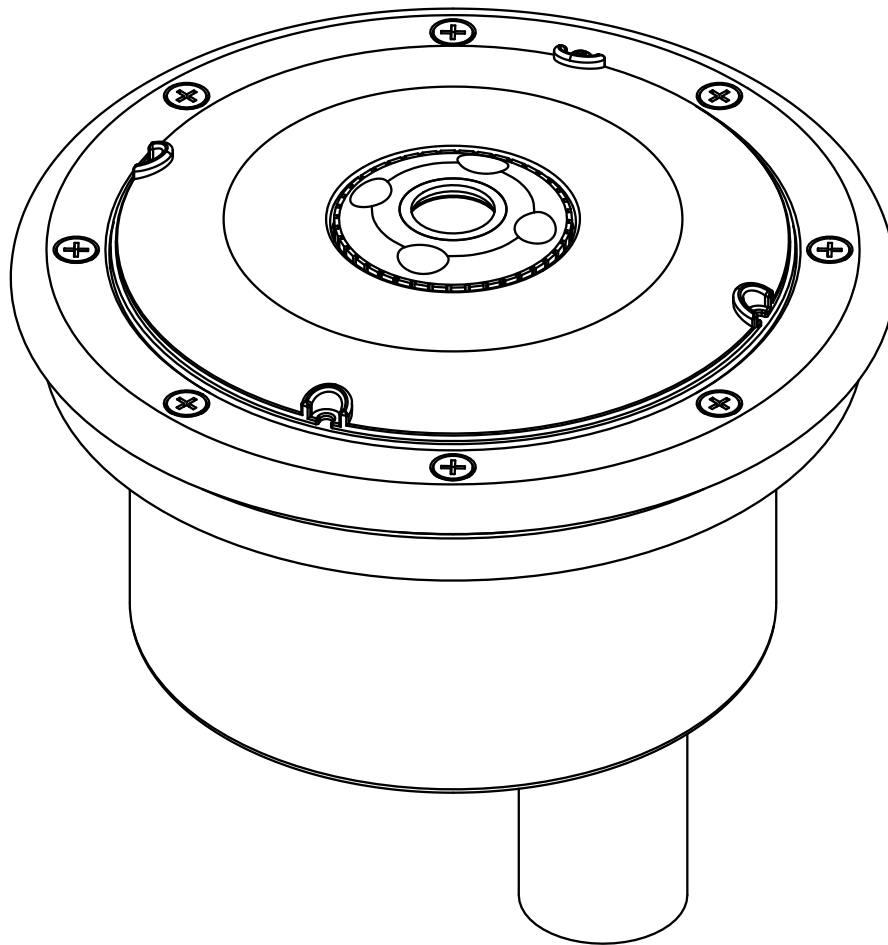




# BRILLIANT WONDERS LED BUBBLERS INSTALLATION INSTRUCTIONS & PRODUCT MANUAL

CMP 25503 SERIES



Brilliant  
Wonders®  
LED BUBBLERS



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### IMPORTANT NOTICE!

*THIS UNIT IS 12 VOLT ONLY.*

*YOU MUST USE A 12 VOLT TRANSFORMER TO OPERATE!*

# A. PRODUCT OVERVIEW

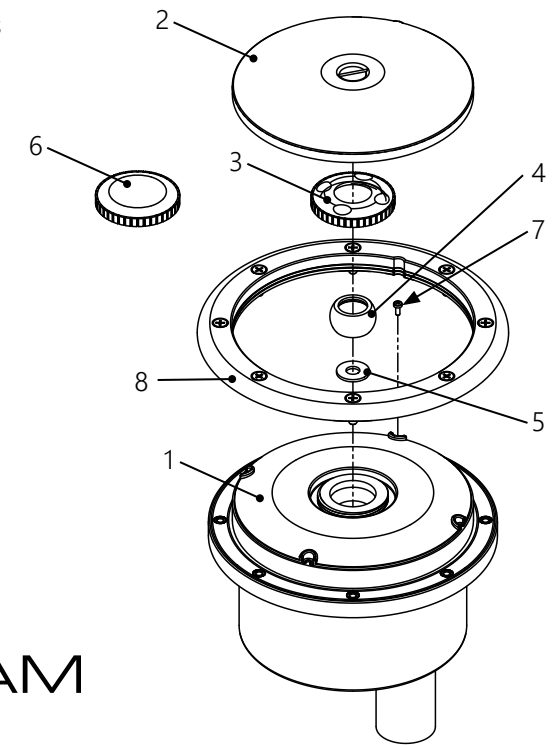
## A.1 SPECIFICATIONS

Power input: 12.0 – 12.5 VAC  
 Max Current: 1.6 Amps  
 Maximum Load Power: 20 Watts

Color Source: RGB  
 LED Life Expectancy: Over 50,000 Hours

## A.2 PACKING LIST

1. Bubbler Unit  
 Lighting Units available in 25, 50, 75, 100, and 150 ft options
2. Housing Debris Cover - Winter Cap
3. Eyeball Cap
4. Eyeball Water Diverter
5. Eyeball Reducer Flange
6. Light Use Only Cap
7. LED Module Retaining Screw - M4
8. Vinyl Pool Ring Assembly (OPTIONAL - SOLD SEPARATELY)  
 One (1) Vinyl Pool Ring  
 One (2) Vinyl Pool Gasket  
 Eight (8) Vinyl Pool Flange Screws



## B. SYSTEM BLOCK DIAGRAM

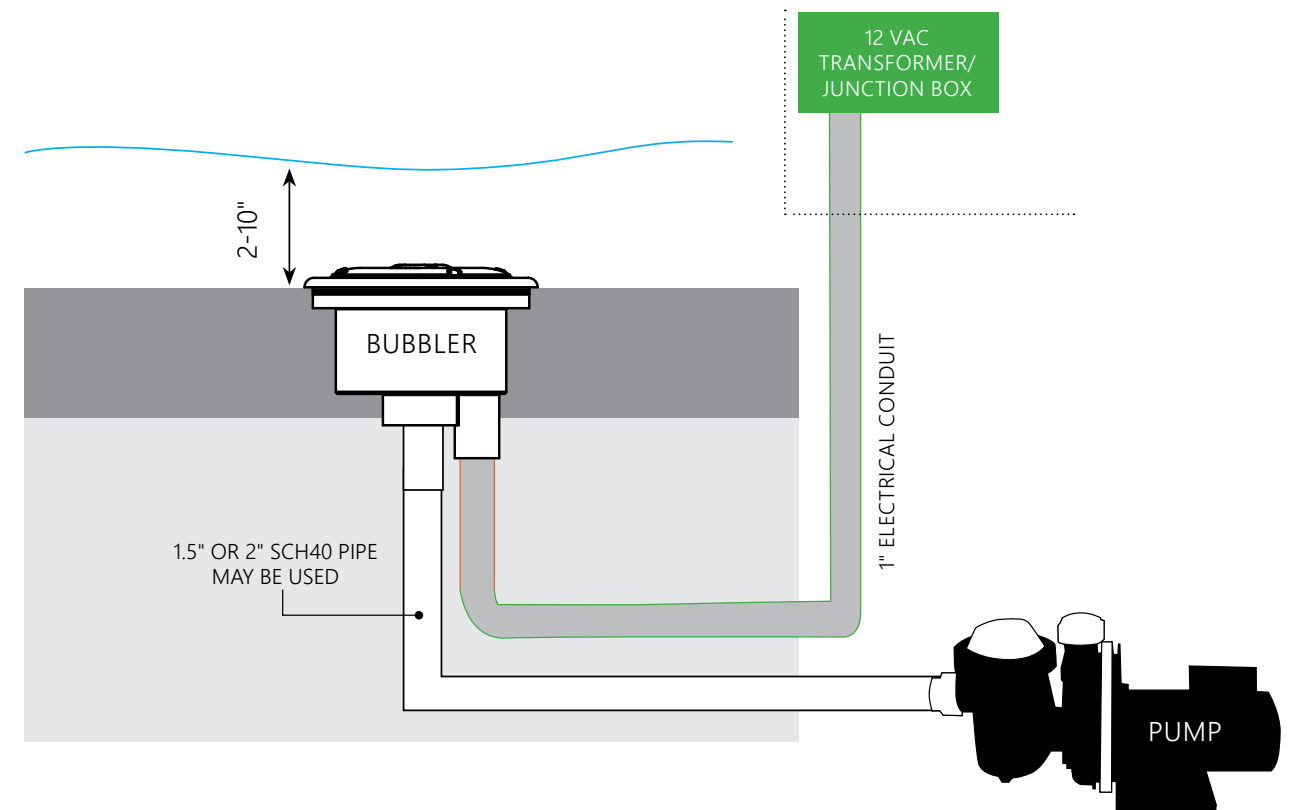


FIGURE 1: SYSTEM BLOCK DIAGRAM

# C. INSTALLATION GUIDE



## RISK OF ELECTRICAL SHOCK OR ELECTROCUTION

This light must be installed by a licensed or certified electrician or a qualified pool serviceman in accordance with the National Electric code and all applicable local codes and ordinances. Improper installation will create an electrical hazard which could result in death or serious injury to pool users, installers, or others due to electrical shock. Always disconnect power to light at the circuit breaker before servicing the light.

### READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL

#### NOTICE

The external flexible cord of this LED bubbler cannot be replaced. If the cord is damaged, the bubbler must be disposed of.



Under NO CIRCUMSTANCES should lights be replaced by splicing wire under water or behind the niche.



Brilliant Wonders LED Bubblers are a 12 VAC system. Only use an approved AC transformer (sold separately). When using a junction box, connect 12V AC connections to the junction box terminals. NEVER connect the light directly to high voltage lines.

## C.1 MECHANICAL INSTALLATION

This Brilliant Wonders Lighted Bubbler Unit must be installed as specified by these instructions. Please follow ALL of the instructions enclosed with this unit. It is recommended to keep the unit in its original packaging until the site is prepared for installation. Refer to Figure 1 Block Diagram above for reference.

#### NOTICE USE ONLY WATER THAT HAS BEEN PROPERLY FILTERED.

Each unit is carefully packed at the factory and comes with a construction debris cover that prevents most construction contamination prior to operation. Remove the light module from the body by first removing the LED Module Restraining Screw, and then turn the light module **CLOCKWISE** to remove (Figure 2). Install the debris cover. Put the light module in a safe place until ready for final installation.

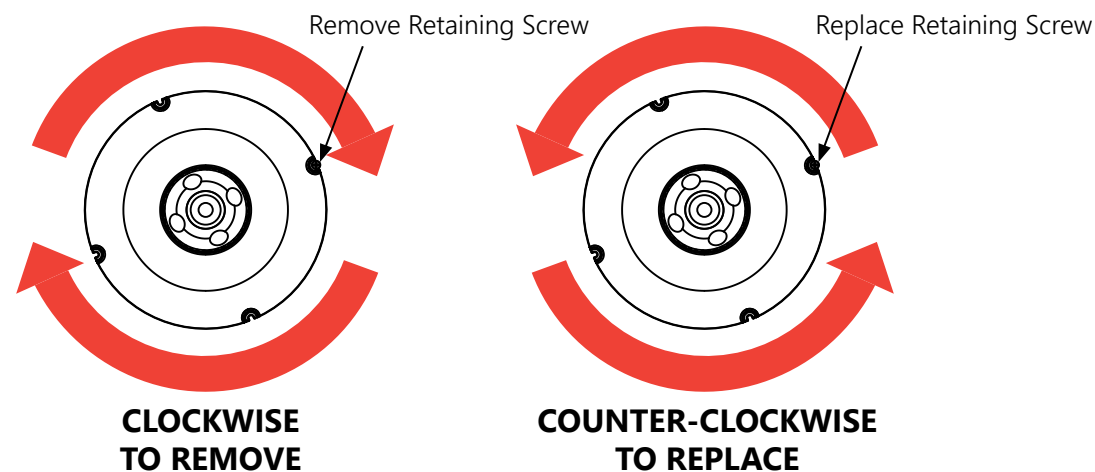


FIGURE 2: LED MODULE INSTALLATION

#### NOTICE FLUSH THE PIPE PRIOR TO INSTALLATION

C.1.1 Determine the location(s) for the Brilliant Wonders Lighted Bubbler(s). The unit can be installed in various positions from the typical horizontal mount or used as in a vertical wall mount. Begin by prepping the area for installation as you would a main drain sump. There is a 1 1/2" – 2" PVC combination socket located on the bottom of the body of the bubbler to run water service. There is also a 1" PVC slip socket on the bottom to run conduit for electrical connections. CMP recommends mounting the bubbler no more than 14" below the surface of the water horizontally when installed as a bubbler/fountain for the best combination effect of water and light.

C.1.2 When using the unit as a light only, glue a plug into the water port on the back of the body, and thread the Light Use Only Cap onto the front. (P/N 25552-309-300) If the bubbler is mounted on a vertical wall, the unit will act more like a lighted jet and will not give the same effect as a horizontal application.

C.1.3 Install the light module and run cord through the conduit to the junction box. Install the "hold down" screw.

C.1.4 Complete the rough-in by plumbing the water line to the desired pumping system. Flush the water line prior to any startup to remove any foreign material from construction that may be inside the system. Be sure to install an in-line flow control valve to adjust the height and flow of the water.

C.1.5 After the system has been started, adjust the height of the water using this valve to get the desired effect. The following tables (FIGURE 2) provides approximate values for water column height with combinations of GPM and depth of the Brilliant Wonders Lighted Bubbler mounted in the horizontal position.

C.1.6 Install the electrical conduit from the bubbler to the system control box. (See C.2 Electrical Installation)

#### WARNING 12 VAC ONLY

#### CAUTION INSTALL THE CONTROL BOX AT LEAST TWO (2) FEET ABOVE THE WATER LEVEL WHERE THE BUBBLER IS USED

Flow Rate vs Water Height  
for 1.5" Plumbing

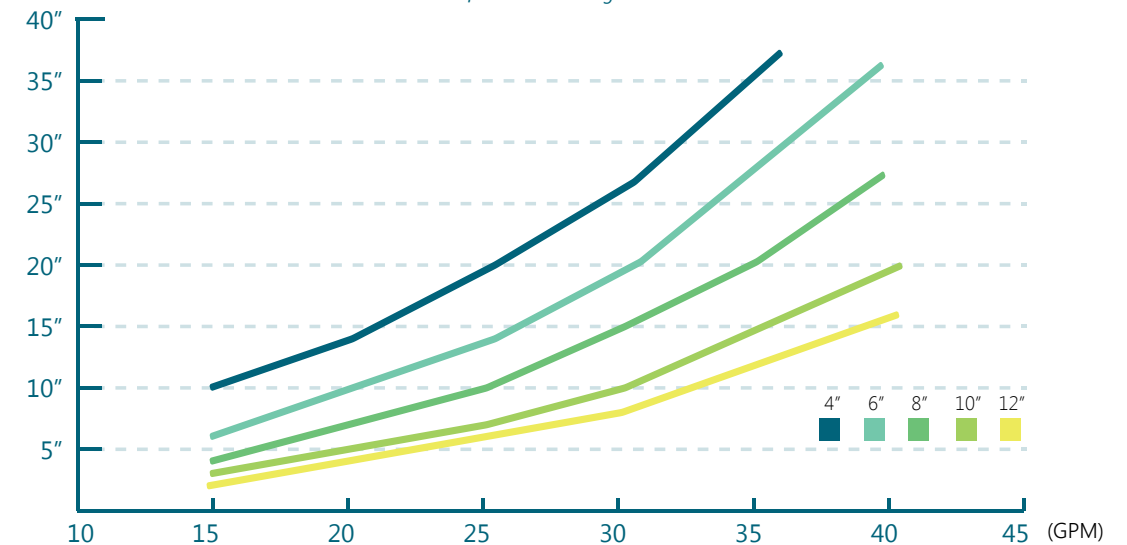


FIGURE 3: PERFORMANCE DATA

### Plume Height At Given Water Depths

	1/2" REDUCER					3/4" REDUCER				
	4"	6"	8"	10"	12"	4"	6"	8"	10"	12"
10gpm	13	7								
15gpm	30	20	13	10	8	9	6	4.5	3.5	2
20gpm	55	34	24	18	13	13.5	10	8	6.5	4.5
25gpm	-	-	38	28	20	20	15	12	9.5	7
30gpm	-	-	-	-	-	28	21	16	12.5	10
35gpm	-	-	-	-	-	38	29	20.5	16	13
40gpm	-	-	-	-	-	-	37	26	20	16

21.1mm Nozzle with 2" Piping | Water height may vary

FIGURE 4: SUPPLEMENTAL PERFORMANCE DATA

## C.2 ELECTRICAL INSTALLATION

C.2.1 With all of the different components and applications in the pool and spa industry, proper installation recommendations cannot be taken for granted. This procedure gives specific recommendations to ensure that electrical wiring of your Brilliant Wonders Lighted Bubbler Unit is properly installed. The installer should also consult local inspectors to insure that the unit is installed according to all local building codes and regulations. Refer to the schematic below for installation of the electrical system (Figure 7).

C.2.2 The 12VAC transformer (not included) is to be located in a waterproof enclosure. The conduit from the Brilliant Wonders Bubbler should be connected to the transformer enclosure. Pull the cable from the Brilliant Wonders Bubbler through the conduit to the transformer enclosure (not included). Leave about 12-24" of wire in the Brilliant Wonders Lighted Bubbler's inner housing (this is to allow for servicing of the LED module - Figure 6). Pull the rest of the cable through to the transformer box. The bubbler unit can be mounted onto the hub by winding the excess cable around the inner hub inside the housing and lining up the LED module with the guide pins on the hub. Secure the light by pushing the light downward onto the hub and twisting the light unit **COUNTER-CLOCKWISE** (Figure 5). Secure the unit by replacing the LED Module Retaining Screw.

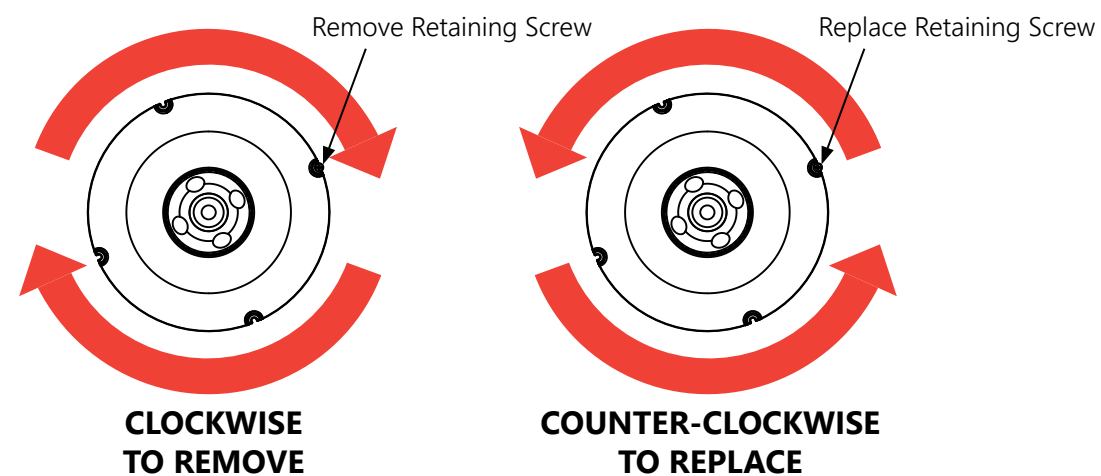


FIGURE 5: LED MODULE INSTALLATION

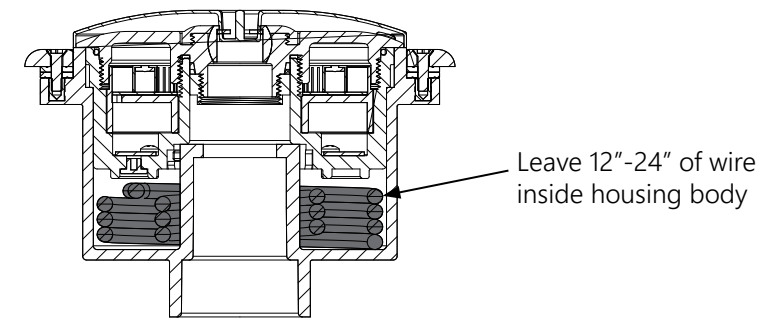


FIGURE 6: EXTRA WIRE IN HOUSING

C.2.3 Connect the 120VAC switched input to the input side of the transformer as shown in the sample below. Locate the power transformer output terminals and attach the two feed wires (one Black and one White) from the bubbler. These black and white wires may be connected in any order to the output terminals on the transformer as they are not polarity dependent. Attach any grounded wire to the appropriate terminals and ensure all connections have been installed properly. Ensure the switch is in the OFF position prior to startup. Your LED Unit is now ready for operation.

**NOTICE** NEVER CONNECT UNIT TO A DIMMER SWITCH. THIS CAN PERMANENTLY DAMAGE BUBBLER UNIT CIRCUITRY

**NOTICE** FOR WARRANTY CLAIMS, BUBBLER MUST HAVE COMPLETE CORD INTACT CUT ELECTRICAL CONNECTION CORDS WILL VOID WARRANTY

**WARNING** FAILURE TO USE 12VAC INPUT WILL PERMANENTLY DAMAGE THE LED UNIT

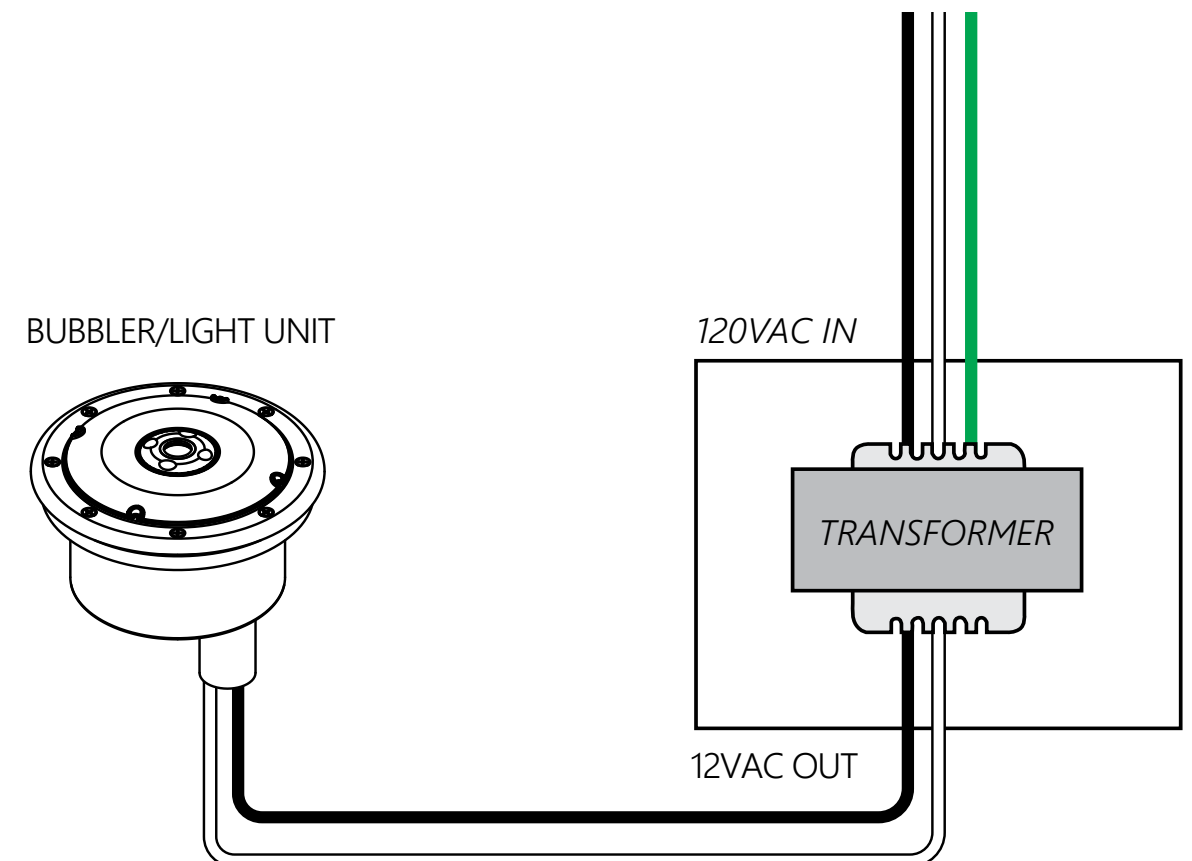


FIGURE 7: ELECTRIC SCHEMATIC EXAMPLE

# D. OPERATION MANUAL

## D.1 INITIAL STARTUP

**NOTICE USE ONLY WATER THAT HAS BEEN PROPERLY FILTERED.**

D.1.1 The following check list should be made prior to startup. This includes initial construction startup and seasonal start up.

1. Remove the construction/debris cover from the Bubbler.
2. Visually inspect the unit to ensure that there is no debris in the nozzle.
3. Inspect the housing and LED module for any signs of damage such as cracks, holes, etc.
4. Check to ensure that the LED module has been locked into place. If not, refer to section 4.2.2 for installation.
5. Ensure all electrical connections have been verified and inspected.
6. Do not turn on the unit until the pool has been filled to the full water mark.

D.1.2 After performing the startup check list, turn on the pumping system and allow the air to purge from the lines. Using the in line flow control valve, adjust the flow to the Brilliant Wonders Lighted Bubbler to obtain the desired height of the water flume. Refer to the data in section 4.1.2 for general performance data.

D.1.3 Visually check the unit to ensure that there are no leaks in the housing or the lighting unit. If any leaks are found, turn off water and address the leakage. If leakage is internal to the unit, please call customer service for further support. Repeat start-up sequence and recheck unit.

D.1.4 After the unit is running properly, energize the power to the transformer at the control box. Using the wall switch, now turn on the Brilliant Wonders Lighted Bubbler. All Nine (9) Lights should be functional.

**CAUTION DO NOT LOOK DIRECTLY INTO THE LED LIGHT SOURCE AS PERMANENT EYE DAMAGE MAY OCCUR.**

**DO NOT OPERATE THE LED LIGHTS FOR MORE THAN 20 SECONDS IF UNIT IS NOT SUBMERGED IN WATER. THIS PRODUCT IS EQUIPPED WITH A THERMAL OVERLOAD PROTECTOR. HOWEVER, FAILURE TO DO SO MAY CAUSE OVERHEATING WHICH MAY CAUSE DAMAGE TO THE ELECTRONICS.**

## D.2 LIGHT SEQUENCE OPERATION

D.2.1 The Brilliant Wonders Lighted Bubbler can be controlled using a standard wall-mount light switch. Multiple Brilliant Wonders Lighted Bubbler lights can be connected via a junction box to a single switch so that all lights can be switched on and off together. This will ensure that they will behave with the same lighting sequences. By turning the switch on and off a specific number of times, the light will activate one of the light show modes or will lock in a chosen color.

D.2.2 The first time the switch is powered on to the Brilliant Wonders Lighted Bubbler, a white light will appear. This is the first color of the sequence in the selected programs (Figure 8). To select another fixed color or color show mode (1-14), turn the wall switch off and then back on a specific number of times to go from a current program to the next program. The sequence will rotate from program to program. Please review the chart below and follow the sequence to activate the various show feature effects while in "show" modes. If the unit is turned off for more than 11 seconds, the unit will memorize the last program setting.

## D.3 COLOR SEQUENCE OPERATION

D.3.1 **Resetting Color Sequence:** To reset the sequence orientation, turn the power off for 5-10 seconds and then back on to restart the light sequence (Sequence Number 1) at white.

D.3.2 **Color Show Mode:** There are 9 color modes and 5 show programs.

**Synchronized Color Show Mode:** The 9 colors that are available are brilliant white, amazing aqua, ocean blue, electric blue, light green, primary green, sunset yellow, pretty in pink and purple passion. Change to the next color by turning the light switch to the off position and then back on.

**Show Program Mode:** To get to the Program Modes, turn the unit off and then back on to advance the sequence to the desired show. There are five show program modes: Slow and medium cycle through the lights; medium fade through red, white, and blue; medium fade through blue, white, and pink; and a fast party mode where all of the colors are cycled through with varying speed and hold delays.

**System Reset:** In the event of a power interruption or power loss and the units become out of sequence, turn the light switch to the off position for 5-10 seconds. The internal controllers will reset all of the lights and start them together at the first sequence.

SEQUENCE NUMBER	PROGRAM	COLOR OR MODE
1	White	Brilliant White
2	Aqua	Amazing Aqua
3	Blue	Ocean Blue
4	Pale Blue	Electric Blue
5	Light Green	Light Green
6	Green	Jade Green
7	Yellow	Sunset Yellow
8	Pink	Pretty in Pink
9	Purple	Purple Passion
10	Slow-Fade	Slow Cycle through all Colors
11	Medium	Medium Cycle through all Colors
12	Patriotic	Medium Fade through Red-White-Blue
13	Mardi Gras	Medium Fade through Blue-White-Pink
14	Disco	Fast Cycle through all Colors with varying time delays and holds medium fade through

FIGURE 8: PROGRAM SEQUENCES

# E. WINTERIZATION

## E.1 WINTERIZATION STEPS

When the pool is to be prepared for winter or will be out of service for a long period of time, the owner may decide to winterize the pool. The following steps should be followed to ensure that the bubbler unit will not be damaged:

1. Turn off power to the Brilliant Wonders Lighted Bubbler transformer and disconnect power at the breaker box.
2. Turn off power to the recirculating pump.
3. Mark both breakers as being "out of service".
4. If the unit will remain under the water level, no other action is required.

## E.2 SYSTEM FLUSH

In the case of pools that have the water drained below the Bubbler housing, it is recommended to flush the water out of the system.

1. Remove the LED Module Retaining Screw and twist the LED module **CLOCKWISE** and remove the Led module from the housing.
2. Disconnect the operating pump and use compressed air or some other source to remove all the water from the lines.
3. Reconnect when the water has been removed from the LED Module housing, supply, and return lines. Reinstall the LED module by turning **COUNTER-CLOCKWISE** (Figure 9).

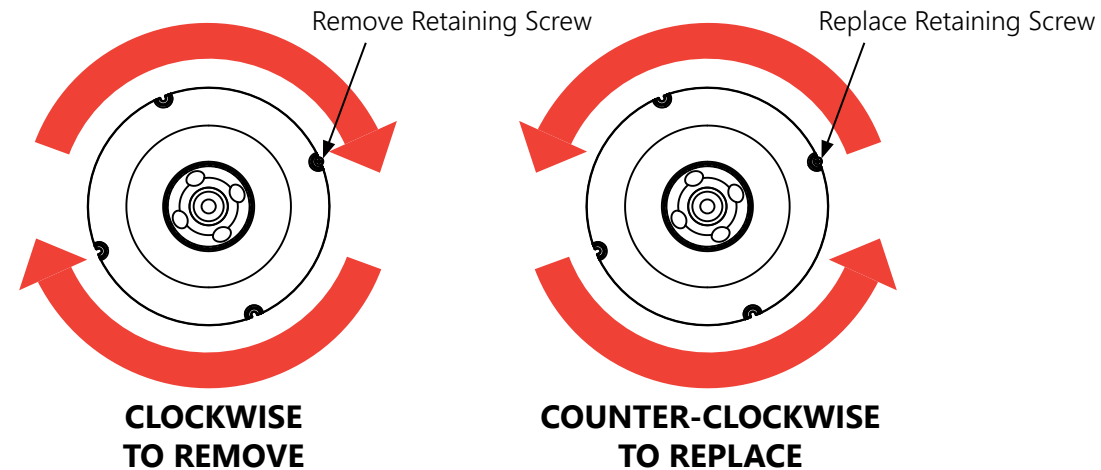
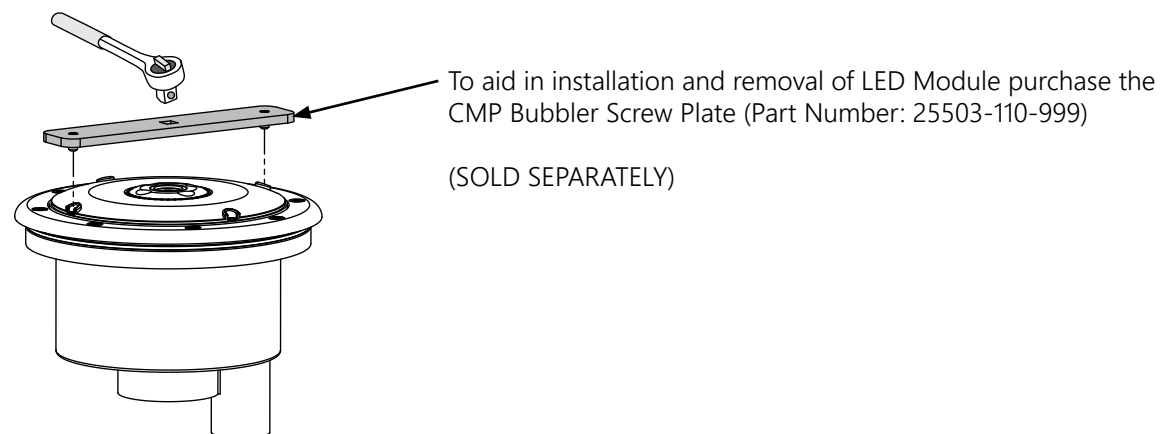


FIGURE 9: LED MODULE INSTALLATION

## F. ORDERING GUIDE

CMP P/N	DESCRIPTION
25503-150-000	GUNITE BUBBLER UNIT WITH 150 FT CORD
25503-100-000	GUNITE BUBBLER UNIT WITH 100 FT CORD
25503-025-000	GUNITE UNIT BUBBLER WITH 75 FT CORD
25503-050-000	GUNITE UNIT BUBBLER WITH 50 FT CORD
25503-300-000	WHITE VINYL/FIBERGLASS KIT* (BUBBLER SOLD SEPARATELY)
25503-301-000	GRAY VINYL/FIBERGLASS KIT* (BUBBLER SOLD SEPARATELY)
25503-304-000	BLACK VINYL/FIBERGLASS KIT* (BUBBLER SOLD SEPARATELY)
25503-309-000	TAN VINYL/FIBERGLASS KIT* (BUBBLER SOLD SEPARATELY)
25503-369-000	DARK BLUE VINYL/FIBERGLASS KIT* (BUBBLER SOLD SEPARATELY)

\*VINYL POOL INSTALLATION: Choose a Gunite Bubbler from above and Vinyl/Fiberglass Kit. Vinyl /Fiberglass Kit includes 1 Ring, 2 Gaskets, and 8 Screws.



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