

# DIESEL GENERATOR SETS

## IND GV450 S

TECHNICAL DATA SHEETS

Generator Model	: IND GV450 S	Standby Power (ESP)	: 450 kVA	360 kW
Engine	: VOLVO	Prime Power (PRP)	: 410 kVA	328 kW
Alternator	: SINCRO	Voltage	: 400 V $\pm$ %10	

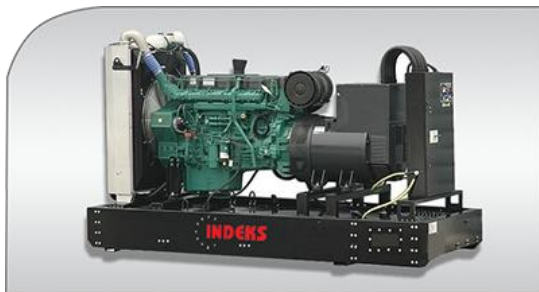


Photo may be demonstration or a different size generator

### 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	: VOLVO	Manufacturer	: SINCRO
Model	: TAD 1344 GE	Model	: SK 315 SL
Standby Power(Net)	: 364 kWm	Type	Brushless , Synchronous, Single Bearing
Prime Power (Net)	: 399 kWm		
Speed	: 1500 rpm		
Cylinder configuration	: 6 l	Excitation System	: Self-Excited
Bore & Stroke	: 131 mm x 158 mm	Voltage	: 400 V $\pm$ %10
Displacement	: 12,78 Lt	Insulation Class	: H
Aspiration & Cooling	: Turbo Charged	Phase/Poles	: 3 Phase/4 Poles
Compression Ratio	: 18:1	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*	: $\pm$ 0.50 %

\*

Steady state from no load to full load

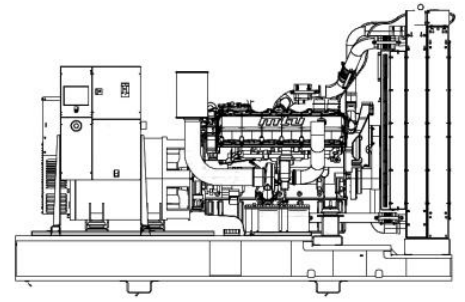
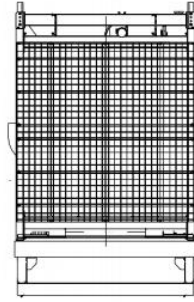
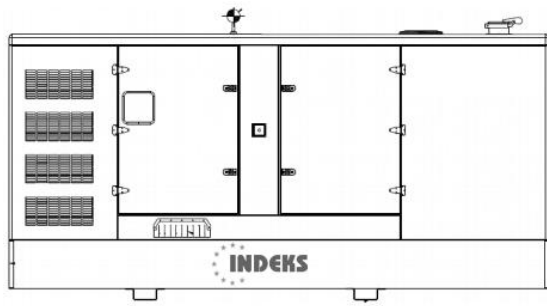
Engine Fuel system					
Fuel Consumption ( %50 of Standby Power)	:	47,50 Lt	Fuel Consumption (%50 of Prime Power)	:	43,00 Lt
Fuel Consumption ( %75 of Standby Power)	:	69,50 Lt	Fuel Consumption (%75 of Prime Power)	:	63,50 Lt
Fuel Consumption ( %100 of Standby Power)	:	92,00 Lt	Fuel Consumption (%100 of Prime Power)	:	84,00 Lt

Liquid Capacity					
Total oil system: L	:	36	Total coolant capacity: L	:	44

Cooling/Radiator System	
Ambient capacity of radiator : % / °C	: 40 °C
Pressure on radiator exhaust: kPa	: 110
Heat rejection to coolant: kW	: 155

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)	300	cm	• Length (L)	410	cm
• Width (W)	115	cm	• Width (W)	150	cm
• Height (H)	193	cm	• Height (H)	230	cm
• Weight	2980	kg	• Weight	4200	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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