

Atrex Energy's ARP Series Remote Power Generation System is a superior solution for providing continuous, unattended power for remote or off-grid applications. This field-proven power generation system operates in the harshest conditions with high levels of fuel efficiency. Based on state of the art solid oxide fuel cell technology, these generators use commercially available natural gas or propane to produce power without external reforming. With a power output range of 150 watts to 1500 watts at 5VDC to 60VDC these DC generators offer one of the highest power densities in the smallest package.

The power generator takes natural gas or propane and, using an electrochemical process, converts the fuel's energy into DC electricity. This process does not burn or combust fuel like other power generation technologies. This electrochemical process allows the generator to be inherently more efficient so it can deliver more usable energy for the same amount of fuel. In addition, as load requirements drop, the generator will "follow the load" and throttle back fuel consumption. Increased fuel efficiency translates into lower fuel consumption and reduced refueling visits resulting in significant cost savings.

Because the Atrex Energy generators do not burn fuel, the only emissions are small amounts of water vapor and CO₂. No harmful NO_x or SO_x emissions contribute to air pollution. A state of the art User Interface Panel with touchpad and LED screen increases the ability to remotely monitor, control and adjust system parameters, reducing site visits. An industrial grade computer and 4G communication system improves on-line availability to systems deployed in the field.

Atrex Energy offers a feature rich system with a full complement of options and accessories that allow user optimization to meet custom requirements. This flexible and highly efficient power generation system can be used in a wide variety of applications in the harshest conditions while delivering an attractive Total Cost of Ownership.

Applications:

- **Oil & Gas** – Cathodic Protection, SCADA & Instrumentation, Chemical Injection Pumps, Valve Actuation
- **Telecom & Radio** – Off-grid Microwave and Broadband Repeater Stations, Radio Transmitters, Cellular Base Stations
- **Rail** – Signaling and Control
- **Environmental Monitoring** – LIDAR, SODAR, Meteorology Stations
- **Mining & Construction** – Lighting, Surveillance



User Interface Panel



Key Benefits

Competitive Total Cost of Ownership

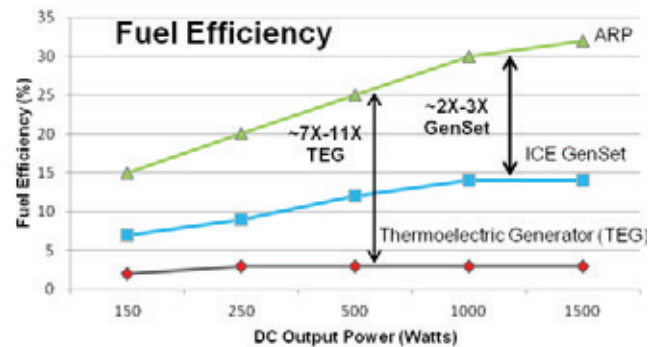
Natural gas and propane models

High efficiency = low fuel consumption = significant fuel savings

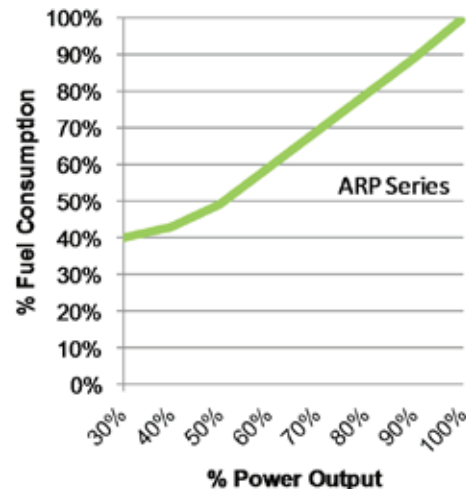
Remote monitoring and control

Quiet, safe, clean with minimal emissions = Green

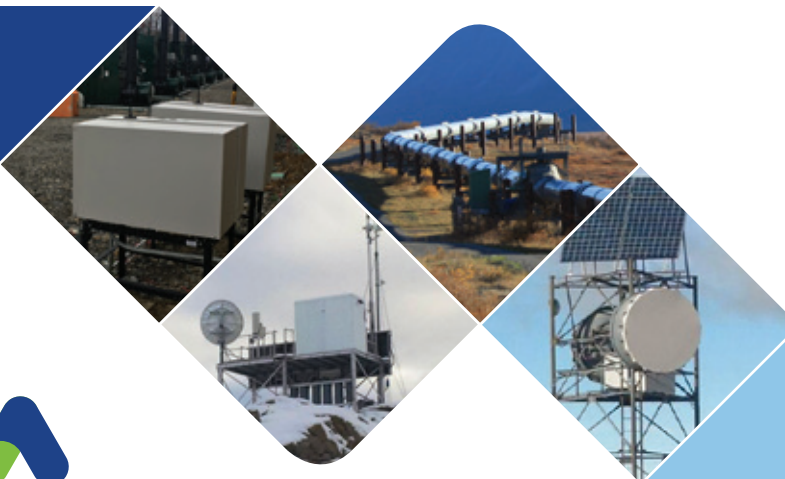
CSA Certified to FC-1 standard



Fuel Consumption vs Power Output



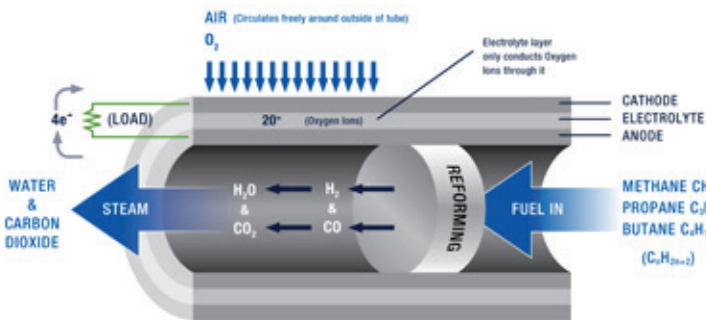
Atrex Energy provides clients with money-saving, smart and reliable power solutions.



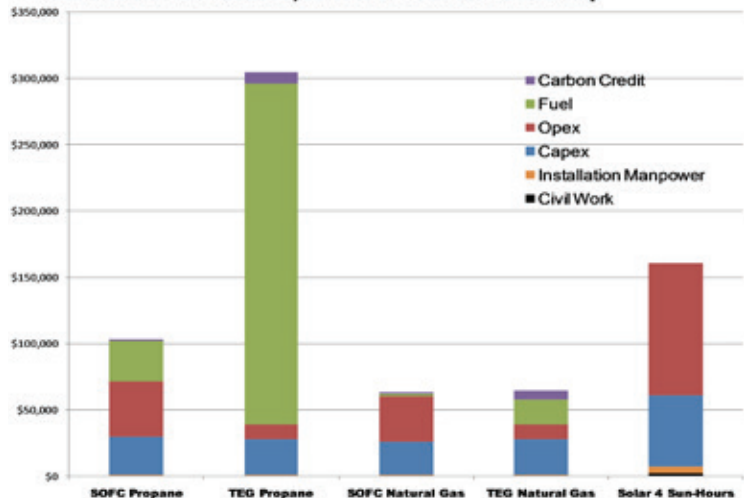
	ARP500	ARP1000	ARP1500
Electricity Efficiency	~30%	~30%	~32%
DC Output Power Min/Max ¹	150W / 500W	300W / 1000W	450W / 1500W
DC Output Voltage	5-60VDC	5-60VDC	5-60VDC
DC Output Current Max ²	100A	100A	100A
Operating Modes	Current Control (CC), Voltage Control (VC), Battery Charge (Bx, x=12, 24 or 48VDC)		
Start-up Time to Max Output Power	<60 minutes		
Propane Fuel Series P/N ³	ARP500Px	ARP1000Px	ARP1500Px
Natural Gas Fuel Series P/N ³	ARP500Nx	ARP1000Nx	ARP1500Nx
CSA Certification Available	Yes	Yes	Yes
Fuel Cell Inlet Supply Pressure	1 psig - 5 psig (6.9kPa - 34.5kPa)		
Fuel Supply Pressure with High Pressure Regulator Kit (RP-HWN/RP-HWP)	5 psig - 125 psig (35.5kPa - 861.8kPa)		
Max Sulfur Content	<100ppmw (70mg/m3), Refer to Fuel Specification FM367 for more details		
Max Water Content	<2500ppmw for standard system, non-condensing at operating temperature & pressure		
Fuel Consumption-Propane (HD5)	1.6G/day (6.0L/day)	2.9G/day (11L/day)	4.3G/day (16.3L/day)
Fuel Consumption-Natural Gas	140ft ³ /day (3.9m ³ /day)	260ft ³ /day (7.4m ³ /day)	380ft ³ /day (10.8m ³ /day)
Operating Temperature	-40°C to +50°C (-40°F to +122°F)		
Storage Temperature	-40°C to +55°C (-40°F to +131°F)		
Humidity	5% to 95% (non-condensing)		
Operating & Storage Altitude	CSA: 0 to 8,000 feet (2,438 meters), for altitudes higher than 8,000 feet consult Atrex		
Unit Dimensions (H x W x D)	26" x 22" x 39" (66cm x 56cm x 99cm)	26" x 28" x 39" (66cm x 71cm x 99cm)	
Unit Weight	293lbs (133kg)	351lbs (160kg)	358lbs (163kg)
Shipping Dimensions (H x W x D)	45" x 46" x 38" (114cm x 117cm x 97cm)	48" x 46" x 38" (121cm x 117cm x 96cm)	
Shipping Weight	359lbs (163kg)	419lbs (190kg)	426lbs (194kg)
Noise Levels (at 1m)	52dBA		
Propane Fuel Connection to ARP-HWP / Fuel Cell	1/2" FNPT / 1/4" FNPT		
Natural Gas Fuel Connection to ARP-HWN / Fuel Cell	1/2" FNPT / 1/4" FNPT		
Modes of Communication	1) Cellular, 2) Customer Private Network, 3) SCADA, 4) User Interface Panel and 5) Local RJ45 Connection		
Electrical Interface	Terminal Block 2/0 - 8 AWG		
Enclosure IP Category	IP23		
Enclosure Construction	powder coated galvanized steel		
Warranty	12 Months after Installation or 13 months after Date of Shipment		

¹ - Lower DC Output available with Load Resistor option
² - Current will also be limited by maximum output power of unit
³ - x = CSA Certification (C = CSA Certified, U = non CSA Certified)

Solid Oxide Fuel Cell SOLID STATE (CERAMIC) CONSTRUCTION



500-watt Continuous Load, 10-Year Total Cost of Ownership



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