

BEI
Beverage Engineering Inc.

Fermentation Cellar Design

USING DOUBLE-SEAT VALVES, HOSES OR JUMPER PANELS?

Fermentation Cellar Design 1 Ueli 2014-02-05

What for?

- Horizontal Tanks
- Vertical Tanks or Cylindro-conical Tanks
 - Tank Cooling
- Space / Access
- Money
- Brew Size / Brews per Fermentation
- Microbiology / Technology
 - Connection to the tanks / product lines / utility lines

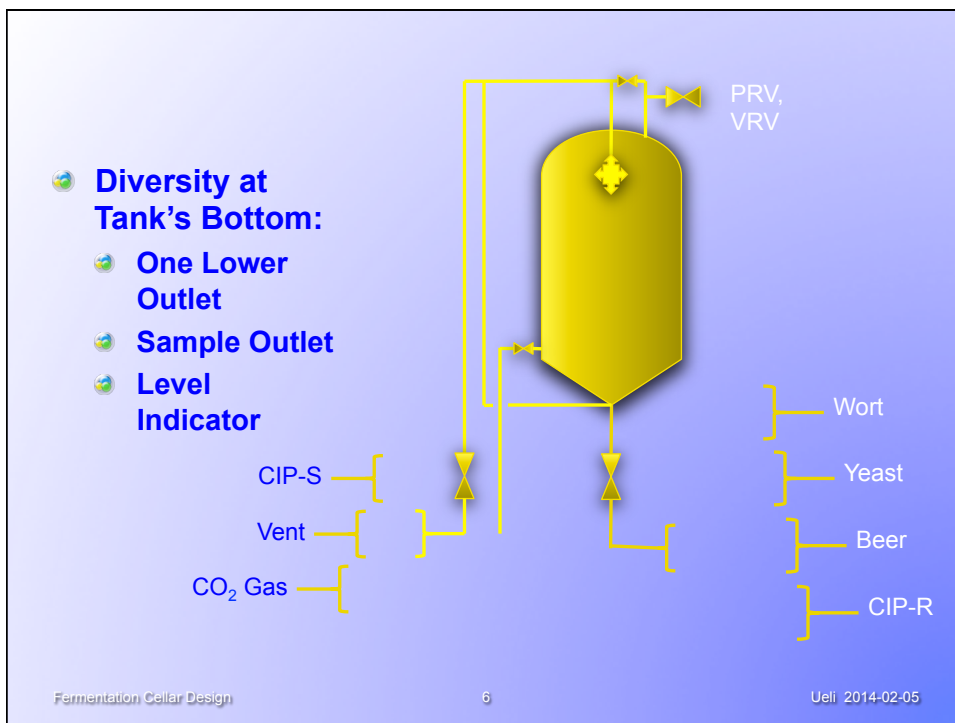
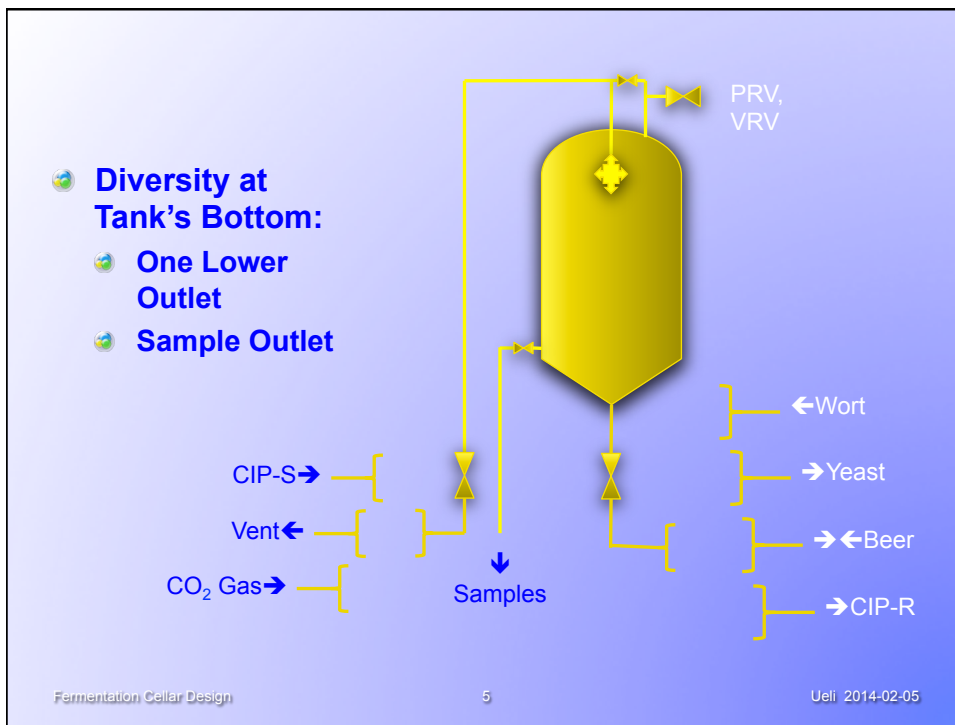
Fermentation Cellar Design 2 Ueli 2014-02-05

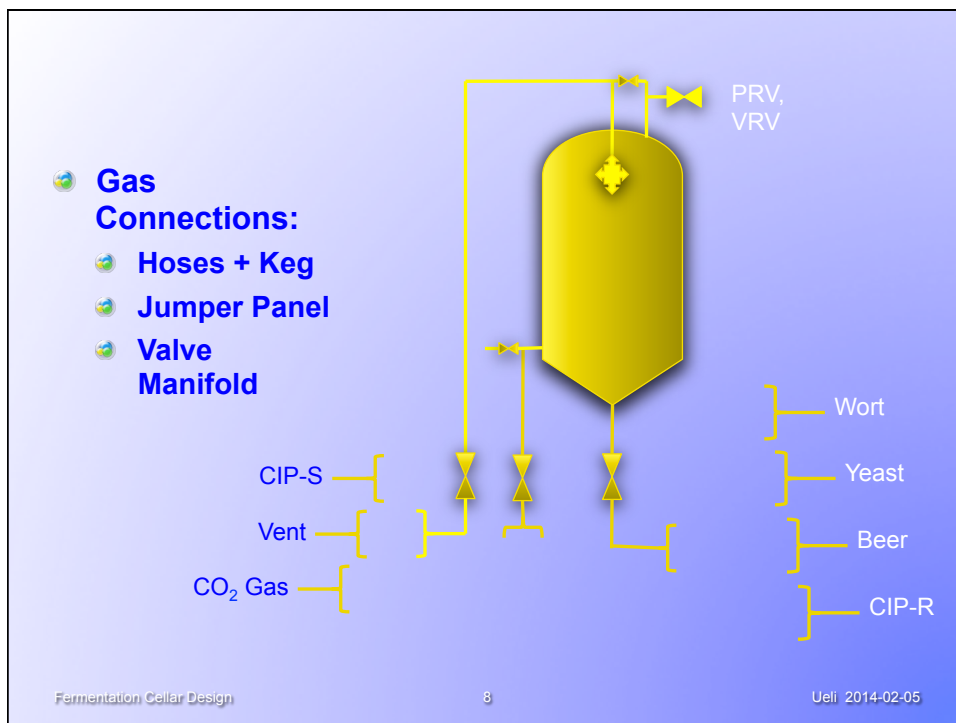
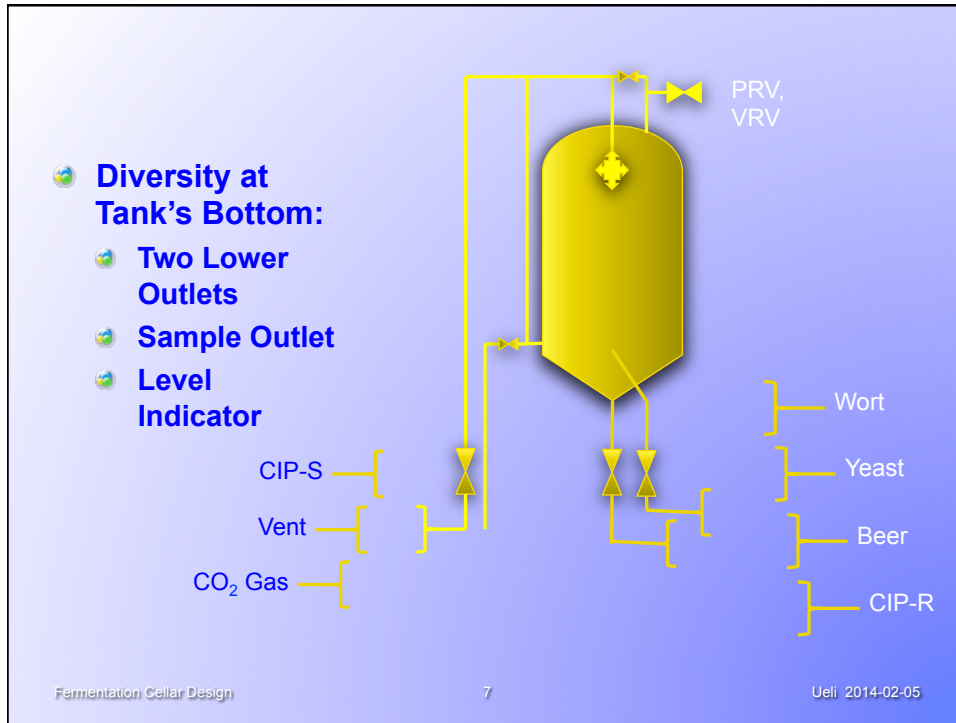
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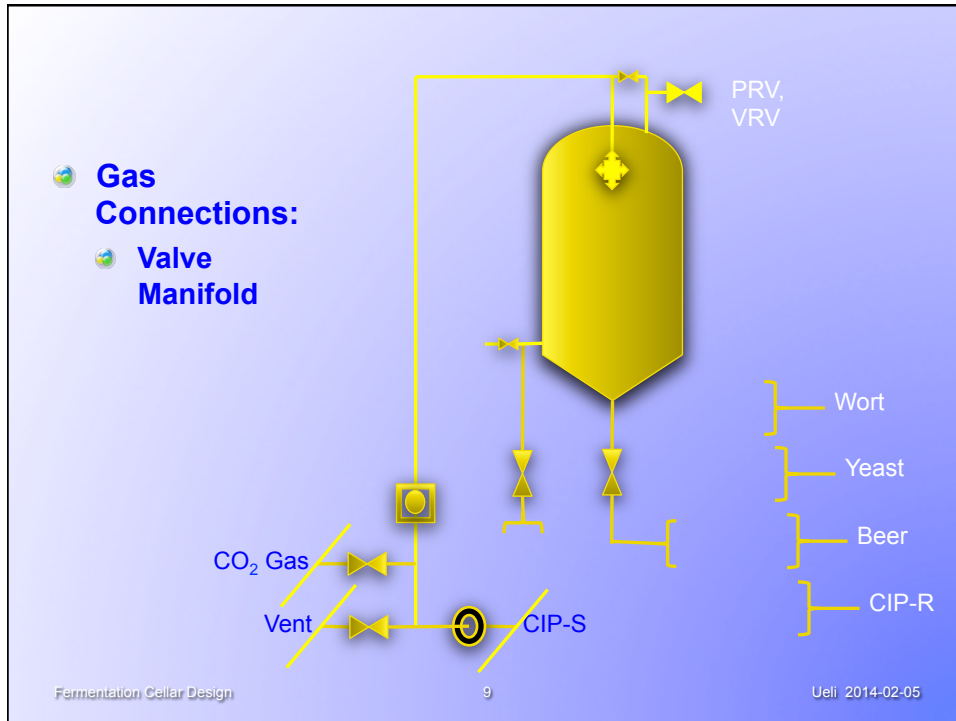
- **Horizontal Tanks**
- **Vertical Tanks or Cylindro-conical Tanks**
 - **Tank-Cooling**
- **Space / Access**
- **Money**
- **Brew-Size / Brews per Fermentation**
- **Microbiology / Technology**
 - **Connection to the tanks / product lines / utility lines**

What Are We Dealing With?

- **Tank Top with Gas Discharge, CIP Supply, Pressure Relief**
- **Diversity at Tank Bottom:**
 - **Unitanks, or separate Fermentation Tanks, Aging Tanks**
 - **Two or One Lower Outlets**
 - **Long or Short Outlet Pipes**
 - **Hoses direct to the Tank**
 - **Double-Seat Valves or Jumper Panels**
 - **Cleaning One-Way (Gravity Flow) or Two-Ways (at Times With Power) of Outlet Pipe**
- **Money**







Tank's Top and further down...

Your Fermentation Space
A Bubbling Keg

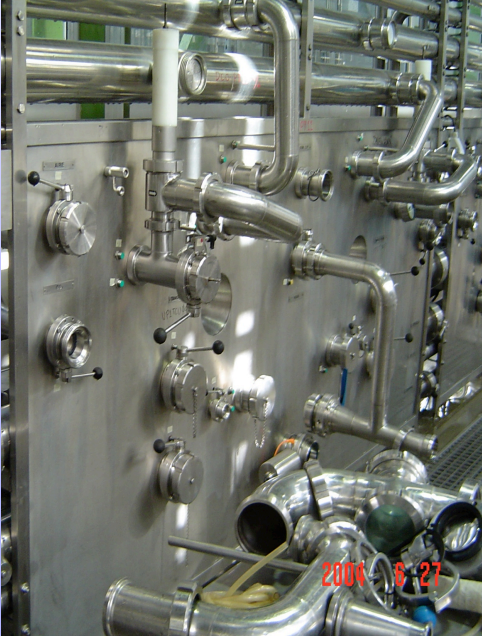


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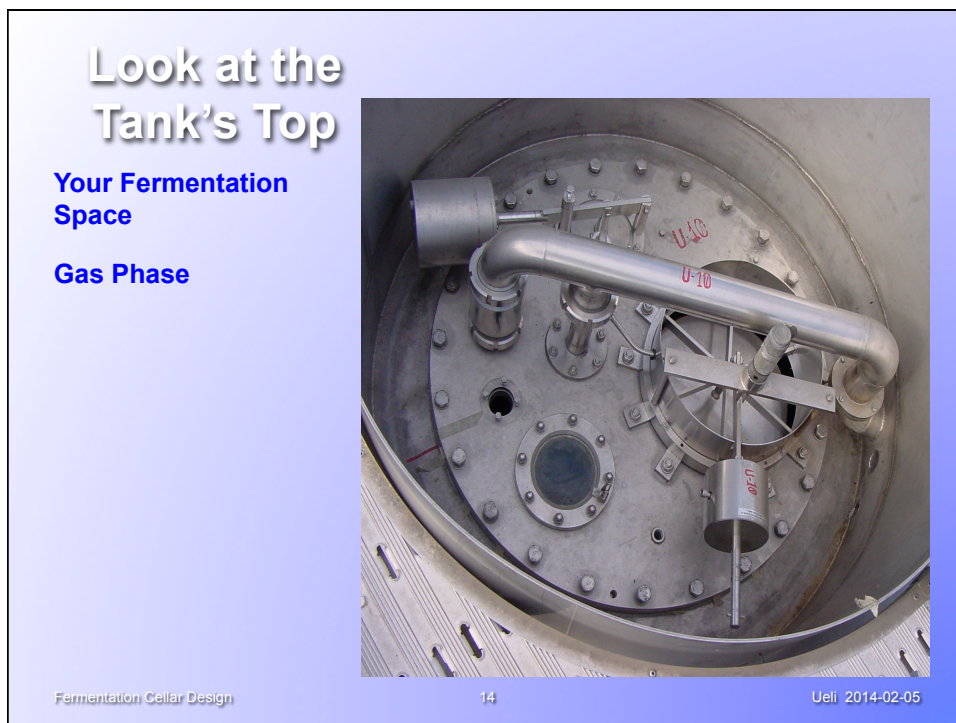
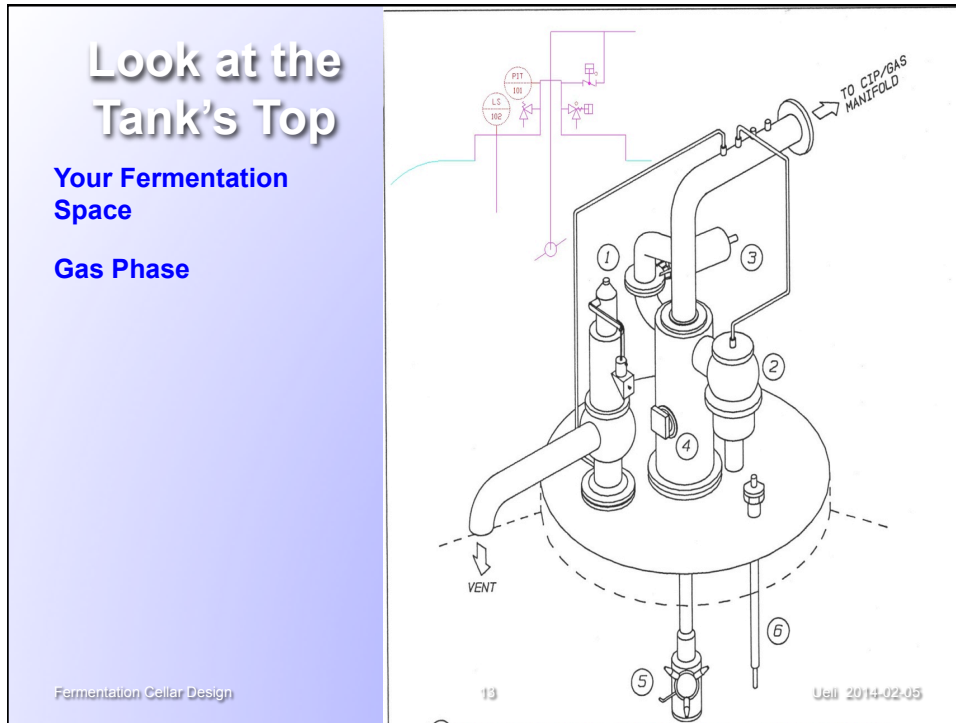
Look at the Tank's Top

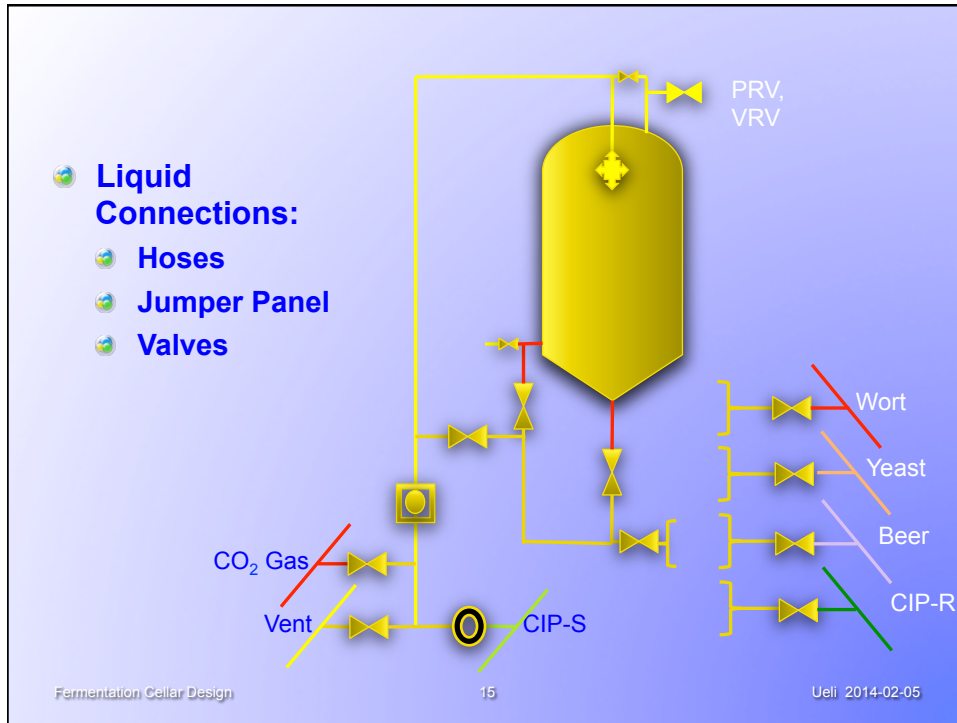
Your Fermentation Space
Gas Phase

≈ 27'000 CAD for 2 tanks



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Look at the Tank's Outlet Pipe

Your Fermentation Space
Liquid Phase

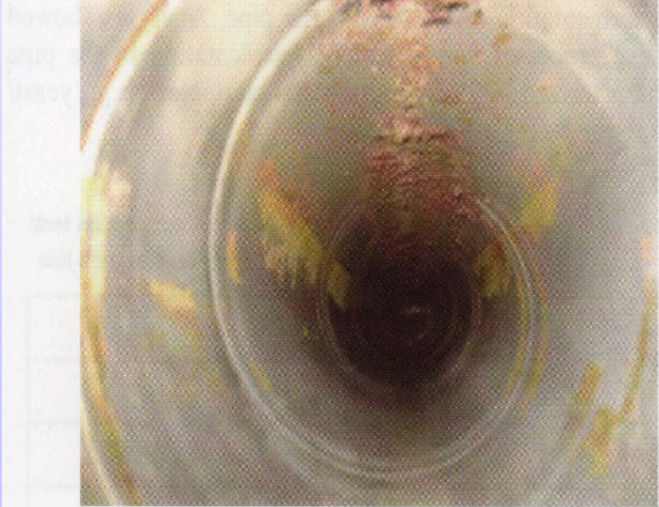


Figure 6. Inner pipe surface after cleaning.

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Look at the Tank's Outlet Pipe

Your Fermentation Space
Liquid Phase

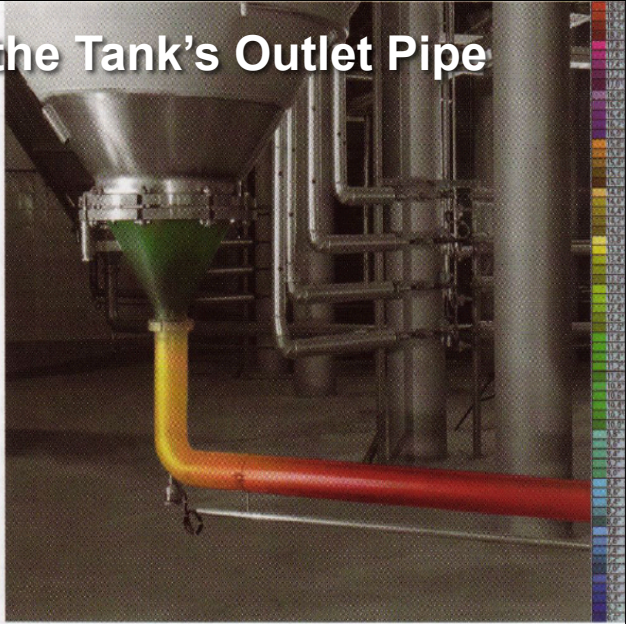


Figure 2. Temperature distribution in the outlet pipe.

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What are Double-Seats?

- 🌐 **Double-Seat Valves**
- 🌐 **On-Off Valves**
- 🌐 **Double-Block and Bleed**

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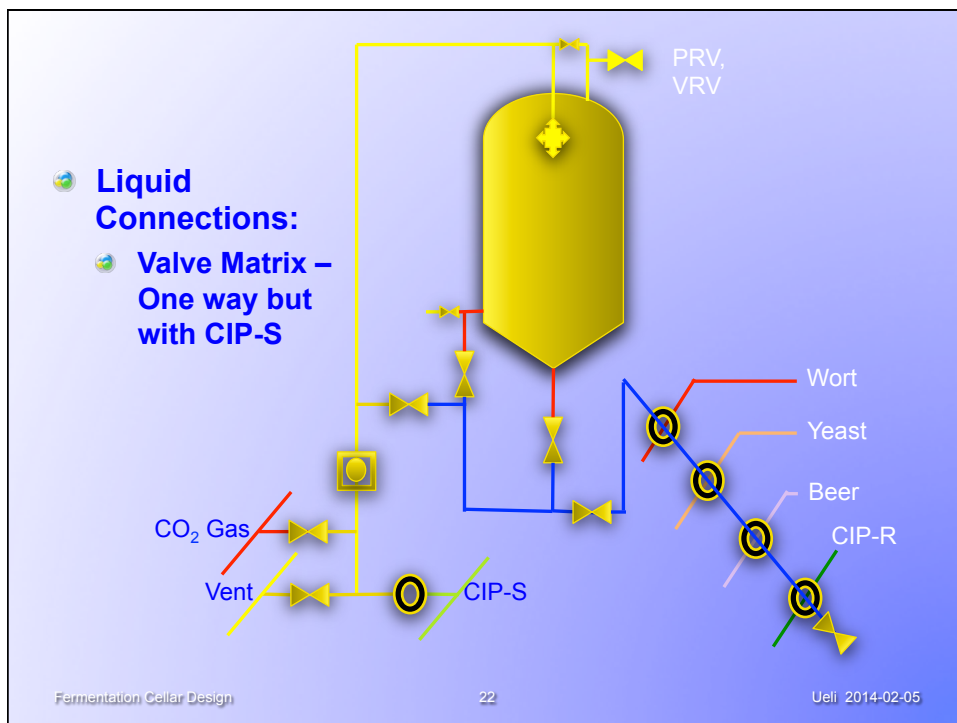
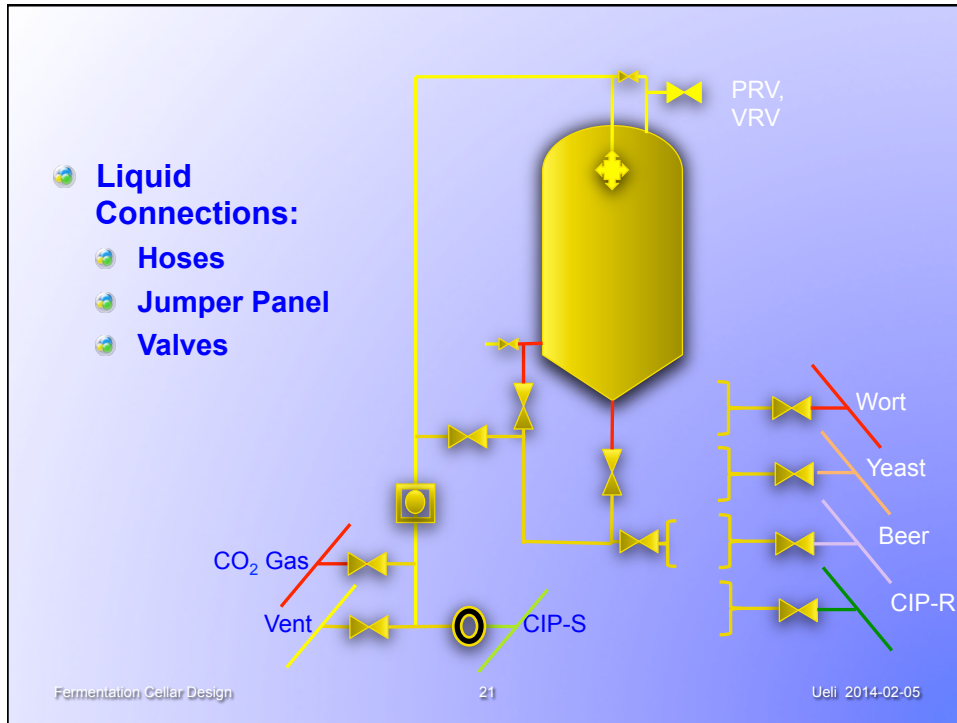
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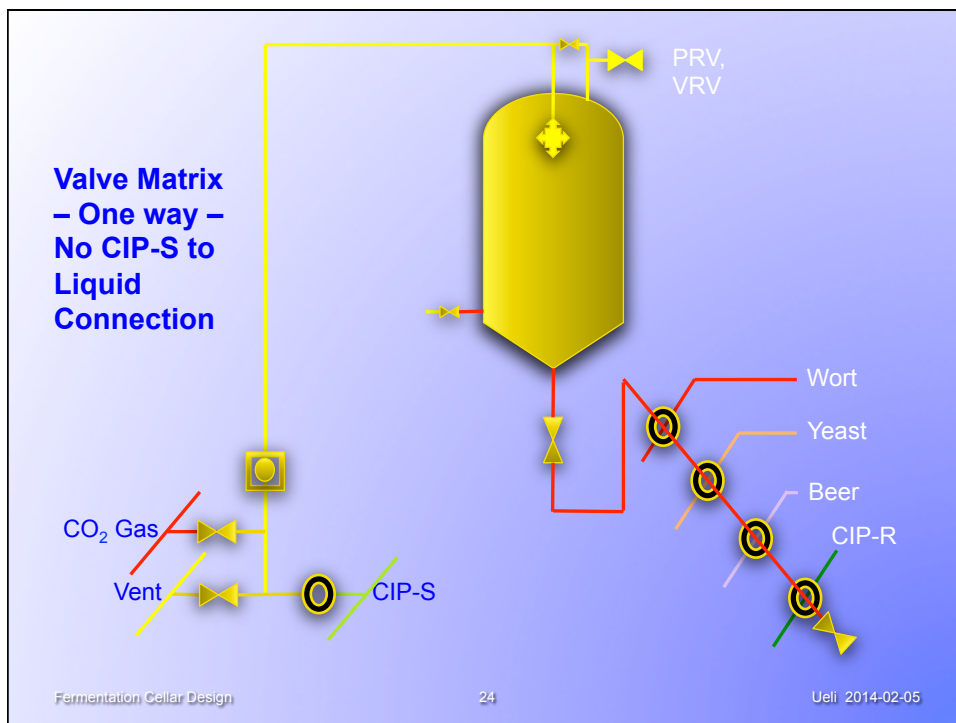
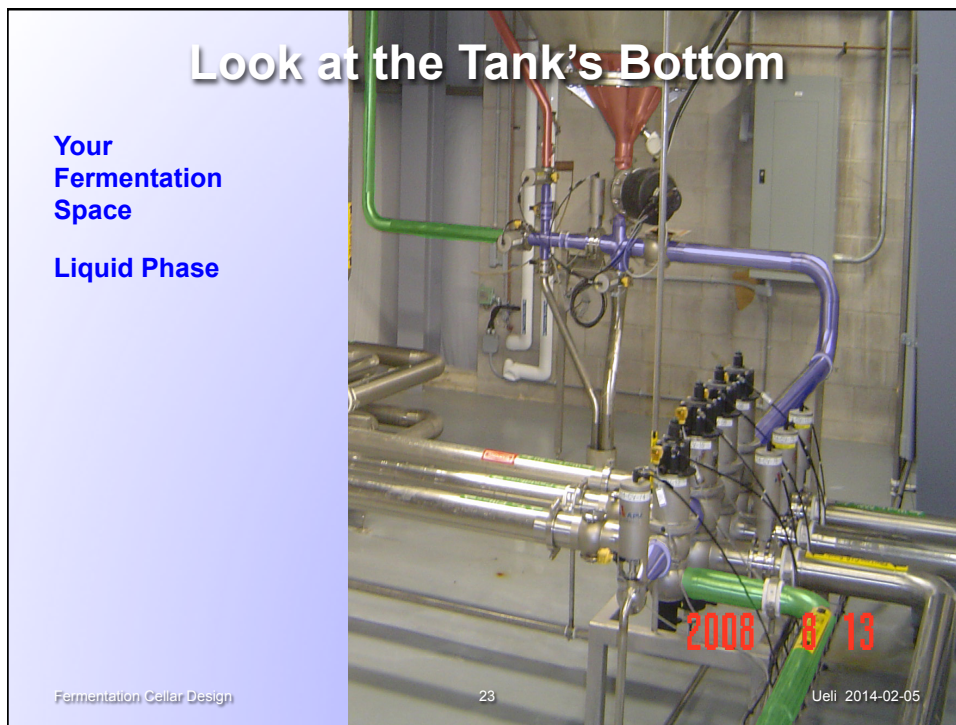
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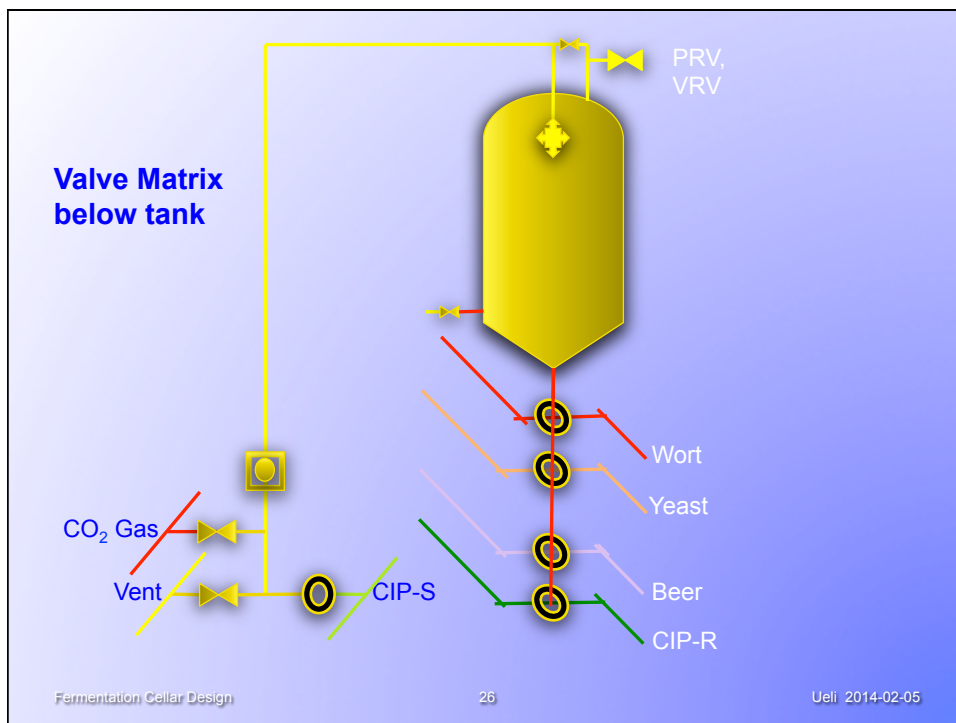
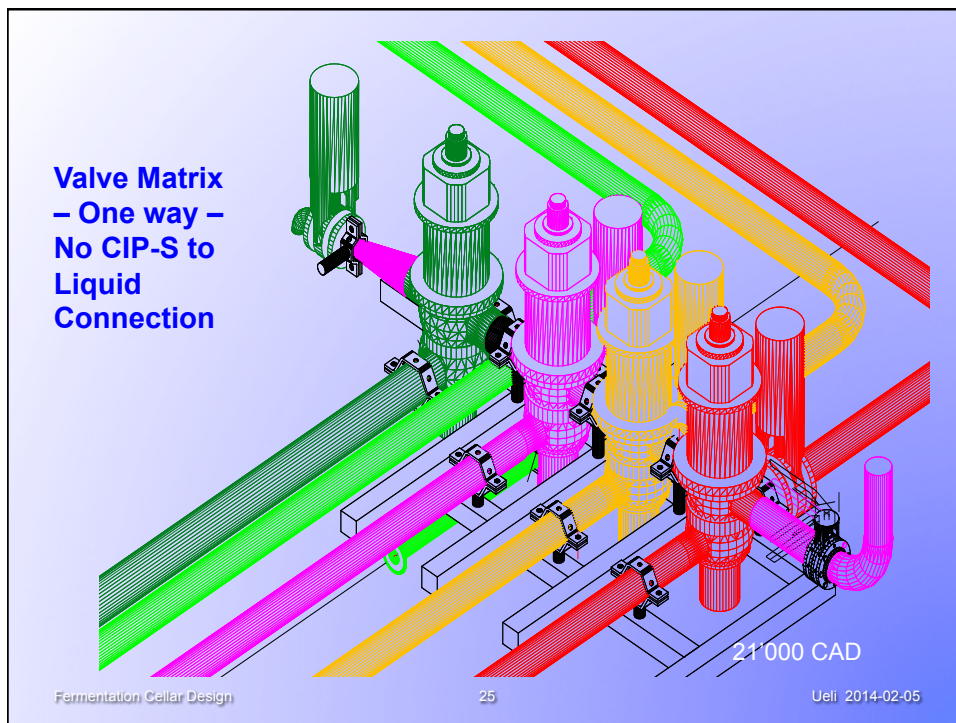
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GEA EcoMatrix

Your Fermentation Space
Liquid Phase



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SPX Waukesha

Your Fermentation Space
Liquid Phase



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