

# GRW95P



Generator engineered and designed to work in a wide variety of applications where temporary power supply is needed. Versatility, high efficiency, high structural resistance, high degree of protection and low noise emissions together with easy-to-use and easy access for maintenance make these generator sets the ideal solution for Rental companies.

## Regim De Putere

Frecvență	Hz	50
Tensiune	V	400
Faze	№	3
Factor de putere	cos $\phi$	0.8
Putere pasivă LTP	kVA	93.68
Putere pasivă LTP	kW	74.94
Curent maxim	A	135
Putere nominala PRP	kVA	85.03
Putere nominala PRP	kW	68.02
Curent NOMINAL	A	123



## Definiție clasificări (Conform standardului ISO8528 1:2005)

**PRP - Putere primă:** Se definește ca fiind puterea maximă pe o poate livra continuu un grup electrogen, furnizând în același timp o sarcină electrică variabilă, când este utilizat un număr nelimitat de ore pe an în condițiile de utilizare convenite, cu intervalele de întreținere și procedurile respectate conform prevederilor producătorului. Puterea medie permisă în 24 h de funcționare nu va depăși 70% din puterea primă.

**LTP - Putere de funcționare pe perioadă limitată:** Se definește ca puterea maximă disponibilă, în condițiile de funcționare convenite, pe care grupul electrogen o poate livra pentru până la 500 h de funcționare pe an (și nu mai mult de 300 de utilizare continuă) cu intervalele de întreținere și procedurile respectate conform prevederilor producătorilor. Nu este disponibilă o capacitate de suprasarcină.

**Alimentare 50Hz 230V trifazic (cu optional VSS)**

Frecvență	Hz	50
Tensiune	V	230
Faze	№	3
Factor de putere	$\cos \phi$	0.8
Putere pasivă LTP	kVA	93.68
Putere pasivă LTP	kW	74.94
Curent maxim	A	235
Putere nominala PRP	kVA	85.03
Putere nominala PRP	kW	68.02
Curent NOMINAL	A	213

**Alimentare 60Hz 480V trifazic (cu optional DFS)**

Frecvență	Hz	60
Tensiune	V	480
Faze	№	3
Factor de putere	$\cos \phi$	0.8
Putere pasivă LTP	kVA	107.047
Putere pasivă LTP	kW	85.66
Curent maxim	A	129
Putere nominala PRP	kVA	96.78
Putere nominala PRP	kW	77.42
Curent NOMINAL	A	116

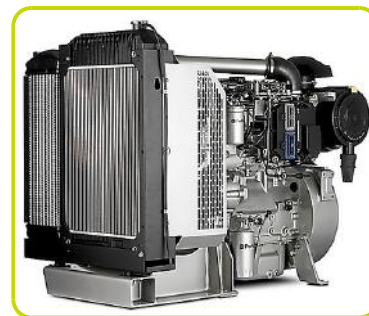
**Alimentare 60Hz 208V trifazic (cu optional VSS)**

Frecvență	Hz	60
Tensiune	V	208
Faze	№	3
Factor de putere	$\cos \phi$	0.8
Putere pasivă LTP	kVA	107.00
Putere pasivă LTP	kW	85.60
Curent maxim	A	297
Putere nominala PRP	kVA	96.78
Putere nominala PRP	kW	77.42
Curent NOMINAL	A	269



## Date tehnice motor

Producător motor	Perkins	
Model piesă	1104D-E44TAG1	
Sistem de răcire motor	Apă	
Număr cilindri și amplasare	4 in line	
Deplasament	cm <sup>3</sup>	4400
Aspirație	Turbocharged	
Regulator de viteză	Electronic	
Capacitate ulei	l	8.4
Consum lubrifiant la PRP (max)	%	0.1
Putere lichid de răcire	l	17
Circuit electric	V	12
VERSIUNE INTERSCHIMBabila [50/60Hz]	YES	
DATE MOTOR	Hz	50
Frecvența 50Hz: Viteza nominală de operare	rpm	1500
Emisii de eșapament optimizate pentru 97/68 50Hz (COM)	Stage IIIA	
[50Hz] Consum specific de combustibil la @ 75% PRP	g/kWh	247
[50Hz] Consum specific de combustibil la @ 100% PRP	g/kWh	226
Emisii de eșapament optimizate pentru EPA nivel 60Hz (EPA)	Tier 3	
[60Hz] Consum specific de combustibil la @ 75% PRP	g/kWh	239.6
[60Hz] Consum specific de combustibil la @ 100% PRP	g/kWh	228



## Engine Equipment

### Standards

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/1

### Fuel system

Rotary type pump

### Lube oil system

Wet steel sump with filler and dipstick

### Filter

- Fuel filter
- Air filter
- Oil filter

### Cooling system

- Mounted radiator
- Thermostatically-controlled system with belt driven coolant pump and pusher fan

## Date tehnice alternator

Alternator	LEROY SOMER
Model piesă	LSA 44.3 S4
Tip	Fara perii
Clasă	H
Clasificare protecție infiltrare	23
Insulation Protection Systems	Protection System 2
Borne	4
Winding leads	12
Sistem de regulare tensiune	Electronic
Standard AVR	R 438
Toleranță tensiune	% 1



### SPECIALY ADAPTED TO APPLICATIONS

The LSA 44.3 alternator is designed to be suitable for typical generator applications, such as: backup, marine applications, rental, telecommunications, etc.

### TOP OF THE RANGE ELECTRICAL PERFORMANCE

- Class H insulation.
- Standard 12 wire re-connectable winding, 2/3 pitch, type no. 6.
- Voltage range:
  - 50 Hz: 220 V - 240 V and 380 V - 415 V
  - 60 Hz: 208 V - 240 V and 380 V - 480 V
- High efficiency and motor starting capacity.
- R 791 interference suppression conforming to standard EN 55011 group 1 class B standard for European zone (CE marking).

### EXCITATION AND REGULATION SYSTEM

- Excitation system: AREP
- Voltage A.V.R.: R 438

### REINFORCED MECHANICAL STRUCTURE

- Compact rigid assembly to better withstand generator vibrations.
- Steel frame and terminal box.
- Aluminium flanges and shields.
- single-bearing designed to be suitable for heat engines.
- Half-key balancing bearing.
- Permanently greased bearing (20 000h).

### PROTECTION SYSTEM SUITED TO THE ENVIRONMENT

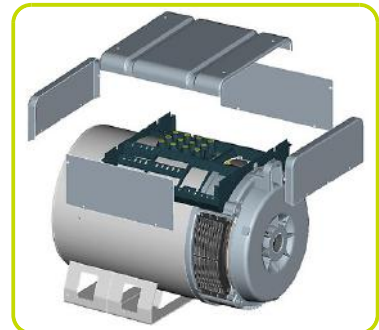
- The LSA 44.3 is IP 23.
- Winding Protection Standard: for clean environments with relative humidity  $\leq 95\%$ , including indoor marine environments.
- Winding Protection System 2: reinforced insulation for tropical environment (abrasive atmosphere), rental (except for coastal area), relative humidity  $> 95\%$

### COMPLIANT WITH INTERNATIONAL STANDARDS

The LSA 44.3 alternator conforms to the main international standards and regulations:  
- IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA / UL 1146 (UL 1004 on request), marine regulations, etc.

It can be integrated into a CE marked generator.

The LSA 44.3 is designed, manufactured and marketed in an ISO 9001 environment and ISO 14001.



## Echipse generator

### CANOPY

Canopy painted in RAL9016 made up of modular panels with 1000h+ tested salt spray resistant zinc metal sheet, with access doors on each side with high quality gaskets and lockable handles for easy maintenance and service.



### SUPER SILENT

Soundproofing by means washable and fireproof soundproofing material, to get noise attenuation.

Exhaust silencer integrated in the genset shape with flat rain flap.



### BASE FRAME

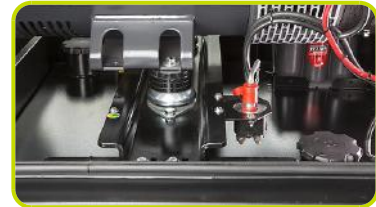
Heavy duty base guarantees the highest standards of durability and resistance, painted using a high quality powder coating process (1000+h tested salt spray resistance).

Fully bundled, able to retain 110% of all the sets fluids, the base frame is provided with integrated fork pockets and pull bar for easy maneuverability and site positioning.



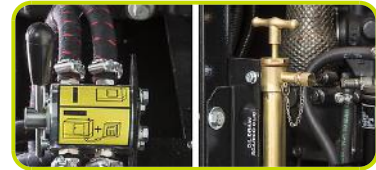
### FUEL TANK

Integrated metal fuel tank complete with double fuel refilling point (one each side)



### LEAK PROOF TRAY WITH DETECTOR SENSOR

Fluid leak check in the leak proof tray .



### FUEL VALVE (6 WAY)

System designed for use the fuel from external tank and increase the autonomy of the generator



### LUBE OIL DRAIN PUMP

Makes it easier to the engine oil change



### SINGLE LIFTING POINT

Access easy by rung and handle incorporated (available on both sides)



### PLASTIC BUMPER

Protections for the transport and stocking



### MANUAL BATTERY SWITCH

### EARTH ROD

Earth stock with cable fixed inside the genset

### DOCS HOLDER

Box intenal for documents, manuals and electrical drawings



### Date dimensionale

Lungime	(L) mm	3460
Lățime	(W) mm	1200
Înălțime	(H) mm	1950
Greutate fără combustibil	Kg	2460
Capacitate rezervor combustibil	l	530



### Autonomie

[50Hz] Consum combustibil la @ 75% PRP	l/h	17.54
[50Hz] Consum combustibil la @ 100% PRP	l/h	21.04
[50hz] Timp de funcționare la @ 75% PRP	h	30.22
[50Hz] Timp de funcționare la @ 100% PRP	h	25.19
[60Hz] Consum combustibil la @ 75% PRP	l/h	19.49
[60Hz] Consum combustibil la @ 100% PRP	l/h	24.21
[60hz] Timp de funcționare la @ 75% PRP	h	27.19
[60Hz] Timp de funcționare la @ 100% PRP	h	21.89



### Nivel zgomot 50Hz (2000-14)

Nivelul de zgomot garantat (LWA)	dB(A)	90
Nivel de stridență a zgomotului la 1 mt	dB(A)	72
Nivel de stridență a zgomotului la 7 mt	dB(A)	61



### Date instalare

[50Hz] Circuitul aerului de răcire	m³/min	203.74
[50Hz] Flux gaze eșapament la @ PRP	m³/min	15
[50Hz] Temperatură gaze de eșapament la LTP	°C	625
[60Hz] Circuitul aerului de răcire	m³/min	244.64
[60Hz] Flux gaze eșapament la @ PRP	m³/min	19.48
[60Hz] Temperatură gaze de eșapament la LTP	°C	634



### DISPONIBILITATE PANOU DE COMANDĂ

PANOU DE COMANDĂ MANUAL	MCP
Panou de control automat	ACP
Panou paralel modular	MPP

## MCP - PANOU DE COMANDĂ MANUAL STĂȚIONAR

Mounted on the genset, complete with digital control unit (InteliNanoNT Plus) for monitoring, control and protection of the generating set, protected through doors with lockable handle.

### CONTROL SECTION

- ON/OFF selector switch
- Emergency push button
- Differential protection with internal switch
- 5A Battery charger.
- Potentiometer for voltage adjustment (internal)
- Alternator AVR (single plug wiring)

### Control unit InteliNanoNT Plus

- Biggest LCD screen
- Generating set voltage (3 phases).
- Generating set frequency.
- Generating set current (1 phases).
- Battery voltage, Service time and Running hours indication
- Remote start/stop from external signal

### Protection:

- Low fuel level
- Battery charger failure
- low oil pressure
- high engine temperature

### Extra Instrumentation (analogue)

- Voltmeter with selector switch (3 phases)
- Ammeters (n.3)
- Fuel level meter
- Mechanical hour counter

### POWER SECTION

- It integrates 4 poles modular circuit breaker suitably rated with thermal and magnetic overloads.
- Large and robust busbar with cables passage opening from the bottom for easy power cable connection.
- Provided with safety switch to trip circuit breaker if operator open the power section door to operate on the bus bar.



### PANOU IEȘIRE MCP

• Posibilitate start/stop de la distanta	√
• Priza pentru alimentare cu tensiune din sursa externa	√
SUPPLEMENT - Only available when order	:
Socket Kit	Type SPKB1
3P+N+T CEE 400V 125A	n 1
3P+N+T 400V 63A	n 1
3P+N+T CEE 400V 32A	n 1
3P+N+T CEE 400V 16A	n 1
2P+T CEE 230V 16A	n 1
230V 16A SCHUKO	n 1
Fiecare priza cu intrerupator propriu	•
Protectie diferentiala pentru prizele trifazice	•
Fiecare faza este protejata cu impamantare	•
Other Kit Socket combinations available	√



## ACP - Panou de control automat

Mounted on the genset, complete with digital control unit (AC-03) for monitoring, control and protection of the generating set, protected through doors with lockable handle.

### CONTROL SECTION

- ON/OFF selector switch
- Differential protection with internal switch
- 5A Battery charger.
- Potentiometer for voltage adjustment (internal)
- Alternator AVR (single plug wiring)

### Control unit (AC-03)

- Generating set voltage (3 phases).
- Mains voltage.
- Generating set frequency.
- Generating set current (3 phases).
- Battery voltage.
- Power (kVA - kW - kVAr - Cos φ).
- Hours-counter.
- Engine speed r.p.m.
- Fuel level (%).
- Engine temperature

### Comand and others:

- Four operation modes: OFF - Manual starting - Automatic starting - Test.
- Pushbutton for forcing Mains contactor or Genset contactor.
- Push-buttons: start/stop, fault reset, up/down/page/enter selection.
- Remote starting availability.
- Acoustic alarm.
- Automatic battery charger.
- RS232 Communication port.
- Settable PASSWORD for protection level

### Protections:

- Engine protections: low fuel level, low oil pressure, high engine temperature,
- Genset protection: under/over voltage, overload, under/over battery voltage, battery charger failure.

### Extra Instrumentation (analogue)

- Fuel level meter
- Mechanical hour counter

### POWER SECTION

- It integrates 4 poles modular circuit breaker suitably rated with thermal and magnetic overloads.
- Large and robust busbar with cables passage opening from the bottom for easy power cable connection.
- Provided with safety switch to trip circuit breaker if operator open the power section door to operate on the bus bar.

### PANOU IEȘIRE ACP

- Posibilitate start/stop de la distanta ✓
- Priza pentru alimentare cu tensiune din sursa externa ✓
- Conector pentru LTS ✓

SUPPLEMENT - Only available when order :

Socket Kit	Type	SPKB1
3P+N+T CEE 400V 125A	n	1
3P+N+T 400V 63A	n	1
3P+N+T CEE 400V 32A	n	1
3P+N+T CEE 400V 16A	n	1
2P+T CEE 230V 16A	n	1
230V 16A SCHUKO	n	1
Fiecare priza cu intrerupator propriu		•
Protectie diferentiala pentru prizele trifazice		•
Fiecare faza este protejata cu impamantare		•
Other Kit Socket combinations available		✓





## MPP - Panou paralel modular

Mounted on the genset, complete with digital control unit IntelliVision5 for monitoring, control, protection and load sharing for both single and multiple gen-sets operating in standby or parallel modes (up to 32 gen-sets in island).

### CONTROL SECTION

- ON/OFF selector switch
- Emergency push button
- Differential protection with internal switch
- 5A Battery charger.
- Potentiometer for voltage adjustment (internal)
- Alternator AVR (single plug wiring)

### CONTROL UNIT IntelliVision5 (5,7" Colour TFT display 320×240 pixels)

#### Majors Measures Available:

- Generating set: Voltage, Current, Frequency, Hours-counter
- Generating set Power: kVA, kW, kVAr, Cos φ, kWh, kVAh.
- Mains: Voltage, Current, Frequency, kW, kVAr, Cos φ.
- Engine: Speed (r.p.m.), Temperature, Oil Pressure
- Fuel level, Battery voltage

#### Comand and Others:

- Operation modes: OFF, AMF function, Single Parallel to mains Island application, Single Parallel to Mains AMF application, Multiple parallel genset Island application.
- Pushbuttons: start/stop, fault reset, up/down/page/enter selection.
- Acoustic alarm.

#### Protection:

- Engine protections: low fuel level, low oil pressure, high engine temperature.
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage
- Others: overcurrent, shortcircuit, reverse power, Earth fault

#### Extra Instrumentation (analogue)

- Fuel level meter
- Mechanical hour counter

### POWER SECTION

- It integrates 4 poles motorized moulded case circuit breaker suitably rated with thermal and magnetic overloads
- Large and robust busbar with cables passage opening from the bottom for easy power cable connection.
- Provided with safety switch to trip circuit breaker if operator open the power section door to operate on the bus bar.

### PANOU IEȘIRE MPP

- Conector pentru functionare in paralel ✓
- Posibilitate start/stop de la distanta ✓
- Priza pentru alimentare cu tensiune din sursa externa ✓

SUPPLEMENT - Only available when order :

Socket Kit	Type	SPKB1
3P+N+T CEE 400V 125A	n	1
3P+N+T 400V 63A	n	1
3P+N+T CEE 400V 32A	n	1
3P+N+T CEE 400V 16A	n	1
2P+T CEE 230V 16A	n	1
230V 16A SCHUKO	n	1
Fiecare priza cu intrerupator propriu		•
Protectie diferentiala pentru prizele trifazice		•
Fiecare faza este protejata cu impamantare		•
Other Kit Socket combinations available		✓

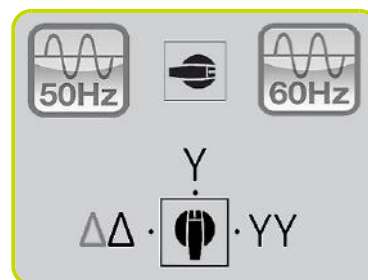


**Suplimente:**

Disponibil doar la comandă

**ECHIPAMENT CONTROL GRUP ELECTROGEN**

Switch frecventa 50/60Hz	Y400/230V 50Hz Y480/277V 60Hz	DFS
Selector de tensiune cu 2 pozitii (doar versiunile ACP/MPP si DFS)	Y400/230V 50Hz Y480/277V 60Hz YY208/120V 60Hz	VSS1
Selector de tensiune cu 3 pozitii (doar versiunile ACP/MPP si DFS)	Y400/230V 50Hz Δ230V 3P 50Hz Y480/277V 60Hz YY208/120V 60Hz	VSS2
Selector de tensiune cu 2 pozitii (doar versiunile ACP/MPP si DFS)	Y400/230V 50Hz Δ230V 3P 50Hz Y480/277V 60Hz	VSS4

**OPTIUNE ELECTRICA**

Comunicare prin IL-NT-GPRS + ANTENNA	(ACP)	RCG 16
Contacte libere de potential cu modul IL-NTEFCPM2 si rele IR-B8	(ACP)	TLP 6
Comunicare prin InternetBridge-NT	(only with MPP)	RCG 13
Contacte libere de potential cu modul IGS-PTM si rele IR-B8	(only with MPP)	TLP 4
Protectie diferentiala de tip B		ADI-B
Dispozitiv monitorizare izolatie (inlocuieste protectia diferentiala standard)		IMD
Sistem de prize configurabile		SPKS
Control section internal lighting (automatic with door switch)		CLS
Internal Canopy Lighting system with manual switch		ICL
Engine analogue gauges (water temp / oil pressure)		EAG

**OPTIUNE MECANICA**

Răcitor Sistem Preîncălzire		PHS
Conectori sistem alimentare combustibil facili		QFC
Sistem de conectare facil in interiorul carcasei		QFC1
Filtru separator apa		WSP
Filtru aer Heavy-DUTY		HDF
Protectie componente supra-incalzite		HPP
Sistem retinere scantei evacuare certificat ATEX		ESA
Supapa de inchidere aer		ASV
Sasiu galvanizat		GGS
Protectie cadru		BFB



## Accesorii

Articole disponibile ca echipament accesoriu	:
RTR-B remorca echipata cu bara ajustabila pe inaltime	•
RTR - Remorcă rutieră	•
STR - Trailer șantier	•



## LTS - COMUTATOR DE TRANSFER DE SARCINĂ - Accesorii ACP

LTS - Panou Transfer Sarcina [Optional pentru Panou de Control Automat ACP]

Panoul de transferul de sarcină (LTS) operează comutarea sursei de alimentare între generator și rețeaua de alimentare în aplicații de rezervă, garantând alimentarea într-o perioadă scurtă de timp.

Panoul LTS este compus dintr-un dulap independent care poate fi instalat separat de generator. Comanda logică a comutării sursei de alimentare este acționată prin panoul de control automat (ACP) montat pe generator, deci nu este necesar nici un dispozitiv logic pe panoul LTS.

### LTS de tip ATyS\_dM:

- Cutie: carcasa din oțel
- Mod de instalare: Montat pe perete
- Usa: Usa articulată este închisă cu blocare dublă.
- Tip Protecție: IP54
- Placute acces: se pot scoate pe partea superioară și inferioară
- Conexiuni: partea inferioară
- Unitate motor
- Indicatorul de poziție a comutatorului
- Selector de acoperire automată / manuală
- Carcasa pentru manerul manual
- Mecanism de blocare
- Două întrerupătoare a sarcinii
- 4 Poli
- Bobine duble auto-alimentate
- Tensiune (bobine): 230 / 240VAC (Toleranță +/- 20% 176 / 288VAC)
- Frecvență 50 și 60 Hz
- Conform cu IEC 60947-3, EN 61439-6-1 și GB 14048-11

SUPLIMENTE DISPONIBILE LA CERERE (Numai pentru versiunea LTS ATyS\_dM):

- **ESB** - buton de oprire de urgență (instalat pe panoul frontal)
- **APP** - Protecție suplimentară IPXXB (plexiglas intern)

