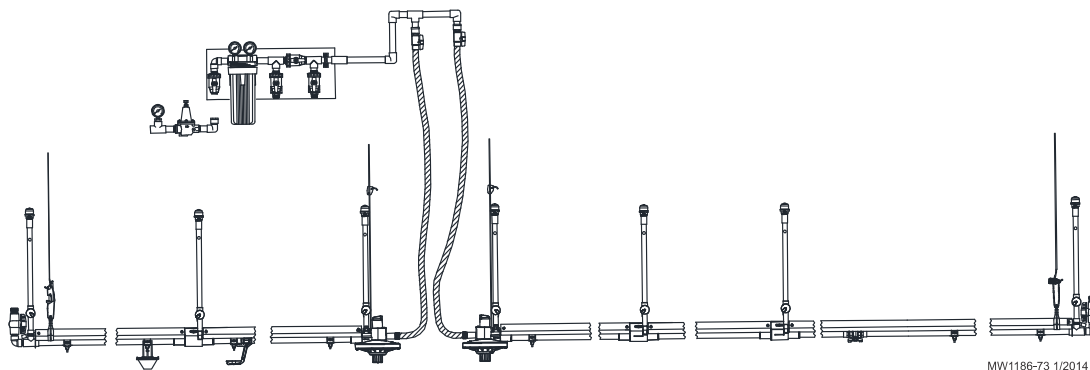


## STEADI-FLOW<sup>®</sup> RELIA-FLOW<sup>®</sup> and ADVANTI-FLOW<sup>®</sup> Nipple Drinking System



Contact your nearby Chore-Time distributor or representative for additional parts and information

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## Introduction

### Limited Warranty

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, WITHOUT 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**

## 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.

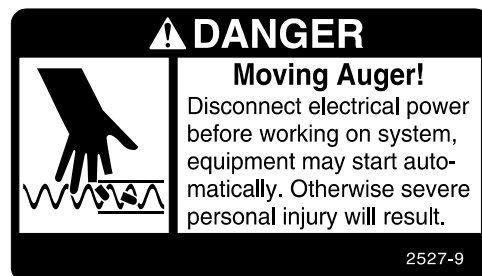
Keep safety signs in good condition. Replace missing or damaged safety signs.

### 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**

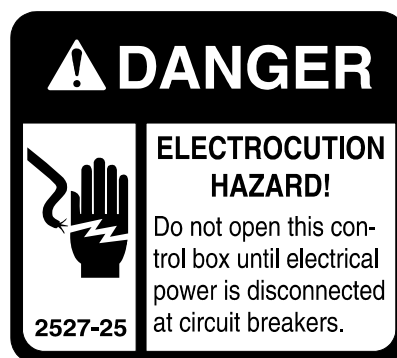
Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.

Ground all electrical equipment for safety.

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

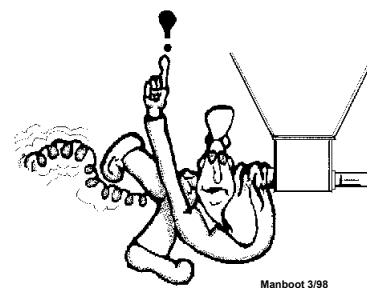
Ground all non-current carrying metal parts to guard against electrical shock.

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.



Manboot 3/98

## Planning

### Incoming Pressure

A good starting point for incoming pressure is 25 psi [172 kPa]. Optimal system life is achieved by finding the lowest pressure that provides adequate flow during flush. Do not expose equipment to above 35 psi.

CHORE-TIME recommends a minimum incoming water pressure of 3 psi [21 kPa] for gravity feed systems. This is achieved by placing the tank 8' [2.4m] above the Nipple Line. For every 28" [711 mm] of water column, water pressure increases one pound.

	Filter Control Panels		Volumatic Regulators
Part Number	36802-1	9275/36802-2	55476-X
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 prior to the filter control panel.		

Incoming water supply should be at least a 1" [25 mm] diameter incoming line (preferably PVC) from a single well. Other factors such as: multiple wells, the distance from the well(s), and the needs of other equipment which requires water could demand larger lines. (A second incoming water supply should be used when 30,000 or more birds are present in the house).

**Note:** All pressure settings are to be made when no water is flowing.

### Filtration

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

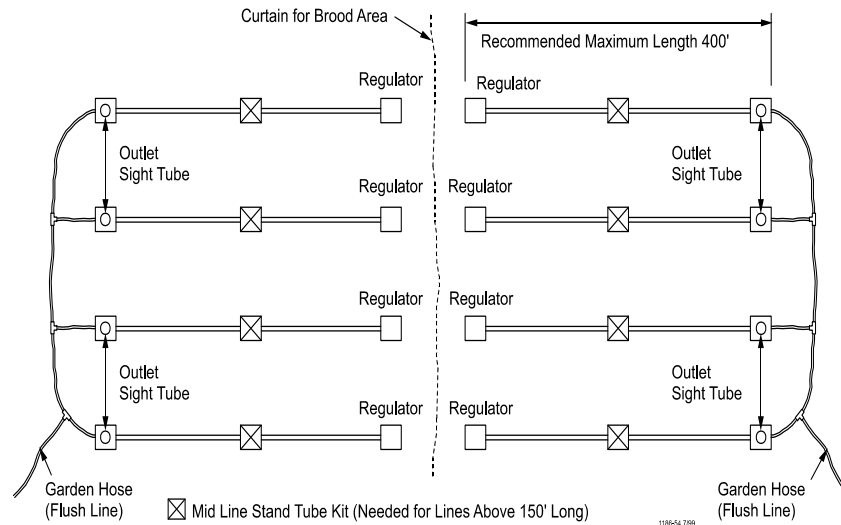
CHORE-TIME recommends a water test by a reputable water treatment company in the area. Water treatment and/or extra filtration may be required, depending on the water test results.

A minimum of 1,140 mesh (105 microns) filter is recommended. For systems with high sand/silt levels a secondary, more aggressive 1250 mesh (10 micron) or 635 mesh (20 micron), filter should be placed down stream of the 140 mesh filter.

### House Layouts

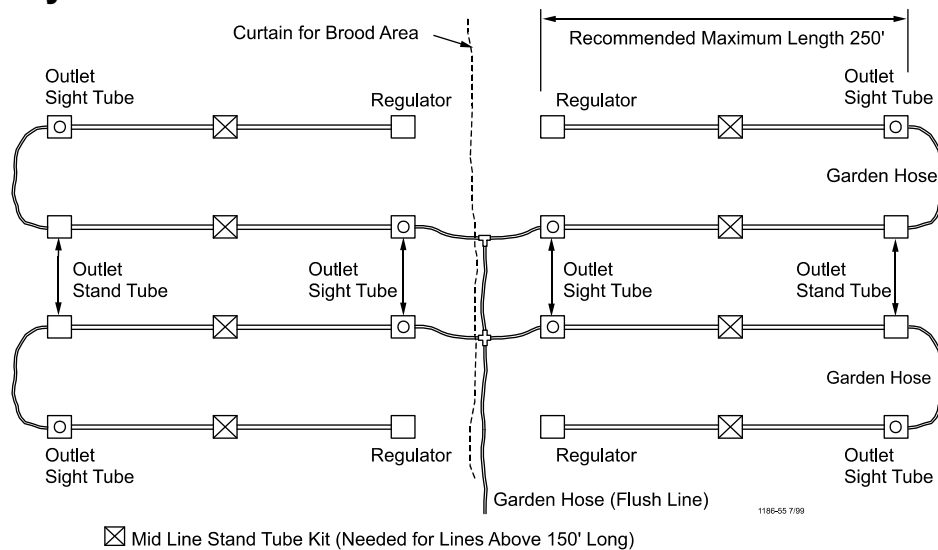
- Line length 500' [152 meters] max. Split line into two halves for longer barns.
- For gravity feed systems, lines should be 250' [76 m] max.
- For breeders, place the water line INSIDE The ULTRAFLO®, or Genesis® Breeder Feeder Loop.
- For a pan feeder system, place the water line within three feet [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.

## 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

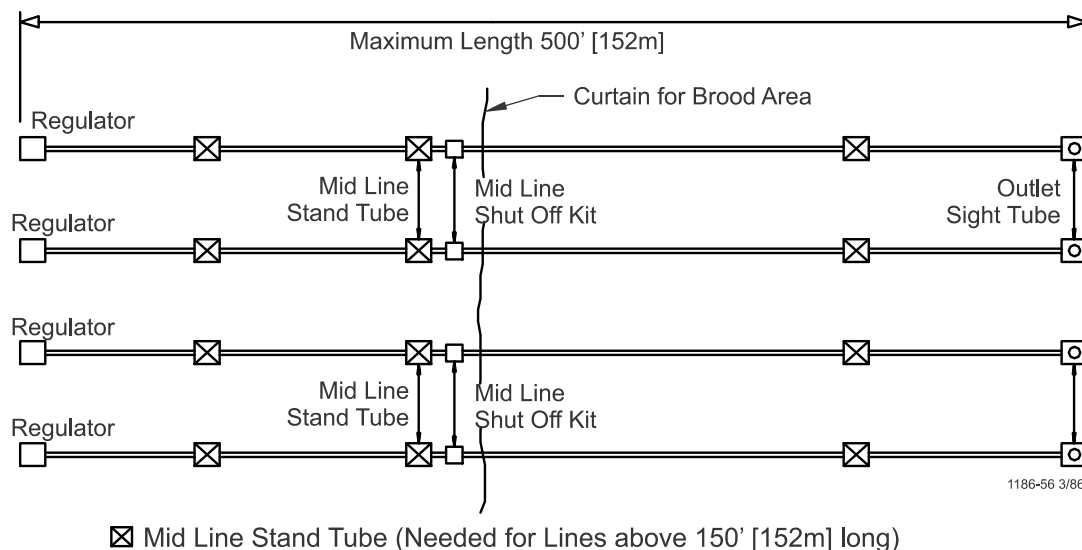


Figure 3. Alternate Layout #2 for RELIA-FLOW® and STEADI-FLOW®

## ADVANTI-FLOW® Preferred Layouts

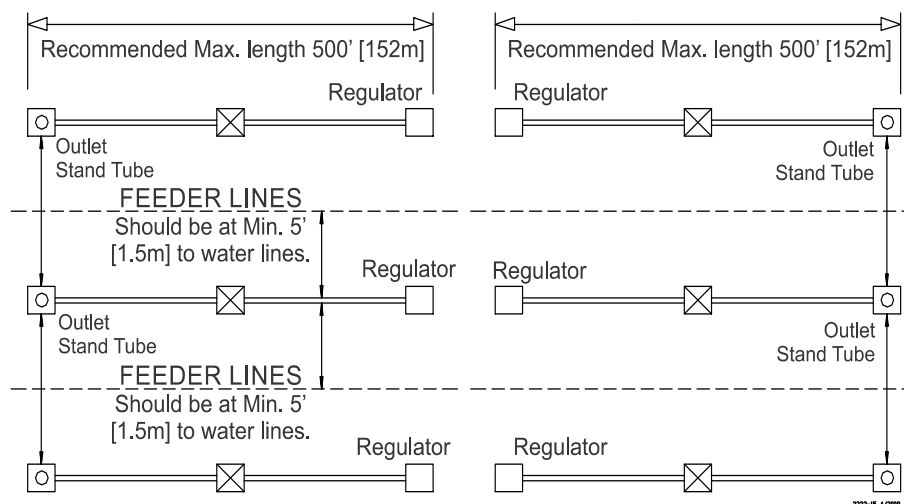
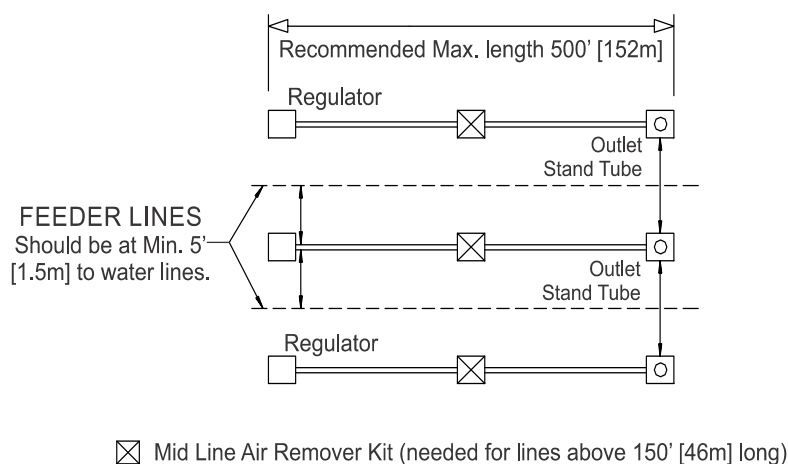
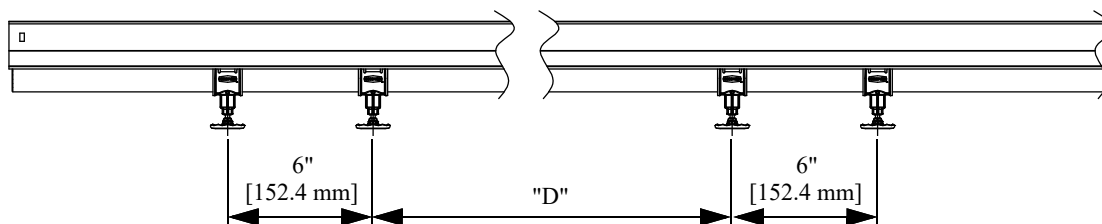


Figure 4. Preferred Layouts for ADVANTI-FLOW®

## Nipple Drinker Configurations

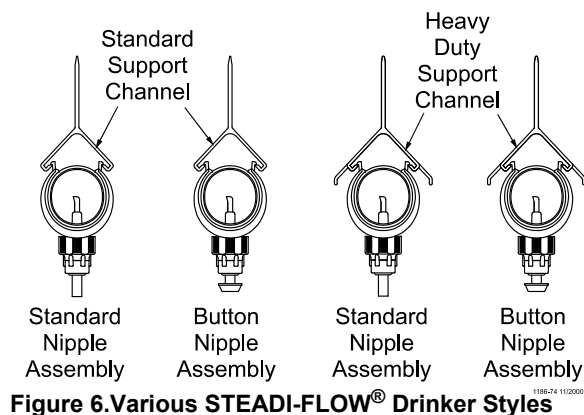
The CHORE-TIME nipple drinker is available with nipples spaced 6" [150 mm], 8" [200 mm], 10" [250 mm], 12" [300 mm], 15" [380 mm], 20" [508 mm], or 24" [610 mm] on the 10' [3 m] pipe.



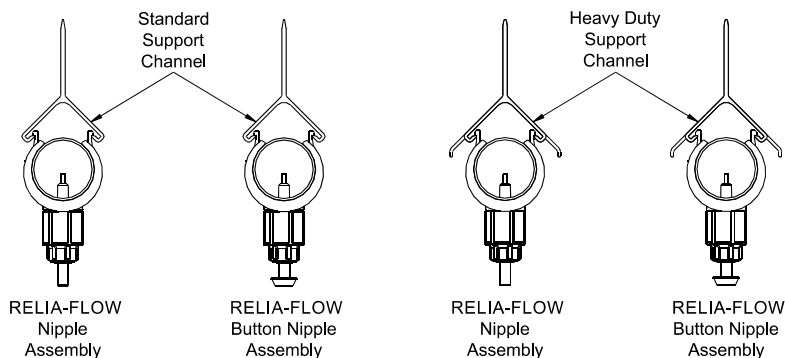
ADVANTI-FLOW		STEADI-FLOW & RELIA-FLOW	
Number of Nipples	Spacing "D"	Number of Nipples	Spacing "D"
6	34" [863.6 mm]	5	24" [610 mm]
8	24" [609.6 mm]	6	20" [508 mm]
10	18" [457.2 mm]	8	15" [381 mm]
12	14" [355.6 mm]	10	12" [305 mm]
--	--	12	10" [254 mm]
--	--	15	8" [203 mm]
--	--	20	6" [152 mm]

**Figure 5. Nipple Spacing**

The CHORE-TIME nipple drinker is available with the standard support channel for broiler applications and heavy support channel for pullets and breeders. See **Figure 6.** and **Figure 7.**



**Figure 6. Various STEADI-FLOW® Drinker Styles**



**Figure 7. Various RELIA-FLOW® Drinker Styles**

## Manufacturer's Recommendations: Birds per Nipple

Type	Recommended Number birds per Nipple	Product Line	Recommended Options
Broiler	30 for brooding 10-15 for grow-out	STEADI-FLOW® or RELIA-FLOW®	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	STEADI-FLOW® or RELIA-FLOW®	Heavy Duty channel-standard-flow or Heavy Duty channel High Flow w/catch cup (Hot climates Only)
Pullets	16-24 for brooding 8-12 for grow out	STEADI-FLOW® or RELIA-FLOW®	Standard channel-Standard Flow
Poult	10-15 for brooding 10-15 for growout	ADVANTI-FLOW®	6 wks or less-Standard channel-Standard flow 7-9 wks-Heavy Duty channel (Hi Flow w/Buttons recommended)

## Optional Slope Compensator

See “Optional Slope Compensator” on page 24 for info on how to plan and install Slope Compensators.

## Installation

### Tools Needed

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	

## Filter Control Panel Installation

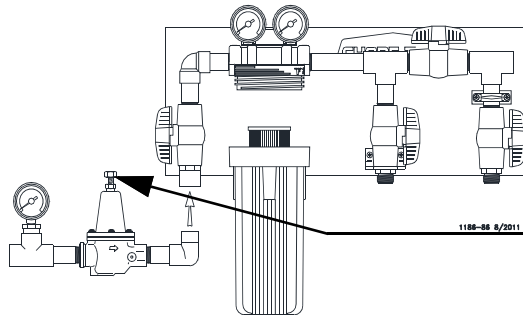
Pump the well for two days prior to hookup of the system to remove sand, mud, and debris.

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.

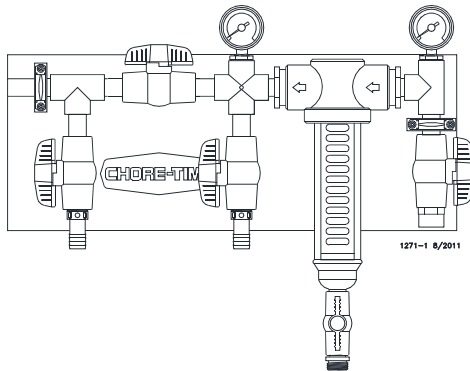
The Filter Control Panel is shipped secured to a mounting board. The mounting board and Filter Control Panel should be secured to wall or post using lag bolts (not supplied).

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.

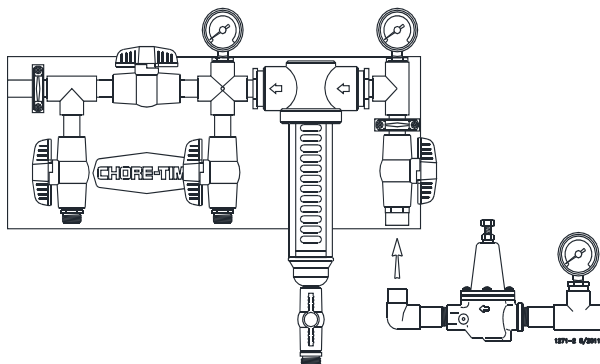
Connect the step down regulator and gauge assembly to the Filter Control Panel, as shown in **Figure 8**.



**Standard Control Panel**  
Part Number 9275  
(11+ p.s.i. [75.8+ kPa])



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



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

**Figure 8. Optional Control Panels**

## Filter Selection

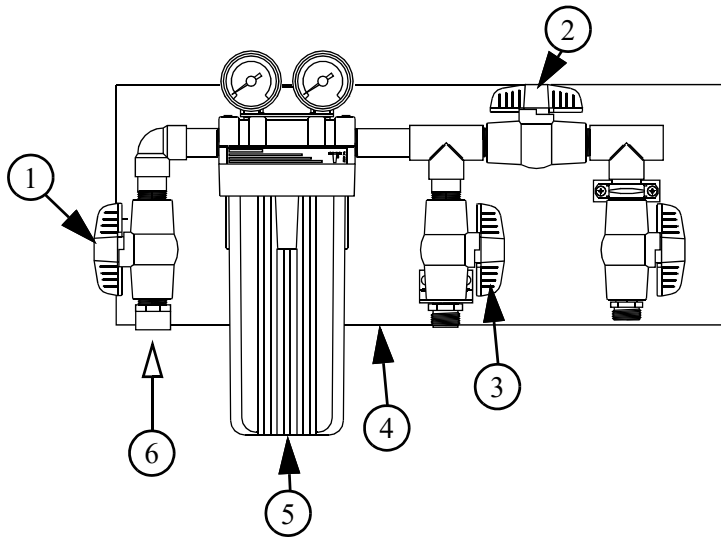
The Standard Filter Control Panel is supplied with a 20 micron size filter cartridge. The Flushable is supplied with a 105 micron cartridge. The the larger the micron size, the larger the particle size that can pass through the filter and possibly cause leaking valves. The smaller micron size filter cartridges will require more frequent cleaning or replacement.

DO NOT use cord wound, paper, or composite filter cartridges, they can break down and get into the water line, which can result in leaking valves.

## Filter Change Procedure

When the outlet side (right) gauge shows a lower pressure than the inlet side (left) gauge, the filter cartridge is becoming dirty and is needing to be either cleaned or replaced. Back for filter cartridge access procedure.

1. Close valve 1 and 2, open valve 3 to relieve pressure.
2. Remove bowl to change or clean filter cartridge, replace bowl and close valve 3.
3. Open valve 1, slightly open valve 3 to remove air, close valve 3 and open valve 2.



Item	Description
1	Valve 1
2	Valve 2
3	Valve 3
4	Filter Control Panel
5	Bowl
6	Water Flow

Figure 9. Filter Change Procedure

## Filter Cleaning/Flushable Filter

Follow the appropriate Filter Cleaning instructions for your system.

### Standard Panel Systems:

1. To clean the filter, close the incoming valve on the Control Panel.
2. Unscrew the Filter Canister and remove the Filter Tube.
3. Rinse the Filter Tube with clean water to remove debris and/or build-up from the Screen.
4. Reassemble the Filter Tube and Canister on the Control Panel.
5. Open the incoming valve.

### Flushable Systems

1. To clean the filter, close the outgoing valves and open the valve below the filter.
2. Allow the water to run at full pressure to clean the filter.
3. When finished, close the valve below the filter and open the appropriate medicator valves or outlet valve.

## Water Meter Installation

### Badger® Water Meter Installation Wiring

When connecting to the Chore-Tronics® control, proper polarity must be maintained. The Green 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. The Red power connection will extend battery life of the Water Meter if used.

The distance from the Controller can be long, if using twisted pair wire (20 ga. Minimum). If interference causes high counts, then a filtration capacitor (54001) will be needed.

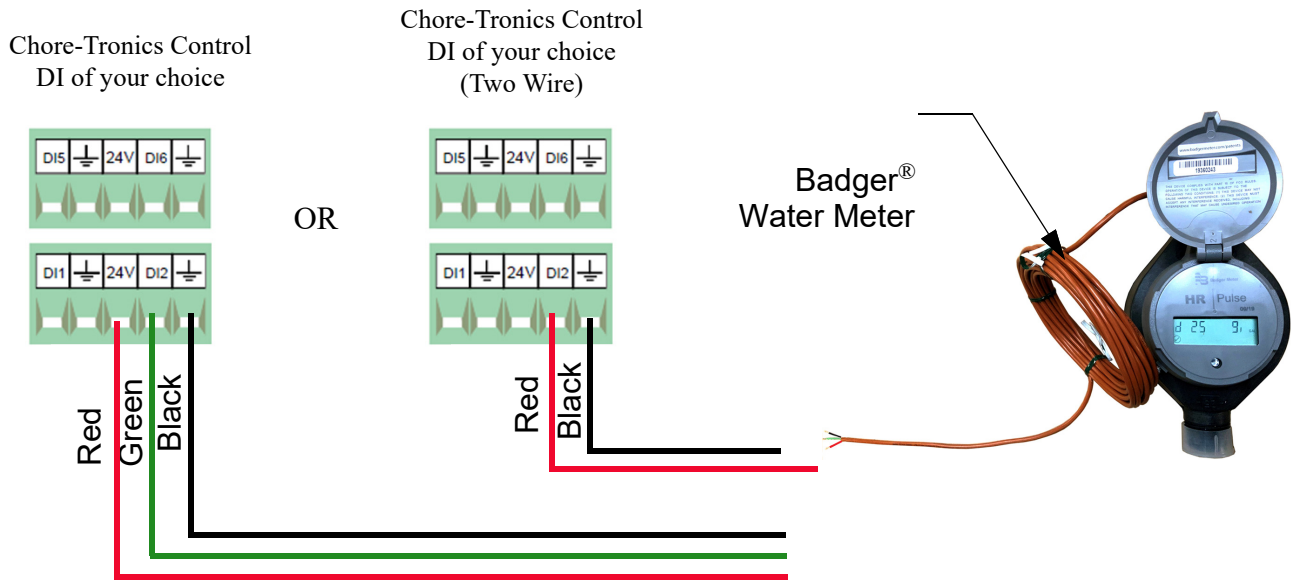


Figure 10. Water Meter Wiring

### Mounting

The Badger® Water Meter will have longest life if installed horizontally with the head up. Refer to the Badger® installation manual for more information. If installed otherwise, wear will accelerate. If mounted vertically, water must flow up for an accurate reading. Install the Water Meter 1' [30.5 cm] downstream from filters.

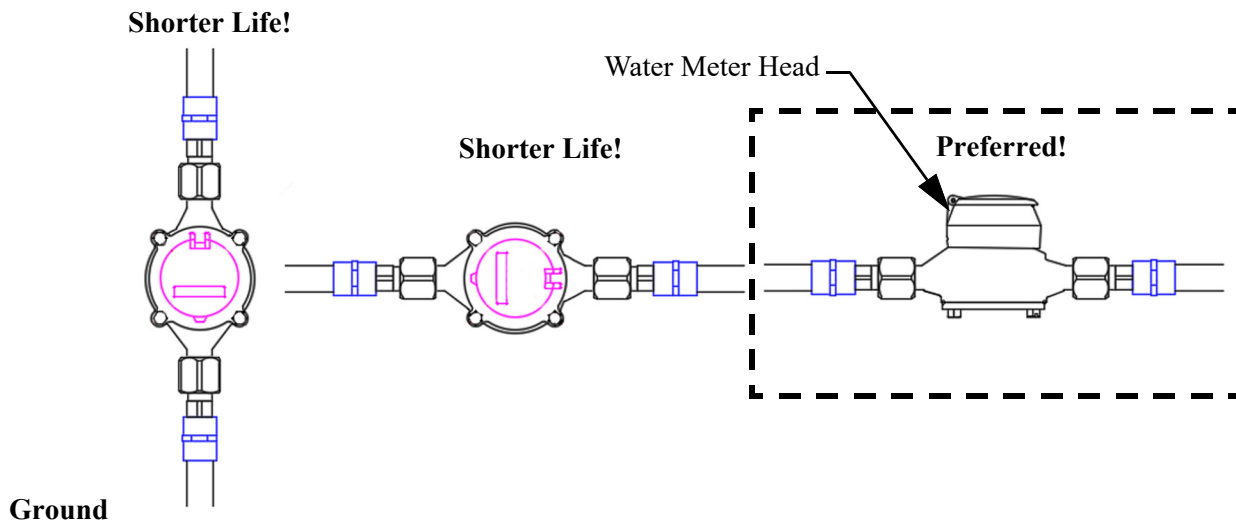


Figure 11. Water Meter Mounting

## Water Meter Start Up

**Attention!** Air and debris in the supply line must be removed before pressurizing the meter.

### Procedure

**If the Water Meter is located close to the Filter Panel-** Valves #1 and #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 close to the Filter Panel-** another optional valve can be installed close to the Meter. Follow the instructions above using Optional Valve and Valve #2.

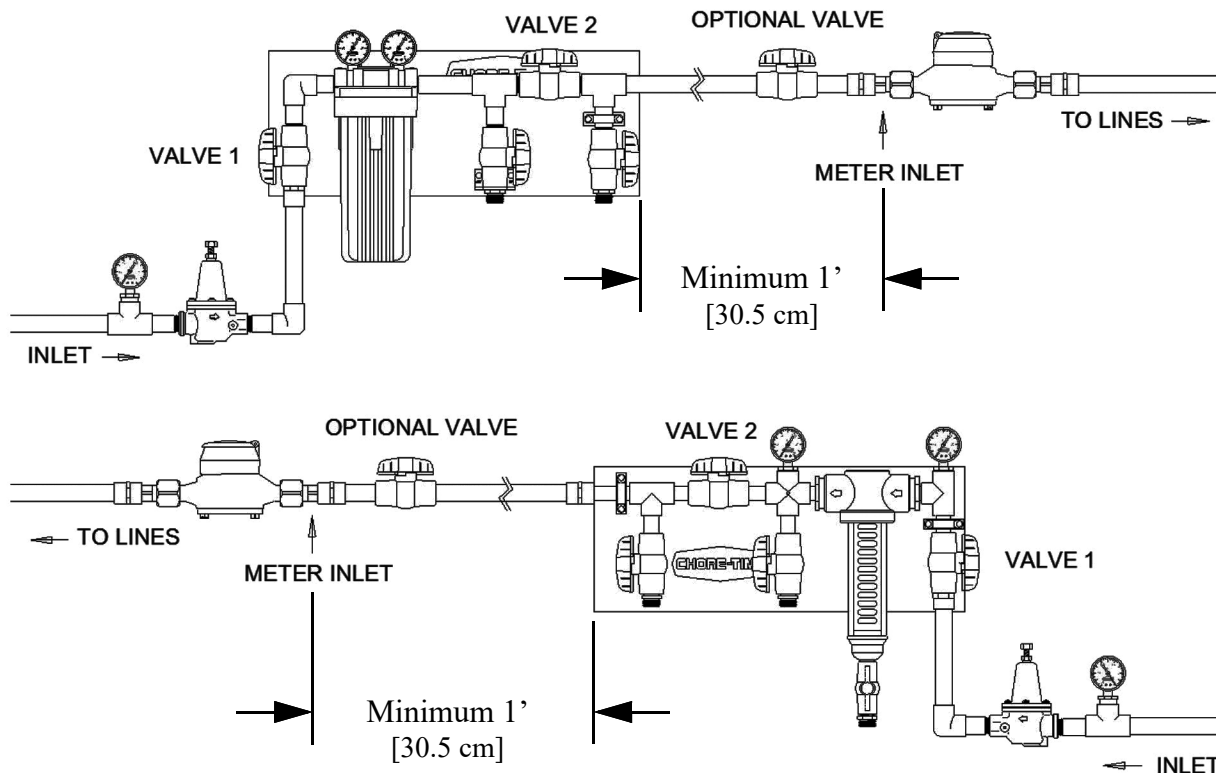


Figure 12. Water Meter Start Up

## High Flow Alarm

See the Chore-Tronics® Manual (MT2398) for High Flow Rate Alarm information.

## Low Pressure Alarm

See MT2398 manual for Low Pressure Switch (46597) information. Place the Low Pressure Switch in the Control Room, after the Step Down Regulator.

## PDS Control Installation

The PDS™ (Pneumatic Distribution System) control provides a central place to flush watering lines and regulate 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.

For more information, refer to the PDS™ Control Manual (p/n MW2467)

Chore-Time offers two different PDS™ Controls.

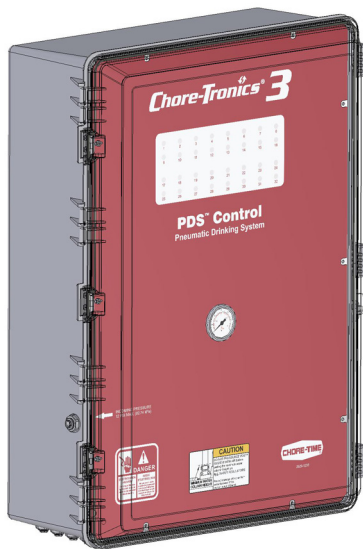
### Standard PDS™ Control



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® or Catalyst® 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 or Catalyst® Control.

Part Number	Number of stations
56039-4	4
56039-8	8
56039-16	16
56039-32	32



## Suspension System Installation

1. Determine where the water line is to be installed. Mark a straight line on the ceiling or rafters 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. Install hooks 8' [2.4 m] apart for heavy channel water lines and 10' [3 m] apart for standard channel.

### Screw hook installations:

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 13**

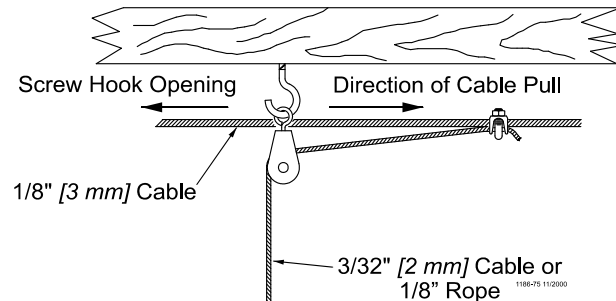


Figure 13. Screw Hook Installation

### Ceiling hook installations:

Secure with bolts, self-tapping screws, or weld in place as shown in **Figure 14**. The ceiling hooks may be welded in place, if desired, instead of bolting. The opening of the hooks **must** point away from the direction of cable pulls.

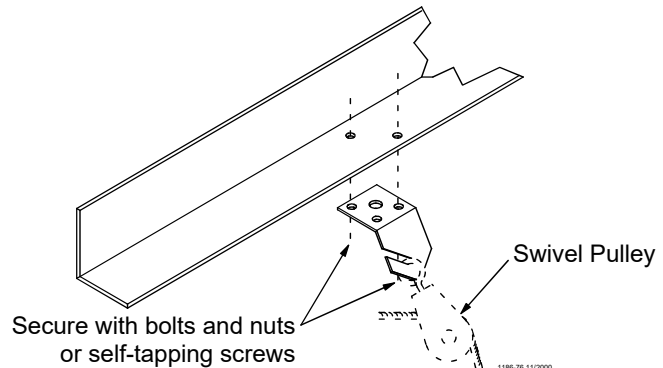
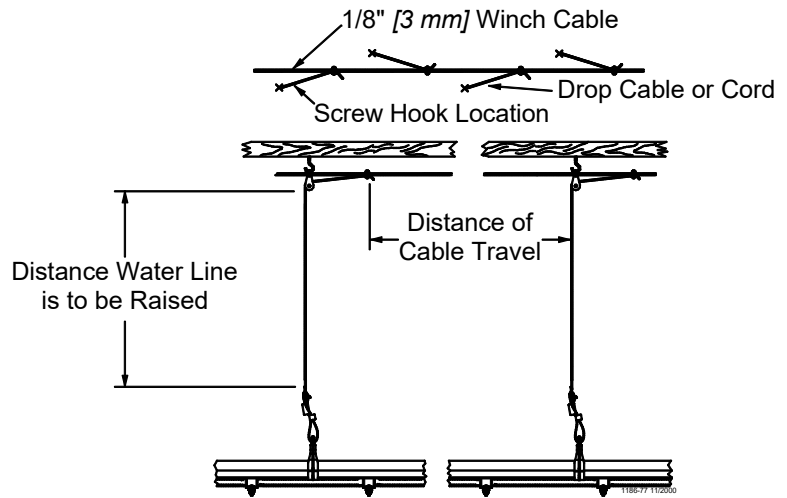


Figure 14. Ceiling Hook Installation

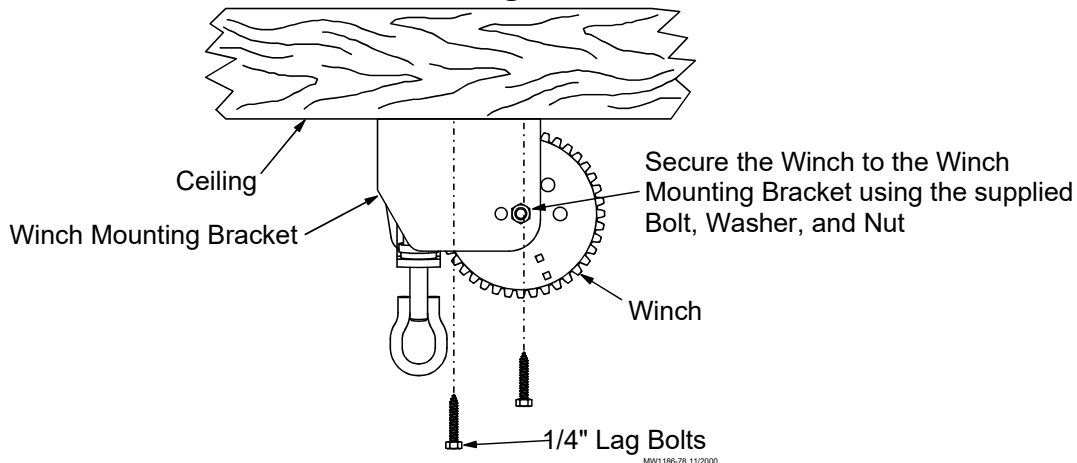
**Note:** The maximum distance the water line can be raised is equal to the distance of cable travel. (See Figure 15).

3. Install the pulley assemblies as shown in **Figure 15**.



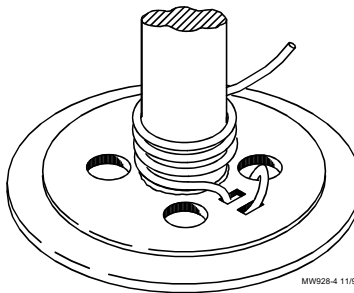
**Figure 15. Offset the Screw/Ceiling Hooks**

4. Mount the split drum winch as shown in **Figure 16**. 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 16**.



**Figure 16. Winch Mounting**

6. Attach one end of the 3/16" [4.8 mm] cable to the winch as shown in **Figure 17**. Unroll the cable along the length of the water line.

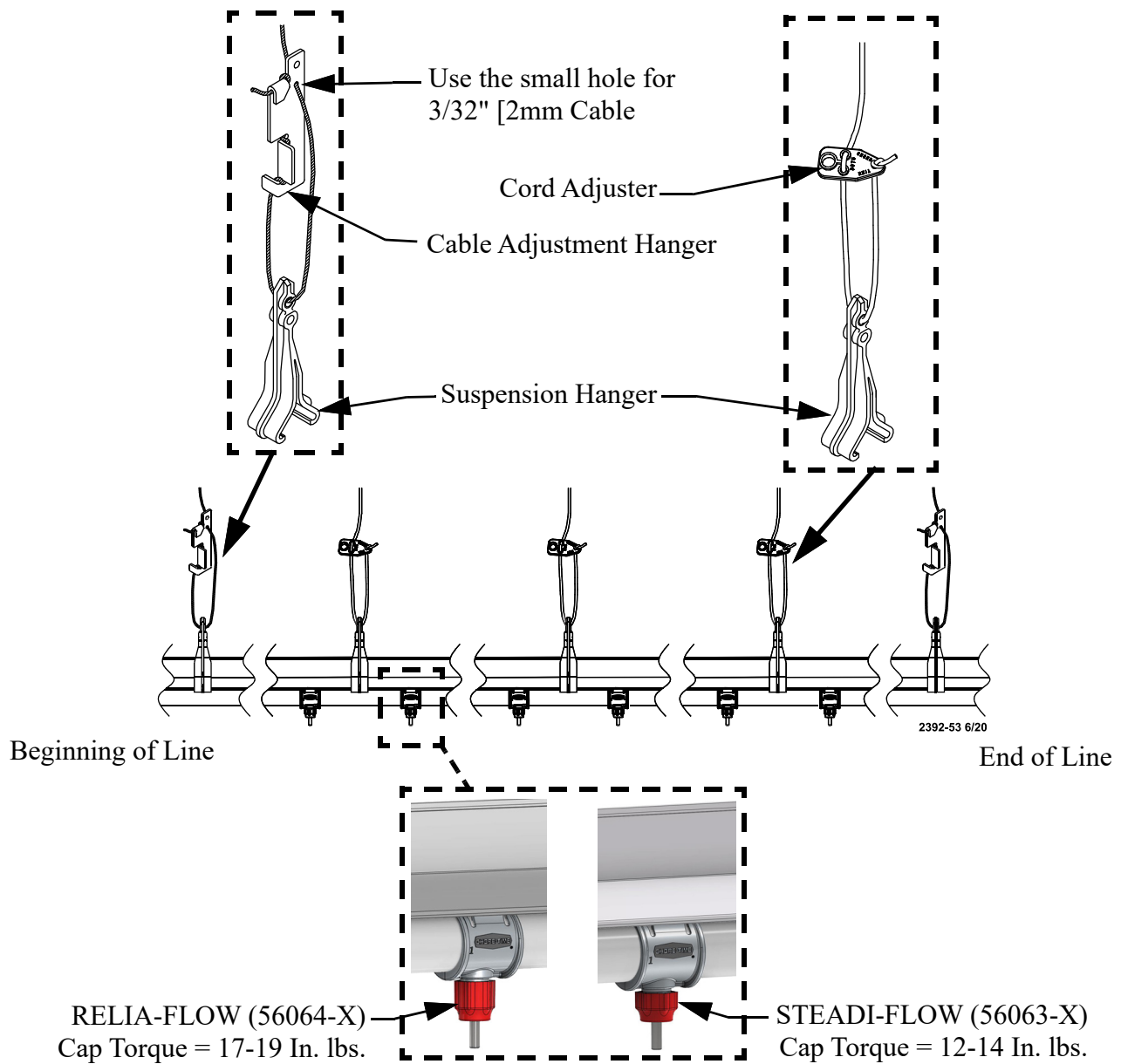


**Figure 17. Cable Wrap on Drum**

## Install Water Line

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. At the beginning and end of the system route the suspension cable through the top hole of the suspension hanger and around the Cable adjustment Hanger as shown in **Figure 18**. At all the other drops, use the Cord adjuster **as shown**.
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 18. Suspend Water Lines**

## Lubrication for Stand Tubes, Couplings, Midline Air Removers, slope Compensators, and Regulators

### Acceptable Lubrication:

- Plain water or light dish soap mixture.
- Silicone oil based Parker **Super** O-Lube (available through Chore-Time part number 45911).  
Note: Very little (thin film) of this product is needed to provide necessary lubrication.

### Unacceptable Lubrication:

- **DO NOT USE** petroleum based Parker O-Lube Product! Only the Parker Silicone oil based **Super** O-Lube is acceptable.
- **DO NOT USE** silicone spray! These may have petroleum based properties that may damage water line components.
- **DO NOT USE** any petroleum based product! This would include, but is not limited to, items such as Vaseline, WD 40, motor oil, etc.
- **DO NOT 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, etc.

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

### Expansion Coupling Assembly

1. Raise the suspension to a convenient working height.
2. Make sure the water pipe is lubricated (See above) and fully inserted into the Expansion Coupling. (See Figure 19).

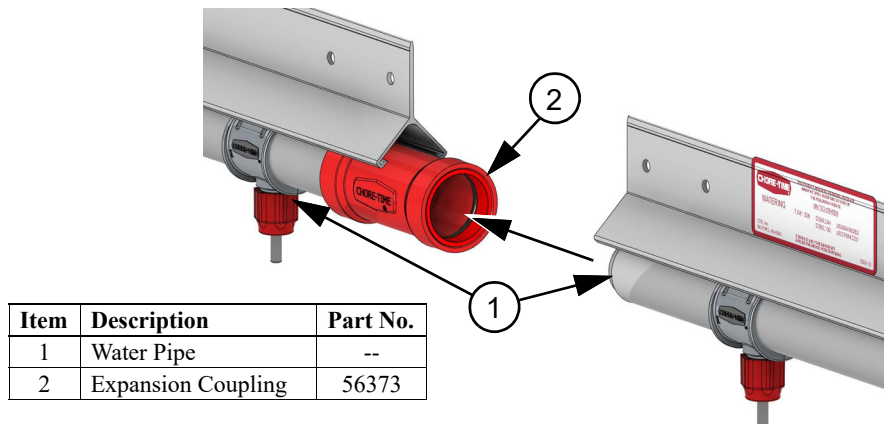


Figure 19. Coupling Liner Assembly Installation

3. Install a Water Line Bracket (Item 4) with #10 hardware to fasten the Support Channels together. (See Figure 20). Torque until tight. Do Not exceed 30 in.lbs.

Note: The Support Channels will be butted against each other when the Expansion Coupling is properly installed.

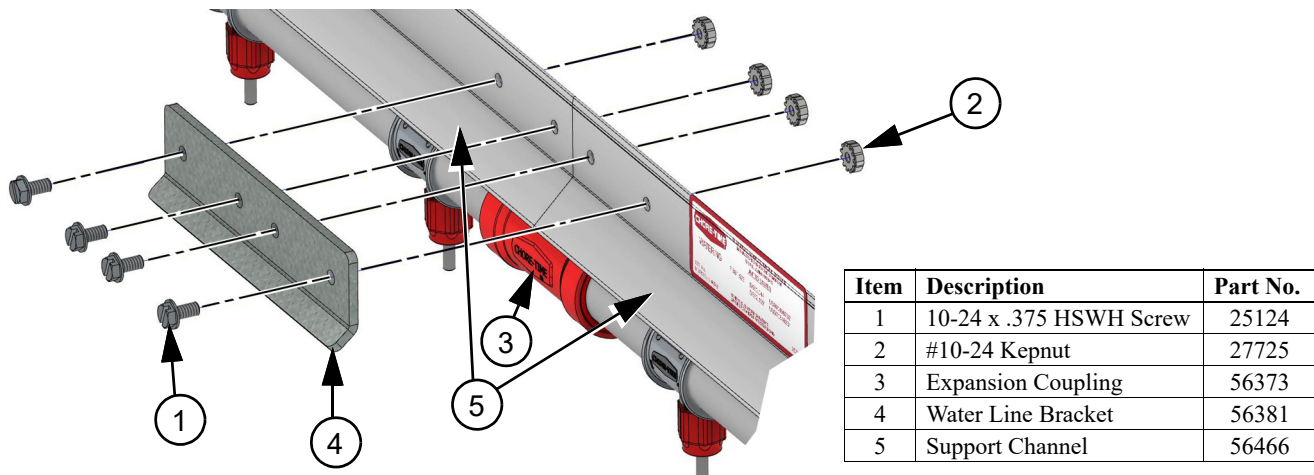


Figure 20. Securing the Water Line together

ADVANTI-FLOW® Cup Installation

1.Install the locator to the cup as shown, (See Figure 21).

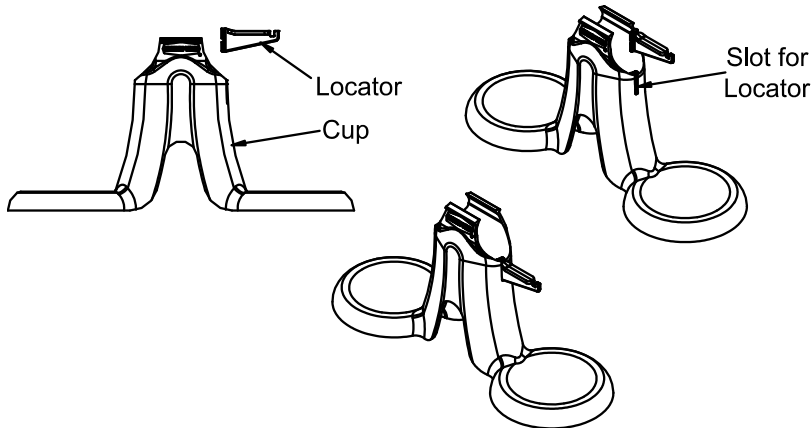


Figure 21. Advanti-Flow Cup Installation

- 2.Install cup and locator 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 22).

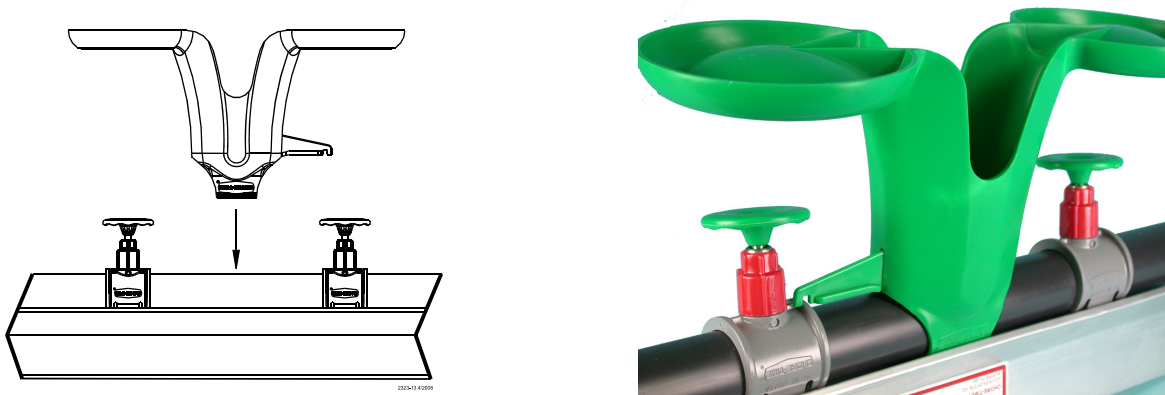
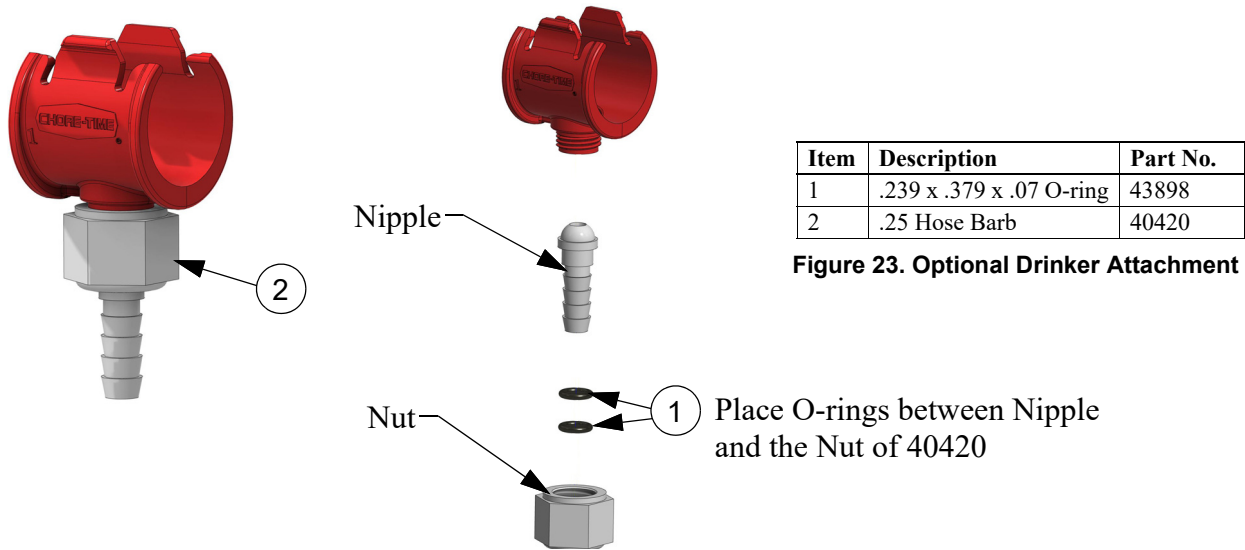


Figure 22.ADVANTI-FLOW Cup Installation

Optional Supplemental Drinker Attachment



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

Figure 23. Optional Drinker Attachment

## Mid-Line & Stand Tube Installation

One Mid-Line Stand Tube is required for every 150' [46 m] of nipple watering line, see **Figure 24**.

1. Insert the water pipes into the Mid-Line Assembly (**Item 1**).
2. The Support Channels will slide into the Channels on the top of the Body.
3. Install a Mid-Line Bracket (**Item 2**) using #10 Hardware as shown. Do not exceed 30 in.lbs.
4. Install Stand-Tubes (**Item 6**) as shown.

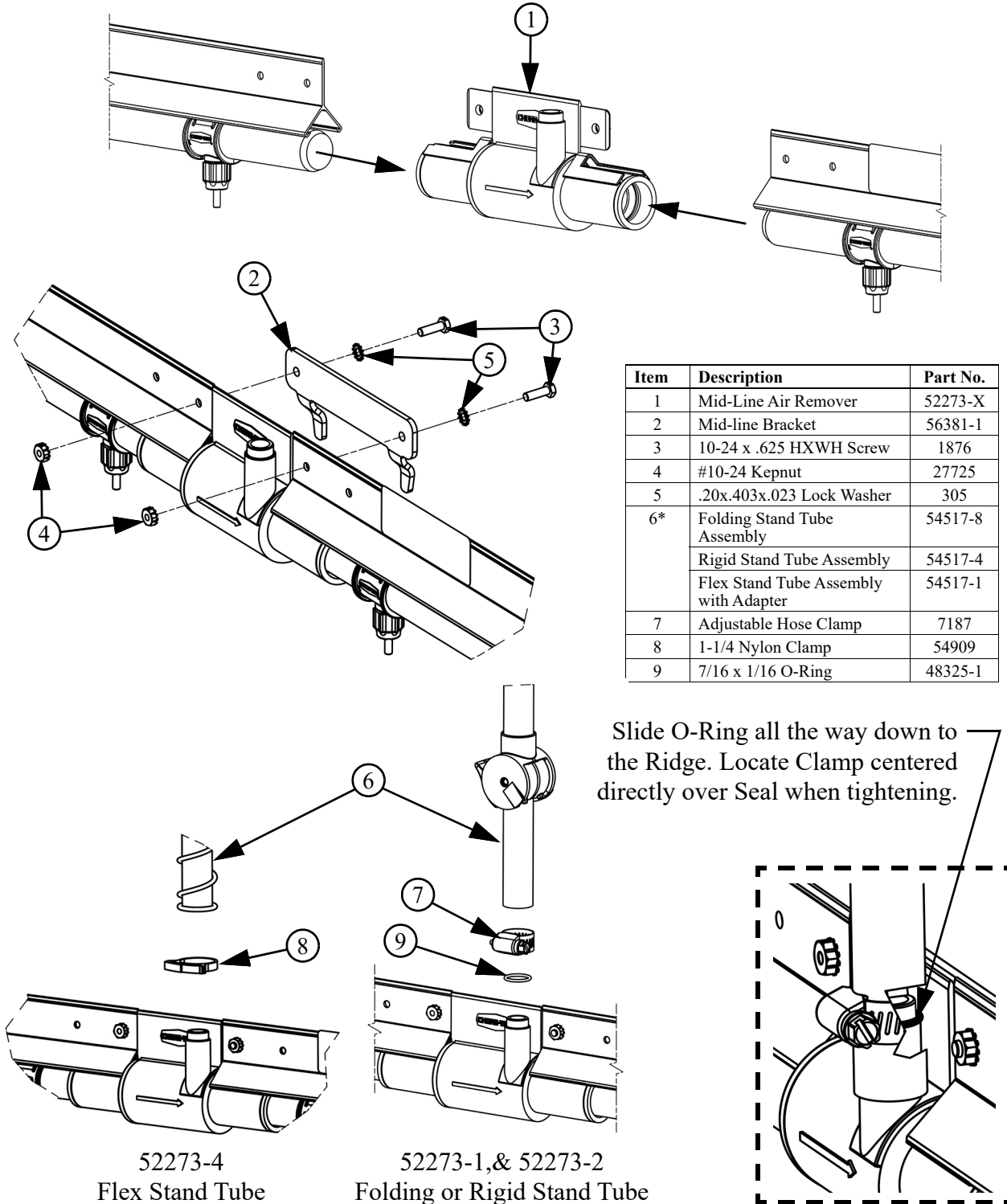
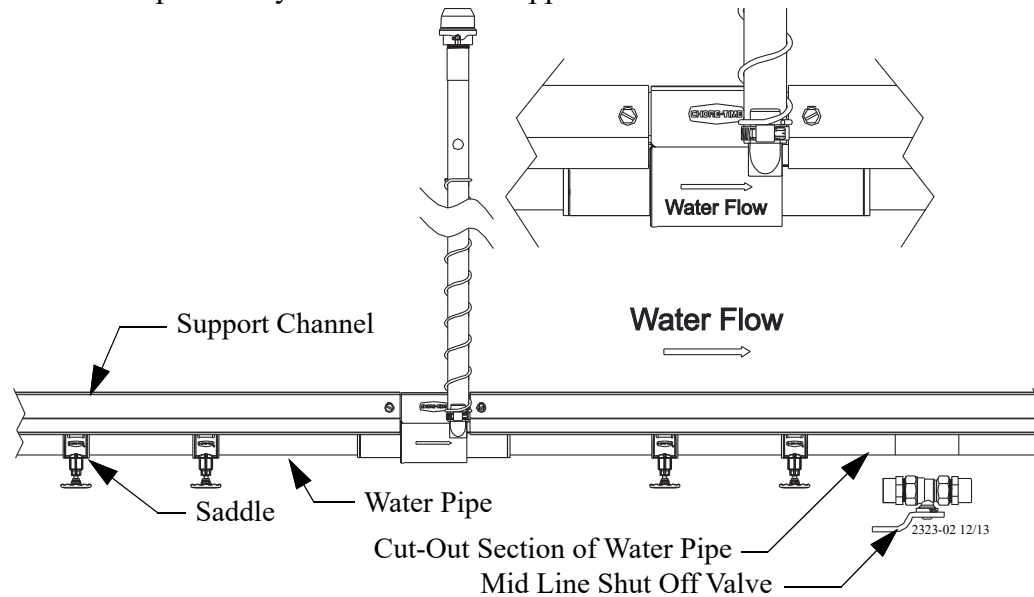


Figure 24. Mid Line Stand Tube Installation

## Mid-Line Shutoff (No Stand Tube)

1. Install 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.
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 25**. 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.



**Figure 25. Mid Line Shut-Off Valve Installation**

## Optional Slope Compensator

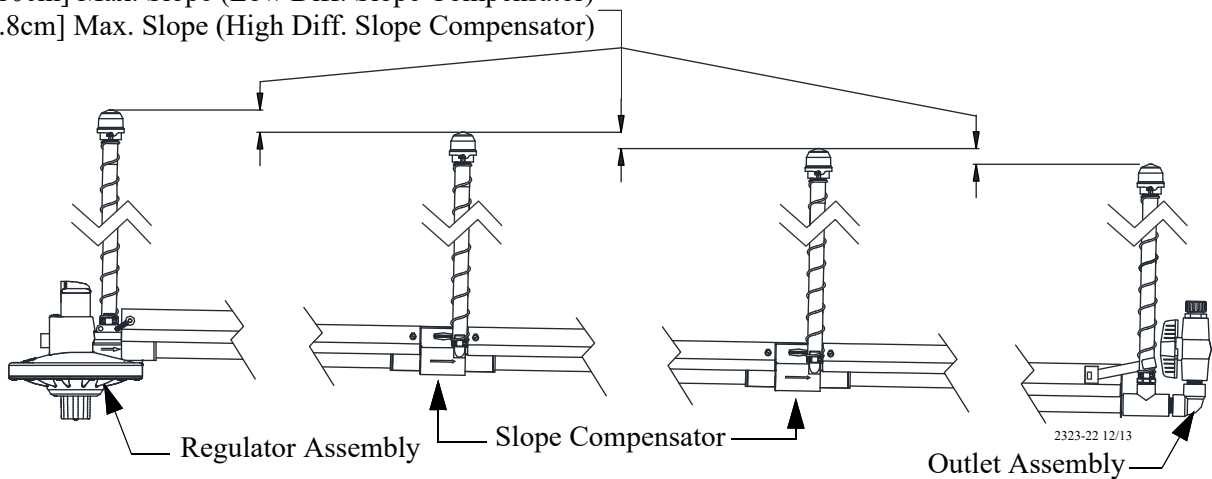
### Application and Location

The slope compensator is a pressure compensator for houses that have a gradual slope over the length of the system.

- 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.

**Note:** Slope Compensators may require higher Inlet pressures to maintain good flushing. Do Not exceed maximum Inlet pressure on **page 7**.

4" [10cm] Max. Slope (Low Diff. Slope Compensator)  
7" [17.8cm] Max. Slope (High Diff. Slope Compensator)

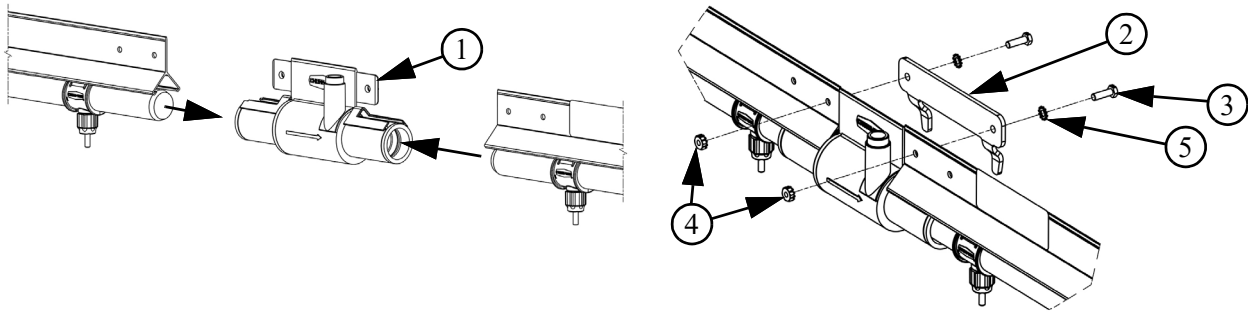


**Figure 26. Slope Compensator location**



## Slope Compensator & Stand Tube Installation

1. Insert the water pipes into the Mid-Line Assembly (**Item 1**).
2. The Support Channels will slide into the Channels on the top of the Body.
3. Install a Mid-Line Bracket (**Item 2**) using #10 Hardware as shown. Do not exceed 30 in.lbs.
4. Install Stand-Tubes (**Item 6**) as shown.



Item	Description	Part No.
1	Slope Compensator	54035-X
2	Mid-line Bracket	56381-1
3	10-24 x .625 HXWH Screw	1876
4	#10-24 Kepnut	27725
5	.20x.403x.023 Lock Washer	305
6*	Folding Stand Tube Assembly	54517-8
	Rigid Stand Tube Assembly	54517-4
	Flex Stand Tube Assembly with Adapter	48325-1
7	Adjustable Hose Clamp	7187
8	1-1/4 Nylon Clamp	54909
9	7/16 x 1/16 O-Ring	48325-1

Slide O-Ring all the way down to the Ridge. Locate Clamp centered directly over Seal when tightening.

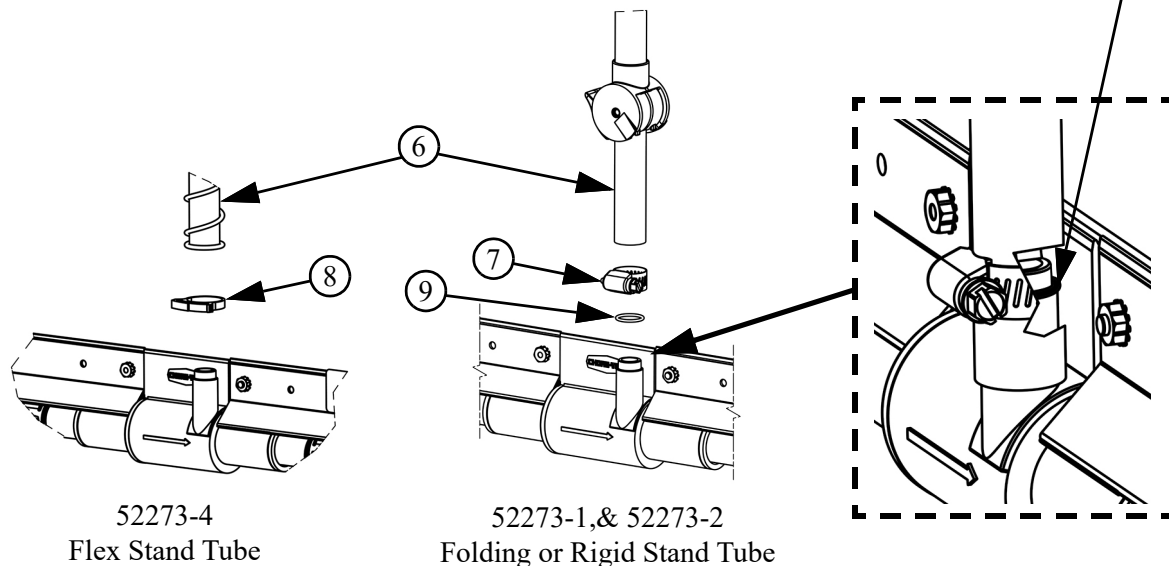


Figure 27. Slope Compensator Installation

## Outlet Assembly

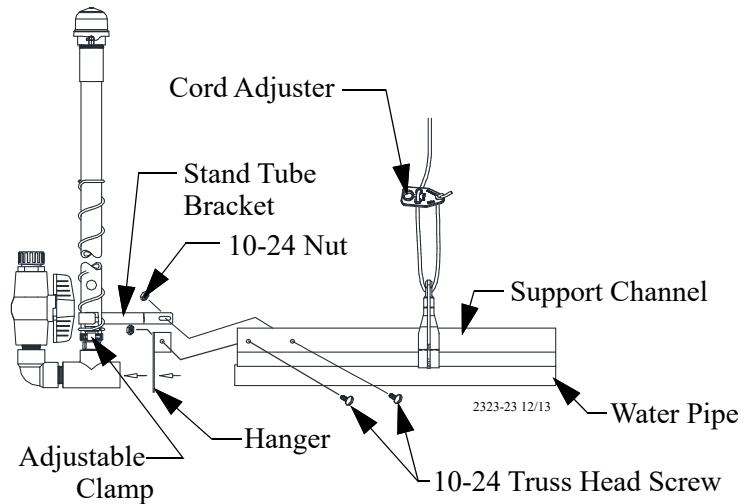
The outlet end must be located within 6" [152 mm] of a suspension drop line. This may require adding an additional suspension drop line or cutting the last section of water line to stop within 6" [152 mm] of an existing drop line.

Install the outlet assembly, as shown in **Figure 28**.

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 28**. 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.

Notes: The Hanger prevents the water pipe from separating from the Channel.

The Stand Tube Bracket prevents the Water Line Pipe from sliding relative to the Channel.

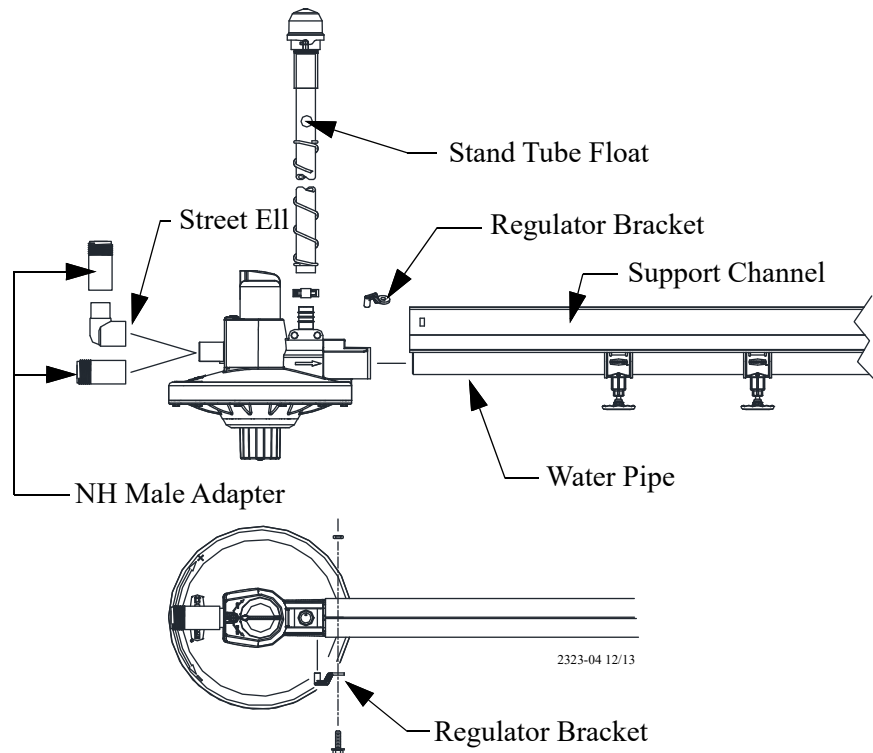


**Figure 28. Outlet Assembly Installation**

## Regulator Assembly - VOLUMATIC™

Assemble and install the regulator assembly, as shown in **Figure 29**.

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 and into the end of the channel. It helps to lubricate the watering pipe. See “**Acceptable Lubrication:**” on page 20.
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.



**Figure 29. Regulator Assembly Components**

### VOLUMATIC™ Regulator Operation Guide

- Shut Off: Turn the selector knob clockwise until it stops.
- Turn On: Turn the selector knob until it points to the ON position.
- Flush: Turn the selector knob fully counter-clockwise until it stops. For Auto Flush see **Chore-Time PDS Control Manual MW2467**).
- When flushing, make sure the outlet line is clear of restrictions. Excessive back pressure can damage the regulator.
- The water column is set by turning the adjustment knob on the bottom of the regulator in the direction shown on the regulator. (For Auto Adjust see **Chore-Time PDS Control Manual MW2467**).
- Adjust the operating pressure as recommended in the Nipple Waterer Quick Reference Sheet. See page 35.  
Standard Regulator Maximum adjustment is 30" [76.2 cm].  
K Spring Regulator Maximum adjustment is 80" [203.2 cm].
- If flush pressure is excessive (>15 psi), the regulator will relieve pressure to prevent damage further down the system. See “**Troubleshooting**” on page 43. for more info.

Note: The static control room pressure setting will always result in a lower flush pressure.

**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 (Item 1) holding the Shroud (Item 2). Remove the Shroud, Selector Knob (Item 3), Quad Ring (Item 4), and Inlet Orifice (Item 5). Retain the O-Ring (Item 6). It will be re-used.
3. Turn the Barrel (Item 7) Clockwise to see more of the Seat Cup and old Seat.
4. Pry off the old Seat and Seat Cup and discard.
5. Insert the new Seat (Item 8) in the new Seat Cup (Item 9). Seat face direction does not matter.
6. Turn the Barrel Counter-Clockwise to move the Seat Cup out of the way. Orient the Regulator as shown. Put the new Seat Cup in the Seat installation tool (Item 10) and insert it into the Regulator until it is lined up with the Seat Holder.
7. Rotate the Regulator 90° while keeping the Installation Tool and Seat Cup in place and Snap the new Seat Cup onto the Seat Holder. Make sure the seat assembly is properly seated onto the seat holder.

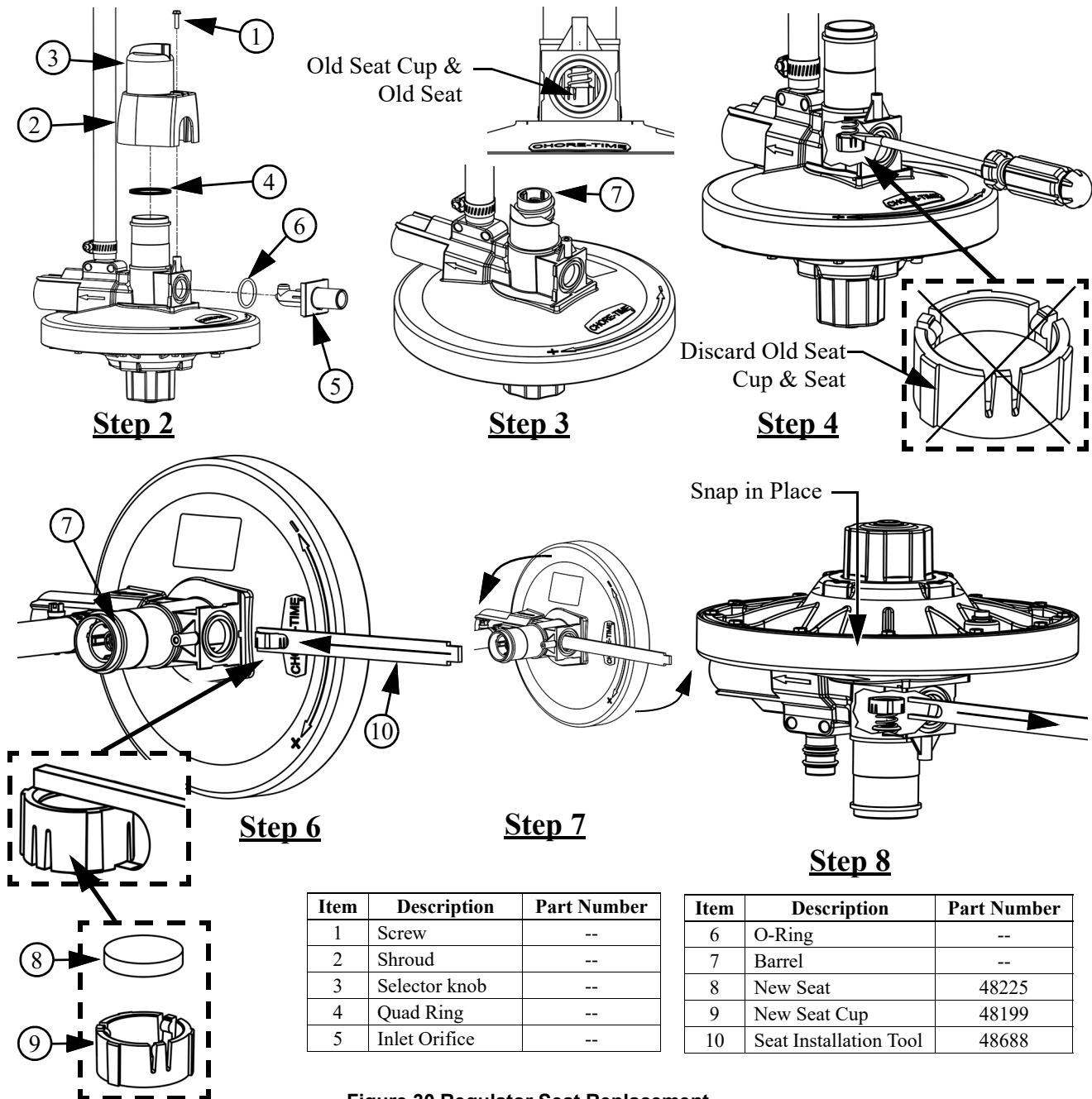


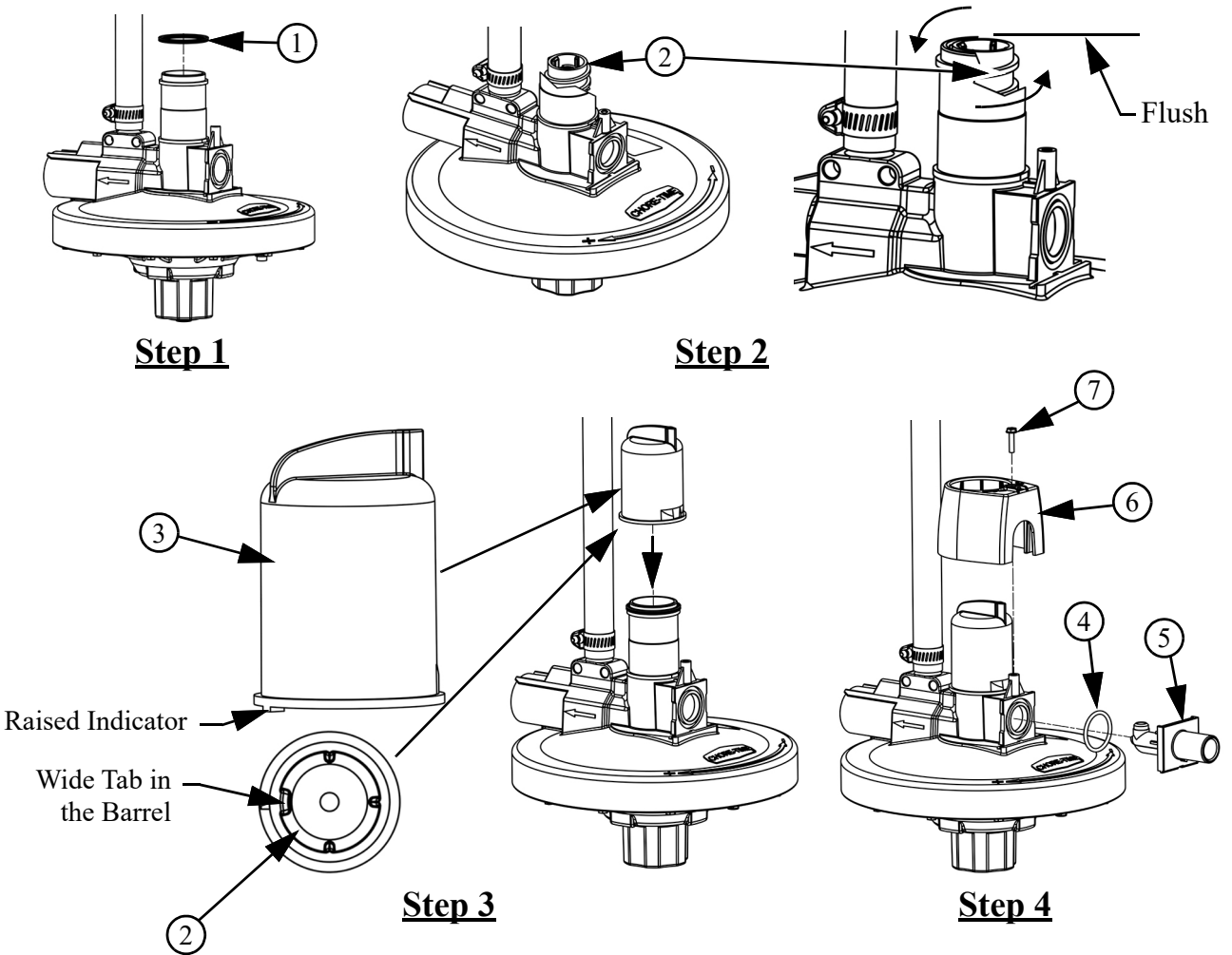
Figure 30.Regulator Seat Replacement

Re-assembling the Regulator

- 1.Install Quad Ring (Item 1) on the housing shoulder.
- 2.Turn the Barrel (Item 2) Counter-Clockwise until it is flush with the top of the Housing.

**Important!** The barrel must be flush with the top before replacing the selector knob or the Regulator will not function properly.

- 3.Replace the selector knob (Item 3) by lining up the wide tab in the barrel with the wide Raised Indicator on the selector knob.
- 4.Make sure the O-ring (Item 4) is in place and reinstall the inlet Orifice (Item 5) into the Regulator housing. Replace the Shroud (Item 6) and Shroud Screw (Item 7). The Regulator is now ready to be put back into service.



Item	Description	Part Number
1	Quad Ring	--
2	Barrel	--
3	Selector knob	--
4	O-Ring	--
5	Inlet Orifice	--
6	Shroud	--
7	Shroud Screw	--

Figure 31.Regulator Seat Replacement continued

## At Outlet End Installation

### Rigid/Folding Stand Tube

1. Wrap the threads of the 1/2" male adapter with thread sealant tape or apply thread sealing compound approved for PVC.

2. Thread the Stand Tube assembly into outlet tee to the desired position but do not over-tighten.

### Flexible Stand Tube

1. Slide a Nylon Clamp (54909) onto the Flexible Stand Tube.

2. Install the Flexible Stand Tube on the Barbed Fitting.

3. Locate the Nylon Clamp at the bottom of the Stand Tube and Tighten it down.

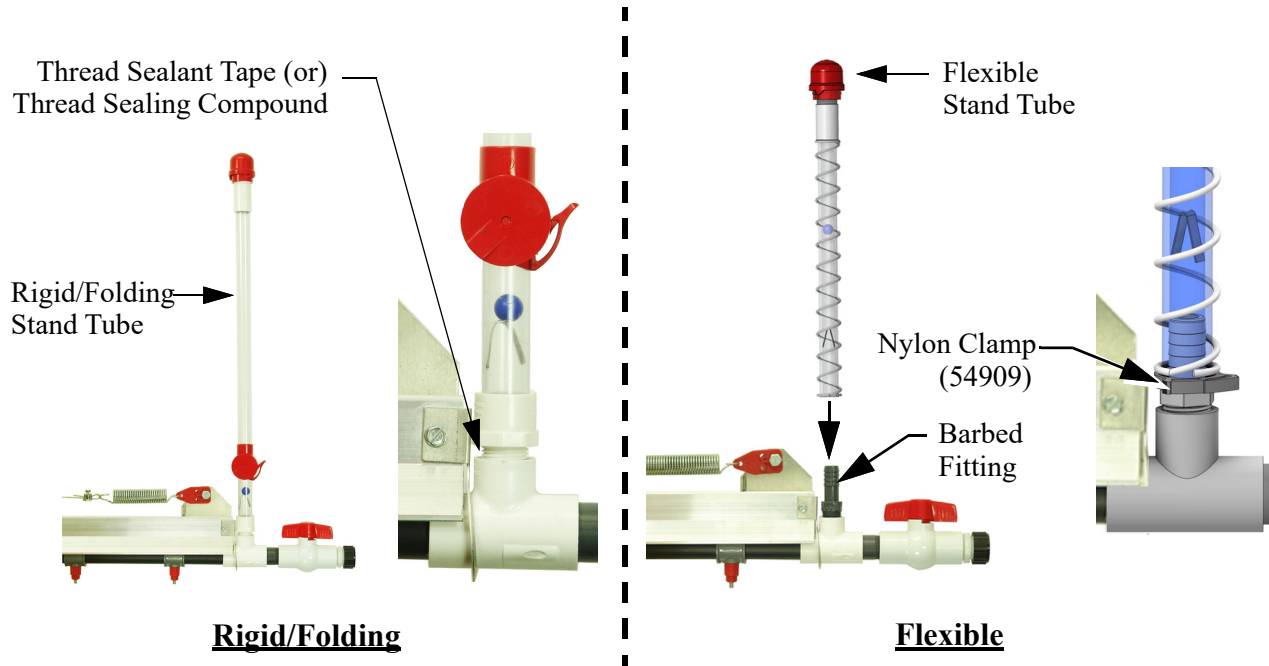


Figure 32. Stand Tube At Outlet End Installation

## Folding Stand Tube Operation

1. To fold down the Stand Tube, pull the latch release lever, and fold the top section over until it stops.

**CAUTION** Failure to use the latch release lever could result in damage to the mechanism, voiding the warranty.

2. To return the Stand Tube to the operating position, lift up on the Stand Tube until it snaps back in place.

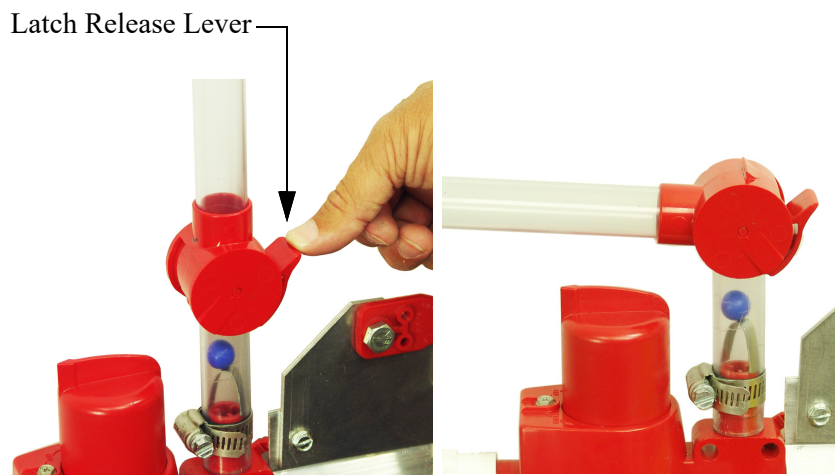


Figure 33. Stand Tube Operation

**Note:** Water in the Stand Tube will drain out of the folding mechanism when the Stand Tube is folded. This prevents potential damage from freezing. When in the fully folded position a seal in the mechanism prevents water from leaking out of the water line.

## Stand Tube Cleaning

Clean the inside and outside of the Stand Tube at least once a week.

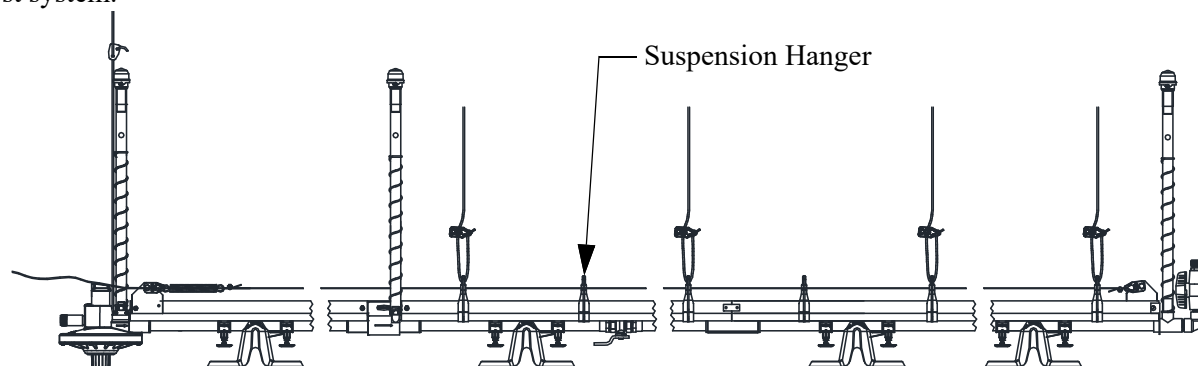
When in the normal operating position use a pipe brush to clean. Chore-Time part number 29465 Pipe Brush will pass through the folding mechanism in the normal operating position.



Figure 34. Stand Tube Cleaning

## Anti-Roost Installation

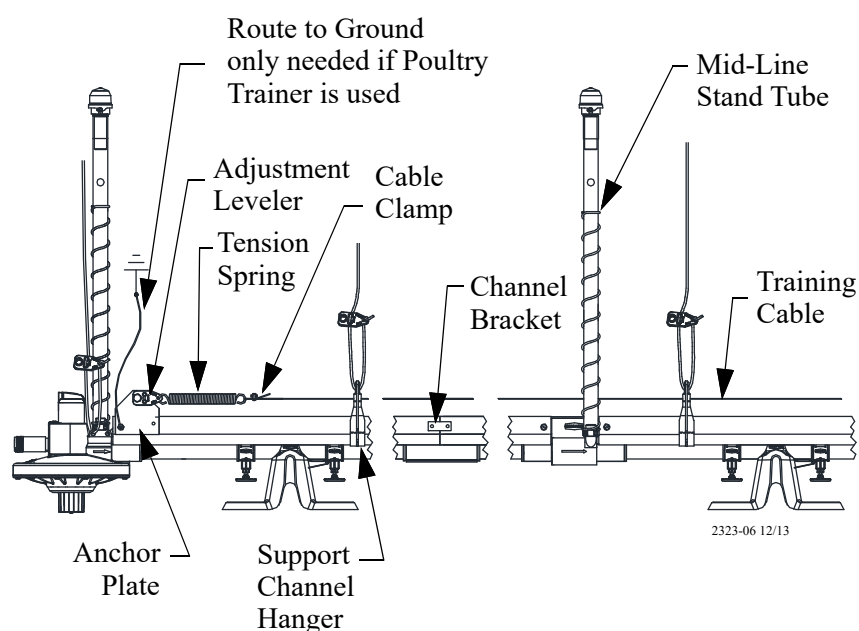
The anti-roost system prevents the birds from setting on the water line. **Figure 35** shows an overview of the anti-roost system.



**Figure 35. Anti-Roost System**

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1. Make certain that an anchor plate with adjustment leveler is installed at the beginning and end of each anti-roost line. See **Figure 36**.
2. Install a suspension hanger every 24" [610 mm]
3. 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.
4. Create a small loop with the cable and a cable clamp.
5. Connect the cable loop to the adjustment leveler/anchor plate.
6. Install a spring on the adjustment leveler/anchor plate near the inlet assembly.
7. Pull the cable taught and create a small loop with the cable and a cable clamp.
8. Connect the cable to the spring.
9. The spring should be stretched to an overall length of approximately 8" [203 mm]. Adjust as required.
10. Repeat the above procedure on each of the anti-roost lines.



**Figure 36. Anti-Roost Components**

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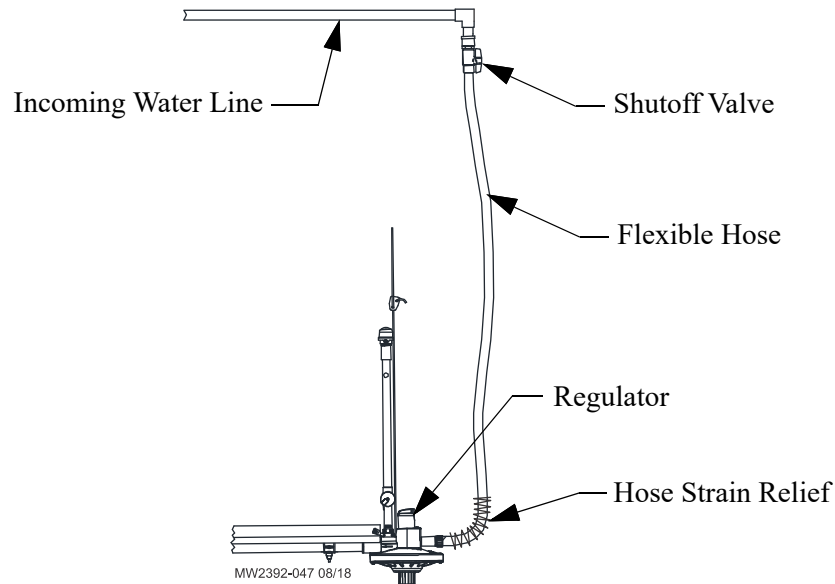
### Optional Equipment:

- Secure the poultry trainer to a wall or post near the water line. See “**STEADI-FLOW® Nipple Line Assembly and Components**” on page 50 for options.
- 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 36**.



## 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 37** below.
2. Use some kind of Strain Relief on the hose connecting to the Regulator to prevent hose from being damaged.

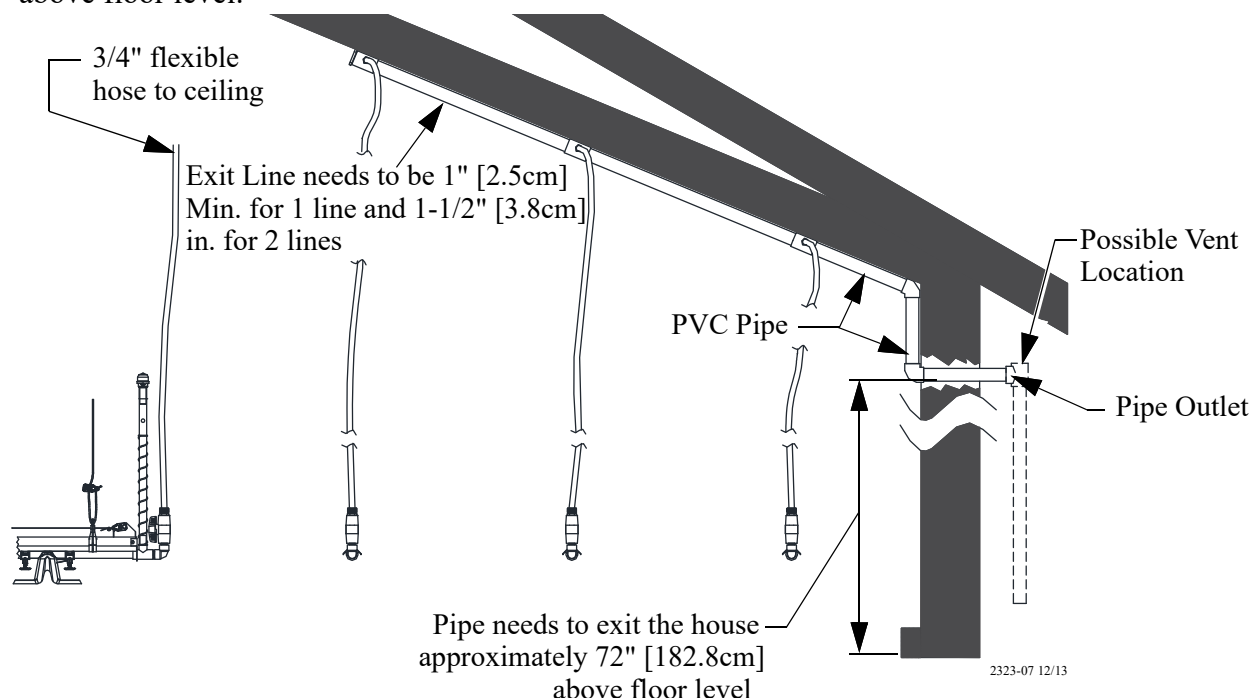


**Figure 37.Incoming Water System**

## Installing the Flush System

The hose, PVC pipe and connections must be purchased locally. Install the flush components as shown in **Figure 38**.

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 38. 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.

## Operation

### Operational Guidelines

Operator judgment of actual on site conditions may require modification to this management guideline.

#### Initial Startup Procedure

1. Set incoming water pressure per **“Incoming Pressure” on page 7.**
2. Level the shavings under the water line to eliminate high/low spots.
3. Adjust the inlet regulator pressure at line height. See **“Waterline Height and Pressure Guide” on page 36.**
4. Thoroughly flush the water lines per the **“Flush Guide” on page 38.**
5. Check outlet assemblies and stand tubes to make sure water is passing throughout the system.

#### Bird Placement Procedure

1. Immediately before birds are housed, brush the nipples with a broom to form water droplets on the nipples.

#### Operation during bird grow-out

1. 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.
2. If medication or other chemicals are added to the water, follow the **“Guide to Cleaning Water Lines” on page 40.**
3. Allow at least 24 hours before adding additional chemicals (such as iodine, citric acid, etc.) or vitamins to the water.
4. Clean Stand Tubes weekly with a Pipe Brush (Chore-Time part number 29465). See **“Stand Tube Cleaning” on page 31.**

#### Maintenance between Flocks

1. Clean each line, per **page 41.**
2. Check pressure drop across water filter - clean or replace if necessary. See **“Filter Cleaning/Flushable Filter” and “Filter Change Procedure” on page 13.**
3. Check regulator, shut-off valves, stand tube(s) **page 31**, and coupling liner assemblies for proper operation.
4. Adjust the cable levelers so that the water lines are level.
5. Maintain house temperature above freezing or drain the lines thoroughly. Drain inlet regulator(s).
6. Inspect water filters. Pressure drop across filter of 5 psi or less during heavy drinking is acceptable.

#### Litter Treatment for Insecticides or Ammonia

For Maximum service life do the following during application:

1. Ensure the lines are dry (No condensation due to flushing).
2. Raise lines.
3. Lower lines after treatment is complete.

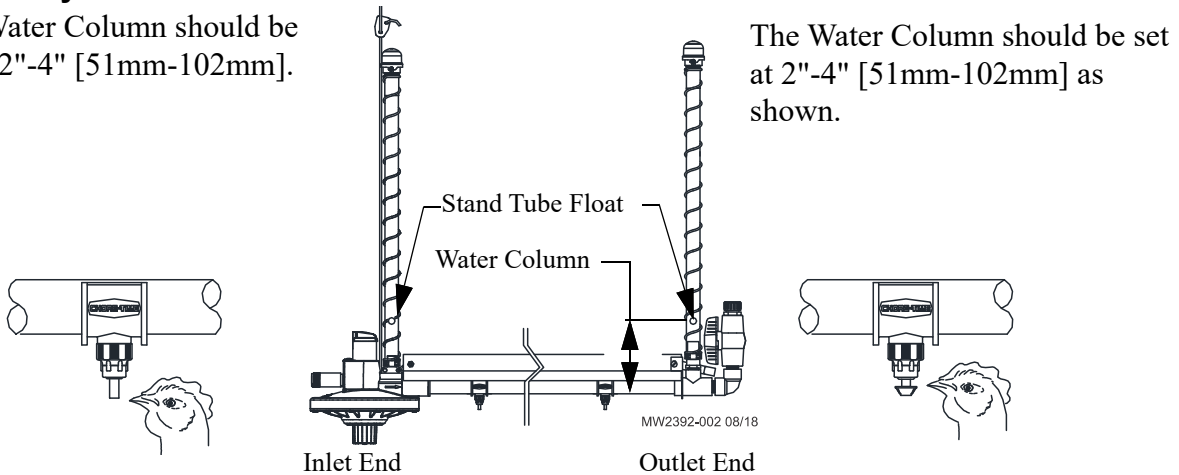
## Waterline Height and Pressure Guide

- 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.
- See “**VOLUMATIC™ Regulator Operation Guide**” on page 27 for Regulator operation instructions.
- Measure pressure from bottom of pipe.

### Broilers and Breeders

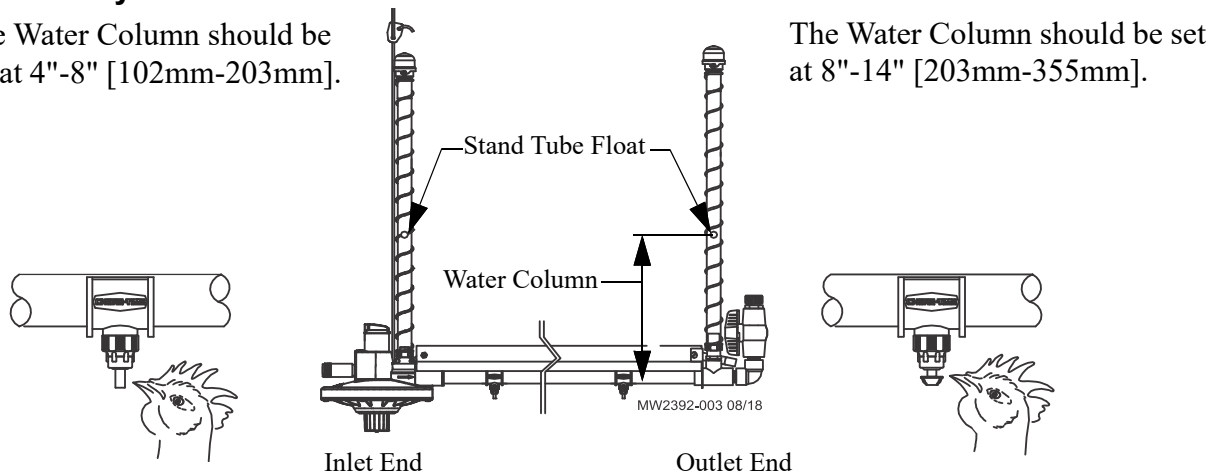
#### 1-3 days

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



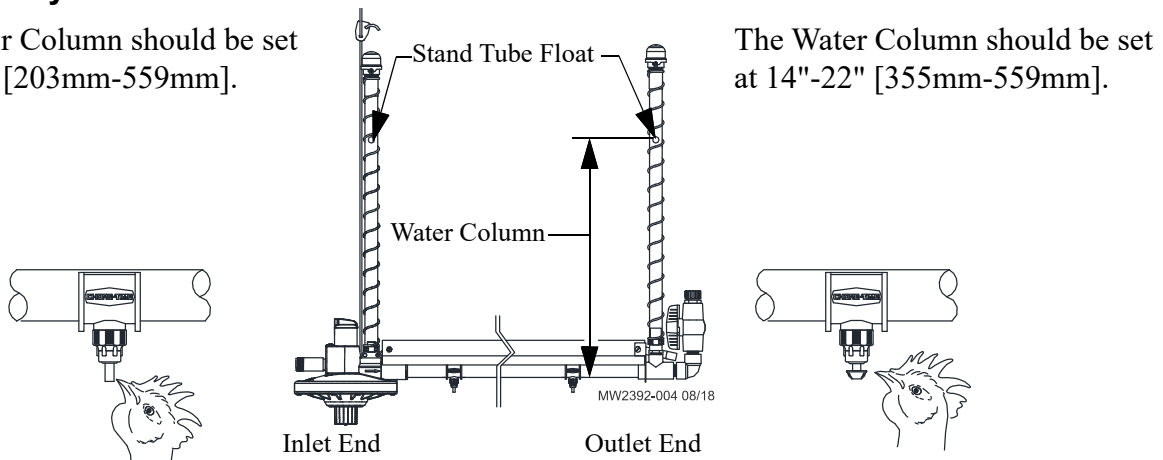
#### 3-21 Days

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



#### 21 Days-Growout

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

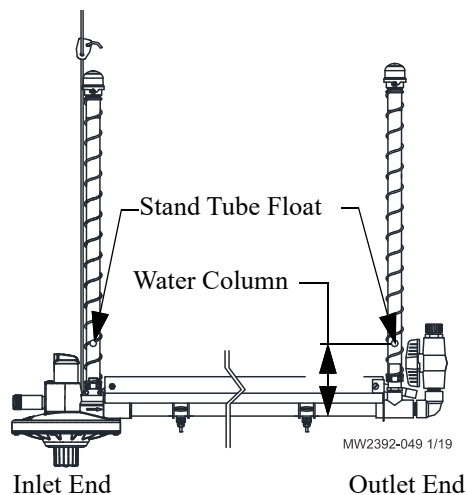
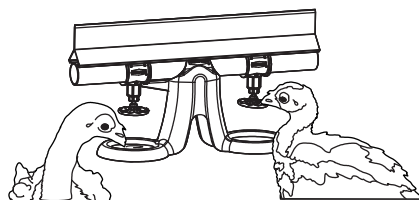


## Turkeys

- 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.

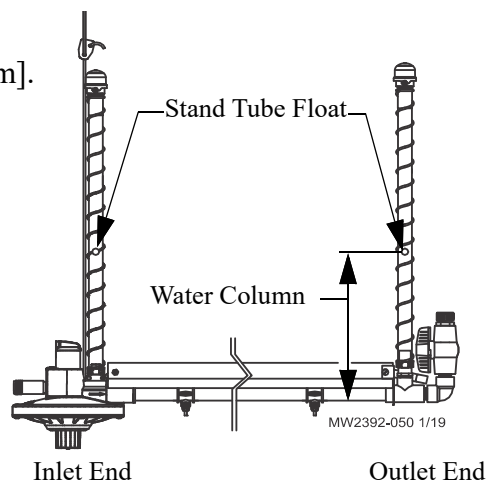
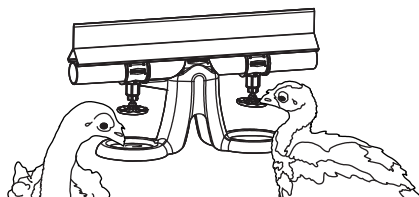
### 1-14 Days

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



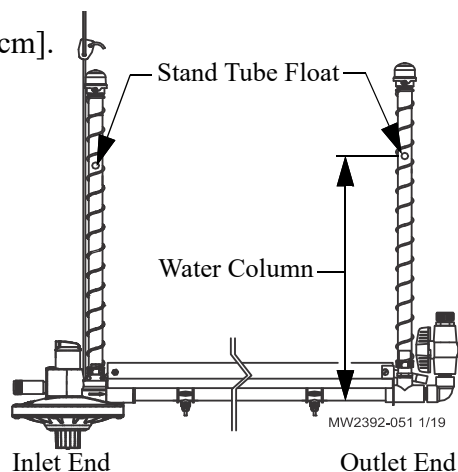
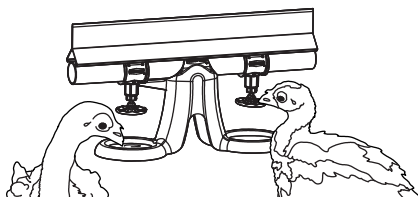
### 15-28 days

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].



## Flush Guide

Water Line Length in Feet

Gallons per Minute Flow Rate	100'	200'	300'	400'	500'	600'	700'	800'
	1	3.4	6.8	10.2	13.6	17.0	20.4	23.8
	2	1.7	3.4	5.1	6.8	8.5	10.2	11.9
	3	1.1	2.3	3.4	4.5	5.7	6.8	7.9
	4	0.9	1.7	2.6	3.4	4.3	5.1	6.0
	5	0.7	1.4	2.0	2.7	3.4	4.1	4.8
	6	0.6	1.1	1.7	2.3	2.8	3.4	4.0
	7	0.5	1.0	1.5	1.9	2.4	2.9	3.4
	8	0.4	0.9	1.3	1.7	2.1	2.6	3.0
Estimated Flush Time in Minutes								
	Total Line Capacity 3.4 Gallons	Total Line Capacity 6.8 Gallons	Total Line Capacity 10.2 Gallons	Total Line Capacity 13.6 Gallons	Total Line Capacity 17.0 Gallons	Total Line Capacity 20.4 Gallons	Total Line Capacity 23.8 Gallons	Total Line Capacity 27.2 Gallons

Gallons of water in one foot of 3/4" Chore-Time water pipe=.034

Water Line Length in Meters

Liters Per Minute Flow Rate	30m	60m	90m	120m	150m	180m	210m	240m
	4	3.2	6.3	9.5	12.7	15.8	19.0	22.2
	6	2.1	4.2	6.3	8.4	10.6	12.7	14.8
	8	1.6	3.2	4.7	6.3	7.9	9.5	11.1
	10	1.3	2.5	3.8	5.1	6.3	7.6	8.9
	12	1.1	2.1	3.2	4.2	5.3	6.3	7.4
	14	0.9	1.8	2.7	3.6	4.5	5.4	6.3
	16	0.8	1.6	2.4	3.2	4.0	4.7	5.5
	18	0.7	1.4	2.1	2.8	3.5	4.2	4.9
	20	0.6	1.3	1.9	2.5	3.2	3.8	4.4
	22	0.6	1.2	1.7	2.3	2.9	3.5	4.0
	24	0.5	1.1	1.6	2.1	2.6	3.2	3.7
	26	0.5	1.0	1.5	1.9	2.4	2.9	3.4
	28	0.5	0.9	1.4	1.8	2.3	2.7	3.2
	30	0.4	0.8	1.3	1.7	2.1	2.5	3.0
Estimated Flush Time in Minutes								
	Total Line Capacity 12.7 Liters	Total Line Capacity 25.3 Liters	Total Line Capacity 38.0 Liters	Total Line Capacity 50.6 Liters	Total Line Capacity 63.3 Liters	Total Line Capacity 76.0 Liters	Total Line Capacity 88.6 Liters	Total Line Capacity 101.3 Liters

Liters of water in one meter of 3/4" (1.90 cm) Chore-Time water pipe=.422

- Estimated flush times above are to completely exchange the water in the pipe.
- The water line length must include the length of the supply line from the water source to completely exchange the water.
- The flush time to stimulate bird drinking may be less.
- Chore-Time recommends flushing no more than 2 lines at a time, to prevent excess demand on the water supply.
- After flush, bleed off pressure by activating a Nipple on each line.
- See page 27 for flushing procedures.

Water Consumption Guide

APPROXIMATE DAILY WATER CONSUMPTION GUIDE IN GALLONS PER 1000 BIRDS																		
Assuming outside temperature 70°F																		
AGE IN WEEKS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Broilers	18	35	50	64	76	84	91	97										
Broiler Breeders	10	18	22	28	31	34	35	36	40	43	44	45	46	49	50	51	53	
Layer Pullets	10	17	22	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54
Turkey* Poults	10	20	34	45	63	78	95	112	128	144	158	172	185	194	203	209	240	240
20-40°F temperature 42-50 gallons					41-60°F temperature 50-58 gallons					61-80°F temperature 58-70 gallons					81-100°F temperature 70-116 gallons			
*Large white turkeys																		

## Guide to Cleaning Water Lines

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



**Do not mix chemicals, cleaners, medication, or nutrients without a specific formula provided by a reputable company; Toxic gas, violent explosions, or bad bird health could result.**

### During Flock

The watering system should be cleaned once every two weeks during the production cycle using one of the following stock solutions. During this step, clean the Stand Tubes. See “**Stand Tube Cleaning**” on page 31.

#### 1. Vinegar

- a) Stock Solution = 64 fl. oz. (1893 ml.) white household vinegar + 64 fl oz. (1893 ml.) water.
- b) Set the proportioner at 1 oz. of stock solution to 128 oz. (3785 ml.) water.

#### 2. Citric Acid

- a) Stock Solution = 1 pack (205 gm) citric acid + 128 fl. oz. (3785 ml.) water.
- b) Set the proportioner at 1 oz. of stock solution to 128 oz. (3785 ml.) water.

**Note:** pH target during flock cleaning is between 6-8 pH.

Continually maintaining one of the two chemical concentrations below (Chlorine/Hydrogen Peroxide) will ensure sanitized water.

#### 1. Chlorine (Maintain 3-5 ppm.)

- a) Stock Solution = 1 fl. oz. (30 ml) 5.25% Bleach with 1 gallon water.
- b) Set the proportioner at 1 oz. of stock solution to 128 oz. (3785 ml.) water.

#### 2. Hydrogen Peroxide (Maintain 25-50 ppm)

- a) Stock Solution = 1 fl. oz. (30 ml) Hydrogen Peroxide with 1 gallon water.
- b) Set the proportioner at 1 oz. of stock solution to 128 oz. (3785 ml.) water.

### After Administering Vitamins, Medication or other Chemicals

Chore-Time recommends flushing and sanitizing lines immediately after administering vitamins, medication or other chemicals. Failure to flush and sanitize can result in bacteria build-up which can reduce or prevent water flow.



## Between Flocks

**First:** Acidify water to pH of 5 using one of the solutions below. (Maintain for 8-24 hrs)

1. Vinegar

- a) Stock Solution = White household vinegar (5% acetic acid).
- b) Set the proportioner at 1 oz. of stock solution to 128 oz. (3785 ml.) water.

2. Citric acid

- a) Stock Solution = 4 pack (205 gm) citric acid + 128 fl. oz. (3785 ml.) water.
- b) Set the proportioner at 1 oz. of stock solution to 128 oz. (3785 ml.) water.

**Second:** Sanitize the water using one of the two solutions below.

1. Chlorine (Maintain 40 ppm for 4 hrs. DO NOT exceed 4 hours of exposure.

- a) Stock Solution = 12 fl. oz. (30 ml.) 5-1/4% bleach (or similar source of 5-1/4% sodium hyper chlorite) + 128 fl. oz. (3785 ml.) water.
- b) Set the proportioner at 1 oz. of stock solution to 128 oz. (3785 ml.) water.

2. Hydrogen Peroxide (Maintain 3% Hydrogen Peroxide for 24 hours).

- a) Stock Solution = 3 gallons Hydrogen Peroxide to 97 gallons water.
- b) Directly inject stock (no proportioners).

**Third:** Flush lines after sanitation is complete.

**Fourth:** The watering system should be thoroughly drained in cold weather.

**Tip:** Use dye in stock solution to monitor when a treatment is fully in pipe and when it is fully flushed out.

**Important! Do not** exceed 5 PPM of Chlorine, 50ppm of Hydrogen Peroxide, or 40 ppm of vinegar (acetic acid) in the line for extended periods of time or damage may occur.

## 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

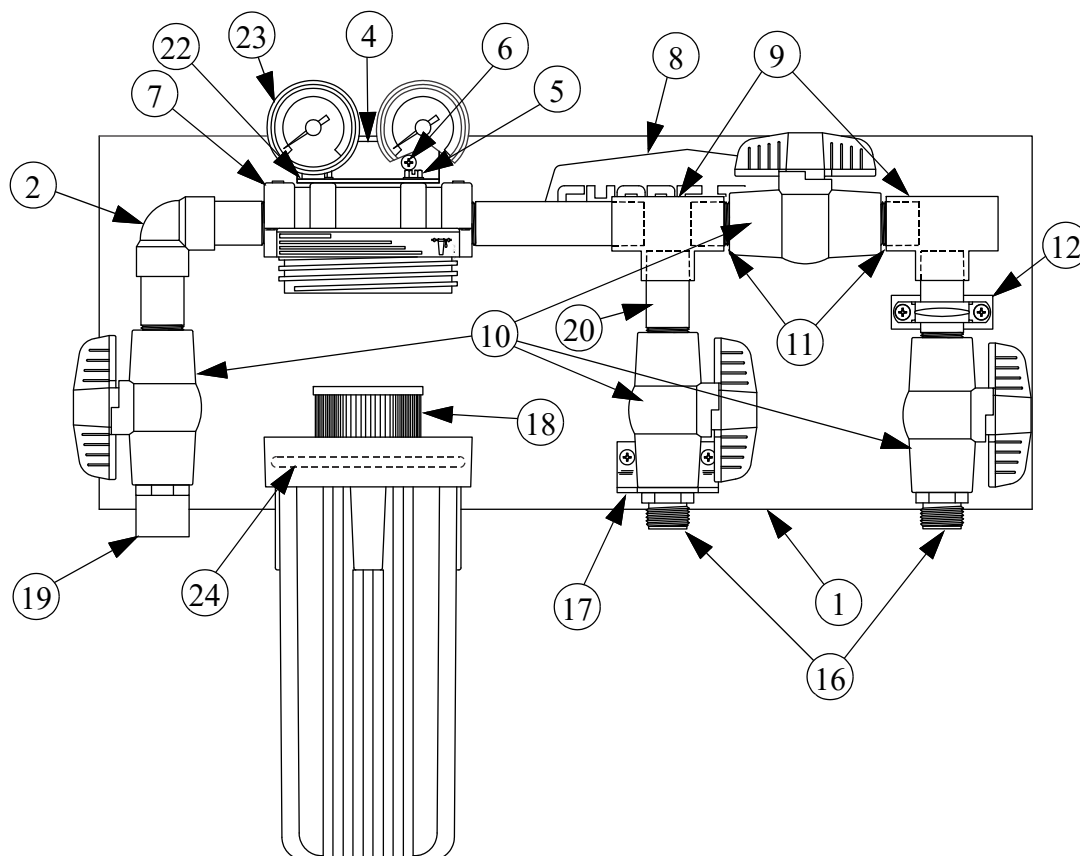
Sand, silt or sediments are found in many water supplies. It is usually detected by a cloudy or hazy appearance when the water is first drawn. Chore-Time recommends that all systems be installed with at least 1, 140 mesh Filter. In some cases a second more aggressive filter may be needed.

## Troubleshooting

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 too 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 around diameter.	Excess flush pressure. Excess incoming pressure. Loose mounting screws.	Remove restriction or obstruction in the Nipple such as a kinked hose or closed valve at the end of the line. Ensure pressure to Regulator is below 35 psi. Tighten Mounting Screws.

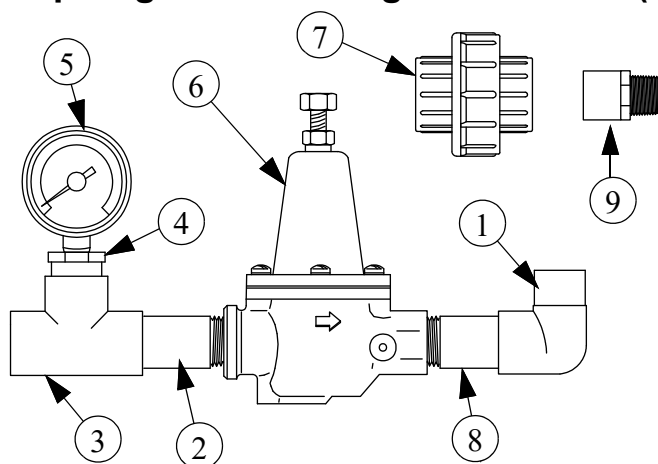
## Parts Listing

### Filter Control Panel (9275, 9275-1)



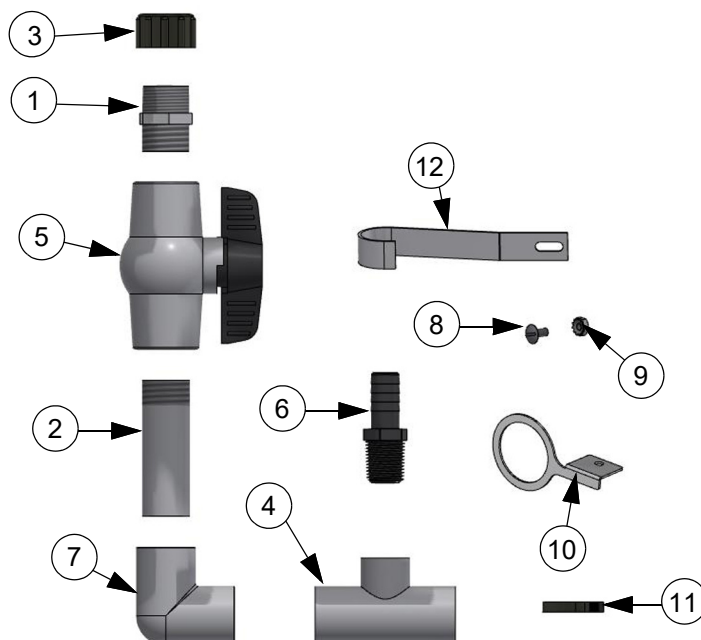
		9275 Opaque Filter Housing	9275-1 Clear Filter Housing
Item	Description	Part No.	
1	Mounting Board	35303	35303
2	3/4" PVC Ell	8141	8141
4	Filter Mounting Bracket	35302	35302
5	1/4-14 x 3/4 Sheet Metal Screw	35425	35425
6	#10-13 x 5/8 Phil Screw	35423	35423
7	Water Filter with Gauge Ports	35309	35309-1
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
24	"O" Ring	9191	9191

## 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

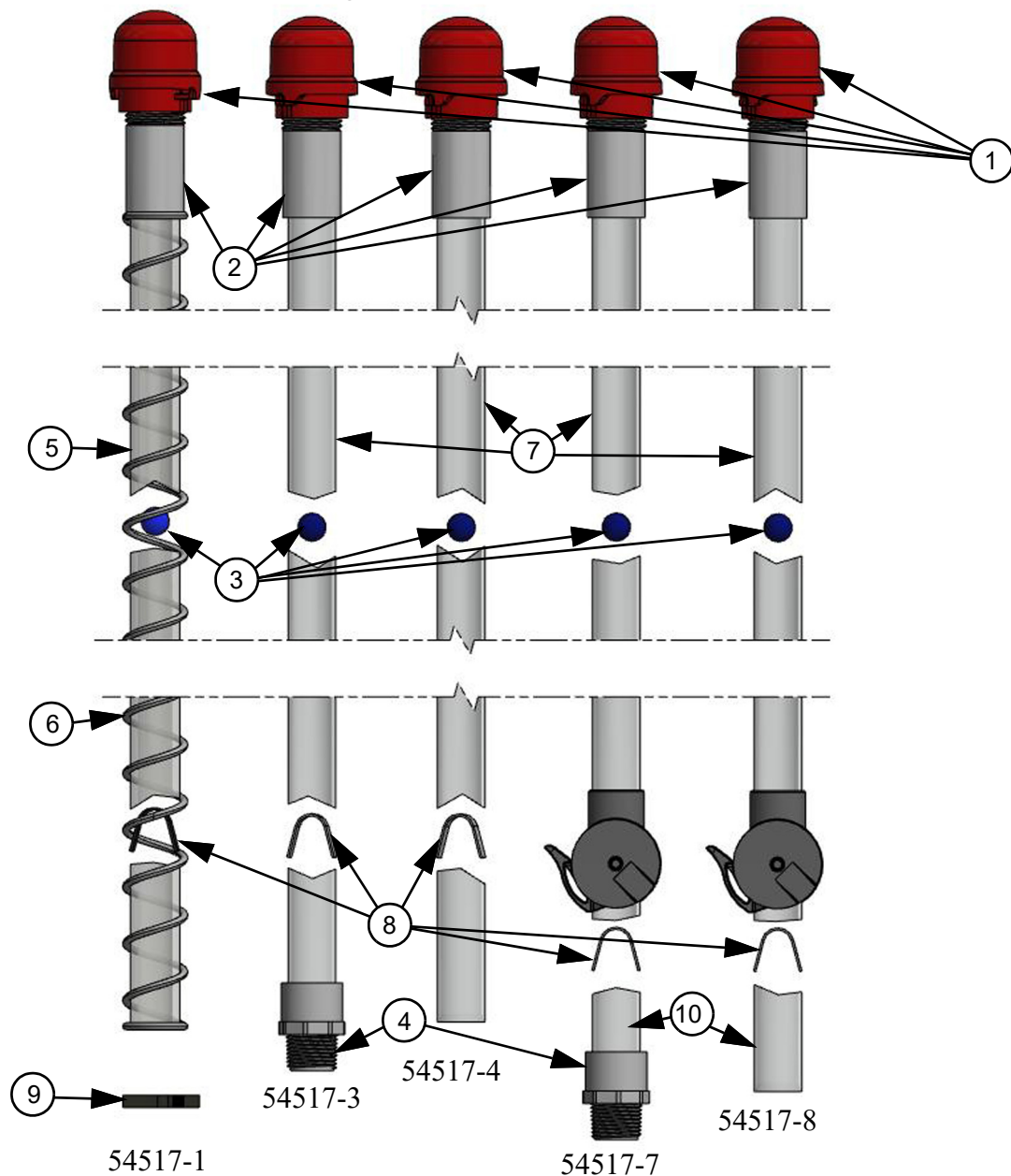
## Stand Tube Outlet Assembly



Item	Description	52275-2	52275-3	52275-4	52275-5	52275-6	52275-7	52275-8	52275-9
1	3/4" Nylon Adapter	7543	7543	7543	7543	7543	7543	7543	7543
2	3/4 x 2" Threaded PVC Pipe	7531-4	7531-4	7531-4	7531-4	7531-4	7531-4	7531-4	7531-4
3	Hose Cap (Washer Included)	9811	9811	9811	9811	9811	9811	9811	9811
4	Reducing Tee	34777	34777	34777	34777	34777	34777	34777	34777
5	3/4" Ball Valve	35781	35781	35781	35781	35781	35781	35781	35781
6	1/2 Insert Adapter	47881	47881	---	---	---	---	47881	47881
7	3/4" S x T Ell	7558	7558	7558	7558	7558	7558	7558	7558
8	10-24 x 3/8 Truss Head Screw	4422-2	4422-2	4422-2	4422-2	4422-2	4422-2	4422-2	4422-2
9	10-24 SS Kepnut	33926	33926	33926	33926	33926	33926	33926	33926
10	Hanger	35481	35481	35481	35481	35481	35481	35481	35481
11	Hose Clamp	54909	54909	---	---	---	---	---	---
12	Stand Tube Bracket	33900	33900	33900	33900	33900	33900	33900	33900-1
13*	Stand Tube Assembly	54517-1	54517-1	54517-7	54517-7	54517-3	54517-3	---	54517-7

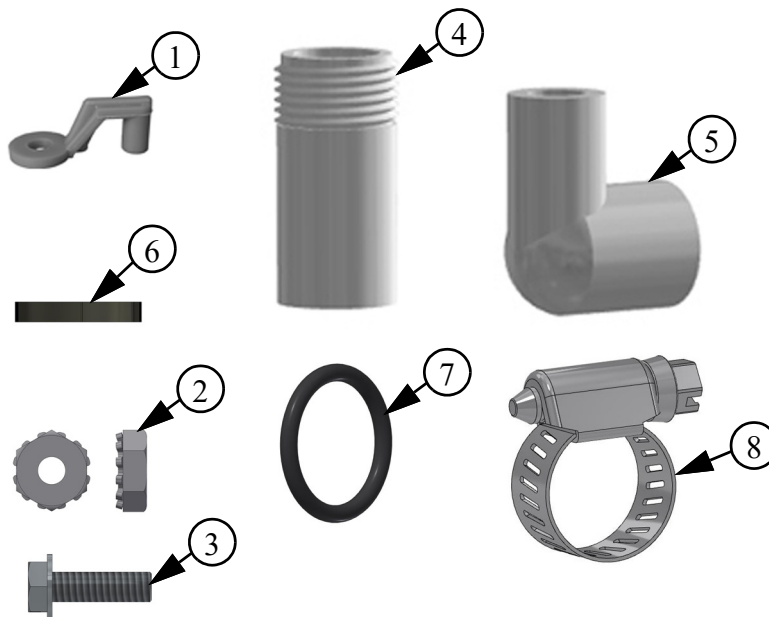
\*See "Stand Tube Assembly (54517-X)" on page 46. for complete parts list.

## Stand Tube Assembly (54517-X)



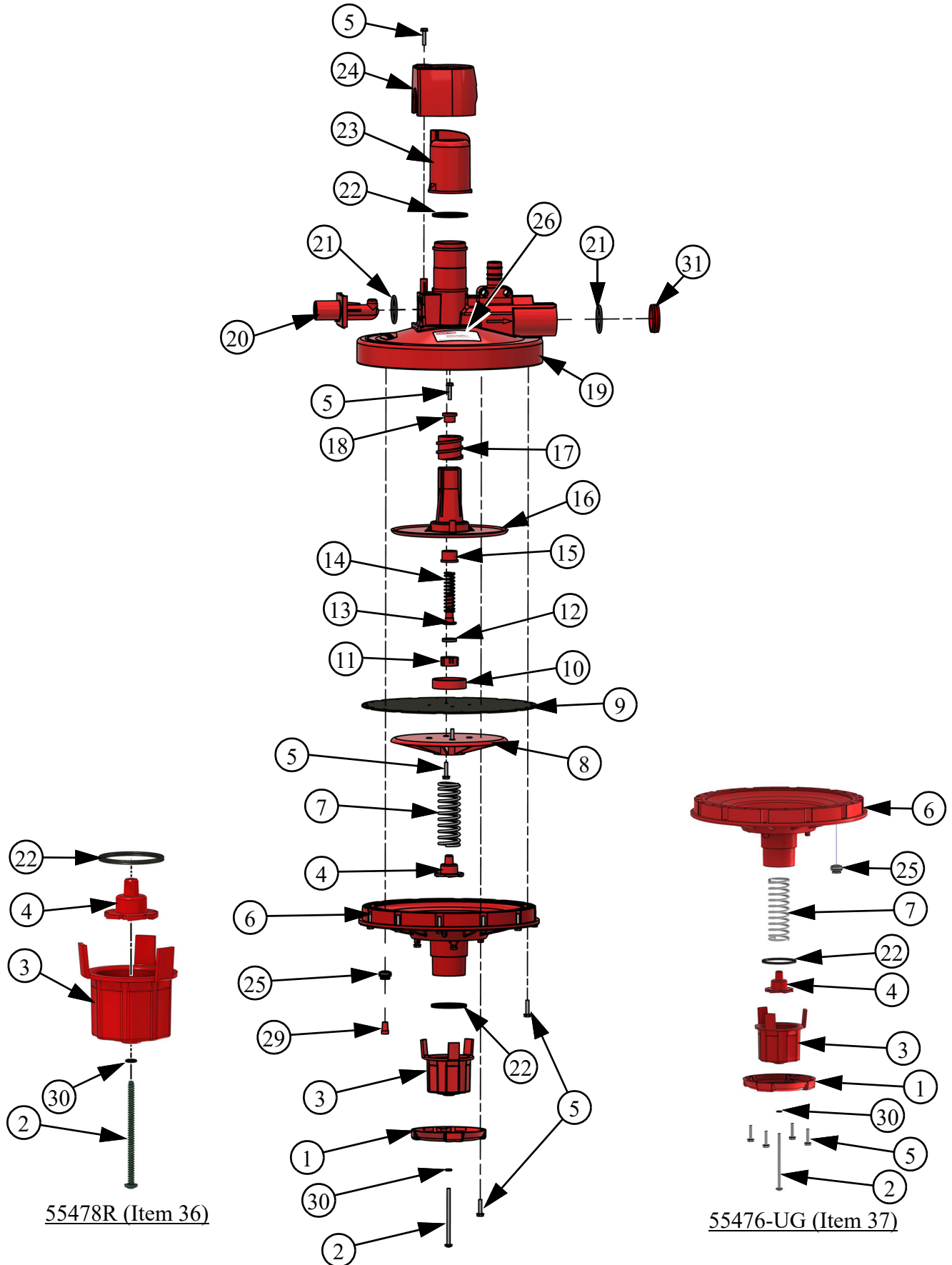
Item	Description	54517-1	54517-3	54517-4	54517-7	54517-8
		Part No				
1	Breather Cap Assembly	54606	54606	54606	54606	54606
2	3/4" NH Fitting	25098	25098	25098	25098	25098
3	Stand Tube Float Ball	37142	37142	37142	37142	37142
4	.50 MTXS Male Adapter	---	9067	---	9067	--
5	Flexible Tubing	36840-1	---	---	---	--
6	Spring	36839-1	---	---	---	--
7	.5 x 19.88 Clear PVC Pipe	---	38250-1	38250-1	---	--
	.5 x 16.00 Clear PVC Pipe	---	---	---	38250-3	38250-3
8	Rigid Ball Stop	54817	54817	54817	54817	54817
9	Adjustable Clamp	54909	---	---	---	---
10	.5 x 4.0 Clear PVC Pipe	---	---	---	38250-2	38250-2

## Volumatic Regulator Hardware Package (56233-X)



		56233-1	56233-2
Item	Description	Part No.	
1	Regulator Bracket	44866	44866
2	10-24 Stainless Kepnut	33926	33926
3	10-24 x .50 Screw	4416-12	4416-12
4	3/4 NH Fitting	25098	25098
5	1/2" Street Elbow	33895	33895
6	1-1/4 Nylon Clamp	54909	--
7	1/2 x 1/16 O-Ring	--	48325-1
8	Adjustable Clamp	--	7187

# VOLUMATIC™ Regulator Assembly (55476-X)





## Part Numbers

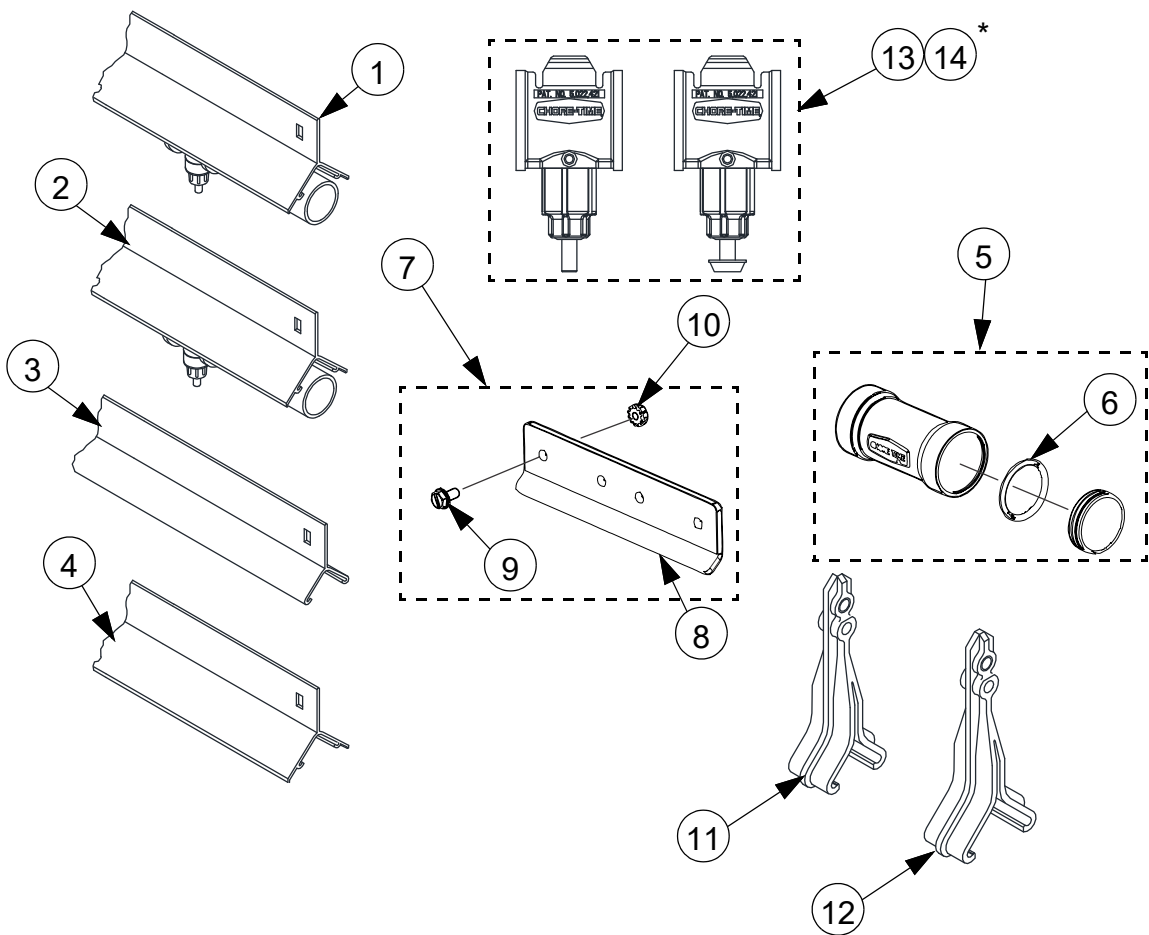
Item	Description	No Stand Tube 55476-1	W/ Folding Stand Tube 55476-2	W/ Flexible Stand Tube 55476-3	Kit with Poultry Trainer W/ Folding Stand Tube & Anti-Roost 55476-2T	Kit with Poultry Trainer Flexible Stand Tube & Anti-Roost 55476-3T
		Part No.	Part No.	Part No.	Part No.	Part No.
1	Knob Retainer	55477	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	55479	55479	55479	55479
7	.78 x 2.8" Spring	42393	42393	42393	42393	42393
8	CTWR Bottom 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	42182	42182	42182	42182	42182
17	CTWR Barrel	42172	42172	42172	42172	42172
18	Seat Holder Cap	42176	42176	42176	42176	42176
19	Regulator Top Half	57065	57065	57065	57065	57065
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
25	1/8-27 NPT x 1/4 Tube Connector	50820-1	50820-1	50820-1	50820-1	50820-1
26	Decal	2529-813	2529-813	2529-813	2529-813	2529-813
29	Plug	57285	57285	57285	57285	57285
30	-007 O-Ring	56172	56172	56172	56172	56172
31	CT NIP Expansion Clip	56373C	56373C	56373C	56373C	56373C
32**	Flexible St. Tube Assy.	---	---	54517-1	---	54517-1
33**	Folding St. Tube Assy.	---	54517-8	---	54517-8	---
34*	Volumatic Regulator Hardware	56233-1	56233-2	56233-1	56233-2	56233-1
35***	Poultry Trainer Kit	---	---	---	44943	44943
36	Replacement Knob Assembly	55478R	55478R	55478R	55478R	55478R
37	Volumatic Regulator Upgrade	55476-UG	55476-UG	55476-UG	55476-UG	55476-UG

\*See "Volumatic Regulator Hardware Package (56233-X)" on page 47. for assembly break down.

\*\*See "Stand Tube Assembly (54517-X)" on page 46. for assembly break down.

\*\*\*See "STEADI-FLOW® Nipple Line Assembly and Components" on page 50.

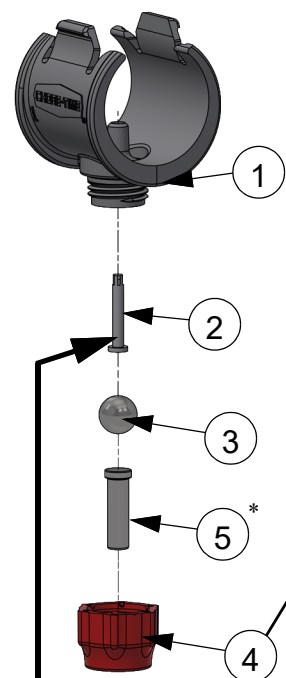
# STEADI-FLOW® Nipple Line Assembly and Components



## Part Numbers

Item	Description	Standard Flow	High Flow	Regulated Flow	Lift Trigger	Super High Flow	Lift Trigger Long Stem
1	<b>Standard Channel STEADI-FLOW® Drinker Assembly</b>						
	6" [152 mm] spacing (20 nipples)	56065-34	56065-13	---	---	---	---
	8" [203 mm] spacing (15 nipples)	56065-1	56065-14	56065-24	---	56065-27	---
	10" [254 mm] spacing (12 nipples)	56065-2	56065-15	56065-25	---	56065-28	---
	12" [305 mm] spacing (10 nipples)	56065-3	56065-16	56065-35	---	56065-29	---
	15" [381 mm] spacing (8 nipples)	56065-4	56065-17	---	---	--	---
	6" [152 mm] spacing (20 button nipples)	56065-34B	56065-13B	---	---	--	---
	8" [203 mm] spacing (15 button nipples)	56065-1B	56065-14B	---	---	--	---
	10" [254 mm] spacing (12 button nipples)	56065-2B	56065-15B	---	---	56065-26	---
	12" [305 mm] spacing (10 button nipples)	56065-3B	---	---	---	--	---
	15" [381 mm] spacing (8 button nipples)	56065-4B	---	---	---	--	---
3	Support Channel (Standard)	56466-10	56466-10	56466-10	56466-10	56466-10	56466-10
5	Expansion Coupling Assembly	56373	56373	56373	56373	56373	56373
6	O-Ring	29118	29118	29118	29118	29118	29118
7	Channel Bracket Kit	56381-40	56381-40	56381-40	56381-40	56381-40	56381-40
8	Channel Bracket	56381	56381	56381	56381	56381	56381
9	#10-24 x 3/8" Hex Washer Hd Screw	25124	25124	25124	25124	25124	25124
10	#10-24 Kepnut	27725	27725	27725	27725	27725	27725
11	Support Channel Hanger (Standard)	33824-1	33824-1	33824-1	33824-1	33824-1	33824-1
13*	STEADI-FLOW Cap Assembly	See Page 52	See Page 52	See Page 52	See Page 52	See Page 52	See Page 52
14*	STEADI-FLOW Saddle Assembly	56063-1 & -1B	56063-2 & -2B	56063-4 & -4B	56063-5	56063-8	56063-7
*See "RELIA-FLO® Saddle Assembly 56064-X" on page 56 for Assembly break down and part numbers							---
2	<b>Heavy Channel STEADI-FLOW® Drinker Assembly</b>						
	6" [152 mm] spacing (20 nipples)	---	56065-18	---	---	---	---
	8" [203 mm] spacing (15 nipples)	56065-5	56065-19	---	56065-30	---	---
	10" [254 mm] spacing (12 nipples)	56065-6	56065-20	---	56065-31	56065-26	---
	12" [305 mm] spacing (10 nipples)	56065-7	56065-21	---	56065-32	---	---
	15" [381 mm] spacing (8 nipples)	56065-8	56065-22	---	---	---	56065-33
	20" [508 mm] spacing (6 nipples)	56065-9	56065-23	---	---	---	---
	24" [610 mm] spacing (5 nipples)	56065-10	---	---	---	---	---
4	Support Channel (Heavy)	56466-20	56466-20	56466-20	56466-20	56466-20	56466-20
5	Expansion Coupling Assembly	56373	56373	56373	56373	56373	56373
6	O-Ring	29118	29118	29118	29118	29118	29118
7	Channel Bracket Kit	56381-40	56381-40	56381-40	56381-40	56381-40	56381-40
8	Channel Bracket	56381	56381	56381	56381	56381	56381
9	#10-24 x 3/8" Hex Washer Hd Screw	25124	25124	25124	25124	25124	25124
10	#10-24 Kepnut	27725	27725	27725	27725	27725	27725
12	Support Channel Hanger (Heavy)	33824-2	33824-2	33824-2	33824-2	33824-2	33824-2
13*	STEADI-FLOW Cap Assembly	See Page 52	See Page 52	See Page 52	See Page 52	See Page 52	See Page 52
14*	STEADI-FLOW Saddle Assembly	56063-1 & -1B	56063-2 & -2B	56063-4 & -4B	56063-5	56063-8	56063-7
*See "RELIA-FLO® Saddle Assembly 56064-X" on page 56 for Assembly break down and part numbers							

## Steadi Flow Saddle Assembly 56063-X



56109-1B  
Cap Assembly

56109-1  
Cap Assembly

56109-2  
Cap Assembly

Item	Description	56063-1 Standard Flow "B" Pin	56063-1B Standard Flow "B" Pin w/Button	56063-2 High Flow "H" Pin	56063-2B High Flow "H" Pin w/Button	56063-4 Regulated Flow "R" Pin
1	Nipple Floor Saddle	50804	50804	50804	50804	50804
2	Flow Control Pin	34799	34799	34889	34889	55380
3	Stainless Steel Ball	29117	29117	29117	29117	29117
4	Cap Assembly	56109-1	56109-1B	56109-1	56109-1B	56109-1
5*	Nipple Stem	29119	--	29119	--	29119
6**	Steady Flow Cap	55808-1	55808-1	55808-1	55808-1	55808-1
7**	Lower Insert	55809	55809	55809	55809	55809
8**	Button Trigger	--	29563	--	29563	--

\*Some Models Include the Stem with the 56063-X Assembly and some models the Stem is in the Cap Assembly 56109-X as specified in table.

\*\*Included in 56109-X Cap Assembly. See Figure.

- (R)** "R" Regulated Flow
- (B)** "B" Regular Flow
- (H)** "H" High Flow
- (S)** "S" Super High Flow

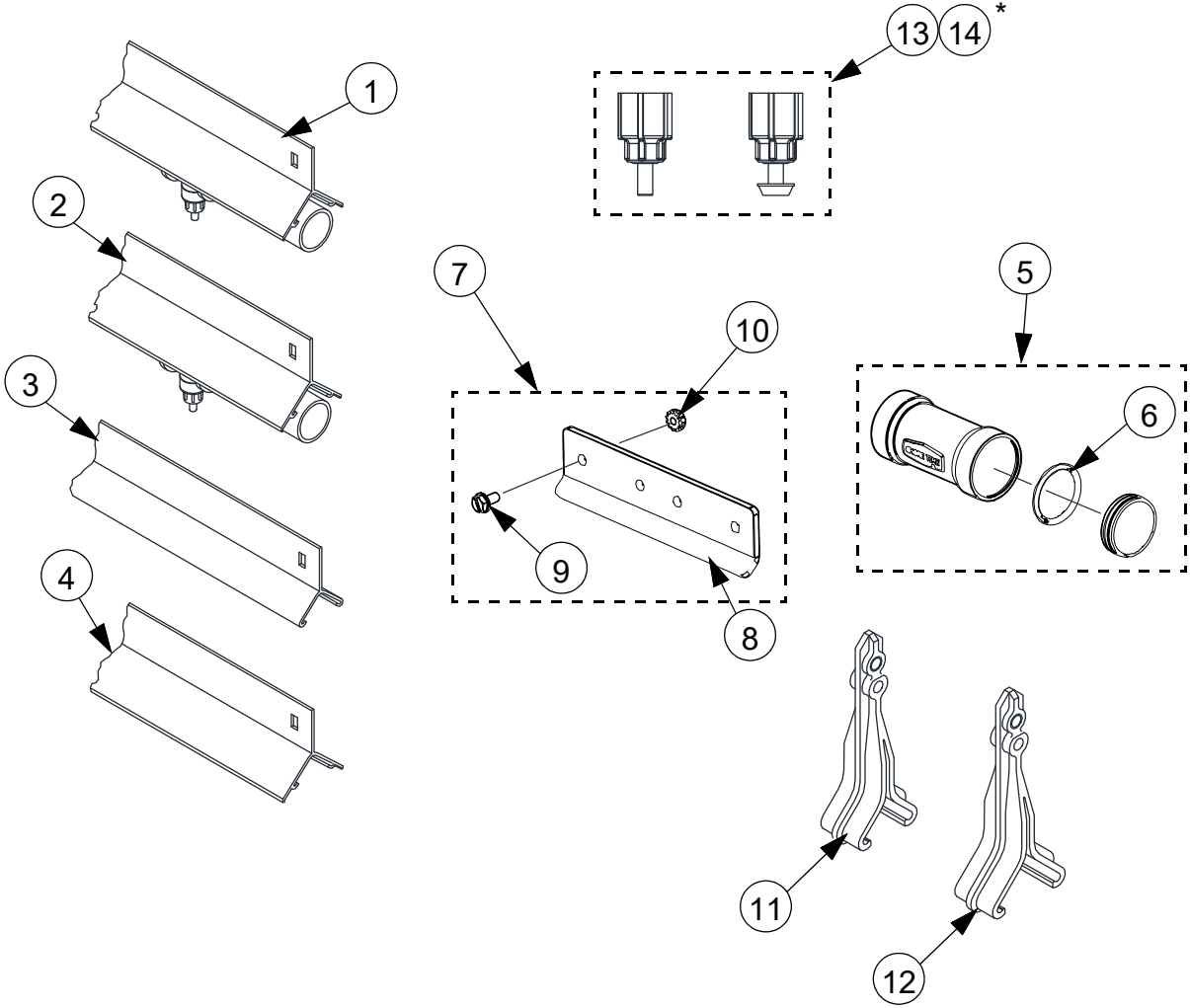
Item	Description	56063-4B Regulated Flow "R" Pin w/Button	56063-5 Standard Flow "B" Pin Lift Trigger	56063-8 Super High Flow	56063-12 Broiler Saddle Layer Flow	56063-12B Broiler Saddle Layer Flow w/Button
1	Nipple Floor Saddle	50804	50804	50804	50804	50804
2	Flow Control Pin	55380	34799	47745	36725	36725
3	Stainless Steel Ball	29117	29117	29117	29117	29117
4	Cap Assembly	56109-1B	56109-2	56109-1	56109-1	56109-1B
5*	Nipple Stem	--	46470	29119	29119	29119
6**	Steady Flow Cap	55808-1	55808-1	55808-1	55808-1	55808-1
7**	Lower Insert	55809	55809-1	55809	55809	55809
8**	Button Trigger	29563	--	--	--	29563

\*Some Models Include the Stem with the 56063-X Assembly and some models the Stem is in the Cap Assembly 56109-X as specified in table.

\*\*Included in 56109-X Cap Assembly. See Figure.

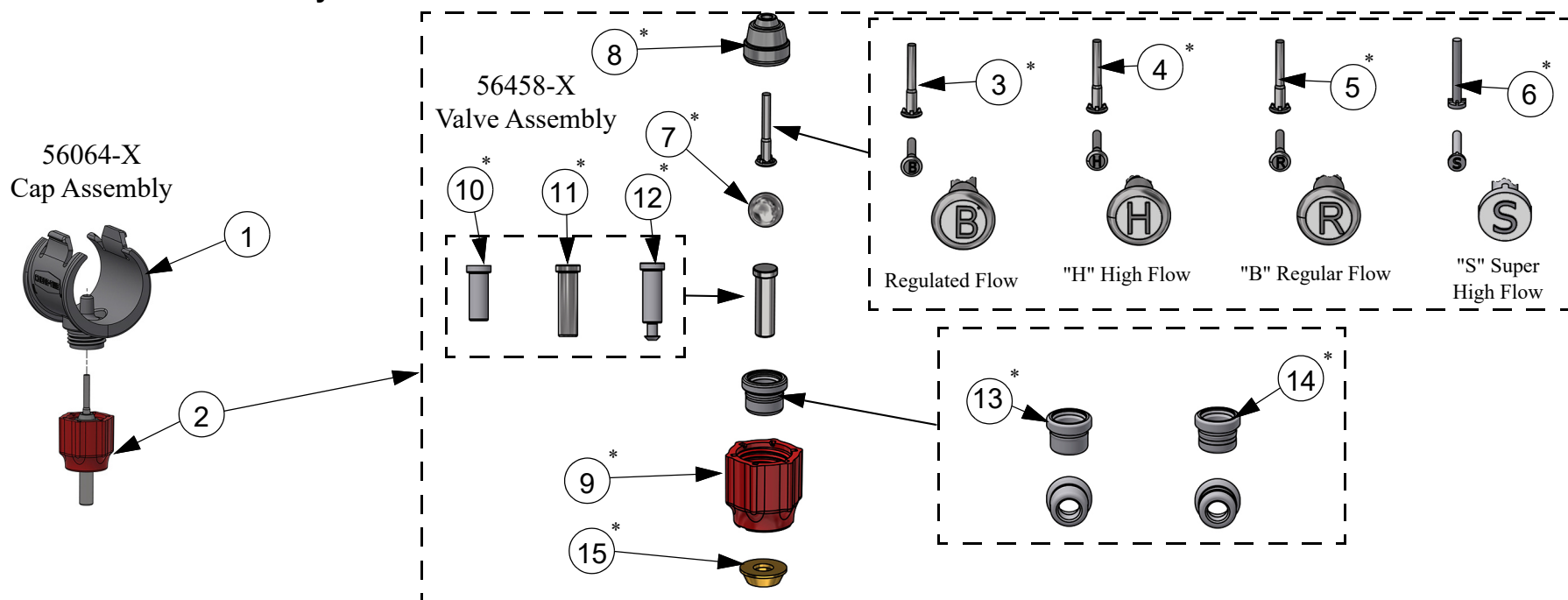
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RELIA-FLOW® Nipple Line Assembly and Components



## Part Numbers

Item	Description	Standard Flow	High Flow	Regulated Flow	Lift Trigger	Super High	Lift Trigger Long Stem
1	<b>Standard Channel RELIA-FLOW® Drinker Assembly</b>						
	6" [152 mm] spacing (20 nipples)	56104-1	---	---	---	---	---
	8" [203 mm] spacing (15 nipples)	56104-2	56104-12	56104-15	---	---	---
	10" [254 mm] spacing (12 nipples)	56104-3	56104-13	56104-16	---	---	---
	12" [305 mm] spacing (10 nipples)	56104-4	56104-25	---	---	---	---
	15" [381 mm] spacing (8 nipples)	56104-5	---	---	---	---	---
	24" [610 mm] spacing (5 nipples)	---	56104-14	---	---	---	---
	6" [152 mm] spacing (20 button nipples)	56104-1B	---	---	---	---	---
	8" [203 mm] spacing (15 nipples)	56104-2B	---	---	---	---	---
	10" [254 mm] spacing (12 nipples)	56104-3B	---	---	---	---	---
	12" [305 mm] spacing (10 nipples)	56104-4B	---	---	---	---	---
	10" [254 mm] spacing (12 nipples)	---	56104-13B	---	---	---	---
3	Support Channel (Standard)	56466-10	56466-10	56466-10	56466-10	---	---
5	Expansion Coupling Assembly	56373	56373	56373	56373	---	---
6	O-Ring	29118	29118	29118	29118	---	---
7	Channel Bracket	56381	56381	56381	56381	---	---
8	Channel Bracket Kit	56381-40	56381-40	56381-40	56381-40	---	---
9	#10-24 x 3/8" Hex Washer Head Screw	25124	25124	25124	25124	---	---
10	#10-24 Kepnut	27725	27725	27725	27725	---	---
11	Support Channel Hanger (Standard)	33824-1	33824-1	33824-1	33824-1	33824-1	33824-1
13*	RELIA-FLOW Valve Assembly	56458-1 & -1B	56458-2 & -2B	56458-4 & -4B	56458-5 & -5B	56458-8	56458-7
14*	RELIA-FLOW Saddle Assembly	56064-1 & -1B	56064-2 & -2B	56064-4 & -4B	56064-5	56064-8	56064-7
*See "RELIA-FLO® Saddle Assembly 56064-X" on page 56 for Assembly break down and part numbers.							
2	<b>Heavy Channel RELIA-FLOW® Drinker Assembly</b>						
	8" [203 mm] spacing (15 nipples)	56104-6	56104-24	---	56104-17	56104-23	56104-20
	10" [254 mm] spacing (12 nipples)	56104-7	---	---	56104-18	---	---
	12" [305 mm] spacing (10 nipples)	56104-8	56104-25	---	---	---	56104-21
	15" [381 mm] spacing (8 nipples)	---	---	---	---	---	---
	20" [508 mm] spacing (6 nipples)	56104-22	---	---	---	---	---
	24" [610 mm] spacing (5 nipples)	56104-19	---	---	56104-19	---	---
4	Support Channel (Heavy)	56466-20	56466-20	56466-20	56466-20	56466-20	56466-20
5	Expansion Coupling Assembly	56373	56373	56373	56373	56373	56373
6	O-Ring	29118	29118	29118	29118	29118	29118
7	Channel Bracket	56381	56381	56381	56381	56381	56381
8	Channel Bracket Kit	56381-40	56381-40	56381-40	56381-40	56381-40	56381-40
9	#10-24 x 3/8" Hex Washer Head Screw	25124	25124	25124	25124	25124	25124
10	#10-24 Kepnut	27725	27725	27725	27725	27725	27725
12	Support Channel Hanger (Heavy)	33824-2	33824-2	33824-2	33824-2	33824-2	33824-2
13*	RELIA-FLOW Valve Assembly	56458-1 & -1B	56458-2 & -2B	56458-4 & -4B	56458-5 & -5B	56458-8	56458-7
14*	RELIA-FLOW Saddle Assembly	56064-1 & -1B	56064-2 & -2B	56064-4 & -4B	56064-5 & -4B	56064-8	56064-7
*See "RELIA-FLO® Saddle Assembly 56064-X" on page 56 for Assembly break down and part numbers.							

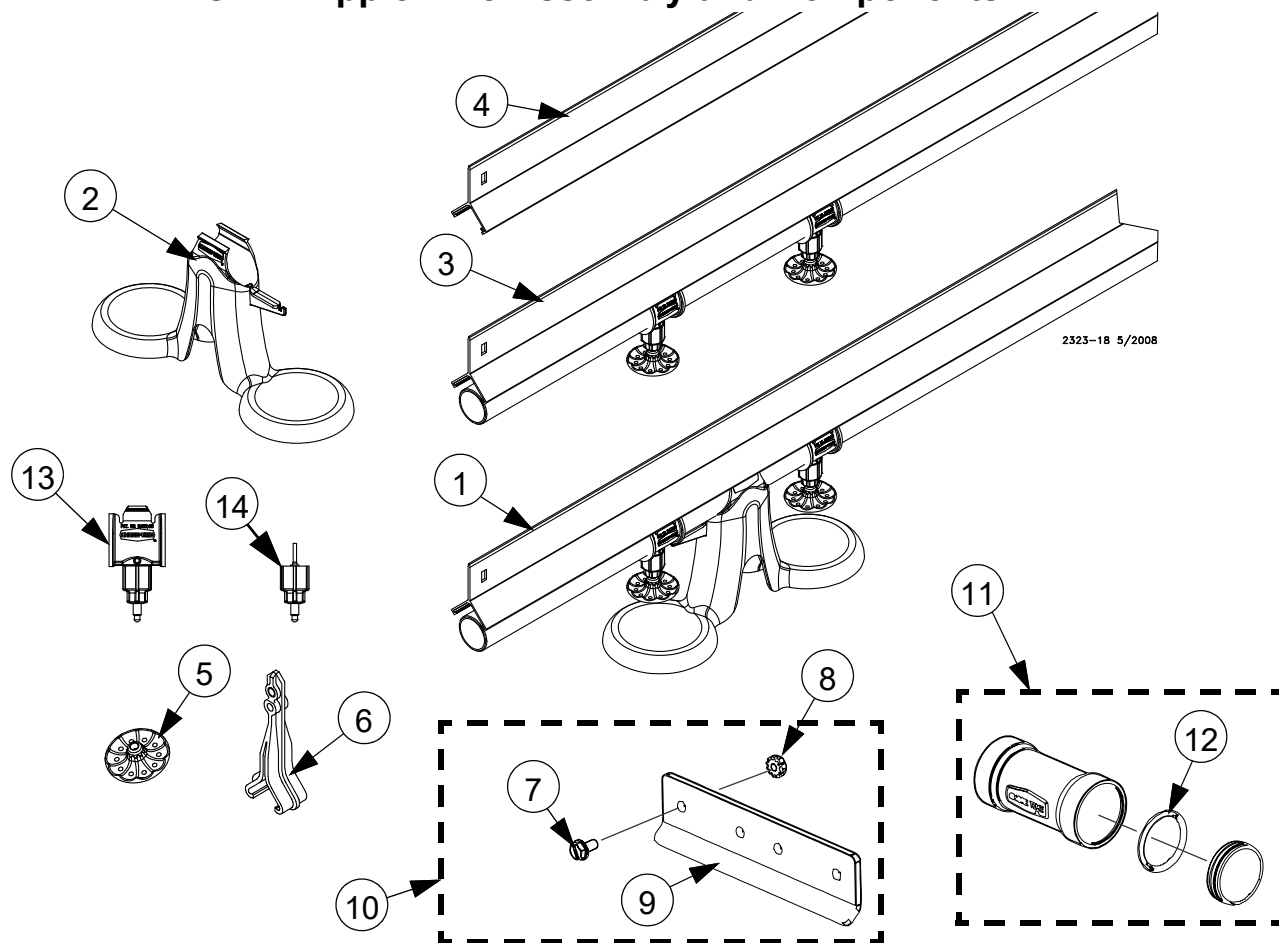
56064-X  
Cap Assembly

Item	Description	56064-1 Standard Flow "B" Pin	56064-1B Regular Flow "B" Pin w/Button	56064-2 High Flow "H" Pin	56064-2B High Flow "H" Pin w/Button	56064-4 Regulated Flow "R" Pin	56064-4B Regulated Flow "R" Pin w/Button	56064-5 Regular Flow "B" Pin Lift	56064-7 Regular Flow "B" Pin Lift, Long	56064-10 High Flow "H" Pin Lift	56064-8 Super High Flow "S" Pin	56064-9 High Flow "H" Pin Lift, Long	56064-20 High Flow "H" Pin	56064-21 Regular Flow "B" Pin
1	Nipple Floor Saddle	50804	50804	50804	50804	50804	50804	50804	50804	50804	50804	50804	50804	50804
2	Relia-Flow Valve	56458-1	56458-1B	56458-2	56458-2B	56458-4	56458-4B	56458-5	56458-7	56458-6	56458-8	56458-1	56458-20	56458-21
3*	Broiler Standard Flow Pin	55342	55342	--	--	--	--	55342	55342	--	--	55342	--	55342
4*	High Flow Pin	--	--	49773	49773	--	--	--	--	49773	--	--	49773	--
5*	.091 Regulated Flow Pin	--	--	--	--	49624	49624	--	--	--	--	--	--	--
6*	.077 Super High Flow Pin	--	--	--	--	--	--	--	--	--	50095	--	--	--
7*	Stainless Steel Ball	29117	29117	29117	29117	29117	29117	29117	29117	29117	29117	29117	29117	29117
8*	Flow Control Insert	48876	48876	48876	48876	48876	48876	48876	48876	48876	48876	48876	48876	48876
9*	Relia-Flow Cap	55808	55808	55808	55808	55808	55808	55808	55808	55808	55808	55808	55808	55808
10*	Nipple Stem	29119	29119	29119	29119	29119	29119	--	29119	--	29119	29119	--	--
11*	Short Nipple Stem	--	--	--	--	--	--	46470	--	46470	--	--	--	--
12*	Advanti-Flow Snap Pin	--	--	--	--	--	--	--	--	--	--	--	51269	51269
13*	Lower Insert	55809	55809	55809	55809	55809	55809	--	--	--	55809	55809	55809	55809
14*	Lift Trigger Lower Insert	--	--	--	--	--	--	55809-1	55809-1	55809-1	--	--	--	--
15*	Button Trigger	--	29563	--	29563	--	29563	--	--	--	--	--	--	--

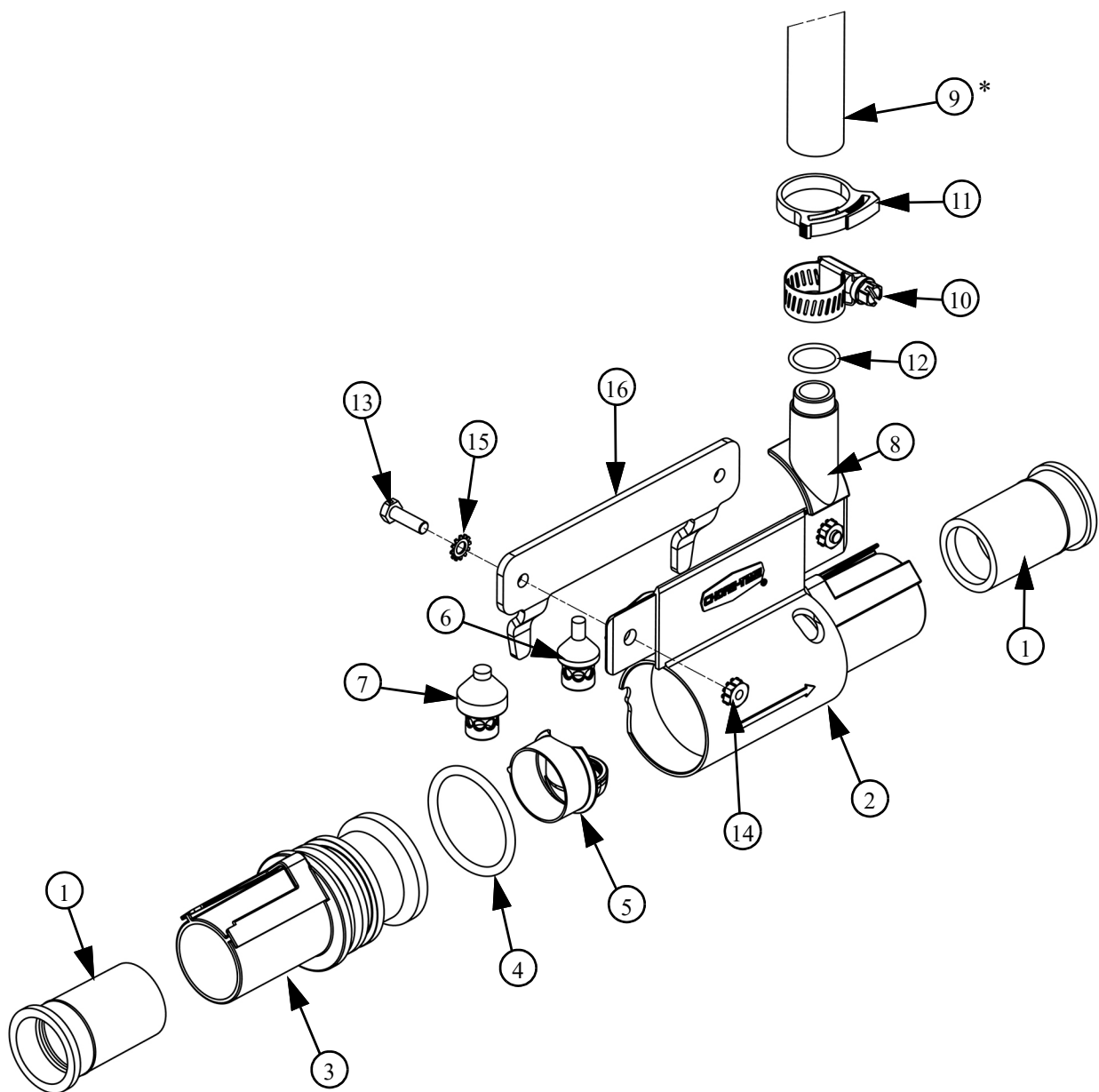
\*Included in (Item 2) 46458-X Cap Assembly. (See Figure.)



# ADVANTI-FLOW® Nipple Line Assembly and Components

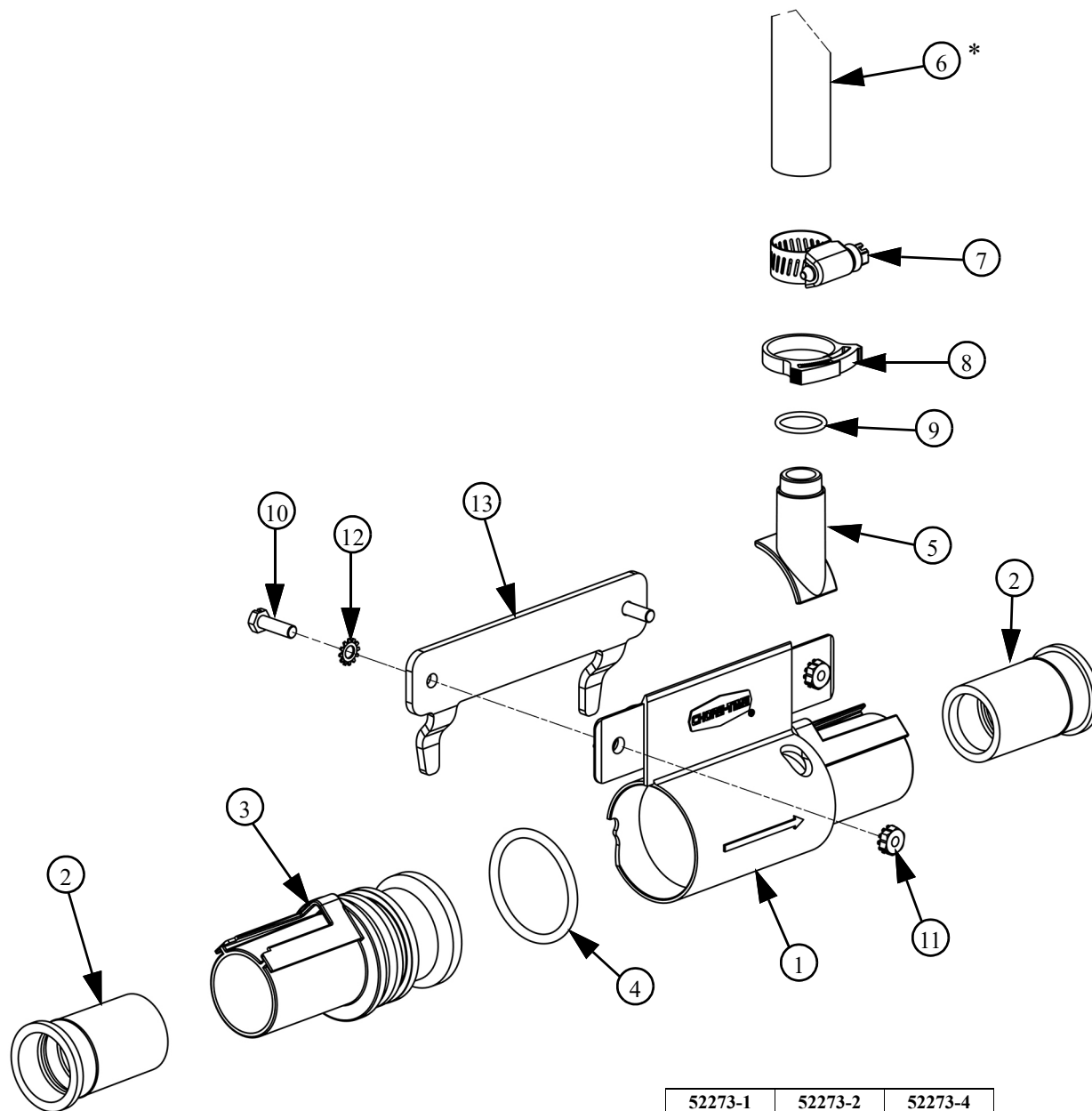


Item	Description	Part No.	Item	Description	Part No.
1	<b>ADVANTI-FLOW® Drinker Assy. w/Cups</b>		4	Standard Support Channel	56466-10
	Std. Flow Std. Chnl. 40" Spacing w/Cups	51327-3	5	ADVANTI-FLOW® Disk	51266
	Std. Flow Std. Chnl 30" Spacing w/Cups	51327-4	6	Support Channel Hanger	33824-1
	Std. Flow Std. Chnl 24" Spacing w/Cups	51327-5	7	#10-24 x 3/8" Hex Washer Head Screw	25124
	Std. Flow Std. Chnl 20" Spacing w/Cups	51327-6	8	#10-24 Kepnut	27725
	High Flow Std. Chnl 40" Spacing w/Cups	51328-3	9	Water Line Bracket	56381
	High Flow Std. Chnl 30" Spacing w/Cups	51328-4	10	Water Line Bracket Kit	56381-40
	High Flow Std. Chnl 24" Spacing w/Cups	51328-5	11	Expansion Coupling Assembly	56373
	High Flow Std. Chnl 20" Spacing w/Cups	51328-6	12	1.255 x 1.049 x .103 O-Ring	29118
2	ADVANTI-FLOW® Cup Package	51326	13	ADVANTI-FLOW® High Flow Saddle Assy.	56064-20
3	<b>ADVANTI-FLOW® Drinker Assembly</b>			ADVANTI-FLOW® Std. Flow Saddle Assy.	56064-21
	Standard Flow Std. Channel 40" Spacing	56286-2	14	ADVANTI-FLOW® High Flow Valve Assy.	56458-20
	Standard Flow Std. Channel 30" Spacing	56286-4		ADVANTI-FLOW® Standard Flow Valve Assy.	56458-21
	Standard Flow Std. Channel 24" Spacing	56286-6			
	Standard Flow Std. Channel 20" Spacing	56286-8			
	High Flow Std. Channel 40" Spacing	56286-1			
	High Flow Std. Channel 30" Spacing	56286-3			
	High Flow Std. Channel 24" Spacing	56286-5			
	High Flow Std. Channel 20" Spacing	56286-7			



		Slope Compensator Assembly										
		Low Dif W/Folding Stand Tube 54035-4L	Hi Dif W/Folding Stand Tube 54035-4H	Low Dif W/Rigid Stand Tube 54035-5L	Hi Dif W/Rigid Stand Tube 54035-5H	Low Dif W/No Stand Tube 54035-6L	Hi Dif W/No Stand Tube 54035-6H	Low Dif W/ Flex Stand Tube 54035-7L	Hi Dif W/ Flex Stand Tube 54035-7H	Repair No Plunger 54035-R	Repair Hi Dif 54035-RH	Repair Low Dif 54035-RL
Item	Description	Part No.										
1	Half Liner	36501	36501	36501	36501	36501	36501	36501	36501	--	--	--
2	Compensator Outlet Ass'y	40902-1	40902-1	40902-1	40902-1	40902-1	40902-1	40902-1	40902-1	--	--	--
3	Inlet Assembly	46464	46464	46464	46464	46464	46464	46464	46464	46464	46464	46464
4	O-Ring	44015	44015	44015	44015	44015	44015	44015	44015	44015	44015	44015
5	Slope Compensator Holder	53625	53625	53625	53625	53625	53625	53625	53625	53625	53625	53625
6	Low Differential Plunger	46450	--	46450	--	46450	--	46450	--	--	--	46450
7	High Differential Plunger	--	46451	--	46451	--	46451	--	46451	--	46451	--
8	Vent Port Compensator	37557	37557	37557	37557	37557	37557	37557	37557	--	--	--
9*	Folding Stand Tube Assembly	54517-8	54517-8	--	--	--	--	--	--	--	--	--
	Rigid Stand Tube Assembly	--	--	54517-4	54517-4	--	--	--	--	--	--	--
	Flex Stand Tube w/Adapter	--	--	--	--	--	--	54517-1	54517-1	--	--	--
10	Adjustable Hose Clamp	7187	7187	7187	7187	--	--	--	--	--	--	--
11	1-1/4 Nylon Clamp	--	--	--	--	--	--	54909	54909	--	--	--
12	1/2 x 1/16 O-Ring	48325-1	48325-1	48325-1	48325-1	--	--	--	--	--	--	--
13	10-24 x .625 HXWH Screw	1876	1876	1876	1876	1876	1876	1876	1876	--	--	--
14	#10-24 Kepnut	27725	27725	27725	27725	27725	27725	27725	27725	--	--	--
15	.20x.403x.023 Lock Washer	305	305	305	305	305	305	305	305	--	--	--
16	Mid-line Bracket	56381-1	56381-1	56381-1	56381-1	56381-1	56381-1	56381-1	56381-1	--	--	--
*See "Stand Tube Assembly (54517-X)" on page 46. for parts breakdown.												

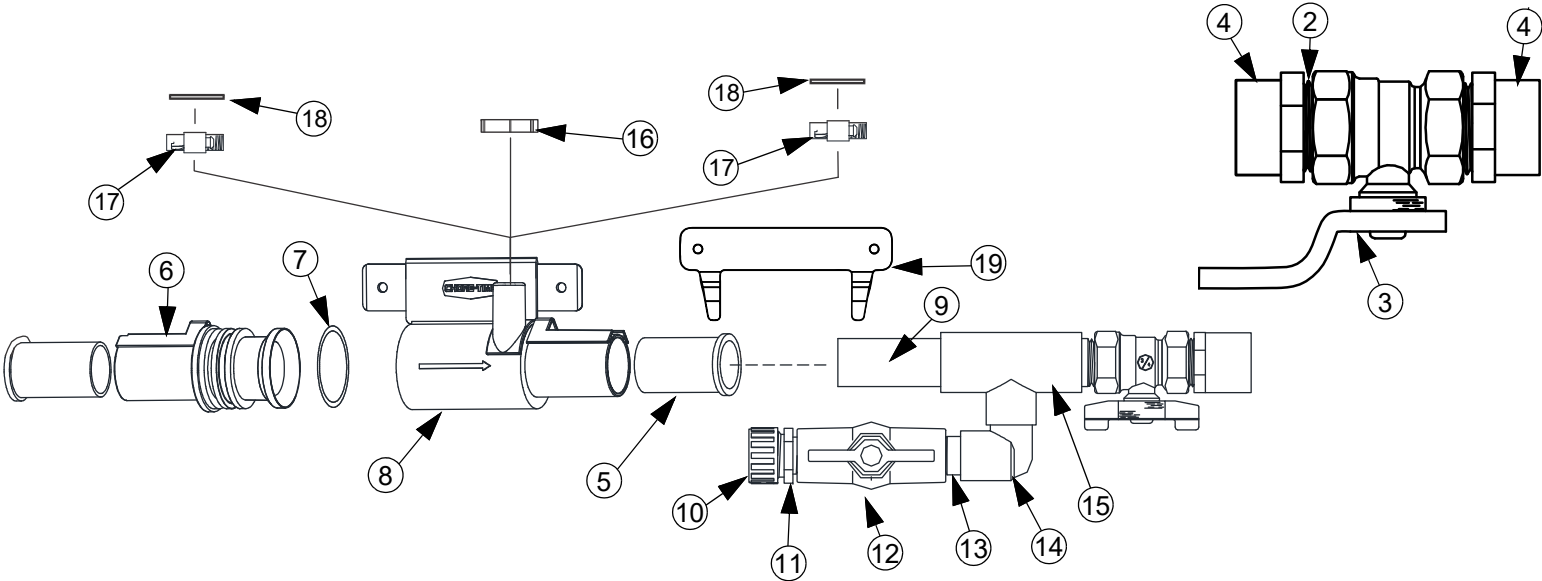
## Mid Line Air Remover Assembly (52273-X)



Item	Description	52273-1 Part No.	52273-2 Part No.	52273-4 Part No.
1	Compensator Outlet Assembly	36505-1	36505-1	36505-1
2	Half Liner	36501	36501	36501
3	Inlet Assembly	46464	46464	46464
4	O-Ring	44015	44015	44015
5	Compensator Vent Port	37557	37557	37557
6*	Folding Stand Tube Assembly	54517-8	--	--
	Rigid Stand Tube Assembly	--	54517-4	--
	Flex Stand Tube Assembly with Adapter	--	--	54517-1
7	Adjustable Hose Clamp	--	--	7187
8	1-1/4 Nylon Clamp	--	54517-4	--
9	1/2 x 1/16 O-Ring	--	---	48325-1
10	10-24 x .625 HXWH Screw	54517-8		1876
11	#10-24 Kepnut	---	---	27725
12	.20x.403x.023 Lock Washer	7187	7187	305
13	Mid-line Bracket	48325-1	48325-1	56381-1

\*See "Stand Tube Assembly (54517-X)" on page 46. for parts breakdown.

Mid Line Shut-Off Kit with Flush



		52273-S1	52273-S2	52273-S3
Item	Description	Part No	Part No	Part No
1A*	Rigid Stand Tube Assy	---	54517-4	---
1B*	Flexible Stand Tube	54517-1	---	---
1C*	Folding Stand Tube	---	---	54517-8
2	3/4" Threaded PVC Pipe	7531-5	7531-5	7531-5
3	3/4" Ball Valve	29623	29623	29623
4	3/4" PVC Male Adapter	9229	9229	9229
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

		52273-S1	52273-S2	52273-S3
Item	Description	Part No	Part No	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	Nylon Clamp	54909	--	--
17	Adjustable Clamp	--	7187	7187
18	O-Ring	--	48325-1	48325-1
19	Mid-line Bracket	56381-1	56381-1	56381-1
--	Ground Jumper Wire	36500W	36500W	36500W

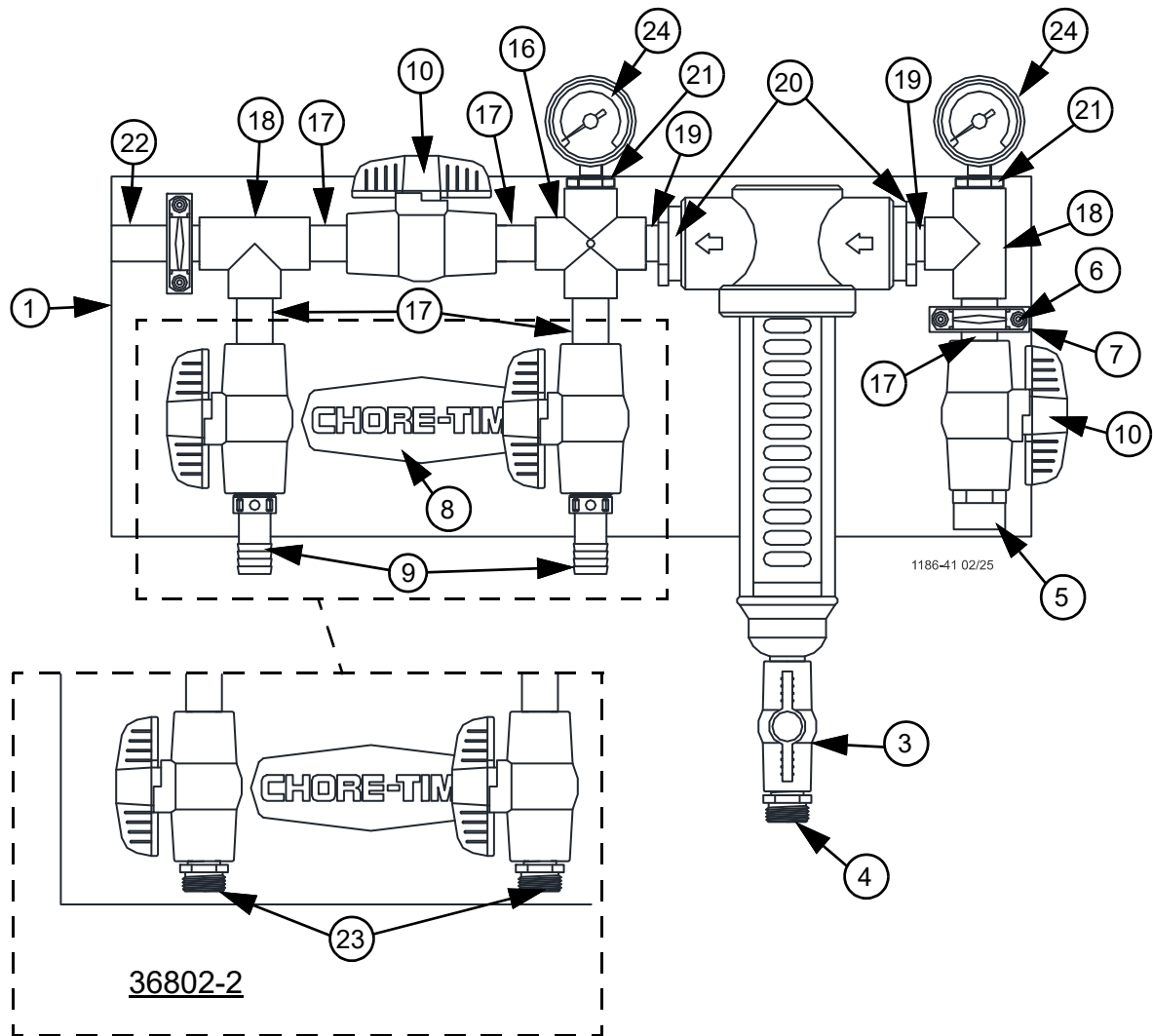
\*See "Stand Tube Assembly (54517-X)" on page 46. for parts breakdown.

		52273-S
Item	Description	Part No
3	3/4" Quarter Turn Valve	29623
4	3/4" PVC Male Adapter	9229

## Flushable Filter Control Panel

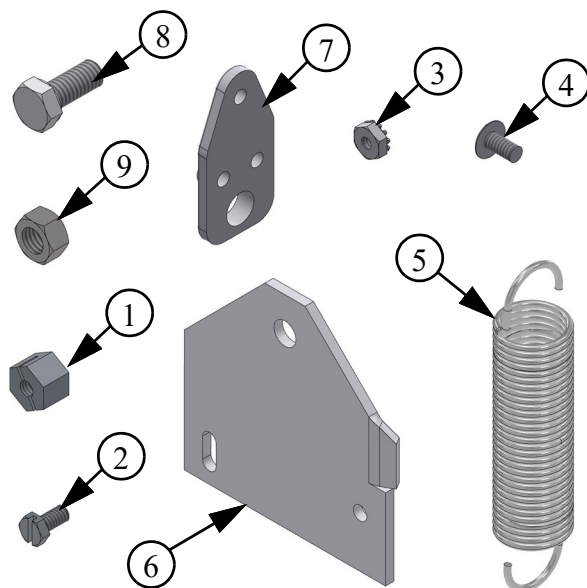
Low Pressure: 36802-1 (Less than 11 psi)

High Pressure: 36802-2 (Greater than 11 psi)



		36802-1 5-10 PSI	36802-2 11 & Greater PSI
Item	Description	Part No	
1	Mounting Board	35303	35303
2	Flushable Filter	36806	36806
3	1/2" Ball Valve	34961	34961
4	Nylon Adapter	29141	29141
5	3/4" PVC Male Adapter	9229	9229
6	#10 Philips Pan Hd. Screw	35423	35423
7	3/4" Plastic Conduit Clamp	35301	35301
8	Chore-Time Decal	2525-4	2525-4
9	3/4" Male Adapter (Nylon)	29422	--
10	3/4" Valve	35781	35781
12	Standoff Block	35300	35300
13	#10-13 x 1.5 Ph. Screw	35424	35424
16	3/4" Cross	7536	7536
17	3/4" Threaded PVC Nipple	7531-9	7531-9
18	3/4" Tee	7538	7538
19	.75 x 1.75 PVC Pipe	9205-18	9205-18
20	1-1/2 x 3/4 PVC Reducer Bushing	36808	36808
21	3/4" x 1/4" Reducer Bushing	7789	7789
22	3/4 x 3.0 PVC Pipe	9205-4	9205-4
23	3/4 Barb to 3/4 Pipe Adapter	--	7543
24	Low Pressure Water Gauge	27722	27722
25**	1/2 Pint PVC Cement	6303-3	6303-3
26**	Replacement 140 Mesh Filter	36809	36809
27**	Flush able Filter Assembly	36810	36810
*Included with Item 5.			
**These parts may be ordered separately, if needed.			

## Anti-roost system Parts Package



Item	Description	34531-2	44943
		Part No.	
1	10-24 Slotted Nut	1840	1840
2	10-24 x .38 Screw	1951	1951
3	10-24 Nut	33926	--
4	10-24 x .5 Slotted Screw	4422-2	--
5	Spring	25353	--
6	Anchor Plate	42807	42807
7	Adjustment Leveler	3075	3075
8	5/16-18 Hex Nut	2145-1	2145-1
9	5-16-18 x .75 Bolt	4412-11	4412-11

## Anti-roost Wire

Description	Part No.
5000' [1524m] 1/16-1x7 Aircraft Cable	1922-5000

## Poultry Trainers

### Line Chargers

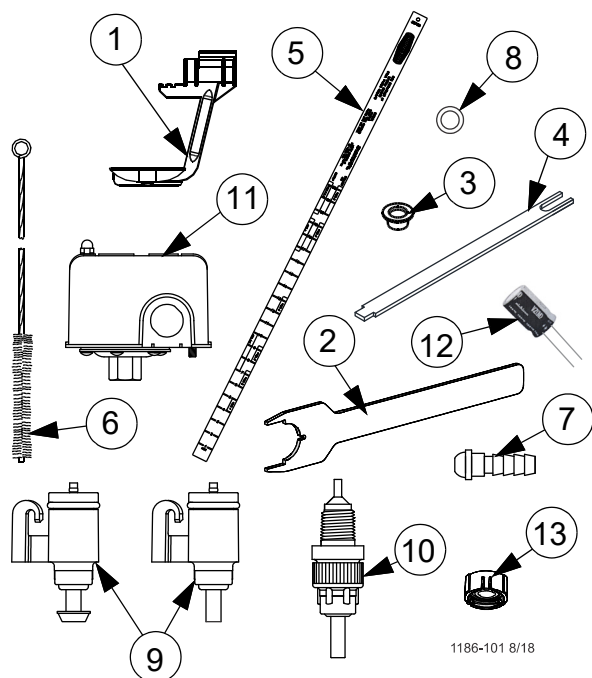
Part No.	Description	Voltage
29317	Line Mount Charger Assembly	120 V, 60 Hz
29341	Line Mount Charger Assembly	220 V, 50/60 Hz
29333	Wall Mount Poultry Trainer	120 V, 60 Hz
29325	Wall Mount Poultry Trainer	220 V, 50/60 Hz

### Poultry Trainer Wire

Part No.	Description
28994-500	16 Gauge High Voltage Wire (500' Spool)
28994-165	16 Gauge High Voltage Wire (165' Spool)

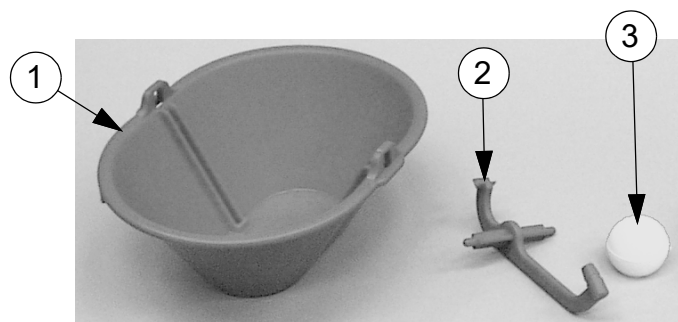


## Miscellaneous Kits and Components



Item	Description	Part No.
1	Catch Cup	36591
2	Assembly Tool	57207
3	Cap Plug (qty of 100)	54319-100
4	Regulator Seat Installation Tool	48688
5	Broiler Management Stick	35750
6	Pipe Brush	29465
7	.25 Hose Barb	40420
8	.239 x .379 x .07 O-Ring	43898
9	J-Lock Replacement	49014-1
	J-Lock Replacement (Button Trigger)	49014-1B
10	1/8" NPT Nipple Valve (Replacement) Broiler- Hi Flow-	46487-1 46487-2
11	Water Pressure Switch	46597
12	10UF 25V Capacitor	54001
13	Regulator Seat and Cup Kit	42188
-	Super O-lube	45911
-	Center Mount Regulator Kit	48914

## Nipple Waterer Mini Drinker: 35412



		35412
Item	Description	Part No.
1	Mini Drinker Bowl	34790
2	Pivot Arm	34791
3	Float Ball (small)	25026

## Miscellaneous Hose Components

Description	Part No.
Female 3/4" Hose Coupling Kit	7812
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'.

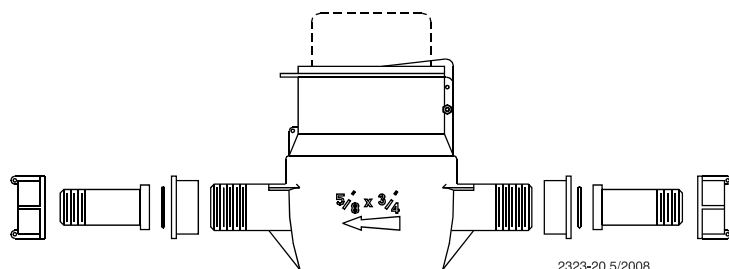
The numbers following the dash represent the length of hose (47820-50 is 50' of hose).

## Water Medicator

	41778-1 Chemilizer (1-100 Ratio)	40203 Dosmatic Adjustable Medicator
Description	Maintenance Part Numbers	
Replacement Pump	41827	--
Pump Rebuild	41829	--

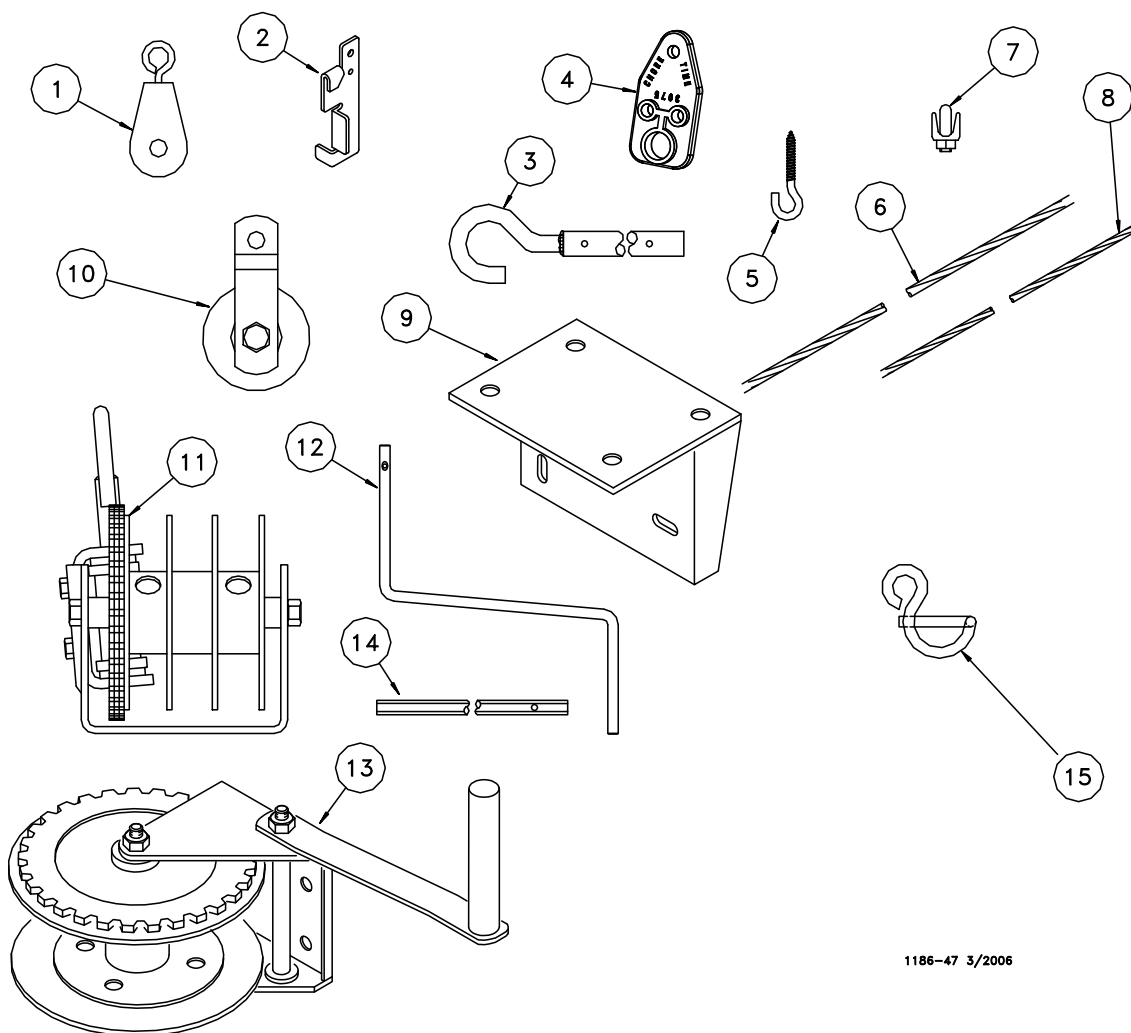
## Water Meters

**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

## Suspension System Components:



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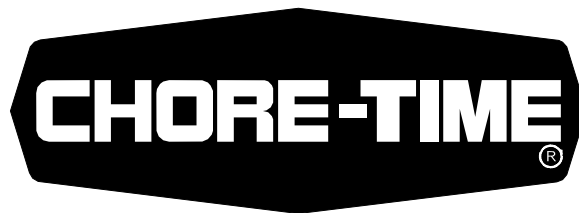
Item	Description	Part No.
1	Pulley with Swivel Hook	44577
2	Cable Adjustment Leveler	14337
3	Winch Drive Tube (4 ft.)	2884-1
	Winch Drive Tube (8 ft.)	2884-2
4	Rope Adjustment Leveler	3075
5	Screw Hook (Standard)	1214
	Screw Hook (Large)	2041
6	1/8" Cable	27975
7	1/8" Cable Clamp	14898
8	3/32" Drop Cable	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
--	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.		

**Made to work.**

**Built to last.®**

### **Revisions to this Manual**

<b>Page No.</b>	<b>Description of Change</b>	<b>ECO</b>
Various	Various updates. Regulator changes, updated Regulator Seat replacement section. Added Various references to Catalyst.	40158
14	Added 2 wire wiring.	
22-23	Added Midline Installation instructions.	
25	Added Slope Compensator Installation instructions.	
28	Updated Regulator Seat Replacement instructions.	
45	Corrected Item 4 arrow location. Added -8, and -9.	
48-49	Updated to Slip Fitting and various updates 42182 was 42177.	
50-55	Separated Saddle Assemblies from Main Assembly-reconfigured charts.	
58-59	Updated Slope Compensator Pictorial and corrected Chart.	
59	Removed 56075 (obsolete), added descriptions to models.	
59-60	Updated MidLine Pictorial.	
61	Removed one 48325-1 O-Ring.	
65	Obsoleted 37141 Hose Barb.	
66	Obsoleted 56075 Brass Water Meter.	



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

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