



Autonomous Sprayers
mini GUSS



GUSS

GUSSAG.COM



Welcome to the future

Mini GUSS solves the problems associated with spraying vineyards and high-density orchards. Our self-driving sprayers make spraying faster, safer, and easier — row after row, field after field, day or night.

A solution to labor challenges

Mini GUSS drives itself. A single employee can monitor a combination of up to 8 GUSS machines at a time.

Enhanced safety

Eliminate human error, reduce exposure to materials being applied, and reduce need for PPE, shade, water, etc.



Increased efficiency

Eliminate operator downtime and breaks, while increasing speed, consistency, and efficiency of application.

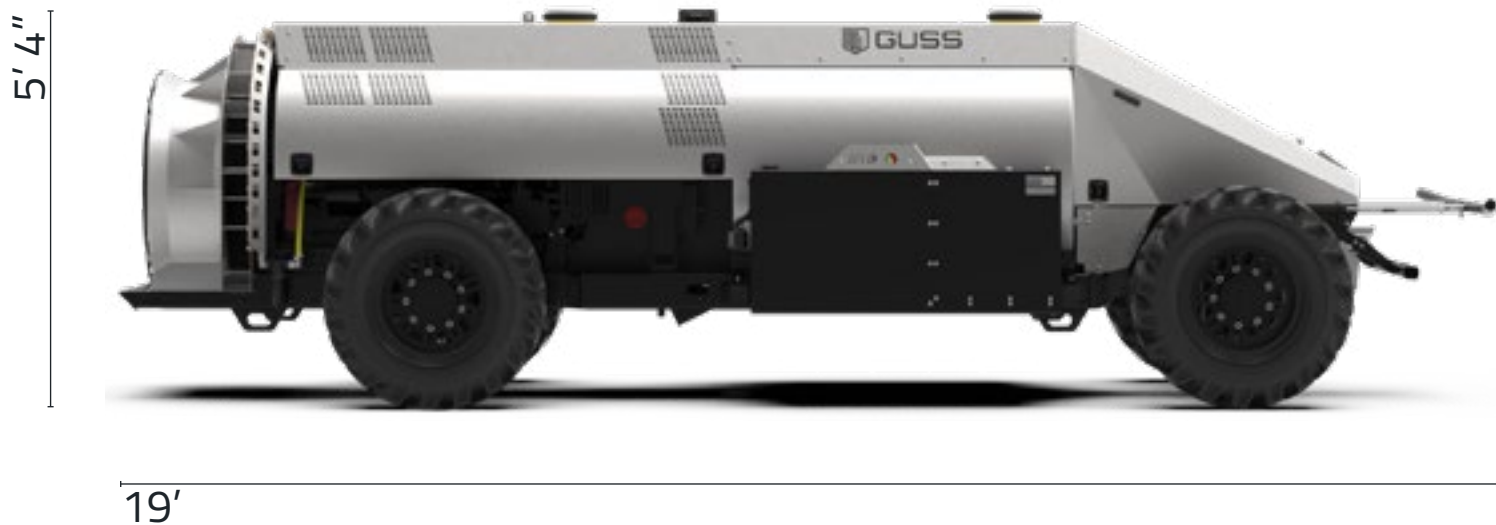
Ultimate precision

Precisely control application rates and sprayer speeds across entire fields and in variable terrain.

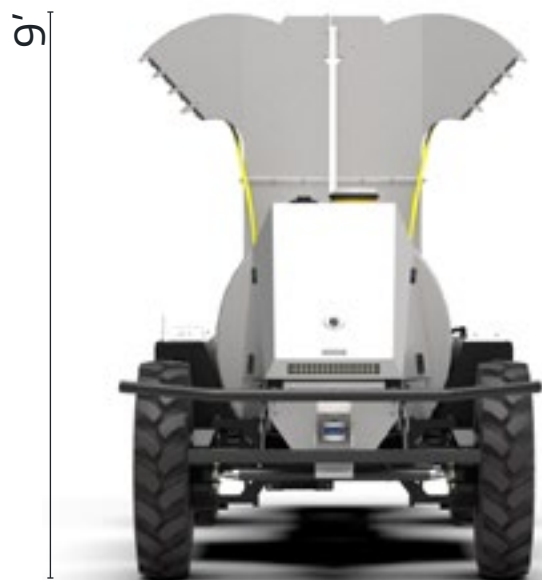
Autonomous technology

A combination of GPS, LiDAR, sensors, and software are used to guide mini GUSS safely and efficiently through vineyards and high-density orchards.

Standard



Vineyard Tower



Apple Tower

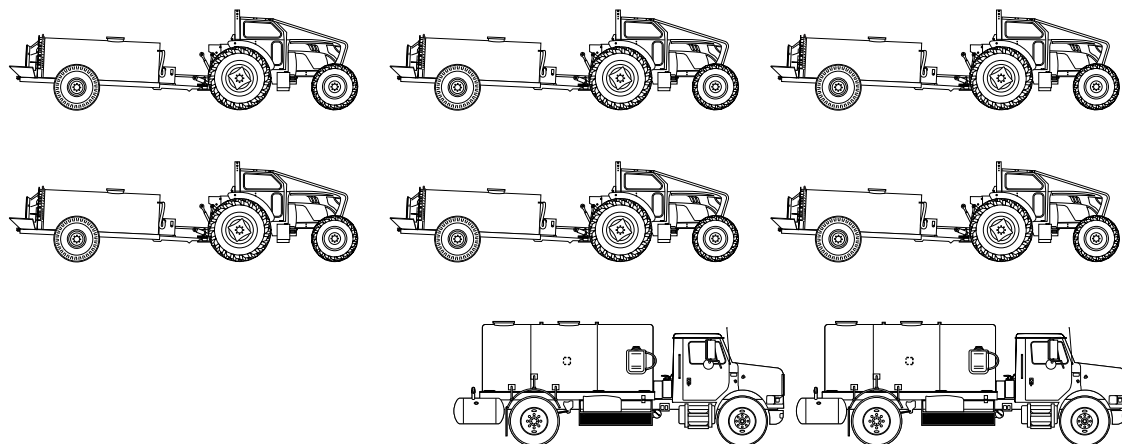


Empty weight	8,840 lbs
Engine	John Deere 4.5L 173hp Stage V Diesel (Tier 3 available for export)
Fuel capacity	77 gallon fuel cell (~12 hour run time)
Engine fan	Clean Fix reversing engine fan
Drive type	4 Wheel drive
Steering	4 Wheel steering
Tires	BKT MP 567 (10.5-20)
Body	Stainless steel hood, roof, doors and fan housing
Material tank	400 gallon stainless steel tank
Fan	36" direct drive fan
Pump	Hydraulic drive centrifugal water pump
Spray nozzles	Standard housing - 28 ceramic nozzles Vineyard tower - 22 ceramic nozzles Apple tower - 44 ceramic nozzles

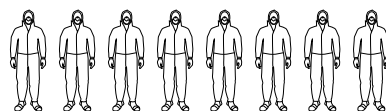
Learn more at
our website:



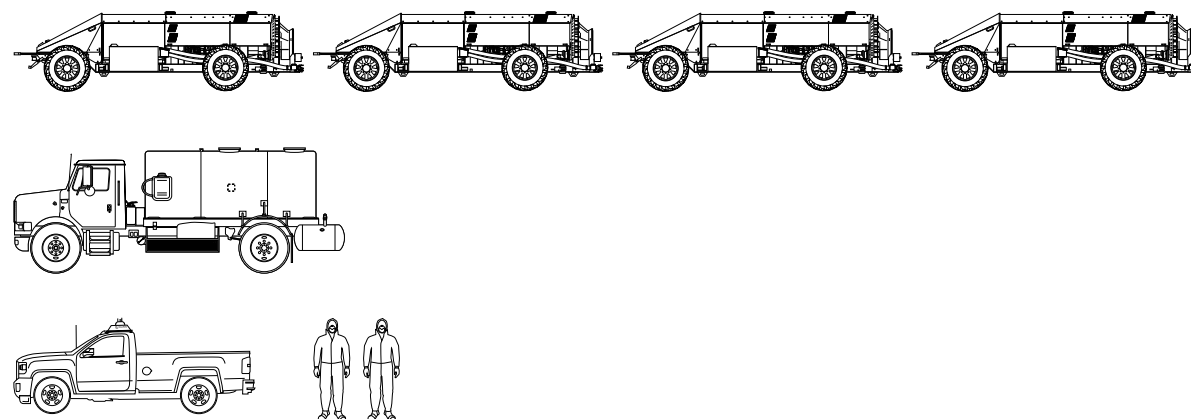
Conventional



6 conventional tractors
6 conventional sprayers
2 nurse trucks
8 workers with PPE



mini GUSS



4 mini GUSS sprayers
1 nurse truck
1 pickup with GUSS supervisor laptop
2 workers with PPE

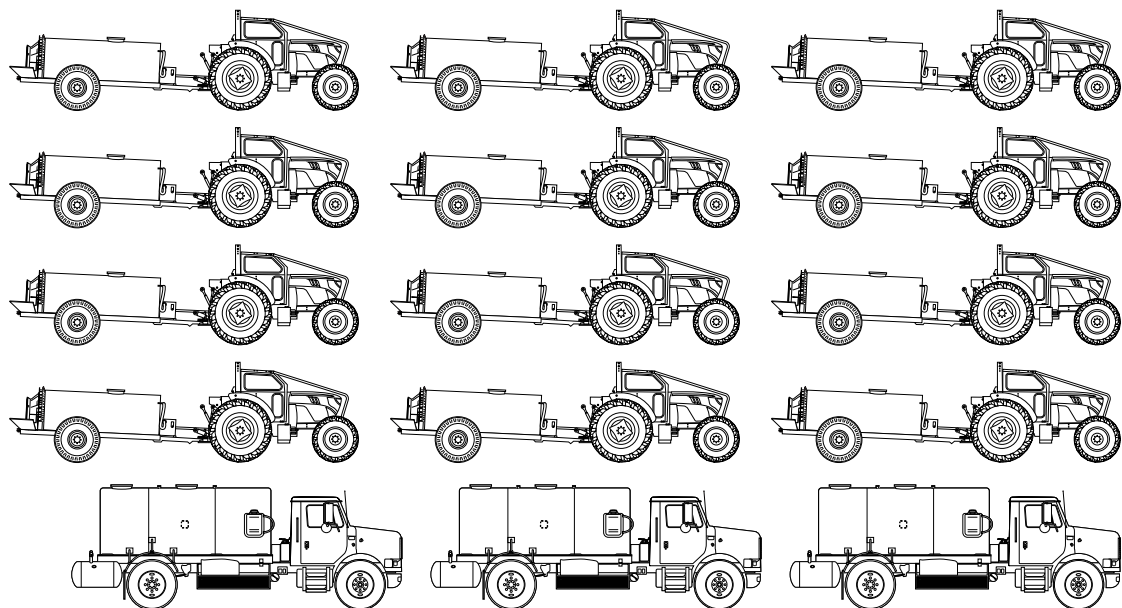
Case study: mini GUSS at medium scales

At medium scales, mini GUSS's benefits are readily apparent. As the above illustration demonstrates, mini GUSS requires growers to purchase, utilize, and maintain fewer pieces of equipment — which immediately reduces overhead. Additionally, mini GUSS eliminates pain points traditionally associated with laborers: lack of dependability, breaks and downtime, human error, supplying workers with PPE/shade/water, and labor inspections. By letting mini GUSS drive itself, farmers can simplify operations, increase efficiency, and reduce dependence on unreliable laborers. Best of all, mini GUSS pays for itself. Most mini GUSS operators see ROI in one to three years.

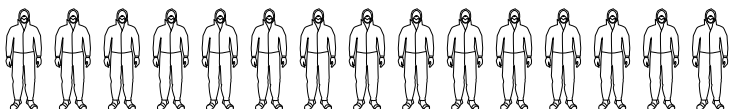
Let us show you how you
can operationalize the
benefits of mini GUSS:



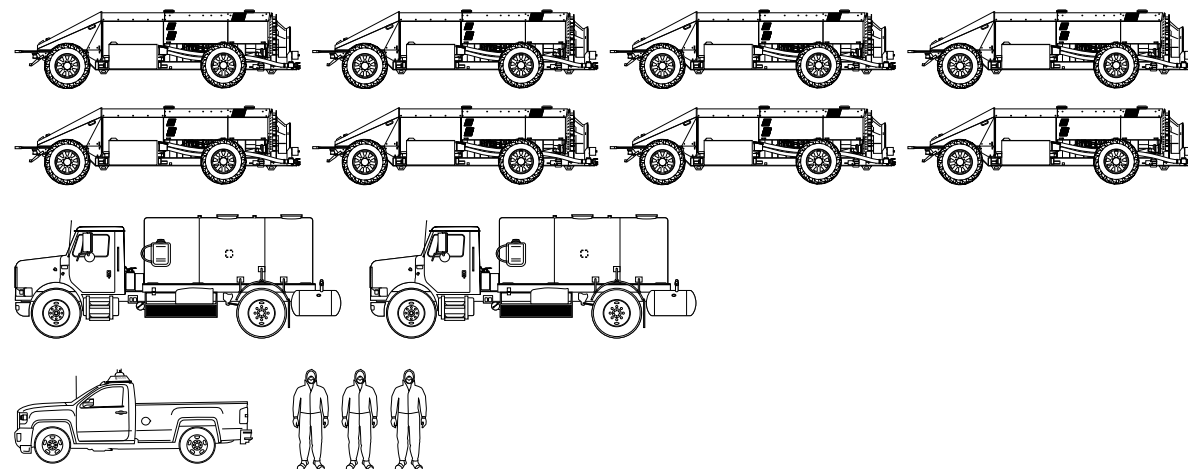
Conventional



12 conventional tractors
12 conventional sprayers
3 nurse trucks
15 workers with PPE



mini GUSS



8 mini GUSS sprayers
2 nurse trucks
1 pickup with GUSS supervisor laptop
3 workers with PPE

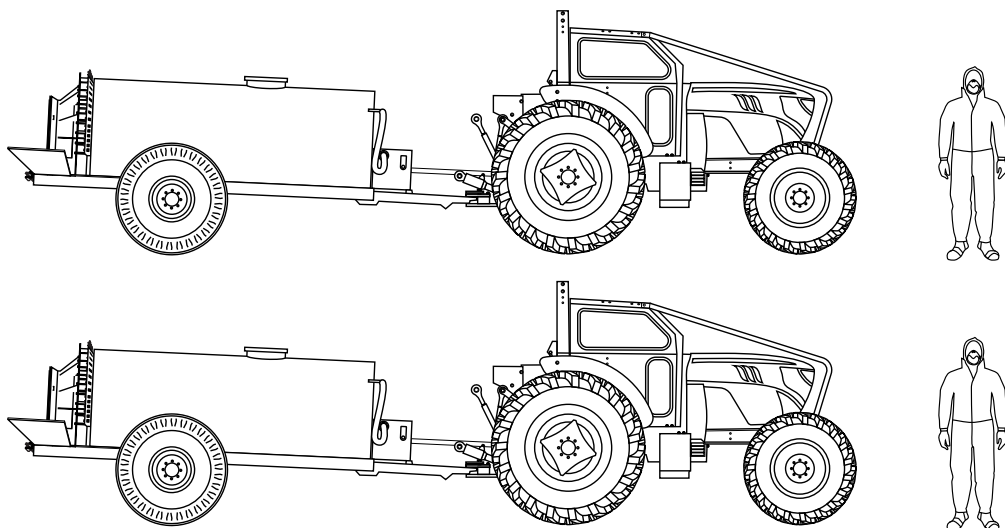
Case study: mini GUSS at larger scales

Spraying a large amount of acreage with traditional sprayers requires a lot of equipment — and a large labor force to operate it. Instead of focusing on farming, growers are forced to contend with labor-associated headaches (worker dependability, human error, PPE, shade, water, and labor inspections). Mini GUSS sprays vineyards and high-density orchards with fewer pieces of equipment (cutting down on overhead) while reducing the need for traditional laborers. At nearly every turn, mini GUSS is a better spraying solution for large-scale growers.

Let us show you how you
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benefits of mini GUSS:

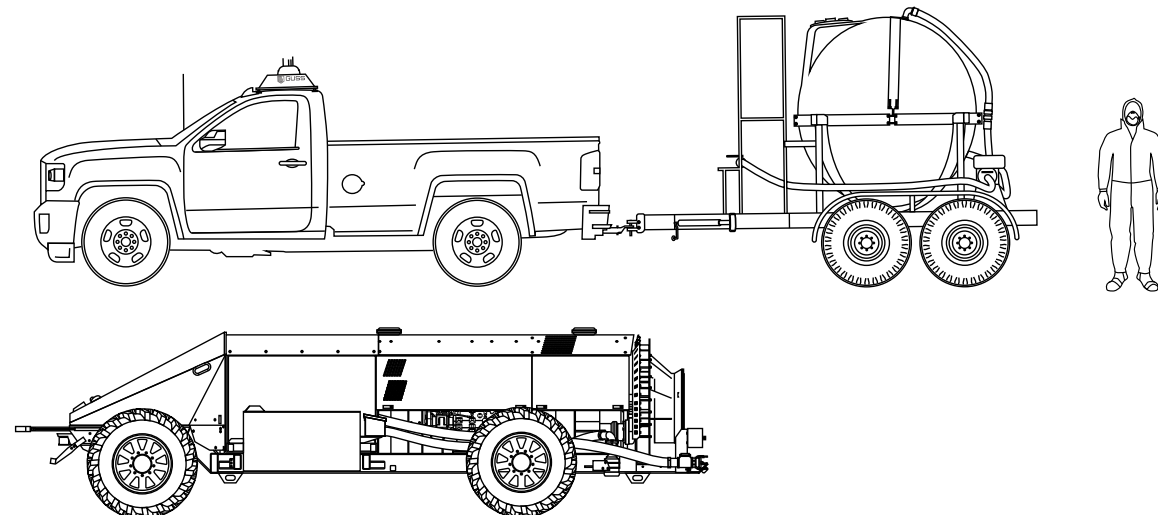


Conventional



2 conventional tractors
2 conventional sprayers
2 workers with PPE
Sprayers mix and fill at pump

mini GUSS



1 mini GUSS sprayer
1 pickup with laptop towing nurse trailer
1 worker with PPE

Case study: mini GUSS at small scales

Even at smaller scales, mini GUSS makes good sense. A single employee can double his acreage everyday using a mini GUSS sprayer. How so? While mini GUSS is out spraying, the operator is free to drive his pickup with a nurse tank attached behind him to the pump to mix more materials. When full, he can return to the field and wait for mini GUSS to stop for a refill – all while monitoring mini GUSS on his laptop computer. When mini GUSS is empty, he refills its tank and sends it on its way again. A typical 45 minute downtime to refill is now reduced to just three minutes, and mini GUSS is on its way again!

Let us show you how you
can operationalize the
benefits of mini GUSS:



Map fields

Building a field map is a fast and easy process that can be done in the office. Then, complete the process with a quick on-farm visual check to “ground truth” the map. That’s it. The map can be saved and used for the life of the vineyard or orchard.



Configure sprayers

Mini GUSS sprayers must then be configured for the application they are to perform. Determine which spray nozzles to use and then configure mini GUSS’s software to set vehicle speed, engine RPM, pump pressure, material flow rate, and rows per refill.



Assign routes

Lastly, assign a route to each sprayer to identify which rows it will spray. Mini GUSS’s user interface includes a route generator tool to make this process fast and fail-safe.

Setup

Mini GUSS’s navigation system is so easy to set up and use that most growers can be up and running in just a few hours. Initial setup follows an easy 3-step process. Mini GUSS was designed to be operated by existing on-farm personnel.

Learn more at
our website:






Monitoring

A single operator can monitor a combination of up to 8 GUSS machines at a time from the comfort and safety of a pickup truck using a laptop computer. Mini GUSS's user interface provides operators with important sprayer information (position, spray rate, speed, etc.) in real time. In the event that an issue is detected onboard a mini GUSS sprayer, the interface automatically sends both visual and audible alerts to the operator, directing his attention to the exact problem so he can take quick corrective action and get back up and running.

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A photograph of two men standing in front of a large, silver, autonomous sprayer vehicle. The man on the left is wearing a plaid shirt, jeans, and a baseball cap. The man on the right is wearing a dark t-shirt, jeans, and a baseball cap. They are standing on a gravel surface. In the background, there is a blue tractor, a silver pickup truck, and a large building with a covered area. The sky is clear and blue.

GUSS has had a major impact on my farm by allowing me to do more with less. We get more acres done every shift due to less stopped and downtime. My dependency on labor and all the challenges that come along with it has greatly decreased. In my opinion, GUSS autonomous sprayers are the only way to go moving forward.

— Mike Carr
Five Star Farms



Made in the USA

Mini GUSS was developed in the heart of California's Central Valley, which is home to much of the world's high value vineyard and orchard crops. Each mini GUSS sprayer is proudly crafted by hand at our state-of-the-art manufacturing facility in Kingsburg, California.

Order your GUSS
sprayers today:





Dave Crinklaw – CEO
Gary Thompson – COO
Chase Schapansky – CTO

About GUSS

CEO Dave Crinklaw formed his commercial spraying business Crinklaw Farm Services (CFS) in 1982 and has developed a stellar reputation of quality, service, and integrity amongst growers across California and Arizona. GUSS is the latest in a long line of innovations from CFS and was developed to address common pain points associated with CFS's vineyard and orchard spraying business.

GUSS Automation, LLC was launched as a separate business entity to manufacture and sell GUSS machines to growers so that any ag business can experience the benefits that GUSS's technology offers. We are a team of ag industry veterans with a desire to increase efficiency, precision, and safety by implementing innovative new technologies in agriculture.



GUSS

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