



Safety— ACES strives for the production of inherently safe control panels and generators. Each ACES built control panel can be customized to meet your specific safety needs and includes a variety of standard safety features including but not limited to:

- Local, remote, and plant available Emergency Stops.
- User customizable alarm and shutdown set points with configurable delay timers for automatic warning and shutdown of a generator if dangerous limits are reached.
- Over 1100 detailed alarms to assist with troubleshooting, maintenance, and user input errors.
- Integrated screenware warnings when changes in inputs may result in damage to the generator or present a safety hazard.
- Safe separation of High (480VAC) and Low (120VAC, 24VDC) voltage components with automatically locking doors on the high voltage side when the panel is energized.
- Optional enhanced log-in and password security.



American Control &
Engineering Service, Inc.
14433 SW 150th St.
Rose Hill, KS 67133
United States of America

Phone: +1-316-776-7500
Fax: +1-316-776-7502
E-mail: office@theacesinc.com

**The World's Premier
Once-Through Steam Generator
Control System**

What is FlexSteam?

FlexSteam is the world's premier once-through steam generator (OTSG) control system and was started with the concept that the control of any generator could be achieved through the use of a single system with minimal operator input. The FlexSteam Generator Control System has been designed to be extremely flexible for the end user and features intuitive menus and screens that make navigation and control simple. To remain the elite OTSG software on the market, American Control and Engineering Service, Inc. (ACES) continuously works to improve the functionality and number of features available within FlexSteam. Whether your generator is new or used, single or multi-pass, the FlexSteam Generator Control System can solve your steam generator automation needs.

Control—FlexSteam features an all-weather touch screen on the control panel allowing for hands on control of your generator. From formatting individual units on each screen to changing set points or fully reconfiguring an I/O card, all FlexSteam control features available to an ACES technician are available to be changed and controlled by you. This feature allows ACES technicians to remotely troubleshoot most generator issues without having to be present on site.

Once operation parameters are configured, startup requires only a push of the Start button. Each screen is ideally arranged to highlight and separate key parameters and control features of the generator. The touch screen interface is automatically tailored to include only features present on your generator, further simplifying each screen to show only necessary information and controls.

Each FlexSteam unit comes standard with a tablet device allowing for remote viewing of generator parameters and trends, a comprehensive user manual, a troubleshooting knowledge base, electrical schematics, and equipment manuals for all installed components.

Security—FlexSteam comes standard with three user security levels; Operator, Maintenance, and Engineer; and over 240 user customizable security settings. The combination of the two allows for a generator access interface tailored to your specific needs that you can change at any time.

Additional Features

- Screenware fully available in both English and Spanish with the ability to switch back and forth between languages at the push of a button.
- Multi-fuel configurability including natural gas, diesel, crude oil, and waste gas.
- Full system compatibility and control of up to six process loops.
- Continuous quality control between all loops to a single quality set point through the automatic adjustment of the fuel or feed water flow rate.
- Both fuel flow and feed water flow control modes for limiting the usage of fuel or feed water per day.
- Manual and automatic control modes for most motors, motor operated valves, and Proportional, Integral, Derivative (PID) controls.
- Header pressure control using the modulation of feed water to maintain a constant pressure at the well header when multiple loops are used.
- Ability to individually change the units of any selectable parameter between US customary units and SI metric units.
- Single and multi-stage steam atomization pressure control for oil-fired generators
- Depressurization protection to limit and protect the generator in the event of rapid pressure loss.
- Precise water, steam, and fuel gas flow rate tracking based on International Association for Properties of Water and Steam (IAWPS) and American Gas Association (AGA) calculations.
- Local trending for the previous 48 hours covering fuel consumption, water flow rates, runtime operation and much more.

- Optional online trending through the use of cellular or satellite connections. Data points are taken at a specified interval and stored online allowing users to view their steam generator operation anywhere an internet connection is available. Historical data is always available online in a graphical format and can be downloaded and saved through Microsoft Excel.
- Variable Frequency Drive (VFD) control allowing for fine control of the feed water pump and blower. Blowers controlled through a VFD allow for wind box louvers to be removed resulting in more precise control, and the air flow to be finely tuned in response to the fuel flow.
- Radio Frequency Identification (RFID) card reader capabilities for quick and easy log-in and log-out of multiple operators.
- Uninterruptable Power Source (UPS) compatibility to ensure the Programmable Logic Controller (PLC) stays on and maintains control of the generator in the event of a power failure.
- Compatibility with many burner manufacturers including:
 - * COEN
 - * Gideon
 - * North American
 - * Riello
 - * Power Flame
 - * Webster

