

# VP438-6A

DIESEL GENERATOR SET / OPEN + SILENT



OPEN SET



SILENT SET

438

kVA

STANDBY POWER

400

kVA

PRIME POWER

60

Hz

FREQUENCY

440/254

V

VOLTAGE

Perkins 2206A-E13TAG5

3 phase · 0.8 PF · 1800 rpm

CONFIGURATION COMPARISON

| Configuration | Dimensions (L × W × H) | Dry weight | Fuel tank |
|---------------|------------------------|------------|-----------|
| Open set      | 3320 × 1190 × 2180 mm  | 3041 kg    | 700 L     |
| Silent set    | 4400 × 1450 × 2540 mm  | 4110 kg    | 600 L     |

Performance, engine, alternator and controller data are common to both configurations.

# GENERAL CHARACTERISTICS

VP438-6A · 60 Hz · 3 Phase

## RATED PERFORMANCE

|                        |                    |
|------------------------|--------------------|
| Standby Power (kVA)    | 438                |
| Standby Power (kW)     | 350.4              |
| Prime Power (kVA)      | 400                |
| Prime Power (kW)       | 320                |
| Power Factor (Cos Phi) | 0.8                |
| Diesel Engine          | 2206A-E13TAG5      |
| Frequency (Hz)         | 60                 |
| Rated Speed (rpm)      | 1800               |
| Phase                  | 3                  |
| Standard Voltage (V)   | 440/254            |
| Available Voltages (V) | 220/127 or 480/277 |

## POWER DEFINITIONS

### STANDBY POWER (ESP)

Available for supplying emergency power during a utility interruption. The stated rating follows ISO 8528-1.

### PRIME POWER (PRP)

Available for an unlimited number of annual operating hours in variable-load applications, in accordance with ISO 8528-1.

### TERMS OF USE

Nominal power is stated at 25 °C inlet-air temperature, 100 kPa barometric pressure (100 m A.S.L.) and 30% relative humidity.

## RATED OUTPUT CURRENT BY VOLTAGE

| Rated voltage | Standby current (438 kVA) | Prime current (400 kVA) |
|---------------|---------------------------|-------------------------|
| 220/127 V     | 1149.5 A                  | 1049.7 A                |
| 440/254 V     | 574.7 A                   | 524.9 A                 |
| 480/277 V     | 526.8 A                   | 481.1 A                 |

# ENGINE DATA

Perkins 2206A-E13TAG5

## GENERAL ENGINE DATA

|                           |                                            |
|---------------------------|--------------------------------------------|
| Engine brand              | Perkins                                    |
| Engine model              | 2206A-E13TAG5                              |
| Engine type               | 4-stroke diesel                            |
| Governor type             | Eletronic                                  |
| Injection type            | Direct                                     |
| Aspiration type           | Turbocharged and Air to Air charge cooling |
| Cylinders and arrangement | 6-L                                        |

## FUEL CONSUMPTION

|               |        |
|---------------|--------|
| 100% load ESP | 91 L/h |
| 100% load PRP | 83 L/h |
| 75% load PRP  | 63 L/h |
| 50% load PRP  | 44 L/h |

## AIR SYSTEM

|                  |         |
|------------------|---------|
| Intake air flow  | 397 L/s |
| Cooling air flow | /       |

## GENERAL ENGINE DATA

|                                   |                             |
|-----------------------------------|-----------------------------|
| Bore × stroke                     | 130 × 157 mm                |
| Displacement                      | 12.5 L                      |
| Cooling system                    | Water-cooled                |
| Lube oil consumption at full load | 0.5%-1% of fuel consumption |
| Compression ratio                 | 16.3:1                      |
| Air filter                        | Dry                         |

## EXHAUST SYSTEM

|                               |         |
|-------------------------------|---------|
| Maximum exhaust temperature   | 680 °C  |
| Exhaust gas flow              | 463 L/s |
| Maximum allowed back pressure | 6.8 kPa |

## STARTING SYSTEM

|                     |        |
|---------------------|--------|
| Starting power      | 7.8 kW |
| Recommended battery | 120 Ah |
| Number of batteries | 2      |
| Auxiliary voltage   | 24 VDC |

## OIL AND COOLING CAPACITIES

|                        |        |
|------------------------|--------|
| Engine oil capacity    | 40 L   |
| Total coolant capacity | 51.4 L |

# ALTERNATOR DATA

3-phase · Brushless · Electronic AVR

## GENERAL ALTERNATOR DATA

|                                   |                                |
|-----------------------------------|--------------------------------|
| Number of phases                  | 3                              |
| Power factor (Cos Phi)            | 0.8                            |
| Poles                             | 4                              |
| Winding connections (standard)    | Star-series                    |
| Insulation                        | H class                        |
| Enclosure (according to IEC 34-5) | IP23                           |
| Excitation system                 | Self-excited, brushless        |
| Voltage regulator                 | AVR (Electronic)               |
| Number of bearings                | Single bearing                 |
| Coupling system                   | Flexible disc                  |
| Coating type                      | Standard (vacuum impregnation) |

# CONTROL MODULE

Deep Sea DSE6120



SINGLE GEN-SET CONTROL

## AMF CONTROL

Automatic mains failure controller for one gen-set, with three-phase mains and generator monitoring, flexible I/O and electronic or non-electronic engine versions.

### CORE FUNCTIONS

- |    |                                                            |    |                                                          |
|----|------------------------------------------------------------|----|----------------------------------------------------------|
| 01 | Automatic transfer between mains and generator power       | 05 | Event log for 10 events plus engine-hours counter        |
| 02 | 3-phase mains and generator voltage monitoring             | 06 | 6 digital inputs and 3 analog sender inputs              |
| 03 | Generator current monitoring and protection                | 07 | Six outputs; configuration depends on the engine version |
| 04 | CAN-engine or magnetic-pick-up/alternator-sensing versions | 08 | PC/front-panel configuration; optional IP65 front gasket |

# CONNECTIVITY

DSE6120 · Interfaces, sensing and I/O

USB                      CAN / MPU                      6 INPUTS                      6 OUTPUTS

## COMMUNICATION AND MONITORING FEATURES

- |    |                                                                  |    |                                                                     |
|----|------------------------------------------------------------------|----|---------------------------------------------------------------------|
| 01 | USB connects to DSE Configuration Suite for controller setup     | 05 | Six digital inputs and three analog senders support field signals   |
| 02 | Choose CAN-engine or magnetic-pick-up/alternator-sensing version | 06 | Four outputs are configurable on MPU/alternator version; six on CAN |
| 03 | DSE6120 includes dedicated 3-phase mains sensing                 | 07 | Remote-start input, test mode and configurable timers are included  |
| 04 | 3-phase generator voltage and current monitoring is built in     |    |                                                                     |

### ORDERING OPTIONS

#### CAN ENGINE VERSION · MPU / ALTERNATOR VERSION

Engine sensing and output configuration depend on the selected controller variant.