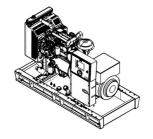
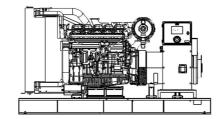
50 Hz Biogas Generator Sets

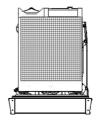


Output Power		
Standby Power (ESP)	kVA	440
	kW	352
Prime Power (PRP)	kVA	440
	kW	352

Size	WxLxH (mm)	Weight (kg)	Fuel Tank (It)	Noise dB(A) @ 1m
Canopied	TBA	TBA	N/A	TBA
Open Skid	TBA	TBA	N/A	TBA







Continuous Power

The maximum power which a generating set is capable of delivering continuously whilst supplying a constant electrical load. Average load can be 100%. The generator must not be overloaded.

Standby Power

The max power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 hrs of operation per year under average of 70% load. Overloading isn't permissible.

Prime Power

The maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load. Average load should be 70%. The generator can be overloaded 10% for 1 hour per 12 hrs.

50 Hz Biogas Generator Sets



Engine		
Manufacturer		MAN
Model		E3268 LE222
No of Cylinders		8
Cylinder Configuration		V TİPİ
Displacement	It	17,2
Stroke	mm	157
Bore	mm	132
Compression Ratio		17:2
Aspiration		-
Governor Type		Elektronik
Cooling System		SU
Coolant Capacity	It	34
Lubrication Oil Capacity	It	95
Electrical System	VDC	24
Speed / Frequency 50 Hz	rpm	1500 rpm / 50 Hz
Engine Gross Power (Standby 50 Hz)	kW	-
Fuel Consumption %110 ESP 50 Hz	lt/h	-
Fuel Consumption %100 PRP 50 Hz	lt/h	190
Fuel Consumption %75 PRP 50 Hz	lt/h	147
Fuel Consumption %50 PRP 50 Hz	lt/h	102
Exhaust Outlet Temperature 50 Hz	°C	484
Exhaust Gas Flow 50 Hz	m3/min	1907
Combustion Air Flow 50 Hz	m3/min	1717
Cooling Air Flow 50 Hz	m3/min	-

Alternator			
Manufacturer		MARELLI	
Model		MJB355SA4	
No of Phases		3	
Power Factor		0,8	
No of Bearings		SINGLE	
No of Poles		4	
No of Leads		12	
Voltage Regulation (Steady State)		± %0,5 [In Steady State, Speed from (-%2) to (+%5) and CosØ=0,8-1]	
Insulation Class		H	
Degree of Protection		IP 23	
Excitation System		AVR (Automatic Voltage Regulator), Brushless	
Connection Type		STAR	
Total Harmonic Content (No Load)		< %2	
Frequency	Hz	50	
Voltage Output 50 Hz	VAC	230 / 400	
Rated Power 50 Hz	kVA	560	
Efficiency	%	94	

50 Hz Biogas Generator Sets



Standard Equipments

Engine

In Teksan generator sets, leading engine brands that have state of the art technology and have compliance with ISO 8528, ISO 3046, BS 5514, DIN 6271 standarts, are being used. These engines with low fuel consumption, provide accurate speed setting and order, Gas mixing system, also have electronic type governors.

Alternator

In products Teksan produced, leading alternator brands of the world that have state of the art technology, high quality, productivity and durability, are being used. All alternators, which pass necessary test process and found appropriate according to EC 60034-1; CEI EN 60034-1; BS 4999-5000; VDE 0530, NF 51- 100,111; OVE M-10, NEMA MG 1.22. standarts, have bearing system that does not need maintenance, with electronic type voltage regulator providing voltage setting.

Control Panel

Standard control panel, that is used in Teksan generator sets, ensures comfortable and safe usage. All measured and statistical parameters, operating modes, notice and alarms and condition of generator, are monitored easily from the control panel. On the front of the panel's metal body has electronic control module and the emergency stop button and the panel's metal body is made of steel sheet and is painted with electrostatic powder paint.

Teksan offers panel design and solutions that comply with special requirements of customers as well as quality standard panels.

Chassis

Chassis is manufactured from steel that has features and durability for carrying burden of generator set. Thanks to its rigid structural design and anti-vibration mounts, it reduces vibration level to minimum. All chassis contain lifting lugs. Apart from chassises that are produce by Teksan, special solutions that design in accordance with customer desires, make transportation and positioning easier.

Cooling System

System, that consists of quality industrial - type radiator, expansion tank and cooler fan, keeps the temprature of generator set's equipments constant at a proper level.

Optional Equipments

Some Optional Equipments that Teksan provides with Generator Sets;

- Medium voltage alternator,
- Remote radiator applications,
- Automatic fuel filling system,
- Oil pan, dashboard, alternator, coil heaters,
- Alternator with double AVR and PMG,
- Synchronization systems,
- The generator output breaker,
- Grid-generator transfer switches,
- Accordance with the specific volume of demand-insulated cabins,
- Seismic solutions,
- Trailer,
- Remote monitoring.

50 Hz Biogas Generator Sets



Control Panel Features - TJ-Gas

- TJ-Gas is a multifunctional control device which has wide communication topologies together with analog-digital input&output features that is specially developed for cogeneration packs and gas driven systems used for industrial purposes.
- Both the number of analog-digital input&output can be configured.
- Thanks to its AFR control, ignition system, engine knocking control system and monitoring features, TJ-Gas is a unique control device solution for cogeneration, trigeneration packs as well as gas generator sets.
- Wide range of gas engine ECUs are available on the device.
- The unit can control genset, mains and coupling circuit breakers through more than one bus systems. All operations such as loading, load-shedding, load-sharing and synchronization can be executed according to the nominal load of the system.
- It has ROCOF, VectorShift and genset differential protection functions.
- Thanks to its superior PLC interface, varieties of genset, cogeneration and trigeneration scenarios can be executed. Mimic diagram can be displayed on the screen panel. Also, some indicators can be monitored on the screen panel such as rpm, current, load, voltage and can be exported into excel. Thanks to the high capacity memory of the device, all indicators, failures and other essential data can be recorded during the operation.
- TJ-Gas device unit complies and mostly exceeds world's tightest safety, EMC, vibration and environmental standards for the industrial category.
- Software features are complete with easy firmware upgrade process through USB port. The Windows based PC software allows monitoring and programming through USB, RS-485, RS-232, Ethernet, GPRS, dynamic and static IP and cloud server
- The PC and server based Scada software allows monitoring and control of an unlimited number of gas gensets, cogeneration and trigeneration power packs from a single central location.

Functions

- AMF unit with uninterrupted transfer
- Synchronization
- Circuit breaker control for mains, genset and coupling,
- Auto loading, load shedding and sharing (power management),
- **AFR Control**
- ROCOF, VectorShift and Differential Protection
- Remote Monitoing&Management
- Analog&Digital Input&Output Configuration



Topologies

- 2 phase 3 wires, L1-L2
- 2 phase 3 wires, L1-L3
- 3 phase 3 wires, 3 CTs
- 3 phase 3 wires, 2 CTs (L1-L2)
- 3 phase 3 wires, 2 CTs (L1-L3)
- 3 phase 4 wires, star
- 3 phase 4 wires, delta
- 1 phase 2 wires

Communications

- Modbus RS-485
- Modbus RS-232
- Ethernet
- Internet Cloud System USB Device
- GSM-GPRS-SMS
- Web Based Remote Monitoring e
- Web Based **Programming**
- Modbus TCP/IP
- J1939 CANBus E-Mail

- Technical information and values are according to ISO8528, ISO3046,NEMA MG-1.22, IEC 600341, BS 4999-5000, VDE 0530 standards.
- Producing with ISO9001, ISO14001, OHSAS18001, TSE, CE standards.
- All information given in this leaflet is intended for general purposes only.
- Due to a policy continuous improvement Teksan reserves the right to amend details and specifications without notice and all information given is subject to the Teksan's current condition of sales.

TBA: To Be Asked TBD: To Be Determined NA: Not Avaliable NA: Not Applicable TTDTJ440MN-BG5A20190524EN