

## Leaching Autoclave Systems for the Investment Casting Industry

WSF Leaching Autoclave Systems are custom designed and manufactured at our facility for operation with caustic solutions at elevated temperatures and pressures. Nickel alloys and other special materials are used to protect surfaces that come in contact with the caustic solution. Both temperature and pressure may be variably controlled. Models are available from basic manual controls to completely programmable, automated systems. Programmable options include heating, cooling, filling, and draining with repeat cycles.

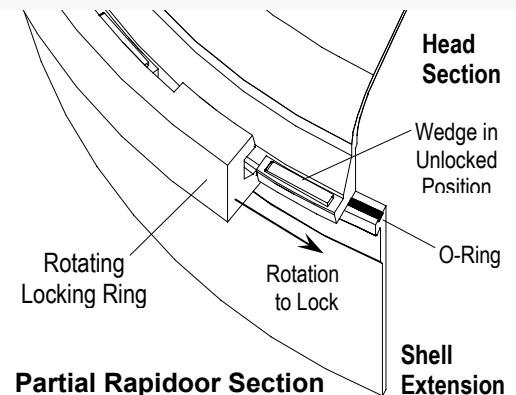


### Features of a WSF Leaching Autoclave System

1. Quick-access closure featuring WSF *Rapidoor* for efficient product loading and unloading.
2. Complete packaged systems.
3. Custom designed for specific Pressure, Temperature, and Caustic fluid media requirements.
4. Many optional features available.
5. Variable Temperature & Pressure.
6. Programmable Vent vs. Time.
7. O-ring gasket seal easily replaced, inexpensive, and has long life (no abrasion from rotating parts).
8. Caustic Storage System with many optional features available.
9. Factory service readily available.
10. Designed, manufactured, tested, and serviced from WSF plant in Tonawanda, NY, USA

#### **Rapidoor**®

WSF's unique, wedge-lock, breech-action *Rapidoor* design provides fast and trouble-free opening/closing of access door.



## Typical Leaching System Components

### A AUTOCLAVE

Designed to meet specific requirements for load sizes, pressure and temperature operating range, and caustic media.

### B WSF Rapidoor®

Quick-opening closure allows fast and easy access for part loading and unloading.

### C BASKET & HEAD

Stacked Baskets provide compact and secure storage of parts during processing. Head assembly is available with or without agitation.

### D FLASH TANK

Designed to accept Caustic discharged during vent and drain cycle while minimizing harmful effluent by an integral Demister. Holds Caustic fluid media until temperature has decreased sufficiently to be drained.

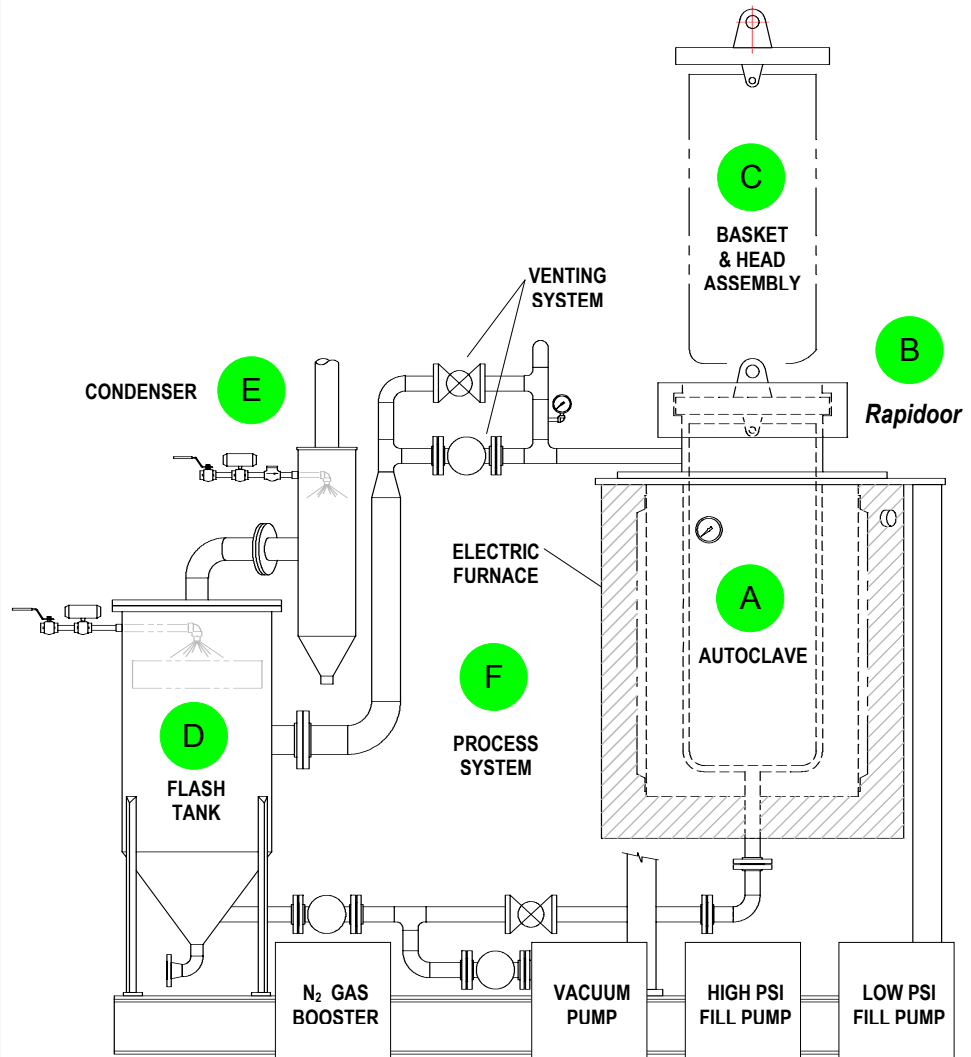
### E CONDENSER

Controlled water spray feature provides additional knockdown of harmful effluent.

### F PROCESS SYSTEM

#### Major components include:

- ELECTRIC FURNACE - single or multiple-zone configurations, built-in over temperature protection
- VENTING SYSTEM - available options including modulating or on/off vent action, Secondary Vent valve for boiling agitation
- LOW PSI FILL PUMP - reduces cycle time by minimizing fill and drain cycle times.
- HIGH PSI FILL PUMP - capable of filling or maintaining Autoclave level at full operating pressure.
- N<sub>2</sub> GAS BOOSTER - sufficient capacity to achieve required elevated operating pressure.
- VACUUM SYSTEM - evacuation prior to Caustic fill assists in filling small voids with leaching fluid.
- VENTING SYSTEM - Options include modulating or on/off venting action, secondary vent valve for boiling agitation.



### G CONTROL SYSTEM

Complete Control packages designed, manufactured and tested at our facility in custom configurations.

#### Available features include:

- PLC controlled with variable temperatures, pressures, cycle times, and alarms, multiple cycle recipe storage and selection.
- Touch-screen operator interface for cycle parameter entry, cycle and system status monitoring, messages, system diagnostics.
- HEAT CONTROL - Variable SCR power control, or time-proportional on/off types.
- DOCUMENTATION - Circular or Strip-Chart styles with programmable ranges, chart speeds, cycle messages. Paperless recording and other types available.

