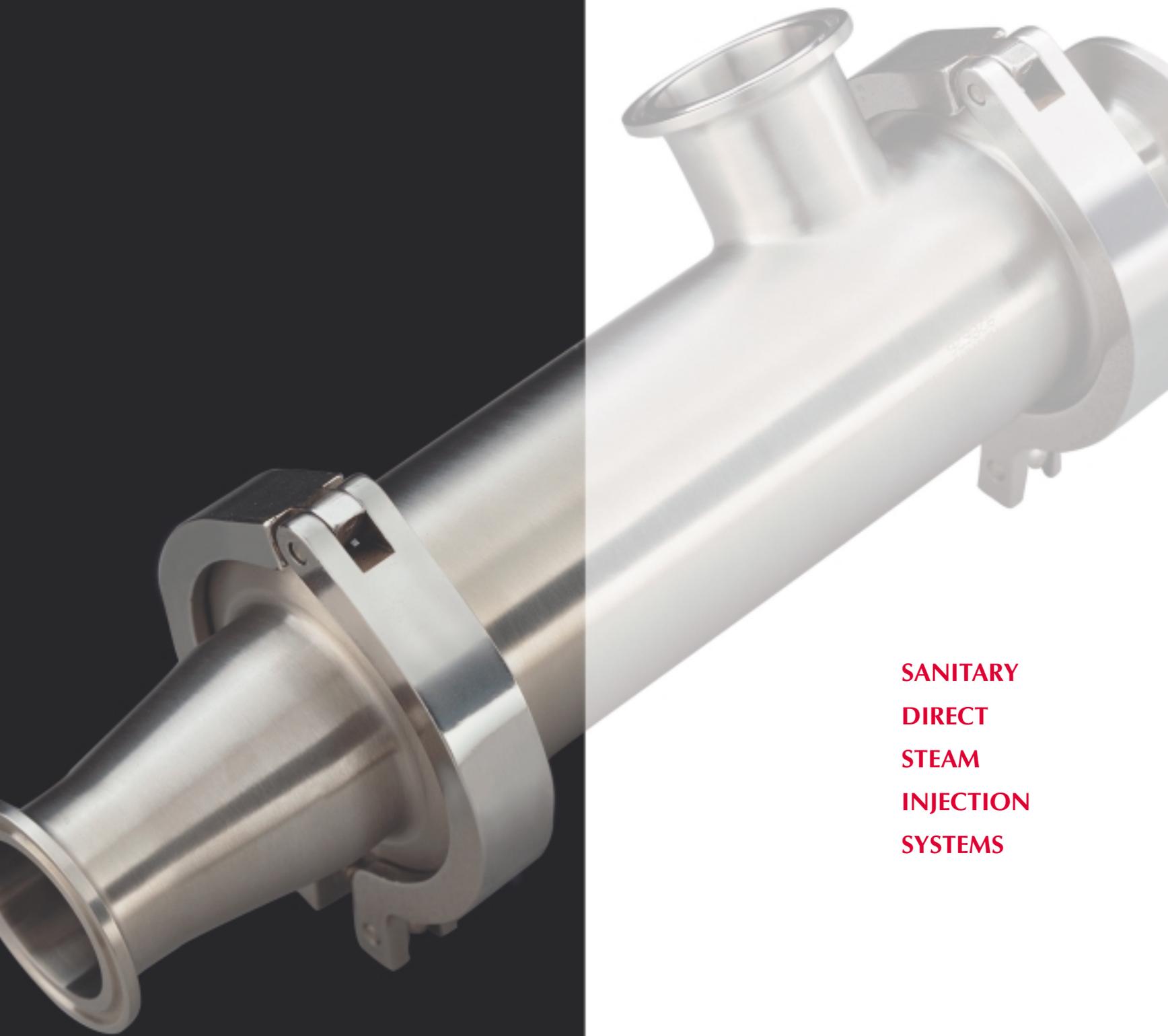


PROCESS HEATING SOLUTIONS WORLDWIDE



SANITARY  
DIRECT  
STEAM  
INJECTION  
SYSTEMS

***pick***<sup>™</sup>  
*The Best*<sup>™</sup>

# Pick Sanitary DSI



## How It Works...

Pick Sanitary Direct Steam Injection systems can be used to heat/cook any water miscible liquid or slurry instantly on a continuous straight through basis. It can also handle slurries containing bite-size pieces such as salsas or stews.

The Pick Sanitary Heater is the only DSI system that achieves set point temperature on demand with a non-shearing action. The unique, low velocity, multiple orifice steam injector and helical flights ensure intimate blending of steam and product without high turbulence, unlike venturi systems.

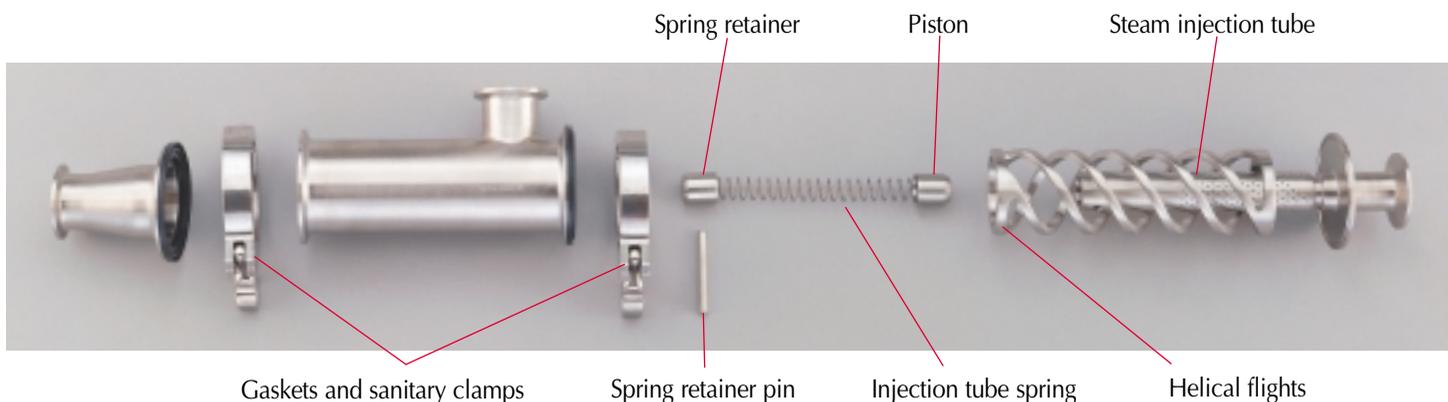
Very simply, the Pick system injects steam into the product through hundreds of small orifices. Fine "bubbles" of steam are instantly absorbed by the product resulting in 100% heat transfer.

Forget the inherent process inefficiencies and maintenance headaches of traditional batch cooking. Pick Sanitary DSI allows you to heat in-line, with precise temperature control and 100% energy efficiency.

Pick Sanitary DSI systems are available with complete instrumentation as well as components to produce culinary steam.

## Sanitary Construction...3A Certification, and easy disassembly for cleaning

The Pick Sanitary Heater meets 3A sanitary requirements, so it's in regulatory compliance for any food or dairy application. All product surfaces are 316L stainless steel with #4 sanitary polish. Tri-clamp® connections are standard, and other connections are available upon request. The entire unit disassembles in minutes for routine cleaning.



# Why Choose Pick?

## In-Line Cooking

Pick Sanitary Heaters eliminate slow batch processing. Heat, cook or sterilize on a continuous, straight-through basis. The Pick heater processes higher volumes of quality product in less time than any other heating method.

## Cost Efficient

Pick Sanitary DSI saves you money every step of the way, from initial installation through everyday processing. Compared to complicated, maintenance intensive heat exchangers or kettles, Pick systems cost far less to purchase and install. Operationally, nothing could be more efficient. With 100% heat transfer, Pick's energy savings are obvious. It is a great way to reduce product cost without sacrificing product quality.

## Non-Shearing Action

Helical flights inside the heater body allow a generous, unobstructed flow path for liquids and slurries. Because the process is non-shearing, slurries containing bite-sized pieces can be heated without damage to texture or consistency. Product integrity is maintained, cooking is thorough and fast, and blending is uniform.

## Precise Temperature Control

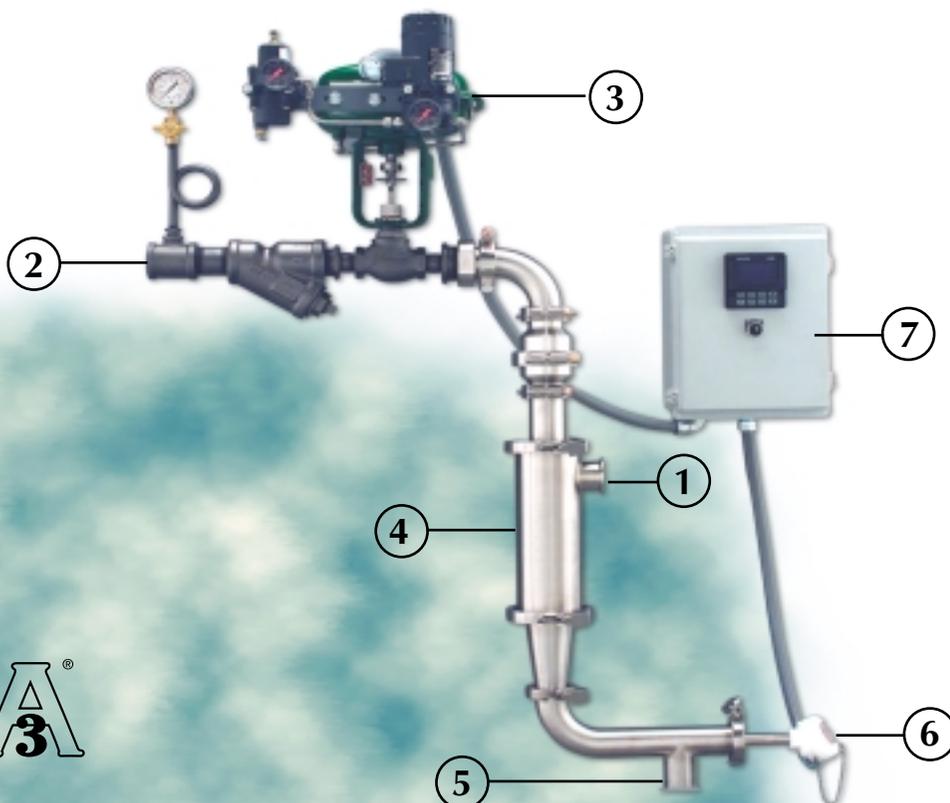
Pick's precise temperature control assures exceptional product quality. With Pick Sanitary DSI, quality control problems common to jacketed kettle cooking or sparging are virtually eliminated. In addition, a separate steam control valve eliminates stem packing leakage and possible product contamination.

## Quiet, Efficient Operation

Pick's unique variable orifice injector eliminates harmful vibration and steam hammer. Operation is smooth and quiet with a low product-side pressure drop.

## Easy Installation and Maintenance

The Pick DSI unit can be delivered to you complete and ready to install. Simply connect the system to your steam and product piping and start heating. In comparison to competitive methods, the Pick heater requires very little effort to clean and maintain. The unit can be easily disassembled in minutes for routine cleaning. Nothing could be simpler, or faster to maintain.



## System Components

The Pick Sanitary DSI unit forms the heart of a complete, yet very simple system to heat, cook or sterilize. All components are provided by Pick, and customization of components to your precise needs is offered.

1. Liquid or slurry to be heated enters here.
2. Steam enters here.
3. Control valve regulates steam flow.
4. Heater body.
5. Heated product outlet.
6. Temperature sensor.
7. Temperature controller.

# Packaged Systems



## Pilot Scale

Pick can package a compact Sanitary system for use in the laboratory or pilot operations. These engineered turnkey systems generally utilize Pick's smallest heater, the SC-2. This heater is rated for capacities up to 150 pounds of steam per hour and liquid flows as low as 1/2 gallon per minute.

The system includes everything you need to explore the advantages of in-line heating in your facility, with your product formulation. Packages may include a pre-cook slurry tank, product pump, flash chamber, electronic controls and sensors, automated valves, and all associated piping.

While standard lab/pilot packages are available, Pick would be happy to custom engineer one for your exact requirements.

## SPECIFICATIONS

Model Number	SC 2	SC 7	SC 10	SC 25	SC 50	SC 75	SC 100
Rated Steam Cap. Lbs./Hr.	150	700	1,250	2,500	5,000	7,500	10,000
Minimum Port Size	1/2"	1"	1"	1 1/2"	2"	3"	3"
Maximum Port Size	1 1/2"	2"	2 1/2"	3"	4"	6"	6"

## Production Scale

Pick has experience designing production scale DSI systems in a wide variety of food and pharmaceutical plants. These designs are customized to meet specific processing requirements, available utilities and space constraints. Pick Sanitary DSI heaters can deliver capacities of up to 10,000 pounds of steam per hour. Depending on the product and temperature rise, this can translate to 200 gallons per minute or more of finished product.

Pick DSI systems are compact and extremely easy to install. They can be easily adapted to existing production lines, and require only a steam source and plant air for the steam control valve.

Pick engineers will be happy to review your production requirements and design a system perfect for your needs.



# Applications

## Heat, Cook, Sterilize or Pasteurize products in-line.

### Food Industry

Pick Sanitary DSI can be used in virtually any segment of the food industry that processes liquids or slurries, including those containing bite-size pieces. Common applications include:

- Starch Slurries
- Jams & Jellies
- Fruit & Vegetable Juices
- Puddings & Fillings
- Stews & Gravies
- Eggs
- Cheeses
- Grain & Vegetable Slurries
- Refried Beans
- Fruit Sauces/Purees
- Baby Foods
- Teas, Canned & Bottled
- Sauces, Soups & Dressings
- Fats, Oils, Tallow
- Candy & Confections
- Milk, Soy Milk
- Salsa
- Pet Foods

### Pharmaceutical and Cosmetics Industries

- Biokill
- Sterile Water
- Gel Cap Coating

## CIP Systems

The Pick Sanitary DSI heater can be piped directly into your CIP loop to instantly bring the process up to the required temperature. 100% heat transfer reduces your energy costs, while its low maintenance design helps keep your CIP system trouble-free.

## Nitrogen Injection

Nitrogen injection is used to help prevent rancidity in products such as whipped butter, mayonnaise, peanut butter and edible oils. By displacing dissolved oxygen, the nitrogen not only extends shelf life but also increases product volume and enhances product texture. The Pick Sanitary Heater is ideal for nitrogen injection, ensuring thorough mixing and consistent product quality. The unit is easier to clean than traditional sparging rings.

