

UND-D Series

50 HZ / 400 V

UND-D 470 Diesel Generator Set

Standby

 470 kVA
 376 kW

Prime

 430 kVA
 344 kW

Standby Power (ESP) : In case of failure of reliable mains supply, variable voltage is used to power the load. ESP is ISO8528 compliant. Overloading is not allowed.

Prime Power (PRP) : It is used to supply variable electricity to the load for unlimited annual working hours. PRP is compatible with ISO 8528. It is used for 1 hour 10% overload in a 12-hour working period according to ISO3046.

Universal Generator sets are designed for Standby Power (ESP) use, Prime Power (PRP) indicated in the table is added for information purposes.



Engine

Universal Generator uses high-tech engine brands in its engine products that are designed for heavy duty conditions, have high performance, low fuel consumption, are mounted on the fuel pump, have mechanical or electronic governors depending on the type, oil, air and fuel filters can be changed, comply with ISO 3046, ISO 8528, BS 5514, DIN 6271 standards.

ENGINE SPECIFICATIONS

Engine Brand	HYUNDAI - DOOSAN		
Engine Model	P158LE		
Engine Power	414 kW / 363 kW (Standby / Prime)		
Speed (rpm)	1500 (rpm/min.)		
Time	4		
Number of Cylinders	8 - V Type		
Engine Capacity	14,618 lt		
Bore & Stroke (mm x mm)	128x148		
Compression Ratio	15:01		
Governor Type	Electronic		
Induction System	Natural		
Combustion System	Direct		
Cooling System	Turbocharge - Intercooler		
Lubrication Capacity	28 lt		
Coolant Capacity	80 lt		
Fuel	%100	90 lt	
Consumption	%75	65 lt	
(liter / hour)	%50	44 lt	

Generator powers are declared according to 25°C temperature, 30% relative humidity environment and 100 kPa barometric pressure and conditions. Power loss may occur in generator sets depending on the environment in which they will operate. For power calculations for special operating conditions, please contact Universal Generator factory or the nearest authorized Universal Generator authorized dealer.

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Alternator

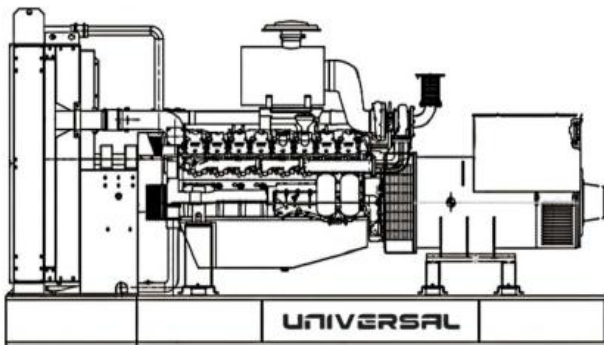
Universal Generator uses high technology alternator brands in its alternator products with steel body design, robust structure, maintenance-free bearing system (brushless), self-alert system, electronic type voltage regulator, BS 4999-5000; CEI EN 60034-1; IEC 60034-1; VDE 0530, OVE M10, NF 51-100,111; NEMA MG 1.22. Standards. The selection of alternator to be used in generator set production is optional and may vary depending on the project.

ALTERNATOR SPECIFICATIONS

Power Factor (cos ϕ)	0.8
Insulation Class	H
Protection	IP21 - IP23
Output Voltage	231 / 400 VAC
Frequency (HZ)	50 HZ
Permanent Voltage Reg. ($\pm$)	1%
Number of Poles	4
Design	AVR Brushless
Number of Bearings	Single
Short Circuit Current	%300 (10 sec.)
Productivity (%)	90
Connection Type	Star
Overload Uptime	110% - 1 hour
Harmonic Degradation (%)	< 1 %

ENGINE & ALTERNATOR OPTIONS

Circulation Type Heater	Oil Heater
Automatic Fuel Filling	Fuel - Water Separator
Manual Oil Filling Pump	Alternator with PMG and Dual AVR
Manual Oil Drain	Medium Voltage Alternator
Automatic Oil Drain	Single Phase Option
Tropical Type Radiator	Alternator Output Switch
Electronical Governor	Alternator Winding Heaters (Anti-humidity)
Lightning Protection	Short Circuit Voltage Interrupter



COOLENT SYSTEMS

Universal Generator uses radiators consisting of an expansion tank and a cooling fan, which keep the generator components at the appropriate temperature for maximum efficiency, high performance and effective use, in accordance with international standards and regulations.

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Control System

Universal Generator uses generator control units with microprocessors that can be programmed as standard in its sets, which can monitor all measurement values and alarm messages and provide protection. Control panels are manufactured from A1 quality galvanized sheet metal and painted with electrostatic powder paint against corrosion. In order to prevent unauthorized interventions, there is a lock system on the covers of the control panels and there is a lighting button that provides illumination inside the panel and inside the cabin.

In addition to the standard control panels, sets suitable for various operating variations are also manufactured in accordance with the demands of the customers and the operating conditions of the generator.

CONTROL SYSTEM STANDARD FEATURES

- Automatic Control System with LCD Screen
- Multifunctional Business Opportunity
- Different Language Support
- Programmable via USB, RS-232 and GSM
- Fuel Level Control
- Engine Block Water Heater Control
- Summary Fault/Event Display, Record Keeping
- Current Unbalance Protection
- Automatic Fuel Pump Control
- Over Power and Reverse Power Protection
- Idle Speed Control
- Fine Speed Adjustment (Some ECUs)
- Emergency Stop Button



OPTIONS

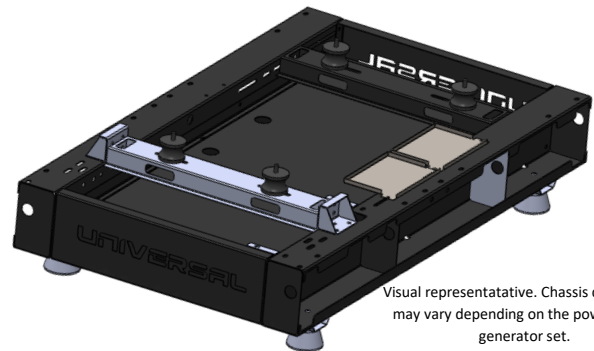
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|--------------------------------------|-----------------------------|
| Automatic Transfer Switch | Analog Indicators |
| Circuit Breaker | Motorized Circuit Breaker |
| Electronical Governor | Audio Warning Systems |
| Synchronization System | Remote Communication Module |
| Earthquake Sensor | Charge Ammeter |
| Remote Monitoring and Control Module | Special Board Design |

Chassis, Canopy & Fuel Tank

Universal Generator chassis have a modular design and are manufactured from steel, the tank is mounted to the chassis with bolts. Engine alternator radiator connections are made with vibration mounts and vibration is reduced to a minimum level. Special chassis and fuel tank designs can be made in line with customer demands.

CHASSIS

- High Quality Steel with Improved Corrosion Resistance
- Modular Design Providing Easy Accessibility&Maintenance
- Anti-vibration Wedges
- Electrostatic Powder Paint
- Fuel Tank Integrated into the Chassis
- Fuel Indicator Level
- Fuel Drain Valve



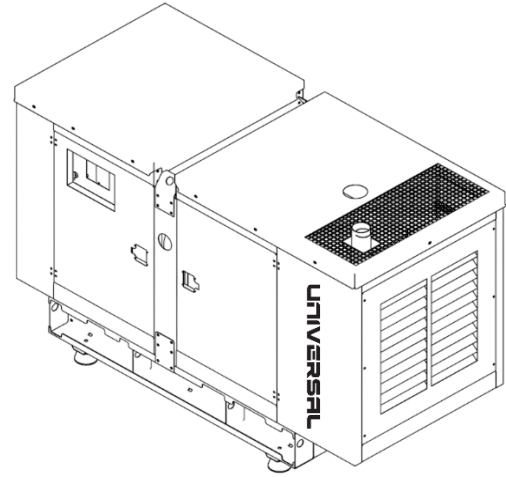
Visual representative. Chassis dimensions may vary depending on the power of the generator set.

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CANOPY

- Modular Design Providing Easy Accessibility&Maintenance
- Emergency Stop Button on Canopy
- Transparent Control Panel Window
- Fireproof Acoustic Sponge Providing Sound Insulation
- Corrosion and Rust Resistant Electrostatic Powder Paint
- Hidden Exhaust Muffler in Cabin
- Homogeneous Cooling Providing Air Ducts
- Canopy Interior Lighting Possibility



Fireproof acoustic sponges used in the production of sound insulation cabins and providing sound insulation comply with ISO 9001 and IATF 16949:2016 regulations.

OPTIONS

Soundproofing Canopy in Special Size and Color	Super Quiet Isolation Canopy
Chassis in Special Size and Color	Container Type Sound Insulation Canopy
External Type Fuel Tank	Trailer
Critical / Hospital Type Silencer	Double Walled Fuel Tank
Waste Collection Pan	Epoxy Paint

Quality Certificates

All generator sets produced by Universal Generator have;
 ISO 9001-2015, ISO 14001-2015, ISO 45001-2018 Management Systems certificates
 2000/14/EC Noise Directive conformity certificate
 TSE standards conformity certificate
 After Sales Service Competence Certificate

All generating sets produced by Universal Generator have CE Declaration.

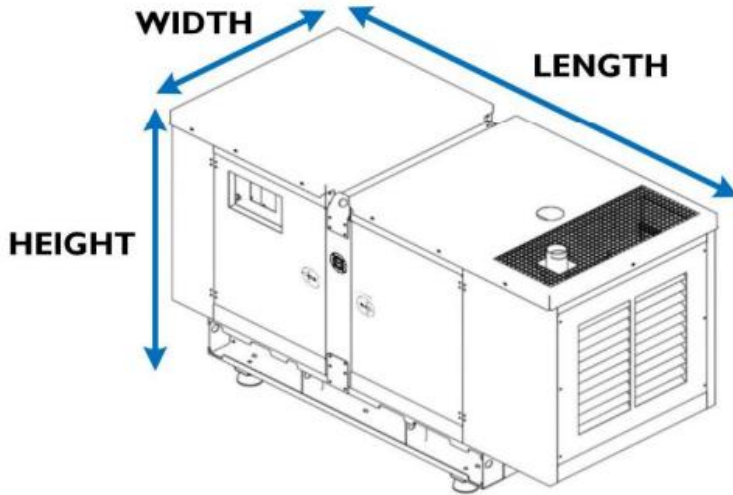
Technical informations and values complies with;
 Machinery Directive 2006/42/EC,
 Electromagnetic Compatibility Directive 2014/30/EU,
 2014/35/EU Low Voltage Directive,

EN ISO 8528-13:2016, EN ISO 12100:2010, EN ISO 14120:2015, EN ISO 13851:2019, EN ISO 13854:2019, EN 61000-6-2:2019, EN 61000-6-4:2019, EN 60204-1:2018 regulations and ISO3046, NEMA MG1.22, IEC 600341, BS 49995000, VDE 0530 standards.

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Technical Dimensions



JUST (standard canopy dimensions are specified. Dimensions for UJPT (project type canopy) vary.

CABINET GROUP

WIDTH	LENGTH	HEIGHT	WEIGHT	FUEL TANK
1500 mm	3750 mm	2500 mm	3044 kg	810 lt

UNCABINET GRUP

WIDTH	LENGTH	HEIGHT	WEIGHT	FUEL TANK
1500 mm	3750 mm	2300 mm	2844 kg	810 lt

Documentation

Documents included in Universal Generator sets;

- Diesel generator set operation and maintenance manual
- Diesel engine use and maintenance manual
- Alternator use and maintenance manual
- Control panel connection diagram
- General maintenance schedule
- Generator factory load test report
- Service Information Form & Running-in Maintenance Form

* The warranty certificate and warranty conditions are located in the last section of the operation and maintenance manual booklet supplied with the generator set.

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