

# STANDARD SPECIFICATIONS

#### 1. ENGINE

Kubota four(4) stroke heavy duty high performance industrial type diesel engine.

#### 2. ENGINE FILTRATION SYSTEM

- Air filter
- Fuel filter
- · Full flow lube oil filter

#### 3. COOLING RADIATOR

Radiator and cooling fan, complete with safety guards.

## 4. CIRCUIT BREAKER TYPE

- ABB 3 pole MCB.

#### 6. FUEL SYSTEM

The base-frame design is integrated with a fuel tank with a capacity of approx. 8 hours running at Full Load.

#### 7. COUPLING

The Engine and Alternator are directly coupled.

#### 8. ANTI-VIBRATION MOUNTING PADS

Anti-Vibration pads are fasten between the Engine / Alternator feet and the Base-frame.

# GENSET TYPE (TMP013)

| OUTPUT RATINGS                        | Ratings at 80% Power Factor |          |  |
|---------------------------------------|-----------------------------|----------|--|
| 230 V/ 415 V 3 ph.<br>50 Hz, 1500 rpm | Prime                       | Standby  |  |
|                                       | 19.7 KVA                    | 21.9 KVA |  |
|                                       | 15.7 kW                     | 17.5 KW  |  |

**Prime Power:** These ratings apply to producing continuous electrical power (at varying load) instead of commercially received electricity. 10% overload power is provided for one(1) hour every 12 hours of continuous operation.

**Standby Power:** These ratings apply to providing continuous electrical power (at variable load) in the case of a utility power outage. Overload is not allowed on these ratings.

# **Control Panel Details (Standard)**

| Make / Model                                   | DSE / DSE6110                              |  |  |
|--|--|--|--|
| Make / Model (Optional)                        | MEBAY / DC30                               |  |  |
| DSE6110 Metering and Alarm indications         | not limited to:                            |  |  |
| <ul> <li>Generator frequency</li> </ul>        | <ul> <li>Under-speed, Overspeed</li> </ul> |  |  |
| <ul> <li>Generator current</li> </ul>          | <ul> <li>Engine oil pressure</li> </ul>    |  |  |
| <ul> <li>Engine coolant temperature</li> </ul> | <ul> <li>Fuel level</li> </ul>             |  |  |
| <ul> <li>Battery volts</li> </ul>              | <ul> <li>Fail to start/stop</li> </ul>     |  |  |
| <ul> <li>Emergency stop</li> </ul>             | <ul> <li>Charge fail</li> </ul>            |  |  |
| Low DC voltage                                 |  |  |  |
|  |  |  |  |
| MEBAY DC30 Metering and Alarm indic            |  |  |  |
| <ul> <li>Generator frequency</li> </ul>        | <ul> <li>Under-speed, Overspeed</li> </ul> |  |  |

• Engine oil pressure

• Fail to start/stop

• Fuel level

Charge fail

- Generator current
- Engine coolant temperature
- Battery volts
- Emergency stop
- Low DC voltage

# **ENGINE TECHNICAL DATA**

| Make & Model                       | KUBOTA V2203-E2-BG  |  |  |  |
|------------------------------------|---------------------|--|--|--|
| Cylinders & Arrangement            | 4 Vertical in-line  |  |  |  |
| Bore & Stroke (mm)                 | 78 x 92.4           |  |  |  |
| Induction system                   | Naturally aspirated |  |  |  |
| Combustion                         | Indirect injection  |  |  |  |
| Cycle                              | 4 stroke            |  |  |  |
| Compression ratio                  | 22                  |  |  |  |
| Cooling System                     | Water cooled        |  |  |  |
| Displacement                       | 2.197 liters        |  |  |  |
| Lube oil capacity                  | 7.6 liters Max      |  |  |  |
| Coolant capacity                   | 8.1 liters          |  |  |  |
| Standard governor (Optional)       | Mechanical          |  |  |  |
| Engine Speed                       | 1500 rpm            |  |  |  |
| Fuel Consumption (L/H) @ 100% Load | 4.72                |  |  |  |
| @ 75% Load                         | 3.54                |  |  |  |
| @ 50% Load                         | 2.36                |  |  |  |
| @ 25% Load                         | 1.18                |  |  |  |
| Radiator Cooling Air Flow (m3/s)   | 0.64                |  |  |  |
| Emissions regulations              | EPA/CARB Tier 2     |  |  |  |
| Exhaust temperature °C (max)       | 500                 |  |  |  |
| Max exhaust gas flow (m³/min)      | 4.39                |  |  |  |
| Max. allowed back pressure (kPa)   | 7.1                 |  |  |  |

# ALTERNATOR

| Make        | Model    | No. of<br>bearings | Insulation<br>class | Total Harmonic<br>Content       | Ingress<br>Protection | Excitation<br>System | Winding<br>Pitch | AVR Model | Overspeed | Voltage<br>Regulation<br>(steady) |
|-------------|----------|--------------------|---------------------|---------------------------------|-----------------------|----------------------|------------------|-----------|-----------|-----------------------------------|
| Leroy Somer | TAL 040F | 1                  | н                   | At no load <3.5%<br>On-Load <5% | IP23                  | SHUNT                | 2/3              | R120      | 2250 RPM  | ±1%                               |

# **DIMENSIONS AND WEIGHT (OPEN TYPE)**

| Length cm | Width cm | Height cm | Weight kg | Fuel Tank (liters) |
|-----------|----------|-----------|-----------|--------------------|
| 150       | 61       | 88        | 405       | 51                 |



# **TMK020**



# STANDARD SPECIFICATIONS

#### 6. FUEL SYSTEM

The base-frame design is integrated with a fuel tank with a capacity of approx. 8 hours running at Full Load.

#### 8.2 COUPLING

The Engine and Alternator are directly coupled.

The Engine flywheel is flexibly connected to the alternator rotor.

#### 8.3 ANTI-VIBRATION MOUNTING PADS

Anti-Vibration pads are fasten between the Engine / Alternator feet and the Base-frame.

#### **8.4 SAFETY GUARDS**

The Fan and Fan Drive, as well as the Battery Charging Alternator, are Safety Guard protected for the safety of the personnel.

#### 9. FACTORY TESTS

• Before delivery, the generating set is load tested.

• Site load conditions and all protective device control functions are simulated.

• Before delivery, the generator and its systems are checked.

#### **10. EQUIPMENT FINISHING**

To provide the highest level of durability and scuff resistance, all mild steel components are completely degreased and coated.

#### **11. DOCUMENTATIONS**

- Operation & Maintenance manual,
- · Circuit wiring diagrams and,

• Commissioning accompanied with the Generator.

#### 13. WARRANTY

All of the Generating Sets are covered under a warranty policy for a period of 12 months or One Thousand Hours Run Time (1000hrs.). Warranty of the equipment is in line with manufacturers warranty terms & conditions.



TMS020 65 dBA @ 1 Meter

#### TMS020 75 dBA @ 3 Meters

### SOUND REDUCTION LEVEL:

•

- Tow(2) options are available:
  - 1. 65 dBA @ 1 meter
  - 2. 75 dBA @ 3 meters

#### TRANSPORTABILITY AND MOVEABILITY:

- Multiple points lifting facility
- Dragging points at base-frame

# **GENERAL SPECIFICATIONS**

- Unique appearance with high sound absorbing and thermal properties.
- Vertically hinged allow 180° opening rotation and retention with door stays.
- Lockable access doors which give full access to control panel and breaker.
- High quality locks and hinges.
- Internal emergency stop is standard with optional external emergency stop.
  - Full weather proof enclosure and suitable operations in harsh conditions.
- Manufactured from galvanized metal sheet for doors & louvers.

# DIMENSIONS AND WEIGHT (Closed Type 65 dBA @ 1 meter)

| Length cm | Width cm | Height cm | Weight kg (with oil and coolant) | Fuel Tank liters |
|-----------|----------|-----------|----------------------------------|------------------|
| 230       | 90       | 155       | 460                              | 40               |

## DIMENSIONS AND WEIGHT (Closed Type 75 dBA @ 3 meters)

| Length cm | Width cm | Height cm | Weight kg (with oil and coolant) | Fuel Tank liters |
|-----------|----------|-----------|----------------------------------|------------------|
| 200       | 80       | 115       | 693                              | 85               |

# **AVAILABLE OPTIONS & ACCESSORIES**

<u>We offer a variety of additional features, accessories, and other technical specifications to customize our generating sets</u> to match our customers' power requirements.

# **OPTIONS ACCESSORIES NOT LIMITED TO:**

- A variety of GenSet control and synchronizing panels
- Additional protection alarms and shutdowns
- Water fuel separator
- Water jacket heater
- Battery charger

- Genuine spare parts
- Load banks
- Auxiliary fuel tanks
- Manual & automatic transfer switches

| Der Zahrani, Nabatiyeh, Lebanon | Bir Hasan, Beirut, Lebanon    | Zango, Luanda, Angola | Palanca, Luanda, Angola | Estr. De Catete, Viana, Angola |
|---------------------------------|-------------------------------|-----------------------|-------------------------|--------------------------------|
| +961 753 1930                   | +961 182 1164                 | +244 953 399 366      | +244 923 600 112        | +244 931 922 246               |
| +961 3 377 052                  | +961 3 399 366                | +244 942 521 327      | +244 931 922 236        | +244 925 273 237               |
| info@techno-motors.com          | rayanchraim@techno-motors.com | ghchraim@gmail.com    | wifluxx@gmail.com       | mchreim@techno-motors.com      |

