

SR Sanitary Right Angle Mixer



SR Right Angle Mixers from the LIGHTNIN Family of SanStar Mixers

Designed for use in aseptic environments, the LIGHTNIN SR Sanitary Right-Angle Mixers offer a proven track record of superior, dependable performance.

LIGHTNIN SR Sanitary Right-Angle Mixers are designed for biological, pharmaceutical, cosmetic and food processing applications on tanks ranging from 100 to 20,000 liters.

- *Used in the most stringent cGMP facilities.*
- *Designed for media suspension and storage, buffer solution make-down, plasma extraction, fermentation, including bacteria and cell culture, and general media processing.*
- *Aseptic dry running seal can be supplied with sterilizable sanitary gland.*
- *Designed for CIP/SIP environments.*
- *Small mixer footprint for restricted tank head geometries.*
- *Low headroom (less than 17 inches), right angle gear drive and low center of gravity; processing tanks can easily be moved from one location to another with the mixer in place.*
- *All 300 series Stainless Steel exterior finish available.*



Case History

A series of SR mixers are extracting serum from whole blood. Tanks containing the blood are moved from room to room with the mixers running intermittently over a 24-hour period. The mixers have been running for five years with seal maintenance required only once per year. The customer moved to SR mixers from larger portable mixers because the SR mixers could be easily and safely moved in this cGMP facility.

- *Supplied with LIGHTNIN A310/A510 low shear impeller.*
- *Customers can tailor the most cost effective mixer configuration based on specific process and environmental requirements.*
- *Available with LIGHTNIN's Quality Assurance Documentation validation support package.*
- *Comes with LIGHTNIN's 100% process guarantee.*

LIGHTNIN's Capabilities in the Biotechnology and Pharmaceutical Industries

The standards for Good Manufacturing Practices set by the FDA are more stringent than those for the general Chemical Industry. As a supplier of equipment to cGMP facilities, LIGHTNIN has instituted several procedures and systems to assist engineering contractors, system suppliers and end users in meeting these requirements, including:



- A team of in-house experts with experience in aseptic manufacturing: LIGHTNIN's team of experts includes people with knowledge in processing, mechanical design, quality assurance, production, installation, service and documentation.
- An order plan specific to aseptic mixers: On large projects, a LIGHTNIN team of experts, lead by a project coordinator oversees the entire project. Internally, LIGHTNIN creates a detailed project plan that controls the order from order entry through shipping to assure that all specifications are met exactly.
- Documentation for Validation: Quality Assurance Documentation (QAD) is available per mixer to aid end-users in the IQ/OQ/PQ process.
- Enhanced finish standards and verification: LIGHTNIN's standard finishes are defined both by Roughness Average (Ra) and by whether the raw material is cast or fabricated. Verification of specified finishes is available in the QAD.

Mixing Technology - LIGHTNIN's Commitment to Your Success

The heart of any mixer is its impeller, and LIGHTNIN has dozens to choose from. Successful impeller design requires a commitment to mixing research, and the capability to carry out dynamic testing using state-of-the-art facilities, instruments and procedures. At LIGHTNIN's Process Technology Lab, scientists use proprietary equipment and computer-assisted protocols to create new impellers, document their performance, and validate them against real-life mixing processes. The end result is an impeller that meets the needs of each unique process accurately and efficiently - generating lower capital and operating costs for many thousands of customers, year after year.



Validation Support

Quality Assurance Documentation, including the LIGHTNIN Quality Plan, project-specification tests and data reports, materials of construction, weld procedures and polish verification data, is available to facilitate the validation process.

LIGHTNIN's Authorized Service Centers worldwide can provide installation, commissioning and ongoing maintenance services to ensure that your system is running within validated specification.



Specifications

Wetted Parts

- A310/A510 high efficiency low shear hydrofoil impeller with or without stabilizers
- 316L Stainless Steel material
- Welded construction
- Threaded in-tank shaft coupling available
- Surface finish per customer specification
- Electro-polish available

Drive Assembly

- 1/2 HP
- 5:1 and 10:1 reduction (nominal 350 and 175 rpm respectively)
- L-10 bearing life exceeds 100,000 hours
- 1.75 service factor
- Food-grade lubricant
- Food-grade white epoxy finish
- Stainless Steel output shaft and all stainless hardware
- Sealed gearbox with expansion chamber; no breather valve required

Motors

- Washdown and Inverter duty, TEFC, 208-230/460v, 3-Phase, 60 Hz, Food-grade white epoxy finish
- 300 Series Stainless Steel motor option available
- Washdown duty, TEFC, 115v, single-phase, 60Hz, Food-grade white epoxy finish
- AC variable frequency drives (VFD) available
- Local readout tachometer option

Seals

- Single dry running
- With or without sanitary gland

Pedestal and Mounting Flanges

- 4", 5" or 6" ANSI 150# Flange, or 4" or 6" Tri-clamp sanitary connection
- Solid 316L SS construction on flanges
- Hard anodized aluminum pedestal (standard) or optional 316L Stainless Steel construction
- Surfaces unpainted and finished to 63 Ra

Custom Options

- High alloy impeller and shaft
- All Stainless Steel gearbox and/or motor
- Steel-it paint
- Explosion-proof motor
- Alternative size mounting flanges or Tri-Clamp® sanitary connections
- Alternative impellers including props, Rushton turbines, and A315, A320 or A340 high solidity hydrofoils
- Extended power and speed range

Expert Sales and Service Is Available Around The Word

The worldwide *LIGHTNIN* organization stands ready to spec, quote, and service all your mixing applications. On a global basis, strategically located *LIGHTNIN* manufacturing and service facilities make equipment delivery and after-order service fast and dependable. Our dedicated global service teams are readily available to support your process equipment. Genuine spare parts and service solutions can be obtained from locations around the world and ensure operating capacity of your valuable production equipment.

For more information about our worldwide locations, approvals, certifications, and local representatives, please visit our web site.

Web Site: www.spxprocessequipment.com • **E-Mail:** lightnin@processequipment.spx.com

SPX Process Equipment

Packaging - Processing
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SPX Process Equipment reserves the right to incorporate our latest design and material changes without notice or obligation.

Design features, materials of construction and dimensional data, as described in this bulletin, are provided for your information only and should not be relied upon unless confirmed in writing. Certified drawings are available upon request.

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