Bytes & Blueprints

Real World Insights from AVEVA Engineering Project Execution -For administrators

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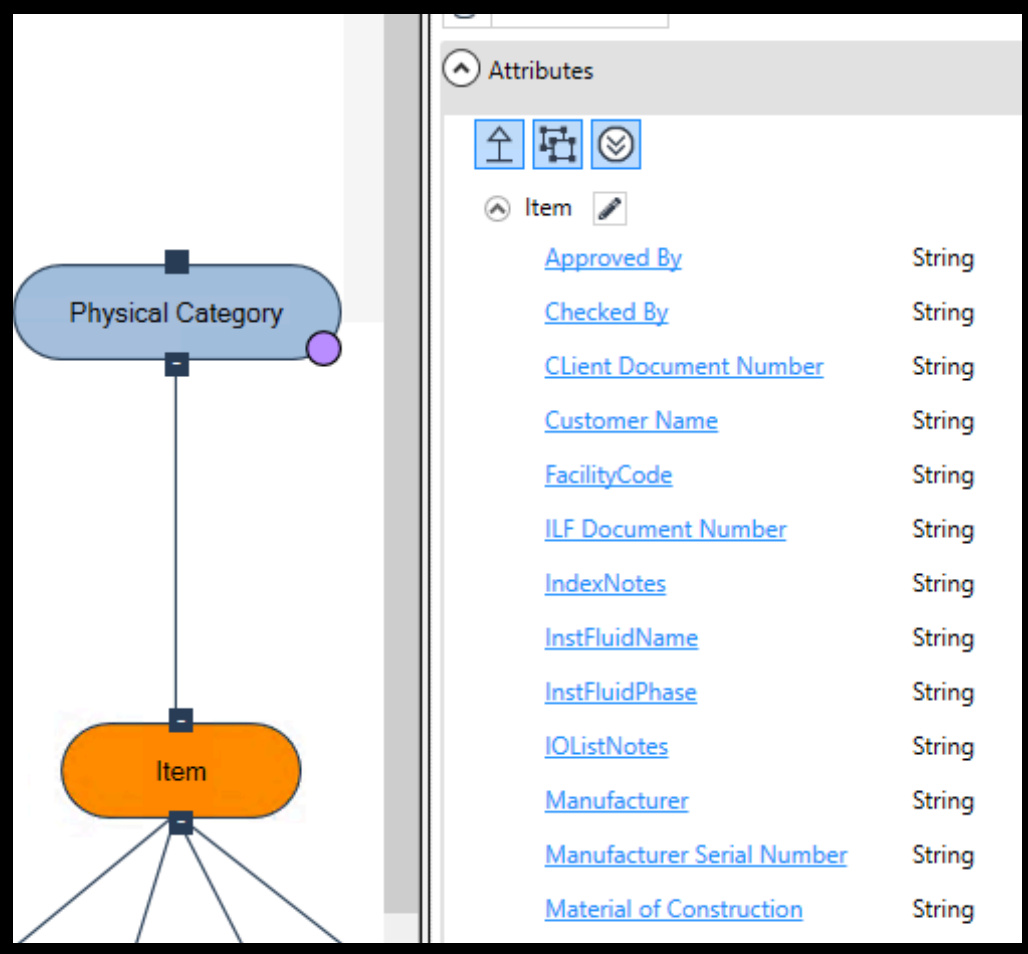
AVEVA Engineering

Define Common Attributes for ENGITEs

01

When configuring the AVEVA Engineering module, it's highly efficient to define common attributes at the **Physical Category** or **Item** level for all ENGITEs.

This approach significantly reduces effort and time when generating grid views and datasheet templates. It also ensures consistency across similar item types, making it easier for engineers to work with standardized data structures and reducing the risk of misalignment in attribute definitions.



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AVEVA Engineering

Use String Datatype for Feed Stage Datasheet Fields

02

During the FEED stage, many datasheet fields such as :EstimatedWeight for Instruments, are often left blank or filled with placeholders like TBA or VTA. If these fields are configured with strict datatypes (e.g., Mass with unit KG), engineers are unable to enter placeholder text.

94	Flushing Ring Material	N/A		A
95	Flushing Ring Connection Size	N/A		A
96	Make / Model Number	N/A		A
97				A
98	PHYSICAL DATA			A
99	Estimated Weight	VTA	kg	A
100	Maximum Thickness	12	mm	A
101				A

To maintain flexibility during early stage engineering, it's better to define such attributes as **string datatype**, allowing engineers to input temporary or estimated values without breaking the data model.

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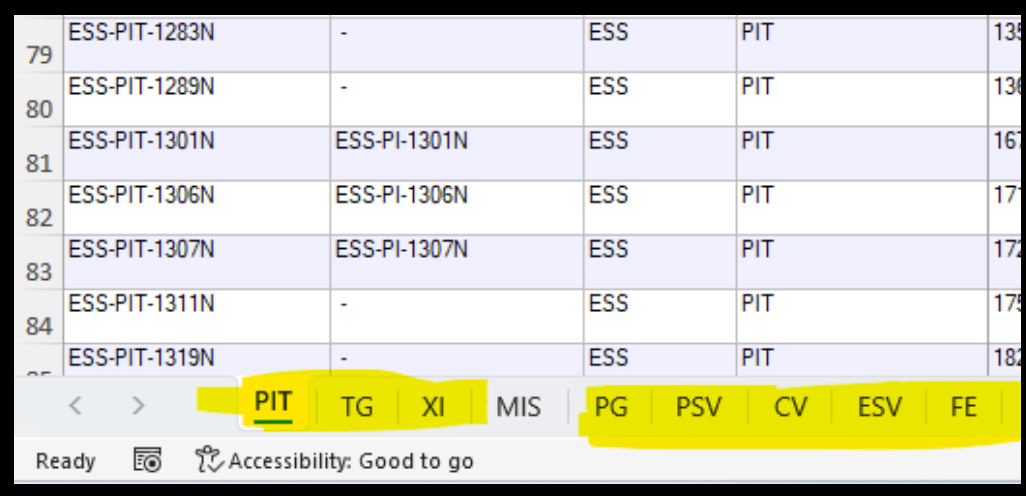
AVEVA Engineering

Create Unique Classes for Datasheet: Required Items

03

For equipment, instruments, and valves that require customized datasheets, it's best to create unique classes for each item type. This allows for tailored datasheet templates and attribute configurations.



For items that don’t need datasheets, assign them a general TYPE like MISC. This classification simplifies import/export operations, especially when working with Excel based lists, as many templates and filters rely on the TYPE of instrument.

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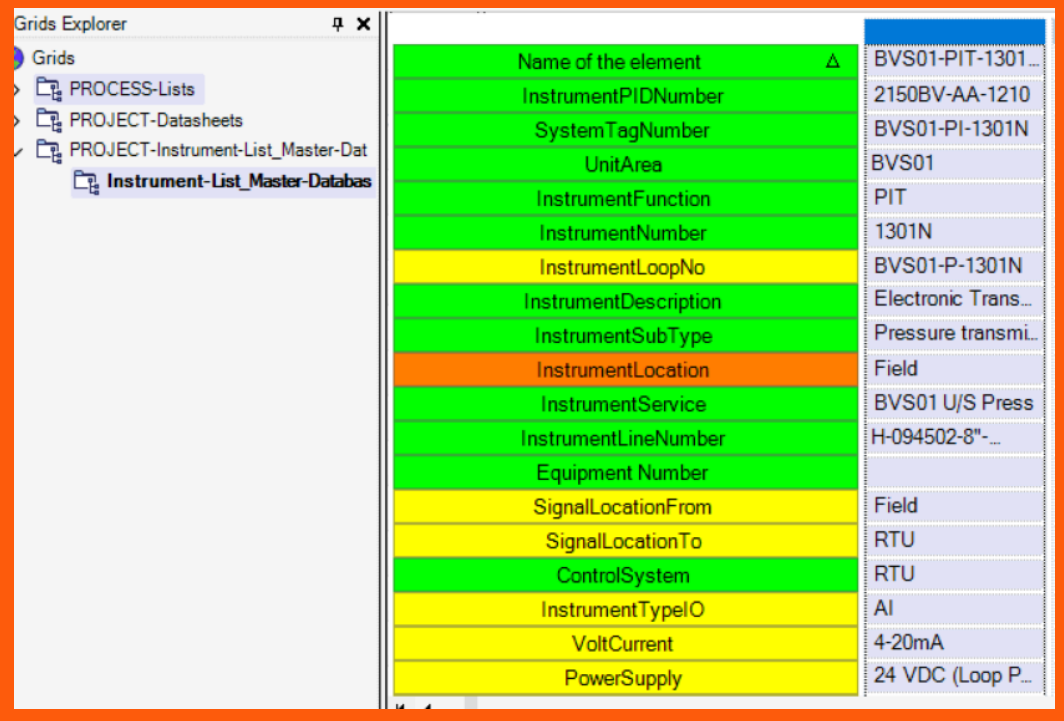
Create a Unified Master Grid for Instrumentation

04

For the Instrumentation discipline, it's effective to build a master list grid that combines both **Instrument Index** and **I/O list** attributes in a single view. This helps engineers maintain data consistency during updates and reduces the need to switch between multiple views.



Later, specific attributes can be selectively pulled into separate templates for the Instrument Index or I/O List, as needed. This approach streamlines data management and **improves collaboration** within the instrumentation team.

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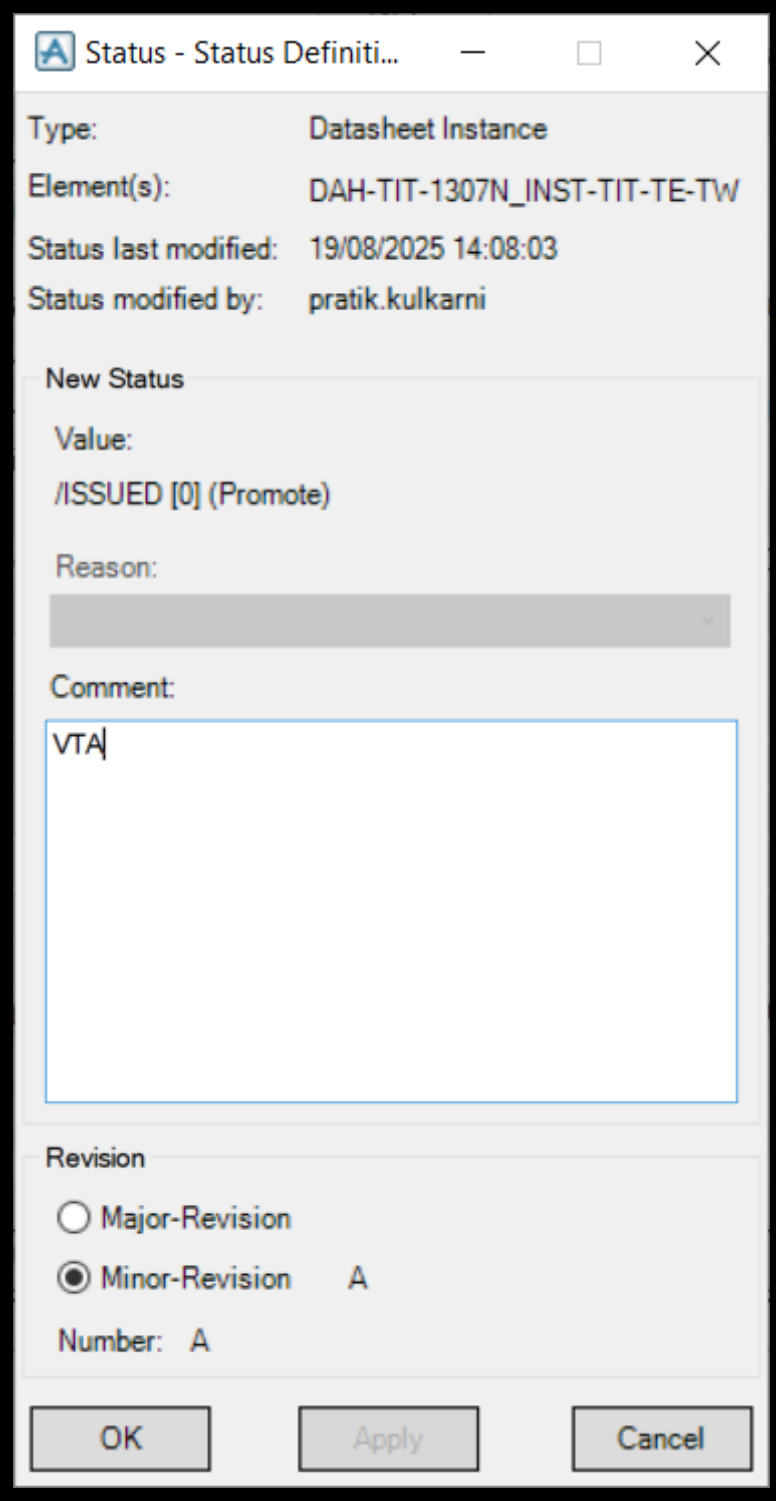
Enable Revision Configuration for Multi-Discipline Collaboration

05

The revision configuration feature is highly effective for tracking and highlighting changes across different versions of datasheets or lists. It’s especially useful when multiple departments are updating the same datasheet.

By setting up minor and major revision controls, you can export deliverables with clear revision history, ensuring transparency and reducing errors during interdisciplinary coordination. This feature supports better version control and auditability throughout the project lifecycle.



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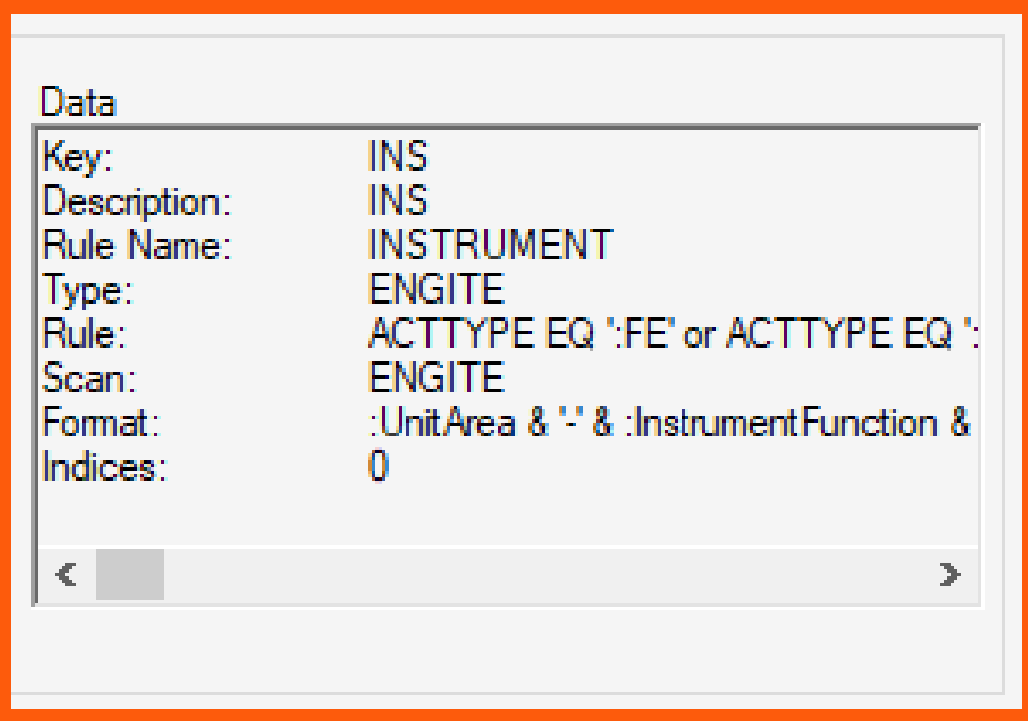
Document Auto Naming Rules for Reusability

06

When setting up **auto naming** using naming rules, it's a good practice to maintain a separate notepad or reference document listing details like KEY, RULENAME, TYPE, RULE, SCAN, and FORMAT for all tagged items.



This helps during testing, ensures consistency, and makes it easier to reuse naming formats across future projects.

Having a documented reference also aids in troubleshooting and onboarding new administrators or engineers.

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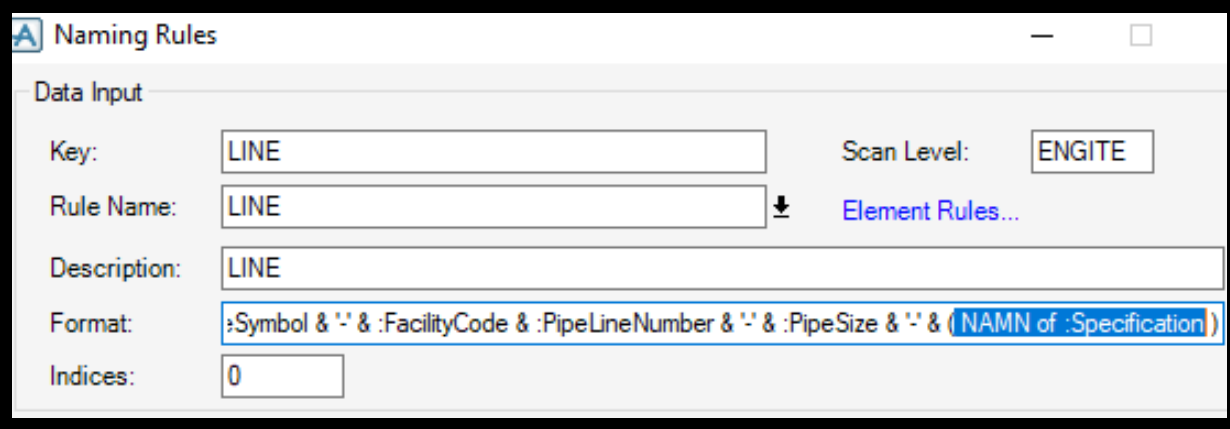
Document Referenced Naming Formats

07

Naming rules often reference other attributes (e.g., using NAMN of :Specification). To manage this effectively, it's important to document these rules and formats clearly.



Keeping a **structured reference** helps during testing, ensures consistency, and makes it easier to replicate or adapt the same logic in future projects.

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Use Units of Measure (UoM) for Flexible Datasheet Configuration

The Units of Measure (UoM)

08 feature is especially useful during **early project stages** when final units are not yet confirmed. For process-related attributes (e.g., in process lists), UoM allows data to be easily converted into the required units for process engineers.

This ensures consistency across datasheets and simplifies updates wherever process data is populated. It also helps **avoid manual conversion errors** and supports international project standards.

48	Chamber Top Connection	2" Flange, #300, WNRF, 125-250 AARH	
49	Chamber Bottom Connection	2" Flange, #300, WNRF, 125-250 AARH	
50	Center to Center (C to C) Length	500.00	mm
51	Visible Length	1500 mm	
52	Indicator Scale Graduations	Percentage (%)	
53	Indicator Type	Flap / Magnetic bar graph	

48	Chamber Top Connection	2" Flange, #300, WNRF, 125-250 AARH	105	
49	Chamber Bottom Connection	2" Flange, #300, WNRF, 125-250 AARH	106	
50	Center to Center (C to C) Length	19.69	in	107
51	Visible Length	1500 mm		
52	Indicator Scale Graduations	Percentage (%)		
53	Indicator Type	Flap / Magnetic bar grapl		
54	Flapper Colour	Red & White		
55	Chamber Material	SS 316		
56	Flange Material	SS 316		
57	Float Material	SS 316		
58	Indicator Housing Material	Anadoized Aluminum with Glass		
59	Scale Material	SS 316		

mm
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Precision

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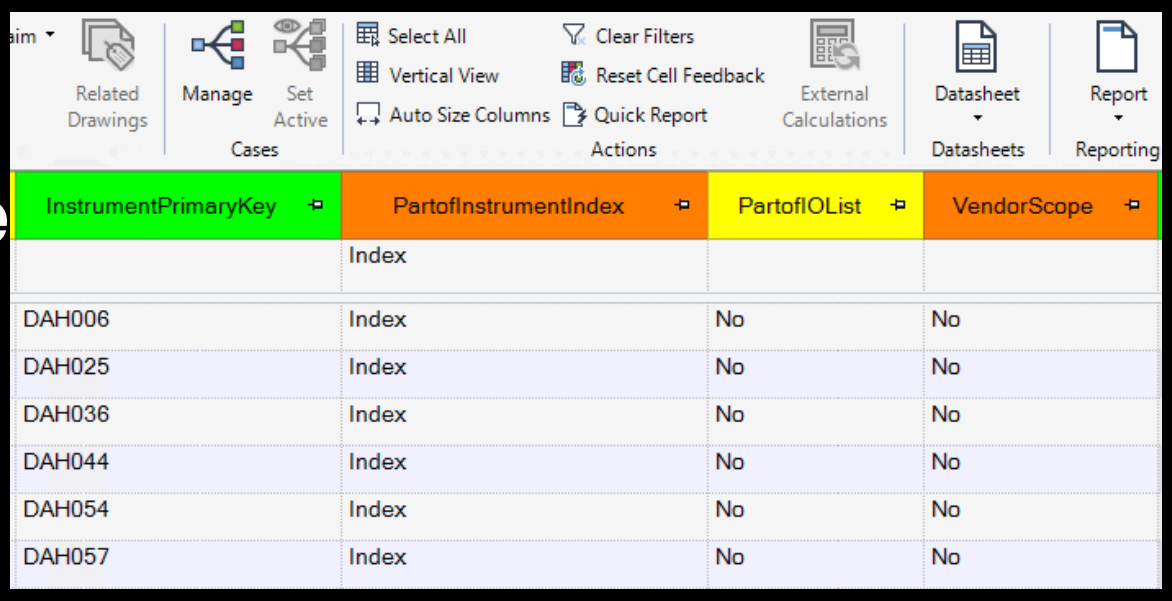
Optimize Grid Layouts for Engineer Usability

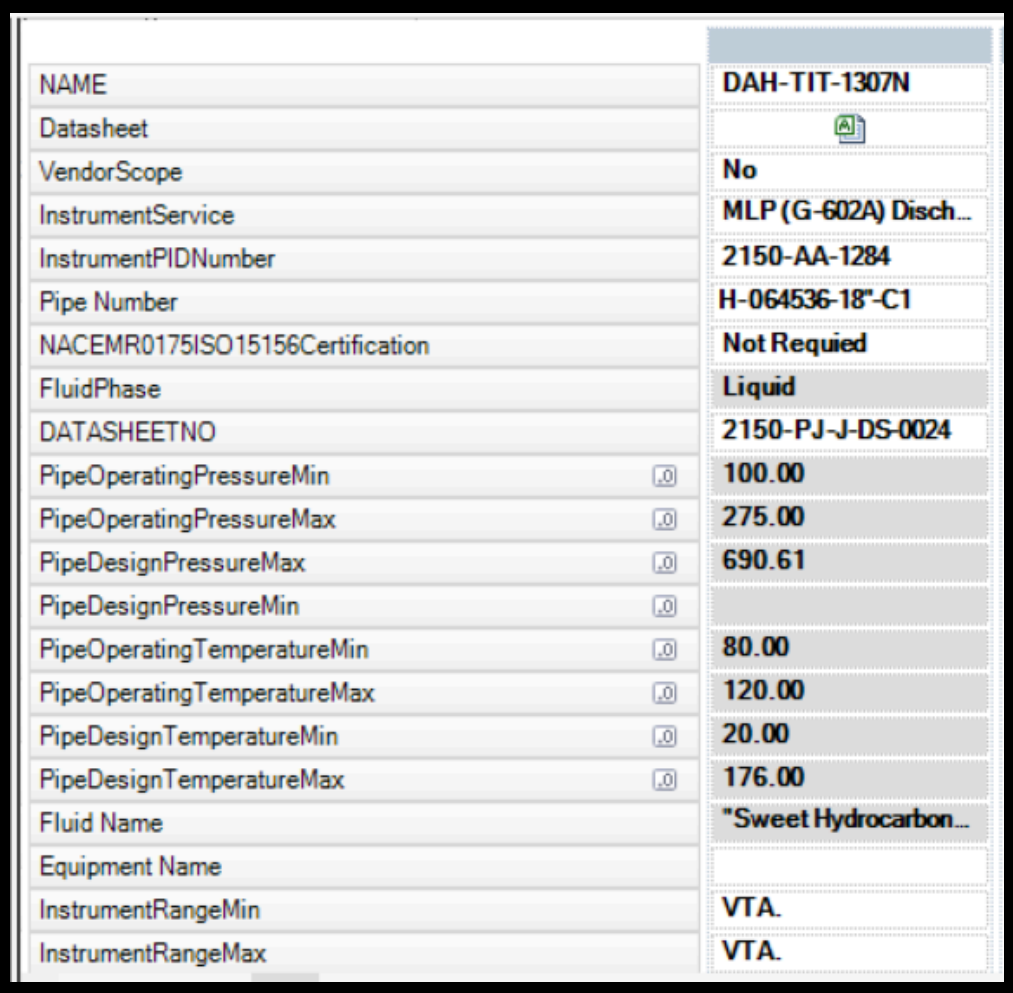
In the Grid Manager >

09 Layout section, make full use of layout customization to **enhance engineer experience**. Design the grid view to mirror the actual datasheet structure, helping engineers visualize and input data more intuitively.

Additionally, **group related attributes** to simplify navigation and updates, improving overall data consistency and efficiency. A well structured grid layout reduces training time and improves data quality.



InstrumentPrimaryKey	PartofInstrumentIndex	PartofIOList	VendorScope
	Index		
DAH006	Index	No	No
DAH025	Index	No	No
DAH036	Index	No	No
DAH044	Index	No	No
DAH054	Index	No	No
DAH057	Index	No	No



NAME	DAH-TIT-1307N
Datasheet	
VendorScope	No
InstrumentService	MLP (G-602A) Disch...
InstrumentPIDNumber	2150-AA-1284
Pipe Number	H-064536-18"-C1
NACEMR0175ISO15156Certification	Not Requied
FluidPhase	Liquid
DATASHEETNO	2150-PJ-J-DS-0024
PipeOperatingPressureMin	100.00
PipeOperatingPressureMax	275.00
PipeDesignPressureMax	690.61
PipeDesignPressureMin	
PipeOperatingTemperatureMin	80.00
PipeOperatingTemperatureMax	120.00
PipeDesignTemperatureMin	20.00
PipeDesignTemperatureMax	176.00
Fluid Name	"Sweet Hydrocarbon...
Equipment Name	
InstrumentRangeMin	VTA.
InstrumentRangeMax	VTA.

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Define Lists of Values (LoVs) During Conceptual Modeling

10

While building the conceptual model, it's good practice to define **Lists of Values** (LoVs) for as many attributes as possible: such as Area Number, Equipment Type, Equipment Group, Facility Code, Fluid Phase, Instrument Function, and Pipe Service Code.

FluidPhaseLOV	Gas Gas / Liquid Liquid Mixed Solid
Full Load Current Sources	Fed Supply
Hookup Component Usage	Both Hookup Installation Details
Hookup Usage	Hookup Installation Details
HydrotestMedium LOV	Air Nitrogen Water

This helps engineers maintain data consistency, **prevents entry of free text values that may conflict with tagging philosophy**, and ensures alignment with predefined ranges and formats. LoVs also support validation and reduce the risk of data entry errors.

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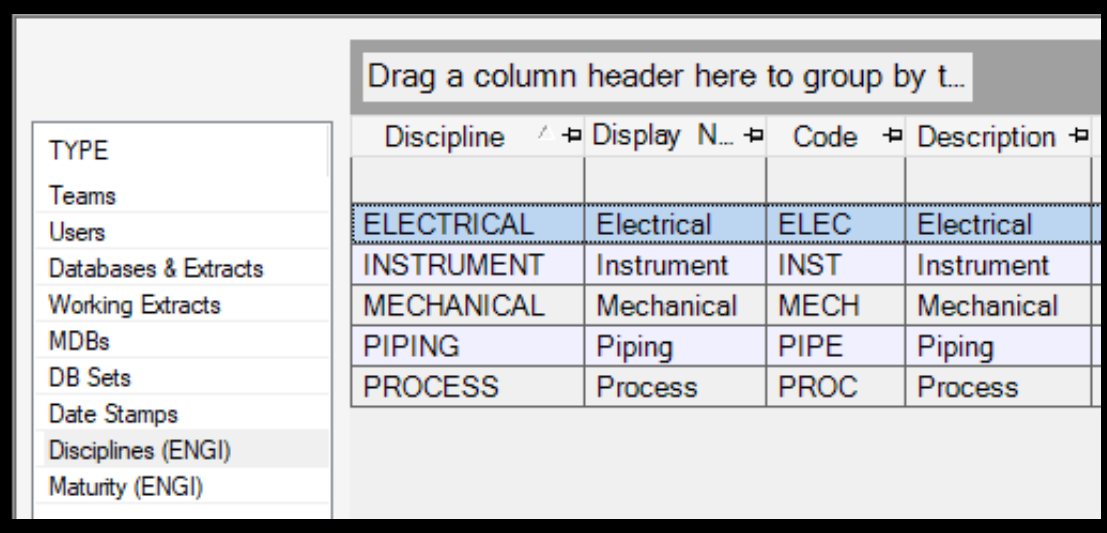
AVEVA Engineering

Define Disciplines Upfront in AVEVA Admin

11

Take the time early in the project to finalize how many disciplines you need in the AVEVA Engineering module. Once disciplines are created in AVEVA Admin and the data model is **built** in Engineering Configuration, adding new disciplines later becomes complex and error prone.



Planning this upfront ensures a smoother configuration process and avoids rework, especially when multiple teams are involved in data modeling and template creation.

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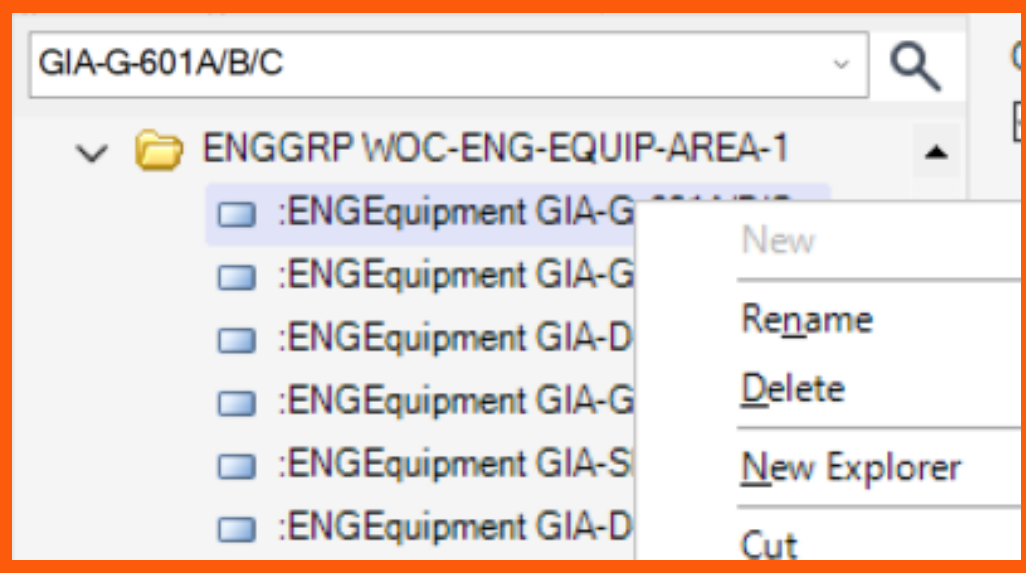
Train Engineers on Proper Tag Deletion via Explorer

12

In the AVEVA Engineer module, it's important to train engineers on how to delete tags directly from the Explorer, not just from the Grid View. Deleting tags from the grid often only applies a strikethrough, which does not fully remove the tag from the database. This can lead to duplicate tags, and auto-tagging rules may fail if the original tag remains in the system.



Proper deletion from the Explorer ensures clean data management and prevents issues during tag regeneration or rule-based naming.

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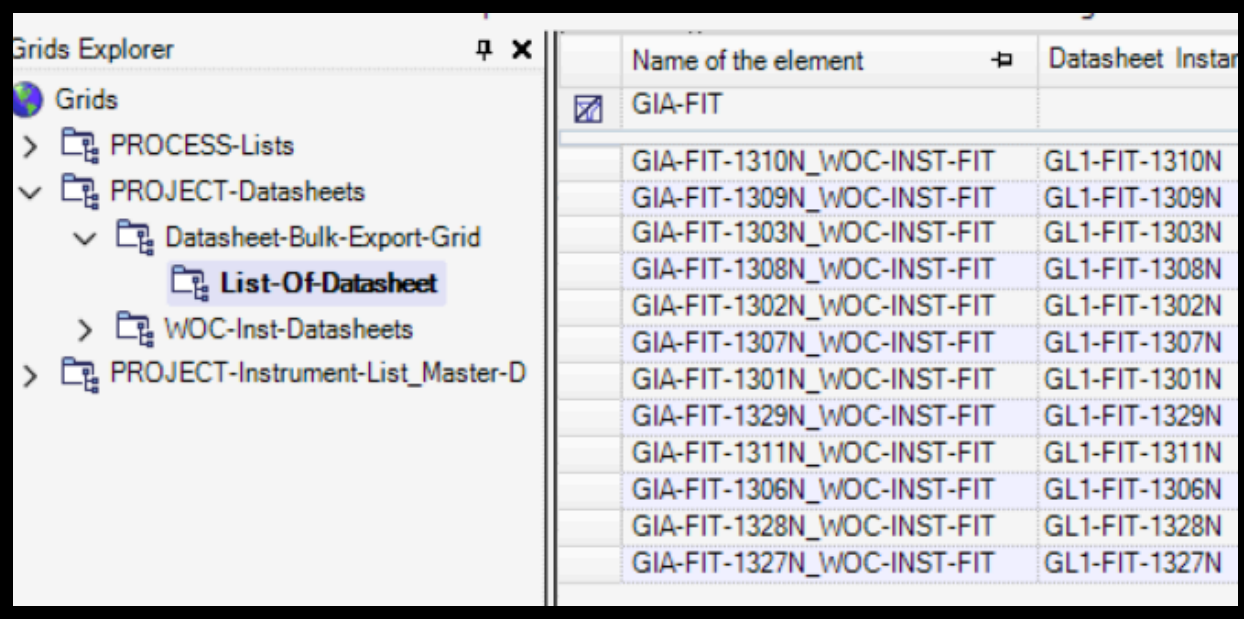
Create Grid Views for Bulk Datasheet Export

13

When working with multiple areas and various classes or instrument types, it's highly beneficial to create a **dedicated grid view** for **bulk export of datasheets**. This setup allows you to efficiently export large sets of datasheets in one go, rather than handling them individually.



It significantly improves productivity. Bulk export views also help in meeting tight deadlines and managing deliverable packages.

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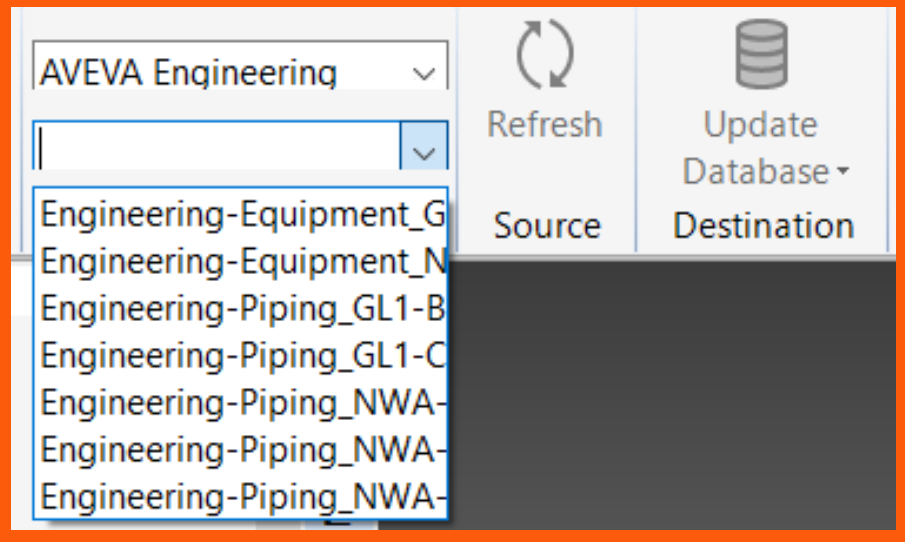
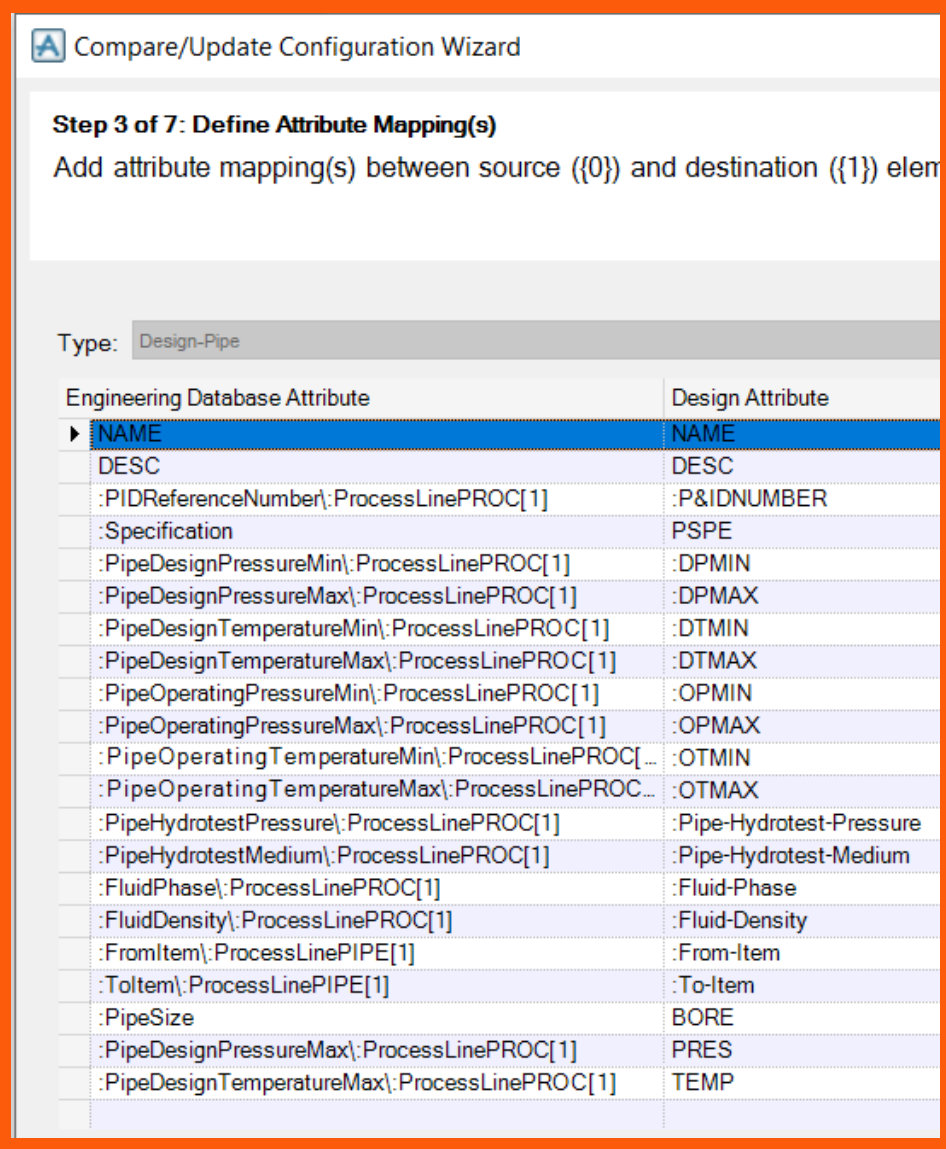
Use Compare & Update Config for Tag Consistency Between AVEVA products

14

If AVEVA Engineering is being used as the master tag registry, Implement C&U for E3D. using C&U, designers can generate pipe and equipment tags directly in E3D using the centralized data from Engineering, and all associated attributes can be fetched automatically.





This integration significantly improves data consistency, ensures accurate information is reflected in General Arrangement Drawings (GADs) and Isometrics, and reduces manual errors during tag creation and updates.

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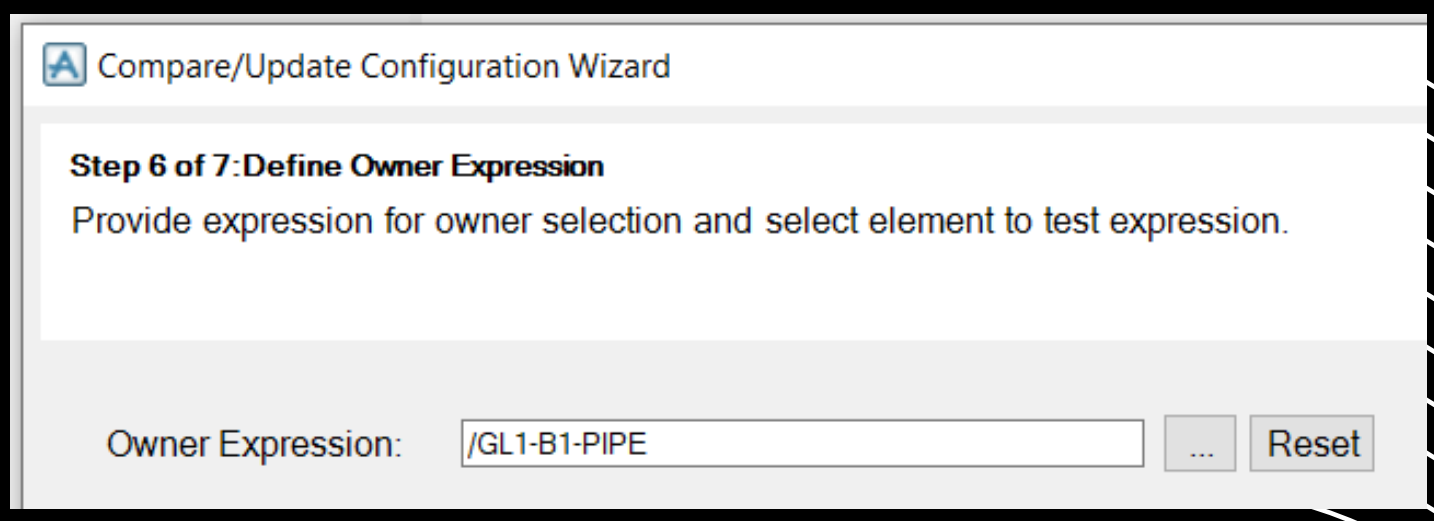
Set Owner Expression at Admin Level in C&U Configuration

15

While creating the **Compare & Update (C&U)** configuration between AVEVA Engineering and AVEVA E3D, it is highly recommended to define the **Owner Expression** at the **admin level** itself. This ensures that when designers create new design elements in E3D, they follow a **pre defined hierarchical structure**.

Without this setup, there's a risk of generating **unstructured or inconsistent** hierarchies in the E3D model, which can lead to confusion, data misalignment, and rework during later stages of the project. By enforcing a consistent ownership model from the start, you maintain **data integrity**, support **standardized workflows**, and enable smoother collaboration across disciplines.



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If these lessons resonate with your AVEVA journey, **like** and **share** this post with fellow AVEVA administrators or project leaders who are planning to implement **AVEVA Engineering** in their upcoming projects

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