

#### 1 Standards & Conditions

## **Design Standards**

The designs and the productions are in conformity with:

- Conformite Europeenne (CE)
- ISO8528-5:2005
- GB/T2820.5-2009

#### **Environmental Operating Conditions**

- Installation place: Outdoors or indoors (well ventilated).
- Ambient temperature: -25°C to 50°C. The coolant heater is needed when the temperature is below 5°C
- · Humidity: Less than 80%.
- · Altitude: Below one thousand (1000) meters.

#### **Factory Inspection**

- Inspection items.
- Protection devices working test.
- Starting ability in normal temperature.
- · 50% rated power load moment capability.
- Voltage deviation and speed variation: 0%, 25%, 50%, 75%, 100%, 110% Load.

#### **Painting Process**

- Painting process specifications and colors are based on the manufacturer's standard.
- The customer could also choose the color which the manufacturer offers.

#### 2 General Features

- Perkins engine 4016-61TRG2
- Close coupled to Leroy Somer alternator LSA52.2XL80
- Microprocessor control module PLC-500
- HV Switchgear Panel: ABB 630A
- PT Cabinet
- DC Power Cabinet
- · Rotate speed governor: Electrical governor
- Excitation System: AREP
- A.V.R. Model: R448
- Key switch
- Emergency stop switch

- 4x12V/150AH sealed for life maintenance free battery
- Lockable battery isolator switch
- · Powder coated canopy
- 50°C radiator
- Fire extinguisher
- Heat exchanger
- · Coolant heater
- Oil pump on the engine
- Steel base frame with forkslots
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Fuel tank for 6 hours running
- · Drain points for fuel tank
- · Fuel inlet pump and it's control box for the fuel tank
- · Added fuel-water separator for fuel tank
- Operation Manual / Specifications

# 3 Equipment Specification

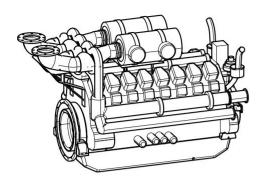
#### General technical data



Model	HV2000
Structure type	C
Fuel tank	2400L
Dry weight	24690kg
Noise level @7m	83dAB
Dimensions L×W×H	12192x2438x3153mm
Standby Power	2200kVA/1760kW
Prime Power	2000kVA/1600kW
Voltage/Ampere	6300V/183A

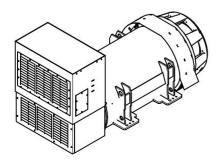
Genset Fuel Consumption						
Frequency/Load	25%	50%	75%	100%	110%	
50Hz (L/h)	111	208	306	385	425	

# **Diesel Engine**



Engine Manufacturer/Brand	Perkins
Engine Model	4016-61TRG2
Dimensions L×W×H	3302×1723×2128mm
Dry Weigh (approx.)	5570kg
Number of Cylinders	16
Bore	160mm
Stroke	190mm
Displacement	61.12L
Compression Ratio	13
Type of Injection	Direct injection
Intake System	Turbocharged
Intake Resistance	≦3.7kPa
Cooling System	Water cooled
Fan	Pusher
Battery Voltage	24V
Type of Fuel	BS2869 1998 Class A1, A2
Type of Oil	API CG4 15W/40
Oil Capacity	213L
Type of Coolant	Glycol mixture
Coolant capacity	95L
Back Pressure	≦6.6kPa
Standby Power	1985kW
Prime Power	1774kW

## **HV Alternator**



Alternator Manufacturer/Brand	Leroy Somer
Alternator Model	LSA52.2XL80
Exciter	Brushless
Cooling Fan	Cast alloy aluminum
Windings	100% copper
Insulation Class	Н
Winding Pitch	2/3
Terminals	6
Drip Proof	IP23
Altitude	≤1000m
Overspeed	2250rpm
Air Flow	2.5m³/s
Voltage Regulation	±0.5%
Total harmonic TGH / THC	< 3.5%
Telephone Interference	FHT<2%;TIF<50

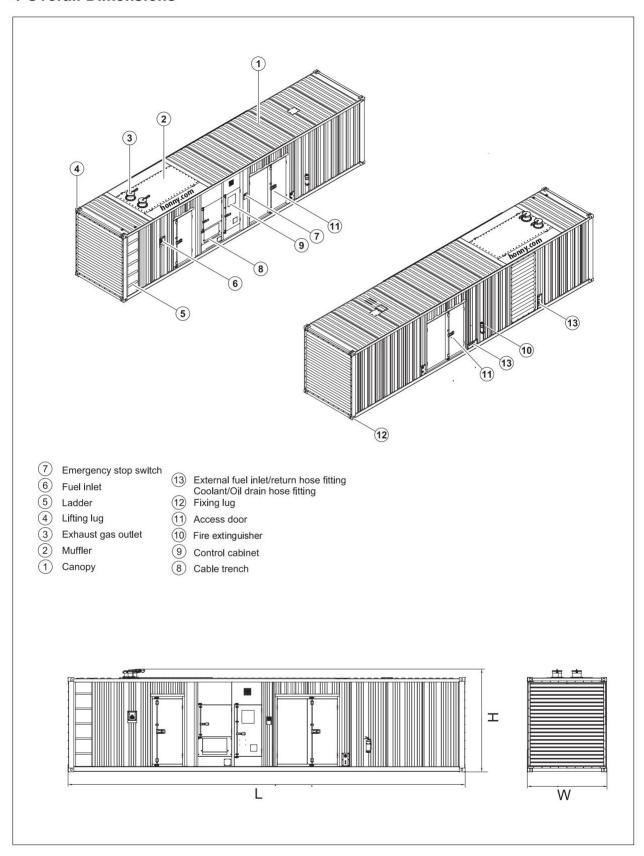
## PLC-500 Control System



PLC-500 is a microprocessor based control unit containing all necessary functions for protection of the genset and the breaker control. Furthermore, it contains all necessary three-phase measuring circuits and presents all values and alarms on the LCD display. The module has the function of load sharing which enables the module to share the active load (kW) equally when operating in parallel with other gensets. The load sharing is performed so each genset takes a portion of the load that is calculated in percent according to the nominal power.

- · Microprocessor control, with high stability and credibility
- Monitoring and measuring operational parameters of the genset
- Indicating operation status, fault conditions, all parameters and alarms
- Multiple protections; multiple parameters display, like pressure, temp. etc.
- Manual, automatic and remote work mode selectable
- RS232 & RS485 can be used at the same time
- Real time clock for time and date display, overall runtime display, 250 log entries

# **4 Overall Dimensions**



# 5 Switchgear Panel

