

# Callidus nViro-XSR™

Cost-Efficient Flare Technology Compliance with Less Steam

**You need safe, efficient combustion that complies with the latest EPA regulations. The Callidus nViro-XSR™ flare tip is designed to provide:**

- Lowest operating cost compliance by using less steam and supplement gas.
- Increased hydraulic capacity
- Increased maximum smokeless rates
- Low noise with operation proven by industrial-scale testing

## Low Operating Cost

The low nViro-XSR standby steam requirement and high smokeless operation capability mean that operating expenses can be reduced by up to 3.6 times compared to the next best technology and 24 times compared to older flare technology.

## Higher Smokeless Capacity

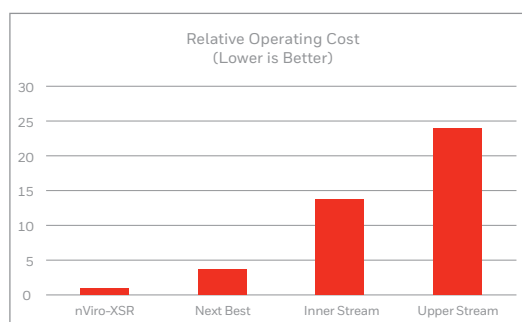
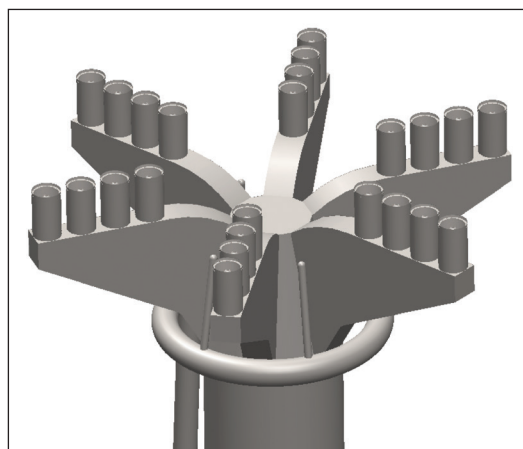
A higher smokeless capacity means increased protection against visible emissions violations and reduced community impact during flaring events. When you upgrade to the nViro-XSR you can use your current flare system and accommodate higher flow rate flaring events without visible smoke. Based on published data, a 57% increase in smokeless rate over the next best technology is achievable.

## Increased Hydraulic Capacity

Over time, your depressurizing requirements may have changed – existing unit capacity may have increased or process units may have been added. The highly efficient nViro-XSR requires a lower backpressure for a given flow when compared with other technologies. In fact, the relative backpressure requirement goes down as the flow rate increases. For the same size of flare stack, you will not hit the same hydraulic limit.

## Single-Valve Steam Control

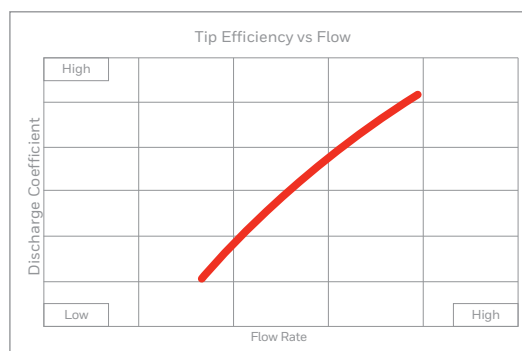
Simplify your installation and operation with single-valve steam control. With no need to adjust flow ratio between different supply lines and no center steam, the simple control method reduces component count, provides a single point of control, and aids retrofit installation for older styles of flare tips.



*Low Operating Cost: Based on average flaring frequency and volume from five SCAQMD refineries from 2005-2015 with 2 flares per refinery assumed and optimal flare selection. OPEX is per flare. Standby steam rate for 'Next Best' is assumed based on general practice.*



*Higher Smokeless Capacity: Relative smokeless capacity based on equivalent steam supply and published expected smokeless steam-to-hydrocarbon ratios.*



*Increased Hydraulic Capacity*

## Low Noise

The nViro-XSR uses Integrated noise reduction technology to lower noise without the need for an additional muffler. For many applications, no additional noise mitigation is necessary.

## Increased Retrofit Options

With up to a 70% weight reduction when compared older steam flare tips and a reduced wind-load surface area, you have more options for retrofitting your flare system using advanced technology without modifying your stack or support structure.

## Advanced Flare Technology

Utilizing our advanced computational fluid dynamics capabilities coupled with industrial-scale physical testing, our combustion experts designed this next-generation, ultra-low steam consumption flare to break through the barriers of traditional design. By generating turbulence and momentum in the flare plume and not the air, no premix air is required to achieve superior steam performance across the entire operating range.

Feature	nViro-XSR	Next Best	Upper Steam
Operating Cost	Lowest	Low	High
Smokeless Capacity	Highest	High	Low
Maximum Flow Rate	Highest		
Noise	Moderate	Moderate	High
Integrated Muffler	Yes	No	No
Easy to Retrofit	Yes	No	Yes

## Interested in Cost Efficient Compliance with Less Steam?

Have a conversation with one of our authorized representatives, visit [www.Callidus.com](http://www.Callidus.com), or call 918-496-7599 to learn more about how we can help you with all your emission needs.

## For More Information

To learn more about Honeywell UOP's Callidus Flare Technology, visit [www.callidus.com](http://www.callidus.com) or call your local Honeywell UOP representative.

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