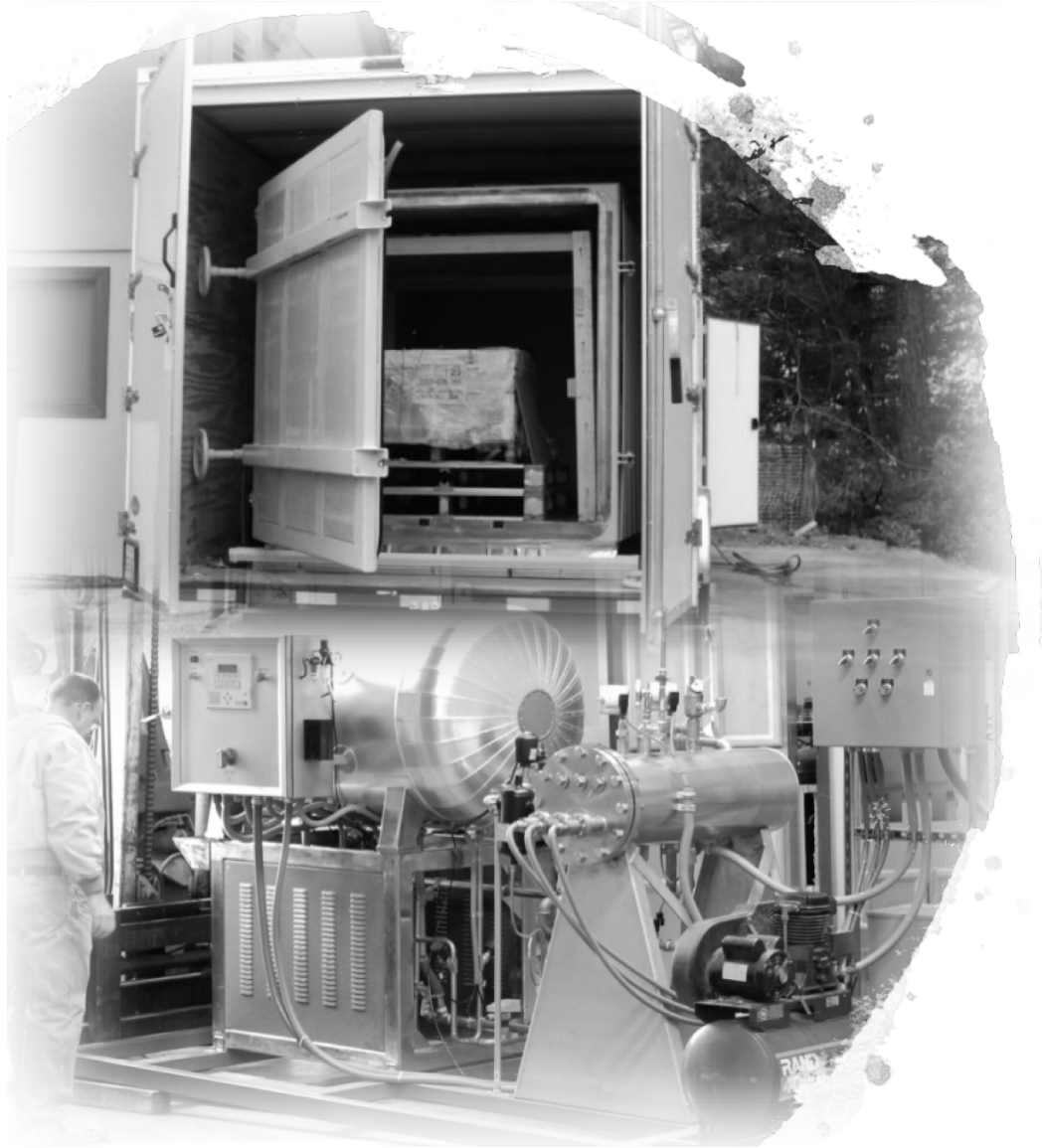


Commercial steam and vacuum treatment systems for logs



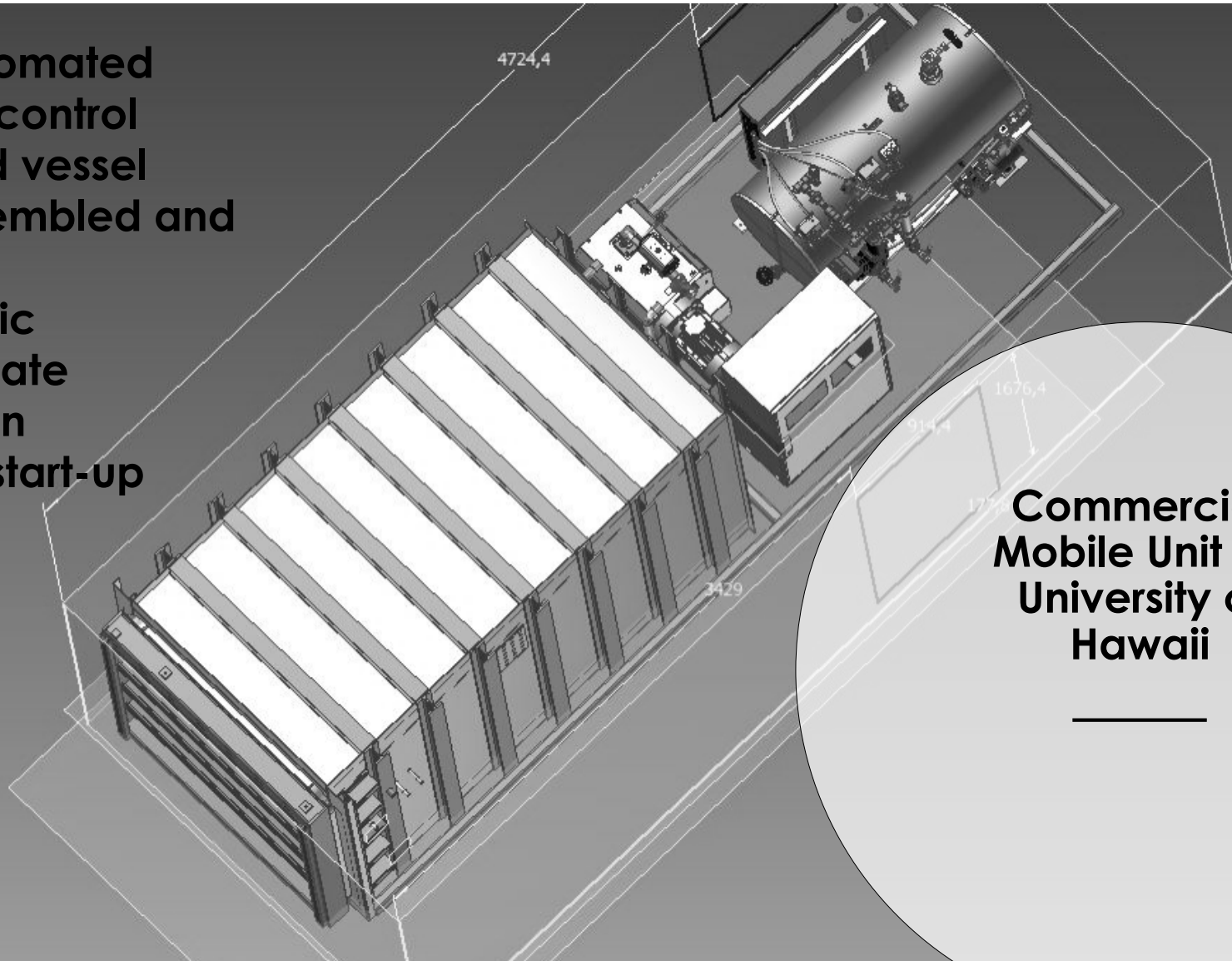
- Established in 2011
- Development of commercial systems for Phyto sanitation of logs and other products to eliminate chemical fumigation
- Partnering with a world-class manufacturer in the field of vacuum steam treatment
- Web site phytovac.com

- Established in 1856 in Germany
- World wide leading manufacturer of Vacuum/Steam machinery for Textiles, Plastics, Sanitation, Sterilization
- Location: Neustadt a/W Germany
- More than 2.000 Installations World Wide



From Lab
prototype to
commercial unit

- Fully automated process control
- Insulated vessel
- Pre- assembled and tested
- Automatic condensate collection
- Factory start-up



**Commercial
Mobile Unit for
University of
Hawaii**



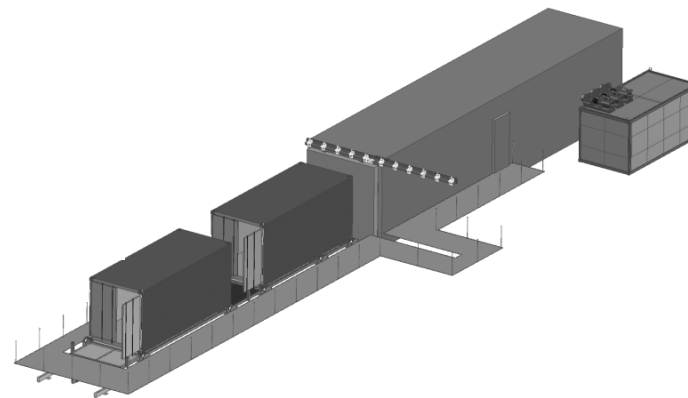
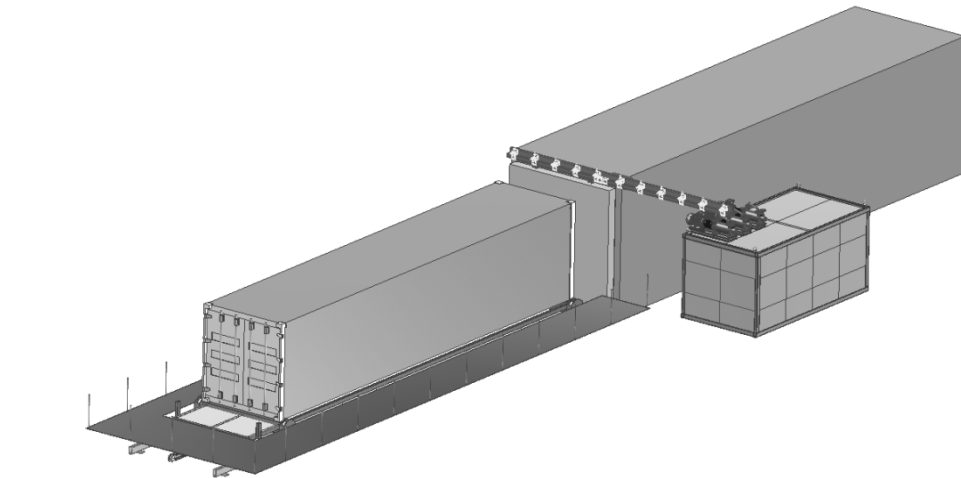
Examples of WELKER Systems

Requirements for a commercial unit

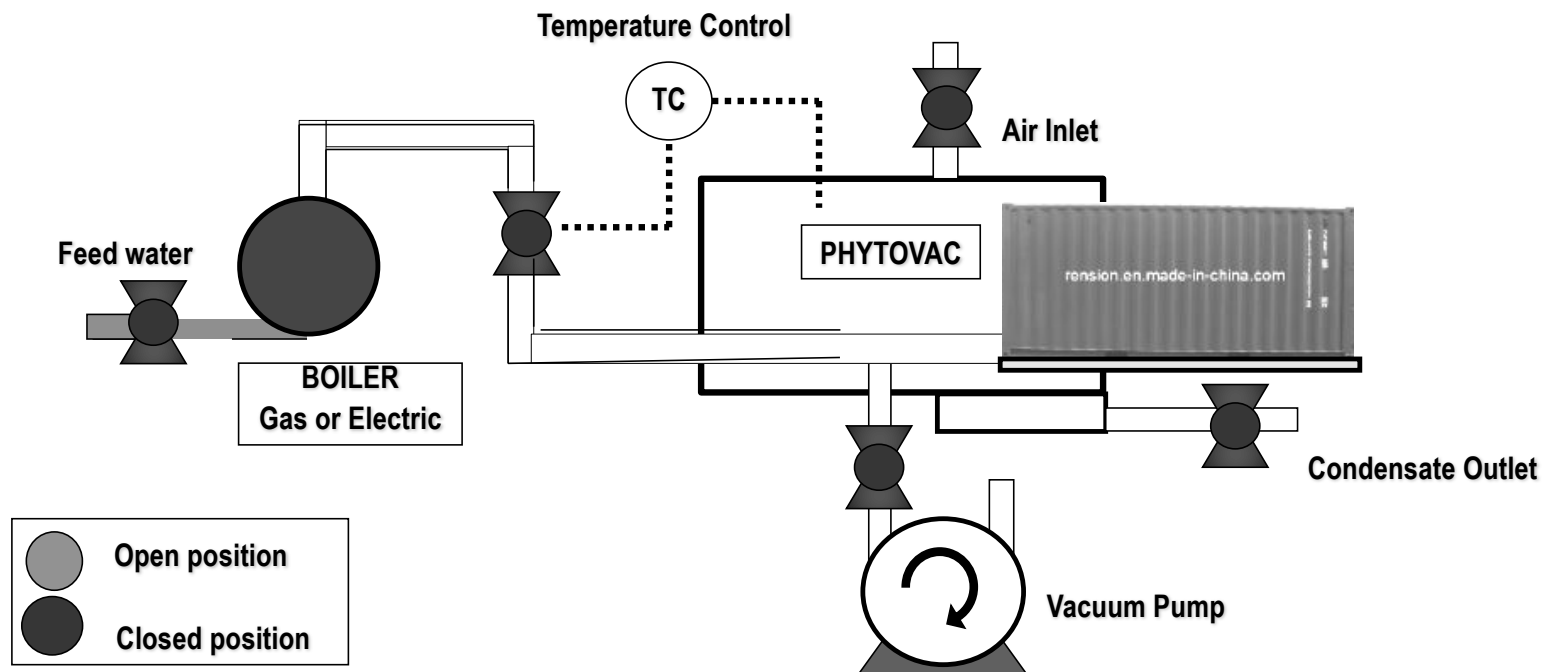
- Treatment of Full Size 40 FT. Containers
- Fully Automatic Process Control
- State of the art Vacuum Pump System
- Automatic Steam Distribution from local boiler
- Automatic Condensate recovery for process optimization
- 316 Stainless steel construction of chamber interior to prevent salt corrosion
- Automatic loading platform for container loading/unloading
- Bar code Identification of Container, Print-out and electronic logging of treatment protocol
- Wireless Temperature Sensors



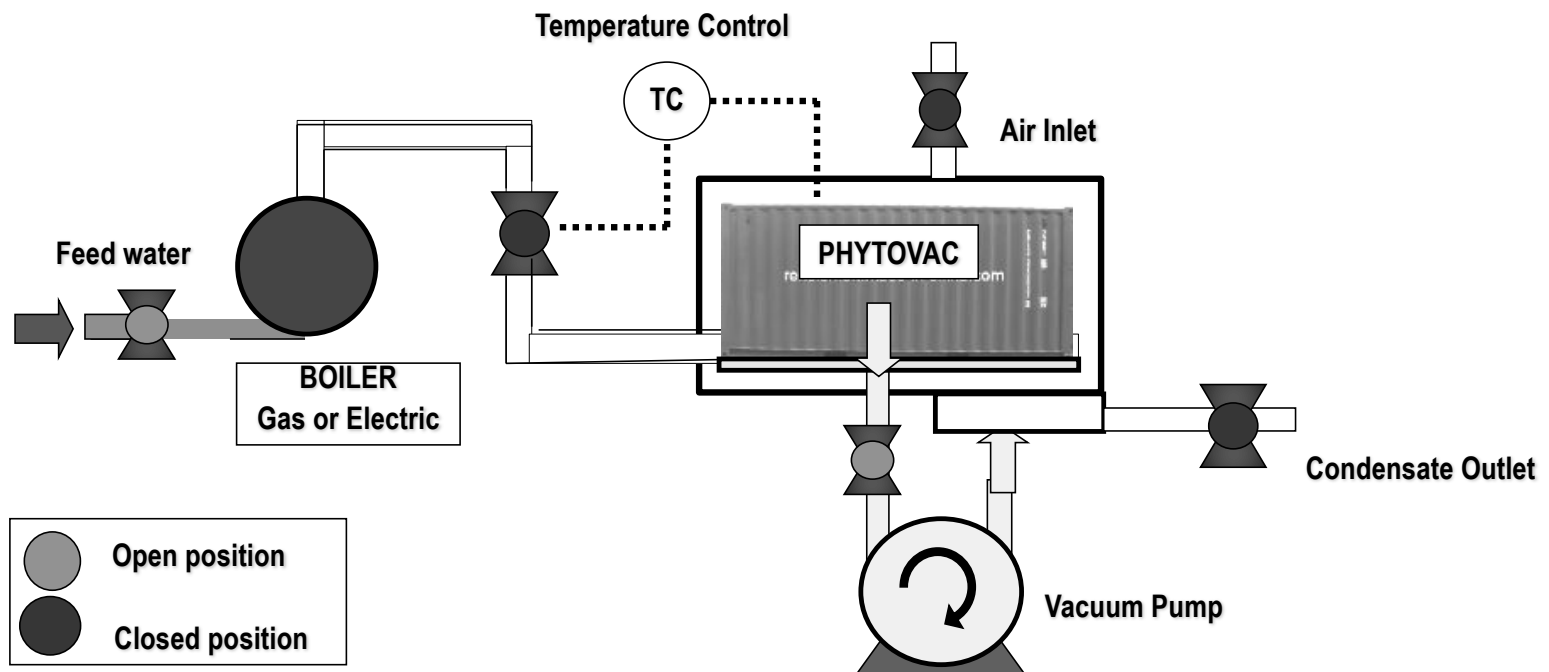
Commercial System for logs in 2 x20 or 1 x 40 feet containers



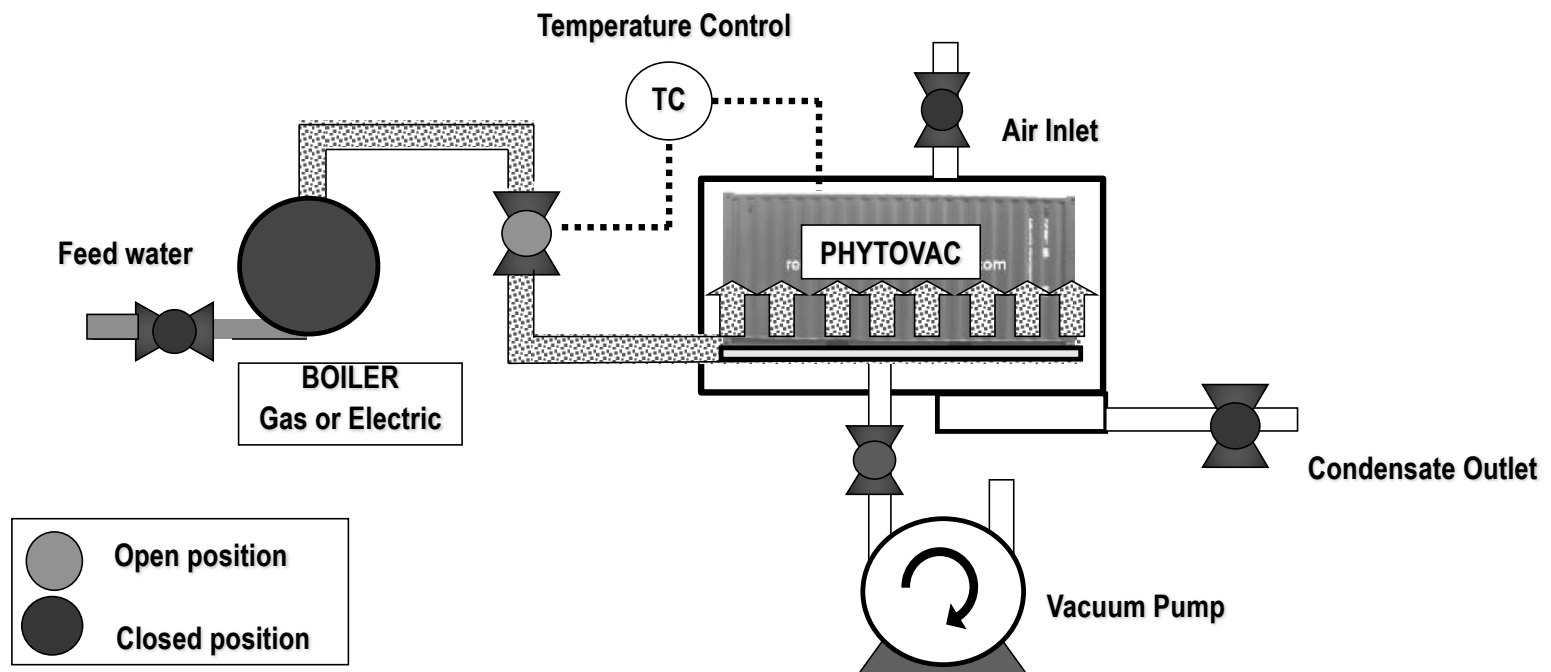
System Description: Multiphase Process Cycle



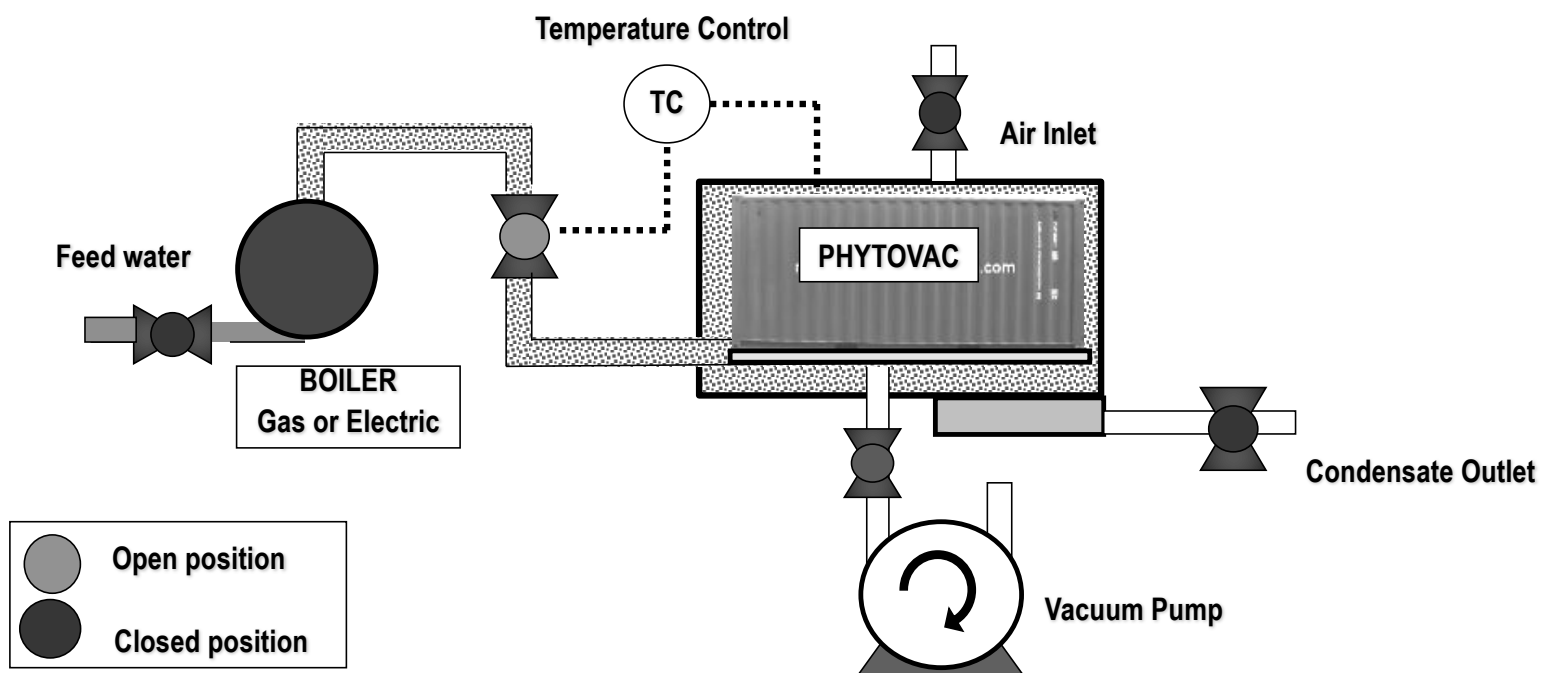
Phase 1 - High Vacuum



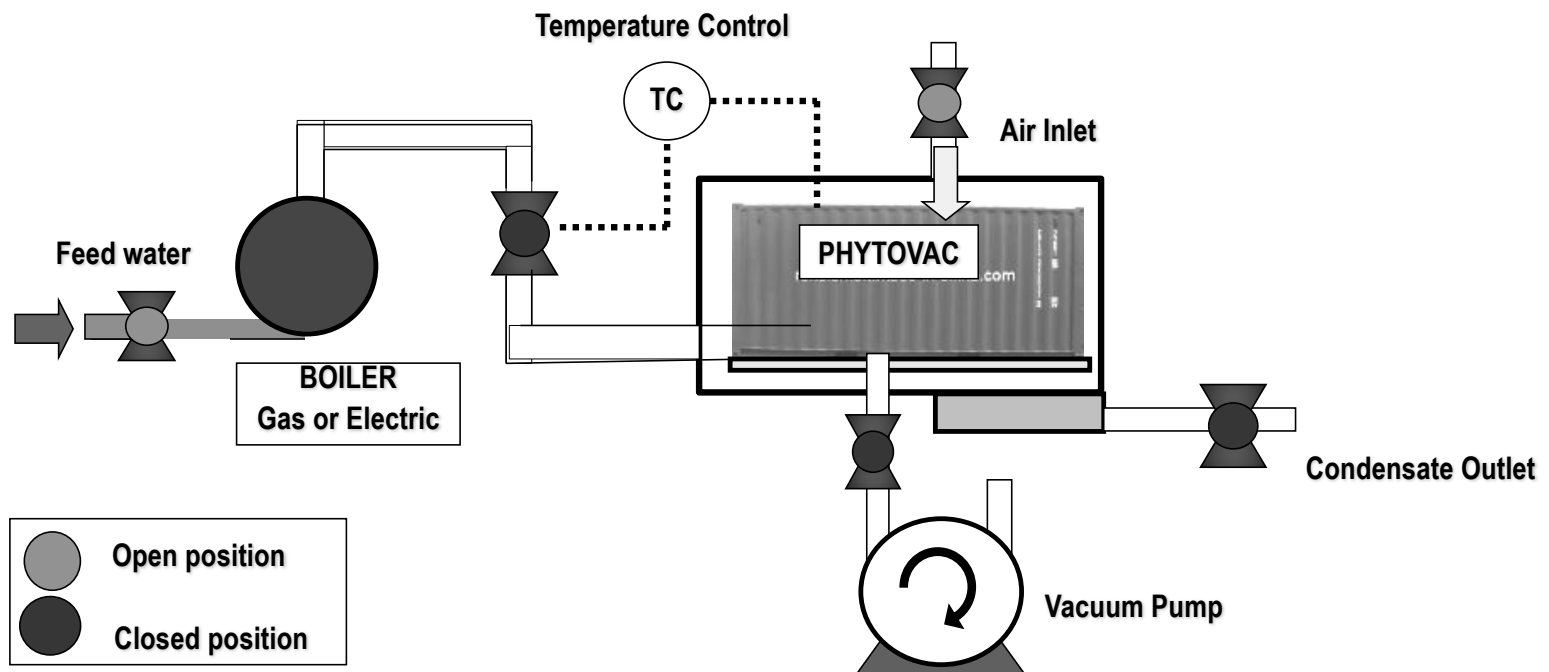
Phase 2 – Steam Inlet and Heating Up



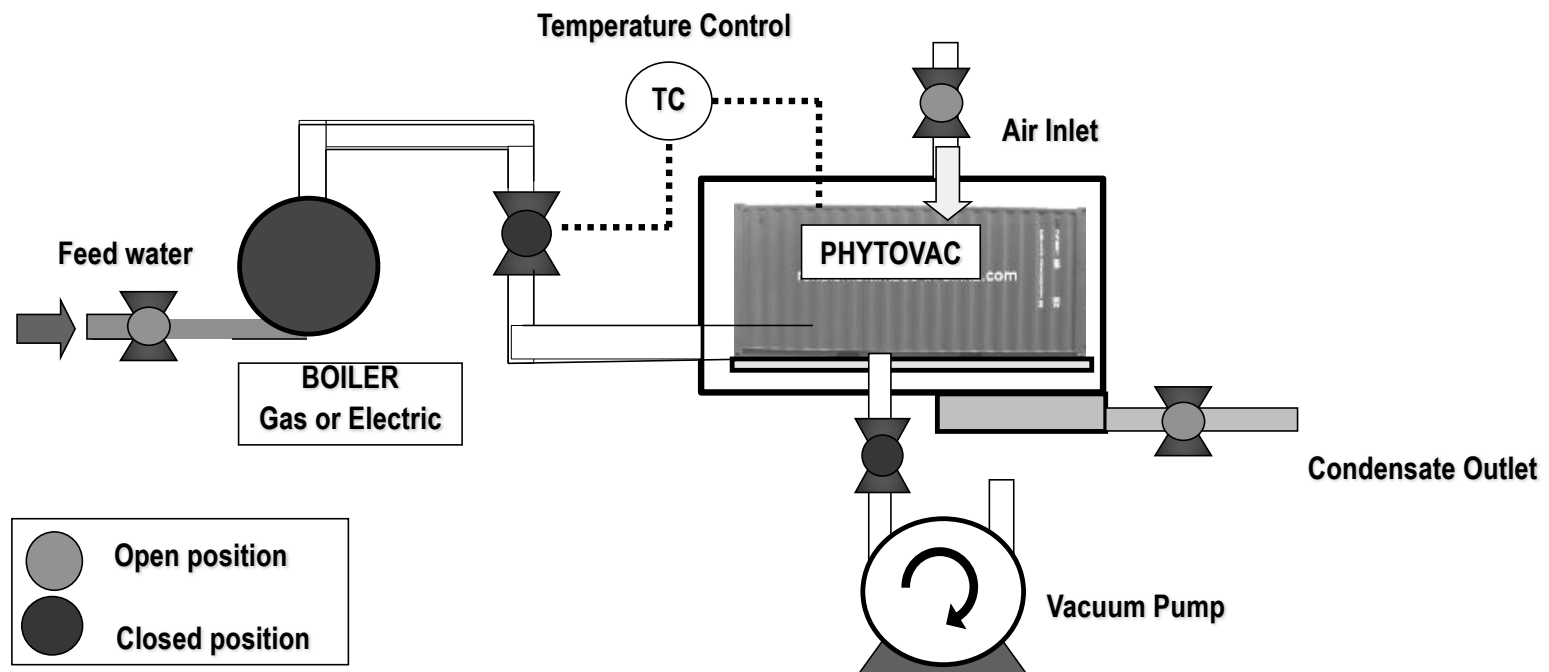
Phase 3- Keeping The Temperature



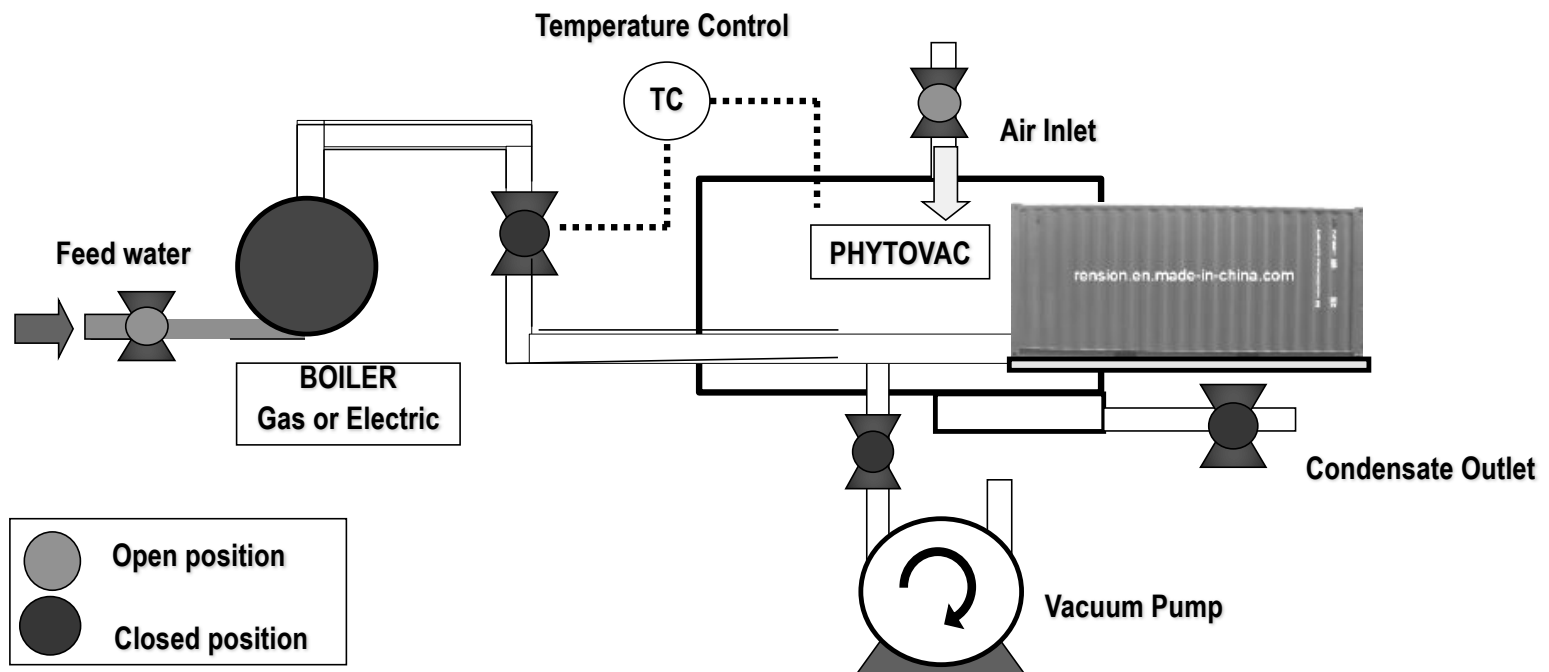
Phase 4- Ending The Process



Phase 5- Automatic condensate collection

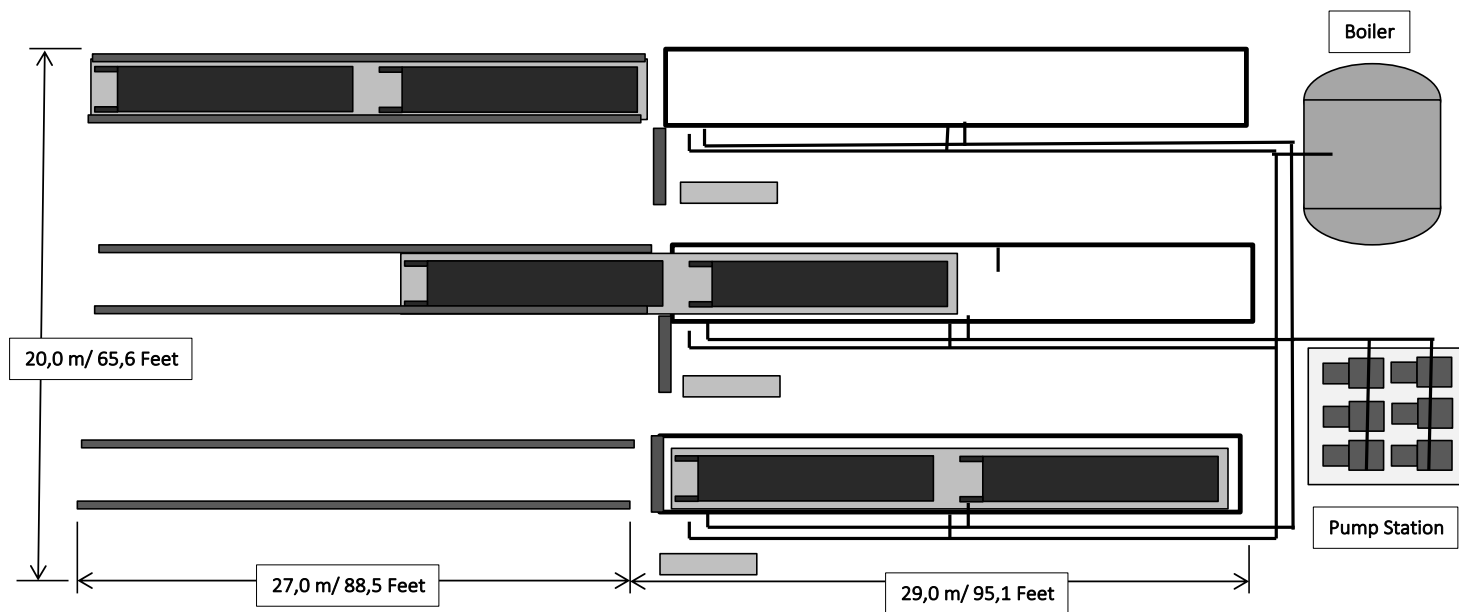


Phase 6- Unloading



Multiple Chambers with Central Vacuum and Steam System

3 x TYPE TWIN 40 for 6 40 FEET HIGH CUBE Containers



~500 containers/month

Environmentally safe and sustainable system

- None chemical treatment
- Waterless vacuum pumps
- Energy produced by gas, or electricity, or hot water from renewable energy.
- Opportunity to feed Boiler with warm water from solar system.

Thank you for your attention

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