



Darley Fast Foam 150

**Class “A” Foam Proportioner
Instruction Manual**

Odin Foam Division, W.S. Darley

501 Maple Street P.O. Box 386

Janesville, IA 50647

Ph. (319) 987-2226 , Fax (319) 987-2161

www.odinfoam.com

Darley Fast Foam 150 Class “A” Foam Proportioner



Document History

<u>Date</u>	<u>Section Revised</u>	<u>Revision explanation</u>
9.26.19	Priming and Flushing	Added instructions for use of auxiliary priming valve to assist in priming.



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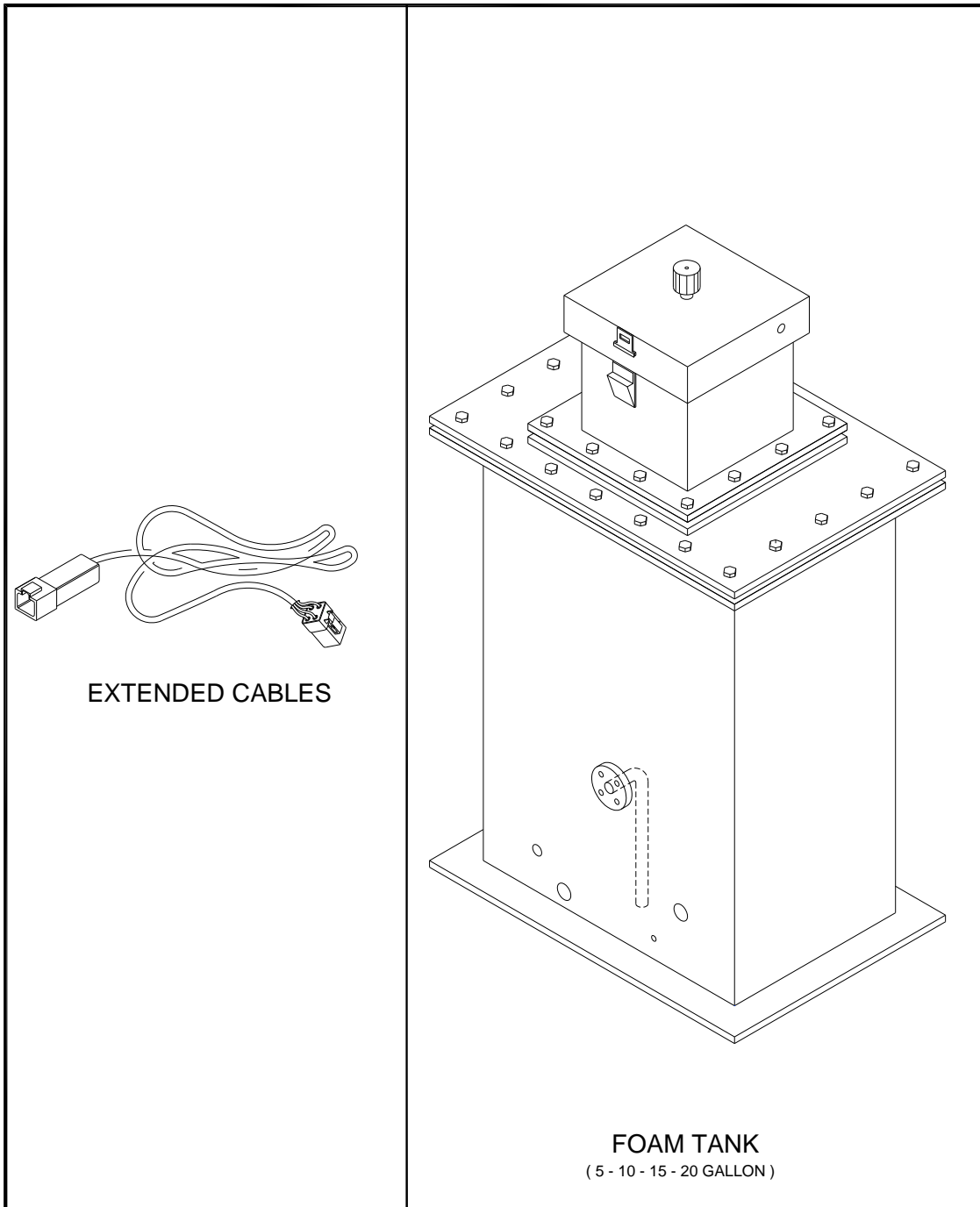


Figure DFF-01
OPTIONAL EQUIPMENT



PRINCIPLE OF OPERATION

The Darley Fast Foam is a BALANCED-PRESSURE, VENTURI PROPORTIONER.

- A. Foam concentrate is drawn from the reservoir, into the concentrate pump through the yellow line.
- B. The foam concentrate is discharged into the pilot-operated, relief-valve assembly through the purple line.
- C. The pilot-operated relief valve maintains concentrate pressure to match the water pressure. The pilot pressure (blue line) is taken before the main check valve.
- D. The pilot-operated relief valve controls the concentrate pressure by allowing excess concentrate to flow back to the reservoir through the green line.
- E. When no water is flowing through the Venturi the water pressure at the injection point is equal to the concentrate pressure. In this condition all of the concentrate flows through the pilot-operated relief valve and back to the reservoir. No concentrate flows into the water in a no water flow condition.
- F. When water flows, the Venturi creates a pressure drop. The concentrate pressure is equal to the pilot water pressure. The concentrate enters the plumbing after the venturi pressure drop.
- G. The concentrate injection percentage is set with a variable-orifice ball valve. Concentrate flows from the pump to the ball valve through the orange line. Concentrate flows from the ball valve into the venturi through the red line.
- H. The concentrate check valve is installed to prevent water back-flow into the concentrate system.
- I. The main check valve is installed to prevent concentrate back-flow into the water pump and water tank.
- J. The pressure relief valve is set at 175 PSI to prevent damage to the concentrate pump.

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Principle of Operation

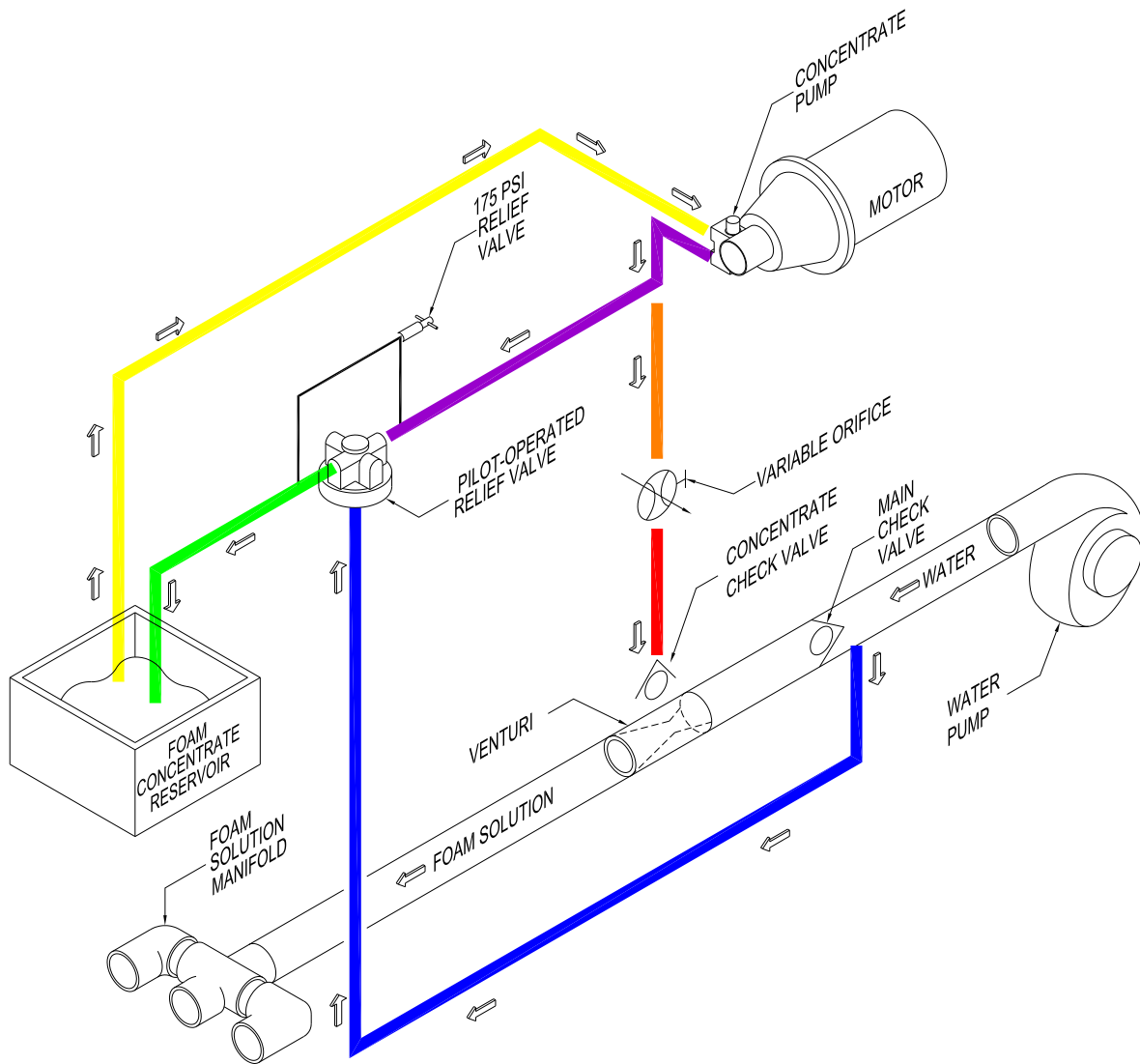


Figure DFF-02
PRINCIPLE OF OPERATION



INSTALLATION PLANNING

Careful installation planning will assure proper operation of the Darley Fast Foam. When planning your installation consider the following items:

- The concentrate pump should be mounted lower than the foam tank suction fitting. This will allow a gravity feed from the tank to the pump, preventing a loss of prime.
- Mount the concentrate pump in protected location. Accessibility is important for servicing. There are (qty 2) - 3-way valves and an electric switch on the pump that require access.
- Templates and dimensions are included in this manual for pump and control panel mounting.
- Carefully consider hose routing when planning control panel location. Hose lengths included in installation package can be cut to desired lengths, but do not lengthen hoses. Do not use any non-brass or non-stainless-steel fittings in the foam assembly.
- The concentrate strainer supplied with the fast foam must be used.
- Two valves should be installed at the foam tank. One for the suction and one for the tank return hose. Without these valves, complete flushing of the system is impossible.
- Use the installation kit supplied with the Fast Foam.



Installation Planning

Motor / Pump Installation Instructions:

- Install pump on horizontal surface only.
- Mount in accessible area to allow for servicing and for access to the bypass switch.
- The pump must be below Foam Cell, for “gravity” feed into the pump inlet.
- The strainer must be plumbed into the Suction line.
- Hose according to schematic. It is highly recommended to use the supplied parts. For reliability and extended life, brass or stainless-steel fittings are acceptable. Zinc or steel fittings are not acceptable. Cutting of hoses is permitted; adding length to hoses is positively discouraged.

Hosing requirements:

- Special considerations – The Balance Valve uses a water pressure signal to control the foam output pressure. It is vital that the signal line be dedicated and uncorrupted. Do not “tee” this control line into any other line, either at the source or at the drain. Provisions must be made to drain this line for winterizing. Failure to winterize can cause damage to the Balance Valve.
- The water psi signal control pressure should be taken from a point before the Check-valve / Venturi in the pressure plumbing.

Flush Line

A garden hose connection is provided on the suction side of the foam pump for flushing. Do not remove this fitting and connect the concentrate pump flush port to the fire pump. If the Fast Foam flush line is connected to the fire pump, the foam cell could be back filled with water.

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Installation Planning

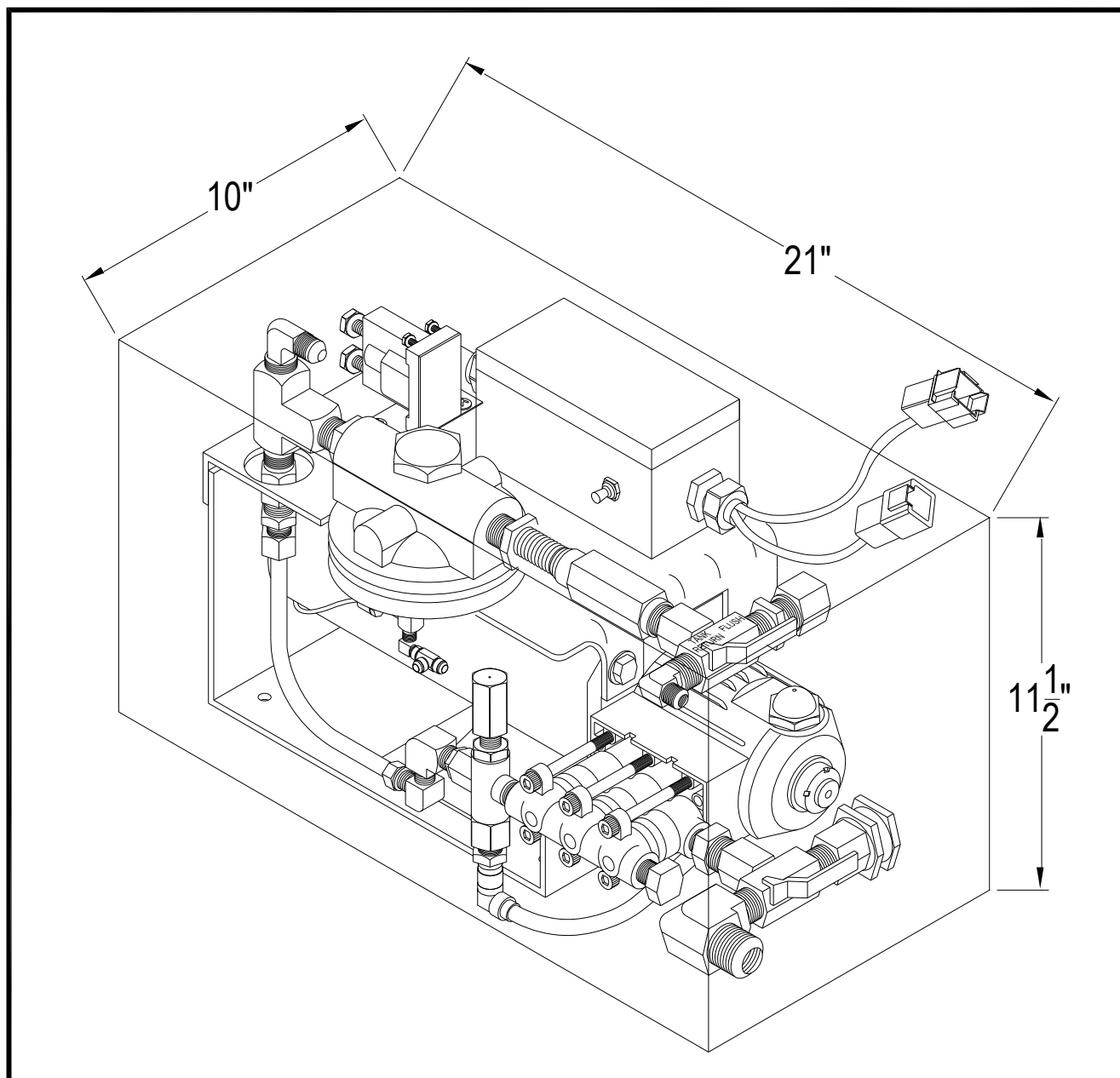


Figure DFF-03
FAST FOAM DIMENSIONAL



PLUMBING LEGEND

1. Concentrate Pump
2. 12 VDC Motor
3. Pilot Operated Relief Valve
4. Pressure Relief Valve
5. Metering Valve (panel Mount)
6. Main Check Valve / Venturi
7. Panel Placard
8. Override Switch
9. Concentrate Check Valves
10. Suction Strainer
11. Float Switch Location
12. Pressure Switch
13. Suction Side 3-Way Valve
14. Suction Line
15. Pump to Metering Valve Line
16. Injection Line
17. Concentrate Return Line
18. Foam Cell Shut-Off Valve
19. Concentrate Return / Flush 3-Way Valve
20. Water Pump
21. Pilot Pressure Line (Water Pump Pressure)
22. ¾” PVC Plug (Odin Part No. 00007799)
23. Tank Return Shut-Off Valve
24. Drain Hose
25. Auxiliary Priming Valve

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Plumbing

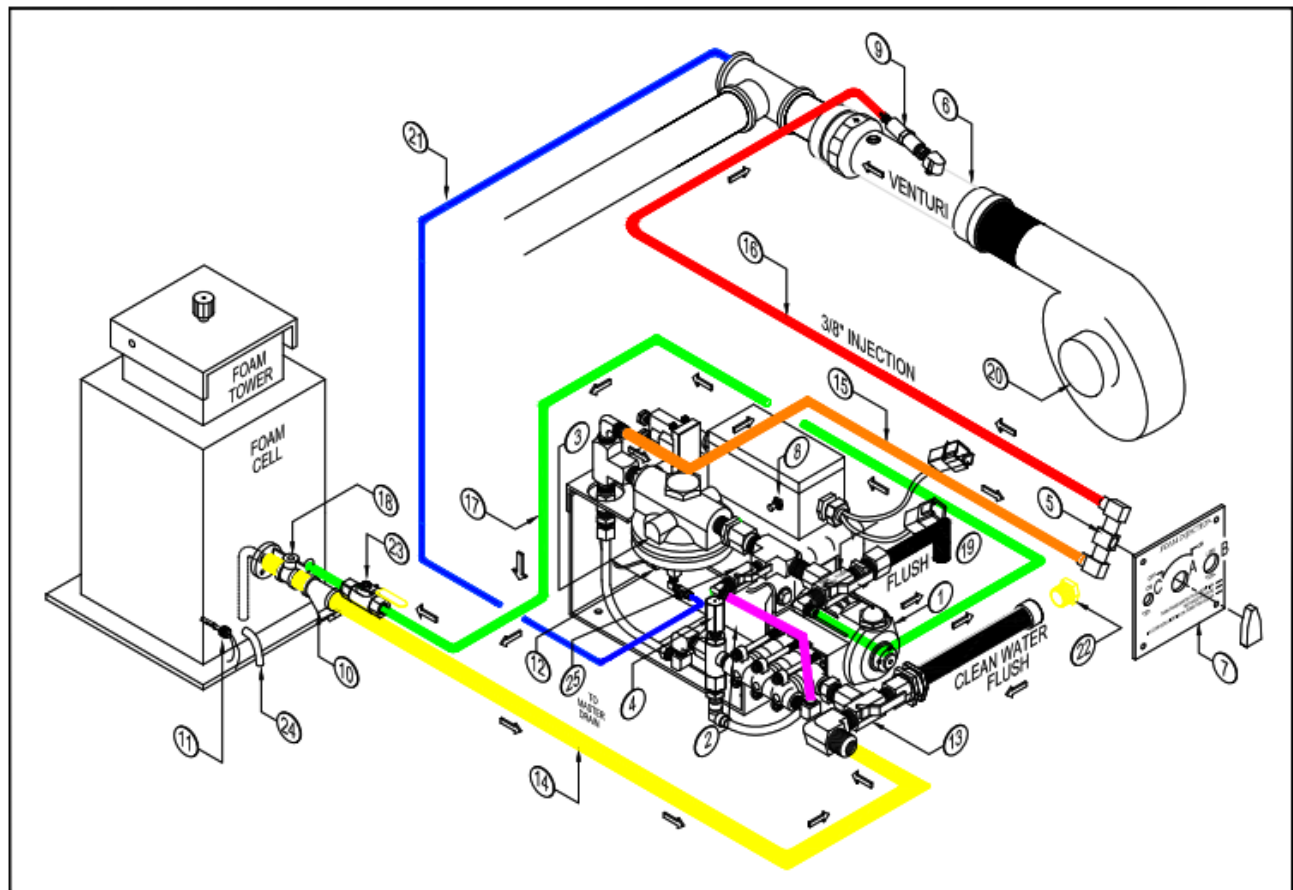


Figure DFF-04
PLUMBING



FOAM CELL SPECIFICATIONS

FNPT = Female National Pipe Taper

NFPA = National Fire Protection Association

D	=	3/4" FNPT Foam Outlet
E	=	1/2" FNPT Lo-Con Sensor
I	=	Vacuum Cap
K	=	Foam Viewer P/Glass (Located on side of Cell)
L	=	1/4" FNPT Foam Level Sender
N	=	3/4" FNPT Foam Return
O	=	3/4" NFPA Drain Return

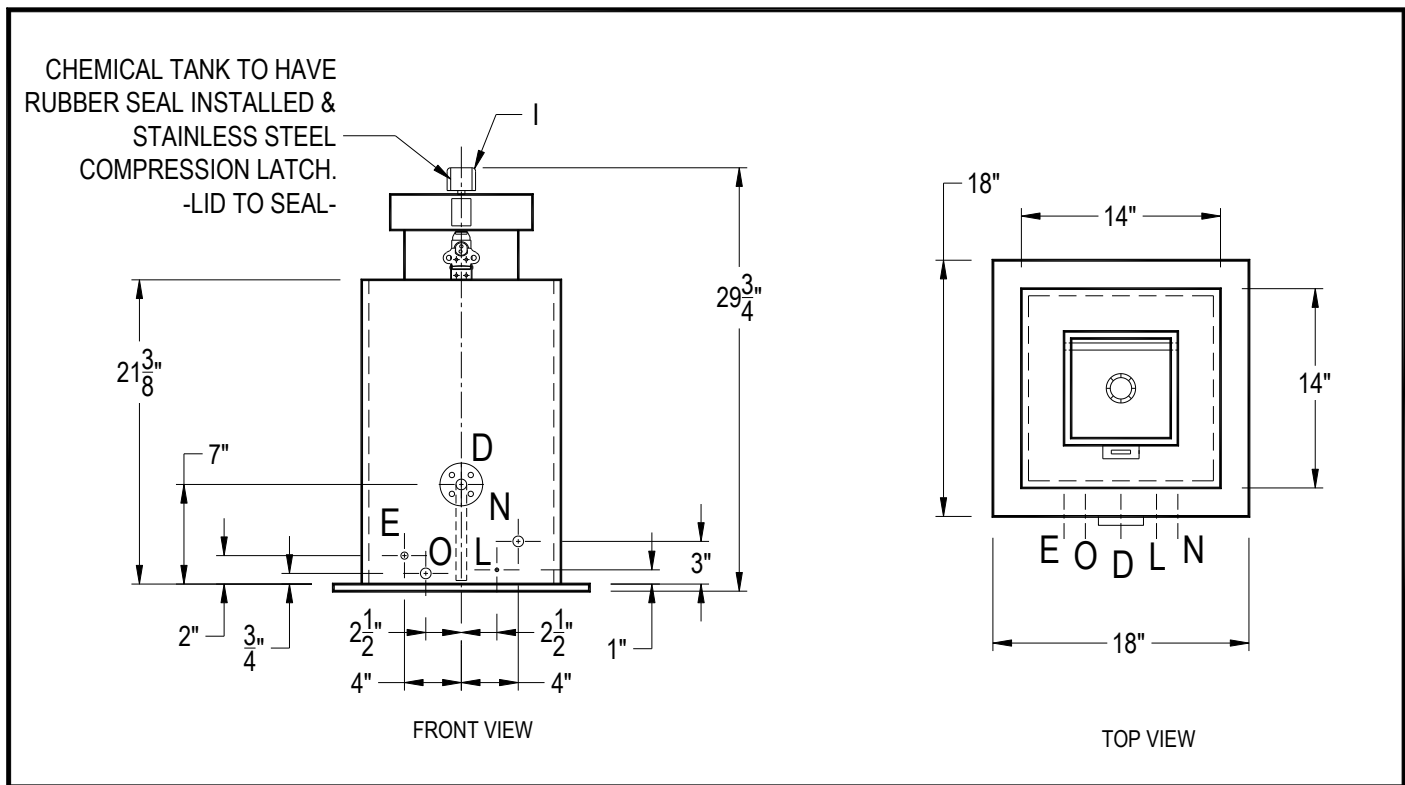


Figure DFF-05
FOAM CELL



FOAM CONCENTRATE TANK SETUP

Foam tank design is an important consideration on a mobile apparatus.

- Position the foam concentrate suction line a minimum of ½” from the bottom of the tank. This will help prevent picking up debris from the bottom of the tank.
- The float switch will turn the pump off when the concentrate level drops and the switch closes. Position the switch above the level of the suction line. Insure that a minimum of 1 gallon of concentrate remains in the foam tank when the float switch activates. The residual concentrate will help prevent pump overheating.
- Be sure that the tank is properly vented.
- The supplied foam strainer must be used.
- A foam tank shut-off valve is recommended.
- Use ODIN diagram for foam cell hole orientation, location and sizes.
- Foam cell must be able to “gravity” concentrate to pump head of Fast Foam.

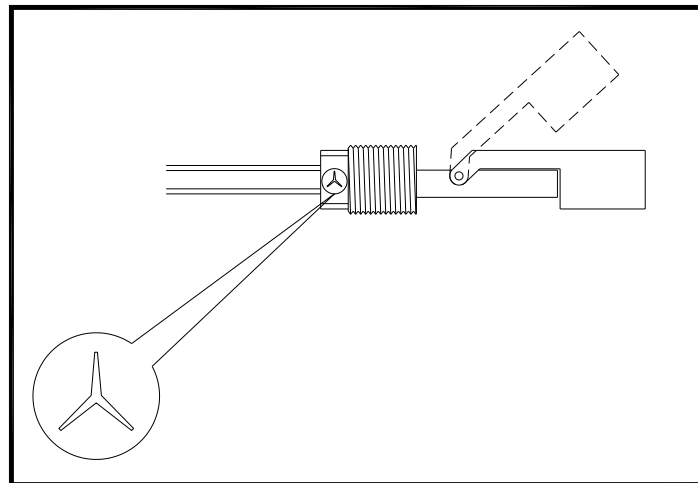


Figure DFF-06
FLOAT SWITCH

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Foam Cell

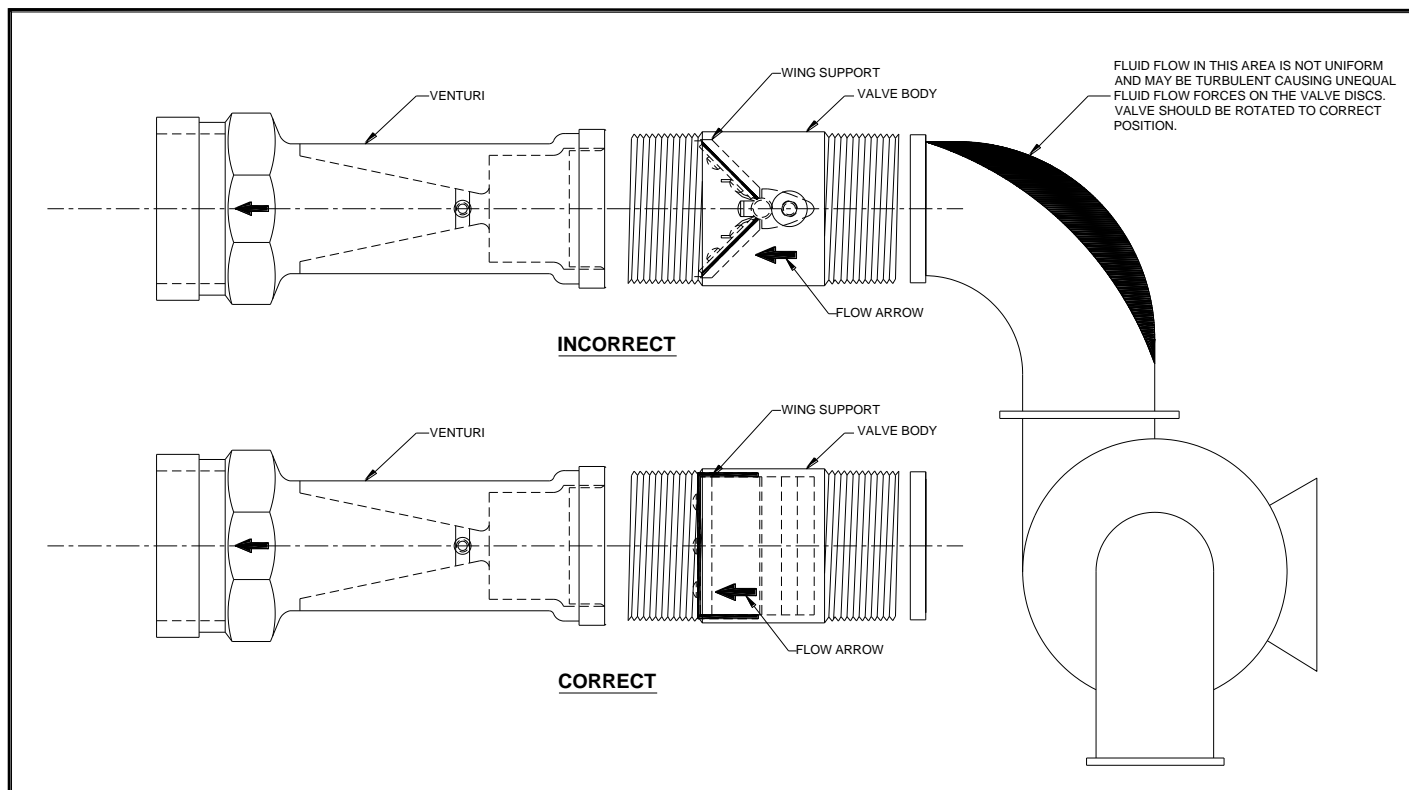


Figure DFF-07
VENTURI / CHECK VALVE
(MOUNT HORIZONTALLY)
Recommended Method



CHECK VALVE INSTALLATION INSTRUCTIONS

- Remove check valve from packaging and inspect for any shipping damage or loose fasteners. All fasteners have been set with Loctite ®. If damaged in shipping, save original box and box contents.
- If valves are being stored, they should be in a weather-protected area, preferably indoors.
- Open and close the discs of your valve a few times by hand to insure freedom of movement.
- The flow arrow on your valve indicates the direction of flow upon installation.
- Use hex end of “Venturi” for wrench contact.
- The check valve is not suitable for use on the discharge of reciprocating or positive displacement compressor or pump. Pulsating and cyclic flow will damage the valve.
- If this valve is installed in a horizontal line, make sure the screws protruding through the top and bottom of the valve body are in a vertical position.
- If the valve installation is in a vertical line with upward flow, the position of the wing support is not important.
- If valve is installed vertically, check for proper winterizing drain for trapped water.
- Check for correct flow direction of Venturi/Check valve.

For best performance, it is best to not have 90's or valves within 6" of Venturi inlet and outlet.

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Master Check Valve

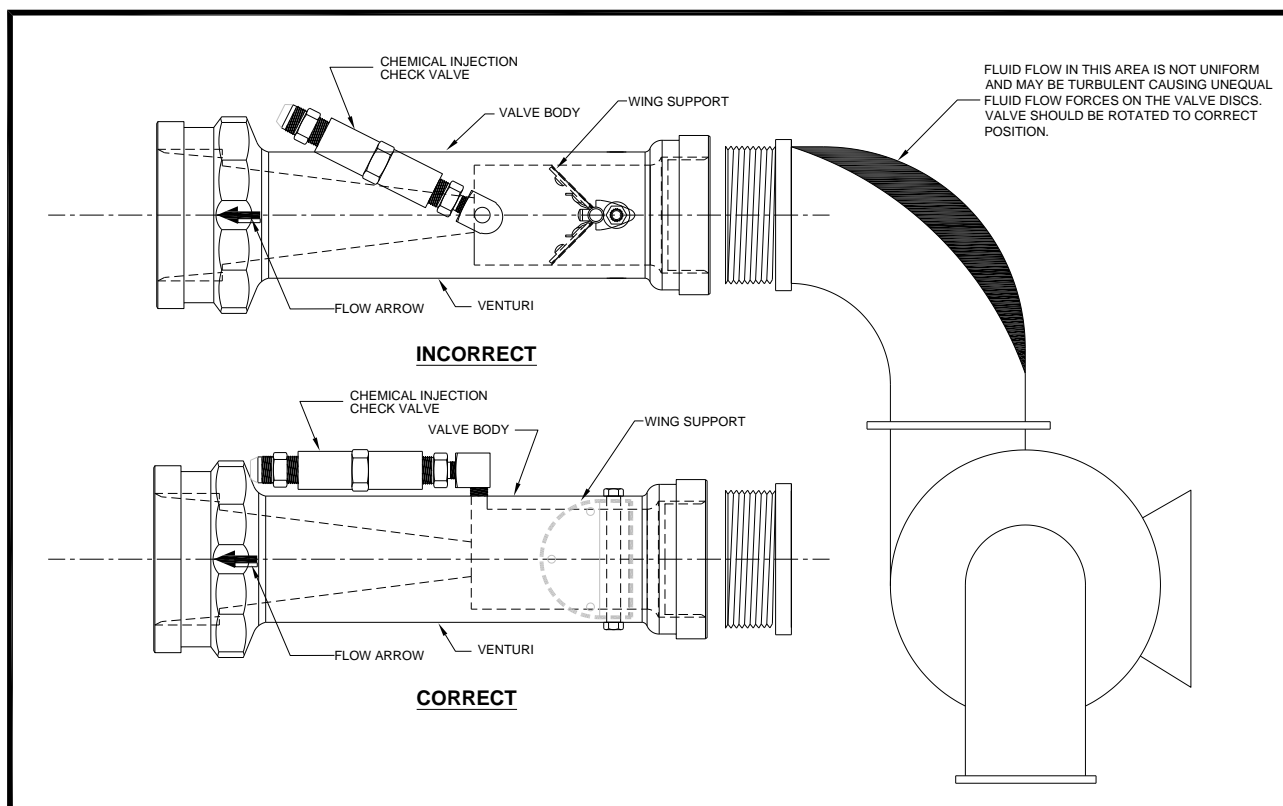


Figure DFF-08
CHECK VALVE INSTALLATION INSTRUCTIONS



COMPLETE REPLACEMENT OF VALVE INTERNALS

- Carefully remove valve from pipeline. Use only a strap-type wrench
- Hold the valve body in your hand or in a suitable vise to prevent distortion of the valve body. **NOTE: DO NOT EXERT UNDO FORCE ON THE VALVE BODY.** This may permanently affect the valve operation
- Remove all valve internals by unscrewing the wing support (see Figure DFF-22) and any other body-support rods such as travel-stop rod (only on large size valves)

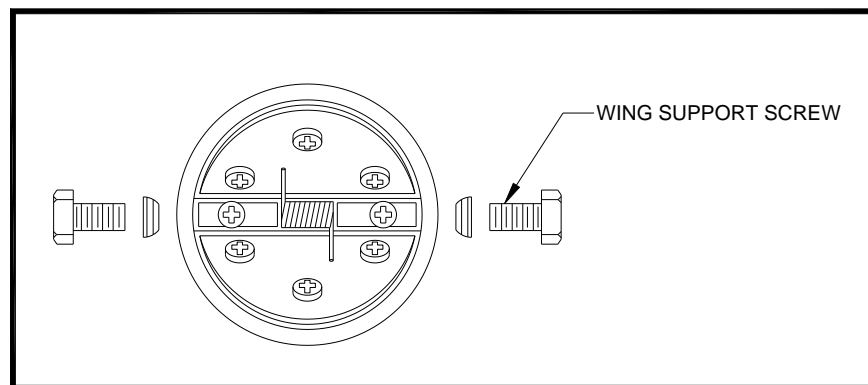


Figure DFF-22
COMPLETE REPLACEMENT OF VALVE INTERNALS

- Inspect the inside diameter of the body to determine if the body is suitable and retains its original integrity, i.e. surface finish is good and roundness is apparent
- If valve body appears satisfactory and needs only minor cleanup, the valve is then suitable to replace the internals. **DO NOT SANDBLAST OR OTHERWISE DAMAGE THE VALVE BODY’S INNER SURFACE.**
- Make sure when you order complete internal replacement assemblies that the new assemblies are identical to the original internals. Always reference your check valve’s unique serial number when ordering replacements.



INSTALLING THE NEW ASSEMBLY

- Put some water on the elastomer seal to act as a lubricant when installing the new wing-support assembly into the valve body.
- Make sure you assemble the wing assembly correctly with the direction of flow.
- Align the wing-support, mounting screw holes and the valve-body screw holes properly. (See Figure FF10)

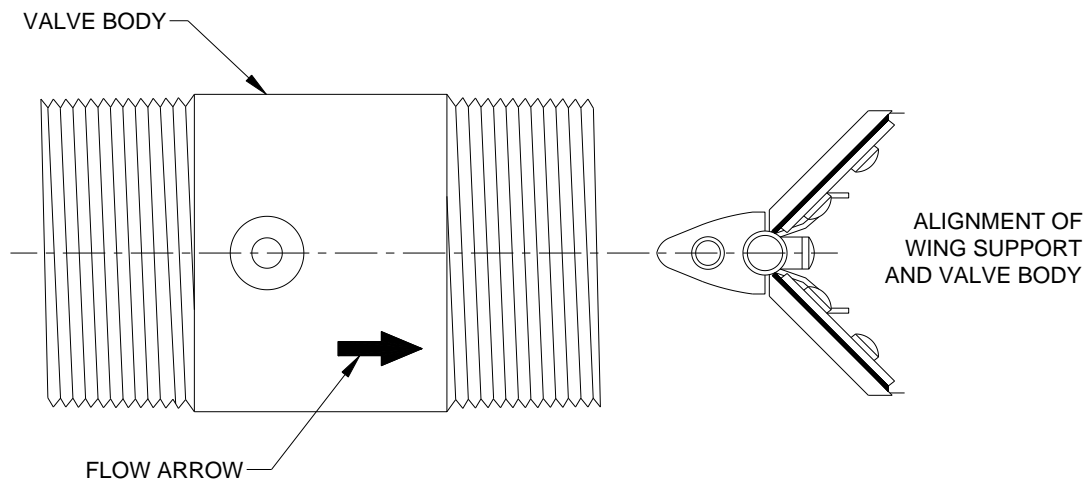


Figure FF10
INSTALL THE NEW ASSEMBLY

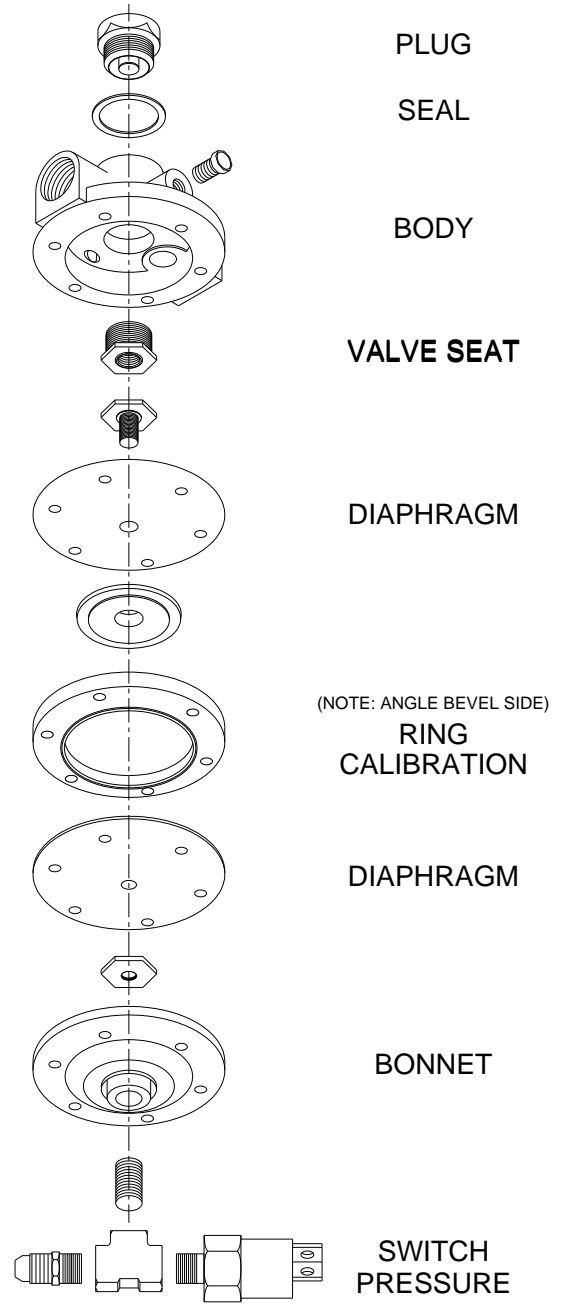
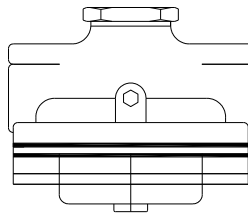
- Push wing support assembly into the valve body until the holes line up properly. If you overshoot the hole alignment by half the screw hole diameter, just push the wing support assembly completely through the valve body and repeat the procedure.
- When installing the wing support mounting screws, make sure you install a new Nylite® pressure seal and apply a sufficient amount of Loctite® #242 to the screw threads. The wing support screws should be torque to 8-ft-lbs for ¼-20 screws and 48 in-lbs for 10-32 screws. Never over tighten screws. Allow Loctite® to dry 20 minutes, full cure in 24 hours.

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Pilot Operated Relief Valve



**Figure DFF-10
PILOT
OPERATED
RELIEF VALVE**



**Figure DFF-11
PILOT OPERATED RELIEF VALVE
(EXPLODED)**



FAST FOAM ELECTRICAL INSTALLATION

The Fast Foam uses a 12 VDC motor with maximum current requirement of 40 amps. Check for adequate amperage output if the unit is to be installed on a smaller portable pump or skid unit.

▪ ELECTRICAL POWER CONNECTION REQUIREMENTS:

Motor Power

Using the red #10 awg wire, imprinted with the code “98 FF POWER” connect directly to the (+) terminal of the battery, or the apparatus master disconnect switch.

System Ground

Using the black #10 awg wire, imprinted with the code “99 FF GROUND” connect the wire to the (-) terminal of the battery, or a good ground on (-) ground systems. The use of silicone dielectric compound is recommended on all ground connections.

Control Power

Using the yellow #10 awg wire, Imprinted with the code “13 FF CONTROL” connect the wire to a switched power (+) source (ignition switch). This is a low amperage control circuit. If this circuit is switched by the ignition circuit, the Fast Foam cannot be inadvertently left on when the vehicle is shut down.

Float Switch

Using the two # 14 AWG wires, imprinted with the code “103” and “107”, connect them to either of the bare wire leads of the float switch. Use good heat sealable butt connectors



▪ FAST FOAM SYSTEM CONNECTIONS

All of the Fast Foam electrical connections are done at the Fast Foam Control Module. The standard Fast Foam Control Module has 2 Deutsch connector plug sockets for the OEM to connect.. A Fast Foam Control Module is available with the optional Darley AUTOVALVE circuit. It is identified by the addition of a third Deutsch (3-pin) connector plug socket.

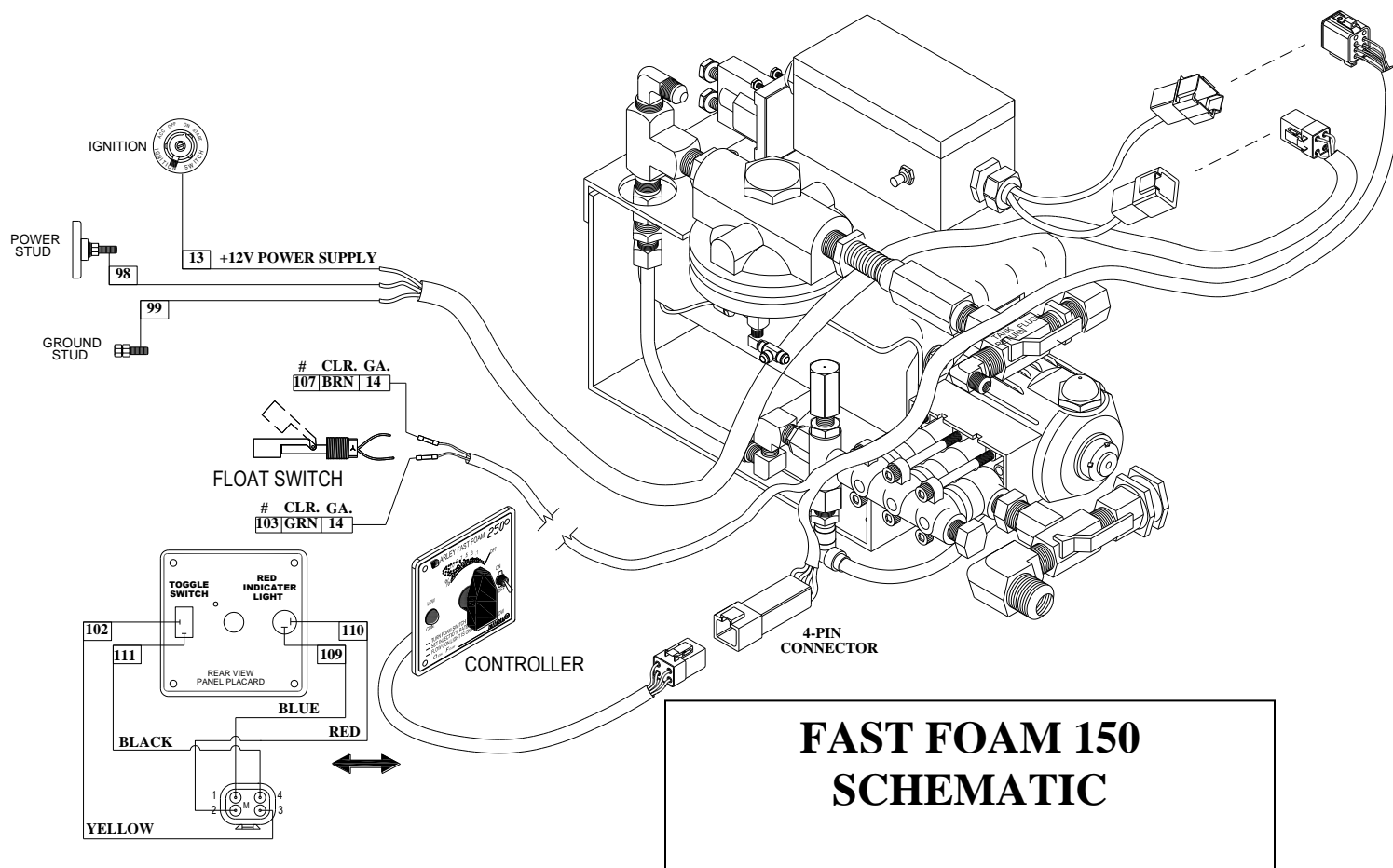
The Fast Foam control panel connects to the control module with a pre-wired 4-pin plug. The standard wire loom length is 12’. Wire loom extensions are available if needed.

The low-concentrate float switch must be installed for the system to operate properly. Refer to page 17 for float switch installation directions.

The low-concentrate float switch connects to the control module with the 2 wires in a loom that terminate as bare wires. The float switch wires are #14 awg black with code “103” and #14 awg brown with code “107”. The float switch connections are not polarity sensitive. Butt connect the black and brown float switch wires to the float switch. The float switch wires can be cut to fit the installation.

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INSTALLATION ELECTRICAL CONNECTIONS



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Priming and Testing



PRIMING & TESTING

TO ESTABLISH A PRIME IN THE FAST FOAM PUMP USE THE FOLLOWING PROCEDURE:

Set the suction side 3-Way valve to the “**INJECT**” position.

Set the concentrate return 3-way valve to the “**FLUSH**” position.

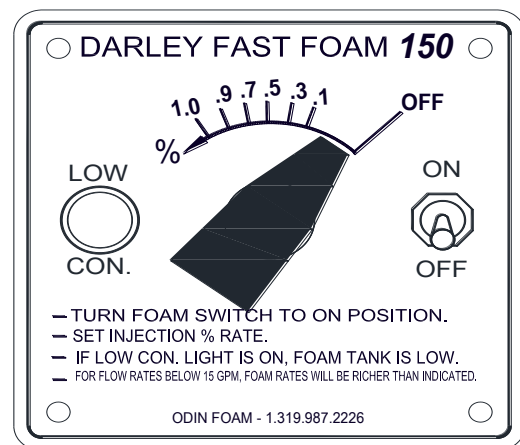
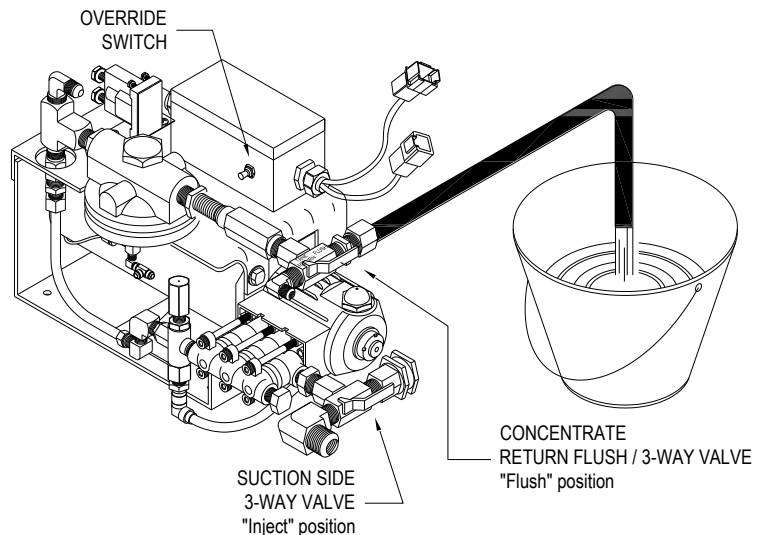
Fill the foam cell above the level of the float switch.

Place the overboard flush Hose into a container.

Turn on system power (ignition switch)

Set the “ON/OFF” switch
To the “**ON**” position.

Set the “**%**” valve to “**OFF**”



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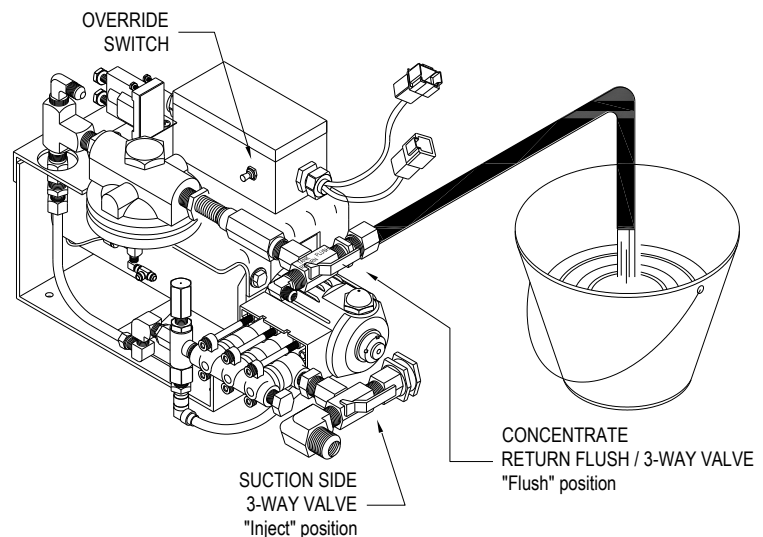
Operation



PRIMING & TESTING CONT.

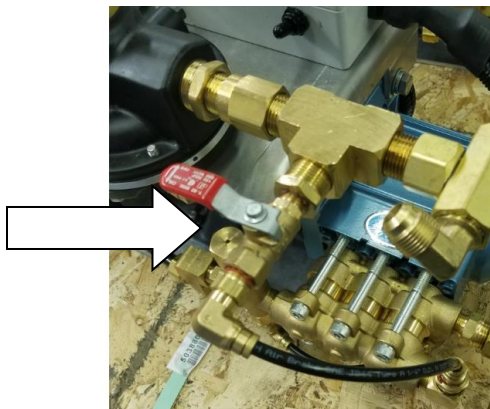
Hold the **"OVERRIDE"** switch down.

- * The Override Switch will over ride the pressure switch and low con switch.



If you fail to obtain prime after approximately 15-30 seconds, you will need to open the 'auxiliary prime' valve (image shown below). This provision has been made to allow for quicker priming. If this feature is not part of your system, please contact Darley for a 'retrofit kit'.

*Once prime has been obtained, close the 'auxiliary prime' valve. NOTE THAT THIS VALVE MUST BE CLOSED DURING OPERATION TO ENSURE PROPER PERFORMANCE.



The priming and testing configuration can be used to prime the system, test and trouble shoot or simply pump out the foam cell.

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Operation

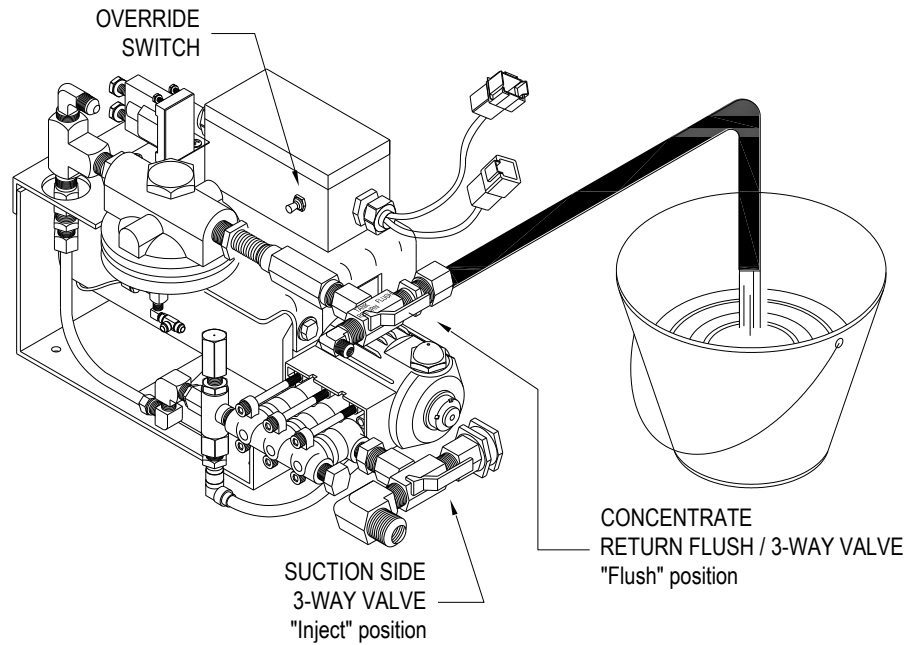


OPERATION

Turn on system power
(ignition switch)

Set the suction side
3-way valve to the
“**INJECT**” position

Set the concentrate
return 3-way valve to
the “**TANK
RETURN**”
position.

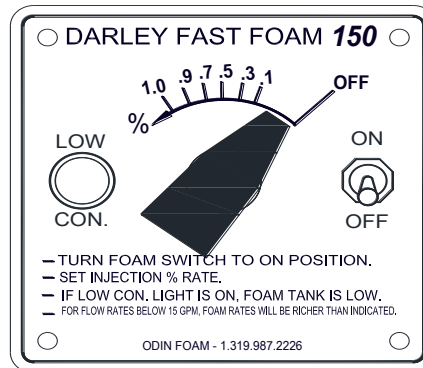




CONCENTRATE INJECTION OPERATION

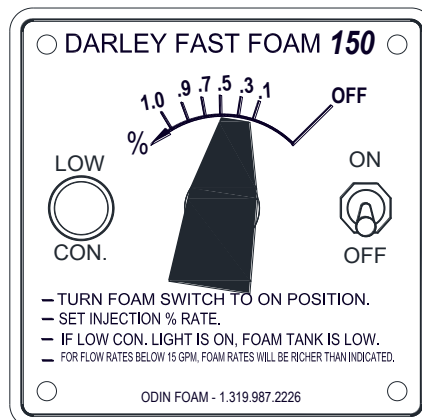
Set the “ON/OFF” switch to
The “ON” position.

- * As a safety feature, there must be water pressure to the pilot operated relief valve for the system to operate.

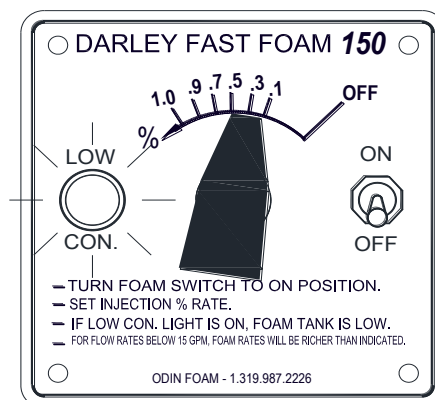


Set the desired concentrate
proportion % on the panel mounted valve.

- *note that at low flows (below 15 GPM)
The system will inject more than the level
Indicated on the controller*



When the “Low Con” light is on, the foam
cell is empty and the system automatically
turns itself off.





FLUSHING THE SYSTEM

- The Fast Foam is normally kept in a “wet” condition, charged with concentrate and ready for immediate use.
- It is a good idea to exercise the system preferably once every week or two. If the Fast Foam is left idle for extended periods of time, concentrate may “gel” in the system.

FLUSHING THE SYSTEM

- Flush as necessary, at least once a year, preferably at end of fire season.
- To flush complete and safely, there should be 4 valves in the system. Two at the chemical tank wall, and two 3-way valves installed on the Fast Foam .
- If the Fast Foam is to be stored for extended periods of time, i.e. off-season storage, flush the system according to the directions.
- The system must be flushed when changing to a different brand of foam concentrate.

To winterize:

If freeze-up is a concern, fill concentrate pump with anti-freeze. (Remember to flush anti-freeze before placing back in service).

Its better to leave some coolant antifreeze in than pump than dry.

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FLUSHING THE SYSTEM



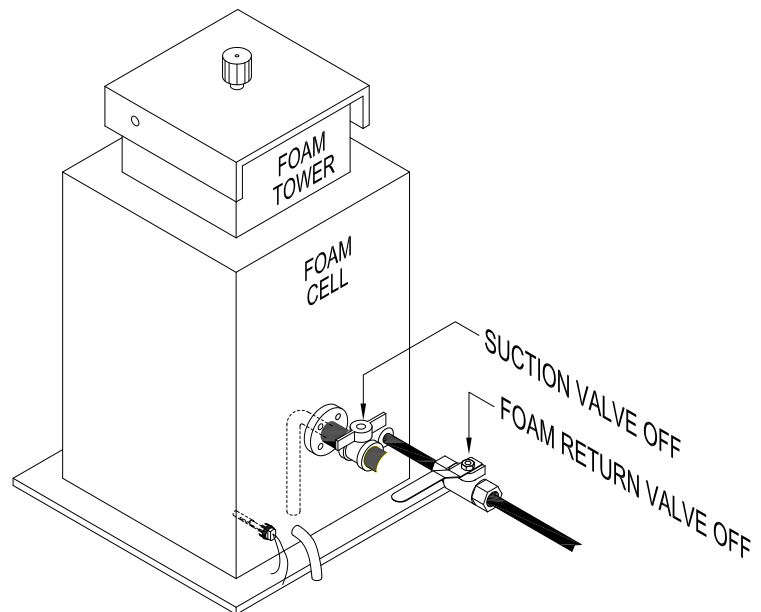
FLUSHING CONFIGURATION

There are two steps to a complete flushing of the foam pump system.

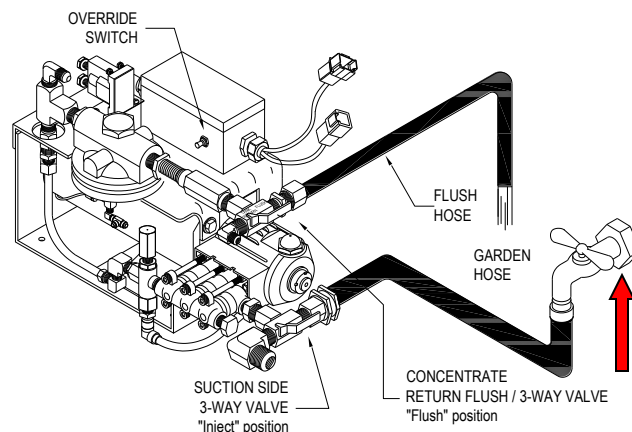
1. Pump flush
2. Discharge plumbing flush

1) PUMP FLUSH

- Close the two tank two way valves – suction and tank return.



- Connect a garden hose to the supplied fitting on the suction side 3- way valve.
Cold water will work, but warm, not hot tap water would be better.

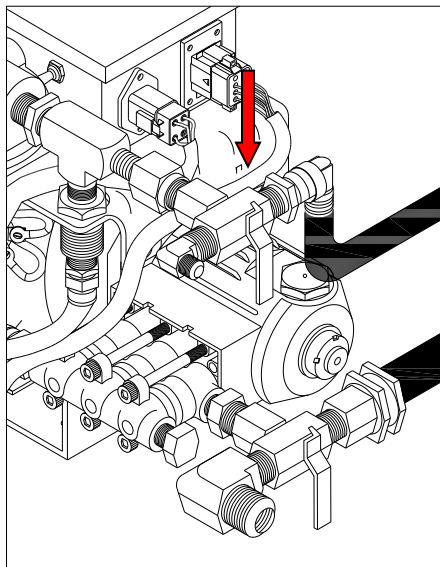




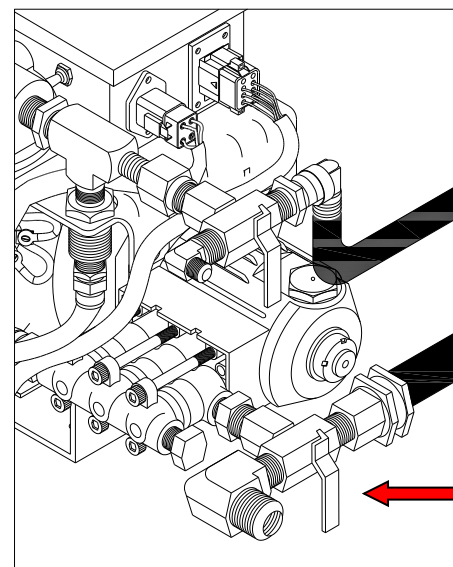
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FLUSHING THE SYSTEM

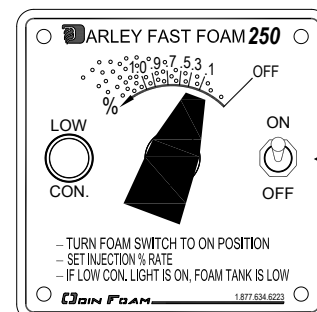
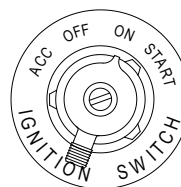
- Set the concentrate tank return 3-way valve to the “FLUSH” Position.



- Set the suction side 3-way Valve on the pump head to the “FLUSH” position.
This will open the valve to the fresh water hose pressure



- Turn on system power (ignition switch)
- Set the “ON/OFF” switch to the “ON” position.

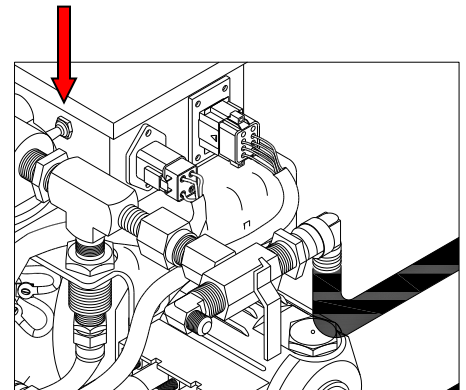


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FLUSHING THE SYSTEM



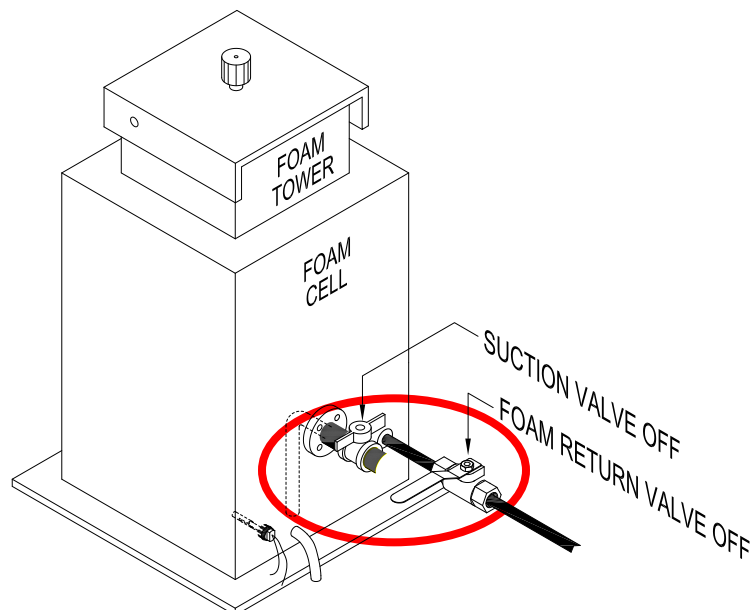
- Hold down the **“OVERRIDE”** switch.
Run the system a few minutes, discharging
from the flush hose.



- Release the **“OVERRIDE”** switch. This has flushed the pump side of the system.

1) Discharge Plumbing flush

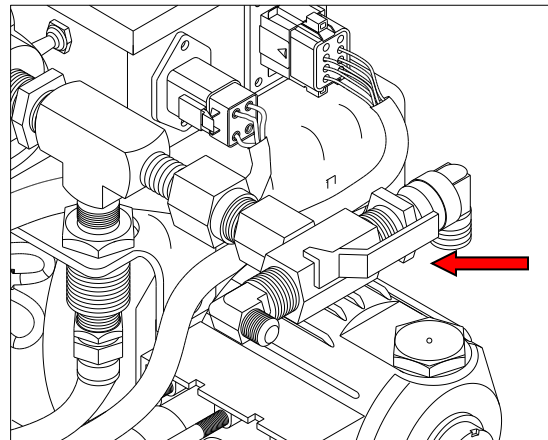
- **VERIFY THAT YOU HAVE THE TWO TANK VALVES IN THE SYSTEM - AND THEY ARE CLOSED!!**



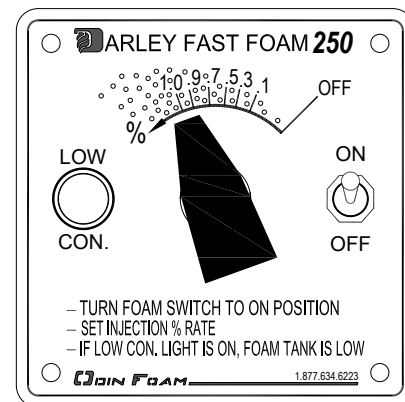


FLUSHING THE SYSTEM

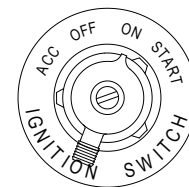
- Move the upper 3 way valve to the tank return position.



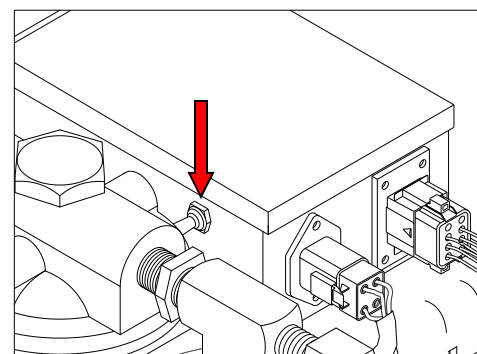
- Set the panel-mounted valve to the 1% injection position.
- Open a main fire hose discharge which is fed by the foam system. This will discharge the garden hose flush water through the panel percentage valve, small injection check valve and venturi opening. It will then flow out the fire hose discharge.



- Turn on system power (ignition switch)



- Hold down the “**OVERRIDE**” switch.
Flow a few minutes to free all chemical possible
- Release the “**OVERRIDE**” switch. Remove garden hose. Return all 4 valves to the run positions. Re - Charge system with foam chemical and test if returning to service.





FLUSHING THE SYSTEM

TROUBLE SHOOTING

Problem	Possible Cause	Corrective Action
<ul style="list-style-type: none"> • Milky, bubbly foam in tank 	<ul style="list-style-type: none"> • Air in pump • Loose suction Line 	<ul style="list-style-type: none"> • Check & tighten suction hoses & connections
<ul style="list-style-type: none"> • Motor does not run (low con light on) 	<ul style="list-style-type: none"> • Low concentrate level 	<ul style="list-style-type: none"> • Fill concentrate tank
<ul style="list-style-type: none"> • Motor does not run (low con light off) 	<ul style="list-style-type: none"> • Low concentrate level • Low con light bulb burned out 	<ul style="list-style-type: none"> • Fill concentrate tank • Replace light bulb
<ul style="list-style-type: none"> • Motor does not run (no water pressure indicated) 	<ul style="list-style-type: none"> • Water pressure switch not closed 	<ul style="list-style-type: none"> • Run water pump & insure that there is water pressure (required to close pressure switch)
<ul style="list-style-type: none"> • Motor does not run (water pressure indicated) 	<ul style="list-style-type: none"> • Faulty pressure switch 	<ul style="list-style-type: none"> • Test control circuits by switching control panel switch to ON. Depress & hold override switch if motor turns on. • Replace Pressure Switch.



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FLUSHING THE SYSTEM

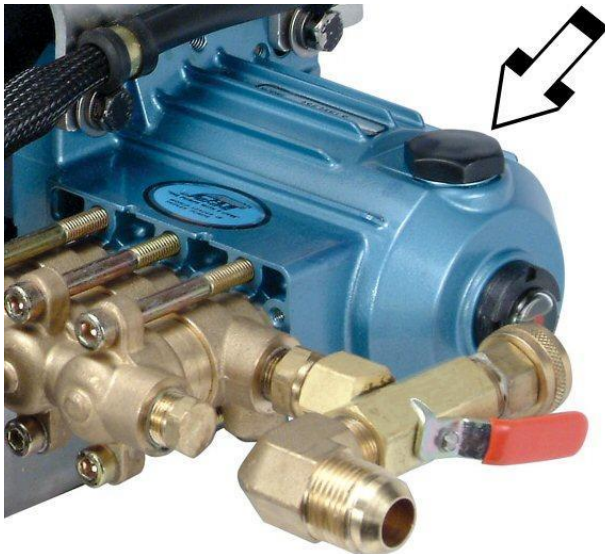
Problem	Possible Cause	Corrective Action
<ul style="list-style-type: none">• Motor runs but not injecting concentrate	<ul style="list-style-type: none">• Fouled suction strainer• Fouled metering valve• Fouled concentrate check valve• Pump failed	<ul style="list-style-type: none">• Clean strainer• Clean valve• Replace concentrate check valve• Replace pump
<ul style="list-style-type: none">• Not injecting at proper rate	<ul style="list-style-type: none">• Pilot-operated relief valve failure	<ul style="list-style-type: none">• Disassemble & clean pilot-operated relief valve (refer to Figure FF012). Rebuild kit is available.
<ul style="list-style-type: none">• Not obtaining prime	<ul style="list-style-type: none">• Foam Level below the pickup tube• Air lock in the foam pump	<ul style="list-style-type: none">• Fill foam tank• Open auxiliary prime valve



IMPORTANT

Replace the black oil fill cap on the pump gear case with the red vented oil fill cap before use.

- ❑ Fill the pump gear case with SAE 30 wt. Non-detergent oil, to the center of the oil level sight glass.
- ❑ Change the oil annually.



Oil Fill

Oil Level Sight Glass



Maintenance Items

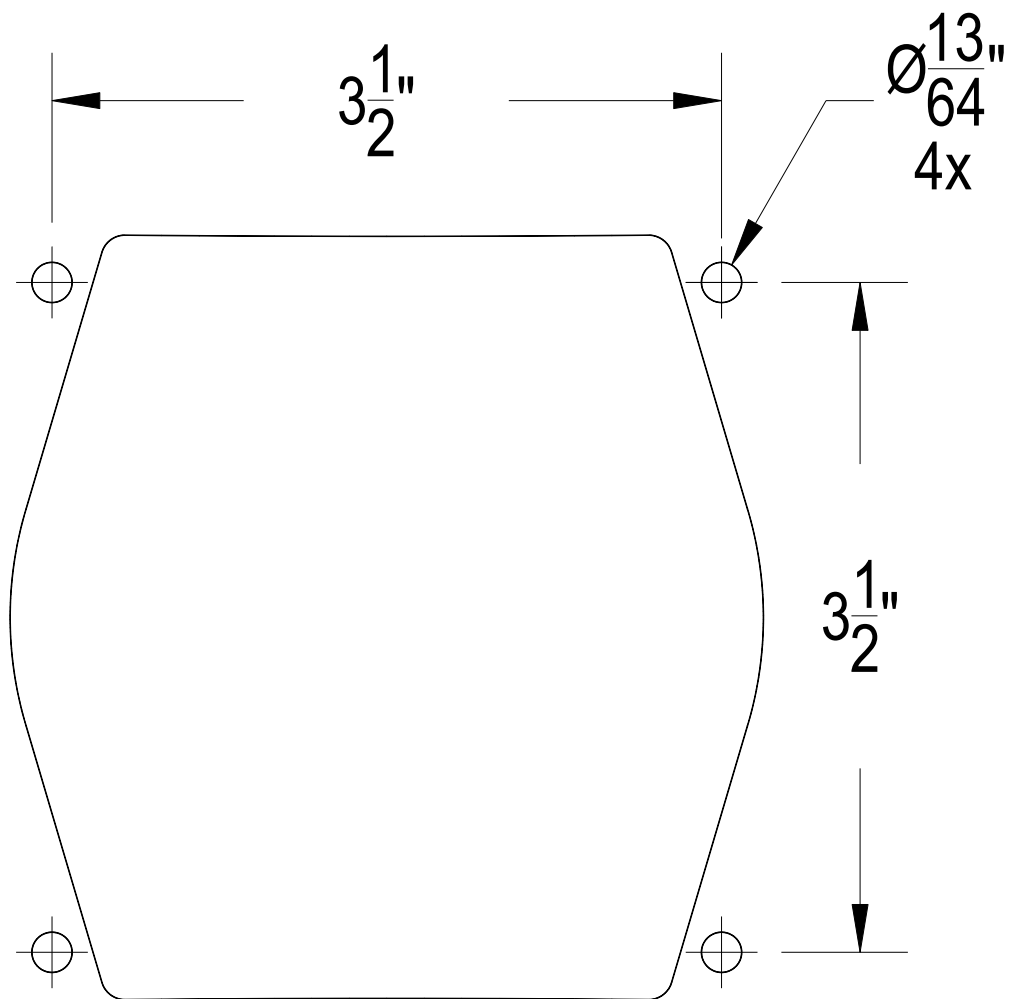
- 1) Weekly
 - a) Exercise the System (Make Foam)
 - b) Perform a Visual Inspection

- 2) Monthly
 - a) Check Oil Level (sight glass)
 - b) Clean the Foam Concentrate Strainer

- 3) Annually
 - a) Check All Electrical Connections and Plugs
 - b) Check All Hoses and Hose Connections
 - c) Test the Foam Concentrate Float Switch
 - d) Change the Pump Gear-Case Oil
 - e) Run a Complete Flush Cycle on the System.
 - f) For Seasonal Use, Fill the Fast Foam Pump and Plumbing With Anti-Freeze during the Off-Season



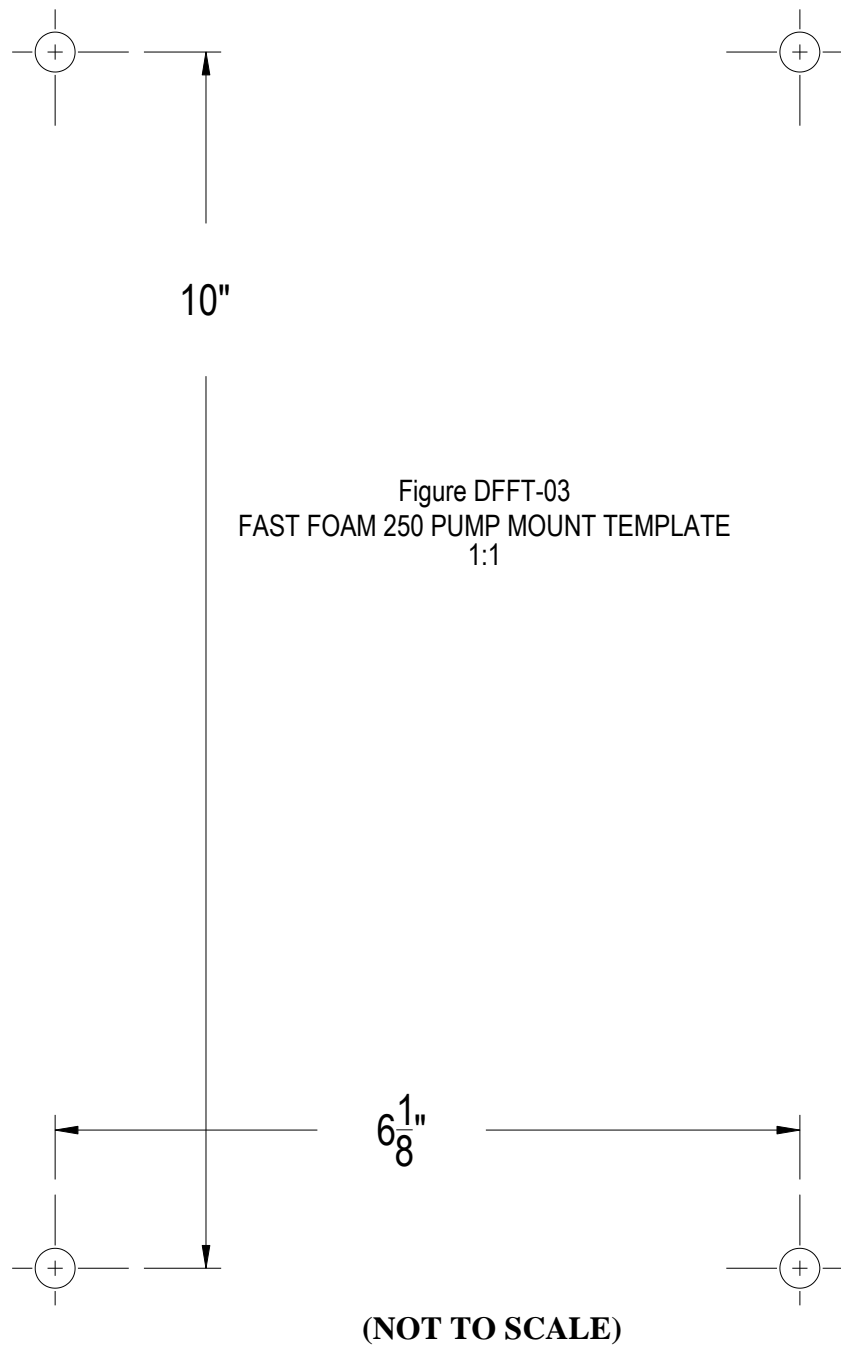
Mounting Hole Dimensions



FAST FOAM CONTROLLER TEMPLATE
(NOT TO SCALE)



Mounting Hole Dimensions



Drill 4 holes $11/32"$ to through bolt, or tap to $5/16"-18$.



Darley Fast Foam 150 Class “A” Foam Proportioner

WARRANTY

Darley Fast Foam STANDARD LIMITED WARRANTY ODIN FOAM COMPANY • PO BOX 327 • TOLEDO, OREGON 97391

Odin Foam Co., a division of W.S. Darley & Co. (“Odin”) warrants to the original purchaser (the “Customer”) only, subject to the terms and conditions of this Limited Warranty, that Odin will, at its option, repair or replace, in whole or in part, any Darley Fast Foam, Foam Concentrate Proportioner System (hereafter, “Fast Foam”) which Odin determines to be defective in materials or workmanship produced or performed by Odin, for a period commencing on the date such Pump is shipped to Customer from Odin’s plant (the “Ship Date”) and ending on the earlier of **(one) year or 1000 hours** of Fast Foam usage following the Ship Date (the “Warranty Period”). Odin may also, at its discretion, elect to refund the purchase price to the Customer in lieu of any repair or replacement. Original Equipment Manufacturer (“OEM”) Customers may transfer this warranty to their end purchasers without the written consent of Odin, provided such OEMs identify such customers by written notice to Odin. This warranty does not cover any parts or equipment which may be included in a Fast Foam, but which are not manufactured by Odin, and such non-covered items shall carry only such warranties, if any, made by their respective manufacturers and assignable to Customer. This warranty further excludes any coverage of damage or loss to any equipment or structures in which a Fast Foam is incorporated or to which a Fast Foam may be attached, as well as any damage to or failure of a Fast Foam caused by or related to misuse, accident, failure to maintain or service, abuse, negligence, applications which exceed Odin’s recommended limitations, or in the event of Customer’s unauthorized or improper modification(s) of a Fast Foam (and regardless of any actual or constructive knowledge Odin may have of such modifications), or in the event a Fast Foam has been repaired, altered, or treated by anyone other than Odin-trained technicians, Odin or its authorized service provider.

The following repairs or replacement expenses are specifically excluded from the scope of this warranty: non-defective parts worn, exhausted or consumed through normal usage; consumable parts subject to routine replacement, including but not limited to pump packing, O-rings, gaskets, intake screens, anodes or filters; and routine maintenance specified in the operator’s manual. Customer shall notify Odin in writing within the Warranty Period of any claim under this Warranty, to Odin’s Toledo, Oregon office (except as otherwise directed), and Customer shall comply with Odin’s reasonable claim documentation and processing according to Odin’s Returned Goods Authorization form and procedures, which should be requested when making a warranty claim. Within 30 days of Customer’s receipt of a Returned Goods Authorization, Customer shall return the Fast Foam or claimed defective component thereof to Odin F.O.B. Odin’s designated plant. Customer shall bear all of its own costs of dismantling, removing, shipping, storing, insuring and reinstalling Fast Foams or parts thereof which are submitted to Odin for warranty evaluation. Odin shall within a reasonable time examine the returned item and determine whether such item is defective, and at Odin’s election, whether to repair, replace, recondition, or refund the price thereof. The amount of any refund shall not exceed Customer’s purchase price. No reimbursement or allowance will be made to Customer for Odin’s labor costs or other expenses of repairing or replacing defective products or workmanship, all such costs of which shall be billed to Customer. Any repaired Fast Foam or replacement parts shall also be covered by this limited warranty, subject to the same original Warranty Period (which shall not be extended by reason of any repair or replacement). This limited warranty shall be Customer’s sole and exclusive contractual remedy for any defect or failure of a Fast Foam or component, and as such excludes any remedy or cause of action in tort or contract against Odin or any of its suppliers or distributors for liability to Customer or to any other person for any incidental, consequential, or other damages (including but not limited to personal injury; death; property damage due to fire, water, or any other cause; loss of crops, timber, or wildlife; loss of time or interruption of operations or related costs; delays; demurrage; lost profits; or indirect or special damages) arising out of or relating to the use (including any malfunction) or inability to use any original, repaired, replaced, or substitute Fast Foam, regardless of the reason for such damage, loss or injury. Under no circumstances will Odin’s liability for any claim hereunder, including for breach of warranty or any cause of action related to an alleged breach of this warranty, exceed Customer’s purchase price for the Pump or component thereof which is the subject of this warranty. THIS LIMITED WARRANTY IS THE ONLY WARRANTY MADE BY ODIN, AND IS IN LIEU OF ANY OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, ANY OF WHICH ARE DISCLAIMED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, OF FITNESS FOR A PARTICULAR PURPOSE, OR OF FREEDOM FROM PATENT INFRINGEMENT. CUSTOMER ASSUMES ALL RISK OF USING ALL FAST FOAMS FOR ALL FORESEEN AND UNFORESEEN PURPOSES. CUSTOMER’S REMEDIES CONTAINED HEREIN ARE EXCLUSIVE. All terms of this limited warranty are subject to the standard Odin Foam Co. purchase contract standard terms and conditions in effect at the time of sale, and to any written modifications to this standard limited warranty agreed to by Odin and Customer (including but not limited to the Odin Pump Protection Plan). Any bad faith invocation of a warranty claim, or customer’s breach of purchase contract (including OEM breaches), will void Odin’s obligations to Customer hereunder. The scope and operation of this limited warranty shall be interpreted under Oregon law.

