



Operator's Manual

for the UK and Ireland

Model 73179



**Arch Chemicals Ltd
Wheldon Road, Castleford
West Yorkshire, WF10 2JT**

1/10/03

REV 6

Supplier Contact:



Product Stewardship

MAKING THE WORLD A BETTER PLACE

Arch is committed to maintaining and improving our leadership in Product Stewardship. One of the six initiatives outlined under the Chemical Manufacturers Association (CMA) Responsible Care[®] Program 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.

Successful implementation is therefore, a shared responsibility. 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 Arch Representative.

THE MAJOR COMPONENTS - HOW THEY WORK

General Principles of Operation

The three main components of the Easiflo® 4 Chlorinator are (from top to bottom) the tablet hopper, the manifold spray section and the discharge tank. The water from the pool enters the Easiflo® 4 Chlorinator via the inlet port. The spray manifold then distributes the water onto the tablet grid creating a chlorinated solution. The chlorinated solution falls into the discharge tank and is discharged into the pool recirculation system by the evacuation system.

The amount of chlorine discharged from the feeder is determined by the auto controller or the Easiflo® Timer/Solenoid Assembly. **When using an auto controller with this unit the timer must be set on High (bottom knob) and an upper knob setting of “A”.**

Inlet water pressure of 35 to 45psi is required to provide sufficient flow into the Easiflo® 4. These pressures will result in an inlet flow of around 9.8 litres per minute. The Easiflo® 4 feed rate settings referred to in the Easiflo® System Owners manual (above right) are calibrated for this flow rate.

Flow out of the Easiflo® 4 discharge tank requires a vacuum to drain. A minimum outlet flow-rate of 10.22 per minute ensures that the flow out of the Easiflo® 4 exceeds the flow in. Once the Easiflo® 4 is installed, outlet flow can be measured by watching the level in the bottom tank. If the level is rising as the feeder is running, there is insufficient flow out.

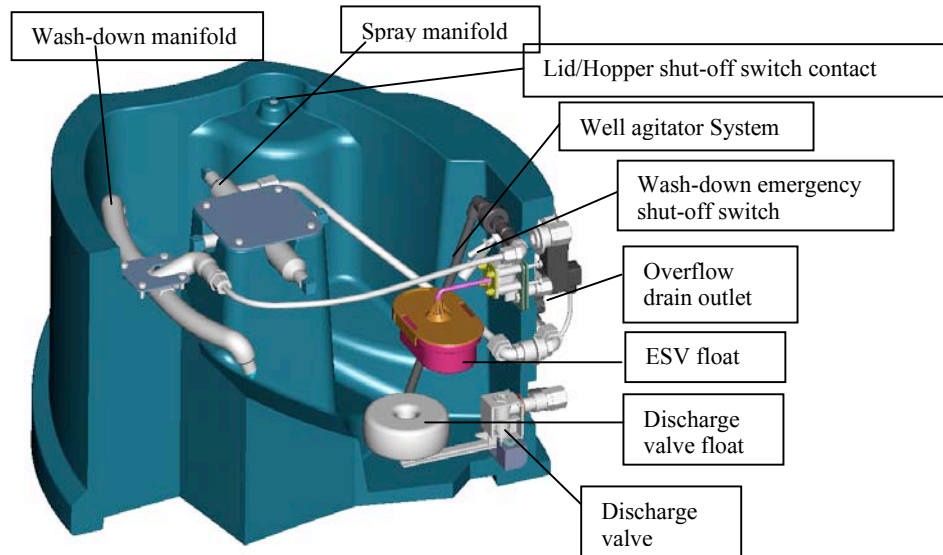
All Figures in Chart below represent Chlorinator Output in Pounds of Available Chlorine per Day.

Pounds of Available Chlorine per Day							
Upper Timer Knob Setting	A	B	C	D	E	F	G
“Normal” Bottom Knob Setting	90	41	10	5.5	3.9	3.1	2.4
“Low” Bottom Knob Setting	180	64	17	9.0	6.2	5.0	4.4
“High” Bottom Knob Setting	360	90	21	11	7.8	6.8	6.4



SPECIFICATIONS – Model 73179					
<u>Operational Requirements</u>		<u>Dimensions:</u>		<u>Feed Rate</u>	
Inlet pressure (Range)	35-45 psi	Tubing	5/8" O.D. Polyethylene	Easiflo® Tablets	1 – 163kg of Available Chlorine per day
Ideal Inlet Pressure	37 psi	Chlorinator dimensions	38"wide x 33"deep		
Outlet vacuum	5-29" Hg.	Chlorinator height	39"		
Operating Temperature	4 - 55°C	Chlorinator weight (full)	125 kg		
<u>Operational Characteristics</u>		Chlorinator weight (empty)	33.6 kg		
Inlet flow (gpm)	2.16-gpm	Hopper Capacity	91kg Easiflo® Tablets		
Outlet flow (Min)	2.25-gpm				

General Principles of Easiflo® 4 Components



The Easiflo® 4 employs a “State of the Art” electronics package for efficient operation and enhanced safety features. The

power to the chlorinator is reduced to 24v AC with the use of a wall-mounted transformer. The Easiflo® 4 utilizes a 24 Volt solenoid/timer combination to control chlorine output rates. Safety Switches are additionally used to interrupt spray to the nozzles when the lid is opened or when the hopper is removed. Easiflo® 4 also incorporates improved maintenance features. Water flow in the unit is designed to continually remove residue from the chlorinator base. Listed below is a description of each component of the electronic package:

Lid Shut-off Switch:



The Easiflo® 4 is equipped with an electronic lid shut-off switch. This switch is designed for safety purposes to interrupt flow to the spray jets

when the lid is opened. The design of this feature incorporates a proximity switch so there are no wires connecting the hopper to the chlorinator base. When the hopper is separated from the chlorinator base, power to the solenoid is turned off.

Electronic Overflow Switch:



The Easiflo® 4 utilizes an electronic overflow switch to prevent the unit from overflowing. Outlet flow can be

slowed or stopped by many causes, which can ultimately lead to the unit overflowing. The most common cause would be scale build-up in the venturi, discharge valve and/or outlet tubing. The electronic overflow switch will interrupt power to the solenoid if the level in the discharge tank reaches a set height. When power is interrupted, the solenoid will close and shut off the inlet flow to the spray manifold.

Solenoid/Timer Assembly:



The Easiflo® 4 relies on a timer/solenoid assembly to control output rate. Both the timer and solenoid operate on a 24v AC power supply. The Easiflo® 4 can also be used in conjunction with an auto controller.

Under no circumstances should the unit be operated without the timer. Removing the timer/solenoid will not increase chlorine output and may actually cause a decrease in chlorine output.

The Easiflo® timer limits the inlet flow to the Easiflo® 4. This allows chlorine solution from the evacuation of system to keep up with inlet flow. When using the Easiflo® 4 with an auto controller for an outdoor pool, it is recommended that the operator set the timer for a pool 30% larger in gallons than the one at their facility. If the pool is indoors, the timer should be set for a stabilized pool of the same size. The chart (see page 2) is for outdoor pools that are either stabilized with cyanuric acid or not stabilized at all. Bather load constitutes the primary chlorine demand on an indoor pool. To verify the correct setting, set the timer and monitor the free chlorine reading. If the chlorinator does not respond quickly enough to chlorine demand, increase feed rate timer setting accordingly.

Test Operation of Electronic Switches:

Note: Close inlet and outlet valves.

Before start up, lift the tablet grid out of the hopper and set aside on a clean surface. Plug in transformer to appropriate outlet. The timer light (at upper left of timer) should be illuminated. Lift the hopper off the base. The light on the timer should go out. This

indicates that the lid switch is working properly.



Next, replace the hopper on the base and lift the lid. The light on the timer

should go out.

Finally, with the lid open use your hand to depress the lid shut-off switch. The light should go on. Keep the switch depressed and reach into the base, under the deflection plate and lift the electronic overflow switch. The light on the timer should go out. This concludes the test procedure.

Should the test procedures fail, refer to the troubleshooting section for more information or contact your supplier for additional information.

Safety Features

Washdown Emergency Shut-off Valve:

The Easiflo® 4 utilizes a mechanical emergency shut-off valve to interrupt flow to the wash-down manifold. This valve is

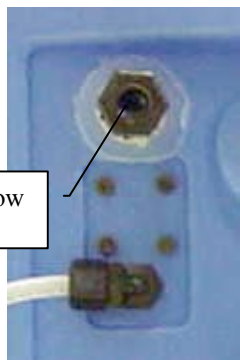


mounted at a lower height than the electronic overflow switch. Insufficient outlet flow will cause this valve to close prior to the electronic overflow

switch. This design allows the chlorinator to

continue to meet the chlorine demand of the pool in spite of decreased outlet flow. Since the wash-down feature has been disabled, residue build-up in the discharge tank will require action to remedy the problem.

Overflow Port:



Overflow Port

In the event that the solenoid fails to close, an overflow port has been incorporated into the Easiflo® 4 design. The solenoid should be checked when an abnormally low or high chlorine reading is indicated in the pool or when water is flowing

out of the overflow port through the tubing down to the drain.

Unplug the transformer from the wall or Auto controller and call the dealer. If water continues to flow into the chlorinator as evidenced by the rotating wheel in the flow indicator, the solenoid is stuck open.

If flow stops when the transformer is unplugged, the problem is the electronic overflow switch. In either situation, your supplier should be contacted for additional information.

Maintenance Features

Well Agitator:

The well agitator is designed to keep insoluble material in suspension for removal by the suction created by the venturi. The nozzle at the bottom of the well agitator can become blocked by scale formation over



time. The well agitator quick disconnect allows for easy removal and cleaning of the nozzle. Remove and place in

dilute hydrochloric acid solution (6 parts water to 1 part acid) to dissolve scale. Re-install on chlorinator after scale is removed.

Drain Valve:

The drain valve is used to clean excess residue and scale build-up from the chlorinator discharge tank. It should be plumbed with 1" PVC pipe to a suitable drain or discharge area.



Deflection Plate:

The deflection plate protects the valves and floats from scale and residue deposits. Without this plate, scale and residue will increase float weight and decrease buoyancy. In addition, scale build-up can bind pivot points, which could result in valve failure.



PRE-START UP CHECKLIST

Following the procedure outlined below will ensure a smooth start-up of the Easiflo® 4 Chlorinator. For seasonal operation, perform this procedure each spring.

IMPORTANT!!

Do NOT put Easiflo® tablets in the chlorinator during the start-up operation.

INLET WATER FLOW:

The inlet water flow system is designed to provide a steady side stream of clean filtered pool water to the chlorinator.

1. Switch on the pool recirculation system, the Easiflo® booster pump (if applicable) and open all valves to the chlorinator.
2. Check the flow indicator of the Easiflo® 4 system to see that water is flowing into the chlorinator.
3. With lid open, depress switch to check to see that the four nozzles are spraying water onto the tablet grid.
4. Check all lines leading to the chlorinator for leaks. Hand-tighten all fittings if any leaks are found.

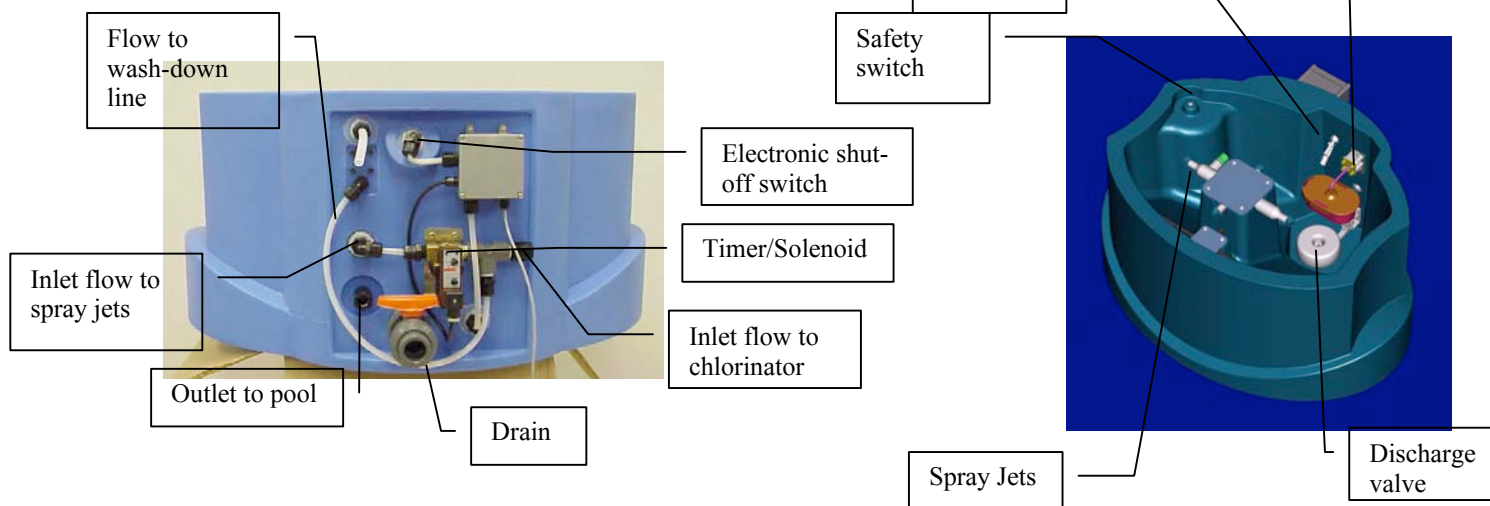
5. Check to make sure electronic shut-off switch does not contact ESV Float as it moves through its' arc.

OUTLET WATER FLOW:

As the discharge tank fills with water, the float on the discharge valve rises with the water level and allows the pump suction to draw the chlorinated water into the pool's recirculation system. When the water level drops, the float falls, shutting off the valve. The discharge valve also contains a check valve to prevent pool water from backing up into the discharge tank.

Use the following procedure to ensure that the outlet flow system is operating properly.

1. With the tablet hopper of the chlorinator temporarily off the discharge tank, use a hose or pail to fill the discharge tank with sufficient water to open the discharge valve.
2. The float should rise, opening the discharge valve, allowing water to be drawn out by the Easiflo® evacuation system.
3. Check the system for leaks. If small air bubbles are visibly moving, there may be an air leak. Tighten the connectors and make sure that the tubing is properly installed in the fittings. (NOTE: Air bubbles near the Easiflo® 4 chlorinator body that do not move are normal and do not indicate leaks.)
4. Check for air leaks after the discharge valve closes.



START-UP PROCEDURES

After completing the PRE-START-UP CHECKLIST, and establishing that all components of the chlorinator are operating properly, the Easiflo® 4 Chlorinator is ready for start-up.

Routine maintenance of the Easiflo® 4 Chlorinator is minimized when proper pool water balance is maintained. Maintain pool water chemistry as follows:

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

Adherence to these recommendations at all times will ensure the most effective and economical performance from the Easiflo® 4 Chlorinator. Note: The use of CO₂ to lower pH will raise Total Alkalinity. High total alkalinity (over 80ppm) will increase scale and residue build-up in chlorinator.

WARNING

Use **ONLY** Easiflo® Tablets in the Chlorinator. The use of any other chemicals will void the warranty. **DANGER:** Under no circumstances 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 tablet tank.

KEEP OUT OF REACH
OF CHILDREN

1. The hopper holds a maximum of 90kg of tablets. On this first fill place around 15kg of tablets evenly over the tablet grid.
2. Check the chart below to determine an approximate start-up timer setting for your pool. (Auto Control: Use pool size recommendation in Solenoid/Timer section on page 3 to be sure the controller is calibrated and the set-points are correct). Set the Upper and Lower Timer Knobs at the recommended setting.
Note: For best chlorinator performance, use the “normal” bottom timer setting if pool size can be found in that column. If pool size is too large for “normal” setting, look next in “low” bottom timer setting column.
3. Open all valves to the pool and to the chlorinator.
4. Monitor the water flow to the chlorinator daily to ensure that a proper flow is being maintained.
5. During the first few days of operation, check chlorine level in the pool frequently to establish the best Timer setting (or Auto Control setting) for your pool. Adjust the chlorine output either up or down according to the table or, adjust the auto control free chlorine set-point.

SUGGESTED START-UP SETTINGS

Upper Timer Setting	Pool Size in Cubic Metres					
	High Bottom Timer Setting		Low Bottom Timer Setting		Normal Bottom Timer Setting	
	Un-stabilized	Stabilized*	Un-stabilized	Stabilized*	Un-stabilized	Stabilized*
A	1,000	3,000	600	1,800	300	900
B	750	2,100	213	640	140	410
C	500	1,500	-	170	-	100
D	400	1,200	-	-	--	-
E	250	750	-	-	--	--
F	150	450	--	-	--	--
G	100	300	--	--	--	--

*Do not exceed 25-ppm stabilizer

EASIFLO® 4 CHLORINATOR INSPECTION AND MAINTENANCE

Calcium Hypochlorite by the nature of its manufacture contains a small amount of calcium carbonate. Proper water balance will minimize the build-up of calcium carbonate residue in the Easiflo® 4 Chlorinator; however, periodic cleaning of chlorinator components is normal and recommended. The following is a list of the parts to be cleaned and the proper procedures to do so. The cleaning should be carried out only by a trained operator who should wear appropriate personal protective gear. Cleaning should be carried out in a well ventilated area and a risk assessment will have been carried on the operation.

TABLE OF CONTENTS

Suggested Inspection Frequency	Section	Contents
As Needed	Section A:	Use of dilute hydrochloric acid to remove residue scale from the Easiflo® 4 Chlorinator
As Needed	Section B:	Troubleshooting Guide

SECTION A

Cleaning Easiflo® 4 Chlorinator with dilute hydrochloric acid

Inspection: The residue build-up and cleaning frequency required for the unit will depend on the amount of tablets used and the pool water chemistry. Described below is the easiest way to remove residue and minor scale build-up using a dilute solution of hydrochloric acid.

WARNING

Ensure appropriate protective gear is worn when carrying out this procedure. If in doubt contact your dealer or supplier for assistance.

Maintenance Procedure Steps:

1. Close the inlet and outlet shutoff valves to the chlorinator.
2. Lift the tablet hopper off of the discharge tank. Remove the tablet grid and put the contents into a clean dry bucket. Be sure to remove all pieces of tablets. Rinse off residue build-up on spray manifolds, deflection plate, floats, etc. with a hose and flush out discharge tank using the drain valve before proceeding. Close the drain valve.
3. Place the tablet grid in the shallow tub supplied. Fill with 7.5 litres of water. Slowly pour the diluted acid into a bowl. Fill the discharge tank 1" below overflow port and add 1 litre of hydrochloric acid. Frequent agitation may be required to dissolve residue and scale. Allow acid to dissolve

residue and scale, evident by the foaming action. After 30 minutes, check for presence of scale on grid. If necessary, add additional dilute acid to dissolve any remaining scale or scrape with putty knife.

4. Dispose solution from tub with backwash from filter.
5. Place tablet tank on top of discharge tank; place the tablet grid back into bottom of hopper. Rinse the tablet grid thoroughly with water and open the inlet-shutoff valve and press the shut-off button to allow the spray to rinse the grid from the bottom. The solution from the discharge tank will clean the discharge valve and tubing when the system is restarted.
6. Pour Easiflo® tablets from bucket back into tablet hopper. Resume operation.
7. Open inlet and outlet shut off valves to the chlorinator.

NOTE: To reduce maintenance and increase the period between grid cleanings, allow tablet tank to completely empty once a week.



SECTION B - TROUBLESHOOTER'S GUIDE

<u>PROBLEM</u>	<u>CAUSE</u>	<u>SOLUTION</u>
Insufficient water flow chlorinator	Check water flow through spray nozzles Inlet shut-off valve closed Emergency shut-off switch in closed position	Clean spray nozzles with compressed air Open inlet shutoff valve If the Emergency Shut-off valve is stuck, lower gently reset or rotate switch to prevent contact with ESV Float. Check with dealer
Insufficient chlorine in pool	Solenoid valve not operating properly Feed rate/output too low Chlorinator empty No/low inlet water flow Outlet shutoff valve closed Clogged discharge tubing Tablets stuck together Clogged tablet tank grid Clogged venturi System	Increase feed rate/output on timer or auto control unit Refill hopper with Easiflo® tablets See insufficient water flow section Open outlet shutoff valve Refer to Section A or replace discharge tubing Tap side of tablet hopper to loosen Refer to Section A
Excess chlorine in pool	Automatic controller problem Feed rate/output too high	Remove and soak in dilute hydrochloric acid Refer to automatic controller manual Decrease feed rate/output on timer
Air leaks	Discharge tubing not properly installed in fittings Discharge valve seat failure Scale prevents discharge valve from properly seating	Reinstall discharge tubing Replace discharge valve arm. Remove discharge valve assembly and soak in dilute hydrochloric acid to remove scale
Chlorinator overflow	Pinched O-rings in tubing connectors Discharge tubing clogged Insufficient outlet suction Emergency overflow switch failure	Inspect O-rings on discharge side of feeder Refer to Section A or replace discharge tubing. Check with dealer Check with dealer

USING THE EASIFLO® 4 IN A MULTI POOL COMPLEX

It is possible for a single Easiflo® 4 to serve more than a one pool such as a teaching pool using an independent dosing pump. The suction line from such a device can simply be fed into the discharge tank. In this instance simply ensure that the hole through which the suction line is fed is cut above the maximum fill level and does not foul the ESV or discharge valve.

This has already been successfully carried out in several installations with as many as 3 dosing pumps taking solution to feed other pools or spas within the complex.

For further advice in such instances please ring Arch Chemicals who will be pleased to assist.

Telephone 01977 714100

ELECTRONIC TROUBLE SHOOTING SECTION

General Overview

The purpose of this guide is to familiarize installation and maintenance personnel with the electrical functions of the Easiflo® 4 and to assist in the "troubleshooting" of any electrical failures that may occur.

The Easiflo® 4 incorporates six electrical components and their associated wiring. Each component is critical in the safe operation and dispensing of the chlorinated solution.

Transformer:

The electrical system operates from a 24 Volt AC source provided by a U.L.-listed class-II energy-limiting step-down transformer. The transformer's primary coil (the side connected to the 120 Volt source) is designed to "open like a fuse" when the transformer's VA (Volt Amp.) rating is exceeded.

When the primary coil opens the 24 Volt source is removed from the secondary electrical components, preventing over-heating of components, wiring and possible electrical shock hazard.

Junction Box:

The transformer, Lid Shut-off Switch, Electronic Overflow Switch and Solenoid/Timer Assembly are wired to the junction box terminal strip (Fig. 1 & 2). A relay is mounted in the junction box to remove the 24 Volt supply from the Solenoid/Timer Assembly if the chlorinator lid is removed or if the discharge tank overfills.

Lid Shut-off Switch:

When the chlorinator lid is opened the Lid Shut-off Switch energizes the junction box relay which removes the 24 Volt source from the Solenoid/Timer assembly and causes the water solenoid valve to close (refer to manual for picture).

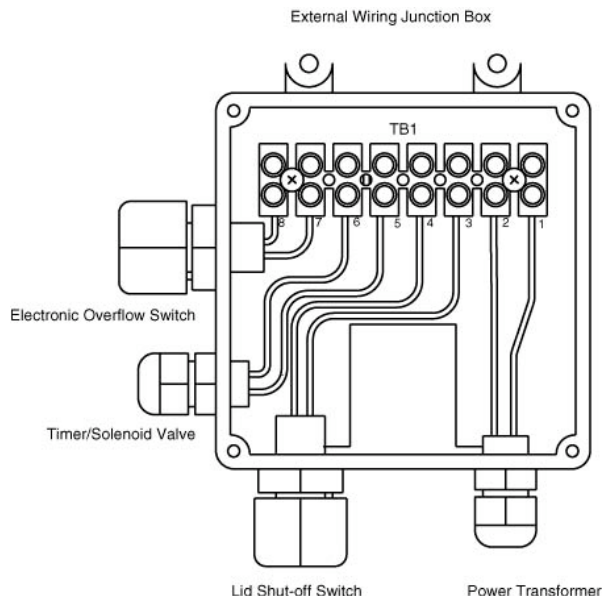


Figure 1 Junction box terminal strip

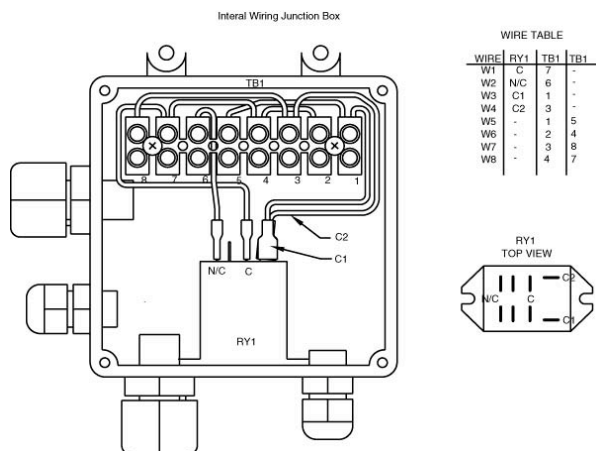


Figure 2 External wiring Junction Box Terminal Strip

Electronic Overflow Switch:

When the water level reaches a pre-determined height in the chlorinator tank the Electronic Overflow Switch energizes the junction box relay removing the 24 Volt source from the Solenoid/Timer Assembly which causes the water solenoid valve to close (refer to manual for picture).

Solenoid/Timer Assembly:

The Solenoid/Timer Assembly consists of the timer module which is plugged into the solenoid actuated water valve.

Timer Module: The timer module (Fig. 4) turns on and off the water solenoid valve at an adjustable on/off cycle to maintain a balance between the inlet water and the discharged chlorine solution. The timer has two controls -- one to adjust the **ON** time to: 11 seconds = Normal, 22 seconds = Low, and 30 seconds = Hi; and the second to adjust the **DELAY** time in seconds (i.e., A = 19 secs to G = 53 minutes).

WARNING: While turning the upper and lower timer knobs, **DO NOT FORCE** the knob beyond their stop points. Doing so will cause damage to the controls.

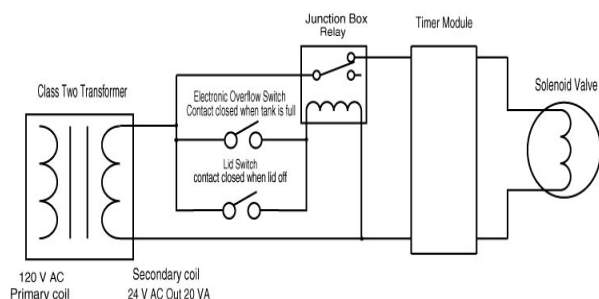


Figure 3 Simple schematic

Timer Settings:

<i>Top Knob (off time)</i>	<i>Bottom Knob (on time)</i>
A – 19 seconds	High – 30 seconds
B – 3.2 minutes	Low – 22 seconds
C – 14.0 minutes	Normal – 11 seconds
D – 27.0 minutes	
E – 39.0 minutes	
F – 50.0 minutes	
G – 53.0 minutes	

Examples of on time calculation:

Example #1:

Top Knob (off time) set to “A” and Bottom Knob (on time) set to “HIGH”

Total cycle time = A (19 seconds “off time”) + HIGH (30 seconds “on time”) = 49 seconds

$$\% \text{ on time} = \frac{\text{on time}}{\text{Total cycle time}} \times 100 \text{ or } \frac{30}{49}$$

= 61.2% on time

Example #2:

Top Knob set to “B” and Bottom Knob set to “LOW”

Total cycle time = B (192 seconds “off time”) + LOW (22 seconds “on time”) = 214 seconds

$$\% \text{ on time} = \frac{\text{on time}}{\text{Total cycle time}} \times 100 \text{ or } \frac{22}{214}$$

= 10.28% on time

Water Solenoid Valve: When the 24 Volt source is applied from the timer module to the solenoid coil of the water valve a magnetic core retracts into the solenoid coil allowing water to flow through the valve and into the chlorinator tank.

Troubleshooting Guide

Step-by-step Electrical System Test

1. Close water inlet and outlet valves
2. Verify that the Power transformer is plugged into a wall receptacle that has been tested to verify that power is present. Verify timer module power light is on (see Fig. 4).

If power is on go to next step, if not meter test.

3. Lift the hopper off the base -- does the power light go out?

If light goes out replace the hopper on its base and go to next step, if not go to the meter test.

4. Lift hopper lid with your hand. Did the power light go out?

If yes, then press the lid switch down and hold, did the light come on?

If yes, then while depressing the lid switch reach under the deflection plate and lift the electronic overflow switch, did the light go out?

If yes, then the lid and electronic overflow switches are functioning properly and the 24 Volt power source is applied to the timer module. Go to the next step.

If not go to the Meter Test.

READ THE FOLLOWING INSTRUCTION STEPS BEFORE CONTINUING THE TEST. THE TIMER MODULE MAY BE DAMAGED IF NOT PERFORMED CORRECTLY.

5. Turn the upper timer module control knob fully clockwise and counter-clockwise to verify that the knob comes to a stop at each end of the rotation. Be careful not to force the knob beyond the stop. If the knob rotates fully then the control knob is broken and the timer module must be replaced.

Perform this test on the lower control knob. Again **DO NOT FORCE** the knob.

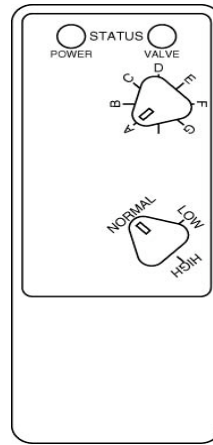


Figure 4

Replace the timer if defective and go to the next step.

6. Set the upper control knob to the "A" (19 seconds solenoid off time) position and the lower control knob to the "normal" (11 seconds solenoid on time) position. Verify that the timer module power light is on. Watch the valve light. It should come on for 11 seconds and off for 19 seconds. During this test the solenoid valve will click at the start and end of the duty cycle and may hum while the valve light is on. This verifies that the solenoid coil is not defective. If the solenoid valve does not click on then vibrate during the on portion of the duty cycle the solenoid coil of the solenoid water valve must be replaced. If the light cycles on and off, go to the next step. If not the timer module is defective and must be replaced.

7. Turn both the inlet and outlet water valves on to verify that water is available and watch for water flow. When the timer module valve light is on and the solenoid coil is vibrating the water should begin to flow. When the timer module light is off the solenoid coil should stop vibrating and the water should stop flowing. If the valve comes on and off then the electrical system is performing correctly. If the water fails to start or stop flowing then the valve portion of the solenoid water valve is defective and must be replaced or repaired.

Restore the timer modules upper and lower control knobs to their previous times or refer to the owner's manual for instruction.

METER TEST

The following tests should be performed utilizing a volt meter (ref. Fig.5 – detailed schematic & Fig.6 -- meter placement). The following test is performed using a volt meter set on AC Voltage with a voltage scale set greater than 24 Volts. The lid of the hopper should be closed and on its base and the electronic overflow switch should not be in the up position.

Connect the meter leads to the terminal board (TB1) as instructed in the following steps (see Fig. 6).

1. Connect the meter test leads to terminals 1 and 2 of the TB1. The meter should indicate 24 volts. If the reading is correct go to next step.

If no voltage is present, check the wiring to the power transformer and verify that power is present at the outlet that the transformer is plugged into. If the wiring is correct and the outlet power is verified then the transformer is defective and must be replaced.

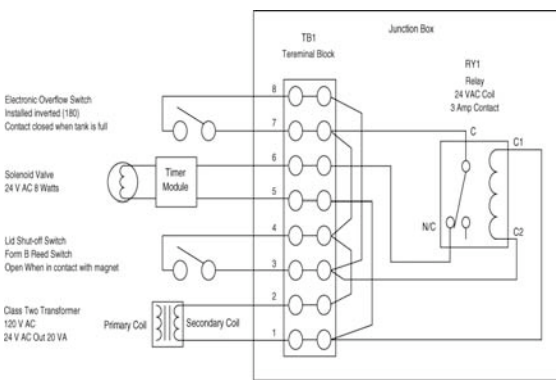


Figure 6

2. Connect the meter test leads to terminals 1 and 3 of TB1. No voltage should be present.

While observing the meter, lift the lid of the hopper. The meter should read 24 volts and return to zero when the lid is replaced.

Lift the hopper off its base. The meter should indicate 24 volts and return to zero when the base is replaced.

Lift the hopper lid and press down the lid switch. Reach under the deflection plate and lift the electronic overflow switch. The meter should indicate 24 volts with switch in the up position and return to zero when released.

During the next test, remove power to the junction box between each step by unplugging the transformer from the power outlet. Once the wire is removed from the terminal strip and is isolated, restore power to the junction box and perform the test.

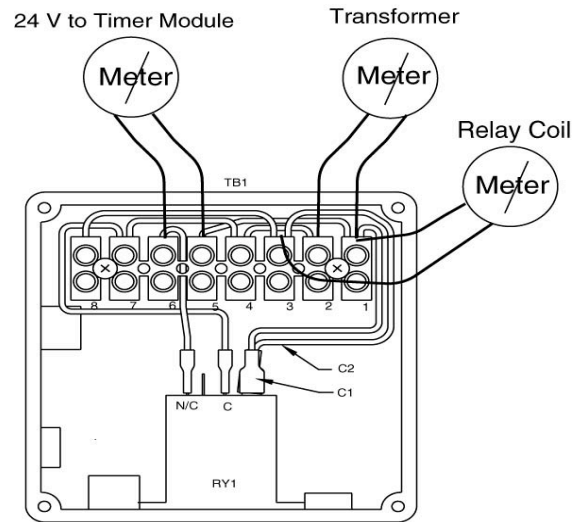


Figure 5

If 24 volts is always present during the above tests the hopper lid switch and/or the electronic overflow switch may be defective and must be disconnected from the terminal strip TB1 one at a time. Refer to Fig. 1 and disconnect the wire to terminal 3 of TB1. Observe the meter. The 24 volts may or may not return to zero. If the voltage returns to zero then the lid switch is defective and must be replaced. If the 24 volts remain with terminal 3 disconnected leave the wire to terminal 3 disconnected and perform the same test with the electronic overflow switch. Disconnect the wire to terminal 7. Again the 24 volts should return to zero. If not the electronic over flow switch is defective or is stuck in the up position. Remove power to the Junction box and reconnect the wires to terminal 3 and 7.

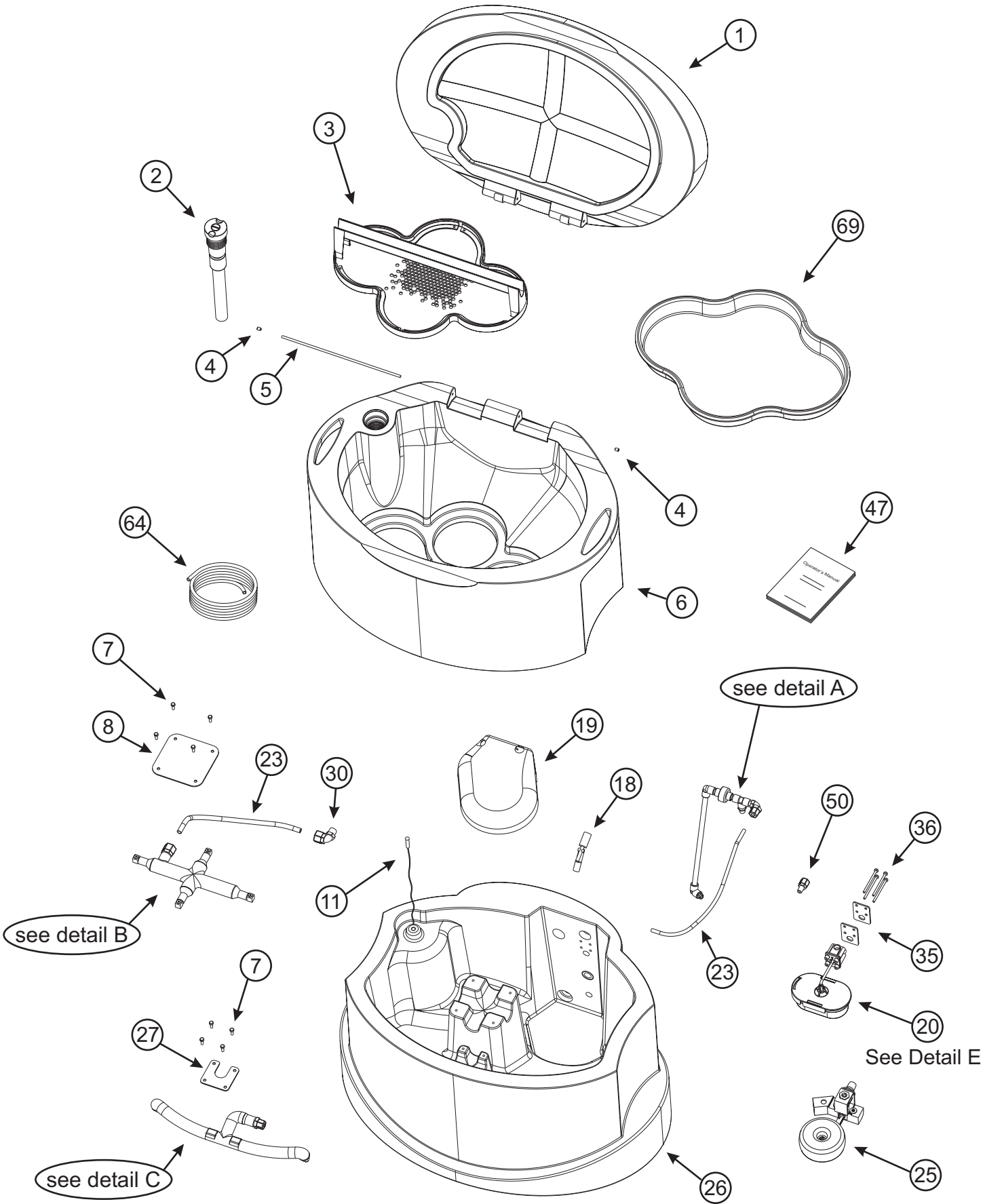
3. Connect the meter test leads to terminals 5 and 6. If 24 volts is present, but the power light on the timer module is off, then the timer module or its wiring is defective. If 24 volts are not present then the relay RY1 is defective and must be replaced.

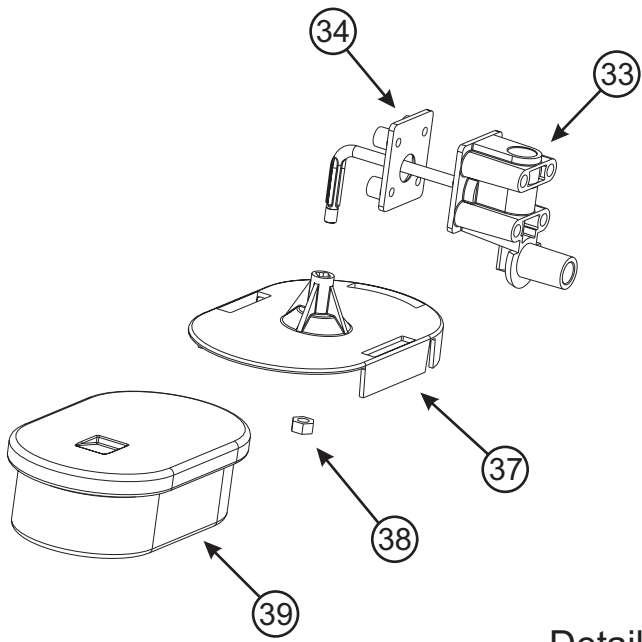
WARRANTY POLICY

Easiflo® 4 Commercial Pool Chlorinator

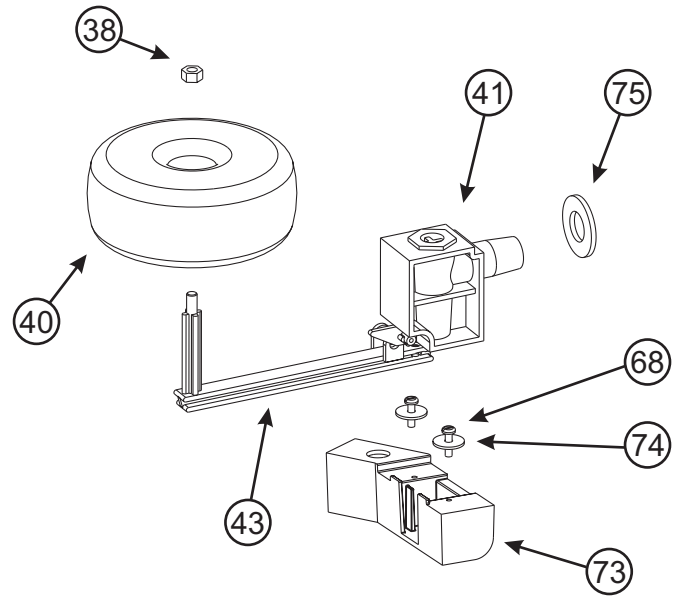
The Easiflo® Chlorine Feeder comes with a 12 month warranty from the date of installation. In order for the warranty to be validated the Warranty Registration Document W2 must be completed and returned to Arch Water Products, Wheldon Road, Castleford WF10 2JT.

Easiflo 4 Detailed View

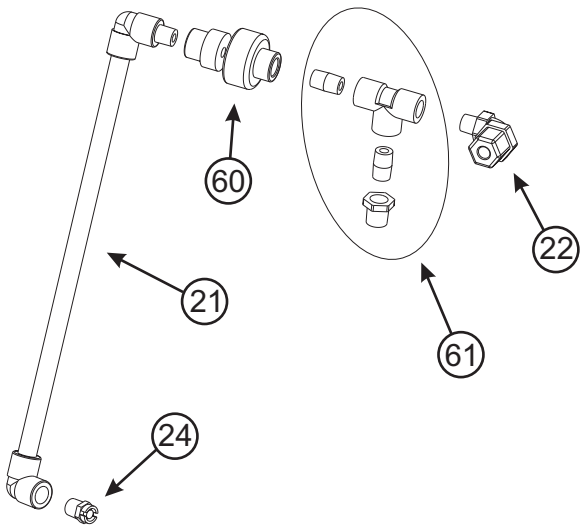




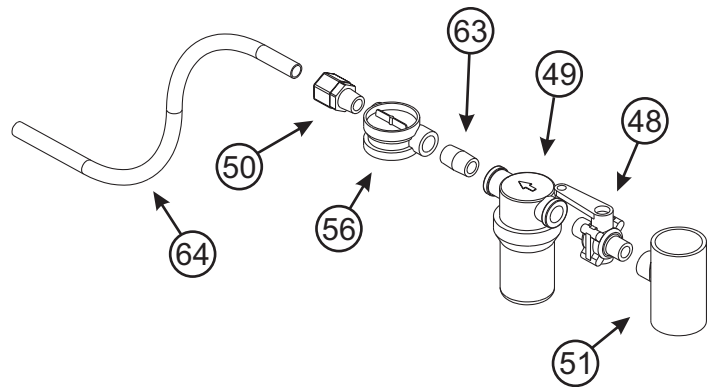
Detail E



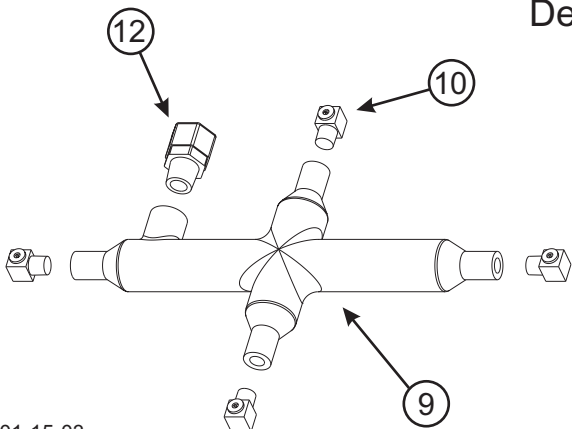
Detail of (25)



Detail A

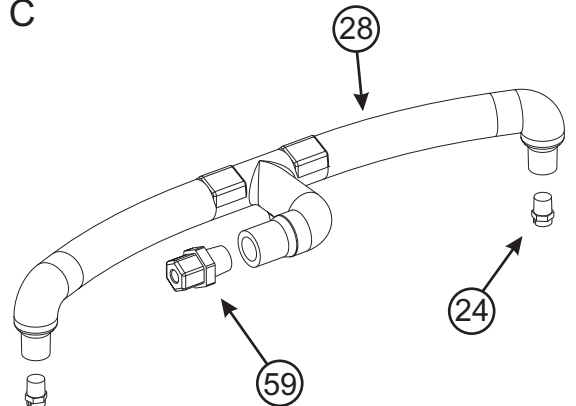


Detail D

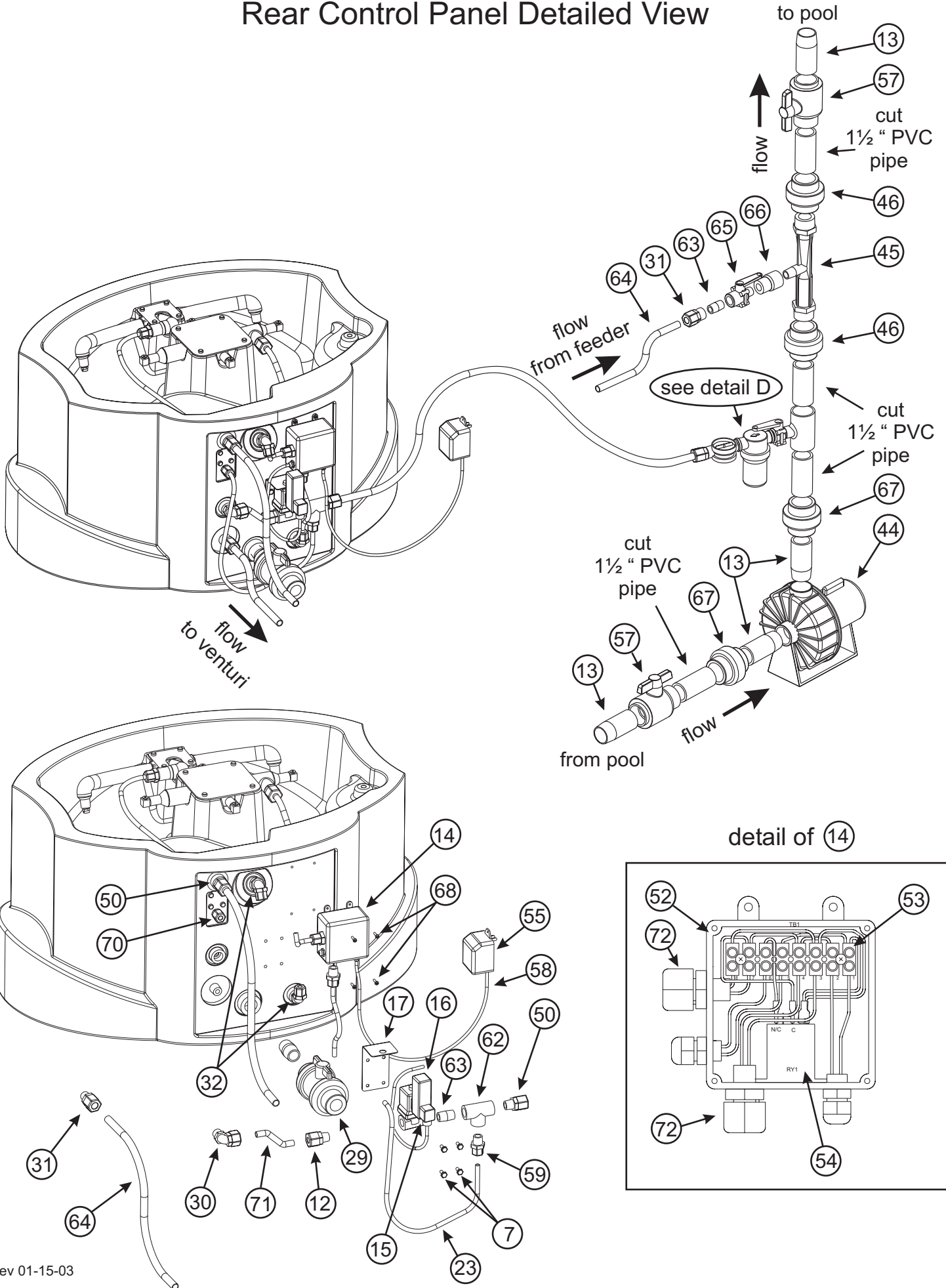


Detail B

Detail C



Rear Control Panel Detailed View



Easiflo 4

Diagram Number	Part Number	Qty	Description	
0	71806	1	Easiflo 4 System	
1	71879	1	Lid for Easiflo 4 Feeder	
2	71880	1	Shut Off Assembly for Easiflo 4	
3	71881	1	Briquette Screen Assembly for Easiflo 4	
4	71882	2	Screw for Easiflo 4 lid	
5	71883	1	Hinge Rod for Easiflo 4 lid	
6	71884	1	Easiflo 4 Hopper	
7	71885	12	Hex Nut Plastic Screw, 1/4-20, 5/8"(sold single)	
8	71886	1	Mounting Plate for Spray Tree	
9	71887	1	Spray Tree	
10	71888	4	Spray Nozzle for Spray Tree (Full Cone)	
11	71889	1	Lid Switch	
12	71890	2	Parker Fitting, W8MC8 (also for solenoid)	
13	71548	2	1 1/2" X 12" PVC Nipple	
14	71920	1	Junction Box, Complete Assembly Easiflo 4	
15	71893	1	Timer (Easiflo 4) Includes Cord/Din Connector	
16	71894	1	Solenoid (24 Volt) Easiflo Line	
17	71895	1	Bracket for Timer/Solenoid	
18	71896	1	Electronic Shut Off	
19	71897	1	Deflection Plate	
21	71919	1	Well Agitator	
22	71900	1	Parker fitting W6ME4	
23	71618	1	3/8" PE Tubing (2 ft)	
24	71901	3	Spray nozzles for Washdown , Flat Fan	
26	71903	1	Easiflo 4 Discharge Tank	
27	71904	1	Washdown Mounting Plate	
28	71905	1	Washdown Manifold	
29	71906	1	1" drain valve (true union) With Nipple	
30	71898	2	Parker Fitting W8ME8	
31	71908	2	Parker Fitting W10FC8	
32	71909	2	Parker fitting W6ME8	
33	71535	1	Emergency Shut Off Valve with Arm Only	
34	71536	1	Emergency Shut Off Mounting Plate	
35	71910	2	Rubber Gasket for Emergency Shut Off Valve	
36	71749	4	Plastic Screws (1/4-20) 3 1/4" for ESV (For Easiflo 4 Only)	

Easiflo 4

Diagram Number	Part Number	Qty	Description	
37	71539	1	Emergency Shut Off Float Plate	
38	71538	1	Emergency Shut Off Float Plate PVC Nut/Discharge Arm Nut	
39	71540	1	Emergency Shut Off Overflow Float	
40	71585	1	Discharge Valve Float	
41	71615	1	Discharge Valve Body with Plug, Ball & Gasket	
43	71584	1	Discharge Valve Arm with Suction Cup	
44	71808	1	Easiflo 4 Pump (1 hp)	
45	71811	1	Venturi for Easiflo System	
46	71907	2	Unions(Quick disconnects) Venturi (Slip X Thread)	
47	71915	1	Manual for Easiflo 4	
48	71621	1	1/2" Ball Valve MM (Inlet)	
49	71605	1	(5100A) Line Strainer Assembly	
50	71918	3	Parker fitting W10MC8	
51	71547	1	1 1/2" X 1/2" Schedule 80 PVC T SXF	
52	71892	1	Junction Body w/Fittings	
53	71921	1	Terminal Block	
54	71922	1	Electronic Relay	
55	71923	1	24V AC Transformer/Plug US	
56	71928	1	Gem Sensors Flow Indicator (#155480) for Easiflo 4 only	
57	71913	2	1 1/2" Slip PVC sch40 ball valves	
58	71926	1	Power cord for Transformer (20 ft)	
59	71590	2	(5023) 1/2" X 3/8" Male Connector (W6MC8)-Parker	
60	71911	1	Union 1/4" Threaded	
61	71899	1	Washdown assmbly 2(1/4" clsd nipples), 1(1/4" threaded Tee), 1(3/	
62	71912	1	1/2" Threaded Tee	
63	71916	3	1/2" PVC Closed Nipple	
64	71891	1	20' Flexible Tubing 5/8"	
65	71627	1	1/2" Ball Valve MF (Outlet)	
66	71917	1	3/4" FNPT X 1/2" FNPT PVC Reducer	
67	71914	2	Quick Disconnects (Pump) Slip X Slip	
68	71925	4	8-32X5/8" PVC Screws (Packaged 4)	
69	71927	1	Briquette Cleaning Pan for Easiflo	
70	72006	1	Parker Fitting W6MC4	
71	71626	1	20' 1/2" O.D. PE Tubing(E4 only need 3 inch piece)	
72	71582	2	(4014) Parker Fitting P6MC4	

Easiflo 4

Diagram Number	Part Number	Qty	Description	
73	72863	1	Discharge Valve Enhancement Adaptor	
74	72865	2	Custom Washer for Discharge Valve Adapter	
75	71576		Discharge Valve Gasket	

EMERGENCY RESPONSE PROCEDURE FOR ARCH WATER PRODUCTS CUSTOMERS

- 1** In the event of a Health Safety or Environmental Emergency involving Arch Water products.

This includes

- Injury to persons requiring medical treatment
- Loss of containment of product to the environment
- Involvement of the Emergency Services (Police, Fire, Medical)
- Involvement of the Environmental agencies
- Major damage to property

FIRST TELEPHONE + 44 (0)1865 407333

This will connect you with the NCEC (National Chemical Emergency Centre) who support the Arch Emergency Response. *(It operates 24 hours a day, 365 days a year).*

THEN Phone your local Arch Water Products Office *(during office hours)*

- 2** NCEC will provide initial assistance and advice *(in English)*.

- 3** NCEC will also contact Arch Water Products Head Office.

- 4** When calling the Emergency No. have the following information available *(use your Emergency Response Procedure Checklist)*:

- Your name
- Your job title
- Your company name and location
- The Telephone (and fax) number that you can be contacted on
- The Product Name
- The Product Code
- The nature of the emergency
- The action you have taken
- Are the emergency services involved?
- Are the environmental agencies involved?

**PLEASE ALWAYS CONTACT NCEC IN THE EVENT OF A HEALTH,
SAFETY OR ENVIRONMENTAL EMERGENCY INVOLVING
ARCH WATER PRODUCTS
BUT
PLEASE ONLY USE THIS NUMBER FOR HEALTH, SAFETY
AND ENVIRONMENTAL EMERGENCIES (as defined above).**