Waukesha Cherry-Burrell
A United Dominion Company

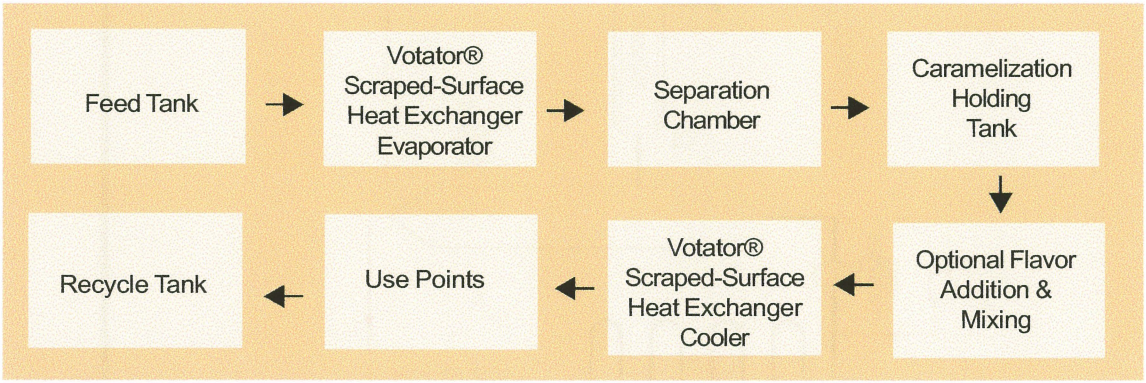
Process Technology
Bullet 9957 12-99

CONTINUOUS CARAMEL CONCENTRATION SYSTEM

PROCESS DESCRIPTION:

Product is transferred from the feed tank by a Waukesha positive displacement pump to a Votator® scraped surface heat exchanger evaporator. In the heat exchanger, the product is heated to evaporate a controlled amount of water. The product then flows to a separation chamber where the water vapor is removed under vacuum. A Waukesha positive displacement pump transfers the product through a caramelization holding tube where it achieves the desired color and flavor. After the addition of any flavors, the product is cooled and sent to the use points. Any product that is not used, including off-specification product from startup and shutdown, flows to a recycle tank where it is kept warm for pumping into new batches of product.

BLOCK DIAGRAM:



PROCESS SYSTEM FEATURES:

- Votator® scraped surface heat exchangers yield the most efficient heat exchange for extremely viscous products and crystallizing applications.
- Constant and accurate temperature control produces consistent product quality.
- Low residence time in the cooler inhibits growth of sugar crystals.
- Process can be cleaned in place.
- Programmable logic controls available for repeatable product consistency.

EQUIPMENT REQUIRED:

- Votator® scraped surface heat exchangers
- Waukesha rotary positive displacement pumps
- WCB centrifugal pumps
- WCB holding tube
- Jacketed agitated tanks
- Separation chamber
- Vacuum pump
- Optional flavor injector and static mixer
- Miscellaneous valves
- Control system
- CIP system

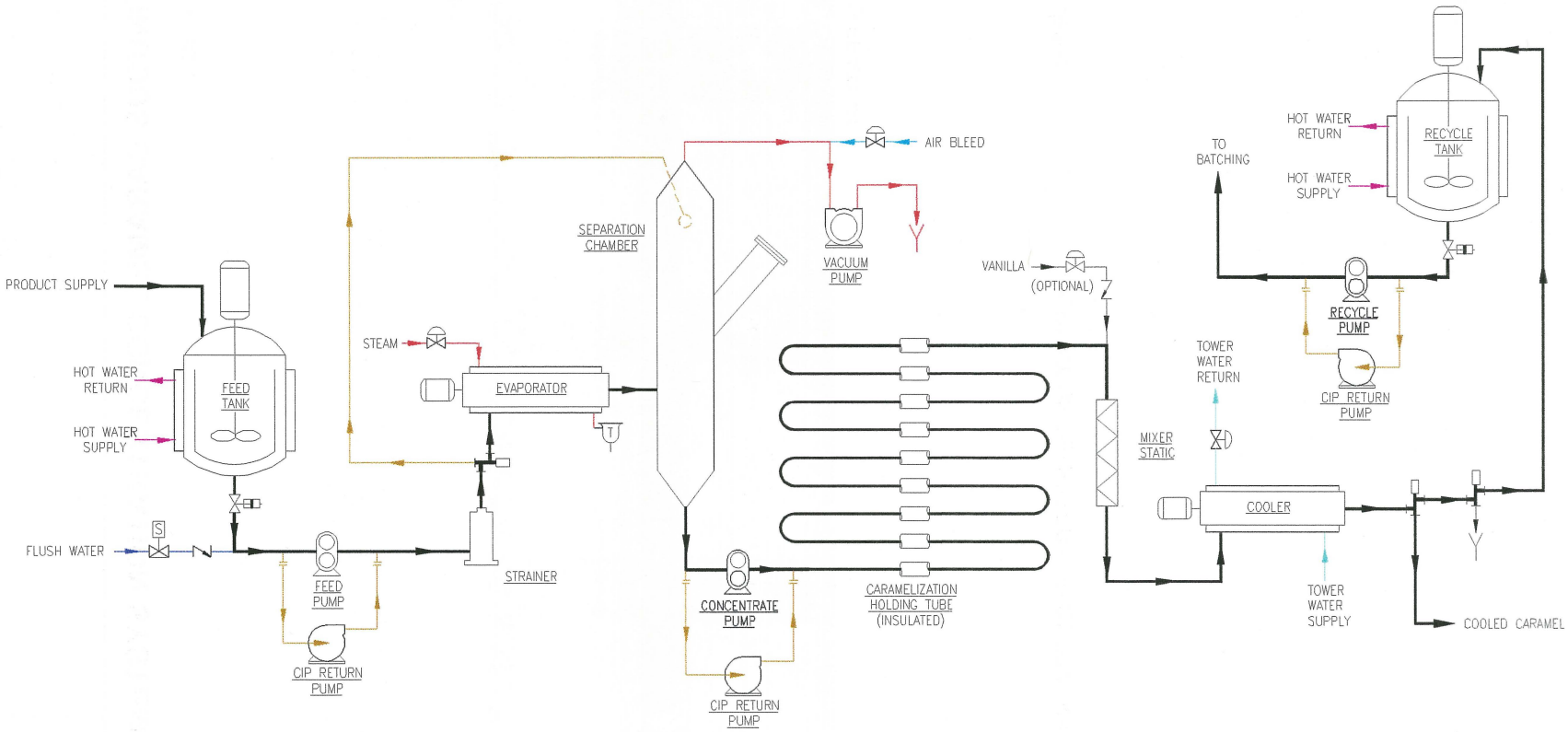
PROCESS PARAMETERS:

- Capacities: up to 3000 lbs/hr
- Process duty: 140°F to 260°F to 150°F
- Concentration: up to 94% solids

INFORMATION REQUIRED FOR QUOTATION:

- Products _____
- Product flow rate _____
- Product viscosity _____
- Product specific gravity _____
- Product solids concentrations _____
- 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 _____

Caramel



REV	BY	DESCRIPTION	DATE

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FOR TYPICAL CARAMEL CONCENTRATION SYSTEM

DRAWN BY		
JMF		
ENGR	CHECK BY	DATE
CBR		11/12/98
SERIAL NO.		SIZE
		B

DRAWING NO. PB-9957

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