

The image shows an industrial facility with several large vertical storage tanks. Three tanks on the left are painted red, while the one on the right is grey. A network of yellow pipes and railings runs across the scene. The ground is covered in gravel. In the background, there are some smaller structures and a clear blue sky. The overall scene is brightly lit, suggesting a sunny day.

# Total Vapor Control

**CIMARRON**  
ENERGY

**Engineered  
Environmental Equipment**

## ***COMPLETE SITE VAPOR SOLUTION***

Emissions from oil and produced water storage vessels at oil and gas production sites are now regulated under the Clean Air Act. Operators with storage vessels having the potential to emit more than 6 tons of volatile organic compounds (VOC) annually must reduce these emissions by at least 95%. VOC emissions result from the pressure reduction of the liquids into the atmospheric tanks (“flashing”), loading and discharging of the tanks, and temperature changes of the fluid inside the vessels.

There are two solutions. Capture and recompress the vapors or incinerate them. Operating conditions and economics drive your decision.

### ***Cimarron Energy can help. We offer a complete line of services and equipment, including:***

- Estimation of potential emissions and recommended economic solutions
- Vapor recovery towers (VRT) to capture vapors prior to delivery to the storage vessel
- Vapor recovery units (VRU) to recompress captured vapor for sale or further use
- EPA Certified enclosed combustors to incinerate storage tank or truck loading emissions and serve as a backup to a VRU
- Experienced field service teams to aid and support your operation in achieving its environmental goals



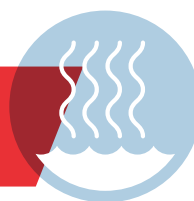
# VAPOR RECOVERY TOWERS



Cimarron manufactures vapor recovery vessels to capture vapor emissions from produced oil and condensate. These low pressure vessels (typically 3-5 psig) allow for final flashing of vapors prior to storage. The gas and vapor can be used as onsite burner fuel, moved to the sales line using a VRU, or incinerated in Cimarron's EPA certified enclosed combustors. Towers are designed in a variety of sizes to provide the required liquid and flashing capacity.



# VAPOR RECOVERY UNITS



Vapor recovery units (VRU) are a skid-mounted solution for capturing flash gas from storage tanks, a VRT, or other sources on a location where pressure reduction is needed to stabilize fluids or assist in production efficiency. A VRU has the capability to maintain a tank or vessel to pressures in ounces and compress the gas into a pipeline or booster compressor at pressures up to but not limited to 250 psig. One of the outstanding features of our Vapor Recovery Control system is the PLC driven Recycle valve. This system allows the unit to stay running during the low breakout period and quick response time when production peaks. Our recycle system is also instrumental in our ability to offer a 75% turndown ratio. VRUs can be used for tank vapors, pressure reduction, casing pressure reduction, plunger assist and in many other applications. We offer natural gas or electric driven packages as well as a cold weather package.

## VRU STANDARD UNIT FEATURES

- Up to 95% reduction in emissions
- Oil Flooded Screw Compressor
- PLC Driven Recycle System
- VFD Controlled Electric driven packages
- Control Panel W/PLC
- Suction Scrubber W/ Integral Blow Case (ASME Code)
- Discharge Coalescer (ASME Code)
- Oil Cooler
- Carbon Steel Skid



# Standard unit capabilities



## SCG-8

Suction pressure: 0-8 PSI

Discharge pressure: 0-100 PSI

Flow Rate: 10-120 MCFD

## SCG-10

Suction pressure: 0-8 PSI

Discharge pressure: 0-100 PSI

Flow Rate: 75-300 MCFD

## SCG-14

Suction pressure: 0-8 PSI

Discharge pressure: 0-100 PSI

Flow Rate: 150-550 MCFD

Flow rates and operating pressures are subject to change due to gas composition and the altitude of the location. Please consult your salesperson for engineered simulations for your application. We offer units that can handle higher volumes and pressures upon request. We also specialize in custom built units that can handle high H<sub>2</sub>S and multiple inlet pressure streams.

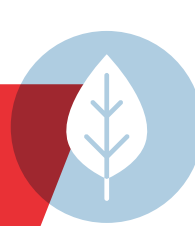
## OPTIONS

- Oil Pump
- Discharge Cooler
- Liquids Pump
- Heated Enclosure
- Class I, Division II



**EPA CERTIFIED**

# ENCLOSED COMBUSTORS

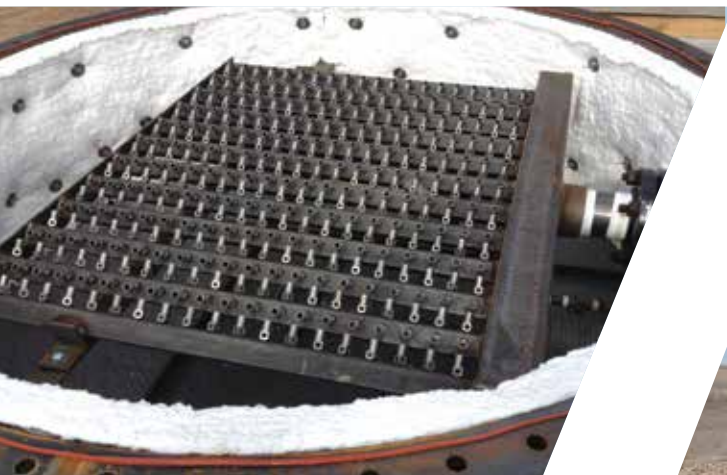


Cimarron's enclosed combustion units provide a clean, safe, and efficient solution for eliminating tank vapors and ensuring regulatory compliance. Their performance has been proven to exceed the US EPA's strict requirements with a greater than 99% destruction rate. Designed for both low and high volume applications, the enclosed flares are easy to install and require little ongoing maintenance. Ignition systems include automation capability and data logging features. Standard models have flame cells ranging from 24" to 60", with capacity of 2,000 to 75,000 SCFD. The larger high volume units contain four 24" flame cells and can accommodate up to 150,000 SCFD. ECDs typically operate at pressures of 1 to 12 oz/in<sup>2</sup>.



## DESIGN FEATURES AND OPTIONS

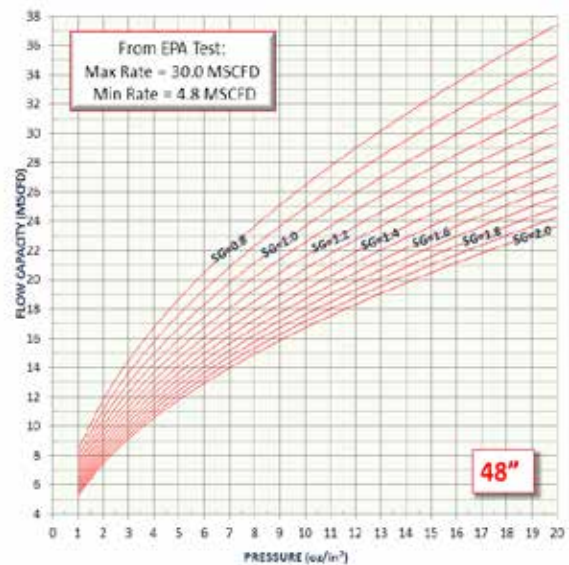
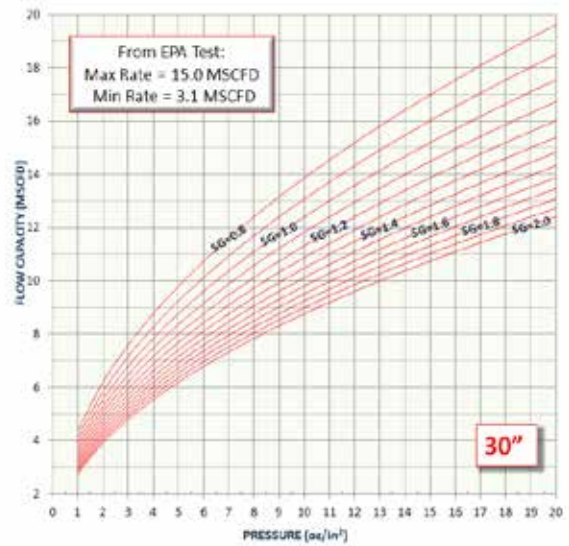
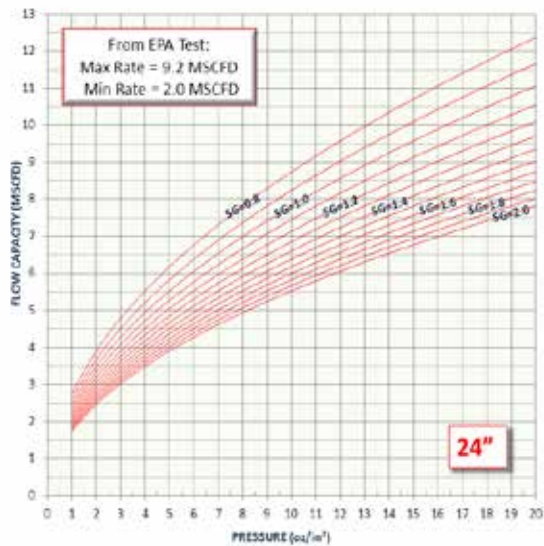
- Five Models Manufacturer Performance Tested as per NSPS 0000 §60.5413(d)
- Demonstrated VOC Destruction Efficiency >99%
- Eliminates the requirement for in-field testing to demonstrate continuous compliance.
- Solar powered BMS and data logging functions
- Cimarron actuator package for low flow and flameout shutdown
- Drip tank for free liquid removal
- User friendly and easy to install

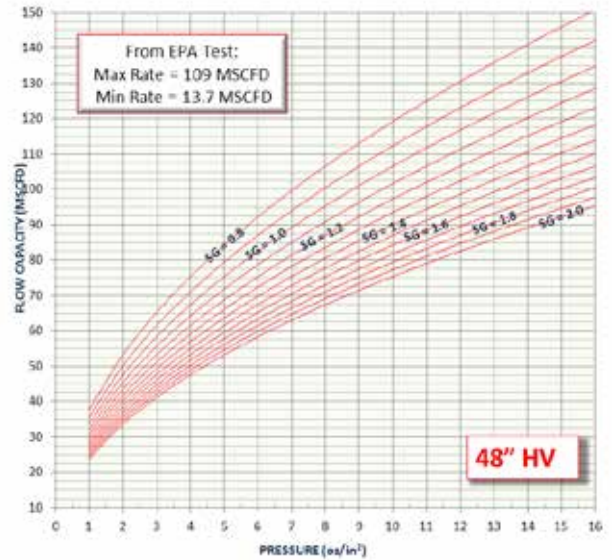
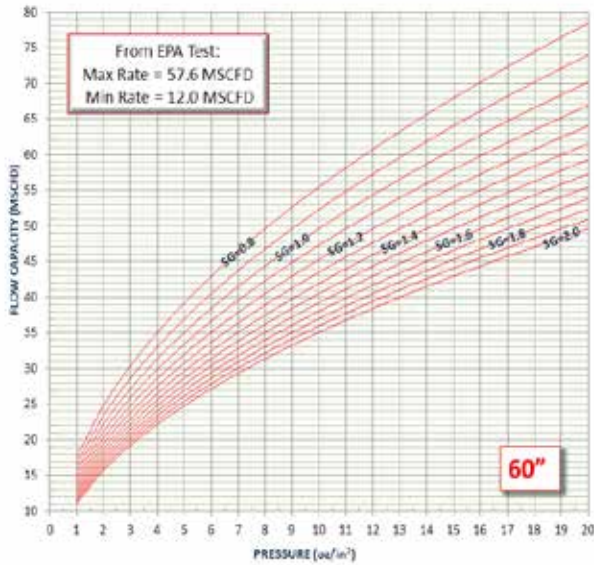


*All five models were approved by the EPA in December 2014 as "Manufacturer Tested" under Quad O guidelines.*



# Enclosed Combustors Capacity Based on Vapor Density and Pressure





## Available Options

<b>ARC BURNER MANAGEMENT AND IGNITION SYSTEMS</b>	ARC—BASIC LIGHT AND RELIGHT FUNCTIONALITY. FLEXIBLE AND EASY TO UPGRADE.
	ARC HYBRID—UPGRADE TO THE ARC SYSTEM. FACILITATES INLET GAS SHUTDOWN IN THE EVENT OF A PILOT FAILURE. REQUIRES ACTUATOR OPTION BELOW.
	ARC SAU—UPGRADE TO THE ARC SYSTEM. ALLOWS FOR LOW FLOW CONDITION SHUTDOWN AND ALLOWS TANKS TO BUILD PRESSURE. STANDARD SETUP IS 2 OZ CLOSURE AND 5 OZ OPEN. RANGES ARE ADJUSTABLE AND CAN BE MODIFIED IN THE FIELD. REQUIRES ACTUATOR OPTION BELOW.
<b>STANDARD DRIP POT</b>	24" X 48" W/ 4" FNPT CONNECTIONS. LIQUID CAPACITY 90 GAL.
	20" X 36" W/ 3" FNPT CONNECTIONS. LIQUID CAPACITY 46 GAL.
	16" X 36" W/ 3" FNPT CONNECTIONS. 5' HEIGHT. LIQUID CAPACITY 29 GAL.
	16" X 36" W/ 3" FNPT CONNECTIONS. 7' HEIGHT. LIQUID CAPACITY 29 GAL.
<b>CUSTOM DRIP POT</b>	REQUIRED SIZE/CONNECTIONS/CAPACITY
<b>CIMARRON "SENTRY" DATALOGGER</b>	USB PORT FOR EASY DATA DOWNLOADS. SINGLE ANALOG INPUT FOR PILOT FLAME SENSE OR THERMOCOUPLE DATA. TWO CONTACT SWITCH CLOSURE INPUTS
<b>ACTUATOR PACKAGE</b>	CIMARRON PISTON-STYLE ACTUATOR FOR BURNER MANAGEMENT SYSTEM CONTROL. REQUIRED FOR HYBRID AND SAU ARC SYSTEMS. RANGES ARE ADJUSTABLE AND CAN BE MODIFIED IN THE FIELD.
<b>SAFETY FLOAT CHECK VALVE OPTION FOR DRIP POT</b>	4" X 6"
	3" X 6"
<b>STACK THERMOCOUPLE</b>	18" TYPE K THERMOCOUPLE WITH WIRE
<b>CONCRETE PAD</b>	STANDARD CONCRETE PAD REQUESTED
<b>HIGH TEMP KIT (HV UNIT EXCLUDED)</b>	ALL STAINLESS STEEL JET KIT
<b>INLINE FLAME ARRESTOR</b>	2" WENCO FLAME ARRESTOR
	3" WENCO FLAME ARRESTOR
	2" HEADER PLUMBING FROM INTEGRAL DRIP BOX TO BURNER MANIFOLD
<b>HEADER PLUMBING (HV UNIT ONLY)</b>	3" HEADER PLUMBING FROM INTEGRAL DRIP BOX TO BURNER MANIFOLD
	2" HEADER PLUMBING FROM INTEGRAL DRIP BOX TO BURNER MANIFOLD



# BURNER MANAGEMENT AND IGNITION



The Cimarron ARC is a fully scalable BMS that adapts to your well site. The price also scales with the functionality, so you only pay for the features you need. At its most basic, the ARC can monitor and ignite a pilot flame on separators, treaters, burners, or combustors for added site safety. If the pilot goes out for any reason, the system can notify the customer through Modbus or alarm. On the other end of the scale, the ARC can also be combined with control valves, pressure sensors and thermocouples for a complete burner management solution. The Cimarron ARC also has the ability to monitor and control up to 16 burner systems from a single control.



## Key Features

- The ARC controller is designed for use with flares, combustors, indirect heaters, treaters, reboilers, and other natural gas fired equipment commonly used in the oil and gas production segment
- Fully automated direct spark ignition
- Control of both pilot and main burners
- Customer PLC compatibility with Modbus RTU over RS-485 communication protocol (standard)
- On-board data logging and time stamping with event logging of up to two years with 4 megabytes of internal storage
- 12 / 24 VDC compatible
- I/O for temperature, pressure and valve control

## Specifications

- Class 1, Division 2, Groups ABCD, Pending
- NEMA 4X Polycarbonate Enclosure
- -40°F to 140°F (-40°C to 60°C)
- RS-485 ports with Modbus RTU
- 4-20mA input (4-20mA output available)
- Large 4x20 OLED display
- Multi-function tactile keypad
- Dimensions: 10" x 12" x 6"
- 12 / 24 VDC compatible
- Outputs: (2) latch valves or up to (4) solenoid valve outputs; (1) general purpose digital output; (1) alarm output; (1) flexible auxiliary I/O
- Inputs: (3) thermocouple inputs; (4) general purpose digital inputs; (1) pressure transducer input

## ACCESSORIES

Cimarron provides other accessories that may be needed to operate fired equipment. These can be ordered with the ARC or at your convenience.

- Cimarron inline pilot assembly and cabling
- Flameco pilot assembly and cabling
- Replacement parts kit
- Power package 1: 5W solar panel and battery backup
- Power package 2: 20W solar panel and battery backup
- Customized fuel train packages
- AC/DC power converters
- Additional I/O can be added using DIN rail mounted expansion modules
- 4-20mA output module
- Supply gas scrubber, 10" x 19"



## *Engineering & Design*

Cimarron has over 30 years of experience in engineering and designing upstream and midstream production solutions. Our engineers and designers work closely with our clients to ensure that each product is tailored to the operating conditions and production requirements. Design tools include Promax simulation software, Codecalcs, Autodesk Inventor and SolidWorks.

## *What Cimarron Can Do For You*

- Custom engineered solutions to meet the needs of your specific application
- Highest quality materials and workmanship
- ASME & API Code Manufacturing
- Ongoing support & service
- Skid limit, mobile units

## *For More Information*

We would be glad to discuss your needs and requirements. Please contact us at your convenience at **405-928-7373** or visit our website at **CimarronEnergy.com**, where you will find additional information and datasheets for inquiring about solutions for your specific application.





## ***Field Service***

We offer the most comprehensive field service promise in the industry, utilizing skilled service personnel who provide regional expertise for individual markets. Cimarron customers are customers for life; we take care of what you need, when and where you need it.

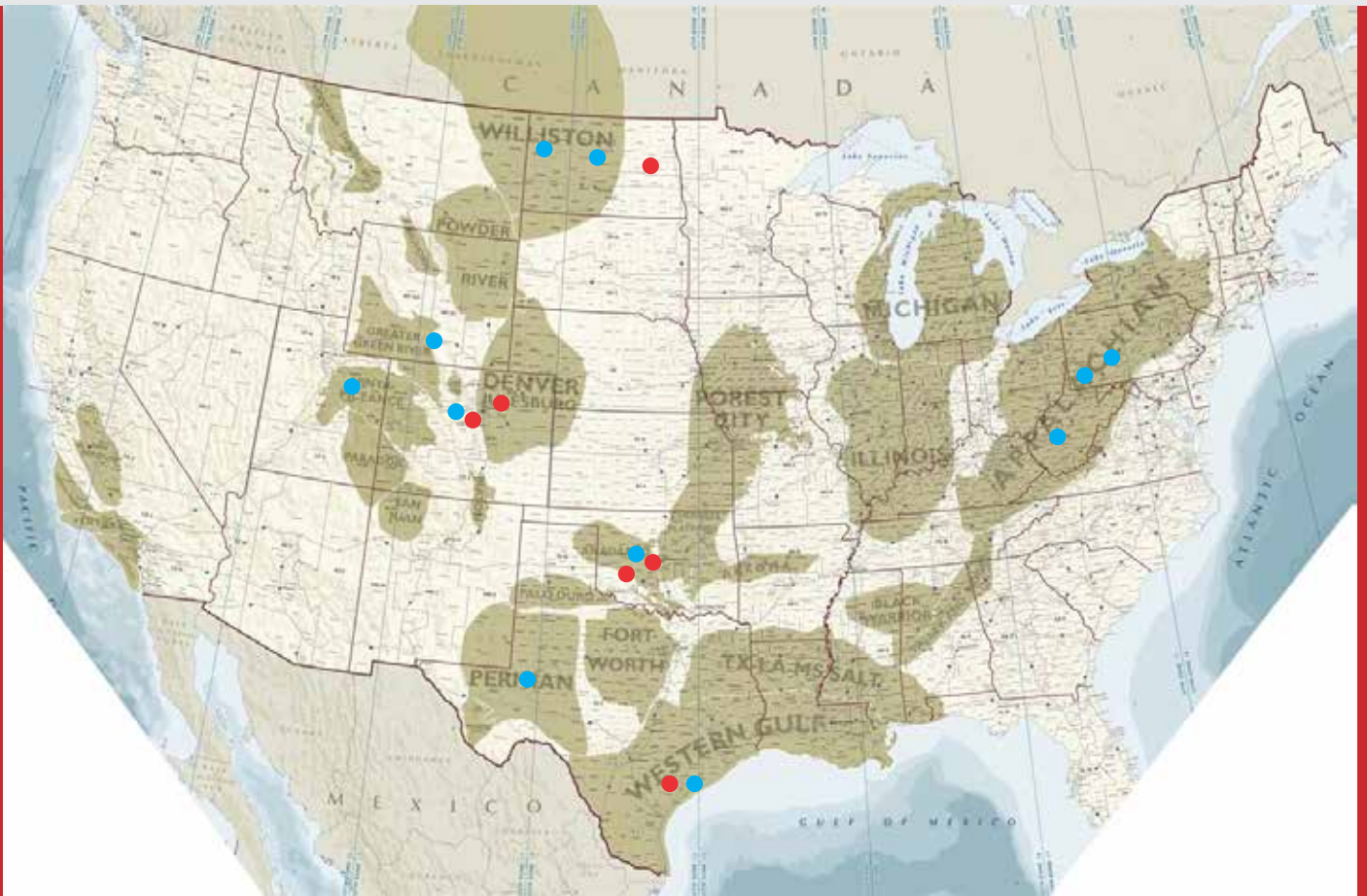
## ***Ongoing Support***

The development of solid customer relationships is critical to our success, which is why Cimarron sales personnel maintain contact before, during and after the sale. Whether you need more detailed product information, technical guidance or an on-site technician, we're prepared to answer your questions and address your service requests in a timely, personal manner.

## ***Training***

By offering field training on all Cimarron equipment, we're confident that we can help you achieve optimal production capacity and satisfaction. Our highly qualified technicians are experts at helping customers maximize performance and maintain working order. Our field services team is available whenever and wherever you need them.





- ***Manufacturing***

Grafton, ND  
Evans, CO  
Englewood, CO  
Norman, OK  
Marlow, OK  
Katy, TX

- ***Sales and Service***

Denver, CO  
Berthold, ND  
Williston, ND  
Oklahoma City, OK  
Houston, TX  
Midland, TX  
Pittsburgh, PA  
Indiana, PA  
Vernal, UT  
Charleston, WV  
Casper, WY

## ***Contact***

Sales 405-928-7373

[Sales@cimarronenergy.com](mailto:Sales@cimarronenergy.com)

[cimarronenergy.com](http://cimarronenergy.com)

