

DESIGN & ENGINEERING

1 > Steam and Condensate System Designs

- ✓ Complete boiler room, steam distribution, and condensate design packages
- ✓ Boiler, deaerator, and supplemental equipment specifications (independent of manufacturer or reps)
- ✓ Connection points and Piping tie-in's
- ✓ Isometric, As-Built, and Flow Drawing Packages
- ✓ PE (Professional Engineer) stamped drawings

2 > Structural Piping and Stress Analysis

- ✓ Conduct piping stress analysis with CAESAR software
- ✓ Specify structural piping supports
- ✓ Analyze proposed and/or existing piping

3 > Steam Assessments & Evaluations

- ✓ Steam Load Profile & Boiler Capacity Analysis
 - Clamp-on metering for flow and pressure logging
 - Compare steam load profile to boiler capacity
 - Steam branch comparisons
 - Makeup water and condensate comparison
 - Compare steam demand to production data



✓ Steam Assessments

- Thorough review of entire steam distribution system and condensate return
- Evaluate and resolve issues such as: waterlogging, poor heat transfer, water hammer, lost condensate, etc.
- Improvement Roadmap based on investment payback, energy conservation, heat recovery, and customer goals

✓ 3D Steam System Laser Scanning and Modeling

- 3D Modeling and Drawing Package of entire system
- Isometric as-built drawings or planned upgrades

✓ Functional Safety Testing for Boiler Devices

- Validate safety devices that protect the boiler
 - Low Water & Auxillary Cut Outs (LWCO), OP & Hi Limit, Gas switches, Fuel Oil, etc.
- Develop custom SOP for step-by-step safety testing

✓ Calibration and Verification of Boiler Room Instruments

- Verify and recalibrate instruments including:
 - Pressure and temperature transmitters
 - O2 sensors and flowmeters
 - Control valves, Analog gauges, & more

4 ➤ Specialty Steam Engineering

✓ Design, specify, and install:

- Steam Turbines
- Desuperheaters
- Thermocompressors
- Heat Recovery Solutions
- Custom Engineered Designs

With over 40 years of experience in steam engineering, Thermdex specializes in delivering comprehensive solutions that enhance the reliability, efficiency, and performance of industrial steam systems.

Our approach is hands-on and collaborative, ensuring that we not only provide detailed evaluations but also work closely with your team to implement effective solutions.

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