

# Operation Manual and Parts Directory

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**Glas  
tender<sup>®</sup>**

## Remote Beer Dispensing System Operation Manual

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## WARRANTY

Glastender, Inc. warrants all products to be free of defects in material and workmanship. Within one year from date of installation, or 15 months from date of factory shipment, **whichever occurs sooner**, Glastender, Inc. will replace any part or assembly found defective under normal use and service. Field replacement parts include a warranty of 90 days from date of installation.

The warranty does not cover equipment subject to accidents, freight damage, alterations, improper power and/or plumbing hookups, improper chemical use, general misuse, or lack of routine required maintenance as determined by Glastender, Inc.

A warranty claim form **must** accompany all returned defective parts or assemblies. This form **must** be completed in full. Failure to do so may result in delay or denial of credit. Any defective part or assembly must be returned to Glastender, Inc., Saginaw, Michigan, with all transportation and delivery charges prepaid.

Warranty repairs or replacements will be shipped FOB factory in Saginaw, Michigan.

Complete beer systems that are installed by a Glastender factory authorized installer include a 90-day labor warranty and a 5-year compressor warranty from the date of installation. Authorization for labor must be obtained from Glastender within the 90-day warranty period and prior to the service being performed. No representative, distributor, dealer, or any other person is authorized to modify this warranty.

This warranty replaces all other written or verbal warranties.

NOTE: Glastender, Inc.'s policy of constant quality improvement means that prices, specifications, and policies are subject to change without notice. Questions regarding this warranty should be directed to Glastender's Customer Service Representative.

NOTE: Most of the information within this owners manual is based on standard industry practices. Portions of this manual have been adapted from information published by Anheuser-Busch, Inc.

This manual is intended to assist you in the use and maintenance of a Glastender, Inc. remote beer dispensing system. Please review this information before attempting operation.

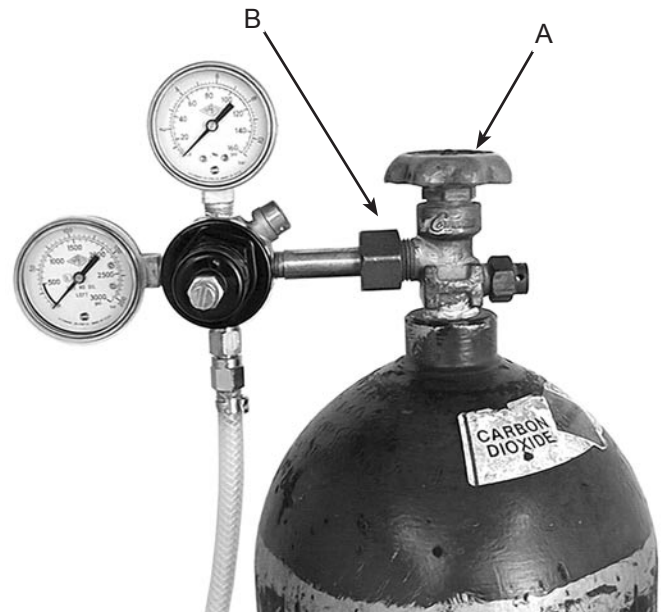
Long term, trouble-free operation will follow if good housekeeping and maintenance procedures are followed. Thank you for selecting Glastender, Inc. products.

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Follow these instructions when replacing and empty CO<sub>2</sub> cylinder:

1. Always turn off the gas pressure by closing cylinder valve "A".
2. Remove the regulator from the empty cylinder at "B".
3. Remove the dust cap from the new cylinder at "B" and clear dust from the new cylinder outlet by quickly opening and closing valve "A". NOTE: This is the only time a CO<sub>2</sub> cylinder should be opened without a regulator attached.
4. With the new cylinder valve "A" closed, attach the regulator to the cylinder at "B". A fiber or plastic washer is required to couple the regulator and cylinder, unless the regulator includes a built-in O-ring.
5. Open valve "A" all the way and ensure that the regulator is sealed properly.



The pressure setting on the gauge is determined by the original beer system installer. The regulator should remain at this setting, so no adjustment to the regulator is required.

## PROPER CO<sub>2</sub> HANDLING

Your Glastender remote beer dispensing system has primary and secondary CO<sub>2</sub> regulators with built-in pressure relief valves to protect against excessive pressure build-up.

**WARNING: CO<sub>2</sub> cylinders contain high-pressure compressed gas which can be hazardous if not handled properly. Please read and understand the following procedures before handling any CO<sub>2</sub> cylinders.**

1. ALWAYS connect the CO<sub>2</sub> cylinder to a regulator.
2. NEVER connect the CO<sub>2</sub> cylinder directly to a product container or keg.
3. ALWAYS follow the proper procedures outlined above when replacing an empty CO<sub>2</sub> cylinder.
4. ALWAYS keep a CO<sub>2</sub> cylinder away from heat. CO<sub>2</sub> cylinders should be stored in a cool place, preferably 70°F.
5. ALWAYS store CO<sub>2</sub> cylinders in an upright position and secure them with a chain or safety strap. This includes CO<sub>2</sub> cylinders that are empty or not in use.
6. ALWAYS keep CO<sub>2</sub> cylinders in a well ventilated area and leave the area immediately if a leakage has occurred.
7. NEVER drop or throw a CO<sub>2</sub> cylinder.
8. ALWAYS check the D.O.T. test date on the cylinder neck before using. If over five (5) years, do not use, return the cylinder to the gas supplier.

## Rotate Stock

Draft beer is best served fresh. The kegs must be properly rotated, or the beer will lose its original taste and aroma. *Always use the oldest beer first. Do not stock new deliveries in front or on top of kegs already in the cooler.*

## Temperature

Draft beer must be kept cold at all times. The optimum storing temperature is between 34° and 38°F. Temperatures above 45°F may cause the beer to turn sour and cloudy. A beer keg takes a long time to cool down, so they should never be stored outside of a cooler for any length of time. For example, a beer keg that is allowed to heat up to 44°F will take approximately 18 hours to cool down in a 36°F cooler. *Always place keg beer in a cooler immediately upon delivery.*

It is best to store beer kegs in a cooler that is used exclusively for draft beer and not foods. Frequent opening of the cooler door can raise the beer temperature. Also, unpleasant food odors can affect the taste of the beer by penetrating the beer lines over time.

Improper temperature is one of the most common causes of draft beer drawing problems. Draft beer is more likely to foam when the beer temperature is above 38°F. Temperatures lower than 28°F can cause the beer to freeze, which causes the beer to be cloudy and have an off taste. Once again, the optimum storing temperature is between 34° and 38°F.

## Pressure

The pressure levels for your Glastender beer system have been pre-set by the factory authorized installer, so no adjustments to the regulators levels are required. The design of your remote beer system will maintain the proper pressure level to prevent over or under-carbonated beer. The original beer system installer should be contacted before making any regulator adjustments.

It is important to keep a constant and uniform level of pressure on the beer. Never turn off the CO<sub>2</sub> gas at night. You cannot save gas this way.

*Is your regulator accurate?* A sluggish needle, which falls downward when beer is drawn, will result in flat beer toward the end of the barrel. A creeping regulator, which creeps upward during idle periods, will result in wild or over-carbonated beer. If you suspect that your regulator is operating improperly, please contact the original installer or the factory.

## CO<sub>2</sub> Gas and Air vs. Nitrogen and CO<sub>2</sub>

Most remote beer systems require the use of counter-pressure that is higher than the natural carbonation level of draft beer (a beer barrel at 38°F has an internal pressure of 12 to 14 P.S.I.). An air compressor and CO<sub>2</sub> blender, which mixes compressed air and CO<sub>2</sub> gas, allows the counter-pressure on the draft beer to be increased without over-carbonating the beer. The CO<sub>2</sub> gas will leave the beer and mix with the air, so it is important to store the air compressor in a clean, dry area, free of strange odors that may affect the taste of the beer. It is also important to properly maintain the air compressor, since condensation build-up can affect regulator performance and also the taste of the beer. See the section on regular maintenance.

A good alternative to the use of CO<sub>2</sub> gas and compressed air is the use of blended CO<sub>2</sub> and nitrogen. Nitrogen is an inert gas which will not mix with CO<sub>2</sub>, so it works well to maintain the proper carbonation level. Also, since nitrogen and CO<sub>2</sub> comes premixed in blended tanks, it is effective for eliminating chronic taste complaints. Aligal 13 is a common name for blended nitrogen and CO<sub>2</sub>, which is 30% CO<sub>2</sub> and 70% nitrogen. The main drawback behind blended nitrogen and CO<sub>2</sub> is that it is more expensive than straight CO<sub>2</sub>.

## Placing the Keg Tap on the Barrel

Glastender normally provides a lever type keg tap for each keg in the beer system. Please refer to the following instructions when placing a keg tap on the barrel.



Position the tap head in the barrel neck.

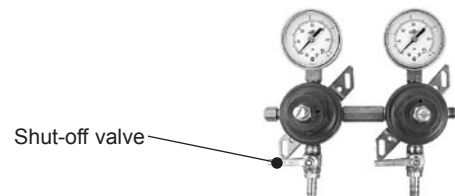


Turn the handle clockwise a ¼ turn.



Pull the handle out and push it down to the locked position, which activates the pressure and beer lines. You are now ready to draw beer.

NOTE: When removing a keg tap, first turn off the secondary regulator to the tap, located by following the red air line from the keg tap to the secondary regulator shut-off valve. Pictured to the right is a sample two product secondary regulator with shut-off valves in the closed or off position.



A beer clean glass is one that is free of film, odors, and bacteria. A glass that is not beer clean can lead to “flat” beer (head rapidly disappears, releasing carbonation), a “false” head (overly large bubbles that quickly disappear), or an “off” taste (caused by remnant odors).

To achieve a beer clean glass, each glass must be properly washed, rinsed, and sanitized. Your chemical supplier can recommend cleaners and sanitizers that are specifically designed for cleaning beer glasses. The following procedure is recommended [NOTE: This is a recommended procedure only and it may be preempted by local health code requirements.]:

1. Empty used glassware into an open drain and rinse with clean water to remove any excess beer or foam.
2. Wash the glass in a sink containing warm water and the appropriate odorless, low sudsing detergent as recommended by your chemical supplier. Using a nylon brush or mechanical brush washer, be sure to thoroughly clean the inside and outside of the glass, including the bottom.
3. Rinse the glasses in a sink containing fresh, clean water that flows continuously. Submerging the glass with the *heel end in first* and removing it with the *heel end out first* will help ensure proper rinsing.
4. Then rinse the glass in a tank containing warm water and a sanitizer as recommended by your chemical supplier. Use the same *heel end in first, heel end out first* method described in step three.
5. Let the glasses air dry upside down on a stainless steel drainboard surface that allows maximum air circulation.

Once the glass is beer clean, store it in a proper fashion that will keep it beer clean. Never dry glasses with a towel and do not store them on a towel or smooth surface that will slow the drying process.

## How to test for a beer clean glass?

Once you have followed your cleaning procedure, you may test your glassware to see if it is beer clean using any one of the following methods:

1. **Sheeting Test:** Immerse a glass in clean water, heel first and then empty the glass. The water should shed off the glass evenly without forming water droplets. A beer clean glass will air dry crystal clear.
2. **Salt Test:** Immerse a glass in clean water, heel first and then empty the glass. Sprinkle salt on the inside of the glass. The salt should cling evenly to the entire inside wall of the glass. The salt will not adhere to areas that still have an invisible greasy film.
3. **Lacing Test:** Fill a glass with beer. Foam should adhere to the inside of the glass in a series of rings after each sip of beer, forming a lacing pattern. If the glass is not beer clean, foam will adhere to the inside of a glass in a random pattern or may not adhere at all.



Regular maintenance of your Glastender remote beer dispensing system will help keep it running properly and ensure your maximum profit. It may be best for you to contract with an outside agency that will provide beer system maintenance at regular intervals. The following list shows the time intervals and suggested maintenance.

### **Every Day**

- Flush all dispenser drains by pouring hot water down them. Only use clean hot water.

### **Every Two Weeks**

- Clean beer lines. When yeast and barley separate from the beer recipe, they form a bio-film on the inner wall of the beverage tubing. This bio-film build-up provides the media on which bacteria may feed. The by-product of the bacteria will taint the taste of the beer. Your local health department may have policies that dictate how often your beer lines must be cleaned. Obviously, there are cost and practicality issues to consider, but you should not go more than 30 days without cleaning your beer lines.

### **Every Month**

- Check coolant level in line chiller glycol bath. If coolant level is low, add a mixture of glycol and water to bring the level up to the proper height. Glastender's glycol may be mixed two parts water to one part glycol and still with stand temperatures as low as 0°F without freezing. NOTE: Only use Dow-Therm or equivalent brand glycol. Do NOT use R.V. grade glycol or antifreeze.
- Drain condensate water from air compressor tank and filter. This may need to be done more often if your air compressor is stored in a humid environment. Failure to drain the condensate water from the air compressor tank leads to regulator failure.

### **Every 3 Months**

- Inspect all primary and secondary pressure regulator settings and inspect the system for leaks.
- Inspect floor chases and seal any open chase ends. If water enters a floor chase it should be removed as quickly and thoroughly as possible. Any water build-up inside a chase will affect the temperature and taste of the beer, and produce poor drawing results.
- Inspect beverage conduits for damage, re-insulate and seal any uninsulated areas.
- Inspect air compressor filter and replace if clogged.
- Clean the line chiller air cooled condenser using a vacuum cleaner.

### **Every 6 Months**

- Replace air compressor filter. It may need to be replaced sooner if clogged during 3 month inspection.
- Check glycol concentration using an antifreeze tester.



The glycol in your Glastender line chiller is very important to the proper operation of your remote beer system. Always follow the maintenance procedures outlined on page 5 of this manual. Failure to properly maintain the glycol will lead to trouble. If the glycol is too weak, ice will build up inside the glycol bath\* allowing the temperature to rise. If the glycol level is too low, the temperature will also rise. If you are having trouble, start by checking the glycol concentration and level in your line chiller. The following trouble shooting guide will help for other common situations. If problems persist after you have eliminated all simple solutions, contact the original system installer or your local service rep.

| TROUBLE   | PROBABLE CAUSE  | SOLUTION   |
|---|---|--|
| <b>Dispensed beer temperature is too warm (may result in excessive foaming)</b> | A. Line chiller glycol tank is too warm.                                      | A. Glycol bath should be maintained between 28°F and 32°F. If it is warmer, adjust the thermostat to a colder setting.   |
|   | B. Walk-in cooler temperature is too warm.                                    | B. The walk-in cooler temperature should be maintained between 35°F and 40°F. Place a thermometer in a glass of water inside the walk-in cooler for two hours to check the temperature inside the walk-in. |
|   | C. Line chiller is not running.   | C. Check that the line chiller power cord is plugged in or a circuit breaker is not blown.   |
| <b>No CO<sub>2</sub> pressure on beer system.</b>                               | A. Empty CO <sub>2</sub> cylinder.  | A. Switch to new CO <sub>2</sub> tank supply.  |
|   | B. CO <sub>2</sub> shutoff valve is closed at CO <sub>2</sub> cylinder.       | B. Open CO <sub>2</sub> shutoff valve at CO <sub>2</sub> cylinder.   |
|   | C. CO <sub>2</sub> shutoff valves in lines leading to keg taps are closed.    | C. Open CO <sub>2</sub> shutoff valves in lines leading to the keg taps.   |
|   | D. CO <sub>2</sub> regulators have been changed from their original settings. | D. The original beer system installer will set the regulators at the proper pressure to run your beer system. Contact the original installer if the original settings were not recorded.                   |
|   | E. Leak in the CO <sub>2</sub> system.  | E. Find the leak and repair it.  |
| <b>Beer is sour or has an off taste.</b>  | A. Beer system needs to be cleaned and sanitized.                             | A. Clean and sanitize the beer system or contact the local line cleaning contractor.   |
|   | B. Beer is spoiled due to inadequate walk-in cooler temperature.              | B. Correct the walk-in cooler temperature problem, check line chiller operation, then clean and sanitize the beer system.  |
|   | C. Different beers have been mixed in the same beer line.                     | C. Clean and sanitize the beer system before switching to a new beer supply.   |

\* CAUTION: If there is a build-up of ice on the evaporator coils in the glycol bath of your line chiller, it must be thawed. To unthaw the ice, unplug the line chiller and add hot water to the bath. Once thawed, the coolant solution should be drained and replaced with the proper mixture of glycol and water. NEVER USE A SHARP INSTRUMENT TO REMOVE ICE FROM THE EVAPORATOR COILS. It will puncture the evaporator lines and destroy the line chiller.





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