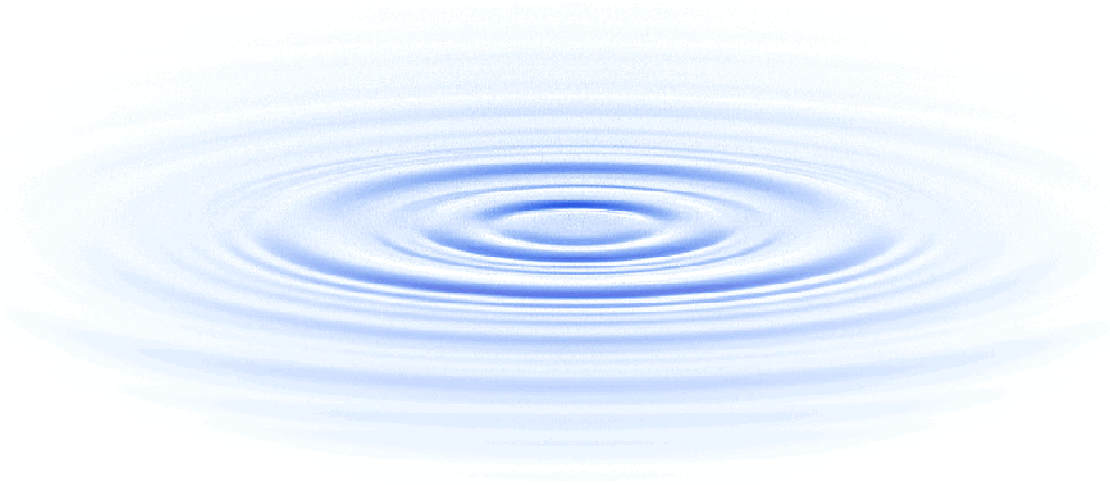


Clean Steam Generators

Steam for Humidification
Steam for Autoclaves



Clean steam using existing steam as an energy supply

Introducing... the **CX System** for clean steam generation in large facilities. It's a **skid-mounted/pre-piped design** that saves space, energy, and even water

Designed for amine-free operation. CX systems are available with flash recovery units that can increase efficiency by up to 15 percent

Advanced
Steam Technology

Toll Free 877-629-4843
website: advancedsteam.com

Why the need for “Clean Steam”



How CLEAN is your STEAM? Go into the boiler room. Ask to see the feed water chemical treatment system. Find out what chemicals are being used, especially **amines**.

Amines are used to neutralize acid that can form in heat exchangers and the condensate system.

The issue with amines is that they vaporize... and flow with steam out into the system;

1) In direct steam injection humidification systems the amines flow along with steam into the airstream

2) In sterilizers and autoclaves the amines may be deposited on instruments or sterilized process products

Clean steam generators produce amine-free steam by using tap water (or purified water). Since humidifiers and autoclaves don't have much condensate to return, amines aren't needed.

Besides being environmentally friendly, the Advanced Steam Technology CX system is:

Compact

Skid sizes are small:

- 36" by 50" for a 400 #/hr unit
- 36" by 70" for a 1000 #/hr unit

Efficient

Utilize steam wasted by flash losses ...Optional flash recovery exchangers use the blowdown and exchanger condensate to pre-heat feed water.

Economical

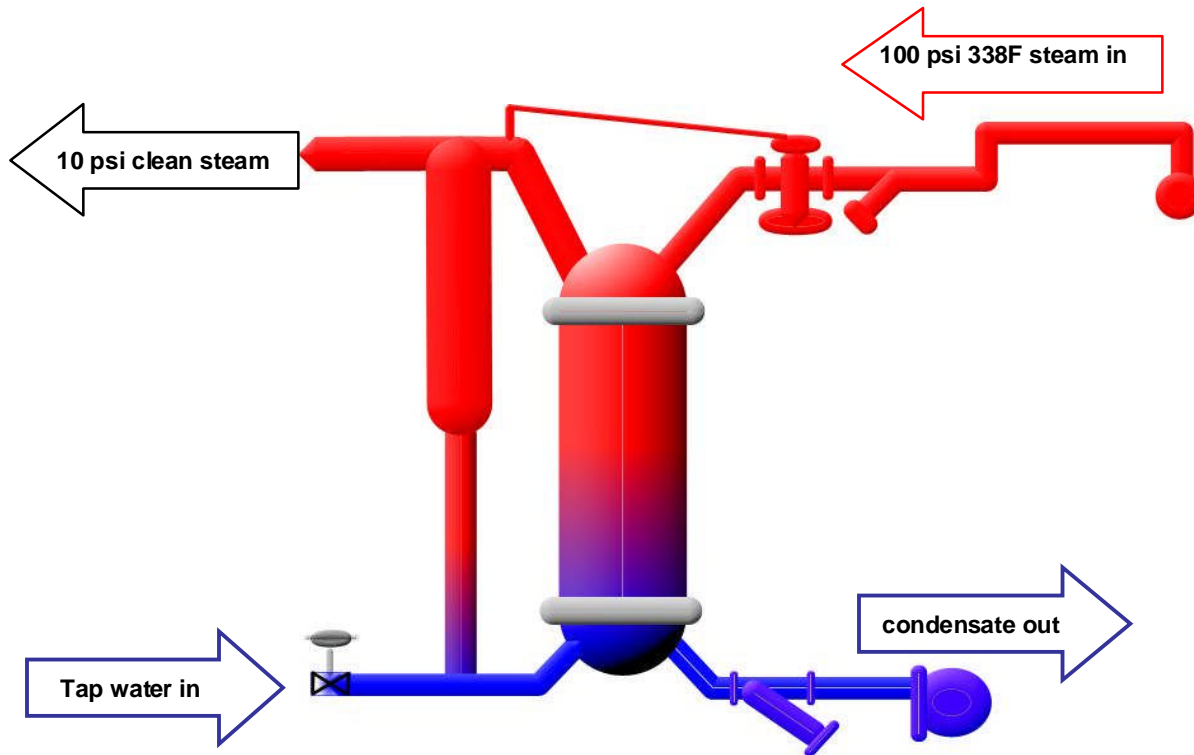
Lower installed cost than other steam generators

Easy to install

Only 4 connections required

The high pressure steam system is the energy input

Simply put...By using the **existing steam** for energy, clean steam is produced where you need it.



CX – Clean Steam Generator

In this simplified diagram, straight 100 psi steam is used to produce “clean steam” at 10 psi. For autoclaves, the clean steam pressure is usually 50 psi. The clean steam is under pressure and can flow to the humidifiers as needed.

The **primary control valve** is at the top of the unit and controls the heat input based on the leaving clean steam pressure. It senses leaving clean steam pressure, and controls the high pressure side based on the low pressure side.

New Project Benefits include:

- ✓ **LEED Certifiable** for energy savings and innovation points when used with the optional feed water heater
- ✓ Reduce or eliminate wasteful flash steam venting
- ✓ Vertical design saves expensive mechanical room floor space

Typical Specifications (also available as text files on advancedsteam.com)

CLEAN STEAM (Example for 1000 pounds per hour)

Clean steam generator Model CX-1000LB-100H-10L

A vertical unfired steam generator with 316L stainless steel construction, with 150 psi ASME stamp. The unit will be delivered on a skid with all the supports necessary for pad mounting. It will be a self contained unit, including all the following accessories:

- Boiler and separation piping.

- Water-level gauge.

- Level controller with high and low level alarms.

- Pressure gauges.

- Automatic valve to control clean steam pressure.

- Painted steel frame.

- Piping, valves, traps and unions.

Guarantee of one (1) year, parts and workmanship

Start-up supervision by the Manufacturer or Representative

Unit shall utilize softened or tap feedwater.

120 volt control panel and enclosure, pre wired (supply voltage by contractor).

Piping on clean steam side to be stainless steel for steam.

Thermal insulation by the contractor on horizontal piping.

The unit shall have a clean steam “rated” capacity of 1000 lb/hr of steam at 10 psig using supply steam of 100 psig.

Limited Warranty and Remedy

Advanced Steam Technology Company LLC (Advanced Steam) warrants to the original user of those products supplied by it and used in the service and in the manner for which they are intended, that such products shall be free from defects in material and workmanship for a period of one (1) year from the date of installation, but not longer than 15 months from the date of shipment from the factory [unless a Special Warranty Period applies, as listed below]. This warranty does not extend to any product that has been subject to misuse, neglect, or alteration after shipment from the Advanced Steam factory. Except as may be expressly provided in a written agreement between Advanced Steam and the user, which is signed by both parties, Advanced Steam DOES NOT MAKE ANY OTHER REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

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