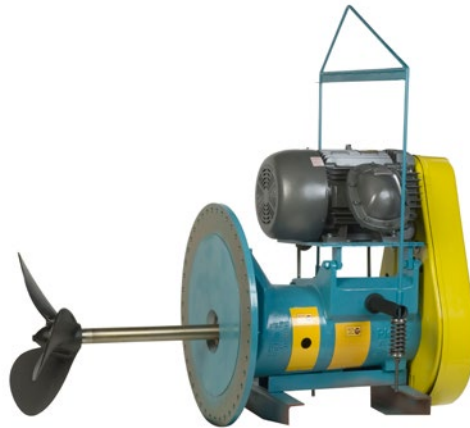


## Service & Support

LIGHTNIN AND PLENTY MIXERS



A World Leader in Industrial Mixing since 1923, Lightnin has 90 years of unrivaled experience in industrial mixing technology, process knowledge, and technological innovation. Lightnin enjoys a global reputation for durable, long-lasting mixers, agitators, aerators, and flocculators for fluid process systems. We offer a full spectrum of impeller designs for diverse applications. In addition, we offer a worldwide service network, mixer repair, gearbox repair, and replacement parts programs. Look to Lightnin for knowledge, technology, and service excellence.

SPX FLOW, Inc. (NYSE:FLOW) is a leading manufacturer of innovative flow technologies, many of which help define the industry standard in the market segments they serve. From its headquarters in Charlotte, North Carolina, it operates a sales and support network, centers of manufacturing excellence, and advanced engineering facilities, throughout the world. Its cutting-edge flow components and process equipment portfolio includes a wide range of pumps, valves, heat exchangers, mixers, homogenizers, separators, filters, UHT, and drying technology that meet many application needs. Its expert engineering capability also makes it a premium supplier of customized solutions and complete, turn-key packages to meet the most exacting of installation demands. Incorporating many leading brands, SPX FLOW has a long history of serving the food and beverage, power and energy, and industrial market sectors. Its designs and engineered solutions help customers drive efficiency and productivity, increase quality and reliability, and meet the latest regulatory demands. In-depth understanding of applications and processes, state-of-the-art Innovation Centers, and advanced pilot/testing technology further assist in optimizing processes and reducing timescales to reliably meet production targets. To learn more about SPX FLOW capabilities, its latest technology innovations and complete service offerings, please visit [www.spxflow.com](http://www.spxflow.com).

## Overview - Service & Support

Leading companies continue to challenge their people to maximize business performance while minimizing capital investments and operating costs.

That's why SPX FLOW Lightnin has created a dedicated organization to provide comprehensive mixing support services. After all, no one knows your mixers or the science of mixing better than we do. Putting Lightnin and Plenty to work for you allows your company to focus on the productivity and profitability of your core business processes, while we keep your mixers up and running.

SPX FLOW Lightnin offers programs that are customized to meet the needs of each individual customer. This expertise extends to all mixer manufacturers. In fact, no other single source can provide this support to help you achieve your productivity and cost-reduction goals. Lightnin offers the following programs that focus on your business solutions:



# Typical product applications

## Installation and Start-Up

- Pre-Installation
- Installation Management
- Commissioning
- Process

## Maintenance and Repair

- Preventive & Emergency
- Field & In-house Repair Services
- Exchanges
- Extended Warranties

## Asset Management Services

- Equipment Audit
- Parts Inventory Audit
- Inventory Reduction
- Equipment Upgrades
- Extended Storage

## Maintenance Agreement Options

## Troubleshooting Assistance

When you partner with SPX FLOW, you can be assured of reliable, responsive service from our growing network of worldwide dedicated service centers and local SPX FLOW Lightnin and Plenty Sales Representatives. To arrange a consultation with Mixer Service, contact your local authorized SPX FLOW Lightnin and Plenty Sales Representative.

[www.spx.com/en/lightnin/where-to-buy/](http://www.spx.com/en/lightnin/where-to-buy/)

What to do before you call – Please have the following information available:

- Original Serial Number
- Model Number
- Purchase Order or Credit Card

Partner with SPX FLOW Lightnin and Plenty today for integrated business solutions!

SPX FLOW has a process solution for a wide variety of mixing applications. Mixing applications can be broken down into the following mixing duties: liquid-liquid, liquid-solid, gas-liquid, gas-liquid solid and fluid motion. Many applications are often a combination of these duties and thus having a full understanding of each of these areas is crucial to recommending an optimized design that is also economical.

### Liquid - Liquid

- Solvent Extraction of Copper and other Metals
- Continuous pH control in potable water or effluent treatment
- Blending of additives and ingredients in food and beverages



### Liquid - Solid

- Petroleum blending and drilling mud suspension
- Draft Tube Crystallizers, used in the production of Alumina
- Suspension of Slurries in large tanks at Slurry Pipeline facilities



### Gas - Liquid

- Flue-Gas Desulphurization for municipal and industrial power plants
- Hydrogenation for Chemical and Pharma industries



### Gas - Liquid - Solid

- Pressure Oxidation and High Pressure Acid Leach Autoclave Mixers
- Surface Aeration and Anoxic Mixing Basins at Industrial and Municipal Water/Wastewater treatment plants



### Fluid Motion

- Homogenization of storage tanks



# Installation Management Services

Proper installation is critical to the long-term performance of your SPX FLOW Lightnin and Plenty mixing equipment. Without proper installation, expensive process downtime and repair can result. To guard against improper installation, a certified Lightnin Technician supervises job-site contractors to ensure that proper installation procedures are followed and the unit is configured properly for start-up. In addition, the presence of a certified Lightnin Technician ensures that installation procedures followed by job-site contractors do not compromise the equipment warranty.

Areas of Inspection Table	
Area of Inspection	Details of Inspection
<b>Leaks</b>	Each unit's oil seals, gaskets, and gear box will be inspected for oil leaks. Corrective actions will be applied as required.
<b>Coupling Alignment</b>	Each unit's high-speed couplings will be checked for proper alignment and greased per factory specifications.
<b>Shaft Run-Out</b>	Each unit's in-tank shaft run-out will be measured for conformity to factory recommended tolerances. Adjustments will be made as needed.
<b>Impellers</b>	Each unit's impellers will be inspected for proper hardware torque and positioning. Adjustments will be made as needed.
<b>Mechanical Seal</b>	Each unit's mechanical seal will be inspected for proper plumbing and pressurization per Lightnin specifications. Adjustments will be made as needed.
<b>Steady Bearings</b>	Any units with steady bearings will be inspected to ensure proper alignment of the steady bearings. Adjustments will be made as needed.
<b>Lubrication</b>	Gearbox lubrication will be checked to ensure proper oil level is maintained. Adjustments will be made as needed.

## Equipment Parts Audit

A certified SPX FLOW Service Technician will audit the shipment received from the Lightnin factory to ensure all parts are present and accounted for. Arrangements will be made with the factory to secure any missing parts.

## Installation Supervision

A certified SPX FLOW Service Technician will direct and supervise the installation of Lightnin and Plenty equipment by job-site contractors. All tools, equipment, labor, etc. needed for the physical installation of the equipment is the responsibility of the job-site contractors.

## Equipment Inspection

Once the job-site contractors have physically installed the equipment, the certified SPX FLOW Service Technician will inspect all components of the Lightnin equipment for anything that would prevent the successful start-up or operation of the equipment.

## How will your company benefit from this service?

- Reduce installation time
- Reduce costly production losses
- Reduced installation related parts damage
- Reduce total cost of ownership



## Commissioning Services

SPX FLOW Lightnin supports the job-site commissioning of your mixing equipment to ensure that the equipment is configured to Lightnin start-up specifications. The checks and measures performed by a certified Lightnin Technician ensure your mixer a trouble-free start-up.

### Commissioning Services

- Provide hands-on or supervisory assistance in configuring the equipment for start-up.
- Check power at the equipment.
- Test external bearing temperatures.
- Measure shaft run-out to ensure conformance to specifications.
- Visually inspect the equipment for any abnormalities that could jeopardize optimal equipment performance.
- Complete a comprehensive Lightnin Commissioning Checklist to confirm that all equipment specifications are met, and that all Lightnin recommended start-up procedures are completed.

### Why should your company use Lightnin Commissioning Services?

- Reduce downtime
- Ensure trouble-free start-up
- Reduce costly production losses
- Reduce parts inventory
- Reduce annual operating expenses
- Reduce total cost of ownership



# Exchange Services

SPX FLOW Lightnin is the only supplier of original equipment for Gearbox Exchange Services for industrial mixers and agitators. Exchange services allow the customer to get a direct replacement gearbox for a fraction of the cost of a new one. Lightnin's 48-hour "Break-down" delivery limits your scheduled down time, thus reducing your production losses to a minimum. Lightnin's exchanges are held to original manufactured standards and include the same warranty as new equipment.



70 Series Gearbox returned to SPX



70 Series Gearbox exchange returned to client

## Exchange Gearbox Services Include:

A completely rebuilt reducer to like-new conditions. The exchange reducer program is available for the following Lightnin models:

- 70, 80, 90, 500/600 and Series 10 top-entering speed reducers
- NSE and RSE side-entering speed reducers
- 700/800 H/S (High Speed) Heads
- XL
- Select 700/800 complete gearboxes

## Why should your company use Lightnin Exchange Services?

- Reduce down time
- Reduce costly production losses
- Reduced parts inventory
- Reduce annual operating expenses
- Reduce total cost of ownership

SPX FLOW Lightnin also offers Level repairs, which can further reduce the price of repairs.

Contact your local Lightnin sales office or representative for details about exchange and repair services offered in your Country.

## Repair and Refurbishment Services

SPX FLOW Lightnin supports the job-site repairs of your mixing equipment by supplying Original spare parts to ensure your equipment is maintained to its original specification. Our trained Service Engineers and Technicians are available to undertake on site supervision or to carry out the maintenance to compliment your workforce.

### Repair Services

MixerFixer Parts Kits are available for most Lightnin equipment. The Kits contain all the parts you need for fast, easy replacement of worn or damaged mixer parts.

Keeping a MixerFixer Kit on hand cuts downtime and minimizes lost production time when maintenance is needed. Having a MixerFixer Kit removes your parts wait time and lost time looking for parts sources.

### Refurbishment Services

On some occasions a full refurbishment of equipment is preferred. SPX FLOW offers refurbishment of Lightnin Equipment at all of our Global operations. Our trained Service Technicians only use Lightnin Original Spare parts to return the equipment to its original specification or provide a cost effective equipment upgrade to replace aging or obsolete parts.

### Why should your company use Lightnin Repair and Refurbishment Services?

- Repairs are guaranteed to OEM specifications
- Use of Lightnin Genuine parts from our extensive inventory
- All refurbished equipment carries the Lightnin Warranty for the rebuild and the parts used
- Rapid parts availability from your stocked MixerFixer Kits or from our Inventory
- Reduce annual operating expenses
- Reduce total cost of ownership





## SPX FLOW, Inc. - Global locations

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or use your SmartPhone and the QR Code.



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