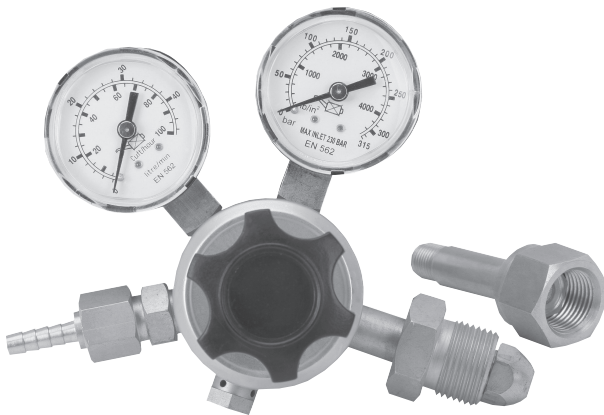


CHICAGO **welding**
ELECTRIC® **systems**

FLOW GAUGE REGULATOR CO₂ AND ARGON

Model 94841

ASSEMBLY AND OPERATING INSTRUCTIONS



Due to continuing improvements, actual product may differ slightly from the product described herein.



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For technical questions and replacement parts, please call 1-800-444-3353

Specifications

Item	Description
Application	Light and medium duty MIG/TIG welding
Material	Cast brass with steel body gauge and chrome-plated regulator; durable phenolic PVC knob
Valve Control	Single turn knob
Discharge Fitting	9/16" x 18 TPI male
Bottle Thread	580 CGA Connection (Argon bottles only)
Maximum Inlet Pressure	230-Bar/3335.8-PSI
Overall Dimensions	6-1/8" L x 5" W x 4-1/4" H
Output Gauge Markings	0-100CU FT/HR, 0-40 Litre/Min
Tank Gauge Markings	0-315 Bar, 0-4000 PSI

Save This Manual

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

Safety Warnings and Precautions

WARNING: When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

Read all instructions before using this tool!

1. **Keep work area clean.** Cluttered areas invite injuries.
2. **Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids.
3. **Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
4. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.

5. **Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. There are certain applications for which this tool was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this tool and do not use this tool for a purpose for which it was not intended.
6. **Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
7. **Use eye, ear and face protection.** Always wear ANSI approved impact safety goggles. Wear an ANSI approved welding helmet, dust mask, and respirator when working around metal, wood, and chemical dusts and mists.
8. **Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machines.
9. **Maintain tools with care.** Clean all apparatus for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect hoses periodically and, if damaged, have them repaired by an authorized technician. The handles must be kept clean, dry, and free from oil and grease at all times.
10. **Remove adjusting keys and wrenches.** Check that keys and adjusting wrenches are removed from the tool or machine work surface before plugging it in.
11. **Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.
12. **Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician.
13. **Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Harbor Freight Tools.
14. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.
15. **Maintenance.** For your safety, service and maintenance should be performed regularly by a qualified technician.

Warning: This product contains or produces a chemical known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code 25249.5 et seq.)

Welding Safety Warnings and Precautions

1. Do not use welding and heating apparatus until a qualified instructor demonstrates the proper procedures and safety precautions.
2. Welding apparatus improperly operated, maintained or repaired can be dangerous. Some parts and accessories manufactured by others may fit this apparatus, but not conform to this product's specifications. For your own protection, specify and use only this product's parts and accessories.
3. Service or repair of this apparatus should only be performed by a qualified repair technician. Improper service, repair, or modification of this product could result in damage to the product, or injury to the operator.
4. Industrial welding and cutting operations should conform to applicable Federal, State, County, and City regulations for installation, operation, ventilation, fire prevention, and protection of personnel. ANSI Standard Z49.1, "Safety in Welding and Cutting" contains detailed safety instructions.
5. The work area must have a fireproof floor.
6. Work benches or tables used during welding or cutting operations must have fireproof tops.
7. Use heat resistant shields or other approved material to protect nearby walls or unprotected flooring from sparks and hot metal.
8. Keep an approved fire extinguisher of the proper size and type in the work area. Inspect it regularly to ensure that it is in proper working order. Know how to use the fire extinguisher.
9. Move combustible materials away from the work site. If you cannot move them, protect them with fireproof covers.
10. Never perform welding or cutting operations on a container that has held toxic, combustible or flammable liquids or vapors.
11. Never perform welding or cutting operations in an area containing combustible vapors, flammable liquids, or explosive dust.
12. Keep all welding and cutting apparatus clean and free of grease, oil, and other flammable substances.
13. Never allow oxygen to contact grease, oil, or other flammable substances. Although oxygen by itself will not burn, these substances become highly explosive. They can ignite and burn violently in the presence of oxygen.

14. Ventilate welding work areas adequately. Maintain sufficient air flow to prevent accumulation of explosive or toxic concentrations of gases. Welding or cutting operations using certain combinations of metals, coatings, and gases generate toxic fumes. Use respiratory protection equipment in these circumstances. When welding or brazing, read and understand the Material Safety Data Sheet for the welding or brazing alloy.
15. Wear protective clothing, gloves, sleeves, aprons and safety shoes to protect skin and clothing from sparks and slag. Keep collars, sleeves and pockets buttoned. Do not roll up sleeves or cuff pants. Always wear welding helmet with appropriate shaded lens.

Warning: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Unpacking

When unpacking, check to make sure the following parts are included. *Regulator with flow gauge and Adapter Fitting*. If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual.

Assembly

Warning: Practice all safety and operation precautions every time you use cutting and welding apparatus. Deviation from these precautions can result in fire, explosion, damage to equipment, or injury to the operator.

Compressed Gas Cylinders and Regulators

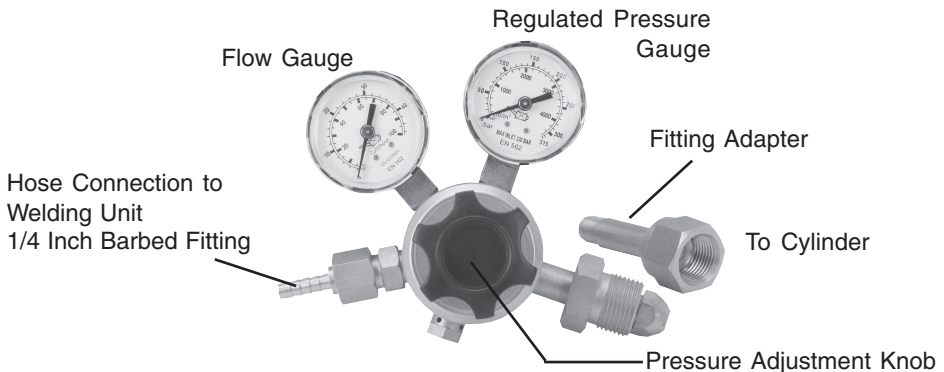
1. Place and secure the cylinders together where they will be used.
Keep the cylinders in a vertical position. Secure them to a cart, wall, work bench, or post using chains.
2. Remove the protector cap from each cylinder and examine the outlet nozzles closely.
Make sure the connection seat or screw threads are not damaged. A damaged screw thread can ruin the regulator nut when connected. A poor connection seat will cause leaks.
3. Crack cylinder valves and clean connections.
Momentarily open and close (“cracking”) each cylinder valve to dislodge any dirt, dust, or rust that may be present. These particles, if not cleaned out, will work into the regulators when cylinder valve is opened. Wipe the connectors with a clean cloth.

Caution: If the valve is opened too much, the high pressure of the escaping gas can tip the cylinder over if not properly secured. When “cracking”, do not stand in front of the valve.

4. Attach the Regulator to the argon or CO₂ cylinder.

If required, use the supplied Adapter Fitting. Verify that the regulator is not contaminated with dirt, oil, or grease, and that the threads are not damaged. Do not use if contaminated, or if the threads are damaged. Tighten connector with the proper wrench (note: reverse thread). The direction for tightening may differ depending on the type of fuel gas connector.

5. Screw in the Pressure Adjustment Knob.
6. Before opening the cylinder valve, release the tension on the Pressure Adjusting Knob by turning counterclockwise until there is no pressure on the adjusting spring and the screw turns freely.



Regulators attached to the cylinder valve reduce high cylinder pressures to a suitable low working pressure for welding applications. Always set to the recommended pressure for the welding operation to be performed.

Warning: Never stand in front of, or behind, a regulator valve when opening the cylinder valve. Stand to the side of the cylinder opposite the regulator when opening the cylinder valve. Keep the cylinder valve between you and the regulator.

7. Slowly open the cylinder valve until maximum pressure is registered on the Flow Gauge. Then, open the valve completely to seal the valve packing.
8. Check for leaks with an approved leak detector solution.

Bubbles will appear if the connection is leaking. Regulator connections may be retightened again, but close any and all cylinder valves first.

Caution: Never attempt to tighten a cylinder valve. If the cylinder valve is leaking, place the cylinder outdoors and notify the supplier immediately.

9. Optionally, install a flow check valve (not included) on the regulator.

Connecting Hose

Caution: Examine the hoses carefully before each use. If there are cuts, burns, worn areas, or damaged fittings, replace or properly repair the hose.

1. Connect the hose to the regulator Outlet Fitting and tighten the connection firmly with an open-end wrench.

If the hose comes without a threaded fitting, the hose can be clamped to the 1/4 Inch Barbed Fitting. Oxygen regulators, check valves, and hose connectors have right-handed threads.

2. Connect the other end of the hose to the welding unit.
3. Check for gas leaks.

Operation

Before welding, review the manufacturer's operation manual for proper operation of the welding equipment being used.

WARNING: This product, when used for welding and similar applications, produces chemicals known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code 25249.5 et seq.)

Maintenance

1. Clean all components of all dirt, soot, grease, oil.
2. When replacing cylinders, remove the Regulator with care, and store in a safe location.

Replacement Parts

There are no replaceable parts on the Flow Gauge Regulator. Replace the entire unit if it becomes inoperable.