Number 3

FOCUS on New Farm Projects

Fast and efficient milking action

Dairy farmers around the world are facing a rapidly changing industry with pressures on labour, animal welfare, environmental restrictions and rising consumer expectations.Regardless of the size of the dairy or farming techniques, all dairy farmers are searching for a solution to these many challenges that will enable their operation to remain sustainable for a future generation.

LR Gehm, LLC has spent the past few years researching and testing new milking technologies to enable dairy farmers to be in a position to address the many challenges they face. This research has culminated in the development of a new product, TridentPulsation, that incorporates numerous innovative patented technologies that have been proven on dairy farms large and small in the US, Canada and Europe. The early on-farm trials optimised design parameters and features to maximise both performance and benefits to the dairy.

The goal of this product was to improve milking speed and efficiency with a highly reliable pulsation system that includes an integral pulsation functional monitor. The results achieved exceeded expectations, while yielding added benefits of improved udder and cow health through a consistent and superior milking process. Data from the farm trials formed a basis for the product being a recipient of a 2021 ASABE AE50 award for innovations in agriculture.

Rob Krijnen, an owner of Krynen Holsteins in Ontario Canada, upgraded his 2X10 parlour to milk the 400 cows at his dairy. While this dairy is not recognised as organic, the treatment of the cows meets organic practices as no antibiotics are used. The introduction of TridentPulsation yielded an average unit on time of 3.6 minutes with average flow rates of 4.4kg/min and peak flow rates up to 9.8kg/min. 70% of the milk (9.9kg) is yielded within the first two minutes which is well above the industry goal of 50% or 6.8kg.

Rob sums up the milking speed as "visitors watching the cows state that they have never seen cows milk so fast." Rob also noted that with the reduced milking time, consistent liner attach and milking efficiency that udder health is improved such that no antibiotics are used as cows yield high quality milk very quickly.

Casey Roest of Modesto California also upgraded to TridentPulsation and shares the same experiences as Rob. He also noted the rapid milking speed, so fast in fact that the herd was finishing in record time. Casey said that the 1,100 cow herd has much healthier udders with the improved milking efficiency.

The pulsator with the regenerative blower that provides the positive pressure fresh air.

Kirk Arnold and his mother operate a 140 cow Organic dairy in upstate New York. Their experience in their 2X12 parlour is also similar. A few months after upgrading and discovering that the milking speed is so fast, Kirk stated, "had I known about this product before building the parlour I would have built a smaller one."

Cows routinely milk out in 2-4 minutes with gentle detaching leaving dry, soft teats with excellent teat ends. Kirk discovered that his replacement rate has fallen from 43% to 29%, a common experience as the much shorter milking durations result in less teat and udder stress.

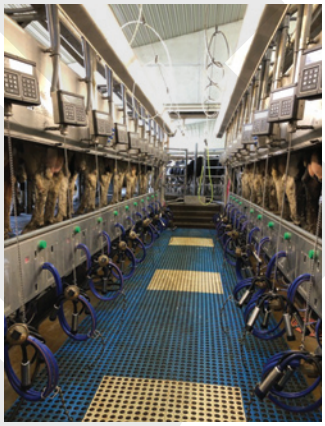
As similar stories and experiences continue to grow, the question arises as to what is different in the technology that has enabled this quantum leap in milking performance after so many decades. The answer lies in the packaging of several innovative technologies, each of which is a contributor to the final result. TridentPulsation uniquely holds the liner fully open at time of attach to ensure that each liner is properly pulled up onto the teat thus avoiding those often-observed incomplete attaches.

This is then followed by a brief stimulation period in which the canal is fully opened and first milk flow initiated followed by milking pulsation that allows for three user selectable rate/ratios.

Liner action is ensured to be consistent and optimal from not only start to finish but regardless of liner age, vacuum level and hose length as an integrated positive pressure fresh air system aids in the liner action.

The result is nearly immediate peak milk flows following attach that are sustained throughout milking. Detach is always gentle as the TridentPulsation pulsator coordinates with the detacher to hold the liners fully open during attach to not stress the teats by avoiding dragging a closed liner off them.

TridentPulsation incorporates other innovations such as solenoid timing integrated with the positive pressure fresh air system to minimise the sucking of milk or wash water up into the pulsator in the event of a failed liner. The product also has an integrated functional performance monitor that continuously verifies pulsation performance and notifies of a failure.



The Arnold parlour.

The combination of an on/off feature with the detacher, the positive pressure fresh air and a patented long-life solenoid feature provide superior reliability and life to minimise maintenance.

In a world in which dairy farmers now face growing restrictions on water use, carbon emissions, stricter animal welfare guidelines and labor shortages it is becoming obvious that changes must be made that provide real and substantial improvements in the milking process. Those changes must reduce replacement rates to 25%, reduce death rates to under 1% while improving general udder/animal health and reducing the labour required to milk the herd.

TridentPulsation technology has proven that the path to that future success is not only achievable but now available as demonstrated by those dairies who have embraced this technology evolution. ■

Visit tridentpulsation.com to see data and videos from dairies being milked with this product.

www.copulsation.com