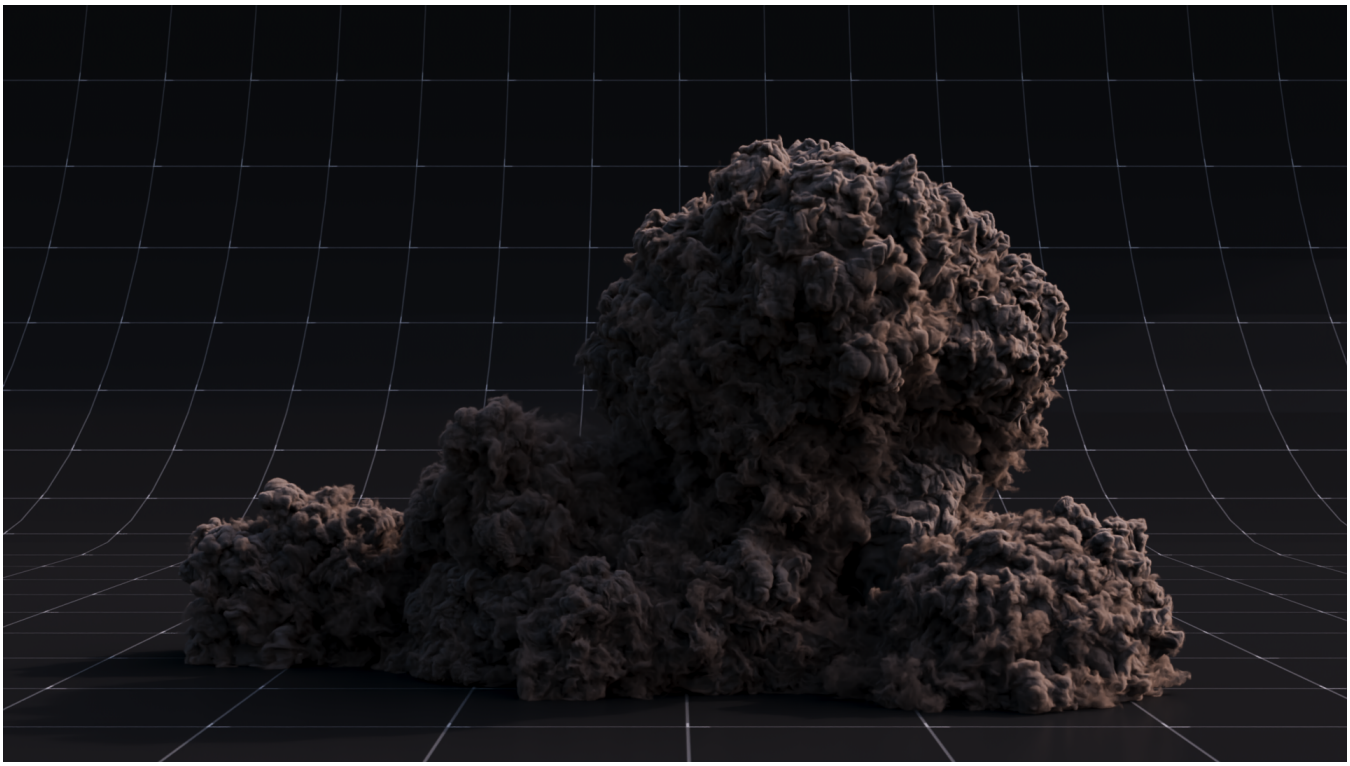
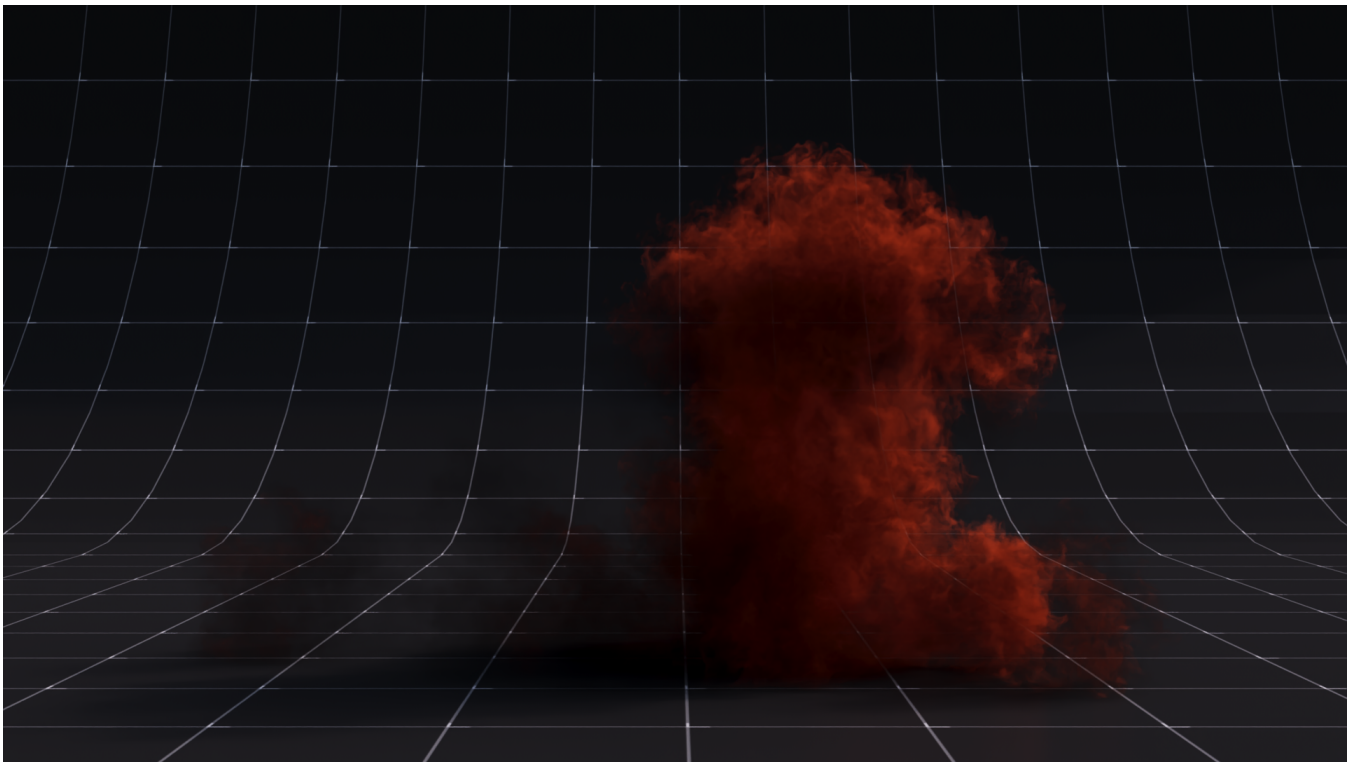
Smoke

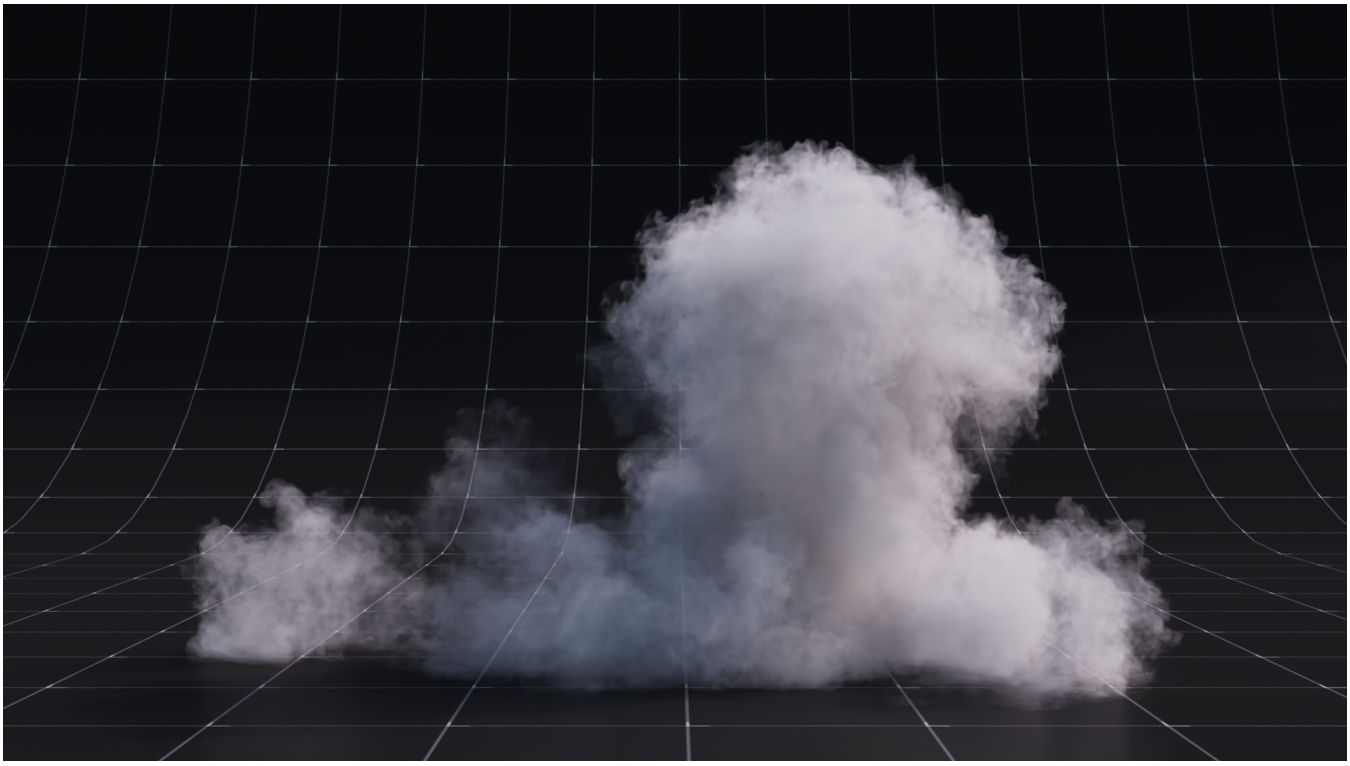


Smoke

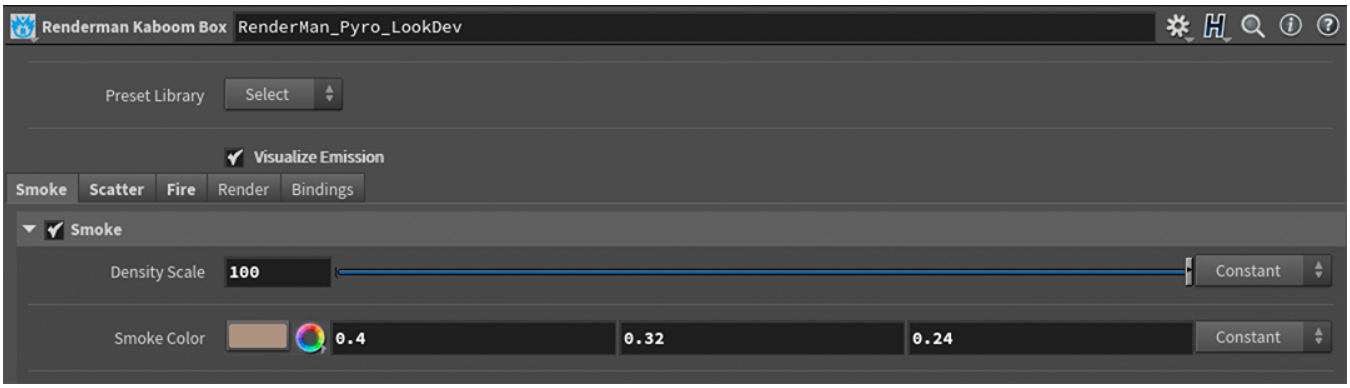
Enable Smoke
Decides whether the smoke density of volume will render or not. If disabled and the Fire tab is enabled, this operation replaces the density field with the fire volume field specified in the Bindings tab instead of the smoke volume field. If both smoke and fire are disabled then the result defaults to the input volume. This does not affect data generated from Scatter



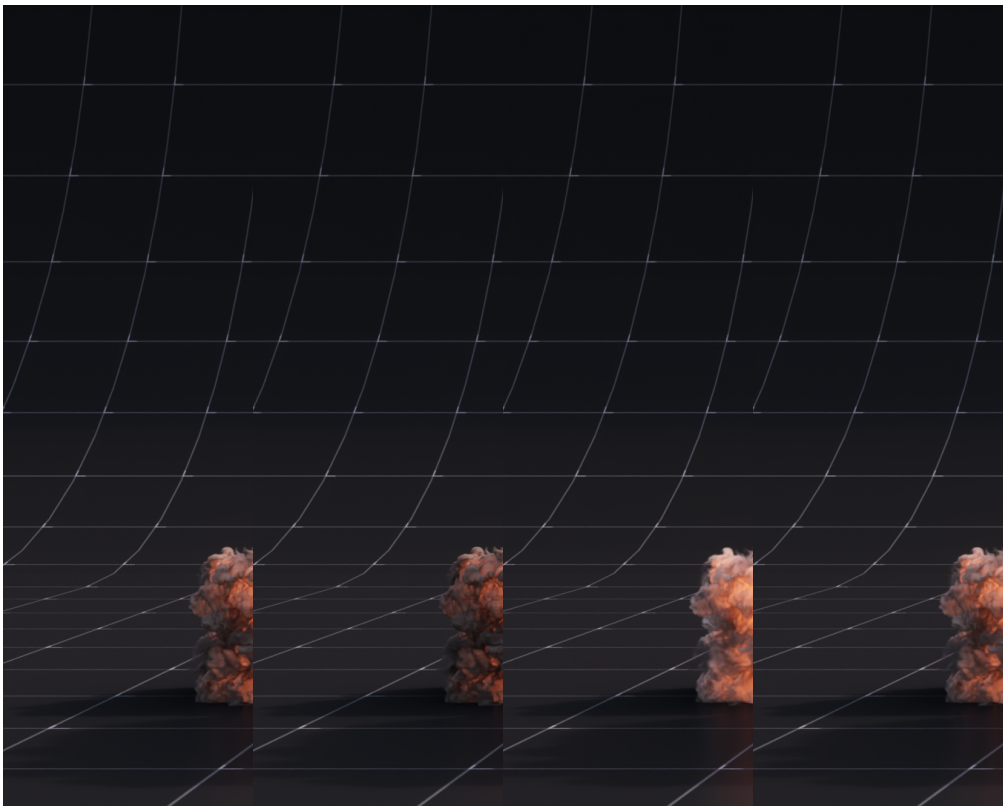
If Smoke is disabled and the Fire tab is enabled, this operation replaces the density field with the fire volume field specified in the Bindings tab instead of the smoke volume field.



If both smoke and fire are disabled then the result defaults to the input volume as seen in the image above.
Note: this does not affect data generated from Scatter



Density Scale
Multiplies the density of the smoke volume by this value. Thicker density can produce darker colors and more opaque shadows in renders.

- 

The above images demonstrate Smoke Density values of 20 / 50 / 100 / 200

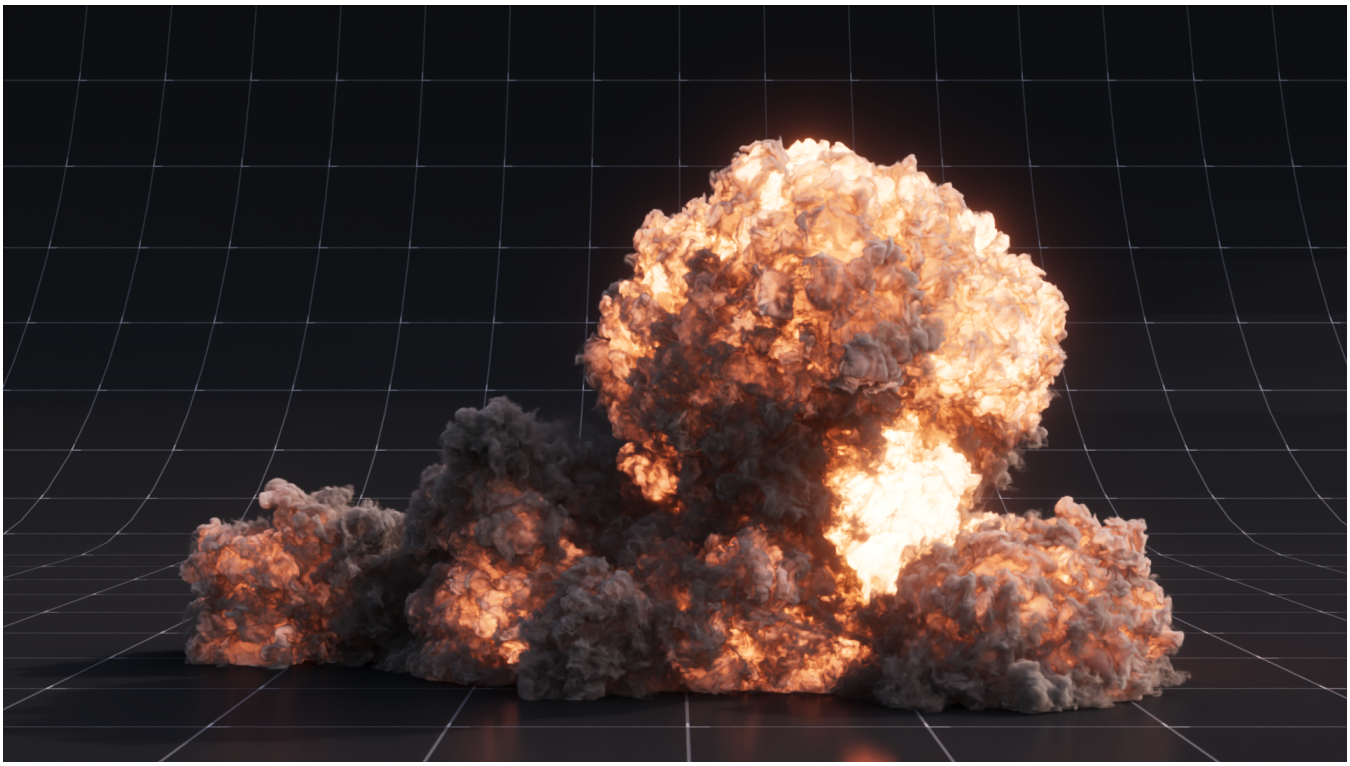
Density Ramp
Ramp for remapping source values of the density volume. This is used in conjunction with the Density Scale when 'Use Ramp' is enabled for editing instead of 'Constant.'

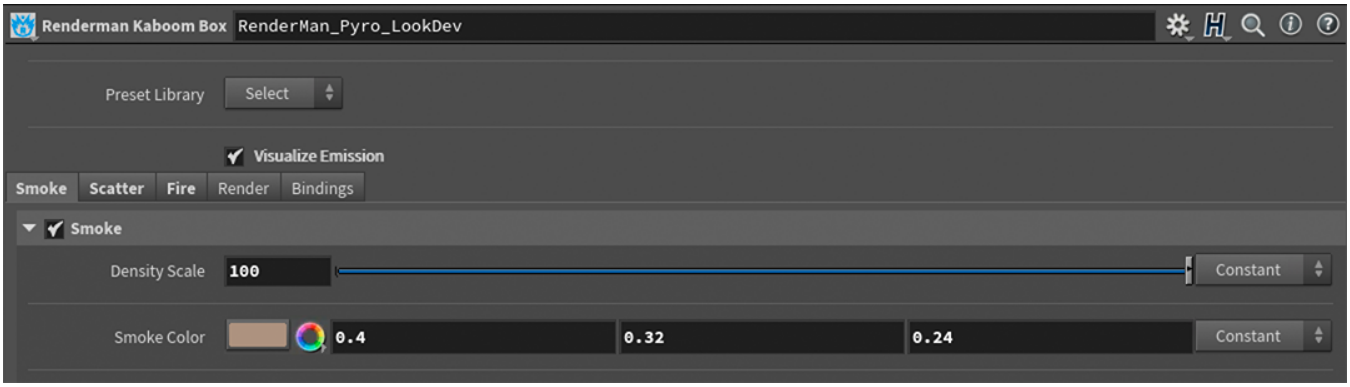
Density Source Range for Remapped Smoke Density
A fit operation that fits these source values to 0-1 for accurate remapping using the ramp. Values outside of this range are clamped.

Pro Tip:
Using the Ramped Smoke Density can be used to sharpen the look of your volume by remapping the left side of the ramp to zero to remove very low densities.

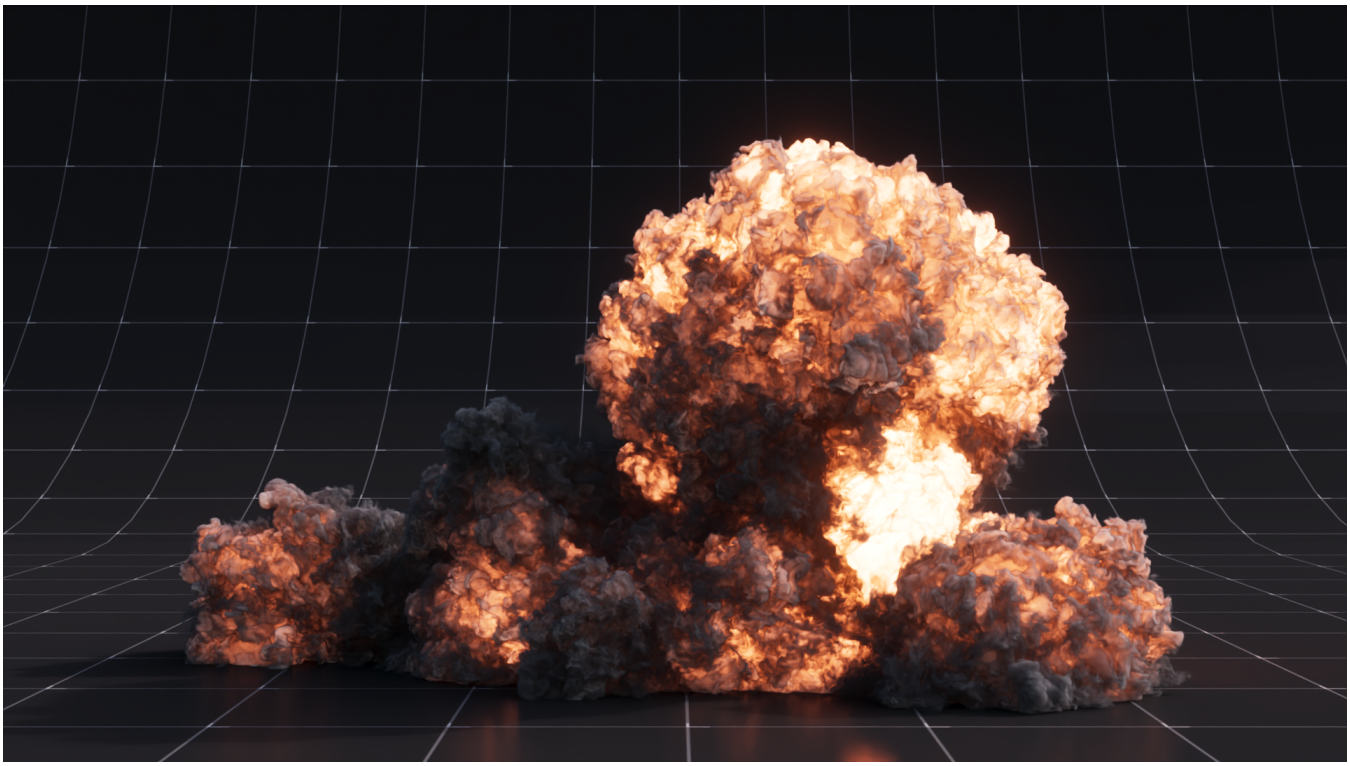
Smoke Color

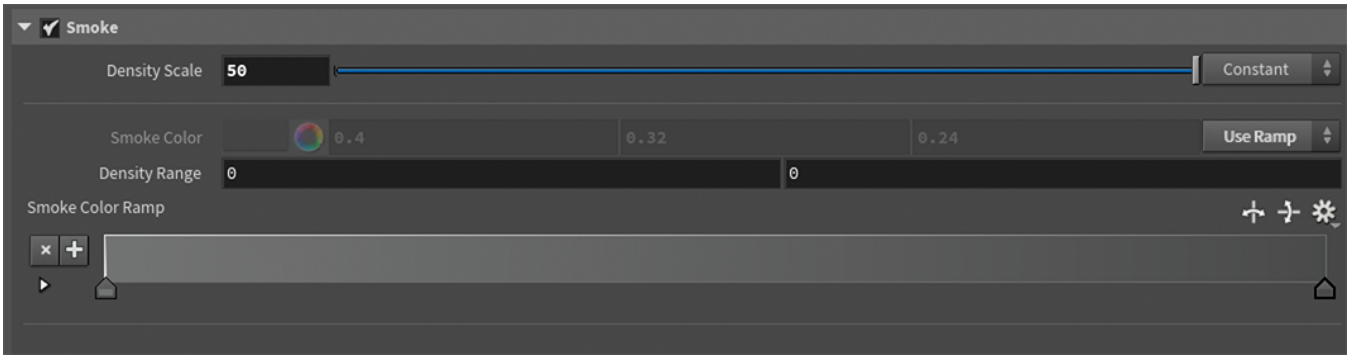
Defines the color of the smoke, either with a constant color or via a ramp.





Constant Smoke Color using a simple vector parameter. This applies the same color to all the voxels defined as areas of smoke (Density field - Flame field).





Ramped Smoke Color using the values from Density Range. This applies the ramped color to all the voxels defined as areas of smoke (Density field - Flame field).

Density Range for Ramped Smoke Color

A fit operation that fits these source values to 0-1 for accurate mapping on the Smoke Color Ramp. Values outside of this range are clamped and will receive the color on either end of the ramp. If the maximum density of your simulation is 2, for example, then putting 0 in the minimum and 2 in the maximum will provide full, unclamped color coverage of your simulation data.

Pro Tip:
Using the Ramped Smoke Color can help improve the depth of your smoke without increasing the density scale for simulations like bonfires or candles. Your simulation density data should have varying values to increase the variation of color using the ramp.