

HelioPAC



High Pressure Hot Water for Industrial Cleaning



Fixed Flow System

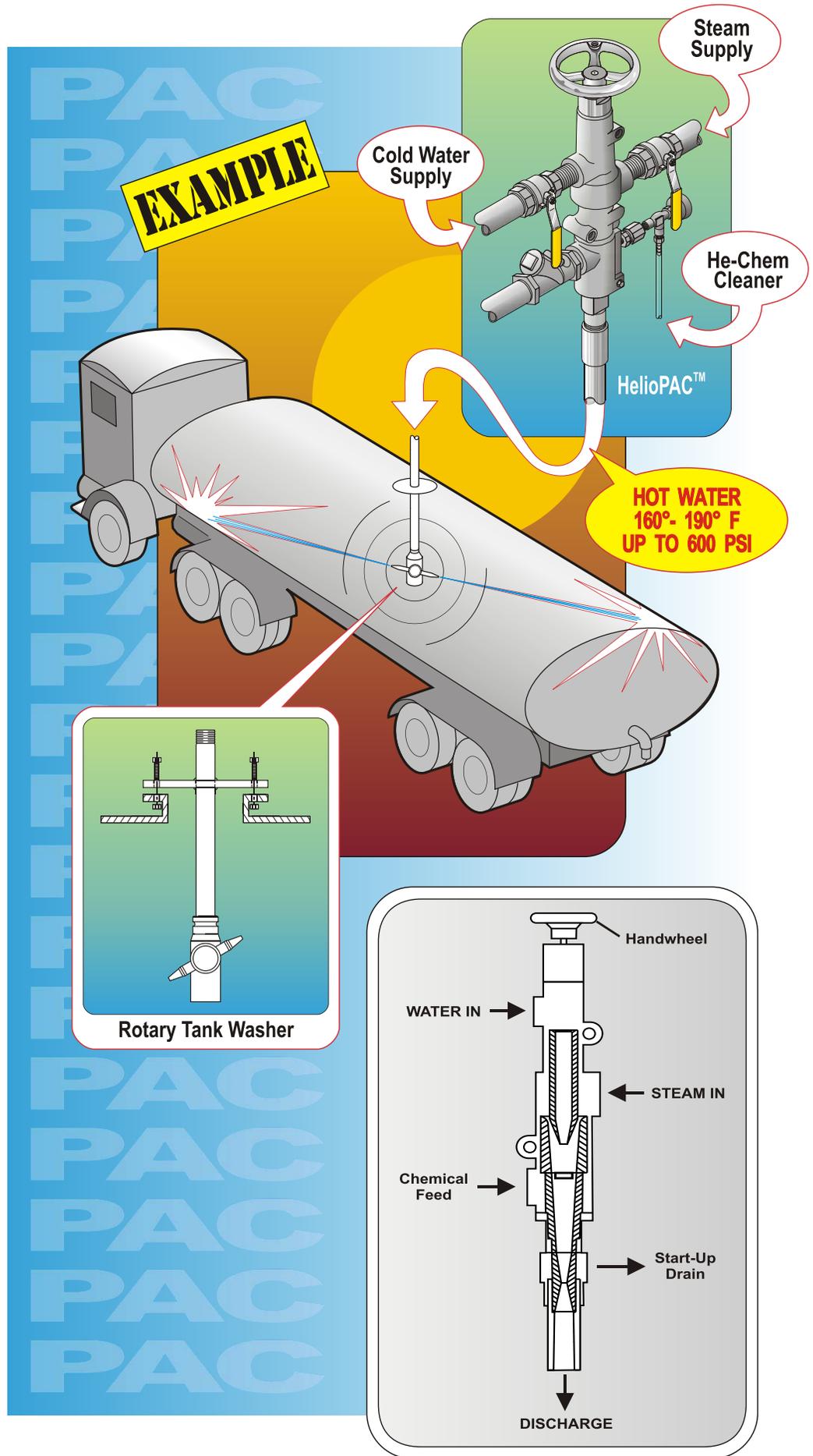
HelioPAC™ Technology

Inventor Carl Nicodemus discovered a phenomenon that allowed him to combine low pressure liquid and vapor, and discharge a high pressure liquid at levels never before attainable through a device with no moving parts. He continued to work on this discovery and the "Pressure - Amplifier - Condenser (PAC or HelioPAC™)" was born. Since then, the PAC has been used in many industries for all types of high pressure hot water cleaning applications.

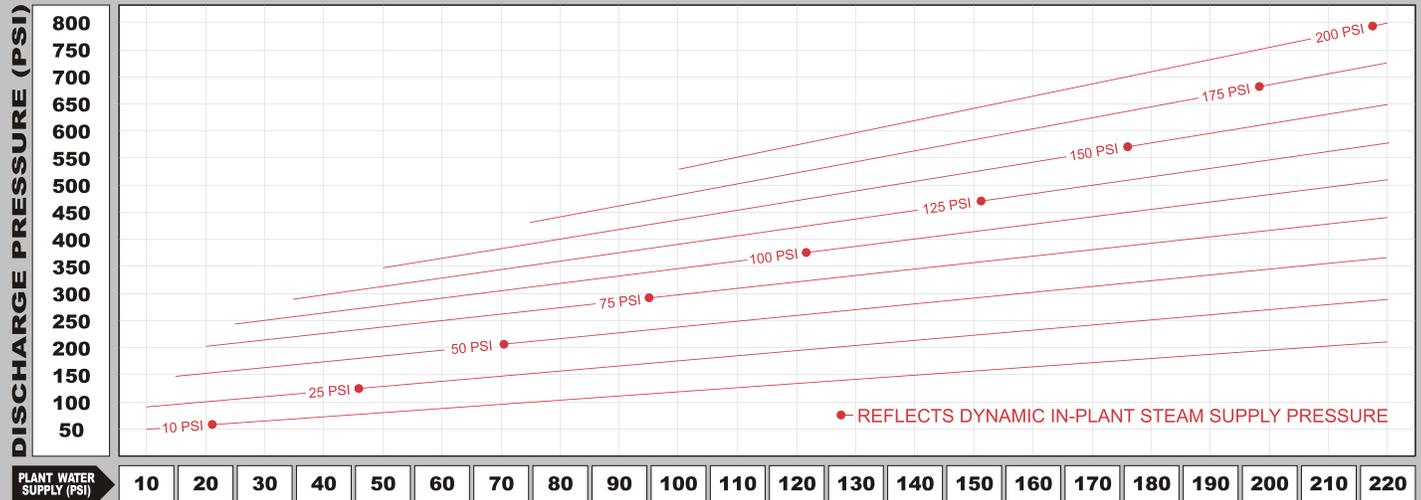
The HelioPAC combines your existing steam and cold water supplies. As steam enters the HelioPAC, it is expanded to supersonic velocity and immediately condenses into an oncoming cold water stream. The steam's heat and momentum are transferred to the water thus producing an instantaneous supply of pressurized hot water. Because all the energy of the incoming vapor is used to heat and pressurize the incoming liquid, the HelioPAC is nearly 100% efficient. For example: when using 125 psi steam pressure and a cold water supply of 60 psi, the HelioPAC can deliver hot water at 300 psi and 185°F. The HelioPAC does all this with no moving parts, making it the most efficient, low maintenance, hot water pump system available. The HelioPAC replaces old style (conventional) systems that incorporate high pressure mechanical pumps and sparger, 'shell and tube', or plate type heat exchangers.

Another unique advantage of the HelioPAC is that during operation, it creates its own internal vacuum. This allows He-Chem™ specially formulated chemical cleaners to be metered in automatically. As the He-Chem Cleaner enters the HelioPAC, it encounters extreme heat and turbulence which thoroughly mixes and disperses it into the pressurized hot water. This action creates a super effective cleaning solution.

HelioPAC models are available in various sizes. Models are recommended based on the flow requirement of your application as well as the water and steam pressure available. Please consult our Technical Sales Department for recommendations.



Fixed Flow System™ Performance Data



NOTE • The above represents maximum performance. Discharge pressure may vary depending on HCT recommendations, water supply temperature, detergent concentration, and other factors.
 • To stabilize water supply and enhance discharge performance, HelioJET Fixed Flow Systems are equipped with a low horse power water supply booster pump.

Fixed Flow System Fixed Flow System



The **Patented HelioPAC** is located within the Fixed Flow System's cabinet enclosure, and is the real force behind this state of the art cleaning system.

At the push of a button, the **HelioJET Fixed Flow System™** supplies high pressure hot water instantaneously. It is ideal for use in dedicated cleaning applications that require a fixed volume of pressurized hot water.

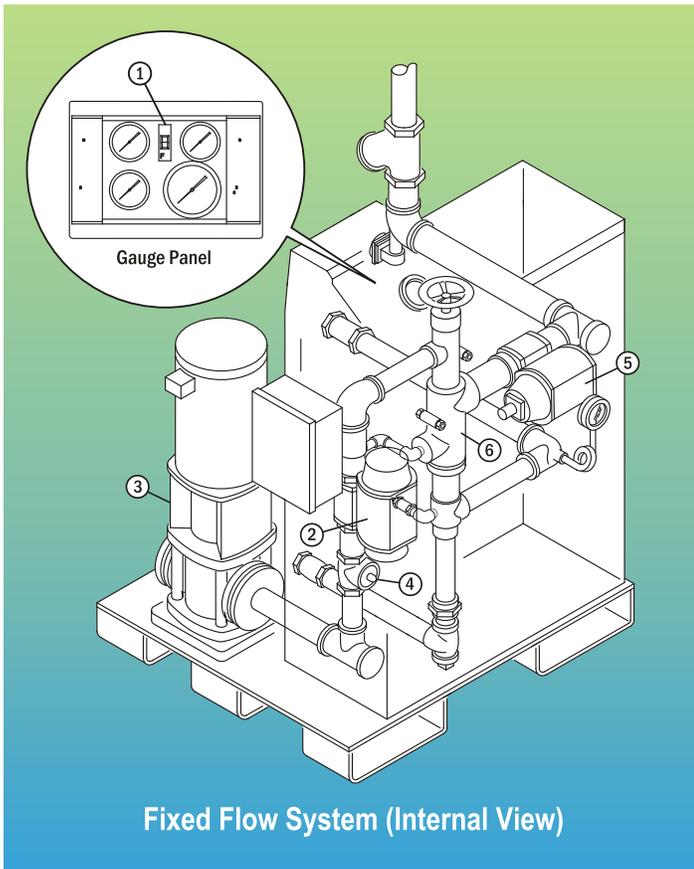
The Fixed Flow System is used in the Paper, Food, Steel, and Chemical Industries. Applications include; Paper Machine Fabric Cleaning, Conveyor Cleaning, Steel Strip Cleaning, and Tank Washing. Any job that utilizes *clean in place (CIP)* equipment such as spray nozzles, shower headers, tank washers, etc. is perfect for the Fixed Flow System.

Each system is specially configured to deliver the flow and pressure that is ideal for your application.

The HelioJET staff has extensive experience in a wide variety of cleaning applications. Our recommendation is sure to deliver excellent results.



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Fixed Flow System (Internal View)

How it Works

To begin the cleaning process, simply turn on the system's Power Switch (1). Electricity energizes the air actuated water valve (2) and water stabilizer pump (3) allowing water to flow to the HelioPAC (6). The flowing water closes a flow switch circuit (4) which opens the air actuated steam valve (5). When steam enters the HelioPAC, the unit starts. Back pressure is then developed in the discharge line as determined by the orifice restrictions of the *clean in place (CIP)* device.

Low Maintenance

Because the HelioPAC has no moving parts, the HelioJET System requires less maintenance than conventional systems.

Energy Efficient

HelioJET Systems typically operate at 10 - 25% greater efficiency than mechanical pump - sparger, 'shell and tube', or plate type heat exchanger systems.

Safe

A fail-safe automated steam valve closes in the event of electrical, air, or water interruption.

Materials of Construction

The Fixed Flow System is constructed primarily of stainless steel components. This includes the HelioPAC, cabinet enclosure, framework and piping.

HelioJET Cleaning Technologies offers complete Cleaning System Packages which include accessories such as; HelioJET Fast Clean Showers™, Rotary Tank Washers, etc. Our staff can recommend a complete Cleaning System Package that is tailored to your specific needs.

Applications

- Paper Machine Fabrics
- Strip Cleaning in the Metal Rolling Industry
- Interior Tank Washing and Sanitizing
- Conveyor Belts for Food Processing

