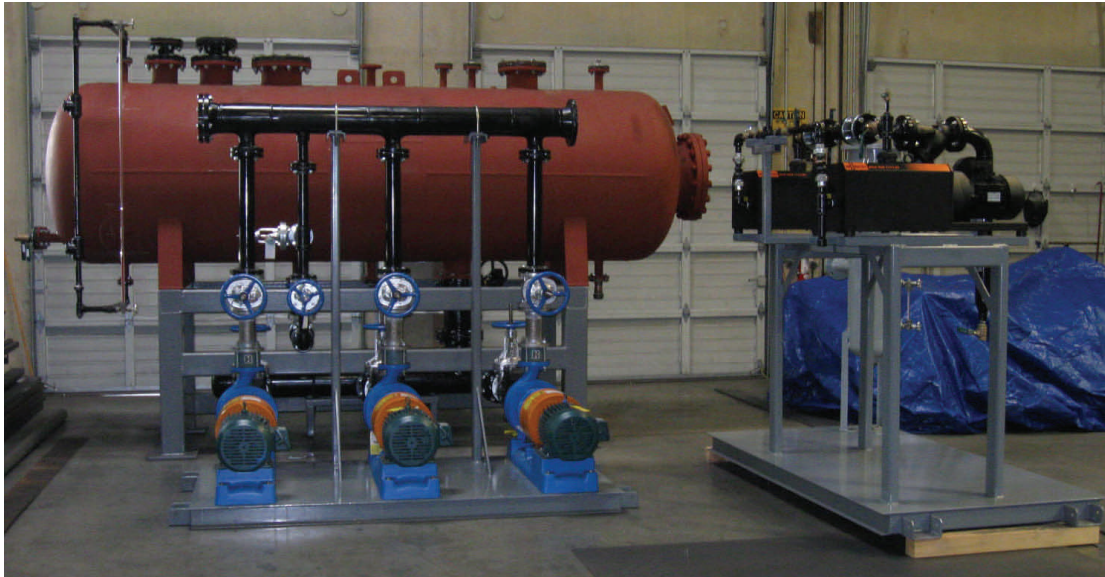




Vacuum Condensate Recovery Package

End User: Oregon State University



- Engineer:** Carter & Burgess
Contractor: Andersen Construction
Location: Adjacent to McAlexander Field House within new concrete vault
Function: Collect the condensate from the entire campus and deliver it back to the new Cogen plant on the opposite side of campus.

Proctor Sales Inc. was contacted by the engineer approximately 1 year prior to the project going out for official bid. We collaborated with them on a design that was easy to service and did not require additional trench construction within the vaults that more traditional systems would require. Bid documents did not originally call for a packaged system but when we offered that as an option the contractor immediately saw the advantage. Being able to crane these in place and having minimal work in the vault to connect them made the installation go very smooth.

The package consists of the following equipment:

- Condensate receiver; ASME 125# with 12 tapings
- 48" dia x 166" OAL, rated for full vacuum
- Condensate transfer pumps; Grundfos CR45-2-1
- 190 GPM @ 100' head, 1.2" NPSH, VFDs
- Lead/Lag based on receiver levels
- Vacuum pumps (rotary claw); Busch MM1142AV
- 116 CFM displacement, 97 ACFM pump speed
- Stoddard chamber silencer
- Instrumentation (gauges and transmitters)
- level, flow, conductivity, pressure, and temperature

Function

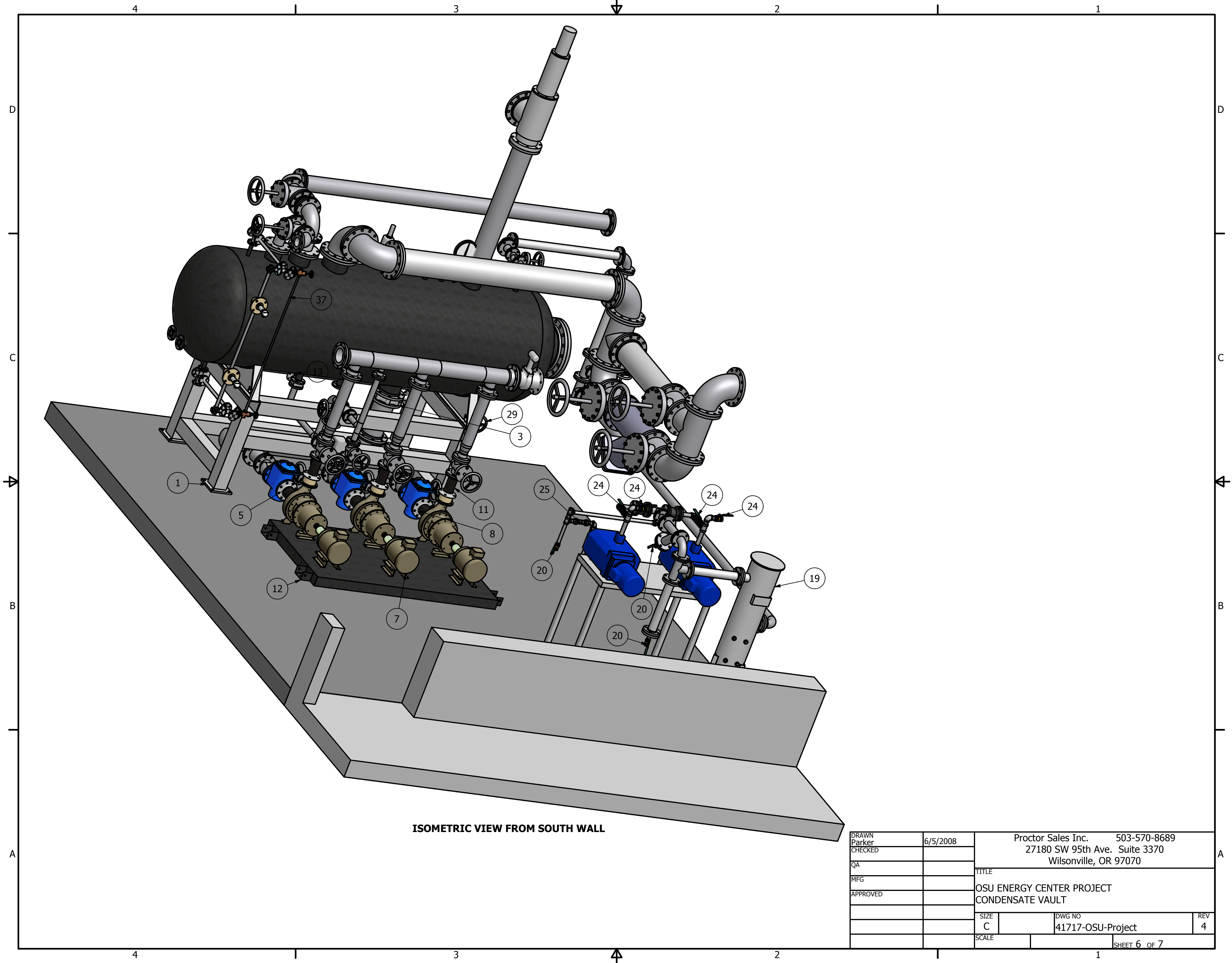
- Condensate removal: 100,000 to 200,000 lbs./hr at 7.00 in-Hg to 11.00 in-HG at 140 to 165 F.
Air removal: 100-203 CFM with 70/30 dry to wet air at 140-165 F discharging to atmosphere

Unique Project Requirements

- Seismic Calculations
- Draining the air separator in a vacuum system by utilizing an Armstrong PT-104 mechanical pump

PSI Capabilities that Enhanced this Project

- Upon seeing the skid on a 3-D drawing the contractor hired us to do a 3-D layout of the entire vault
 - PSI ASME welding certification allowed for the skid package offering



ISOMETRIC VIEW FROM SOUTH WALL

DRAWN Parker	6/5/2008	Proctor Sales Inc. 503-570-8689		
CHECKED		27180 SW 95th Ave. Suite 3370 Wilsonville, OR 97070		
QA		TITLE		
MFG		OSU ENERGY CENTER PROJECT		
APPROVED		CONDENSATE VAULT		
		SIZE	DWG NO	REV
		C	41717-OSU-Project	4
		SCALE	SHEET 6 OF 7	