



MUNTERS POSITIVE PRESSURE FILTRATION PREVENTS PRRS AT IOWA SELECT FARMS

Third-generation farmers, and owners of Iowa Select Farms, Jeff and Deb Hansen, started with humble roots in 1976, farrowing just three sows. Through passion and hard work, Iowa Select Farms was born and has grown steadily to become the fourth-largest pork producer in the United States. Today, they produce more than one and a half billion pounds of pork annually with the help of their 1,200 employees and 650 contractors.

As the number one pork producing state¹, Iowa takes in approximately 22 million pigs from all over North America for finishing and processing. Swine farmers in Iowa are actively fighting the battle against Porcine Reproductive and Respiratory Syndrome (PRRS) every day. A PRRS outbreak can cost upwards of \$225 per animal to remediate and it is estimated to cost the industry \$664 million in the United States each year².

There are many products and procedures that exist to ensure PRRS isn't spread from shared equipment, human interaction, and other cross contaminants. However, the virus mutates quickly and can be spread by airborne transmission so geographical distance from an outbreak area doesn't mean immunity.

Iowa Select Farms is proactive in their pursuit to mitigate PRRS; what makes them unique is their dedication to innovation. They are forward-thinking, open to technological innovations and use scientifically-sound principals in all stages of pork production. Because PRRS impacts both the sow and piglet, Iowa Select works hard to ensure the 242,500 sows across their 48 sow farms are protected from an outbreak in full measure.

THE SOLUTION

VX51 MUNTERS DRIVE

- Direct drive EC motor technology
- Nearly maintenance free
 - » No bearing maintenance
 - » No belts to replace
- Variable speed option
- Handles the higher pressures of Positive Pressure buildings
- Precise control over airflow, using feedback on drives
- Extreme durability and reliability with over 20,000 units in the field

In 2013, Iowa Select Farms approached the Munters team about their positive pressure systems as they began investigating ways to implement additional biosecurity measures on a large barn remodel project.

"Munters had a ready-made design to do positive pressure on a remodeled barn. And, the Munters Drive fans are made to run at higher static pressures, without additional electrical usage."

– Environmental Projects Manager, John Stinn

Over the course of four years, Iowa Select Farms and Munters worked together to create 30 filtered positive pressure sow farms and 10 positive pressure gilt developer units through a combination of remodeling and building new barns. At less than half the cost of building new barns completely, retrofitting some of their existing structures with new equipment made smart economical choice for Iowa Select.

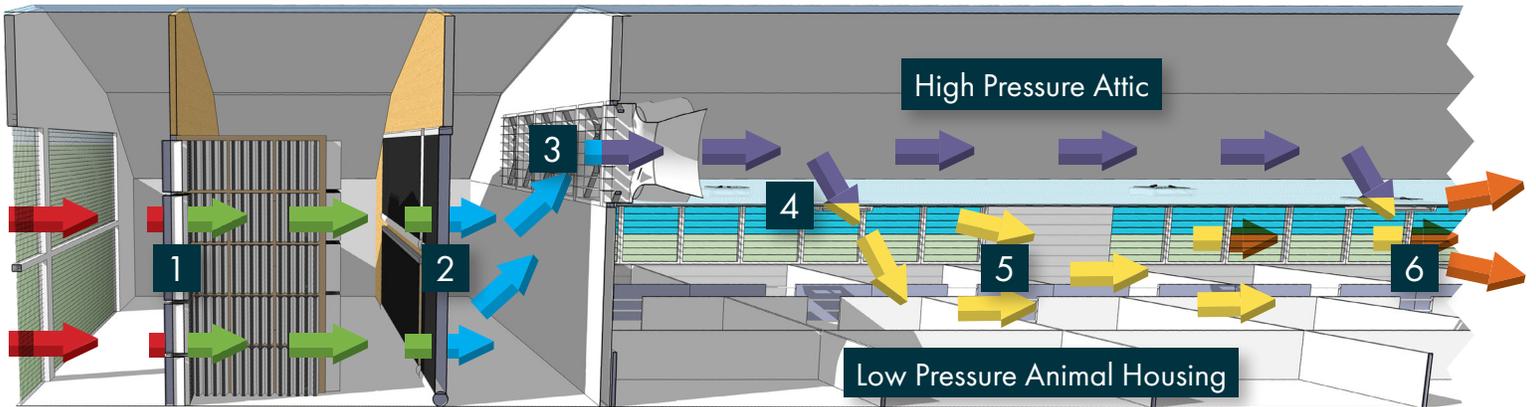
Additionally, all of the barns use Electronically Communicated (EC) technology on Munters Drive motors, which can reduce electrical usage by 40 percent and is nearly maintenance free, helping to reduce their carbon foot print, save money, and usher in a greener approach to ventilation.

Munters has been designing and refining filtered swine facility ventilation for many years working with some of the top hog producers to create the Positive Pressure Ventilation Design. The latest innovation in livestock ventilation incorporates air filters, evaporative cooling with CELdek, Munters Drive VX51 Fans, BI28 Inlets, and actuated outlet walls – all carefully engineered to create a Positive Pressure Ventilation System to protect animals from outside contaminants. Today, well over 300,000 sows are currently using this system.



BI28

HOW IT WORKS



Outdoor unfiltered ambient temperature air passes through filter wall, removing airborne pathogens (1). Then the air hits an evaporative cooling wall to cool warm summer air (2). Munters Drive VX51 fans precisely pressurize the attic with filtered and cooled air (3). As the building becomes pressurized, the BI28 Inlets allow the precise amount of air to maintain temperature and airflow (4). Munters back draft shutters prevent pressure drops and back drafts in windy conditions (5). An actuator with pipe drive systems adjust curtain openings to maintain constant pressure and provide an outlet for metabolic gases (6).

This top-down ventilation ensures condensation is reduced to help prevent building rot and unlike a negative pressure systems where even the smallest air leak can let unfiltered air in, a positive pressure barn is continually pushing air out. Even small cracks don't impact the filtered air.

"The positive pressure filtration has made a noticeable difference in air quality and our ability to keep pigs cool and comfortable—there's never any variation in temperature no matter where you are in the barn."ⁱⁱⁱ

– Farrowing Department Head, Melissa Mayer

Munters Drive is made to run at higher static pressures than typical agricultural fans without additional electrical usage. The infinite variable speed allows them to fine tune both the temperature and pressure in the barns. Munters drive is programmed to run at a constant speed with no loss from belt wear, ensuring proper air flow that maintains attic pressure with minimal maintenance.



CELdek



ACTUATOR

THE OUTCOME

Iowa Select estimates the cost of a PRRS outbreak at \$225 per animal, and estimates that the Munters design pays for itself entirely by preventing two outbreaks. Additionally, they estimate an eight-fold decrease in PRRS outbreaks.

In 2017, less than two years after the farm's positive pressure filtration remodel was complete, their pigs per sow per year had jumped 25 percent, and pre-wean mortality dropped 19 percent.^{iv}

What's more, their employees have reported experiencing a

"For a long time, we were the poster child for what positive filtration can do for a sow farm. We went from endemic to complete cleanup."

– Sow 11 Manager, Lance Lawrence

First Positive Pressure Filtered Barn at Iowa Select

healthier and more satisfactory work environment. They also have a healthier herd that is easier to manage. Anyone who knows the Iowa Select Farms crew knows how important their staff and community are. Their passion is greater than the day in-day out of caring for their herd.

Trust Experience: 95% of all positive pressure buildings in the US are



designed and equipped with Munters Ventilation Systems. Our latest design incorporates filters, cooling, Munters Drive VX Fans, BI28 Inlets and actuated outlet walls, carefully engineered to create a Positive Pressure Ventilation System that will protect your animals.

WATCH THE INTERVIEW ON YOUTUBE



We sat down with Environmental Projects Manager, John Stinn, to discuss how Positive Pressure Filtration has worked for Iowa Select.



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