

# Dye Injection for Online Color Control

## WHY SHOULD YOU BE INTERESTED?

- You want to eliminate color fluctuations and incoming pulp stock colorability problems (especially with secondary fiber stock).
- You need to improve color matches and reduce shade variations within your production runs.
- You want to both reduce production time, and the costs incurred during grade changes.

## BRAN+LUEBBE SOLUTION:

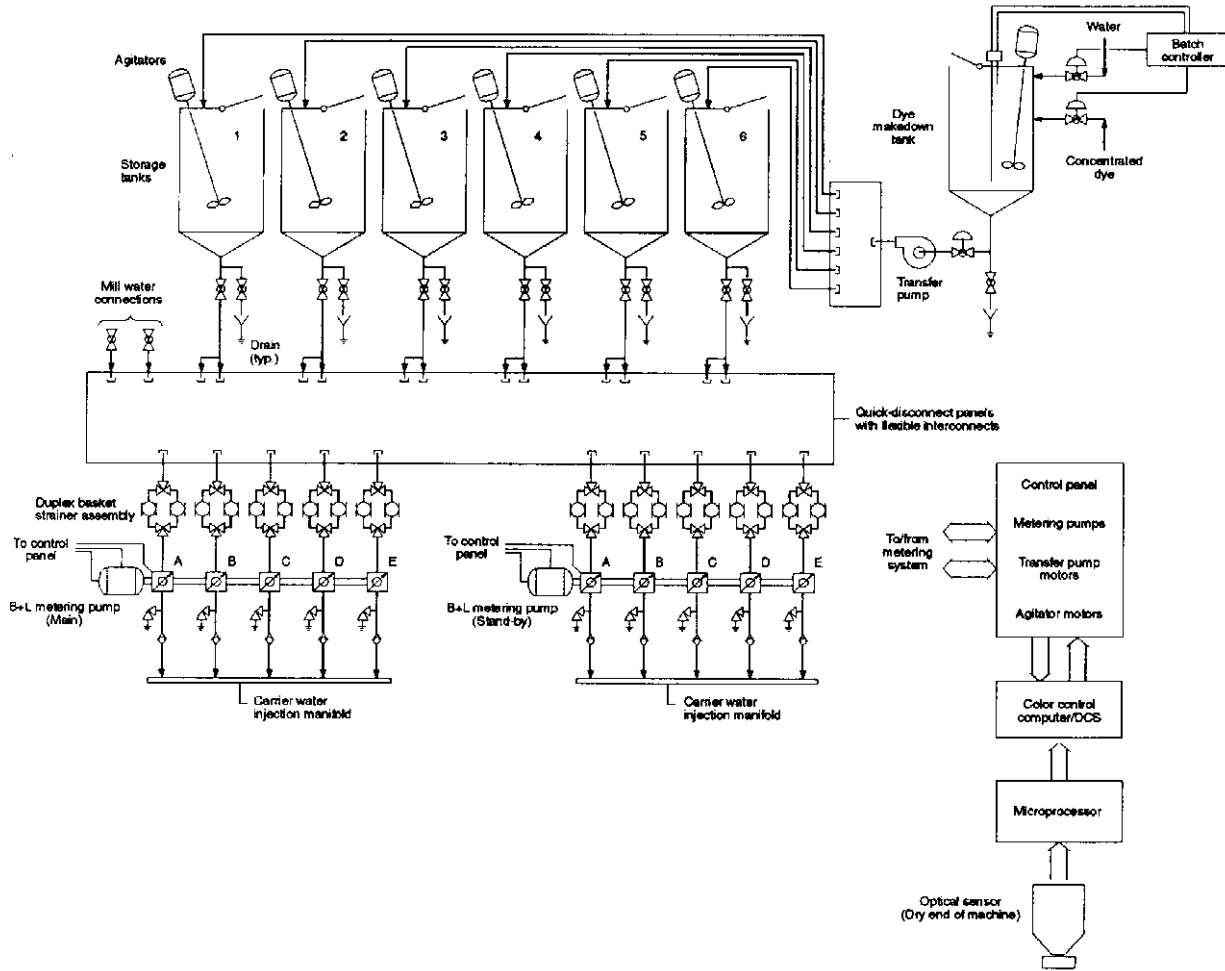
A Bran+Luebbe metering system continuously adds the proper amount of dye to incoming paper stock. On-line color sensors and computers determine paper color and convert this information into numerical values. A color computer compares the numerical values to target values, calculates any differences, then sends appropriate signals to the stroke length controllers to adjust dye flow rate(s). Refer to the diagram on the back of this page.

## BRAN+LUEBBE SYSTEM BENEFITS

- Reduced color and grade change time lowers production costs and increases production levels.
- Off-color paper production is reduced, lowering costs and decreasing lost production time.
- Dye use is minimized.
- Consistent production improves end-product quality.
- Operator safety is improved.

Contact your local Bran+Luebbe representative for more information.

TYPICAL DYE INJECTION SYSTEM



# System Application

# Inline Wax Emulsion Manufacturing

## APPLICATIONS

- Paper coatings manufacturing.
- Chemical suppliers.

## BRAN+LUEBBE METERING SYSTEM BENEFITS

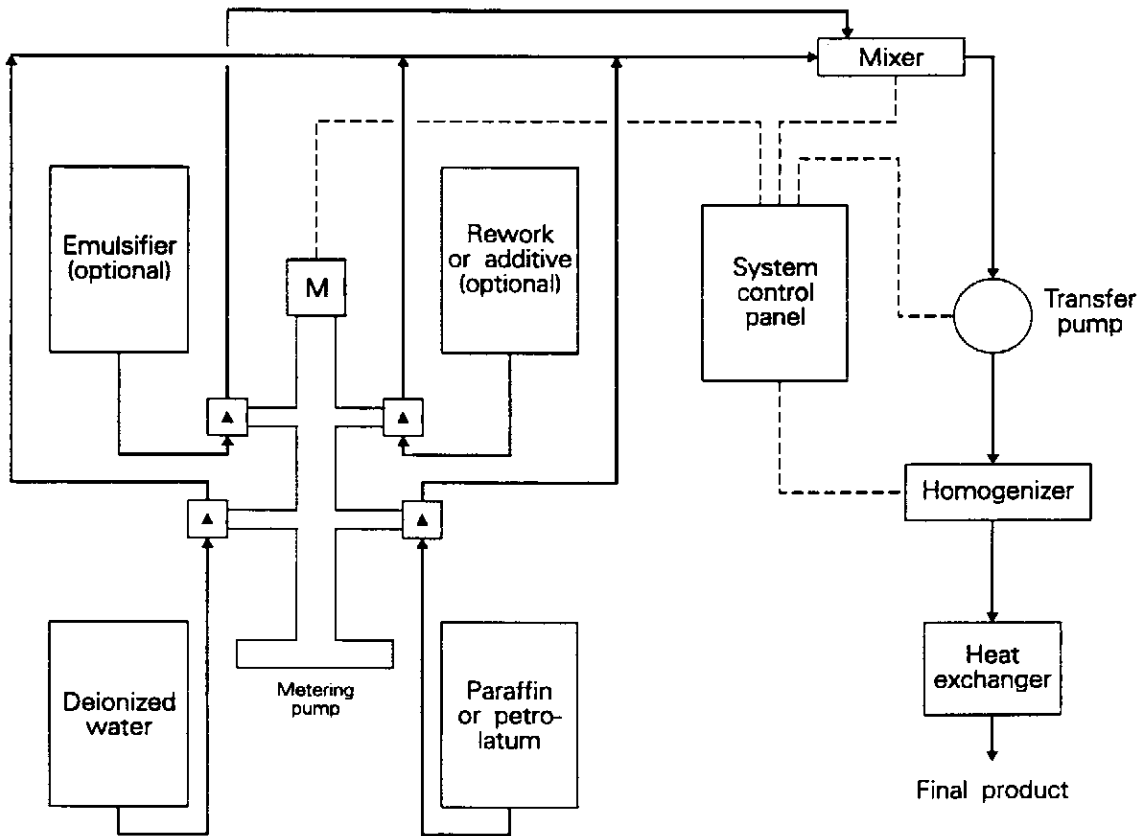
- Accurate emulsion production reduces operating costs and increases product consistency.
- Increases production capabilities.
- Operator interface reduced.
- Useable floor space increased because batch tanks are not required.

## SYSTEM OPERATION

A Bran+Luebbe metering system (refer to the flow diagram on the next page) proportions individual components. Once the proper ratio is established, and the temperature has been raised, the liquid is sent through a high-shear inline mixer to produce a coarse (3 to 10 microns) emulsion. A homogenizer further decreases particle size to as low as 0.1 micron. Once its temperature is stabilized, the emulsion is sent directly to storage or transportation containers.

To learn more about our wax emulsion systems, pricing, and to obtain a process survey, contact Bran+Luebbe.

**EMULSION SYSTEM SCHEMATIC**



# System Application

# Bleaching/Paper Making Systems

## WHY SHOULD YOU BE INTERESTED?

- Accurate metering of raw materials yields chemical savings.
- Equipment automation allows for unattended operation, decreasing manpower costs.
- Metering equipment allows for quick proportion changes.

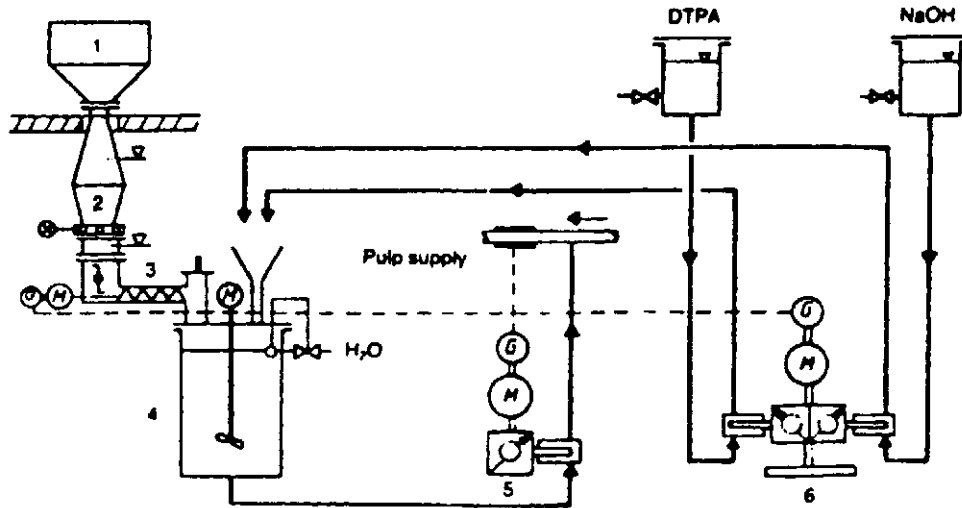
## BRAN+LUEBBE SOLUTION:

- Continuous chemical addition utilizing a precision metering pump for component proportioning.
- Automated equipment adjusts chemical flows based on changes in process variables (pulp flow, level, pH, etc.).
- Centralized chemical storage and distribution.

## BRAN+LUEBBE SYSTEM BENEFITS

- Consistent formulation ensures uniform product quality.
- Compact installation saves floor space.
- Chemicals are added in a closed system, enhancing operator safety.
- Single source responsibility.

# System Application

**TYPICAL MECHANICAL WOOD PULP BLEACHING**


- |                           |                                 |
|---------------------------|---------------------------------|
| 1) Hydrosulfite Container | 4) Dilution Tank                |
| 2) Sensing Element        | 5) Hydrosulfite Metering Pump   |
| 3) Screw Feeder           | 6) Caustic & DTPA Metering Pump |

# System Application

# De-Inking/Paper Recycling

## WHY SHOULD YOU BE INTERESTED?

- You can eliminate chemical handling problems and increase operator safety.
- You can reduce chemical usage.
- Your current equipment is inconsistent and/or requires too much adjustment or maintenance.

## BRAN+LUEBBE SOLUTION:

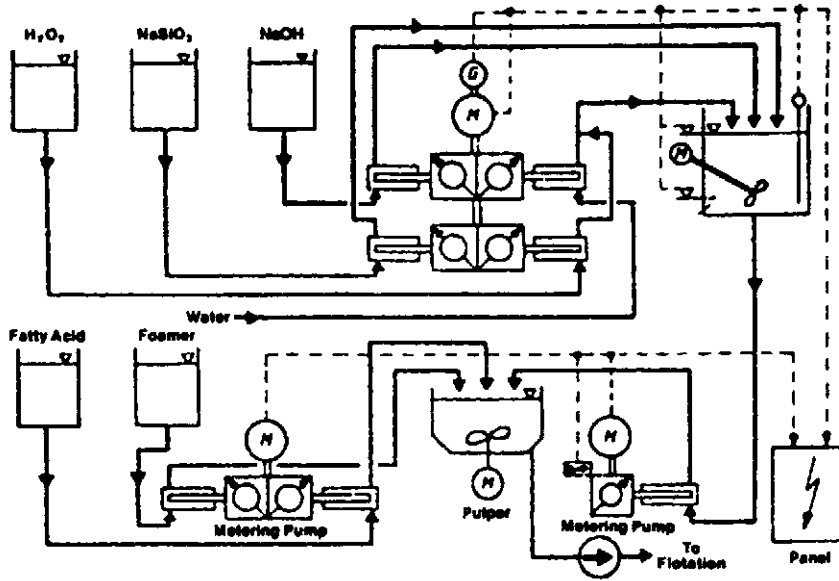
- Continuous or batch addition of chemicals utilizing a precision metering pump.
- Centralized chemical storage and distribution for addition at the pulper or floatation cells.
- Sensible automation allows for unattended operation.

## BRAN+LUEBBE SYSTEM BENEFITS

- Precision metering decreases chemical use.
- Consistent formulation ensures uniform product quality.
- Continuous chemical addition eliminates flushing sodium silicate lines.
- Durable equipment minimizes maintenance requirements.

Contact your local Bran+Luebbe representative for more information.

**CHEMICAL PREPARATION FOR DE-INKING**



# System Application

# Paper Coatings Preparation: Coatings Kitchens

## WHY SHOULD YOU BE INTERESTED?

- You have problems with coating formulation.
- You would like to lower production costs by eliminating waste and/or rework caused by inaccurate batching.
- You have poor coating quality because of inadequate mixer design or changing formulation demands.

## BRAN+LUEBBE SOLUTION:

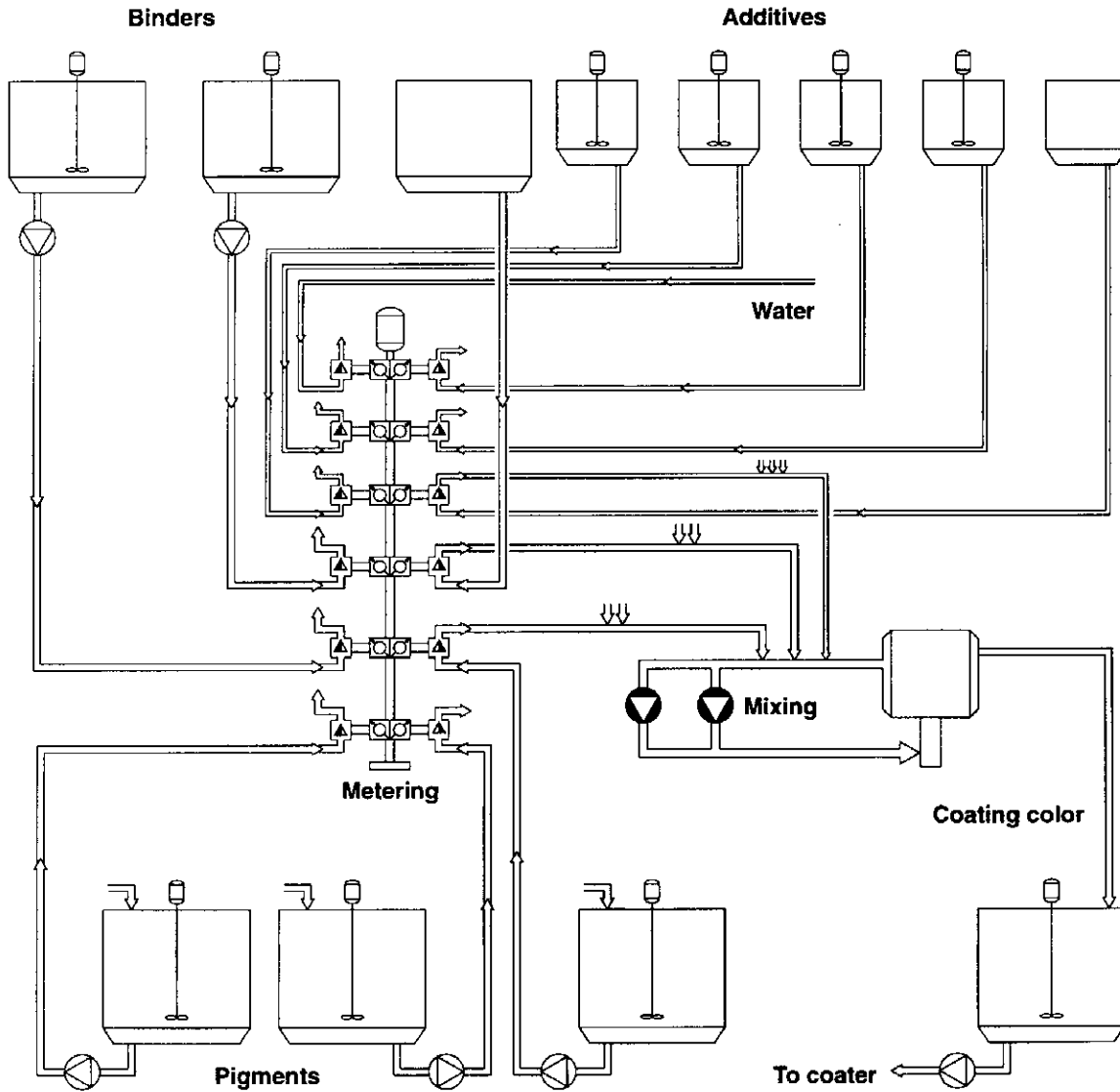
- Continuous preparation of coatings based upon current demand of the paper machine or off-line coater.
- Individual coating components may be controlled closed loop to optimize performance.
- Technology is adaptable to batch coating processing.

## BRAN+LUEBBE SYSTEM BENEFITS

- Increases coating quality.
- Provides consistent coating preparation.
- System is adaptable to process demands.
- Increases efficiency by maximizing chemical usage.

Additional literature and references are available.

**PROCESS SCHEMATIC**



# System Application

# Tissue Additive Systems

## WHY SHOULD YOU BE INTERESTED?

- You want to gain maximum control over your chemical additives (including lotions, fungicides, creping aides, release agents, and wet strength resins).
- You currently add extra chemical to ensure there is always enough for the process.
- You have poor distribution of chemicals across the tissue surface.

## BRAN+LUEBBE SOLUTION:

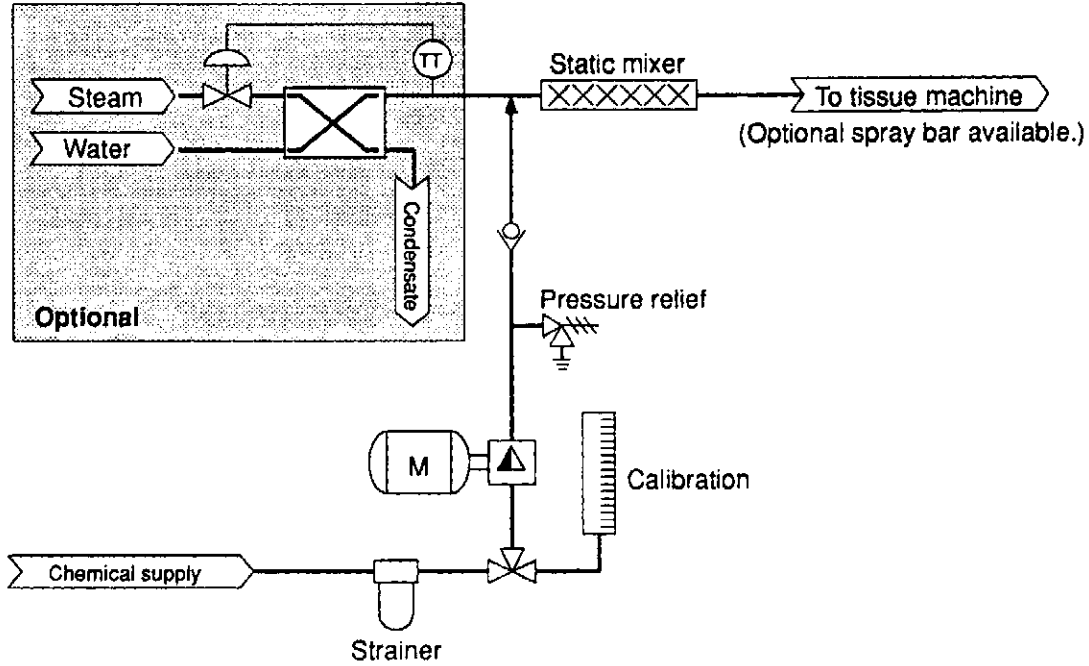
- Utilize Bran+Luebbe precision metering pumps for accurate metering of the small chemical flows.
- Inject the chemical into a heated carrier stream, if required, to assure even distribution and responsive delivery.
- Easy-access spray bar available.

## BRAN+LUEBBE SYSTEM BENEFITS

- Maximum effectiveness from the minimum amount of chemical added.
- Saves money by decreasing chemical usage.
- Compact package units require minimum floor space.
- Self-contained unit for chemical metering and water heating.

Additional literature and references are available.

**TYPICAL TISSUE ADDITIVE SYSTEM SCHEMATIC**



# System Application