Lafferty Equipment Manufacturing, LLC
Installation & Operation Instructions

Model # 989328 · Flow-Thru Water Level Master™ (No Tank)

REQUIREMENTS

Water Level Master Tank	See Options
Water Supply	Up to 4.7 GPM @ 40 PSI
Water Pressure	125 PSI Max
Proportioner(s)	Not Included

OPTIONS

Level Master Tank Sizes (Specify When Ordering)

Tank, 7 Gallon, with Suction Stem	# 709187
Tank, 16 Gallon, with Suction Stem	# 709188

Contact Us For Injector Availability



Lafferty EQUIPMENT MANUFACTURING LLC

CFS TECHNOLOGIES

www.laffertyequipment.com
501-851-2820

WARNING! READ ALL INSTRUCTIONS BEFORE USING EQUIPMENT!

OVERVIEW

The Flow-Thru Water Level Master™ is a float valve system that regulates the flow of water to a low volume proportioner (not included). When the solution in the Level Master Tank (sold separately) drops below a pre-set level, the primary float valve opens to allow water to flow through to the proportioner. The proportioner dilutes concentrated chemical and dispenses the diluted solution into the Level Master Tank. This diluted solution can then be drawn into a second proportioner which dilutes it further and dispenses an ultra-lean solution. The system cycles continuously and a secondary fail-safe float prevents overfilling.

SAFETY & OPERATIONAL PRECAUTIONS

- **When connecting to a potable water supply follow all local codes for backflow prevention.**
- For proper performance do NOT modify, substitute nozzle, hose diameter or length.
- Manufacturer assumes no liability for the use or misuse of this unit.
- Wear protective clothing, gloves and eye wear when working with chemicals.
- Always direct the discharge away from people and electrical devices.
- Follow the chemical manufacturer's safe handling instructions.
- NEVER mix chemicals without first consulting chemical manufacturer.

TO INSTALL (REFER TO DIAGRAM ON NEXT PAGE)

Backflow prevention: Follow all local codes for preventing backflow into the water supply before installing / operating equipment.

1. Position Water Level Master Tank (sold separately) on a **level surface.**
2. Carefully unpack the Water Level Master lid / float assembly and thread on to tank opening. Ensure that the float(s) are hanging freely.
3. Mount the low flow proportioner (sold separately) to a suitable surface above the chemical supply to prevent siphoning.
4. Connect the discharge hose from proportioner to the bulkhead fitting in the Water Level Master Tank.
5. Flush any new plumbing of debris before connecting water. If water piping is older, or has known contaminants, install a water filter.
6. Connect the water supply to the inlet garden hose adapter on the Water Level Master lid / float assembly.
7. Connect the discharge hose barb on the Water Level Master lid / float assembly to the inlet of the low flow proportioner (sold separately).
8. Connect the tank discharge hose barb to a pump or other dispensing mechanism using a suction tube.

TO OPERATE

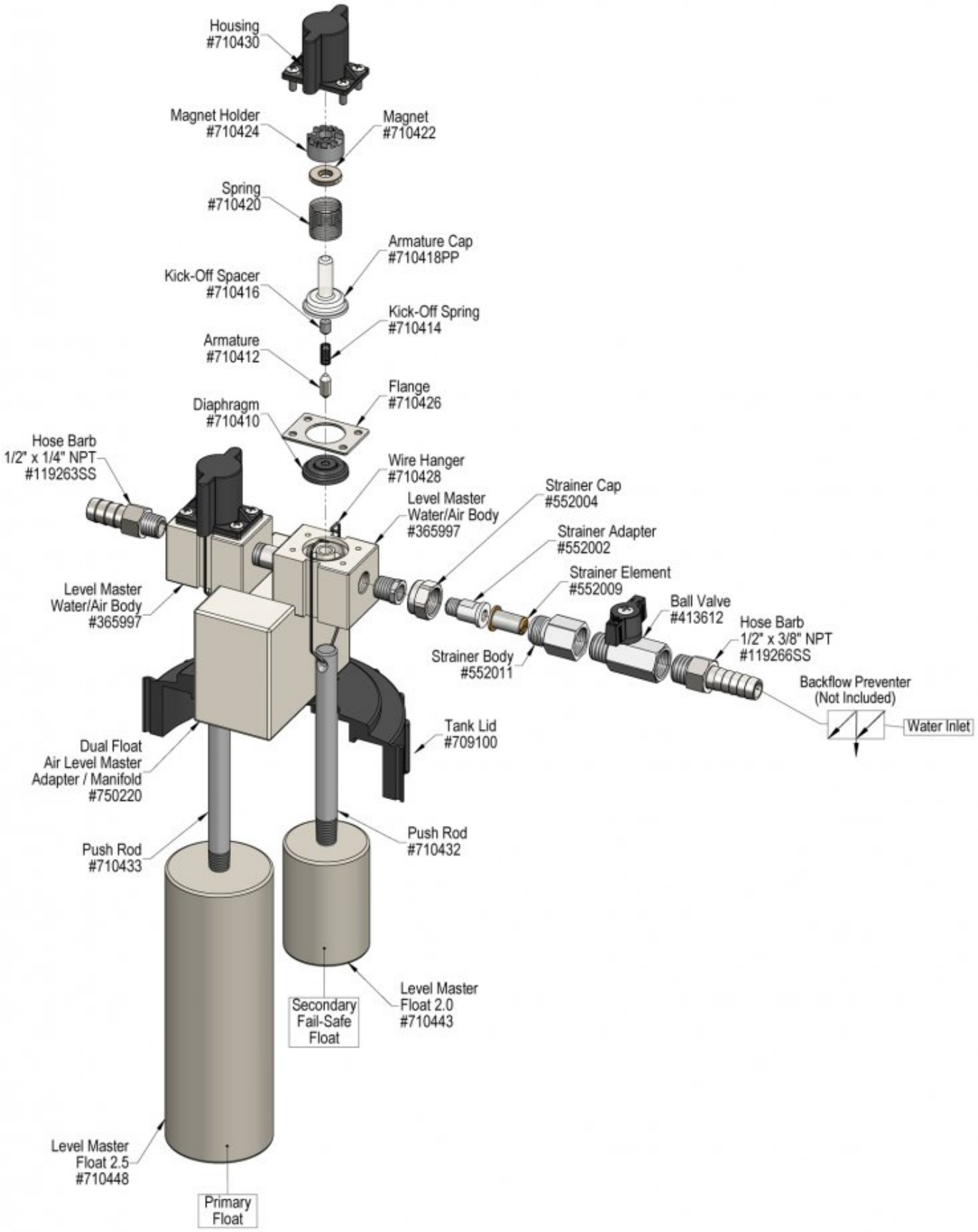
1. With the Level Master assembly securely attached to an empty tank, push down on the secondary safety float valve wire hanger (see diagram) to so that it sticks in the "down" position. Gravity will cause the primary float valve to automatically sit in the "down" position. Both float valves are now open.
2. Completely open the water inlet ball valve to activate the flow to the proportioner (sold separately) and begin filling the tank with diluted solution.
3. When the solution in the tank reaches the fill level, the primary float will rise and shut off the water flow to the proportioner. This will cause the tank to stop filling.

NOTE: The fill level and fail-safe shutoff level are pre-determined by the length of the "push rods" attached to the floats, which are intended to be used as provided. If necessary, floats can be lowered 1/2" by partially unscrewing them from the push rods.

4. System is now ready for use and will maintain the solution level until the inlet ball valve is manually closed.
5. Make final metering tip adjustments to the proportioner based on application results.

Secondary Fail-Safe Valve Reset Procedure

- If the solution level in the tank rises above the normal fill level the secondary fail-safe float will rise and cause the secondary fail-safe float valve to close.
- This will shut-off the water supply to the proportioner and deactivate the system to prevent overflow.
- The system will not operate until the secondary float valve is manually reset by pushing down on the float valve wire hanger (per operating instructions step 1, above).
- If the secondary fail-safe valve is triggered, refer to the Troubleshooting Guide to determine the cause before continuing operation.


Housing
#710430
Magnet Holder
#710424
Magnet
#710422
Spring
#710420
Armature Cap
#710418PP
Kick-Off Spacer
#710416
Kick-Off Spring
#710414
Armature
#710412
Flange
#710426
Diaphragm
#710410
Hose Barb
1/2" x 1/4" NPT
#119263SS
Wire Hanger
#710428
Level Master
Water/Air Body
#365997
Strainer Cap
#552004
Strainer Adapter
#552002
Strainer Element
#552009
Ball Valve
#413612
Hose Barb
1/2" x 3/8" NPT
#119266SS
Strainer Body
#552011
Backflow Preventer
(Not Included)
Water Inlet
Level Master
Water/Air Body
#365997
Tank Lid
#709100
Dual Float
Air Level Master
Adapter / Manifold
#750220
Push Rod
#710433
Push Rod
#710432
Secondary
Fail-Safe
Float
Level Master
Float 2.0
#710443
Level Master
Float 2.5
#710448
Primary
Float

Troubleshooting Guide

Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Proportioner will not draw chemical.	1, 4, 5	8, 9, 10, 11
B) Dilution too strong.	2	
C) Dilution too weak.	3, 4, 5	8, 9, 10, 11
D) Primary float will not activate (does not fill)	7	12, 13, 14, 15, 16
E) Primary float valve will not turn off (overfills or triggers secondary fail-safe float valve on double-float models)	6, 7	12, 13, 14, 15, 16
NOTE: This guide is for Water Level Masters used with Low Flow Proportioners		

Possible Cause / Solution

Startup

1. **Water inlet ball valve not completely open**
   - Completely open water inlet ball valve.
2. **Proportioner chemical usage too high**
   - Adjust the proportioner to produce a weaker solution.
3. **Proportioner chemical usage too low**
   - Adjust the proportioner to produce a stronger solution
4. **Chemical tube not immersed in chemical or chemical depleted.**
   - Immerse tube or replenish.
5. **Water pressure too low or water temperature too high**
   - Mixing station requires 25 PSI water pressure, see requirements.
6. **Level Master body is not level**
   - Install the Level Master on an even surface where the body (injector) is level to the horizon. Ensure that the Level Master will not become unbalanced as it fills.
7. **Secondary fail-safe float has been triggered *(double float models only)***
   - Manually reset the secondary fail-safe float valve (refer to operation instructions)
   - Inspect the primary float assembly before resetting the secondary float valve. If necessary, troubleshoot the primary float assembly.

Float hanger seated correctly

Maintenance

8. **Chemical strainer or metering tip blocked**
   - Clean or replace chemical strainer and/or metering tip.
9. **Chemical tube stretched where tube connected to proportioner or pin hole/cut in tube (sucking air)**
   - Cut off end of tube or replace tube.
10. **Vacuum leak in chemical pick-up connections**
    - Tighten the connection.
11. **Water strainer screen clogged**
    - Clean the water strainer screen.
12. **Physical blockage or interference is preventing the float from rising or falling**
    - Ensure that the tank is on a level surface.
    - Ensure that the float, push rods, and metal clips are hanging freely without any interference.
    - Do not modify the float assemblies.
13. **Float valve parts are dirty or defective**
    - Clean or replace the affected parts (may require careful disassembly, refer to parts diagram).
    - Ensure that all parts are free of rust, grease, and loose metal chips.
    - Depending on the type of chemical used and other operational variables, regular cleaning and/or replacement may be required.
14. **Float valve diaphragm stretched out or damaged**
    - Replace the float valve diaphragm.
15. **Chemical build-up or scale may have formed in the injector body causing poor or no chemical pick-up**
    - Follow Preventive Maintenance instructions below, using hot water and/or descaling acid. When there is no draw at all, carefully remove fittings and soak entire body in descaling acid.
16. **Upward force has unclipped hanger from magnet holder**
    - *Carefully* remove float housing and align wire hanger to grooves in magnet holder.
    - Pull down on wire hanger until you hear a sharp 'click' after the normal activation sound.
    - Wire hanger must be *fully* seated in magnet holder grooves, as shown on LEFT.

PREVENTIVE MAINTENANCE: When the unit will be out of service for extended periods, place chemical tube(s) in water and flush the chemical out of the unit to help prevent chemical from drying out and causing build-up. Periodically check and clean chemical strainer and replace if missing.