

KUBOTA 20 kVA

400/230 V - THREE-PHASE | 1.500 R.P.M. | 50 Hz

Genset with manual control panel.



Image for guidance purposes.



## PRP

**CONTINUOUS POWER:** 18 kVA

PRP "Prime Power" norma ISO 8528-1

## LTP

**STAND-BY POWER:** 20 kVA

LTP "Limited Time Power" norma ISO 8528-1

## ENGINE

| MAKE   | MODEL     |
|--------|-----------|
| KUBOTA | V2203M-SV |

## ALTERNATOR

| MAKE        | MODEL    |
|-------------|----------|
| LEROY-SOMER | TAL040-F |

| VOLTAGE | HZ   | PHASE | COS Ø | PRP kVA/kW | LTP kVA/kW | AMP. (LTP) |
|---------|------|-------|-------|------------|------------|------------|
| 400/230 | 50Hz | 3     | 0,8   | 17,9/14,3  | 19,5/15,6  | 28,15      |

### Contact details:

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### Address:

DPX POWER  
Heliotrooping 840  
Dordrecht  
The Netherlands

## ENGINE CHARACTERISTICS



MAKE

MODEL

KUBOTA

V2203M-SV

### General Data

|                          |            |
|--------------------------|------------|
| Power PRP (kWm)          | 16.4       |
| Power LTP (kWm)          | 18         |
| No. cylinders            | 4          |
| Cylinder capacity (L)    | 2.2        |
| Diameter per stroke (mm) | 87 x 92    |
| Compression ratio        |            |
| Cooling system           | LIQUID     |
| Injection                | INDIRECT   |
| Suction                  | NATURAL    |
| Series regulator         | ELECTRONIC |
| Fly wheel coupling       | 4-7.5      |

### Lubrication system

|                               |     |
|-------------------------------|-----|
| Oil capacity (L)              | 7.5 |
| Oil consumption (%)           |     |
| Min. alarm oil pressure (bar) |     |

### Ventilation system

|                                         |    |
|-----------------------------------------|----|
| Air cooling flow (m <sup>3</sup> /h)    |    |
| Combustion air flow (m <sup>3</sup> /h) | 86 |
| Max. back pressure for fan (mbar)       |    |

### Exhaust system

|                                      |     |
|--------------------------------------|-----|
| Exhaust gas flow (m <sup>3</sup> /h) | 234 |
| Exhaust back pressure (mbar)         | 71  |
| Temp. exhaust gases (°C)             | 550 |

### Electrical system

|                      |     |
|----------------------|-----|
| VDC (V)              | 12  |
| Battery (Ah)         | 60  |
| Engine start-up (kW) | 1.4 |

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## ALTERNATOR CHARACTERISTICS

| MAKE        | MODEL    |
|-------------|----------|
| LEROY-SOMER | TAL040-F |

### General Data

|                       |            |
|-----------------------|------------|
| Power PRP (kVA)       | 20         |
| Power LTP (kVA)       | 22         |
| Efficiency Alt. 100 % | 87.1       |
| Efficiency Alt. 110 % | 86.7       |
| No. Poles             | 4          |
| Voltage regulator     | AREP+ R180 |
| No. wires             | 6          |
| Insulation            | H          |
| Xd (%)                | 193        |
| X'd (%)               | 15.4       |
| X                     | 7.7        |
| Degree of protection  | IP23       |

## GENERATOR SET CONSUMPTION

| % POWER USED | LITRES/HOUR |
|--------------|-------------|
| 50%          | 2.5         |
| 75%          | 3.8         |
| 100%         | 5           |

## DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT

| Dimensions (mm) |       |        |
|-----------------|-------|--------|
| LENGTH          | WIDTH | HEIGHT |
| 2040            | 1000  | 1406   |

| FUEL TANK (LITRES) | WEIGHT (KG) |
|--------------------|-------------|
| 150                | 1020        |

| NOISE LEVEL (dB (A)) |
|----------------------|
| 61+/-2dB(A)@7m       |

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# GENERATOR SET

## GENERAL DESCRIPTION

Our generator set is an electrical energy generating machine which is used in places where there is **no mains supply** or when there is a MAINS failure.

The mobile elements, distribution belt, fan, etc., and those parts which reach high temperatures during operation, exhaust manifold, etc, include their corresponding protections, in compliance with the requirements of the Machinery Directive **2006/42**.

## Europe regulations:

Our power GENSET sets comply with European legislation and were given the CE marking which includes the following directives:

- 2006/42/EC on machinery safety.
- 2005/88/EC on NOISE EMISSIONS by equipment for outdoor use (amends the 2000/14/EC).
- 2014/30/UE on Electromagnetic Compatibility.
- 2014/35/UE on electrical safety, electrical equipment designed to be used within certain voltage limits

## International regulations:

Upon request, we can supply equipment that complies with the International Legislation and Regulations:

- “Technical Regulation on Safety of Machinery & Equipment” No. 753, repealing GOST R standards for exports to Russia.
- Resolution nº 90708 dated August 30th 2013 “Reglamento Técnico de Instalaciones Eléctricas RETIE” issued by the Ministry of Mining and Energy, Section 20.21 Engines and power generators, for exports to Colombia.

## Information:

The power ratings are for reference to environmental conditions: barometric pressure 100 kPa, 25°C and 30% relative humidity. These are defined by ISO 8528 and ISO 3046.

PrimePower (PRP) “Main Service” is applicable for power GENSETs that function as main electric power source. It may be overloaded by 10% in limited time points, maximum once every 12 hours.

StandbyPower (LTP) “Emergency Service” applies to power GENSETs that run during Electrical Grid failure. This power may NOT BE OVERLOADED.

Nevertheless, to obtain long engine life, it is recommended that the active power average load (kW) connected to the power GENSET set in any period of 24 hours of operation does not exceed the following values:

- In Main Service 70% of the PRP power.
- In Emergency Service during Electrical Grid failure 80% of the LTP power.

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Engine/alternator assembly, coupled and installed on a heavy electric wilded steel profile base frame through antivibration pad, then treated with rust removing products for zink layer application and Polyester (QUALICOAT) painting, "special treatment for external and corrosive environment."

Soundproof canopy treated with rust removing products for zink layer application and Polyester (QUALICOAT) painting, "special treatment for external and corrosive environment." Then lined with rock wool material of high density.

Liquid cooled engine with integrated mechanical radiator and blower fan.

Residential exhaust silencer with -35 dB(A) attenuation, plus industrial silencer in line, with gases release protected by a cap.

Lifting hook crane.

Fork lift pockets for easy lifting from the bottom.

Hook for towing.

Radiator water filling cover register.

Easy access to radiator cleaning, and replacement.

Integrated metallic fuel tank of 24 hours autonomy with liquid leakage protection.

Large fuel tank register for cleaning.

Fuel draining plug.

Protection of heat, mobile, and live components.

Manual oil sump pump.

Baseframe prepared to be mounted on a trailer.

External emergency stop push button.

Heavy-duty engine starting battery complete with wires connection, terminal protection and on-off switch.

Alternator battery charger with earth plug.

Self excited and auto regulated alternator.

Manual control panel with a microprocessor for control, protection and generating set reading parameters as voltage, amperage, working hours, etc.

Circuit breaker 4P and regulable earth leakage.

Prepared for earth stud installation (earth stud not included).

Vertical warm air release, except in engines with exhaust gas after-treatment systems.

On/off battery switch.

Documents Bag.

Door retainer.

Cables lock for fixing the power cables.

Special anti vibration mounts fitted between the alternator/engine block and the frame, to decrease the amount of vibrations that are transmitted to the frame and to absorb all mechanical shocks from transportation.

Step/s for making easier the access to the lifting hook.

## OPTIONS

Coolant preheating resistor.

Battery charger.

Automatic/manual fuel transfer pump.

Alternator with enhanced protection against harsh environments.

Different colour.

External linkbox for armoured cables.

Kit of 3-way valves for external fuel tank connection (optional single lever).

Fast fuel plug connection between external and internal fuel tanks.

AMF/ATS panel to turn a manual gen set to automatic version.

Voltage and frequency change selector (50 Hz - 60 Hz), according to the model.

Sockets kits integrated in the canopy.

Soundproof canopy auxiliary internal lighting.

Upgrades to switchboards from other brands.

Internal fuel filler cap with security lockable key.

Synchronising control panels, for paralleling in island mode or with the utility.

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MANUAL CONTROL, PROTECTION AND DISTRIBUTION panel, assembled on the generator set in metal cabinet with a DSE 6110 MKIII engine protection unit.



Image for guidance purposes.

It has the following:

## 1. STARTER SWITCH

## 2. PROTECTIONS:

Magnetothermal Protection.

Earth Leak Protection

Protection fuses for control module

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### 3. DSE 6110 MKIII PROTECTION CONTROL MODULE.

#### LCD SCREEN:

It is equipped with a digital LCD screen, which makes it easy to read the information concerning the ENGINE, ALTERNATOR and LOAD available in several languages. The readings that can be obtained are:

| ENGINE:                    | ALTERNATOR AND CHARGE:                                  |
|----------------------------|---------------------------------------------------------|
| Coolant temperature        | Voltages between phases and between phases and neutral. |
| Oil pressure               | Intensities                                             |
| Turning speed (rpm)        | Frequency                                               |
| Fuel level                 |                                                         |
| Battery voltage            |                                                         |
| Battery alternator voltage |                                                         |
| Operating hours            |                                                         |
| Number of start-ups        |                                                         |

#### CONTROL OF THE SET:

START AND STOP the set MANUALLY.

Possibility of doing it AUTOMATICALLY via START ON SIGNAL.

#### PROTECTION OF THE ENGINE AND ALTERNATOR, WITH THE ALARMS ACTIVATED:

| ENGINE:                                       | ALTERNATOR:                   |
|-----------------------------------------------|-------------------------------|
| Low oil pressure                              | Low and High Voltage          |
| High coolant temperature                      | Low and High Frequency        |
| Low and High battery Voltage.                 | Overload due to Intensity (A) |
| Failure of the alternator to charge batteries | Low load                      |
| Low fuel level..                              |                               |

#### OTHER CHARACTERISTICS:

|                                                                                                                                                                          |                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The real-time clock records the last 100 events.s.                                                                                                                       | Fully configurable via software and PC.                                                                                                                                                   |
| Configurable inputs and outputs.                                                                                                                                         | Communication via USB cable for remote control                                                                                                                                            |
| "DSE Net" for the connection of expansion modules. The possibilities of adapting the operation of the generator sets to the different current applications are expanded. | Programmable clock with multiple maintenance events which can be configured for optimal motor functioning. Weekly and/or monthly programming for up to 8 startups and shutdowns per week. |
| Configurable alarms and timers.                                                                                                                                          | ALTERNATIVE CONFIGURATIONS, which open up the working possibilities.                                                                                                                      |
| USB connectivity                                                                                                                                                         | DATA LOGGING. Option to display, either graphically or in editable tables, information on the genset operation.                                                                           |
| Sleep Mode                                                                                                                                                               | Option to inhibit start-up by external signal during a specific period.                                                                                                                   |
| Internal PLC editor                                                                                                                                                      | Customisable power up text and images                                                                                                                                                     |
| Fuel and start outputs configurable when using CAN.                                                                                                                      | Five key menu navigation                                                                                                                                                                  |
| Tier 4 ECO engine support including exhaust fluids & filters                                                                                                             | Backed-up real time clock.                                                                                                                                                                |
| CAN, MPU & alternator speed sensing (selectable depending on engine type).                                                                                               |                                                                                                                                                                                           |

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## 4. PROTECTIONS

| MAGNETO. PROTECTION (A) | EARTH LEAK PROTECTION  | DISTRIBUTION    |
|-------------------------|------------------------|-----------------|
| 32A, 4P                 | Electronic, adjustable | Power terminals |

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