Experion® Batch combines compact Experion distributed control, batch automation, and advanced visualization technology for a solution optimized for pharmaceutical, specialty chemical, food & beverage, and similar applications. Visualize your batch production like never before.

Experion Batch leverages patent-pending workflow-focused visualization, flexibility and the right fit along with Experion proven sequences to help you control your batch production. Whether you are running the plant, building the sequences, or worrying about the bottom line, Experion® Batch provides value to your operations.

**Workflow-focused Visualization**

Patent pending visualization technology automatically constructs look-ahead views, providing operators with insights to upcoming events or potential delays and the flexibility to conduct more tasks concurrently, increasing productivity. This technology closes the operator experience gap at a time when the industrial skills gap continues to increase. It does this by presenting the current and future state of operations in a natural intuitive manner, leveraging visual analytics.

The human-machine interface (HMI) provides clear, intuitive displays to help operators better anticipate, and respond to, normal and abnormal situations. Visualization technology allows users to examine what happened historically, provides look-ahead views, and predicts upcoming operator interactions. Guided troubleshooting helps them return to production with minimum downtime. Overall, visual analytics provide operations with deeper insight into upcoming events or potential delays; reduces stress; and enables them to take on parallel tasks with confidence – knowing that there is sufficient time before the next action is required.

**FEATURES & BENEFITS**

- Small, flexible form factor
- Sequences and recipes run in the controller
- Optimize availability, productivity and reliability

- Increased throughput by up to 3% by reducing batch execution times and latency between applications levels
- Sequence execution cycle time is configurable as fast as 50 milliseconds.

- Improve operator usability through display integration and interactive instructions
- Conform to ISA-88 recommended practices

- Reduce recipe maintenance through equipment independent master recipes
- Use for any single or multi-unit process to execute complete procedures without the need for a server level batch application

- Extensive support contract offerings
- Reduce costs and reduce system complexity
This visual intelligence can also be accessed by users working in the field on their mobile device if desired. This provides a high-level view of production status and notifications, keeping personnel connected wherever they are.

**Compact Form Factor**

**ControlEdge™ Unit Operations Controller:** Honeywell brings its full batch automation power to a small, flexible form factor. The Unit Operations Controller (UOC) and the Virtual Unit Operations Controller (vUOC) put the Experion control environments in a form factor that fits in even the smallest specialty chemical, pharmaceutical, or food and beverage plant location.

**Optimized for Regulated Industries:** If your manufacturing is in a regulated industry where validation is required, Experion Batch helps reduce validation efforts. Quality Version Control System (QVCS) is a lifecycle management solution for configuration and graphics that tracks procedural changes. This allows engineers to follow a predefined change control procedure that ensures regulatory compliance. Experion Batch can help you meet the standards of 21 CFR Part 11 and other regulatory requirements.

**Flexible Control Strategies**

**Unit-based Control:** From the simplest one-step sequences to the most complex class-based recipes, all can be optimally executed in the UOC. The user is not forced to segregate sequence control from continuous control as the control environment can run each type of control simultaneously. You can choose to distribute control strategies without regard to the content in the controllers. The architecture is optimized to enable dedicated unit controllers.

Virtual to physical...no problem. Just shut down the vUOC, power up the physical UOC, and download your configuration. There is no need for complicated exports and imports or reconfigurations.

**Reference IO:** Using Honeywell’s I/O reference concept, class-bound control modules can be bulk-built using standard engineering tools and then tested in the Virtual UOC (vUOC). Since the vUOC and the UOC share an identical execution environment, simulation is identical on both the virtual and physical controller. This gives you the assurance that what is running on the hardware version of the UOC will be the same as your simulation.

Unit-aligned controllers allow engineering and maintenance personnel to take a unit controller out of service without affecting the other unit operations. Distributed batch designs remove the requirement for a Windows-based batch server, eliminating the need for upkeep and patching associated with traditional systems. Meanwhile, redundant modular controllers – designed for batch operations and sequencing – deliver the required level of power and capacity users need, in a cost-effective manner.

Rely on Honeywell’s batch-optimized architecture to expand from a single controller to distributed controllers with plenty of network, controller memory and peer to peer capacity. While recipes can easily operate within a single UOC, sometimes it is desirable to distribute recipe elements across multiple controllers. With other control systems this can pose problems to how the sequence is written, this is seamlessly handled by the Experion Batch.
Rely on Honeywell’s batch-optimized architecture to expand from a single controller to distributed controllers.

Engineering and Configuration

Class-based Configuration: You can take advantage of class-based principles to build a sequence that can be deployed on multiple units. Do you have multiple trains making the same product? There’s no problem. Just build the sequence once, and then deploy multiple instances on equipment classes for each train. Class-based control optimizes controller resources by dynamically creating procedural elements and removing them when they are no longer required.

HMI Solution Pack: In addition to the automatically generated batch overview displays, our HMI Solution Pack can quickly build detailed graphics that are optimized for easy operator interaction. By adding standard shapes to any graphic, the operator can visualize the current recipe state, control the sequence, and plan for upcoming events. Experion Batch maximizes operational awareness. When you are always aware of the control recipe progress and situation, planning manual activities and maximizing equipment utilization is easy.

Control Builder: There is no need for different tools to generate sequence control configuration versus continuous control. Use Honeywell’s Control Builder Application for control-related configuration.

Use visual programming to build the sequences, then let the operations use the same visualizations to run the plant. Using standard Sequential Function Chart (SFC) shapes to draw the sequence, it is simple to see and understand the sequence logic. Then, using standard visual tools, that same SFC diagram can be used to run the sequences from the standard operator station.

Follow ISA-88 step-transition-step logic to build your sequences. With visual programming blocks for steps, transitions, and parallel path synchronization blocks, it is a simple matter to conform to ISA-88 recommended practices.

Experion Batch supports the full ISA-88 equipment and procedural hierarchy.

Use Honeywell’s standard libraries or create your own libraries of templates to ease the development process. Do you have multiple production paths or want to use corporate standards? Honeywell’s Experion Batch allows for the development of reusable modules and libraries to allow you to build it once and use it many times.

Messaging: Interact with operators by configuring a single output for messages and instructions. While other systems require special programming and custom user interfaces to allow the sequences to communicate to the operator, Experion Batch reduces the effort to the configuration of a single action. Whether it’s an informational message or actionable instruction, you use the same easy configuration. Once configured, the messaging is done; no custom graphic work is required.

The HMI system is optimized for interaction between the operator and the batch. Dedicated batch messaging areas ensure that messages are always seen. The days of missing a message or prompt due to being on a different display are history.

Electronic Signatures: Single and double electronic signatures of message and instructions easily flow vertically into ERP systems to support Electronic Batch Record storage.
Redundancy: Whether you have redundant UOCs, redundant C300s, simplex ACE, or simplex vUOC, it makes no difference to the application configuration. Put the project in without redundancy and then add it later, on process. Make the sequences fully redundant without additional programming or licensing. We keep the sequence running even through hardware faults. The redundancy is transparent. No additional work is done to the sequence to take advantage of redundancy. Batch redundancy is included with basic controller redundancy.

Aliases: Configure the sequences using alias names for easy readability and maintenance. Applications can be designed to be easy to read using an alias throughout the configuration.Aliases allow for generic sequences to be used as templates that are portable across complete sets of equipment classes. Again, build it once and use it often.

All information on the Experion system is available to sequences, and with SCADA, OPC, and OPC UA interfaces the world opens up. Experion is based on the concept that any piece of data can be addressed by a simple parameter name space.

Easily build event handlers to respond to any possible condition. Account for unforeseen issues by configuring applications to respond to abnormal conditions and process the sequence accordingly.

Universal I/O: Universal Channel Technology provides flexible, efficient configuration of I/O and easy management of spares. With it, engineers can configure I/O quickly and remotely, without needing additional hardware modules.

Batch History and Reporting

Procedure Analyst: Honeywell’s Procedure Analyst software provides reporting and analysis for procedural operations and batch automation. It is focused on providing key process operations benefits:

- Comprehensive procedure execution reporting for quality and tracking
- Continuous process improvement through identification of procedure execution issues
- Early identification of quality problems or deviations from golden procedures for consistent execution and operational effectiveness
- Timely comparison and analysis across procedure executions for improved process performance, optimization and adherence to best practices.

Unlike many systems, where it takes days to consolidate various history sources into comprehensive reports or weeks to derive the information to accurately compare procedure executions for deviation analysis, Honeywell’s Procedure Analyst brings together the precise information needed for optimization, analysis and reporting through graphical desktop tools. Procedure Analyst automatically consolidates and correlates information for enhancing operational effectiveness, increasing productivity and improving responsiveness for safer production and quality assurance.
Unit Based Alarming: Alarm Tracker is the next generation of alarm interface, providing a step change improvement from the traditional tabular alarm summary interface. It was developed based on advanced human factors research by the Abnormal Situation Management (ASM) Consortium. Alarm Tracker dramatically reduces the time needed to diagnose and resolve process upsets especially in alarm flood situations. Relationships between alarms in units are immediately apparent through spatial pattern recognition.

Conclusion

Experion Batch provides Honeywell batch automation with a revolutionary user interface in an industry-leading form factor. From the simplest sequence to the most complex recipes, all the power of Honeywell batch is available to monitor and control your batches. This full featured automation system fits in a small form factor that can fit in the tightest areas or in a virtual machine. UOC shows how even the mightiest control is available to the smallest processes. No matter your batch process or vertical industry, Experion Batch provides you value.