

### UPG- 22 KVA-PK@50Hz



22 kVA / 17.6 kW  
POWERED by Perkins

### DIESEL GENERATING SET 440/254V, 415/240V, 400/230V, 380/220V - 50 Hz

MODEL		UPG -22kVA-PK@50 Hz	
Power Pf. 0.8	Standby	kVA	24.2
		kW	19.36
	Prime	kVA	22
		kW	17.6

**Standby** : Power available in the event of a main power network failure up to a maximum of 500 hr. / year of which 300 hours may be run continuously, load factor maybe up to 100 % of standby power. No overload is permitted.  
**Prime** : Power available at variable load with a load factor not exceeding 80% of rated power. Overload of 10% is permitted for 1 hour every 12 hours.

- High quality, reliable and complete power unit
- Compact design
- Easy start and maintenance possibility
- Every generating set is subject to a comprehensive test program which includes full load testing, checking and provision of all control and safety shut down functions testing
- Fully engineered with a wide range of options and accessories: Canopy, sound proof canopy and on - road trailer



## ENGINE

### Perkins

Model	404A-22G1	
Engine Power Output at rated rpm	kWm	20.6
	HP	27.6
Aspiration and Cooling	Natural	
Total Displacement	Litre	2.216
No. of Cylinders and Build	4-Inline	
Engine Speed	rpm	1500
Bore and Stroke	mmxmm	84X100
Compression Ratio	23.3:1	
Governor	Mechanical	
Fuel Consumption at full load	L/hr	5.4
Fuel Tank Capacity	Litre	8 Hours
Oil Capacity	Litre	10.6
Coolant Capacity	Litre	7
Radiator Cooling Air	m <sup>3</sup> /min	40.2
Air Intake – Engine	m <sup>3</sup> /min	1.45
Exhaust Gas Flow	m <sup>3</sup> /min	3.94

- ✦ Heavy duty Perkins diesel engine
- ✦ Four stroke, water, cooled, turbo charged
- ✦ Direct injection fuel system
- ✦ Mechanical Governor system
- ✦ 12/24 V D.C. starter and charge alternator
- ✦ Replaceable fuel filter, oil filter and dry element air filter

- ✦ Cooling radiator and fan
- ✦ Starter battery (maintenance free) including Rack and Cables
- ✦ Flexible fuel connection hoses and manual oil sump drain valve
- ✦ Industrial capacity exhaust silencer and steel bellows
- ✦ Jacket water heater(at automatic models)
- ✦ Operation manuals and circuit diagram documents

## ALTERNATOR



Design	Brushless single bearing, revolving field
Stator	2/3 pitch
Rotor	Single bearing, flexible disc
Insulation System	Class H
Standard Temperature Rise	125 - 163°C Continuous
Exciter Type	Self Excited
Phase Rotation	A (U), B (V), C (W)
Alternator Cooling	Direct drive centrifugal blower fan
AC Waveform Total Harmonic Distortion	No load < 1.5%. Non distorting balanced linear load < 5%
Telephone Influence Factor (TIF)	<50 per NEMA MG1 - 22.43
Telephone Harmonic Factor (THF)	<2%

- ✦ Brushless, single bearing system, flexible disc, 4 poles
- ✦ Insulation class H
- ✦ Standard degree of protection IP21 (\*IP22/IP23 is available)
- ✦ Self-exciting and self-regulating

- ✦ Impregnation with tropicalised epoxy varnish
- ✦ Solid state Automatic Voltage Regulator
- ✦ Stator winding with 2/3 pitch for improved harmonics

### CONTROL SYSTEM

Control supervision and protection panel is mounted on the genset base frame. The control panel varies depending on requirement, in general Meico power generators are equipped with DSE 6010 MKII. The main features for DSE 6010 MKII are as follows:

#### KEY BENEFITS

- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout for ease of use
- Multiple parameters are monitored simultaneously which are clearly displayed on a large back-lit icon display
- The module can be configured to suit a wide range of applications
- Compatible with a wide range of CAN engines, including tier 4 engine support
- Uses DSE Configuration Suite PC Software for simplified configuration
- Licence-free PC software
- IP65 rating (with optional gasket) offers increased resistance to water ingress

#### KEY FEATURES

- Large back-lit icon display
- Heated display option available
- Fully configurable via the fascia or PC using USB communication
- Efficient power save mode
- 3 phase generator sensing
- 3 phase mains (utility) sensing (DSE6620 only)
- Generator/load power monitoring (kW, kV A, kV Ar, pf)
- Generator overload protection
- Generator/load current monitoring and protection
- Breaker control via fascia buttons
- Fuel and start outputs (configurable when using CAN)
- 4 configurable DC outputs
- 4 configurable analogue/digital inputs
- 6 configurable digital inputs
- Configurable staged loading outputs

- CAN, MPU and alternator speed sensing in one variant
- 3 engine maintenance alarms
- Engine speed protection
- Engine hours counter
- Engine pre-heat
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel pump control
- Real time clock options available
- Battery voltage monitoring
- Start on low battery voltage
- Configurable remote start input
- 1 alternative configuration
- Comprehensive warning, electrical trip or shutdown protection upon fault condition
- LCD and LED alarm indication
- Configurable event log (50)



Also Gensets can be equipped with different control panels depending on usage such as:  
 DSE 6610: Basic Autostart operation with stand alone application  
 DSE 7310: advanced Autostart operation with high protections  
 DSE 7320: advanced auto mains failure operation with high protection  
 DSE 8610: for synchronization application/solution

### OPTIONAL EQUIPMENTS

#### Diesel Engine

- Oil heater

#### Alternator

- 3/4 Pole Output Circuit Breaker
- Anti - condensation Heater

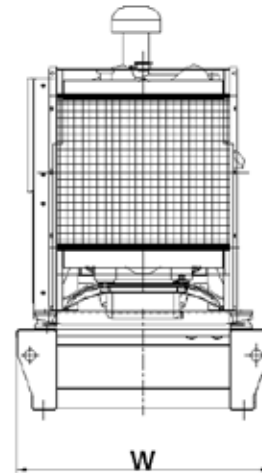
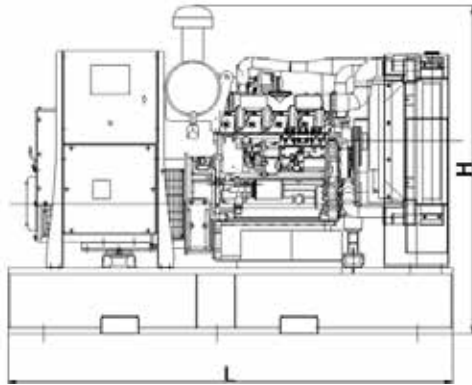
#### Panel

- Charge ammeter
- Transfer Switch 3 Pole
- Transfer Switch 4 Pole
- Earth Fault, single set

#### Accessories

- Bulk fuel tank
- Automatic filling system
- Fuel - water separator filter
- Low fuel level alarm
- Residential silencer
- Enclosure or sound proof canopy
- Trailer
- Manual oil drain pump
- Tool kit for maintenance

### CHASSIS



- ✦ The complete gen-set is mounted as whole on a heavy-duty fabricated, steel base frame
- ✦ Anti-vibration pads are fixed between the engine/ alternator feet and the base frame
- ✦ Base frame design incorporates an integral fuel tank (Up to 750 kVA)
- ✦ The generating set can be lifted or carefully pushed / pulled by the base frame
- ✦ Dial type fuel gauge and drain plug on the fuel tank
- ✦ Forklift pockets within base frame (up to 500kVA)

### DIMENSIONS

#### OPEN TYPE

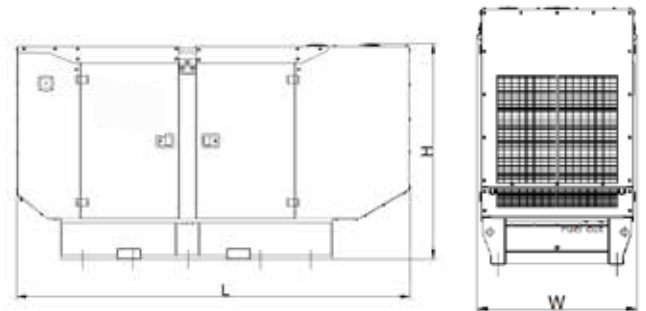
DIMENSIONS (LxWxH)	cm	130X70X110
DRY WEIGHT	kg	479

#### SOUND ATTENUATED TYPE 75dBA @ 3m in open space

DIMENSIONS (LxWxH)	cm	195X86X130
DRY WEIGHT	kg	783

### CANOPY

- ✦ All canopy parts are designed with modular principles
- ✦ Doors on each side
- ✦ All metal canopy parts are powder coated
- ✦ Exhaust silencer is protected against environment influences
- ✦ Easy lifting and moving
- ✦ Easy maintenance and operation



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