



Column Improvements – Part II

ProTreat Version 6.5.1 is now available on our website. This expansive new offering is free to download for all licensed customers. This is the second, and last, part in the series outlining the many changes and improvements to column blocks.

The column block has been greatly expanded to include several new features. These features include new downcomer choke flooding options to account for the system factor in the downcomer for hydraulic calculations, a selection of several different downcomer choke correlations, and updating and adding in new adjustment options for mass and heat transfer correlations.

The downcomer options that are now available are shown in Figure 1. These include Hydraulic (Default), Koch, Glitch, and Nutter (Legacy). The option to include the Foam Derating Factor (or system factor) into the hydraulic correlations is provided as a checkbox under the Size dialog in Columns where the diameter is specified.

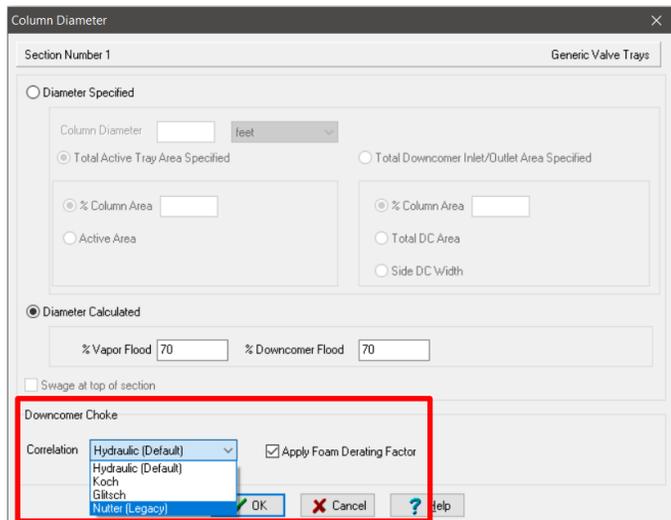


Figure 1. Column Diameter Dialog with New Downcomer Choke Options and System Factor

The new option to apply the Foam Derating Factor to the downcomer gives closer approximations to internals vendors internal calculations, but the option to include it or not allows you to continue matching previous results from versions prior to 6.5.1.

Other changes and improvements include adding Heat Transfer Coefficient Factors for both liquid and vapor. This will allow you to manipulate the heat transfer within the column to aid in troubleshooting problems within the plant by adjusting the heat transfer up or

down. Figure 2 shows a new set of checkboxes and, once selected, gives you the option to input any value greater than zero. As with the other factors, values less (greater) than 1 indicate slower (faster) than default heat transfer.

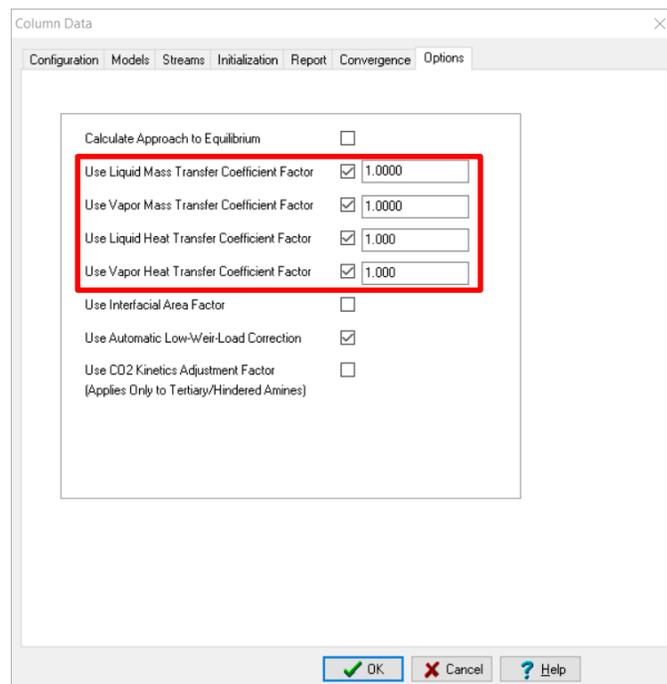


Figure 2. Column Data Dialog Options Tab

The vapor and liquid mass transfer coefficient factors have also been renamed. Prior to version 6.5.1, they were called “Film Coefficients”. They have been renamed “Mass Transfer Coefficients” for clarity.

ProTip: The new downcomer choke correlation options allow you to have much greater control over how ProTreat calculates the hydraulics within the column and helps give closer agreement with values that internals vendors may provide.

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