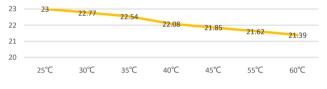
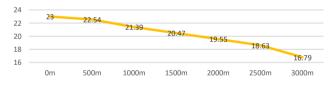




Temperature (Celsius) Derate Curves						
Unit: kVA						



## Altitude (meters) Derate Curves Unit: kVA



# LEES generator sets meet the standards of ISO9001, CE, BS5000, ISO 8528, ISO 3046, IEC 60034, NEMA MG-1.22.

### **Standard reference Conditions:**

Standard reference condition  $25^{\circ}$ C ( $77^{\circ}$ F) air inlet temp, 100m (328ft) A.S.L 30% relative humidity. Fuel consumption data with diesel fuel with specific gravity of 0.85 and conforming to BS 2869: 1998, Class A2.

	MODEL		LSY23S3
	Standby	kVA	23.1
		kW	18.5
	Prime	kVA	21
Power Pf.0.8		kW	16.8
	Frequency	Hz	50
	Voltage	V	230/400
	Rated speed	rpm	1500

### **Standard Features**

>LEES Power provides one-source responsibility for the generating system and accessories.

>The generator set and its components are prototype-tested, factorybuilt, and production-tested.

➤The 50Hz generator set offers a AUS 2012 listing and CE 2015 listing.

≻The generator set complies with ISO 8528-5, Class G3 requirements for transient performance.

>The generator set accepts rated load in one step.

>The 50Hz generator set engine is certified by the Environmental Protection Agency (EU or MEP) to conform to EU2、EU3 nonroad emissions regulations.(≤560KW)

➤A one-year limited warranty covers all systems and components. Two-, five-, and ten-year extended warranties are also available.

## **Generator Features**

>The brushless, rotating-field generator has broadrange reconnectability.

>The pilot-excited, permanent-magnet generator (PMG) provides superior short-circuit capability

>Controllers are available for all applications. See controller features inside.

>The low coolant level shutdown prevents overheating (standard on radiator models only)

>Integral vibration isolation eliminates the need for under-unit vibration spring isolators

>An electronic, isochronous governor delivers precise frequency regulation.

>Electronic engine controls and a generator microprocessor controller combine to deliver one of the most advanced control systems in today's generator market.

**RATINGS:** All three-phase units are rated at 0.8 power factor. **Standby ratings**: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. **Prime power ratings**:Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload power in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271.For limited running time and base load ratings, consult LEES. Obtain the technical information bulletin (TIS-101) on ratings guidelines for the complete ratings definitions. LEES reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.



# LEES engine Model: YND490D

Main features:

- · Four-cylinder, water-cooled, in-line diesel engine
- · Efficient fuel system for max power output and durability
- Large-capacity air cleaner
- · Cost effective, fuel efficient and reliable performance
- · Functional engine with compact structure
- · Excellent after-sales service and sufficient spare parts supplying
- · Easy installation and ready access for routine maintenance

# **Engine Specifications**

Engine Brand	·· LEES
Engine Model	· YND490D
Cylinder No.& Configuration	4 cylinder Diesel L type
Working Mode	· Naturally Aspirated
Bore x Stroke mm	90x100
Displacement L	2.54
Compression Ratio	<sup></sup> 18
Rated Power www.kW	21
Rated Speed	· 1500
Lubrication System	- Splash Lubrication
Lube Oil	· Conforms above CD class or
	SAE10W-30,15W-40
Lube Oil Capacity	8
Battery Capacity	·· 12V45Ah x1
Fuel Type	· Diesel:0#(Summer),-
	10#(Winter),-35#(Cold)
Fuel Consumption 25% load L/H	1.87
Fuel Consumption 50% load L/H	2.98
Fuel Consumption 75% load L/H	4.05
Fuel Consumption 100% load L/H	5.45





# Alternator

Type Exciter type

Voltage regulator Insulation Material Temperature rise Bearing: quantity, type Coupling Amortisseur windings Rotor balancing Voltage regulation, no-load to full-load(with < 0.5% drift due to temp. variation One-step load acceptance Unbalanced load capability

4-Pole, Rotating-Field Brushless, Permanent-Magnet, Pilot Exciter Solid-State, Volts/Hz NEMA MG1, Class H Synthetic, Nonhygroscopic 130°C, 150°C Standby 1, Sealed Flexible Disc Full 125% 60 Hz, 150% 50 Hz 3-Phase Sensing,  $\pm 0.25\%$ 

100% of Rating 100% of Rated Standby

- ⊳ NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the  $\triangleright$ rated current for up to 10 seconds.
- ≻ Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the generator field.
- Self-ventilated and dripproof construction.  $\geq$
- Superior voltage waveform from two-thirds pitch  $\triangleright$ windings and skewed stator.
- Digital solid-state.volts-per-hertz voltage regulator ≻ with  $\pm$  0.25% no-load to full-load regulation.
- Brushless alternator with brushless pilot exciter for  $\triangleright$ excellent load response.

# Controller



## **Key Features**

- Using microprocessor as a core, graphics LCD with big screen and backlight, key touch for operation
- Have a RS485 port, can be used for communicate to PC
- ≻ All parameters can be set from the front panel, or be set by PC used SG72
- $\geq$ Security password-protected programming levels
- $\triangleright$ All parameters use digital modulation, with higher reliability and stability
- $\triangleright$ Built-in speed/frequency detecting units can accurately judge the states such as crank success and over speed
- Power supply range is wide, accommodating to different starting battery voltage environment
- Built-in watch dog can never be dead halt, ensuring smooth program ≻ execution
- ⊳ Modular configuration design, inserted type connection terminals, flush type installation, compact structure, easy installation

## Precision measure and display of

- Mains voltage
- ۶ Mains frequency
- ≻ Mains current
- ≻ Generator voltage
- ≻ Generator current
- ≻ Generator frequency
- ۶ Generator active power (kW)
- ≻ Generator inactive power (kW)
- $\triangleright$ Generator apparent power (kVA)

- Generator power factor
- Generator starts count
- Generator hour count
- Cumulate electric energy (kWh)
- $\triangleright$ Generator temperature
- Generator pressure
- Generator fuel level  $\triangleright$
- Start battery voltage  $\geq$

- Protection
- High engine temperature
- Low oil pressure
- > Over speed
- Under speed
- Loss of speed signal
- Generator over frequency
- Generator under frequency  $\triangleright$
- ≻ Generator over voltage
- ≻ Generator under voltage
- ۶ Generator over current ≻
- Fail to start
- ≻ Auxiliary inputs



# **Generating Sets Standard and Optional Features**

### Engine

- $\triangleright$ 4-stroke, water-cooled diesel engine
- Standard air filter  $\triangleright$
- Standard fuel filter ≻
- Standard oil filter Ν
- $\triangleright$ Oil temperature sensor
- $\triangleright$ Low coolant level sensor
- ≻ Radiator with blowing fan
- Industrial silence ≻
- Fuel water separator (optional)  $\triangleright$
- ≻ Water jacket heater (optional)

#### Alternator

- Class H insulation ⊳
- > **IP23 Protection**
- Automatic Voltage Regulator (AVR) ⊳
- $\triangleright$ PMG excitation
- Single bearing alternator >
- Class F or class B temperature rise (optional)
- Digital Voltage Regulator (optional) ≻
- Double bearing (optional)  $\triangleright$
- Condensed heater (optional)  $\triangleright$
- IP41 Protection (optional)  $\triangleright$

# **Electrical** system

- ≻ Maintenance-free and anti-explosion battery
- $\triangleright$ Standard breaker
- ≻ ABB breaker (optional)
- ≻ ATS (optional)
- Battery charger (optional)  $\geq$
- ≻ GMS monitoring (optional)

### Packing

- Engine manual ≻
- ≻ Alternator manual
- Gensets operation and maintenance manual  $\triangleright$
- ≻ Tool kit

## **Baseframe**

- Forklift pockets  $\geq$
- Pulling slots ≻
- Earth wire protection  $\geq$
- Built-in anti vibration mountings ⊳
- Fuel outlet value  $\triangleright$
- ≻ Standard fuel tank
- Enlarged fuel tank (optional) >
- ≻ Separated fuel tank (optional)

# Canopy

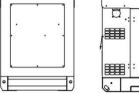
- Weatherproof & sound-attenated canopy
- Sound-absorbing material  $\triangleright$
- Lifting lug ۶
- $\geq$ Emergency stop button
- ۶ Inside silencer

#### Contact your distributor / dealer for more information

### WUXI LEES POWER COMPANY LIMITED

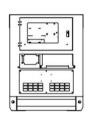
NO.312 Highway, Luoshe Town, Wuxi, China, 214000 Tel: 86-510-85166446 Facebook: www.facebook.com/leesgenerator Web:www.leespower.com Email: lees@leespower.com







**Overview Dimension & Weight** 



LSY23S3 (Silent type)							
Configuration	L= Length (mm)	W= Width (mm)	H= Height (mm)	Weight (kg)	Fuel Tank Capacity (L)		
Silent Type	1840	800	1050	780	-		