

WGP-P59/S-6

Perkins Series

Features:

- Rotate speed governor: Mechanical governor
- Excitation system: Self excited, SHUNT
- A.V.R model: AS480
- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- 12V sealed for life maintenance free battery
- Lockable battery isolator switch
- Powder coated canopy (Only for Soundproofed sets)
- 50°C radiator
- Oil pump on the engine
- Steel base frame with fork holes
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for daily running
- Drain points for fuel tank
- Operation Manual / Specifications



Dimensions and Weights

| Model | L | W | H |
|------------|------|-----|------|
| WGP-P59-6 | 1700 | 650 | 1200 |
| WGP-P59S-6 | 2150 | 950 | 1450 |

Output Ratings

| Genset Model | Prime Power | Standby Power |
|--------------|-------------|---------------|
| WGP-P59-6 | 53kVA/43kW | 59kVA/47kW |
| WGP-P59S-6 | 53kVA/43kW | 59kVA/47kW |

Ratings at 0.8 power factor

Notes:

*Prime Power

Continuous duty operation, under variable load 24/24h-10% over load

**Standby Power

Standby duty, operation under variable load, without over load;

Standard Reference Conditions

Note: Standard reference conditions 25°C (77°F) Air Inlet Temp, 100m(328 ft) A.S.L. 30% relative humidity. Fuel consumption data at full load with diesel fuel with specific gravity of 0.85 and conforming to BS2869: 1998,

Ratings and Performance Data

| | |
|------------------------------------|---------------------|
| Engine Model: | Perkins 1103A-33TG1 |
| Alternator Brand: | Stamford |
| Alternator Model: | PI 144K |
| Control System: | Auto Genset / AMF |
| Circuit Breaker Type: | 3 Pole MCCB |
| Frequency & Phase: | 60Hz & 3PH |
| Engine Speed: RPM | 1800 |
| Fuel Tank Capacity: L | |
| WGP-P59-6 | 10 hrs |
| WGP-P59S-6 | 10 hrs |
| Fuel Consumption: l/hr (100% Load) | |
| - Prime Power | 10.7 |
| - Standby Power | 12 |

Engine Model: 1103A-33TG1 / 53.9kW @ 1800rpm

Cooling system

| | |
|------------------------------------|----------------------|
| Radiator | |
| face area | 0.276 m ² |
| rows and materials | 1 rows, Aluminium |
| matrix density and material | 12.5 fins/inch Alum |
| width of matrix | 526 mm |
| height of matrix | 524.2 mm |
| pressure cap setting | 107 kPa |
| Estimated cooling air flow reserve | / |

Fan

| | |
|------------------|---------|
| diameter | 457 mm |
| drive ratio | 0.85:1 |
| number of blades | 7 |
| material | plastic |
| type | pusher |

Coolant

| | |
|--|-------------------------------|
| Total system capacity | |
| with radiator | 10.21 litres |
| without radiator | 4.41 litres |
| Maximum top tank temperature | 110°C |
| Max static pressure head on pump | 30.4 kPa |
| Temperature rise across engine | 7.5°C |
| Max permissible external system resistance | TBA kPa |
| Thermostat operation range | 82 - 93°C |
| Recommended coolant: | 50% anti freeze/ 50% water |

Duct allowance

Maximum additional restriction (duct allowance) to cooling airflow and resultant minimum airflow

| Ambient clearance 50% Glycol | Duct allowance Pa | m ³ /sec |
|---------------------------------|-------------------|---------------------|
| / | / | / |
| / | / | / |

Electrical system

| | |
|------------------------|---------------|
| alternator | 65 amps, 12 V |
| starter motor | 12 V |
| Minimum cranking speed | 150 rev/min |

Cold start recommendations

| Minimum starting temperature | Grade of engine lubricating oil | Battery specifications | |
|------------------------------|---------------------------------|------------------------|---|
| | | | |
| °C | | | |
| 0 | 20W | 770 | 1 |
| -15 | 10W | 770 | 1 |
| -20 | 5W | 900 | 1 |

Exhaust system

| | |
|-----------------------|-------|
| Maximum back pressure | 8 kPa |
| Exhaust outlet size | |
| horizontal | / |
| vertical | 56 mm |

Fuel system

| | |
|-------------------------|------------------|
| Type of injection | Direct injection |
| Fuel injection pump | Rotary |
| Fuel injector | Multi-hole |
| Nozzle opening pressure | 29.0 Mpa |
| Maximum particle size | 25 microns |

Fuel lift pump

| | |
|------------------------------|-------------------|
| type | Mechanical |
| flow/hour | 120-150 litres/hr |
| pressure | 30-75 kPa |
| Maximum suction head | 0.8 m |
| Maximum static pressure head | 17 kPa |
| Governor type | Electronic |

Fuel specification

USA Fed Off Highway - EPA2D 89.330-96

Europe Off Highway - CEC RF-06-99

Note: For further information on fuel specifications and restrictions estrictions.

refer to the OMM Fuels section for this engine model

Fuel consumption

| Power rating | | |
|-------------------|------|------|
| g/kWh (litres/hr) | | |
| 110% | 100% | 75% |
| 8.3 | 7.1 | 5.33 |

Induction system

| | |
|--------------------------------|------------------|
| Maximum air intake restriction | |
| clean filter | 3.0 kPa |
| dirty filter | 6.5 kPa |
| air filter type | Dry element type |

Lubrication system

| | |
|--------------------------|-------------|
| Lubricating oil capacity | |
| Maximum sump capacity | 7.81 litres |
| Total system | 8.31 liters |
| Minimum sump capacity | 6.21 litres |

Lubricating oil pressure

| | |
|--------------------------|----------------|
| Minimum sump capacity | 120 kPa |
| relief valve opens | 415 - 470 kPa |
| at maximum no-load speed | 276 - 414 kPa |
| Normal oil temperature | 125°C |
| oil flow at rated speed | 13 litres/min. |

Alternator Model: PI 144K

Alternator Physical Data

| | |
|----------------------------|--------------------|
| Manufactured by: | Stamford |
| Model: | PI 144K |
| No. of Bearings: | Single |
| Insulation Class: | H |
| Winding Pitch Code: | 2/3 |
| Wires: | 12 |
| Ingress Protection Rating: | IP23 |
| Excitation System: | Self excited,shunt |
| AVR Model: | AS480 |

Alternator Operating Data

| | |
|------------------------------------|---------|
| Overspeed: rpm | 2250rpm |
| Voltage Regulation: (Steady state) | ±1.0% |
| Wave Form NEMA = TIF: | <50 |
| Wave Form IEC = THF: | <2% |
| Air Flow: m3/s | 0.1 |
| Altitude: m | ≤1000 |

| Alternator Performance Data: | WGP-P59-6 | WGP-P59S-6 |
|------------------------------|-----------|------------|
| Time constants/480V:Ms | | |
| T'd | 28 | 28 |
| T''d | 7 | 7 |
| T'do | 700 | 700 |
| Ta | 6 | 6 |
| Short Circuit Capacity** % | 1/Xd | 1/Xd |
| Reactances: Per Unit | | |
| Xd | 2.24 | 2.24 |
| X'd | 0.17 | 0.17 |
| X''d | 0.12 | 0.12 |

Voltage Technical Data WGP-P59-6

| Voltage | Prime kVA | Standby kVA |
|---------|-----------|-------------|
| 110/220 | 53 | 59 |
| 220/440 | 53 | 59 |
| 230/460 | 53 | 59 |
| 240/480 | 53 | 59 |

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| 110/220 | 53 | 59 |
| 220/440 | 53 | 59 |
| 230/460 | 53 | 59 |
| 240/480 | 53 | 59 |

Control System DSE4620



Features:

- Large back-lit icon LCD display.
- 3-phase generator sensing.
- 3-phase generator and mains (utility) sensing.
- 600 V ph-ph nominal system compatibility.
- Generator & load power monitoring (kW, kV A, kV Ar, pf).
- Generator overload protection (kW).
- Configurable inputs & outputs.
- Fuel & crank outputs.
- Magnetic pick-up speed sensing.
- Battery voltage monitoring.
- Configurable event log (50).
- DSE Configuration Suite PC Software.
- Engine speed protection, engine hours counter, engine pre-heat, engine run-time scheduler, engine idle control for start/stop.

Control System DSE7420



Features:

- Microprocessor control, with high stability and credibility .
- Mains supply and generator operation monitoring.
- Indicating operation status and fault conditions.
- Multiple protections; multiple parameters display such as pressure, temperature.
- Manual and automatic work mode selectable.
- Real time clock for time and date display, overall runtime display, 99 log entries
- Overall power output display.
- Integral speed/frequency detecting, telling status of start, rated operation, overspeed.
- Communication with PC via RS485 or RS232 interface, using MODBUS protocol.
- Engine ECU is available.
- Common USB cable is usable for parameter configuration.
- Multi-language is available

Optional

| | | |
|--|--|---|
| Engine | Alternator | Generator Set |
| <ul style="list-style-type: none"> • Water Jacket Preheater • Fuel-water separator • Oil pump • Oil preheater • Battery preheater | <ul style="list-style-type: none"> • PMG excitation • Alternator heater • Winding Temperature Measuring • Anti-damp and anti-corrosion treatment • Anti-condensation heater | <ul style="list-style-type: none"> •Tools with the machine •Coolant (-30°C) |
| Canopy | Fuel System | Control System |
| <ul style="list-style-type: none"> • Hired type • Trailer | <ul style="list-style-type: none"> • Low fuel level alarm • Automatic fuel feeding system • Fuel T-valves • Dual Wall Integral Fuel Tanks • Dual Wall Sub-base Fuel Tanks • Automatic Fuel Fill Options • Fuel level shut down sensor | <ul style="list-style-type: none"> • AMF function • ATS control cabinet • Double HZ & Volt • ABB & MCCB |
| Air Inlet system | Lube system | Starting /Charging system |
| <ul style="list-style-type: none"> • Air pre-heater | <ul style="list-style-type: none"> • Manual sump pump • Lubricant oil pre-heater | <ul style="list-style-type: none"> • Jacket water heater |



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Walt reserves the right to make changes in model, technical specification, color, configuration and accessories without prior notice.

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