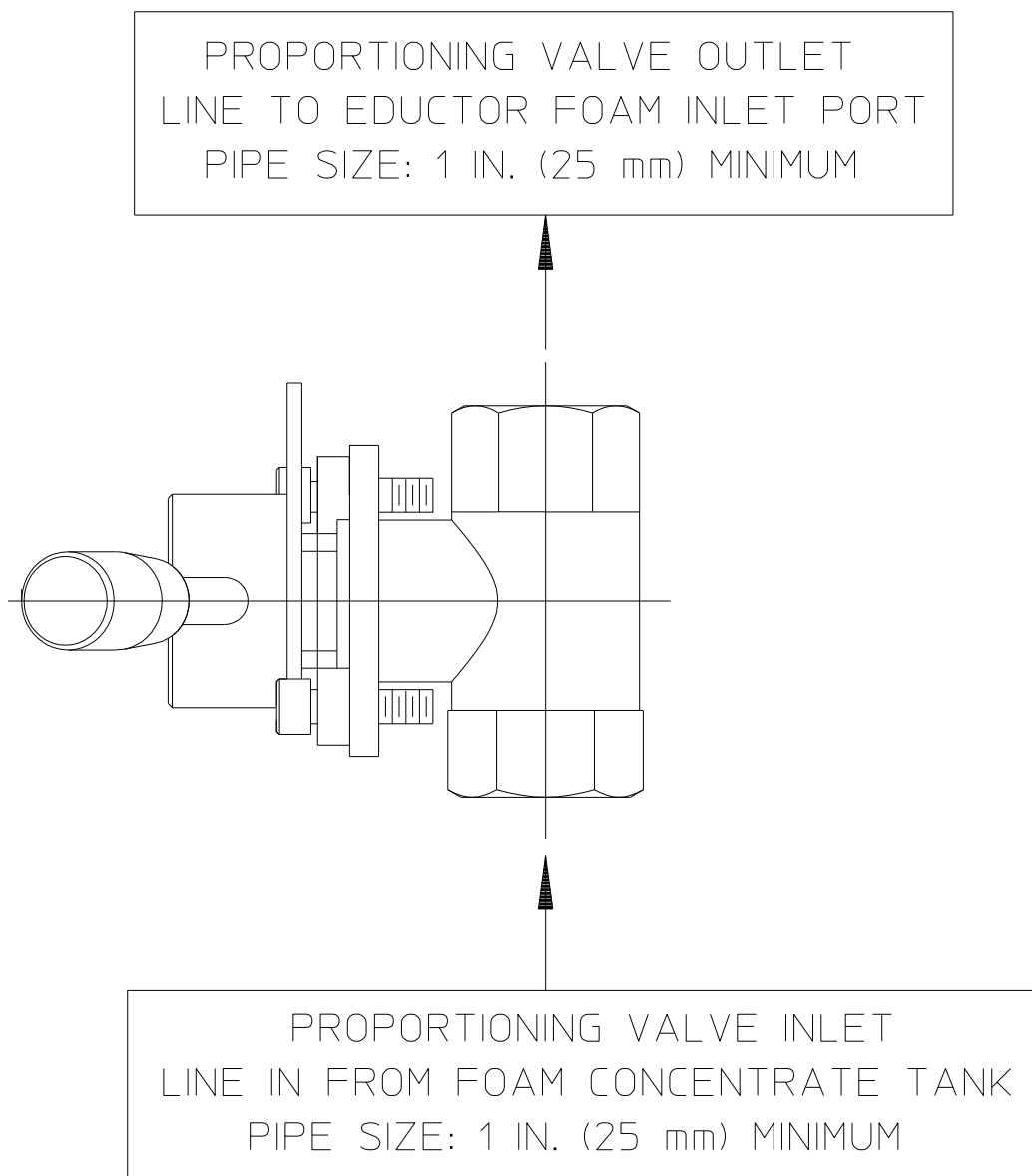
Foam Proportioner Continued

NOTICE

Steps 2 and 3 are for installing the proportioner control panel and connecting plumbing to the proportioning valve. These steps do not have to be done in sequence, as it may be easier to connect plumbing to the proportioning valve before installing the control panel assembly.

2. Install proportioner control panel on panel opening with four 6 mm screws or bolts (not included).
3. Connect line from foam concentrate tank to the lower port on the proportioning valve. Connect the upper port of to the eductor foam inlet port. Piping or hose used for both connections should be 1 in. (25 mm) minimum. the piping to the eductor port will need to be adapted from 1 in. NPT to 1-1/2 in. NPT (see diagram below).

Foam Proportioner Installation



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Operation Instructions

To Start Foam:

1. Operate pump at 8 bar (116 psi) minimum discharge pressure.
2. Open valve that directs discharge flow to the foam educator.
3. Estimate pump discharge flow. Refer to table on foam proportioner control panel and select the setting number based on the pump discharge flow and foam concentrate available (1, 3 or 6%)
4. Turn the proportioner control to the appropriate setting number from the table.

To Stop Foam:

1. Turn the proportioner control to "OFF".
2. Continue to operate the pump and flow water out all discharges for a minimum of 2 minutes to rinse foam solution from pump, lines and valves.
3. If equipped, close valve that directs pump discharge flow to the eductor.