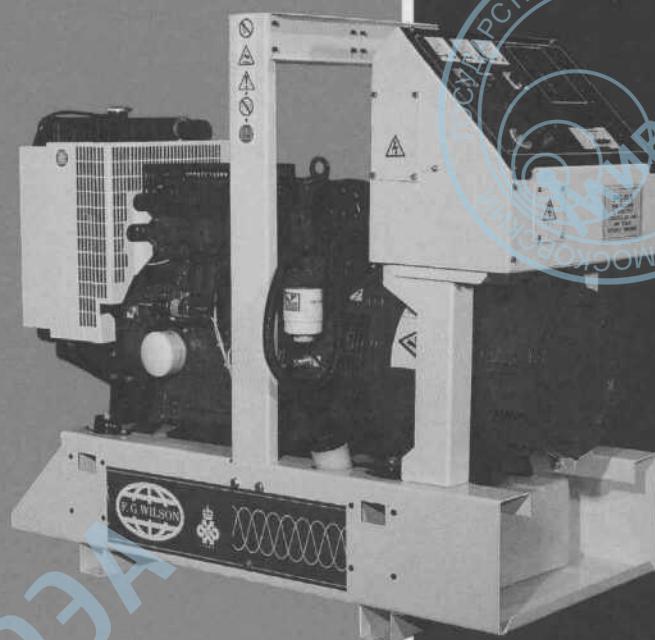


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Великобритания
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СТЕЛ
ПРОМЫШЛЕНН
НАТАЛОРОВ В.В.



Lister Powered Generating Sets 8KVA to 40KVA

Сроченство-2001

GROUP HEADQUARTERS

OLD GLENARM ROAD,
LARNE, Co. ANTRIM BT40 1EJ
NORTHERN IRELAND, UNITED KINGDOM
Telephone: 44 (0) 28 2826 1000
Facsimile: 44 (0) 28 2826 1111



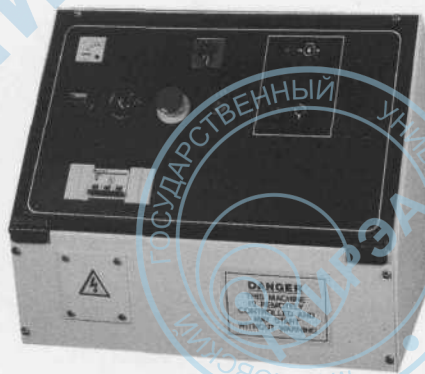
Certificate No. 939354



LCP1 & LCP2

01-0883-01

ОТДЕЛ
ПРОМЫШЛЕННЫХ
КАТАЛОГОВ ВНИИПИ



LCP1



LCP2

The LCP1 Series is a keystack control panel equipped with basic instrumentation and all the necessary protection devices.

An instrumentation upgrade is available.

The LCP2 panel allows the generating set to be automatically controlled by a remote signal (2 wire control) and are therefore suitable for controlling a standby generating set in conjunction with an automatic transfer switch.

A wide range of options are available.

Control panels featured may include optional accessories

	STANDARD FEATURES	LCP1	LCP2
Instrumentation	Voltmeter	■	■
	Ammeter	-	■
	Combined Frequency & Tachometer	-	■
	Hours Run Counter	■	■
	Battery Condition Voltmeter	■	■
Controls	Keyswitch Off/Run/Preheat/Start	■	-
	Run/Off/Auto Switch	-	■
	Lock Down Stop Button	■	■
	Engine Preheat Pushbutton (if required)	-	■
	Lamp Test Pushbutton	■	■
	4 Pos Voltmeter Phase Selector Switch	■	-
	7 Pos Voltmeter Phase Selector Switch	-	■
	4 Pos Ammeter Phase Selector Switch	-	■
	3 Attempt Start Timer	-	■
	Common Fault Alarm Signal	-	■
Power Connection	Terminals for Customer Connection	■	■
Shutdowns with Individual Warning Lamps	Fail to Start	-	■
	High Coolant Temperature	■	■
	Low Lube Oil Pressure	■	■
	Overspeed	-	■
Remote Signals / Contacts from Panel	Interface to Intelligent Load Transfer Panel	-	■
	Terminals for Remote Emergency Stop	-	■

Key: ■ Feature available as standard - Feature not available

CONTROL PANELS

STANDARD SPECIFICATION

PANEL CONSTRUCTION AND FINISH	Heavy duty sheet steel with a hinged door. The corrosion resistance is enhanced by a phosphate chemical conversion coating which provides an excellent corrosion resistant surface. The metal components are then "painted" by applying a polyester powder which is subjected to high temperatures which causes the powder to melt and form a continuous, high gloss and extremely durable coating. This entire process is carried out on a state-of-the-art automatic conveyerised plant which is believed to be the largest of its type in the U.K. The fascia is made from UV stable, self-adhesive polycarbonate and is available in a wide range of languages.
MOUNTING	The panel is mounted off the generating set baseframe on a vibration isolated robust steel stand.
CONTROL SYSTEM	The heart of the control system is a range of printed circuit boards (P.C.B.'S). These use only circuit elements that have been tried and tested in the field. During manufacture every P.C.B. is tested at least 3 times:- once after initial manufacture, once after being fitted in the control panel and finally during the test of the complete generating set. This ensures total control system reliability. If it is necessary to replace a P.C.B., this is easily and quickly done as all connections are via multi-pin plugs and sockets.
INSTRUMENTATION	All A.C. instruments are 90° deflection and flush mounting. All engine gauges are automotive type, 52 mm diameter and are electrically operated.
SWITCHES	All switches and push buttons are of the heavy duty industrial type.
WIRING	The internal A.C. and D.C. control panel wiring harnesses are pre-formed before fitting. Connections to the printed circuit board are by multi-pin plugs and sockets.

OPTIONAL FEATURES

	LCP1	LCP2	OPTION CODE
Instrumentation			
Lube Oil Pressure Gauge/Coolant Temperature Gauge	-	■	PG2
Controls			
Static Battery Charger 5A CVC 220/240 Volt & Auxiliary Control	-	■	ELEC 1
Output - Main			
4 Pole Breaker in place of 3 Pole Breaker	■	■	4 POLE
Socket Rated for Full Output (≤32A, 50Hz only) in place of Terminals	■	■	CSK1
Socket Rated for Full Output (≤63A, 50Hz only) in place of Terminals	■	■	CSK2
Earth Leakage Protection for Main Output 300 mA, CB Trip	■	■	ELR1
Fault Channels - Alarms with Individual Warning Lamps			
Low Fuel Level (Canopy only)	-	■	FS2

Key: ■ Feature available as optional - Feature not available

GROUP HEADQUARTERS

OLD GLENARM ROAD
Larne, Co. ANTRIM, BT40 1EJ
NORTHERN IRELAND, UNITED KINGDOM
TELEPHONE: 44 (0) 28 2826 1000
FAX: 44 (0) 28 2826 1111



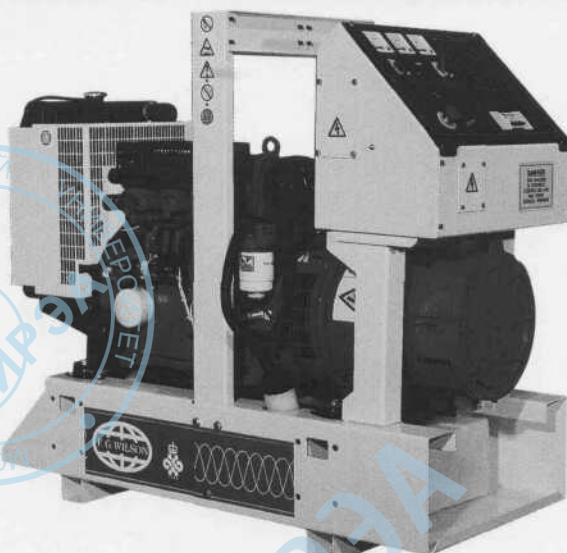
Approval Certificate No: 939354



LISTER POWERED GENERATING SETS

01-0883-01

ОТДЕЛ
ПРОМЫШЛЕННЫХ
КАТАЛОГОВ ВНИИПМ



Generating set pictured may include optional accessories

MODEL		L10	L12.5	L17.5	L20	LH14	LH22	LH30	LH40
380-415V 3 Phase 50 Hz	kVA	--	12.5	17.5	20.0	14.0	21.8	30.0	40.0
	kW	--	10.0	14.0	16.0	11.2	17.4	24.0	32.0
220V 3 Phase 60 Hz	kVA	10.0	15.0	21.5	25.0	--	--	31.1	--
	kW	8.0	12.0	17.2	20.0	--	--	24.9	--
MODEL		L8SP	L10SP	L14SP	L16SP				
240V Single Phase 50 Hz	kVA	--	10.0	14.0	16.0	--	--	--	--
	kW	--	10.0	14.0	16.0	--	--	--	--
240V Single Phase 60 Hz	kVA	8.0	12.0	17.0	20.0	--	--	--	--
	kW	8.0	12.0	17.0	20.0	--	--	--	--

Engine model		LPW2	LPW3	LPW4	LPWT4	LPW2	LPW3	LPW4	LPWT4
Type		4 CYCLE				4 CYCLE			
Cooling		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
No. of cyl. in line		2	3	4	4	2	3	4	4
Bore	mm	86	86	86	86	86	86	86	86
	in	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39
Stroke	mm	80	80	80	80	80	80	80	80
	in	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15
Displacement	litres	0.93	1.40	1.86	1.86	0.93	1.40	1.86	1.86
	cu in	56.8	85.4	113	113	56.7	85.4	113	113
Compression ratio		18.5:1	18.5:1	18.5:1	16.2:1	18.5:1	18.5:1	18.5:1	16.2:1

Engine speed	rpm		1500	1500	3000	3000	3000	3000	3000
Max continuous power	kW	--	12.4	16.5	21.1	14.7	22.1	29.5	41.3
at flywheel	hp	--	16.6	22.1	28.3	19.7	29.6	39.6	55.4
BMEP	kPA	--	710	710	908	632	634	635	888
	psi	--	103	103	132	91.6	91.9	92.1	129
Fuel consumption	l/hr	--	3.2	4.3	5.2	3.9	5.9	7.8	10.9
	USg/hr	--	0.8	1.1	1.4	1.0	1.6	2.1	2.9

Engine speed	rpm	1800	1800	1800	1800	--	--	3600	--
Max continuous power	kW	10.2	15.3	20.5	26.2	--	--	30.8	--
at flywheel	hp	13.7	20.5	27.5	35.1	--	--	41.3	--
BMEP	kPA	731	731	734	939	--	--	552	--
	psi	106	106	106	136	--	--	80.0	--
Fuel consumption	l/hr	2.6	3.9	5.2	7.0	--	--	8.5	--
	USg/hr	0.7	1.0	1.4	1.8	--	--	2.2	--

Length:	mm	1075	1192	1357	1357	1067	1193	1356	1354
	in	42.3	46.9	53.4	53.4	42.0	46.9	53.4	53.3
Width:	mm	576	576	576	605	576	576	576	616
	in	22.7	22.7	22.7	23.8	22.7	22.7	22.7	22.7
Height:	mm	1185	1185	1185	1185	1185	1185	1185	1185
	in	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7
Weight:	kg	338	386	445	453	324	378	428	458
	lb	745	851	981	999	714	833	944	1010

Rating definitions:

STANDBY (3000/3600 RPM models): These ratings are applicable for supplying continuous power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. Note: 934-P20T has a overload capacity for 1 hour in 12. The alternators on these models are peak continuous rated (as defined in ISO 8528-3) at 25°C.

CONTINUOUS (1500/1800 RPM models): These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation.

STANDARD SPECIFICATIONS

LISTER POWERED GENERATING SETS

1. OUTPUT RATINGS

The generating set is normally supplied connected for 380/415 volts, 3 phase, 50 Hz, or 220/240 volt, single phase, 50 Hz, but alternative voltages/frequencies are available.

2. ENGINE

Lister heavy duty industrial diesel engine.

2.1 Governor

Mechanical compliant with BS5514, Class A1.

2.2 Electrical System

12 volt DC. Energised to run shutdown solenoid. Oil pressure and engine temperature switches.

3. ENGINE COOLING

Radiator and cooling fan complete with protection guards, designed to cool the engine in ambient temperatures up to 50°C (122°F).

4. ENGINE FILTRATION SYSTEM

Cartridge type dry air filters. Cartridge type fuel filters and full flow lube oil filters. All filters have replaceable elements.

5. EXHAUST SYSTEM

Heavy duty industrial capacity exhaust silencer (supplied loose).

6. ELECTRICAL SYSTEM

12 volt system with battery charging alternator, axial type starter motor, and combustion air preheater which operates during engine cranking. High capacity maintenance free lead acid starting battery, battery rack incorporated in the generating set baseframe, and heavy duty interconnecting cables with terminations.

7. ALTERNATOR

Screen protected and drip-proof, self-exciting, self-regulating brushless alternator.

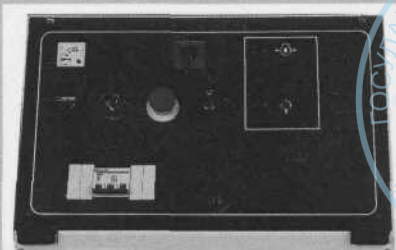
8. MOUNTING ARRANGEMENT

The complete generating set is mounted, as a whole, on a heavy duty fabricated steel baseframe constructed from folded sections. The baseframe incorporates a facility for handling by fork lift truck in addition to the single point lifting facility.

9. FUEL SYSTEM

Baseframe design incorporates a translucent polyethylene fuel tank with a capacity of approximately 44 litres (11.6 US gal). The fuel tank is shrouded by a steel surround to protect it from accidental damage.

10. CONTROL SYSTEM



10.1 LCP1 Control Panel

The base mounted LCP1 control panel is a vibration isolated sheet steel enclosure. The control panel is equipped as follows:

a. Instruments

Analogue Voltmeter
Hours Run Meter
Battery Condition Voltmeter

b. Controls

Off/Run/Crank Keyswitch
Emergency Stop Pushbutton
Voltmeter Phase Selector Switch

c. Shutdown Protection Devices with Indicator for:

High Engine Temperature
Low Oil Pressure.

10.2 Circuit Breaker

A Circuit breaker is mounted within the control section of the vibration isolated panel with adequate access for outgoing cables through the panel outlet section.

11. DOCUMENTATION

A full set of operation and maintenance manuals, circuit wiring diagrams, commissioning/fault finding instruction leaflets.

12. GENERAL ARRANGEMENT

The generating set is designed and constructed for installation in a weather protected building.

13. QUALITY STANDARDS

The equipment meets the following standards: BS4999, BS5000, BS5514, IEC 34, VDE0530, NEMA MG-1.22. F.G.Wilson is a fully accredited ISO9001 company.

14. WARRANTY

All equipment is guaranteed for a period of 12 months from date of commissioning or 18 months from shipping, whichever occurs first. Extended warranty terms are available.

Note: Control panel featured may include optional accessories

GROUP HEADQUARTERS

OLD GLENARM ROAD
LARNE, Co. ANTRIM, BT40 1EJ
NORTHERN IRELAND, UNITED KINGDOM
TELEPHONE: 44 (0) 28 2826 1000
FAX: 44 (0) 28 2826 1111



SOUND ATTENUATED ENCLOSURES FOR LISTER POWERED GENERATING SETS

01-0883-01



The fully weatherproof Sound Attenuated (SA) enclosures reduce sound levels to a level that is lower than European Community regulations.

The enclosures incorporate internally mounted exhaust silencers and are of extremely rugged construction in order to withstand the rough handling common on many construction sites. The panel is viewed through a hinged perspex window.



Model pictured may include optional accessories.

HIGHLY CORROSION RESISTANT CONSTRUCTION

- Body made from galvanised steel
- Stainless steel locks
- Zinc plated or stainless steel fasteners and hinges
- Sheet steel components pre-treated with zinc phosphate prior to polyester powder coating

EXCELLENT ACCESS FOR MAINTENANCE

- Top hung gull wing doors
- Hinged and lockable end panels
- Radiator fill access through radiator end panel
- Lube oil drain piped to exterior of the canopy

SECURITY AND SAFETY

- Perspex control panel viewing window in a lockable access door
- Emergency stop button mounted on canopy exterior
- Cooling fan and battery charging alternator fully guarded
- Fuel fill and battery can only be reached via lockable access doors
- Exhaust silencing system enclosed for operator safety

TRANSPORTABILITY

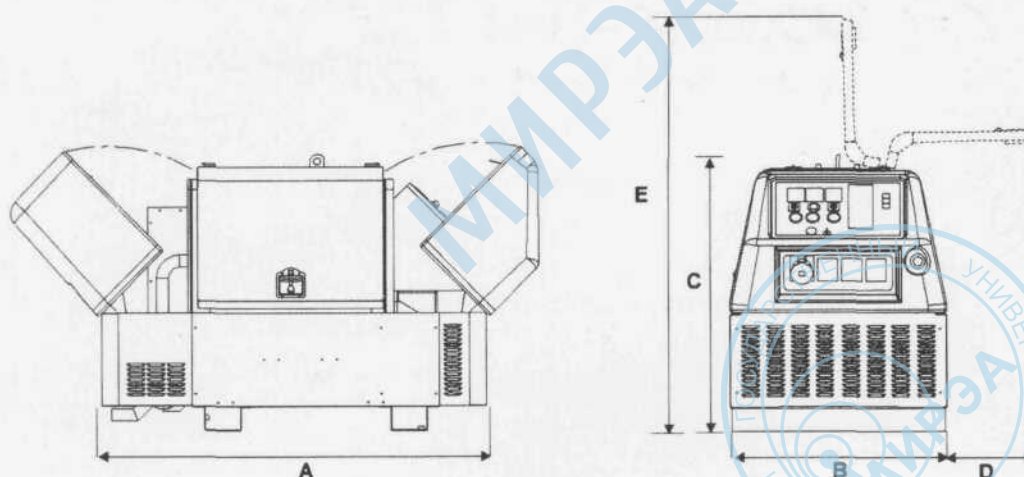
- Tested and certified single point lifting facility
- Lifting points on baseframe
- Pallet truck and forklift truck pockets

FULLY WEATHERPROOF

SOUND ATTENUATED ENCLOSURES FOR LISTER POWERED GENERATING SETS

Generating Set	Sound Power		15M		7M		1M	
	Model	Level (LWA)	75% Load	100% Load	75% Load	100% Load	75% Load	100% Load
	L10/L8SP	tba	tba	tba	tba	tba	tba	tba
	L12.5/L10SP	92	60	60	66	66	77	77
	L17.5/L14SP	91	59.5	61	66	68	79	79
	L20/L16SP	87	56	56.5	63	63	73	73
	LH14	98	67	67.5	74	74	85	85
	LH22	97	65	66	72	73	84	84
	LH30	98	67	67.5	74	74	86	86
	LH40	99	66.5	66.5	73	73	84.5	84.5

SOUND PRESSURE LEVELS (dBa)
AT 1500/3000 RPM (50 Hz)



Generating Set	A	B	C	D	E	Fuel Capacity	Weight
Model	mm (in)	mm (in)	mm (in)	mm (in)	mm (in)	l (Usg)	Kg (lb)
L10/L8SP	1592 (62.7)	900 (35.4)	1140 (44.9)	382 (15.0)	1740 (68.5)	45 (11.9)	497 (1096)
L12.5/L10SP	1592 (62.7)	900 (35.4)	1140 (44.9)	382 (15.0)	1740 (68.5)	45 (11.9)	555 (1224)
L17.5/L14SP	1592 (62.7)	900 (35.4)	1140 (44.9)	382 (15.0)	1740 (68.5)	45 (11.9)	609 (1343)
L20/L16SP	1592 (62.7)	900 (35.4)	1140 (44.9)	382 (15.0)	1740 (68.5)	45 (11.9)	612 (1349)
LH14	1592 (62.7)	900 (35.4)	1140 (44.9)	382 (15.0)	1740 (68.5)	45 (11.9)	497 (1096)
LH22	1592 (62.7)	900 (35.4)	1140 (44.9)	382 (15.0)	1740 (68.5)	45 (11.9)	547 (1206)
LH30	1592 (62.7)	900 (35.4)	1140 (44.9)	382 (15.0)	1740 (68.5)	45 (11.9)	592 (1305)
LH40	1592 (62.7)	900 (35.4)	1140 (44.9)	382 (15.0)	1740 (68.5)	45 (11.9)	622 (1372)

WEIGHTS AND DIMENSIONS

Net Weight with lube oil, no coolant, no fuel. Dimensions in mm.

GROUP HEADQUARTERS
OLD GLENARM ROAD
LARNE, Co. ANTRIM, BT40 1EJ
NORTHERN IRELAND, UNITED KINGDOM
TELEPHONE: 44 (0) 28 2826 1000
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Approval Certificate No: 939354



LISTER POWERED MOBILE GENERATING SETS

01-0883-01

Drawbar chassis running gear for the Lister powered range of mobile generating sets.

Roadworthy trailers meeting all relevant EC standards for brakes and overrun devices and using TÜV approved components.

Chassis built to TÜV approved design.

Fixed height towbar and adjustable height towbar units available.



Generating set pictured may include optional accessories

Generating Set Model	Length mm (in)		Width mm (in)	Height mm (in)	Weight kg (lb) (inc. oil, water, fuel)
	Fixed Height Towbar	Adjustable Height Towbar**			
L10	2370 (93.3)	2720 (107)	1300 (51.2)	1485 (58.5)	646 (1424)
L12.5	2370 (93.3)	2720 (107)	1300 (51.2)	1485 (58.5)	692 (1526)
L17.5	2430 (95.7)	2780 (109)	1300 (51.2)	1485 (58.5)	747 (1647)
L20	2430 (95.7)	2780 (109)	1300 (51.2)	1485 (58.5)	750 (1654)
LH14	2370 (93.3)	2720 (107)	1300 (51.2)	1485 (58.5)	633 (1396)
LH22	2370 (93.3)	2720 (107)	1300 (51.2)	1485 (58.5)	684 (1508)
LH30	2430 (95.7)	2780 (109)	1300 (51.2)	1485 (58.5)	730 (1610)
LH40	2430 (95.7)	3130* (123)	1300 (51.2)	1485 (58.5)	760 (1676)

* 750mm distance arms.

** Length of adjustable height towbar is at maximum extension.

These roadworthy trailers meet all EC regulations and can be used without restriction throughout the EC. It may be required, however, that the trailers be registered in the country in which they are based, according to the registration requirements of that country.

DIMENSIONS

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