Recipe Management

Provides integrated recipe management and recipe resolution capabilities

Overview

As manufacturing relies on increasingly more complex equipment, the management of the recipes that the equipment will use for a certain process becomes increasingly important. It's a basic requirement to ensure that the right recipe with the right parameters is used for the right process. A centralized electronic recipe management system is required for process automation and in some cases, some parameters need to be resolved dynamically on-the-fly to implement feed-forward and feedback mechanisms. Information about use recipes is a traceability requirement and an enabler for performance and efficiency improvement.

The Recipe Management module provides capabilities to manage, download, upload, resolve and instantiate recipes. The Recipe object model is based on the SEMI E139 standard and the module is pre-integrated with Connect IoT for equipment automation.
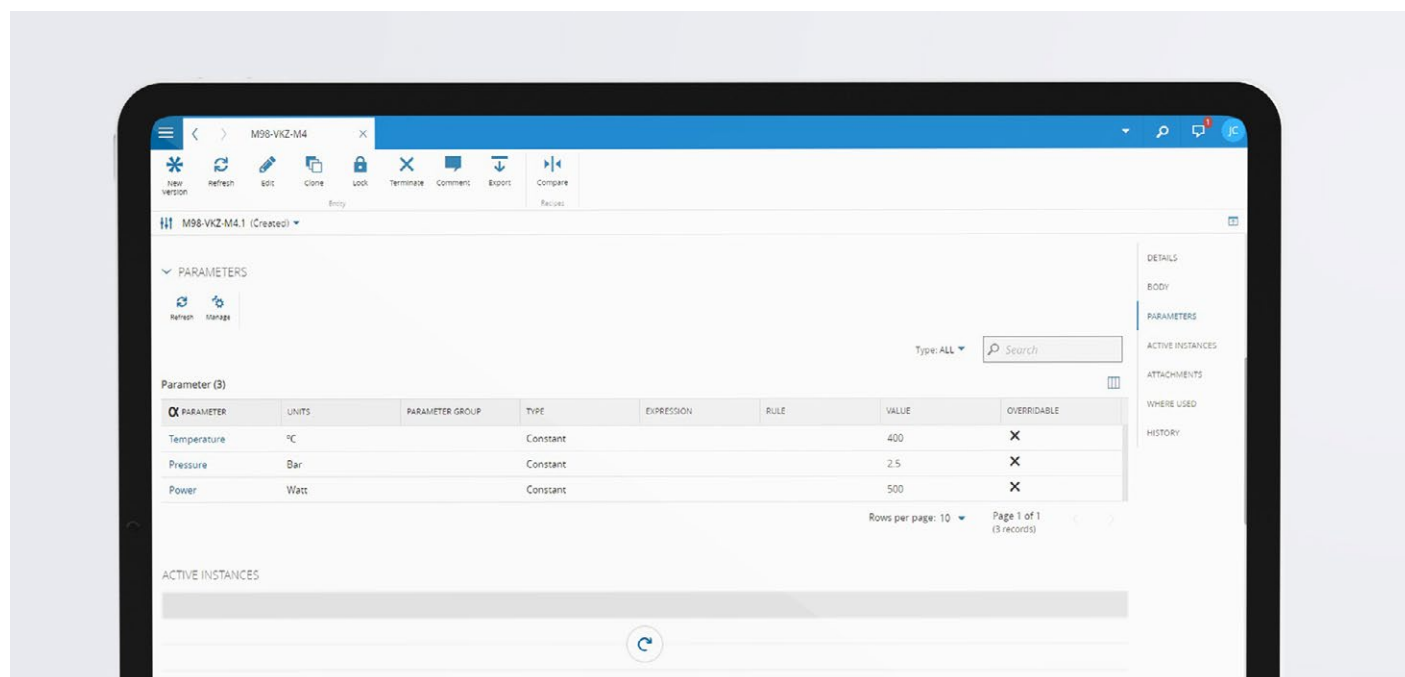

Figure 1 Recipe editor

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Key Features

- Provision of a centralized factory wide recipe catalog and recipe store.
- Provision of a mechanism to edit recipes that includes the recipe body, recipe parameters and sub-recipes.
- Support for recipe version management with access and change control.
- Provision of a recipe change history.
- Support of recipe comparison between any two recipe versions.
- Support for shared recipe components, thus promoting modularity and re-usability of recipes.
- Provision of a central mechanism to maintain and resolve the recipe resolution context.
- Capability to resolve dynamic recipe parameter values using business rules or calling external systems.

- Provision of an infrastructure to select equipment recipes remotely as well as to download and upload recipes from and to equipment.
- Capability to verify the recipe integrity (verification and comparison) in order to avoid misprocessing and to ensure that the golden recipe is used.
- Capability for full recipe and recipe parameter traceability for every job.
- Integration with both Material Tracking, Resource Tracking and Scheduling.
- Integration with Connect IoT for equipment communication and automation.

Benefits

- Reduction of scrap and rework
- Improved learning speed
- Improved equipment utilization

- Increased operational efficiency
- Improved traceability
- Reduction in the opportunity for errors

Figure 2 Recipe compare function

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