

# DIESEL GENERATOR SETS

## IND GM1000 L

### TECHNICAL DATA SHEETS

Generator Model	: IND GM1000 L	Standby Power (ESP)	: 1000 kVA	800 kW
Engine	: MTU	Prime Power (PRP)	: 910 kVA	728 kW
Alternator	: LEROY SOMER	Voltage	: 400 V ± %10	



Photo may be demonstration or a different size generator

#### Benefits

- Low fuel consumption
- High availability & reliability
- Outstanding load acceptance
- Long maintenance intervals
- High starting kVA capability

#### General Features :

- Heavy duty water cooled engine
- Self-excited, H Insulation class alternator
- Tropical type radiator with mechanical fan
- Fully guarded engine-driven fan
- Jacket water heater
- Linear vibration isolators between base and engine-generator
- Starter batteries and connection cables
- Engine-driven battery charging alternator
- Residential type silencer
- Primary and secondary fuel filters
- Auto start control system with digital instrumentation
- Emergency stop pushbutton
- Control panel with digital-automatic main control module
- Operation & Maintenance Manual
- Wide range of optional extra features available
- Oversized alternators

#### Standards

Engine-generator set is designed and manufactured in facilities certified to standards ISO 2008:9001

Generator set complies to ISO 8528 and fulfils performance level G3

Generator meets BS5000; NEMA MG 1; ISO; DIN EN and IEC standards

#### Available optimizations

Emission optimized

Fuel consumption optimized

Engine		Alternator	
Manufacturer	: MTU	Manufacturer	: LEROY SOMER
Model	: 16V2000G16F	Model	: LSA 49.3 L10
Standby Power(Net)	: 887 kWm	Type	Brushless , Synchronous, Single Bearing
Prime Power (Net)	: 806 kWm		
Speed	: 1500 rpm		
Cylinder configuration	: 16 V	Excitation System	: Self-Excited
Bore & Stroke	: 135 mm x 156 mm	Voltage	: 400 V $\pm$ %10
Displacement	: 35,7 Lt	Insulation Class	: H
Aspiration & Cooling	: Turbo Charged	Phase/Poles	: 3 Phase/4 Poles
Compression Ratio	: 17,5:1	Frequency	: 50 hz
Fuel System	: Direct Injection	Speed	: 1500 Rpm
Cooling Type	: Water Cooled	Protection Class	: IP23
Governing	: Electronic	Excessive Loading Capacity	: For 1 Hour % 110, For 2 Minutes %150
Speed Regulation*	: $\pm$ 0.25 %	Voltage Regulation*	: $\pm$ 0.25 %

\* Steady state from no load to full load

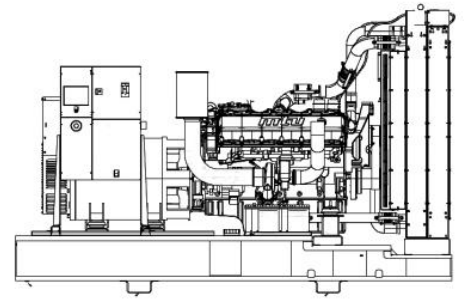
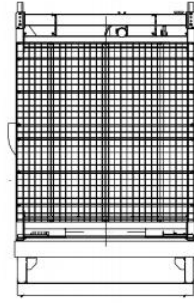
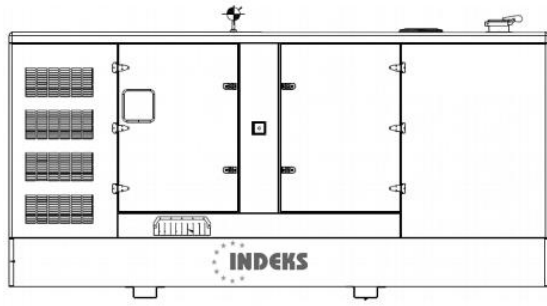
Engine Fuel system					
Fuel Consumption ( %50 of Standby Power)	:	105 Lt	Fuel Consumption (%50 of Prime Power)	:	99,00 Lt
Fuel Consumption ( %75 of Standby Power)	:	150 Lt	Fuel Consumption (%75 of Prime Power)	:	142,00 Lt
Fuel Consumption ( %100 of Standby Power)	:	203 Lt	Fuel Consumption (%100 of Prime Power)	:	186,50 Lt

Liquid Capacity					
Total oil system: L	:	114	Total coolant capacity: L	:	150

Cooling/Radiator System			
Ambient capacity of radiator : °C	:		55°C
Pressure on radiator exhaust: kPa	:		0,2
Heat rejection to coolant: kW	:		345

Frame	
Formed steel base with linear vibration isolators between base and engine-generator	
Fuel tank base frame integrated up to 10 hours operation	
Easy lifting system (lifting eyes & forklift pockets)	

Control and Protection System	
Control, monitoring and protection panel is mounted on the genset base frame.	Monitoring of Electronic (J1939) or Non-electronic Engines
Standard indicators, alarms, buttons, keys.	Genset & Busbar Control & Protection
Useful design for Automatic / Manuel working	Up to 13 Digital Inputs, 5 Analogue Inputs and 8 Relay Outputs
Auto Start or Automatic Mains Failure Applications	Modbus Communication RS485
Remote start, ATS AMF panel control,	Configurable for Other Applications
Configurable with Utility Software	Graphical Display (Multi-language)
Standard Electrical Protections: Under voltage (27), Reverse Power, Overload (32), Overcurrent(50/ 51), Over / Under Frequency (81), Over voltage (59), Earth Fault Protection (50N/51N, 50G/51G)	



Overall Dimensions & Weights (Without Enclosure)			Overall Dimensions & Weights (With Enclosure)		
• Length (L)	4850	mm	• Length (L)	6600	mm
• Width (W)	2000	mm	• Width (W)	2200	mm
• Height (H)	2300	mm	• Height (H)	2500	mm
• Weight	7250	kg	• Weight	9300	kg

#### Ratings And Standard Reference Conditions

**Prime Power (PRP)** 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 and this model can supply %10 overload power for 1 hour in 12 hours.

**Standby Power (ESP)** is defined as the maximum power available during a variable electrical power sequence, under the stated operating, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 500 hours of operation per year under average of 70% load. No overload is permitted on these ratings.

#### Optional Equipment

Automatic fuel transfer pump	Remote Display
Fuel cooler	3/4 Pole circuit breaker
Permanent Magnet	Customized power panels
Alternator Heater	Oil Drain Pump Manual / Automatic
Bearing & Winding sensors	Sound attenuated enclosure (60-95 dBA)
ATS (Automatic Transfer Switch)	Tool kits
Control version for parallel operations (with mains & with other generator sets)	Enhanced electrical protection options
Fully customized remote monitoring systems, SCADA - PLC, extra special solutions in Medium Voltage Projects, Power Plants, etc.	

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