



JST's Linear Transfer Stations are designed for semiautomated or fully automated, multitasking process stations using more than three or four baths. The linear transfer is designed to be fully automatic and can pickup and drop off product at the various baths as required and allows for the programming of multiple simultaneous process functions.

The horizontal motion mechanism houses a "zero backlash" drive that is driven directly from the motor through an attached gear. The vertical motion is accomplished using a ballscrew that employs a ball nut riding on recirculating ball bearings. This system is efficient for speed, loading and cycling. The recirculating ball bearings eliminate any torque loading on the linkage while providing a smooth motion when moving the product up or down. A brake is provided to hold the product in the vertical axis while loading or unloading.

An operator places the product onto the transfer arm or the load station. The product is then processed through the preprogrammed recipe sequences. The program can allow for the product to be dropped off for manual retrieval or temporarily held in a bath while the transfer arm performs another function.

Distributed Control and Network Communications

JST uses distributed control technology to control the processes within its Robotic Transfers. Each station is designed with an Allen Bradley Programmable Logic Controller (PLC) as the central process controller. Each station has a touch screen display to allow local display and control. Process recipe modes use passwords to protect setup and edit modes. Standard RS-232-C and optional distributed network communications are available for the PLC. The optional distributed control network allows for multiple PLCs, stand along processors, barcode readers or even a Windows NT based graphical computer interface for Supervisory Control and Data Acquisition (SCADA) that is GEM compliant.

Station Diagnostics

JST's automated and semi automated stations have automatic diagnostics running during normal recipe operations. If a normal process variable is operating at the edge of an acceptable operating range, a warning will be issued on the local display panel and will be timed, dated and then logged to a log file. Manual diagnostics tools are also available for trouble shooting and assisting maintenance personnel. These screens include position and status information on programmed variables and actual operation points.

Wet Processing and Precision Cleaning Technology