

# What's new in Sumo22<sup>©</sup>



This document summarizes the new features and improvements found in Sumo22 compared to Sumo21.

## New process model features

Sumo22 contains major additions and improvements:

- A module to perform scope 1 and 2 **Carbon Footprint** calculations and database
- **Integrated Urban Water System** (IUWS) library – enabling user to handle sewers, plant, river in the same configuration
- Faster, more realistic, and stable bio-P model (PAOs and GAOs as **carbon storing organisms**, CASTOs)
- Improved **dynamic alpha** model – more accurate OTR prediction
- **Aluminum** addition

## New and improved process units

- **Reverse Osmosis**
- 3<sup>rd</sup> generation **pond** model with algae state variable
- More **chemical dose** options
- **Primary effluent** input and tool with typical fractions
- **Preferential inorganic removal** in primaries
- **SVI-based settling** parameter input option in layered clarifiers
- **Flexible SBR** – any cycle/phase setup can be entered
- Improved **P recovery** unit
- A number of new **examples** are also provided
- Significant **MABR** improvements

## New Tools

- Much improved and battle-hardened **Digital Twin Toolkit** (for additional fee)

- Online raw data cleaning (dDesk, dDock from Primodal - separate products that can be interfaced with Sumo)

#### **New Sumo tools**

- Primary effluent fractionation tool
- Industrial COD fraction converter
- Switch controller
- Vesilind settling tool

## Documentation

- Updated **Manuals**
- **Technical Reference**
- Dynamita **Wiki** - In addition to the pdf versions of Manuals
- **XML debugger** description in Wiki – useful interactive debug feature for custom code

## New interface features

- Professionally redesigned **graphics**
- Automated **mass flow** displays on pipes
- New **Calculators**: Sum, Ratio and Advanced ratio
- New **Statistic tools**: Run-based and cycle-based Totalizers, Noise
- **Mapping tool**: target parameter will dynamically follow source
- Factory library should not be edited – **custom code** should go to My Process Code
- Sumo22 is **compatible** with Sumo21 configurations in most cases (depending on the level of customization)
- Sumo22 will be available in the Korean, Chinese, Japanese, Spanish, German, Turkish and Vietnamese **languages** after the initial English release.
- There are several usability improvements and fixes.

## Add-ons available for this release

- Realistic simulation of **carrier movement** in an MBBR plug-flow zone (mobile carrier) and the **Wanner-Reichert** biofilm model
- **Sewer trunk** and odor model (iron and nitrate addition for odor control)

The Add-ons are available from <https://dynamita.com/products.html>

### Known issues with Sumo22.0.0

- Don't use Overwrite all initial conditions with current values from the Advanced menu on projects built with biofilm units.
- On Greek Windows operating systems, use 0 for FALSE and 1 for TRUE parameter inputs (e.g. SRT control)
- When modeling HPO systems, the low pH limit needs to be raised to inhibit nitrification as there is a lot of bicarbonate (substrate) available even at lower pH values.