

COLLAB HOUR



Weekly Webcast
for Members

THERE'S MORE TO CLEANING DRAUGHT LINES

JUNE 9, 2022



THERE'S MORE TO CLEANING DRAUGHT LINES THAN...

- **Wasting time and beer**
- **Going through the motions**

PROPER LINE CLEANING

- **Highest product quality**
 - Proper heading and CO₂ levels
 - Avoid off-flavors
 - Maximize profits
- **Optimal system performance**
 - Hardware longevity
 - Preventative maintenance
- **Safety considerations**



MATT STINCHFIELD

Safety Ambassador

BREWERS ASSOCIATION

BEN GEISTHARDT

Field Quality Specialist

NEW GLARUS BREWING COMPANY



THE VITAL IMPORTANCE OF SAFE DRAUGHT LINE PROCEDURES

<https://www.fox5vegas.com/2022/03/21/jury-awards-8m-man-served-chemical-cleaning-solution-instead-beer-henderson-casino/>



Jury awards \$8M to man served chemical cleaning solution instead of beer at Henderson casino



MGN Online (Source: MGN)

By Chanel Ridley

Published: Mar. 21, 2022 at 5:08 PM EDT



LAS VEGAS, Nev. (FOX5) - A jury on Friday awarded \$8 million to a man who suffered internal injuries after being served a chemical cleaning agent that was leftover in a tap lines instead of a beer at a Henderson casino, attorneys said.

According to the man's attorneys, Dr. Lon Enwright, a 38-year-old special education teacher, was visiting Barley's Casino & Brewing in Henderson to watch a football game when a bartender offered him a sample of a Honey Blonde ale. However, instead of a beer, attorneys say Dr. Enwright was given a chemical cleaning solution instead.

Attorneys for the man, Rahul Ravipudi, Ian Samson, and Adam Ellis of Panish | Shea | Boyle | Ravipudi LLP, argued that staff knew the tap lines were out of service for cleaning. However, he was offered a sample anyway.

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DRAUGHT LINE SYSTEM TERMINOLOGY

BEN GEISTHARDT

Temporary Draught Setup



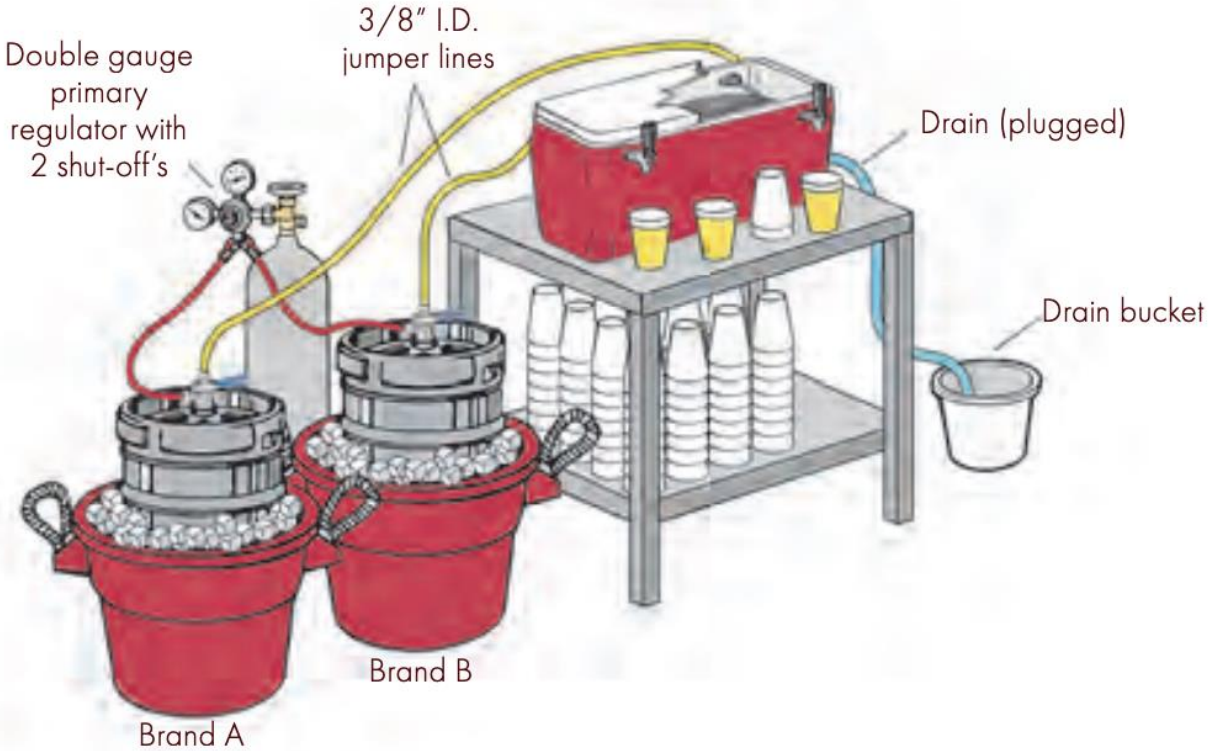
Plastic



Metal

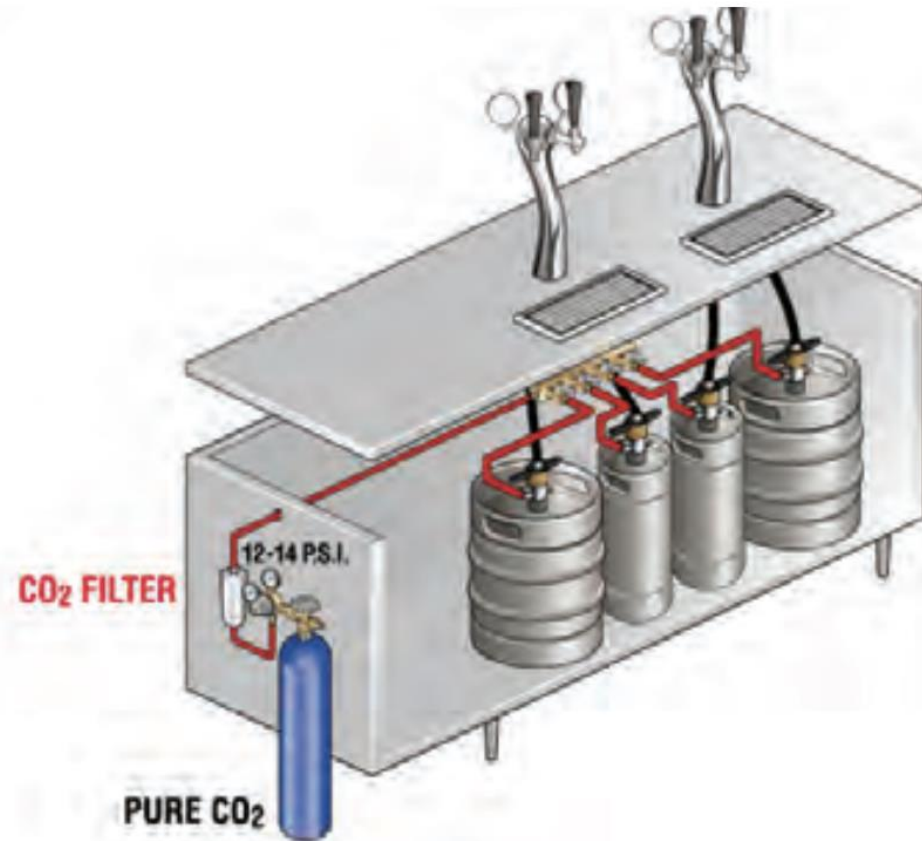


Combined with CO₂ Cartridge

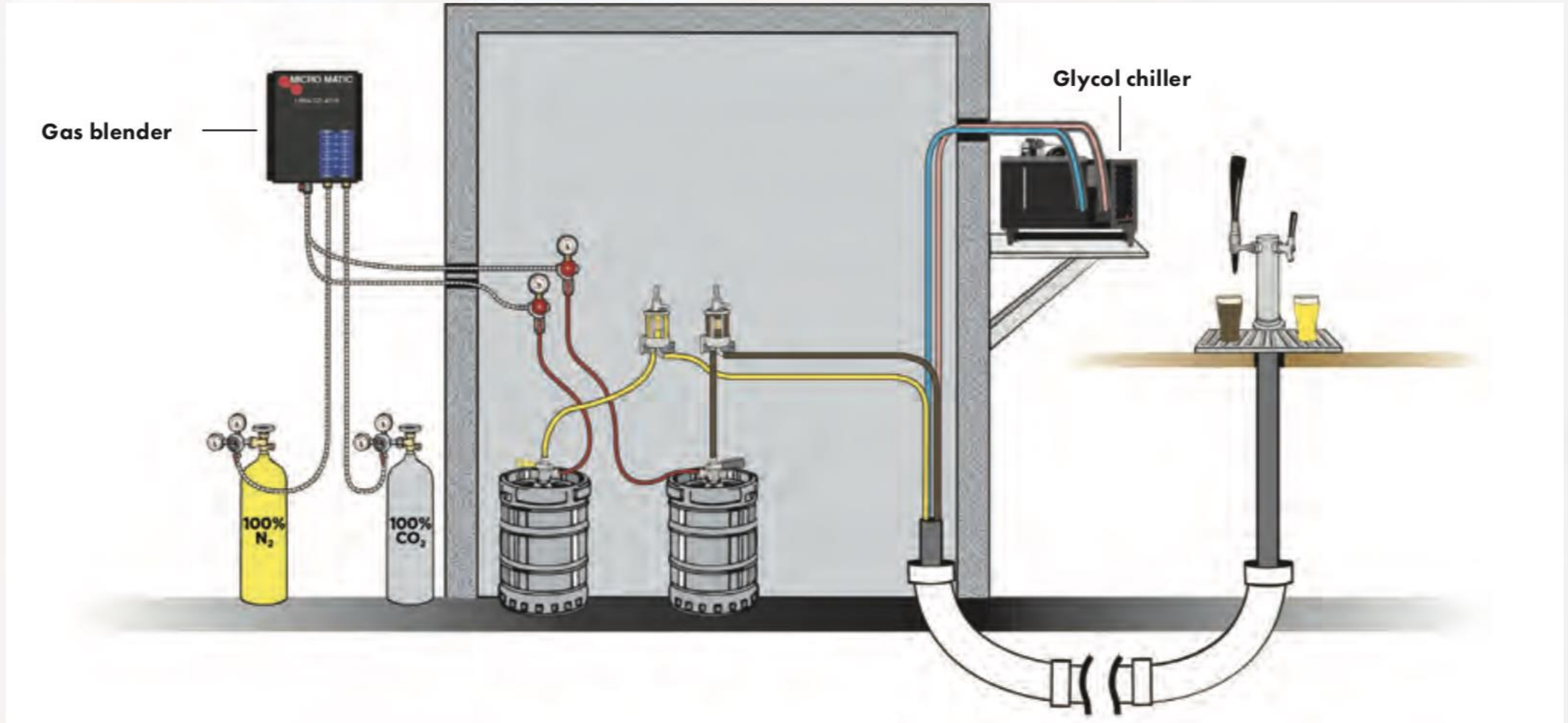


Typical jockey box setup

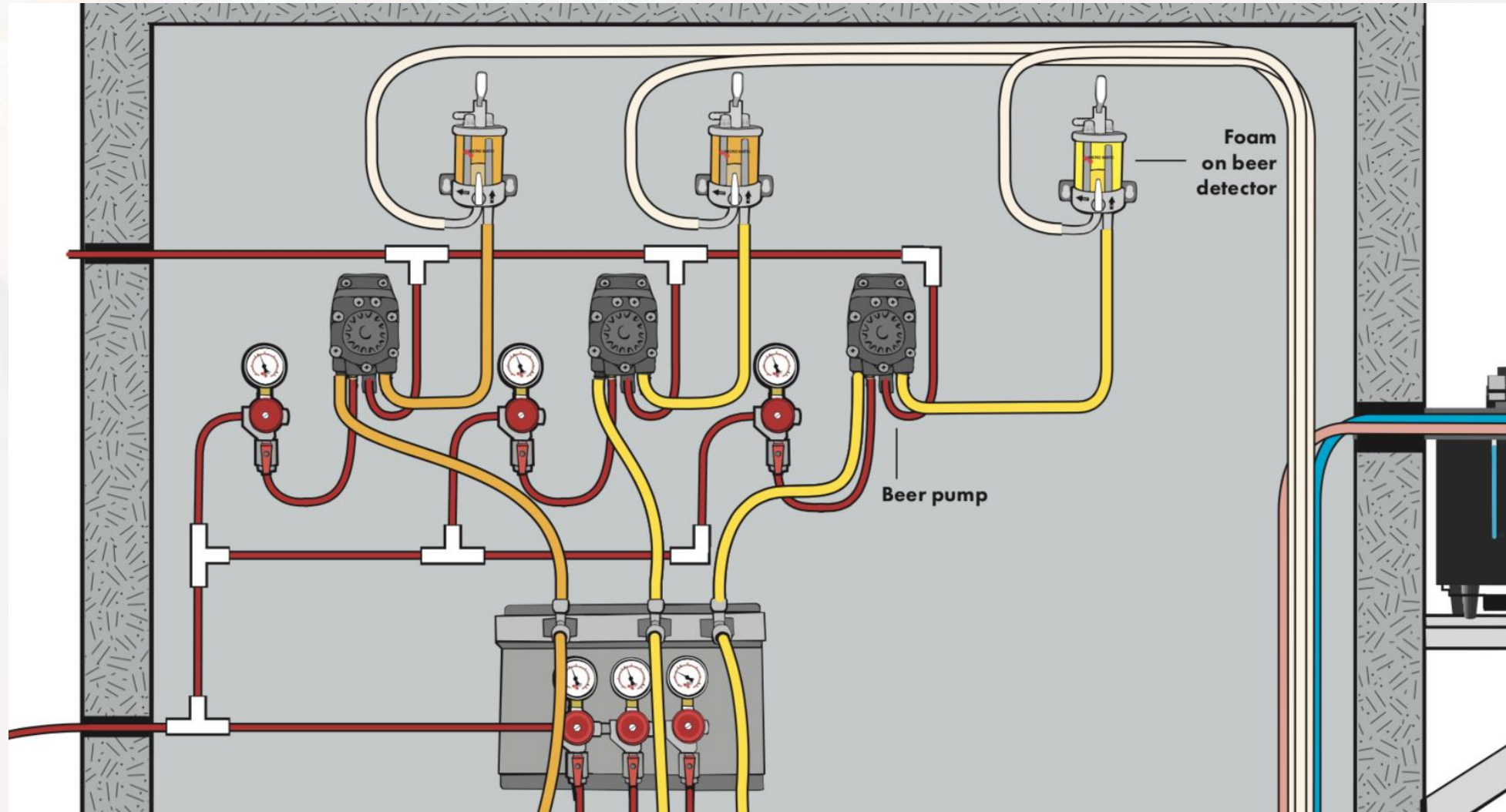
Direct Draw System



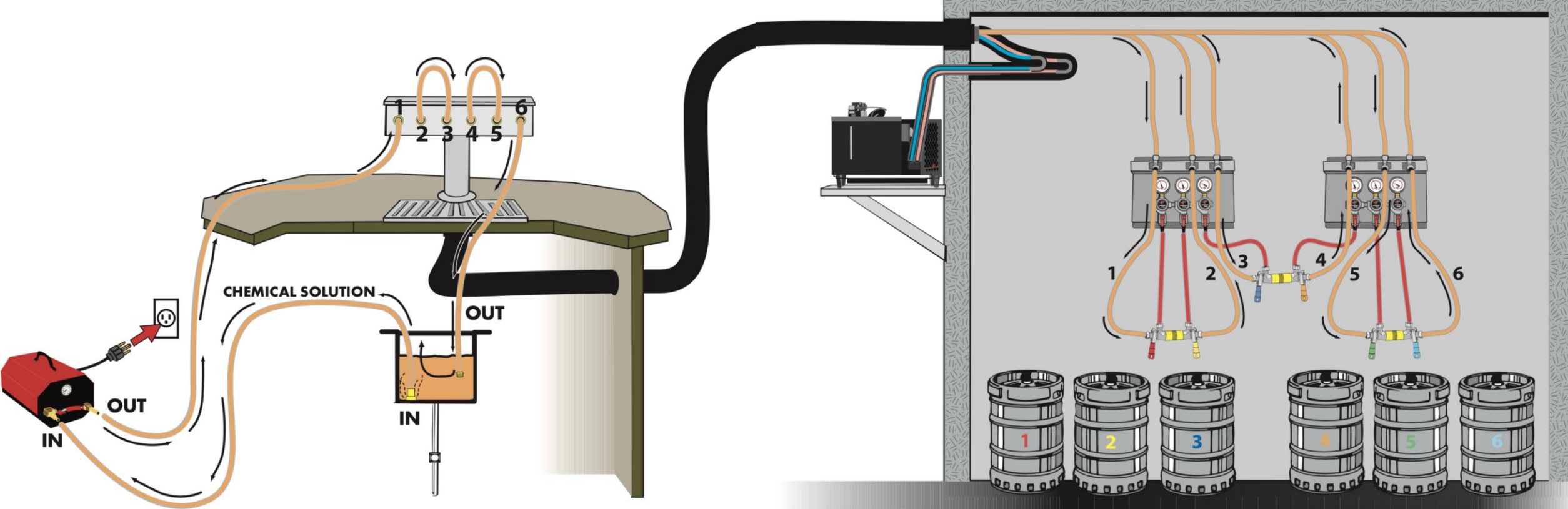
Long Draw System



Long Draw System with Pumps and FOBs



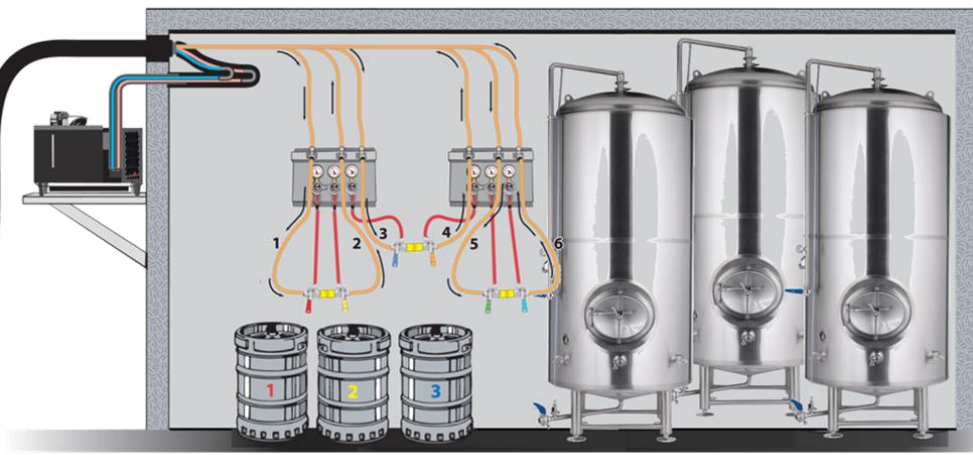
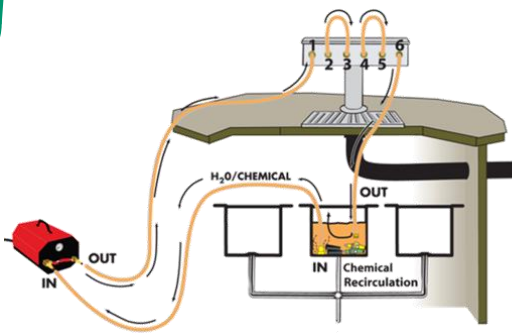
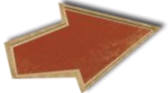
Typical Recirculated Cleaning Setup



Serving Tanks



1.5 in. Tri-Clamp x
Male Beer Nut Thread





Circulation Pump vs. Cleaning Canister



Circulation Pump:

- High Pressure 1½ X Q rate
- Mechanical force assists in removal of build-up
- More Time Efficient

Cleaning Canister (Pressure Pot):

- Pressure restricted to the regulator setting
- Stagnant (no flow)
- Time Consuming
- Development of Carbonic Acid

POLLING QUESTION

Which line cleaning procedure do you utilize at your business?

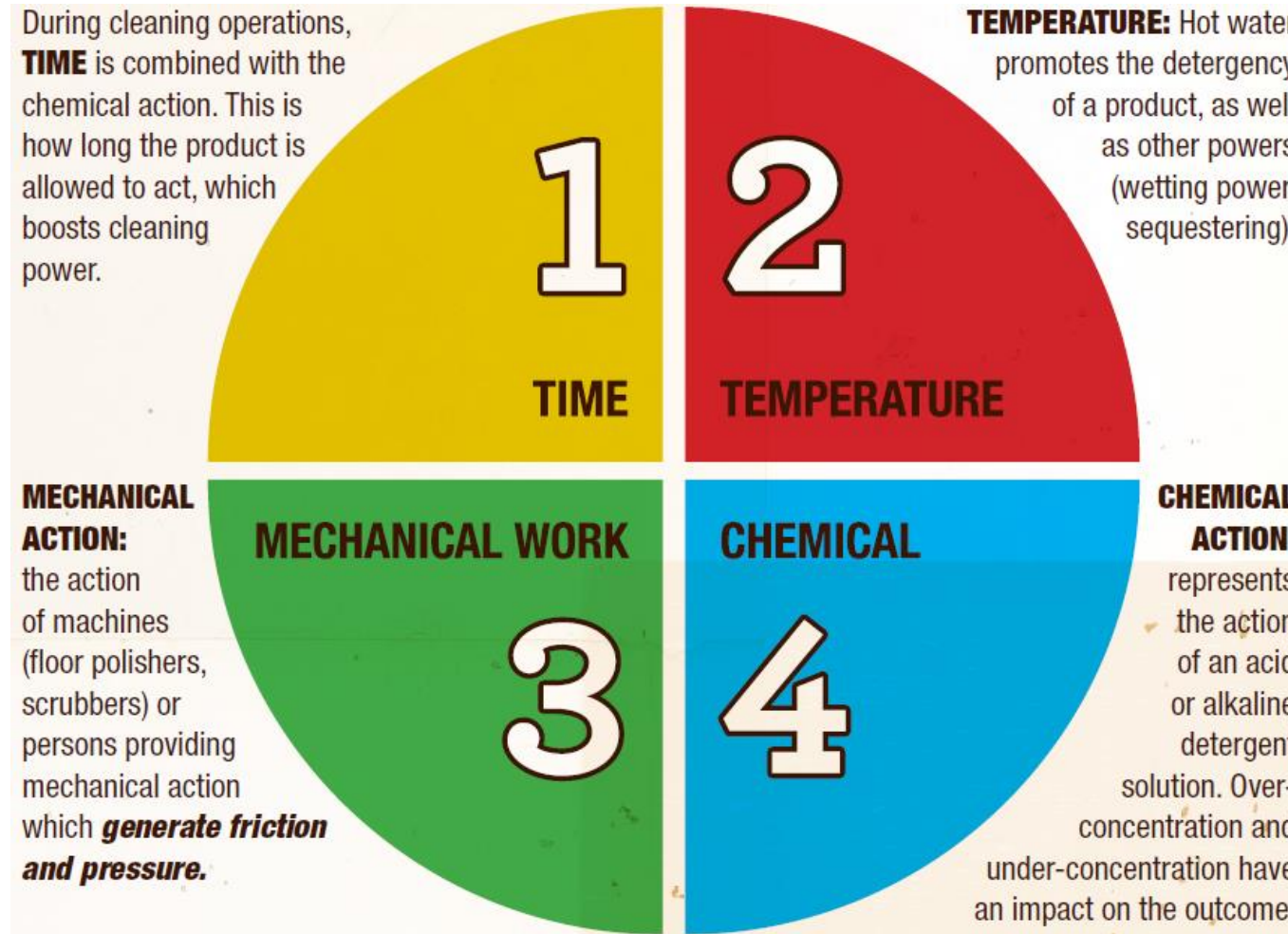
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CHEMISTRY AND CLEANING THEORY

MATT STINCHFIELD

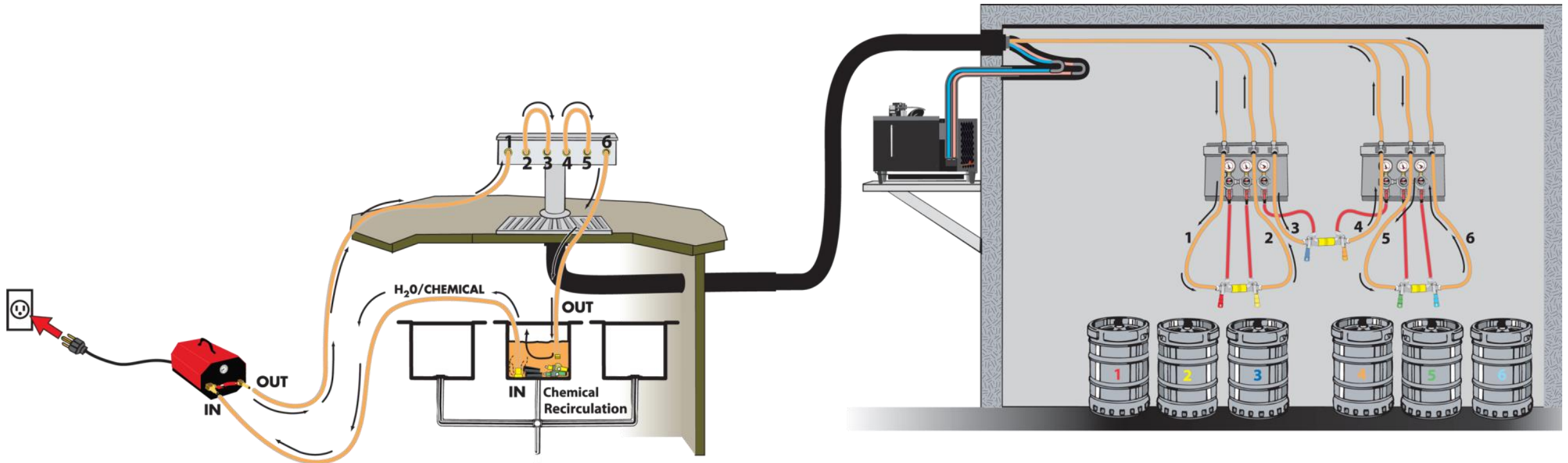
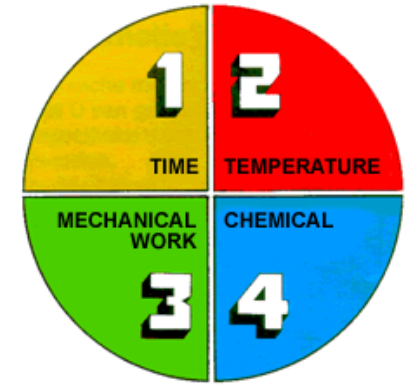
SINNER CIRCLE

In cleaning, the final result is influenced by **4 interdependent factors**, represented in the Sinner Circle. **If one factor is reduced, the loss must be compensated for by increasing one or more other factors.**



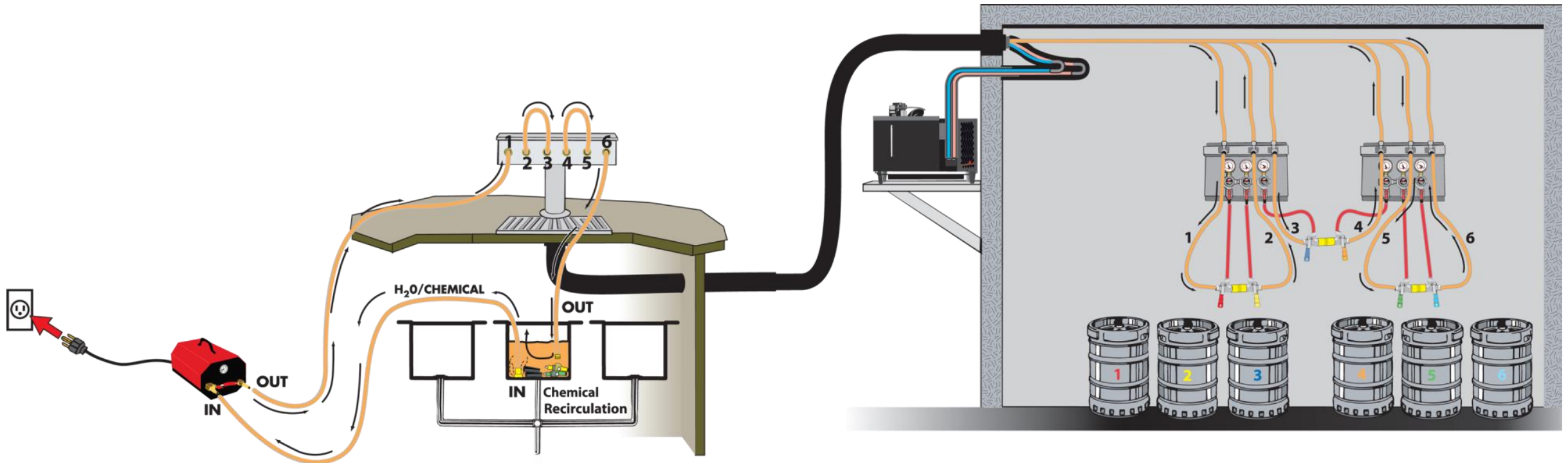
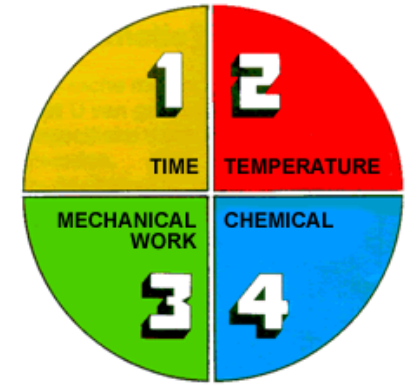
TIME

- Two-week cleaning cycle (caustic)
- Three-month cleaning cycle (acid)
- 15 Minutes of circulation



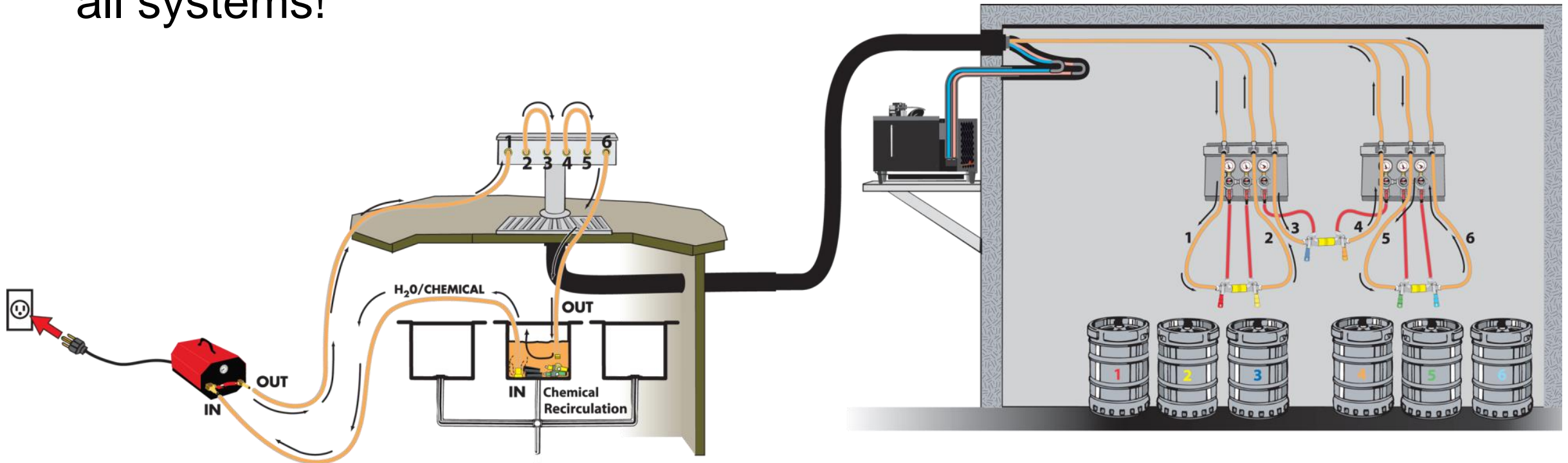
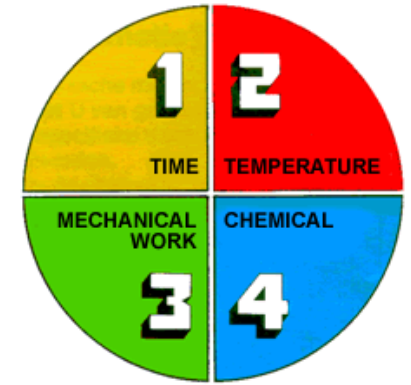
TEMPERATURE

- Hot tub temperature
- About 100° Fahrenheit



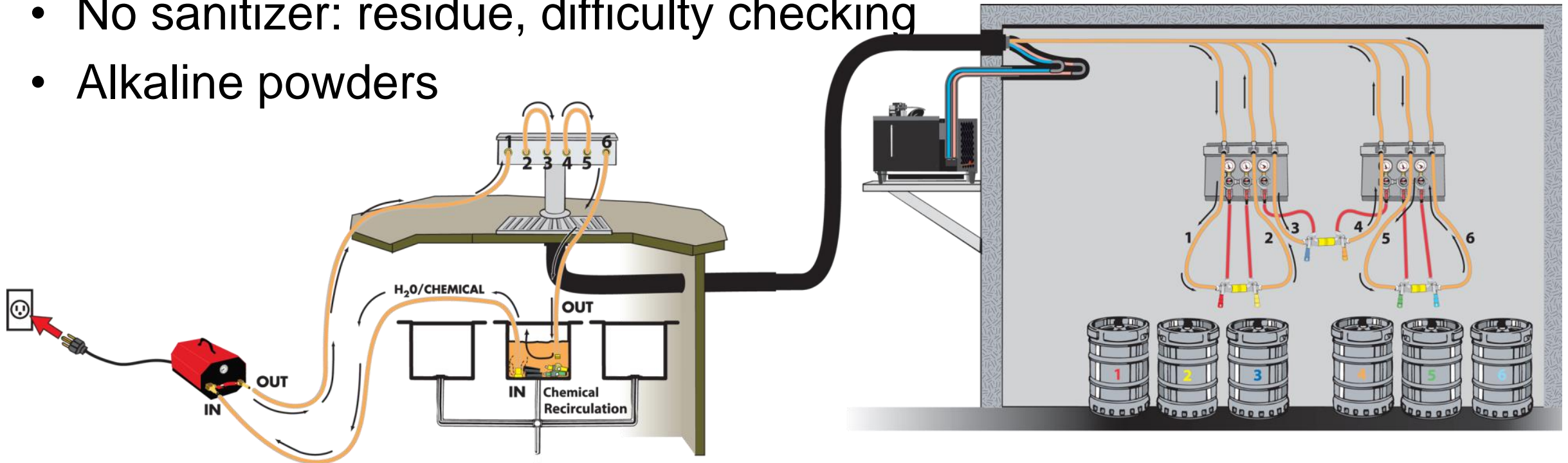
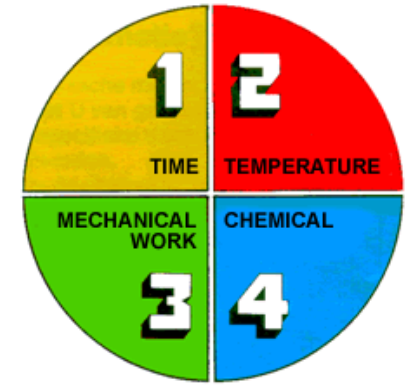
MECHANICAL WORK

- 1.5-2.0 gpm, i.e. 1.5x faster than dispense rate
- Reverse direction each cycle
- Physical scrubbing faucet, couplers with brushes
- Recirculated cleaning recommended for all systems!



CHEMICAL CLEANING

- 2% to 3% caustic (NaOH or KOH)
- Non-chlorinated caustic only
- Pre- and Post-rinsed with water, pH check / record
- 2% acid used quarterly (H_3PO_4)
- No sanitizer: residue, difficulty checking
- Alkaline powders





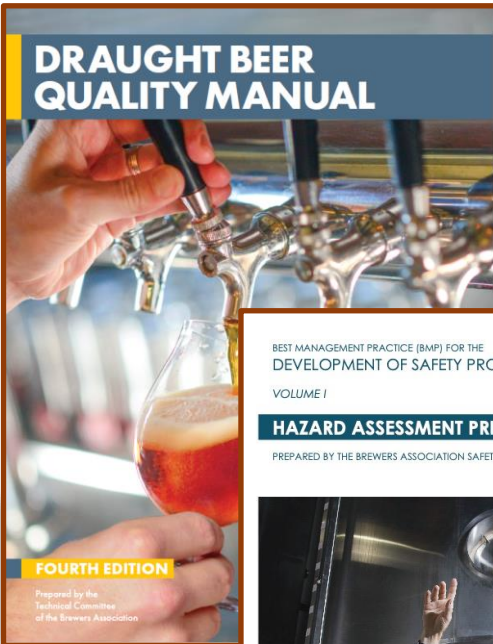
CHEMICAL SAFETY / USE INFO

- Safety Data Sheet (SDS)
- Manufacturer tech info
- Labels, workplace signs
- PPE selection chart
- Standard Operating Procedure (SOP)

SOP / CHECKLIST

- Develop your own
- Brewers Association Resource Hub
 - BMPs
 - CBC archives

SOP RESOURCES



Draught Beer Line Cleaning Log

Account Name _____

DATE	INITIALS	DATE	INITIALS	DATE	INITIALS	DATE	INITIALS

CLEANING KIT USE INSTRUCTIONS

For CK-1100 & CK-1200

SAFETY FIRST Use protective gloves and eye protection

Regular cleaning of the faucet, beer line, and keg coupler is extremely important. If this is not performed, the beer will foam. Additionally bacteria, yeast, mold, and beer stone will build up and clog.

CK-1100
1 Quart
SOP &
CLEANER KIT

CK-1200
3 Quart
SOP &
CLEANER KIT

Line Cleaner
Detergent
(CFP-1)

Faucet Wrench
4330-HID

Faucet Brush
950W

**Required Parts - Cleaning be
faucet attachment**

Fresh Water Bucket

Four Step Cleaning Procedure

A Setup: **B** Clean **C** Rinse

A Setup:

1. Shut-off CO₂ at regulator.
2. Un-lap coupler at keg.
3. Unscrew beer hose filter (do not replace beer in line).
4. Remove faucet from top (turn clockwise to remove).

Regulator valve in "off" position.

MICRO MATIC

SOP FORM

TASK: _____	SOP NO.: _____	REVISION DATE: _____
DEPT.: _____	INITIALS: _____	

- Purpose**
This SOP describes Brewery _____'s procedure for safe and effective _____.
- Scope**
This SOP is limited to _____.
- Responsibilities**
It is the responsibility of every Brewery _____ employee to maintain the highest standards of safety, quality, and sustainability. Any Brewery _____ employee who performs the task described herein will be first trained and approved for the use of the equipment and materials specified, according to this SOP. Any changes to this procedure shall be first approved by _____.
- Equipment and Materials**

- Procedure**
 - a. _____
 - b. _____
 - a. _____
 - b. _____
 - c. _____

<https://www.brewersassociation.org/educational-publications/hazard-assessment-principles/>

Example Standard Operating Procedure (SOP)

SOP 1.1 – HOSE HYDROSTATIC TESTING

Name of Author: Sarah Palmer
Date Written: July 22, 2019
Date Revised: May 10, 2020

Purpose & Scope: Hoses are a vulnerable link in most process and transfer applications. Hoses handle valuable and potentially dangerous materials, and hose failures can be expensive in terms of lost product, ruined equipment, spill clean-up, and, most importantly, personal injuries. This procedure is to ensure hoses are handled properly, and in safe working condition. This SOP is to act as a guide for the Cellar, Brewing and Packaging teams to safely use, and effectively assess the condition of industrial hoses.

Environmental Health & Safety:

- PPE: Closed toe sturdy shoes or boots, and safety glasses
- Never stand in front of, over, or behind ends of a hose assembly during pressure testing. Hose failure could make noise, and briefly spray water. Due to rapid pressure drop from closed system and low compression character of water, violent blow out of fittings/hose is not considered as a hazard.
- Use only cool water to hydro-test hoses. Do not use chemicals, be sure to get all air out of hose before hydro-testing.

Equipment & Materials:

- Clamps
- Gaskets
- Butterfly valves
- Rothenburger test pump (TP25) (located in the supply closet across from the 220 control room)

Procedure:

1. Collect hose/s to be tested and lay out straight on a clean / dry surface. Hose/s should be tested one at a time at room temperature.
2. Gather parts for testing: clamps, gaskets, butterfly valves, Rothenburger test pump (TP25)
3. Attach butterfly valves to both ends of the hose.
4. Fill the hose with water (vent air by going "up" end of hose), and close butterfly valve.
5. Clamp the TP25 fitting onto the butterfly valve.
6. Turn adjustment knob (1) on TP25 towards the "minus" direction (just so that it's hand tight).
7. Open the butterfly valve.
8. Pump up the hose to XXX psi using handle (2) and hold for XX seconds prior to conducting the hydrostatic test at full pressure.
9. Keep pumping until XX psi of working pressure is reached, use knob (3) to close system and hold pressure.
10. Hold for 30 minutes and watch for pressure drop on the pressure gauge. Dropping pressure indicates either a leak in the system, or fittings pulling out of the hose. Small leaks expanding may also cause the hose pressure to drop.
11. Record results of testing for specific hoses tested on the "Hose Inventory Excel Spreadsheet"
12. Remove damaged/defective hoses from service immediately and take to "Red Tagged" area.

References: "Hose Inventory Excel Spreadsheet" (Public/Brewery Docs/Hose Inventory and Inspections folder)

<https://cdn.brewersassociation.org/wp-content/uploads/2020/05/Standard-Operating-Procedures-Guidance-for-Brewers.pdf>

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DRAUGHT LINE CLEANING EDUCATION

KAYLYN KIRKPATRICK

DRAUGHT LINE CLEANING EDUCATION

- LEARN MORE
- POUR BETTER

BREWERS ASSOCIATION / OSHA GRANT TRAINING PROGRAMS

- **FREE Advanced “Operations Level” Course**
 - For Line Cleaning Technicians, t.b.a. Spring 2023
 - <https://www.brewersassociation.org/association-news/2022-registration-open-for-free-online-draught-line-safety-course/>
- **FREE Intro “Awareness Level” Course**
 - Starting SOON - Summer 2022
 - For FoH staff, owners, brand managers, public health officials

MORE RESOURCES

- [Draught Beer Quality Manual, 4th ed.](#)
- [Draught Beer Quality Manual for Retailers, 2nd ed.](#)
- [Brewers Association Forum](#)

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Q & A



Pour Safely, not Poor Safety

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