



POWERED BY:



Generating Set pictured may include optional accessories

## GENERATING SET MODEL (UHU20)

Output Ratings	Prime	Standby
380-415 V, 3 ph, 50 Hz, 1500 rpm	20 KVA	22 KVA
	16 KW	17.6 KW

Ratings at 0.8 Power Factor

## ENGINE / TECHNICAL DATA

Engine Make	Perkins	
Engine Model	404A-22G1	
Governing Type	Mechanical	
Number of Cylinders	4	
Cylinder Arrangement	Vertical in line	
Bore and Stroke mm	84 x 100	
Displacement / Cubic Capacity litres	2.216	
Induction System	Naturally Aspirated	
Cycle	4 stroke	
Combustion System	Indirect Injection	
Compression Ratio	23.3:1	
Rotation	Anti-clockwise, viewed on flywheel	
Cooling System	Water - cooled	
Frequency and Engine Speed	50Hz & 1500rpm	
	Prime	Standby
Gross Engine Power kW (hp)	18.7 (25.1)	20.6 (27.6)
Fuel Consumption @ 50% load/hr	2.9	-
@ 75% load L/hr	4.0	-
@ 100% load L/hr	5.3	6.1
Total Lubrication System Capacity litres	10.6	10.6
Total Coolant Capacity (inc. radiator) litres	7.0	7.0
Exhaust Temperature: °C	445	505
Radiator Cooling Air Flow (Min) m <sup>3</sup> /sec	0.49	0.49
Combustion Air Flow: m <sup>3</sup> /min	1.45	1.45
Exhaust Gas Flow: m <sup>3</sup> /min	3.64	3.94
Fuel Tank Capacity: litres	50	50

## DIMENSIONS AND WEIGHT

Length cm	Width cm	Height cm	Weight*kg (wet)
140	52	132	468

\* For skid mounted genset without enclosure

wet weight = with lube oil and coolant

## STANDARD SPECIFICATIONS

- ENGINE**  
Perkins four stroke heavy duty high performance industrial type diesel engine.
- ENGINE FILTRATION SYSTEM**
  - Air filter.
  - Fuel filter.
  - Full flow lube oil filter.
 All filters have replaceable elements.
- COOLING RADIATOR**  
Radiator and cooling fan, complete with safety guards, designed to cool the engine at high ambient temperatures (consult your dealer for de-ration factors)
- EXHAUST SYSTEM**  
Heavy duty Industrial Exhaust Silencer
 

Silencer noise reduction level	20 (dB)
Maximum allowable back pressure	10.2 (kPa)
- CIRCUIT BREAKER TYPE**  
ABB 3 pole MCB. (4 pole is optional)

(contd.)

## ALTERNATOR DATA

No. of bearings	1
Insulation class	H
Total Harmonic Content	at no load <3.5% - on load <5%
Wires	12
Ingress Protection	IP23
Excitation System	SHUNT
Winding Pitch	2/3 (wdg 3)
AVR Model	R220
Overspeed	2250 mn <sup>1</sup>
Voltage Regulation <sub>(steady)</sub>	± 1%
Short Circuit Capacity	-

AREP Excitation System Available as Optional.

## CONTROL PANEL

Make	Deep Sea
Model	DSE6110

The DSE6110 is an Auto Start Control Module for single genset applications. It includes a backlit LCD display which clearly shows the status of the engine all the times. This module can either be programmed using the front panel or by using the DSE configuration suite PC software.

Metering and Alarm indications:

- Generator frequency
- Underspeed, Overspeed
- Generator volts (L-L, L-N)
- Generator current
- Engine oil pressure
- Engine coolant temperature
- Fuel level (Warning or shutdown) - Optional
- Hours run counter
- Battery volts
- Fail to start/stop
- Emergency stop
- Failed to reach loading voltage/frequency
- Charge fail
- Loss of magnetic pick-up signal Optional
- Low DC voltage
- CAN diagnostics and CAN fail/error

(Please refer to DSE6110 brochure for more details)

**AN INSPIRED DESIGN TO MEET YOUR NEEDS**



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#### RATINGS DEFINITION

##### Prime Power

These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. 10% overload power is available for 1 hour in 12 hours continuous operation.

##### Standby Power

These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings.

#### STANDARD REFERENCE CONDITIONS

Output ratings are presented at 25°C air inlet temperature, barometric pressure 100 kPa, relative humidity 30%. This generating set is designed to operate at high ambient temperatures (up to 55°C), humidity (up to 99%) and higher altitudes. De-rating may apply, please consult your dealer for specific site ratings.

Some of the specifications are not standard on all Genset models.

#### AVAILABLE OPTIONS & ACCESSORIES

We offer a range of optional features and accessories to tailor our generating sets to meet your power needs.

##### OPTIONS

- A variety of generating set control and synchronizing panels
- Additional protection alarms and shutdowns
- Water fuel separator
- Water jacket heater
- Battery charger

##### ACCESSORIES

- Genuine spare parts
- Load banks
- Auxiliary fuel tanks
- Manual & automatic transfer switches

Distributed and Serviced by:

For further information on all of the standard and optional features accompanying this product please contact your local dealer or visit [www.uhupower.com.pk](http://www.uhupower.com.pk)

#### STANDARD SPECIFICATIONS

##### 6. FUEL SYSTEM

On Generating Sets up to 700 KVA, the baseframe design is incorporated with an integral fuel tank with a capacity of approx. 8 hours running at Full Load. The tank is supplied complete with fill cap breather, fuel feed and return lines to the Engine and drain plug.

##### 7. ALTERNATOR

###### 7.1 INSULATION SYSTEM

- The insulation system is Class H.
- All windings are impregnated in either a triple dip thermosetting liquid, oil and acid resisting polyester varnish or vacuum pressure impregnated with a special polyester resin.
- Heavy coat of antitracking varnish additional protection against moisture or condensation.

###### 7.2 AUTOMATIC VOLTAGE REGULATOR (AVR)

The fully sealed Automatic Voltage Regulator maintains the Voltage Regulation at  $\pm 0.5\%$ . Nominal adjustment by means of a trim pot incorporated on the AVR.

###### 7.3 MOTOR STARTING

An overload capacity equivalent to 300% of the Full Load impedance at zero Power Factor can be sustained for 10 seconds, when AREP option is fitted.

##### 8. MOUNTING ARRANGEMENT

###### 8.1 BASE FRAME

The complete Generating Set is mounted as a whole on a heavy duty fabricated steel Baseframe.

###### 8.2 COUPLING

The Engine and Alternator are directly coupled by means of an SAE flange. The Engine flywheel is flexibly coupled to the Alternator rotor.

###### 8.3 ANTI-VIBRATION MOUNTING PADS

Anti-Vibration pads are affixed between the Engine / Alternator feet and the Baseframe thus ensuring complete vibration isolation of the rotating assembly.

###### 8.4 SAFETY GUARDS

The Fan & Fan Drive along with the Battery Charging Alternator are Safety Guard protected for personnel protection.

##### 9. FACTORY TESTS

- The Generating set is load tested before dispatch
- All protective devices control functions and site load conditions are simulated. The generator and it's systems are checked before dispatch.

##### 10. EQUIPMENT FINISHING

All mild steel components are fully degreased and painted with powder coated paint to ensure maximum scuff resistance and durability.

##### 11. DOCUMENTATIONS

Operation & Maintenance manual, Circuit wiring diagrams and Commissioning / Fault Finding instruction leaflets are accompanied with the Generator.

##### 12. QUALITY STANDARDS

The equipment meets the following standards: BS4999, BS5000, BS5514 IEC 60034, VDE0530, NEMA MG 1.22 and ISO 8528.

##### 13. WARRANTY

All of the Generating Sets are covered under a warranty policy for a period of 12 months. Warranty of the equipment is in line with manufacturers warranty terms & conditions.

(check warranty statement for more details, as it may vary for different countries)

In line with continuous product development, we reserve the right to change specifications without notice.