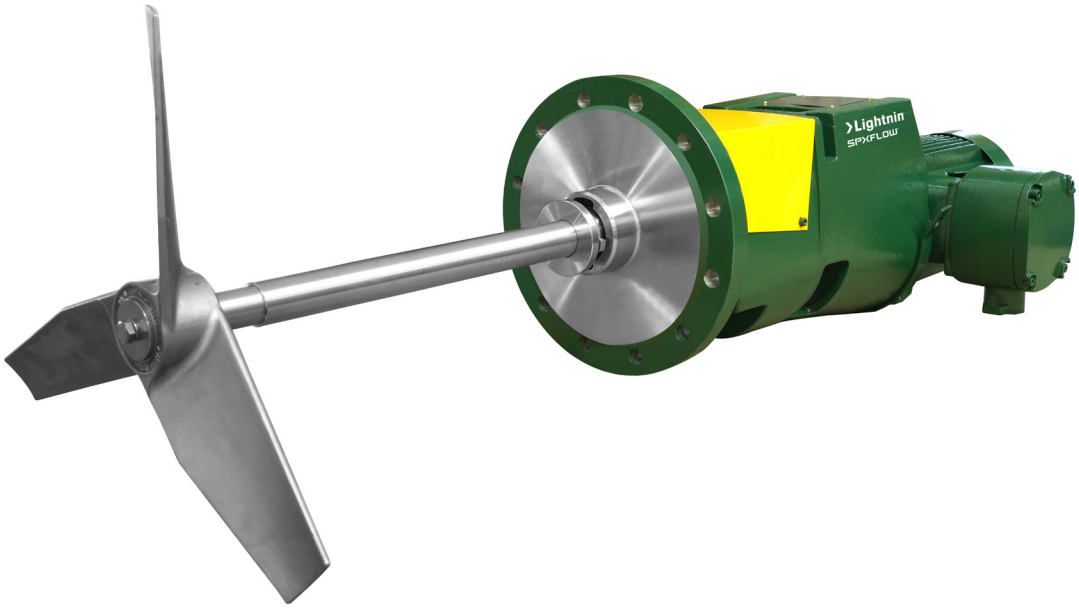
Lightnin®

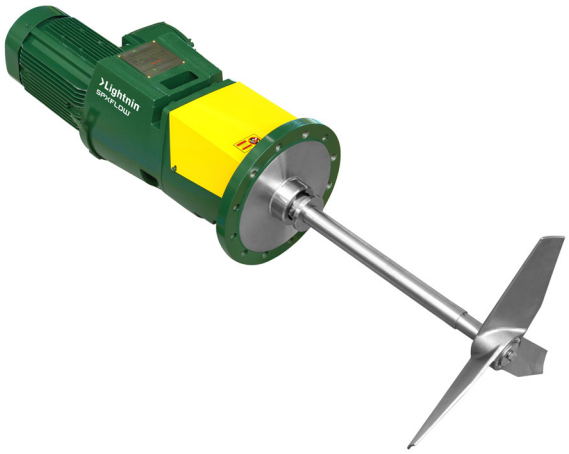
# L SERIES MIXERS

## Portable /Fixed Mount Mixers




SPXFLOW®

# L SERIES MIXERS FOR BOTH OPEN AND CLOSED TANKS





Lightnin L Series mixers are ideally suited for a variety of applications from high flow to high shear and for batch or continuous processes, where the mounting provides:

- Long shafts and installation stability.
- A size ranges from 0.37 to 4.0 kW.

## A VARIETY OF MODELS ARE AVAILABLE:

- LQ open tank, with plate mounting.
- LL closed tank with lip seal.
- LC closed tank with stuffing box seal.
- LS closed tank with mechanical seal.
- LSS side entry versions with shutoff device.

## L SERIES FEATURES INCLUDE:

- A metric frame motor, IP55 class F insulation, as standard or to your own specification.
- Modular design to give easy conversion from open tank to mechanical seal or stuffing box models.
- Maintenance free operation. All shaft bearings and gears are grease lubricated for continuous life time service.
- Multiple seals provide protection against lubricant leakage.
- Vibration dampening. Flexible anti-vibration mounts protect the drive against high fluid forces, prolonging mixer life.
- Internal helical gears for long life, quiet and efficient operation.
- A rigid coupling to provide stability for long shafts.
- The patented A310 high efficiency impeller.
- Lightnin 100% performance guarantee.

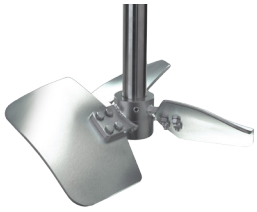
# IMPELLER TECHNOLOGY



A310 impeller



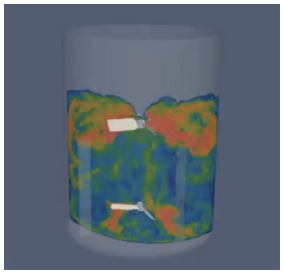
A200 axial fiow impeller



A320 impeller



A315 impeller



CFD plots graphically display full-scale mixer performance

Lightnin has a modern spectrum of high efficiency impellers which:

- Match specific process requirements.
- Reduce capital and operating costs.
- Improve process yields.

**Impellers in the range include:**

A310 - A high performance axial flow impeller which outper forms other axial flow impellers in the turbulent mixing regime by generating up to 70% more flow for the same speed power.

A312 - A version of the A310, modified to suit the flow needs of side entry applications.

A315 - An impeller designed to maximize flow while handling large volumes of gas without flooding.

A320 - A high flow efficiency impeller for higher viscosity applications.

A200 - An axial flow impeller for solid/liquid draw-in.

... and many more.

**MATERIALS OF CONSTRUCTION**

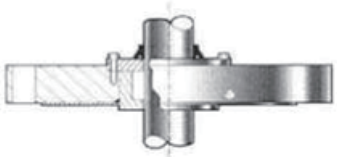
The standard materials of Lightnin fixed mount in tank parts are stainless steel (316SS), for shaft and impellers. In tank parts are also available in any machinable alloy, or with rubber or plastic coatings. Special surface finishes can also be supplied.

# SEAL OPTIONS

Lightnin offers comprehensive range of tank sealing options available. From simple lip seals to single and double mechanical seals. Please consult your local Lightnin representative for specific seal options to meet your process requirements.

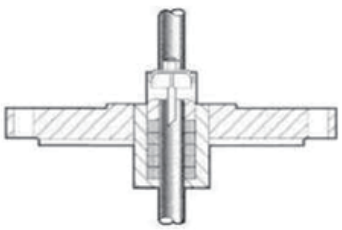
**FOR L UNITS**

1. The lip seal assembly is designed to prevent the ingress of dust and similar foreign matter into unpressurised vessels. The sealing element is suitable for operating up to 100°C.



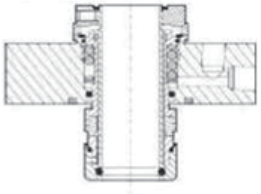
**FOR C UNITS**

2. The standard stuffing box is designed for pressures up to 10 bar. It uses 5 rings of packing and a split gland follower to provide necessary compression of the packing.



**FOR S UNITS**

3. A typical Lightnin seal is a balanced unit which offers positive sealing and is easily maintained. Operating up to 20 bar when lubricated it also has a dry running capability. Double balanced mechanical seals and most special sealing arrangements can also be accommodated.

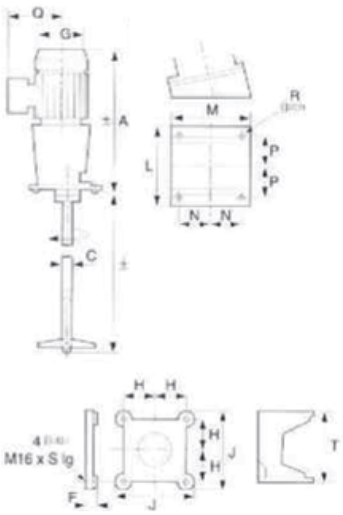


**FOR LSS SIDE ENTRY UNITS**

The S seal options describe above for vertically mounted units are also available for the L Series side entry units. Side entry units are available with shut off devices to permit seal replacement with a tank full of liquid.

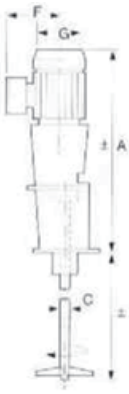
# L SERIES DIMENSIONS

## LQ




| Model | kW | Speed (rpm) | Kg± | A± mm | C mm | F mm | G mm | H mm | J mm | L mm | M mm | N mm | P mm | Q mm | R mm | S mm | T mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LQ37 | 0.37 | 290 | 24 | 420 | 25 | 35 | 152 | 127 | 315 | 393 | 311 | 127 | 178 | - | M16 | 90 | 170 |
| LQ75 | 0.75 | 290 | 39 | 510 | 40 | 35 | 164 | 127 | 315 | 393 | 311 | 127 | 178 | 132 | M16 | 90 | 215 |
| LQ110 | 1.1 | 145 | 69 | 630 | 40 | 50 | 208 | 140 | 335 | 425 | 370 | 140 | 194 | 152 | M16 | 90 | 240 |
| LQ150 | 1.5 | 290 | 39 | 523 | 40 | 35 | 164 | 127 | 315 | 393 | 311 | 127 | 178 | 152 | M16 | 90 | 215 |
| LQ155 | 1.5 | 186 | 68 | 630 | 40 | 50 | 208 | 140 | 335 | 425 | 370 | 140 | 194 | 152 | M16 | 90 | 240 |
| LQ220 | 2.2 | 290 | 67 | 630 | 40 | 50 | 208 | 140 | 335 | 425 | 370 | 140 | 194 | 152 | M16 | 90 | 240 |
| LQ400 | 4.0 | 290 | 67 | 650 | 40 | 50 | 208 | 140 | 335 | 425 | 370 | 140 | 194 | 152 | M16 | 90 | 240 |

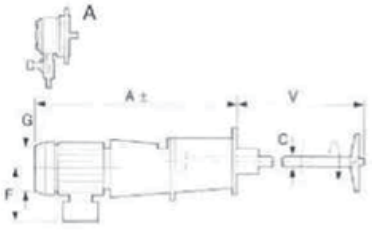
## LC, LL & LS




| Model | kW | Speed (rpm) | Kg± | A± mm | C mm | F mm | G mm | ANSI Flange Size |
|---|---|---|---|---|---|---|---|---|
| LC37 | 0.37 | 290 | 39 | 590 | 25 | 98 | 152 | 6 |
| LC75 | 0.75 | 290 | 70 | 730 | 40 | 132 | 164 | 8 |
| LC110 | 1.10 | 145 | 99 | 820 | 40 | 152 | 208 | 8 |
| LC150 | 1.50 | 290 | 70 | 743 | 40 | 132 | 164 | 8 |
| LC155 | 1.50 | 136 | 98 | 850 | 40 | 152 | 208 | 8 |
| LC220 | 2.20 | 290 | 97 | 860 | 40 | 152 | 208 | 8 |
| LC400 | 4.00 | 290 | 90 | 880 | 40 | 152 | 208 | 8 |

For LL or LS dimensions see equivalent LC kW size above

## LCS & LSS




| Model | kW | Speed (rpm) | Kg± | A± mm | C mm | F mm | G mm | ANSI Flange Size | V mm |
|---|---|---|---|---|---|---|---|---|---|
| LCS37 | 0.37 | 290 | 38 | 590 | 25 | 98 | 152 | 6 | 560 |
| LCS75 | 0.75 | 290 | 65 | 730 | 40 | 132 | 164 | 8 | 560 |
| LCS150 | 1.50 | 290 | 65 | 743 | 40 | 132 | 164 | 8 | 560 |
| LCS220 | 2.2 | 290 | 93 | 860 | 40 | 152 | 208 | 8 | 560 |
| LCS400 | 4.0 | 290 | 97 | 880 | 40 | 152 | 208 | 8 | 560 |

For LSS dimensions see equivalent ICS kW size above

| ANSI Flange Size | Flange OD | BCD | Bolt Qty | Bolt Size |
|---|---|---|---|---|
| 6 inch/150 lb | 280 | 241 | 8 | 0 75 |
| 8 inch/150 lb | 343 | 298 | 8 | 0.75 |

| DIN | Flange OD | BCD | Bolt Qty | Bolt Size |
|---|---|---|---|---|
| NW 150/ND16 | 285 | 240 | 8 | 20 |
| NW 200/ND10 | 340 | 295 | 8 | 20 |

| NF | Flange OD | BCD | Bolt Qty | Bolt Size |
|---|---|---|---|---|
| DN 150/PN10 | 285 | 240 | 8 | 20 |
| DN 200/PN10 | 340 | 295 | 8 | 20 |

# SELECT YOUR OWN LIGHTNIN MIXERS

| Viscosity mPas | Unit size (l) | Tank Volume (Litres) 100 | 250 | 500 | 1000 | 1500 | 2000 | 2500 | 3750 | 5000 | 7500 | 10000 | 12500 | 15000 | 20000 | 25000 | 30000 | 40000 | 45000 | 50000 | 60000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | kW | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.75 | 0.75 | 0.25 | 0.25 | 0.37 | 0.75 | 0.75 | 0.75 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| | RPM | 1450 | 1450 | 1450 | 1450 | 1450 | 1450 | 1450 | 1450 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 186 | 186 | 186 | 186 |
| | Mixing Time | 0.4 | 1.1 | 2.1 | 4.3 | 6.4 | 8.6 | 6.0 | 9.0 | 7.2 | 10.8 | 12.0 | 9.9 | 11.9 | 15.9 | 7.6 | 9.2 | 13.5 | 7.6 | 16.9 | 20.3 |
| | No. of Impeller | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | 1 |
| | ø Impeller | 132 | 132 | 132 | 132 | 132 | 132 | 160 | 160 | 325 | 325 | 345 | 396 | 396 | 396 | 432 | 432 | 610 | 610 | 610 | 610 |
| 100 | kW | 0.25 | 0.25 | 0.75 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.37 | 0.75 | 1.5 | 2.2 | 2.2 | 4 | 1.5 | 1.5 | 1.1 | | | |
| | RPM | 1450 | 1450 | 1450 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 186 | 186 | 145 | | | |
| | Mixing Time | 0.4 | 1.1 | 1.2 | 1.5 | 2.2 | 2.9 | 3.7 | 5.5 | 6.1 | 6.0 | 6.2 | 5.5 | 6.6 | 5.7 | 8.5 | 10.2 | 13.8 | | | |
| | No. of Impeller | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| | ø Impeller | 132 | 132 | 160 | 325 | 325 | 325 | 325 | 325 | 345 | 396 | 432 | 483 | 483 | 559 | 610 | 610 | 660 | | | |
| 250 | kW | 0.25 | 0.75 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.75 | 0.75 | 2.2 | 2.2 | 4 | 4 | 1.5 | 1.1 | 1.1 | | | | |
| | RPM | 1450 | 1450 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 186 | 145 | 145 | | | | |
| | Mixing Time | 0.7 | 0.6 | 0.8 | 1.5 | 2.3 | 3.0 | 3.8 | 3.1 | 4.1 | 3.4 | 4.5 | 3.6 | 4.3 | 6.9 | 4.4 | 5.3 | | | | |
| | No. of Impeller | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | | | | |
| | ø Impeller | 114 | 160 | 325 | 325 | 325 | 325 | 325 | 396 | 396 | 483 | 483 | 559 | 559 | 610 | 660 | 660 | | | | |
| 500 | kW | 0.25 | 0.75 | 0.25 | 0.25 | 0.25 | 0.25 | 0.37 | 0.75 | 1.5 | 4 | 4 | 1.5 | 1.1 | 1. | | | | | | |
| | RPM | 1450 | 1450 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 186 | 145 | 145 | | | | | | |
| | Mixing Time | 0.8 | 0.7 | 0.8 | 1.6 | 2.4 | 3.2 | 3.3 | 3.2 | 3.2 | 2.2 | 2.9 | 4.4 | 5.4 | 7.2 | | | | | | |
| | No. of Impeller | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| | ø Impeller | 114 | 160 | 325 | 325 | 325 | 325 | 345 | 396 | 432 | 559 | 559 | 610 | 660 | 660 | | | | | | |
| 1000 | kW | 0.75 | 0.25 | 0.25 | 0.25 | 0.25 | 0.75 | 0.75 | 1.5 | 2.2 | 4 | 1.5 | 1.1 | 1.1 | | | | | | | |
| | RPM | 1450 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 186 | 145 | 145 | | | | | | | |
| | Mixing Time | 0.4 | 0.4 | 0.9 | 1.8 | 2.6 | 1.8 | 2.3 | 2.6 | 2.4 | 2.3 | 3.7 | 4.7 | 5.7 | | | | | | | |
| | No. of Impeller | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | |
| | ø Impeller | 150 | 325 | 325 | 325 | 325 | 396 | 396 | 432 | 483 | 559 | 610 | 660 | 660 | | | | | | | |
| 2500 | kW | 0.25 | 0.25 | 0.25 | 0.37 | 0.75 | 1.5 | 1.5 | 4 | 4 | 1.1 | 1.1 | | | | | | | | | |
| | RPM | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 290 | 145 | 145 | | | | | | | | | |
| | Mixing Time | 0.3 | 0.8 | 1.6 | 2.3 | 1.7 | 1.6 | 2.0 | 1.3 | 1.7 | 3.3 | 4.4 | | | | | | | | | |
| | No. of Impeller | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | |
| | ø Impeller | 300 | 300 | 300 | 325 | 396 | 432 | 432 | 559 | 559 | 660 | 660 | | | | | | | | | |

**Validity**
Tank height to diameter ratio 0.8 -1.2
Liquids with Newton viscosity characteristics
Difference of density of liquids <0.1 g/cm³
Use for Mild Blending applications
Maximum SG 1.2
Maximum viscosity ratio ~ 10:1 (> 250 mPas)
Mixer in operation during filling and emptying
**Acceptable shaft lengths may vary with model**

**Example**
**7500 litre tank, viscosity at 500 mPas**
**Design - Open Tank**
**Selection : LQ400**

| | | | Fixed Mount | | |
|---|---|---|---|---|---|
| kW | RPM | Open tank | Lip seal | Stuffing box | Mechanical seal |
| 0.37 | 290 | LQ-37 | LL-37 | LC-37 | LS-37 |
| 0.75 | 290 | LQ-75 | LL-75 | LC-75 | LS-75 |
| 1.1 | 145 | LQ-110 | LL-110 | LC-110 | LS-110 |
| 1.5 | 290 | LQ-150 | LL-150 | LC-150 | LS-150 |
| 1.5 | 186 | LQ-155 | LL-155 | LC-155 | LS-155 |
| 2.2 | 290 | LQ-220 | LL-220 | LC-220 | LS-220 |
| 4 | 290 | LQ-400 | LL-400 | LC-400 | LS-400 |

# OTHER MIXERS IN THE LIGHTNIN RANGE

EV SERIES, PORTABLE MIXERS



SERIES 10 - TOP ENTRY UNITS UP TO 15 kW



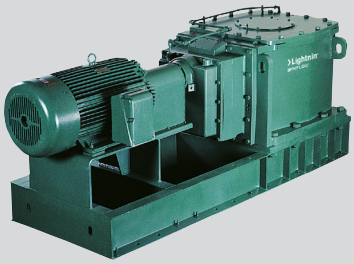
70 / 80 - HEAVY DUTY TOP ENTRY UNITS TO 130 kW



PLENTY SIDE ENTRY, GEAR OR V BELT, FIXED OR SWIVEL ANGLE



700/880 SERIES - HEAVY DUTY TOP OR BOTTOM ENTRY MIXERS



LABMASTER



**A comprehensive, versatile range of fluid mixing equipment on the market today.**

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**Manufacturing Site in APAC**

SPX (Shanghai) FLOW Technology Co., Ltd.

Addr.: No.666, Fengjin Road, Shanghai, China

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LGT_L-Series_GB

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