Waukesha Cherry-Burrell
A United Dominion Company

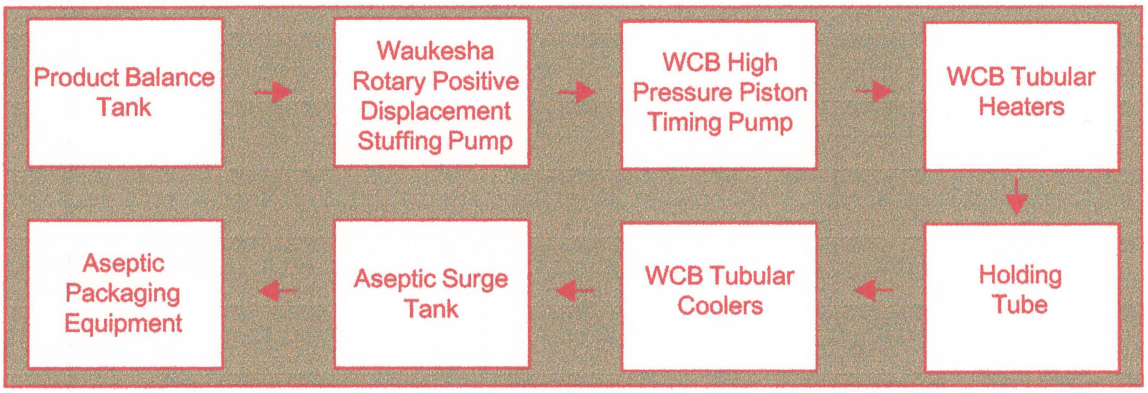
Process Technology
Bullet 9959 12-99

ASEPTIC TOMATO PASTE PROCESSING USING TUBULAR HEAT EXCHANGERS

PROCESS DESCRIPTION:

The tomato paste is concentrated in the evaporator and transferred to the product balance tank which feeds the system. The balance tank is unloaded with a Waukesha positive displacement pump which provides stuffing pressure to the WCB high pressure piston timing pump. Various models of WCB tubular heat exchangers are utilized during the heating and cooling process to minimize product degradation. The product is heated to sterilizing temperatures and held in the holding tube for the required time. After holding, the product is cooled to the desired filling temperature using a combination of tower and chilled water as the cooling media. The product then flows to an aseptic surge tank and the filler. Water from the water balance tank is used for CIP of the system and for system sterilization prior to running product.

BLOCK DIAGRAM:



PROCESS SYSTEM FEATURES:

- Utilizes tubular heat exchangers in all series flow path eliminating potential sterility problems associated with multi-path designs.
- Greatly reduced maintenance cost vs. scraped surface heat exchangers.
- Extended run times prior to performing sterile in-run rinsing.
- Improved flavor and color.
- System is CIP cleaned from the CIP/sterilization water balance tank.
- Programmable logic controls available for sterility interlock and automatic sequencing of various operations.

EQUIPMENT REQUIRED:

- WCB tubular heat exchangers
- WCB holding tube
- Waukesha rotary positive displacement pump
- WCB centrifugal and piston pumps
- WCB hot water set
- Stainless steel tanks and vessels
- Aseptic surge tank
- Miscellaneous valves
- Control system

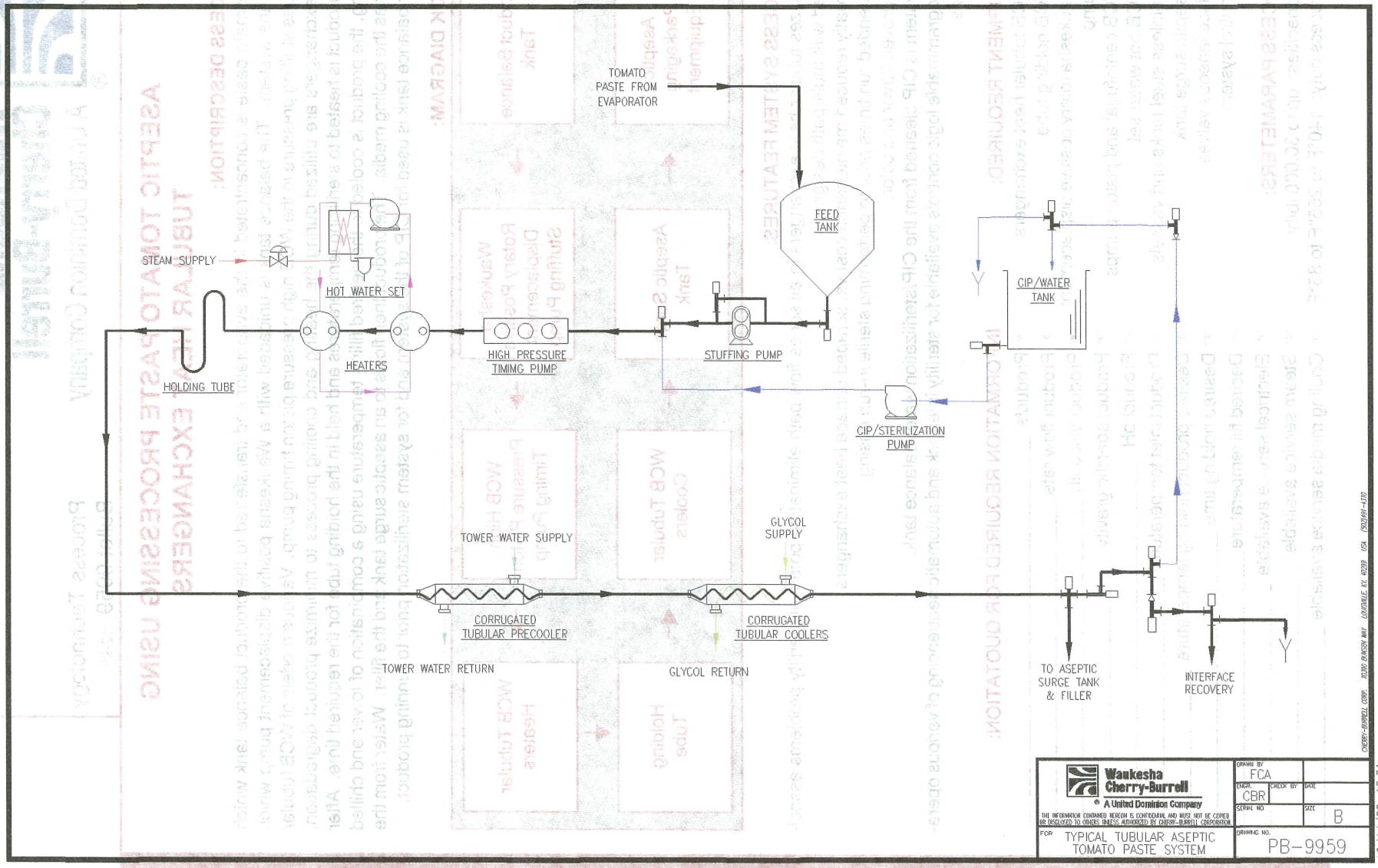
PROCESS PARAMETERS:

- Capacities: up to 30,000 lb/hr
- Process duty: 140°F to 255°F to 85°F

INFORMATION REQUIRED FOR QUOTATION:

- Products _____
- Product flow rate _____
- Product viscosity _____
- Product specific gravity _____
- Product pH _____
- Product inlet temperature _____
- Desired product holding temperature _____
- Desired holding time _____
- Desired fill temperature _____
- Electrical service available _____
- Steam service available _____
- Cooling media service available _____

Aseptic Tomato Paste


TOMATO PASTE FROM EVAPORATOR
FEED TANK
CIP/WATER TANK
STEAM SUPPLY
HOT WATER SET
HEATERS
HOLDING TUBE
HIGH PRESSURE TIMING PUMP
STUFFING PUMP
CIP/STERILIZATION PUMP
TOWER WATER SUPPLY
GLYCOL SUPPLY
CORRUGATED TUBULAR PRECOOLER
CORRUGATED TUBULAR COOLERS
TOWER WATER RETURN
GLYCOL RETURN
TO ASEPTIC SURGE TANK & FILLER
INTERFACE RECOVERY
Waukesha Cherry-Burrell
A United Dominion Company
THE INFORMATION CONTAINED HEREON IS CONFIDENTIAL AND MUST NOT BE COPIED OR DISCLOSED TO OTHERS UNLESS AUTHORIZED BY CHERRY-BURRELL CORPORATION
DRAWN BY FCA
ENGR. CBR
CHECK BY
DATE
SERIAL NO.
SIZE B
FOR TYPICAL TUBULAR ASEPTIC TOMATO PASTE SYSTEM
DRAWING NO. PB-9959
CHERRY-BURRELL CORP. 10300 BUNSON WAY LOUISVILLE, KY. 40299 USA (502)491-4100
12/14/99-12:31