

CO₂ Cylinder Specification Chart

16 Gram



Cylinder threaded to 3/8" – 24 (UNF)

The Carbon Dioxide (CO₂) cylinder has an internal pressure rating ranging from 700-900 psi.

At room temperature the pressure is about 845 psi. Certain precautions are therefore advised when handling.

To avoid bursting, do not expose to heat beyond 14° F or store in direct sunlight.

To avoid possible freezer burn (after activating) do not remove frozen container for several seconds.

For best performance results, keep cylinders at room temperature prior to use.

FACT: Cold weather exposure greatly reduces internal pressure. Example: At 32° F pressure is at 491 psi.

At 2° F pressure is 302 psi. At minus 20° the pressure is only 200psi. So if used out of doors, on a cold day, keep them in your chest pocket, at body temperature, until ready for use.

Warning: Like all other pressurized containers, CO₂ is restricted from being carried in your luggage on passenger air flights.

To avoid confiscation & delays, we advise you to check with your airline for the proper procedure.

Note: The threaded type CO₂ charge is not to be confused with the non threaded, small neck BB gun or paintball type that is found in hobby shops.

Due to its unique application, the threaded type is found in very few consumer outlets.

How safe is CO₂? Next to compressed air, CO₂ is the safest form of propulsion you could ask for.

However, because the CO₂ containers are pressurized, they are classified as dangerous goods when sent by air and restricted material when sent by ground.

Electric Air Cannon (CO₂)



Effect:

When loaded properly, this 2" cannon will safely propel streamers and/or confetti to distances of 40 to 60 feet. The end result resembles a cascading display of falling spinning confetti and comet tails. It uses no explosives or fire but rather a much safer propellant, a disposable 8 or 16-gram CO₂ cylinder. Aside from loading, the unit comes in a ready to use mode. However, please review operation guidelines so you gain full understanding of its workings.

Assembly and Observation:

The electric unit is supplied, either mounted on a wooden base or with a hook clamp attached. Note how unit angles with adjustment knobs, and if hung by hook clamp, note the security ring to which safety chain and barrel safety cord should be attached.

Also, note the cover removes to gain access to the electrics.

Important: The internal return spring comes factory set with a tension that is suitable for both stage and upside-down truss mounting, so no adjustment should be required.

Firing Pin:

Piercing pin depth is factory set and machine tapered to a real sharp point. This should not need readjusting. If the firing pin gets chipped, replacements are available.

CO₂ Charge:

The best part of this system is the location of the CO₂, which screws into the centre of the female section of the bayonet fitting. When the barrel is installed, it conceals the CO₂ inside. When the barrel is removed for refilling, simply unscrew the used CO₂ and replace with a new one. Then replace loaded barrel.

Important: Firing pin must have free movement after CO₂ has been installed.

Loading:

First insert the double-sided lifting cup by pushing it down the barrel to the bottom, using a ramrod. You may need to squeeze in the bottom side of the cup to make the lower end fit. This cup acts as a bottom expanding propellant sealer and helps eject the confetti/streamers further. Note: Be sure the cup is inserted fully down the barrel onto the stop.

Now you are ready to load in your contents.

Finally, attach the backpressure cap to the top outside of the barrel.

Warning: When ready, insert cannon barrel into bayonet fitting and rotate until the locking spring clips over the bayonet pin. Failure to insert barrel properly could lead to a no fire situation or an accident.

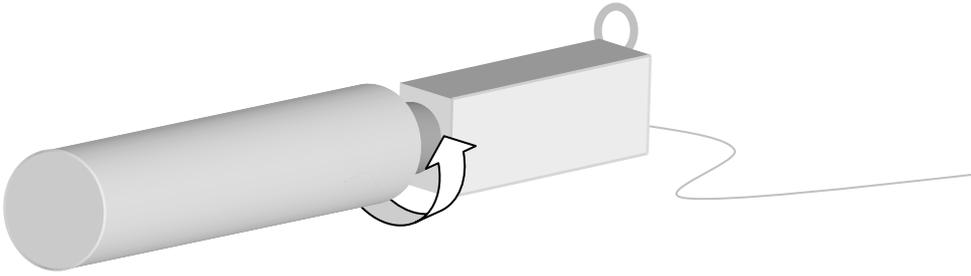
Always connect safety chain from barrel to the safety ring on the main unit

Note: After attaching loaded barrel onto the main unit, we advise that as well as connecting the safety bond from the barrel to the main unit, gaffer tape is wrapped around the bayonet joint on the out side to help prevent barrel from 'unscrewing' itself during firing.

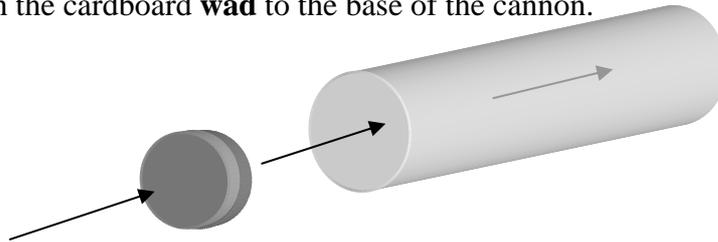
The cannons can be linked in a 'daisy chain' format using the cables and splitters supplied. No more than 6 cannons should be linked together to a single firing unit. It is advised that the 6th cannon in a chain should not be any further than 180 feet from the firing unit.

To Load An Electric Aero Cannon

1. Unscrew the cannon from the main unit.

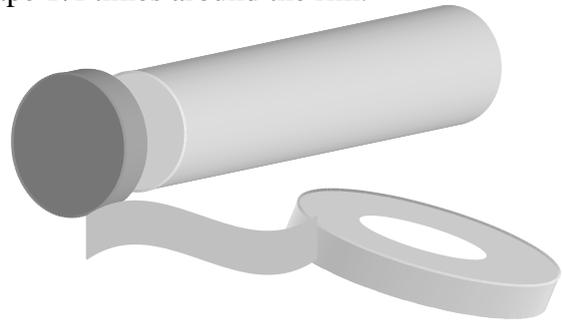


2. Using a rod, push the cardboard **wad** to the base of the cannon.

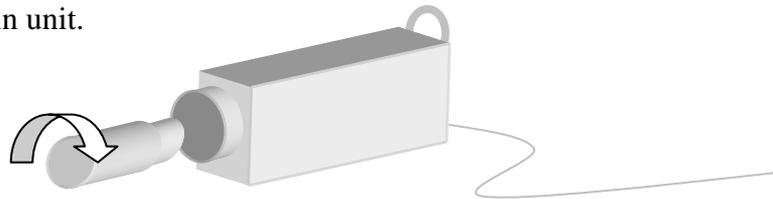


3. Fill the cannon with Fetti, Streamers, Glitter etc.

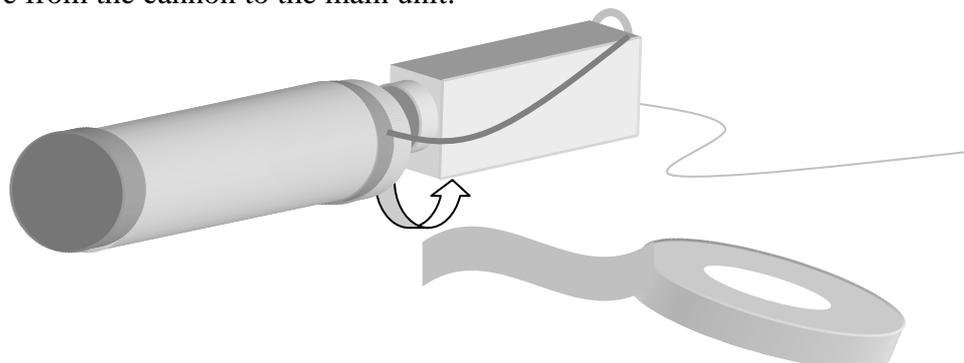
4. Fix the cardboard **lid** to the top and wrap masking tape 1½ times around the rim.



5. Screw CO₂ Cylinder to the main unit.



6. Screw the cannon back onto the firing unit and for extra safety, wrap gaffer tape around the join between the cannon and the main unit. Connect safety wire from the cannon to the main unit.



Single/3way Control Firing Instructions

- 1: Connect Controller to 13a mains supply.**
(Small Red LED light should come on, indicating mains is connected)
- 2: Connect IEC plug into the Controller.**
(Orange light should come on showing there is a circuit)
- 3: Insert Key.**
- 4: When ready to Fire. Turn key to 'Arm' Controller.**
(Small Red 'Armed' LED light should flash)
- 5: To Fire. Push Red 'Fire' button.**

If at first unsure. It may be useful to connect Cannons, Cables and Controller WITHOUT attaching Gas and Tube, and then try firing.

If connected correctly, the Cannons should make a "Klunk" noise when fired.

Backpressure Caps: Function/Purpose

Creates small bang and propels confetti/streamers further when used.

A backpressure cap is nothing more than a thin paper/card cap or cup that fits externally over 1" or 2" barrels.

Essentially, they hold back pressure until enough is built up to force the pressure cap to blow off. When they do, a semi-concessive sound is heard. The user will find, when using caps, the confetti/streamers will travel up to approx' 30% further. (Firing up to approx 30 feet).

If a backpressure cap is not used, the Confetti / Streamers can generally be fired towards people with little fear of injury as long as the cannon is at least 20 feet away. However, when using a Backpressure cap there is added danger created by the flying cap after it is blown off. The only safe way to fire a unit is upward or if truss mounted, downwards in the stage area only. Since the caps are thin and are of poor aerodynamic design, they will usually not travel far but if hit by one, a sting will be felt.

DO NOT AIM DIRECTLY AT ANYONE – NEVER USE AEROTECHNIC PRODUCTS IF THERE ARE OPEN FLAMES PRESENT

Backpressure Cap Installation

Select the proper cap that fits the outside of your loaded barrel. Slip the cap over and snug it down.

IMPORTANT: With masking tape, neatly tape two full turns around the side of the barrel and cap. Stager the cap so that it overlaps both the barrel and the cap. **VERY IMPORTANT:** After taping, roll your hand around the tape, pressing to form a tight air seal. When firing, you should notice an increased kick, sound and load travel. This is your starting point. If you want your shot a little stronger, wrap additional turns of tape around the side. If the bang is too loud or the cannon fails to fire, simply use less tape around the side.

WARNING: Too much tape or the use of DUCT TAPE can cause a dangerous condition. Use only masking tape. **NEVER** exceed more than four side turns. **NEVER** tape over the top of the cap. The top must be allowed to split or tear off freely.

Lifting Cups: Function/Purpose

Helps thrust cannon payload further when used.

A lifting cup is a thin foam or double-backed cup that fits inside the barrel.

Essentially, it acts as an elevator and lifts the payload up evenly. When it lifts, it spreads open and holds back the gas by forming a tight inner wall seal. This in turn maximises your pushing power because no gas escapes between the paper products inside. The user will find that when using the lifting cups, the payload will stay compacted and travel to greater heights (10-50%). In turn, the product will function more efficiently.

Lifting Cups: Installation

Select the proper cup that fits inside the empty barrel. If necessary, squeeze the cup so that one end fits into the barrel. Use a ramrod to push the lifting cup to the bottom of the barrel. You can now load any safe product of your choice into the tube.

The lifting cup will usually not travel far. However, you do not want to hit anyone as they may sting! So, as a warning, **DO NOT AIM DIRECTLY AT ANYONE!**

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Client: TECH and Just FX Limited

Sample: Just FX – FETTI and STREAMER tissue, referenced: JFX-07/001

Performance Standard: BS 5867: Part 2: 1980 (1993)
Type B performance requirements

Test Method: BS 5438: 1976 Test 2
Flame application time = 15s

Cleansing Pretreatment: None (tested in the “as received” condition)

Summary of Results:

“The results may not apply to situations where there is restricted air supply or prolonged exposure to large sources of intense heat as in a conflagration.”

Specimen	1↑	2↓	3↑	4→	5←	6→
Flame reached an edge	No	No	No	No	No	No
Hole reached an edge	No	No	No	No	No	No
Flaming debris	No	No	No	No	No	No
Duration of flaming, s	0	0	0	0	0	0
Duration of afterglow, s	0	0	0	0	0	0
Vertical hole size, mm	108	110	161	115	128	123
Horizontal hole size, mm	25	27	26	26	26	30

Assessment:

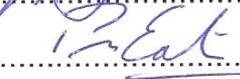
BS 5867: Part 2: 1980 (1993) Type B performance requirements

No part of any hole nor any part of the lowest boundary of any flame shall reach the upper edge or either vertical edge of any specimen and there shall be no separation of any flaming debris from any specimen.

Tested in the “as received” condition this Just FX – FETTI and STREAMER tissue complies with the Type B performance requirements of BS 5867: Part 2: 1980 (1993).

----- END OF REPORT -----

Reported by:  D R Young (Laboratory Technician)

Countersigned by:  P M Eaton (Operational Head)



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FOR EXTRA SAFETY

After inserting CO₂ and connecting safety chain, wrap Gaffer tape around the joint between the main tube and unit.

