



Carbon Fiber Tank with EZ Fill system



Fill pressure 4,500 psi (310 bar)
Output: up to 4,500 psi (310 bar)

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 DANGER	DANGER OF EXPLOSION! Overfilled compressed air cylinder	
Do NOT exceed maximum fill pressure of your cylinder at room temperature!		

 IMPORTANT	YOU AND OTHERS WITH YOU SHOULD ALWAYS WEAR SAFETY GLASSES TO PROTECT YOUR EYES. READ ALL INSTRUCTIONS BEFORE USING.
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 WARNING	DO NOT OVERFILL AIR GUN TANKS OR CYLINDERS, AS THIS CAN CAUSE SERIOUS INJURY OR DEATH.
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The Safety System

The Air Venturi Ez Fill Valve is equipped with an ASTM COMPLIANT bottle Burst Disc required by the Department Of Transportation. (D.O.T.). Do not alter this burst disc in anyway. Make sure the burst disc in the valve is the proper burst disc for the tank you are using. 5000 psi (5k) for a 3000 psi aluminum tank and 7500 psi (7.5k) for the carbon fiber 4500 psi tanks.

Air Venturi Ez Fill Valve has a Safety Vent Groove on the stem (As shown in below image). This lifesaving features allow for the venting of the bottle, in the event that the valve is unscrewed from the bottle with pressure present in the bottle.



ALWAYS CHECK TO MAKE SURE THERE IS NO GAP BETWEEN THE BOTTLE AND VALVE SEAL (SEE ILLUSTRATION BELOW). IF THERE IS A GAP, STOP!!! DO NOT FILL OR USE YOUR SYSTEM.



Place the system on the ground and wait for the system to **FULLY DE-GAS!**

Contact a qualified airsmith IMMEDIATELY! Or Call Air Venturi (216-292- 2570) for assistance.

Filling The Air Venturi Ez Fill System

The Air Venturi Ez Fill System is equipped with the industry standard "QD Style" fill fitting. The Air Venturi Ez Fill System may be filled with Clean, Dry Compressed Air or Nitrogen. Only fill through the male fill nipple - not through the hose.



! WARNING: UNDER NO CIRCUMSTANCES SHOULD THE AIR VENTURI EZ FILL SYSTEM BE FILLED WITH PURE OXYGEN. OXYGEN WILL IGNITE CAUSING INJURY OR DEATH!

When filling your Air Venturi Ez Fill System do not exceed the pressure rating shown on Air Venturi Ez Fill System or the CYLINDER'S LABEL.

! WARNING: DO NOT APPLY OR INJECT OIL OF ANY TYPE TO THE FILL OR BURST DISC PORTS. OIL WILL VAPORIZE AND POSSIBLY IGNITE DURING THE FILL PROCEDURE CAUSING INJURY OR DEATH!

Follow all CGA, DOT and ASTM guidelines and standards in regard to filling and inspecting the tank prior to filling.

It is important to keep dirt, oil and water out of your Air Venturi Ez Fill System. Most failures are due to dirt or contamination. Always keep a cover on the fill nipple when you are not filling the Air Venturi Ez Fill System. If you use compressed air, make sure that the compressor providing that air is equipped with WORKING filters and moisture separators.

Always make sure the control knob is turned all the way counter clockwise and in the all the way up "off" position.

Only the lower tank gauge will read pressure, the output gauge will only read pressure when in use and dispensing air to the rifle.

Micro Bore Hose & Attachment

Never operate the Ez Fill System unless a PCP AIRGUN is attached to the fill adapter on the end of the micro bore hose. Operating the Ez Fill System without a PCP AIRGUN attached may cause the fill hose to “whip”. Injury may result!!

! WARNING: DO NOT DISCONNECT THE HOSE UNDER PRESSURE. DISCONNECTING THE HOSE UNDER PRESSURE COULD CAUSE DAMAGE TO THE HOSE FITTING AND PERSONAL INJURY TO THE OPERATOR.

Do not bend the micro bore fill hose at the crimp ends. Although the hose is rated to 6500 psi bending the hose where the crimp fitting is attached to the hose will cause the hose to break and leak at that location.

Your micro bore fill hose is supplied with a safety qd. This qd is a stainless steel 5000 psi rated quick disconnect and has a safety strut installed. This strut allows the unit to leak and help lessen hose Whip should a male fill nipple not be fully installed. Always hold the hose at the end when in use just in case.

Ensure the air rifle you are filling has a 1/8" male Industrial Interchange quick disconnects, see figure 1.4a. Pull the sleeve/collar back on the quick disconnect and connect the female quick disconnect socket to the fill nipple on your PCP air gun.

THE SLEEVE /COLLAR MUST SNAP FORWARD AND BE SECURE! Do not force it on and if it does not fit properly do not fill. See figure below.



If the collar is hard to move once filling is complete do not force it as pressure may be present. Make sure the hose is fully drained and never remove the qd under any pressure!

Using The Ez Fill System

The Ez FILL SYSTEM is not a regulator.
Do not over fill your airgun.

! WARNING DO NOT OVERFILL AIRGUN TANKS OR CYLINDERS, AS THIS CAN CAUSE SERIOUS INJURY OR DEATH.

The output gauge will only read pressure when the unit is attached and pressurized. The gauge will not show the pressure in the airgun unless you stop filling and maintain air pressure in the hose.

Attach the female QD (Quick Disconnect) to the male fill nipple on the rifle, SEE page 5.

Slowly turn the control knob clockwise/down (FIG 1) until air starts to flow into the airgun. Once air starts flowing turn the unit slightly back or counterclockwise (FIG 2) to stop the air from flowing but do not turn the knob too far as to vent the air. You want to start the flow of air into the airgun and then stop the flow of air but maintain the pressure in the hose. This will allow you to control the next release of air easily.

Turn the control knob clockwise and watching the gauge on the airgun fill the airgun to the proper pressure. Once the proper pressure is reached stop filling by turning the control knob counterclockwise all the way up and the unit will vent the air in the hose allowing you to remove the female quick disconnect from the airgun.

If more pressure is needed repeat the steps to desired pressure is reached.



Maintain / Rebuild / Troubleshooting

ONLY WORK ON A COMPLETELY EMPTY AIR SYSTEM!

ALWAYS WEAR EYE PROTECTION, GLOVES AND POINT THE AIR SYSTEM IN A SAFE DIRECTION PRIOR TO DEGASSING THE SYSTEM!!!

IF THE UNIT LEAKS WHENEVER TANK HAS AIR

Check all fittings on the system by spraying the fittings with window cleaner or dunking the unit in water, the bubbles will show any leaks with the fill valve, gauge, burst disc or neck connection with the tank. If there are no bubbles on those items or the unit leaks from the end of the hose the issue is with the valve seat.

IF YOUR LEAK IS AT THE;

Fill nipple threads - Empty the system and remove the fill nipple. Clean both the male threads and the female threads and inspect threads for damage. Ensure the threads are fully formed and not damaged. Re apply sealing tape on the male fill nipple threads. See instructions below on installation.

Fill nipple end - If the fill nipple is leaking from the end of the fill nipple a new o-ring on the fill nipple is needed or a new fill nipple is needed. Follow the instructions below for removal and install. Only replace the o-ring with a 006-90 cast urethane and use no lube on the o-ring. Ensure the entire assembly is clean.

ONLY REPLACE WITH GENUINE AIR VENTURI FILL CHECK VALVE.

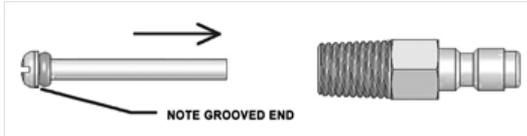
The Fill check valve assembly on your Air Venturi valve is one of the items that will require periodic replacement, either due to leakage or mechanical damage to the OD portion, follow the procedure below:

1. ALWAYS WEAR SAFETY GLASSES AND POINT THE FILL CHECK AWAY FROM YOUR SELF AND ALL BYSTANDERS.
2. MAKE SURE THE SYSTEM IS COMPLETELY DE-PRESSURIZED.
3. Use a 7/16" wrench, box end, remove the old Fill check assembly.
4. Clean any debris and old sealant out of the port.
5. Inspect the female 1/8"; NPT fill check port threads on the gas distribution body for any damage. IF THREADS ARE DAMAGED OR WORN STOP! DO NOT USE THE VALVE SEE AN AIRSMITH OR CALL 216-292-2570. It is recommended that a go/no-go thread gauge be used to verify these threads AVAILABLE AT WWW.MSCDIRECT.COM
6. A thread sealant has been applied to the threads on the new Air Venturi Fill check. Do not use any additional sealant or PTFE tape.
7. Make sure the strut is inserted into the Air Venturi Fill check as show below, and screw the new assembly into your valve. Turn it in until it is hand tight, and then tighten a further 1 & 1/2 turns. It should not be necessary to exceed 100 inch-pounds of torque to achieve sealing. If a leak still occurs STOP and contact an Airsmith or call 216-292-2570 FOR ASSISTANCE.

Maintain / Rebuild / Troubleshooting

NEVER INJECT OIL INTO THE VALVE THROUGH THE FILL CHECK OR ALLOW OIL TO ENTER THE BOTTLE OIL DROPLETS WILL IGNITE DURING THE FILL PROCESS WHICH MAY LEAD TO INJURY OR DEATH.

NOTE: You will notice that the strut in our Air Venturi Fill check Valve has a groove across the "O" Ring end. This groove is essential for proper gas flow. Always replace the complete assembly. Only replace with Air Venturi FILL CHECK ASSEMBLY.



Gauge thread leaks - Empty the system and remove the gauge. Clean both the male threads and the female threads and inspect threads for damage. Ensure the threads are fully formed and not damaged. Re apply sealing tape on the male gauge threads. Installing is the same as the male fill valve instructions above and use a 7/16 wrench on the hex to tighten. Do not force or overtighten as the gauge can be damaged.

Burst disc leaks- See instructions below

- TOOLS REQUIRED: 3/8" BOX WRENCH
- FOR SAFETY AND RELIABILITY ONLY USE Air Venturi REPLACEMENT PARTS. ASTM compliant Unified Burst Discs are used on Air Venturi Ez Fill System Burst Discs are required by D.O.T. (Department Of Transportation) and TC (Transport Canada)
- 5000 psi Used for the D.O.T. required safety on 3000 psi N2/HPA storage bottles.
- 7500 psi these are used for the D.O.T. required safety on 4500 PSI rated N2/HPA storage bottles.



WARNING:

SERIOUS PERSONAL INJURY OR DEATH MAY RESULT FROM IMPROPER DISC REPLACEMENT.

IT IS ABSOLUTELY ESSENTIAL THAT YOU REPLACE FAILED UNITS WITH EXACT REPLACEMENTS!!!

ASTM UNIFIED BURST DISC HAVE THE PRESSURE IDENTIFICATION STAMPED ON THE HEAD OF THE UNIFIED DISC. SOME MAY HAVE THE PRESSURE IDENTIFIER ON THE SIDE OF THE UNIFIED DISC. SEE ILLUSTRATION ABOVE. IF YOU ARE UNSURE DO NOT GUESS, SEE A QUALIFIED AIRSMITH OR CALL 216-292-2570 FOR ASSISTANCE.

Maintain / Rebuild / Troubleshooting

TO REPLACE A UNIFIED BURST DISC ASSEMBLY:

1. Unscrew (turn counterclockwise) the failed unit, and discard it. They are not serviceable.
2. Visually inspect the female port on for damage or debris and blow out if necessary. If the port is damaged, do not replace the disc. Consult an airsmith or call: 216-292-2570 for assistance. We recommend the female port be checked with a 3/8-24-UNF-2B go/ no go gauge available at www.airventuri.com
3. Screw in the new replacement unit and torque to a minimum 55 inch-pounds and maximum 95 inch-pounds. UNIFIED BURST DISC MUST BE ASSEMBLED WITH AN INCH POUND TORQUE WRENCH!
4. If the Burst Disc Assembly does not seal at 95 inch-pounds, the valve should be inspected by an airsmith or call 216-292-2570 for assistance.

Neck leaks - Remove the unit from the bottle and change the o-ring. The proper o-ring should be used.

Leaks from the end of the hose - If the unit leaks from the end of the hose the valve seat needs to be removed and replaced.

No need to remove the valve from the tank, just make sure the tank is completely empty.

Hold the fill valve with a 7/16" deep socket and short extension. The using a wrench on the flats of the flange turn the body off of the flange, counter clockwise like a normal bolt. Be careful as the ball and spring will fall out of the flange/body pocket.

The ball and spring may fall out but if not remove the spring from the flange. Make sure you clean the ball and spring and inside the flange.

Exam the spring and ball and if corroded due to contamination replace with new units from the included rebuild kit.

Remove the upper assembly from the unit – see instructions for LEAKS WHEN ACTIVATED, UPPER ASSEMBLY.

After removing all upper assembly components use a long 5/64" allen wrench and insert the allen wrench into the hole in the body from the top. The allen wrench will contact the seat and allow you to push the seat out through the stem. A .081 to .085 **rod may also** be used to remove the seat.

Maintain / Rebuild / Troubleshooting

Leaks from the end of the hose - (cont.)

Once removed, clean the seat and o-ring and check for damage. The other side may be used but a new seat and o-ring is recommended.

Clean the inside of the body where the seat goes with compressed air and a cotton swab paying close attention to clean where the seat and o-ring are located in the stem. Make sure the entire body and flange internal area is completely clean and blowing it out with air once swabbed is recommended.

To reassemble make sure the seat o-ring is lubed with silicone lube – use no oil.

Using a larger allen wrench or a blunt object push the seat into the body. Make sure the seat is flat and is fully seated into the body. When pushing on the seat you should feel a slight resistance and then the seat popping into the correct location. If you look through the stem you should see light through the center hole.

Holding the flange up and down, insert the spring into the flange pocket and then place the ball on top of the spring. Then screw the body on top of the flange assembly.

Turn the valve over and follow the reassembly instructions for the upper assembly.

If the unit leaks only when refilling

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Check the output gauge threads and output hose threads on the system by spraying the fittings with window cleaner or dunking the unit in water while the unit is pressurized and filling an airgun. The bubbles will show any leaks with the threads of the output gauge or with either end of the micro bore hose. If there are no bubbles on those items or the unit leaks from the female quick disconnect or the top of the unit see below for the proper procedure.

Maintain / Rebuild / Troubleshooting

Thread leaks – if the unit leaks from any of the output thread connections follow the instructions above for removal and reinstall of the output gauge or micro bore hose.

Female Quick Disconnect- If the unit leaks at the female qd while attached to the male it is the o-ring inside the female qd. The o-ring is a 010 in size and is located behind the ball bearings in the female quick disconnect. Remove the old o-ring with a pick and then squeeze the new o-ring into the groove. Starting with one end of the o-ring in the groove and then using a blunt object to push the other side in will usually get it in place.

Leaks out the top – If the unit leaks out the top while filling, the 004 o-ring located inside the unit needs to be replaced with a new o-ring.

Remove the set screw that holds the top of the unit in place – 5/64 inch allen wrench
Unscrew the top of the unit – actuator plug assembly – from the body. A wrench may be needed to get the assembly started unscrewing but take care not to damage the body or the assembly.

Unscrew the housing nut by using a 3/4" thin wall socket. Counter clockwise will remove the nut and remove fully. No ratchet or tool is needed as the nut is only installed by hand and will turn and remove easily.

Remove the actuator shaft and return spring from the unit. Clean and inspect the shaft, replacing the shaft is usually not needed unless the shaft is bent.

Using a 3/16 allen wrench remove the o-ring jam nut

The 004 o-ring is located in the pocket and a pick will remove the o-ring but take care not to damage or scratch the internals during removal.

Make sure the unit is clean

Reassembly is the reverse, install the 004 and push the o-ring into place with a blunt object.

Screw the o-ring jam nut into place – snug and do not over tighten or torque it in.

Place the return spring in the unit and lube the bottom 1/3rd of the shaft, then insert the shaft into the unit.

Install the retaining nut into place. You may need to push down on the nut with an allen wrench through the drive hole of the socket to get the nut to start catching the threads. Do not overtighten.

Install the top unit in place and install the set screw.

Maintain / Rebuild / Troubleshooting

Unit continues to vent once knob is all the way up - if you use the Ez Fill System and have filled your airgun and have turned the knob all the way up and the unit continues to vent out the top it is the valve seat or the male fill nipple on the airgun. Let the unit vent until it stops and verify if the bottle is empty or the airgun.

If the bottle is empty follow the procedure to replace the valve seat inside the stem. If the airgun is empty a new fill valve will be needed on the airgun and follow the airgun instructions for fill valve replacement.

Unit does not vent and air is in the hose and showing on output gauge - If you fill the airgun and turn the knob all the way up to vent but no venting occurs and there is air showing on the output gauge and you are unable to remove the female quick disconnect due to pressure. If this is the case you need to drain the system by loosening the burst disc with a 3/8 box end wrench. Just loosen the burst disc until the system starts to leak and leave it to vent until it stops. Once it has stopped venting, activate the knob and allow the air trapped in the hose to vent out of the burst disc and then tighten the burst disc following the instructions above.

Once the unit is drained, remove the hose from the airgun and remove the upper half assembly following the directions above. Make sure the spring is in good condition, the shaft is straight and not bent and the o-ring jam nut is not too tight. If the o-ring jam nut is too tight this will cause the o-ring not to release from the shaft and not allow the unit to vent properly. Change the 004 o-ring with a new o-ring.

Reassemble the unit with the instructions above.

Warranty

One Year Limited Warranty

Your Air Venturi Ez Fill System is manufactured to the highest possible standards, using quality materials to give a lifetime of service. In the unlikely event that there are any defects in materials or workmanship in the first twelve (12) months after retail purchase, we will repair or replace the defective items under warranty.

What is covered?

- Replacement Parts and labor.
- Transportation charges to consumer for repaired product.

What is NOT covered?

- Any damage or faults caused by owner misuse, action or inaction.
- Transportation charges to Air Venturi for defective products.
- Damages caused by abuse or failure to perform normal maintenance.
- Any other expense.
- Parts subject to normal wear and tear.
- Consequential damages, incidental damages or incidental expenses including damage to property.

This warranty is in addition to your statutory rights. Retain your sales receipt as proof of purchase.

NOTE: *Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.*

Warranty claims:

Call Air Venturi at 216-220-1180 before returning any product.

Implied Warranties:

Any implied warranties, including the implied warranties of merchantability and fitness for a particular purpose, are limited in duration to one year from the date of retail purchase.

NOTE: *Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.*

To the extent any provision of this warranty is prohibited by federal, state or municipal law, which cannot be preempted, it shall not be applicable. This warranty gives you specific legal rights, any you may also have other rights, which vary from state to state and country to country.

Illustrations and photographs are for information purposes only and may not show the exact model you purchased.

This warranty shall be invalid if the Product:

- Has been incorrectly disassembled, reassembled or maintained.
- Has been fitted with non--Air Venturi parts.
- Has been abused, misused or improperly stored.
- Original purchase receipt cannot be presented.

1	flange
2	ball spring
3	.25" ball
4	seat
5	seat o-ring
6	stem o-ring
7	flange to body o-ring
8	body
9	bottle burst disk
10	mini fill valve
11	bottle pressure gauge
12	output pressure gauge
13	output hose assembly
14	set screw
15	shaft o-ring
16	shaft o-ring jam nut
17	return spring
18	shaft
19	housing nut
20	actuator screw
21	actuator nut
22	knob



Air venturi

The Power of Air

AIR VENTURI

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