

LWX LIQUID COOLED SLOW SPEED GENSETS

LWX 27(A)

50 Hz; 1500 r/min; power outputs: 15.0—21.0 kVA

60 Hz; 1800 r/min; power outputs: 18.6—26.1 kVA

LIQUID COOLED GENERATING SETS WITH ELECTRONIC CONTROL MODULE

BASIC CHARACTERISTICS

- 50 Hz, 1500 r/min or 60 Hz, 1800 r/min
- naturally aspirated
- open set (LWX 27) or acoustic set (LWX 27A)

OVERVIEW

LWX Series fitted with the LPWX4 engine that has been developed to deliver a compact, high power density with improved fuel efficiency. Uses Lister Petter HRCS advanced combustion system. These combine to give a smoother, quieter and more powerful engine coupled with our world famous reliability.

SPECIAL ATTRIBUTES

- LP-HRCS (High Re-Entrant Combustion System)
- multi-hole fuel injection system
- hydro-honed injector hole conditioning
- increased power density
- 500-hour service intervals
- designed for continuous operation in ambient temperatures up to 52°C (122°F)
- cold start capability down to -32°C (-25.6°F)

STANDARD FEATURES

- control system with electronic digital control module
- single bearing, 4-pole brushless alternator
- 66-litre polypropylene fuel tank with contents gauge
- zirconium phosphated powder coated base plate with forklift pockets
- bunded base retaining 110% of all fluids
- anti vibration mountings
- 12V starter battery and leads
- mechanical governing
- emergency stop button (lock-down type)
- pusher fan
- operators' handbook
- electrical diagrams



OPEN GENSET (LWX 27)



ACOUSTIC GENSET (LWX 27A)

OPEN SETS ONLY

- engine mounted exhaust silencer (not illustrated)

ACOUSTIC SETS ONLY

- acoustic canopy
- residential exhaust silencer
- 2 off roof mounted lifting eye bolt fixings
- external emergency stop button
- tough ripple effect paint finish
- earth straps on service doors
- large side door for easy service access
- document pocket in access door

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

CONTROL CUBICLE

All LWX 27 and LWX 27A sets have a vibration-isolated control cubicle, which has the following features:

- electronic digital control module with monitoring/control facility and warning indicators
- automatic shutdown protection
- emergency stop button (lock-down type) – open sets only
- AC output circuit breaker with over-current protection
- DC circuit control switch and overload circuit breaker

The control module gives digital readouts of:

- generator voltage (phase-to-phase and phase-to-neutral)
- generator current (each phase displayed separately)
- generator output frequency
- mains voltage (phase-to-phase and phase-to-neutral) AMF sets only
- mains frequency (each phase displayed separately) AMF sets only
- engine speed
- engine coolant temperature
- battery voltage
- engine hours run

The control module has indicators for:

- over speed / under speed
- emergency stop
- engine temperature
- failure to start
- battery charger failure

Automatic shutdown occurs under:

- low engine oil pressure
- high engine temperature
- over speed / under speed
- failure to start after three attempts

MANUAL/REMOTE START SETS

These sets have the flexibility of either manual or remote automatic operation:

- manual operation is by START and STOP push-buttons on the control module
- remote operation is achieved by connecting a 2-wire circuit to the relevant terminals on the control module and is activated by setting the control module to AUTO

AUTOMATIC MAINS FAILURE SETS (AMF)**AMF control system integral with control cubicle**

The AMF specification provides that in the event of a mains failure the generating set will automatically operate to supply the electrical load. In addition to the standard features automatic mains failure sets have the following features:

- mains monitoring unit to control set operation
- load-transfer contactors, mechanically and electrically interlocked (rated for set output)
- indicator for mains-on-load or plant-on-load
- control module timer circuits set to delay start, delay transfer back to mains and delay stop to allow for engine cool down
- solid state automatic battery charger that maintains charge when set is not running

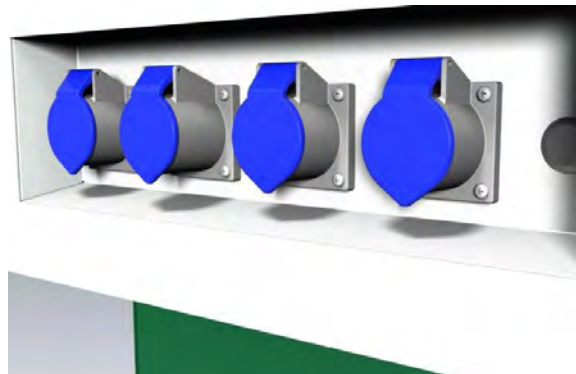
OPTIONAL ITEMS

- residential exhaust silencer for open sets (as fitted to acoustic - illustrated)
- acoustic canopy kit (including residential silencer kit) for retro-fitting to open sets
- AMF system with remote mounted ATS panel
- sand filter unit, high efficiency, labyrinth type complete with washable dust element
- rodent mesh
- integral dummy loads (various ratings)
- industrial electrical output sockets
- automatic solid-state 4-Amp battery charger (standard on AMF gensets)
- 2-wheel trailer

ACOUSTIC SET OPTIONS



Sand Filter Unit



Industrial Electrical Output Sockets



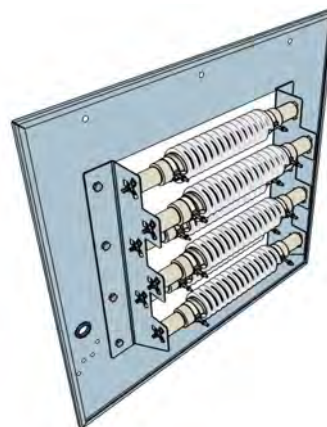
Rodent Mesh



Large service doors showing fold-down front panel on cubicle and external emergency stop button



Roof Mounted Lifting Eye Bolt Fixings



Internal Dummy Load Unit (various rating)

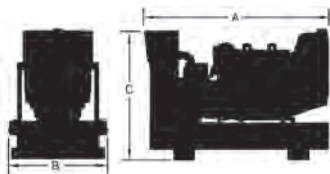

POWER OUTPUTS ³ TO ISO 8528-1 AND EMISSIONS COMPLIANCE

50 Hz, 1500 r/min							60 Hz, 1800 r/min						
Model	Engine	Rating	Single Phase		Three Phase		Model	Engine	Rating	Single Phase		Three Phase	
			220V * 230V * 240V *		380/220V * 400/230V * 415/240V *					220 or 110V * 230 or 115V * 240 or 120V *		220/127 * 230/133 *	
			kVA	kWe	kVA	kWe				kVA	kWe	kVA	kWe
LWX 27(A)	LPWX4	PRP ¹	15.0	15.0	20.0	16.0	LWX 27(A)	LPWX4	PRP ¹	18.6	18.6	25.0	20.0
		ESP ²	15.7	15.7	21.0	16.8			ESP ²	19.5	19.5	26.1	20.9

* Other voltages are available on request

3. Power outputs are based on new Lister Petter Alternators. Mecc Alte alternators are available as an option, ratings may differ.
Power Factor (pf). Single phase 1.0 pf; three phase 0.8 pf.

APPROXIMATE WEIGHT AND DIMENSIONS

			LWX 27
	Dry Weight	kg	434
		lb	957
	Length (A)	mm	1475
		in	58.1
	Width (B)	mm	695
		in	27.4
	Height (C)	mm	992
in		39.0	
			LWX 27A (SF*)
	Dry Weight	kg	551
		lb	1214
	Length (A)	mm	1675 (1775)
		in	65.9 (69.9)
	Width (B)	mm	705
		in	27.8
	Height (C)	mm	1070
		in	42.1

*Length with sand filter fitted

A comprehensive range of options allows you to select a specification that matches your requirements. Please ask your Lister Petter distributor (see panel below).

APPROXIMATE FUEL CONSUMPTION

Values refer to litres/hour			50 Hz	60 Hz
Genset	Engine	Load	1500 r/min	1800 r/min
LWX 27(A)	LPWX4	100%	4.7	6.0
		75%	2.7	3.4

RATINGS DEFINITIONS, TO ISO 8528-1
Standard Reference Conditions

A Lister Petter generating set is designed to operate in the following ISO 3046 environmental reference conditions.

Barometric pressure	100 kPa
Relative humidity	30%
Ambient air temperature at the Inlet manifold	25°C

1. Prime Power (PRP)

This rating is for the supply of the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year. The permissible average power output over 24 hours of operation shall not exceed 70 % of the PRP unless otherwise agreed by Lister Petter Limited.

2. Emergency Standby Power (ESP)

Emergency standby power is defined as the maximum power available during a variable electrical power sequence, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 h of operation per year.

The permissible average power output over 24 hours of operation shall not exceed 70 % of the ESP unless otherwise agreed by Lister Petter Limited. The actual average power output shall be below or equal to the permissible average power output as defined for ESP.

The above ratings are subject to the following ISO 3046 standard operating conditions, the use of fuel to BS EN 590 Class A1 or A2, lubricating oils of the correct performance specification and viscosity classification and that the maintenance intervals and procedures are carried out as prescribed by Lister Petter Limited.

Derating

For non-standard site conditions, reference should be made to relevant BS, ISO & DIN standards.

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