Panametrics
a Baker Hughes business

Providing the scale, scope and knowledge in flare metering to meet

MACT RSR 63.670 regulations

Already the global leader in flare measurement with more than 5,000 installations, Panametrics has raised the bar again with a total solutions package for understanding, defining, implementing and supporting the stringent requirements of Environmental Protection Agency (EPA) Maximum Achievable Control Technology (MACT) Petroleum Refinery Sector Risk (RSR) Part 63.670

Passed by the EPA in December 2015, the MACT RSR 63.670 extends and strengthens the rules governing stationary emission sources in petroleum refineries. These rules require refineries to be in full compliance by January 30, 2019 and apply to all sources regardless of age. The rules apply primarily to flow measurement and flare burn efficiency and include the following key provisions:

- All flares must be operated with a pilot flame present at all times when regulated material is routed to the flare.
- All flares must specify the design capacity and operate with no visible emissions except a total of five minutes during any two consecutive hours.
- All flares must have a flow measurement accuracy of ±20% from 0.1 ft/sec to 1 ft/sec and ±5% for flows greater than 1 ft/sec.
- Flare tip velocities may not exceed 400 ft/sec, and flare tip velocity is subject to limitations based on BTU content.
- Flares must maintain a minimum combustion zone Net Heating Value of 270 BTU/scf based on 15 minute time block averages.
- Additionally, if steam or air assist is used, the operator must monitor the flows of these gases to measure and report the dilution in the combustion zone and keep it above 22 BTU/ft^2.
- Flares will need to control, maintain, and demonstrate 96.5% combustion efficiency or 98% destruction efficiency.

30 years of proven and reliable flare gas flow measurement solutions

Panametrics scale and scope make us much more than a MACT RSR 63.670 compliance consultant. We supply the meters, sensors, valves and in-depth application knowledge in flare flow metering to be your trusted partner.

Complete ultrasonic flow metering system

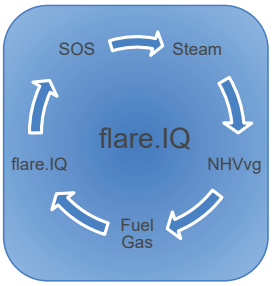
The T17 flare transducer provides high measurement resolution and accuracy. When combined with the Panametrics DigitalFlow™ XGF868i or DigitalFlow™ GF868 flow meter, the result is a complete ultrasonic flow metering system for flare gas applications.

Measure the mass flow of steam with integrated steam tables

Panametrics DigitalFlow™ XGS868i steam flow meter combines accuracy, wide rangeability, and ease of installation for pipe sizes from 3 to 60 inches.

Measure the mass flow of natural gas with integrated compression tables

Panametrics PanaFlow process gas flow meters are specifically designed for low pressure gas flow measurement, have wide rangeability, and accommodate pipe sizes from 2 to 24 inches.



Plug-and-play solution to meet MACT RSR 63.670 compliance

MACT RSR 63.670 requires strict control of the flare to ensure proper combustion. To achieve this, simply connect flare.IQ to your DCS, provide the meter flow rates, and the flare BTU measurement. flare.IQ performs all required calculations and delivers the recommended flow rates for steam, supplemental/make-up gas and air to your DCS system to ensure compliance, leaving you only having to “tune” your control loop.

At your service

In addition to being a market leader in providing flare metering solutions, Panametrics offers expert service support available at the right level to meet customer needs.

Flare system site assessment

In conjunction with your local field team, a qualified service engineer will aid in the evaluation and feasibility of upgrading all assets related to the flare for compliance with the environmental standards of MACT RSR 63.670. Our comprehensive study identifies all requirements for flow measurement of flare gas, air, steam and supplemental/ make-up gas, line sizing, BTU measurement, control valves, and sensors. A detailed report identifies potential compliance issues, recommends upgrades, and provides an outline of associated costs.

Equipment installation and start-up

Upon completion of the engineering study, service engineers provide equipment installation and commissioning support; including flow meter verification testing, zero flow verification, and mechanical inspection and installation support for proper location of the valves, meters, and sensors.

Ongoing field site support services

Training is an essential part of keeping your flare related assets working properly and is a requirement on some equipment as part of MACT RSR 63.670 compliance. Panametrics offers flare-related support to address service and maintenance requirements including annual verifications, prioritized service response, and technical support. Our cloud-based portal tracks services and acts as a permanent service record, while advanced diagnostics monitor your assets 24/7 to provide high reliability and utilization rates.

Save money and increase your flare flow meter uptime.

Meet your daily operational flare flow meter needs while assuring environmental peace of mind with the Panametrics comprehensive, fixed-price service solution. The Plus and Premium FlareCare SSA packages provide enhanced planning, resouce scheduling, and asset management.

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