Panametrics

flare.IQ
Real-time flare emission reduction, monitoring and control.

Monitor, reduce and control your emissions with flare.IQ

What is flare.IQ?

flare.IQ is a full-stream flare emission solution founded on four decades of ultrasonic flare flow measurement technology which is considered best in class by the industry.

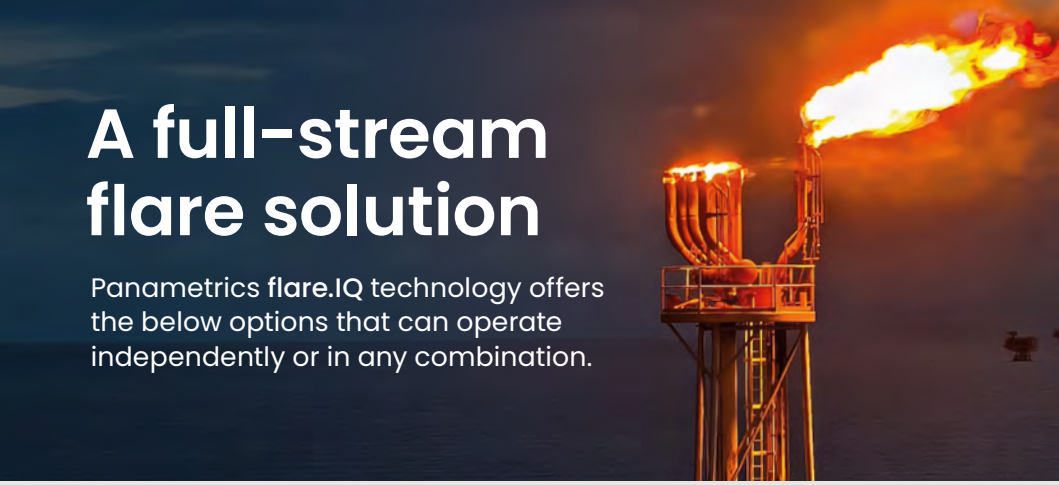
It covers everything including assisted flares associated with downstream petrochemical and refinery flare operations to unassisted flares associated with upstream operations.

What does flare.IQ do?

One of the biggest sources of greenhouse gas emissions in the oil and gas industry is from flaring activities. Reporting and reducing these emissions has become a major factor in limiting the impact of global warming, including methane. Panametrics **flare.IQ** is designed to facilitate the industry goal of reducing greenhouse gas emissions.

- Panametrics supports the global pledge of reducing such emissions by providing the industry with an integrated solution, with the ultimate goal to help slow down and reverse climate change.
- Incomplete flaring is one of the major causes of methane slip emissions across the oil and gas industry.

The **flare.IQ** technology Panametrics invented helps to monitor, reduce, and control emissions associated with flaring. It can reduce methane slip, minimize costs from flaring operations, provide steam savings, and improve transparency for flare operations, real-time.



A full-stream flare solution

Panametrics **flare.IQ** technology offers the below options that can operate independently or in any combination.

Flare Control

Helps assisted flares to optimize the combustion at the flare tip by providing setpoints for fuel gas, steam, or air assists to ensure 98%+ high-efficiency flare combustion. Operators can pull critical information about their flare system, including temperature, pressure, vent gas flow rates and gas composition, to calculate the optimum levels of flare performance. This typically results in substantial operational and environmental savings as well as extending flare tip lifecycle.

User cases have shown typical improvements on CE from ~80 to 98+% and steam consumption reductions up to 90%.

CE/DRE PEMS

Real-time (methane) emission quantification and reporting for both assisted and unassisted flares by providing combustion efficiency (CE), destruction removal efficiency (DRE) and predictive emissions modeling system (PEMS), such as CO_2, CO, VOC, and CO_2eq. Rather than basing reported emissions on a static factor of 98%, operators can now report real-time emissions based on an actual measurement, in compliance with OGMP 2.0 level 4, and in line with the upcoming methane emission rules and regulations around the globe.

User cases have shown typical CE/DRE to be 99% or better.

Digital Verification

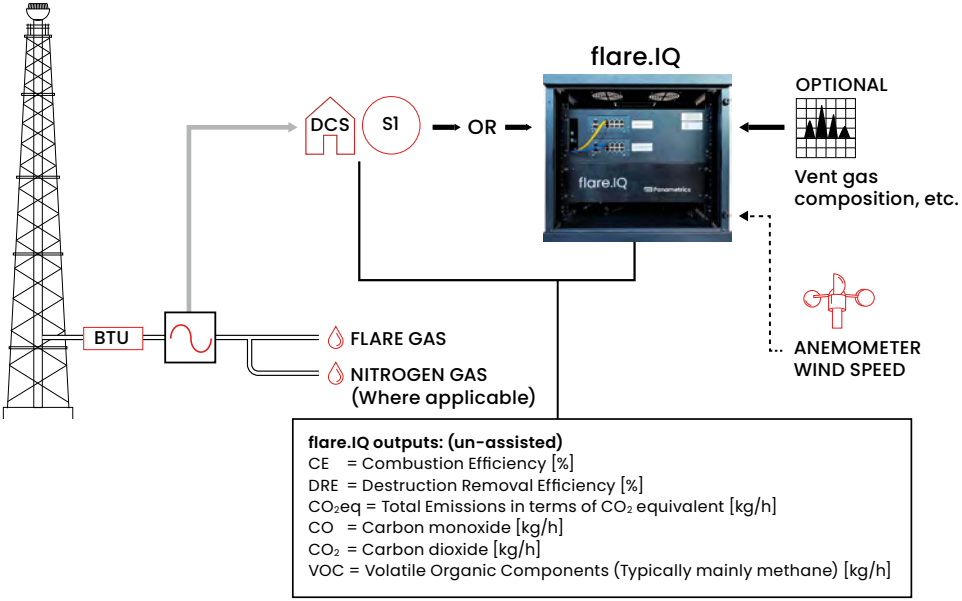
Operators can verify flare meters remotely when **flare.IQ** is installed. This can help avoid carbon tax penalties associated with flaring, improve efficiency, and reduce health, safety, and environmental (HSE) risk of erecting scaffolding and deploying resources to manually verify flare meters.

User cases have shown digital verification installed on two primary reporting flares. During monthly digital verification runs, a potential non-compliance issue was discovered, preventing a potential black smoke fine.

Key features

- Realtime methane emission quantification and reporting.
- Innovative full stream flare solution to optimize flare operations, reduce emissions, and minimize operation costs.
- Real time combustion efficiency and destruction removal efficiency.
- Verify flare meters digitally and remotely.
- OGMP 2.0 compliance, Level 4.
- Avoid black smoke.
- Founded on 40+ years of ultrasonic flare flow measurement experience.

flare.IQ **Unassisted upstream solution**



flare.IQ outputs: (un-assisted)
CE = Combustion Efficiency [%]
DRE = Destruction Removal Efficiency [%]
CO_2eq = Total Emissions in terms of CO_2 equivalent [kg/h]
CO = Carbon monoxide [kg/h]
CO_2 = Carbon dioxide [kg/h]
VOC = Volatile Organic Components (Typically mainly methane) [kg/h]

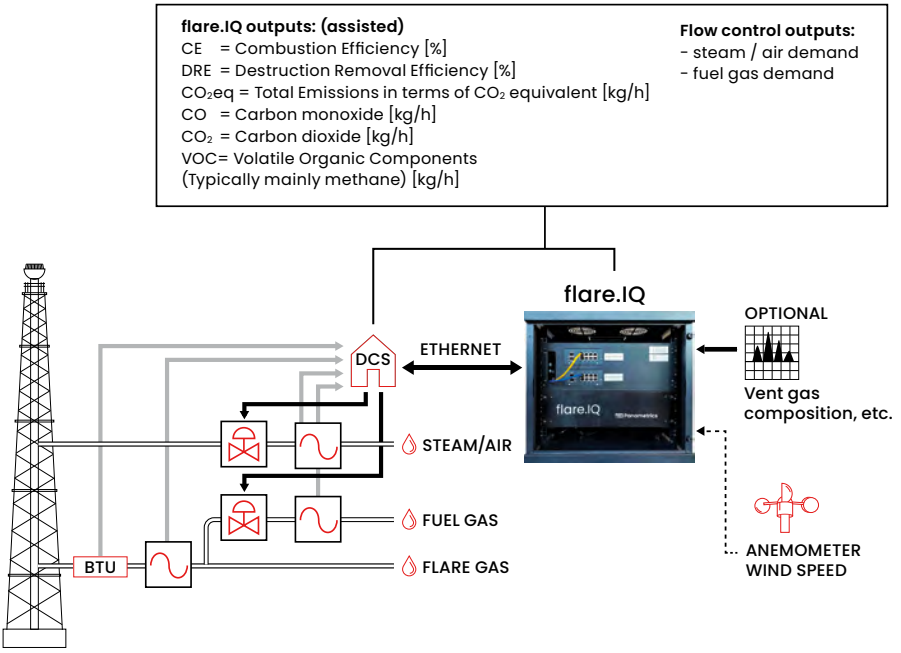
Moving toward real-time measurement reduces methane slip reporting, ability to improve process control.

Today operators lack the practical tools to monitor and report real time emissions, which are typically lower than reported emissions based on this static emission factor. Meanwhile, regulators lack the evidence to accept higher combustion efficiency.

flare.IQ can solve this reporting problem by providing real-time monitoring of combustion efficiency.

- Robust CE measurement even when BTU, flow rates, and weather conditions vary.
- Compatible with OEM flow meters.
- On-premises solution.

flare.IQ **Assisted refinery solution**

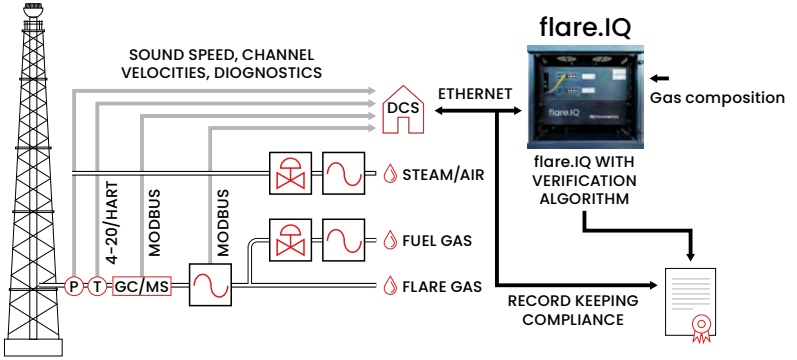


Reduces methane slip, and optimizes steam/air usage

Uncontrolled, low combustion efficiency leads to methane slip and excessive steam consumption.

- The **flare.IQ** algorithm is designed to control and optimize combustion efficiency.
- **flare.IQ** optimizes combustion efficiency dynamically with changing BTU content of vented gas, flow rates and weather conditions.
- Compatible with Baker Hughes Panametrics and OEM ultrasonic flow meters.

flare.IQ **Schematic for digital verification**



- Digital verification eliminates downtime, and manual validation measurement services.

Panametrics

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Panametrics, a Baker Hughes business, provides solutions in the toughest applications and environments for moisture, oxygen, liquid and gas flow measurement. Experts in flare management, Panametrics technology also reduces flare emissions and optimizes performance.

With a reach that extends across the globe, Panametrics' critical measurement solutions and flare emissions management are enabling customers to drive efficiency and achieve carbon reduction targets across critical industries including: Oil & Gas; Energy; Healthcare; Water and Wastewater; Chemical Processing; Food & Beverage and many others.

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#methaneemissions
#combustionefficiency
#emissionabatement
#oversteaming

Contact us

For more information please contact your local Panametrics representative, or visit:

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