



# LOW-NOX BURNER APPLICATIONS

Reduce costs and downtime with high-performance solutions that provide contaminant-free fuel gas and prevents fouling in Ultra-Low NOx burners.

## Lower emissions, more efficiencies

Increased pressure on emissions control means refineries are implementing Ultra-Low NOx burners to reduce NOx emissions.

The problem is the smaller openings in these burners make them prone to fouling from liquids and solids found in refinery fuel gas systems.

It only takes solid particulates and liquid droplets of less than tenths of a micron to result in coating and plugging of burner tips.

This significantly compromises burner performance, resulting in:

- Unscheduled downtime and maintenance
- Excessive operating costs
- Off-spec NOx emissions and penalties
- Serious safety issues

Jonell Systems offers the solution with high efficiency vertical and horizontal fuel filters and coalescers that treat the fuel gas and remove contaminants before they reach the tips.

**"0.3 micron coalescers or fuel filters are recommended on all Ultra-Low NOx and latest generation burner installations."**

*API Recommended Practice 535*

## Benefits of high-efficiency fuel filters and coalescers:

- Remove damaging contaminants
- Reduce emissions to meet demands
- Eliminate unnecessary downtime and costs
- Increase the life of burners

## Custom filtration for your application

At Jonell Systems, we know from experience that processes differ from field to field, pipeline to pipeline, refinery to refinery, and day to day. Contaminants vary in form, shape, quantity and risk.

That's why a customizable filtration approach is necessary to not only protect the downstream equipment, but to optimize the filtration process for maximum efficiency.

With our extensive solution range we can offer the right solution for your application.

## Your Application:

If the process has a filter separator for solids removal already installed upstream in the gas plant then our recommended solution is a reverse flow coalescer.

## Vertical reverse flow coalescer with new TRI-SHIELD media

Ideal for protecting sensitive equipment, this vessel is designed to filter contaminants that are much finer than those removed by other filtration equipment.

These contaminants may contain:

- Low surface tension aerosols, such as synthetic lube oils and hydrocarbons.
- Shear sensitive corrosion by-products such as iron sulfide and iron oxide.
- Pipeline and plant chemicals that are difficult to remove.



Our brand-new TRI-SHIELD media creates superior depth filtration technology for a wide variety of gas applications. The result is filtration cartridges with multiple spiral layers of advanced treated media.

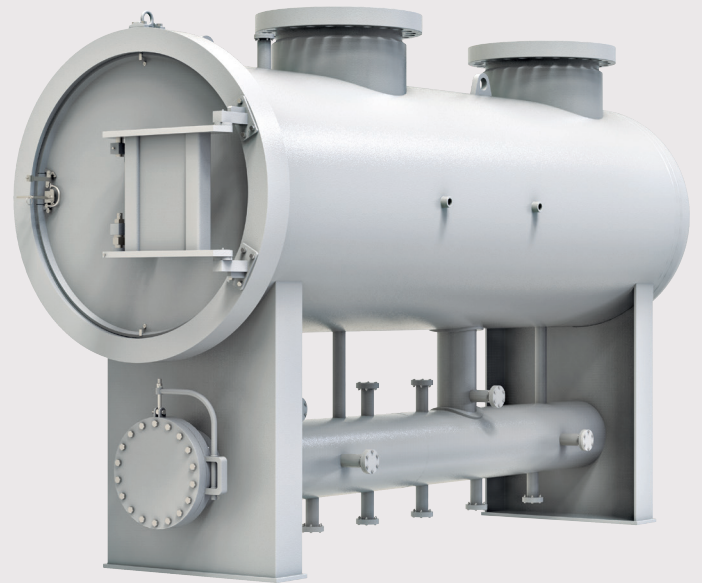
### ADVANTAGES OF TRI-SHIELD:

- Varying density for optimal efficiency and superior dirt loading
- Engineered for challenging applications
- Filtration flexibility with multiple configuration options
- Longer life and reduced cost of ownership
- Reduced filter change-outs



## Your Application:

If the process does not have solids removal filter installed and requires high efficiency solids and liquids removal in a single unit then our recommended solution is a horizontal coalescer.



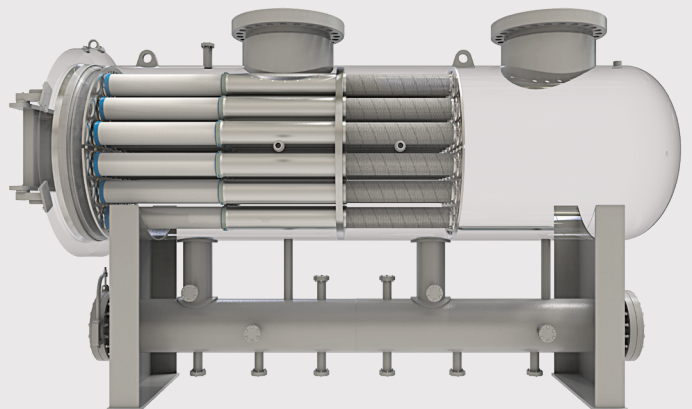
## Sentinel horizontal coalescer

Our flag-ship horizontal gas coalescer is created to allow customers to process natural gas with high contaminant loads without the need for upstream conditioning.

### ADVANTAGES OF SENTINEL:

- 10X greater solid capacity
- 35X greater liquid capacity
- Up to 40% cost savings

With our patented Twist-LOK™ Filter Series, you can choose from a multitude of customizable element configurations to optimize filtration efficiency based on the exact contaminants in your application.



Ask us about our complete line of coalescing filters that can be fully customized to suit your specific needs.

Ask us about how we can tailor the elements for your application.



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