QMax Delivers the Best Steam Tracing System for

Sulphur Operations

QMax FTS (Fluid Tracing System) combines performance comparable to jacketed pipe with the flexibility and low cost of standard steam tracing.

Best Overall Solution
Heating and maintaining temperatures in process piping is very important to the operation of Sulphur Recovery Units (SRUs), Tail Gas Treating Units (TGTUs) and other sulphur operations. Key criteria in selecting heating systems include:

•Performance • Capital Cost • Maintenance Cost • Ease of Installation

"QMax has supplied a unique design that delivers better heat transfer and improves heat tracing benefits when compared to typical installations. The QMax product is also easy to use and fairly simple to install."

– James Rawson
Reliability Manager
Hunt Refining Company

For most piping systems, **QMax FTS** is the best overall heating solution. Here's why:

Weighing Your Options

Until recently, fully-jacketed pipe and carbon steel tracing were the only widely accepted systems using steam as the heating medium.

Fully-Jacketed Pipe:
High Performance, But High Cost

When designed properly, fully-jacketed pipe (jacketing the core pipe with a second, outer pipe and conveying heating medium in the annular space) is the most effective system for maintaining process temperatures in piping. Jacketed pipe offers the greatest heating surface area around the process pipe and offers direct heating contact between the process and heating medium.

However, jacketed pipe comes with inherent liabilities:

- High capital cost
- Expensive and time consuming to modify
- High energy consumption
- Potential for leaking heating medium into the process
- Potential for leaking process into the heating medium

Carbon Steel Tracing: Acceptable Performance, Still High Cost

Carbon steel tracing (contoured steam piping) has recently been an acceptable choice in sulphur operations because it reduces some operational concerns associated with jacketed pipe.

However, many problems are inherent with the welded construction of this design:

- High Capital Cost (often higher than jacketed pipe)
- Many Leak Points (associated with excessive welding and hoses)
- Long Lead Times
- Installation is very problematic, often leading to system failure

QMax FTS FLUID TRACING SYSTEM

QMax Industries, Inc.
is a technology company based in Charlotte, NC, with several patents in the field of process heating.

Our specialties include:

>High Performance Steam Tracing

>High Performance Electric Tracing

>Equipment Jacketing

>Tank Heating

"We're committed to be the world leader in steam tracing technologies"

Thomas W. Perry
President

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QMax FTS : High Performance, Simple Solution

QMax FTS is a patented*, highly conductive aluminum channel that fits over standard stainless or copper tubing. It's aluminum body transforms the nature of standard stainless or copper tubing from inefficient convective heat transfer to high efficiency conductive heat transfer. The heating surface area is also increased to as much as three inches per strip. These enhancements increase two of the three parameters in overall heat transfer from the heating medium to the process and give QMax the best "UA" on the market.

$$Q = U*A*\Delta T$$

- Q = Heat Transfer from heating medium to process needed to overcome natural heat loss and/or to heat a process to a specified temperature.
- U = Combined heat transfer coefficient from heating medium to process.
- A = Contact Area between the heating medium and process.
- ΔT = Temperature difference between heating medium and process.

QMax FTS FLUID TRACING SYSTEM

Clear Advantages

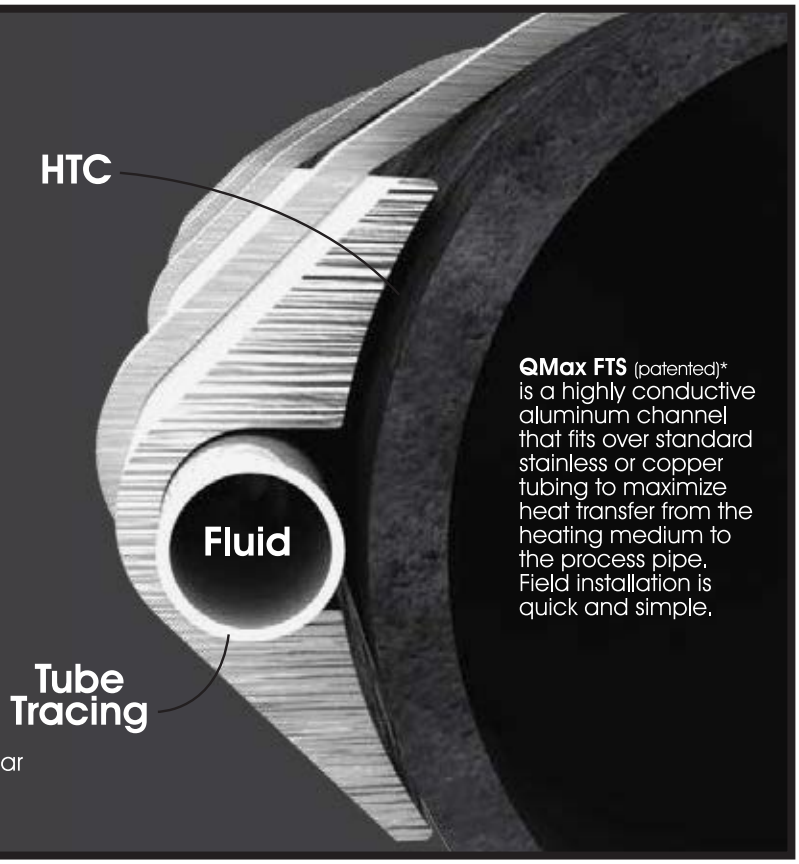
Fewer Leaks
QMax FTS reduces the number of leak points by eliminating welding and fittings. No costly hoses are required for the system.

Lower Cost
The total installed and long term maintenance cost of **QMax FTS** is consistently lower than jacketed pipe, tube tracers or carbon steel tracing.

Easy Installation and Maintenance
QMax FTS fits over common tubing with no welding, so installation and maintenance are easy and well understood.

Customized Fit
QMax is made from aluminum, making field installation quick and simple.

Engineered Systems
Each application is specifically designed for particular heating requirements to offer precise temperature control and energy consumption.



Thermal Modeling Means Project Success

QMax Industries, Inc. provides qualified customers with detailed complimentary thermal analysis on all applications to model the temperature profile of the system during the specification or estimating stage. This analysis is performed to optimize the system and ensure project success.

Deliverables from this analysis include:

- > Thermal guarantee for maintaining bulk process temperature and/or minimum wall temperature
- > Heat-Up and Melt-Out times
- > Steam Consumption to help size steam traps and condensate system
- > Comparative system analysis (how QMax FTS compares to other systems)

Applications

Maintain Bulk Process Temperature:
- > Liquid Sulphur Lines (run-down, transfer)
- > Amine Acid Gas
- > Sulphur Storage Tanks (below liquid level)

Maintain Minimum Wall Temperature:
- > Tail Gas
- > Sulphur Pit Sweep Gas
- > Sour Water Stripper Gas
- > Sulphur Storage Tanks (above liquid level)

Maintain Equipment Operability:
- > Liquid Sulphur valves, pumps, meters
- > Liquid Sultraps™ & look boxes
- > Diverter Valves
- > Instrumentation Lines

* USPTO: 8,469,082
8,662,156