

THE PARKER STAINLESS STEEL INDIRECT FIRED WATER HEATER

USED FOR CLEAN IN PLACE (CIP) STAINLESS STEEL PIPING SYSTEMS IN THE DAIRY AND FOOD INDUSTRIES. DEIONIZED SYSTEMS AND ANY OTHER APPLICATION REQUIRING STAINLESS STEEL WATERWAYS IN THE HEATER.

Food Processing and Dairy piping systems are required by Health Regulations to be sanitized regularly. The CIP Method of cleaning is accomplished by circulating hot water through the system at a certain temperature for a certain time period. Sanitizing chemicals are often added.

The Parker WH Model Indirect Fired Water Heater when equipped with stainless steel heat exchanger and water ways is being used extensively for (CIP) sterilization of dairy and food processing lines. It has proven to be a simple, economic means of providing heat to stainless steel piping systems.

By incorporating the heat source (boiler) and stainless steel heat exchanger in one unit and piping it directly in line, installation and maintenance costs are minimized. The WH indirect fired unit is utilized on these jobs.

The basic principle of indirect heating is accomplished by circulating the secondary (or lower temperature) water through a stainless steel heat exchanger which is mounted internally and immersed in the primary boiler water. The primary boiler water is contained in a bent steel tube bundle and is heated in the furnace area. It rises to the upper header where the heat transfer into the secondary water occurs. The colder secondary water does not come into contact with the high furnace temperatures or into contact with the flue gas at all.

This eliminates any possibility of flue gas condensation which will occur on direct fired heaters when used at low temperatures. Sweating and external corrosion of the boiler structure and tubes is essentially eliminated. The possibilities of scale, rust and corrosion are minimized by the indirect design principle.

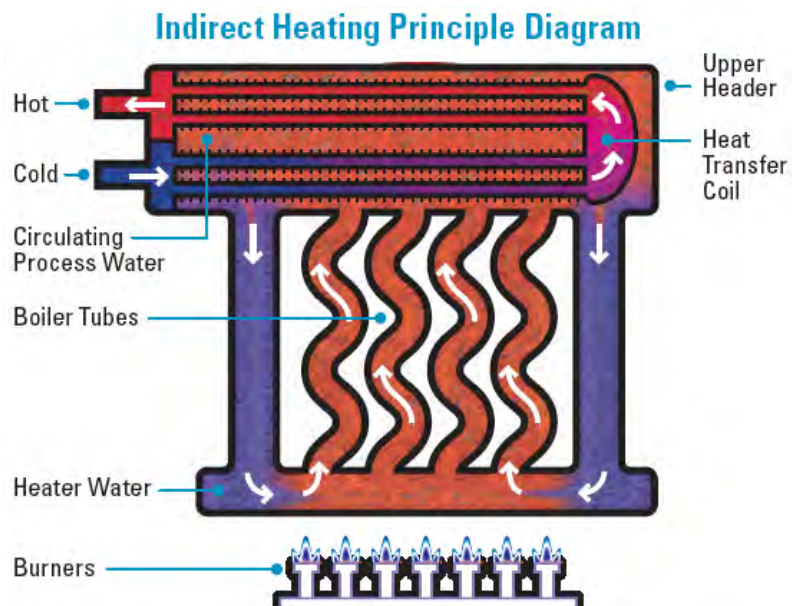
A typical piping arrangement is shown on the back. In this system, when the clean cycle begins, the product storage area is isolated from the system and holding tank and heater valves are opened. The cleaning pump begins circulating water through the heater out to the system and then back to the holding tank, as successful passes are made, the temperature rises.

Usually the CIP process continues until a steady temperature is maintained on the return line to the holding tank for a certain period of time. When the cleaning process is complete, the holding tank and heater valves are shut and the system is ready for operation.

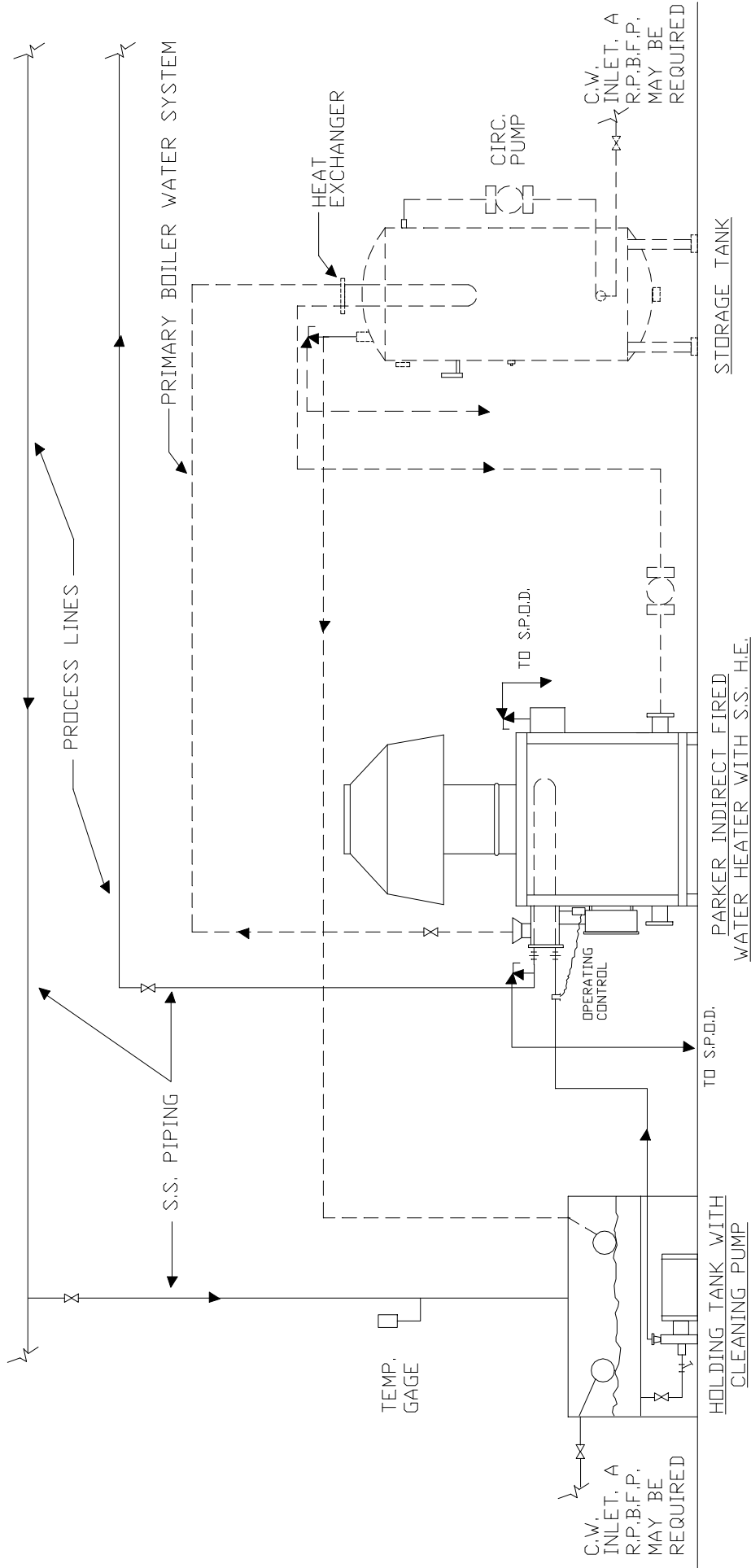
Shown dotted on the back side of this sheet is a water preheat and storage tank system which can perform the cleaning and provide hot water at a faster, more efficient rate. This added part of the system consists of a storage tank, heat exchanger, system pump and associated piping.

In this system the primary boiler water is circulated out of the boiler and into a copper tube heat exchanger mounted in a storage tank. Thus the water coming into the holding tank when the system begins is preheated and the cleaning time is reduced.

For information on unit flow rates, pressure drops, unit outputs and piping arrangements, please consult factory.



DAIRY INDUSTRY OR CLEANING IN PLACE (CIP) PIPING SCHEMATIC



- ↑ RELIEF VALVE
- ⊗ BALL VALVE
- ⌋ Y-STRAINER
- ⊕ UNION
- OPTIONAL PIPING & EQUIPMENT

DAIRY AND C.I.P. SYSTEM		PART NAME PIPING SCHEMATIC	
FOR DAIRY AND CLEANING IN PLACE SYSTEM WITH STAINLESS STEEL H.E. AND PIPING			
DR.	RPC	DATE	7B
CH.			
APPROVED			
SUPERSEDES NO.			
PARKER BOILER CO.		SCALE NONE	
5930 BANDINI BLVD.		DIMENSIONS	
LOS ANGELES, CA 90040		FILE DESIGNATION	
		DWG. NO.	
		210-INST-CIP	

CAD:V020INSTCIP.DWG