



CONTOUR™ SMOKELESS FLARE CONTROL SYSTEM

Why Automated Smokeless Flare Control?

The ZEECO® Contour is an Automatic Flare Control System created by Zeeco flare engineers for the specific purpose of optimizing flare control to prevent non-compliance with environmental regulations, reduce utility consumption, prolong equipment life, and enhance Destruction Efficiency (DE). When implemented, this turnkey combustion control solution costs a fraction of indirect measurement systems. The ZEECO Contour requires no contact with the flare header and is maintainable from grade.

What Happens Without Smokeless Control?

Over-applying steam or air to achieve smokeless flaring is a chronic practice at many plants, which can negatively impact the environment. The application of too much smokeless injection media at minimum or normal flare rates dilutes the combustion zone, thus greatly reducing the flare's Destruction Efficiency (DE). Over-aeration (whether the assist medium is air or steam) and the resultant lowering of DE can increase the chance of venting unburned purge and flare waste gases to the atmosphere rather than destroying them through high DE combustion. To prevent the negative effects associated with low DE, government regulations are mandating new control parameters for steam and air injection to ensure proper Net Heating Values of the combustion zone (NHVcz) are achieved. These new regulations require the aggregate of all components entering the combustion zone (i.e. purge gas, enriching gas, steam injection, combustion air injection, etc.) to have a combined lower heating value of 270 BTU/SCF or greater. Failure to properly control steam or air injection and over-aerating the flare can mean:

- **Lower destruction efficiency, resulting in venting of hydrocarbons (VOCs)**
- **Environmental non-compliance**
- **“Capping” the flare, causing internal burning, thermal damage, and premature flare tip failure**
- **Excessive utility consumption**

Past methods for control of air or steam have been indirect, such as measuring the flare release flow and characteristics, then calculating the steam or air injection requirement. The ZEECO Contour is an automated, real-time, direct monitoring and flare control package using Infrared (IR) technology to assess the flare combustion zone and inject the correct amount of assist media to ensure proper (High DE) combustion – independent of the waste gas composition and flow.



Improper application of steam



Proper application of steam allowing luminosity in the flame and full combustion



BURNERS



FLARES



INCINERATORS



PARTS & SERVICE

Smokeless Flare Control System

ZEECO® Contour, Smokeless Control: Effective and Affordable

At Zeeco, we understand flare systems, regulations, and technology must work together to ensure the safety of the plant, nearby people, and environment. The ZEECO Contour™ requires no contact with the flare header, and is maintainable from grade. Users gain immediate utility savings by optimizing smokeless media injection rates based on real-time feedback rather than the lag time inherent with indirect monitoring methods. Zeeco combustion professionals oversee the commissioning of the system, tuning it on-site to your equipment to enable a quick, simple transition and startup.

ZEECO Contour System Advantages:

- Direct, real-time assessment of the combustion zone and automatic smokeless medium injection
- Ability to differentiate between different waste gas streams
- External to flare header, maintainable without shutting down flare
- External to the heat affected zone, maintainable from grade
- New IR spectrum and methodology overcome shortcomings of previous opacity monitors and similar optical technologies
- Saves utilities, particularly at turn-down and minimum flows
- Affordable versus indirect measurement systems
- Assists with compliance to NHVcz regulations
- Field-proven technology
- Multiple cameras can be integrated for redundancy

ZEECO Contour Specifications:

Package Scope	System includes stand and junction box Optional combustion professional assistance
System Power	120 / 240 VAC
System Control	Single PID control of final element DCS integration for control
Output	4-20 mA direct or PID controlled Optional relay alarm contact Optional interface module: [RS485/RS232 communications]
Area Rating Options	Non-Hazardous (Ex D IIB + H2)
Maximum Distance	1800 feet, (600 meters)

Call the experts at Zeeco today to get started with the ZEECO Contour, the next generation of automated smokeless flaring control.

ZEECO® combustion and environmental solutions are designed and manufactured to comply with applicable local and international standards as defined by our customers.



REGISTERED
ISO 9001: 2008

CERTIFICATION APPLIES TO ZEECO HEADQUARTERS ONLY.

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