

SPECIFICATION



MODEL QSV450PS **QSV SERIES** **(FOR 50Hz DIESEL GENSET)**

Revision: A2 (10/22)

QS series QSV450PS

50 Hz @ 1500rpm, 3-phase/5-wiring

1 Standards & Conditions

Design Standards

The designs and the productions are in conformity with:

- Conformance Européenne (CE)
- ISO8528-5:2005
- GB/T2820.5-2009

Environmental Operating Conditions

- Installation place: Outdoors or indoors (well ventilated).
- Ambient temperature: -25°C to 45°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.

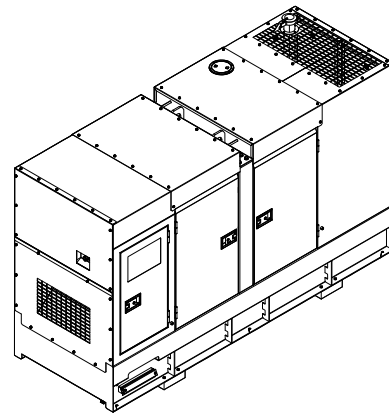
2 General Features

- Perkins engine 2506C-E15TAG1
- Close coupled to a LeroySomer alternator LSA47.3S5
- Microprocessor control module PLC-7420
- NADER main circuit breaker: 800A
- Rotate speed governor: Electronic fuel injection governor
- Excitation system: Self excited shunt
- A.V.R model: R250
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle

- 2x12V/120AH sealed for life maintenance free battery
- Lockable battery isolator switch
- Powder coated canopy
- 50°C radiator
- Oil pump on the engine
- Steel base frame with forklifts
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for 10 hours running
- Drain points for fuel tank
- Operation Manual / Specifications

3 Equipment Specification

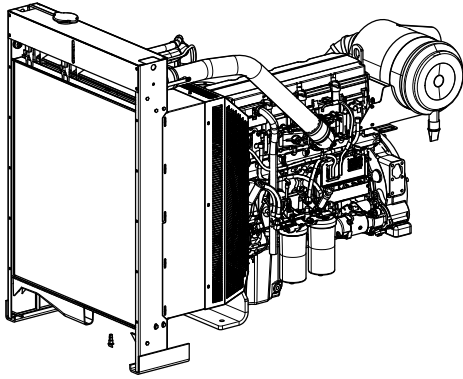
General technical data



Model.....QSV450PS
 Structure type R
 Tank capacity.....1020L
 Dry weigh.....5135kg
 Noise level @7m75.1dB(A)
 Dimensions L×W×H..... 4592x1563x2562mm
 Standby Power495kVA/396kW
 Prime Power.....450kVA/360kW

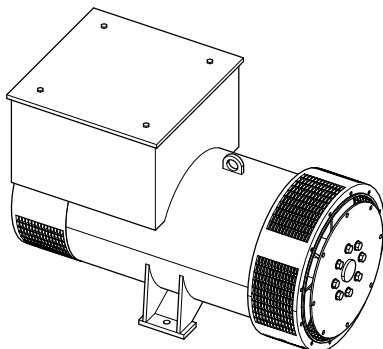
Voltage	380V	400V	415V	440V	
Ampere	683.7A	649.5A	626.1A	590.5A	
Genset Fuel Consumption					
Frequency/Load	25%	50%	75%	100%	110%
50Hz (L/h)	N/A	45.5	75.0	99.0	108.9

Diesel Engine



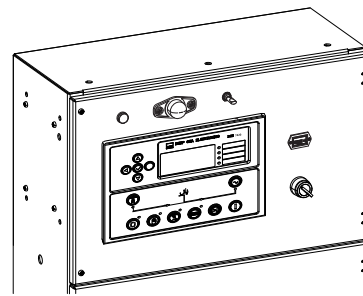
Engine Manufacturer/Brand.....	Perkins
Engine Model.....	2506C-E15TAG1
Dimensions L×W×H.....	2657×1120×1718mm
Dry Weigh (approx.).....	1633kg
Number of Cylinders.....	6
Bore.....	137mm
Stroke.....	171mm
Displacement.....	15.0L
Compression Ratio.....	16.0
Type of Injection.....	Direct injection diesel
Intake System.....	Air to air aftercooled, turbocharged
Intake Resistance.....	≤6.2kPa
Cooling System.....	Water cooled
Fan.....	Pusher
Battery Voltage.....	24V
Type of Fuel.....	BS2869 class A2 or BS EN590
Type of Oil.....	API CI4 or ACEA E5
Oil Capacity.....	62.0L
Type of Coolant.....	Glycol mixture
Coolant Capacity.....	52.0L
Back Pressure.....	≤6.8kPa
Standby Power.....	451.0kW
Prime Power.....	412.0kW
Fuel Consumption(100%load).....	99.0L/h

Alternator



Alternator Manufacturer/Brand.....	LeroySomer
Alternator Model.....	LSA47.3S5
Exciter.....	Brushless
Cooling Fan.....	Cast alloy aluminum
Windings.....	100% copper
Insulation Class.....	H
Winding Pitch.....	2/3
Terminals.....	12
Drip Proof.....	IP23
Altitude.....	≤1000m
Overspeed.....	2250rpm
Air Flow.....	0.37m³/s(50Hz),0.44m³/s(60Hz)
Voltage Regulation.....	±0.5%
Total harmonic TGH / THC at no load < 2 % - on load < 2 %	
Telephone Interference.....	THF<2%;TIF<50

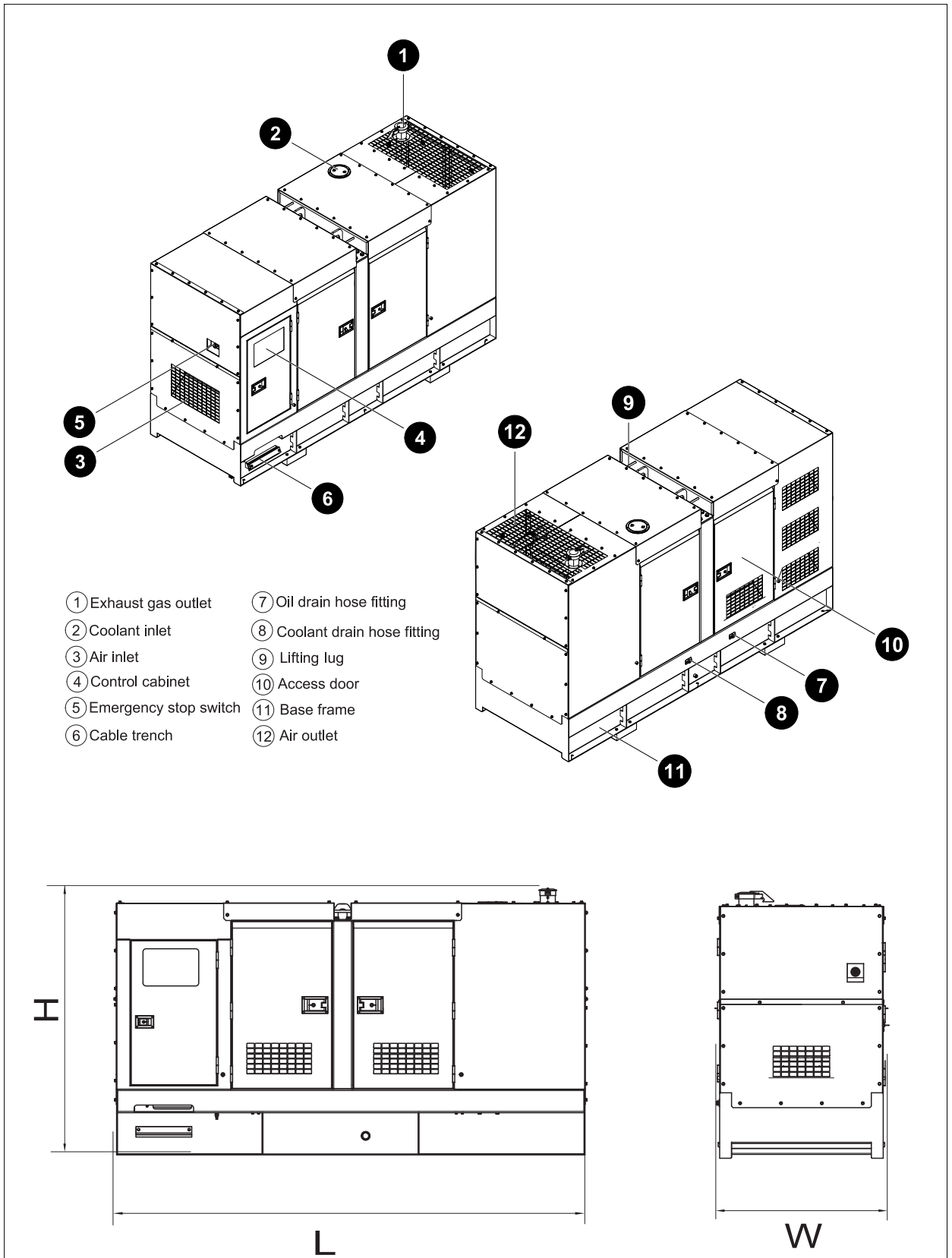
PLC-7420 Control System



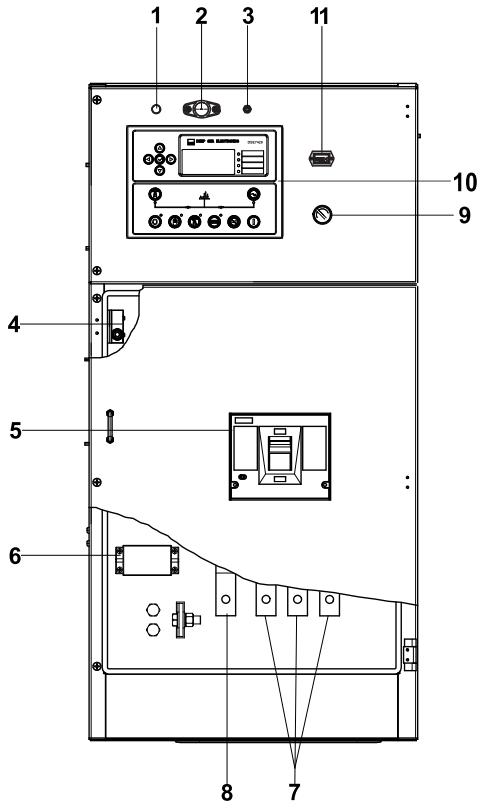
PLC-7420 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, and automatically start the engine when the mains is abnormal. Accurately measure various operational parameters and display all values and alarms information on the LCD. In addition, the control module can automatically shut down the engine and indicate the engine failure.

- Microprocessor control, with high stability and credibility
- Monitoring and measuring operational parameters of the mains supply and 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
- Real time clock for time and date display, overall runtime display, 250 log entries
- Overall power output display
- Integral speed/frequency detecting, telling status of start, rated operation, overspeed etc.
- Communication with PC via RS485 OR RS232 interface, using MODBUS protocol

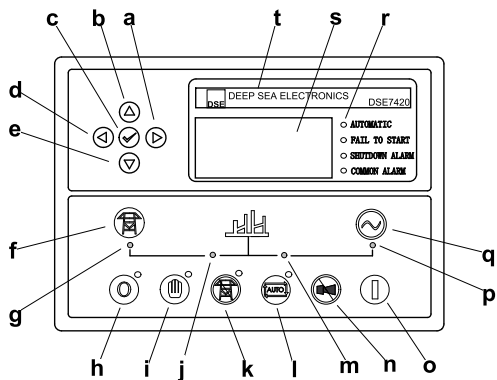
4 Overall Dimensions



6 Control System



Control & field wiring cabinet



Control module

Ref.	Description
1	Charge indicator
2	Control panel lamp
3	Control panel lamp switch
4	Limit switch
5	Main circuit breaker
6	Mains input/ remote/ AMF communication connector
7	Live wire terminals
8	Neutral wire terminal
9	Key switch
10	Control module
11	Time counter

a	Button (next page)
b	Button (increase value / previous item)
c	Button (accept)
d	Button (previous page)
e	Button (decrease value / next item)
f	Button (transfer the load to the mains supply, when in Manual mode only)
g	Mains supply available LED
h	Stop / Reset button
i	Manual button (Manual control mode)
j	Mains supply on load LED
k	Test button (Test mode)
l	Auto button (Auto mode)
m	Genset on load LED
n	Mute/Lamp test button
o	Start button (Manual)
p	Genset available LED
q	Button (transfer the load to the genset, when in Manual mode only)
r	Alarm LED (4 alarm items)
s	LCD display
t	Control module name