

Pharma: Clean Utility Design

P-201

Design of Clean Utilities for Pharmaceutical, Life-Science, Biotech and API-plants:

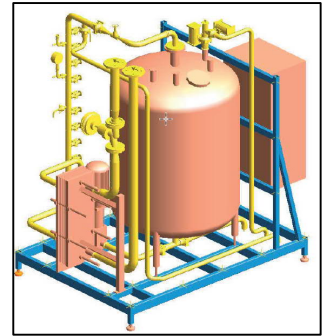
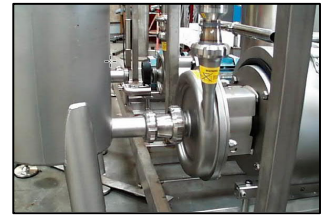
- Neutralization Plants
- Kill Plants – Batch and Continuous System
- SIP Units (Design or Specification) and Distribution System
- CIP Units and Loop System
- HPW Unit (Specification) and Loop System
- WFI Unit (Design or Specification) and Loop System with Bleed Off for Black Utility Make-up System
- Buffer Preparation – Permanent or Disposable based Installation
- Ethanol – Storage and Distillation and Waste
- Gasses – Nitrogen etc.
- Lye and Acid – Clean Grade
- Air – Industrial and Clean

Design of above system can be including full process design package (Process, PID, 3D & Detail Design) or a Detail Design Package for manufacturing of Piping and Support including Tanks, Vessels and Equipment.

P-Engineering – PlantWare – has references for above system from e.g., [GE HealthCare](#) (DK, SE & NO), pK Chemicals (DK), [NovoNordisk](#) (DK), [Arla Foods](#) (DE, DK), [AGC Biologics](#) (DK), [Bavarian Nordic](#) (DK), [DuPont](#) (DK) and [Gentofte Hospital](#) (DK)

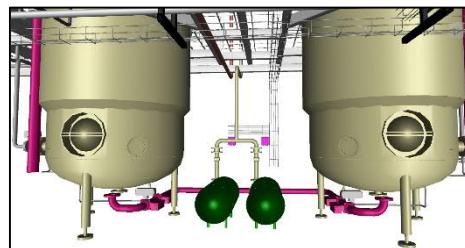
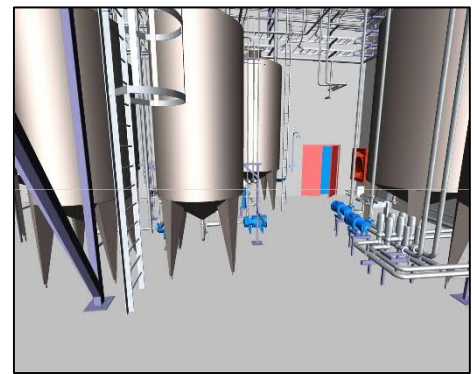
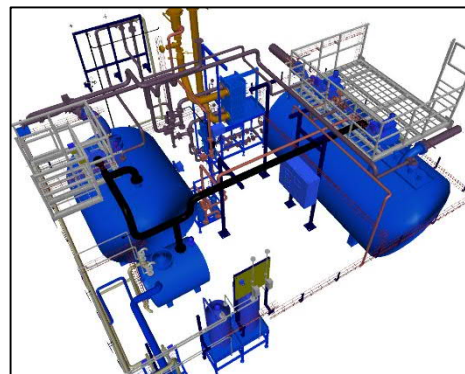
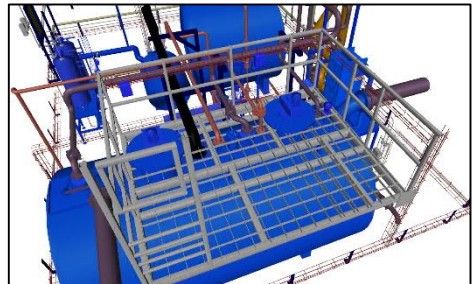
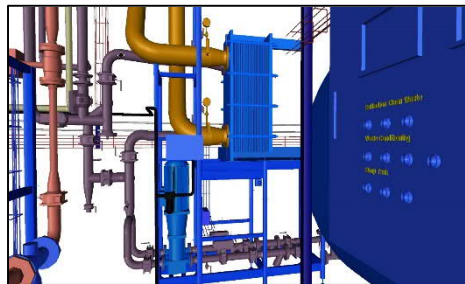
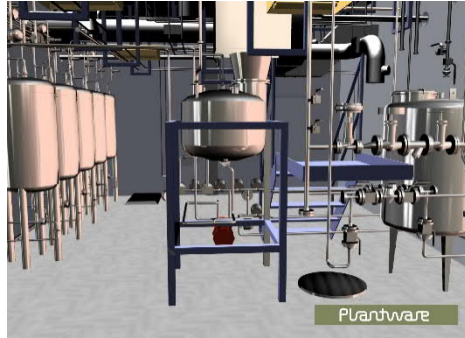
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Pictures from various non-disclosed projects.

Plantware



Pictures from various Pharma projects: Kill, Neutralization, Buffer Preparation both a small-scale Plant as well as large-scale Plant

