

Installation Manual

**Glas
tender®**

Remote Draft Beer Systems



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If you have any questions that are not covered in this document, please contact the technical service department, which is available Monday through Friday, 8 to 5pm EST at 800.748.0423 ext. 144.

Pulling the Conduit (Beer Line Set)

- Double check the length of the line run before pulling the lines. If the lines are too short, it is better to find out before you pull the lines.
- Seal the end of the conduit to prevent debris from getting into the lines while pulling.
- Pulling too hard on the line set will destroy the lines. The lines should pull through without too much effort. If there seems to be an obstruction or if you notice water inside the chase, contact the general contractor immediately.

Installing the Line Chiller

- The line chiller should be positioned according to instructions from the factory. In the absence of specific instructions from the factory, consult the general contractor on site.
- Make certain that the line chiller is located in an area that provides adequate air flow.
- If a wall rack is provided, make certain that the rack is mounted to studs and/or there is sufficient backing in the wall behind the rack.
- Run the glycol lines to the walk-in cooler and insulate them with the materials provided.
- The glycol unit should not be ran until all connections have been made and the beer tower is installed.
- Do not put the glycol into the line chiller until you are ready to start up the unit. The glycol must be mixed two part water to one part glycol, which provides protection against freezing down to 0°F. Failure to dilute the glycol may destroy the circulating pump motor.
- When possible, it is best to have the glycol unit run for a few days prior to starting up the system. Turn off the circulating pump and just have the unit run to get the bath down to temperature and to check the operation of the unit.

Installing the Primary Regulator

The purpose of the primary regulator is to step the CO₂ from the source down to below 60 lbs for use inside the walk-in cooler. All of the regulators inside the walk-in cooler have gauges that do not go beyond 60 lbs. There are three types of primary regulator set ups typical to most installations: tank, bulk, and bulk with back up tank. See the three attached beer system diagrams, which are labeled according to the type of primary regulator set up.

- Contact the factory if you do not have the appropriate primary regulator.
- Position the primary regulator (if not a tank mount regulator) according the specific instructions from the factory. In the absence of specific instructions, consult the general contractor on site.
- Use the 1/4" ID nylon braided line provided to run the CO₂ to the walk-in cooler.
- If pre-blended Nitrogen and CO₂ (i.e., beer gas) is being used, then you should have received a tank mount Nitrogen regulator. NOTE: Blended gas means that this will not be a beer pump style system. If you have beer pump panels to install inside the walk-in cooler, you should contact the factory immediately.

- If a Nitrogen and CO2 blender is involved, you should have a tank mount Nitrogen regulator and a tank mount CO2 regulator (or an in-line CO2 regulator if bulk CO2 is being used). Position the blender according to the specific instructions from the factory. In the absence of specific instructions, consult the general contractor on site. Use the 1/4" ID nylon braided line provided to run the Nitrogen and CO2 to the blender and then to run the output(s) of the blender to the walk-in cooler. Two outputs means that Guinness or some other stout beer is involved, which require a higher than normal amount of Nitrogen in the blend. NOTE: Blended gas means that this will not be a beer pump style system. If you have beer pump panels to install inside the walk-in cooler, you should contact the factory immediately.

Installing the Regulator Panels

There are two basic types of secondary regulator panels: standard or beer pump. Most likely beer pumps are involved and you will need to consult the separate Beer Pump Installation Instructions sheet, F-750-356, for information specific to beer pump installations. The following guidelines apply to both types of panels:

- Position the regulator panels according to the specific instructions from the factory. In the absence of specific instructions, consult the general contractor on site. In all cases, the panels should be mounted in a place where they will not interfere with shelving or be easily damaged by the movement of kegs. Often the best location is up high on the wall near the ceiling of the walk-in cooler. Each panel should be located near the kegs it will control, which means that the panels may not all be on the same wall or right next to each other.
- If Guinness or some other stout that requires a special gas blend is being used, then you should have a separate regulator panel for that stout beer. Guinness is pushed by a blend of 75% Nitrogen and 25% CO2 and cannot be pushed by the same CO2 line as all the other beers. Guinness should not be run through a beer pump panel. If you do not have a separate non-pump style panel just for Guinness, consult the factory immediately.
- Once you know the panels are positioned properly, run the CO2 line to the first panel and continue it to other panels as necessary. Eventually the CO2 line will dead end into the cap at the end of a secondary regulator.
- Approximately 9 feet of clear beer line has been provided for the jumper line to go from the panel to the keg. An equivalent amount of red air line has been provided for the jumper line to go from the beer keg regulator to the keg.
- If empty keg detectors (i.e., FOB stops) are being installed they must be mounted in line after the beer pumps. Also, keep in mind that any small air bubbles escaping from the keg will eventually build up inside the empty keg detectors (EKD), which will result in a false shut-off. The head pressure to the kegs must be set properly to prevent this from happening. Lastly, 1/4" ID line has been provided to allow draining of the relief valve on the EKD to a bucket in case some beer escapes the EKD during changeover.

Connecting the Conduit Inside the Walk-In Cooler

- Do not cut the conduit lines until you are certain you have located the panels properly. When you do cut the lines, create a little bit of slack in the line, just in case you need to cut off any lines and reconnect them in the future.
- The beer lines should be tied together to create a neat installation. Use the zip ties provided.
- Connect the beer lines to the panels according to the numbers on the lines and in logical left to right sequence with the beer tower(s).
- Arma-flex insulation is provided for insulating the glycol lines inside the walk-in cooler. Insulating the glycol lines inside the walk-in cooler is necessary to prevent ice build up.

- Do not cut the glycol lines short, since you will need to run them to the connection point with the line chiller glycol lines. Splicers are provided to connect the glycol lines. If a U-bend has been provided, you will need to install the U-bend in order to properly circulate the glycol through the entire system. It is easier to install most of the insulation prior to finishing all of the connections.

Installing the Beer Tower(s)

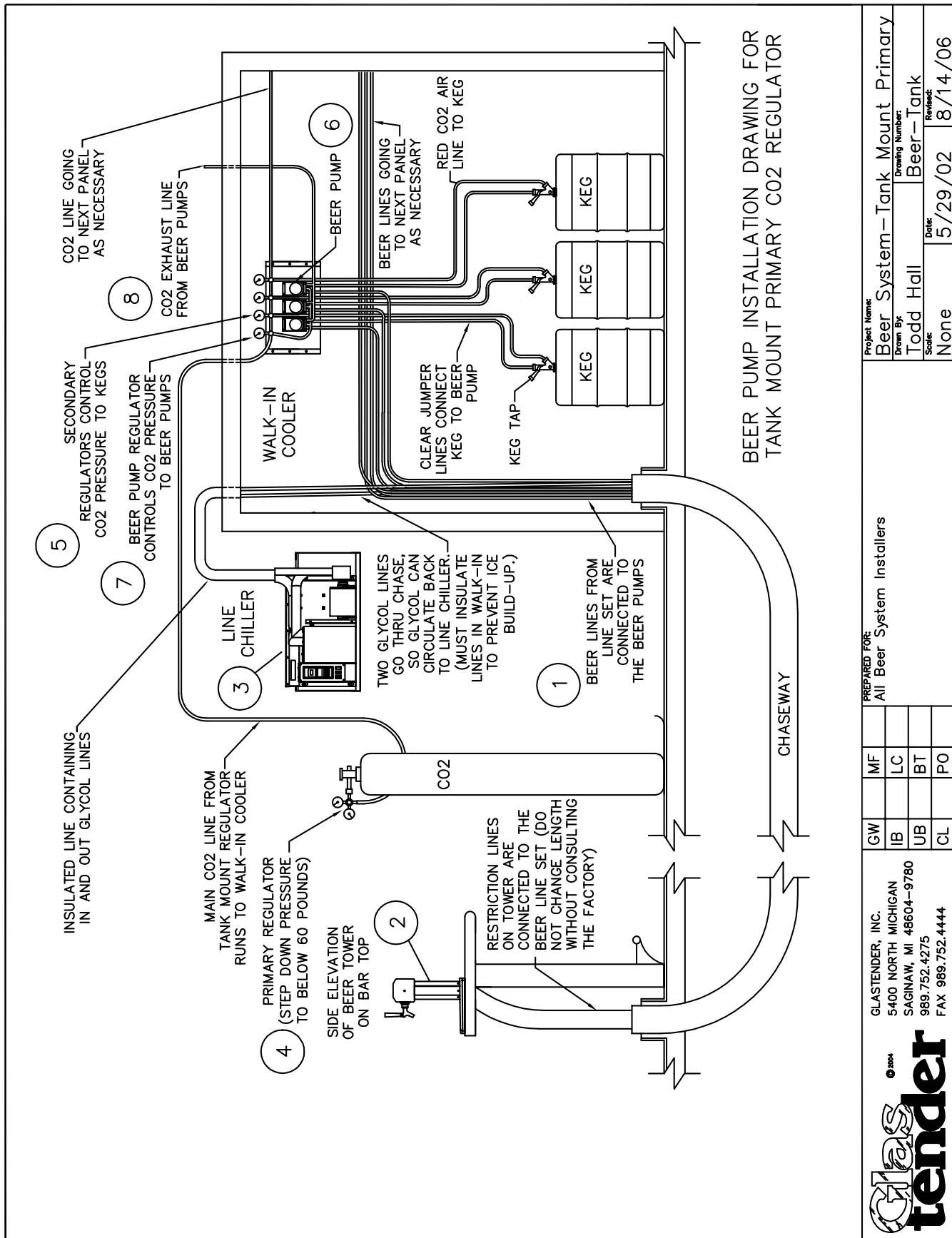
Position the beer tower(s) according to the specific instructions from the factory. In the absence of specific instructions, consult the general contractor on site. For detailed instructions on how to install a beer tower, see the separate Beer Tower Installation Instructions sheet.

Connecting the Beer Tower to the Conduit

- Do not shorten the restriction lines that are provided with the beer tower. If for some reason you feel they need to be shortened, consult the factory immediately.
- Do not place the connection point of the beer tower restriction lines to the conduit inside the chase or some other un-accessible place. Make a loop in the beer lines before entering the chase if necessary. If this seems to be a real problem or the general contractor is giving you negative feedback regarding the situation, consult the factory immediately.
- Connect the conduit lines in numerical order to the beer tower lines, which are labeled in numerical order to correspond to the tower faucets as they proceed left to right.
- Often the connection points are left un-insulated until the system start-up in order to verify there are no leaks. Eventually, you will need to insulate the exposed lines. Insulate the exposed connection point by wrapping it with the aluminum tape provided and then use left over insulation from the conduit to insulate the connection point. Finish by wrapping it with the black duct tape provided, being careful not to compress the insulation too much.

Final Steps to Take Upon Start Up

- Check for beer, glycol, and/or air leaks at all connection points.
- Seal all chases with the spray foam provided.
- Insulate and tape over all exposed glycol and beer lines outside of the walk-in cooler. Glycol lines should be insulated inside the walk-in cooler as well (see Connecting the Conduit Inside the Walk-In Cooler information above).
- Mark the gauge of each regulator with the proper gauge setting using a black marker.
- Demonstrate the use of the system with the end user by reviewing the Beer System Operation Manual provided. Be sure to cover how to change out a keg, how to reset the empty keg detectors (if provided), and the maintenance section of the operation manual.
- To set the regulators upon start up for a beer pump style system, see the explanation provided in the Beer Pump Installation Instructions.
- To set the regulators upon start up for a blended gas style system, simply set the regulator for each keg at the level which provides the proper beer flow of approximately 2 ounces per second.

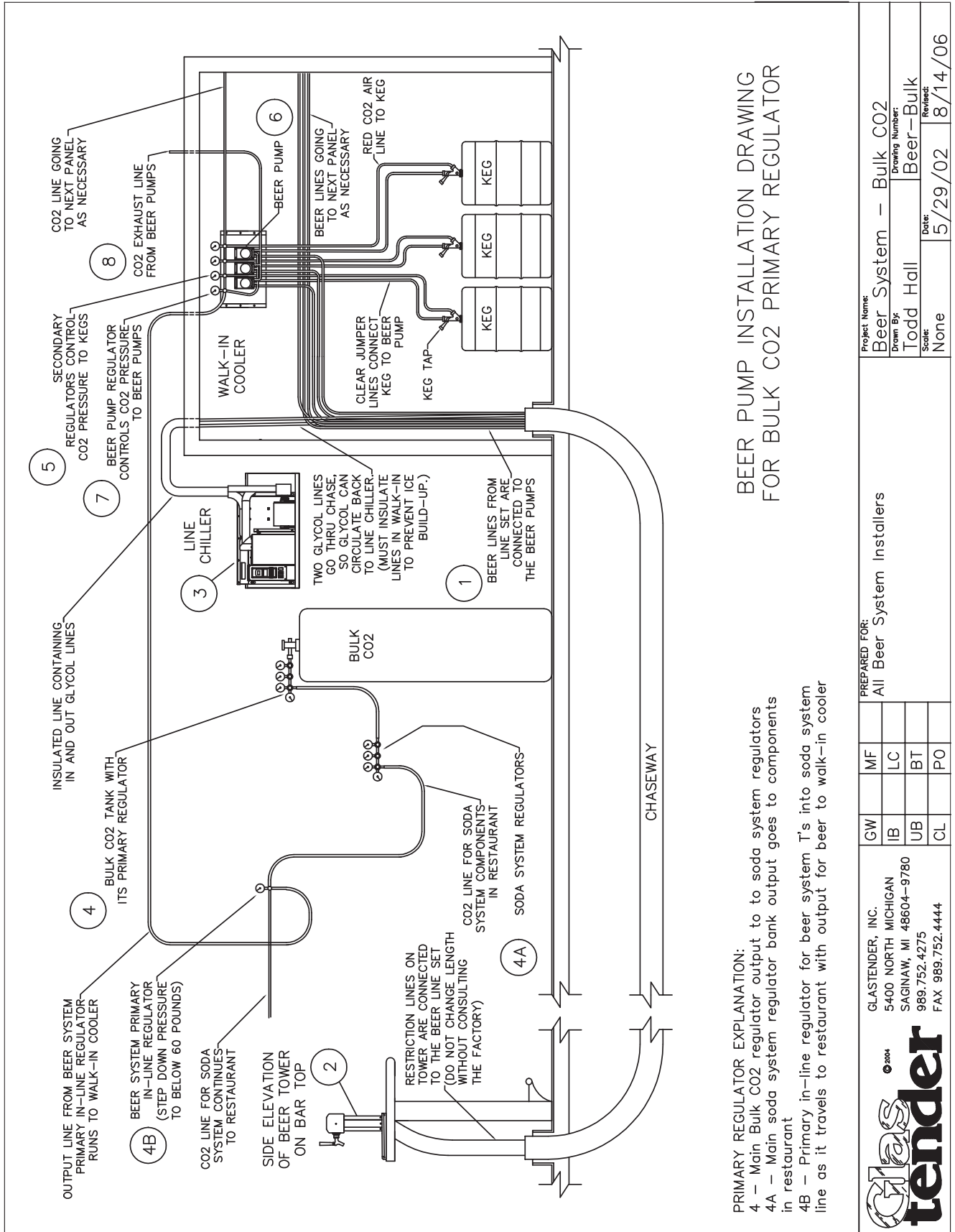


Project Name	Beer System—Tank Mount Primary
Drawn By	Todd Hall
Scale	None
Date	5/29/02
Revised	8/14/06

PREPARED FOR:	All Beer System Installers
MF	
LC	
BT	
PO	
GW	
IB	
UB	
CL	

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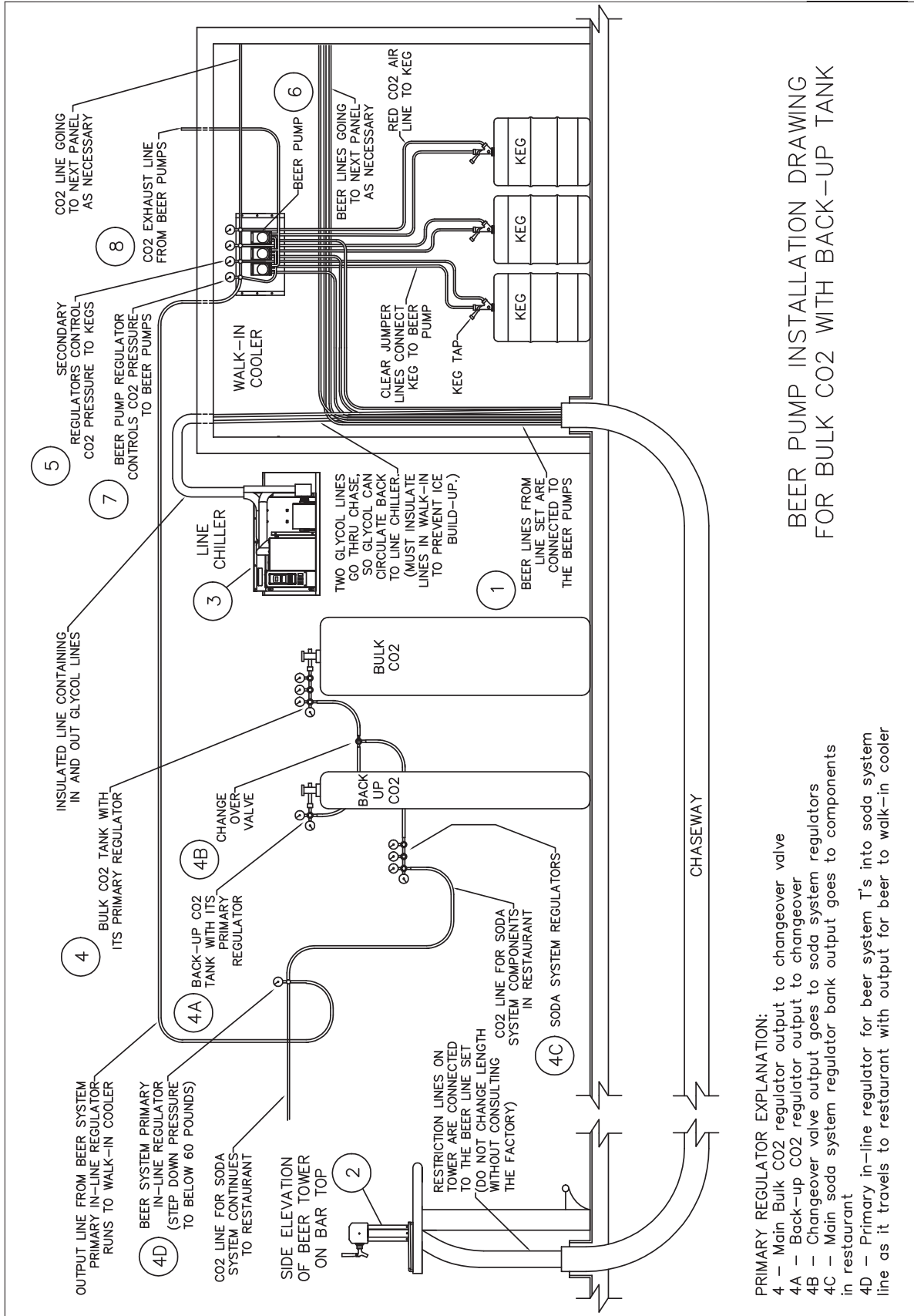
BEER PUMP STYLE SYSTEM WITH BULK CO₂ PRIMARY REGULATOR



BEER PUMP INSTALLATION DRAWING FOR BULK CO₂ PRIMARY REGULATOR

PRIMARY REGULATOR EXPLANATION:
 4 – Main Bulk CO₂ regulator output to to soda system regulators
 4A – Main soda system regulator bank output goes to components in restaurant
 4B – Primary in-line regulator for beer system T's into soda system line as it travels to restaurant with output for beer to walk-in cooler

Project Name: Beer System – Bulk CO ₂		Prepared For: All Beer System Installers	
Drawn By: Todd Hall	Drawing Number: Beer-Bulk	GW	MF
Scale: None	Date: 5/29/02	IB	LC
Revised: 8/14/06		UB	BT
		CL	PO



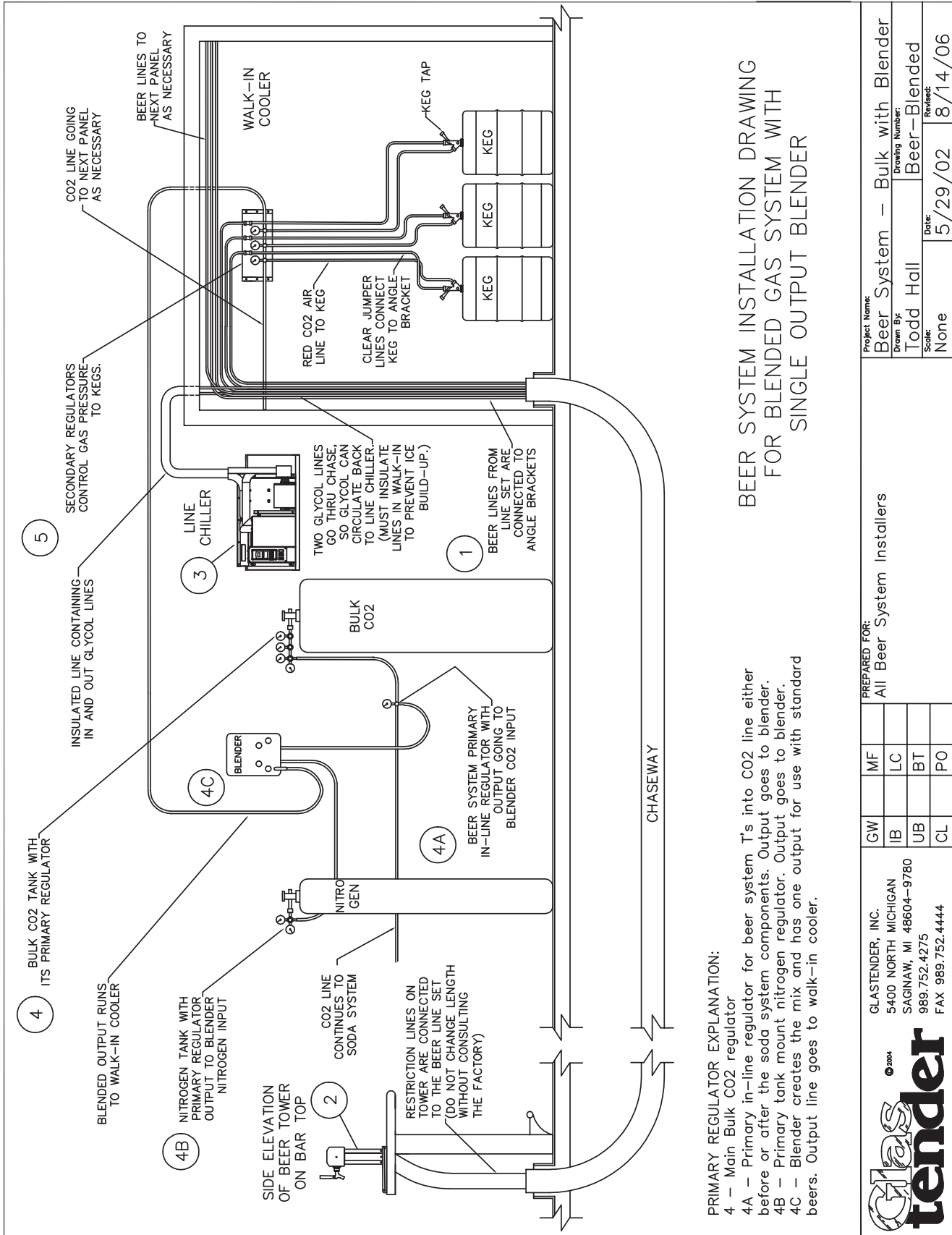
BEER PUMP INSTALLATION DRAWING FOR BULK CO₂ WITH BACK-UP TANK

PRIMARY REGULATOR EXPLANATION:

- 4 - Main Bulk CO₂ regulator output to changeover valve
- 4A - Back-up CO₂ regulator output to changeover
- 4B - Changeover valve output goes to soda system regulators
- 4C - Main soda system regulator bank output goes to components in restaurant
- 4D - Primary in-line regulator for beer system T's into soda system line as it travels to restaurant with output for beer to walk-in cooler

Project Name:		Beer System - Bulk with Back-Up			
Drawn By:		Todd Hall			
Scale:		None			
Date:		5/29/02			
Revision:		8/11/06			
PREPARED FOR:					
All Beer System Installers					
GW	MF	IB	LC	UB	BT
CL	PO				
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BLENDED GAS STYLE SYSTEM WITH SINGLE OUTPUT BLENDER

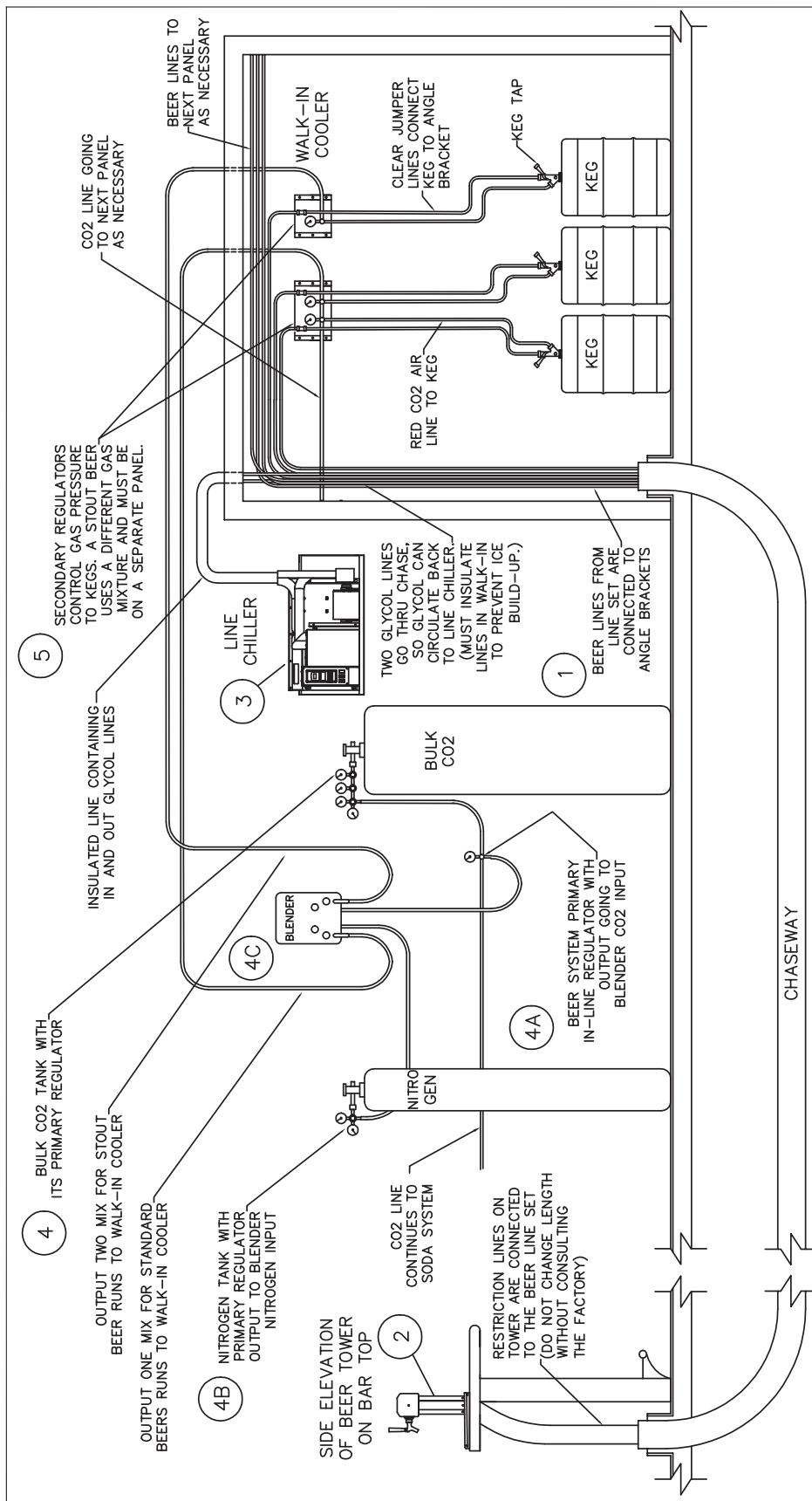


BEER SYSTEM INSTALLATION DRAWING FOR BLENDED GAS SYSTEM WITH SINGLE OUTPUT BLENDER

PRIMARY REGULATOR EXPLANATION:

- 4 - Main Bulk CO2 regulator
- 4A - Primary in-line regulator for beer system T's into CO2 line either before or after the soda system components. Output goes to blender.
- 4B - Primary tank mount nitrogen regulator. Output goes to blender.
- 4C - Blender creates the mix and has one output for use with standard beers. Output line goes to walk-in cooler.

Project Name: Beer System - Bulk with Blender		MF	GW	CL	PO
Drawn By: Todd Hall		LC	IB	UB	BT
Scale: None		BT	UB	BT	PO
Date: 5/29/02		CL	IB	UB	BT
Revision: 8/14/06		CL	IB	UB	BT
PREPARED FOR: All Beer System Installers					
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BEER SYSTEM INSTALLATION DRAWING FOR BLENDED GAS SYSTEM WITH DUAL OUTPUT BLENDER

PRIMARY REGULATOR EXPLANATION:
 4 - Main Bulk CO2 regulator
 4A - Primary in-line regulator for beer system T's into CO2 line either before or after the soda system components. Output goes to blender.
 4B - Primary tank mount nitrogen regulator. Output goes to blender.
 4C - Blender creates the mix and has two outputs, one for standard and one for stout beers (75% nitrogen). Output lines go to walk-in cooler.

Project Name:	Beer System - Bulk with Blender
Drawn By:	Todd Hall
Date:	5/29/02
Scale:	None
Drawing Number:	Beer-BlendedDud
Revised:	08/14/06

PREPARED FOR:	All Beer System Installers
MF	
LC	
BT	
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