

The Perfect Pint

Ten Signs of Great Draft Beer
and Why You So Rarely Find
Them All in One Place

Ray Daniels



In the beginning . . .



In the beginning . . .



Modern Draft Systems

Post WWII:

- No more wooden barrels
- Pressure dispense
- Draft beer widely available



Modern Draft Systems

Post WWII:

- 6-pack . . .
- 1970s: draft <10%



Modern Draft Systems

Today:

- Most think: any idiot can pour draft beer!
- In truth: just a little bit of rocket science involved



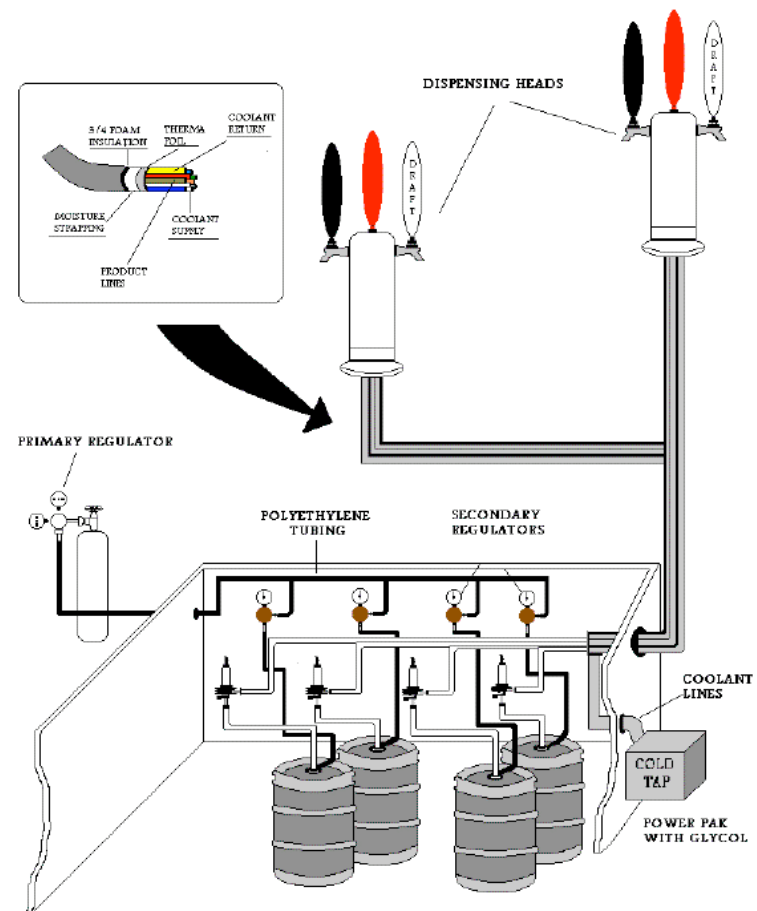
Draft Rocket Science

System Balance

- Long Draw:
 - Vinyl jumper in cooler: 1 psi
 - Draft tower: 7.5 psi
 - 15 foot rise to bar: 7.5 psi
 - Line resistance (50'): 5.0 psi

Total: 21 psi

- Mixed gas
- Serving tanks



Ten Signs of Great Draft Beer

Beer Should be Served . . .

1. . . . in a glass!
2. . . . in a *clean* glass
3. . . . in a *beer-clean* glass
4. . . . in a glass *free of odors*
5. . . . in a *room-temperature or slightly chilled* glass



Ten Signs of Great Draft Beer

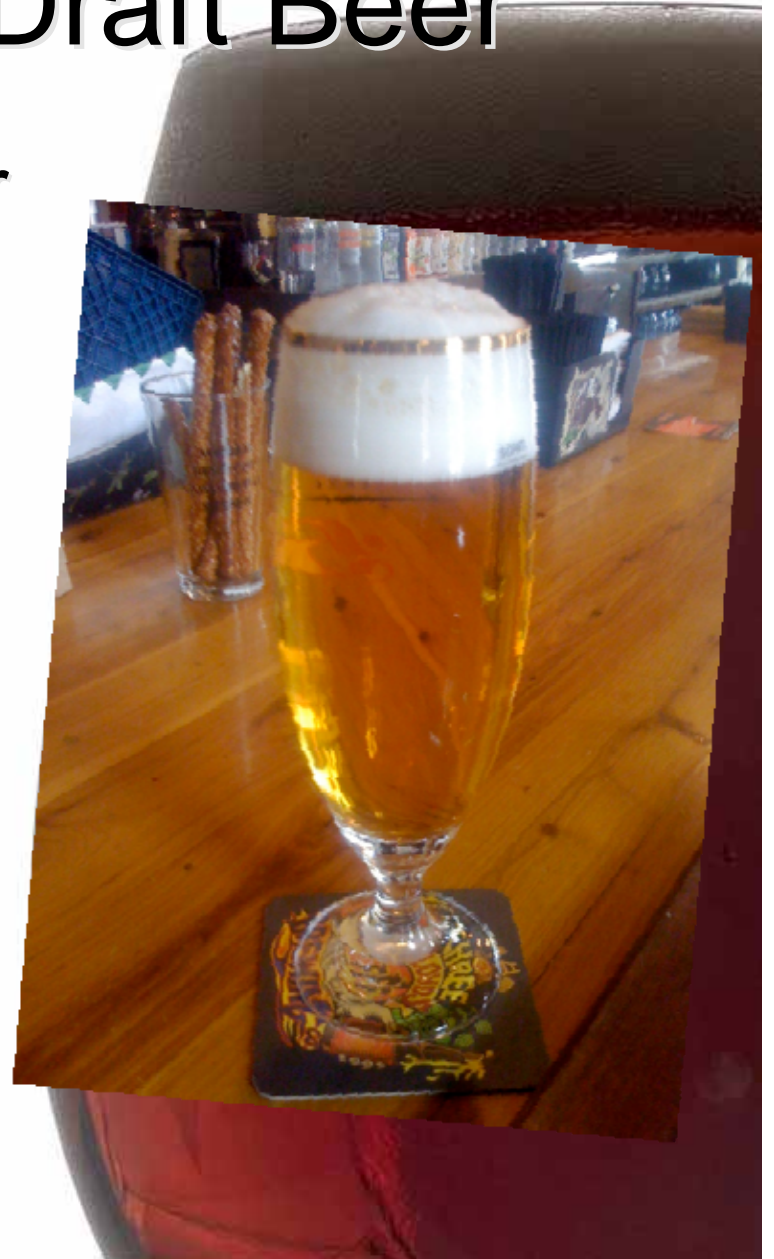
Beer Should be Served . . .

6. . . . at a suitable temperature
7. . . . through clean draft equipment
8. . . . properly carbonated



Ten Signs of Great Draft Beer

9. Beers should almost never be served using air to push the beer from the keg.
10. Draft beer should always be stored cold before serving.



Eleven! Signs of Great Draft Beer

11. A crowd of happy people enjoying great draft beer at a profitable establishment!

Value to the bottom line:

Consumers taste the difference!

Less waste, more profit



Forget Draft Beer!

New initiative:

- BA Technical Committee
- Perfect on-premise dispense
- New approach:

Draught beer



Draught System Operation



Draught System Operation

Goals:

- Beer Flow of 2 oz/second, ~ 1 gal/minute
- Proper carbonation & head
- Without foaming or waste!



Draught System Operation

Keys to Success:

- System balance
- Glassware preparation
- Proper pouring technique
- Cleaning & maintenance



Draught System Operation

- **System Balance**

What happens when a draught system is out of balance?

The beer foams!



Draught System Operation

**Resistance = Applied Pressure
(at a specific temperature)**

- System Balance
 - Applied Pressure (gas)
 - Resistance of System
 - Beer Lines
 - Fixtures
 - Elevation Change
 - Temperature (cooler & lines)



Draught System Operation

- Direct Draw System
 - 12-15 psi needed to maintain carbonation
 - 4-5 feet of 3/16" i.d. vinyl tubing (3# / ft)



Draught System Operation

Beer Line Resistance Values

Type	size (id)	restriction (psi/ft)
Vinyl	3/16"	3.00
Vinyl	1/4"	0.85
Vinyl	5/16"	0.40
Vinyl	3/8"	0.20
Vinyl	1/2"	0.03
Stainless	3/16"	1.20
Stainless	1/4"	0.30
Stainless	5/16"	0.12
Polyethylene	3/16"	2.20
Polyethylene	1/4"	0.50
Polyethylene	5/16"	0.20
Polyethylene	3/8"	0.07



Draught System Operation

- **3/16” vinyl tubing**
 - 3 lb / ft resistance
 - For 12 psi system
 - $12/3 = 4$ feet of hose
- **1/4” vinyl tubing**
 - 0.85 lb / ft resistance
 - For 12 psi system
 - $12/0.85 = 14$ feet of hose



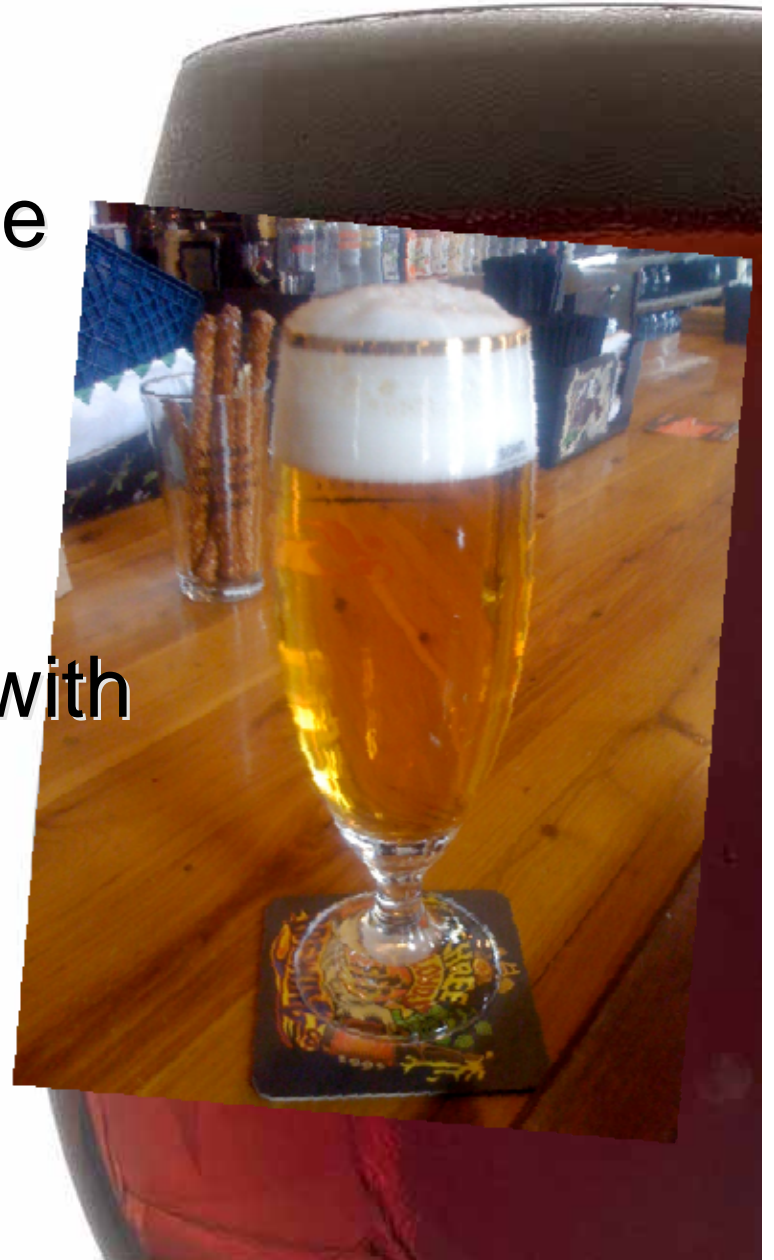
Draught System Operation

- **Toss Out!**
- Beer hose greater than 3/16" internal diameter!
- Tell your homebrew store to buy the right stuff!



Beer Clean Glass

- Beer Clean: free of residue
- No bubbles cling to sides!
- Non-petroleum-based detergent
- Don't wash beer glasses with your regular dishes!



Beer Clean Glass

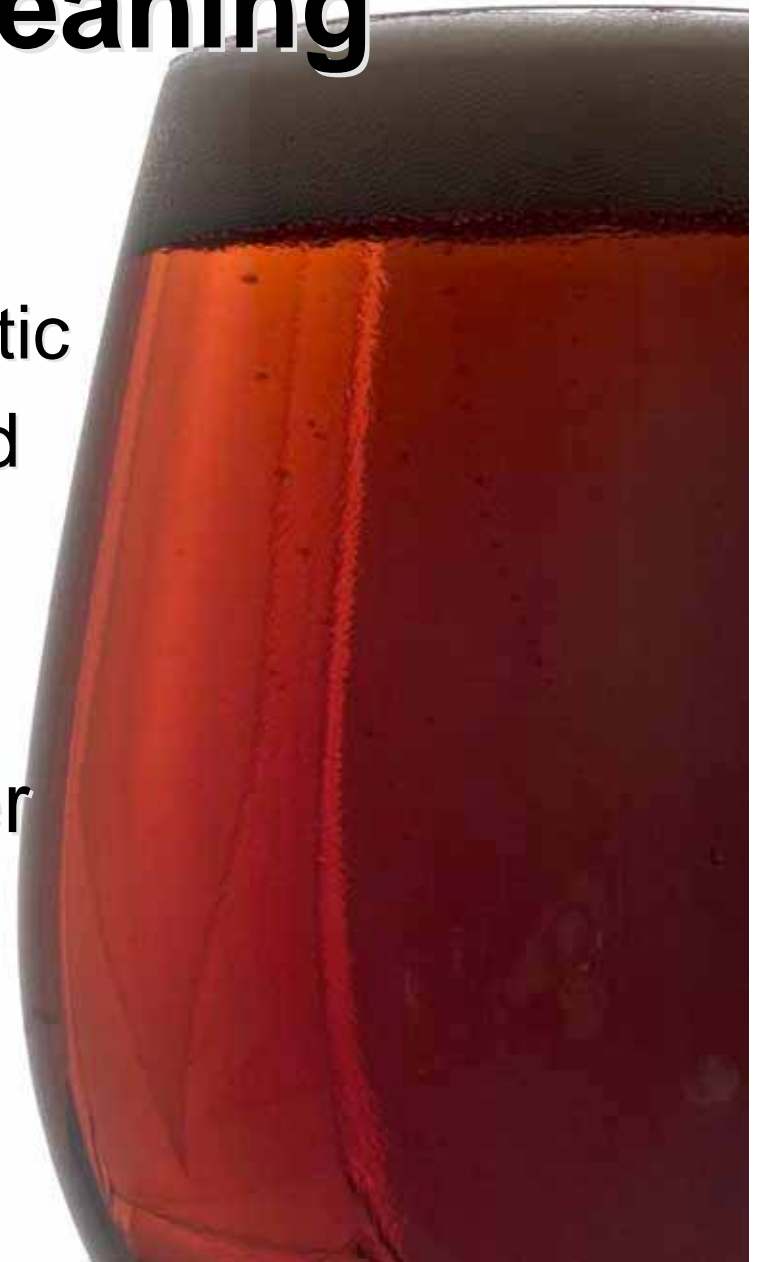
- Testing for Beer Clean
- Water sheets off, does not spot
- Salt test:
 - Wet and shake
 - Salt should adhere everywhere





Draught System Cleaning

- Frequency
 - Every two weeks with caustic
 - Every eight weeks with acid
- Caustic strength $\geq 2\%$
- Recirculation for 15 mins
- Rinse with Water, not Beer
- Manually Clean Faucets, Couplers, FOBs



Draught System Cleaning

- Homebrew Systems
 - After every use?
 - At the end of every keg, at least!
 - Caustic is good
 - Take stuff apart!
 - Replace hose when it stops looking brand new!



Resources

- Micromatic
 - Website (micromatic.com)
 - Classes (\$)
- Brewers Association (soon)
 - PDF/Web



CICERONE™

CERTIFICATION PROGRAM

The logo for the Cicerone Certification Program features the word "CICERONE" in a large, black, serif font. The letter "O" is replaced by a detailed illustration of a hand holding a beer glass. Below "CICERONE" are the words "CERTIFICATION" and "PROGRAM" in a smaller, black, serif font, separated by the hand-and-glass illustration.

- Five Areas of Knowledge
 - Beer Storage, Sales and Service
 - Beer Styles and Culture
 - Beer Tasting and Flavors
 - Brewing Ingredients and Processes
 - Pairing Beer with Food



CICERONE™

CERTIFICATION PROGRAM

The logo features a stylized line drawing of a hand holding a beer glass. The hand is positioned below the letter 'O' in 'CICERONE' and above the word 'PROGRAM'. The glass is filled with beer and has a head of foam.

- Three Levels of Certification
 - Certified Beer Server
 - Certified Cicerone™
 - Master Cicerone™

More at: www.cicerone.org

