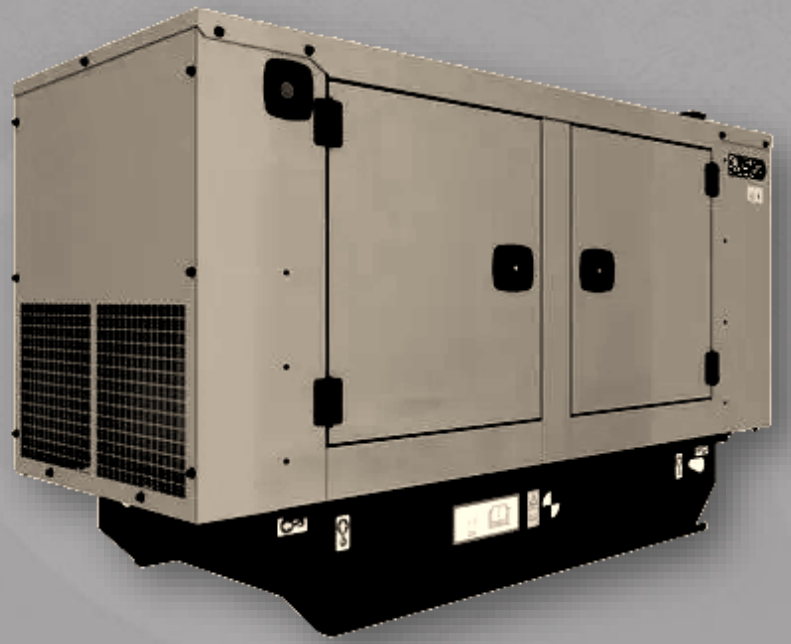
Efficient Modulated Power Generation

A Smart Solution for Off-Grid Power Supply

Jason LaValley, CEO
LaValley Industries

Standard Generator



- Noisy
- Inefficient / High Emissions
- Wet stacking problems under light loads
- Load shedding can be unreliable
- No output flexibility
- Low initial cost

Standard Generator

Constant
Speed Engine

Asynchronous
Alternator
Generator

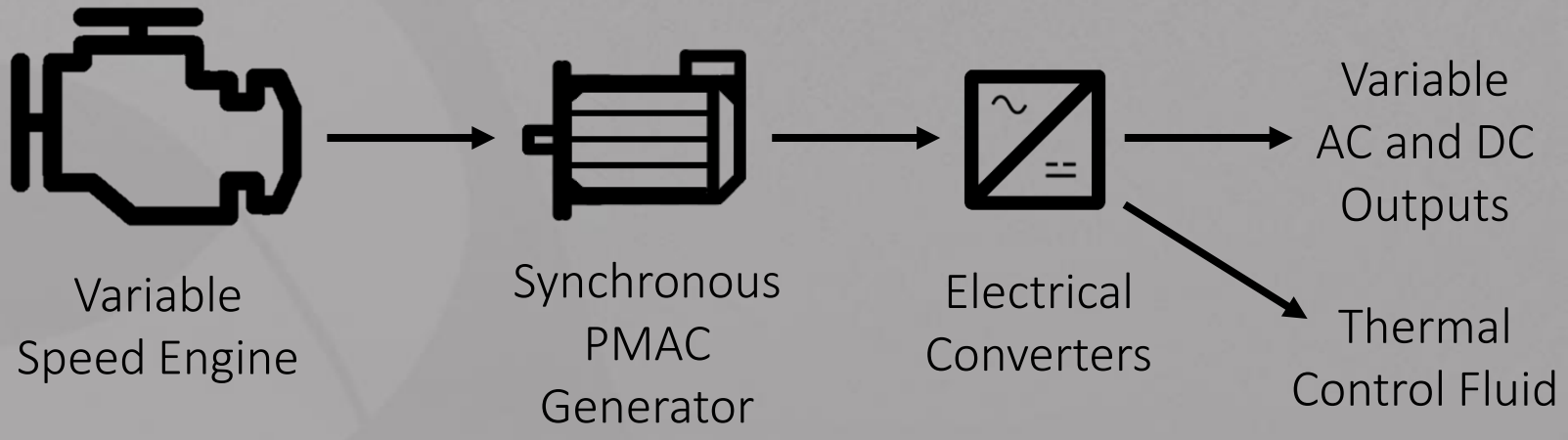
EMP Generator

Efficient Modulated Power

- High Performance
- Quiet
- Efficient / Low Emissions
- Variable Speed
- Modularity
- Connectivity
- Co-Generation

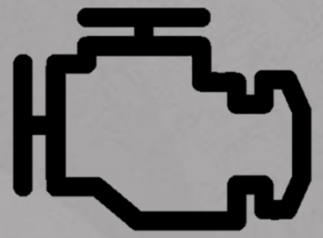
EMP Generator

Efficient Modulated Power



EMP Generator vs. Standard Generator

Standard Generator

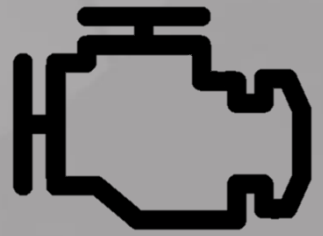


Constant
Speed Engine

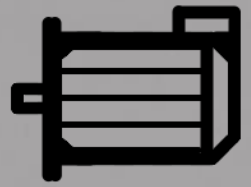
Asynchronous
Alternator
Generator

Standard AC
Outputs

EMP Generator



Variable
Speed Engine



Synchronous
PMAC
Generator

Electrical
Converters

Variable
AC and DC
Outputs

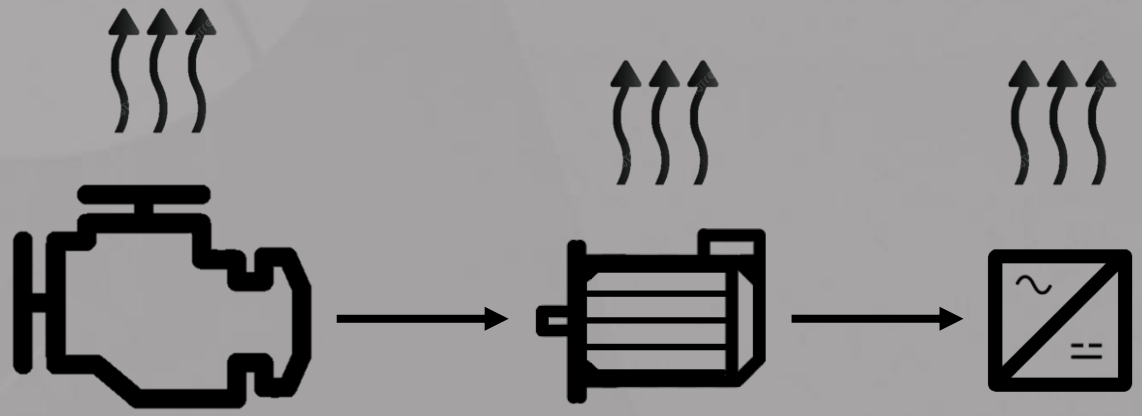
Thermal
Control Fluid

EMP Generator

High Efficiency Co-Generation

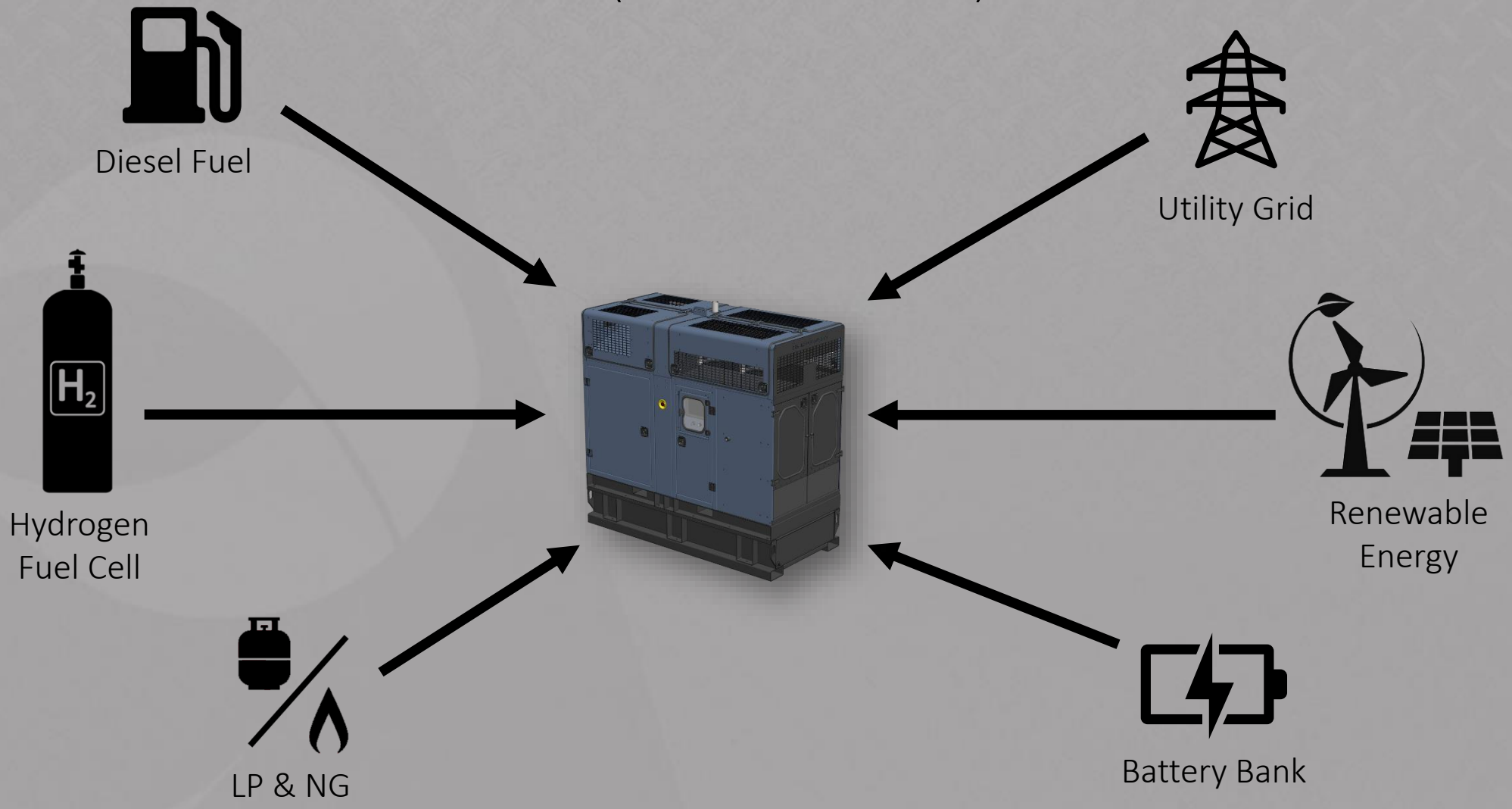
Liquid Cooling/Heating Module

Thermal Control Fluid System



EMP Generator

Power In (Power Conversion)



EMP Generator

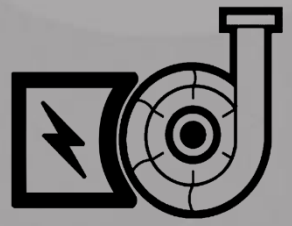
Power Out (Power Supply)

Electric Mobile Equipment

EV Equipment Fast Charging

Standard Jobsite AC Power

Large Jobsite Equipment



EMP Electrified Implements

Battery Storage

EMP Generator

Proof of Concept

Fig. 11

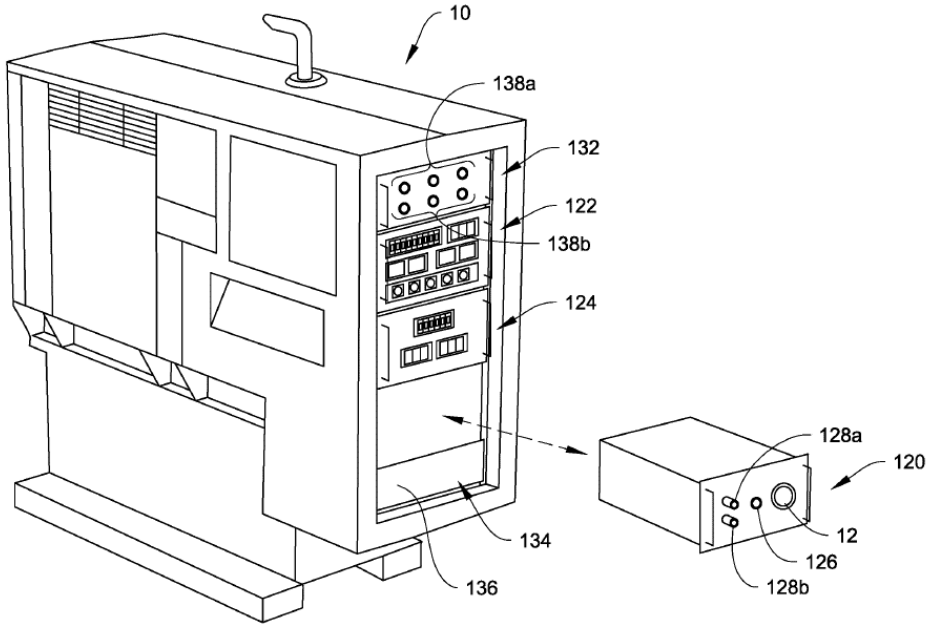
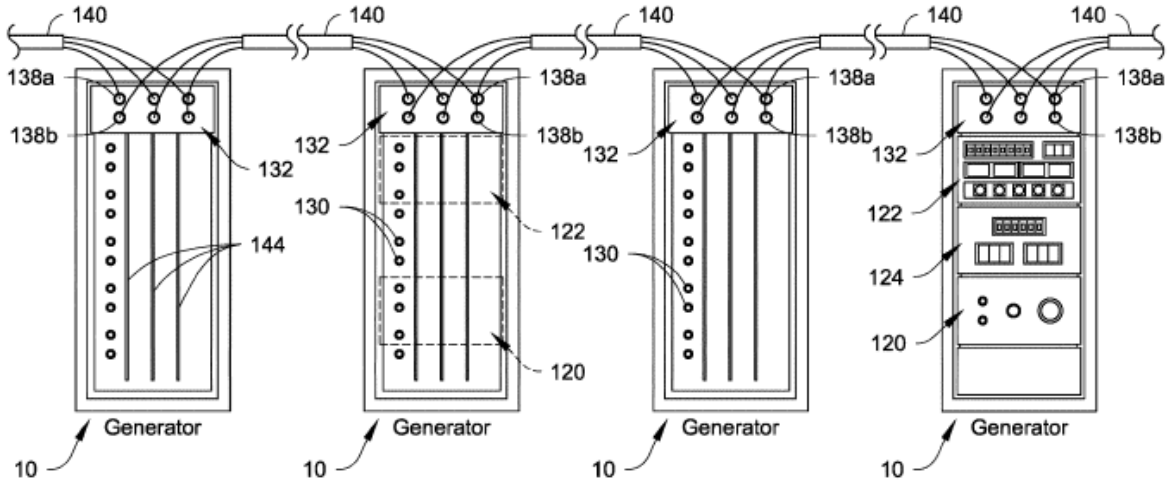


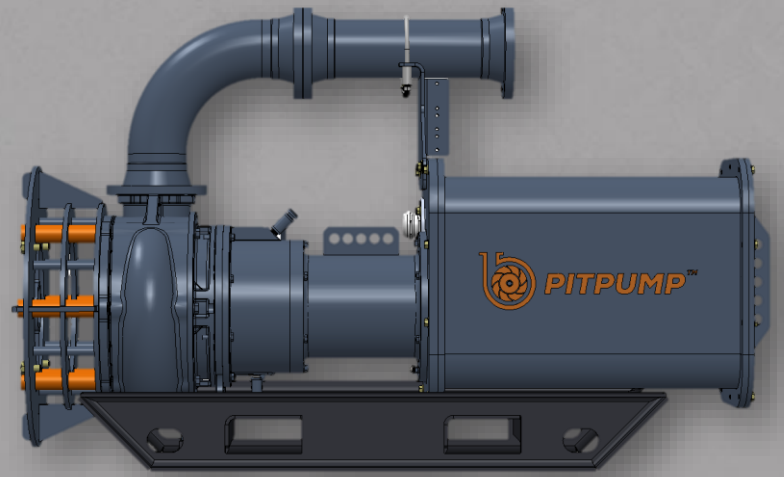
Fig. 14



EMP Generator

Proof of Concept

EMP40



PITPUMP™

EMP Generator & PITPUMP

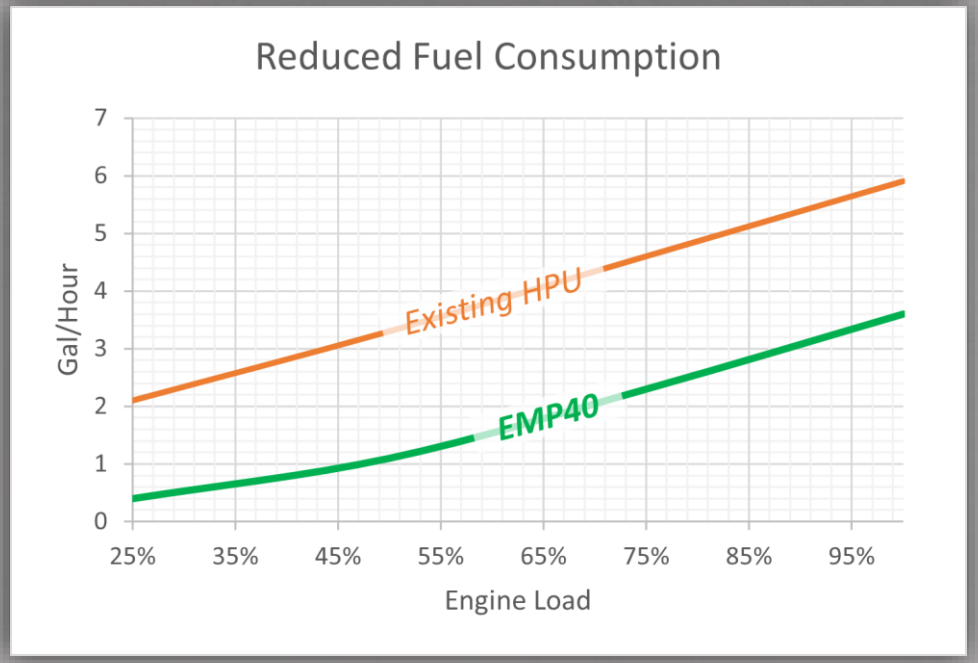
Thousands of hours of testing and field data collected

EMP40

PITPUMP™

EMP Generator & PITPUMP

Reduced fuel consumption by over 50%



EMPOWER™

A LAVALLEY INDUSTRIES COMPANY

Thank You!

LaValley Industries

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EMP Generator

Future Possibilities