

RCV™ GAS MIXING SYSTEM



The RCV™ is a combination of flow meters specifically designed to monitor and control the ratio of two gases. The RCV™ requires a Waukee Ratio Control Valve and two FLO-TRONIC Flo-meters. The Ratio Control Valve utilizes a micro-processor that continuously compares a preset ratio to the real time ratio of the two gas flows as measured by the FLO-TRONIC Flo-Meters. Using a stepper motor, the Ratio Control Valve continuously adjusts the flow metering needle-valve to precisely maintain the preset gas ratio. The real-time ratio is continuously displayed on the front window of the Ratio Control Valve. Included in Waukee's Ratio Control Valve is an optional input for the addition of a trim gas, which is frequently used for process control. Trim gas addition is additive to the ratio. When trim gas is used, the continuously displayed real-time ratio then includes the trim gas addition.

General Specifications:

- Preset Ratio is set remotely or locally at the keypad
- For precision ratio, valve is controlled with PID parameters
- The Ratio Control Valve is available on all 28 Waukee meter sizes
- Process Parameters are entered utilizing a sealed membrane keypad
- Valve utilizes precision needle and orifice designed to SAE standards
- Optional Trim Gas (4-20mA) input to improve process control
- RCV™ requires two meters:
 - Gas I: Flo-Meter with a Ratio Control Valve and Flo-Tronic
 - Gas II: Flo-Meter with a Flo-Tronic
- Electronic instrumentation operating Temperature -32°F to 150°F, gas temperature can be higher
- Ratio Control Valve is short-circuit protected and requires an external 24 VDC, 2 Amp supply
- Contacts provided for positive shut-off solenoid

Minimum Ordering Information

- Gases to be measured
- Specific Gravity of gases
- Gas Temperature Pressure Max Flow-Inlet / Outlet Pipe Size
- Scale Units

Flow meters for the RCV™ are built then individually calibrated to ±3.5% of full-scale reading based on customer specifications.

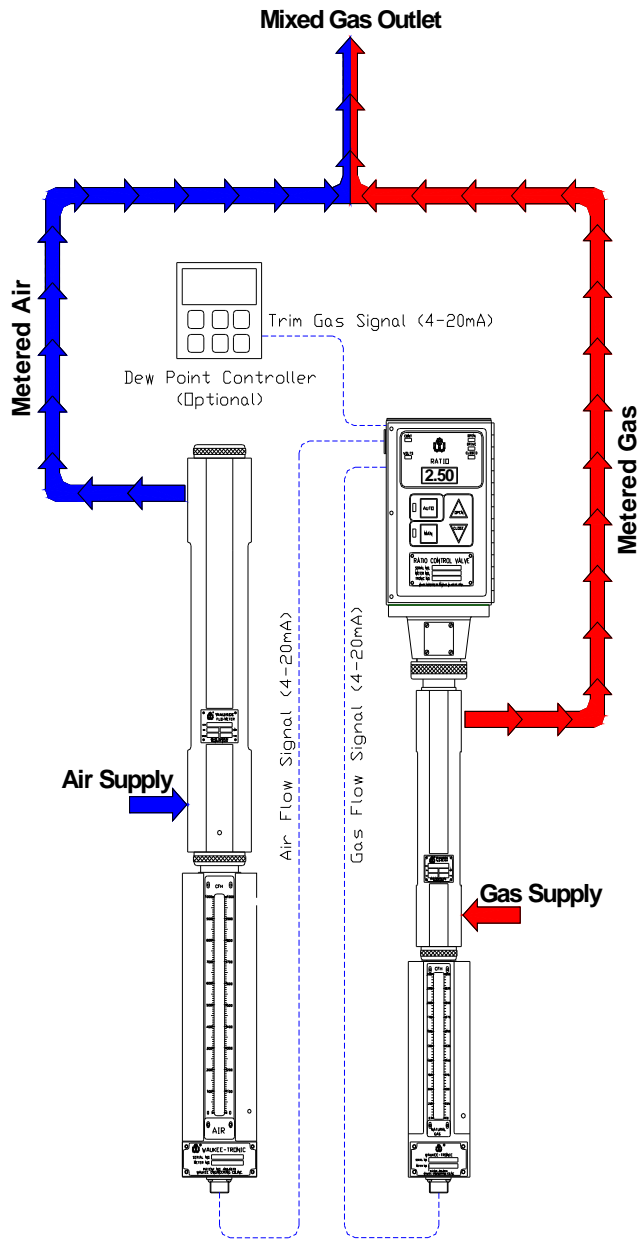
Written Calibration Certification when requested with order

Benefits:

- Large Graphics Display provides instant notice of important information such as Actual ratio, Set-point ratio, Trim Added, Valve position, Alarms, and diagnostic messages
- Ethernet with Modbus TCP allows for easy integration with control systems
- One (1) Analog 4-20mA output for retransmission of Actual ratio or totalized flow
- Three (3) programmable digital outputs and one (1) digital input
- Simple and intuitive programming menus
- CE Certified

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To achieve $\pm 3.5\%$ of the full scale range, each of the RCV™ two Flo-Meters are calibrated to their metering gases' specific gravity (SP), maximum pressure at flow rate and operational temperature.



Ratio Metering Valve

- Controls ratio over full flow scale range allowing flow turn down
- Set Ratio either remotely or locally at the key pad
- Continuously displays real-time gas ratio
- PID needle valve metering control

Options:

- Flush Panel mounting of the RCV™ system by Waukee Engineering provides trouble free installation. The RCV™ is fully piped, wired and process flow tested to the designed flow rate by Waukee's ISO/IEC 17025:2005 accredited lab.
- The RCV™ system can be combined with a Waukee Gas Compressor/Booster providing a fully integrated system for your application. The RCV™ and compressor are fully piped, wired and flow tested to the designed flow rate assuring a trouble-free startup.
- If a custom system is needed for integrating all furnace/generator controls, please contact Waukee Engineering for a customized package.



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