Correct dyestuff at the right quantity-
Perfectly dissolved and transferred **on time with optimal rinsing**
AREL’s dissolving system manages the dissolving parameters for perfect on time dissolving of the dye stuffs and delivery to the dyeing machines with optimal rinsing.

The system is integrated with the dye-house control center and with the dye machine controllers.

**Dissolving Recipe**

The recipe tables for each dyestuff contain the dissolving ratio (ltr of water/ kg of dye), the dissolving time (sec/kg) and the dissolving temperature. Based on these tables and on simple rules, the dissolving parameters including the amount of water, the dissolving temperature, the mixing times and the rinsing procedures are automatically set for the most suitable and economical values.

**Safe On Time Synchronization**

Based upon real dye house status, the dissolving tanks’ availability and the required dissolving time, the scheduling priority system advises the operator of the guided weighing time and the optimal time for each dissolving procedure. The transferring of the solution to the dyeing machine is fully synchronized with the dye cycle.

Optional PICK TO LIGHT and RFID identification systems can be added for even more error-proof systemization.

**Optimal Rinsing**

AREL’s unique Optimization By Rules Software adapts the rinsing parameters of the current batch to fit the piping and tank contamination of the previous batch:

So, in cases where the current batch is a small batch with a pale shade and the previous batch was large batch with a dark shade, an extra rinsing is carried out OR less rinsing is suggested in cases where a dark shade is dissolved after a pale shade.

The result is a substantial saving in rinsing time and rinsing water, together with the guarantee of a clean system.
Dissolving & Delivery Procedure

Based upon recipe parameters and the dye machine status, AREL’s sophisticated software determines the most suitable tank and time for each dissolving.

The tank bottom is filled with some water and the operator is advised by the system to add the pre-weighed dyestuff. After adding the dyestuff, the tank is filled with more water from the bottom at a controlled temperature, together with flow recirculation. After the tank is filled with the requisite amount of water and the mixing time has elapsed, AREL’s system checks if pre-rinsing is required: if yes, an OPTIMIZED pre-rinsing procedure is initiated, and the line to the machine is cleaned by water and air.

After the pre-rinsing, the delivery of the dyestuff solution to the machine takes place by the same pump which performed the re-circulation. At the end of the delivery procedure, an after rinsing process is carried out to ensure that all the dyestuff residues are transferred to the machine. Extra rinse-by water and steam-cleans the tank and the line for the next delivery.

AREL’s Dissolving Stations Comprise:

- Up to three dissolving covered tanks
- Mixing and delivery pump(s) for each tank
- Temperature regulation device
- Powerful mixer(s)
- Clean by air and rinsing devices
- Filling from bottom piping with flow meter and optional blending system control
- Sanitary transmitters and safety devices
- PC based controller with control panel and mimic display with manual by-pass
Dissolving Tank

Careful design of the shape of the dissolving tank, together with the mixing concept, combined with mixing by the delivery pump and/or by a powerful mixer, enables the tank to efficiently dissolve very small amounts of dyestuffs with minimum amounts of water, as well as dissolving with the full volume of the tank.

Utmost attention to details ensures:
- perfect dissolving,
- perfect rinsing

with minimum water quantities

at minimal time

- Powerful mixer and mixing by recirculation
- Valves conform to 3A SANITARY standards to satisfy the requirements of the pharmaceutical industry

The cleaning power of rotary surge cleaners for most efficient rinsing and for water/time saving

For perfect dissolving, flush bottom tank valve eliminates dead space between the tank bottom and the exit valve

The delivery and recirculation pump offers superb sanitary qualities, high efficiency, reliability, and good clean-in-place and service-in-place

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