

FLUENTA

# 21 KEY CONSIDERATIONS TO MAKE BEFORE CHOOSING A FLARE METER FOR YOUR INSTALLATION

————— CHECKLIST —————



Where would you start if you've been tasked with specifying a flare gas measurement solution?

Unlike acquiring a new boiler for your home, correctly specifying a flare gas meter requires a thorough process to identify an installations' needs and requirements before engaging with a vendor.

We have seen many operators get this step wrong and end up making up for it with costly fines and measurement problems, but it doesn't have to be like that.

Upgrading or building new oil and gas installations or petrochemical refineries takes years of careful planning and execution. An average-sized oil refinery (10-15 Mt of crude oil processing capacity) can take five to seven years to build.

For example, the [STAR Aegean Refinery](#) in Turkey began building in October 2011 and finally went live in October 2018, making it a seven-year project, not including the years of design work done before ground was broken.

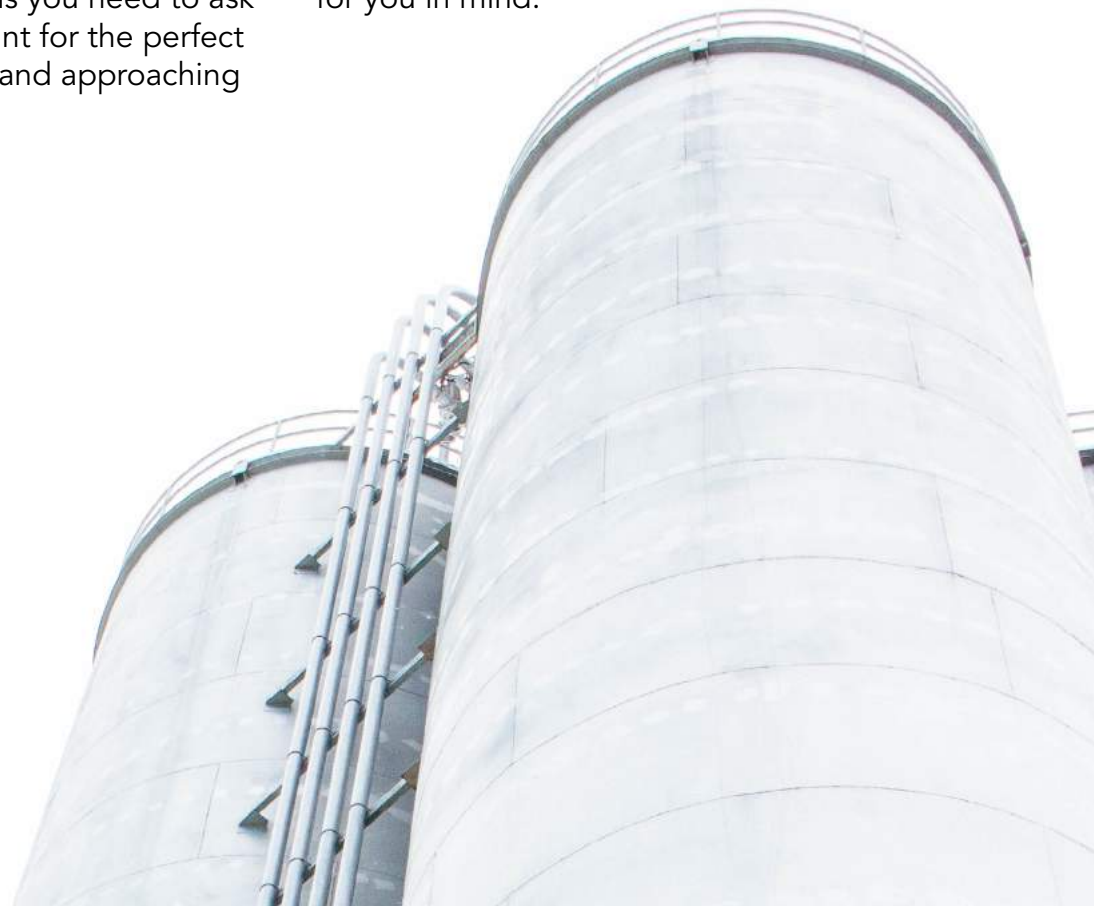
In this guide, we put together the top considerations and questions you need to ask before embarking on the hunt for the perfect flare measurement solution and approaching vendors or manufacturers.

Despite the availability of ISO and BSI standards (ISO 17089-1:2010 and BS 7965), when it comes to specifying new flare meters, it becomes easy for cost savings and compliance requirements to over-shadow considerations for long term accuracy and reliability, leading to inappropriate technology selection during installation and commissioning.

The penalties for not considering flare measurement needs can be particularly costly from financial, regulatory, and environmental perspectives.

Specifying the wrong meter can force an installation to sustain significant preventable costs and be forced to wait until scheduled plant turndowns (TAR) to fix the problems, which could take up to five years, especially if there is a need to undertake additional mechanical work (like a re-spool).

To avoid such ruinous scenarios, it's vital that you consider your installations' needs before approaching a vendor. We've done the hard work for you and created a handy checklist of top considerations you should make to ensure your installation is built with the best solution for you in mind.



# *Checklist of considerations for flare meter specification*

## **1. Structural considerations**

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How many flare stacks are you building? Will you require a flare measurement solution for each?

What's the length, diameter, thickness (pipe schedule), and materials of the pipes are you using?

Where will the meter be located on the pipe? E.g., consider straight pipe lengths before and after the meter, as well as space around the pipe to accommodate transducers.

How will you get access to the meter's location? E.g., Scaffolding etc.

Do you have electric power to the metering point? Is it AC or DC and does it meet the requirements for your meter?

## **2. Process considerations**

Do you have a full set of process conditions including gas flow, temperature, pressure and gas compositions?

Where will pressure and temperature sensors be mounted? Note that this may be dictated by the flare meter manufacturer. For Fluenta, we prefer the temperature and pressure sensors to be mounted as close as possible to the point of measurement so that the readings are representatives of what's happening at the point of measurement.

Do you expect any liquid in your flare line, and if so, do you know the percentage?

## **3. Legal and regulatory considerations**

What local and international regulations must you comply with and observe?

What environmental initiatives or policies does your company comply with, including environment and emissions-based targets?

## 4. Technological considerations

### Notes

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What level of accuracy and uncertainty do you require?

What certification do you need your flaring manufacturer and supplier to meet?

What data protocol do you require, and do you have cabling in place?

## 5. Safety considerations

What explosion proof regulations you must adhere to?

What is your Ex Zone classification requirement?

## 6. Fiscal and HSE considerations

What systems do you have in place to calculate mass balance?

How will you detect gas leaks in the pipe network?

## 7. Maintenance & aftermarket support considerations

Have you made accessibility considerations for flowmeter maintenance and gas sampling?

Does your flare measurement solution provider offer aftermarket support for meter spare parts, verification and recalibration? (Local support and costs)

Can you manage your meter independently and perform health checks?

What's the total cost of ownership (TCO) of your chosen flare gas measurement keeping in mind long-term running and maintenance costs?

Specifying the correct technology to calculate flare gas flow is vital to limit wasteful costs and ensure compliance with clean air and environmental regulations.

Emissions regulations are getting tougher, and legislators demand stricter regular reports of the volumes of greenhouse gas emitted by oil and gas and petrochemical installations and refineries.

All these factors put pressure on operators to specify the right technology. The ISO and BSI standards provide helpful guidelines but the key to specifying the right technology is early consideration.

Studying the items listed in this document as early as possible can prevent drastic and costly losses and ensure your installation remains compliant with all appropriate regulations and standards. This checklist should provide you with clear parameters needed for specifying a flare gas measurement solution.

When it comes to choosing a measurement solution, operators must consider technical suitability and reliability to handle their unique process conditions – something ultrasonic meters have been proven to be the best at. In fact, ultrasonic is by far the preferred flare gas measurement technology in the oil and gas industry, from upstream to downstream.

Ultrasonic flare gas meter from Fluenta offer peace of mind and confidence that your measurements are accurate and reliable.

At Fluenta, we aim to provide the best-in-class measurement technology and empower the oil and gas industry's sustainable transition to a greener and net-zero future.

We have been empowering operators since 1985 to stay at the forefront of legal and environmental compliance through innovative and accurate flare gas measurement and management - for themselves and the planet.

Get in touch today to learn more our range of solutions.



# WE'RE FLUENT IN ACCURATE FLARE GAS MEASUREMENT IN CHALLENGING CONDITIONS

With over 3,000 installs across 6 continents, Fluenta has the experience to help you more accurately measure flare gas, to make better business decisions and meet the most stringent regulations.

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