

## This product is represented in Australia, New Zealand, and PNG by:

## **InKorr Pty Ltd**

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#### Contact us with any enquiries related to:



#### Heat Transfer Equipment

- Shell & Tube Heat Exchangers Standard, Custom, Corrugated Tubes.
- Plate Heat Exchangers Brazed, Gasketed, Semi-Welded, & Welded.
- Graphite Heat Exchangers.
- Plate & Shell Heat Exchangers.
- Spiral Heat Exchangers.
- Crossflow Welded Heat Exchangers.
- Direct Steam Injection Heaters.
- Air Coolers.



#### Corrosion Resistant Equipment - Valves, Piping, Vessels & Systems

- Polymer-Lined Valves, Piping, and Pressure Vessels.
- Exotic Metal (Ta, Zr, Ti) Fabricated Piping and Pressure Vessels.
- Glass-Lined Vessels.
- Graphite Equipment and System Packages.



#### Service Maintenance

- Plate Heat Exchangers Refurbishment, Gas Testing, UV Crack Testing.
- Graphite Equipment Installation, Refurbishment, Repairs.
- Glass-Lined Vessels Spark Testing, Lining Repair.
- Quality Spare Parts, both OEM and Aftermarket.

InKorr Pty Ltd Unit 12, 103 Lewis Road, Knoxfield, VIC 3180, Australia ABN: 48 159 224 996



**Process Heating Solutions Worldwide** 

# **Food Processing Industry Case History**



## **Defrost Belt Freezers**

#### **Application**

Frozen vegetable processor required a method to remove ice build-up on multiple belt freezers. The product was continuously fed on a conveyor belt through a freezer system to keep up with production demands. Ice build up on the belts must to be melted at timed intervals. Hot water was distributed onto the belts via a series of spray heads. Water demand varies based on sequencing of washing cycles and number of systems in operation. Additional hot water is used to defrost refrigeration coils and supply a nearby single hose station for plant wash down in freezer area.

#### **Process Conditions**

Water Flow Rate: Temperature Rise: Final Temperature: Steam Supply Pressure: 110 PSIG Water Supply Pressure: 40 PSI Steam Flow Required:

30-250 GPM 15°F 85°F 200-1600 lb/hr

### Solution

Pick 6X50 Variable Flow Heater designed with 4" water piping suitable for 250 GPM water flow rate. Dual steam valves are included to handle a wide range of steam flow demand. The Variable Flow Heater provides smooth performance in responding to intermittent operation and changes in water flow rates

Learn more at www.pickheaters.com Pick Heaters, Inc. — 730 S. Indiana Ave. — West Bend, WI 53095 USA Phone: (262) 338-1191 — Email: info1@pickheaters.com

## Features and **Benefits:**

- Instantaneous Supply of Hot Water
- **Compact Design**  $\bullet$
- Turndown Capabilities
- Single Source of Hot Water for Multiple Use Points



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Food Processing Industry Case History



# **Bakery Pan Cleaning**

### Application

A bakery looked to speed up their pan cleaning tank operation. They wanted to fill a 100-gallon tank of water, used for pan cleaning, at 190°F using city water at 50°F.

### **Process Conditions**

Water Flow Rate:10 GPMSteam Pressure:80 PSIGLiquid Pressure:60 PSIGExpected heat steam load is based on10GPM x 140°F rise x 0.43 = 602 lb/hr

### Solution

**Pick Model 6X7-3 Constant Flow Heater** with a nominal 700 lb/hr steam capacity and standard non-indicating pneumatic temperature controller.

#### Similar applications for this market include:

- Constant Flow Heater with boost pump for pan cleaning. Boosts pressure to pan cleaning line from normal 60 PSIG to 1,500 PSIG. The use of higher water temperature along with higher water pressure should effectively and quickly clean their pans.

- Jacketed heating of sugar glazes in a kettle with a hot water set. The hot water set can also provide hot water to a spray ball cleaning that same kettle in the evening.

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## Features and Benefits:

- Compact Size
- On Demand Hot Water at a Uniform Temperature
- Exceptional Cost Savings



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# Food Processing Industry Case History



## **High-Pressure Hot Water System**

### Application

Poultry processing plant required a high-pressure hot water supply for their night time clean up. The heating system was to take preheated water supply up to 155°F, then boost the pressure to 275 PSIG for distribution to multiple hose stations throughout the facility. Accurate temperature control at a constant supply pressure was required regardless of water flow rate.

#### **Process Conditions**

Water Flow Rate Number of Hose Stations Inlet Water Temperature Discharge Temperature Water Supply Pressure Boost Water Pressure Steam Supply Pressure Steam Flow Required 7 - 250 GPM 1 -15 120°F 155°F 50 - 60 PSIG 275 PSIG 100 PSIG 135 - 3765 lb/hr

#### Solution

**Pick Model 6X50-3 Hot Water Set** including dual steam control valves to effectively handle the wide range of turndown required. A 50HP multi-stage centrifugal boost pump was installed after the heater discharge so that water pressure did not exceed steam supply pressure at the heater. Temperature was controlled with a simple pneumatic thermostatic controller installed immediately at the heater discharge. The temperature control loop was interlocked with the pump to operate only when system was under demand. An electronic process controller monitored discharge pump pressure through a downstream pressure transmitter. A 4-20mA output to the pump VFD ramped pump speed to control and maintain the desired output pressure. The process controller and pump starter were housed in a stainless steel panel including E-stop and On/Off control.

This is the third identical system installed at this facility in the past few years.

Features and Benefits:

- Complete System
  Capability
- Instantaneous Hot Water Upon
   Demand
- Precisely Controlled
  Water Supply
  Pressure

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