

# *The Clayton 99.5% Quality Steam Separator*

The Advantages of the Clayton Steam Separator include:

## **HIGH QUALITY STEAM**

Temperature and moisture control are paramount to almost all manufacturing processes. Clayton's fixed vane separator design helps maintain process stability by providing constant high quality steam throughout its operating range. The result is a more uniform product and less wasted energy in the steam system. In addition, higher quality steam means fewer contaminants in the steam and less fouling of the system and products.

## **LESS BLOWDOWN**

There is less blowdown as the blowdown water has a higher concentration of total dissolved solids (TDS). This results in savings on water, fuel and chemical usage.

## **MECHANICAL SEPARATION**

Mechanical separation of steam is superior to natural separation common in traditional boilers.

## **PREHEAT OF FEEDWATER**

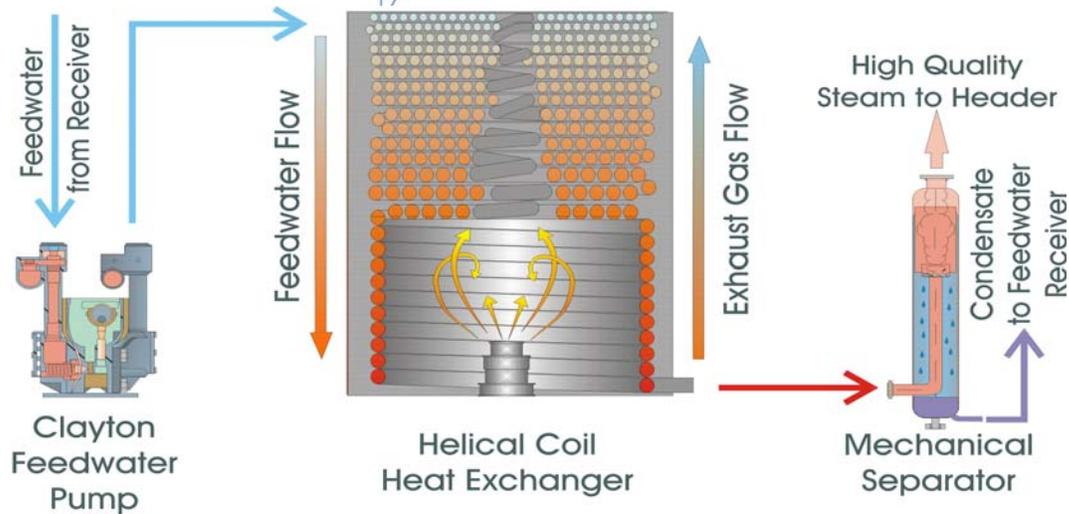
Condensate from the separator is used to pre-heat the feedwater.

The Clayton 99.5% quality steam separator minimizes moisture and carryover. This fixed vane steam separator yields the driest saturated steam available in our size range. Superior water separation is provided by the high velocity of steam and water through the separator nozzle at all steam production rates. The water removed during separation is sent through a steam trap to the feedwater tank and is used for preheating.

The Clayton 99.5% quality steam separator is ideally suited to projects where high quality steam is required to provide optimum performance in the steam system. Typical applications include Food Processing and Conditioning (such as Grain & Feed Mills) where water content of the product requires high quality steam and temperature sensitive heating of integral manufacturing components such as the rolls in a corrugator.



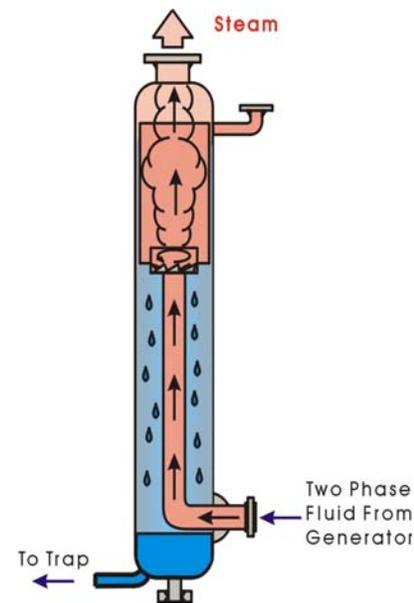
# SPECIFICATIONS



The 99.5% quality steam separator has an entry pipe connected to the discharge from the Steam Generator. The steam/water mixture from the coil enters the unit and goes through a pipe channel to a circular series of fixed vanes. These vanes are mounted in a cup-shaped nozzle. The steam passes through the vanes in the nozzle and impinges against the walls of the separator in a cyclonic action. A screen lines the inside wall of the upper chamber of the separator. The steam passes through the screen and moisture in the steam collects on the screen, dropping to the bottom of the separator. Additional condensate collects on the walls of the separator and drops to the bottom. Condensate accumulates to the point where the inverted bucket trap opens and the condensate is expelled back to either the Hotwell, Deaerator or Semi-Closed Receiver.

The separator has a temperature switch sensing probe mounted within the chamber wall. Should the steam temperature rise to a superheated condition, this switch will shutdown the unit and trigger an alarm. Additionally, outlet(s) for the safety relief valve(s) are mounted on the top of the separator.

The separator is equipped with one or two steam traps, depending upon the application. These traps are made of cast iron for design pressures up to 250 PSIG or cast steel for design pressures above 250 PSIG.



The Clayton separator is built to ASME Section 1 standards.

## Clayton INDUSTRIES

Your Single Source for Steam Technology Since 1930

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\*We are moving into a new World Headquarters Fall '05. Check our website for the new address.

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