



Water Cooled Generating Sets

LLD Range

50 Hz: 5.9 – 43.5 kVA

60 Hz: 7.3 – 25.3 kVA

Standard Features:

- Engine and alternator close coupled.
- Anti-vibration mountings between engine/alternator and base-plate.
- Galvanised steel base-plate with forklift pockets and bunding for the fuel tank.
- 66 litre polypropylene fuel tank with contents gauge.
- 12 volt starter battery and leads.
- Control panel containing an output circuit breaker with thermal overload protection and an electronic control module with digital display.
- Emergency stop button (lock down type).
- Central point lifting eye (acoustic canopied and Rental sets only)
- Operator Handbook.
- Electrical diagrams

For "Rental Specification" only:

- Earth leakage trip (incorporated into the main control panel) including engine shutdown.
- Single electrical output socket inside the canopy adjacent to the control panel.

Engine Specification:

- Lister Petter Alpha range, water cooled, diesel engine.
- Medium duty air cleaner.
- Lubricating oil and fuel filters.
- Fuel lift pump.
- Engine mounted exhaust silencer (open sets only).
- Residential exhaust silencer (acoustic and rental sets only).
- 12v electric starting system.
- High engine temperature and low oil pressure shut down system.

Alternator Specification:

- Single bearing, 4 pole brushless alternator.
- Solid state AVR with $\pm 1.5\%$ voltage regulation as standard.
- Class "H" Insulation on the rotor and stator.
- IP23 protection class.

Optional Items:

- Residential exhaust silencer on open sets (as fitted to acoustic sets).
- Acoustic canopy kit (including residential silencer kit) for retrofitting to electric start open sets only.
- Basic tool kit.

Open Set: LLD



Acoustic Set: LLDA (also rental set)



Lister Petter Engine Types

LLD95 and LLD95A - LPW2 at 1500 r/min or 1800 r/min.

LLD135 - LPW2 at 3000 r/min.

LLD140 and LLD140A - LPW3 at 1500 r/min or 1800 r/min.

LLD200 - LPW3 at 3000 r/min.

LLD190 and LLD190A - LPW4 at 1500 r/min or 1800 r/min.

LLD250 and LLD250A - LPWT4 at 1500 r/min or 1800 r/min.

LLD275 - LPW4 at 3000 r/min.

LLD400 - LPWT4 at 3000 r/min.

Prime and Standby Power Ratings

(all ratings are to ISO 8528-1)

Acoustic or Open set Options and r/min			50Hz Single Phase		50Hz Three Phase		60Hz Single Phase		60Hz Three Phase	
			kVA	kW	kVA	kW	kVA	kW	kVA	kW
LLD95 LLD95A	1500, 1800	Prime	5.9	5.9	7.7	6.2	7.3	7.3	9.4	7.5
		Standby	6.5	6.5	8.5	6.8	8.1	8.1	10.3	8.3
LLD135*	3000	Prime	10.2	10.2	13.7	11.0	Not available			
		Standby	11.2	11.2	15.1	12.1				
LLD140 LLD140A	1500, 1800	Prime	9.1	9.1	11.9	9.5	11.0	11.0	14.7	11.7
		Standby	10.0	10.0	13.0	10.4	12.1	12.1	16.1	12.8
LLD190 LLD190A	1500, 1800	Prime	12.0	12.0	16.0	12.8	15.3	15.3	17.5	14.0
		Standby	13.2	13.2	17.6	14.1	16.8	16.8	19.3	15.4
LLD200*	3000	Prime	15.4	15.4	20.3	16.3	Not available			
		Standby	16.9	16.9	22.4	17.9				
LLD250 LLD250A	1500, 1800	Prime	15.4	15.4	20.0	16.0	19.0	19.0	23.0	18.4
		Standby	17.0	17.0	22.0	17.6	20.9	20.9	25.3	20.2
LLD275*	3000	Prime	20.9	20.9	28.1	22.5	Not available			
		Standby	23.0	23.0	30.9	24.8				
LLD400*	3000	Prime	Not available		39.5	31.6	Not available			
		Standby			43.5	34.8				
Available Voltages			220 - 230 - 240		380/220 400/230 - 415/240		220/110 230/115 - 240/120		220/127 230/133	

Alternator type: Power outputs are based on the optimum make of alternator for the set. Gensets fitted with other manufacturers' alternators may not achieve the above ratings.

Voltages: Other voltages are available; refer to Lister Petter. **Power Factor:** Single Phase – 1.0pf; Three Phase – 0.8pf.

* Not available in acoustic canopied form.

Sound Pressure Levels – acoustic sets

(dBA) at 75% load at 7m at 1500r/min

LPW2	64
LPW3	64
LPW4	65
LPWT4	62

Noise levels are in accordance with European Noise Directive (2000/14/EC)

Rating Definitions to ISO 8528-1

Rating Conditions

A standard generating set is designed to operate in environmental reference conditions of 25°C, 100kPa and 30% humidity.

Prime Power

This rating is for the supply of continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation on the annual hours of operation and 10% overload power can be supplied for 1 hour in 12 hours.

Standby Power

This rating is for the supply of continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted.

Approximate Fuel Consumption

		litres/hour	
		r/min	100% Load
LLD95	1500	1.9	1.5
	1800	2.3	1.8
LLD135	3000	3.9	3.1
LLD140	1500	2.8	2.2
	1800	3.4	2.7
LLD190	1500	3.8	2.9
	1800	4.6	3.6
LLD200	3000	5.9	4.6
LLD250	1500	4.9	3.7
	1800	6.0	4.6
LLD275	3000	7.8	6.1
LLD400	3000	10.6	8.3

Control System Details

Manual/Automatic Electric Start

This system allows for push-button start and stop on the control module and the possibility of remote start and stop over a two-wire circuit.

The generating set is protected by automatic shut-down on the following faults:

- Low engine oil pressure
- High engine temperature
- Over/under speed
- Failure to start after 3 attempts

The system comprises a control cubicle, mounted on a vibration isolated support, containing the following elements:

- AC output circuit breaker with over-current protection
- Emergency stop button (lock-down type)
- DC circuit control switch and overload circuit breaker
- Solid state **control module**, providing both local and remote control facilities with digital readouts and warning indicators as detailed below.

The control module gives digital readouts of:

- Generator voltage (Phase to Phase and Phase to Neutral)
- Generator Current (each phase displayed separately)
- Output frequency
- Engine speed
- Engine oil pressure
- Engine coolant temperature
- Battery voltage
- Engine hours run

The control module has warning indicators for:

- Over/under speed
- Emergency stop
- Engine oil pressure
- Engine temperature
- Failure to start
- Battery charger failure

Automatic Mains Failure

This system provides for fully automatic operation of the generating set to supply the electrical load in the event of a failure of the mains supply.

All the features shown above for the Manual/Auto Electric Start are included, plus a separate wall mounted cubicle as detailed below.

The wall-mounted cubicle contains:

- **Mains monitoring unit** to control set operation.
- **Load transfer contactors**, mechanically and electrically interlocked (rated for set output).
- **Indicator** showing **mains-on-load** or **plant-on-load**.
- Switch allowing for **manual operation** of the load transfer contactor if the set is manually started in the event of failure of the automatic system.

Additional features:

- The timer circuits in the solid state control module are set to give **delay start**, **delay transfer back to mains** and **delay stop** to allow for engine cooldown period.
- A solid-state automatic battery charger is included in the set control panel, arranged to maintain the battery charge when the set is not running.

Rental Specification

(acoustic canopied sets only)

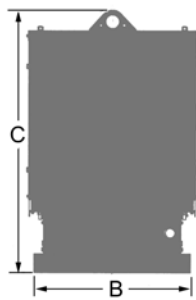
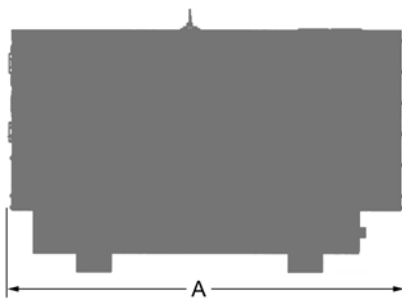
The acoustic canopied (LLDA) generating sets are available to a "Rental Specification" which includes:

- Weather proof acoustic housing with lockable access doors and built-in forklift pockets.
- External emergency stop button (lock-down type)
- Earth Leakage Trip (incorporated into the main Control Panel) including engine shutdown.
- Single electrical output socket, mounted inside canopy, adjacent to control panel with cable access from below.
- Single point lifting eye on top of the canopy.

Approximate Dimensions

Acoustic or Open set Options		Length (A)		Width (B)		Height (C)	
		Open Set	Acoustic Set	Open Set	Acoustic Set	Open Set	Acoustic Set
LLD95	mm	1442	1693	715	743	984	1143
	in	56.8	66.6	28.1	29.2	38.7	45.0
LLD135	mm	1442		715		984	
	in	56.8		28.1		38.7	
LLD140	mm	1442	1693	715	743	984	1143
	in	56.8	66.6	28.1	29.2	38.7	45.0
LLD190	mm	1442	1693	715	743	984	1143
	in	56.8	66.6	28.1	29.2	38.7	45.0
LLD200	mm	1442		715		984	
	in	56.8		28.1		38.7	
LLD250	mm	1442	1693	715	743	984	1143
	in	56.8	66.6	28.1	29.2	38.7	45.0
LLD275	mm	1442		715		984	
	in	56.8		28.1		38.7	
LLD400	mm	1442		715		984	
	in	56.8		28.1		38.7	

LLDA AcousticSets



LLD Open Sets



Approximate Weight

LLD 95	kg	396
	lb	873
LLD 95A	kg	500
	lb	1102
LLD 135	kg	396
	lb	873

LLD 140	kg	417
	lb	919
LLD 140A	kg	540
	lb	1190
LLD 200	kg	417
	lb	919

LLD 190	kg	456
	lb	1005
LLD 190A	kg	580
	lb	1279
LLD 250	kg	466
	lb	1027

LLD 250A	kg	590
	lb	1301
LLD 275	kg	456
	lb	1005
LLD 400	kg	466
	lb	1027

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