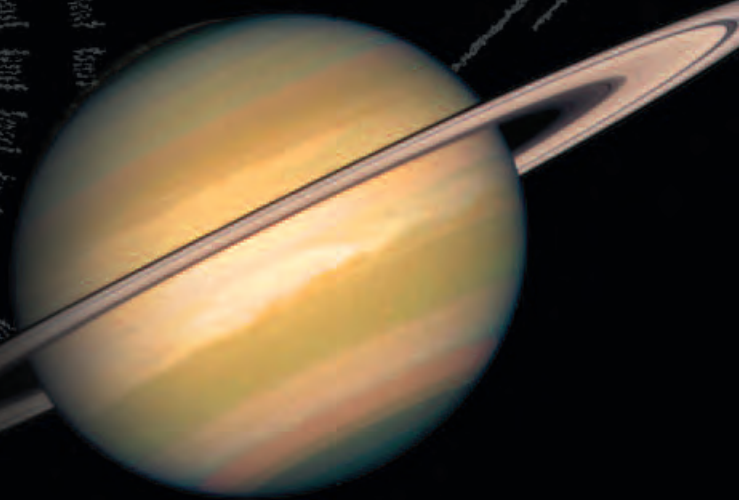




Maybe your next  
challenge isn't  
rocket science.



Then again,  
maybe it is.

▶ **mott** *corporation*

## Halfway across the solar system.

**The mission:** Send the Cassini space probe to Saturn, 750 million miles away.

**The challenge:** Even a navigational error of 0.00001% can mean failure.

**The critical application:** The Cassini's attitude jets, which let NASA make minor course corrections, run on discrete volumes of compressed hydrozine, drawn through flow controllers. Consistent performance is crucial.

**The solution:** Produce flow controllers from porous metal using a unique process to ensure uniform porosity and superior performance allowing greater flow consistency.

This advancement was painstakingly engineered by the one company that knows how: Mott Corporation.

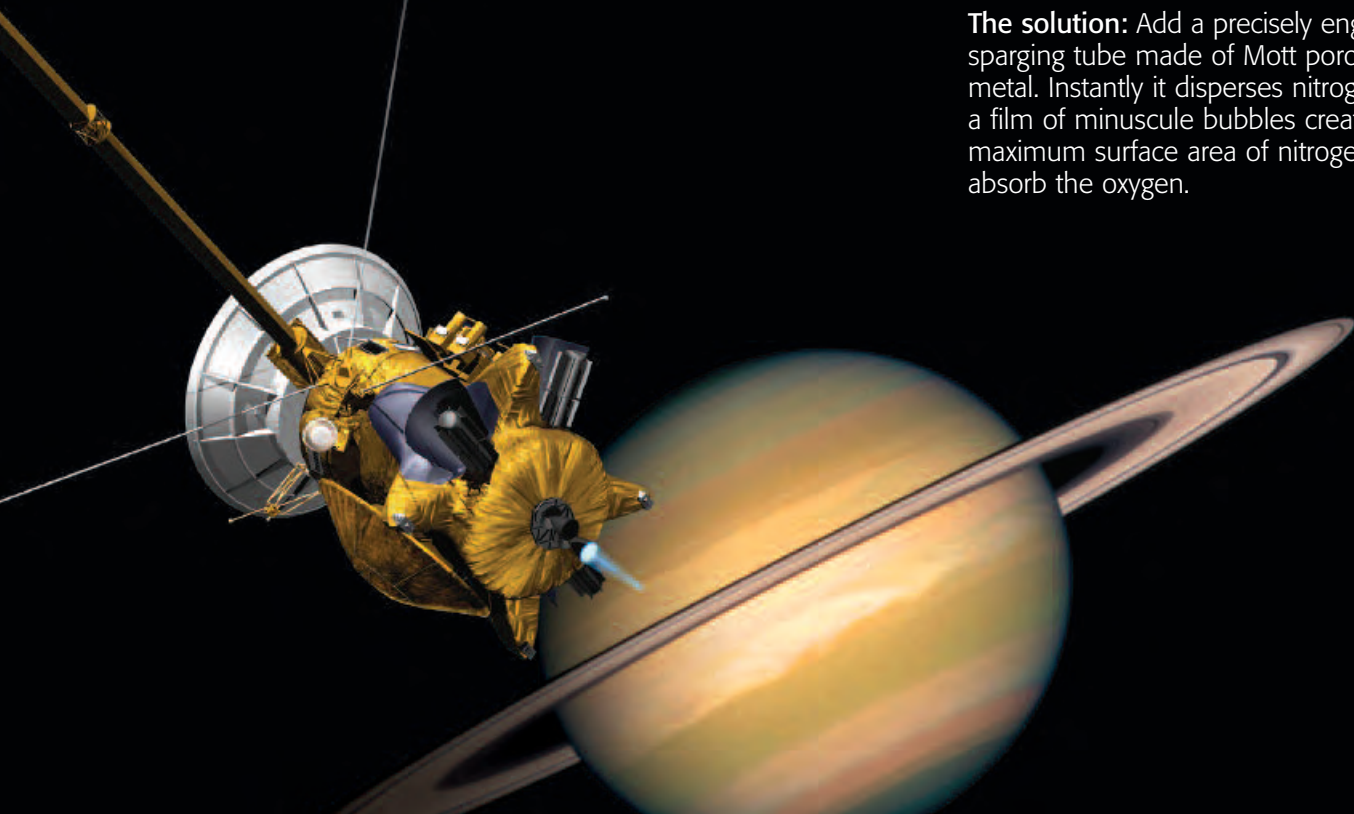


## Or a bit more down-to-earth.

**The problem:** Before bottling, wine absorbs unhealthy oxygen from the air. Removing it dramatically increases the product's shelf life.

**The challenge:** The traditional technique, the stripping tower, is expensive. It needs a substantial hardware investment, large footprint, and creates an unacceptably high degree of process gas waste.

**The solution:** Add a precisely engineered sparging tube made of Mott porous metal. Instantly it disperses nitrogen into a film of minuscule bubbles creating the maximum surface area of nitrogen to absorb the oxygen.



# When reliability must be absolute.

## Where there can be no margin for error.

**The assignment:** Help the DOE Savannah River site develop a reliable way to empty tanks of liquid nuclear waste by reducing the radioactive contents for proper disposal.

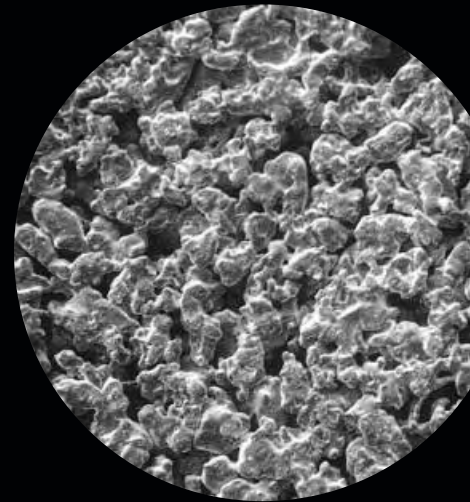
**The challenge:** Provide a high-integrity filter for highly radioactive material with absolute reliability. Other potential technologies involving polymeric or ceramic filters, just won't survive the radioactive environment.

**The solution:** First, utilize Mott high-efficiency porous metal media – ideal for retaining the finest particles. Second, create an absolute seal with all-welded 316SS construction – the preferred material in radioactive services. And third, apply the industry's leading porous metal crossflow filter design – Mott's HyPulse LSX. The result: a fully cleanable system that has held up for the life of the operation.

We never stop working on ways to make technology serve you better. Our cases prove it. We're making advancements in all kinds of new applications: Protecting sensitive research instrumentation. Sparging devices used for bioreactors and fermentors. Making possible sub-micron features on leading-edge integrated circuits. The list is virtually endless.

One common denominator: a highly engineered material called porous metal. It's made in a wide range of alloys. And it offers a unique combination of uniformity, strength, corrosion resistance or heat resistance. As a result, it can deliver major increases in product performance and process savings.

Another common denominator is Mott's engineering expertise and ability to develop creative solutions. Performance increases are derived as much from the ingenuity as from the media itself.



## Diverse applications, special focuses.

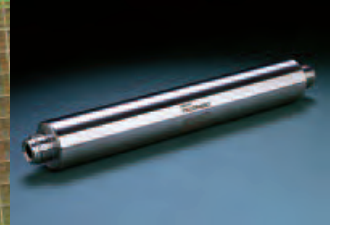
Since 1959, Mott has focused exclusively on porous metal applications and manufacturing. We're the most experienced, most capable name in the field.

Look to us for innovations in:

**High Purity:** Specializing in the rigorous demands of particulate removal from process gases during semiconductor manufacture. Clients include Intel, Samsung and Applied Materials.

**Process Systems:** Combining porous metal filter elements with hardware, electronics and software to make large-scale, turnkey systems for large-volume separation of liquids, gases, solids and slurries. Clients include Monsanto, E.I. DuPont, and Washington Savannah River.

**Specialty Porous:** Creating literally any OEM component formed partially or exclusively of porous metal, in configurations from simple to complex. Clients include Agilent Technologies, Emerson Process Management, and Yokogawa Corporation of America.



H I G H P U R I T Y

## Positioned for the next challenge in ultra-pure filtration.

Mott researchers were among the first to examine metal filtration as an intriguing alternative to membranes. Mott metal filters fulfill the promise of great efficiency and strength; they deliver new savings from far longer filter life. What's more, they help eliminate the labor and downtime costs of changeouts.

In 1994, Mott demonstrated its confidence to the semiconductor industry with the first 5-year guarantee on POU filtration and, shortly after, 15 years on bulk filters. That's a practice our bigger-name competitors have only recently adopted.

We continue to innovate. For example, our GasShield® PENTA® series lowered  $\Delta P$  for metal filters, another milestone in porous metal performance.



P R O C E S S   S Y S T E M S

## A long resumé in process industries.

Mott process systems combine renewable, porous metal filtration with an advanced hardware design. A unique backflush process completely captures and removes suspended solids within a closed system. A strong metal element allows the use of a powerful back-pulse to remove the accumulated solids.

Mott filter elements are available in over 20 alloys to handle highly corrosive environments, high temperatures, high pressures and exacting process requirements. Mott's rugged elements and filter designs minimize replacement cost, labor cost and lost process time, often delivering payback in months.

To make the development process painless, we offer portable test systems to evaluate performance right on your site.



S P E C I A L T Y   P O R O U S

## How better products get that way.

Where can you find porous metal advancements?

In spargers for commercial cooking oils, orange juice, and beer to give them longer shelf life and better flavor. In durable wicks for lighters. In air rolls that carry photographic film without marring the emulsion.

In flame arrestors, sensor protectors and flow controllers in sensitive instrumentation. In atomizers, pressure equalizers, carbonators and silencers, and on and on.

What makes this incredible diversity possible? Certainly, the unique qualities of the material. But in equal measure, it's the ingenuity of our engineers – the same people who'll apply fresh thinking to your applications.

# How you work is as important as what you do.

Our own work processes add value to your end-product. First, we're good listeners. We work together with you, making sure we're meeting your needs, from design to delivery.

Our specialists raise manufacturing to an art, from TIG welding Hastelloy®-on-stainless in a Class 100 clean room, to designing process assemblies several stories high.

For exacting quality assurance, Mott maintains a full Development and Testing Laboratory. We then evaluate performance at your facility.

For years we have met and exceeded the rigorous quality demands of industries such as Semiconductor, Medical, Aerospace, Food and Beverage, and Chemical. And we have been ISO Certified since 1997.

In short, Mott strives to do whatever it takes to be your partner of choice.





## Mission-critical thinking.

Wherever gases, liquids or particulates are involved, we help customers achieve their systems' full potential.

Mott has developed mission-critical roles across an astonishing range of products and industries from protecting precision research instrumentation, to noise reduction, polymer manufacture, producing semiconductors, chemical processing, waste processing, and much more.

It all results from the fact that for over 45 years, Mott has dedicated a significant percentage of its annual budget to research and development. To finding and solving the next problem.

So, no matter what your next challenge turns out to be, think of Mott.



**mott** *corporation*

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