

Series 70 Mixers

TOP ENTRY 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.

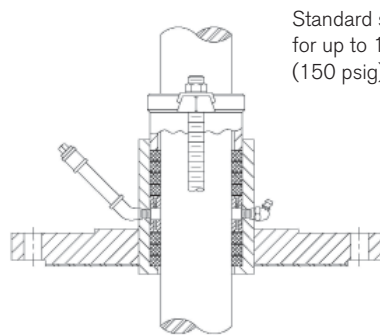
Based in Charlotte, North Carolina, SPX Corporation (NYSE: SPW) is a global Fortune 500 multi-industry manufacturing leader with over \$5 billion in annual revenue, operations in more than 35 countries and over 14,000 employees. The company's highly-specialized, engineered products and technologies are concentrated in Flow Technology and energy infrastructure. Many of SPX's innovative solutions are playing a role in helping to meet rising global demand for electricity and processed foods and beverages, particularly in emerging markets. The company's products include food processing systems for the food and beverage industry, critical Flow components for oil and gas processing, power transformers for utility companies, and cooling systems for power plants. For more information, please visit www.spx.com.

The Most Experienced Mixer Technology In The World - Lightnin Series 70

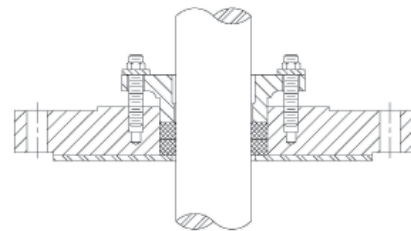
Over 30,000 Lightnin Series 70 mixers have been placed in service since we began manufacturing them in 1970. The same design technology is used in Lightnin Series 90 Mixers, as well as in RMX and most CMX replacement drives for older mixers. The gear train is the same as in our Series 80 Mixers. That makes the Series 70 mechanical design technology the most specified, most used, and most proven mixer technology in the world. It's our standard and the standard of the industry.

PRODUCT BENEFITS AND FEATURES

- **Wide Range of Power:** Lightnin Series 70 Mixers cover the range from 0.75 - 150kW (1 - 200HP). They are available in both double and triple reduction gearing, and come in a full range of standard AGMA speeds from 280 down to 9 rpm.
- **Motor Mounting Options:** The 70 Series is offered with a choice of motor mounting options to support your needs. For units up to 30kw (40HP) our default motor pedestal guarantees simple motor alignment. A motor bracket is available for all sizes.
- **Full Spectrum of Impellers:** Series 70 Mixers offer a full choice of impellers in order to optimize your process results. Included are the high-flow A510, as well as other high performance and more traditional impellers, so we can match shear and flow to your process requirements exactly.
- **Guaranteed Performance:** Together we decide what mixing should do to optimize your process. Then we recommend the impeller, mixer speed, shaft length and other specifications. And we guarantee performance results.
- **Tested 100%:** We employ a non-load test run on every Series 70 and Series 80 before they are shipped.
- **Series 70 Integral Stuffing Boxes:** The standard Series 70 stuffing box combines a split lantern ring, split packing gland and seven rings of packing with separators. The lantern ring distributes lubricant for better sealing performance. All fits are dowel or rabbet to assure alignment. You'll find this Lightnin design makes for easy repacking.
- **Variable Speed Drives:** The Lightnin Series 70 mixers can be driven with a variable frequency drive where speed variations are needed. The VFD can be supplied in an enclosure to meet IP54 service or higher.
- **Open Tank Models:** Series 70 models for open tanks require minimum headroom to simplify installation.



Standard stuffing box
for up to 10 Barg
(150 psig).



Low pressure stuffing
box for up to 1.6 Barg
(25 psig).

THEORY OF OPERATION:

Mechanical Seals

The replaceable cartridge design, a Lightnin original, is standard on Series 70 units. Light in weight. Easy to replace. No other design offers so much convenience. Integral stuffing box and open tank designs also available.

Change Gears

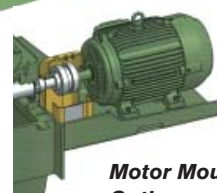
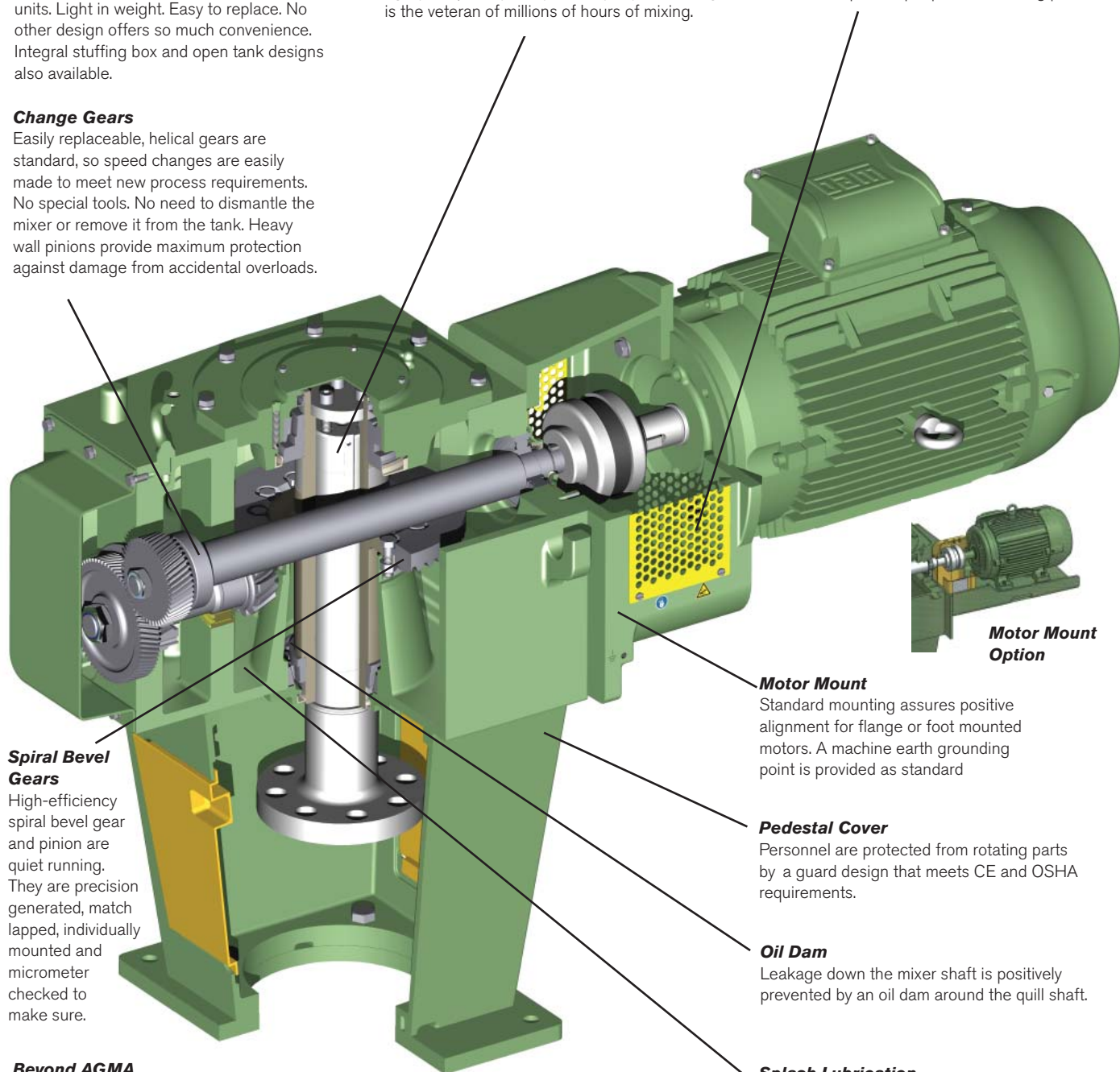
Easily replaceable, helical gears are standard, so speed changes are easily made to meet new process requirements. No special tools. No need to dismantle the mixer or remove it from the tank. Heavy wall pinions provide maximum protection against damage from accidental overloads.

Positive Direct Drive

Mixer shaft slides directly into the quill, where it is rigidly coupled by a key and keyway. This design is the veteran of millions of hours of mixing.

Coupling Guards

Coupling guards meet CE and OSHA standards and protect people from moving parts.



**Motor Mount
Option**

Motor Mount

Standard mounting assures positive alignment for flange or foot mounted motors. A machine earth grounding point is provided as standard

Pedestal Cover

Personnel are protected from rotating parts by a guard design that meets CE and OSHA requirements.

Oil Dam

Leakage down the mixer shaft is positively prevented by an oil dam around the quill shaft.

Splash Lubrication

Rotating gears dip into the oil sump and assure a constant flow of oil to all surfaces. No need for pumps or piping.

Spiral Bevel Gears

High-efficiency spiral bevel gear and pinion are quiet running. They are precision generated, match lapped, individually mounted and micrometer checked to make sure.

Beyond AGMA

Bearings are sized far beyond AGMA requirements to minimize maintenance and provide long service life.



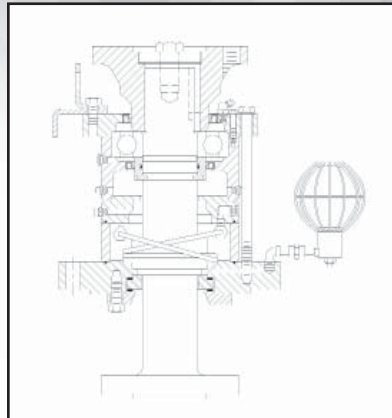
EXCLUSIVE MECHANICAL SEAL DESIGN

Series 70 mechanical seals incorporate all the many significant improvements originated by Lightnin over the years.

Each is tested 100% before shipment. No on-the-tank alignment, adjustment, or run-in is needed. Seals are self-setting by means of springs that position the faces for equal compression.

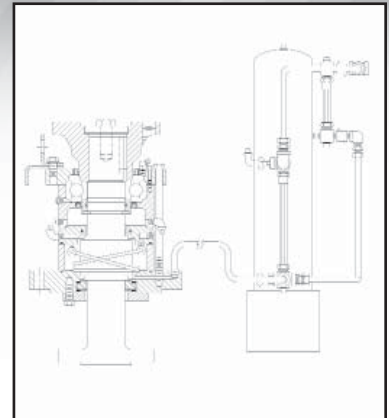
Seal and bearing lubricants are completely separate.

Each has its own inlet and outlet. Ordinary tap water can be circulated around the seal housing for cooling.



Single Seal With Constant Level Lubricator

Bulb sight glass shows level and serves as a reservoir to automatically feed lube to the seal.



Double Seal With Dead End Lubricator

A trouble free unit with no moving parts. This lubricator seal provides constant pressure for the seal lubricant. It also provides a standby reservoir, so your mixer can continue operating while main reservoir is refilled.

Global locations

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Series 80 Mixers

HEAVY-DUTY MIXERS



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The Lightnin Shock Absorber - Series 80

Thousands of Lightnin Mixers with hollow quill drives have been placed in service since we first created the design in the late 1960's to protect the gear train from severe flexures of the shaft. The exclusive hollow quill became part of the Series 80 mixers at that time. Since, then, the design has written a singular record for isolating shaft flexures and assuring longer life in some of the toughest applications imaginable. Series 80 mixers are especially recommended for processes with high fluid forces on the impellers, and long impeller shaft applications. Gearing is the same as used in our Series 70 and 500 mixers. Altogether, there are tens of thousands of these drives at work every day around the world. It's our standard and the standard of the industry.

PRODUCT BENEFITS AND FEATURES

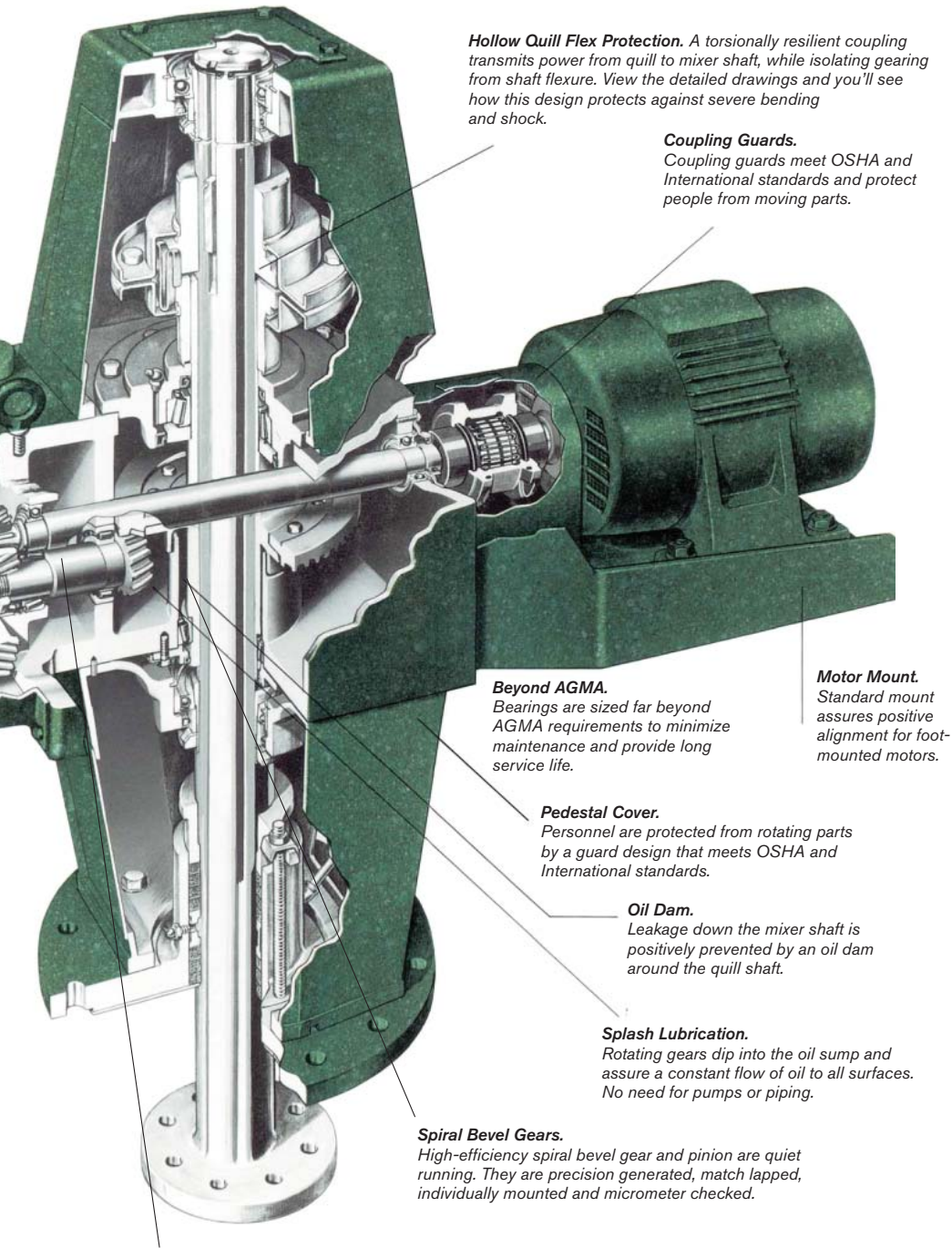
- **1 - 200 HP (1 kW – 150 kW):** Lightnin Series 80 mixers cover the range from 1-200 hp (1 kW – 150 kW). They are available in both double and triple reduction gearing, and come in a full range of standard AGMA speeds from 280 down to 16.5 rpm.
- **Full Spectrum of Impellers:** Series 80 mixers offer a full choice of impellers in order to optimize your process results. Included are the high-flow A310/A510, as well as other high performance and more traditional impellers, so we can match shear and flow to your process requirements exactly.
- **Guaranteed Performance:** Together, we decide what mixing should do to optimize your process. Then, we recommend the impeller, mixer speed, shaft length and other specifications. And we guarantee performance results.
- **Tested 100%:** We employ a non-load test run on every Series 80 before it is shipped.

Open Tank Models- Series 80 models for open tanks require minimum headroom to simplify installation.



Typical product applications

THEORY OF OPERATION:



Hollow Quill Flex Protection. A torsionally resilient coupling transmits power from quill to mixer shaft, while isolating gearing from shaft flexure. View the detailed drawings and you'll see how this design protects against severe bending and shock.

Coupling Guards. Coupling guards meet OSHA and International standards and protect people from moving parts.

Beyond AGMA. Bearings are sized far beyond AGMA requirements to minimize maintenance and provide long service life.

Pedestal Cover. Personnel are protected from rotating parts by a guard design that meets OSHA and International standards.

Oil Dam. Leakage down the mixer shaft is positively prevented by an oil dam around the quill shaft.

Splash Lubrication. Rotating gears dip into the oil sump and assure a constant flow of oil to all surfaces. No need for pumps or piping.

Spiral Bevel Gears. High-efficiency spiral bevel gear and pinion are quiet running. They are precision generated, match lapped, individually mounted and micrometer checked.

Change Gears. Easily replaceable, helical gears are standard, so speed changes are easily made to meet new process requirements. No special tools. No need to dismantle the mixer or remove it from the tank. Heavy wall pinions provide maximum protection against damage from accidental overloads.

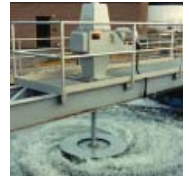
Mechanical Seals. The replaceable cartridge design, a LIGHTNIN original, is standard on Series 80 units. Light-weight. Easy to replace. No other design offers so much convenience. Integral stuffing box and open tank designs also available.

Motor Mount. Standard mount assures positive alignment for foot-mounted motors.

Series 80 Mixers are a highly efficient heavy-duty mixer, suitable for use in a wide range of applications.

We guarantee, 100%, that every mixer will do the job we say it will do. We guarantee the desired mixing result, and we give you a full mechanical guarantee.

Aeration



High Solids Concentration Mineral Processing



Tall Tanks



Gassed Processes





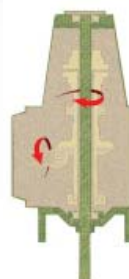
EXCLUSIVE HOLLOW QUILL CONSTRUCTION:



Hollow quill assembly with bevel gear is mounted in its own heavy-duty bearings.



Mixer shaft is supported independently. It is mounted in separate bearings that carry only the mixer shaft loads.



Mixer shaft is flexibly coupled to the quill. A torsionally resilient coupling transmits power from quill to mixer shaft, through a steel taper grid member that freely adjusts to shaft flexure.



Shaft flexure is isolated from gears. The drawing shows in exaggerated fashion how the mixer shaft can flex dramatically in the hollow quill with no effect on the drive, gearing is protected to add years of service.

Global locations

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