



By far the most humane

INSTRUCTION MANUAL

JMST INJECTION RIFLE

Professional and humane equipment
for immobilization and treatment



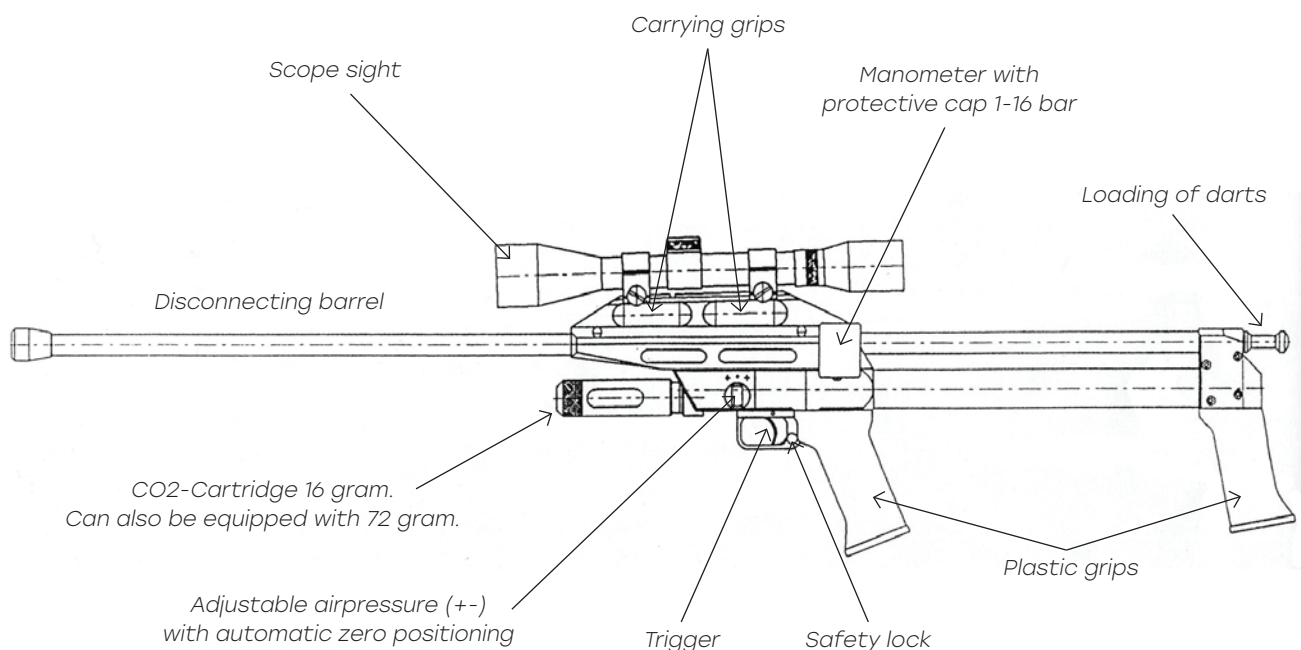
MODEL

Product No.

J.M. Standard CO₂-Injectionrifle with 11 mm smooth barrel with telescope including 16 gram CO₂-cartridge. Total length: 107 cm

Picture:

J.M. Standard, 11 mm smooth barrel



ACCESSORIES

Product No.

J.B. 13 mm	13 mm stainless steel barrel for 5 cc & 10 cc darts
V.A.1	Foot air pump with tubing, coupling and connecting CO ₂ -dummy
J.M.C	Soft transport case

All components are manufactured of anodized aluminium.
The components are very weather resistant.

Targeting of DANiNJECT Injection rifle model J.M.



When you receive your DANiNJECT CO2-Injection rifle please note that the rifle has been zeroed in Denmark at a temperature of 20°C plus.

The targeting pressure for model J.M.:
7 bars – 20 meters with a 3 ml syringes filled with 3 ml water.

The injection rifles are used all over the world in difference kind of temperature, therefore it will be a very big advantage to make a new targeting of the injection rifle in the same temperature that the rifle shall be used in.

The targeting of the rifle must preferably take place without wind, as to strong wind can affect dart flight. Use a thick blanket or something similar to shot at when targeting the rifle. (Using a forgiving material will not deform the dart or needle on impact)

Fill 3 ml water in the liquid drug barrel of the syringe and mount the training needle and screw it on tightly using a pointed tong. It is not necessary to load the syringe with air under the test shooting. Only new syringes must be used for targeting as the result can be misleading.

Remember after the targeting to empty the liquid from the training syringe, because if liquid stays in the syringe, the syringe can become deformed.

The rifles barrel is produced in anodized aluminium and brass, therefore you must never use oil or something similar in the rifle barrel, because it can change the speed of the dart. Use the enclosed cleaning tool and never hard objects because they can damage the aluminium rifle barrel.

Pressure table

All darts must be tested before firing from the rifle. Place the dart in the far end of the rifled barrel. Make sure the dart slide freely in this end, as this is where the tolerance between dart and barrel is the smallest. If the dart does not slide freely it has a chance of getting lodged in the barrel.

Following pressure tables have been used through many years without hurting the animals.

The CO₂-Injection rifle shall be zeroed with a filled 1,5 ml dart or a 3,0 ml dart, by using the following pressure:

1,5 ml dart: 6 bars on 20 meters

3,0 ml dart: 7 bars on 20 meters, then the enclosed table can be used

	Zeroed with 1,5 ml dart filled with 1,5 ml	Zeroed with 3,0 ml dart filled with 3,0 ml
Meters	Bars	Bars
5	2	2-3
10	3	3-4
15	5	5
20	6	7
25	7	8
30	9	10
40	12	14

← Zeroed

Scope adjustment

1. Remove the covers from the elevation (vertical) and windage (horizontal) adjustments (top=elevation side=windage).
2. Grasp the adjustment bar and turn it in the appropriate direction as indicated by the arrows. The binoculars must have 5-10 click at a time if one is able to see a difference at such a short range as 20 meters.



Warning

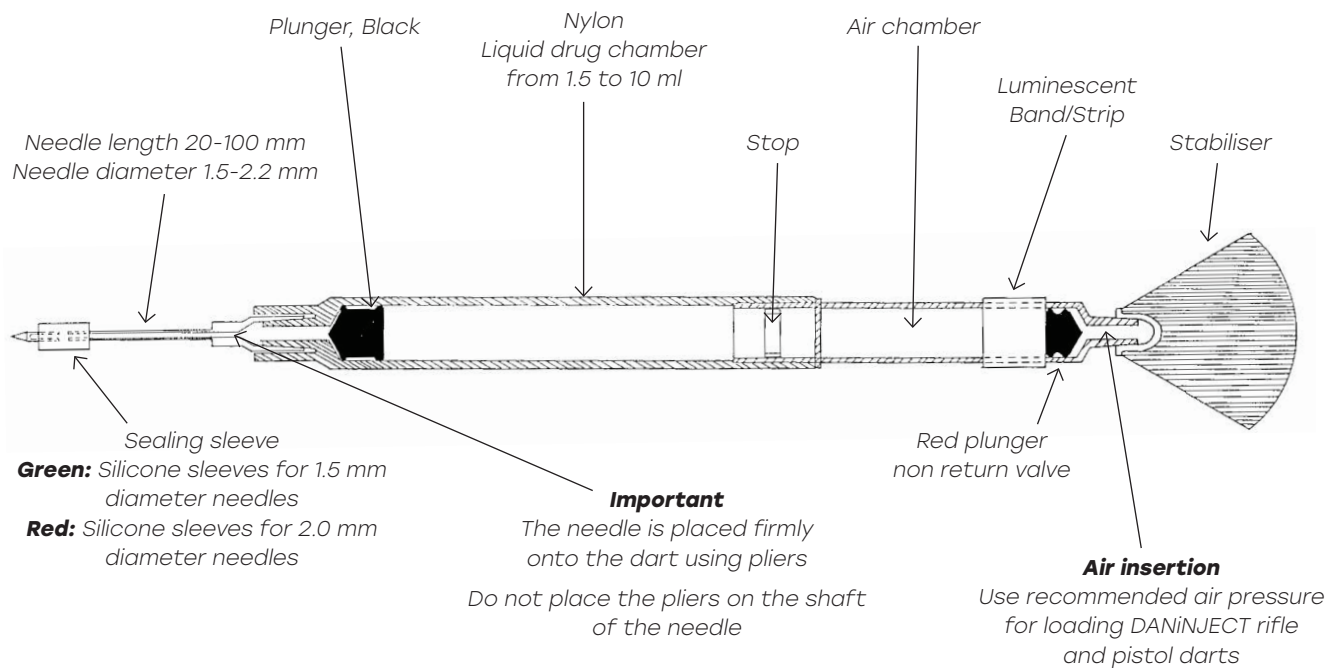
Must be read before use

- There must be pressure on the rifle before the dart is inserted.
- Regulate minus & plus valve on **minus**, when the rifle is not in use.
- The CO₂-cartridge must not be exposed to more than 60.0°C.
- The CO₂-cartridge is screwed on by hand (anti clockwise).
Do not use force or tools.
- Dismantling of full CO₂-cartridge takes place by turning the cartridge clockwise a couple of times, so that the CO₂ seep out. The CO₂-cartridge must only be completely removed, when the cartridge is empty.
- **The CO₂-cartridge must not be dismantled with a dart in the barrel.**
- The safety catch is tested regularly without a dart in the barrel.
- Do not take the rifle's shooting unit apart, as leakage and malfunction can result.
- Manometer pressure must **not exceed more than 16 bars** (16 bars model) and **not exceed more than 25 bars** (25 bars model) or else you will damage the manometer and the manometer pin will not go back to zero.
- The rifle must only be used by veterinary surgeons and the like.

DANiNJECT ApS does not compensate damage caused by the injection rifle.

Dart description

DANiNJECT humane rifle and pistol dart syringe operates in temperatures from minus 25 to plus 60 degrees centigrade.



S 150 (1.5 ml dart)

10-12 ml air for 1.5 ml dart



S 300 (3.0 ml dart)

12-14 ml air for 3.0 ml dart



S 500 (5.0 ml dart)

15 ml air for 5.0 ml dart



S 10 (10.0 ml dart)

20 ml air for 10 ml dart

Effective at short ranges.

Made for pharmaceuticals and vaccines.



Needle sizes for use on different species

DANiNJECT produce needles in diameters of 1.5 mm, 2.0 mm and 2.2 mm.

The 1.5 mm diameter needles are available in lengths of 20 mm, 25 mm, 30 mm and 38 mm.

The 25 mm, 30 mm and 38 mm needles are available as both plain and collared.

The 25 mm needles are also available in barbed configurations.

REMEMBER **GREEN** sealing sleeves for needles in diameters of 1.5 mm.

Needle size	Species of animals
1.5 mm x 20 mm	Very small animals and for medication
1.5 mm x 25 mm	Young of fallow deer and red deer. Also roe deer, lynx, dogs, wolves, ostrich, baboons, monkeys
1.5 mm x 30 mm	Fallow deer, red deer, horses, zebras, foal, lions, tigers, warthogs, mountain lions, leopards jaguars, medium-sized antelope and zoo-animals without any fat layer
1.5 mm x 38 mm	Large zoo-animals with fat layer

The 2.0 mm needles are available in lengths of 30 mm, 40 mm and 60 mm.

The 2.2 mm needles are available in lengths of 60 mm and 100 mm.

The 2.0 mm needles are available in plain, collared and barbed configurations

The 2.2 mm needles are available in plain configurations.

The 2.0 mm diameter needles are much stronger and do not bend as easily as the 1.5 mm diameter needles. We recommend the 2.0 mm diameter needles for use in game reserves and similar locations.

REMEMBER **RED** sealing sleeves for needles in diameters of 2.0mm and 2.2mm.

Needle size	Species of animals
2.0 mm x 30 mm	Lions, tigers, red deer, fallow deer, cattle, small bears and antelope
2.0 mm x 40 mm	Cattle, bison, buffalo, bear, giraffe, large antelope
2.0 mm x 60 mm	Big bears, elephants, rhinos, polar bears, large giraffe and small hippopotamus
2.2 mm x 60 mm	Double the strength of DANiNJECT needle 2.0 x 60 mm. Elephants, rhinos and hippopotamus.
2.2 mm x 100 mm	Walrus, zoo elephants

PLEASE NOTE: During the winter season in countries with cold winters, a longer needle is needed because of the animals' thicker winter coats.

Loading of dart syringe

Loading of injection rifle and pistol dart syringe.

In the interests of safety these instructions must be strictly followed.

It is strongly suggested that the filling process be first practised with water and repeated several times until you become familiar with it.



1. Loading

Remove the hypodermic needle from the protective case. Slide the green/red silicone sleeve onto the needle so that the injection holes are located at the centre of the sleeve. This can be achieved by rotating the needle whilst exerting pressure on the sleeve.

The green/red silicone sleeve must only be used once.



2. Loading

Remove the red stabiliser from the dart if necessary using a DANiJECT venting pin, release any retained air from the dart syringe air chamber.



3. Loading

Hold the dart with the air chamber uppermost. Using an air filler syringe fitted with a DANiJECT coupling adapter connected to the drug chamber, position the black plunger at the rear of the chamber.



4. Loading

Reverse the dart so that the drug chamber is now uppermost. Using a suitable syringe filled with the required tranquillising/medication liquid slowly inject the drug into the chamber. Ensure that you use a sufficiently small gauge needle to allow air from the drug chamber to be expelled without displacing the drug.



5. Loading

Mount the hypodermic needle onto the dart syringe boss using pliers and locate it firmly by rotating it slightly whilst applying pressure.



6. Loading

Apply a safety cap over the needle and seat it firmly on the dart.



7. Loading

Pressurising the dart: Hold the dart vertical with the needle/protection cap uppermost. Mount the DANiNJECT coupling adapter onto a dry standard 12-20 ml syringe. Introduce the air into the syringe, (correct air pressure for a 3 ml dart). Connect the syringe securely to the air chamber of the dart, and with a smooth continuous action, inject the air into the dart air chamber.

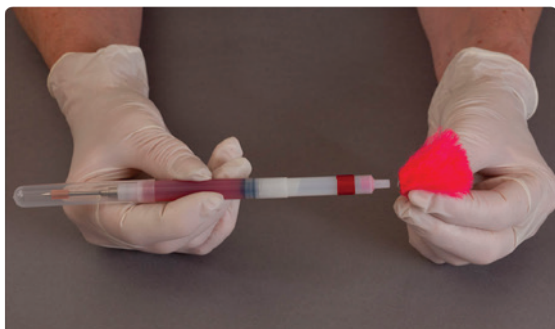
Now the air is let in to the syringe through the coupling. The red plunger will act as a non-return valve and retain the air within the dart.

WARNING

The dart is now pressured and extreme caution must be exercised at all times. Safety criteria must be adhered to.

Dart air pressure tables

S 150	10-12 ml air for 1.5 ml dart
S 300	12-14 ml air for 3.0 ml dart
S 500	15-20 ml air for 5.0 ml dart
S 10	20-30 ml air for 10 ml dart



8. Loading

Place the red stabiliser firmly on the rear of the dart.

If the stabiliser becomes soiled, it can be washed at 30°C. The stabiliser must not be wet before use as the syringe may be unstable in flight.

Unloading an unused or undischarged dart

WARNING: When handling pressurised and loaded darts extreme caution must be exercised at all times. Safety criteria must be adhered to.

When an undischarged or unused dart is recovered the first step must always be to render the dart into a safe state by fitting a protection cover and releasing any remaining air pressure. The following illustrated steps should be adapted to the situation encountered.

(Darts can be removed from DANiNJECT rifle/pistol barrels using tweezers.)



1. Unloading

Remove the red stabiliser from the dart.



2. Unloading

Holding the dart horizontally, depress the red plunger to release air pressure using the DANiNJECT venting pin.



3. Unloading

Remove the protection cap from the dart.



4. Unloading

Proprietary medication/drug bottles with rubberised seals, insert a plain hypodermic needle, directed away from the operator, into the seal before proceeding to the next step.

This will allow excess air pressure to vent from the bottle.



5. Unloading

Holding the dart with the needle pointing down, insert the needle into a suitable receptacle as far as possible.

The silicon sleeve will slide along the needle shaft exposing the injection ports.



6. Unloading

Hold the dart with the attached bottle.

Using a DANiNJECT coupling adapter on an air filler syringe, steadily and smoothly inset 12 ml of air into the dart air chamber.

The air pressure will slowly force the black plunger forwards and inject the drug into the bottle.

Do not store drugs or water in the dart syringes for prolonged periods. The extreme pH of most drug formulations will adversely effect the plunger and dart barrel after 3-4 days.

Always clean the dart and needles after use

Cleaning the syringes



1. cleaning syringes

After releasing any remaining air from the air chamber. Hold the dart horizontally with the black plunger upwards, fit a coupling to a filler syringe and fill the dart with water.



2. cleaning syringes

Flush the drug chamber with warm water.

Repeat this step several times.

The syringe must not be sterilised by steam or have heat applied to them.

Maintenance of the dart syringes



1. Maintenance

After cleaning the syringe retract the black plunger using an air filler syringe fitted with a DANiNJECT coupling adaptor.



2. Maintenance

Place one drop of silicon oil into the drug chamber.

Do not allow any oil onto the external surface of the dart syringe needle boss.



3. Maintenance

Using the air filler syringe move the black plunger forwards and backwards several times.

Cleaning the needle



1. cleaning needle

Remove the green/red silicone sleeve from the needle.



2. cleaning needle

Remove the needle from the syringe using using pliers.

The serviceability of the dart can be prolonged by removing the needle after use.

The mounting hub will remain in better condition and retain its shape for longer.



3. cleaning needle

Rinse the needle by passing warm water through the needle several times – giving free passage ...



... so that the two injection ports (holes) are free from debris and foreign material.

The needles may be sterilised using steam or others methods employing heat.