



Appleby Engineering Limited

For all Emergency Standby & Prime Diesel Power Generation Requirements

APD1540M



**1540 kVA / 1232 kW
POWERED by MITSUBISHI**

DIESEL GENERATOR 400/230 V – 50 HZ

MODEL			APD1540M
Power Pf. 0.8	Standby	kVA	1540
		kW	1232
	Prime	kVA	1400
		kW	1120

Standby : Continuous running at variable load for duration of an emergency. No overload is permitted on these ratings. In accordance with ISO 3046 .

Prime : Continuous running at variable load for unlimited periods with 10% overload available for 1 hour in any 12 hour period. In accordance with ISO 8528,ISO 3046.

- ✓ High quality, reliable and complete power unit
- ✓ Compact design
- ✓ Easy start and maintenance possibility
- ✓ Every generating set is subject to a comprehensive test programme which includes full load testing and checking and providing 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



Manufacturer reserves the right to make changes in model, technical specifications, color, equipment and accessories without prior notice.

ENGINE



MITSUBISHI			
Model		S12R-PTA2	
Engine Power Output at rated rpm	kWm	1285	
	HP	1723	
Aspiration and Cooling		Turbocharged&Aftercooled	
Total Displacement	Litre	49.03	
No. of Cylinders and Build		12 V	
Engine Speed	rpm	1500	
Bore and Stroke	mmxmm	170x180	
Compression Ratio		13.5:1	
Governor		Electronic	
Fuel Consumption at full load	L/hr	290.3	
Fuel Tank Capacity	Litre	N/A	
Oil Capacity	Litre	180	
Coolant Capacity	Litre	305	
Radiator Cooling Air	m ³ /min	1800	
Air Intake – Engine	m ³ /min	105	
Exhaust Gas Flow	m ³ /min	279	

- ✓ Heavy duty Mitsubishi diesel engine
- ✓ Four stroke, water cooled, Turbocharged and aftercooled
- ✓ Direct injection fuel system
- ✓ Electronic 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 (with lead acid) 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 inear 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
- ✓ Impregnation with tropicalised epoxy varnish
- ✓ Insulation class H
- ✓ Solid state Automatic Voltage Regulator
- ✓ Standard degree of protection IP21 (*IP22/IP23 is availab.)
- ✓ Stator winding with 2/3 pitch for improved harmonics
- ✓ Self-exciting and self-regulating

CONTROL SYSTEM

Control supervision and protection panel is mounted on the genset base frame.
The control panel is equipped as follows:

1. Auto Mains Failure Control Panel

Panel equipments:

- ✓ Control with AMF module
- ✓ Static battery charger
- ✓ Emergency stop push button

a) Generating set control module DSE 7320 features:

- ✓ The module is used to monitor a mains supply and starts and stops a standby generating set
 - ✓ Micro-processor based design
 - ✓ Automatic control of mains and generator contactors
 - ✓ Monitors engine performance and AC power output
 - ✓ LED alarm indication
 - ✓ Front panel configuration of timers and alarm trip points
 - ✓ Easy push button control
- STOP/RESET - MANUAL - TEST - AUTO - MUTE ALARM - START

b) Metering via LED display:

- ✓ Generator Volts (L-L / L-N)
- ✓ Engine oil pressure (PSI-Bar)
- ✓ Generator Ampere (L1,L2,L3)
- ✓ Engine temperature (°C&°F)
- ✓ Generator Frequency (Hz)
- ✓ Plant battery volts
- ✓ Engine hours run
- ✓ Mains Volts (Ph-Ph/Ph-N)
- ✓ Generator kVA, kWh
- ✓ Generator kW as % of rated kW setting
- ✓ Generator Cos (σ)



DSE 7320

c) Alarms:

- ✓ Over and Under Speed
- ✓ Low and High Battery Volt.
- ✓ Start and Stop Failure
- ✓ Charge fail
- ✓ Over Current
- ✓ Under / Over Generator Voltage
- ✓ Low Oil Pressure
- ✓ Emergency stop
- ✓ High engine temperature
- ✓ kW overload
- ✓ Unbalanced load
- ✓ Independent earth fault trip

d) LED Indications

Four configurable LED's like:

- ✓ Mains available
- ✓ Generator available
- ✓ Mains on load
- ✓ Generator on load

2. Power Outlet Terminal Board Mounted on the Genset Base frame

OPTIONS

Diesel Engine

- ✓ Oil heater

Alternator

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

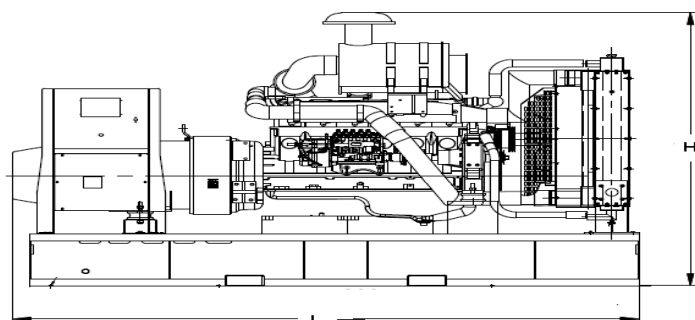
Panel

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

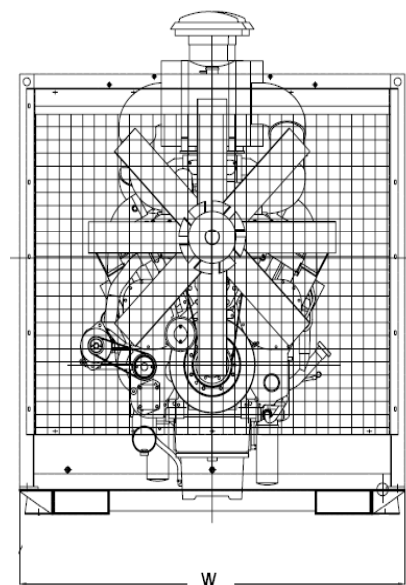
Accessories

- ✓ 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



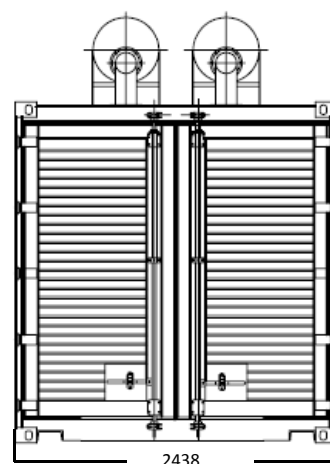
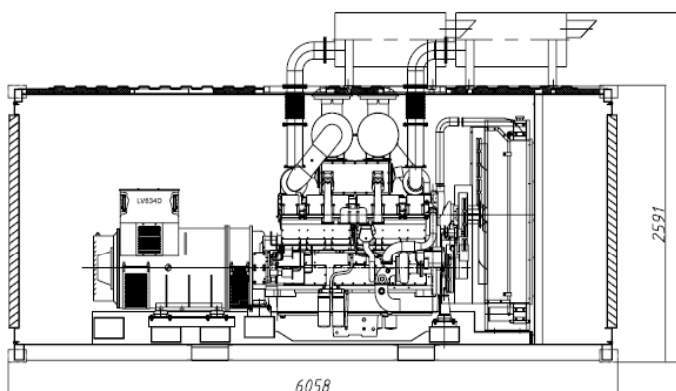
- ✓ The complete gen-set is mounted as whole on a heavy-duty fabricated, steel base frame
- ✓ Antivibration pads are fixed between the engine/ alternator feet and the base frame
- ✓ Base frame design incorporates an integral fuel tank (Up to 750 kVA)
- ✓ The generating set can be lifted or carefully 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)	mm	4670x1900x2500
DRY WEIGHT	kg	12000
SOUND ATTENUATED TYPE		
DIMENSIONS (LxWxH)	mm	N/A
DRY WEIGHT	kg	N/A

CANOPY



- ✓ All canopy parts are designed with modular principles
- ✓ Without welding assembly
- ✓ Doors on each side
- ✓ All metal canopy parts are painted by electrostatic polyester powder paint

- ✓ Exhaust silencer is protected against environment influences
- ✓ Thermally insulated engine exhaust system
- ✓ Emergency stop push button is installed outside of the canopy
- ✓ Easy lifting and moving
- ✓ Easy maintenance and operation

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