



FDS System (Fluid Distribution System)

Operators Manual

Table of Contents

Introduction	1
Warning	1
Important Safety Instructions	1
Safety Precautions	1
FDS System Components	2
FDS Pump Setup	4
FDS Pump Operating Procedure	5
System Design and Installation	5
Design Considerations	5
Design Example	6
Maintenance	6
Troubleshooting	6
Warranty	7
Contact Information	8

Note: Please read entire manual before setting up and operating the FDS System

Introduction

The FDS (Fluid Distribution System) is designed to facilitate fluid distribution on a budget installation, where the refilling of containers is deemed to be labor intensive, or machines are not easily accessible. This system requires that the operator be present during the entire refilling operation.

The pail has a mechanical float that opens when fluid is low and closes once the pail has been filled. Once all of the parts have been filled, the pump will shut down indicating all systems filled. The switch can then be released, disconnecting all power to the pump. For high capacity users a 25-gallon FDS storage tank is also available.

The FDS (Fluid Distribution System) Pump is the driver in the FDS. It pumps the fluid from the 55-Gallon (205-Litre) drum to the FDS Pails. When the pails fill and the float valve closes, it will create a back pressure on the fluid line and will cause the pressure switch in the pump to shut off the power to the pump. It is a very simple yet effective means for refilling pails of fluids in remote areas.



Warning!!



Important Safety Instructions:

1. Do not remove the outer case.
2. Ensure unit is supplied by a GFCI power source and is grounded at all times.
Failure to do so may result in serious injury.
3. Use Ultratec Special Effects fluid **ONLY**.



Safety Precautions

1. Ensure that any operation of the machine is supervised by suitably trained and authorized personnel.
2. Do not modify the machine or use a machine which has been damaged in any way.
3. Allow sufficient air circulation around the machine at all times.
4. Protect the machine from direct weather effects and wet locations.
5. Only use fluids manufactured by Ultratec Special Effects.
6. Fog, snow and bubble fluids are a slip hazard! Look for spills; clean up immediately!

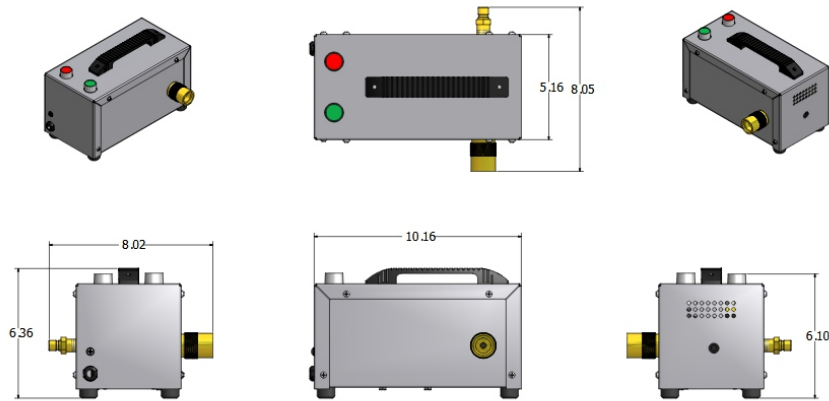
FDS System Components

The FDS (Fluid Distribution System) Pump

CLF-4145 FDS Pump 110V 50/60Hz 1A

CLF-4147 FDS Pump 220V 50/60Hz 0.5A

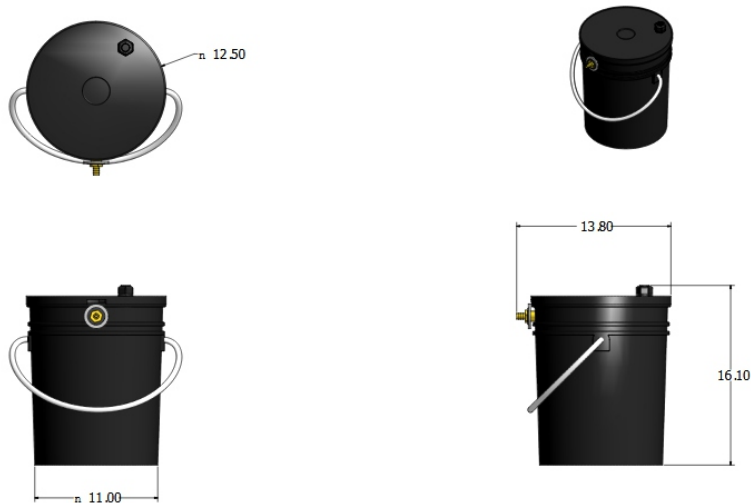
The FDS (Fluid Distribution System) Pump is the driver in the FDS. It pumps the fluid from the 55-Gallon (205-Litre) drum to the FDS Pails.



FDS (Fluid Distribution System) Fog Pail

CLF-4150 FDS (Fluid Distribution System) Fog Pail

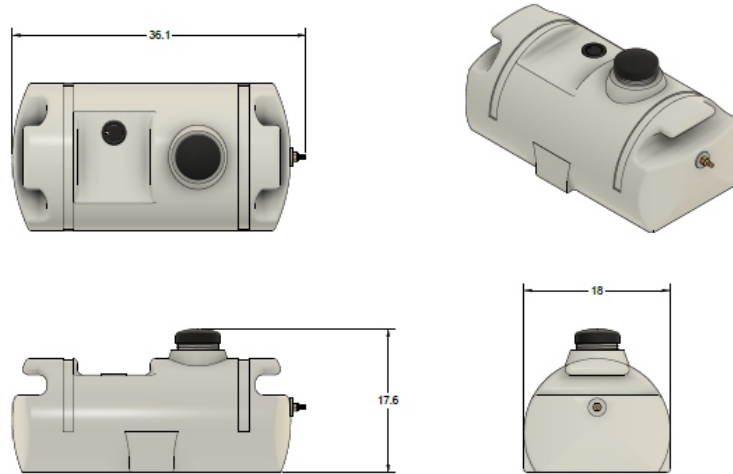
The FDS Fog Pails serve as the fluid supply at the fog machine location. The pail is equipped with a nipple connection for the fluid supply from the FDS Pump, and an integral float ensures the pail does not overflow.



FDS Storage Tank 25 Gallon

CLF-4155 FDS Storage Tank 25 Gallon

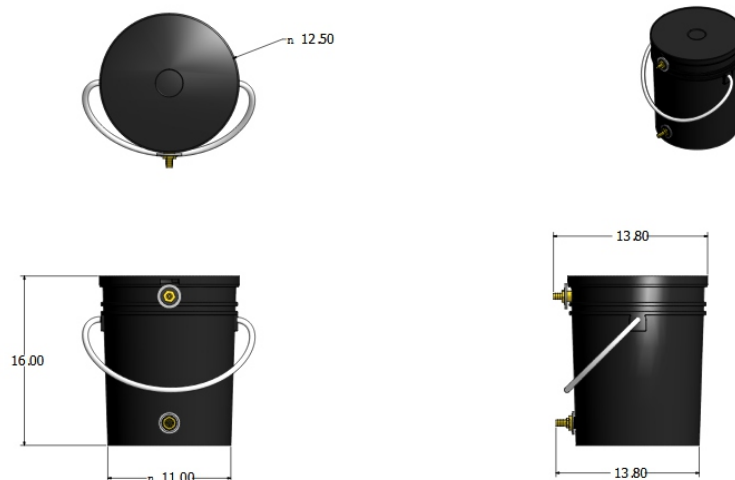
Similar to the FDS Pail, The FDS Storage Tank is equipped with a nipple connection and integral float. This is a larger capacity tank for high volume fluid locations.



Bubble Master FDS Pail

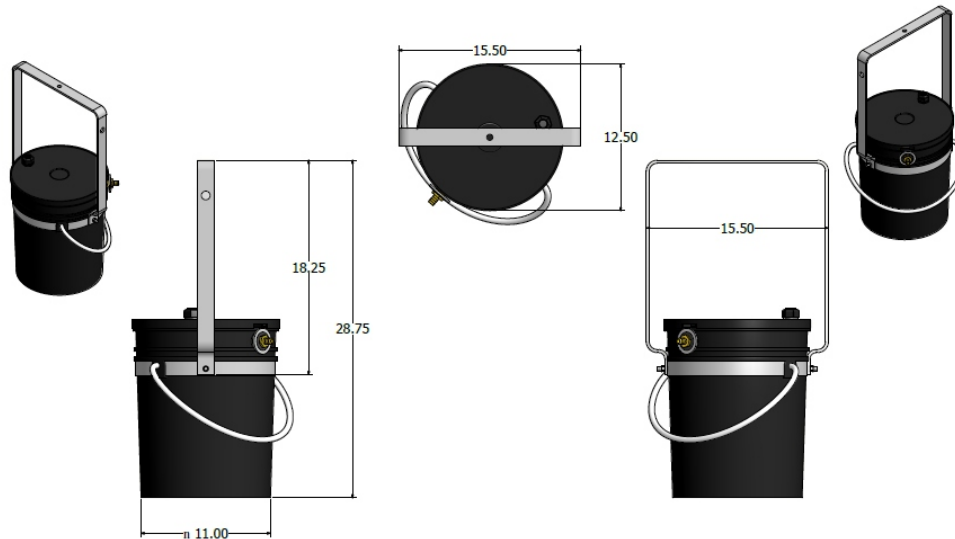
CLB-2010 Bubble Master FDS Pail

The Bubble Master FDS Pails serve as the fluid supply at the bubble machine location. The pail is equipped with 2 nipple connections. 1 for the fluid supply from the FDS Pump, and 1 to supply the bubble machine. An integral float ensures the pail does not overflow. The fluid is supplied from the pail to bubble machine via gravity.



CLF-3100 FDS Hanging Pail Bracket

The FDS Hanging Pail Bracket allows you to hang the FDS Fog Pail or the Bubble Master FDS Pail.



CXP-5002 FDS 1/2" Braided Hose

This hose allows you to connect the FDS Pump to the FDS Pail(s). It is sold by the foot.

CXP-5016 Plastic 1/2 Barb Tee

This fitting will allow you to make branch runs to several FDS Pail locations.

FDS Pump Setup

The package comes with an inlet tube mounted in a standard bung plug.

Two outlet hose fittings are provided. The first, with a check valve for the system fill line.

The second fitting is attached to a short length of hose to provide a convenient way to prime the pump or fill jugs, this fitting is not provided with a check valve. A male & female fitting is mounted to the pump to simplify correct hookup.

The pump should be plugged into a ground fault receptacle to enhance operator safety.

The pump motor is equipped with a self-resetting thermal protecting switch.

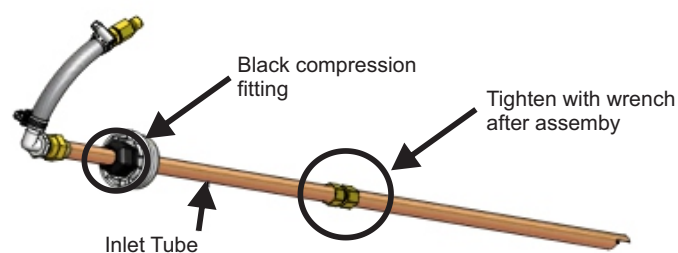
If the motor is over heated it will shut off; when sufficiently cooled it will reset.

To set up the system assemble the inlet tube; ensure the fitting is tightened with a wrench to avoid vacuum leaks.

With the black compression fitting loosened insert the tube into the bung hole and snug the bung plug.

Lower the tube to the bottom of the tank and finger tighten the black fitting.

Attach an appropriate discharge hose to the outlet port.



FDS Pump Operation

Pump controls are simple push button functions.

Press the green button to start the pump,
The green light should be illuminated when pumping as well as the noise of the motor.

Press the red button to stop.

The pump is equipped with a high pressure shut off, which will stop the pump if deadheaded.

The pressure switch is adjustable with a 5/64" Allen key in the end of the pump (refer to Shurflo.com S.B.# 1031).

When moving the pump or lines between use **always unhook the discharge side first.**

Next remove the inlet side and raise hose to allow the fluid to drain back into the tank.

Have a rag handy to wipe up small spills from lines and the pump.

The pump is self priming and can temporarily run dry. Keep the pump away from moisture and do not operate in hazardous environments.

The pump is not rated for constant operation.

System Design and Installation

Utilizing CXP-5002 FDS ½" Braided Hose and CXP-5016 Plastic 1/2 Barb Tees, design and installation is simple.

Design Considerations

- Max vertical fluid push height is 100'
- Horizontal hose runs, can go much further.
- Less joints in hoses can help ensure less points for it to leak at. Try to have one continuous hose run from pump to pail if possible.
- No sharp bends in hoses to avoid pinching lines and restricting fluid flow.

Pressure is set by an Allen key through the front.

Expect to use ½ a psi per foot of lift, 5 psi for any small radius corners and 1 psi for every 10' horizontal. Then add 15 psi for working flow.

Example lift 70', horizontal 20', 2 bends.

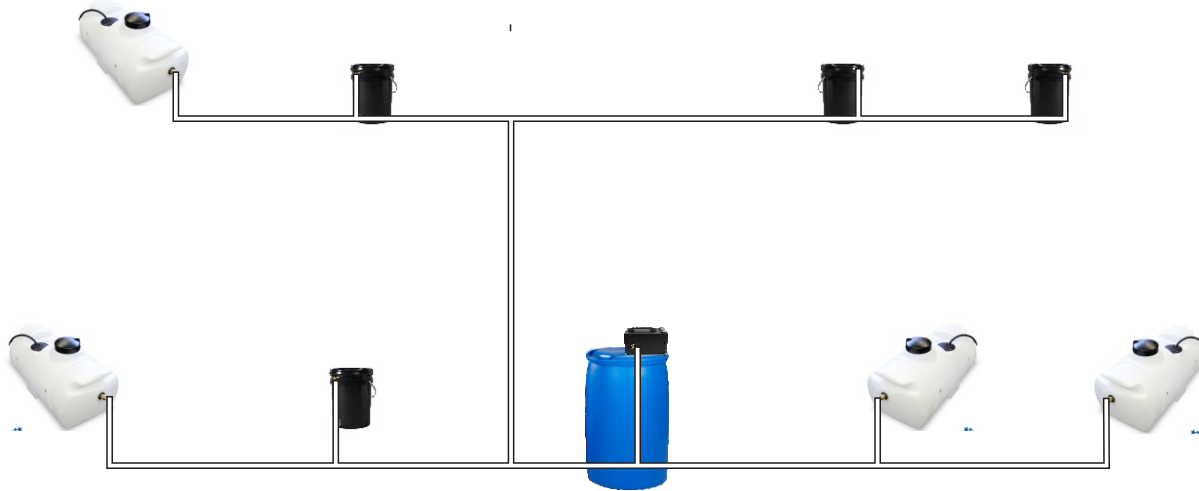
So $70 \times .5 + 2 \times 5 + 1 \times 2 + 15 = 62$ psi

Maximum pressure must not exceed 90p.s.i.



FDS Pump

Design Example



Maintenance

Exterior

The casing of the FDS Pump is stainless steel with a powder paint coating. To clean simply disconnect power source and wash with cloth in mild soap and warm water.

Troubleshooting

If unit is not pumping/ moving fluid:

- 1) Check that unit is connected to a suitable GFI or GFCI power source.
- 2) Ensure that pick up tube is properly assembled and connected to input side of pump.
- 3) Verify that the receiving pails/tanks are not already full.
- 4) Check the float valve in the pail is not in the closed position causing back pressure and turning the FDS pump off.
- 5) Check that the back flow pressure switch is not set to low. Adjust accordingly.

If pails not filling but pump is turning ON:

- 1) Check that float assembly shutoff valve in pail, is not stuck in the closed position. Clean or fix as needed.
- 2) Check that all tubing / joints leading up to pail that is not filling; are secure and connected.

If Bubble Machine with FDS is not filling up:

- 1) Check that float assembly inside Bubble Machine W/FDS is not stuck / gummed up. Fix / clean as necessary.
- 2) Check that Bubble FDS pail is positioned higher than Bubble machine for proper gravity filling.
- 3) Check that all tubing is connected

Warranty

Hardware products come with a five-year warranty on parts and labor. If the unit in question has a material defect or fault that is caused in manufacturing, Ultratec Special Effects will provide free parts and labor to remedy the equipment. Ultratec Special Effects service department must be advised in a timely manner after defect appearance and the date of warranty request must be within five years of sale/purchase. Proof of sale and/or proof of purchase will be required for warranty to take effect.

Warranty service will be performed as follows: faulty parts will be repaired or replaced with the same or comparable parts, based on availability. Freight to our facility for warranty requests will be prepaid by the user/dealer. Upon completion of the repair, Ultratec Special Effects will return the unit via the most economical means available. Should you require the item express-returned, the user/dealer is responsible for indicating this request and for any difference in freight cost.

Warranty will be voided, and customer will lose all rights guaranteed by the warranty if any of the following are observed/occur:

If any non Ultratec Special Effects fluid is used at any point of operation.

If any adjustments or repairs are done to the machine in question by repair technicians not authorized by Ultratec Special Effects.

If our repair technicians observe any signs of incorrect handling/treating of machine in question.

Warranty services do not cause an extension of the warranty nor does a repaired product start a new warranty. This warranty only applies to the product supplied by Ultratec Special Effects, Ultratec Special Effects is not responsible for any losses, costs, or damages from the use of a defective product.

Any additional costs incurred are the responsibility of the Dealer and/ or the customer.

An RA (Return Authorization) number must be noted on the outside of each box being returned to our facility. Any package(s) without an RA number clearly marked, will not be accepted by our receiving department.

Export Distributors are required to carry out the warranty repair, parts will be supplied by Ultratec.

Please do not forget to remove any liquid from the machine when sending in for repair.

Please remember to include the RA Number on all items being shipped in for repairs.

To request a Return Authorization number please refer to our website - instructions below:

- 1) www.ultratecfx.com
- 2) Click on the SUPPORT tab along the top of the screen
- 3) Click on REQUEST RMA from the pull down
- 4) Fill in the required information
- 5) Click on "SEND" button

If you have any questions or require assistance please contact service at 519-951-3355/866-534-5557 or by email at Service@Ultratecfx.com.

Contact Us

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