FR-60

Diesel Generators

FULL MOTOR FULL ALTERNATÖR



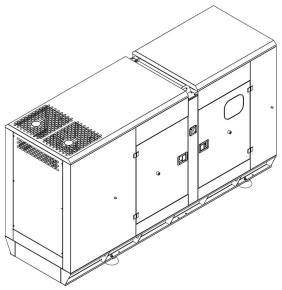
GENERAL SPECIFICATIONS

Standby	kVA	60 kVA
	kW	48 kW
Prime	kVA	54.5 kVA
	kW	43.6 kW
Frequency	Hz	50 Hertz

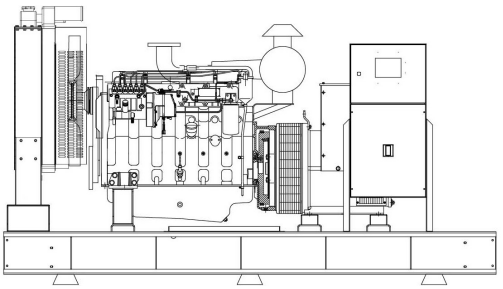
1 Standby power: Used as a backup to mains power, as an emergency power source under variable load, no overloading.
2 Prime Power: Continuous power source under variable load for 24/24 hours. 1/12 hour 10% overloading is permitted.

DIMENSIONS AND WEIGHTS

WITH CANOPY



WITHOUT CANOPY



Weight (With Canopy / Without Canopy)	1100 (900) kg
Width (With Canopy / Without Canopy)	1000 (1000) mm
Length (With Canopy / Without Canopy)	2400 (2000) mm
Height (With Canopy / Without Canopy)	1600 (1750) mm
Fuel Tank Capacity	170 L

Topçular Endüstriyel Üretim ve Yatırım A.Ş. reserves the right to make changes in model, technical specifications, color, equipment & accessories without prior notice.

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Diesel Generators

ENGINE

Engine Brand	FULL
Engine Model	D4105-ZD
Number and Type of Cylinders	4 Inline
Injection and System Type	Direkt
Compression Ratio	17 : 1
Diameter	105 mm
Stroke	115 mm
Cylinder Displacement	3.93 L
Air Suction Power	Turbocharged
RPM	1500 Revolutions per Minute
Crankcase Oil Capacity (Lt)	13 L
Standby Power	61.6 / 82.5
Prime (PRP)	56 / 75
Fuel Type	Euro Diesel
Governor System	Mechanical
Cooling Method	Water Cooled
Coolant Capacity	18 L
Fuel Consumption at Full Load	14.5 L
Fuel Consumption at 75% Load	11 L
Fuel Consumption at 50% Load	7.6 L

ALTERNATOR

Frequency (Alternator)	50 Hertz
Voltage	400 Volt
Phase	3
Voltage Regulation	+-1%
Insulation Class	H
Protection Class	IP23
Power Factor	0.8 Ratio

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TECHNICAL SPECIFICATIONS

DIESEL ENGINE

- FULL heavy duty diesel engine
- 12V / 24V starter motor and battery charging alternator
- Replaceable; air, fuel and oil filters
- Mechanical - Electronic governor control
- Tropical type radiator
- Flexible fuel hose
- Oil drain valve and extension hose
- Industrial type silencer and steel compensator
- Maintenance-free starter battery
- Engine block water heater
- 1500 rpm engine speed

ALTERNATOR

- IP 23 Protection class
- H insulation class
- 50 Hz frequency
- 4-pole brushless synchronous type alternator
- Automatic voltage regulator (AVR)
- 400/230V A.C. output voltage - 1500 rpm

CANOPY AND CHASSIS

- Design suitable for easy lifting and transport
- Cabin equipped with sound insulation
- Modular cabin design with easily removable nut-bolt system
- Lockable cabin doors
- Control panel viewable through transparent window
- Electrostatically powder coated, protected against external factors
- Emergency stop button
- Fuel tank within the chassis
- Anti-vibration mounts between engine-chassis and chassis-ground

OPTIONAL EQUIPMENT

- Critical type silencer and super silent cabin
- Thermal magnetic switch (for automatic models)
- Sound insulation cabinet
- Trailer-mounted generator set
- Automatic fuel filling system
- Synchronization systems
- 3-pole / 4-pole power transfer panel
- Fuel heater, Oil heater
- External fuel tank and automatic fuel filling system
- Fuel-water separator filter
- Computer-controlled remote monitoring and control panel
- PMG Alternator



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Diesel Generators

D 300

Internet Based Next Generation Generator Control Device



CONTROL PANEL

FEATURES

- Diesel and gas generator support
- Dual generator support, equal aging
- Multiple nominal charge definitions
- 400Hz generator support
- Contactor and motorized switch drive
- 400x measurement value event log
- Fine speed adjustment for some ECUs
- 4-quadrant energy meters
- All parameters changeable from front panel
- Automatic fuel pump control
- Mains energy meters
- 3-level program password
- Protection cancel feature
- Fuel filling counter
- 128x64 pixel graphic LCD
- Overpower protection
- Fuel consumption counter
- Language loading
- Reverse power protection
- Modern diagnostic page
- Current-voltage waveform
- Overcurrent IDMT protection
- Parameter setting via USB, RS-232 and GPRS
- Current-voltage harmonic analysis
- Load shedding, dummy load
- 16 Amp / 250V socket / plug outputs
- Multiple load shedding programs
- Free configuration software
- 8 programmable digital inputs
- Current unbalance protection
- Remote control via SMS
- 6 programmable digital outputs
- Voltage unbalance protection
- Ready for central monitoring
- 3 programmable analog inputs
- Fuel filling and theft alarms
- Mobile generator support
- CANBUS-J1939 & MPU input
- Battery-backed real-time clock
- Automatic GSM location detection
- 3 programmable service alarms
- Idle speed control
- GPS connection (RS232)
- Multiple automatic test programs
- Battery charging operation
- Software update via USB
- Weekly operation schedule
- War mode support
- IP65 protection (with gasket)

MEASUREMENTS

- Mains & Generator FN/FF voltages
- Mains & Generator frequency
- Mains & Generator phase currents
- Mains & Generator neutral currents
- Mains & Generator, phase and total kW, kVA, kVAr, cos
- Engine Speed
- Battery Voltage

FUNCTIONS

- AMF Device
- ATS Device
- Remote Start Device
- Manual Start Device
- Engine Control Device
- Remote Monitoring Panel

COMMUNICATION

- USB Device
- J1939-CANBUS
- Location detection via GSM
- Internet central monitoring
- SMS message sending
- E-mail sending
- Free software: Rainbow Plus
- Modbus RTU (2400-57600baud)
- Modbus TCP/IP

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