FULL-FEATURED, FLEXIBLE MATERIAL-HANDLING CONTROL

The NEW FLX material-handling system control from Milacron combines an easy-to-use full-color, touch screen with expandability features that are typically only available on a high-end, expensive central control. Easy-to-view, intuitive icons allow you to quickly navigate through set-up screens for the fastest system configuration possible.

Flexibility for your loading system was the inspiration behind the engineering of the new FLX loading system control designed for all plastics processors. You get just what you need. You can start small and grow the system to 32 loaders and 10 pumps.

MODULAR I/O FOR EXPANDABLE SYSTEM CONTROL

The FLX is packed with standard high-end logic and brand new features for the plastics industry!

The FLX is perfect for controlling Milacron's ResinWorks or multi-hopper drying systems (sources) with multiple manifolds, conveying to multiple machine loaders (destinations).

Intuitive operator interface screens allow you to change or modify your system in your fast-paced environment without the requirement of intensive operator training. Color-coded device icons located throughout both overview and detail screens indicate the current status of loaders and vacuum pumps at a glance.

Additional features such as: first-in/first-out priority loading (FIFO), multi-source/multi-destination conveying, reverse convey for regrind recovery, ratio loading, fill sensor detection and multi-level password protection are provided as standard.

- **A system that easily grows with you**
  The FLX standard control configuration simultaneously operates up to eight loading devices with two vacuum pumps plus one backup pump. You can expand to 32 loading devices and ten vacuum pumps, plus one backup by adding easy-to-install I/O modules that are instantly recognized by the system eliminating any complicated set-up procedures.

- **FIFO, plus priority calls**
  The FLX control comes standard with First-In/First-Out (FIFO) demand loading. Unlike other loading controls, the FLX does not activate a loading cycle based upon traditional demand loops instead, it is based on the order of demand for material. Users can customize how often and how long the pump stops during loading sequences.

- **Remote HMI units available**
  Keep your system running smoothly and quickly with individual screens located throughout your plant you will never be out of touch with your material-handling system. Remote screens allow you full control of the system.

- **Super simplified**
  In spite of all of the high-end advancements to this control, the technology has been engineered to be more simple to use than ever before. Set-up wizards and help screens walk you right through the process. Day-to-day use, changes and modifications to your system are all equally simplified.

- **Remote access via web pages**
  Ethernet connection allows you to connect and view the system from any PC, anytime, anywhere.
**SPECIFICATIONS**

**Model FLX**

**Standard software features**

Multi-Source/Multi-Destination - permits pumps to pull from the same material line or manifold manifold without interference. Great for central drying systems like ResinWorks, or retrofitting a system that has multiple purge valves operating simultaneously.

First In/First Out (FIFO) and Priority Loading - Built-in logic gives your loading system the most efficient mode of operation. Priority loading function gives the operator total control of the resin loading process. With our standard software, you are able to set any loader as a priority loader regardless of the pump it is piped to. You can have two or three priority loaders on each system pump.

Regrind Recovery Programming - Unloading granulators is made simple. Single or multiple granulators can now be unloaded to a common surge bin or gaylord fill station.

Setup Wizard, I/O Test Mode, Help Screens - This unique feature guides you through wiring connections to your devices (loaders, purge valves, pumps, etc.). It gives the operator a live wiring diagram that matches the shop floor. Input/Output test mode helps you troubleshoot by activating outputs remotely from the touch screen operator interface to confirm the system wiring connections. Dedicated help screens assist and train new operators.

Start-up Assistant - Puts you in control of a machine startup. This allows your system to automatically activate regrind unloading from a granulator for those initial setups without multiple trips to the main controller for time adjustments.

Alarm History Screen - Allows you to quickly diagnose a problem. Displays both passive and active alarms.

**Hardware configuration options**

Ratio Loading - Add ratio valves to a system quickly and easily. Operates single and/or dual solenoid valves. Loading of regrind can occur before loading of virgin material.

Mixed Voltage Capabilities - Can be set up to handle, 24 VDC, 120 VAC, 24 VAC outputs for new or existing loaders. Integrating existing loaders to your new control with different voltages is not a problem.

Purge Valves and Pocket Valves - Standard logic onboard for those special machines that require purging of the material lines. Have one or all capable of purging or multi-source loading.

Ratio Valve and Positive Discharge Valve - Combinations of features won’t limit you on this controller. You choose exactly how many loaders will have one or both features.

Fill Sensors - The fill sensor option when added to a loader gives that loader self-setup capabilities with a time-out feature as a backup. Add it to all your loaders and the system will run efficiently with a minimum of time adjustments.

Remote HMI Touch Screen, Ethernet Connectivity, Remote Alarm and Web Visualization - available for customizing your system to meet your plant needs. For large size facilities, having a remote HMI touch screen in a key location can be important to plant operations and can save you valuable time.

Modular I/O Bundles - expand the control without a complicated configuration process.

Preventative Maintenance - Each ratio or purge valve, pump, dust collector, loader, etc. are considered devices in the new FLX controller. You can custom set the number of cycles on each device as a reminder to complete preventative maintenance. This feature is particularly useful for those special machines that run glass or mineral-filled resins and need more frequent attention. You can name the device with a unique identity and wait for the software to alert you to perform preventative maintenance. Pump status diagnostics screens include duty cycle information, i.e. percentage of pump running versus pump enabled time.

Multi-level Password Protection - Customize passwords for multiple user levels and operator maintenance tasks. There are seven levels of programmable password protection. Security levels can also be customized.

Network Connection - With ethernet options, network addresses can easily be changed and customized.

System Restoration - The built-in ftp server allows you to save and restore controller program and system settings.

### FLX

**Performance characteristics**

- Maximum number of vacuum receivers: 32
- Maximum number of vacuum pumps: 10 (plus 1 back-up)
- Programmable logic controller: Weg 750-841
- Operator interface (standard): Redline (5.6 inch)
- Output voltage to receivers/pumps: 24 VDC (24 VDC or 120 VAC optional)
- Input voltage to receivers: 24 VDC
- Input voltage to pumps: 120 VAC/60 Hz

**Dimensions (in mm)**

- A - Height: 24 (609)
- B - Width: 24 (609)
- C - Depth: 8 (203)

**Weight (lb) [kg]**

- Installed: 60 (27)
- Shipping: 72 (32)

**Application notes:**

10 conductor, shielded cable should be used to connect all receivers to the FLX control. Receivers can be equipped with quick-connect cables that connect the FLX with each loader. User-supplied junction boxes must be provided for each receiver to join the receiver cable and the system wiring. If junction boxes are used in your installation 15 conductor, shielded drop cables are available.

**Calculating system wiring length:**

Total the distances from each receiver to the FLX. Be sure to account for reasonable slack at each receiver for connections, cable routing, etc.