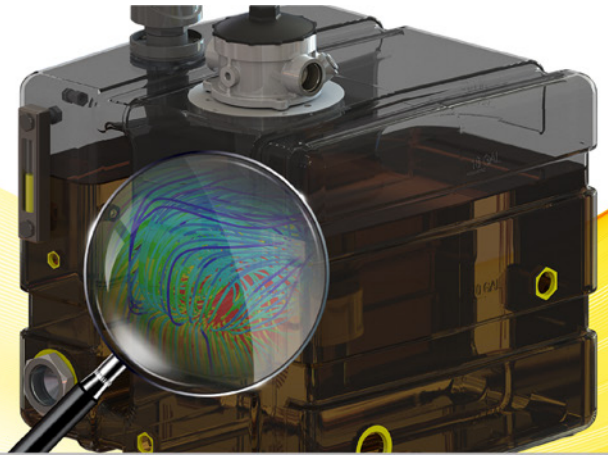


Welcome to the thirtieth volume of our Schroeder Industries Monthly Newsletter!

## Did You Know? Your Reservoir Might Need A Revamp.

### Find out what's happening in your hydraulic reservoir!

**Ask the experts ►**



The hydraulic reservoir is at the very heart of the hydraulic system, but if it's not actively leaking, it's often overlooked.

It may surprise you to hear that many hydraulic reservoirs are oversized and inefficient! By reconsidering your reservoir design, you can open up opportunities for savings, design improvements, and more.

**Tank Optimization focuses on two core principles when assessing possible improvements:**



#### **Volume Utilization**

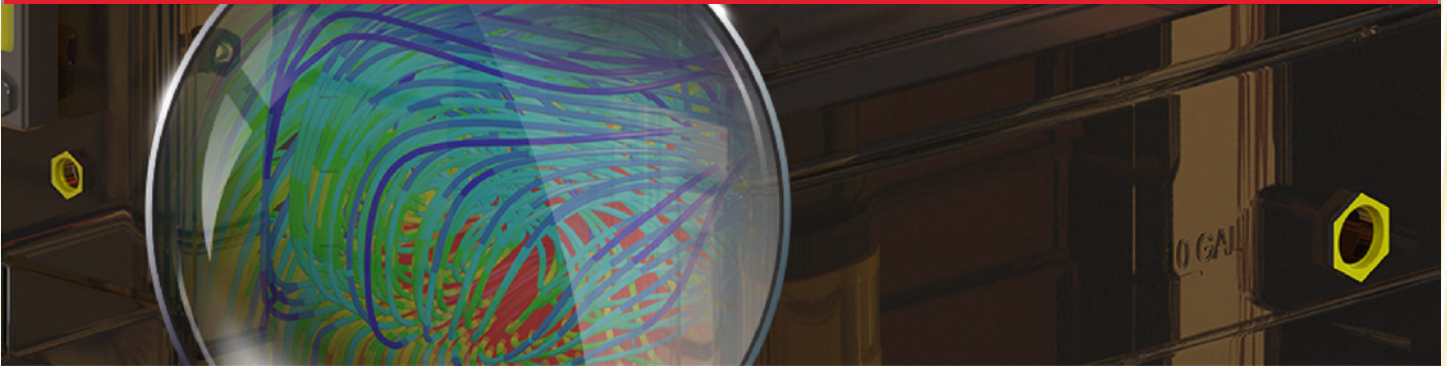
Eliminating **dead zones** where fluid stagnates. If the fluid is stagnant, it doesn't need to be there!



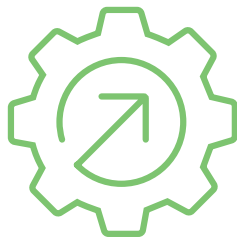
#### **Fluid Velocity**

Reducing fluid velocity **improves deaeration**. When it comes to fluid in the reservoir, slow and steady wins the race!

# How Can Tank Optimization Benefit You?



The ultimate end goal of Tank Optimization is to improve system efficiency, and a reduction in tank size and fluid volume can have a range of benefits for the design, energy consumption, cost, and carbon footprint:



## Increased Machine Space

A smaller reservoir means more space for improvements like bigger batteries or fuel tanks, or even overall downsizing.



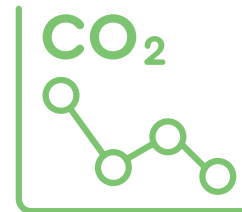
## Improved Energy Efficiency

With less fluid weight and a shorter warmup time, an optimized system can operate with lower energy consumption.



## Increased Machine Space

A smaller reservoir means more space for improvements like bigger batteries or fuel tanks, or even overall downsizing.



## Improved Energy Efficiency

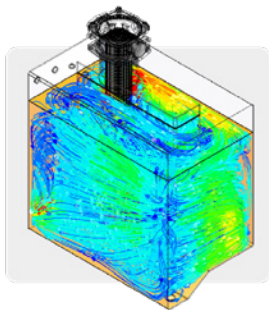
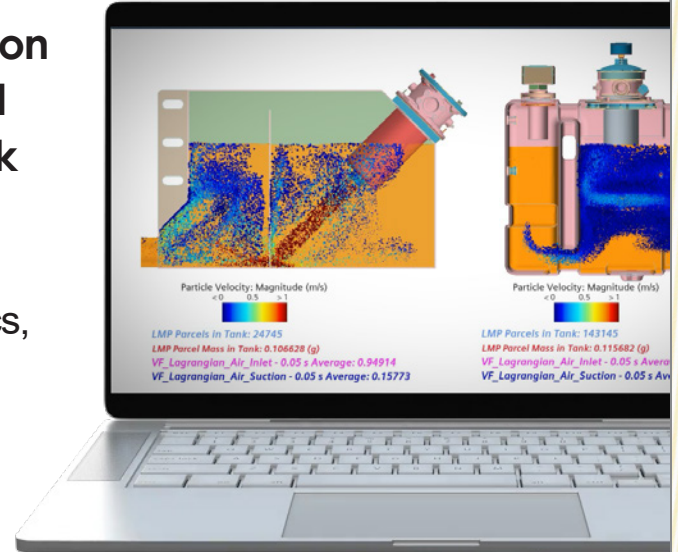
With less fluid weight and a shorter warmup time, an optimized system can operate with lower energy consumption.



# How Does Tank Optimization Work?

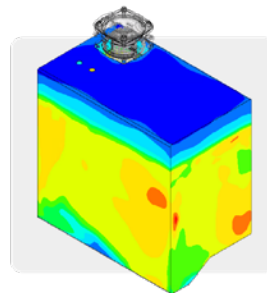
Schroeder Industries' Tank Optimization experts use a variety of sophisticated simulations and CFD analyses to 'look inside' the customer's reservoir.

Once they understand the internal dynamics, they can develop an optimized design that improves upon the original reservoir's shortcomings.



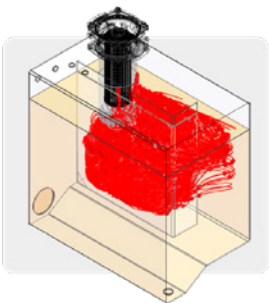
## Flow

Flow simulations look for dead zones and high fluid velocity, which are telltale signs of a subpar tank.



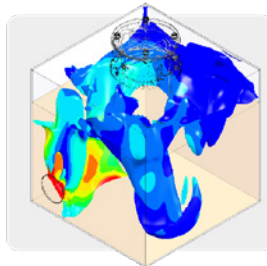
## Temperature

Hot spots could mean the fluid is degrading faster, and cold spots could be a sign of stagnant flow.



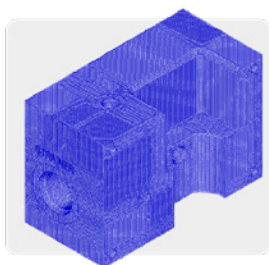
## Deaeration

Deaeration is one of the most important roles of the tank! Deaeration simulations show how effectively (or ineffectively) air is escaping the fluid.



## Sloshing

If the hydraulic fluid is splashing inside of the reservoir, this could be introducing huge amounts of air contamination!



## Deaeration

Structure not only affects flow, but can determine whether a tank can roll with the punches or potentially deflect or fail when full.



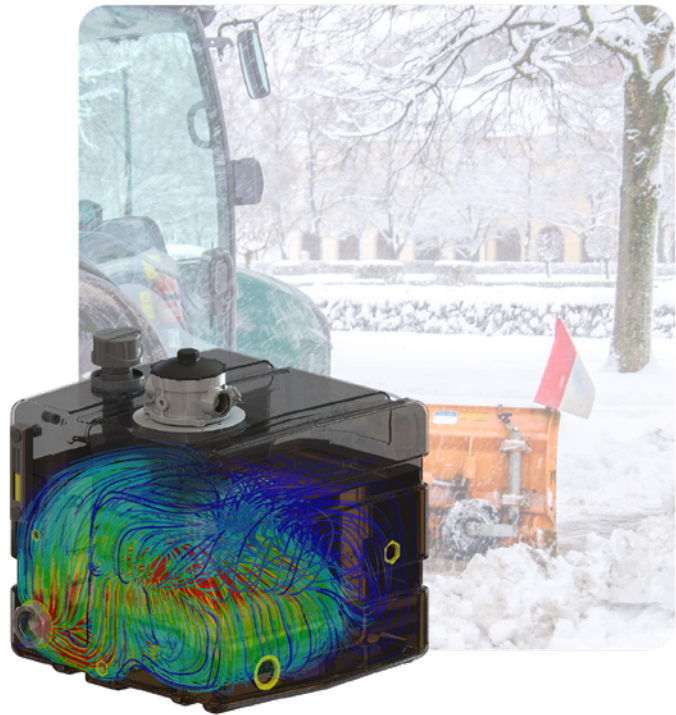
Learn More



## Case Study L-5176

### Tank Optimization & Air Fusion Technology Give Ride-On Snowplow Competitive Edge

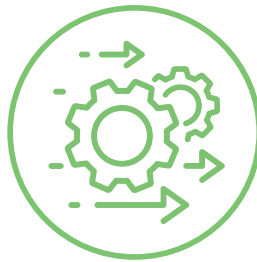
An OEM producing ride-on snow removal equipment, wanting to be more competitive in the market, sought solutions to improve their hydraulic oil cleanliness and optimize their systems.



**Here's how Tank Optimization (and AFT filtration) helped this customer:**



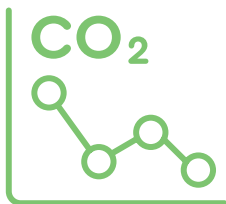
**Reservoir  
Downsized by 7  
Gallons and 51lbs**



**Design Improvements:  
Runs 2x Longer Than  
Competitor**



**Nearly \$100  
USD Initial Cost  
Savings Per Unit**



**Initial CO<sub>2</sub> Reduction:  
100lbs Per Unit**

**View Case Study**





## Case Study L-5177

### Tank Optimization, TNK25 Halve Reservoir Volume, Provide Substantial Oil & Space Savings

An OEM manufacturing fire trucks wanted to free up space for more firefighting equipment and overall reduce the weight & improve the performance of their existing tank assembly.



**Here's how Tank Optimization (and the  
TNK25) helped this customer:**



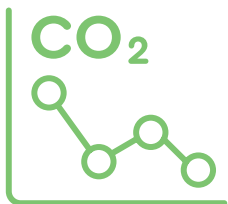
**Reservoir  
Downsized by 30  
Gallons and 230lbs**



**Initial Cost  
Savings Per Unit  
of \$946 USD**



**Additional Machine  
Space Created for  
Equipment Storage**



**Initial CO<sub>2</sub> Reduction:  
702lbs Per Unit**

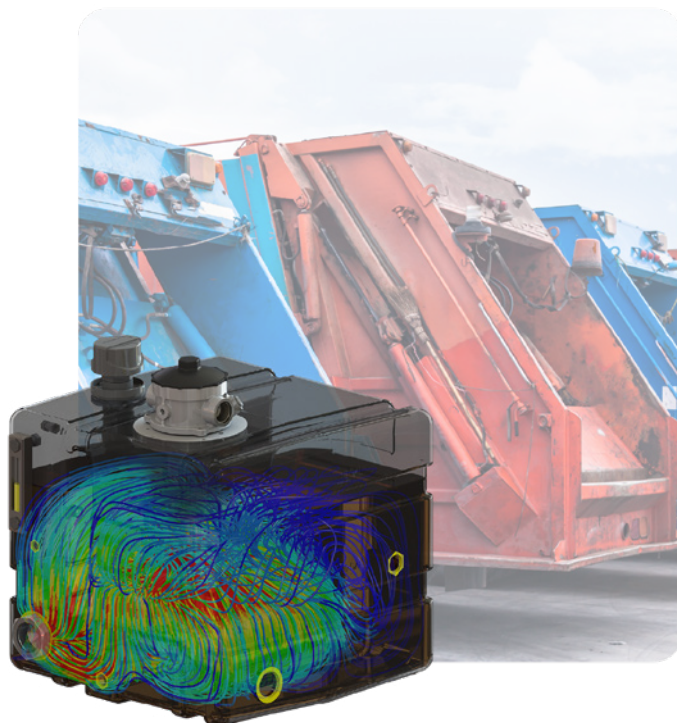
**View Case Study**



## Case Study L-5181

An OEM manufacturing a variety of hydraulic refuse trucks sought ways to improve the design and efficiency of their side loader model.

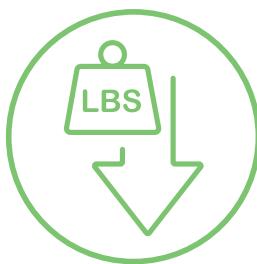
Through Tank Optimization and the in-tank benefits of Schroeder's BRT filter, Schroeder Industries was able to downsize their existing 75 gallon reservoir.



**Here's how Tank Optimization (and the TNK25) helped this customer:**



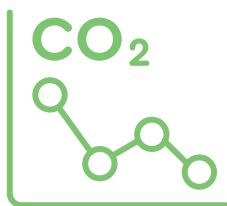
**Reservoir  
Downsized by  
19 Gallons**



**Weight  
Reduction of 335lbs  
Per Assembly**



**\$380 Initial  
Oil Cost Savings  
Per Unit**



**Initial CO<sub>2</sub> Reduction:  
450lbs Per Unit**

**View Case Study**

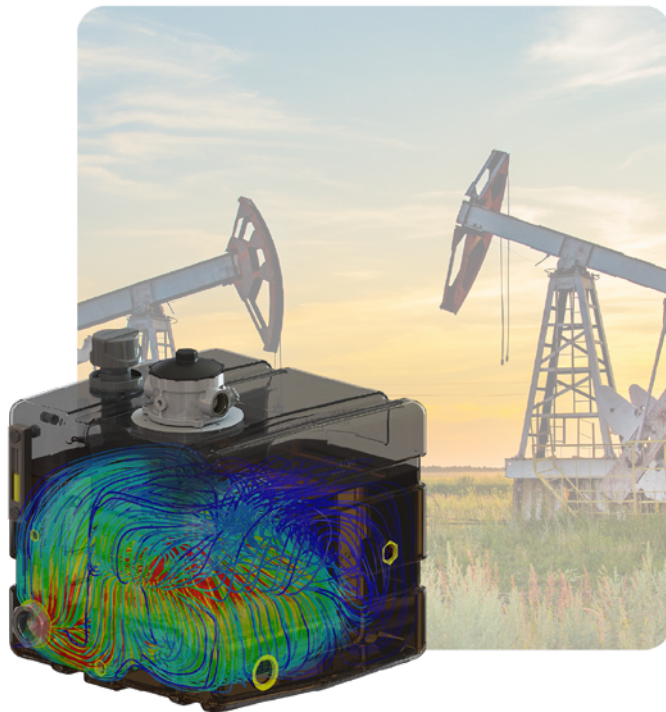




## Case Study L-5182

### Tank Optimization, TNK25 Halve Reservoir Volume, Provide Substantial Oil & Space Savings

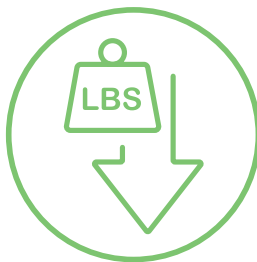
An OEM manufacturing fire trucks wanted to free up space for more firefighting equipment and overall reduce the weight & improve the performance of their existing tank assembly.



**Here's how Tank Optimization (and the  
TNK25) helped this customer:**



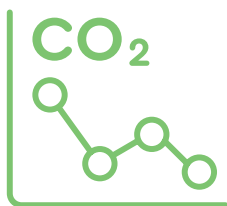
**Reservoir  
Downsized by  
160 Gallons**



**Weight Reduction  
of 1411lbs Per  
Tank Assembly**



**\$3,200 Initial  
Oil Cost  
Savings Per Unit**



**Initial CO<sub>2</sub> Reduction:  
3780lbs Per Unit**

**View Case Study**



# In Case You Missed It: TNK1C

On the topic of tanks, Schroeder Industries recently released our most compact TNK yet!

Check out the TNK1C:



## Schroeder News Blog



**Tank Optimization:  
Revamp Your Reservoir**



In this Schroeder News blog post, take a look behind the scenes at the what and why of Tank Optimization. Learn more about the benefits, the factors we consider, and review some case studies!



**Small But Mighty:  
Introducing the  
TNK1C Reservoir**



Good things come in small packages! In this Schroeder News blog post, we introduce the TNK1C, our new 1-gallon TNK Series solution.