

# AFR2 air-fuel ratio control for Waukesha VHP rich-burn gas engines

## Conversion, Modification & Upgrade Offering

### Product description

The next generation of the Waukesha\* VHP\* rich burn air-fuel ratio control (AFR2) integrates with ESM\* for unmatched emissions performance. It utilizes a fuel control valve between each regulator and carburetor and includes a wide band pre-catalyst O<sub>2</sub> sensor calibrated for a wide variety of gaseous fuels for more stable operation through fuel swings. AFR2 has been designed and enhanced for Waukesha's product line, enabling better and improved out-of-the-box performance.

### Product details

- New wiring harnesses using new serviceable connectors (see harness fact sheet)
- New gas regulator(s) if applicable
- New wideband O<sub>2</sub> sensor(s)
- New ambient temperature/humidity/barometric pressure sensor package
- New fuel control valve(s) replace stepper motors
- New HMI to replace previous ESM display panel
- Allows easy future upgrade to the emPact\* system if desired
- Includes new single fuel inlet piping for Extender Series engines
- Includes differential pressure wastegate system

### Customer benefits

- Intuitive Human Machine Interface (HMI) touchscreen simplifies operator adjustments by eliminating tedious lambda and O<sub>2</sub> sensor voltage calculations. Initial setup in five simple steps directed by HMI.
- Automatic response to changes in load, speed, fuel, and ambient conditions, helping to keep emissions minimized without manual intervention.
- Fuel control valve provides fast response to changes in ambient and operating conditions which reduces shutdowns from delayed system response.
- Redesigned harness simplifies fault troubleshooting and maintenance, reducing downtime from potential harness failure.
- Up to twice the O<sub>2</sub> sensor life of legacy systems.
- New HMI allows seamless integration and logging of ESM and AFR2 data and fault codes.

### Applicable VHP\* units

L7042GSI	✓
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Fuel control valve



Harness



O<sub>2</sub> sensor



HMI Touchscreen



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