

MPowerPRO-100

Cummins KTA A50 v16

1000 kVA

Wet Sleeve

Gas Manifold for Hydrogen, Natural Gas and 2nd Fuel Mixing
With Multi Gas Fuel Injection and Mixing Panels

CHP and SOUND PROOF CASE

Daisy Chain parallel sync to
3MW – 12MW



NOTE

Hydrogen Fueled: Fuel injected with advanced Electronic Configuration

Background

Premium engineering for exceptional performance with Hydrogen Rotary Valve / Injection Control and Ignition Systems. Reliable, versatile, efficient-our Hydrogen Rotary Valve Fitted on QSK38 series which utilize premium engineering for exceptional performance.

These outstanding engines are equipped with a high-performance lubrication pressure fuel pumps, Modular Common Rail Gaseous Fuel System and state-of-the-art electronic controls for superior efficiency and diagnostics. (LTA) and highly efficient turbo-charging for lower cylinder temperatures, lower emissions and less fuel consumption.

Developed an outstanding range of Cummins Hydrogen Gas Fueled Generator sets, range 1MW which covers varied types of Green low carbon fuels for general and special users, including soundproof type, mobile type, containerized type, intelligent type, high voltage generators etc. Development has kept up with the pace of international environmental protection industry, independent research and developed production of gas powered (Hydrogen Gas, Ohmasa Gas, GTNT Hho Gas natural gas, liquefied Bio Gas, Biomass Gas and Biogas and so on) engines, generator sets, CHP etc.

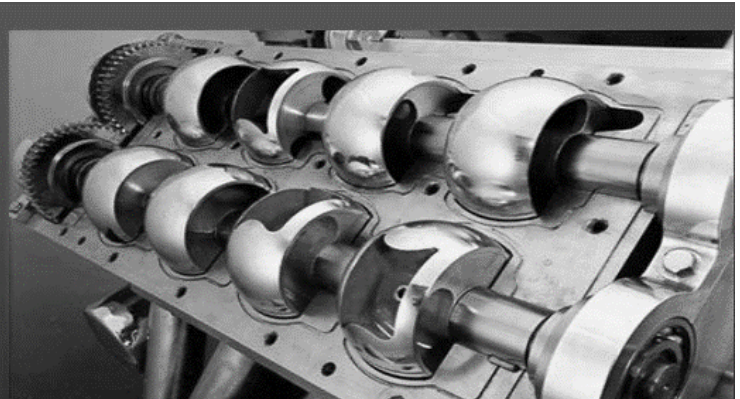
The power ranges from 1MW including the world's most advanced lean burn technical, ignition controller, rotary valves and gas mixing systems, pressure adjusting system, safety and explosion protection systems have the following characteristics such as high efficiency, easy to start and maintenance, anti-knock, completely intelligent operation etc. outstanding performance in Frack Gas and land fill gas and CHP Applications.

Each unit is strictly factory tested and tuned to each gas type prior to export.

The Coates Spherical Rotary Valve (CSRV) System

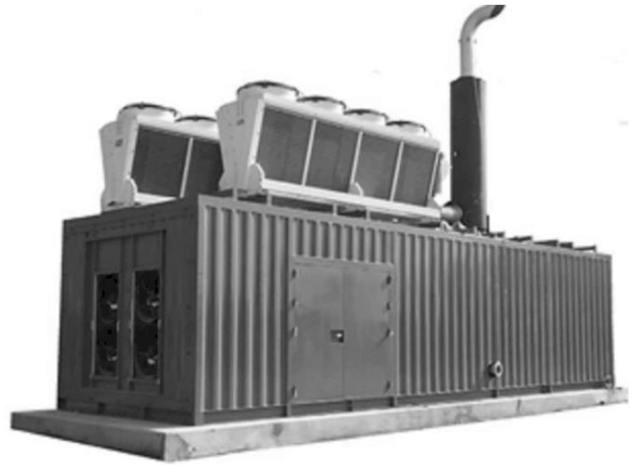
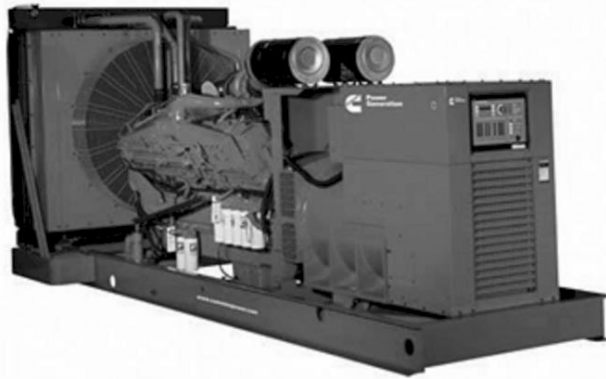
- Substantially outperforms conventional poppet valve engines
- Reduces both fuel consumption and harmful emissions
- Reduces manufacturing costs

[Learn more about the CSRV technology](#)



Open Type

Sound Proof Type



Scientific and efficient soundproof design can effectively reduce the noise of the generator to 70dB-75 dB. The use of fire-proof silencer sponge to ensure the safety of generating units.

Generator Supply Scope

High Performance dual fuel Engine.	Stable Electronic Speed Governor.
Brushless Alternator With AVR	Air circuit breaker
Digital Control Cabinet	Safely Explosion-proof System
Electromagnetic gas injection valve, Air rail	MCCB, Radiator Fan, Muffler, Air Filter
Solenoid valve, Flame arrester. Hand valve, Zero pressure valves	2 x 12V Non-Maintenance Start Batteries.
Advanced Ignition System.	Installation Accessories,
Advanced Fuel Injectors	Tool Kit & Manual Books
Governor regulation class	ISO 8528 Part 1 Class G3
Voltage regulation, no load to full load	± 0.5%
Random voltage variation	± 0.5%
Frequency regulation	Isochronous
Random frequency variation	± 0.25%
Radio frequency emissions compliance	IEC 801.2 through IEC 801.5; MIL STD 461C, Part 9

Engine Technical Parameters

Engine Model	Cummins KTA 50-G3 v16
Rated Power	1227kW 50 hz
Engine Type	V Type Four Stroke, Water cooled.
Cylinder No.	16 Direct Fuel Injected
Bore xStroke	159 x159 mm
Displacement	50.3L
Start Method	Electric
Compression Ratio	13:1 Rotatory Valve
Cooling Method	Closed Water Cooling
Aspiration Type	Turbocharged DIRECT FUEL INJECTED
Speed Governor	Electronic
Gas Mixer Formation	Pre-Mix
Lubricating oil Temperature	< 121°C
Coolant capacity	114L
Coolant feeding	Antifreeze
Thermostat opening temperature	83-95°C Max Exhaust Temp 497°C±25

Specifications

Gross Engine Output			Net Engine Output			Typical Generator Set Output					
Standby	Prime	Base	Standby	Prime	Base	Standby (ESP)		Prime (PRP)		Base (COP)	
kWm/BHP			kWm/BHP			kWe	kVA	kWe	kVA	kWe	kVA
1227/1645	1097/1470	900/1206	1192/1598	1074/1440	877/1176	1120	1400	1020	1275	842	1052

Alternator Specifications

Design	Brushless, 4 pole, drip proof revolving field
Stator	2/3 pitch
Rotor	Dynamical Balanced
Insulation system	Class H
Standard temperature rise	150 °C standby at 40 °C ambient
Stator Winding / Rotor	Double Layer Lap / Dynamically Balanced
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower
AC waveform total harmonic distortion	No Load <1.8% non-distorting balanced linear load, < 5% for any single harmonic
Telephone influence factor (TIF)	< 50 per NEMA MG1-22.43
Telephone harmonic factor (THF)	< 2%

Conform Standards

IS 4722, BS 5000, IS 1460, ISO 8528, BS 5514, ISO 3046

Rating Definitions

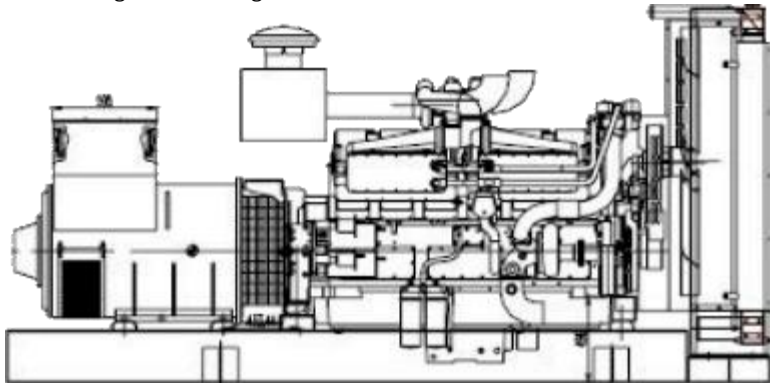
Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Dimensions & Weight

L * W * H: 5652*2274*2383 (mm)

Gross Weight: 10 053 kg



Advantage

- Low operating and maintenance costs
- Easy operation: The Secure Supplies Gas Power Generator is easy to operate.
- The Secure Supplies Gas Power Generator use most advanced lean burn technical for high efficiency
- Main parts like ECU, Gas Mixer, Injectors, etc. are origin made in USA & Italy. Woodward, Impco, Hana

Control Panel



DSE7310 Introduction:

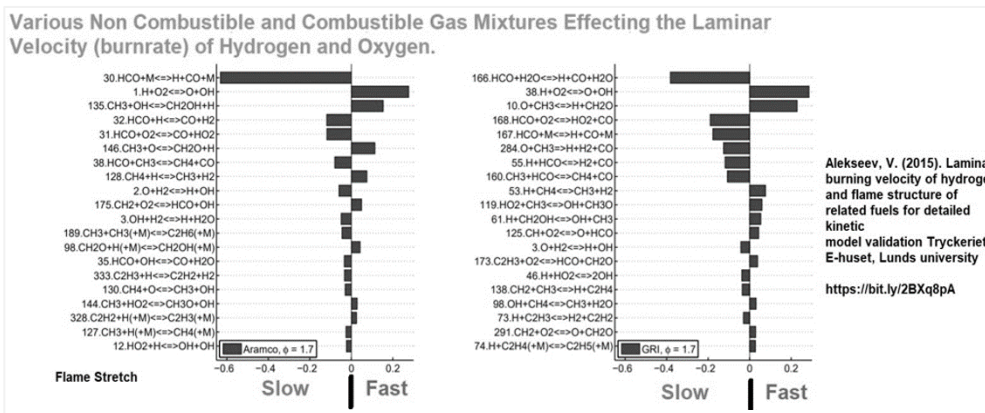
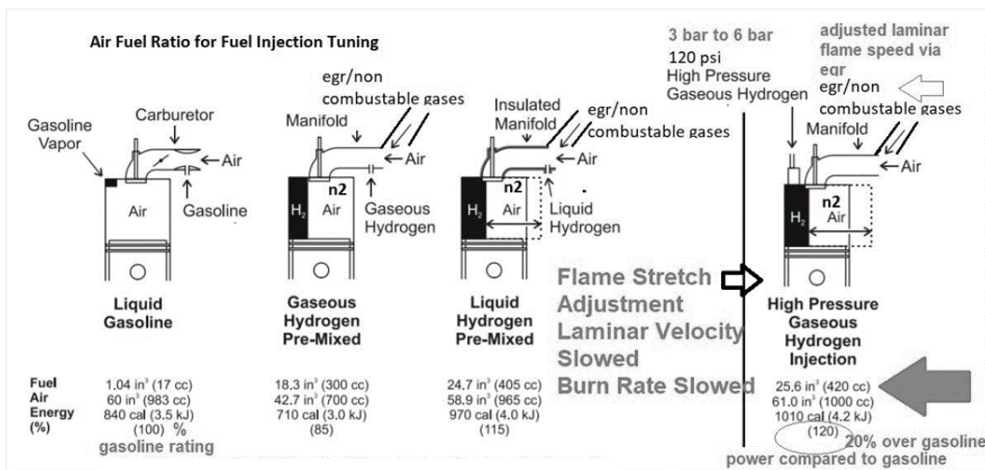
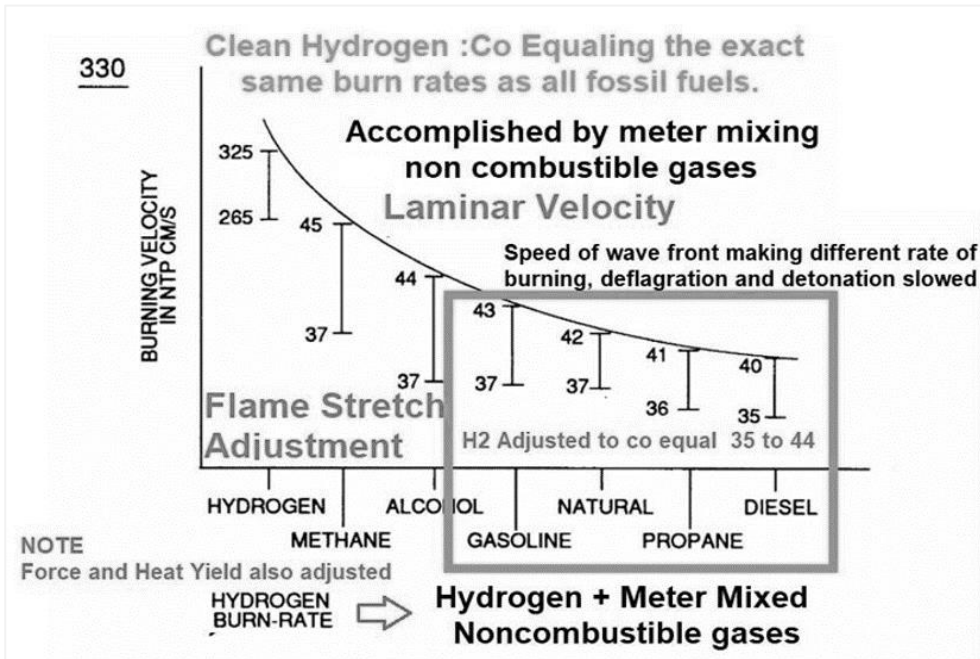
- Digital showing the generator parameters like frequency, voltage, power output, current, oil temperature, oil pressure, water temperature, etc.
- Main Protection:
 - Over Speed Shutdown.
 - Low Oil Pressure Shutdown.
 - High Water Temperature Shutdown.
 - Over load shut down
 - Charger failure alarm.
 - Start Failure Alarm

KEY FEATURES & BENEFITS	KEY BENEFITS	ADDITIONAL FEATURES
<ul style="list-style-type: none"> • Heated display option. 	<ul style="list-style-type: none"> • Ensures the display continues to operate in extreme cold weather conditions 	<ul style="list-style-type: none"> • Customizable status screens
<ul style="list-style-type: none"> • 3-phase generator and mains (utility) sensing 	<ul style="list-style-type: none"> • Provides true generator and mains (utility) sensing 	<ul style="list-style-type: none"> • Multiple date & time scheduler
<ul style="list-style-type: none"> • Power monitoring (kW h, kV Ar, kV Ah, kV Ar h). 	<ul style="list-style-type: none"> • Provides clear accurate power measurement information 	<ul style="list-style-type: none"> • Charge alternator failure alarm
<ul style="list-style-type: none"> • Remote communications (RS232 & RS485). 	<ul style="list-style-type: none"> • Provides secure and simple off-site monitoring. All ports are continuously active 	<ul style="list-style-type: none"> • CAN engine manual speed control.
<ul style="list-style-type: none"> • Configurable inputs/outputs (9/8). • CAN and magnetic pick-up sensing. 	<ul style="list-style-type: none"> • Provides multiple installation options. 	<ul style="list-style-type: none"> • Manual fuel pump control.
<ul style="list-style-type: none"> • Fuel usage monitor and low-level alarms. 	<ul style="list-style-type: none"> • Makes the module ideal for standard and electronic engine applications • Tracks the amount of fuel being used and sounds an alarm if over/under fuel use is detected 	<ul style="list-style-type: none"> • Engine exerciser. kW & kV Ar overload protection • Reverse power (kW & kV Ar) protection
<ul style="list-style-type: none"> • Tier 4 CAN engine support. 	<ul style="list-style-type: none"> • Ensures the control module can be used with the latest in modern electronic engine technology. 	<ul style="list-style-type: none"> • Unbalanced load protection
<ul style="list-style-type: none"> • Manual/automatic load transfer. 	<ul style="list-style-type: none"> • Ensures the load can be transferred manually/automatically between mains (utility) and generator power 	<ul style="list-style-type: none"> • USB connectivity.
<ul style="list-style-type: none"> • Configurable display languages. • Power save mode. 	<ul style="list-style-type: none"> • Ensures the control module is suitable for worldwide use. 	<ul style="list-style-type: none"> • Backed-up real time clock.
<ul style="list-style-type: none"> • Integral PLC editor. 	<ul style="list-style-type: none"> • Reduces the power usage within system batteries. 	<ul style="list-style-type: none"> • Configurable Gencomm pages.
<ul style="list-style-type: none"> • Flexible sender inputs. 	<ul style="list-style-type: none"> • Ensures additional applications are easily integrated into the system. 	<ul style="list-style-type: none"> • SMS messaging start & stop functionality.
<ul style="list-style-type: none"> • DSE Configuration Suite PC Software 	<ul style="list-style-type: none"> • Allows alternative sender types to be selected using one input 	<ul style="list-style-type: none"> • Modem diagnostic display screens. Remote display support (max 3 units)
<ul style="list-style-type: none"> • Configurable event log (250). 	<ul style="list-style-type: none"> • Provides complete user-friendly configuration and easy-to-use high-level system control & monitoring 	
<ul style="list-style-type: none"> • Load switching, load shedding & dummy load outputs. 	<ul style="list-style-type: none"> • Provides access to historical alarms and operational status. • Allows load options and dummy load requirements to be independently controlled 	

Hydrogen Specifications

H2 is Not Carnot Cycle

Hydrogen Burn-Rate



SERVICE LEVEL AGREEMENT TERMS (SLA) OVERVIEW

Maintenance of the full complete solution for a period of 60 months, as follows:

Engines:

3 monthly (minor service)

- Oil checks and top up
- Filters and pressure tests

12 monthly (general service)

- Spark plugs and washers
- Oil change & lubrication
- Recalibration & maintenance

60 months (major service)

Full engine refurbishes and testing

On-line monitoring

Fuel Maker:

3 monthly (test and checks)

12 monthly (NaCh top up and testing)

Fuel lines and pressure testing

On-line monitoring

Monitoring:

On-line & offline remote monitoring by external / independent company

- Pre-Alert notifications
- System warnings (Heat, Oil, Pressure, Load)
- General information (Load, usage, peaks, kw/h and Hydrogen levels)

Warranty:

General usage within the specified requirements (as listed in technical information) will hold a 2 year warranty

Disclaimers:

Overuse and abuse of the equipment will void the SLA and Warranty

Any additional load / transformers added after the installation without prior consent

Any tampering or non-approved technical work will void the SLA and Warranty