

## 1500 kVA



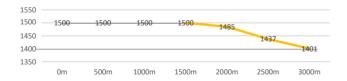


MODEL			PEMP1500S3		
Power Pf.0.8	Standby	kVA	1500		
		kW	1200		
	Prime	kVA	1350		
		kW	1080		
	Frequency	Hz	50		
	Voltage	V	230/400		
	Rated speed	rpm	1500		

#### Temperature (CePEMius) Derate Curves Unit: kVA



# Altitude (meters) Derate Curves Unit: kVA



PEM generator sets meet the standards of ISO9001, CE, BS5000, ISO 8528, ISO 3046, IEC 60034, NEMA MG-1.22.

## **Standard reference Conditions:**

Standard reference condition  $25^{\circ}$ C ( $77^{\circ}$ F) air inlet temp, 100m (328ft) A.S.L 30% relative humidity. Fuel consumption data with diesel fuel with specific gravity of 0.85 and conforming to BS 2869: 1998, Class A2.

#### **Standard Features**

- >PEM Power provides one-source responsibility for the generating system and accessories.
- >The generator set and its components are prototype-tested, factory-built, and production-tested.
- >The 50Hz generator set offers a AUS 2012 listing and CE 2015 listing.
- >The generator set complies with ISO 8528-5, Class G3 requirements for transient performance.
- > The generator set accepts rated load in one step.
- >The 50Hz generator set engine is certified by the Environmental Protection Agency (EU or MEP) to conform to EU2、EU3 nonroad emissions regulations.(≤560KW)
- >A one-year limited warranty covers all systems and components. Two-, five-, and ten-year extended warranties are aPEMo available.

#### **Generator Features**

- >The brushless, rotating-field generator has broadrange reconnectability.
- >The pilot-excited, permanent-magnet generator (PMG) provides superior short-circuit capability
- ➤ Controllers are available for all applications. See controller features inside.
- >The low coolant level shutdown prevents overheating (standard on radiator modePEM only)
- ➤Integral vibration isolation eliminates the need for under-unit vibration spring isolators
- >An electronic, isochronous governor delivers precise frequency regulation.
- >Electronic engine controPEM and a generator microprocessor controller combine to deliver one of the most advanced control systems in today's generator market.

RATINGS: All three-phase units are rated at 0.8 power factor. Standby ratings: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271. Prime power ratings:Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload power in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271.For limited running time and base load ratings, consult PEM. Obtain the technical information bulletin (TIS-101) on ratings guidelines for the complete ratings definitions. PEM reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.



# Perkins engine Model: 4012-46TWG3A

#### Main features:

- Economic power
  - Individual four valve per cylinder heads give optimized gas flows, whiPEMt digitally governed unit fuel injectors ensure ultra fine fuel atomization and hence controlled rapid combustion, for efficiency and economy
  - Commonality of components with other engines in the 4000 Series family allows reduced parts stocking levePEM
- · Reliable power
  - > Developed and tested using the latest engineering techniques and finite element analysis for high reliability
  - > Low oil usage and low wear rates
  - > High compression ratio ensures clean rapid starting in all conditions
  - > Support comes from a worldwide network of 4,000 distributors and dealers
- Compact, clean and efficient power
  - Exceptional power to weight ratio and compact size gives optimum power density for ease of installation and more cost effective transportation
  - Designed to provide excellent service access for ease of maintenance
- · Cost effective power
  - Compact size and low noise
  - > Lower fuel consumption and oil use
  - > 500 hours service intervaPEM
  - > 2 year warranty







# **Engine Specifications**

Engine Brand		PERKINS
Engine Model		4012-46TWG3A
Cylinder No.& Configuration		12 cylinder Diesel.VEE type
Working Mode	 	Turbocharged and Aftercooled
		(Jacket water to cooler)
Bore x Stroke	 mm	160*190
Displacement	 L	45.842
Compression Ratio	 	13.6:1
Rated Power	 kW	1200
Rated Speed	 	1500
Lubrication System	 	Splash Lubrication
Lube Oil	 	Conforms above CF class or
		SAE10W-30,15w-40
Lube Oil Capacity	 L	177
Battery Capacity	 	6-QW-200EP*4
Fuel Type	 	Diesel:0#(Summer),-
		10#(Winter),-35#(Cold)
Fuel Consumption 25% load	 L/H	76
Fuel Consumption 50% load	 L/H	151
Fuel Consumption 75% load	 L/H	213
Fuel Consumption 100% load	L/H	283

#### 1500 kVA

#### **Alternator**

Type Exciter type

Voltage regulator
Insulation
Material
Temperature rise
Bearing: quantity, type
Coupling
Amortisseur windings
Rotor balancing
Voltage regulation, no-load to
full-load(with < 0.5% drift due
to temp. variation
One-step load acceptance
Unbalanced load capability

4-Pole, Rotating-Field Brushless, Permanent-Magnet, Pilot Exciter Solid-State, Volts/Hz NEMA MG1, Class H Synthetic, Nonhygroscopic 130°C, 150°C Standby 1, Sealed Flexible Disc Full

3-Phase Sensing,  $\pm 0.25\%$ 

125% 60 Hz, 150% 50 Hz

100% of Rating 100% of Rated Standby

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the generator field.
- Self-ventilated and dripproof construction.
- Superior voltage waveform from two-thirds pitch windings and skewed stator.
- Digital solid-state.volts-per-hertz voltage regulator with  $\pm 0.25\%$  no-load to full-load regulation.
- Brushless alternator with brushless pilot exciter for excellent load response.

#### Controller





Audiovisual annunciation with NFPA 110 Level 1 capability. Programmable microprocessor logic and digital display features. Safeguard circuit protection standard. 12- or 24-volt engine electrical system capability. Remote start, remote annunciation, and remote communication options. Refer to M6-46 for additional controller features and accessories

## **Key Features**

- > 4-line back-lit LCD text display
- > Five key menu navigation
- > Front panel editing with PIN protection
- > LED and LCD alarm indication
- Customisable status screens
- > Power save mode
- > Support for up to three remote display units
- > 9 configurable inputs
- > 8 configurable outputs
- > Flexible sender inputs
- Configurable timers and alarms
- > 3 configurable maintenance alarms
- > Multiple date and time scheduler
- > Configurable event log (250)
- Control logic facilities
- Easy access diagnostic page
- > CAN and Magnetic Pick-up / Alt. Sensing
- > Fuel usage monitor and low fuel alarms
- Charger alternator failure alarm

- Manual speed control
- Manual fuel pump control
- > Engine exerciser
- > "protections disabled" feature
- > kW overload protection
- Power monitoring
- Load switching (load shedding and dummy load outputs)
- Automatic load transfer
- > Unbalanced load protection
- > Independent Earth Fault trip
- > USB connectivity
- > Backed up real time clock
- > Configurable display languages
- ➤ User selectable RS232 and RS485 communications
- > SMS Messaging (additional external modem required)
- Additional display screens to help with modem diagnostics
- > Integral PLC editor

1500 kVA

# **Generating Sets Standard and Optional Features**

## **Engine**

- 4-stroke, water-cooled diesel engine
- Standard air filter
- > Standard fuel filter
- Standard oil filter
- Oil temperature sensor
- Low coolant level sensor
- > Radiator with blowing fan
- Industrial silence
- > Fuel water separator (optional)
- Water jacket heater (optional)

#### **Alternator**

- Class H insulation
- IP23 Protection
- Automatic Voltage Regulator (AVR)
- PMG excitation
- Single bearing alternator
- Class F or class B temperature rise (optional)
- Digital Voltage Regulator (optional)
- Double bearing (optional)
- Condensed heater (optional)
- > IP41 Protection (optional)

#### **Electrical** system

- Maintenance-free and anti-explosion battery
- > Standard breaker
- ABB breaker (optional)
- > ATS (optional)
- Battery charger (optional)
- > GMS monitoring (optional)

### **Packing**

- Engine manual
- Alternator manual
- > Gensets operation and maintenance manual
- Tool kit

## **Baseframe**

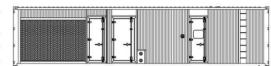
- Forklift pockets
- Pulling slots
- > Earth wire protection
- Built-in anti vibration mountings
- Fuel outlet value
- Standard fuel tank
- Enlarged fuel tank (optional)
- Separated fuel tank (optional)

# Canopy

- Weatherproof & sound-attenated canopy
- Sound-absorbing material
- Lifting lug
- Emergency stop button
- Inside silencer

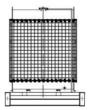
#### **Overview Dimension & Weight**

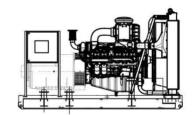


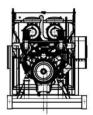




P1500S3 (Containerized type)					
Configuration	L= Length (mm)	W= Width (mm)	H= Height (mm)	Weight (kg)	Fuel Tank Capacity (L)
Containerized Type		ISO40'ft GP		18205	1000(optional)







P1500E3 (Open type)					
Configuration	L= Length (mm)	W= Width (mm)	H= Height (mm)	Weight (kg)	Fuel Tank
					Capacity (L)
Open Type	5000	2182	2460	10205	1000(optional)

Contact your distributor / dealer for more information

#### **MABNA POWER COMPANY**

Payesh Energy MABNA Tel: +98 (021) 91001540 P.E. Web: WWW.PAYESH-ENERGY.iR Email: info@payesh-energy.ir

