M-C SERIES

DIESEL GENERATOR SET POWERED BY **CUMMINS** ENGINE AND **SZN** ALTERNATOR

M-C200

POWER RATING (0.8P.F.)

STANDBY OUTPUT: **165KW/206KVA**

RATED OUTPUT: **150KW/188KVA**

50HZ/1500RPM/400V

CONDITIONS & DEFINITIONS

Stand-by:Code: S

Applicable for supplying emergency power at varying load in the event of normal utility power interruption.
Fuel stop power in accordance with ISO15550, ISO3046/1, JISB8002, DIN6271 and BS5514.

Prime:Code:CP

Applicable for supplying power with varying load instead of the utility for an unlimited time. Prime powe in accordance with ISO 8528.

Conditions:

Engine rating are based on SAE J1349 standard conditions are also apply at ISO3046/1, DIN6271 & BS5514 Standard conditions.
Fuel rates:Base on ASTM D975, BS2869 and on fuel oil of 35°API (16℃ or 60°F) gravity having a LHV of 42,780 Kj/Kg (18,390 Btu/lb.) when used at 29℃(85°F) and weighing 838.9 g/liter (7.001lbs./U.S. gal.).

Factory Test

Each generating sets must be got through 1 hour load test for running 0%, 50%, 75%, 100% and 110% load before dispatch, All protective devices, control functions are simulated and its system checked, proved and then passed for dispatch. A test certificate can be provided upon request.

DIMENSIONS

Standard Generator Set				silent type
	L:	Length	mm	3200
Overall dimensions	W:	Width	mm	1120
	H:	Height	mm	1850

Gen Set standard collection

1. Brand new Original **CUMMINS** engine 4stroke, 1500rpm diesel engine .
2. Brand new Original Alternator with Copy Stamford ,4 pole, synchronic type with self excited system, Brushless, IP23, ClassH
3. DATAKOM D300, digital module.
4. LED light installed inside of the gensets
5. Vibration isolators between the engine/ alternator and base frame
6. High quality DC electronic battery charger.
7. DELIXI circuit breaker
8. One of the top brands good quality Battery, battery tray and cable.
9. Rubber absorber for engine, radiator,alternator and control panel.
10. Adopting the high pressure fuel inlet pipe, flexible oil pipes and oil draining valve
11. Strong and big radiator,good in anti-vibration and cooling the genset.
12. Industrial silencer, its covered by heat-resist material

13. The generator set with 8hours 100% load running, external fuel tank

14. Silent type generator, outdoor powder-polyester powder covers the enclosure that keeps the genenerator neither fading nor change for years, anti-corrosion, the power is **200microns thickness.**

15. English operation/maintenance manuals, test report and wiring diagram

DIESEL ENGINE: CUMMINS 6CTA8.3-G1 50HZ/1500RPM

4 stroke-cycle, 6 cylinders vertical in-line, Turbocharged & Aftercooled

ENGINE SPECIFICATIONS & TECHNICAL DATA		
Prime/Standby power	KW	163/180
Bore	mm	114
Stroke	mm	135
Displacement	L	8,9
Aspiration Type		Turbocharged & Aftercooled
Combustion		Direct injection
Type Injection System		BYC PB Direct Injection
Compression ratio		17.3：1
EXHAUST SYSTEM		
Maximum Back Pressue	kPa	10
AIR INTAKE SYSTEM		
Maximum Intake Air Restriction with He		
— Dirty Element	kPa	6
— Clean Element	kPa	4
LUBRICATION SYSTEM		
Minimum Engine Oil Pressure for Engir		
— Idle Speed	kPa	103
— Governed Speed	kPa	276-414
Maximum Oil Temperature	℃	121
FUEL SYSTEM		
Maximum Fuel Inlet Temperature	℃	71
COOLING SYSTEM		
Coolant Capacity - Engine Only	L	12,3
Thermostat range	℃	82-95
Maximum Top Tank Temperature for Standby / Prime Power		104 / 100℃
PERFORMANCE		
Engine Idle Speed	RPM	700-900
Friction horsepower	KW	6,8
Engine Water Flow to Engine	litre/sec.	3,3
Intake Air Flow	litre/sec.	192
Exhaust Gas Flow	litre/sec.	521
Exhaust Gas Temperature	℃	536

FUEL CONSUMPTION FOR PRIME POWER		
Fuel consumption load 100%	L/H	42
Fuel consumption load 75%	L/H	31
Fuel consumption load 50%	L/H	21
Fuel consumption load 25%	L/H	13

ENGINE STANDARD EQUIPMENT

- ◆ Turbocharged & Aftercooled
- ◆ Structure steel base
- ◆ Crankcase breather
- ◆ Battery charging alternator
- ◆ Lubricating oil cooler
- ◆ Fuel filters, full flow paper element
- ◆ MECH type governor
- ◆ Lubricating oil filter, full flow paper element
- ◆ Lubricating oil pump, gear driven
- ◆ Exhaust dry manifold
- ◆ 50℃ ambient radiator
- ◆ Blower fan, fan drive

◆ Fuel transfer pump, gear driven, plunger type

◆ 24V DC electric starting motor

ALTERNATOR SZN274H 50HZ/400V

Standby Output: **165KW/206KVA**
Rated Output: **150KW/188KVA**

Standards

Meet the requirements of BS EN 60034 and the relevant section of other international standards such as BS5000,VDE0530, NEMA MG1-32, IEC34, CSA C22.2-100, AS1359. Other standards and certifications can be considered on request.

Technical data	
Insulation System	H
Protection Grade	IP23
Rated Power Factor	0,8
Voltage Regulation	± 1.0 %
Stator Winding	Double Layer Concentric
Winding Pitch	Two Thirds
Winding Leads	12
Connecting Type	3 Phase and 4 Wires, “Y” type connecting
Altitude	≤1000m
Exciter Type	Brushless, self-exciting
Telephone Influence Factor (TIF)	＜50
THF	＜2%
Voltage Regulation, Steady State	≤±1%
Alternator Efficiencies	92,30%

GENERATING SET DATA	
Voltage Regulation	≥±5%
Voltage Regulation, Stead State	≤±1%
Sudden Voltage Warp (100% Sudden Reduce)	≤+25%
Sudden Voltage Warp (Sudden Increase)	≤-20%
Voltage Stable Time (100% Sudden Reduce)	≤6S
Voltage Stable Time (Sudden Increase)	≤6S
Frequency Regulation, Stead State	≤5%
Frequency Waving	≤1%
Sudden Frequency Warp (100% Sudden Reduce)	≤+12%
Sudden Frequency Warp (Sudden Increase)	≤-10%
Frequency Recovery Time(100% Sudden Reduce)	≤5S
Frequency Recovery Time (Sudden Increase)	≤5S

DATAKOM DKG 309/300 GENERATOR CONTROL MODULE FROM Turkey

Type & Design

DATAKOM DKG 309/300 is a comprehensive AMF unit for single genset standby or dual genset mutual standby operations indicating the operational status and fault conditions; automatically shutting down the engine and indicating the engine failure by means of LCD display.

Controls & Monitoring

◆ Mode selection & start engine button with interlock key switch system

- ◆ Menu navigation button
- ◆ LCD display for: AC amperage-each phase and earth current, AC voltage-each phase and neutral, Frequency Hz, Operation hours run, Lub, Oil pressure, Cooling water temperature, Generator load kW/Kva, Generator Load kW/Kva
- ◆ Emergency stop pushbutton
- ◆ AMF function

Safety Shutdown Protection and LED indicators

High engine temperature, Low oil pressure, Fail to start, Generator over speed / Frequency,
Generator under speed / Frequency
Generator high voltage, Generator low voltage, Oil pressure sender circuit, Loss of Speed signal, Emergency stop

Mounting

Fabricated cubicle mounted on individual bracket with anti-vibration isolator

Electrical Design

In accordance with BS EN 60950 low voltage directive, BS EN 61006-2 and 61006-4 EMC directive. The optional interface can provide real time diagnostic facilities.

Control module DKG 309/300

- ◆ Start/stop engine optional
- ◆ Remote start
- ◆ Low oil pressure (shutdown)
- ◆ High water temp. (shutdown)
- ◆ Charge failure (shutdown)
- ◆ Over speed (shutdown)
- ◆ Over voltage (shutdown)
- ◆ Over frequency (shutdown)
- ◆ Low water level (shutdown)

GENSET'S WARRANTY

For prime using models are warranted in accordance with our warranty terms for a period of 1000 hours from date of commissioning or 12 months from date of despatch whichever date occurs the sooner.

For standby using models are warranted in accordance with our warranty terms for a period of 500 hours from date of commissioning or 24 months from date of despatch whichever date occurs the sooner.