



Leaching Autoclave Systems

Industries, Inc.

LEACHING AUTOCLAVE SYSTEMS FOR INVESTMENT CASTING & AIRCRAFT MAINTENANCE INDUSTRIES

WSF Leaching Autoclave systems are custom designed and manufactured at our facility for operation with caustic solutions at elevated temperatures and pressures. Special alloys and materials are selected to protect surfaces in contact with the caustic solution. Custom configurations and available options reduce processing times while providing any features required for your application.



FEATURES OF WSF LEACHING AUTOCLAVE SYSTEMS

1. WSF engineers, designs, and manufacturers the entire Leaching Autoclave system in-house. No Autoclave sub-suppliers or outside control system designers.
2. Each system is designed for specific Pressure, Temperature, and Caustic fluid media requirements.
3. Mechanical, Flash Agitation, & other available options minimize Leach cycle processing time.
4. Pressure & Temperature can be variably controlled.
5. O-ring gasket seal is easily replaced, inexpensive, and has long life (no abrasion by rotating parts).
6. Quality process valves, sensors, and controls using major suppliers ensures years of reliable service and availability if a replacement part is required.
7. Cycle recipes, operating parameters are easily changed using the Operator Interface Terminal, no programming skills required.
8. Vent, effluent knock-down, drain, and caustic discharge handling options available.
9. Heated caustic holding, mixing tanks available.
10. Factory service readily available.



WSF LEACHING SYSTEMS WITH SELECTABLE FEATURES FOR YOUR INSTALLATION

WSF can provide a **complete Leaching system** with automated controls or **any combination of components** to meet the demands of your application.

A AUTOCLAVE

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

B WSF RAPIDoor®

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

C AGITATION

A mechanical agitator can be integrated with the Autoclave Head assembly to provide mechanical agitation during the process cycle. Cooling Coils are available to induce Flash Agitation and reduce cooling time after processing is complete.

D BASKET ASSEMBLY

Stacked baskets provide compact and secure storage of parts during processing.

E ELECTRIC HEATERS

Single or multiple-zone configurations, built-in over temperature protection.

F FLASH TANK

Designed to accept Caustic discharged during vent and drain cycles while minimizing harmful effluent by an integral Demister. Holds Caustic media until temperature has decreased sufficiently to allow draining. High/Low level and temperature sensing options provide additional interlocking features. Optional water spray system adds automated and manual Demister cleaning capability.

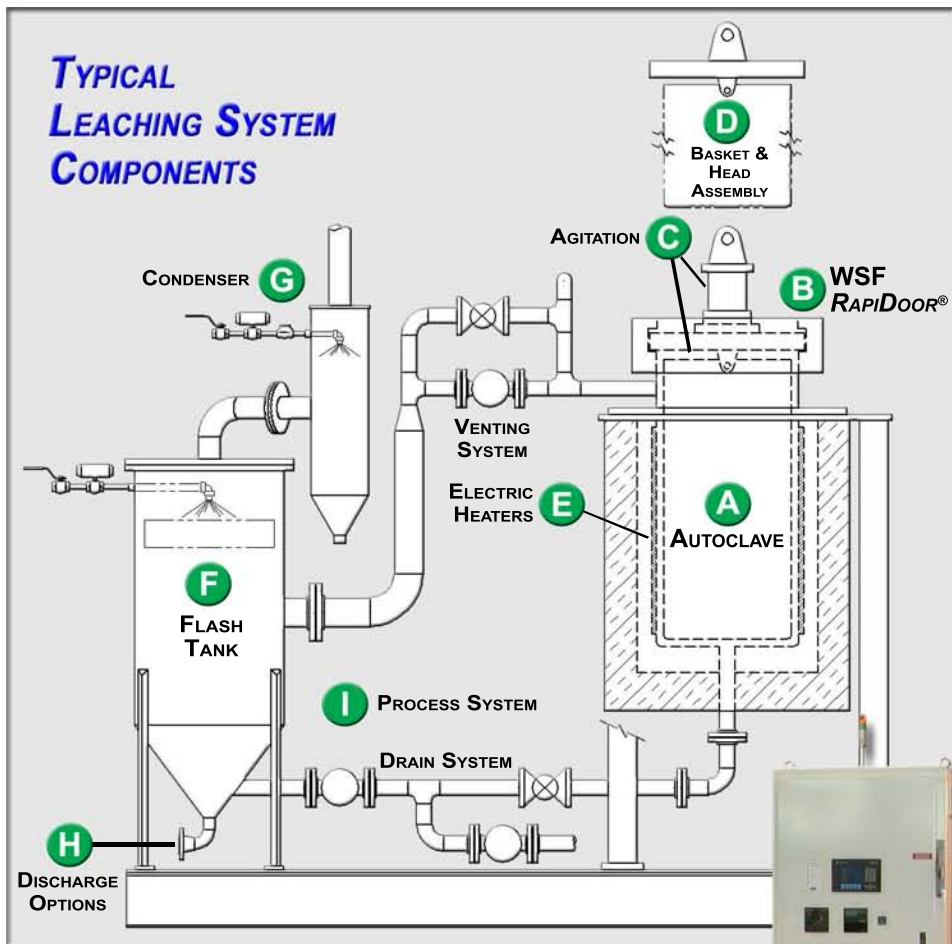
G CONDENSER

Controlled water spray feature provides additional knockdown of harmful effluent. Closed-loop spray options also available.

H DISCHARGE OPTIONS

Caustic discharge handling options include: drain pump, drain location selection, electrically heated holding tank, mixer, over-fill protection.

TYPICAL LEACHING SYSTEM COMPONENTS



I PROCESS SYSTEM

Upgrade options provide any required process features. Typical components include:

- † **Venting System**
Modulating or on/off vent action. Modulating features include adjustable ramp rates and settings for boiling agitation operation.
- † **Low Pressure Fill Pump**
Reduces cycle time by minimizing Leaching Autoclave fill, rinse times.
- † **High Pressure Fill Pump**
Capable of maintaining Autoclave level at full operating pressure.
- † **Drain System**
Isolation valve, alternate drain selection, manual flushing, other options available.
- † **Nitrogen Gas Booster**
Sufficient capacity to achieve required elevated operating pressure.
- † **Vacuum System**
Evacuation prior to filling assists filling of small internal airfoil passages with leaching fluid.

J CONTROL SYSTEM

Designed and tested at our facility in custom configurations.

Features including:

- † **PLC Control**
Variable temperature and pressure, cycle times, alarms, multiple process cycle recipes.
- † **HMI Touch-Screen**
System and cycle status monitoring, cycle and operating parameter entry, easy menu-driven layout, complete system diagnostics, multiple security levels.
- † **Precision Heat Control**
SCR variable power control to heaters, available in multiple zone configurations, over-temperature limit controller.
- † **Documentation**
Strip-chart or circular chart recorder, paperless recording, data logging also available with Ethernet communications and remote monitoring.

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