

**Components of the Pulse 250  
Engineered for Reliable Performance**

**Pneumatic Amplifier:** Sealed in a shatterproof housing, the variable pressure pneumatic amplifier provides the precise amount of pressure to ensure accurate vaccination to any size animal. All components coming in contact with the vaccine are manufactured of medical grade materials.

**Handpiece:** Manufactured from durable, polycarbonate medical grade material, the handpiece is adapted to left- or right-handed operation, and ergonomically designed to minimize hand fatigue. Because the handpiece is actuated by contact pressure with the animal, there are no triggers to squeeze. Redundant safety features include an on/off switch and hand-activated "enable" safety switch. Components include a high-pressure, Kevlar®-lined hose, and an ultra-smooth orifice to assure optimal stream focus. The standard nozzle orifice measures .36 milliliter inside diameter, far smaller than a standard 18-gauge needle for less tissue damage.

**Variable dose convenience:** The Pulse 250 comes complete with four interchangeable variable dose inserts to permit 1.0, 1.5, 2.0 or 2.5 ml injections.

**Pulse 250 Fence Bracket:** The Pulse 250 feedlot model includes a sturdy 16-gauge metal bracket which slips over the fence or squeeze chute rail, and is designed to mount the pneumatic amplifier and a vaccine bottle.

**Pulse 250 Backpack:** The portable Pulse 250 model includes a sturdy, lightweight backpack, designed to contain two pneumatic amplifiers, two rechargeable nitrogen or CO<sup>2</sup> canisters and two vaccine bottles.

**Pulse 250 Waistbelt:** This lightweight model contains the pneumatic amplifier and one rechargeable nitrogen or CO<sup>2</sup> canister.

**Sanitation and Maintenance:** Thoroughly clean and flush the system before changing vaccines, and at the end of each vaccination period. Begin by installing a fresh draw-off and bottle filled with sterile water or any sanitizer. Discharge approximately 20 shots of sterile water into the foam test pad to flush out the hose assembly and handpiece.

*Pulse 250 comes complete with a "spares kit" and simple instructions for maintaining the device.*



For international information about how to purchase the Pulse 250 or to locate a distributor near you, contact Felton International at:  
Felton International • 8210 Marshall Drive • Lenexa, KS 66214 • 913-599-1590 • www.feltonint.com



**Variable Dose Needle-Free  
Injection System for Cattle**



**Put the future of needle-free injection technology to work in your beef or dairy operation with Pulse 250<sup>®</sup>,** the first needle-free injection system proven to increase profitability by eliminating the risks and expense of needle use.

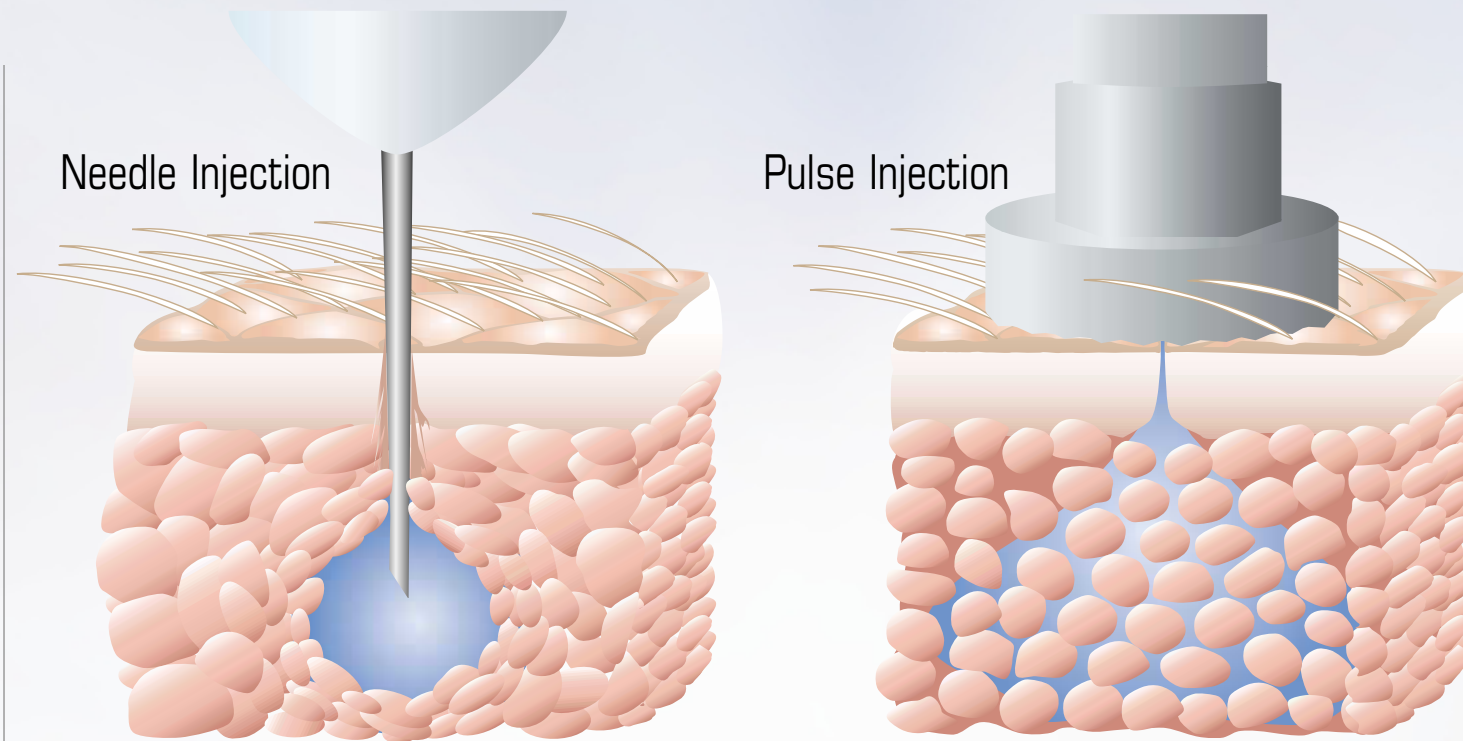
Featuring state-of-the-art technology that's proven safe and effective for vaccinations, Pulse 250 helps beef and dairy producers eliminate many of the problems associated with conventional needle injection. Powered by compressed air, CO<sub>2</sub>, or nitrogen and a variable pressure pneumatic amplifier, the system propels a variable dose of medication directly through the skin and into the subcutaneous or intramuscular layer of tissue. The Pulse 250 reduces injection site reactions and tissue damage associated with needle injection. It reduces the risk of transmission of bloodborne diseases with contaminated needles, and improves profitability by reducing needle injection costs. The system also has been shown to improve food and worker safety.



### **Models for beef and dairy producers.**

The Pulse 250 feedlot model is designed for quick and easy vaccination of animals as they are processed through a squeeze chute. It features a convenient metal "fence hanger" bracket, which can be temporarily or permanently suspended from a fence or chute rail. This unit can be powered by CO<sub>2</sub>, nitrogen, or by a portable or permanently installed air compressor.

The Pulse 250 is also available in portable backpack and waistbelt models powered by CO<sub>2</sub> or nitrogen. Field trials have shown this design to be effective as crews vaccinate a succession of dairy or beef cows confined in headlock stanchions.



### **Pulse 250 reduces costly tissue damage with true and consistent sub-Q injections.**

Conventional needle injection results in losses of tens of millions of dollars each year from reduced grade and increase carcass trim due to injection site lesions.

Designed for either subcutaneous or intramuscular injection, the Pulse 250 creates an entry point about one-seventh the size of an 18-gauge needle. The needle-free injection helps to avoid tearing or scarring the injection site, which can create avenues for the development of scar tissue within the valuable muscle tissue. It distributes the vaccine throughout the cell layers as opposed to creating a depot with a conventional needle – resulting in increased cellular vaccine contact to ensure optimal efficacy. The unique design of the Pulse 250 ensures accurate and consistent sub-Q administrations.

### **Support for the Pulse 250 technology.**

"We think this needle-free injection technology is going to help the feedyard industry with two main issues. The first issue is injection site lesions, which we're trying to eliminate at the feedyard level. The second is the transmission of bloodborne pathogens that can result from using one needle on 7 to 10 head of cattle before switching needles."

**Tom Jones, Partner, Hy-Plains Feedyard, LLC, Montezuma, Kansas**

"Our clients who are using this technology are seeing less tissue damage and reduced injection site lesions compared to needle-and-syringe injection, with impressive dispersion into the lymphatic system. The Pulse 250 also has the

potential to lessen disease transmission concerns, and to alleviate concerns about broken needles and accidental needle sticks."

**Bob Blomme, DVM, Partner, Audubon-Manning Veterinary Service, Audubon, Iowa**

"We vaccinated about 4,000 head in the first two or three months we used the Pulse 250. The design is simple to use, it's safe from an employee standpoint, and we think it's going to make a big contribution to meat quality. We look for it to have a permanent place in our operation."

**Matt Van Meter, Van Meter Feedyard, Guthrie Center, Iowa**

### **Pulse 250 reduces disease transmission.**

Pulse 250 greatly reduces the risk of transmitting bovine leukosis, anaplasmosis, bovine viral diarrhea (BVD) and other bloodborne diseases that can be transferred from one animal to the next through contaminated needles.

Unlike conventional needle injection, which punches a hole in the skin and carries fragments of tissue from the skin surface into the injection site, Pulse 250 is a non-invasive system that propels vaccine through the skin. This further reduces the risk of transferring germs below the skin surface.

### **Pulse 250 improves food safety.**

Because Pulse 250 uses no needles, it eliminates the risk of a broken needle tip or a residual needle fragment finding its way into the food system. This can have a significant effect on consumer confidence and satisfaction.

### **Pulse 250 sets new standard for worker safety.**

Pulse 250 eliminates the risk of accidental needle sticks during vaccination operations, and reduces the risk of repetitive motion hand injuries attributed to squeezing syringe triggers. Because the lightweight Pulse 250 handpiece is less than half the size of many needle and syringe combinations, the system enhances reaction time, with less muscle stress.

### **Pulse 250 improves worker efficiency.**

Pulse 250 can work as fast as you can. After delivering the medication, Pulse 250 is recharged in approximately 1.5 seconds. Needle-free injection eliminates stopping to change needles during vaccination operations, eliminates disposal of dirty needles and injection materials, and reduces hazardous waste.