Is it possible to administer injections without the use of needles?

Needle-free injectors store medication in a sealed compartment and then release it instantly using powerful mechanical force. During this process, the medication creates pressure by competing to go through tiny holes (thinner than a strand of hair)to penetrate the skin layer. As a result, the medication itself momentarily exerts a force 'stronger than a needle', piercing the skin layer and injecting into the body. This characteristic allows for a more even distribution of the medication within the body. This vaccination method is widely used in ivestock industries in various countries abroad.

Will our livestock truly feel no pain?

The AtomGun, after numerous tests with various nozzle sizes, has adopted the 'optimal nozzle size' to ensure effective medication delivery while minimizing discomfort. Even after multiple injections in 5-6-week-old piglets, no significant pain reactions were observed. This method isn't limited to 'pigs' but can be used for 'cattle' as well.This method also reduces concerns about stress-induced issues like 'miscarriage, abortion, fever, needle breakage accidents,' and ensures a safer working environment.

Is it suitable for other livestock including cattle?

We've secured sales permits for a product usable not just for 'pigs' but also for diverse mammals like 'cows' and 'goats.' Considering that skin elasticity matters more than skin thickness, it's recommended to select appropriate vaccination sites based on the species and age of the animal.

How often does abnormal meat occur?

From late 2017 to 2020, in experiments and field trials by the Livestock Association, no abnormal meat cases were found in any livestock over three years. Continuous field tests optimized drug penetration depth for precise development. Unlike other products, AtomGun's consistent injection with uniform pressure, reduces concerns about the presence of abnormal meat.

Is it difficult to learn to use the machine?

Developed in the initial stages in 2017, it was crafted after analyzing drawbacks in existing products. This product places a focus on the primary concern of domestic farmers: 'easy usibility.' It's designed specifically to ensure effortless learning and use, even for foreign workers or elderly farm owners. The machine features an LCD monitor with a picture-based menu setting with two simple buttons for 'menu navigation' and 'execution respectively.'

What power source does it use for injections? Is it compressed gas like any other products?

The AtomGun contains a special spring inside the device. When compressed by the motor and battery, this spring is responsible for injecting the medication by releasing its force (restorative tension) during injection. As a result, it maintains a consistent injection pressure without the need for any adjustments. Furthermore, unlike other similar devices, it allows for continuous use without the hassle of recharging a gas cylinder each time.

Where can I find reference materials such as clinical videos?

You can visit our company website or search on YouTube to watch various 'on-site vaccination videos.' We regularly update new videos and photo materials, so we appreciate your interest. Even after the product is launched, we plan to continuously share clinical information by monitoring numerous farms nationwide.

Is the product fully verified?

We have obtained superb ratings for 'electrical and mechanical safety,' 'electromagnetic safety,' 'eliquid safety,' and 'performance testing' from KTC, a national certification agency. Ultimately, we acquired the 'animal medical device item permit' necessary for sales from the animal health inspection service. Additionally, various clinical tests have been completed over the years following the experimental plan of the livestock association. We will continue to monitor and fine-tune the equipment to ensure more stable usage and aid the breeding environment.

What is the life span of the machine?

Long-term durability testing has prolonged the life of the central components. Mainspring, the energy source of drug injection, has a lifespan of more than 300,000 times. Major parts also have different life spans for each part, such as 1 million hours of use. When the product is shipped, the "recommended regular inspection cycle" will be outlined in the user manual. When the device completes its full cycle, an alarm will be displayed on the LCD monitor to notify the user

What is the repair policy for the product?

The repair policy for the product 'ATOM GUN' is as follows:
1) Free repair is guaranteed for 'one year or 20,000 uses' under normal conditions, excluding faults caused by the consumer.
2) After the free repair period, continuous paid repair support is available at a reasonable price.
3) Repairs will be carried out in South Korea within 14 days from the date of receipt. If an unforeseen delay extends beyond 14 days, we will provide a rental item during the repair period after prior notice.

Please note that the repair policies may vary for overseas customers based on respective countries.

Q&A

Inoculation
The beginning of new

ATOM GUN

Automatic Needle-free Injector

REBORN AGENCY INC
T. +82-2-1670-1321
www.atom-gun.net

How many cc is injected per single injection?

When using intradermal injections, some medication might come back out due to the skin's elasticity. This is a natural phenomenon caused by the reaction force of skin tension due to the characteristics of live livestock, with the "deepness of epidermis + dermis" of most inoculated livestock being only 3 to 6mm. Because the target penetration layer is set below the subcutaneous level, the loss of the drug can be reduced, but this is not directed to intradermal inoculation, so it is made of 0.55cc injection type was manufactured in consideration of the amount of drug loss.

Can additional dose be administered?

The default setup allows for a 0.55cc spray per single operation. To administer a different volume, there are two methods available:

Tip.1
To administer 1cc using the default set, conduct two administrations of 0.55cc each.

Tip.2
Aquire a separate cylinder set(the tip of the device) in a different volume, then replace and attach it to the existing machine.
(When using the 1cc cylinder set, 1cc is injected per operation. The replacement process is highly convenient, requiring the loosening of only a few external nuts for swift exchange.)
In order to maintain consistent vaccination outcomes, we have minimized user intervention to the maximum extent. By outfitting the main device with detachable rechargeable batteries and medication vials, we have engineered it to sustain a consistent dosage and injection pressure at all times."

During the drug preparation stage, what is the rate of medication loss?

During the medication preparation mode, when removing air from the cylinder and filling it with medication, it's normal for air to come out without the medication for the first 1-2 times. As the process continues, medication is dispensed along with air. The maximum medication discharge per operation is about 0.44cc, resulting in a total loss of approximately 2-3cc.

Can I use it for both piglets and sows?

Piglets and sows have similar intradermal thickness, however the skin tension differs. Therefore, using the same syringe, piglets allow for injections throughout the body, while for '8 weeks, 12 weeks sows and ready to be released sows, it is recommended to administer injections in softer areas like 'neck, behind ears, sides, and perineal region.'

How many can be inoculated per hour?

An injection is automatically administered within 0.3 seconds. After the initial injection, the time required to administer the next medication is approximately 3 seconds. This allows for working on over 1000 animals per hour. However, this figure may vary depending on the nature of the workers' skill set and the specific conditions of the site.

Will this method work even though livestock have high mobility?

When the device touches the animal's skin, sensors initiate the injection upon detecting proper contact, leading to a higher success rate for injections in highly mobile livestock compared to the traditional method. Furthermore, Smooth inoculation has bee confirmed through multiple on-site experiments, allowing for rapid work due to animals cooperating smoothly, as there is no pain caused by needles.

When switching medications or after completing machine use, the cleaning procedures are as follows:

Tip1.
Once the vaccination process is complete,
Remove the medication vial〉 Press the 'Go' button below the screen〉 select the 'Cleaning Mode.'〉 Press 'Start' to initiate the 'Automatic Cleaning.'
After completing the cleaning mode, you can either continue by replacing with another desired medication vial for further vaccinations or power off the machine to complete the work.

Tip2.
For those desiring thorough sterilization, our Atom Gun is designed for easy disassembly of all components that came into contact with the drug by simply loosening a few nuts. All disassembled parts are made of 'high-tech special materials' enabling 'heat-based disinfection'.

What do you use to wash off medicines in your equipment?

When using the AutoClean mode, a typical cleaning solution involves mixing distilled water with sterilizing ethanol (commonly available at pharmacies). Unlike our competitors, our product allows easy self-disassembly of all areas exposed to the drug.

For better device hygiene, it's recommended to temporarily disassemble the cylinder set and clean it with regular water or ultrasonic cleaning (standard cleaning is also possible). Afterward, heat sterilization and thorough drying are advised. (Ultrasonic cleaning sets will be available at an affordable price)

How many injections can I get if I have a fully charged battery?

Adopted batteries are lithium-ion 1500mAh, providing approximately 700 shots on a full charge. As the battery replacement time approaches, the red lamp at the top of the LCD screen rapidly flashes. To prolong device lifespan, it is recommended to replace the battery before complete discharge. (Battery 'usage' or 'lifespan' may vary based on user habits and storage conditions.)

Tip.
Rapid recharge within 60 minutes!
No self-discharge or memory effect in the battery itself.
Equipped with an overheating prevention shutdown system.
This product is compatible with various power tools on the market, allowing easy and affordable additional purchases.

Doesn't the pressure drop when the remaining battery capacity decreases?

AtomGun is programmed with 'PID control' to ensure a constant voltage is maintained even as the battery level decreases. As a result, the machine can be used steadily at a consistent pressure from the first shot to the last. The force for drug injection is provided through the elasticity of a spring, and devices that compress the spring are powered by the battery. Consequently, the pressure for drug injection is related to the lifespan of the central spring and remains consistent for approximately 300,000 shots. By adhering to the company's repair regulations and replacing the relevant components after around 300,000 shots, you can sustain continuous injection pressure.

14th Korea World Women's Invention Competition Special Award

14th Korea World Women's Invention Competition Gold Award

The first time in KOREA