# EQ-P110100

INDUSTRIAL RANGE




*Illustrative image. Actual product details may differ from the illustration.*

## GENERATOR POWER RATINGS

| | | Standby power (ESP) | | Prime power (PRP) | |
|---|---|---|---|---|---|
| Power | ***kVA*** | **110** | 88 kW | **100** | 80 kW |
| | | | 159 A | | 144 A |
| Frequency | ***Hz*** | 50 | | | |
| Rated voltage | ***V*** | 400/230 | | | |
| Fuel type | | Diesel | | | |
| Fuel tank capacity | ***L*** | 194 | | | |
| Control panel | | ComAp AMF 25 | | | |

### Emergency Standby Power ESP

According to ISO 8528-1, ESP power defines the maximum power available for emergency operation in the event of a utility power failure or during testing, limited to 200 operating hours per year. The average output power over a 24-hour operating period shall not exceed 70 % of the ESP value. Overload operation in this mode is not permitted.

### Rated power PRP (Prime Power)

According to ISO 8528-1, PRP power defines the maximum power that the generating set can deliver continuously under variable electrical load, without limitation on the number of operating hours per year, provided that the operating conditions and service procedures specified by the manufacturer are observed. The average output power over a 24-hour operating period shall not exceed 70 % of the PRP value.

### POWER QUALITY AND PERFORMANCE

- Digital voltage regulation ±0.25 %
- Three phase voltage sensing and control
- Total harmonic distortion THD below 2 %
- Fast load acceptance
- Performance class G2 in accordance with ISO 8528-5
- Suitable for manual and automatic operation

### STANDARDS AND COMPLIANCE

- ISO 8528
- Machinery Directive 2006/42/EC
- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU
- Noise Directive 2000/14/EC
- CE marking

**•Alternator insulation class H •Protection degree IP23 •Compact design for transport and installation •Forklift lifting capability from front and side**

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## ALTERNATOR

| Information | Specification |
|---|---|
| **Brand** | Leroy-Somer |
| **Model** | TAL044D |
| **Phases / Poles** | 3 / 4 |
| **Output voltage (V)** | 400/230 V AC |
| **Frequency (Hz)** | 50 |
| **Automatic voltage regulation (±%)** | ± 1 |
| **Standby alternator power (kVA)** | 110 |
| **Prime alternator power (kVA)** | 100 |
| **Power factor (Cos φ)** | 0.8 |
| **Number of leads** | 12 |
| **Winding connection** | Star |
| **Protection class** | IP23 / H |
| **Excitation system** | Self excited, AVR, brushless |
| **Design** | Synchronous, 3-phase, single bearing |
| **THD (no load)** | < 3.5 % |

### Technical description

Free standing power generator mounted on a robust steel base frame, suitable for a wide range of installation and operational configurations.

The unit is suitable for both continuous duty and standby operation **in compliance with ISO 8528 requirements**. It ensures reliable performance under variable load conditions in industrial, commercial and infrastructure applications.

The acoustic pressure **level LpA is measured at a distance of 7 m** in accordance with applicable international measurement standards.

The system is equipped **with a diesel engine** coupled to a brushless, synchronous alternator. All components are selected and rated to operate within the performance parameters defined by the manufacturer, ensuring operational **stability, safety and long service life**.

## ENGINE

| Information | Specification |
|---|---|
| **Manufacturer** | Perkins |
| **Engine model** | 1104C-44TAG2 |
| **Engine type** | diesel, four-stroke |
| **Engine speed (rpm)** | 1500 |
| **Number of cylinders** | 4 |
| **Engine displacement (L)** | 4.4 |
| **Bore x stroke (mm)** | 105x127 |
| **Compression ratio** | 17.25:1 |
| **Fuel system** | Direct injection |
| **Air intake system** | Turbocharged & Aftercooler |
| **Cooling system** | Liquid |
| **Fuel consumption at 100 % PRP load (l/h)** | 22.6 |
| **Fuel consumption at 75 % PRP load (l/h)** | 17.1 |
| **Fuel consumption at 50 % PRP load (l/h)** | 11.2 |
| **Speed governing** | Mechanical |
| **Performance class** | G2 / ISO 8528-5 |
| **Exhaust emissions** | In compliance with applicable EU regulations and standards |
| **Fuel type** | Diesel EN 590 |
| **Oil sump capacity (L)** | 8 |
| **Coolant capacity (L)** | 12.6 |
| **Engine electrical system** | 12 V |

## GENERATING SET EQUIPMENT

### ENGINE SYSTEM

- Diesel engine, four stroke, liquid cooled
- Fuel system with direct injection
- Engine speed governor
- Engine preheating system
- Electric starting system with battery set
- Engine driven cooling fan
- Radiator cooling system
- Air intake filter
- Oil filter
- Fuel filter

### ALTERNATOR SYSTEM

- Synchronous alternator, brushless
- Automatic voltage regulator AVR
- Single bearing design
- Insulation class H

### CONTROL AND MONITORING SYSTEM

- Digital generating set control system
- Integrated control panel
- Monitoring system of basic operating parameters
- Engine and alternator protection systems
- Emergency stop push button
- Electronic battery charger

### ELECTRICAL PROTECTION SYSTEM

- Main circuit breaker of the generating set
- Shunt trip coil of the generator breaker
- Earthing point
- Output terminal connection box

### FUEL SYSTEM

- Integrated fuel tank within the base frame
- Fuel retention system
- Digital fuel level sensor

### STRUCTURAL FRAME AND INSTALLATIONS

- Steel welded base frame, powder coated
- Provisions for permanent installation
- Vibration isolators reducing transmission of vibrations
- Lifting and transport points
- Lifting lugs

### ENCLOSURE AND EXHAUST SYSTEM

- Weather resistant sound attenuated enclosure
- Acoustic and thermal insulation of hot components
- Exhaust silencing system suitable for stationary operation
- Exhaust silencer with vibration compensation
- Exhaust outlet

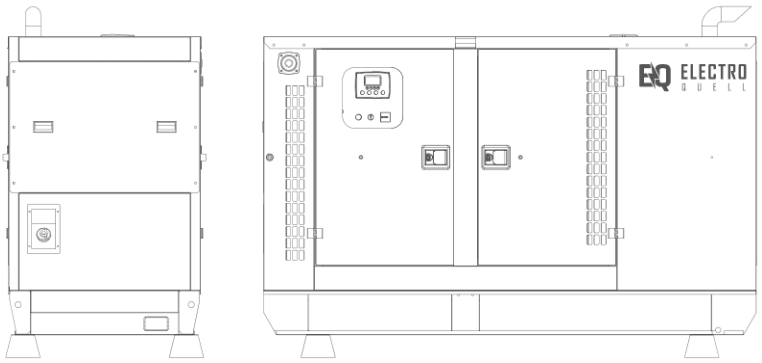
### SERVICE AND OPERATION DESIGN

- Design solutions facilitating service and operation
- Easy access service doors
- Protective grille for rotating and hot parts



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## Dimensions in enclosure




| | |
|---|---|
| **Length x Width x Height (mm)** | 2400 x 1060 x 1640 |
| **Generating set weight without fuel (kg)** | 1092 kg |
| **Fuel tank capacity (L)** | 194 |
| **Guaranteed sound pressure level (dB(A))** | 70 to 75 dB(A) at a distance of 7 metres |

## Sound attenuated enclosure specification

- Special design for noise level minimization
- Galvanized steel structure additionally protected with polyester powder coating
- Black painted locks and stainless steel hinges
- Inspection window for the control panel in lockable service doors
- Emergency stop button mounted on the external side of the enclosure
- Lifting, towing and fixing points on the main frame
- Radiator filling through a removable, tightly sealed rain cover with compression gasket

## Operating guidelines

Service intervals of the generating set are defined in accordance with the recommendations of the engine manufacturer and the generating set manufacturer. Indicative values for standard operating conditions are presented below.

| | |
|---|---|
| **Fuel filter replacement** | 500 h or 1 year |
| **Engine oil replacement** | After first 100 h of operation, then every 500 h or 1 year |
| **Oil filter replacement** | After first 100 h of operation, then every 500 h or 1 year |
| **Coolant replacement** | 1000 h or 2 years |
| **Air filter replacement** | 500 h |
| **Starter battery replacement** | 2 years |
| **Electrical installation testing** | In accordance with applicable regulations and PN-HD 60364-6 |

*Note: actual service intervals may vary depending on operating conditions, load profile and engine manufacturer recommendations.*

## Warranty

Our standard warranty is **12 months** or **1,000 operating hours**, whichever comes first.

Detailed warranty conditions, including the scope of liability, service requirements and operational limitations, are defined in the warranty card, the technical and operational documentation of the generating set, or in accordance with the terms of the sales contract.



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# Control system ComAp AMF 25

ElectroQuell generating sets are supplied as standard with the ComAp InteliLite AMF 25 control system. The controller is designed for automatic mains failure (AMF) operation in single generating set applications. By continuously monitoring the mains and the generator it ensures continuity of supply and safe operation.

The backlit display gives the user a clear view of the operating status, measured values and alarm messages at all times.

The controller can be programmed from the front panel or through optional external communication interfaces, and it is prepared for remote monitoring and integration into central control systems.

ComAp AMF 25




## Measurement and monitoring

**Electrical measurements**

- Generator and mains voltages (3 phases, phase–neutral)
- Generator and mains frequency
- Generator phase currents
- Active power (kW), apparent power (kVA), reactive power (kVAr)
- Power factor (cos φ)

**Engine and system parameters**

- Engine speed
- Battery voltage
- Engine operating states and alarms
- Running hours counter

## Control and operating functions

- Mains monitoring and automatic mains failure transfer (AMF), remote start (MRS)
- Generator circuit breaker control
- Manual and automatic operating modes
- Engine start / stop control
- Test run functions
- Prepared for remote monitoring and control (optional)

## Communication and integration

- USB port for configuration and service
- CANbus communication (J1939)
- RS232 / RS485 via optional plug-in modules
- Modbus RTU / Modbus TCP (optional)
- SNMP v1 / v2c / v3 (optional)
- Monitoring and management of multiple generating sets through central supervisory software and SCADA systems

## Protection functions

**Electrical protections**

- Over / under voltage (ANSI 59 / 27)
- Over / under frequency (ANSI 81O / 81U)
- Overcurrent (ANSI 50 / 51)
- Phase sequence and phase unbalance (ANSI 46)
- Active power overload (ANSI 32)

**Engine protections**

- Overspeed / underspeed
- Engine fault and warning signals from the ECU
- Engine protection via external sensor inputs

## Panel and design

- Monochrome 3.2" LCD display
- User-friendly front panel
- Event and fault log
- Password-protected settings and service menus
- Manual control from the front panel
- Front panel protection degree IP65

## Environmental conditions

- Operating temperature from −20 °C to +70 °C
- Storage temperature from −30 °C to +80 °C
- Rugged industrial design for high vibration and harsh field conditions

☑ BMS
☑ SCADA
☑ Modbus
☑ SNMP
☑ GSM / Ethernet



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