



Automatic Needle-free Injector

**ATOM GUN**  
Intradermal

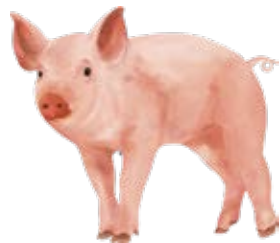


**Inoculation**  
**The beginning of new**

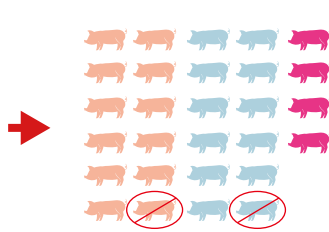
Antibody formation rate **Great** ↑  
Drug side effects **Freedom** ↓

# Still **needle** injection? How much is the **loss!**

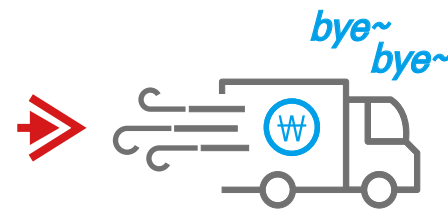
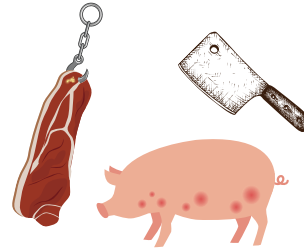
## Example of annual loss of ideal meat



100 sow farm

$$\text{MSY } 20 \times \text{Abnormal meat occurrence frequency} \times \text{Penalty amount per head} =$$


Slaughter and abnormal meat detection



About 15 million won!  
**Farmhouse loss**

Repeated every year  
Enormous **damage!**  
Get away now!

2020 Atom Gun product demonstration: Namsan



Needle free auto injector for livestock can help to reduce the occurrence of abnormal meat caused by vaccination with needle injector. If you are a livestock keeper, you have to vaccinate your animals to prevent disease and raise the market value. (typically in the muscular part of the neck). Among the various mandatory vaccines, the side effect of FMD vaccine causes incidence of abnormal meat such as granuloma or abscess formation at the injection site in pork and its associated economic losses. Recent global research studies and clinical trials in Korea show that the 'incidence of abnormal meat' is significantly decreased with 'intra-cortical injection'. Accordingly, we have developed a special injector to realize 'intra-cortical injection', which is difficult to implement with a needle syringe due to the characteristics of livestock. Atom gun can be used for a foot-and-mouth vaccine as well as other intradermal vaccines.

## HISTORY



2017.06

Development review and pre-clinical



2017.12.29

Started research project



2018.12

Completion of various clinical and prototype development



2019.01 ~ 09

Enhanced durability for commercialization



2019.09 ~ 12

Acquired various certification reports



2020.02.06 ~

Completed item approval and conducted numerous on-site clinical trials



2020. Fall ~

ATOM GUN Ver.1 **released**

## ATOM GUN IS...

"ATOM GUN" stands for 'Animal Technology Osmotic Machine' GUN that is a "JET INJECTOR", a medical instrument delivering medication under the skin without a needle. "ATOM GUN" is needle-free jet injector which is optimized for penetrating the skin and delivering medication to the cortex through a number of clinical researches and trials considering features of skin tension of livestock such as pig, cattle etc.



By applying the optimum pressure value to maintain the medicine to the desired penetration depth, our "ATOM GUN" aims to contribute to the formation of better antibody value for reducing pain and promoting more uniform vaccination in livestock.

The 'syringe with needle 23G', which is widely used in general internal medicine department, has a needle diameter of 0.635mm (needle for drawing blood, 18G=1.27mm) while the size of nozzle hole from which the drug in our injector is shot is very small and fine, ranging from 0.23 to 0.25mm.

While conventional needle injector uses a needle to secure the path of drug penetration into the skin and slowly pushes the drug into the body by using the force of the fingers,

"Jet injector" employs high-pressure jet of liquid medication to penetrate the skin and deliver medication under the skin by sticking fine nozzle holes to the skin. That is, the liquid medication functions as a needle in a moment.

"Jet injector" penetrates each layer of the skin and goes straight to a certain depth. When it reaches the barrier of the skin, it delivers the medication in a way that spreads out horizontally and evenly in an instant along the texture of the tissue.

This allows you to "deliver medication to the desired penetration layer more evenly and faster than needle injector without the fear of needles.

This kind of needle-free drug delivery method is defined as "Jet injector" academically in oversea.

## "ATOM GUN" Ver 1.0 is

designed to inject about **0.55cc** of drug at one operation automatically.

The target penetration layer of the drug is optimized for **"Intradermal"**, and clinical trials on the incidence of antibodies have been completed multiple times when vaccination against foot-and-mouth disease in pigs. In progress.

The clinical results will be announced later on the website.

In addition, we are planning clinical trials of various vaccines in addition to foot-and-mouth disease vaccine.

In the future, we plan to supply accessories so that various doses of drugs can be inoculated according to consumer requests.

Our 'Reborn Agency' aims for various clinical trials. [Welcome your inquiry!!](#)

혈청 검사 결과서	
검사일자	2019년 08월 05일
검사기관	농림축산검역본부
검사대상	돼지
검사항목	ASFV (African Swine Fever Virus)
검사결과	음성

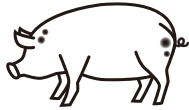
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# REBORN ATOM FMD

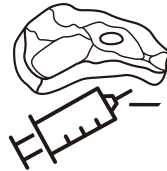
# It really doesn't hurt

# A

Abatement



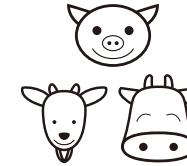
Reduction of Injection  
Site Lesions



Eliminates Meat  
Processing Inhibitors  
Due to Broken Needle



Reducing the Farm  
Labor Force Reconsider  
Competitiveness



Improve Animal  
Welfare by Reducing  
Inoculation Pain



# T

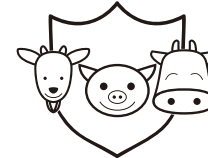
To vaccinate



Fast Drug Delivery  
Effect



Uniform Dose  
Uniform Inoculation  
Results



Excellent Immune  
Response to The  
Vaccines



Reducing the amount  
of vaccines

# O

Obviate



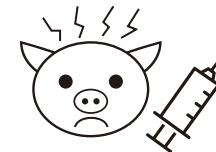
Vaccine Amount  
Reduction



Freedom From  
Medical Waste



Prevention of Needle-  
Induced Disease Spread



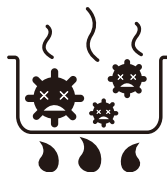
Preventing Stress-Induced  
Acute Death, Fever,  
Miscarriage and Stillbirth

# M

Merit



Professional Device  
Management



Hygienic Device  
Management by  
Sterilizing Hot Water



SUS316 Material  
Resistant to Corrosion



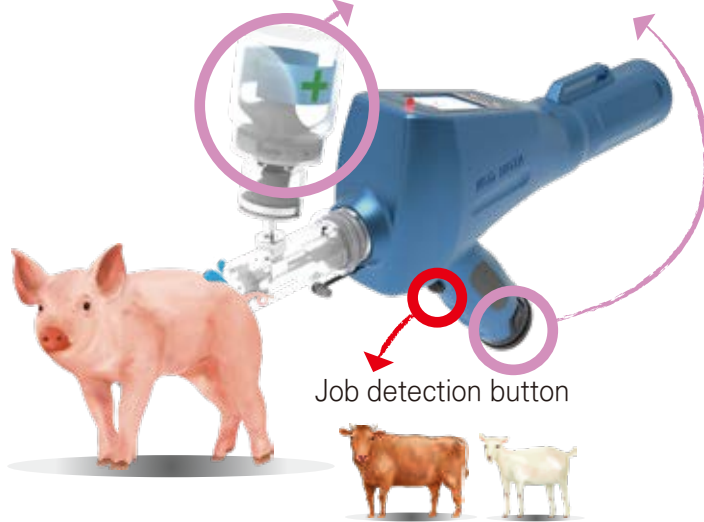
Easy to Recognize  
Picture Menu



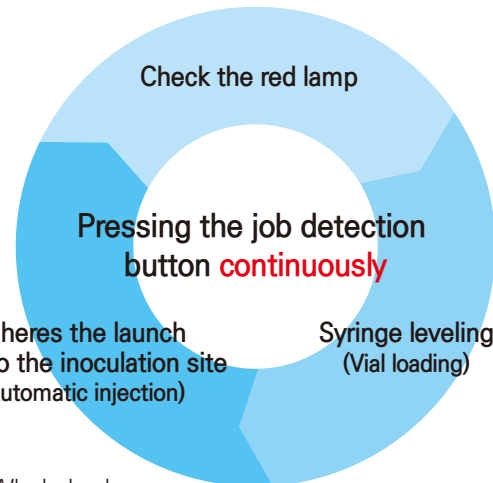
# HOW TO USE

## STEP. 1 Preliminaries

Equipped with a 'vial' and a 'battery' in the device



Job detection button



- Piglet: Whole body
- Sows : soft parts such as 'neck, behind ears, flanks, perineum'
- Cow : Whole body
- Goat : Whole body

## STEP. 2 Vial loading



- 1 Turn on the device by pressing the power button for **3 seconds** after installing the 'Vial bottle' and 'battery' in the device



- 2 "Vial Setting screen" after confirmation Click "**Start**" button  
(Prepare drugs in cylinder-automatic)



- 3 When the "Pre-provision" for inoculating is complete, it will be switched to the "Count screen".  
\* Can manage vaccination records for each farm  
\* Cumulative record, new record selectable



- 4 During inoculation, keep pressing the "**job detection button**".

When the cylinder is loaded with drugs  
The lamp at the top of the screen lights up in red.  
Check the '**red lamp**' (Vial loading is complete)

The launch port is tightly attached to the inoculation site

Automatic injection

Leveling the syringe (loading the next Vial)

If you wait for a while, '**red light**' comes on in '**Lamp**' again.  
Repeat the above operation to proceed with inoculation.

\* To end the vaccination process, remove your finger from the 'job detection button' after the last injection.

## AFTER USE MANAGEMENT

### Tip. 1 Automatic cleaning



After finishing the cleaning mode



or

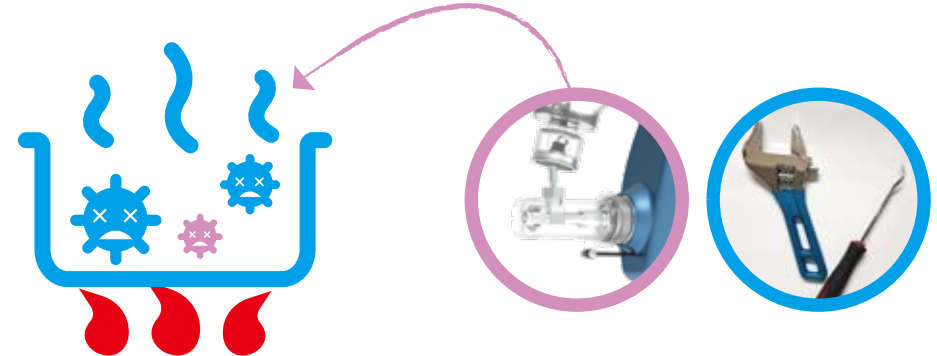


Remove vials after inoculation  
Select the "Cleaning Mode" screen by pressing the "Go" button at the bottom of the screen. Press the "Run" button to perform 'Auto cleaning'

Replace it with another vial that you want to boost  
Continue

Turn off the power  
Complete shutdown

### Tip. 2 Hot water disinfection



Since all disassembled parts are made of 'advanced special materials', 'hot water disinfection' is possible.

For those who want more complete sterilization, our Atom Gun is designed to easily disassemble the "all areas" that the drug touched by loosening a few nuts.

## ADVANTAGES OF THE DEVICE

Atom Gun is

Easy to use and manage!

The function is more precise and uniform!

We will always listen and be born again to be with you with the "high-tech No. 1 worker equipment" loved in the field.

**POINT 1**  
Uniform Results

Constant penetration depth

**POINT 2**  
Quickly

Fast drug delivery speed

**POINT 3**  
So Easy

Easy operation  
Easy to use



Picture menu  
2 buttons



Hot water disinfection



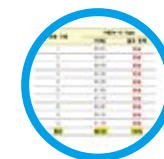
1,000 or more per hour



All vaccines for intradermal vaccination



0.55cc Automatic vaccination



Uniform inoculation result

### Expendables



Silicon O-Ring



Vial spike



2 types of management tools

### Work auxiliary accessories



Velcro arm band



Latex elastic shoulder strap

## FIELD TEST

Born through various clinical trials with “Livestock Association” for many years *Domestic needleless syringe Atom Gun !*



2020.07.07. Anseong\_correction



2020.07.03. Field Test\_No correction



2020.04.23. Hongseong\_correction



2020.03.25. Pocheon\_No correction



2020.02.26. Sunjin\_No correction



2020.03.05. Pocheon\_Anatomical



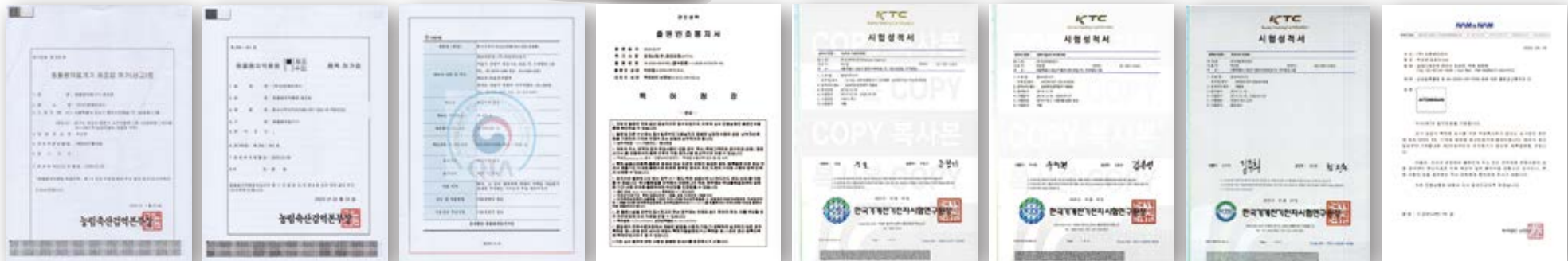
2020.07.01. Cow Uiseong\_No correction



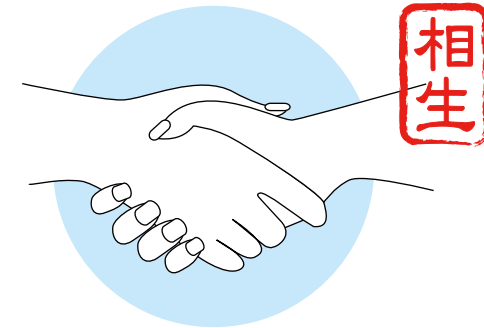
2020.07.01. Cow Uiseong\_No correction

Even after popularization, we will do our best to contribute to safer quarantine and better vaccination results through ‘equipment response’ through ‘continuous national monitoring’.

## REFERENCES OF CERTIFICATION



# Vaccinate – Beginning of New Revolution



Needle Free Injector

# ATOM GUN

Intradermal

All of our products are operated on a  
**100%** “pre-order” shipping method.

It will be shipped sequentially according to the order of order  
and payment completion.

## We are always open for you !!

We, all the employees of the “REBORN AGENCY”,

will sincerely respond to your inquiries so that you can get all  
the information you need to make **the best choice**.

Please feel free to contact us if you need any further information.