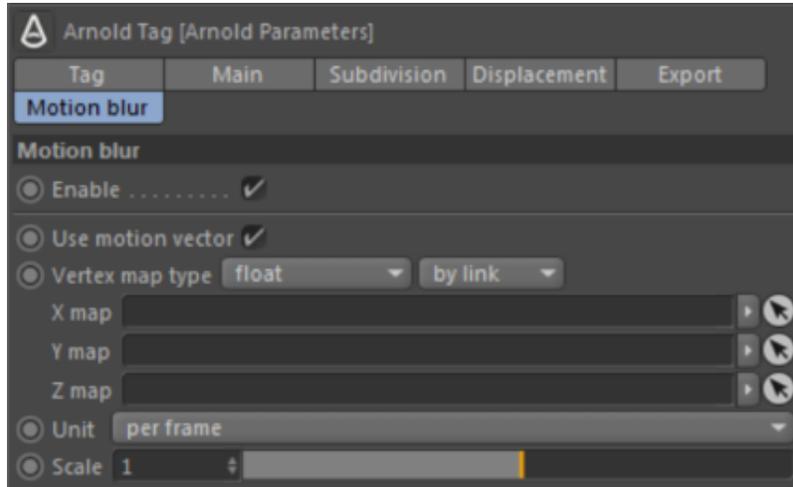


Motion Vector Parameters



It is possible to use velocity vertex maps (a color map or three float maps) to control the motion blur of changing meshes. C4DtoA calculates a time delta from the initial render frame in each motion step and offsets vertex positions using the formula:

$$\text{pos} = \text{init pos} + \text{delta} * \text{scale} * \text{motion vector}$$

where **motion vector** is the vector read from the user defined vertex maps. If the unit is set to 'per frame', delta is in frames instead of seconds.

Enable

Enable/disable motion blur by the object.

Use Motion Vector

When enabled the motion blur will be calculated using a velocity vector defined by vertex maps.

Vertex map type

Specifies the type of the vertex map used, which can be a color map or three float maps (X, Y, Z channels).

You can also specify if the vertex maps are assigned by link or by name.

- By link: you have to drag & drop the vertex maps of the motion vector channels to the link fields. This mode can be used if the maps are visible in the object tree.
- By name: this mode is useful when the object is a generator and the maps are generated to the polygon object, so they are not visible in the object tree.

X,Y,Z map / Vector map

The map(s) which define the velocity per vertex. For instance the point vector attribute coming from Houdini, may be called 'v_1', 'v_2', 'v_3'.

Unit

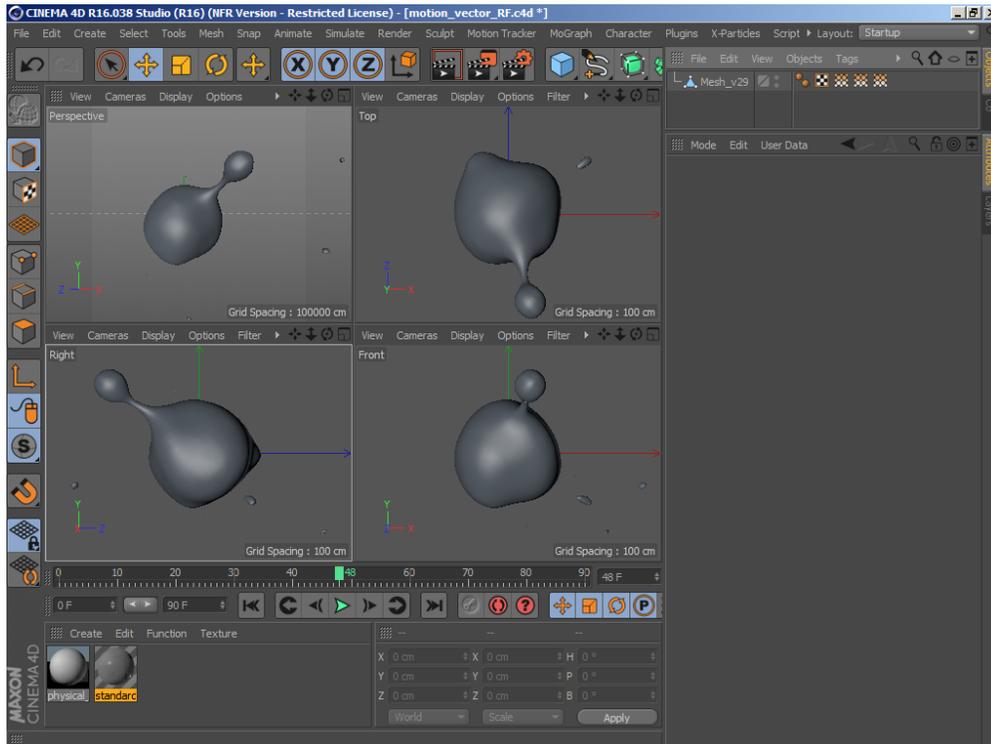
Specifies if the velocity is interpreted as a 'per frame' or 'per second' value.

Scale

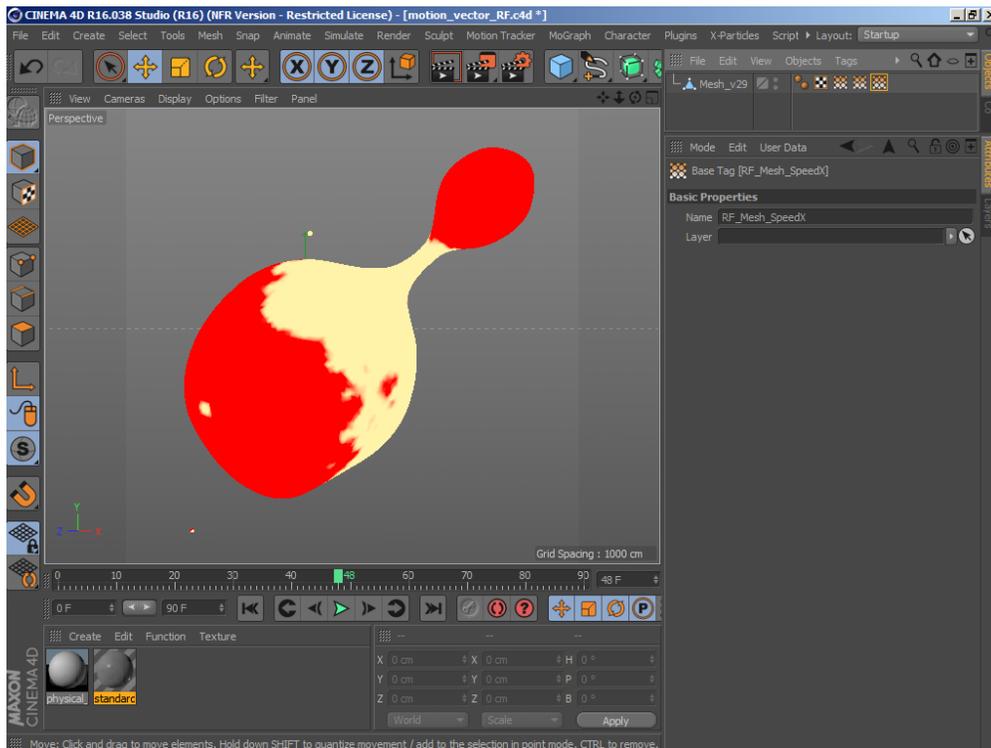
A float scale field (with a default value of 1) to do time scaling effects.

Workflow

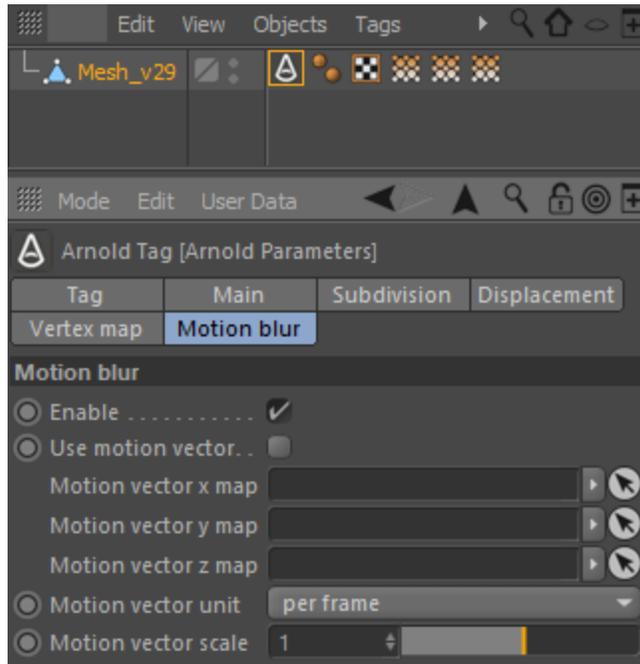
In this example we will use a scene that has been exported from Real Flow with velocity point vertex data. In C4DtoA we can use motion vectors to apply motion blur settings to the fluid.



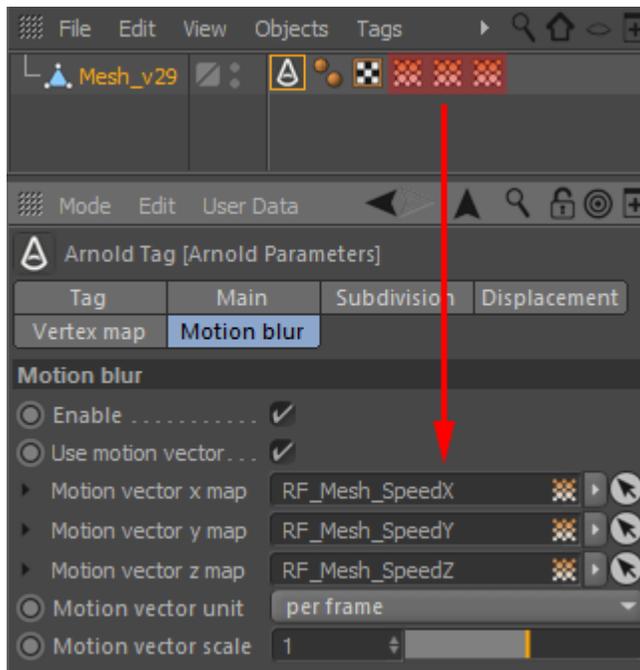
- Select the **Vertex Map Tag** in the Object Manager to view the X, Y, Z velocity maps in the viewport.



- Add an **Arnold Tag** to the mesh and go to the **Motion Blur** tab.



- Drag and drop the **Vertex Map Tags** from the Object Manager onto the respective X, Y and Z **Motion vector map** fields below and enable '**Use motion vector**'.



i Make sure that the vertex maps are exported. You can go to the [Vertex Map](#) tab to check the settings. All vertex maps are exported by default.

- Increase the **Motion Vector Scale** to exaggerate the motion blur effect when rendering.



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- Below you can see the results when rendering each motion vector map independently.



Motion Vector X Map



Motion Vector Y Map



 You can download this motion vector example scene file [here](#).