

# SPECIFICATION



## MODEL VR70XS-AU VR SERIES (FOR 50Hz DIESEL GENSET)

Revision: A2 (10/21)

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# VR series VR70XS-AU



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
- AS 3000-2018
- AS 3010-2017

### 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 90%.
- Altitude: Below one thousand (1000) meters above sea level.

### 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.

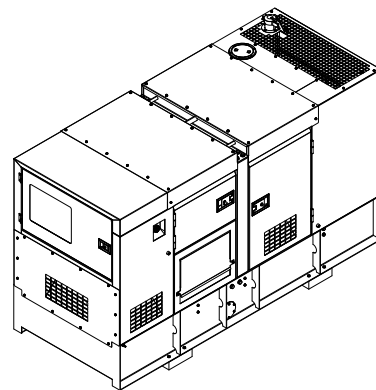
## 2 General Features

- PowerLink engine VR4-4.1TAG2
- Close coupled to PowerLink alternator PL2CL
- Microprocessor control module PLC-920
- Main circuit breaker: 125A
- Rotate speed governor: Mechanical governor
- Excitation System: Self Excited, SHUNT
- A.V.R. Model: SX440
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- Remote run connector

- 1x12V/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 with 18 hours running
- Drain points for fuel tank
- Operator's Manual / Specifications

## 3 Equipment Specification

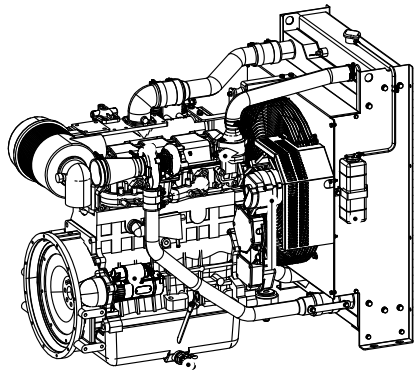
### General technical data



Model..... VR70XS-AU  
Tank capacity..... 360L  
Dry weight..... 1801kg  
Noise level @7m ..... 68dBA  
Dimensions L×W×H..... 2700x1130x1700.6mm  
Standby Power ..... 77kVA/59kW  
Prime Power ..... 70kVA/54kW

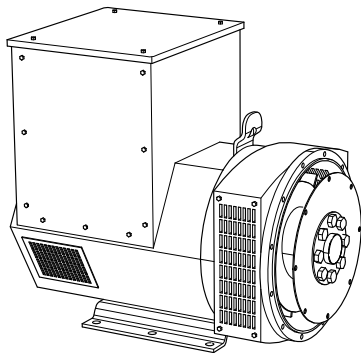
|                         |        |        |       |      |      |
|-------------------------|--------|--------|-------|------|------|
| Voltage                 | 380V   | 400V   | 415V  |      |      |
| Ampere                  | 106.4A | 101.0A | 97.4A |      |      |
| Genset Fuel Consumption |        |        |       |      |      |
| Frequency/Load          | 25%    | 50%    | 75%   | 100% | 110% |
| 50Hz (L/h)              | 6      | 10     | 14    | 19   | 21   |

Power System



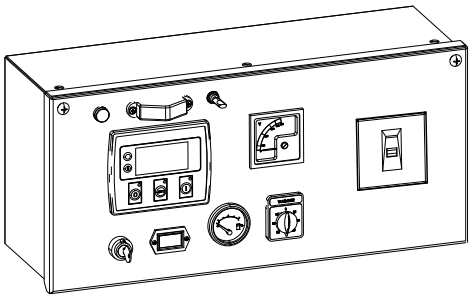
|                           |                                    |
|---------------------------|------------------------------------|
| Engine Manufacturer/Brand | PowerLink                          |
| Engine Model              | VR4-4.1TAG2                        |
| Dimensions L×W×H          | 1160×710×965mm                     |
| Dry Weigh (approx.)       | 490kg                              |
| Number of Cylinders       | 4                                  |
| Bore                      | 108mm                              |
| Stroke                    | 125mm                              |
| Displacement              | 4.1L                               |
| Compression Ratio         | 17.0                               |
| Type of injection         | Direct injection                   |
| Intake System             | Turbocharged and charge air cooled |
| Intake Resistance         | ≤5kPa                              |
| Cooling System            | Water cooled                       |
| Fan                       | Pusher                             |
| Battery Voltage           | 24V                                |
| Type of Fuel              | No.2 or ASTM D975                  |
| Type of Oil               | API CF/SE or CCMCF4                |
| Oil Capacity              | 14.0L                              |
| Type of Coolant           | Glycol mixture                     |
| Coolant Capacity          | 13.0L                              |
| Back Pressure             | ≤10.1kPa                           |
| Standby Power             | 70kW                               |
| Prime Power               | 64kW                               |

Alternator



|                                    |                        |
|------------------------------------|------------------------|
| Alternator Manufacturer/Brand      | PowerLink              |
| Alternator Model                   | PL2CL                  |
| 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                           | N/A                    |
| Voltage Regulation                 | ±1.0%                  |
| Total Harmonic TGH / THCat no load | < 1.5 % - on load < 5% |
| Telephone Interference             | THF<2%;TIF<50          |

PLC-920 Control System

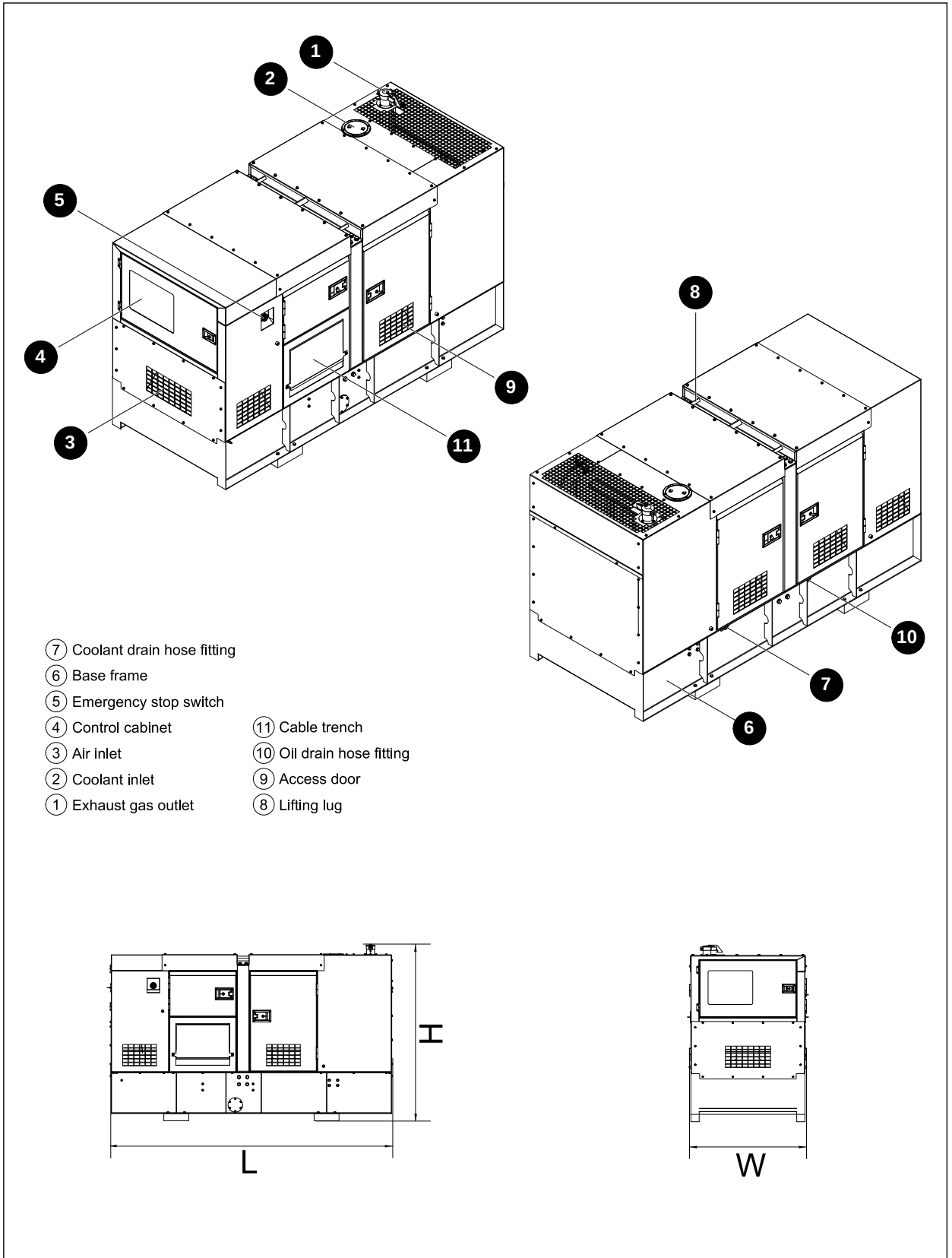


PLC-920 is an advanced control module based on microprocessor designed to control the engine via push buttons on the front panel. The module is used to start and stop the engine and indicate fault conditions, automatically shutting down the engine and giving a true first up fault condition of an engine failure.

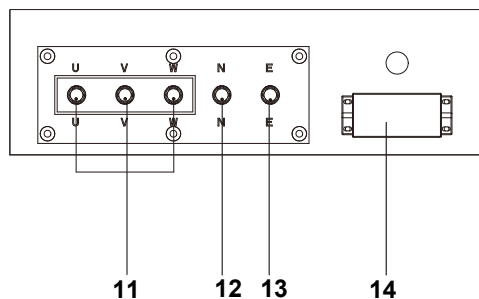
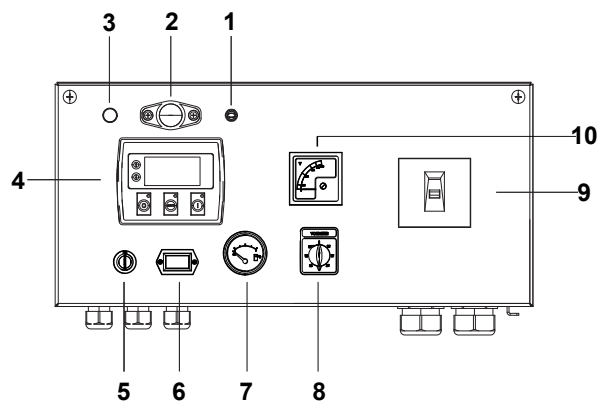
Standard Control Function

- Manual Engine Control Module
- Low Oil Pressure
- High Engine Temperature
- Auxiliary Shutdown
- Overspeed Protection
- Protection hold-off timer
- Charge Failure warning

## 4 Overall Dimensions

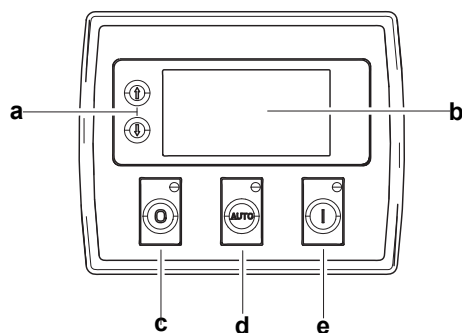


# 5 Control System



**Control & field wiring cabinet**

| Ref. | Description                                |
|------|--------------------------------------------|
| 1    | Control cabinet lamp switch                |
| 2    | Control cabinet lamp                       |
| 3    | Charge indicator                           |
| 4    | Control module                             |
| 5    | Key switch                                 |
| 6    | Time counter                               |
| 7    | Fuel level meter                           |
| 8    | Voltage change-over switch                 |
| 9    | Main circuit breaker                       |
| 10   | Voltage meter                              |
| 11   | Live wire terminals                        |
| 12   | Neutral wire terminal                      |
| 13   | Ground wire terminal                       |
| 14   | Mains input/remote communication connector |



**Control module**

| Ref. | Description                                                             |
|------|-------------------------------------------------------------------------|
| a    | Navigation button<br>Accept (Configuration mode only)                   |
| b    | Main status display                                                     |
| c    | Stop/reset button<br>Next page (Configuration mode only)                |
| d    | Auto start button<br>Decrease value/next item (Configuration mode only) |
| e    | Start button<br>Increase value/next item (Configuration mode only)      |

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**VR70XS-AU**

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