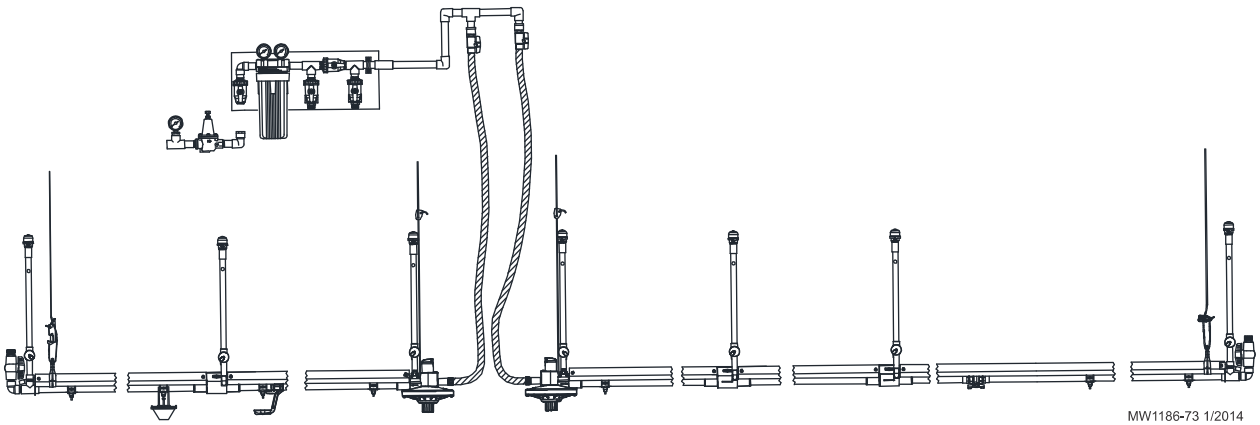
CHORE-TIME®

Poultry Production Systems

STEADI-FLOW® RELIA-FLOW® and ADVANTI-FLOW®
Nipple Drinking System



MW1186-73 1/2014

Installation and Operators Manual

Installation and Operators Manual

January 2019

MW2392G

Limited Warranty

Chore-Time Group, a division of CTB, Inc. ("Chore-Time") warrants new CHORE-TIME STEADI-FLOW®, RELIA-FLOW®, and ADVANTI-FLOW® Nipple Drinker products manufactured by Chore-Time to be free from defects in material or workmanship under normal usage and conditions, for One (1) year from the date of installation by the original purchaser ("Warranty"). If such a defect is determined by Chore-Time to exist within the applicable period, Chore-Time will, at its option, (a) repair the Product or Component Part free of charge, F.O.B. the factory of manufacture or (b) replace the Product or Component Part free of charge, F.O.B. the factory of manufacture. This Warranty is not transferable, and applies only to the original purchaser of the Product.

CONDITIONS AND LIMITATIONS

THIS WARRANTY CONSTITUTES CHORE-TIME'S ENTIRE AND SOLE WARRANTY AND CHORE-TIME EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES, INCLUDING, WIHTOUT LIMITATION, WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSES. CHORE-TIME shall not be liable for any direct, indirect, incidental, consequential or special damages which any purchaser may suffer or claim to suffer as a result of any defect in the Product. Consequential or Special Damages as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs, and operational inefficiencies. *Some jurisdictions prohibit limitations on implied warranties and/or the exclusion or limitation of such damages, so these limitations and exclusions may not apply to you. This warranty gives the original purchaser specific legal rights. You may also have other rights based upon your specific jurisdiction.*

Compliance with federal, state and local rules which apply to the location, installation and use of the Product are the responsibility of the original purchaser, and CHORE-TIME shall not be liable for any damages which may result from non-compliance with such rules.

The following circumstances shall render this Warranty void:

- Modifications made to the Product not specifically delineated in the Product manual.
- Product not installed and/or operated in accordance with the instructions published by the CHORE-TIME.
- All components of the Product are not original equipment supplied by CHORE-TIME.
- Product was not purchased from and/or installed by a CHORE-TIME authorized distributor or certified representative.
- Product experienced malfunction or failure resulting from misuse, abuse, mismanagement, negligence, alteration, accident, or lack of proper maintenance, or from lightning strikes, electrical power surges or interruption of electricity.
- Product experienced corrosion, material deterioration and/or equipment malfunction caused by or consistent with the application of chemicals, minerals, sediments or other foreign elements.
- Product was used for any purpose other than for the care of poultry and livestock.

The Warranty and Extended Warranty may only be modified in writing by an officer of CHORE-TIME. CHORE-TIME shall have no obligation or responsibility for any representations or warranties made by or on behalf of any distributor, dealer, agent or certified representative.

Effective: **April, 2014**

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Topic Page

About This Manual

The intent of this manual is to help you in two ways. One is to follow step-by-step in the order of assembly of your product. The other way is for easy reference if you have questions in a particular area.

Important: Read ALL instructions carefully before starting construction.

Important: Pay particular attention to all SAFETY information.

- *Metric measurements are shown in millimeters and in brackets, unless otherwise specified.* "" equals inches and "' " equals feet in English measurements.
  Examples:
  1" [25.4]
  4' [1 219]

- Optional equipment contains necessary instructions for assembly or operation.

- Very small numbers near an illustration (*i.e.,* 1257-48) are identification of the graphic, not a part number.

Note: The original, authoritative version of this manual is the English version produced by CTB, Inc. or any of its subsidiaries or divisions, (hereafter collectively referred to as "CTB"). Subsequent changes to any manual made by any third party have not been reviewed nor authenticated by CTB. Such changes may include, but are not limited to, translation into languages other than English, and additions to or deletions from the original content. CTB disclaims responsibility for any and all damages, injuries, warranty claims and/or any other claims associated with such changes, inasmuch as such changes result in content that is different from the authoritative CTB-published English version of the manual. For current product installation and operation information, please contact the customer service and/or technical service departments of the appropriate CTB subsidiary or division. Should you observe any questionable content in any manual, please notify CTB immediately in writing to: CTB Legal Department, P.O. Box 2000, Milford, IN 46542-2000 USA.

Safety Information

Caution, Warning and Danger Decals have been placed on the equipment to warn of potentially dangerous situations. Care should be taken to keep this information intact and easy to read at all times. Replace missing or damaged safety decals immediately.

Using the equipment for purposes other than specified in this manual may cause personal injury and/or damage to the equipment.

Safety–Alert Symbol

This is a safety–alert symbol. When you see this symbol on your equipment, be alert to the potential for personal injury. This equipment is designed to be installed and operated as safely as possible...however, hazards do exist.

Understanding Signal Words

Signal words are used in conjunction with the safety–alert symbol to identify the severity of the warning.

DANGER indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

CAUTION indicates a hazardous situation which, if not avoided, MAY result in minor or moderate injury.

Safety Instructions

Follow Safety Instructions

Carefully read all safety messages in this manual and on your equipment safety signs. Follow recommended precautions and safe operating practices.

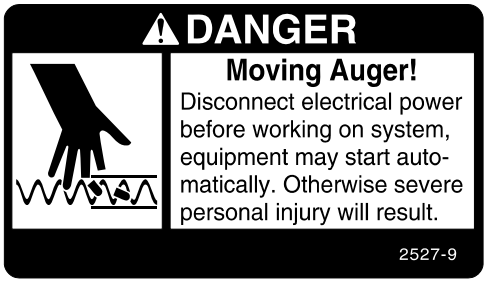
Keep safety signs in good condition. Replace missing or damaged safety signs.

Decal Descriptions

DANGER: Moving Auger

This decal is placed on the Panel Weldment.

Severe personal injury will result, if the electrical power is not disconnected, prior to servicing the equipment.



DANGER: Electrical Hazard

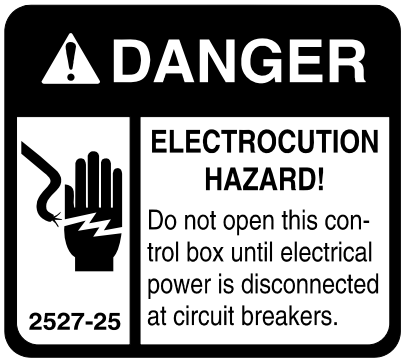
Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.

Ground all electrical equipment for safety.

All electrical wiring must be done by a qualified electrician in accordance with local and national electric codes.

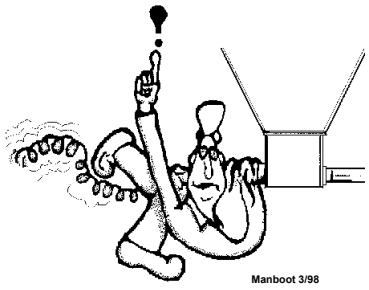
Ground all non-current carrying metal parts to guard against electrical shock.

With the exception of motor overload protection, electrical disconnects and over current protection are not supplied with the equipment.



CAUTION:

Use caution when working with the Auger—springing Auger may cause personal injury.



Tools for Installation

Regular Screwdriver	Bolt Cutters or Hack Saw
Locking Pliers	PVC Cleaning Solvent
File	Electrical Drill and Drill Bits
Saw to cut PVC Tubes	Another Person to help
Screw-Hook Driver	

General Information

Filtration

Good water quality maximizes performance of the equipment, minimizes maintenance and repair, and increases the life of the system.

Pump the well prior to hookup of the system to clear sand, mud, or debris. CHORE-TIME recommends a water test by a reputable water treatment company in the area. Water treatment and/or extra filtration may be required, depending on the water test results.

A minimum of 1, 140 mesh filter is recommended. For systems with high sand/silt levels a secondary, more aggressive, filter should be placed down stream of the 140 mesh filter.

Incoming Pressure

	Filter Control Panels		Regulators
Part Number	36802-1	9275/36802-2	All
Incoming Pressure	3-11 psi	11-35 psi*	3-35 psi
	For incoming pressure between 35 and 125 psi use the 35308 pressure step down assembly with the filter control panel.		

CHORE-TIME recommends a minimum incoming water pressure of 3 psi *[21 kPa]* for gravity feed systems. To obtain this minimum pressure the water level in the water tank should be maintained 8’ *[2.4 m]* above the nipple line. CHORE-TIME recommends a Maximum line length of 250’ *[76 m]* for a gravity feed system.

For every 28" *[711 mm]* of water column, water pressure increases one pound. Measure the operating pressure at bottom of the water pipe.

Incoming water supply should be at least a 1" *[25 mm]* diameter incoming line (preferably PVC) from a single well. If there are two or more supply wells, the supply line should be larger. Other factors such as, the distance from the well(s) to the filter control panel and other equipment which requires water could demand larger lines.

Planning

Configuration & Layouts

•Line length 500’ max. Split line into two halves for longer barns.
•Keep Lines level. **See “Suspension System Installation” on page 12**.

RELIA-FLOW® and STEADI-FLOW®

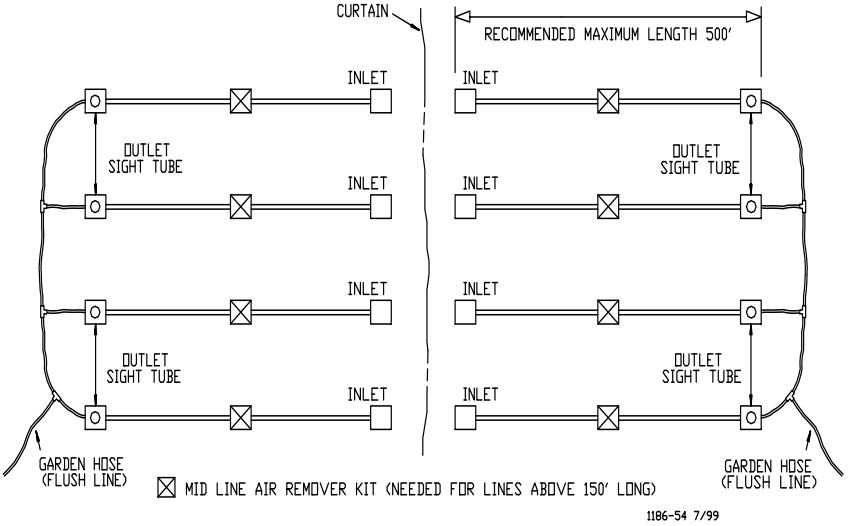


Figure 1.Preferred Layout for RELIA-FLOW® and STEADI-FLOW®

Alternate Layout #1

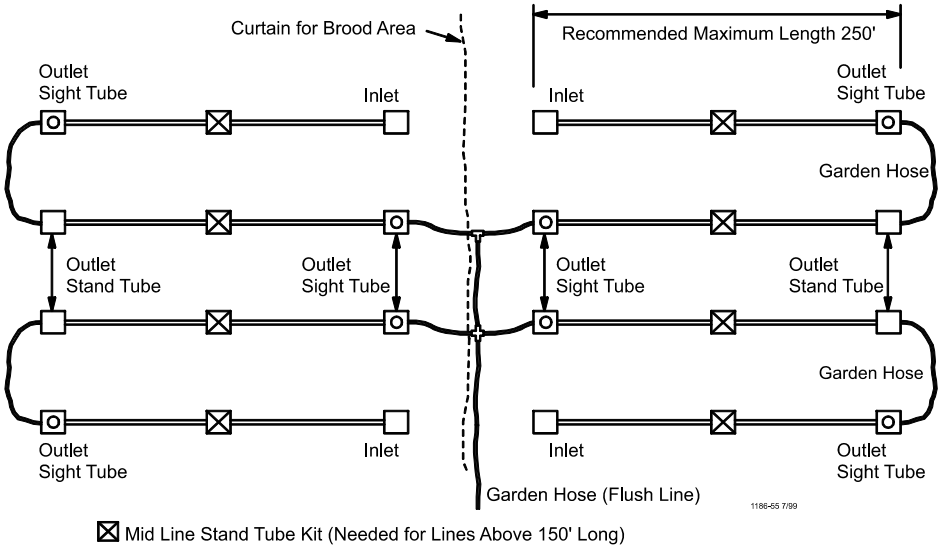


Figure 2.Alternate Layout for RELIA-FLOW® and STEADI-FLOW®

Alternate Layout #2

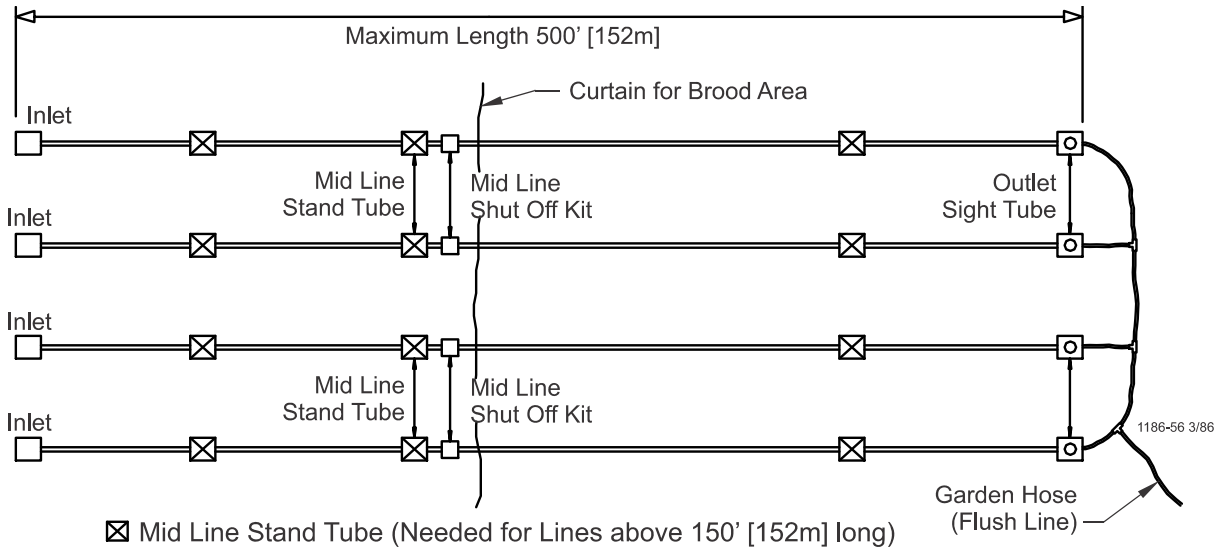
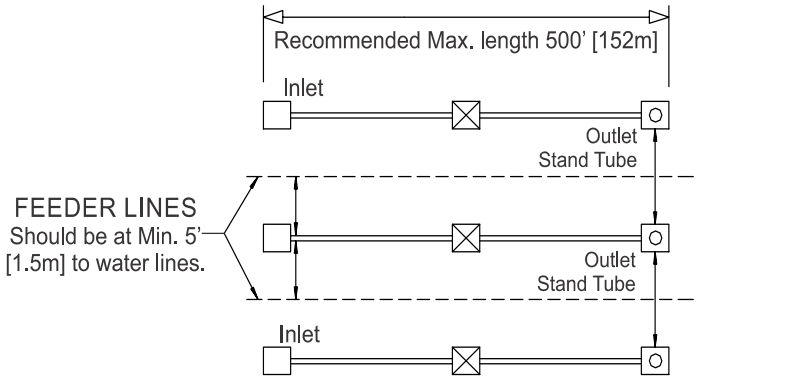


Figure 3.Alternate Layout #2 for RELIA-FLOW® and STEADI-FLOW®

ADVANTI-FLOW® Preferred Layouts



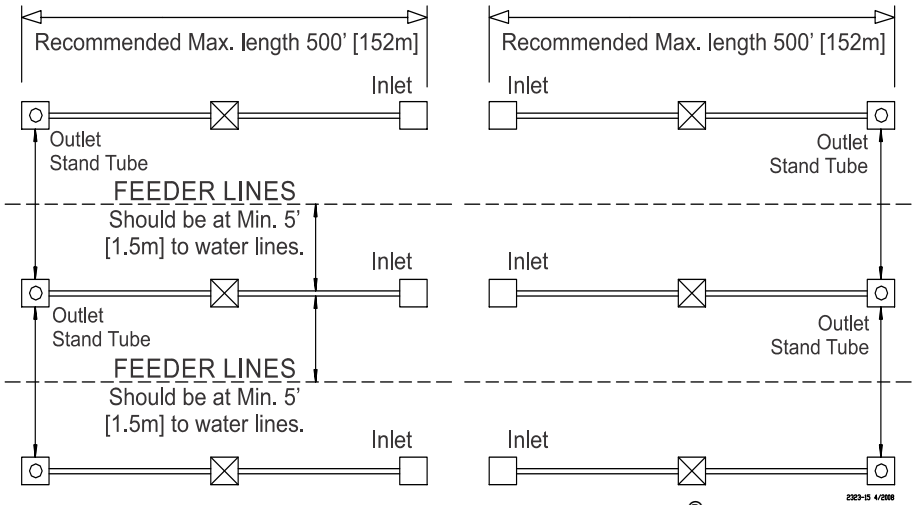
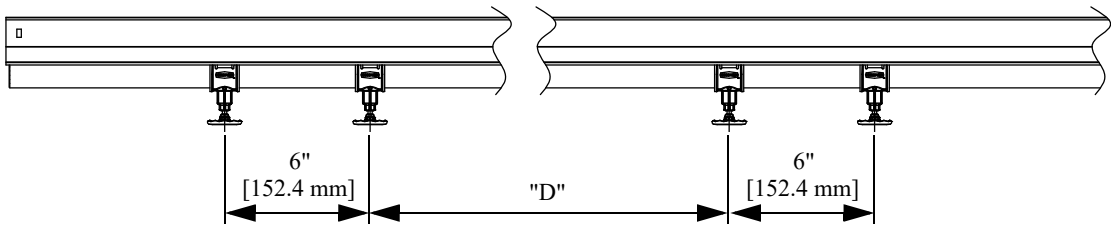


Figure 4.Preferred Layouts for ADVANTI-FLOW®

NIPPLE DRINKERS

The CHORE-TIME nipple drinker is available with nipples spaced 6" *[150 mm]*, 8" *[200 mm]*, 10" *[250 mm]*, 12" *[300 mm]*, 15" *[380 mm]*, 20" *[508 mm]*, or 24" *[610 mm]* on the 10' *[3 m]* pipe.



ADVANTI-FLOW		STEADI-FLOW @ RELIA-FLOW	
Number of Nipples	**Spacing "D"**	**Number of Nipples**	**Spacing "D"**
6	34" *[863.6 mm]*	5	24" [610 mm]
8	24" *[609.6 mm]*	6	20" [508 mm]
10	18" *[457.2 mm]*	8	15" [381 mm]
12	14" *[355.6 mm]*	10	12" [305 mm]
--	--	12	10" [254 mm]
--	--	15	8" [203 mm]
--	--	20	6" [152 mm]

Figure 5.Nipple Spacing

The CHORE-TIME nipple drinker is available with the standard support channel for broiler applications. The Chore-Time nipple drinker is also available with the heavy support channel for pullets and breeders. see figure 6. shows the difference between the standard and heavy support channel with the standard and button nipple assemblies in the STEADI-FLOW® drinkers. **Figure 7** shows the difference between the standard and heavy support channel and button nipple assemblies in the RELIA-FLOW® drinkers.

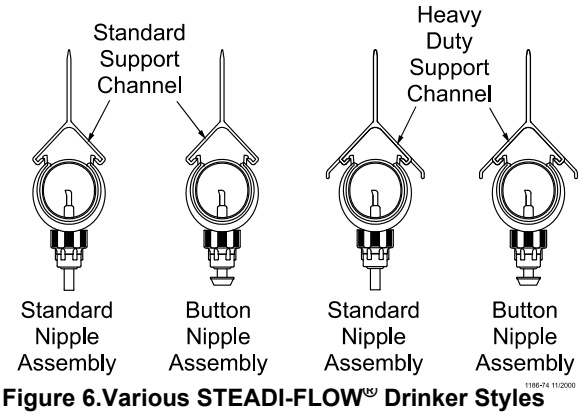


Figure 6.Various STEADI-FLOW® Drinker Styles

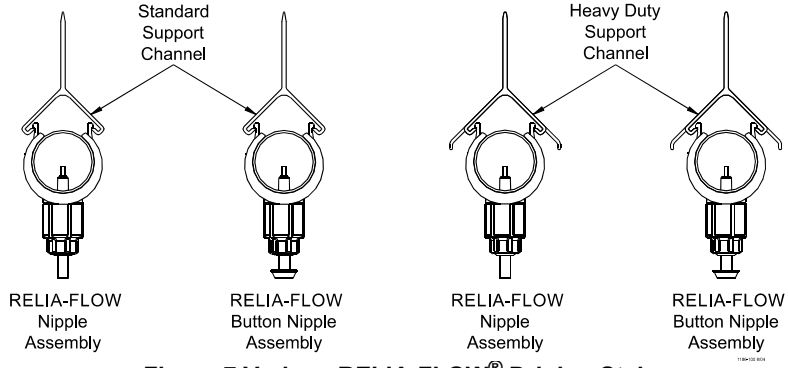


Figure 7.Various RELIA-FLOW® Drinker Styles

Manufacturer's Recommendations: Birds per Nipple

RELIA-FLOW® and STEADI-FLOW®

Type	Recommended Number birds per Nipple	Recommended Options
Broiler	30 for day old chicks 10-15 for grow-out	Standard channel-Standard Flow (Button options) or Standard channel-Hi Flow w/catch cup (Button options)
Breeder	8-10 for hot to warm climates 10-12 for warm to cool climates	Heavy Duty channel-standard-flow or Heavy Duty channel High Flow w/catch cup (Hot climates Only)
Pullets	16-24 for day-old chicks 8-12 for grow out	Standard channel-Standard Flow
Poults	10-15 after brooding	6 wks or less-Standard channel-Standard flow 7-9 wks-Heavy Duty channel (Hi Flow w/Buttons recommended)

For breeders, place the water line INSIDE The ULTRAFLO® Breeder Feeder Loop.
For a pan feeder system, place the water line within three feet *[1m]* of the feed line.
For pullets, it is ideal to place water lines on either side of the feed lines within 3 ft. *[1m]*.
In areas where house temperature will reach 100°F (40°C) for sustained periods and no evaporative cooling or tunnel ventilation is used, an anti-roost system is needed.
Recommended incoming pressure of 25 to 35 psi *[172 to 241 kPa]*.

ADVANTI-FLOW®

Weeks of Age	Recommended number birds per nipple
0-6	10-16 birds per nipple

Suspension System Installation

The following installation instructions are for standard installations. For partial house brooding, the sections can be winched separately or together. Install each section as a separate section.

1. Determine where the water line is to be installed. Mark a straight line on the ceiling or rafters at this point using string or chalk line, or winch cable temporarily attached with staples or nails.
2. For installations using wood trusses, the standard screw hook or the optional ceiling hook may be used to hold the pulley assemblies.

   For installations using steel trusses, the ceiling hooks are available to hold the pulley assemblies.

Note: Space hooks so such that a hook is located within 3' [7.6 cm] of each water line coupler.

Screw hook installations: Install screw hooks along the line at 8' *[2.4 m]* or 10' *[3 m]* intervals.
Screw the threads all the way in to prevent bending. The opening of the hooks must point away from the direction the cable pulls. See **Figure 8**

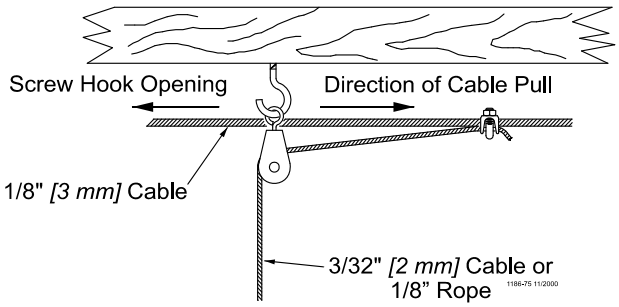


Figure 8. Screw Hook Installation

Ceiling hook installations: Install ceiling hooks along the line at 8' *[2.4 m]* or 10' *[3 m]* intervals. If the ceiling hook is to be secured with bolts or self-tapping screws, install as shown in **Figure 9**. The ceiling hooks may be welded in place, if desired, instead of bolting.

Note: If the distance the water line is to be raised is greater than the distance between the pulleys, offset the pulleys from each other approximately 3" *[75 mm]*.

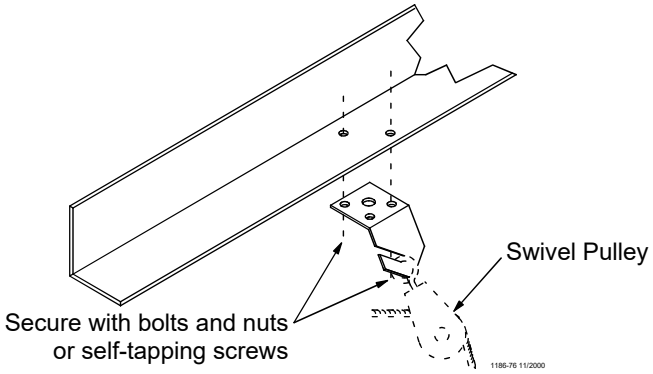


Figure 9. Ceiling Hook Installation

3. After the screw hooks or ceiling hooks have been secured to the trusses install the pulley assemblies as shown in **Figures 8 & 9**. Make sure the screw hooks or ceiling hooks are pointing in the proper direction (opposite the winch).

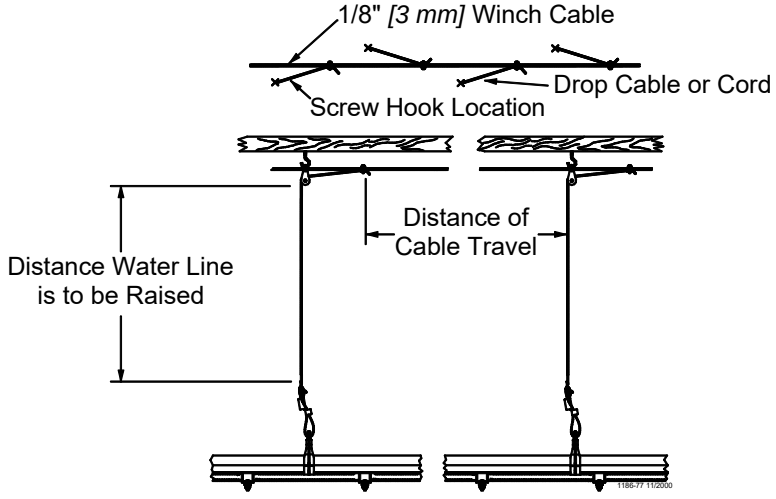


Figure 10. Offset the Screw/Ceiling Hooks

4. Mount the split drum winch as shown in **Figure 11**. Mount the winch to the ceiling or on a 2 x 8" *[50 x 200 mm]* board spanning at least two rafters for support. Use at least (4) 1/4" lag screws (not supplied) to secure winch to support.
   For systems less than 150' *[46 m]*, the manual winch may be used in place of the split drum winch.
5. Bolt the winch to the bracket, as shown in **Figure 11**.

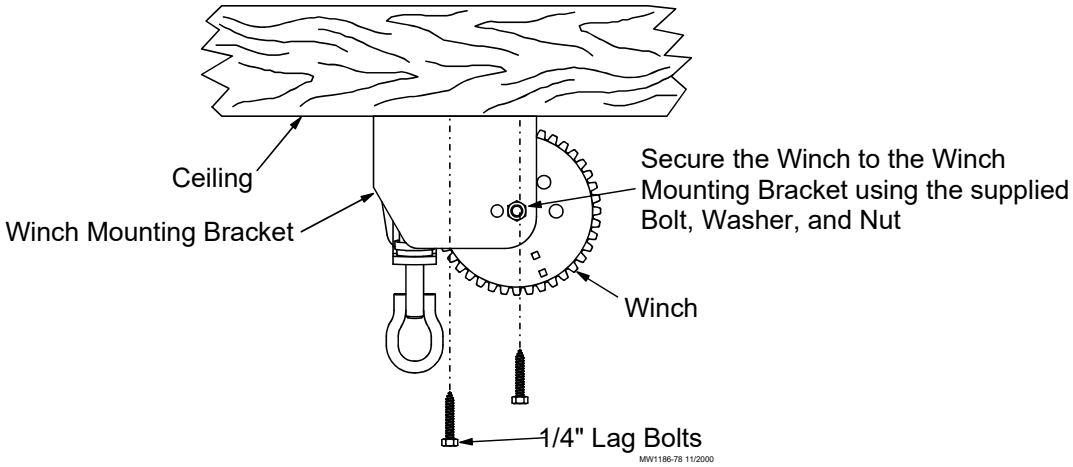


Figure 11.Winch Mounting

6. Attach one end of the 3/16" *[4.8 mm]* cable to the winch as shown in **Figure 12**. Unroll the cable along the length of the water line.

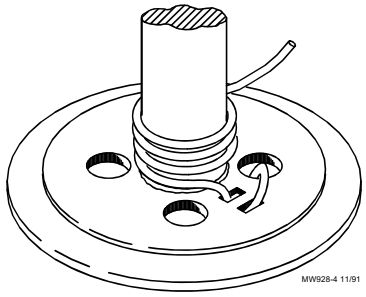


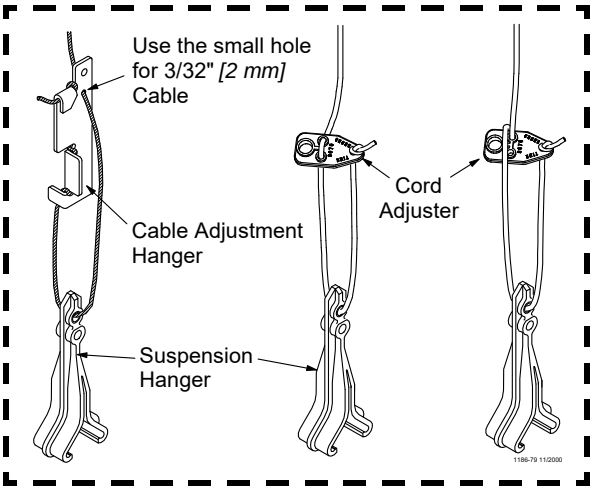
Figure 12. Cable Wrap on Drum

Suspend Water Lines

Suspend the watering line every 8’ or 10’ *[2.4 or 3 m]* at the suspension drops.

1. Cut a section of the 3/32" *[2.3 mm]* cable or cord for each suspension drop. The cable or cord should be approximately three feet *[91 cm]* longer than the distance from the floor to the ceiling so that it can be attached at the top and bottom.
2. Route the cable or cord around the swivel pulley and attach to the main cable, using a clamp.
3. Route the suspension cable through the top hole of the suspension hanger and around the cable adjuster as shown in **Figure 13**.
4. Assemble the suspension hanger over the support channel at every suspension drop.

Helpful Hint:It may be necessary to fasten a weight to the end of the main cable to maintain tension while connecting the drop lines, etc.



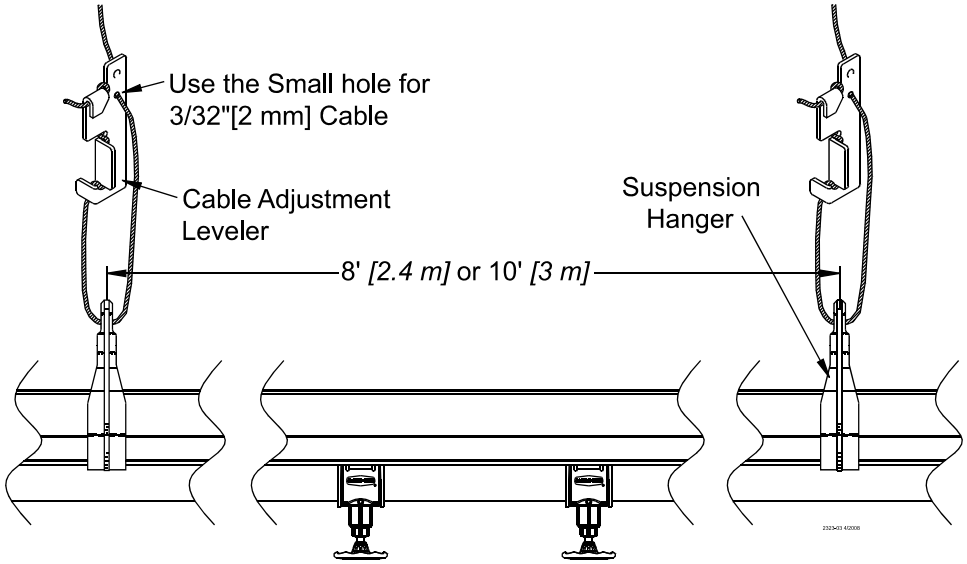


Figure 13. Suspend Water Lines

Assembly

Raise the suspension to a convenient working height.

A nail apron may be used to carry hangers, connectors, expansion joints, keys, adjustment levelers, or cord adjusters.

Figure 14 identifies several of the primary components used with the nipple watering line.

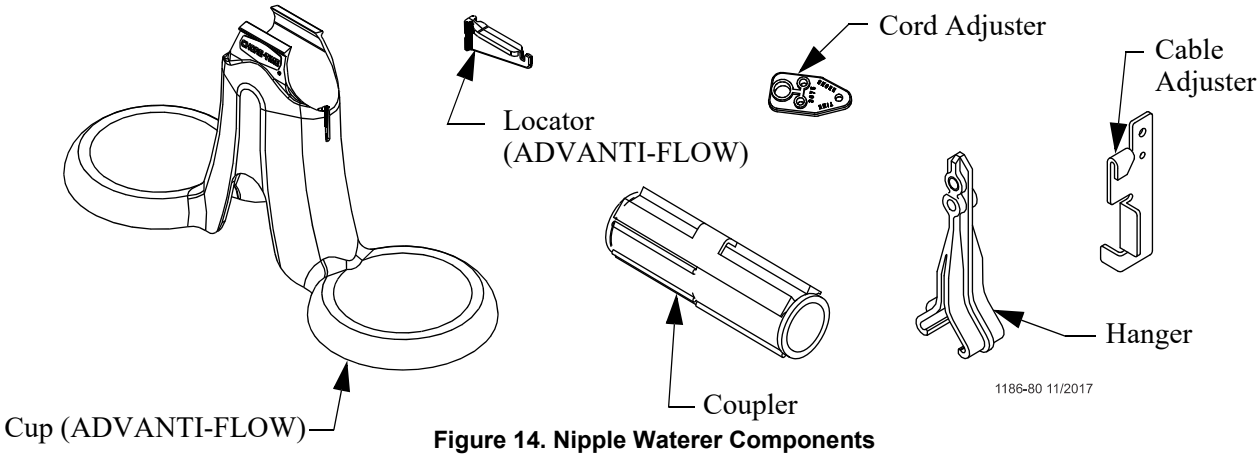


Figure 14. Nipple Waterer Components

Lubrication

Acceptable Lubrication:

- **Plain water or light dish soap and water mixture** may be used to lubricate the inside of the coupling, mid line air breather or slope compensator assemblies.
- **Silicone oil based Parker Super O-Lube** (available through Chore-Time part number 45911) may be used to lubricate the inside of the coupling, mid line air breather or slope compensator assemblies. **Note: Very little (thin film) of this product is needed to provide necessary lubrication.**

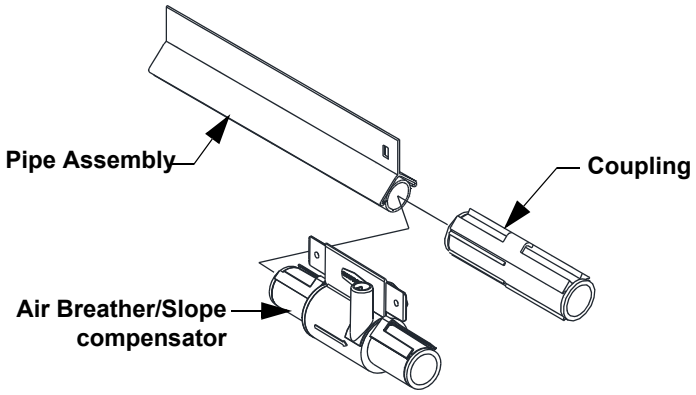


Figure 15.Lubrication

Unacceptable Lubrication:

- **<u>DO NOT</u> use petroleum based Parker O-Lube Product!** Only the Parker Silicone oil based Parker Super O-Lube is acceptable.
- **<u>DO NOT</u> use silicone spray!** These may have petroleum based properties that may damage water line components.
- **<u>DO NOT</u> use any petroleum based product!** This would include, but is not limited to, items such as Vaseline, WD 40, motor oil, ect.
- **<u>DO NOT</u> use vegetable or any other similar oil!** This would include, but is not limited to, sunflower oil, peanut oil, coconut oil, linseed oil, corn oil, ect.

Important!

Use of any lubricant during installation, other than those approved by Chore-Time, will void the manufactures warranty.

Install Coupling Assembly

Install coupling liner assembly on the end of the water pipe, as shown in **Figure 16**. Insert the pipe until it contacts the stop rib inside the coupling liner assembly.

Note: Lubricate the inside of the coupling with soapy water or Super o-lube.

Insert the next pipe into the other end of the coupling liner assembly until the support channels meet.

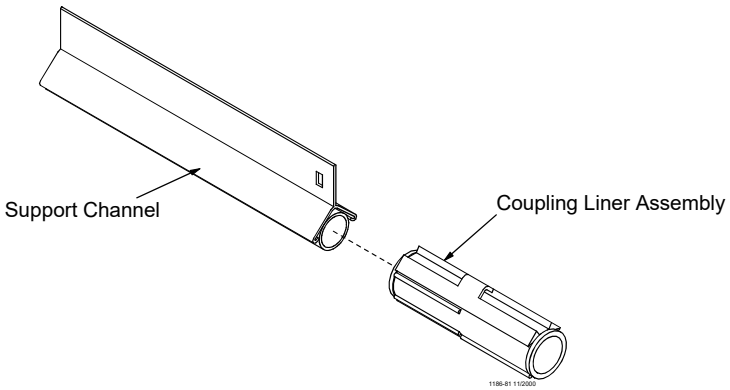


Figure 16.Coupling Liner Assembly Installation

1. Make sure the water pipes are fully inserted into the coupling assembly.
2. Install a Channel Bracket with #10 hardware to fasten the Support Channels together **as shown**.
3. This will prevent the water lines from separating at the joints.

Note: The support channels will be butted against each other when the coupling is properly installed.

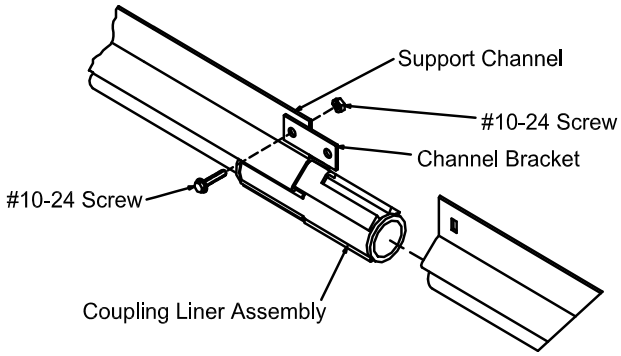


Figure 17. Securing the Water Line together

ADVANTI-FLOW® Cup Installation

1. Install the locater to the cup as shown, **See Figure 18.**

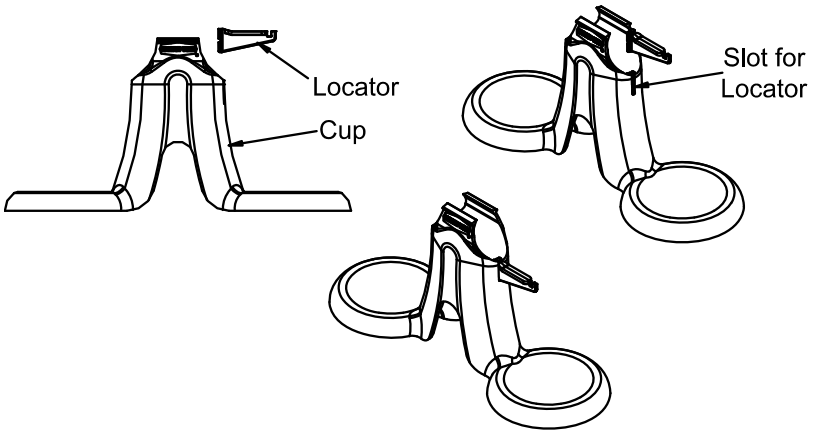


Figure 18. Advanti-Flow Cup Installation

2. Install cup and locater to the pipe assembly.
3. Turn pipe assembly over and install cup over the water pipe. The cup is to be located between a pair of saddle assemblies, **See Figure 19.**

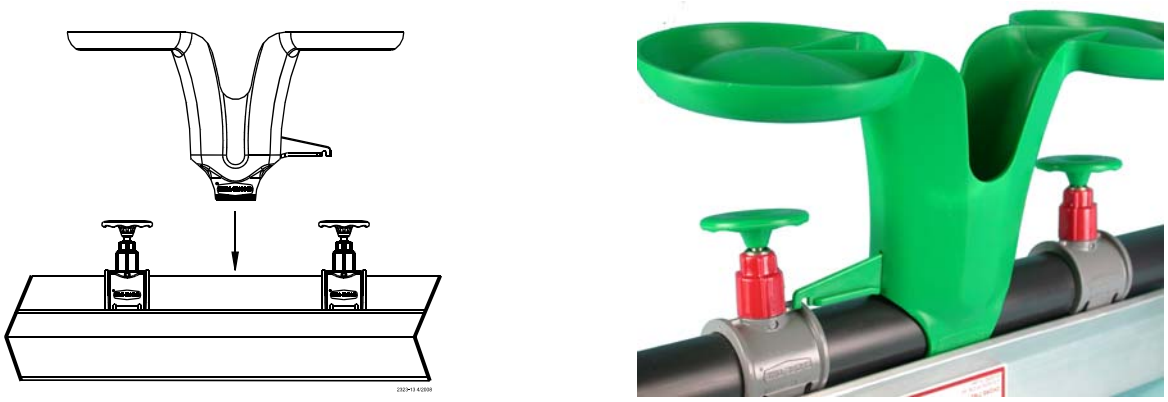


Figure 19.ADVANTI-FLOW Cup Installation

Mid-Line Stand Tube

One mid-line stand tube is required for every 150' *[46 m]* of nipple watering line, see **Figure 20**.

1. Insert the water pipe into the body.
2. The support channel will slide into the channels on the top of the body.
3. Secure the body to the support channel using the supplied 10-24 stainless steel screw and lock nut.
4. **Flexible Stand Tube**-Push the stand tube assembly on the mid line air remover or slope compensator vent tube and install the adjustable clamp.
   Folding Stand Tube-Apply PVC cement to Stand Tube and air remover or slope compensator vent tube and assemble with folding knuckle in the proper orientation.

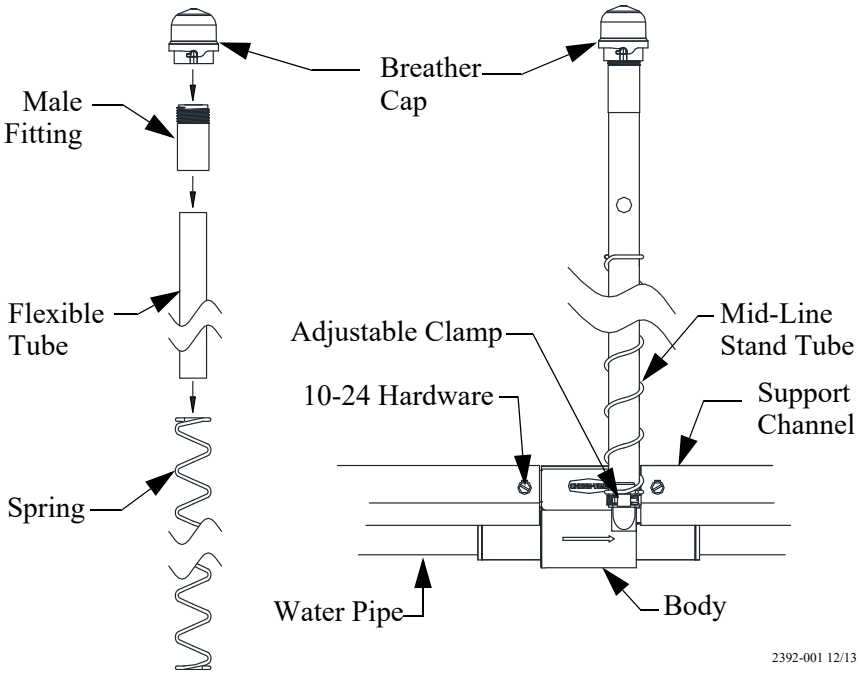


Figure 20. Mid Line Stand Tube Installation

Mid-Line Shutoff

The mid line shut-off valve may be located at any convenient location along the water line, except next to a joint.

1. Determine the desired location for the mid line shut-off valve.
2. Use a flat screw driver to carefully pry 3 or 4 saddles away from the support channel. This will allow easy access to the water pipe for cutting.
3. Use PVC pipe cutters to cut a section out of the water pipe. See **Figure 21**. The shut-off valve may be used as a template to determine the required size of the cut.
4. Apply PVC cement to the couplers on the mid line shut-off valve assembly.
5. Install the mid line shut-off valve on the water line.
6. Reinstall the saddles previously loosened in the support channel.

Note: Chore-Time recommends installing a mid line stand tube at the first joint before a mid line shut-off valve to insure proper air removal from the water line.

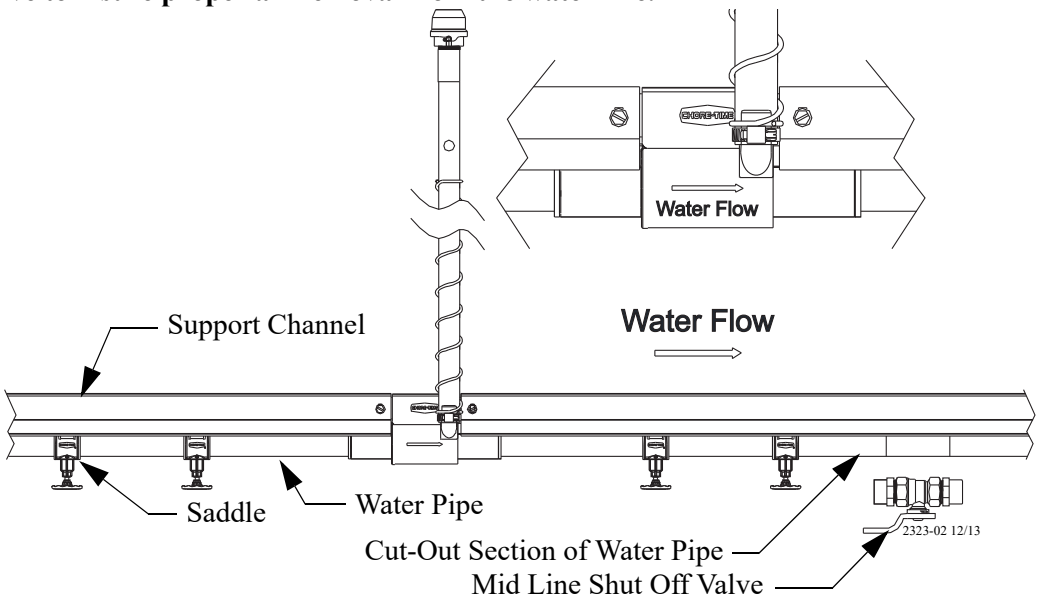


Figure 21. Mid Line Shut-Off Valve Installation

Optional Slope Compensator:

The slope compensator is used in houses that have a gradual slope over the length of the system. The slope compensator allows the water pressure to be re-adjusted along the line.

- The inlet end of the slope compensator must be at the top of the slope. Arrow must point in direction of water flow. Do not attempt to push water uphill.
- The high differential Slope Compensator will absorb 7" *[17.8 cm]* of slope. The Low Differential (Low Dif.) Slope Compensator will absorb 4" *[10.2 cm]*.
- The maximum number of Slope Compensator's used on any one water line is six.
- The maximum amount of slope over any water line is 28 inches *[71 cm]* of drop.

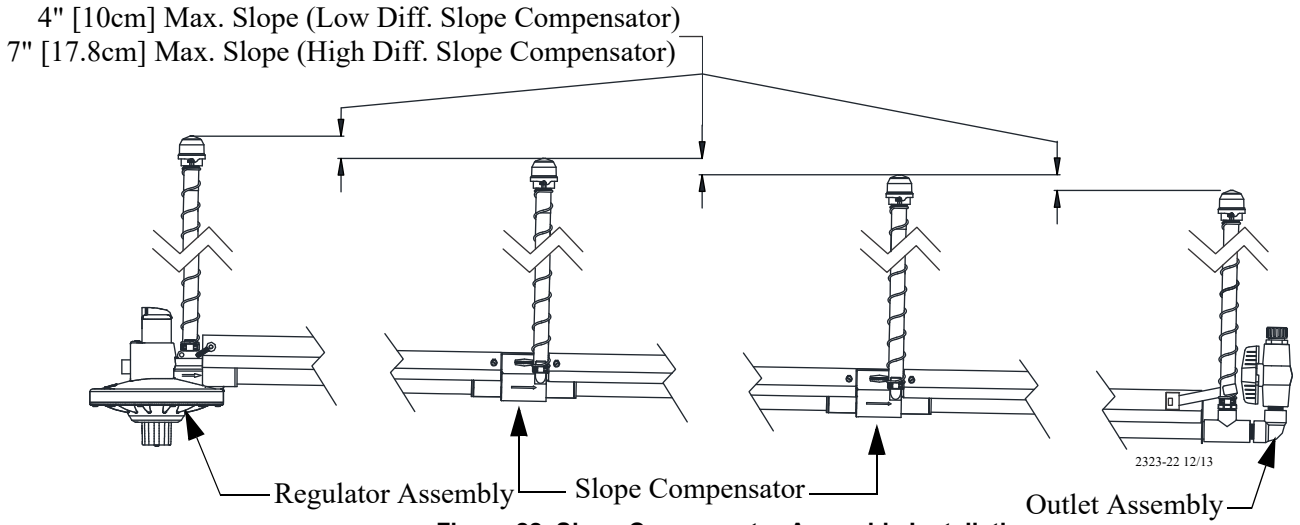


Figure 22. Slope Compensator Assembly Installation

Outlet Assembly

The outlet end must be located within 6" *[152 mm]* of a suspension drop line. This may require adding an additional suspension drop line or cutting the last section of water line to stop within 6" *[152 mm]* of an existing drop line.

Install the outlet assembly, as shown in **Figure 23**.

1. Make sure the end of the water pipe is flush with the end of the support channel.
2. Make sure the hanger is properly oriented on the outlet assembly tee prior to securing the water line with PVC cement.
3. Secure the hanger to the support channel, as shown in **Figure 23**. If the water line was shortened to terminate under a suspension drop line, it may be necessary to drill a hole in the support channel for the 10-24 stainless truss head screw and lock nut. The Stand Tube Bracket may be used as a template to determine proper hole location.

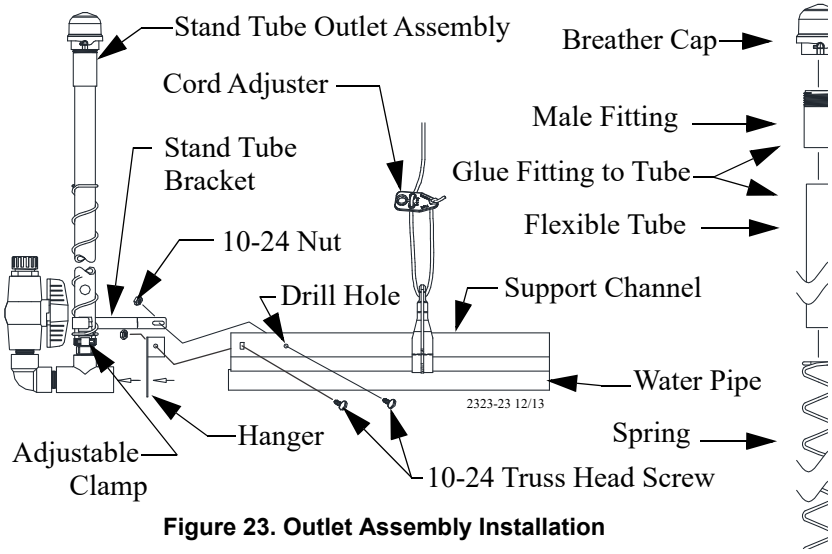
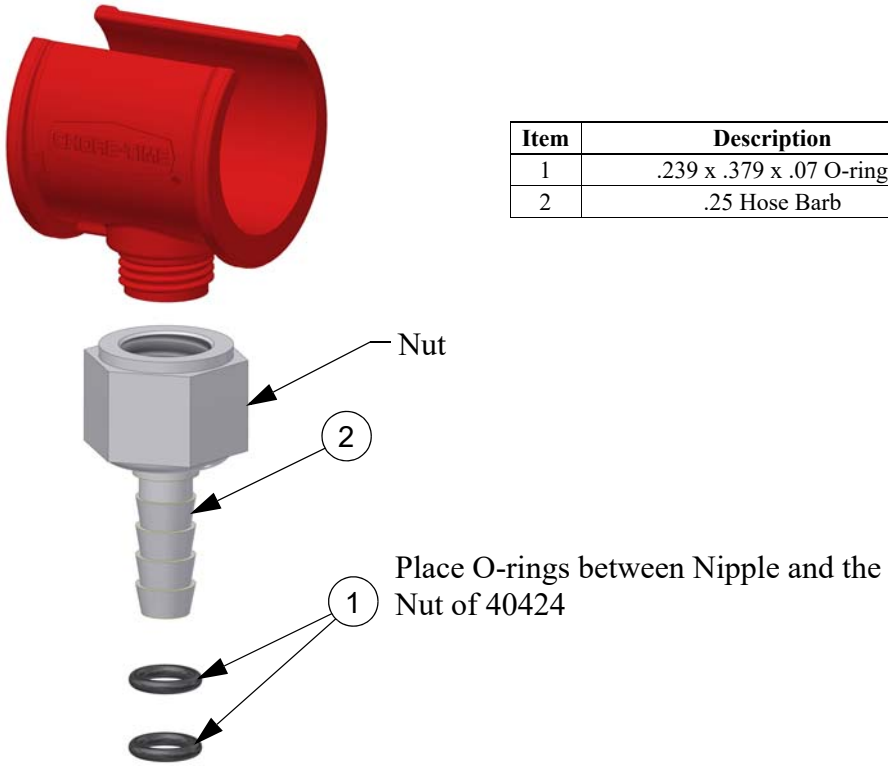


Figure 23. Outlet Assembly Installation

4. **Flexible Stand Tube-** Slide the Stand Tube onto the 1/2" Male Adapter and secure with an adjustable clamp. Wrap the threads of the 1/2" male adapter with sealant tape.
   Folding Stand Tube- Wrap threads of 1/2" male adapter on the stand tube assembly with sealant tape.
5. Thread the stand tube assembly into the outlet tee.

Note: Stand Tube Hanger prevent the water line from being removed at the last Nipple Line Coupler, as the Channel could slide relative to the Pipe.

Optional Supplemental Drinker Attachment



Item	Description	Part No.
1	.239 x .379 x .07 O-ring	43898
2	.25 Hose Barb	40420

Figure 24. Optional Drinker Attachment

Regulator Assembly - VOLUMATIC™

Assemble and install the regulator assembly, as shown in **Figure 25**.

1. Glue the included NH male adapter fitting or optional street ell and HN male adapter fitting to the inlet. **Be careful not to get glue inside the regulator.**
2. Slide the outlet end over the watering pipe (**it helps to wet the black outlet liner**) and into the end of the channel.
3. Slide the regulator bracket into the hole provided in the regulator and fasten into the hole provided in the channel with the included #10-24 x 5/8" hex washer head screw and #10-24 hex nut.
4. Assemble the stand tube and clamp to the regulator by sliding the tube over the barbs and tightening the adjustable clamp.

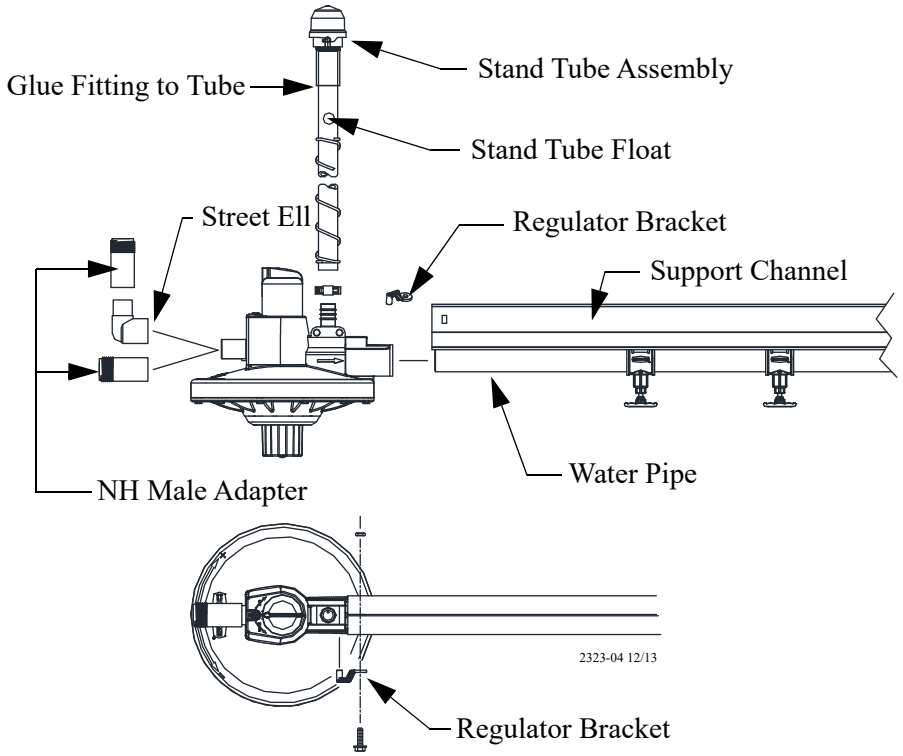


Figure 25. Regulator Assembly Components

Regulator Operation Modes

The VOLUMATIC™ Water Regulator can be shut off by turning the selector knob clockwise until it stops. To turn on the regulator, turn the selector knob until it points to the ON position indicated on the regulator. To activate the flush mode turn the selector knob fully counter-clockwise until it stops.

Regulator Guidelines

- **Optimum incoming static pressure is 25 to 35 psi *[172 to 241 kPa]***.
- When flushing, make sure the outlet line is clear of restrictions. Excessive back pressure can damage the regulator.
- When using the manual adjustment version of the regulator, the water column is set by turning the manual adjustment knob on the bottom of the regulator in the direction shown on the regulator.
- Adjust the operating pressure as recommended in the Nipple Waterer Quick Reference Sheet. **See page 47**.

  Standard Regulator Maximum adjustment is 30" *[76.2 cm]*.
  K Spring Regulator Maximum adjustment is 80" *[203.2 cm]*.

Important: When increasing the water column, as soon as resistance is noticed, stop turning the manual adjustment knob or damage will occur.

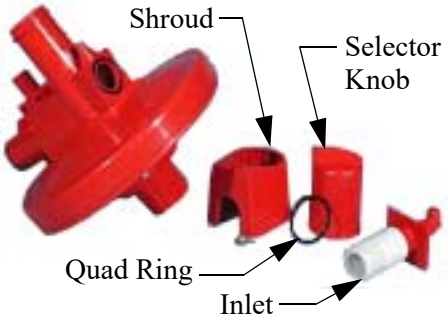
Regulator Seat Replacement

Follow the procedures below to replace the regulator seat.

1. Shut off water to the regulator and remove it from the nipple line.
2. Remove the screw holding the shroud. Also remove the shroud, selector knob, quad ring, and inlet orifice.
3. Screw barrel all the way down.
4. Pry off seat and seat cup then remove from the regulator body.
5. Assemble new seat into seat cup. Seat face direction does not matter.
6. Use the Chore-Time seat installation tool to position the new seat assembly on top of the seat holder.
7. Press up on the seat holder and use the seat installation tool **(48688)** to push the new seat assembly onto the end of the seat holder until it snaps in place. Push only on the seat cup to prevent damage to the seat. Make sure the seat assembly is properly seated onto the seat holder.
8. Reassemble the regulator:
   - •Assemble quad ring on the housing shoulder. Turn the barrel up until it is flush with the top of the housing.The barrel **must be flush** with the top before replacing the selector knob or the regulator will not function properly.
   - •Replace the selector knob by lining up the wide tab in the barrel with the wide groove inside the selector knob.
   - •Make sure the o-ring is in place and reinstall the inlet into the regulator housing.
   - •Use Parker Hannifin Super o-lube **(45911)** to lube o-rings if needed.
   - •Replace the shroud and shroud screw.
   - •The regulator is now ready to be put back into service.


1

2



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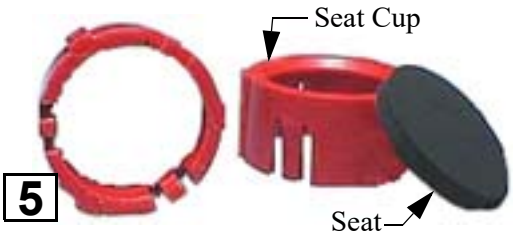

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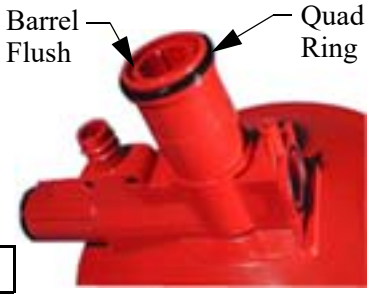

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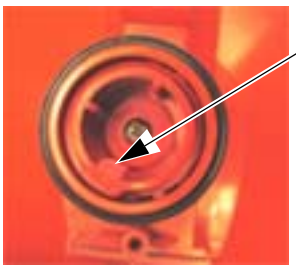
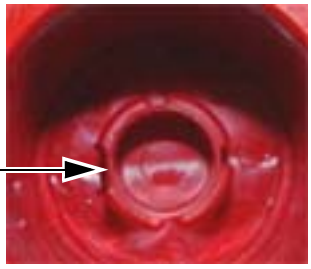




Filter Control Panel Installation

The filter control panel is used to remove foreign material from the incoming water, and, if necessary, add medication to the water.

The step down regulator and gauge assembly is used to reduce the water pressure supplying the filter control panel. The filter control panel and step down regulator should be installed in a convenient location where incoming and outgoing water supply lines can be easily run. The control panel must be out of the reach of birds.

The filter control panel is shipped secured to a mounting board. The mounting board and filter control panel should be secured to wall or post using lag bolts (not supplied).

The step down regulator and gauge assembly is shipped un-assembled. Assemble the step down regulator and gauge assembly components as specified in the instruction (MW1052) shipped with the kit.

Connect the step down regulator and gauge assembly to the filter control panel, as shown in **Figure 26**.

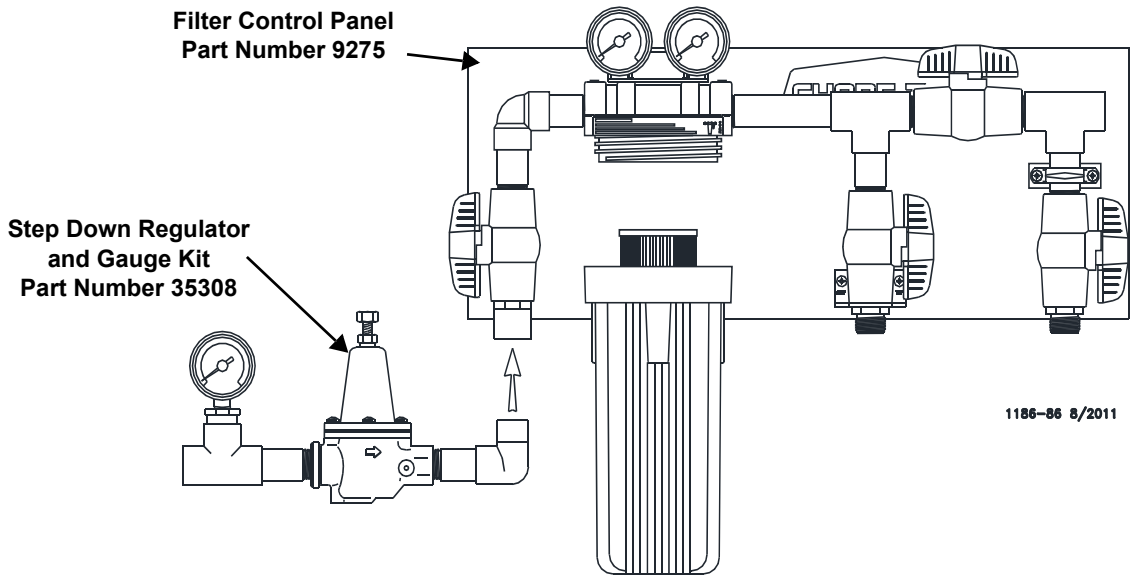


Figure 26. 9275 Control Panel

Flushable Filter Control Panel Installation

(Optional alternative to the standard filter control panel)

The flushable filter control panel is used to remove foreign material from the incoming water, and, if necessary, add medication to the water. This control panel features a filter that may be flushed, removed, cleaned, then reinstalled.

Two versions of the filter control panel are available.

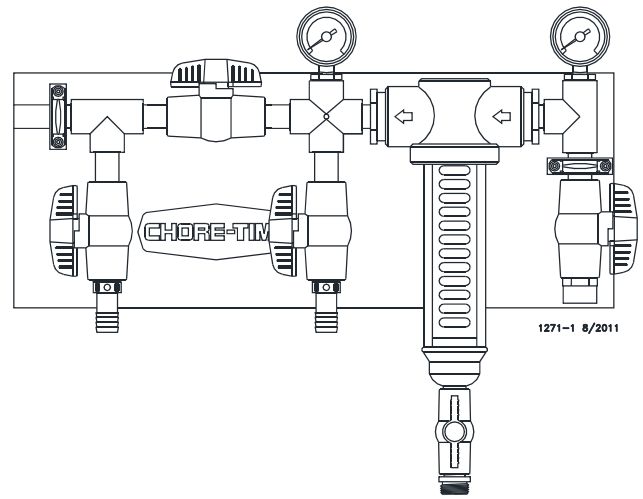
The low pressure version is designed to accommodate gravity flow systems with 5 - 10 p.s.i *[34.5 - 69.0 kPa]*. Do not exceed 15 p.s.i. *[103.4 kPa]* with this control panel, or damage will occur to the gauges.

Systems with 11+ p.s.i. *[75.8+ kPa]* should use the high pressure control panel. For systems above 35 psi, order a step down regulator.

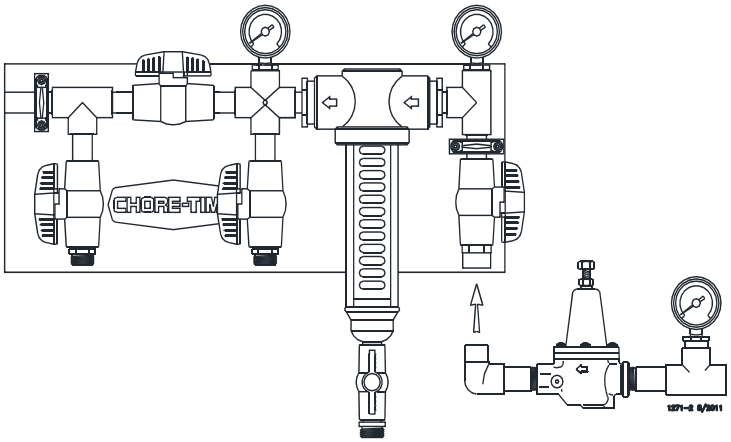
The filter control panel should be installed in a convenient location where incoming and outgoing water supply lines can be easily run. The control panel must be out of the reach of birds.

The filter control panel is shipped secured to a mounting board. The mounting board and filter control panel should be secured to wall or post using lag bolts (not supplied).

The gauge assembly is shipped un-assembled. Assemble the gauge assembly components as specified in the instruction **(MW1052)** shipped with the kit.



Low Pressure Control Panel
Part Number 36802-1
(5-10 p.s.i. *[34.5 - 69.0 kPa]*)



High Pressure Control Panel
Part Number 36802-2
(11+ p.s.i. *[75.8+ kPa]*

Figure 27. Optional Control Panels

Water Meter Installation

If using an Amco/ABB brand Water Meter, they are not polar sensitive. Therefore: when wiring a Amco/ABB Water Meter, the wire color does not matter.

Badger® Water Meter Installation Wiring

The Badger® water meter is supplied with 10 ft. (3.05 m) of cable with red and black leads with stripped ends. When connecting to a Chore-Tronics® control, proper polarity must be maintained. The red lead is connected to the DI (digital input) of your choice, and the black lead is connected to the ground terminal of the chosen DI

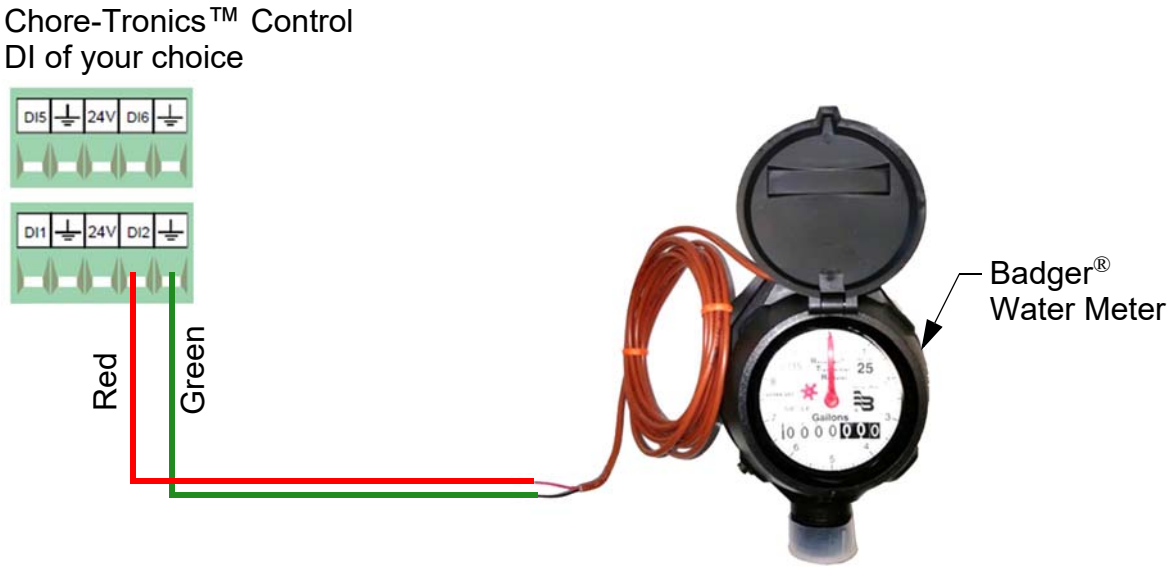


Figure 28.Water Meter Wiring

Mounting

The Badger® Water Meter must be installed with the Cap up as shown below. Refer to the Badger® installation manual for more information.

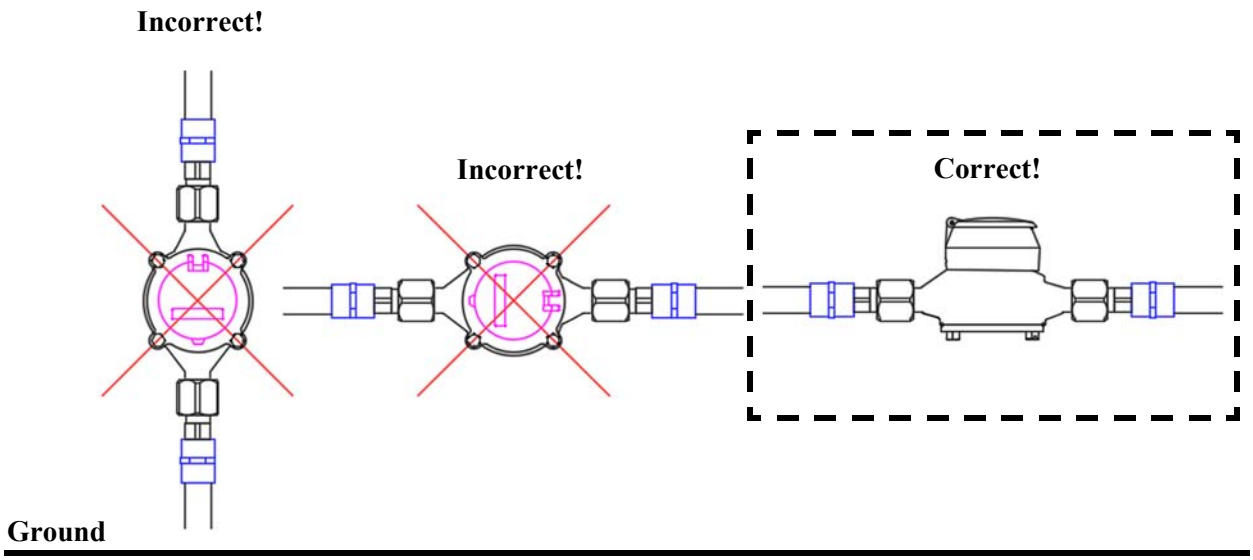


Figure 29.Water Meter Mounting

Water Meter Start Up

Attention! Air and debris in the supply line upstream of the meter installation must be removed before pressurizing the meter with water or damage to the meter is likely!

If the Water Meter is located very close to the Filter Panel- Valves #1and #2 can be opened to remove any air and debris from the upstream piping to the inlet point of the Meter. After flushing, valve #2 can be closed and the Meter can be installed. Once installed, valve #2 must be opened **very slowly** to fill the downstream line and pressurize the Meter without damaging it.

If the water meter is not located very close to the Filter Panel- another optional valve can be installed close to the Meter. Before installing the meter, valves #1, #2 and the Optional valve can be opened to remove any air and debris from the upstream piping to the inlet point of the Meter. After flushing, the Optional valve can be closed and the Meter can be installed. Once the Meter is installed the Optional valve must be opened **very slowly** to fill the downstream line and pressurize the Meter without damaging it.

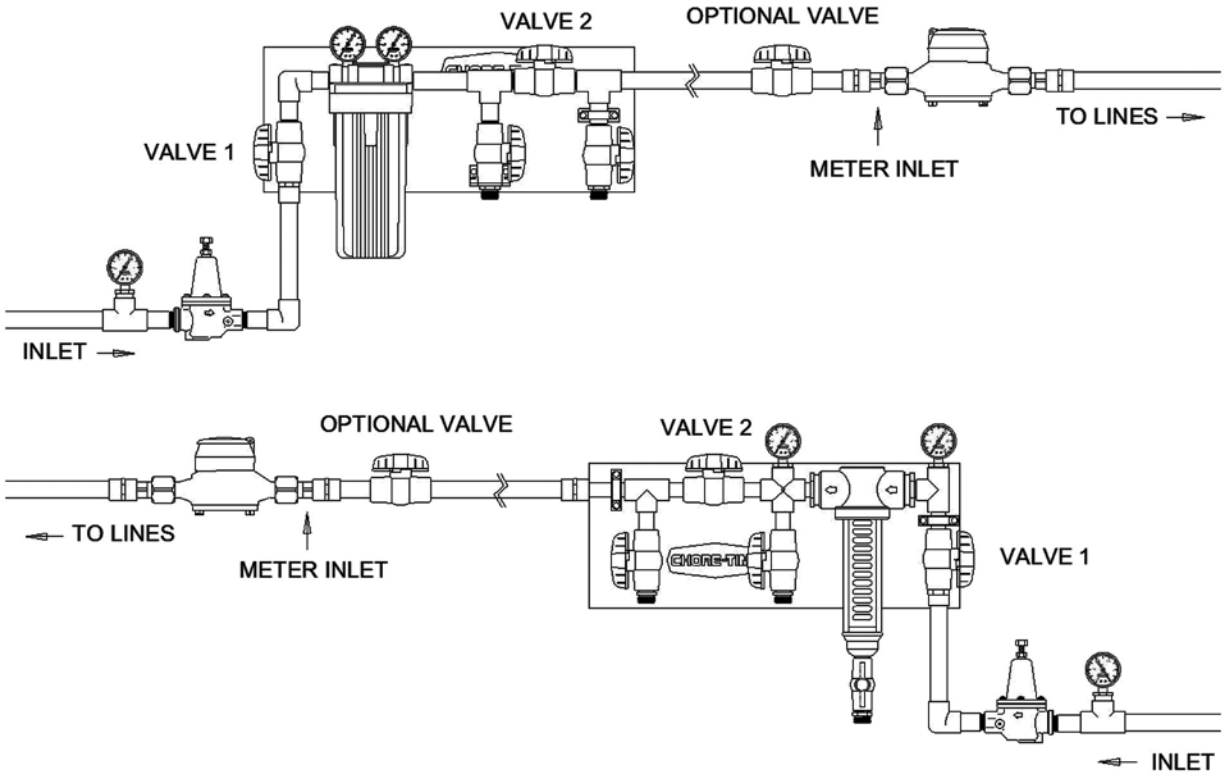


Figure 30.Water Meter Start Up

Anti-Roost Installation

The anti-roost system prevents the birds from setting on the water line. **Figure 31** shows an overview of the anti-roost system.

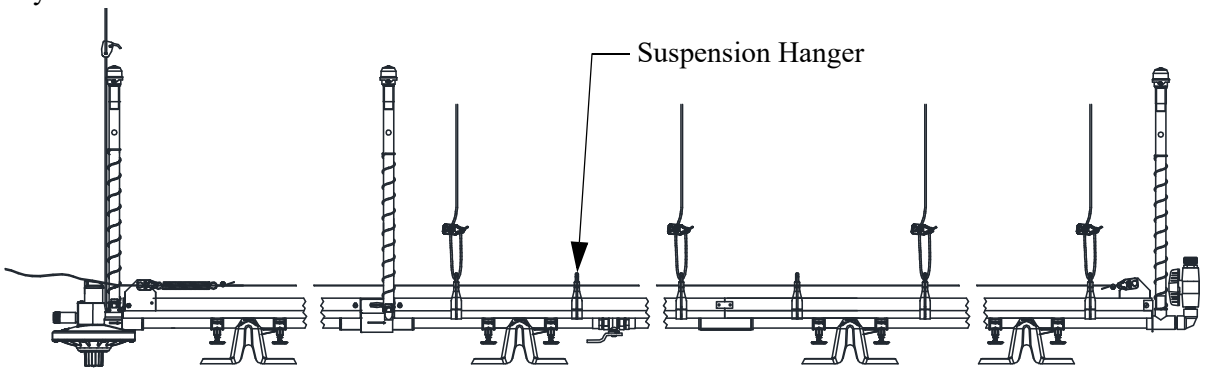


Figure 31. Regulator End Components

1. Make certain that an anchor plate with adjustment leveler is installed at the beginning and end of each anti-roost line. **(See Figure 32).**
2. When an anti-roost system is to be installed the channel bracket must be used in place of the key to connect the channels together.
3. Install a suspension hanger every 24" *[610 mm]*
4. Beginning at the first suspension hanger, thread the training cable the full length of the anti-roost line. Allow approximately 24" *[610 mm]* extra and cut the cable.
5. Create a small loop with the cable and a cable clamp.
6. Connect the cable loop to the adjustment leveler/anchor plate.
7. Install a spring on the adjustment leveler/anchor plate near the inlet assembly.
8. Pull the cable taught and create a small loop with the cable and a cable clamp.
9. Connect the cable to the spring.
10. The spring should be stretched to an overall length of approximately 8" *[203 mm]*. Adjust as required.
11. Repeat the above procedure on each of the anti-roost lines.

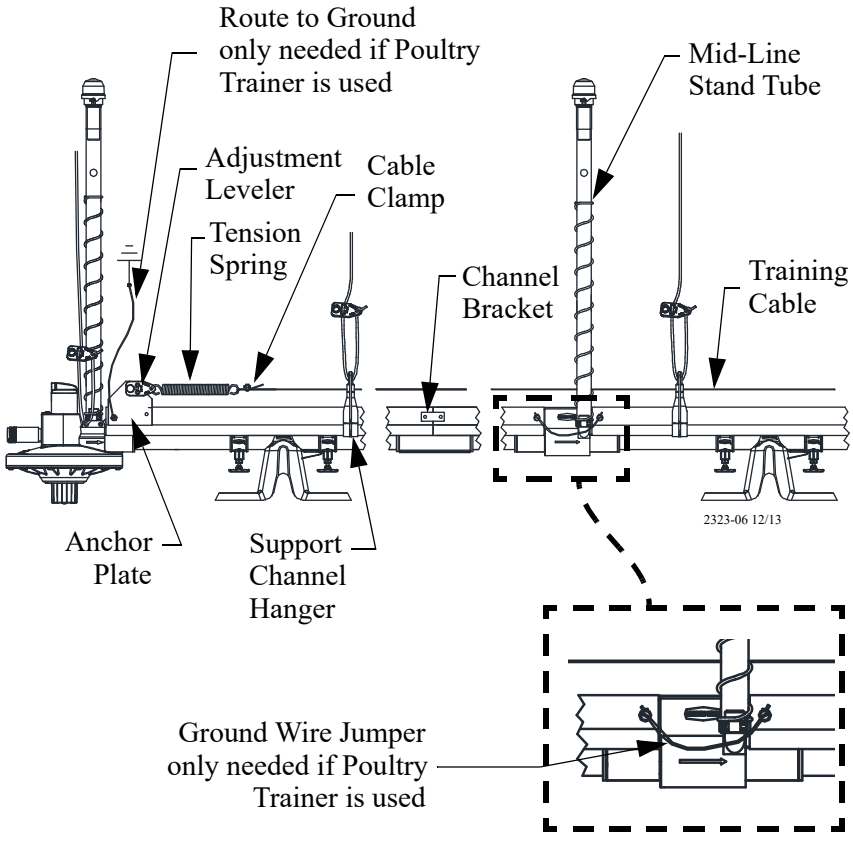


Figure 32. Anti-Roost Components

12. **Optional Equipment:** Secure the poultry trainer to a wall or post near the water line.

•Chore-Time recommends wiring the poultry trainer into separate electrical circuit that can be switched at the door.

•Refer to the instructions supplied with the poultry trainer for wiring information.

•Note: Make sure that the support channel is attached to a ground (to insure proper operation of the poultry trainer). It will be necessary to install a jumper wire at stand tube, inlet assemblies, etc., to insure the ground circuit **(See Figure 32).**

Incoming Water System

1. Install the Water shut-offs in the ceiling. Do not install the shut-offs at the Regulator. Installing the Shut-offs at the regulator adds to much weight at the regulator location **(See Figure below)**.
2. Use some kind of Strain Relief on the hose connecting to the Regulator to prevent hose from being damaged.

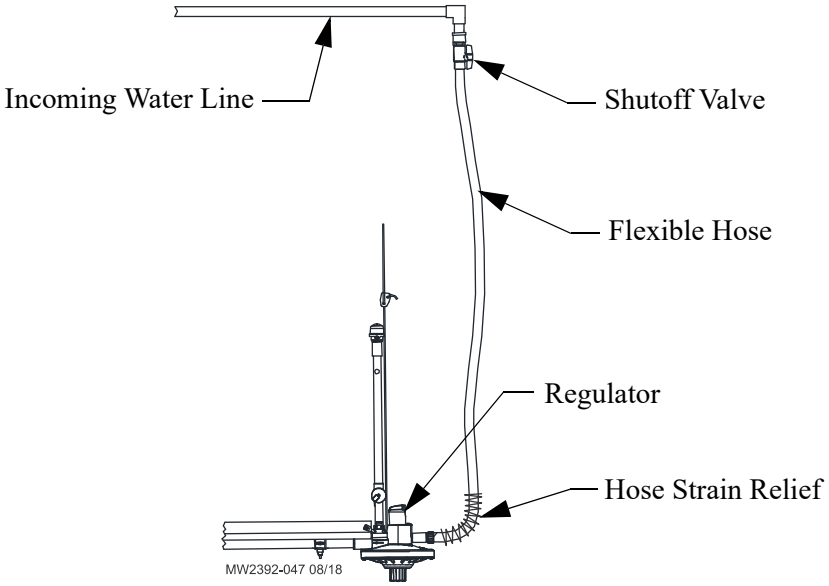


Figure 33.Incoming Water System

Installing the Flush System

The flush system provides convenient one-man system purging.

Chore-Time recommends flushing one line at a time to maximize the cleaning in each line.

The hose, PVC pipe and connections must be purchased locally.

Install the flush components as shown in **Figure 34**.

1. Notice that the exit line must exit through the building wall at a minimum height of 72" *[182.8 cm]* above floor level.

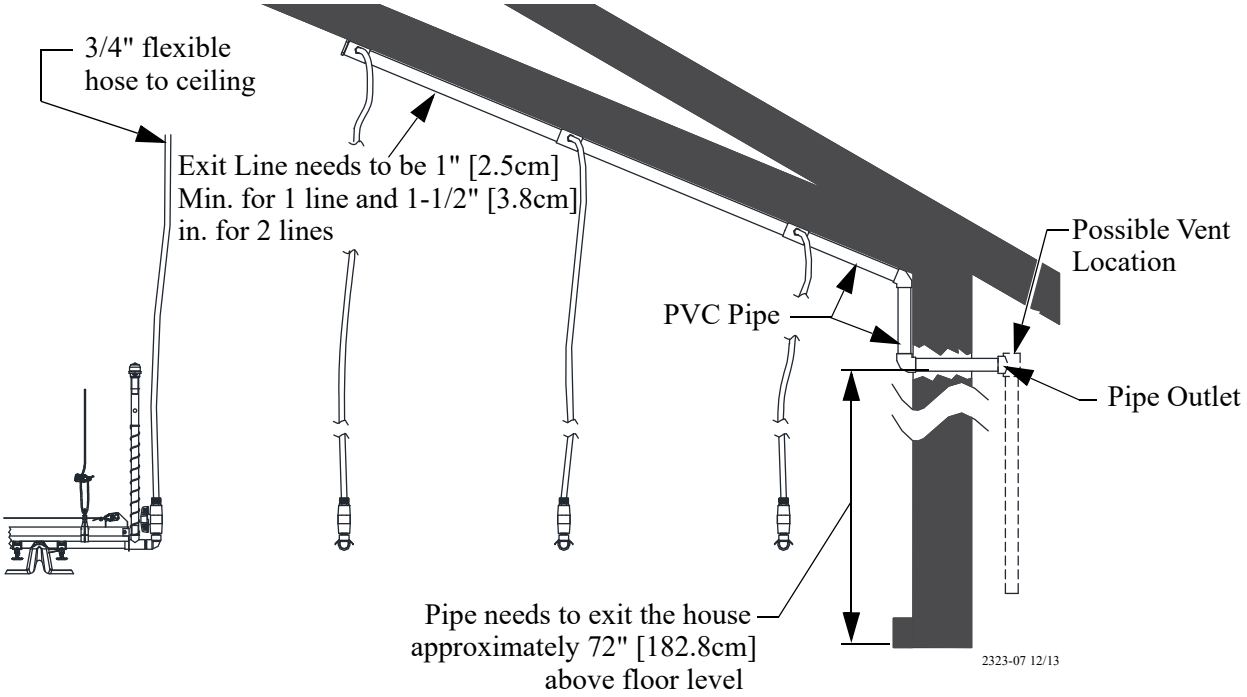


Figure 34.Flush System

2. The exit line needs to be 1" *[2.5 cm]* minimum for 1 flushing line. To connect multiple flushing lines together (as shown) the exit line needs to be 1 1/2" *[3.8 cm]* minimum for 2 flushing lines.
3. The exit line should be attached to the ceiling of the house and must exit out the side wall of the house. This line needs to be at an adequate height to allow clearance for any equipment used in the house. It may be necessary to route the exit line out both sides of the house to ensure water leaves the exit line.
4. Measure and cut the plumbing to the required lengths for your individual system.
5. The hose attached to the end of the watering line that extends up to the exit line is to be made of a flexible material.

Note: A siphon will be created during flush if the PVC pipe outlet is at or below the level of the top of the stand tube in the house at grow-out.

If it is not possible to have the pipe outlet above the top of the stand tube a vent must be installed. The vent must be above the top of the stand tube at all times during operation of the watering system.

Caution! When flushing, the nipple line outlets must be free of any restriction such as kinked hose, closed outlet valve, etc. Obstructions will result in excessive back pressure which can damage the regulators and other water line components.

PDS™ Flush Control

Optional PDS™ (Pneumatic Drinking System) controls can be used with Chore-Time regulators as a option to the standard manual flush regulators.

PDS controls are programmable controls which can provide automatic flushing cycles. These controls also provide a central place to flush watering lines along with pressure adjustment which regulates the water column height.

Each station is capable of controlling up to 2 individual Chore-Time regulators. For example an 8 station control can regulate and flush up to 16 individual regulators.

Chore-Time offers two different PDS Controls.

Standard PDS™ Control

1. Change pressure in all lines or flush all lines from one location
2. Automatically flush up to four times per day.
3. Manually flush from one location.

Part Number	Number of stations
52430-4	4
52430-8	8

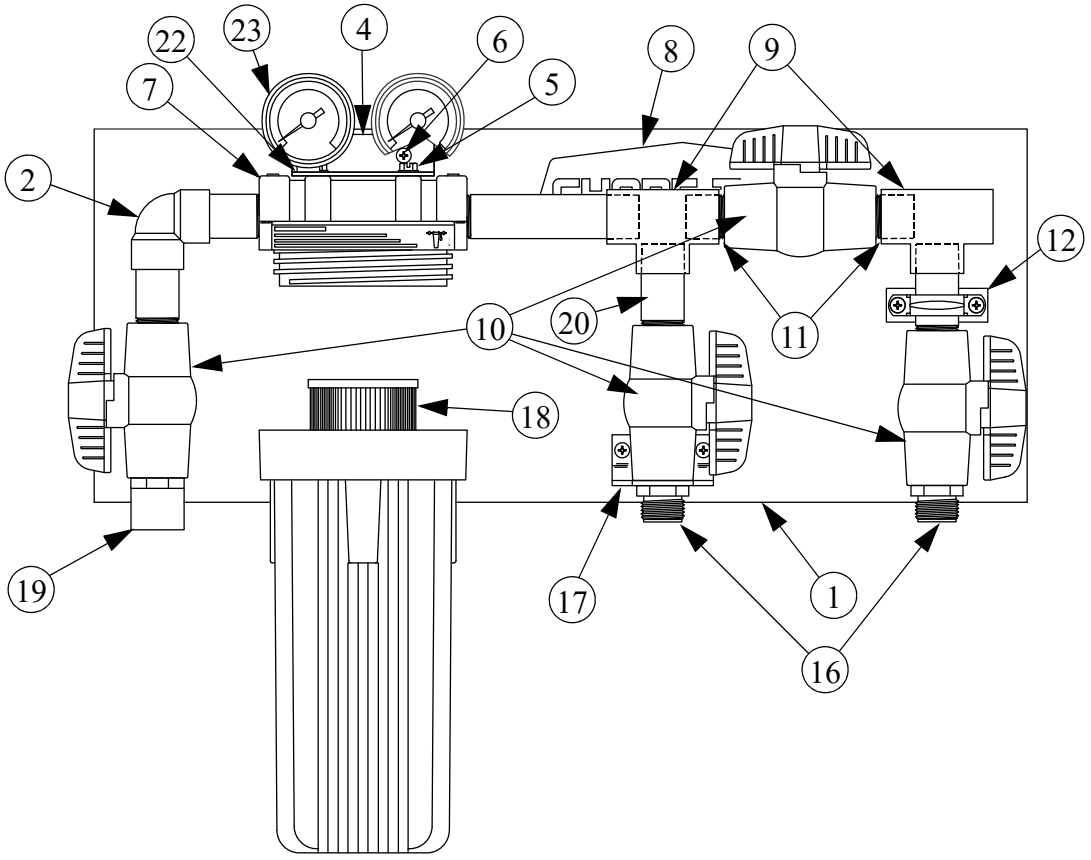
Chore-Tronics® 3 PDS™ Control

1. Adjust pressure in all lines from Chore-Tronics 3 Control.
2. Automatically flush an infinite number of times per day.
3. Automatic water column compensation as birds drink.
4. Water Column will rise with age of birds.
5. Manually flush from Chore-Tronics 3 Control.

Part Number	Number of stations
56039-4	4
56039-8	8
56039-16	16

Parts Listing

Filter Control Panel (9275, 9275-1)

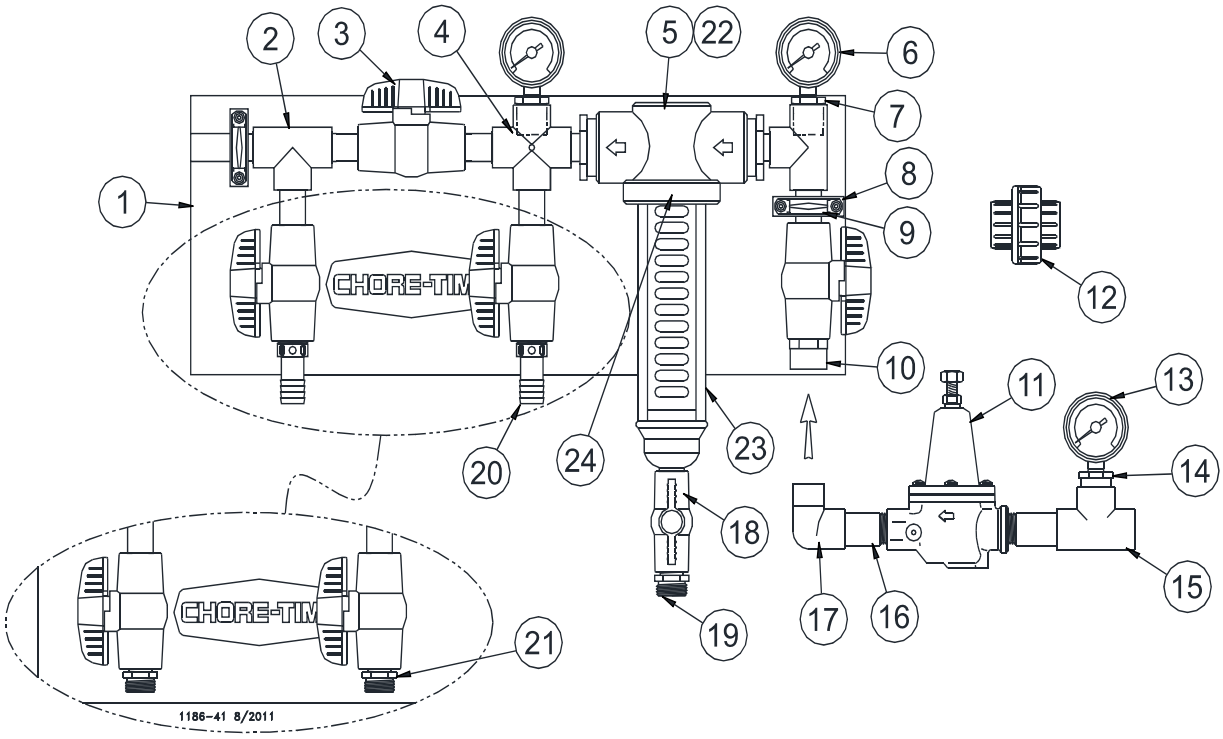


		9275 Opaque Filter Housing	9275-1 Clear Filter Housing
Item	**Description**	**Part No.**	
1	Mounting Board	35303	35303
2	3/4" PVC Ell	8141	8141
4	Filter Mounting Bracket	35302	35302
5	1/4-14 x 3/4 Sheet Metal Screw	35425	35425
6	#10-13 x 5/8 Phil Screw	35423	35423
7	Water Filter with Gauge Ports	35309	35309-1
8	Chore Time Decal	2525-4	2525-4
9	3/4" PVC Tee	7538	7538
10	3/4" Quarter Turn Valve	35781	35781
11	3/4 x 1.44 PVC Nipple	7531	7531
12	Standoff Block	35300	35300
14	Plastic Conduit Clamp	35301	35301
16	3/4" Nylon Adapter	7543	7543
17	Medicator Connector Brace	35307	35307
18	20 Micron Filter Cartridge (Standard)	7723	7723
	10 Micron Filter Cartridge (Optional)	13145	13145
19	3/4 PVC Adapter	9229	9229
20	3/4 x 2.50 PVC Nipple	7531-9	7531-9
21	3/4 x 5" PVC Nipple	7531-11	7531-11
22	3/4" Thrd. Adapter	7702	7702
23	High Press. Water Gauge	7191	7191

Flushable Filter Control Panel

Low Pressure: 36802-1

High Pressure: 36802-2



		36802-1	36802-2			36802-1	36802-2
Item	**Description**	**Part No**	**Part No**	**Item**	**Description**	**Part No**	**Part No**
1	Mounting Board	35303	35303	13*	High Pressure Gauge	7191	---
2	Medicator Outlet Assembly	36805	36805	14*	3/4" x 1/4" Reducer Bushing	7789	---
3	3/4" Valve	35781	35781	15*	3/4" PVC Tee (S x S x S)	7538	---
4	3/4" Cross	7536	7536	16	3/4" Threaded PVC Nipple	7531-1	---
5	Filter Inlet Assembly	36810	36810	17	3/4" PVC Street Ell	30138	---
6	Pressure Gauge	27722	7191	18**	1/2" Ball Valve	34961	34961
7	3/4" x 1/4" Reducer Bushing	7789	7789	19**	Nylon Adapter	29141	29141
8	Standoff Block	35300	35300	20	3/4" Barb x 3/4" Pipe Adapter	27422	---
9	3/4" Plastic Conduit Clamp	35301	35301	21	3/4" Male Adapter (Nylon)	---	7543
10	3/4" PVC Male Adapter	9229	9229	22	Flush able Filter	36806	36806
11*	Step Regulator	29951	---	23**	Filter Cover	46993	46993
12*	Union	8137	---	24	O-Ring Kit	36807	36807

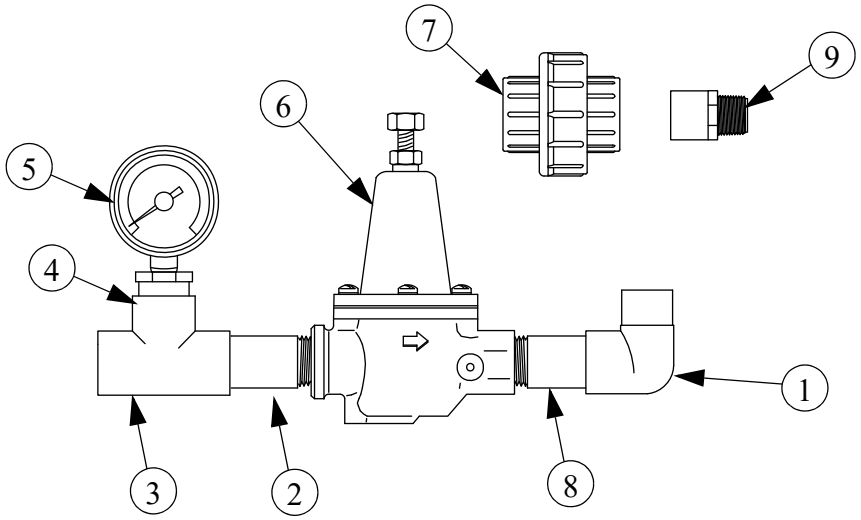
These parts may be ordered separately, if needed.

Description	Part No.
1/2 Pint PVC Cement	6303-3
Replacement 140 Mesh Filter	36809
Flush able Filter Assembly	36810

***Items not included with the flush able filter control panel. They may be ordered separately as a assembly, Part No. 35308.**

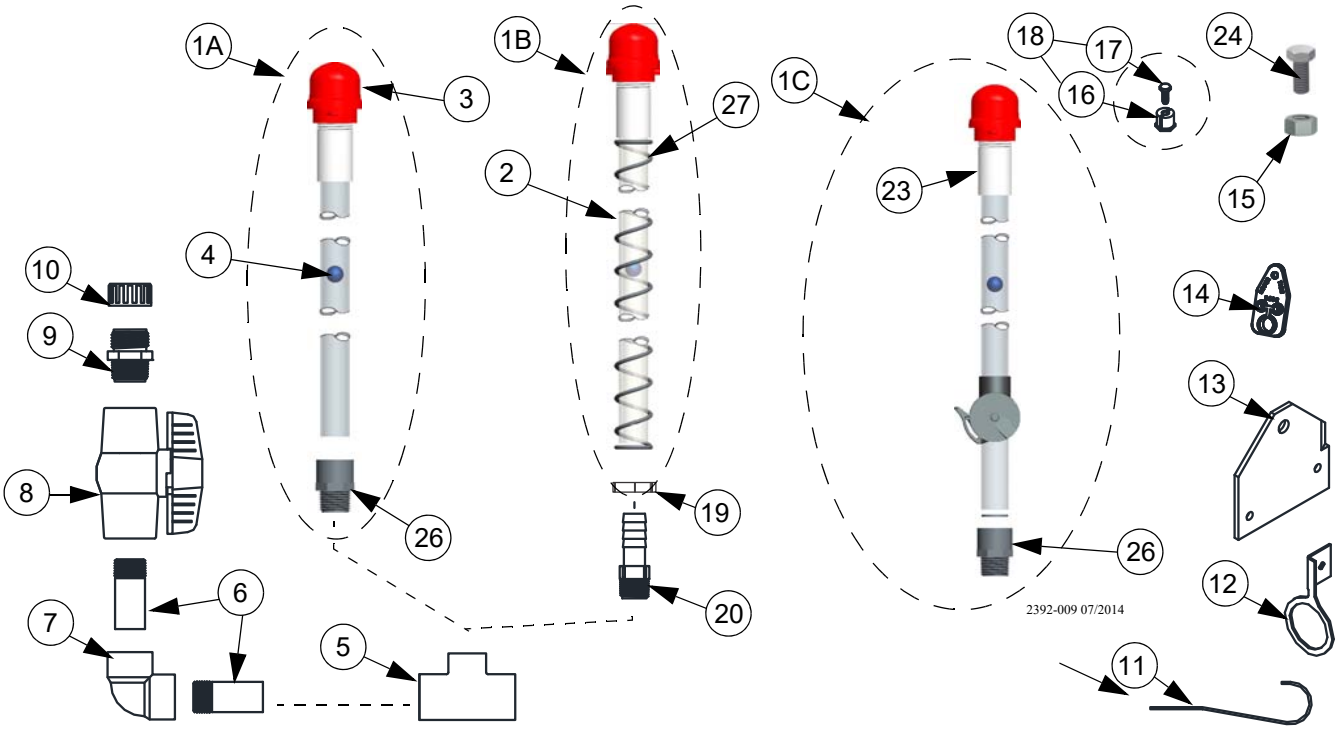
****Included with Item 5.**

Step Regulator & Gauge Module Kit (35308)



Item	Description	Part No.
1	3/4" PVC Street Ell	30138
2	3/4" x 3" Threaded PVC Nipple	7531-1
3	3/4" PVC Tee	7538
4	3/4 x 1/4 Reducer Bushing	7789
5	High Press. Water Gauge	7191
6	Regulator	29951
7	3/4 PVC Union	8137
8	3/4" x 2.5" Threaded PVC Nipple	7531-9
9	Male PVC Adapter	34100

Stand Tube Outlet Assembly



		52275-2	52275-3	52275-4	52275-5	52275-6	52275-7
Item	**Description**	**Part No**	**Part No**	**Part No**	**Part No**	**Part No**	**Part No**
1A	Rigid Stand Tube Assembly	---	---	---	---	54517-3	54517-3
1B	Flexible Stand Tube Assembly	54517-1	54517-1	---	---	---	---
1C	Folding Stand Tube Assembly	---	---	54517-7	54517-7	---	---
2**	Flexible Tubing	36840-1	36840-1	---	---	---	---
3**	Breather Cap Assembly	54606	54606	54606	54606	54606	54606
4**	Stand Tube Float Ball	37142	37142	37142	37142	37142	37142
5	Reducing Tee	34777	34777	34777	34777	34777	34777
6	3/4 x 2” Threaded PVC Pipe	7531-4	7531-4	7531-4	7531-4	7531-4	7531-4
7	3/4” S x T Ell	7558	7558	7558	7558	7558	7558
8	3/4” Ball Valve	35781	35781	35781	35781	35781	35781
9	3/4” Nylon Adapter	7543	7543	7543	7543	7543	7543
10	Hose Cap (Washer Included)	9811	9811	9811	9811	9811	9811
11	Stand Tube Bracket	33900	33900	33900	33900	33900	33900
12	Hanger	35481	35481	35481	35481	35481	35481
13*	Anchor Plate	---	42807	---	42807	---	42807
14*	Adjustment Leveler	---	3075	---	3075	---	3075
15*	5/16-18 SS Nut	---	2145-1	---	2145-1	---	2145-1
16*	#10-24 Slotted Nut	---	1840	---	1840	---	1840
17*	#10-24 x 3/8” Machine Screw	---	1951	---	1951	---	1951
18	Cable Clamp	---	1826	---	1826	---	1826
19**	Adjustable Clamp	54909	54909	---	---	---	---
20**	1/2" Male Adapter	47881	47881	---	---	---	---
23**	3/4” NH Fitting	25098	25098	25098	25098	25098	25098
24*	5/16-18 x 3/4 SS Bolt	--	4412-11	---	4412-11	---	4412-11
26**	.50 MTXS Male Adapter	---	---	9067	9067	9067	9067
27**	Spring	36839-1	36839-1	---	---	---	---
* Included in 44943 Kit, ** Included in 54517-X Assembly							

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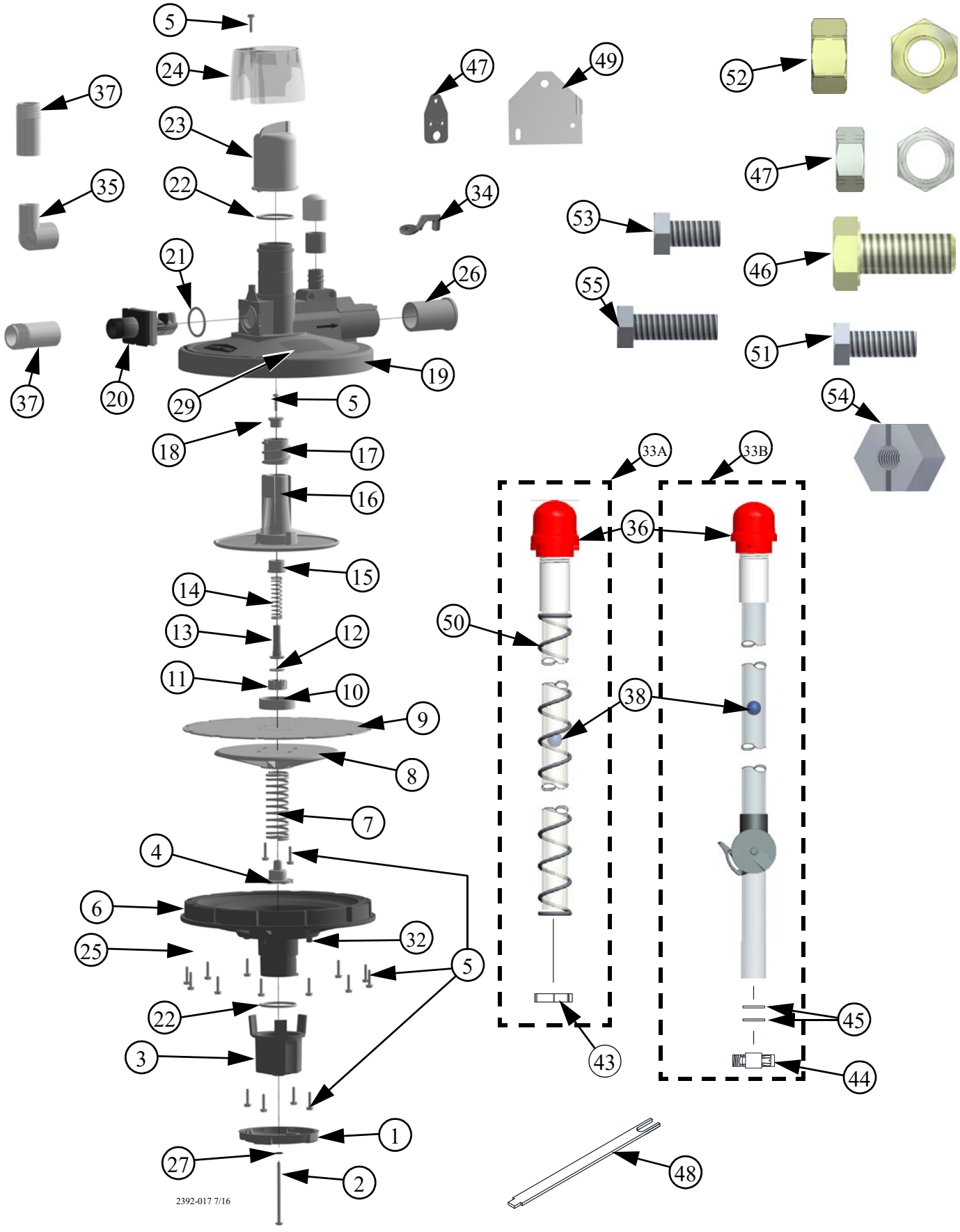
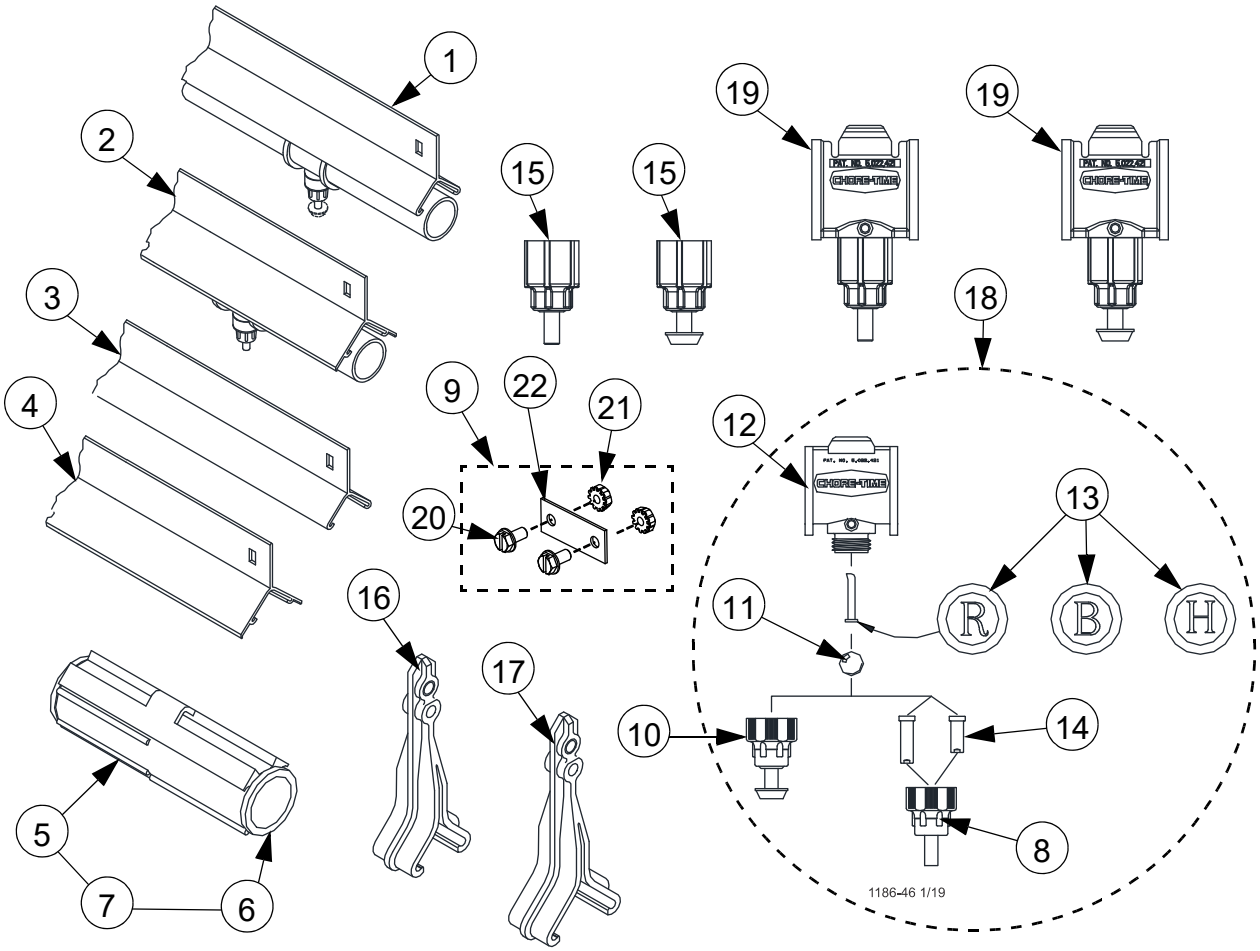
Manual Adjustment VOLUMATIC™ Regulator Assembly (55476-X)



Part Numbers

Item	Description	No Stand Tube 55476-1	W/ Folding Stand Tube 55476-2	W/ Flexible Stand Tube 55476-3	Kit with Poultry Trainer W/ Folding Stand Tube & Anti-Roost 55476-2T	Kit with Poultry Trainer Flexible Stand Tube and Anti-Roost 55476-3T
		Part No.	Part No.	Part No.	Part No.	Part No.
1	Knob Retainer	55477	55477	55477	55477	55477
2	#8-18 x 2-1/2" Screw	42387	42387	42387	42387	42387
3	Adjustment Knob	55478	55478	55478	55478	55478
4	Follower	42183	42183	42183	42183	42183
5	6-20x.625 Screw	44946	44946	44946	44946	44946
6	Bottom Regulator Half	55479-1	55479-1	55479-1	55479-1	55479-1
7	.78 x 2.8" Spring	42393	42393	42393	42393	42393
8	Diaphragm Plate	42177	42177	42177	42177	42177
9	Diaphragm	42181	42181	42181	42181	42181
10	Diaphragm Ctr Support	42186	42186	42186	42186	42186
11	Seat Cup	48199	48199	48199	48199	48199
12	Seat	48225	48225	48225	48225	48225
13	Seat Holder	42189	42189	42189	42189	42189
14	.780 x 2.8 Spring	42392	42392	42392	42392	42392
15	Seat Holder Sleeve	42187	42187	42187	42187	42187
16	Diaphragm Plate	42177	42177	42177	42177	42177
17	CTWR Barrel	42172	42172	42172	42172	42172
18	Seat Holder Cap	42176	42176	42176	42176	42176
19	Regular Top Half	42174	42174	42174	42174	42174
20	Inlet Orifice	42190	42190	42190	42190	42190
21	O-Ring	29118	29118	29118	29118	29118
22	1.362x.103 O-Ring	42389	42389	42389	42389	42389
23	Selector Knob	42178	42178	42178	42178	42178
24	Shroud	42390	42390	42390	42390	42390
26	Half Liner	36501	36501	36501	36501	36501
27	-007 O-Ring	56172	56172	56172	56172	56172
29	Decal	2529-813	2529-813	2529-813	2529-813	2529-813
32	Plug	54319	54319	54319	54319	54319
33A	Flexible St. Tube Assy.	---	---	54517-1	---	54517-1
33B	Folding St. Tube Assy.	---	54517-8	---	54517-8	---
34	Regulator Bracket	44866	44866	44866	44866	44866
35	1/2" Street Elbow	33895	33895	33895	33895	33895
36*	Breather Cap Assembly	---	54606	54606	54606	54606
37*	3/4 NH Fitting	---	25098	25098	25098	25098
38*	1/2" PP Ball	---	37142	37142	37142	37142
43*	Nylon Clamp	54909	---	54909	---	54909
44*	Adjustable Clamp	---	7187	---	7187	---
45**	1/2 x 1/16 O-Ring	---	48325-1	---	48325-1	---
46**	5/16-18 x .75 Bolt	---	2046	---	2046	---
47**	5/16-18 Hex Nut	---	2145	---	2145	---
48**	Adjustment Leveler	---	3075	---	3075	---
49**	Anchor Plate	---	42807	---	42807	---
50**	Spring	---	---	36839-1	---	36839-1
51**	10-24 x ..50 Screw	---	4416-3	---	4416-3	---
52**	10-24 Nut	---	313	---	313	---
53**	10-24 x .38 Screw	---	1951	---	1951	---
54**	10-24 Slotted Nut	---	1840	---	1840	---
55	10-24 x 5/8 Screw	1876	1876	1876	1876	1876
56	Poultry Trainer **See "Poultry Trainer (44943)" on page 41.**	---	---	---	44943	44943
*Included in 54517-X Assembly, **Included in 34531-X						

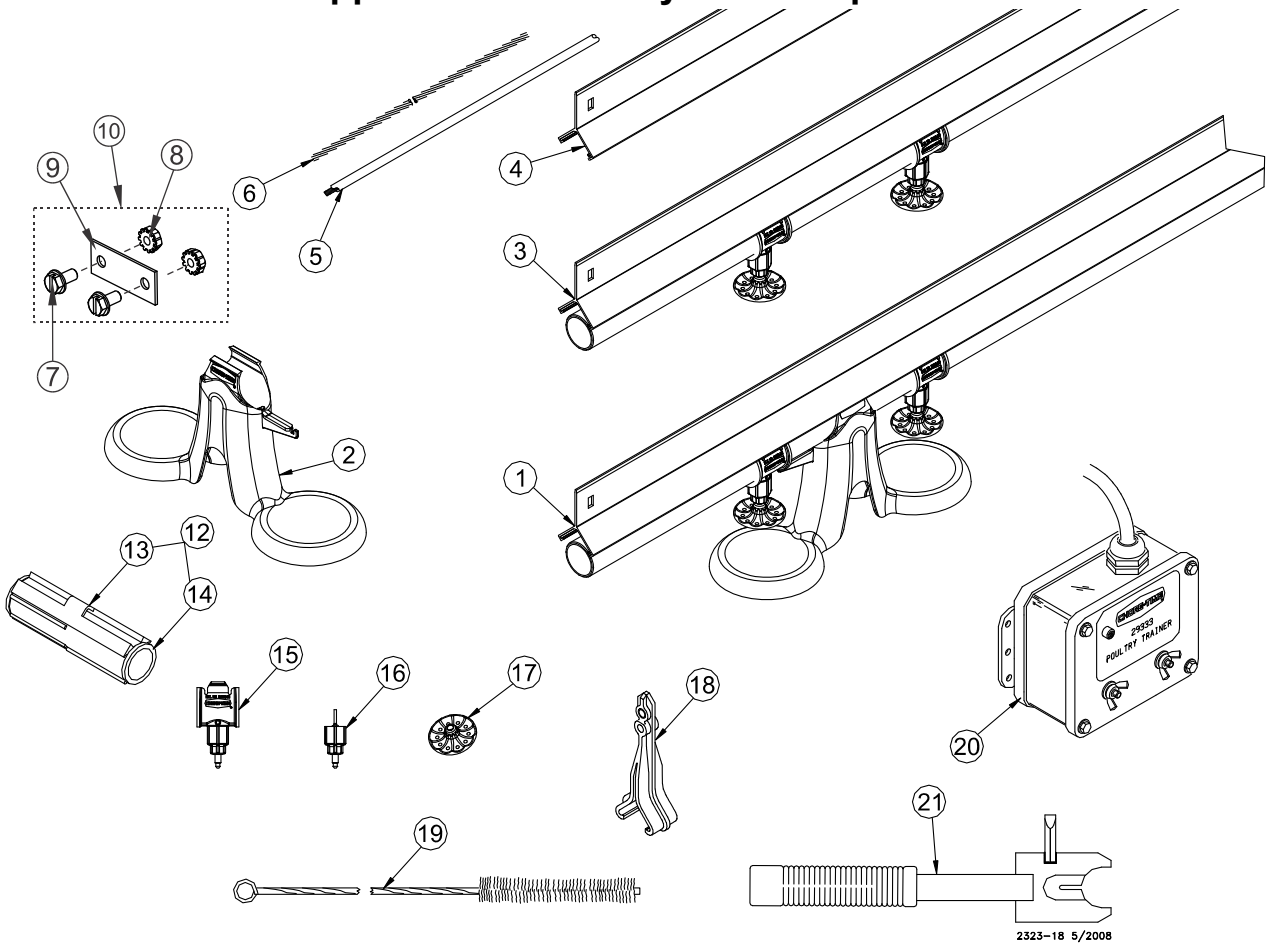
STEADI-FLOW® and RELIA-FLOW® Nipple Line Assembly and Components



Part Numbers

Item	Description	Standard Flow Pt #	High Flow Pt #	Regulated Flow Pt #	Lift Trigger Pt #
1	**Standard Channel STEADI-FLOW® Drinker Assembly**				
	6" *[152 mm]* spacing (20 nipples)	50917-1	---	---	---
	8" *[203 mm]* spacing (15 nipples)	50917-2	50919-2	50921-2	---
	10" *[254 mm]* spacing (12 nipples)	50917-3	50919-3	50921-3	---
	12" *[305 mm]* spacing (10 nipples)	50917-4	50919-4	50921-4	---
	15" *[381 mm]* spacing (8 nipples)	50917-5	50919-5	---	---
	7" *[178 mm]* spacing (17 nipples)	50917-8	---	---	---
	6" *[152 mm]* spacing (20 button nipples)	50917-1B	50919-1B	---	---
	8" *[203 mm]* spacing (15 button nipples)	50917-2B	50919-2B	50921-2B	---
	10" *[254 mm]* spacing (12 button nipples)	50917-3B	50919-3B	50921-3B	---
	12" *[305 mm]* spacing (10 button nipples)	50917-4B	---	---	---
	15" *[381 mm]* spacing (8 button nipples)	50917-5B	50919-5B	---	---
	Standard Channel RELIA-FLOW® Drinker Assembly				
	6" *[152 mm]* spacing (20 nipples)	50928-1	---	---	---
	8" *[203 mm]* spacing (15 nipples)	50928-2	---	50932-2	50933-2
	10" *[254 mm]* spacing (12 nipples)	50928-3	50931-3	50932-3	50933-3
	12" *[305 mm]* spacing (10 nipples)	50928-4	---	---	---
	15" *[381 mm]* spacing (8 nipples)	50928-5	---	---	---
	24" *[610 mm]* spacing (5 nipples)	---	50931-7	---	50933-7
	6" *[152 mm]* spacing (20 button nipples)	50928-1B	---	---	---
2	**Heavy Channel STEADI-FLOW® Drinker Assembly**				
	6" *[152 mm]* spacing (20 nipples)	50918-1	50920-1	---	---
	8" *[203 mm]* spacing (15 nipples)	50918-2	50920-2	---	50923-2
	10" *[254 mm]* spacing (12 nipples)	50918-3	50920-3	---	50923-3
	12" *[305 mm]* spacing (10 nipples)	50918-4	50920-4	---	50923-4
	15" *[381 mm]* spacing (8 nipples)	50918-5	50920-5	---	50923-5
	20" *[508 mm]* spacing (6 nipples)	50918-6	50920-6	---	---
	24" *[610 mm]* spacing (5 nipples)	50918-7	50920-7	---	50923-7
	10" *[254 mm]* spacing (12 button nipples)	50918-3B	---	---	---
	Heavy Channel RELIA-FLOW® Drinker Assembly				
	6" *[152 mm]* spacing (20 nipples)	50929-1	---	---	---
	8" *[203 mm]* spacing (15 nipples)	50929-2	---	---	50933-2
	10" *[254 mm]* spacing (12 nipples)	50929-3	---	---	50933-3
	12" *[305 mm]* spacing (10 nipples)	50929-4	---	---	---
	15" *[381 mm]* spacing (8 nipples)	50929-5	---	---	---
	20" *[508 mm]* spacing (6 nipples)	50929-6	---	---	---
3	Support Channel (Standard)	35482-1	35482-1	35482-1	35482-1
4	Support Channel (Heavy)	35483-1	35483-1	35483-1	35483-1
5	PVC Coupling	34318	34318	34318	34318
6	Liner	34319	34319	34319	34319
7	Coupling Liner Assembly	35763	35763	35763	35763
8	Nipple Valve Assembly	29463	29463	29463	45746
9	Channel Bracket Kit	46209	46209	46209	46209
10	Trigger Button Cap Assembly	33623	33623	33623	33623
11	Stainless Steel Ball	29117	29117	29117	29117
12	Saddle Body	50804	50804	50804	50804
13	Flow Control Pin	34799	34889	36860	34799
14	Nipple Stem	29119	29119	29119	46470
15	RELIA-FLOW Valve Assembly	49547-1 & -1B	49547-2 & -2B	49547-4 & -4B	49547-5
16	Support Channel Hanger (Standard)	33824-1	33824-1	33824-1	33824-1
17	Support Channel Hanger (Heavy)	33824-2	33824-2	33824-2	33824-2
18	STEADI-FLOW Saddle Assembly	50806-1 & -1B	50806-2 & -2B	50806-4 & -4B	50806-5
19	RELIA-FLOW Saddle Assembly	50805-1 & -1B	50805-2 & -2B	50805-4 & -4B	50805-5
20	#10-24 x 3/8" Hex Washer Head Screw	25124	25124	25124	25124
21	#10-24 Kepnut	27725	27725	27725	27725
22	Channel Bracket	46208	46208	46208	46208

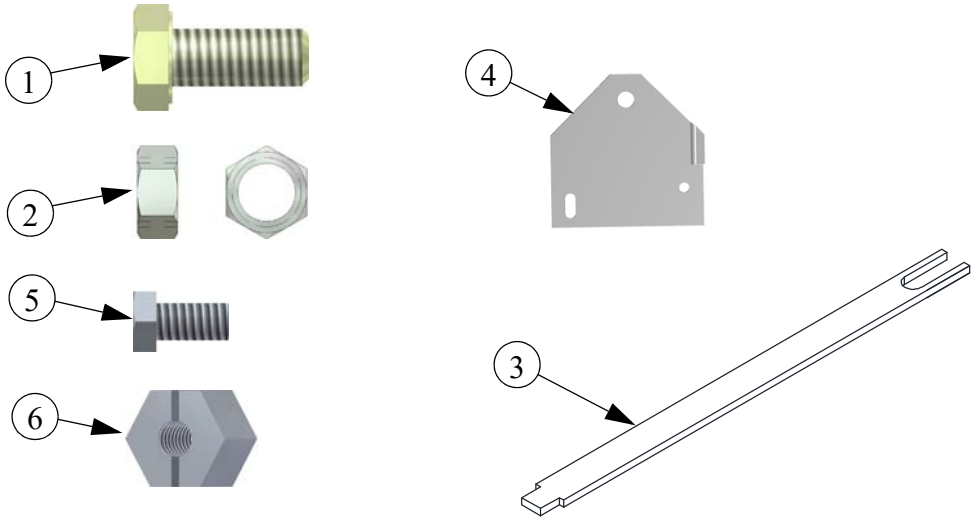
ADVANTI-FLOW® Nipple Line Assembly and Components



Item	Description	Part No.
1	**ADVANTI-FLOW® Drinker Assy. w/Cups**	
	Std. Flow Std. Chnl. 40" Spacing w/Cups	51327-3
	Std. Flow Std. Chnl 30" Spacing w/Cups	51327-4
	Std. Flow Std. Chnl 24" Spacing w/Cups	51327-5
	Std. Flow Std. Chnl 20" Spacing w/Cups	51327-6
	High Flow Std. Chnl 40" Spacing w/Cups	51328-3
	High Flow Std. Chnl 30" Spacing w/Cups	51328-4
	High Flow Std. Chnl 24" Spacing w/Cups	51328-5
	High Flow Std. Chnl 20" Spacing w/Cups	51328-6
2	ADVANTI-FLOW® Cup Package	51326
3	**ADVANTI-FLOW® Drinker Assembly**	
	Standard Flow Std. Channel 40" Spacing	51271-2
	Standard Flow Std. Channel 30" Spacing	51272-2
	Standard Flow Std. Channel 24" Spacing	51273-2
	Standard Flow Std. Channel 20" Spacing	51274-2
	High Flow Std. Channel 40" Spacing	51271-1
	High Flow Std. Channel 30" Spacing	51272-1
	High Flow Std. Channel 24" Spacing	51273-1
	High Flow Std. Channel 20" Spacing	51274-1
4	Standard Support Channel	35482-1
5	Training Wire (165 FT)	28994-165
	Training Wire (330 FT)	28994-330

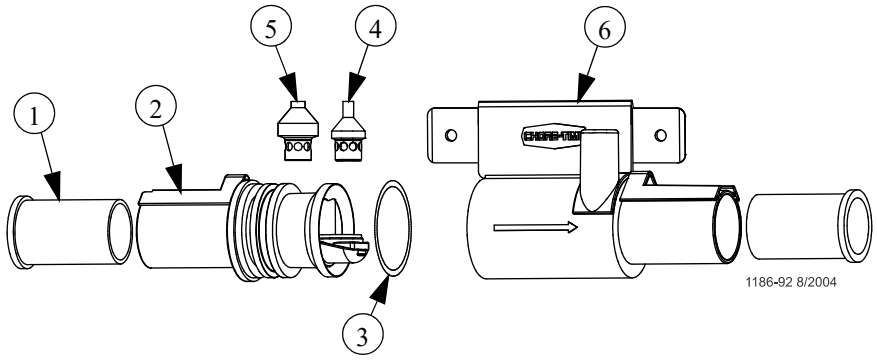
Item	Description	Part No.
6	1/16" Training Cable (1 FT)	1922
	1/16" Training Cable (5000 FT)	1922-5000
7	#10-24 x 3/8" Hex Washer Head Screw	25124
8	#10-24 Kepnut	27725
9	Channel Bracket	46208
10	Channel Bracket Kit	46209
12	Coupling Liner Assembly	35763
13	PVC Coupling Body	34318
14	Coupling Liner	34319
15	ADVANTI-FLOW® High Flow Saddle Assy.	51275-1
	ADVANTI-FLOW® Std. Flow Saddle Assy.	51275-2
16	ADVANTI-FLOW® High Flow Valve Assy.	51270-1
	ADVANTI-FLOW® Standard Flow Valve Assy.	51270-2
17	ADVANTI-FLOW® Disk	51266
18	Support Channel Hanger	33824-1
19	Pipe Brush	29465
20	Poultry Trainer	29333
21	Assembly Tool	41247

Poultry Trainer (44943)



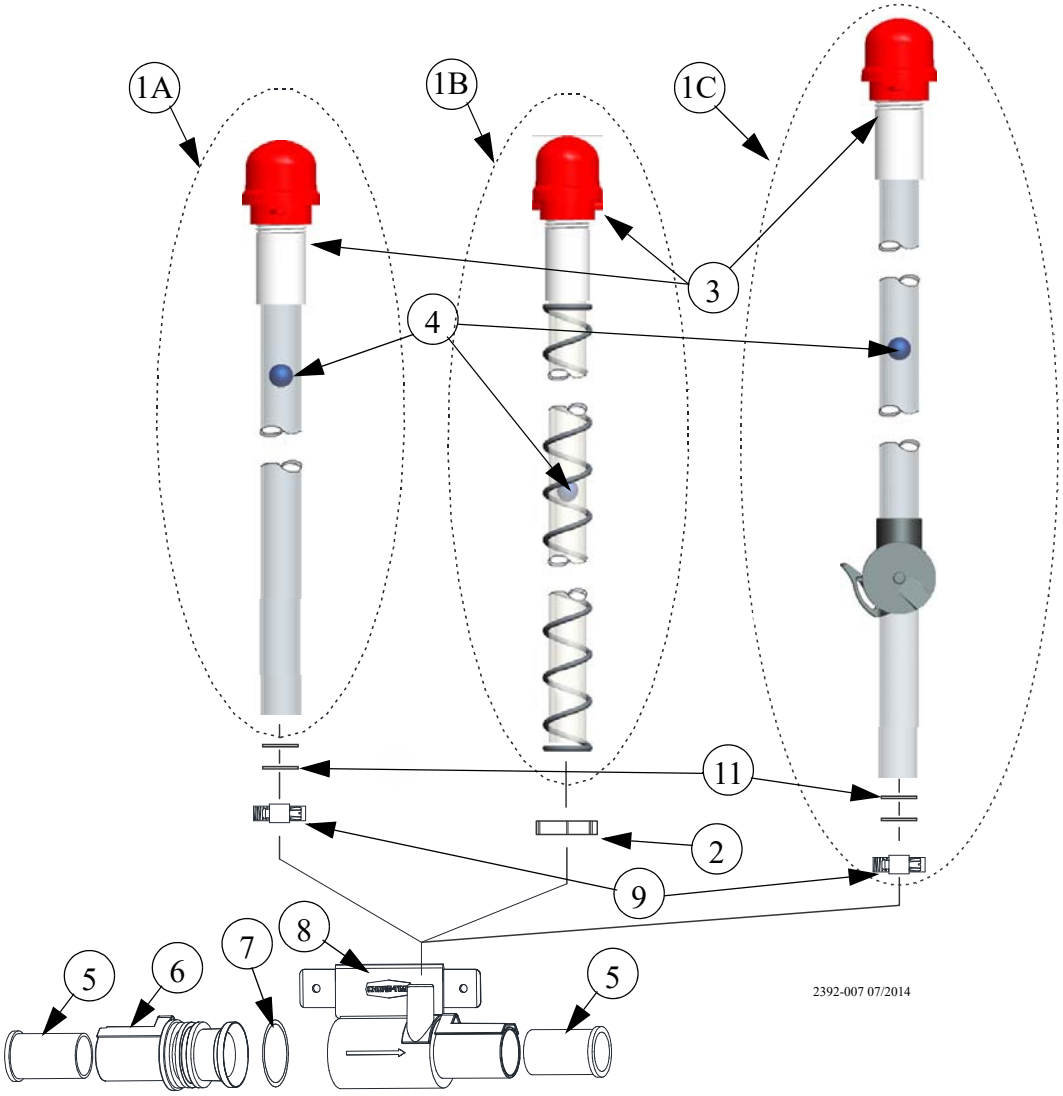
Item	Description	Part No.
1	5/16-18 x .75 Bolt	2046
2	5/16-18 Hex Nut	2145
3	Adjustment Leveler	3075
4	Anchor Plate	42807
5	10-24 x .38 Screw	1951
6	10-24 Slotted Nut	1840

Slope Compensator Assembly (54036-XX)



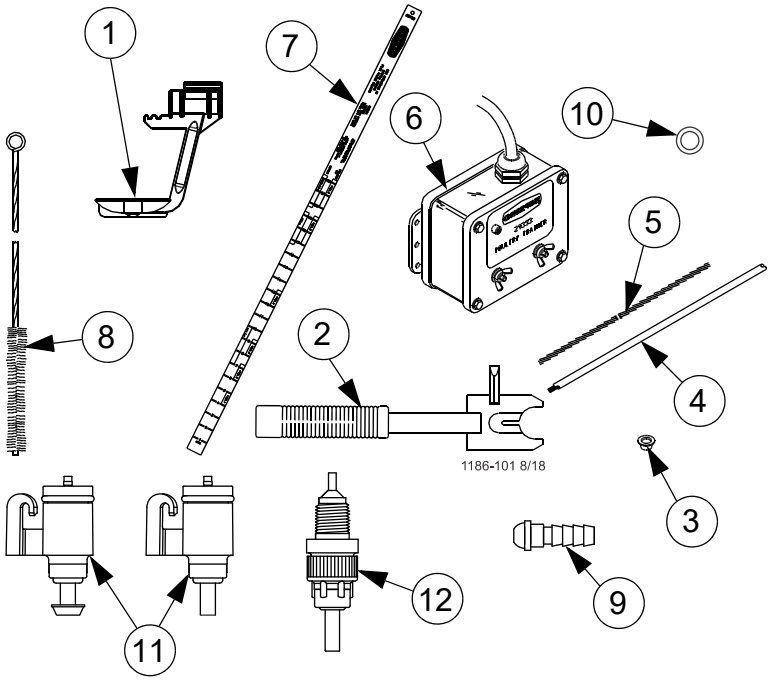
		Low Dif 54036-1L	Hi Dif 54036-1H	Low Dif 54036-2L	Hi Dif 54036-2H	Low Dif 54036-4L	Hi Dif 54036-4H
Item	**Description**	**Part No.**	**Part No.**	**Part No.**	**Part No.**	**Part No.**	**Part No.**
1	Half Liner	36501	36501	36501	36501	36501	36501
2*	Inlet Assembly	54037-L	54037-H	54037-L	54037-H	54037-L	54037-H
3*	O-Ring	44015	44015	44015	44015	44015	44015
4*	Low Differential Plunger	46450	--	46450	--	46450	--
5*	High Differential Plunger	--	46451	--	46451	--	46451
6	Compensator Outlet	40902-1	40902-1	40902-1	40902-1	40902-1	40902-1
--	Stand Tube Assembly	54517-8	54517-8	54517-4	54517-4	54517-1	54517-1
*54037-X Inlet Assembly includes the Plunger and O-Ring							

Mid Line Stand Tube Assembly (52273-X)



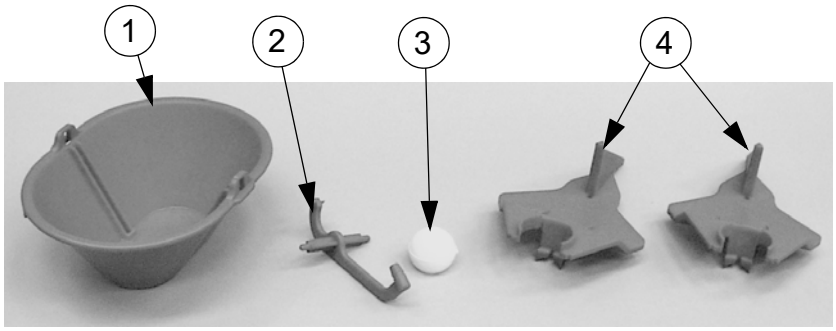
		52273-4	52273-2	52273-1
Item	**Description**	**Part No.**	**Part No.**	**Part No.**
1A	Rigid Stand Tube Assy	---	54517-4	
1B	Flexible Stand Tube Assy	54517-1	---	
1C	Folding Stand Tube			54517-8
2*	Nylon Clamp	54909	---	---
3*	Breather Cap Assembly	54606	54606	54606
4*	Blue Ball	37142	37142	37142
5	Half Liner	36501	36501	36501
6	Inlet Assembly	46464	46464	46464
7	O-Ring	44015	44015	44015
8	Compensator Outlet	40902-1	40902-1	40902-1
9*	Adjustable Clamp	---	7187	7187
10*	Rigid Ball Stop	54817	54817	54817
11*	O-Ring	---	48325-1	48325-1
--	Ground Wire	36500W	36500W	36500W
*Included in 54517-X Assembly				

Miscellaneous Kits and Components



Item	Description	Part No.
1	Catch Cup	36591
2	Assembly Tool	41247
3	Cap Plug (qty of 100)	42679-100
4	Training Wire (165 FT)	28994-165
	Training Wire (330 FT)	28994-330
5	1/16 Inch Training Cable (1 FT)	1922
	1/16 Inch Training Cable (5000 FT)	1922-5000
6	Poultry Trainer	29333
7	Broiler Management Stick	35750
8	Pipe Brush	29465
9	Barb Adapter	40420
10	.239 x .379 x .07 O-Ring	43898
11	J-Lock Replacement	49014-1
	J-Lock Replacement (Button Trigger)	49014-1B
12	1/8" NPT Nipple Valve (Replacement)	46787-1 46787-2
-	Super O-lube	45911

Nipple Waterer Mini Drinker: 35412



Item	Description	Part No.
1	Mini Drinker Bowl	34790
2	Pivot Arm	34791
3	Float Ball (small)	25026
4	Mounting Bracket (2 req'd)	34792
3	Float Ball (small)	25026
4	Mounting Bracket (2 req'd)	34792

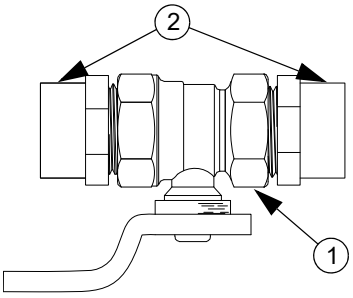
Miscellaneous Hose Components

Description	Part No.
Female 3/4" Hose Coupling Kit	7812
3/4" NPT x 3/8" Hose Barb	37141
3/8" Nylon Hose Clamp	37144
3/4" Female Swivel Fitting	50401
Hose Clamp	7187
3/4" ID Rubber Hose	*47820-0

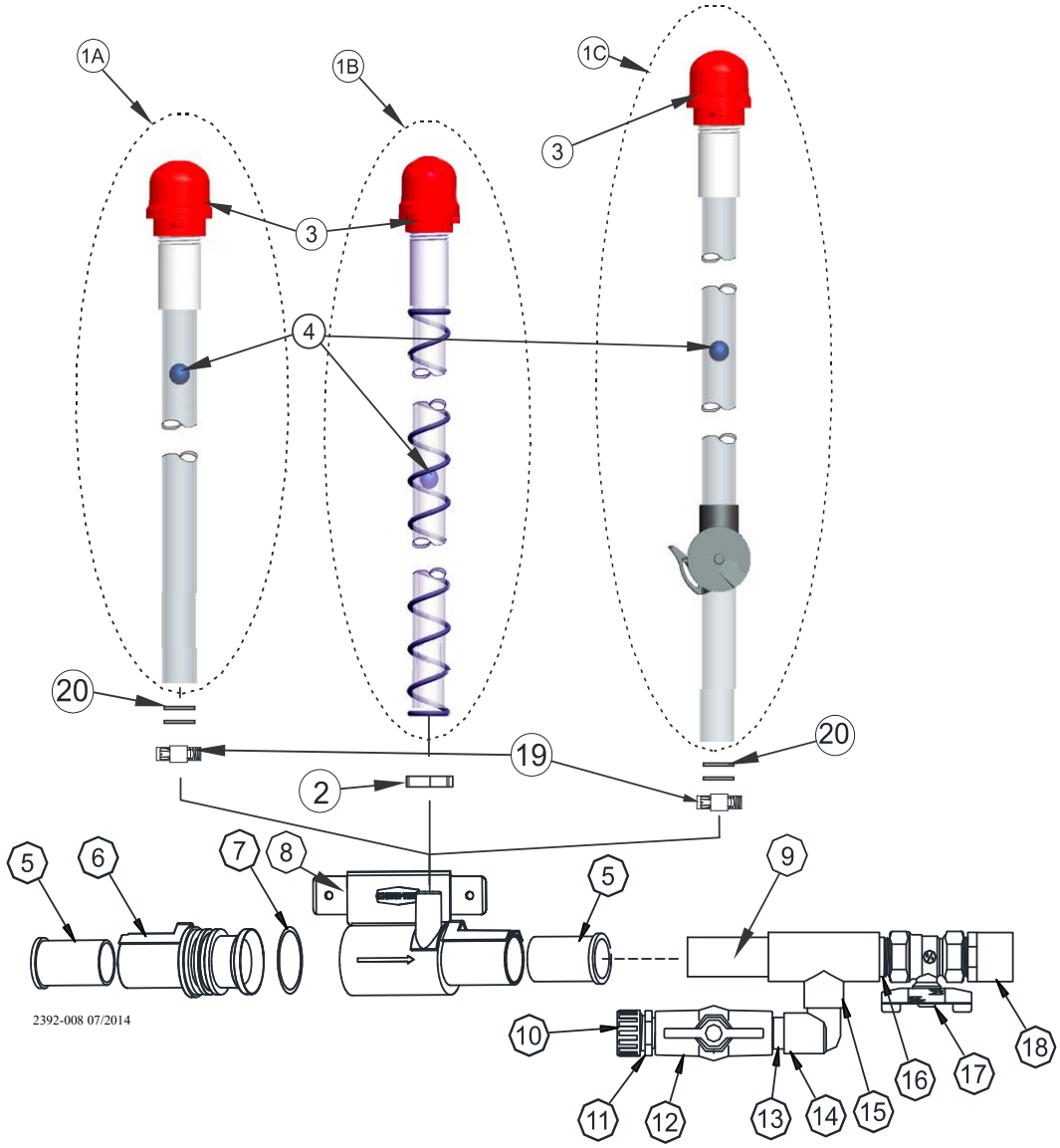
***47820-0 is available in lengths of 50', 100', 150' and 200'.**
The numbers following the dash represent the length of hose (47820-50 is 50' of hose).

Mid Line Shut-Off Kit: 29658

Item	Description	Part No
1	3/4" Quarter Turn Valve	29623
2	3/4" PVC Male Adapter	9229



Mid Line Shut-Off Kit with Flush (34939-X)



Item	Description	34939-2 Part No	34939-4 Part No	34939-5 Part No
1A	Rigid Stand Tube Assy	---	54517-4	---
1B	Flexible Stand Tube Assy	54517-1	---	---
1C	Folding Stand Tube	---	---	54517-8
2*	Nylon Clamp	54909	---	---
3*	Breather Cap Assembly	54606	54606	54606
4*	Blue Ball	37142	37142	37142
5	Liner	36501	36501	36501
6	Inlet Assembly	46464	46464	46464
7	O-Ring	44015	44015	44015
8	Compensator Outlet	40902-1	40902-1	40902-1
9	3/4" x 3" PVC Pipe	9205-4	9205-4	9205-4
10	3/4" Hose Cap	9811	9811	9811
11	3/4" NH Nylon Adapter	29141	29141	29141
12	1/2" Ball Valve	34961	34961	34961
13	1/2" Threaded PVC Pipe	34960-1	34960-1	34960-1

*Included in 54517-X Assembly

Item	Description	34939-2 Part No	34939-4 Part No	34939-5 Part No
14	1/2" Street S x S PVC Ell	33895	33895	33895
15	3/4 x 3/4 x 1/2" PVC Tee	7534	7534	7534
16	3/4" Threaded PVC Pipe	7531-5	7531-5	7531-5
17	3/4" Ball Valve	29623	29623	29623
18	3/4" PVC Male Adapter	9229	9229	9229
19*	Adjustable Clamp	---	7187	7187
20*	O-Ring	---	48325	48325
--	Ground Jumper Wire	36500W	36500W	36500W

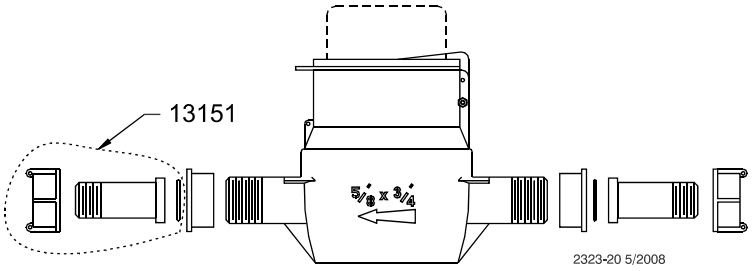
*Included in 54517-X Assembly

Water Medicator

	41778-1 Chemilizer (1-100 Ratio)	40203 Dosmatic Adjustable Medicator
Description	**Part No.**	
Pump	41827	--
Pump Rebuild	41829	--

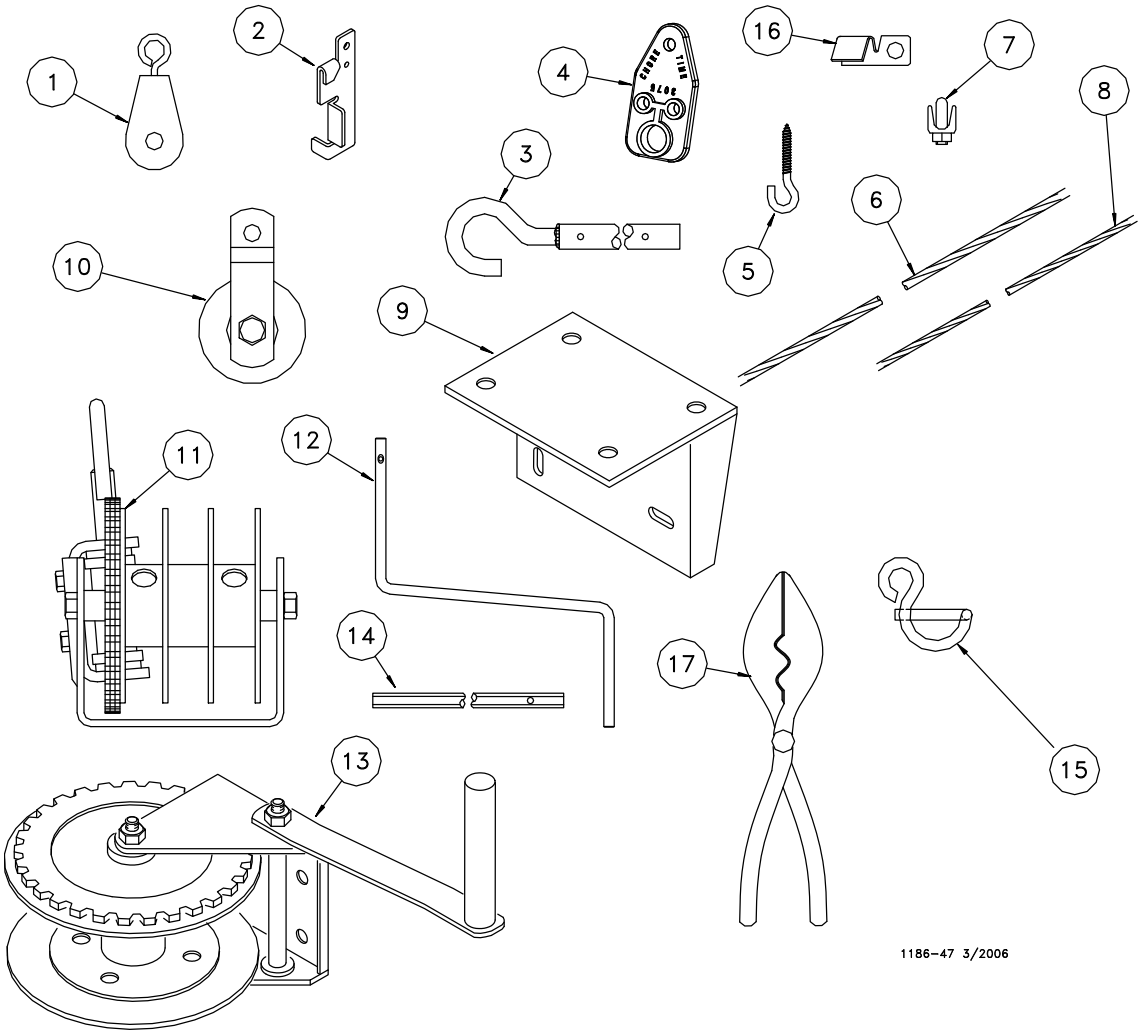
Water Meters

Important: Line must be flushed out before installing water meters. Bleed air out of the water line, running air through the water meter will damage it.



Description	Part No	Replacement Heads
3/4" Water Meter w/Pulse and Connectors (Gallon)	54579-GP	56425-GP
3/4" Water Meter w/Pulse (Liter)	54579-LP	56425-LP
3/4" Brass Water Meter (Liter)	E6900WM	56075

Suspension System Components:



Item	Description	Part No.
1	Pulley with Swivel Hook	44577
2	Cable Adjustment Leveler	14337
3	Winch Drive Tube (4 ft.)	2884-1
	Winch Drive Tube (8 ft.)	2884-2
4	Rope Adjustment Leveler	3075
5	Screw Hook (Standard)	1214
	Screw Hook (Large)	2041
6	1/8" Cable	27975
7	1/8" Cable Clamp	14898
8	3/32" Drop Cable	4973
9*	Winch Bracket with Hardware	1193
10	Pulley	44596
11	Split Drum Winch	29428
12	Handle Shank	2885
13**	Hand Winch	1212
14	Drill Adapter Shaft	2886
15	Winch Handle Pin	3761
16	Open 1/8" Cable Eyelet (Package of 100 pcs)	44598-100
17	Crimping Tool	44599
--	1/8" Rope	9247

***Winch bracket to be used with hand winch only.**

****Hand winch is recommended for systems up to 150 ft *[46 m]* only.**

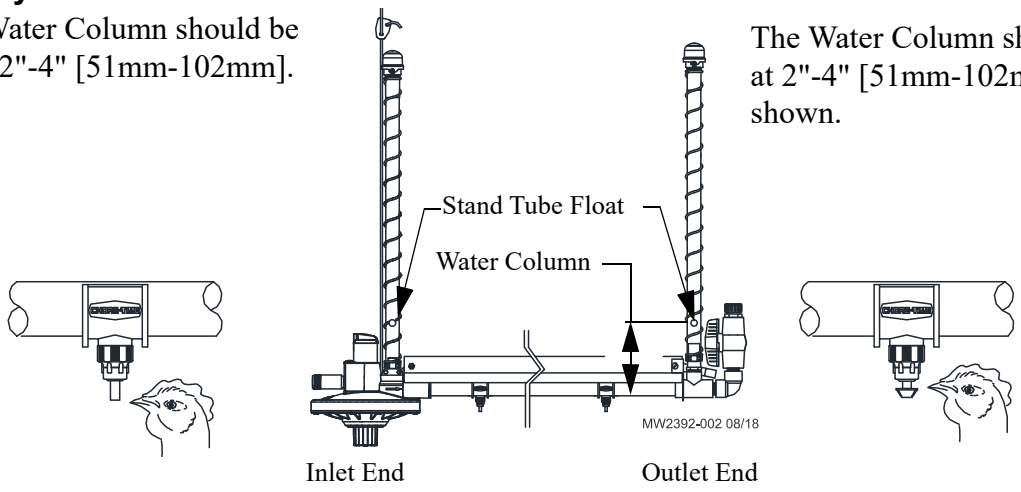
Nipple and Water Column Height Recommendations

- The floor conditions are a good indication of excess water supply. If the floors are wet, the water column may be too high.
- Be cautious adjusting the water column aggressively during the first week, this could increase mortality by making the nipples trigger harder.
- The information provided is for reference only. It is up to the operator to use this guideline as a starting point to operate the system. Operator judgment of actual on site conditions may require modification to this management guideline.

Broilers and Breeders

1-3 days

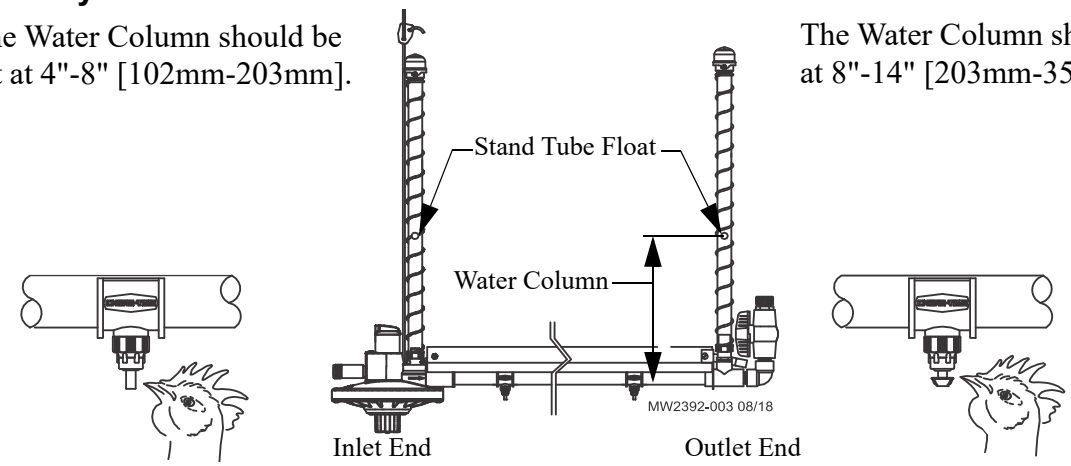
The Water Column should be set at 2"-4" [51mm-102mm].



The Water Column should be set at 2"-4" [51mm-102mm] as shown.

3-21 Days

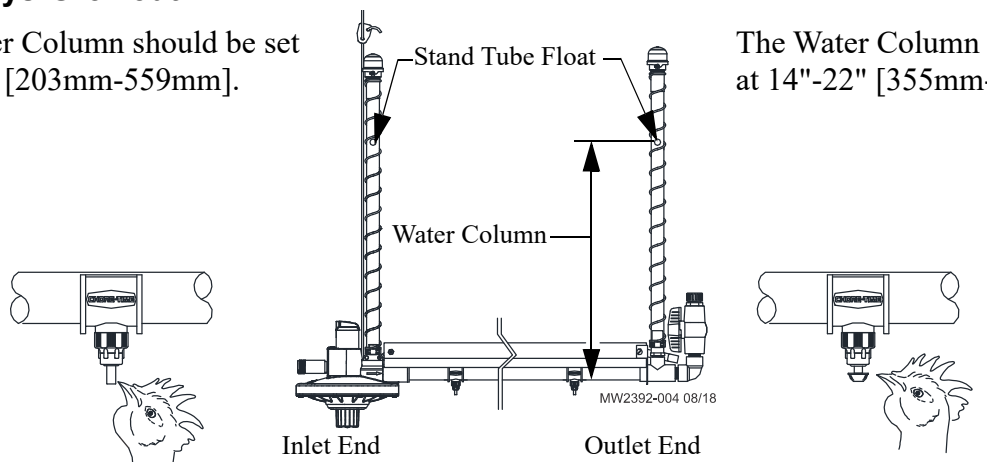
The Water Column should be set at 4"-8" [102mm-203mm].



The Water Column should be set at 8"-14" [203mm-355mm].

21 Days-Growout

The Water Column should be set at 8"-22" [203mm-559mm].



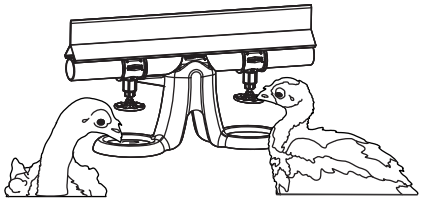
The Water Column should be set at 14"-22" [355mm-559mm].

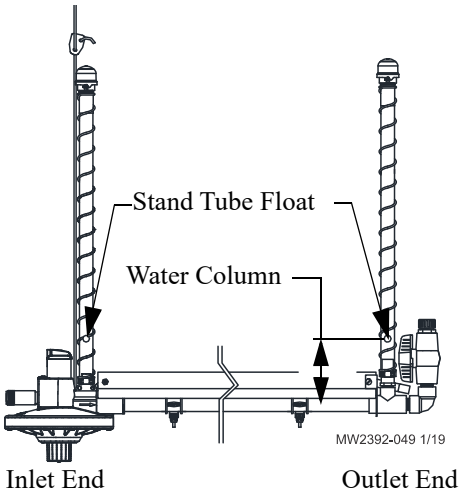
Turkeys

- Water column height should be adjusted so water is present in the catch cups after one week, if the catch cups are empty the water column should be adjusted accordingly.
- Drinker height should be managed so the disc is below the beak **as shown below**. Birds should not have to bend over, or reach excessively to trigger the disc.

1-14 Days

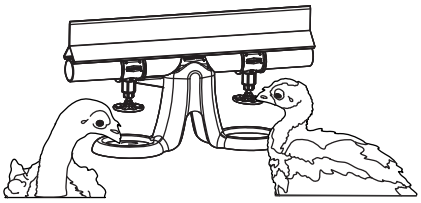
The Water Column should be set at 3"-8" [7.6cm-20.3cm].

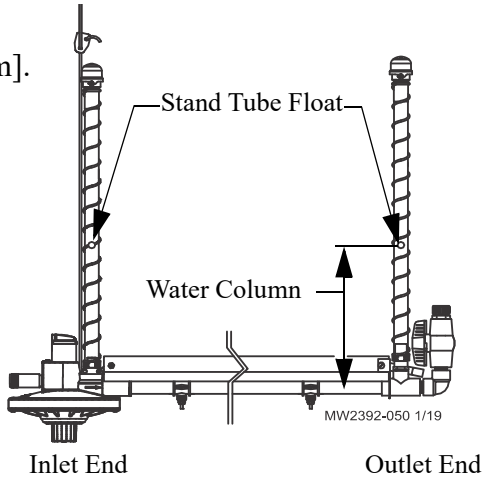




15-28 days

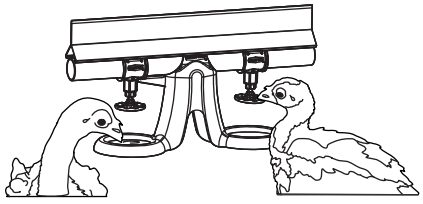
The Water Column should be set at 8"-12" [20.3cm-30.5cm].

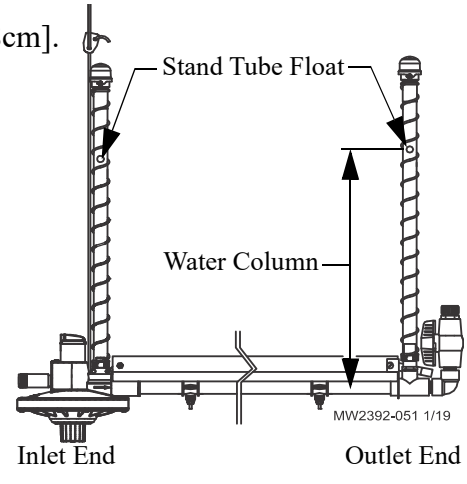




29 Days-Growout

The Water Column should be set at 12"-20" [30.5cm-50.8cm].





Operational Guidelines

Topic	Recommendations
Initial start-up procedure	1. Thoroughly flush the water lines. 2. Set incoming water pressure to 25 p.s.i. *[172 kPa]* at the step regulator on the filter control panel. 3. Level the shavings under the water line to eliminate high/low spots. 4. Adjust the inlet regulators on the lines so the stand tube float corresponds to the drawing on page 47. Make sure there is water at the outlet sight tube and air is bled from the line. Indicator ball should be visible during operation. 5. Check outlet assemblies and stand tubes to make sure water is passing throughout the system.
Bird placement procedure	Immediately before birds are housed, brush the nipples with a broom to form water droplets on the nipples
Operation during bird grow out	If wet floors begin to develop under the drinker lines, increase ventilation and add additional heat to dry the litter. the floor conditions are a good indication of adequate or deficient water supply. If the floors are wet, the water column may be too high. If the floors are dry, the water column may be set to low.
Maintenance between batches	Flush each line at full pressure for 5 minutes to remove deposits and sediments. Check pressure drop across water filter - clean or replace if necessary. Check regulator, shut-off valves, stand tube(s), and coupling liner assemblies for proper operation. Adjust the cable levelers so that the water lines are level. Maintain house temperature above freezing or drain the lines thoroughly. Drain inlet regulator(s).
Precautions	Do not over chlorinate. The maximum concentration is 2.5 ppm (parts per million) for extended periods and 5 ppm for flushing only. If medication or other chemicals are added to the water, flush the lines immediately after use, then chlorinate, as specified. Allow at least 24 hours before adding additional chemicals (such as iodine, citric acid, etc.) or vitamins to the water. See “Guide to Cleaning Water Lines” on page 51.
Ammonia litter treatment	For Maximum service life do the following during application: 1) Ensure the lines are dry (No condensation due to flushing). 2) Raise lines.

Troubleshooting Guidelines

Problem	Cause	Solution
Nipples are leaking	Internal parts improperly assembled.	Disassemble and reassemble parts correctly.
	Foreign material preventing proper valve operation.	Trigger nipple a few times to see if leak stops. If leak persists, disassemble valve, clean, and reassemble. Replace valve components and saddle if leaks persist.
Leaking above cap assembly	Cap not properly tightened.	Tighten cap on saddle.
	Damaged saddle.	Replace saddle, nipple may not need to be replaced.
Leaking between saddle and PVC pipe	Damaged saddle.	Replace saddle, nipple may not need to be replaced.
Leaking at coupler liner assembly	Damaged (flexible) coupler liner or PVC coupler.	Replace coupler liner and/or PVC coupler.
Leaking or damaged inlet assembly	Damaged component or improperly glued component.	Replace damaged or defective component(s). It may be necessary to order a union to reconnect the Inlet components.
Catch Cups are Dry	Water Column is too low.	Increase water column height incrementally until desired water level is achieved.
	Nipples are obstructed or clogged due to build-up.	Clean with solution, See "Guide to Cleaning Water Lines" in manual MW2323.
Floors are wet under drinker line	Drinker line is too high or low.	Adjust drinker height to the recommended guidelines,
	Water column is too high.	Decrease water column height and increase ventilation and/or heat.
Poor Water Consumption	Drinker line is too high or low	Adjust drinker height to recommended management guidelines.
	Water column height too low	Increase water column height incrementally until desired water level is achieved.
	Nipples are obstructed or clogged due to build-up	Clean with solution, See "Guide to Cleaning Water Lines" in manual MW2323.
Feed accumulation in cup	Drinker lines to close to feeder lines	See planning the system for recommended distance.
	System height is too low	Raise the system to the recommended management guidelines.
Stand Tube not working properly	Depending on water quality and management techniques, the stand tube may require more frequent cleaning.	1. Remove hose cap on top of stand tube. 2. Use a brush (available through Chore-Time) to thoroughly clean the stand tube. 3. Clean and reassemble the components and check for proper water level.
Regulator Leaking	A restriction or obstruction in the Nipple such as a kinked hose or closed valve at the end of the line.	Remove the restriction or obstruction

Guide to Cleaning Water Lines

Important: Chore-Time strongly recommends a regular cleaning program to eliminate water line contaminants.

WARNING: Mixing of incompatible chemicals can result in violent explosions or create combustible and toxic gases. Such chemicals pose a definite threat to personal health and safety.

Chore-Time does not recommend mixing chemicals without a specific formula provided by a reputable company.

Standard Cleaning Procedure

1. Mix the cleaning solution as indicated below.
2. Fill watering system with solution.
3. Allow solution to remain in lines 1 to 3 hours.
4. Flush system 1 minute per 100'*[30.5 m]* with clean water using high pressure.
5. Check filters, valve, and nipples for clogging from debris.
6. Adjust regulator pressure to normal operating pressure.

Regular Maintenance

The watering system should be cleaned one day every two weeks during the production cycle using a proportioner and **ONE of the following** stock solutions. Set the proportioner at 1 oz. (30 ml.) stock solution to 128 oz. (3785 ml.) of water.

- Vinegar stock solution = 64 fl. oz. (1893 ml.) white household vinegar + 64 fl oz. (1893 ml.) water
- Citric Acid stock solution = 1 pack (205 gm) citric acid + 128 fl. oz. (3785 ml.) water.

End of Grow Out Cleaning

A chlorine solution should run through the watering system, using a proportioner, at 1 fl. oz. (30 ml.) stock solution to 128 fl. oz. (3785 ml.) water. The solution should be administered during one of the last 3 days of the grow out. This cleans the whole system including the nipple drinkers and sterilizers the entire system for the next grow out cycle.

1. Chlorine stock solution = 1 fl. oz. (30 ml.) 5-1/4% bleach (or similar source of 5-1/4% sodium hyper chlorite) + 128 fl. oz. (3785 ml.) water. This solution will yield about 2 PPM (parts per million) chlorine in the drinkers with average water. **Do not** exceed this level for an extended period of time (otherwise, damage to the system may occur). Also **do not** exceed 50 PPM for flushing watering system between flocks.

After Administering Vitamins, Medication or other Chemicals

Chore-Time recommends flushing and chlorinating lines immediately after administering vitamins, medication or other chemicals. Failure to flush and chlorinate can result in bacteria build-up which can reduce or prevent water flow. **Do not** exceed 5 PPM of Chlorine stock solution when flushing watering system.

Between Flocks

The watering system should thoroughly cleaned between flocks. A stronger cleaning solutions may be used since birds will not be drinking the water. It is important to thoroughly flush the system (after 1 to 3 hours) with clean water to prevent storing high concentrates of cleaning solution in the watering system until the next flock is placed.

Use **ONE of the following** stock solutions for cleaning the system between flocks. Set the proportioner at 1 oz. of stock solution to 128 oz. (3785 ml.) water.

- Vinegar stock solution = 128 fl. oz. (3785 ml.) white household vinegar.
- Citric acid stock solution = 4 pack (205 gm) citric acid + 128 fl. oz. (3785 ml.) water.

The watering system should also be thoroughly drained in cold weather.

Water Quality

Hardness

Hardness is the calcium and magnesium content of a water supply. These minerals are responsible for scaling that forms in hot water heaters, plumbing lines, humidifiers, dishwashers and all other water using appliances. Water containing hardness minerals are generally classified as:

Soft Water	0 - 1.0 GPG
Slightly Hard Water	1.1 - 3.5 GPG
Moderately Hard Water	3.6 - 7.0 GPG
Hard Water	7.1 - 10.5 GPG
Very Hard Water	10.6 GPG or greater

Iron

Iron, when present in amounts of 0.3 ppm or higher, can cause a yellow or rusty appearance in water. It can also cause staining of clothing and water fixtures. Iron can be found in two forms, clear (dissolved) or red (oxidized) water iron. Water refiners are capable of removing both types of iron. Higher amounts of iron may require further treatment.

Iron Bacteria

Iron bacteria can be found in water supplies containing clear water iron. The bacteria use the clear water iron as a source of energy, and at the same time, convert the iron to the red water state. These bacteria are not considered a health hazard, but can plug plumbing lines, fixtures and appliances. These bacteria also promote localized corrosion and impart a taste and/or color to water. Effective treatment requires shock chlorination of all plumbing lines prior to the installation of any equipment. This is followed by the installation of a chemical feed pump feeding chlorine to eliminate the bacteria, and a clarifying filter to remove the residue.

Water PH

The water acidity is measured and reported in terms of H units. Acid water causes staining of plumbing fixtures and corrosion of plumbing systems, which may necessitate expensive repairs. Target pH for drinking is between 6-8. A pH higher than 8 leads to a bitter taste. Even while cleaning, never allow the pH to get below 5 or damage to equipment may occur. **Be careful when using PWT (Poultry Water Treatment). Poorly mixed solution will lead to extremely low PH, resulting in damage to stainless steel components!**

Aggressiveness/Corrosion

Aggressiveness of water is measured by the Ryznar stability index (A calculation from several factors in a water supply). A stability index of 7.5 or higher indicates the water may be corrosive tendencies. This type of corrosion may attack plumbing and fixtures causing rusty or blue/green stains. The use of a phosphate crystal cartridge will help to eliminate this problem.

Taste and Odor

Objectionable tastes and/or odors can be dissolved minerals, gases, organic contamination, or from chlorination. Treatment requires the installation of taste and odor tank filter for the whole house or a taste and odor cartridge filter for individual faucets.

Hydrogen Sulfide

Hydrogen sulfide is a dissolved gas common in some water supplies. It is detected by a rotten egg taste and/or odor of the water. Proper treatment requires the installation of a chemical feed pump system feeding household chlorine bleach, followed by a sediment filter to remove the precipitation.

Sand, Silt or Sediment

Sand, silt or sediments are found in many water supplies. It is usually detected by a cloudy or hazy appearance when the water is first drawn. Chore-Time recommends that all systems be installed with at least 1, 140 mesh Filter. In some cases a second more aggressive filter may be needed.

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Built to last.®

Revisions to this Manual

Page No.	Description of Change	ECO
Various	Various updates to manual	34091

For additional parts and information, contact your nearest Chore-Time distributor or representative.
Find your nearest distributor at: www.choretime.com/contacts

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