

# GOLDEN MAJD Co.



| Rating @ 0.8 PF      |                    | Prime rating       | Stand-by rating     |
|----------------------|--------------------|--------------------|---------------------|
| Voltage <sup>1</sup> | Freq. <sup>2</sup> | PT 45 <sup>3</sup> | PT 50S <sup>4</sup> |
| 400 V                | 50 Hz              | 45.0 KVA           | 50.0 KVA            |
| 480 V                | 60 Hz              | 55.1 KVA           | 60.3 KVA            |

The above ratings represent the generating set capability guaranteed within  $\pm 3\%$  at the reference conditions equivalent to those specified in ISO 8528/1, ISO 3046/1 and BS 5514/1

## NOTES

- 1 - The applicable voltage is 380V to 415V for 50Hz applications and 380V to 480V for 60Hz applications.
- 2 - This generating set is of switchable speed of 1500rpm/1800 rpm.
- 3 - PT45 is the prime power rating of the generating set, where a variable load and unlimited hours usage are applied on the generating set with an average load factor of 80% of the prime rating over each 24 hour period. Noting that a 10% overload is available for 1 hour in every 12 hours operation.
- 4 - PT50S is a standby power rating of the generating set, where a variable load limited to an annual usage up to 500 hours is applied, with 300 hours of which may be continuous running. Noting that no overload is permitted.

## Engine Technical Data

|                           |                            |                          |
|---------------------------|----------------------------|--------------------------|
| Model                     | Perkins 1103A-33TG1        |                          |
| Cylinders                 | 3; vertical in-line        |                          |
| Aspiration                | Naturally aspirated        |                          |
| Combustion                | Direct injection           |                          |
| Cooling System            | Water cooled               |                          |
| Displacement              | 3.30 L                     |                          |
| Oil consumption           | 0.15 % of fuel consumption |                          |
| Lube oil capacity         | 8.30 L Max                 |                          |
| Coolant capacity          | 10.20 L                    |                          |
| Governor                  | Mechanical                 |                          |
| Emissions regulations     | TA-Luft(1986)              |                          |
| Speed                     | 1500 rpm                   | 1800 rpm                 |
| Fuel Consumption PT 45    | 10.7 L/H                   | 12.9 L/H                 |
| Fuel Consumption PT50S    | 12.0 L/H                   | 14.3 L/H                 |
| Radiator Cooling Air Flow | 53.0 m <sup>3</sup> /min   | 70.0 m <sup>3</sup> /min |
| Max Exhaust Gas Flow      | 7.0 m <sup>3</sup> /min    | 8.8 m <sup>3</sup> /min  |

The above performance data are valid as per the following specs:

- Diesel Fuel is according to BS2869 Class A2 or equivalent.
- Lubricating oil is according to API CH4 (15W/40).
- The coolant should be 50% antifreeze and 50% fresh water.

## Alternator Technical Data

|                          |                        |                        |
|--------------------------|------------------------|------------------------|
| Model                    | Leroy Somer LSA 42.3M7 |                        |
| Regulation               | $\pm 0.5\%$            |                        |
| International protection | IP23                   |                        |
| Insulation class         | H                      |                        |
| Terminals                | 12                     |                        |
| Frequency                | 50 Hz                  | 60 Hz                  |
| Coolant Air Flow         | 0.10 m <sup>3</sup> /s | 0.13 m <sup>3</sup> /s |

## Shipping Data

| Length  | Width  | Height  | Weight |
|---------|--------|---------|--------|
| 1700 mm | 770 mm | 1250 mm | 810 kg |

All information given in this leaflet is correct at the time of printing but it may be changed subsequently by the company



45 - 50S

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# 1100 Series 1103A-33TG1 Diesel Engine – Electropak

45.6 kWm at 1500 rpm  
53.9 kWm at 1800 rpm

Building upon Perkins proven reputation within the power generation industry, the 1100 Series range of Electropak engines now fit even closer to customers needs.

In the world of power generation success is only gained by providing more for less. With the 1103A-33TG1 Perkins has engineered even higher levels of reliability, yet lowered the cost of ownership.

1100A units are designed for territories that do not require compliance to EPA or EU emissions legislation. These units are able to meet TA luft legislation.

## Compact, efficient power

- 1100 Series is the result of an intensive period of customer research that has guided the development of the range
- The new 3.3 litre cylinder block ensures bore roundness is maintained under the pressures of operation. It also ensures combustion and mechanical noise is lowered
- A new cylinder head has re-established Perkins mastery of air control

## Quality by design

- Product design and Class A manufacturing improvements enhance product reliability while maintaining Perkins legendary reputation for durability

## Cost effective power

- Compact size and low noise
- Lower fuel consumption and oil use
- 500 hour service intervals
- 2 year warranty

## Product support

- Perkins actively pursues product support excellence by ensuring our distribution network invest in their territory – strengthening relationships and providing more value to you, our customer
- Through an experienced global network of distributors and dealers, fully trained engine experts deliver total service support around the clock, 365 days a year. They have a comprehensive suite of web based tools at their fingertips covering technical information, parts identification and ordering systems, all dedicated to maximising the productivity of your engine
- Throughout the entire life of a Perkins engine, we provide access to genuine OE specification parts and service. We give 100% reassurance that you receive the very best in terms of quality for lowest possible cost .. wherever your Perkins powered machine is operating in the world



| Engine Speed<br>(rev/min) | Type of<br>Operation | Typical Generator<br>Output (Net) |      | Engine Power |      |      |      |
|---------------------------|----------------------|-----------------------------------|------|--------------|------|------|------|
|                           |                      |                                   |      | Gross        |      | Net  |      |
|                           |                      | kVA                               | kWe  | kWm          | bhp  | kWm  | bhp  |
| 1500                      | Prime Power          | 45.0                              | 36.0 | 42.2         | 56.6 | 41.3 | 55.4 |
|                           | Standby Power        | 49.6                              | 39.7 | 46.5         | 62.4 | 45.6 | 61.2 |
| 1800                      | Prime Power          | 53.1                              | 42.5 | 50.5         | 67.7 | 48.9 | 65.6 |
|                           | Standby Power        | 58.7                              | 46.9 | 55.6         | 74.6 | 53.9 | 72.3 |

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS5514/1. Derating may be required for conditions outside these; consult Perkins Engines Company Limited.

Generator powers are typical and are based on an average alternator efficiency and a power factor (cos.  $\theta$ ) of 0.8 Fuel specification: BS 2869: Part 2 1998 Class A2 or DIN EN 590. Lubricating oil: 15W40 to API CG4.

### Rating Definitions

Prime Power: Variable load. Unlimited hours usage with an average load factor of 80% of the published prime power over each 24 hour period. A 10% overload is available for 1 hour in every 12 hours of operation. Standby Power: Variable load. Limited to 500 hours annual usage, up to 300 hours of which may be continuous running. No overload is permitted.

Photographs are for illustrative purposes only and may not reflect final specification.

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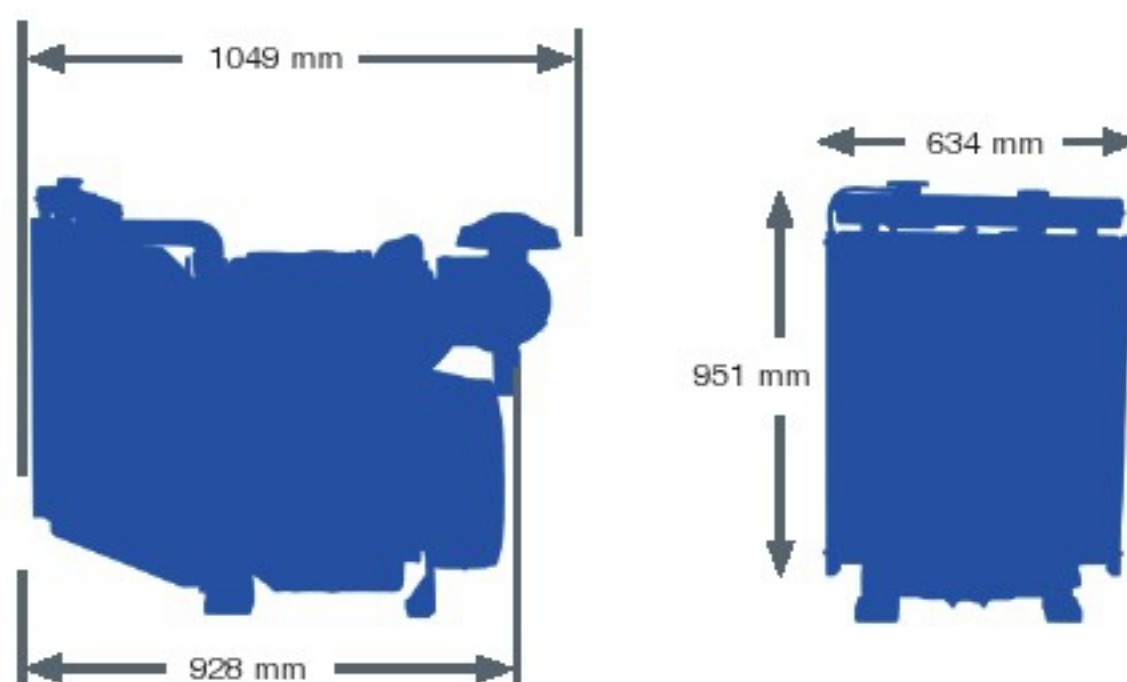
THE HEART OF EVERY GREAT MACHINE



# 1100 Series 1103A-33TG1 Diesel Engine – Electropak

45.6 kWm at 1500 rpm

53.9 kWm at 1800 rpm



## Standard Electropak specification

### Air inlet

- Mounted air filter

### Fuel system

- Rotary type pump
- Ecoplus fuel filter

### Lubrication system

- Wet sump with filler and dipstick
- Spin-on oil filter

### Cooling system

- Thermostatically controlled system with gear-driven circulation pump and belt-driven pusher fan
- Mounted radiator and piping

### Electrical equipment

- 12 volt starter motor and 12 volt 65 amp alternator with DC output
- 12 volt shutdown solenoid energised to run

### Flywheel and housing

- High inertia flywheel to SAE J620 Size 10/11½
- SAE 3 flywheel housing

### Mountings

- Front engine mounting bracket

### Literature

- User's Handbook

## Optional equipment

- Woodward electronic governor (LCG2)
- Workshop manual
- Parts book

| Fuel Consumption   |              |      |              |      |
|--------------------|--------------|------|--------------|------|
| Engine Speed       | 1500 rev/min |      | 1800 rev/min |      |
|                    | UK g/hr      | l/hr | UK g/hr      | l/hr |
| Standby            | 2.6          | 12.0 | 3.1          | 14.3 |
| Prime Power        | 2.3          | 10.7 | 2.8          | 12.9 |
| 75% of Prime Power | 1.8          | 8.2  | 2.1          | 9.9  |
| 50% of Prime Power | 1.2          | 5.7  | 1.5          | 7.1  |

## General data

|                                         |                                     |
|-----------------------------------------|-------------------------------------|
| Number of cylinders .....               | 3 vertical in-line                  |
| Bore and stroke .....                   | 105 x 127 mm                        |
| Displacement .....                      | 3.3 litres                          |
| Aspiration .....                        | Turbocharged                        |
| Cycle .....                             | 4 stroke                            |
| Combustion system .....                 | Direct injection                    |
| Compression ratio .....                 | 17.25:1                             |
| Rotation .....                          | Anti-clockwise viewed from flywheel |
| Cooling system .....                    | Water-cooled                        |
| Total lubrication system capacity ..... | 7.9 litres                          |
| Total coolant capacity .....            | 10.2 litres                         |
| Dimensions – Length .....               | 1049 mm                             |
| Width .....                             | 634 mm                              |
| Height .....                            | 951 mm                              |
| Dry weight (approx.) .....              | 420 kg                              |

Final weight and dimensions will depend on completed specification

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THE HEART OF EVERY GREAT MACHINE





**Low Voltage alternators - 4 pole**  
**LSA 42.3**

25 to 60 kVA - 50 Hz / 31.5 to 75 kVA - 60 Hz

Electrical and mechanical data



# Low Voltage alternators 4 pole 3-phase **PARTNER**

## LSA 42.3

25 to 60 kVA - 50 Hz / 31.5 to 75 kVA - 60 Hz

### SPECIALLY ADAPTED TO APPLICATIONS

The LSA 42.3 alternator is designed to be suitable for typical generator applications, such as: backup, marine applications, rental, telecommunications, etc.

### COMPLIANT WITH INTERNATIONAL STANDARDS

The LSA 42.3 alternator conforms to the main international standards and regulations:

- IEC 60034, NEMA MG 1.22, ISO 8528-3, CSA / UL on request, marine regulations, etc.

It can be integrated into a CE marked generator.

The LSA 42.3 is designed, manufactured and marketed in an ISO 9001 environment and ISO 14001.

### TOP OF THE RANGE ELECTRICAL PERFORMANCE

- Class H insulation.
- Standard 12 wire re-connectable winding, 2/3 pitch, type no. 6.
- Voltage range:
  - 50 Hz: 220 V - 240 V and 380 V - 415 V (440 V)
  - 60 Hz: 208 V - 240 V and 380 V - 480 V
- High efficiency and motor starting capacity.
- Other voltages are possible with optional adapted windings:
  - 50 Hz: 440 V (no. 7), 500 V (no. 9), 690 V (n°10)
  - 60 Hz: 380 V and 416 V (no. 8), 600 V (no. 9)
- R 791 interference suppression conforming to standard EN 55011 group 1 class B standard for European zone (CE marking).

### REINFORCED MECHANICAL STRUCTURE USING FINITE ELEMENT MODELLING

- Compact rigid assembly to better withstand generator vibrations.
- Steel frame.
- Aluminium flanges and shields.
- Two-bearing and single-bearing versions designed to be suitable for commercially-available heat engines.
- Half-key balancing two bearing.
- Permanently greased bearings (20 000h).
- Direction of rotation : clockwise and anti-clockwise (without derating).

### EXCITATION AND REGULATION SYSTEM SUITED TO THE APPLICATION

| Excitation system |        |        |        | Regulation options                  |                   |                 |                                                  |                              |
|-------------------|--------|--------|--------|-------------------------------------|-------------------|-----------------|--------------------------------------------------|------------------------------|
| Voltage regulator | SHUNT  | AREP   | PMG    | Current transformer for paralleling | Mains paralleling | 3-phase sensing | 3-phase sensing for mains paralleling unbalanced | Remote voltage potentiometer |
| R220              | Std    | -      | -      | -                                   | -                 | -               | -                                                | -                            |
| R438              | -      | Std    | Std    | C.T.                                | R726*             | R731*           | R734*                                            | √                            |
| R450              | Option | Option | Option | C.T.                                | R726*             | R731*           | R734*                                            | √                            |
| D510C*            | Option | Option | Option | C.T.                                | included          | included        | contactor factory                                | √                            |

\* Steel terminal box mounting only

√: Possible mounting

### COMPACT AND DESIGN TERMINAL BOX

- Easy access to the AVR (lid) and to the connections.
- 8 way terminal block for reconnecting the voltage.
- Predrilled holes for cable gland.
- Steel terminal box in option.

### PROTECTION SYSTEM SUITED TO THE ENVIRONMENT

- The LSA 42.3 is IP 23.
- Standard winding protection for clean environments with relative humidity ≤ 95%, including indoor marine environments.
- Options:
  - filters on air inlet : derating 5%,
  - filters on air inlet and air outlet (IP 44) : derating 10%,
  - winding protection for harsh environments and relative humidity greater than 95%,
  - space heaters,
  - thermal protection for stator windings,
  - height fixing : H = 225 mm (option) with the order.





# Low Voltage alternators 4 pole 3-phase **PARTNER**

LSA 42.3

25 to 60 kVA - 50 Hz / 31.5 to 75 kVA - 60 Hz

## General characteristics

|                  |                                                             |                                                                              |         |                   |
|------------------|-------------------------------------------------------------|------------------------------------------------------------------------------|---------|-------------------|
| Insulation class | H                                                           | Excitation system                                                            | SHUNT   | AREP or PMG       |
| Winding pitch    | 2/3 (wdg 6)                                                 | AVR type                                                                     | R 220   | R 438             |
| Number of wires  | 12                                                          | Voltage regulation (*)                                                       | ± 0.5 % | ± 0.5 %           |
| Protection       | IP 23                                                       | Short-circuit current                                                        | -       | 300% (3 IN): 10 s |
| Altitude         | ≤ 1000 m                                                    | Totale Harmonic distortion THD (**) in no-load ..... : < 2% according to IEC |         |                   |
| Overspeed        | 2250 min <sup>-1</sup>                                      | Totale Harmonic distortion THD (**) on linear load : < 4% according to IEC   |         |                   |
| Air flow         | 0.10m <sup>3</sup> /s, 50 Hz - 0.13m <sup>3</sup> /s, 60 Hz | Waveform: NEMA = TIF (**) < 50                                               |         |                   |

(\*) Steady state. (\*\*) Total harmonic distortion between phases, no-load or on-load (non-distorting).

## Ratings 50 Hz - 1500 R.P.M.

| kVA / kW - P.F. = 0.8 |     |                       |      |      |       |       |                       |      |       |       |      |                |       |       |      |      |                |      |      |      |      |
|-----------------------|-----|-----------------------|------|------|-------|-------|-----------------------|------|-------|-------|------|----------------|-------|-------|------|------|----------------|------|------|------|------|
| Duty/T °C             |     | Continuous duty/40 °C |      |      |       |       | Continuous duty/40 °C |      |       |       |      | Stand-by/40 °C |       |       |      |      | Stand-by/27 °C |      |      |      |      |
| Class/T °K            |     | H/125 °K              |      |      |       |       | F/105 °K              |      |       |       |      | H/150 °K       |       |       |      |      | H/163 °K       |      |      |      |      |
| Phase                 |     | 3 ph.                 |      |      | 1 ph. | 3 ph. |                       |      | 1 ph. | 3 ph. |      |                | 1 ph. | 3 ph. |      |      | 1 ph.          |      |      |      |      |
| Y                     |     | 380V                  | 400V | 415V | 440V  | ΔΔ    | 380V                  | 400V | 415V  | 440V  | ΔΔ   | 380V           | 400V  | 415V  | 440V | ΔΔ   | 380V           | 400V | 415V | 440V | ΔΔ   |
| Δ                     |     | 220V                  | 230V | 240V |       | 230V  | 220V                  | 230V | 240V  |       | 230V | 220V           | 230V  | 240V  |      | 230V | 220V           | 230V | 240V |      | 230V |
| YY                    |     |                       |      |      | 220V  |       |                       |      |       | 220V  |      |                |       |       | 220V |      |                |      |      | 220V |      |
| 42.3 VS1              | kVA | 25                    |      |      | 24.5  | 15    | 22.8                  |      |       | 22.3  | 13.7 | 26.5           |       |       | 26   | 15.9 | 27.5           |      |      | 27   | 16.5 |
|                       | kW  | 20                    |      |      | 19.6  | 12    | 18.2                  |      |       | 17.9  | 10.9 | 21.2           |       |       | 20.8 | 12.7 | 22             |      |      | 21.6 | 13.2 |
| 42.3 VS2              | kVA | 27                    |      |      | 26    | 16.2  | 24.6                  |      |       | 23.6  | 14.7 | 28.9           |       |       | 27.6 | 17.3 | 30             |      |      | 28   | 18   |
|                       | kW  | 21.6                  |      |      | 20.8  | 13    | 19.7                  |      |       | 18.9  | 11.8 | 23.1           |       |       | 22.1 | 13.9 | 24             |      |      | 22.9 | 14.4 |
| 42.3 VS3              | kVA | 32                    |      |      | 30    | 19.2  | 29.1                  |      |       | 27.3  | 17.5 | 34             |       |       | 31.8 | 20.4 | 35.2           |      |      | 33.0 | 21.1 |
|                       | kW  | 25.6                  |      |      | 24    | 15.4  | 23.3                  |      |       | 21.8  | 14   | 27.1           |       |       | 25.4 | 16.3 | 28.2           |      |      | 26.4 | 16.9 |
| 42.3 S4               | kVA | 35                    |      |      | 30.6  | 22    | 32                    |      |       | 27.9  | 20   | 37.1           |       |       | 32.5 | 23.3 | 38.5           |      |      | 33.7 | 24.2 |
|                       | kW  | 28                    |      |      | 24.5  | 17.6  | 25.5                  |      |       | 22.3  | 16   | 29.7           |       |       | 26   | 18.7 | 30.8           |      |      | 27.0 | 19.4 |
| 42.3 S5               | kVA | 40                    |      |      | 35    | 25    | 36.4                  |      |       | 31.9  | 22.8 | 42.4           |       |       | 37.1 | 26.5 | 45             |      |      | 38.5 | 28.1 |
|                       | kW  | 32                    |      |      | 28    | 20    | 29.1                  |      |       | 25.5  | 18.2 | 33.9           |       |       | 29.7 | 21.2 | 36             |      |      | 30.8 | 22.5 |
| 42.3 M7               | kVA | 45                    |      |      | 39    | 27    | 41                    |      |       | 35.5  | 24.6 | 48.2           |       |       | 41.3 | 28.9 | 50             |      |      | 42.9 | 30   |
|                       | kW  | 36                    |      |      | 31.2  | 21.6  | 32.8                  |      |       | 28.4  | 19.7 | 38.5           |       |       | 33.1 | 23.1 | 40             |      |      | 34.3 | 24   |
| 42.3 M8               | kVA | 50                    |      |      | 43    | 30    | 45.5                  |      |       | 39.1  | 27.3 | 53             |       |       | 45.6 | 31.8 | 55             |      |      | 47.3 | 33   |
|                       | kW  | 40                    |      |      | 34.4  | 24    | 36.4                  |      |       | 31.3  | 21.8 | 42.4           |       |       | 36.5 | 25.4 | 44             |      |      | 37.8 | 26.4 |
| 42.3 L9               | kVA | 60                    |      |      | 51.6  | 36    | 54.6                  |      |       | 47.0  | 32.8 | 63.6           |       |       | 54.7 | 38.2 | 66             |      |      | 56.8 | 40   |
|                       | kW  | 48                    |      |      | 41.3  | 28.8  | 43.7                  |      |       | 37.6  | 26.2 | 50.9           |       |       | 43.8 | 30.5 | 52.8           |      |      | 45.4 | 32   |

## Ratings 60 Hz - 1800 R.P.M.

| kVA / kW - P.F. = 0.8 |     |                      |      |      |       |      |                      |      |      |       |      |               |      |      |       |      |               |      |      |       |      |
|-----------------------|-----|----------------------|------|------|-------|------|----------------------|------|------|-------|------|---------------|------|------|-------|------|---------------|------|------|-------|------|
| Duty/T°C              |     | Continuous duty/40°C |      |      |       |      | Continuous duty/40°C |      |      |       |      | Stand-by/40°C |      |      |       |      | Stand-by/27°C |      |      |       |      |
| Class/T°K             |     | H/125°K              |      |      |       |      | F/105°K              |      |      |       |      | H/150°K       |      |      |       |      | H/163°K       |      |      |       |      |
| Phase                 |     | 3 ph.                |      |      | 1 ph. |      | 3 ph.                |      |      | 1 ph. |      | 3 ph.         |      |      | 1 ph. |      | 3 ph.         |      |      | 1 ph. |      |
| Y                     |     | 380V                 | 416V | 440V | 480V  | ΔΔ   | 380V                 | 416V | 440V | 480V  | ΔΔ   | 380V          | 416V | 440V | 480V  | ΔΔ   | 380V          | 416V | 440V | 480V  | ΔΔ   |
| Δ                     |     | 220V                 | 240V |      |       | 240V | 220V                 | 240V |      |       | 240V | 220V          | 240V |      |       | 240V | 220V          | 240V |      | 240V  |      |
| YY                    |     |                      | 208V | 220V | 240V  |      |                      | 208V | 220V | 240V  |      |               | 208V | 220V | 240V  |      |               | 208V | 220V | 240V  |      |
| 42.3 VS1              | kVA | 29.1                 | 31.3 | 31.5 | 31.5  | 18.9 | 26.5                 | 28.4 | 28.7 | 28.7  | 17.2 | 30.8          | 33.1 | 33.4 | 33.4  | 19.8 | 32            | 34.4 | 34.7 | 34.7  | 20.8 |
|                       | kW  | 23.3                 | 25   | 25.2 | 25.2  | 15.1 | 21.2                 | 22.8 | 22.9 | 22.9  | 13.7 | 24.7          | 26.5 | 26.7 | 26.7  | 15.9 | 25.6          | 27.5 | 27.7 | 27.7  | 16.6 |
| 42.3 VS2              | kVA | 29.9                 | 31.9 | 33.8 | 33.8  | 19.2 | 26.9                 | 29   | 30.7 | 30.7  | 17.5 | 31.4          | 33.8 | 35.8 | 35.8  | 20.2 | 32.5          | 35.1 | 37.5 | 37.5  | 21.1 |
|                       | kW  | 23.7                 | 25.5 | 27   | 27    | 15.4 | 21.5                 | 23.2 | 24.6 | 24.6  | 14.0 | 25.1          | 27.1 | 28.6 | 28.6  | 16.2 | 26            | 28.1 | 30   | 30    | 16.9 |
| 42.3 VS3              | kVA | 34.5                 | 38   | 40   | 40    | 22.8 | 31.4                 | 34.6 | 36.4 | 36.4  | 20.7 | 36.6          | 40.3 | 42.4 | 42.4  | 23.9 | 38            | 41.8 | 44   | 44    | 25.1 |
|                       | kW  | 27.6                 | 30.4 | 32   | 32    | 18.2 | 25.1                 | 27.7 | 29.1 | 29.1  | 16.6 | 29.3          | 32.2 | 33.9 | 33.9  | 19.1 | 30.4          | 33.4 | 35.2 | 35.2  | 20.0 |
| 42.3 S4               | kVA | 37.5                 | 40.3 | 42.9 | 43.8  | 24.2 | 33.4                 | 36.6 | 39.0 | 39.8  | 22.0 | 39            | 42.7 | 45.4 | 46.4  | 25.4 | 40.4          | 44.3 | 47.2 | 48.1  | 26.6 |
|                       | kW  | 30                   | 32.2 | 34.3 | 35    | 19.3 | 26.8                 | 29.3 | 31.2 | 31.9  | 17.6 | 31.2          | 34.1 | 36.4 | 37.1  | 20.3 | 32.3          | 35.4 | 37.7 | 38.5  | 21.2 |
| 42.3 S5               | kVA | 42                   | 46   | 49   | 50    | 27.6 | 38.2                 | 41.9 | 44.6 | 45.5  | 25.1 | 44.5          | 50   | 51.9 | 53    | 29.0 | 46.2          | 50.6 | 53.9 | 55    | 30.4 |
|                       | kW  | 33.6                 | 36.8 | 39.2 | 40    | 22.1 | 30.6                 | 33.5 | 35.7 | 36.4  | 20.1 | 35.6          | 40   | 41.6 | 42.4  | 23.2 | 37            | 40.5 | 43.1 | 44    | 24.3 |
| 42.3 M7               | kVA | 46                   | 50   | 53.5 | 56.5  | 30   | 41.9                 | 45.5 | 48.7 | 51.4  | 27.3 | 48.8          | 53   | 56.7 | 59.9  | 31.5 | 50.6          | 55   | 58.9 | 62.5  | 33.0 |
|                       | kW  | 36.8                 | 40   | 42.8 | 45.2  | 24   | 33.5                 | 36.4 | 38.9 | 41.1  | 21.8 | 39            | 42.4 | 45.4 | 47.9  | 25.2 | 40.5          | 44   | 47.1 | 50    | 26.4 |
| 42.3 M8               | kVA | 51.5                 | 56.5 | 59.5 | 62.5  | 33.9 | 46.9                 | 51.4 | 54.1 | 57    | 30.8 | 54.6          | 60   | 63.1 | 66.3  | 35.6 | 56.7          | 62.5 | 65.5 | 68.8  | 37.3 |
|                       | kW  | 41.2                 | 45.2 | 47.6 | 50    | 27.1 | 37.5                 | 41.1 | 43.3 | 45.5  | 24.7 | 43.7          | 48   | 50.5 | 53    | 28.5 | 45.3          | 50   | 52.4 | 55    | 29.8 |
| 42.3 L9               | kVA | 59                   | 65   | 69   | 75    | 39   | 53.7                 | 59.2 | 62.8 | 68.3  | 35.5 | 62.5          | 68.9 | 73.1 | 79.5  | 41.0 | 64.9          | 71.5 | 75.9 | 82.5  | 42.9 |
|                       | kW  | 47.2                 | 52.0 | 55.2 | 60    | 31.2 | 43.0                 | 47.3 | 50.2 | 54.6  | 28.4 | 50.0          | 55.1 | 58.5 | 63.6  | 32.8 | 51.9          | 57.2 | 60.7 | 66.0  | 34.3 |



## **COMPACT**

This type is specially designed for the most tight spaces where other types fail to be installed. With its modern design that uses the latest technologies in fabrication and paint, this enclosure is considered to be GHADDAR MACHINERY Co.'s best selling type ever.

### **Charasteristics:**

- > Body and components made of steel with heat-treated highly corrosive powder coating.
- > Stainless steel locks and black zinc die-cast hinges.
- > One large door on each side to allow easy access for maintenance purposes.
- > Lube oil pipe can be reached externally to allow easy drainage.
- > Radiator fill access through a special rubber cap on the top of the enclosure.
- > Special viewing window for the control panel in a lockable door.
- > Lifting points on the base frame.
- > Exhaust silencing system in the interior of the enclosure.
- > Fuel fill and battery are secured through lockable doors.
- > Emergency stop push button mounted on the exterior of the enclosure (optional).



**GHADDAR  
MACHINERY Co. S.A.L.**



## **Range**

### **9 - 60 KVA**

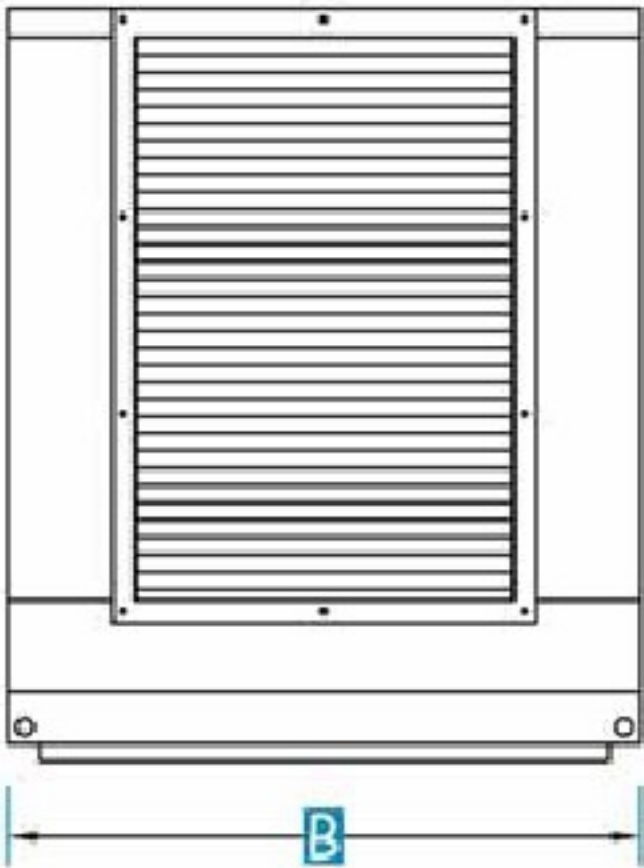
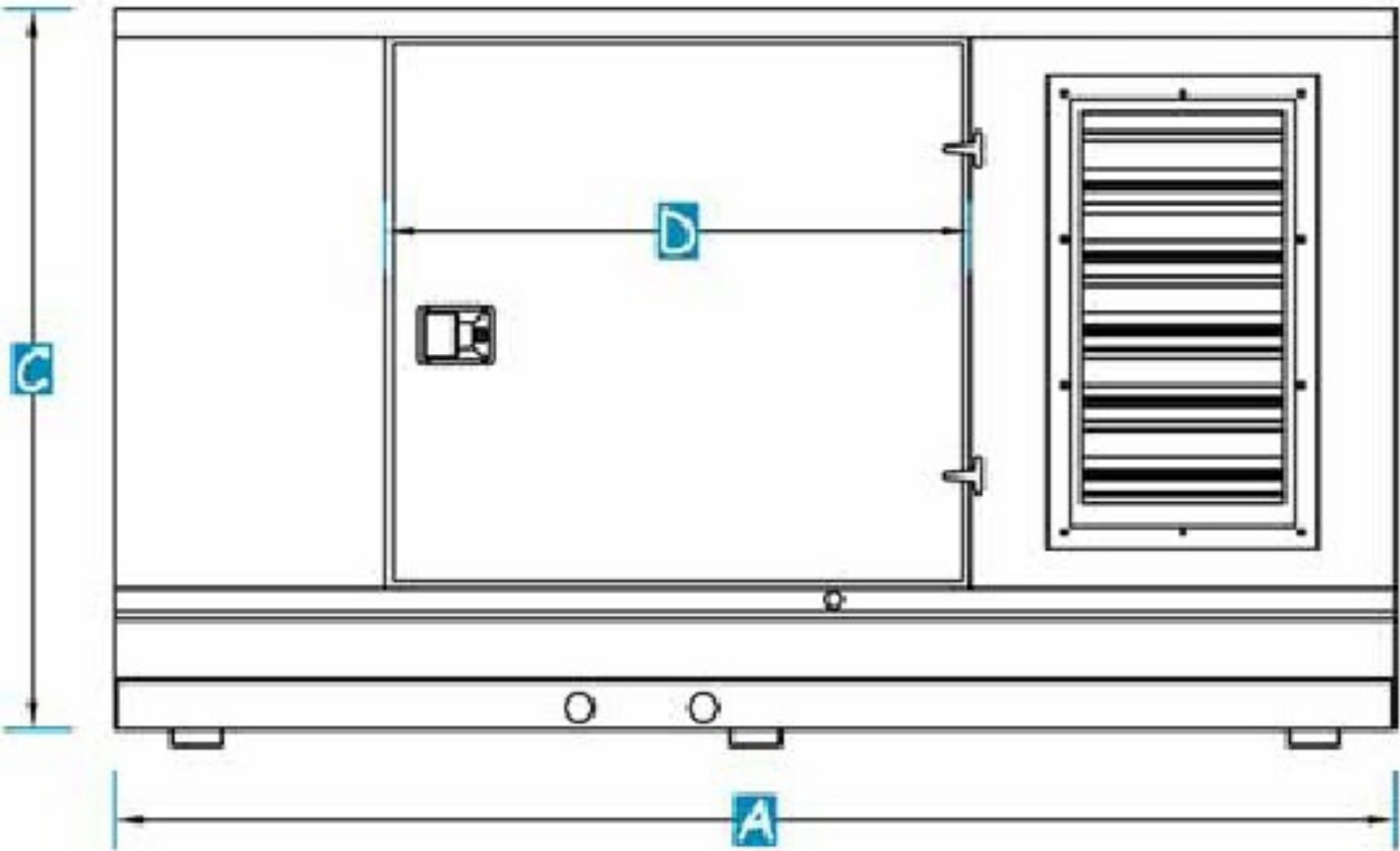


Certificate Numbers, CC1680-009512, 009912



Sound Pressure Levels (dBA)

|                |           | 50 Hz |      |      |      |      |      | 60 Hz |      |      |      |      |      |
|----------------|-----------|-------|------|------|------|------|------|-------|------|------|------|------|------|
|                |           | 1 m   |      | 3 m  |      | 7 m  |      | 1 m   |      | 3 m  |      | 7 m  |      |
| Generating Set | Powertech | 0%    | 100% | 0%   | 100% | 0%   | 100% | 0%    | 100% | 0%   | 100% | 0%   | 100% |
| Engine model   | KVA       | Load  | Load | Load | Load | Load | Load | Load  | Load | Load | Load | Load | Load |
| 403C-11G       | 9         | 72.5  | 73.8 | 69.5 | 70.8 | 64.5 | 65.8 | 74.2  | 75.5 | 71.2 | 72.5 | 66.2 | 67.5 |
| 403C-15G       | 13        | 72.5  | 73.8 | 69.5 | 70.8 | 64.5 | 65.8 | 74.2  | 75.5 | 71.2 | 72.5 | 66.2 | 67.5 |
| 404C-22G       | 20        | 72.5  | 73.8 | 69.5 | 70.8 | 64.5 | 65.8 | 74.2  | 75.5 | 71.2 | 72.5 | 66.2 | 67.5 |
| 1103A-33G      | 30        | 74.7  | 76.2 | 71.2 | 72.7 | 66.2 | 67.7 | 76.6  | 78.1 | 73.1 | 74.6 | 68.1 | 69.6 |
| 1103A-33TG1    | 45        | 73.3  | 74.8 | 69.8 | 71.3 | 64.8 | 66.3 | 75.2  | 76.7 | 71.7 | 73.2 | 66.7 | 68.2 |
| 1103A-33TG2    | 60        | 73.3  | 74.8 | 69.8 | 71.3 | 64.8 | 66.3 | 75.2  | 76.7 | 71.7 | 73.2 | 66.7 | 68.2 |



Dimensions

| Generating Set | Powertech | A: mm | B: mm | C: mm | D: mm |
|----------------|-----------|-------|-------|-------|-------|
| Engine model   | KVA       |       |       |       |       |
| 403C-11G       | 9         | 2000  | 900   | 1260  | 876   |
| 403C-15G       | 13        | 2000  | 900   | 1260  | 876   |
| 404C-22G       | 20        | 2000  | 900   | 1260  | 876   |
| 1103A-33G      | 30        | 2270  | 1100  | 1310  | 1020  |
| 1103A-33TG1    | 45        | 2270  | 1100  | 1310  | 1020  |
| 1103A-33TG2    | 60        | 2270  | 1100  | 1310  | 1020  |