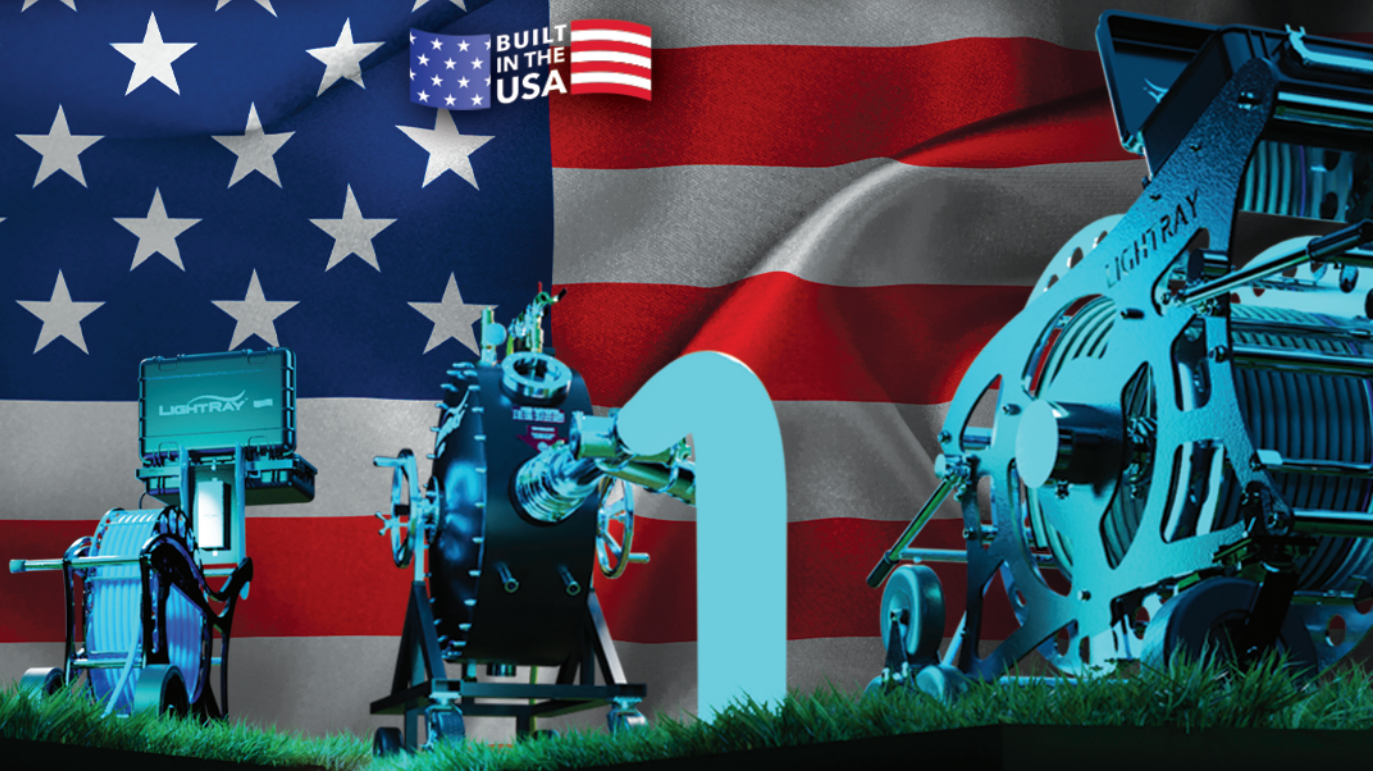


# LIGHTRAY<sup>TM</sup>



LIGHTRAY **LR3**  
PUSH / PULL IN PLACE

LIGHTRAY **LRI**  
LATERAL INVERSION

LIGHTRAY **LRS**  
MAINLINE JUNCTION



DESIGNED, BUILT & SUPPORTED IN THE UNITED STATES OF AMERICA





# LIGHTRAY LR3 SYSTEM

The **LightRay LR3** LED UV system is an advanced UV cast-in-place pipe technology, allowing complete operator control of the casting process. Our patent-pending, state-of-the-art technology can significantly reduce your costs and risks when compared to traditional thermo-setting or ambient-cast liners, creating new opportunities for plumbers and municipal contractors.

The LR3 is both a push and pull-in-place spot repair system, giving you the flexibility to perform both operations by only changing the proprietary cold LED repair packer. The LightRay non-VOC resin is pre-impregnated into the high-performance fiberglass liner and shipped ready to install for no-dig pipe infrastructure repairs. Once the install site is prepped, casting times in under 10 minutes can be achieved, eliminating the risk of premature or prolonged casting times due to temperature variations.


- Repairs pipe diameters of 3-inch to 12-inch, including transitions
- **New for 2023: 8-, 10- and 12-inch** diameter packers perform repairs up to 10-feet
- The 100-foot hose couples with 5-, 10-, or 20-foot packers to perform repairs
- Casting times of 10 minutes or less
- Liner materials arrive ready to install
- Easily navigates 45- and 90-degree bends
- Training included and 24/7 support



## PRO TIP

**HAVING MULTIPLE PACKERS ALLOWS THE USER TO PRE-LOAD THEM BEFORE JOBS, ENSURING THE REPAIR PROCESS GOES QUICKLY AND SMOOTHLY ON EACH JOBSITE.**



 Learn More

**DESIGNED, BUILT, AND SUPPORTED IN THE USA**



# INTRODUCING A NEW 2-INCH REPAIR PACKAGE FROM LIGHTRAY

## LIGHTRAY 2" SYSTEM

The LightRay LED UV system is an advanced UV cast-in-place pipe technology, allowing complete operator control of the casting process. Our patent-pending, state-of-the-art technology can significantly reduce your costs and risks when compared to traditional thermo-setting or ambient-cast liners, creating new opportunities for plumbers and municipal contractors.

The LightRay non-VOC resin is pre-impregnated into the high-performance fiberglass liner and shipped ready to install for no-dig pipe infrastructure repairs. Once the install site is prepped, casting times in under 10 minutes can be achieved, eliminating the risk of premature or prolonged casting times due to temperature variations.

### THE KIT INCLUDES:

- LightRay 2" control box and power pack
- LightRay 2" pneumatic accessories pack
- LightRay 2" packer in a 5 foot or 20 foot length with reel and 100 foot hose



### FEATURES:

- No complex parts or computer regulated movement
- Repairs all types of 2" pipes and
- The packer is incredibly flexible easily navigating bends and p-traps
- Casting times of 10 minutes or less
- All liner materials arrive ready to install and can be stored for up to 6 months
- All systems sold come with a 1-year limited warranty and training included
- Designed, built, and supported in the USA

**PRO  
TIP**


***THIS SYSTEM IS A SIMPLE UPSELL FOR PLUMBERS AND DRAIN CLEANERS MAKING A HOUSE CALL. THE REPAIR IS PERFORMED IN MINUTES DURING THE SAME SERVICE CALL.***

**DESIGNED, BUILT, AND SUPPORTED IN THE USA**



- No complex parts or computer regulated movement
- Casts lateral lengths of 150 ft. up to 6.3 ft./min. in all types of pipes
- The 50-foot cast length light train incorporates cold LED lights for industry-leading cast times and does not rely on heat to cast the liner
- Our proprietary design allows the light train to be incredibly flexible, navigating multiple bends up to 90 degrees
- Liner material is available in 3-, 4-, and 6-inch diameters, including transitional flex
- All liners arrive ready to install and can be stored for up to 6 months
- All systems sold come with a 1-year limited warranty and training included



 Learn More

**DESIGNED, BUILT, AND SUPPORTED IN THE USA**



# LIGHTRAY LRI SYSTEM

The **LightRay LRI** system is the most advanced entrant to the UV cast inversion liner market. Our simple design allows complete operator control over the process and closely resembles traditional ambient cast inversion methods. The difference is that we can accomplish throughput up to 6.3 feet per minute of casting with the proprietary light train, which incorporates cold LED lights that requires no heat to cast the liner. The light train comes in a standard casting length of 50 feet, operates on a low-voltage DC platform, and is internally protected to accommodate bends in pipes up to 90 degrees.

No more carrying hazardous materials in your truck or trailer and no need to measure and mix on-site. LightRay liners arrive ready to install. This dramatically reduces the variability from mixing and preparing liners and eliminates the requirement for extra equipment in the field, allowing for rapid system deployment. The LRI system uses non-thermal UV casting resin that is temperature-stable and only activated by UV light coupled with high-strength flexible fiberglass coated liners. No matter the temperature in the working environment, the casting times are consistent every time.

## PRO TIP

***ONCE THE CASTING PROCESS STARTS, THE Y-CONNECTOR CAN BE CAPPED OFF AND THE INVERSION DRUM DISCONNECTED TO RELOAD FOR THE NEXT JOB.***



DESIGNED, BUILT, AND SUPPORTED IN THE USA



# LIGHTRAY LRS SYSTEM

The **LightRay LRS** is a revolutionary install system designed around the LMK Shorty T-Liner product. Instead of relying on ambient or heat assist methods, the Shorty UV liner is cast in place with the LRS using a proprietary UV activated resin paired with a fiberglass Shorty liner. The liner casts only when exposed to our proprietary cold LED light launcher and light train which are required to cast the liner. Our simple system bolts onto an existing LMK ambient system and allows the operator complete control over the casting process, very closely resembling the procedure for installing a standard Shorty. The system does not create excess heat and a Shorty UV liner can be cast in as quickly as 10 minutes.

Shorty UV liners arrive fully assembled and ready for field impregnation. This greatly reduces the variability from preparing liners and also eliminates the requirement for extra equipment in the field allowing for rapid deployment of the system. The LRS system uses non-thermal UV casting resin that is temperature stable and only activated by UV light reducing the risk of the liner cooking prematurely. The liners are customer configurable Shorty UV liners that arrive complete with Insignia™ O-rings and Hydro-hats. No matter the temperature in the working environment, the casting times are consistent every time.

- No complex parts or computer regulated movement
- The UV cast Shorty is available in mainline diameters of 8-, 10- and 12-inches with lateral diameters of 4- and 6-inches
- **Insignia™** hydrophilic O-rings included with every liner for leak free installations and the translucent liner verifies no leakage once cast in place
- The control box, reel and power supply are cross compatible with the LRM system
- Our proprietary UV launcher and light train casts the full mainline wrap and up to 10 feet up the lateral
- All liners arrive ready for field impregnation and installation
- All systems sold come with a 1-year limited warranty and training included



**THE LAUNCHERS COME IN PAIRS TO KEEP THE TEAM MOVING DURING MULTIPLE INSTALLATIONS. LOAD THE SECOND LAUNCHER DURING THE CASTING PROCESS FOR THE FIRST LINER AND REPEAT THE PROCESS AS THE CREW MOVES FROM HOUSE TO HOUSE.**





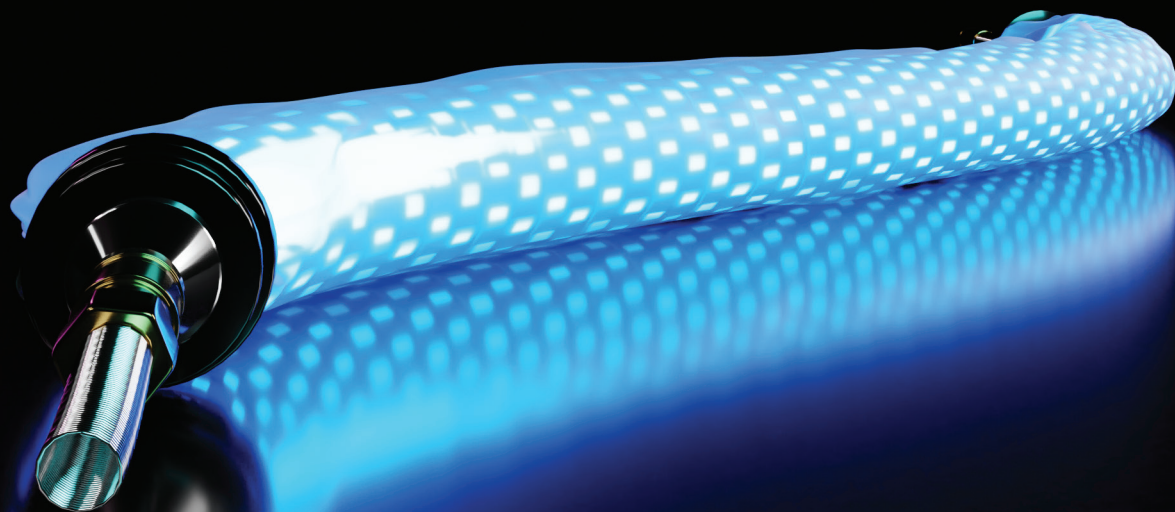
# STANDARD LR3 PACKERS WITH SILICONE EXPANSION BLADDERS

The LightRay LR3 packer is the most advanced cold LED casting packer on the market today. Available in 5', 10', and 20' repair lengths, the packer is designed to use minimal, low-voltage DC power for delivering maximum lengths of casting productivity. The specialized silicone bladder material is reinforced for multiple uses and durability, allowing maximum light exposure to our UV resin liners. In addition, we supply a disposable outer foil, which helps prolong the life of the bladder and reduces the time needed to clean the packer.

The leading-edge navigation spring assists in going around bends and can house a radiofrequency device for easy location and tracking below ground or behind walls and floors. In addition, the spring is removable, allowing the hook to be exposed for all pull-in-place applications. The rear connector comes equipped with a securing harness to allow safe retrieval without damaging the air/power hose connection when the packer is being pulled back from an installation.

## FEATURES:

- 2-inch to 12-inch diameter LightRay LED cast-in-place packer
- Cold cast LED UV lights
- UV light energy requirement
- Reinforced, multiple-sized silicone bladders
- Leading-edge removable spring guide
- Cutting-edge hook for pull-in-place
- Retrieval harness for pulling back on the packer without straining the air/power hose connector assembly
- Specialized air/power connector for easier reconnection on other sized packers





# PRE-MIXED GLASS FIBER SEAMLESS UV LINER

No more measuring, mixing, and carrying hazardous materials in your truck or trailer. No more wet-out tables or vacuum pumps needed. No heaters or chillers required, and no more costly mistakes or messes. LightRay liners arrive ready to install and without any need for refrigeration.

- Eliminates downtime, wasted resources and equipment, and all the risks associated with on-site wet-out (resin impregnation)
- Dramatically saves time, as the operator has complete control of when to start the casting process
- Reduces all cleanup on the job — no additional chemicals needed and no refrigeration necessary
- Eliminates the risk of premature or prolonged casting times due to temperature variations and traditional thermal casting mechanisms

## FEATURES:

- Resin-impregnated liners in 2-inch to 12-inch diameters, including transitional flex
- Casting times between 5 and 15 minutes depending on application
- For host pipes of any material and in diameters of 2-inch to 6-inch
- Navigates multiple 45- and 90-degree bends
- No refrigeration necessary
- 6-month shelf life when stored in a controlled environment 50-70°F
- Standard UV resins are non-VOC (no odor)
- Portable tote packaging with UV liner protection
- Exceeds the structural requirements of ASTM F1216
- Sold in rolls of 100 foot rolls of uncoated material for the LR3 system
- Sold in 100 and 150 feet rolls of coated material for the LRI system





# LIGHTRAY RESIN

The LightRay systems incorporate non-thermal UV casting resins along with high-strength flexible fiberglass pipe liners. No matter what the current temperature is above or below ground, the casting times are consistent anytime and every time, all in under 10 minutes.

## FEATURES:

- Casts in as little as 5 to 15 minutes depending on application
- No refrigeration necessary and 6-month shelf life when stored in a controlled environment between 50-70°F
- Standard UV resins are non-VOC (no odor)
- Exceeds the structural requirements of ASTM F1216

## LIGHTRAY RAPID RESPONSE VEHICLE

The **LightRay Rapid Response Vehicle** is a new package for customers operating in urban environments where pulling a trailer is not preferred. Our van solution packages everything you need to get started with lateral lining with our industry leading LightRay LR3 system complete with a generator and air compressor. Optional extras transform the van into a full service operation with the ability to add an LRI system and Picote and RIDGID camera packages.





UNDERGROUND SOLUTIONS  
YOU CAN RELY ON,  
BRANDS YOU CAN TRUST



TURN THAT  
**DRAIN CLEANING CALL  
INTO REAL PROFIT**  
WITH AN INSTANT  
**10-MINUTE SOLUTION**

LIGHTRAY LR3	LIGHTRAY LR3 VS. DIG & REPLACE	DIG & REPLACE
✗	CALL BEFORE YOU DIG	✓
✗	TRENCH BOX / SHORING	✓
✗	POTENTIAL UTILITY DAMAGE: GAS, WATER, ETC.	✓
✓	REPAIR CAN BE MADE THE SAME DAY	✗
✓	ZERO INTERIOR FLOOR DAMAGE	✗
✓	ZERO LANDSCAPE DAMAGE	✗
✓	IMPROVED WORKFORCE SAFETY	✗
✓	PIPE BACK IN SERVICE WITHIN THE HOUR	✗
LIGHTRAY LR3: THE MOST PROFITABLE TOOL IN THE TOOLBOX		



MONTHLY PAYMENTS ARE LESS  
**THAN THE PROFIT**  
FROM ONE INSTALL PER MONTH

**ZERO DOWN, NO PAYMENTS FOR 90 DAYS**  
**ONLY \$737 PER MONTH**

*Total Cost \$35,000 – 60 months / 7.5% APR*

- ✓ SAME DAY REPAIR
- ✓ BACK IN SERVICE WITHIN AN HOUR
- ✓ REDUCED MANPOWER
- ✓ INCREASED PROFITABILITY

AVERAGE COST

**\$700**

LR3 10FT REPAIR

\*LABOR, MATERIALS, INCIDENTALS

AVERAGE CUSTOMER PRICE

**\$3,200**

LR3 10FT REPAIR

\*INCLUDES SEWER CAMERA  
INSPECTION, CLEANING HOST  
PIPE & LR3 10FT REPAIR

**GROSS PROFIT OF 78%**



LIGHTRAY LR3  
UV SPOT REPAIR  
SYSTEM



**LIGHTRAY LR3 SYSTEM**  
**GROSS PROFIT OF 78%\***  
**PAYS ITSELF OFF IN 15 JOBS**

\* Average Gross Profits from LightRay LR3 Contractors across the USA

847-457-1810 marketing@waterlinerenewal.com

waterlinerenewal.com/lightray



UNDERGROUND SOLUTIONS  
YOU CAN RELY ON,  
BRANDS YOU CAN TRUST



DRAIN CLEANING FOR REAL PROFITS *WHILE YOUR TECH IS ONSITE*

**WHATS THE OPPORTUNITY?** 45% OF NORTH AMERICAN PIPES ARE AT OR PAST STRUCTURAL INTEGRITY

## SMALL MOM & POP

**20**

DRAIN CLEANING  
CALLS PER MONTH

X 20% CLOSE RATE

X \$2,500 PER SPOT REPAIR

=

**\$10,000**

IN ONE MONTH

**\$30,000**

IN THREE MONTHS

**\$60,000**

IN SIX MONTHS

## MEDIUM BUSINESS

**50**

DRAIN CLEANING  
CALLS PER MONTH

X 20% CLOSE RATE

X \$2,500 PER SPOT REPAIR

=

**\$25,000**

IN ONE MONTH

**\$75,000**

IN THREE MONTHS

**\$150,000**

IN SIX MONTHS

## LARGE CORPORATION

**100**

DRAIN CLEANING  
CALLS PER MONTH

X 20% CLOSE RATE

X \$2,500 PER SPOT REPAIR

=

**\$50,000**

IN ONE MONTH

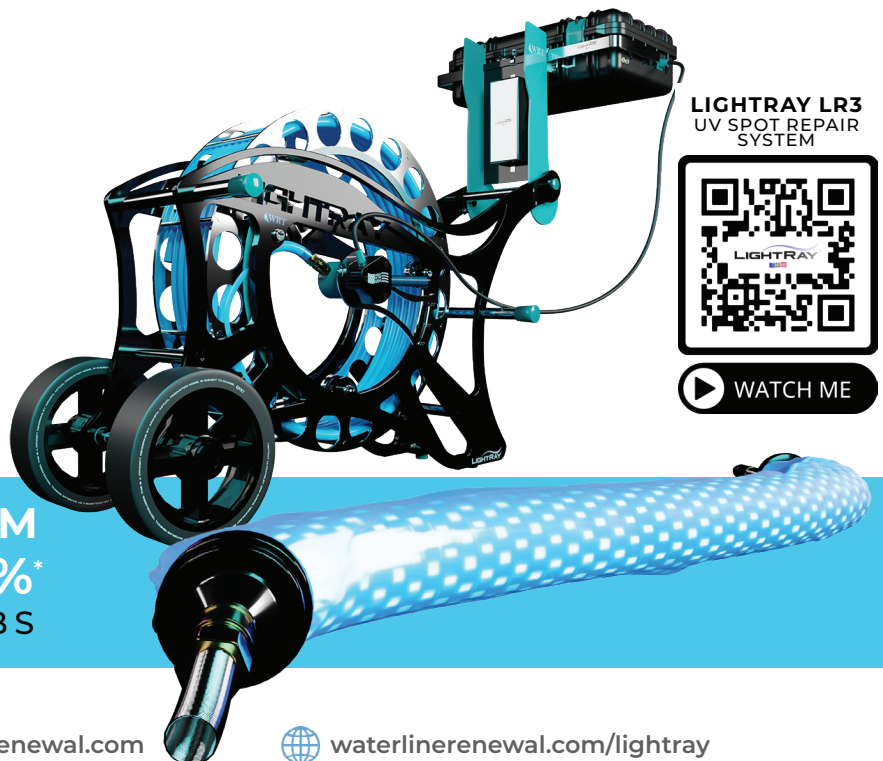
**\$150,000**

IN THREE MONTHS

**\$300,000**

IN SIX MONTHS

MONTHLY PAYMENTS ARE LESS  
**THAN THE PROFIT**  
FROM ONE INSTALL PER MONTH



LIGHTRAY LR3  
UV SPOT REPAIR  
SYSTEM



WATCH ME

**LIGHTRAY LR3 SYSTEM**  
**GROSS PROFIT OF 78%\***  
PAYS ITSELF OFF IN 15 JOBS

\* Average Gross Profits from LightRay LR3 Contractors across the USA

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## CORPORATE OVERVIEW

Waterline Renewal Technologies is a leading provider of engineered technologies used in the trenchless rehabilitation of wastewater/stormwater infrastructure for municipal, commercial/industrial, and residential applications, offering a unique product and service portfolio through its brands APM, LMK Technologies, Perma-Liner Industries, LightRay and Pipe Lining Supply.

We provide trenchless rehabilitation of degraded infrastructure through differentiated products, technologies, and services to prevent inflow and infiltration of sewer systems. The brands' experience in designing, patenting, and manufacturing trenchless technology continues to rise, while offering cost-effective product solutions for rehabilitating existing sewer systems without excavation.

With a combined eighty-five years of global industry experience through its core brands, we continue to transform the water industry through intentional platform development, design, and execution, while being one of the most comprehensive sources of education and information in the industry.

Our pioneering approach to trenchless rehabilitation is changing how municipal, commercial/industrial, and residential sectors repair their water and wastewater infrastructure. Our goal is nothing short of completely revolutionizing the water industry to get water to where it is needed, when it is required, and to get the right quality of water to satisfy the specific demand.



## MARKETS SERVED



MUNICIPALITY



COMMERCIAL/INDUSTRIAL



RESIDENTIAL



 **Waterline Renewal Technologies™**