

# GDD SERIES

DOOSAN  
Diesel Generator

460 kVA 50 Hz

500 kVA 60 Hz

GENPOWER<sup>®</sup>  
GENERATOR



## Output Ratings 3 Phases, GF 0.8

Voltage, Frequency	Prime	Standby
GDD 460 - 400 Volt, 50 Hz	420 kVA / 336 kW	460 kVA / 368 kW
GDD 500 - 480 Volt, 60 Hz	450 kVA / 360 kW	500 kVA / 400 kW

### Standard Reference Conditions:

Note: Standard reference conditions 25°C Air Inlet Temp, 100 m, 60% relative humidity.

Genpower Generator Set Standards  
TS ISO 8528, ISO 8528, BS5000, ISO 3046, IEC 60034, NEMA MG-1.22

**Note:** The alternator output voltage matching the desired type of connection with the terminals using the following voltages can be.

50 Hz:  
200/115V - 220/110V - 220/127V - 230/115V - 380/220V - 400/230V  
415/240V

60 Hz:  
208/120V - 220/127V - 240/139V - 380/220V - 440/254V - 480/277V

**Prime Rating:** Where there is no mains power, a form of continuous operation under variable load generator. The average load is variable prime power 80% of should not. 10% overload available for 1 hour in 12-hour period is allowed.

**Standby Power:** Mains power, backup power supply, the device is a form of working under load. Maximum overload of power is not allowed. Annual operating time is limited to a maximum of 500 hours.

## Canopy

- Easy lifting and moving
- Metal parts are coated with electrostatic polyester coated, powder painted
- 25-30 dbA series, Heat-insulated exhaust system.
- Acoustic insulation with rot\*proof, moisture-repellent and non-flammable material (per DIN 4102 A2)
- Double swinging doors for ease of service

## Ratings & Performance Data GDD 460 GDD 500

Engine Make & Model:	DOOSAN / P158LE		
Alternator Make & Model	Stamford / HCI444F		
	Genpower / GNP 315L W12/4		
Control Panel Make & Model	ComAp / AMF25		
Base Frame	Heavy Duty Fabricated Steel		
Engine Speed	rpm	1500	1800
Frequency	Hz	50	60
Fuel Tank Capacity	Lt	1066	
	%50	39,6	47,9
Fuel Consumption	%75 Lt/h	58,7	70,7
	%100	80,6	97,1

## General Features

- Tropical type radiator, fan, belt and enclosures.
- Vibration dampers.
- Open type gensets industrial type exhaust silencer.
- AMF control panel.
- Built-in type fuel tank chassis.
- Mechanical fuel level indicator.
- Battery pack and cable set.
- The original engine oil, fuel, dry type air filter.

## Options

- Contact your supplier for non-standard requests.
- The generator output breaker (MCCB)
- External type transfer switch (ATS)
- Dual operating systems
- Low water level switch
- Fuel tank heating and insulation systems
- Single-and double-axle trailer
- Synchronous systems
- Private quiet cabins (cabins SSC)
- Private hospital type and juicy exhaust systems
- Mobile vehicle applications
- Arep or PMG alternator application
- Alarm and long range tracking system

## Engine Technical Data

No. of Cylinders		8
Alignment		V type
Cycle		4 Stroke
Induction		Turbocharged AAC*
Bore / Stroke	mm	128 / 142
Compression Ratio		15:01
Displacement	Lt	14.618
Cooling Method		Water
Governing Type		Electronic
Governing Class		ISO 8528-G3
Moment of Inertia	kg m <sup>2</sup> (lb/ft <sup>2</sup> )	2,77 (9465)
Electrical System	Voltage / Ground	24 V / Negative
Charger Amps	Amps.	45

\* AAC : Air to air charge cooled

## Performance

	GDD 460	GDD 500
Engine Speed rpm	1500	1800
Gross Engine Power kW (Hp)		
Prime	363 (494)	402 (547)
Standby	414 (563)	458 (623)
BMEP kPa (Psi)		
Prime	1,99	1,84
Standby	2,27	2,09

## Air Systems

	GDD 460	GDD 500
Air Filter Type	Single stage paper cartridge	
Combustion Air Flow m <sup>3</sup> /min (cfm)		
Prime	26,2	33,7
Standby	29,1	36,9
Max. Air Intake Restriction kPa (in wc)	2,16	

## Lubrication System

	GDD 460	GDD 500
Oil Filter Type	Spin-On, Full Flow	
Total Oil Capacity	Lt.	Max (21,0) / Min. (17,0)
Oil Type	API CH4 15W-40	
Oil Cooler / Oil Pump	OK / Gear type driven by crank shaft gear	
Maximum Oil Temp. °C	120	

## Alternator

	GDD 460	GDD 500
Make and Model	Stamford / HCI444F	
Cont. Power	400 V - 400 kVA	480 V - 500 kVA
Efficiency %	93,4	93,7
AVR Model	AS 440	

## Alternator General Information

No. of Bearings	Single Bearing
Insulation Class	H
Winding Pitch Code	2/3
Wires	12
Ingress Protection Rating	IP-23
Excitation System	Self - Excited Shunt Type
Voltage regulation	±%1

Standards:

BS EN 60034, BS5000, VDE 0530, NEMA MG1-32, IEC34, CSA C22.2-100, AS1359

## Fuel System

Fuel Filter Type	Replaceable Element				
Recommended Fuel	Class A2 Diesel				
<b>Fuel Consumption</b>		Lt./h			
	Prime	110%	100%	75%	50%
GDD 460	50 Hz	96,5	80,6	58,7	39,6
GDD 500	60 Hz	110,8	97,1	70,7	47,9
	Standby		100%	75%	50%
GDD 460	50 Hz	96,5	70,2	46,5	
GDD 500	60 Hz	110,8	80,2	53,8	

Note: Based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A

## Cooling System

	GDD 460	GDD 500
Cooling System Capacity Lt.	80	
Water Pump Type	Centrifugal	
<b>Heat Rejected to Water &amp; Lube Oil</b>		
kW (BTU/min)	Prime	188,8 (10742)
	Standby	227,3 (12932)
<b>Heat Radiation to Room</b>		
kW (BTU/min)	Prime	47,6 (2709)
	Standby	56,2 (3197)
Radiator Fan Load	kW (Hp)	14 (19)
Radiator Cooling Airflow	m <sup>3</sup> /min.	470
Air On Temp.	°C	50
External Restriction to Cooling Airflow	kPa	125

Note: Designed to operate in ambient conditions up to 50°C

## Exhaust System

	GDD 460	GDD 500
Silencer Type	Industrial	
Pressure Drop Across Silencer Sys	3	3,5
Silencer Noise Reduction Lvl. db/A	16	14
Maximum Allowable Back Pressure	5,9	5,9
Exhaust Gas Flow	m <sup>3</sup> /min (Cfm)	
	Prime	70,5
	Standby	79,5
Exhaust Gas Temp. °C		
	Prime	522
	Standby	564

## Alternator

	GDD 460	GDD 500
Make and Model	Genpower / GNP 315L W12/4	
Cont. Power	400V-420 kVA	480V-500 kVA
Efficiency %	93,1	93,5
AVR Model	SX 440	

## Alternator Performance Data

	GDD 460	GDD 500
Overspeed	2250	
Short Circuit	-	
Total Harmonic Content	No Load < % 1,5	
Wave Form NEMA = TIF	50%	
R.F.I Radio Interference	VDE 875	
Cooling Air m <sup>3</sup> /sec.	0,80	0,99
Radiant Heat	kW (BTU min)	18,5 (1052)
Reaktans	Xd	2,45
	X'd	0,16
	X''d	0,12
Motor Starting Capability kVA*	750	1030

\* Based on 30% voltage dip at 0 power factor.

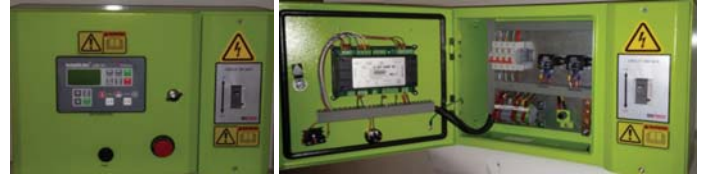
## Control Panel

### Automatic Type Control Panel, Standard Equipment



- ComAp AMF 25 control panel
- Battery charger 12V/5A
- Isıtıcı tüp sürmek için 9 A kontaktör.
- 9A contactor to drive the heater tube
- Control relay
- System protection insurance
- Emergency stop button
- 2 pieces suitable for the power generator contactor (ATS), optional
- The load output terminal (canopy types)

### Manual Type Control Panel, Standard Equipment



- ComAp AMF 25 control panel
- Control relay
- System protection insurance
- Emergency stop button
- Suitable for the power generator output breaker (TMS), optional
- The load output terminal (canopy types)

## ComAp AMF 25 Control Panel



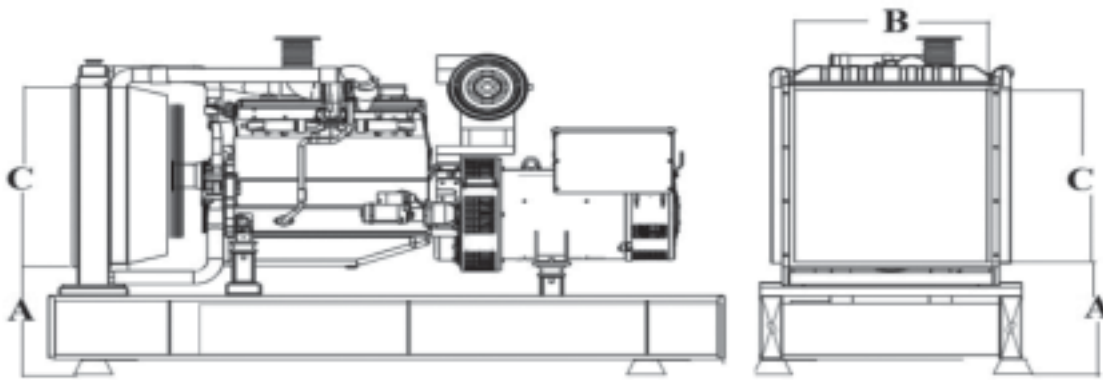
- Configurable analog inputs
- Selectable protections alarm / shutdown
- Battery voltage, engine speed (pick-up) measurement
- Configurable programmable binary inputs and outputs
- Warm-up and cooling functions
- Generator and Mains control with feedback and return timer
- Modem communication support
- Sealed to IP65

The control panel via the LCD display the following measures are followed.

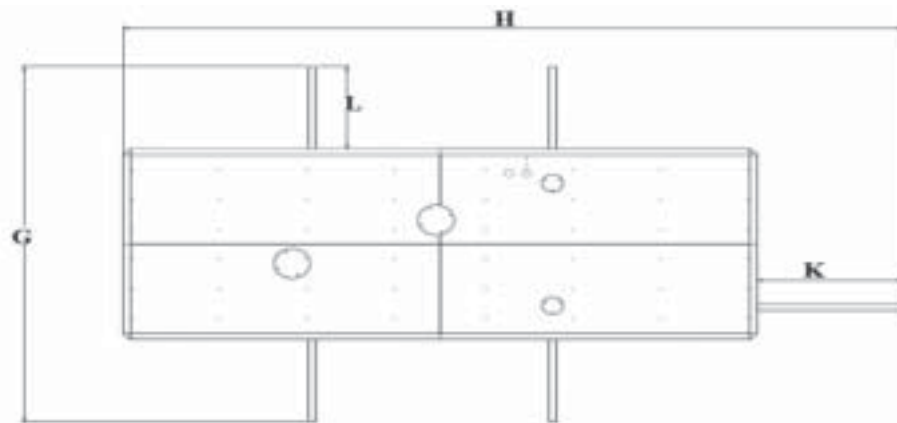
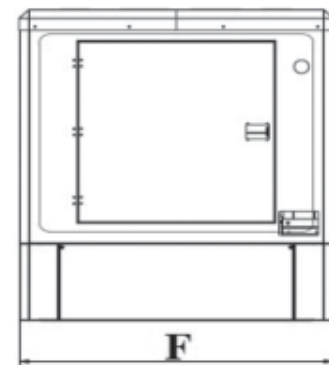
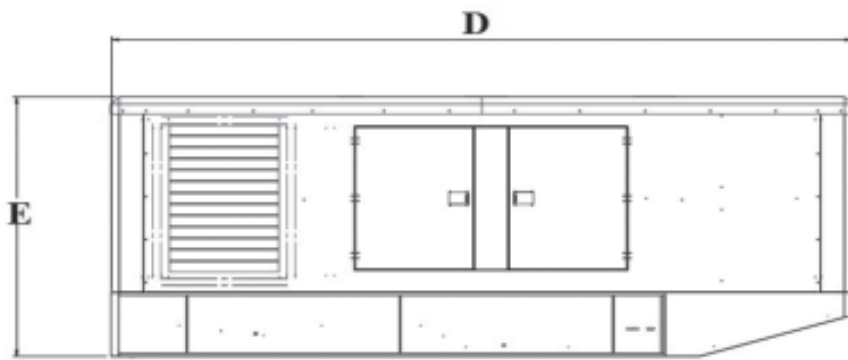
- Engine Monitoring
  - Oil pressure gauge
  - Cooling water temperature indicator (Temperature gauge)
  - Fuel level indicator (Electronic float if applicable)
  - Battery voltage indicator
  - J1939 engine parameters (EC, electronic motors)
- Statistics
  - Working Hours
  - The number-starter
  - Emergency stop number
  - Maintenance time
  - Event records retention

- Support of engines equipped with ECU (J1939 interface)
- Comprehensive diagnostic messages; SPN/FMI codes; KWP2000 support
- Automatic or manual start/stop of the genset
- Push buttons for simple control, lamp test
- Graphic back-lit LCD display 128x64 pixels
- 6 LED indicators
- Parameters adjustable via keyboard or PC
- Mains measurements 50/60 Hz, V (3 phase)
- Generator measurements 50/60 Hz, V, A (3 phase), kW, kVAr, kWh
- 3 phase Generator protections
  - Over / under voltage
  - Over / under frequency
  - Current/voltage asymmetry
  - Overcurrent/overload
- 3 phase AMF function
  - Over / under frequency
  - Over / under voltage
  - Voltage asymmetry
- Alternator monitoring
  - 3 phase Voltmeter (3 phase + neutral)
  - 3 Phase ammeter
  - Frequency
  - kW meter, kVAr meter
  - kWh and kVArh energy meter
- Network monitoring
  - 3 phase Voltmeter (3 phase + neutral)
  - Frequency
  - kW meter kVAr meter

## Dimensions and Weights



- A: 730 mm
- B: 1310 mm
- C: 1230 mm
- D: 4600 mm
- E: 1843 mm
- F: 1600 mm
- G: 3211 mm
- H: 5608 mm
- K: 1002 mm
- L: 800 mm



	Open Type	Canopy Type
Width x Length x Height (mm)	1500x3200x2170	1600x4600x2600
Dry Weight (kg)	3350	4130

Recommended concrete foundation base

Width x Length: 2500 x 4500 mm

Concrete: © Class B. A. 300 doses of concrete

Iron: 3 row Q8-12 mm thin ribbed mesh, grid iron.



ISO 9001:2008  
OHSAS 18001:2007  
ISO 14001:2004



[www.genpower.com.tr](http://www.genpower.com.tr)