

AQUASTAR[®]
pool products



Lite Star[®]

INSTALLATION AND USER'S GUIDE

*IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS*

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IMPORTANT WARNINGS AND SAFETY INSTRUCTIONS

⚠ DANGER FAILURE TO FOLLOW ALL INSTRUCTIONS AND WARNINGS CAN RESULT IN SERIOUS BODILY INJURY OR DEATH. TURN OFF POWER TO TRANSFORMER SUPPLYING LIGHT BEFORE SERVICING.

ATTENTION INSTALLER:

Read this manual completely before attempting installation. Consult AquaStar Pool Products with any question regarding this product. This guide must be left with the pool owner/operator.

ATTENTION USER:

This guide contains important information about the installation, operation and safe use of this product. Please retain this guide for future reference.

IMPORTANT NOTICE - FOR SUPPLY CONNECTION, USE ONLY AN ISOLATING LOW VOLTAGE POWER SUPPLY WITH UNGROUNDED OUTPUT, EVALUATED FOR SWIMMING POOL USE.

Do not open the LED light assembly. Light has no user serviceable parts inside.

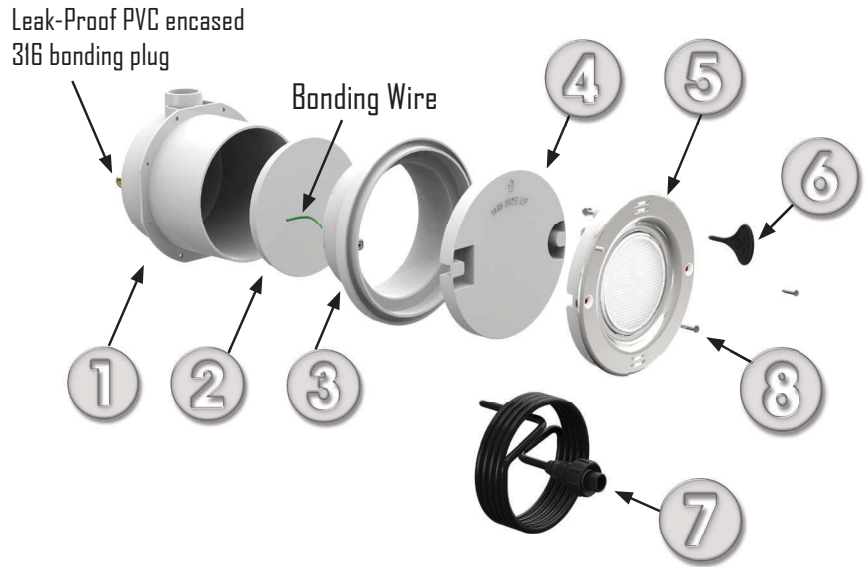
⚠ WARNING Lite Star models with 316 stainless steel bezel must be bonded in accordance with the National Electric Code using grounding terminal provided.

No separate ground wire is required for all other Lite Star models that have no exposed metal.

⚠ WARNING All Lite Star models must be installed by a licensed or certified electrician or a qualified pool professional in with the National Electric Code and all applicable local codes and ordinances.

NOTICE - Do not operate Lite Star out of water as overheating will cause intermittent dimming to protect from overheating. While the light has been tested for continuous out of water operation, this is NOT recommended and may reduce the life of the product.

Component Overview

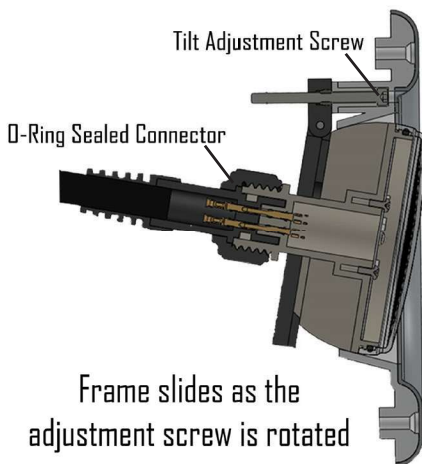


Lite Star Contents

1. Housing Niche
2. Plaster Cap
3. Plaster Ring
4. Plaster Ring Cap
5. Low-Voltage LED Light
6. Tilt Adjustment Tool
7. Quick-Connect Cord
8. 316 Stainless Steel Screws



Lite Star Features



LITE STAR CUT-AWAY
10 Degree Downward Angle

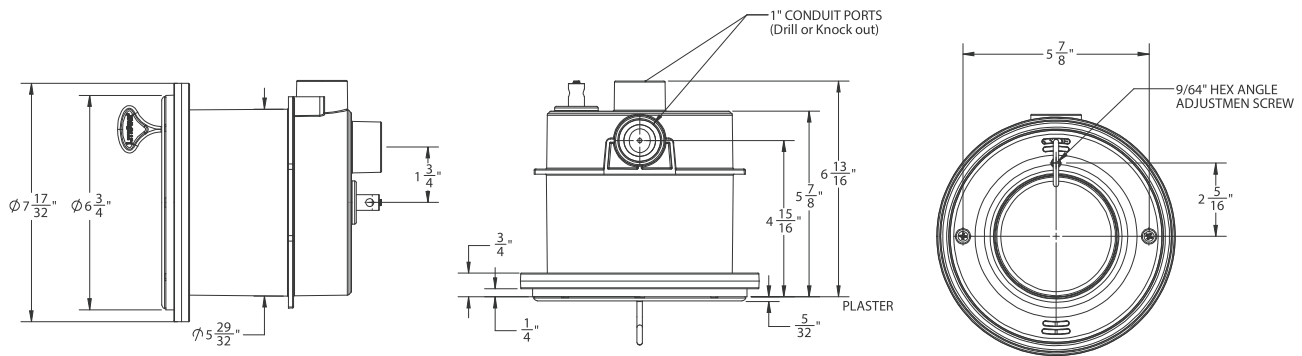
Lite Star was engineered for brilliance, energy efficiency, and ease of installation.

Lite Star features Adjust-A-Beam™ technology which allows a full 20 degrees of control of the light's angle, making it easy to reduce surface glare and highlight the unique finish and shape of a pool, spa, or fountain at any depth.

Lite Star produces a bright brilliant light while using a fraction of the power of a traditional incandescent or halogen pool light. The long-lasting LED bulbs are easy to replace with a quick-connect plug.

The Lite Star includes a strong PVC niche that is designed to make installation simple. Pre-drilled wire tie holes make it easy to secure the niche, multiple conduit ports provide plumbing flexibility, and the adjustable collar with water stop provides extra protection against leaks.

Lite Star Dimensions



Installation Instructions

1. Start by placing the Lite Star niche such that it is held on all four sides by rebar. Rebar should be set at 10" for a 12" beam and 8" for a 10" beam. It may be necessary to add sections or move existing sections of rebar to ensure that the niche is held in securely.

NEC REQUIRES THAT THE TOP OF THE LIGHT LENS BE AT LEAST 18 INCHES BELOW THE WATER LEVEL. IT IS IMPORTANT TO POSITION THE LITE STAR NICHE SO THAT YOU COMPLY WITH THIS REQUIREMENT

2. Once the niche has been securely positioned and is held in the rebar it must be securely tied to the rebar using tie wire. Pre-drilled holes have been added along the niche's flange for convenience. Tie wire should also be wrapped tightly around the outer circumference of the niche and secured to rebar for additional support.
3. The Lite Star niche has two conduit ports. Punch out only the interior tab of the port that is to be used, leave the other tab intact. The niche will accept 1" PVC electrical conduit. Do not use flexible conduit. Attach conduit and securely connect the bonding wire to the niche's outside bonding connector.

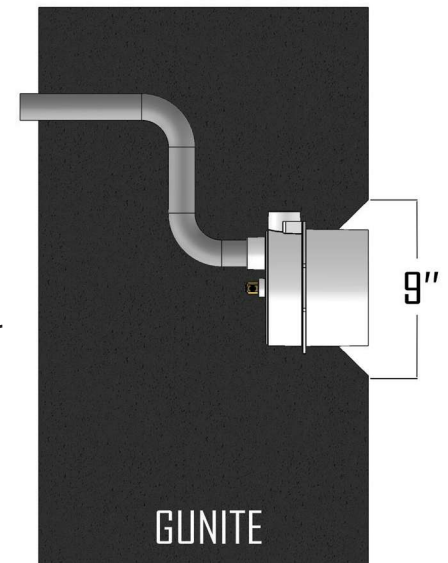


Figure 1

4. Place on the provided gunite shield. The gunite shield must be installed to prevent gunite or concrete from entering the inside of the niche.
5. The outside bonding connection must be inspected before the concrete or gunite is applied. Follow applicable codes. It's important to maintain a 9" diameter undercut around the outside circumference of the niche and to avoid having concrete or gunite harden on its outer edge (See Figure 1).

Installation Instructions

6. Before applying finish remove the gunite shield. Using PVC glue or construction adhesive secure the adjustable plaster ring with integrated water stop inside the Lite Star niche, ensure proper depth and alignment. Pool finish should be flush with the front face of the adjustable plaster ring (See Figure 2). Place plaster cap onto the adjustable plaster ring to avoid debris from entering while applying the finish.

7. To install pool light remove the plaster cap. Clean any debris that may have entered the niche and the adjustable plaster ring during pool construction. Ensure that there are two O-rings located inside the quick-connect plug and that they are lubricated and in good condition. Excess cable should be long enough to rest on the deck of the pool and should be wound up inside the niche (See Figure 3). Connect the quick-connect cord to the back of the LED light, screw the locking nut clockwise till fully secured. Connect bonding wire from the light bonding lug to the and internal niche's bonding lug. Ensure that both bonding connections are secure, follow all applicable codes. Securely fasten the light with provided screws onto the adjustable plaster ring.

WARNING: DO NOT SUBMERGE THE LIGHT ASSEMBLY WITHOUT THE CORD QUICK-CONNECT FULLY SECURED. CONNECT AND DISCONNECT THE LIGHT ASSEMBLY ABOVE WATER LEVEL. FAILURE TO DO SO WILL DESTROY THE UNIT AND VOID THE WARRANTY.

8. To adjust pool light use the Lite Star's adjustment wrench and turn the adjustment screw located at the top of the pool light clockwise to tilt the light up and counterclockwise to tilt down. The Lite Star can be tilted 10 degrees in both directions for 20 degrees of total adjustment.

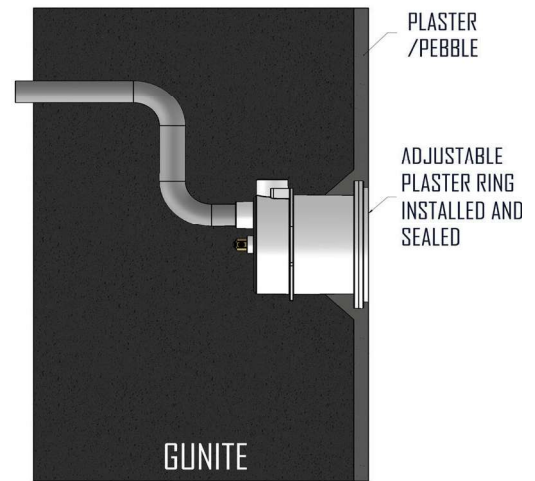


Figure 2

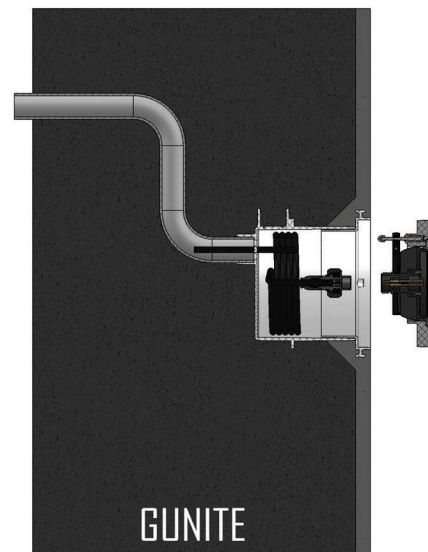


Figure 3

Operation and Programming Instructions

These instructions are for multi-color Lite Star units only, model LS433-x. Please refer to the *Programming Chart* on the following page for additional information. Please set 3rd party light controllers to Pentair® Sam/Sal mode.

TO ADJUST BRIGHTNESS:

Notice - It may be helpful to first program a solid color other than RED before attempting to adjust brightness.

1. Turn off power for 10 seconds.
2. Turn on power and wait approximately 10 seconds or for lamp to blink.
3. Within 2 seconds of blink, cycle power 20 TIMES.
4. Lamp will turn RED at full brightness for 5 seconds and then will scan brightness.
5. When desired brightness is reached, cycle power ONCE. New brightness is now saved and lamp returns to original program.
6. If no brightness is selected, the lamp will time out and return to previous brightness.

Programming Chart

SEQUENCE	1	2	3	4	5	6	7
AquaStar/ Pentair (Intellibrite)	SAM Mode (Show)	Party Mode (Show)	Romance Mode (Show)	Caribbean Mode (Show)	American Mode (Show)	California Sunset (Show)	Royal Mode (Show)

SEQUENCE	8	9	10	11	12	13	14
AquaStar/ Pentair (Intellibrite)	Blue (Fixed)	Green (Fixed)	Red (Fixed)	White (Fixed)	Magenta (Fixed)	Hold (Fixed)	Recall (Fixed)

Troubleshooting Instructions

1. Light only flashes BLUE
 - a. Voltage at the light does not meet the 10.7 VAC minimum limit. Increase the supply voltage at the transformer.
2. Light only flashes Red
 - a. Voltage at the light exceeds the 14 VAC maximum limit. Reduce the supply voltage at the transformer.

Troubleshooting Instructions

3. Light will not illuminate

- a. Ensure there is power to the transformer and that the GFCI is not tripped.
- b. Ensure that the transformer output voltage is between 11 to 14.5 VAC.
- c. Ensure that the connection between the light and the cord is fully threaded and secure. DO NOT DISCONNECT LIGHT UNDERWATER.
- d. Ensure that the connection between the light and the cord was made above water level. IF THE LIGHT IS SUBMERGED WITHOUT THE CORD BEING CONNECTED THE LIGHT WILL FAIL.

Transformer Output Voltage Based on Wire Lengths

CORD LENGTH (FT)	VOLTAGE DROP (VAC)	TRANSFORMER VOLTAGE (VAC)	LIGHT VOLTAGE (VAC)
10	0.13	12	11.87
20	0.26	12	11.74
30	0.39	12	11.61
40	0.51	12	11.49
50	0.64	13	12.36
60	0.77	13	12.23
70	0.9	13	12.1
80	1.03	13	11.97
90	1.16	13	11.84
100	1.29	13	11.71
110	1.41	13	11.59
120	1.54	13	11.46
130	1.67	14	12.33
140	1.8	14	12.2
150	1.93	14	12.07
160	2.06	14	11.94
170	2.18	14	11.82
180	2.31	14	11.69
190	2.44	14	11.56
200	2.57	14	11.43

NOTE: Output voltages listed are ideal and based on 120 VAC input

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AquaStar Pool Products' Limited Warranty

To original purchasers of this equipment, AquaStar Pool Products warrants the Lite Star's LED light and niche from defects in materials and workmanship for a period of ONE year from the date of purchase.

The limited warranty excludes damage from freezing, negligence, improper installation, improper use or care or any Acts of God. Parts that fail or become defective during the warranty period shall be repaired or replaced, at AquaStar Pool Products' option, within 90 days of the receipt of defective product, barring unforeseen delays, without charge. Proof of purchase is required for warranty service. In the event proof of purchase is not available, the manufacturing date of the product will be the sole determination of the purchase date. To obtain warranty service, please contact the place of purchase. AquaStar Pool Products shall not be responsible for cartage, removal, repair or installation labor or any other such costs incurred in obtaining warranty replacements or repair.

The AquaStar Pool Products warranty does not apply to components manufactured by others. For such products, the warranty established by the respective manufacturer will apply. The express limited warranty above constitutes the entire warranty of AquaStar Pool Products with respect to its' pool products and is in lieu of all other warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose. In no event shall AquaStar Pool Products be responsible for any consequential, special or incidental damages of any nature.

PLEASE RETAIN FOR YOUR RECORDS

DATE OF INSTALLATION _____



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