Pulsar® Infinity

Installation and Operation Manual

Model #PS-2SD

Revised August 2019

Product Stewardship

MAKING THE WORLD A BETTER PLACE

Innovative Water Care is committed to maintaining and improving our leadership in the stewardship of our products. One of our initiatives is to make health, safety, and environmental protection an integral part of a product's life cycle – from manufacture, marketing, and distribution to use, recycling, and disposal.

Everyone involved with the product has responsibilities to address society's interest in a healthy environment and in products that can be used safely. We are each responsible for providing a safe workplace. All who use and handle products must follow safe and environmentally sound practices.

For more information about our Product Stewardship Program, contact your Innovative Water Care Representative. For product inquiries, contact 1-800-4-PULSAR or pulsar@lonza.com.

Dealer Contact:

Pulsar® Infinity Feeder Warranty Policy

Registration

Register your **Pulsar**® Inifnity Feeder (the "Equipment") within 30 days of your purchase date and your equipment will qualify for a two (2) year warranty! Register your feeder at www.pulsarinfinity.com. Please note you will need to provide proof of purchase with purchase date when registering your feeder.

Limited Extended Warranty

If your **Pulsar**® Infinity Feeder is registered within 30 days of purchase, your equipment is warranted against defects in material and workmanship for a period of 24 months after shipment by Innovative Water Care. If you do not register your **Pulsar**® Infinity Feeder before the registration deadline, your equipment is warranted against defects in material and workmanship for a period of 6 months after purchase. This warranty applies only to the original end-user and this warranty is not transferrable. The extended warranty does not include any electrical components. Electrical components' warranty is limited to 6 months in all cases.

Innovative Water Care warrants any equipment replacement parts to be free of defects in material and workmanship for a period of ninety (90) days from the date of installation. This warranty is restricted to **Pulsar**® Infinity Feeder parts purchased on a replacement basis.

Exclusions

This warranty does not cover service, damage or failure due to accidents; fire, flood or other acts of God; abuse; misuse; abnormal or improper use; neglect; improper maintenance; alterations or modifications by anyone other than Innovative Water Care or a Innovative Water Care authorized dealer representative; repairs by anyone other than Innovative Water Care or a Innovative Water Care authorized dealer representative; or ordinary wear and tear. Use of any tablets or chemicals other than the **Pulsar**® Infinity Tablets with the equipment voids any warranty. Innovative Water Care makes no expressed or implied warranties other than those stated above. No Innovative Water Care representative or authorized dealer representative has authority to change or modify this warranty in any respect. Innovative Water Care shall not be responsible or liable for any indirect, special, or consequential damages or any damages with respect to loss of property or loss of revenues or profit that arise out of or in connection with the use or performance of the equipment.

Pulsar® Infinity Replacement Parts

Innovative Water Care
1400 Bluegrass Lakes Parkway
Alpharetta, GA 30004

Table of Contents

1 Introduction

1.1 Pulsar® Infinity Tablets

The patent-pending, slow dissolving **Pulsar**® Infinity Tablets are a 3-in-1 product that chlorinates consistently, increases calcium to protect plaster, and increases alkalinity to stabilize pH. The benefits of the **Pulsar**® Infinity Tablets include but is not limited to:

- DOES NOT add cyanuric acid to your pool reducing wasteful drainage
- DOES NOT reduce ORP effectiveness
- Dissolves slowly to give long lasting chlorination
- DOES NOT form nitrogen trichloride (strong chlorine odor) associated with trichlor use
- Highly concentrated to reduce shipping and handling costs
- More concentrated than liquid bleach
- Longer shelf life when compared to liquid bleach
- Adds less total dissolved solids (TDS) than liquid bleach
- Class 2 Oxidizer (less restrictive storage requirements compared to Class 3 Oxidizers)

1.2 Pulsar® Infinity Feeder

The **Pulsar**® Infinity Feeder is an easy to use, automatic solution that is exclusively designed to feed **Pulsar**® Infinity Tablets. Other calcium hypochlorite or trichlor tablets will not fit into the feeder nor will they dissolve properly and provide the appropriate feed rate. With the simplicity of an erosion feeder, the **Pulsar**® Infinity Feeder's streamlined design is easy to install, service and requires minimal operator maintenance.

2 Overview

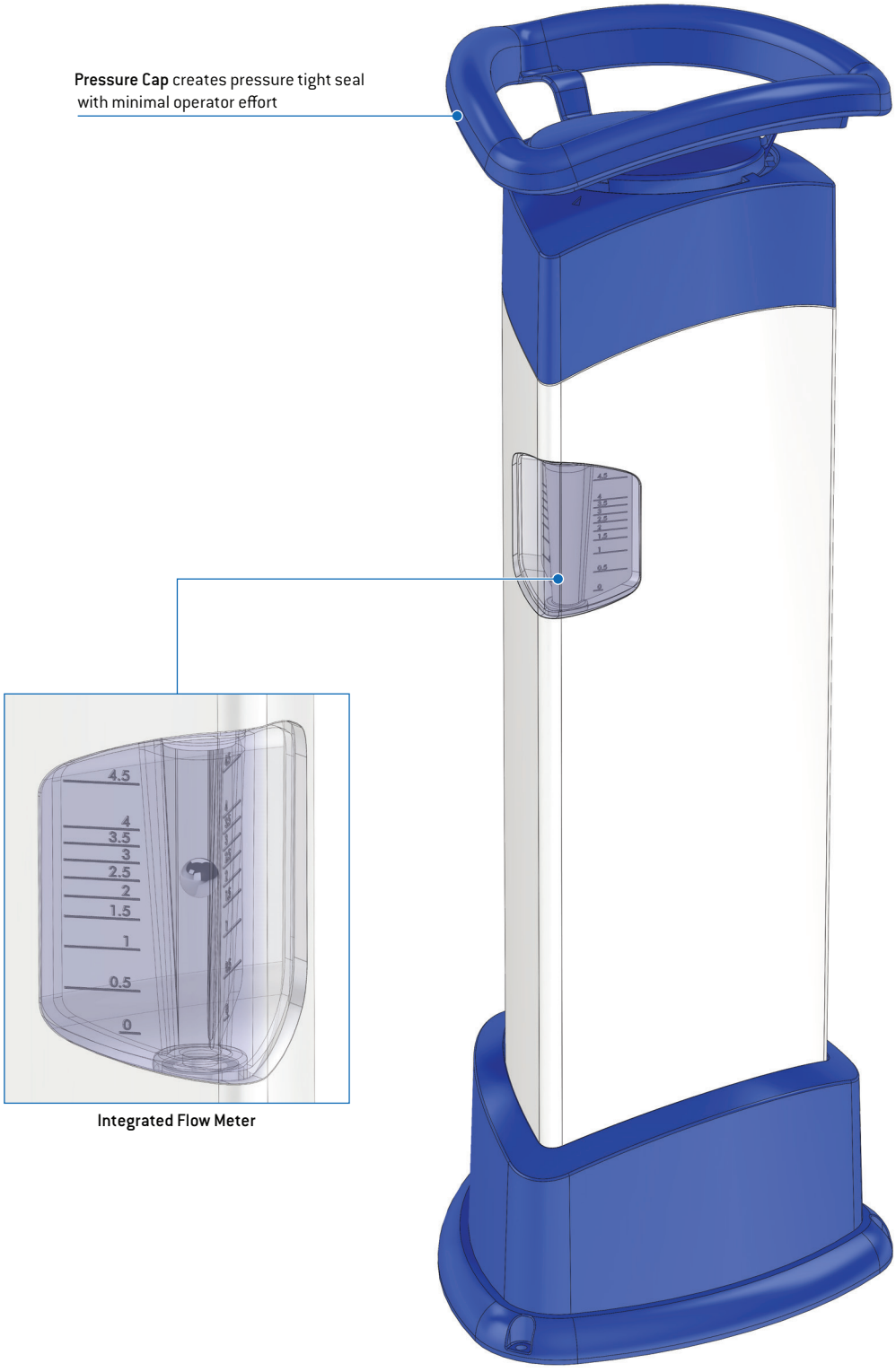
2.1 Theory of Operation

The patent-pending **Pulsar**® Infinity System is a pressurized feeder system designed for pools and spas ranging from 500 to 60,000 gallons [1,892.7 to 227,124.7 liters]. A pre-filter to post-filter loop will be added to the main pool recirculation system as part of the **Pulsar**® Infinity System. This recirculation loop will create the pressure differential to provide the proper flow of water through the feeder.

The **Pulsar**® Infinity System incorporates the principles of High Capacity Erosion (HCE) technology. Water rises in a "column" from a submerged nozzle below the tablet grid making contact with the **Pulsar**® Infinity Tablets. The tablets are then submerged in a column of water with the water flow from the nozzle creating a chlorinated solution that is discharged to the pool return line. The feeder operates in a pressurized condition with a pressure range between 5 to 20 psig [0.35 to 1.38 bar].

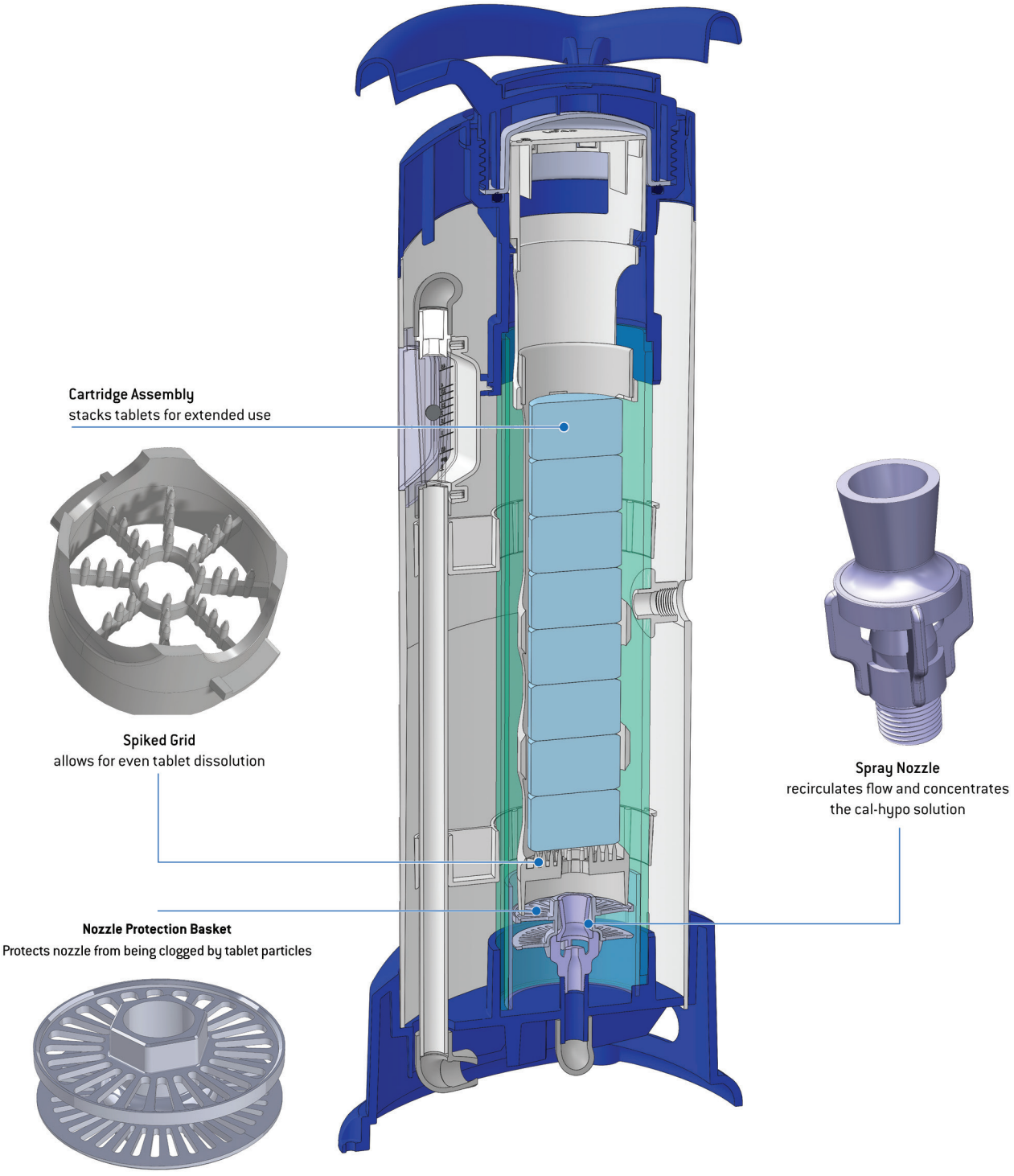
The chlorine output is controlled by the cartridge height setting (distance of the tablet from the nozzle) and the inlet flow rate which has an operating range of 0.5 to 4.5 gpm [1.9 to 17.03 lpm]. In addition, an ORP controller may be used for more precise control. The inlet flow rate will allow a minimum available chlorine (AvCl) output of 0.5 lb/day [0.2 kg/day] and will allow a maximum AvCl output of 9 lbs/day [4.1 kg/day] for both pools and spas.

2.2 Major Components

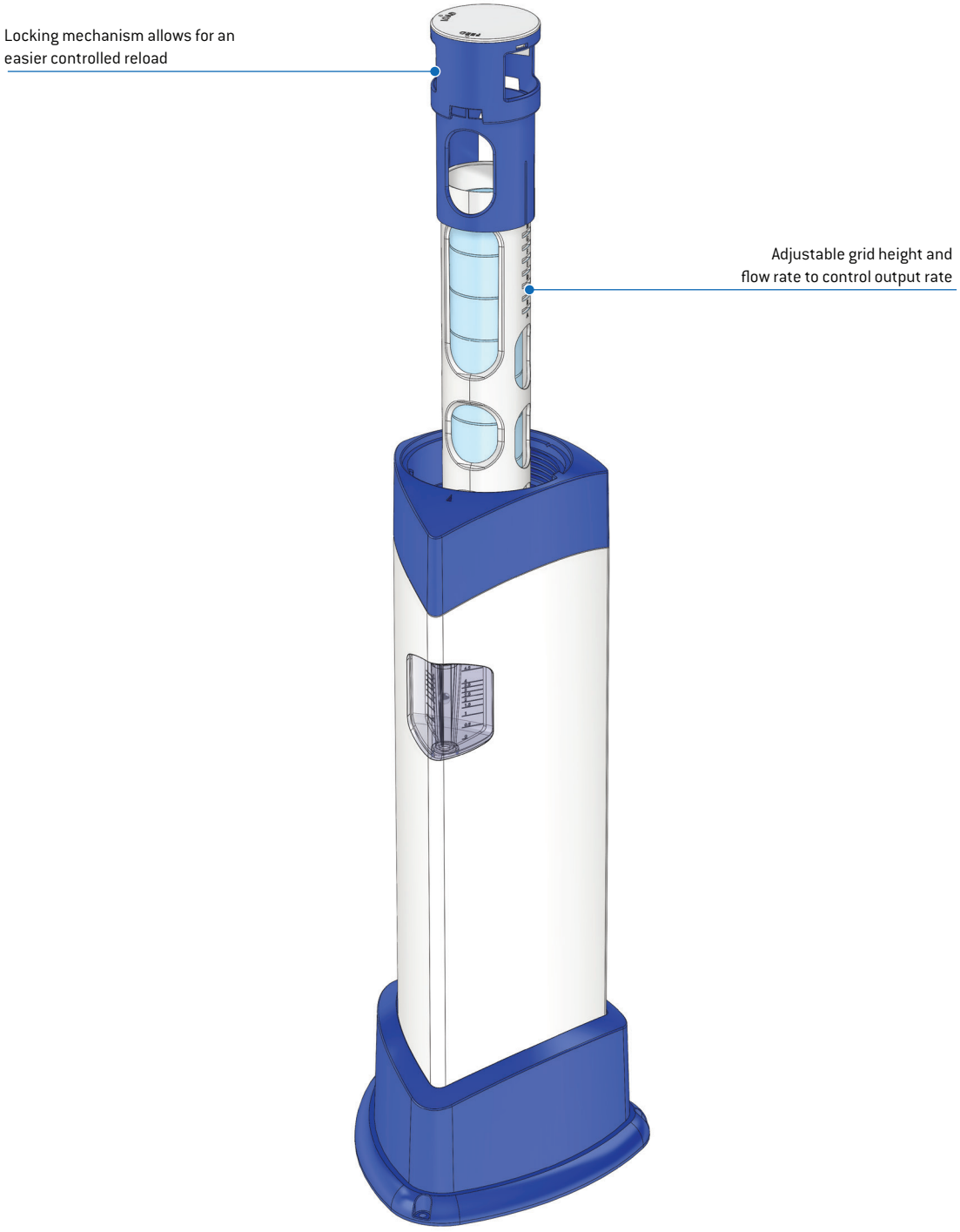


Integrated Flow Meter

2.2 Major Components



2.2 Major Components (continued)



2.3 Specifications

Operational Characteristics	
Operating Pressure range	5 to 20 psig [0.35 to 1.38 bar]
Nominal Pressure	15 psig [1.03 bar]
Operating Temperature range	40º to 130º F [4.4º to 54.4º C]
Flow Rate range	0.5 to 4.5 gpm [1.9 to 17.03 lpm]

Dimensions	
Tubing	5/8" [15.9 mm] O.D. (LLDPE)
Feeder	W12" x D13" x H31" [304.8 mm x 330.2 mm x 787.4 mm]

Weight	
Feeder Weight full	29.4 lbs [13.3 kg]
Feeder Weight empty	23 lbs [10.4 kg]

Cartridge Capacity	
Tablet Quantity	11
Weight	6.4 lbs [2.9 kg]

Feed Rate	
Available Chlorine (per day)	Pool: 0.5 to 9.0 lbs (0.2 to 4.1 kg) Spa: 0.5 to 9.0 lbs (0.2 to 4.1 kg)
Available Chlorine (per hour)	Max: 0.375 lbs (0.17 kg)
Recommended Pool Size (Notes 1 & 2)	
Indoor	1,000 to 60,000 gallons [3,785.4 to 227,124.7 liters]
Outdoor Stabilized	1,000 to 40,000 gallons [3,785.4 to 151,416.5 liters]
Outdoor Un-Stabilized	1,000 to 25,000 gallons [3,785.4 to 94,635.30 liters]
Commercial Spa	500 to 5,000 gallons [1,892.7 to 18,927.1 liters]

NOTE:

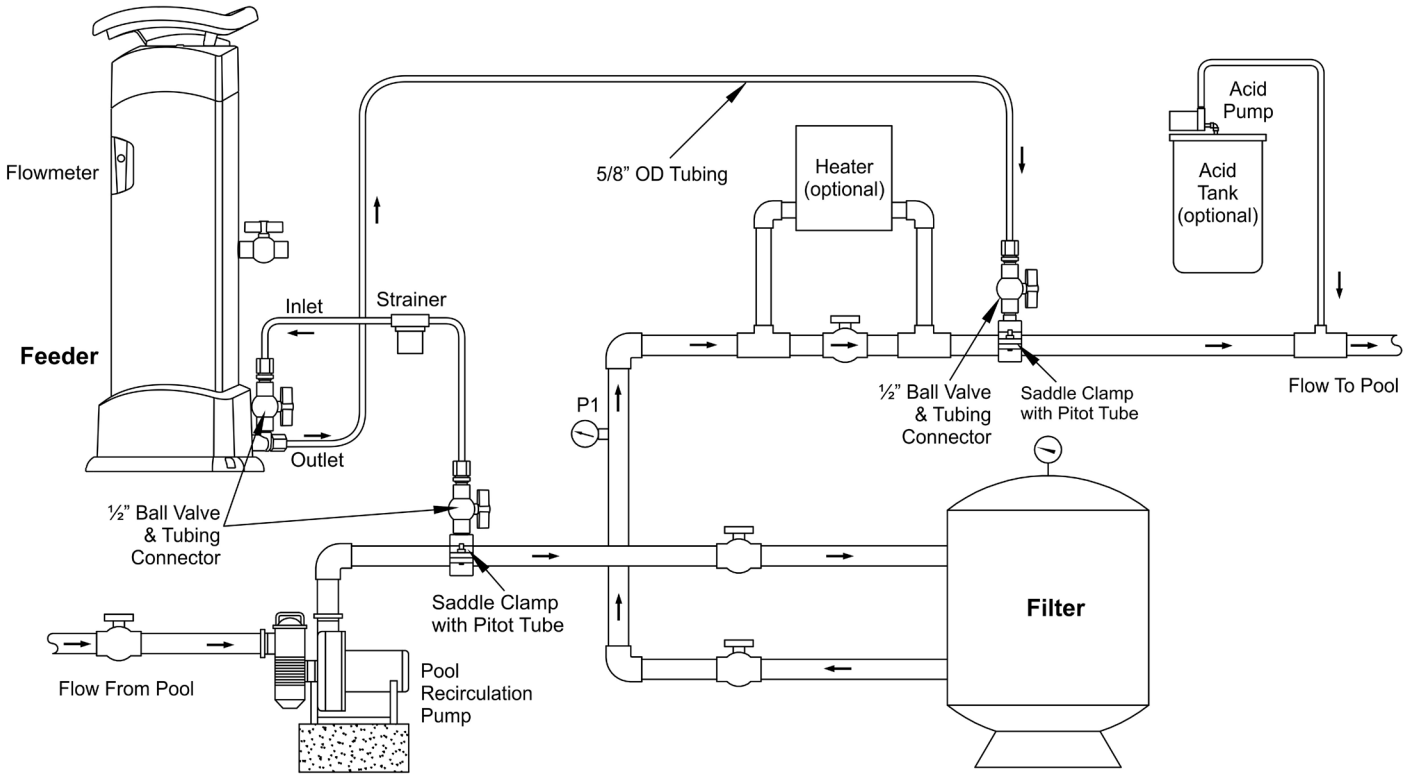
1. Applicable pool size is subject to local health codes.

2. Recommended pool size is a guideline based on ideal conditions. Actual pool size will vary due to site specific conditions.

3 Installation

3.1 Pulsar® Infinity System: Standard Installation

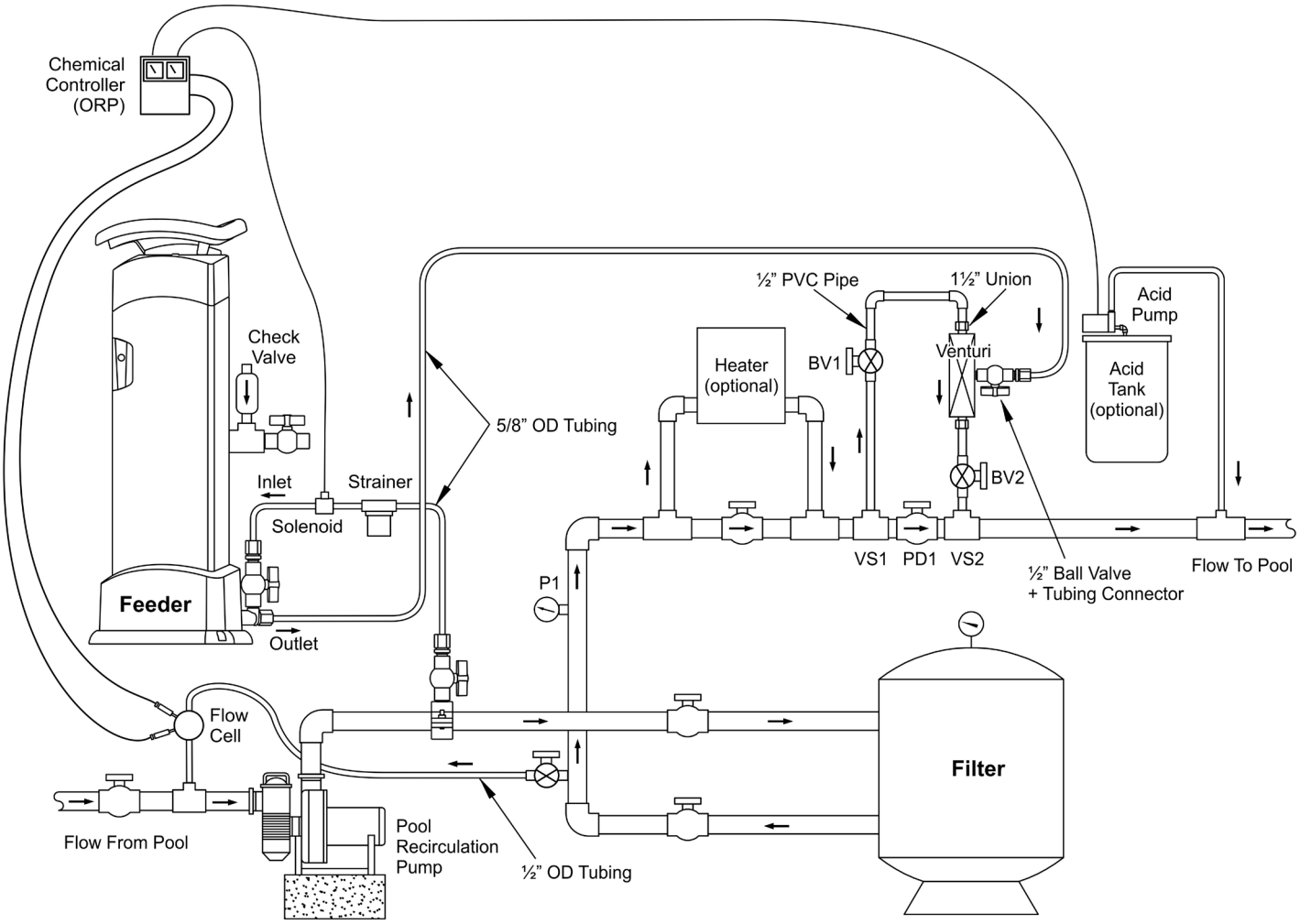
Choose a location in the pump room that will allow easy access for replenishing the feeder cartridge with **Pulsar**® Infinity Tablets. The **Pulsar**® Infinity Feeder will be positioned in a location such that the pre to post filter recirculation loop is feasible.



NOTE: Refer to Appendix A for Pitot Tubes for 2 ½" and 3" pool piping

NOTE: If greater feed rates are required, contact your dealer for alternative feeder options

3.1.1 Pulsar® Infinity System with ORP Chemical Control



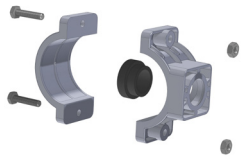
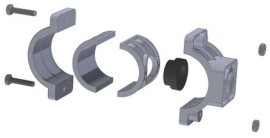
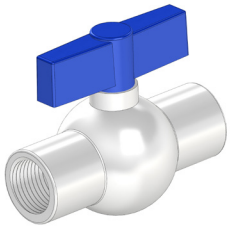
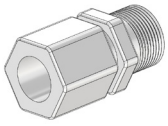
NOTE: If greater feed rates are required, contact your dealer for alternative feeder options

NOTE: Refer to Appendix A for Pitot Tubes for 2 ½" and 3" pool piping

3.2 Tools & Equipment Required for Feeder Installation

- Drill – Cordless Recommended
- 7/8" [22.2 mm] Drill Bit
- Plumbers Tape or Pipe Sealant
- Tube Cutters or Utility Knife
- Gas Pliers (Channel Locks)
- 7/16" (11 mm) Nut Driver, Socket or Box wrench

3.3 Installation Parts and Assemblies

Part	Description	Part Number
	A - (2) Adjustable Saddle Clamp Assembly for 2" [50.8 mm] pipe	73096
	B - (2) Adjustable Saddle Clamp Assembly for 1-1/2" [38.1 mm] pipe	73096
	C - (2) 5" x 1/2" [127 mm x 12.7 mm] MNPT Pitot tube Refer to Appendix A for Pitot Tubes for 2 ½" and 3" pool piping	73086
	D - (3) 1/2" [12.7 mm] FNPT x 1/2" [12.7 mm] FNPT PVC Ball Valves	74061
	E - (4) 1/2" [12.7 mm] MNPT x 5/8" [15.9 mm] O.D. Tubing Connector - W10MC8	71918
	F - 12' X 5/8" [365.76 cm X 15.9 mm] O.D. LLDPE Tubing	73095
	G - (2) 1/2" [12.7 mm] PVC Closed Nipples	71611

3.4 Installation Procedure

Background: The next steps involve installing a loop around the pool filter where the **Pulsar**® Infinity Feeder will be located. The pool filter will create a pressure differential to provide flow through the **Pulsar**® Infinity Feeder. This loop is created using the saddle clamps, pitot tubes, ball valves, tube fittings, and tubing provided with your system.

NOTE: Refer to the schematics on pages 11-13 for a pool system installation and follow the steps below.

NOTE: Before starting installation, determine if the pipes to be drilled are above or below the pool water level. If they are below the pool water level, isolation valves must be shut to prevent backflow through the holes that are being drilled. If isolation valves are shut properly, some water may drain out of the drilled holes but will stop once piping is empty.

NOTE: Apply plumbers tape to all male threads to ensure a leak free connection.

NOTE: Pitot tubes can be installed in either horizontal or vertical pool piping.

3.4.1 Making the inlet connection from the pool to the feeder (Pre-Filter)

Choose a location on the main pool recirculation piping on the discharge side of the pool pump but upstream of the pool filter(s). Make sure the pool pump is off and shut isolation valves from the pool piping so that it is dry.

1. Drill 7/8" (22.2 mm)hole anywhere on the top half of the pipe (figure 1). **Caution: Do not drill on the bottom half of the pipe. Excess debris may enter your feeder.**

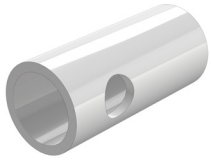
2. For 2" [50.8 mm] pool pipe, use Assembly A (figure 2a). Do not yet fully tighten nuts (figure 2b). For 1-1/2" [38.1 mm] pool pipe, use Assembly B (figure 2c). **Refer to Appendix A for Pitot Tubes for 2 ½" and 3" pool piping.**

3. Insert part C (figure 3a). **Make sure Pitot tube is fully inserted prior to tightening saddle clamp** (figure 3b).

4. Connect part D, Ball Valve (figure 4).

5. Connect part E, Tubing Connector (figure 5).

Figure 1



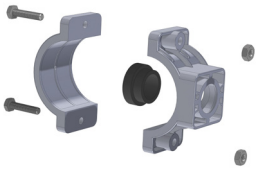


Figure 2a

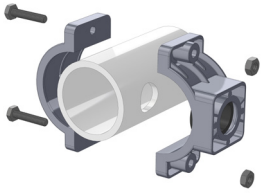


Figure 2b

Figure 2c

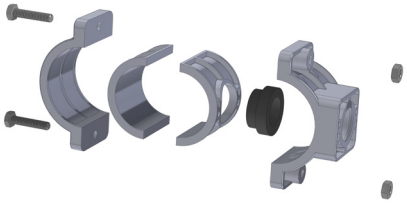


Figure 3a

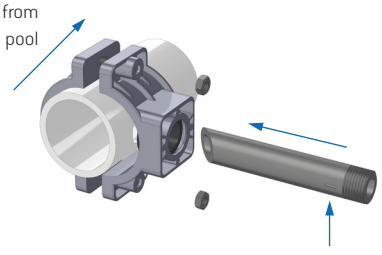


Figure 3b

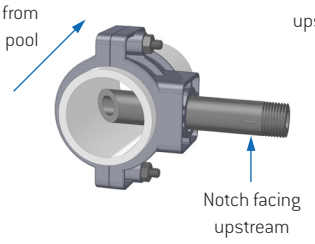


Figure 4

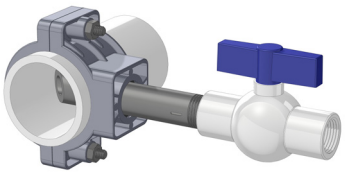
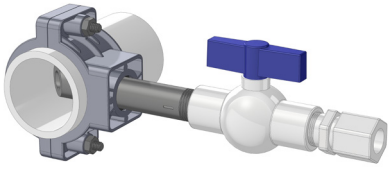


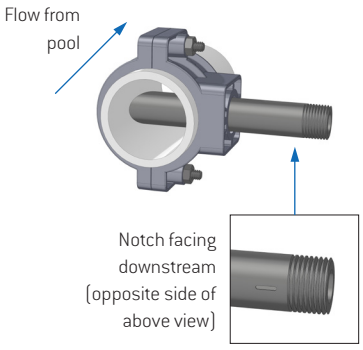
Figure 5



3.4.2 Making the chlorine injection connection from the feeder to the pool (post-filter and heater)

Choose a location on the main pool recirculation piping downstream of the pool filter(s), and heater (if available), but before the acid or CO_2 injection point.

1. **To make the outlet connection from the feeder to the pool, repeat all steps from section 3.4.1 except for step #3. Step #3 is modified as follows:**



3.4.3 Completing the feeder circulation loop

1. Complete feeder assembly with parts part D, ball valve, and part E, tubing connector (figure 6).

2. Connect part D, ball valve, and part G, closed nipple to the drain port to complete the feeder assembly (figure 7a & 7b).

3. Choose a location for the **Pulsar**® Infinity Feeder that allows easy access for filling and maintenance.

4. Using the 5/8" [15.9 mm] O.D. tubing, part F (see figure 8), cut the tubing to size and connect the feeder inlet to the pre-filter tubing connector installed in step #5 of section 3.4.1, and connect the feeder outlet to the post-filter tubing connector installed in step # 1 of section 3.4.2.

This completes your feeder recirculation loop.

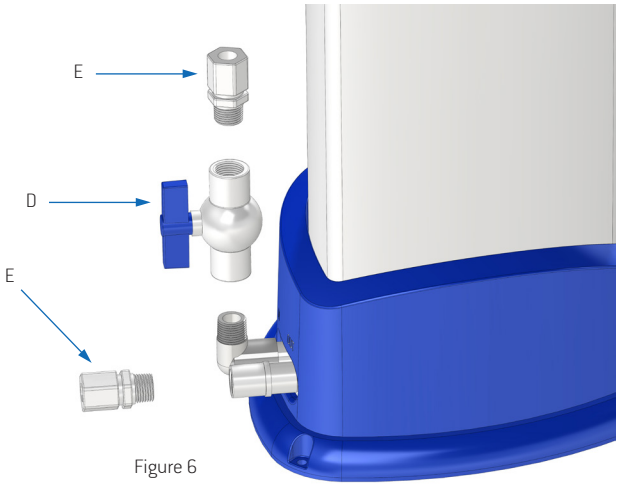


Figure 6

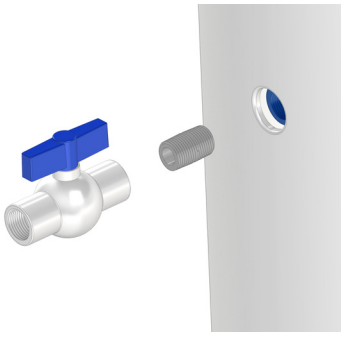


Figure 7a

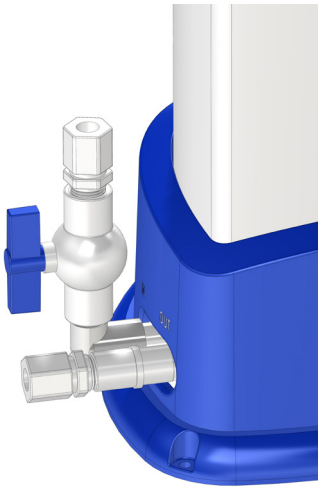


Figure 7b


Figure 8

4 Feeder Start Up

4.1 Pre-Startup Procedure

Following the steps outlined below will ensure a smooth start-up of the **Pulsar**® Infinity Feeder. For seasonal operation, perform this procedure each Spring.

IMPORTANT!! Do NOT put Pulsar® Infinity Tablets in the feeder during the start-up operation.

4.1.1 Verify water flow through feeder

1. With the **Pulsar**® Infinity Feeder fully installed per the installation procedure, section 3.4, turn on the pool recirculation system, and open all valves to the feeder.

   Note: Before starting the flow test, ensure the pressure cap at the top of the feeder is on and shut. Turn cap clockwise a quarter turn until the triangle of the cap lines up with the body of the feeder. This indicates the pressure tight seal on the feeder.

2. Increase the flow rate going through the feeder until it reaches the maximum flow rate as read on the flow meter on the front of the feeder.

3. With maximum flow going through the feeder, check the system for leaks. Tighten all fittings as necessary if leakage is observed.

4. When all leaks have been corrected, shut the inlet valve first, then shut the outlet valve to fully isolate the feeder from the pool filter system.

4.1.2 Adjusting the cartridge feed rate setting

Note: Adjust cartridge feed rate setting prior to loading with Pulsar® Infinity Tablets. The feed rate setting of the cartridge may not be able to be reduced if already full of tablets. Refer to table 4.2.2 on page 21 for feed rate setting.

1. With pressure cap and seal cap removed, remove the cartridge assembly from the feeder, turn counter clockwise so that load lines up with arrow on the feeder (figure 9). This locks the cartridge assembly for easy loading or feed rate setting adjustment. Follow steps #2 - #5 to complete the feed rate setting adjustment.

2. See figure 10.

3. Twist counterclockwise (figure 11).

4. Slide up or down (figure 12).

5. Twist clockwise (figure 13).

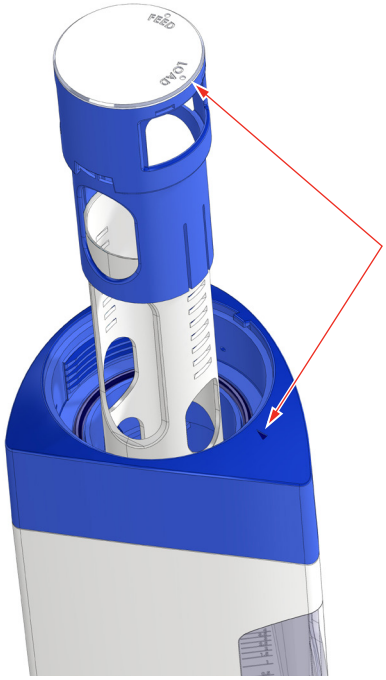


Figure 9

Figure 10

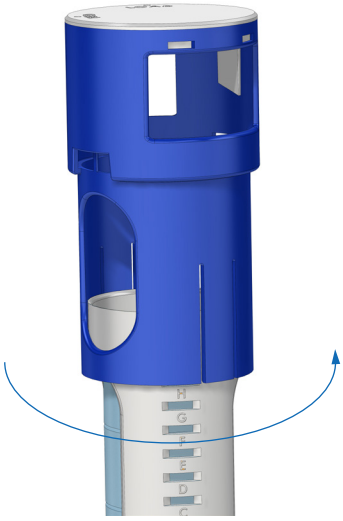


Figure 11

Figure 12

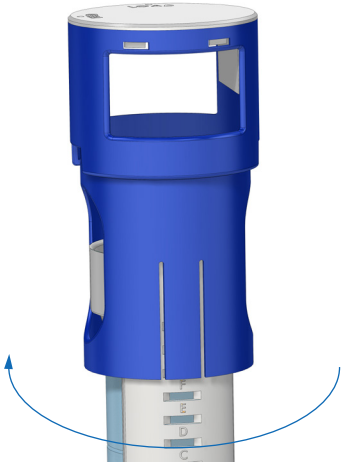


Figure 13

4.1 Pre-Startup Procedure (continued)

4.1.3 Loading the cartridge assembly with Pulsar® Infinity Tablets

WARNING - Use ONLY Pulsar® Infinity Tablets in the feeder. The use of any other treatment chemicals will void the warranty and NSF listing. DANGER: Under no circumstances should you mix calcium hypochlorite with other forms of concentrated chlorine or other chemicals. Fire and/or explosion may result. Caution must be used when refilling the cartridge with more tablets.

WARNING - Wear protective gloves when handling Pulsar® Infinity Tablets. Refer to Safety Data Sheets for additional information and precautions regarding the use and handling of the tablets.

WARNING - KEEP OUT OF REACH OF CHILDREN

1. Prior to removing the pressure cap, open the Ball Valve at the drain and drain the solution into a bucket or down to a drain (figure 14). **Caution: Failure to perform this step may result in a chlorine spill and possible injury.**
2. Remove pressure cap. See figure 15a & 15b.
3. Load tablets (figure 16a & 16b, page 19).
4. See figure 17 (page 19).
5. Verify that O-ring is still in place and there is no debris in the O-ring groove before replacing seal cap (figure 18, page 19).
6. Replace seal cap (figure 19, page 20).
7. To tighten pressure cap, follow the steps written on the top housing of the feeder as shown in Figure 20, page 20.
8. Align white dot on handle with white dot on housing cap (figure 21, page 20).
9. Twist cap clockwise to align white dot on handle with arrow on top housing (figure 22, page 20).

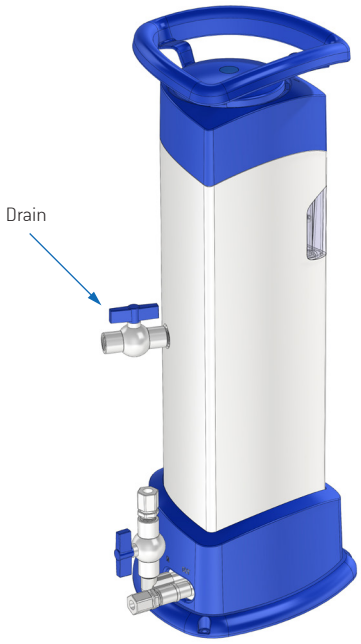


Figure 14

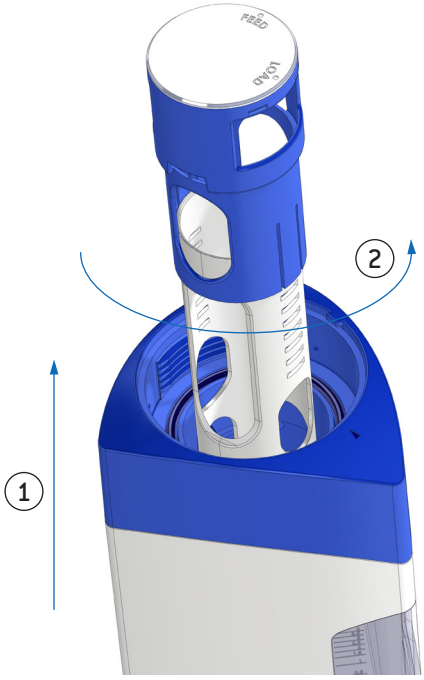


Figure 15a

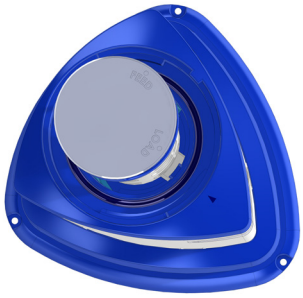


Figure 15b

4.1.3 Loading the cartridge assembly with Pulsar® Infinity Tablets (continued)

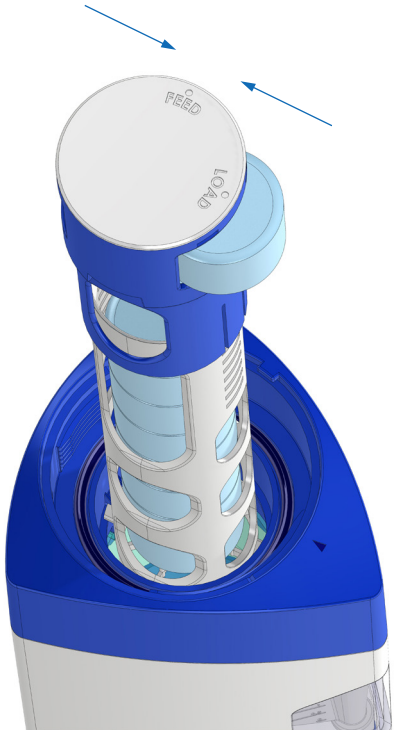


Figure 16a

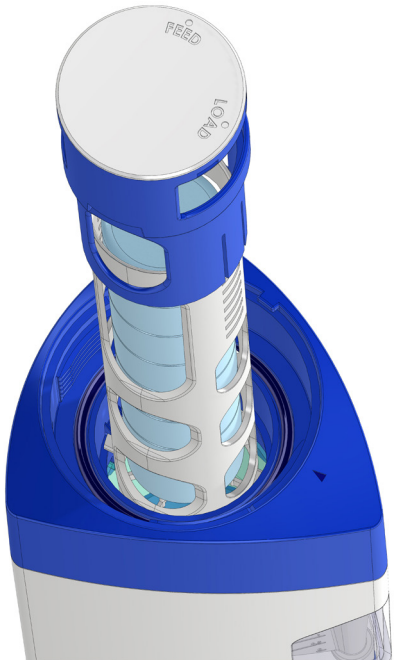


Figure 16b

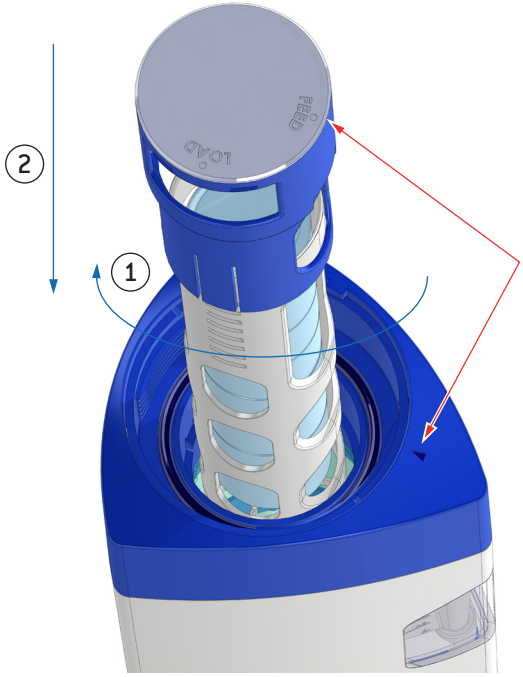


Figure 17

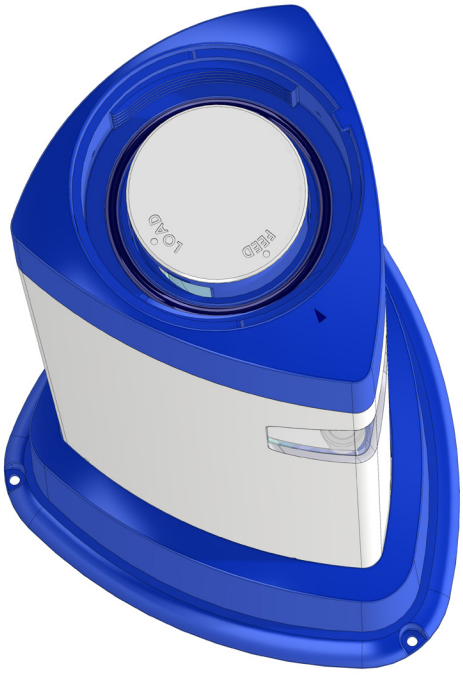


Figure 18

4.1 Pre-Startup Procedure (continued)

4.1.3 Loading the cartridge assembly with Pulsar® Infinity Tablets (continued)

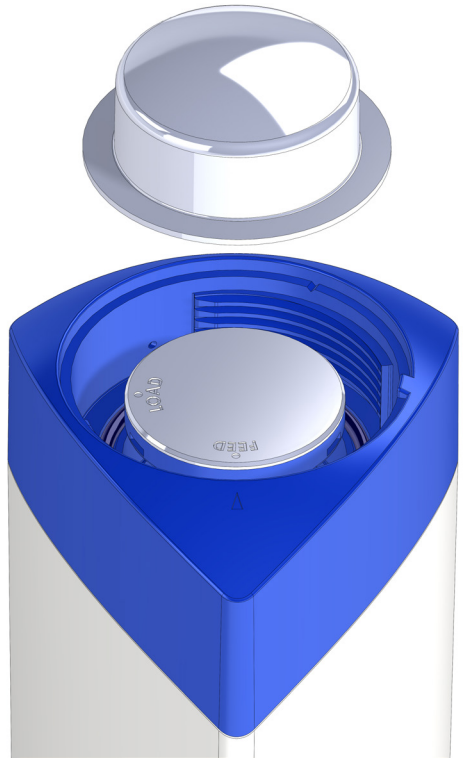


Figure 19

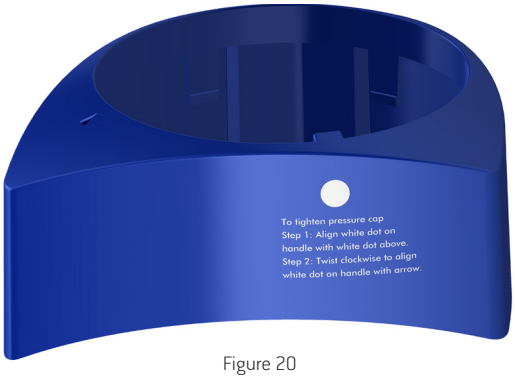


Figure 20

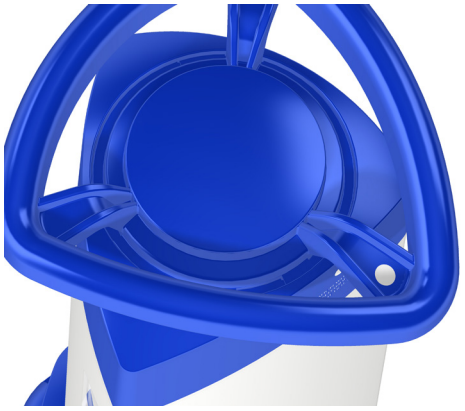


Figure 21

Figure 22

4.2 Startup Procedures

Warning - Higher than normal levels of chlorine may develop inside the feeder during extended periods of no flow through the feeder. This may result in a higher than normal level of chlorine injected into the pool when flow through the feeder is re-established. To prevent this, drain the feeder prior to start-up after extended periods of no flow through the feeder.

4.2.1 Feeder Startup

After completing the PRE-START-UP PROCEDURE, and establishing that all components of the feeder are operating properly, your **Pulsar**® Infinity Feeder is ready for start-up.

1. Establish the proper cartridge feed rate setting for your pool using the chart in section 4.2.2

2. Load the cartridge assembly with **Pulsar**® Infinity Tablets by following section 4.1.3.

3. Open the inlet and outlet ball valves at the pool piping.

4. Open the ball valve at the feeder inlet and set the flow meter to the recommended feed rate setting determined in step 1 using the ball valve at the feeder inlet.

   NOTE: If using the optional ORP kit, follow instructions in section 4.2.3 to control feed rate.

5. Monitor the flow rate through the feeder daily to ensure that the proper flow rate is being maintained.

6. During the first few days of operation, check the chlorine level in the pool frequently to establish the best inlet flow rate and cartridge feed rate setting for your pool. Adjust the chlorine output either up or down according to the table, or adjust the ORP setpoint if using the ORP kit.

4.2.2 Feed Rate Tables

Pool & Spa

Cartridge Setting	Inlet Flow Rate - gpm								
	0.5	1	1.5	2	2.5	3	3.5	4	4.5
	Output Rate (lbs. Av. Cl/Day)								
A	Use Higher Flow Rates				1.5	2	2.4	3.2	4.5
B					1.6	2.1	2.6	3.4	5
C					1.7	2.2	2.8	3.6	5.5
D				1.1	1.8	2.3	3	3.8	6.5
E				1.2	1.9	2.4	3.2	4	7.5
F	0.3	0.6	0.8	1.3	2	2.5	3.4	4.2	8
G	0.4	0.7	0.9	1.4	2.1	2.6	3.6	4.4	8.5
H	0.5	0.8	1	1.5	2.2	2.7	3.8	4.6	9

4.2.3 Controlling Chlorine Output With an ORP

1. Refer back to ORP schematic section 3.1.1.

NOTE: To use with an ORP, set the cartridge feed rate setting to H and fully open the inlet ball valve to allow maximum flow rate through the feeder.

5 Feeder Inspection and Maintenance

5.1 Feeder Maintenance

Due to the combination of low chlorine concentration and relatively high flow rate, maintenance of the **Pulsar**® Infinity Feeder should be minimal. To reduce the maintenance frequency even further, maintain pool water chemistry as follows:

Total Alkalinity	60-80ppm
Calcium Hardness	200-1800ppm
pH	7.2-7.6

5.2 Preventive Maintenance (quarterly or as needed)

A. Clean feeder with a standard 4 parts water / 1 part acid ratio quarterly.
   1. Shut the inlet and outlet isolation ball valves and disconnect inlet and outlet tubing
   2. Remove the pressure cap then remove cartridge assembly and all tablets from the feeder
   3. If the feeder was bolted down to the ground, unfasten bolts, then turn feeder upside down and empty out the feeder of remaining Cal Hypo debris
   4. Reconnect the inlet and outlet tubing, then slowly crack open the inlet isolation valve and allow water to flow into the feeder
      i. Caution: opening the inlet valve too fast may send water gushing up out of the feeder
   5. Once the feeder is almost full of water, Shut the inlet valve then add some acid to make up the 4:1 ratio (water : acid)
   6. Replace the pressure cap on the feeder and let the acid solution sit for 30 minutes
   7. Open the inlet and outlet isolation valves and let water flow into the feeder for 5 minutes, allowing the acid solution to clear out the outlet tubing
   8. Shut the inlet and outlet valves, remove the pressure cap and inspect the feeder for cleanliness.
   9. Repeat above steps if more cleaning is still needed

WARNING: BE SURE TO REMOVE ALL TABLETS FROM THE FEEDER PRIOR TO ADDING ACID TO THE FEEDER

6 Troubleshooting Guide

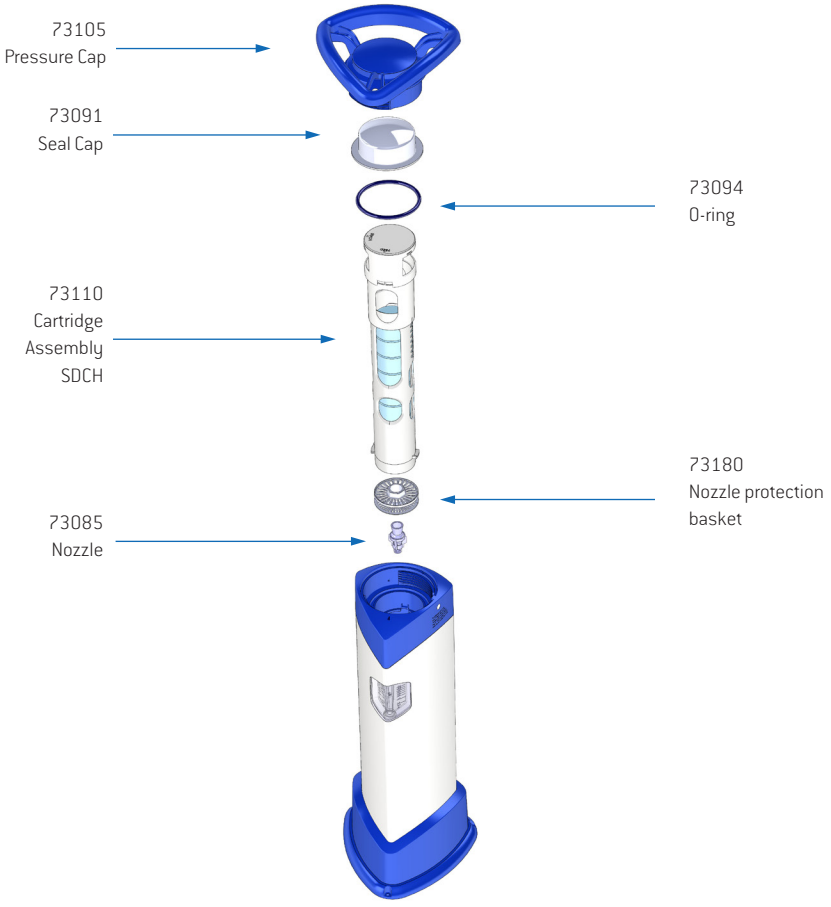
Problem	Cause	Solution
Insufficient water flow to feeder	Inlet shut-off valve shut or not open enough	Check flow meter and open valve to allow sufficient flow into the feeder
	Inlet piping to feeder made after the pool filter	Correct feeder installation to provide inlet water before the pool filter
	Clogged inlet piping, flow meter or feeder nozzle	Install an optional 1/2" [12.7 mm]NPT inline strainer if inlet water is contaminated (Part # 71605)
	Solenoid valve not operating (ORP kit only)	Check solenoid connection to chemical controller and verify controller operation
	Solenoid stuck closed (ORP kit only)	Replace/clean solenoid
Insufficient chlorine in pool	Feed rate/output too low	Check feed rate table on page 21 and increase inlet flow and/or modify cartridge feed rate setting until desired feed rate is achieved
	Cartridge feed rate setting is incorrect for feed rate required	Check feed rate table on page 21 and modify cartridge feed rate setting
	Feeder empty	Refill Cartridge assembly with **Pulsar**® Infinity Tablets
	No inlet water flow due to shut inlet valves	Open inlet valves
	No water flowing out of feeder due to shut outlet valve	Open outlet valve
	Chemical controller not operating / sending signal to solenoid valve (ORP kit only)	Check solenoid connection to chemical controller and verify controller operation
	Solenoid stuck closed (ORP kit only)	Replace/clean solenoid
	Clogged outlet tubing	Clean outlet tubing. Refer back to Section 5.2
Excess chlorine in pool	Feed rate/output too high	Check feed rate table on page 21 and decrease inlet flow and/or modify cartridge feed rate setting until desired feed rate is achieved
	Chemical controller problem (ORP kit only)	Refer to chemical controller user manual or contact your dealer
	Solenoid stuck open (ORP kit only)	Replace/clean solenoid

7 Feeder Views

7.1 Feeder Assembly View (standard installation)

Note: Quantities listed below represent the number of parts shipped with the feeder. Part numbers are for procurement of 1 individual spare part unless otherwise stated.

Part	Description	Qty	Part Number
Pulsar® Infinity Feeder	Complete Feeder assembly	1	74444
Pressure Cap	Threaded Cap with Handle	1	73105
Seal Cap	Inner Seal Cap	1	73091
O-ring	O-ring Seal	2 (1 spare)	73094
Cartridge Assembly SDCH	Cartridge for **Pulsar**® Infinity Tablets	1	73110
Nozzle	Standard SDCH Nozzle	1	73085
Nozzle Protection basket	Filter basket for nozzle protection	1	73180

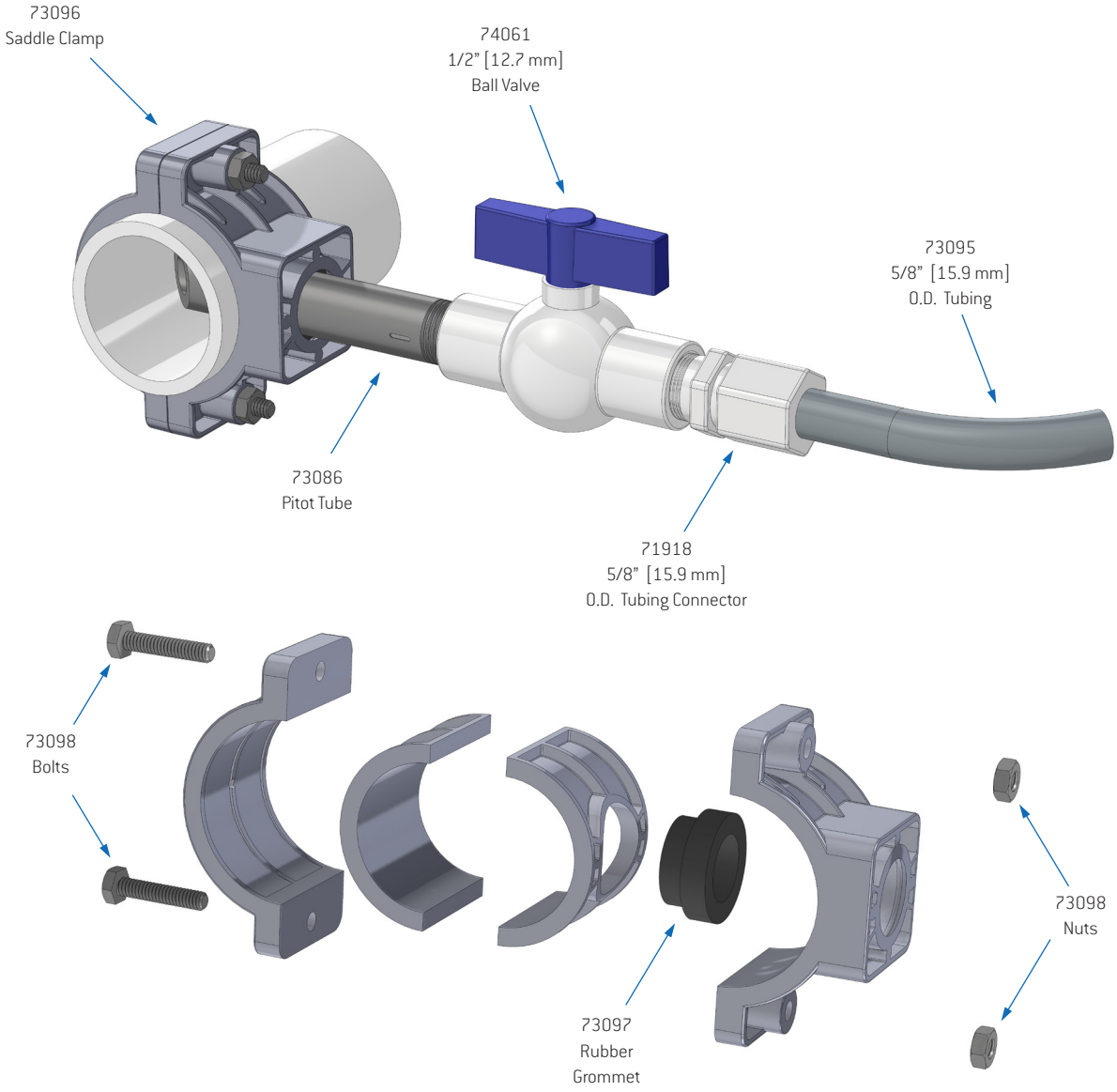


7.2 Installation Kit View (Standard Installation)

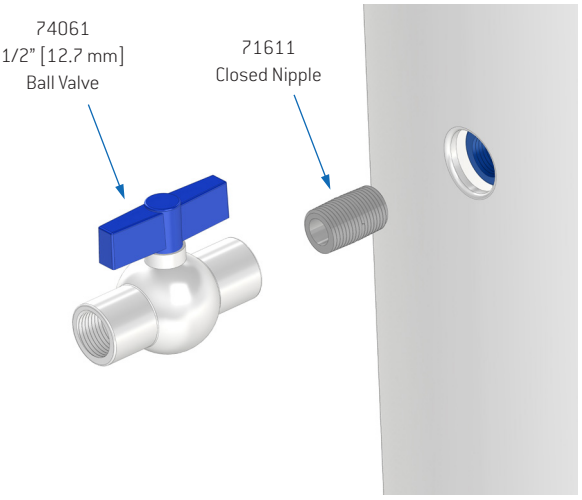
Note: Quantities listed below represent the number of parts shipped with the feeder. Part numbers are for procurement of 1 individual spare part unless otherwise stated.

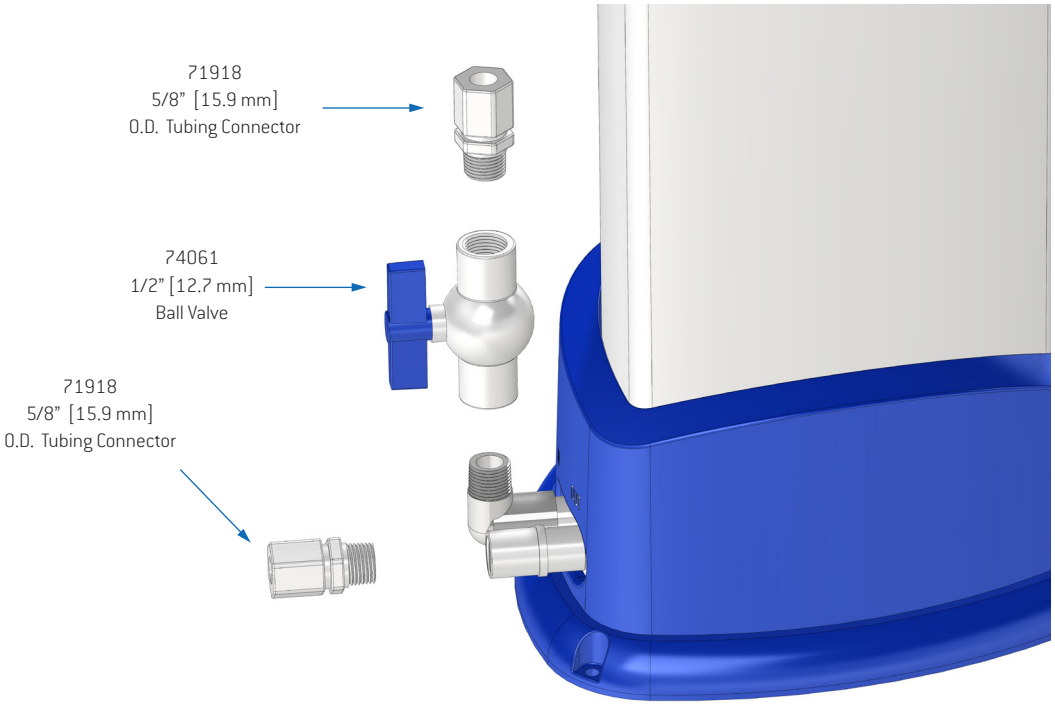
Note: Refer to Appendix A for Pitot Tubes for 2 ½" and 3" pool piping

Part	Description	Qty	Part Number
Saddle Clamp	1 1/2" to 2" [38.1 mm to 50.8 mm] Adjustable Saddle Clamp	2	73096
Rubber Grommet	Seal for Saddle clamp	2	73097
Nuts and Bolts	For saddle clamps, 4 pack	1	73098
Pitot Tube	5" x 1/2" [127 mm x 12.7 mm] NPT, 45° angle cut, 2 pack	1	73086
Ball Valve	1/2" [12.7 mm] female threaded	4	74061
Tubing Connector	5/8" [15.9 mm] O.D. Tubing Connector, W10MC8	4	71918
Tubing	12' x 5/8" [365.8 cm x 15.9 mm] O.D. x 1/2" [12.7 mm] I.D. LLDPE Tubing	1	73095
Closed Nipple	1/2" [12.7 mm] PVC Closed Nipple for Drain Port	2 (1 spare)	71611
Strainer	Line strainer assembly	1	71605



7.2 Installation Kit View (continued)





8 Optional ORP Kit

8.1 Optional ORP Kit

Note – the solenoid valve does not have to be installed directly at the feeder. The DIN extension cable provides the installation flexibility of the solenoid valve based on specific site configurations.

Basic ORP Kit for a standard one feeder installation (see page 11 for standard feeder installation schematic)			
Part	**Description**	**Qty**	**Part Number**
Basic ORP Kit	Complete SDCH ORP kit; Kit includes one transformer, one solenoid valve, one interchangeable plug for N. America/Japan, one Closed Nipple, one strainer, and two tubing connectors	1	73115

Basic ORP Kit with extension cable			
Part	**Description**	**Qty**	**Part Number**
ORP Kit with Extension Cable	Basic ORP kit with extension DIN cable (73115 & 73116)	1	73119
Extension Cable	Optional single DIN extension Cable 9.8 ft (3 meters)	1	73116

ORP Kit spare parts			
Part	**Description**	**Qty**	**Part Number**
Transformer	Transformer with DIN/LED (6ft DIN Cord)	1	73113
Solenoid valve	24VDC Granzow	1	73114
Closed Nipple	1/2" PVC closed Nipple	1	71611
Strainer	Line strainer Assembly	1	71605
Tubing Connector	5/8" [15.9 mm] O.D. Tubing Connector, W10MC8	2	71918
Extension Cable	Optional single DIN extension Cable 9.8 ft (3 meters), not included in Basic ORP Kit	1	73116
Plug	Interchangeable plug for N. America/Japan	1	73140

8.1.1 ORP Drain Kit (for use with ORP kit)

New Feeder ORP Drain Kit – SDCH 2.0			
Part	**Description**	**Qty**	**Part Number**
ORP Drain Kit	Kit includes venturi for small feeder (qty 1), 1 1/2" slip x slip unions (qty 2), 1/2" threaded Tee (qty 1), 1/2" close nipple (qty 6), and 1/2" check valve for the vent (qty 1)	1	73188

New Feeder ORP Drain Kit – Spare Parts			
Part	**Description**	**Qty**	**Part Number**
P1 Venturi	P1 Venturi used for 2.0 drain system	1	71971
P1 Venturi Unions	1 1/2" slip x slip unions	2	71973
Threaded Tee	1/2" NPT threaded Tee	1	71912
1/2" Nipple	1/2" Threaded nipple	2	71611
Vent	1/2" FNPT PP check valve, hastelloy spring, teflon ball, ALFAS seal, industrial spec CVMC-8-8F-3#H-AF-WPP	1	73167
Nozzle protection basket	Filter basket for nozzle protection	1	73180

8.2 Vent Installation for Feeder Draining if used with an ORP kit

STEP 1 – For air venting capabilities, install the ½" check valve with the arrow pointing down using the other ½" tee and remaining nipples

8.2 Vent Installation for Feeder Draining if used with an ORP kit (continued)

STEP 2 – Complete the drain/vent by putting the ball valve at the end of the Tee to contain the flow during normal operation of the feeder.

NOTE: You can orient the Tee in any configuration as long as the check valve is oriented to draw air in the feeder during venturi suction.

9 Appendix

Appendix A – Technical Bulletin: Pitot Tubes for 2 ½" and 3" Pool piping

Pitot Tubes for 2 ½" and 3" Pool piping - Part Numbers

Part	Description	Qty	Part Number
Pitot Tube – 1 7/8"	¾" (19 mm) sch 40 pipe, for 2 ½" Pool Piping, 45° angle cut, 1 7/8" length from bottom of threads, (2 pack)	1	73141
Pitot Tube – 2 5/8"	¾" (19 mm) NPT, for 3" Pool Piping, 45° angle cut, 2 5/8" length from bottom of threads, (2 pack)	1	73142

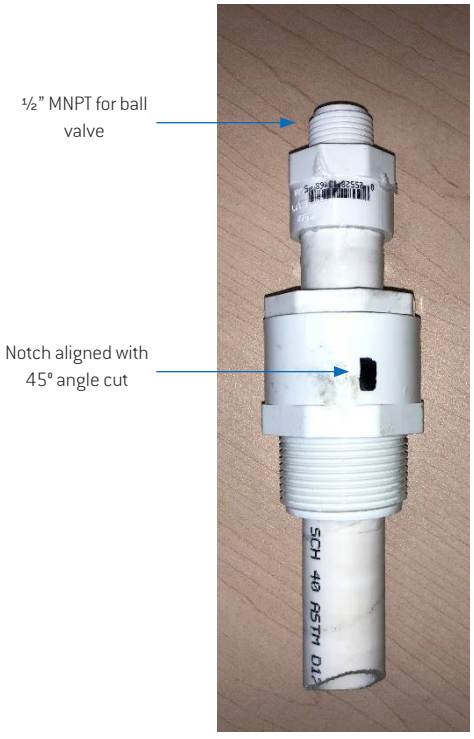
Background: As part of the design of the **Pulsar**® Infinity Feeder, pitot tubes help provide up to 2 times the flow rate increase with the same pressure differential. The increase in flow rate is needed to provide enough flow through the feeder to reach the maximum feed rate output established by the feed rate table, section 4.2.2, of the installation and operator's manual.

The pitot tubes listed in the parts of the manual are designed for 1 ½" to 2" piping as that will accommodate the majority of pools in this market. For the remaining pools that have between 2 ½" and 3" piping, design modifications to the pitot tubes were required to provide the same level of performance.

The pitot tubes for 2 ½" to 3" pool piping are shown in the pictures below. They have the same 45° angle cut similar to the smaller pitot tubes that come with the feeder system, but instead come with a threaded fastener that threads right into the pool pipe. No saddle clamps are needed making for a simple installation. Once the pitot tubes are installed, the isolation ball valves (part number 74061 from section 7.2 of the operator's manual) are used to complete the inlet and outlet connections of the feeder following section 3.4 in the manual.

Pitot Tube – 1 7/8"
For 2 ½" pool piping

Pitot Tube – 2 5/8"
For 3" pool piping



Tools & Equipment Required for Installation

- Drill – Cordless Recommended
- 1 ½" hole saw
- 1 ¼" pipe tap
- Gas Pliers (Channel Locks)
- Plumbers Tape or Pipe Sealant

Installation Procedure

Go to section 3.4 of the manual and refer to the notes prior to starting the installation.

- To install the pitot tube that will make the inlet connection from the pool to the feeder, choose a location on the main pool recirculation piping on the discharge side of the pool pump but upstream of the pool filter(s).

- To install the pitot tube that will make the chlorine injection connection from the feeder to the pool piping, choose a location on the main pool recirculation piping downstream of the pool filter(s), and heater (if available), but before the acid or CO_2 injection point.

Make sure the pool pump is off and shut isolation valves from the pool piping so that it is dry.

1. Drill a 1 ½" (38.1 mm) hole anywhere on the top half of the pipe. Caution: Do not drill on the bottom half of the pipe. Excess debris may enter your feeder.

2. Use a 1 ¼" pipe tap and channel locks to tap threads in the hole

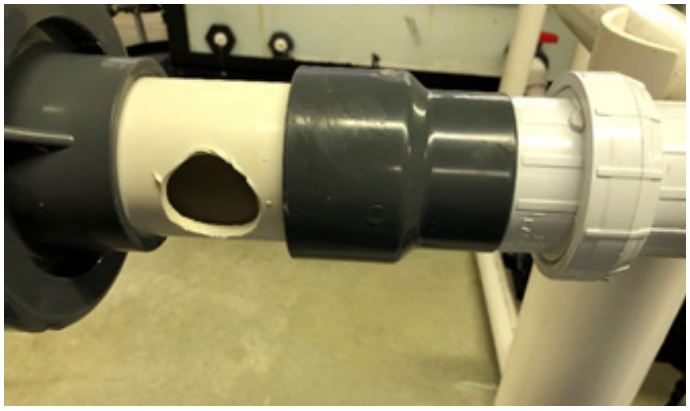
3. Select part 73141 for 2 ½" pool piping or part 73142 for 3" pool piping.

    a. Apply plumbers tape to both exposed threads on the pitot tube

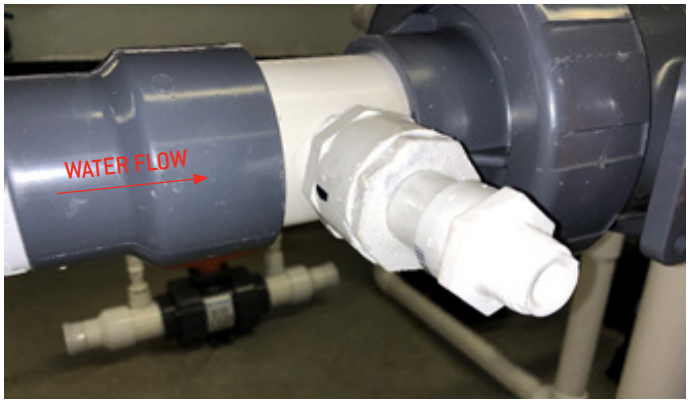
4. Thread the pitot tube as far into the pool pipe as possible preferably, until it touches the inside of the pipe and cannot rotate any further. Once the maximum depth has been reached, back out the pitot tube until the notch aligns with:

    a. **Directly upstream of the pool pipe** for the inlet connection to the feeder

    b. **Directly downstream of the pool pipe** for the chlorine injection connection from the feeder to the pool



1 ½" hole with 1 ¼" pipe tap



Inlet water pitot tube – notch facing upstream

Inlet water pitot tube - notch facing downstream

NOTES

NOTES

Innovative Water Care
North America
1400 Bluegrass Lakes Pkwy
Alpharetta, GA 30004
800.478.5727

www.pulsarinfinity.com