

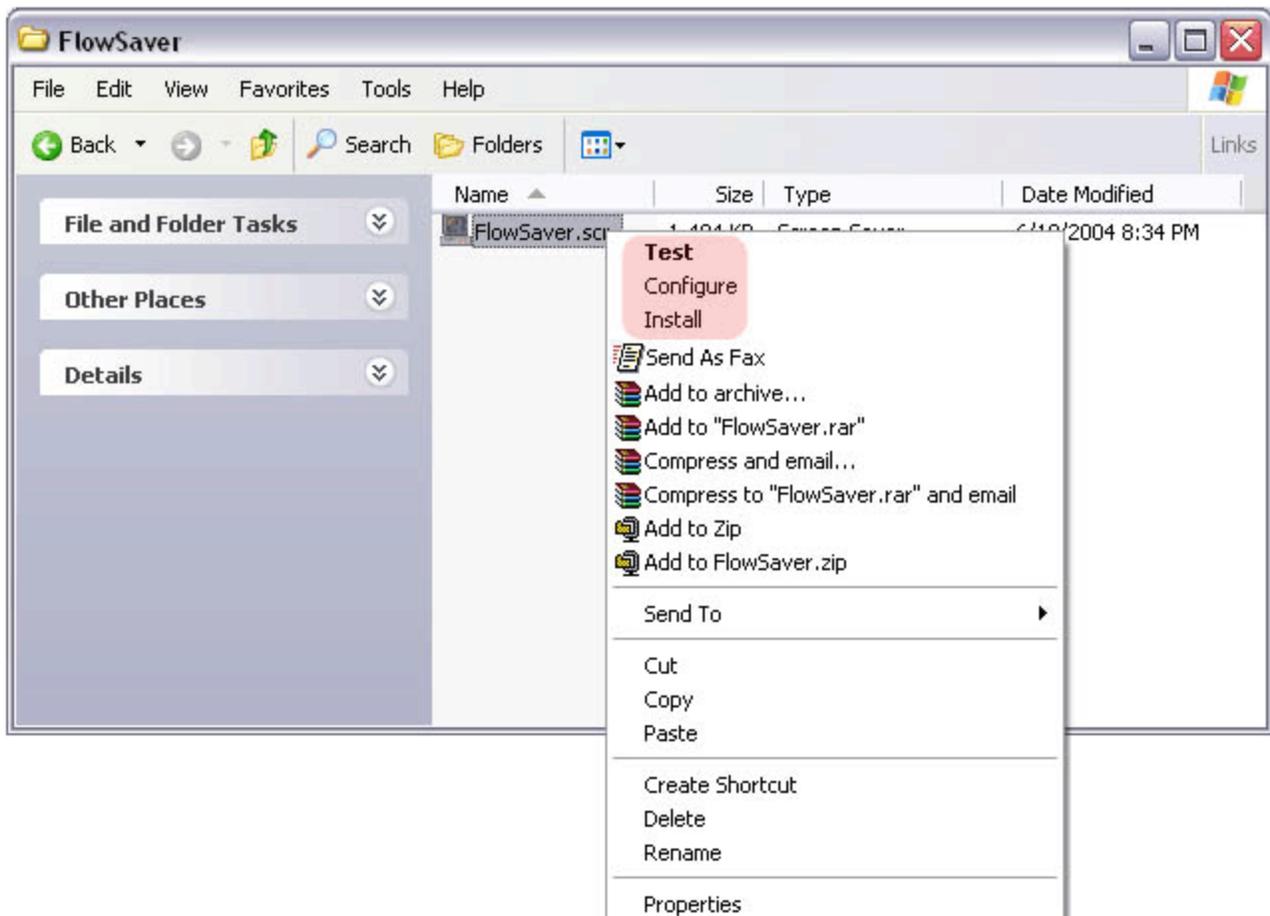
# FlowSaver

## Introduction

This screensaver uses graphics hardware to perform a sophisticated Navier-Stokes fluid flow simulation in real-time. Fluid injectors fly around the screen injecting multicolored flow into the fullscreen fluid flow simulation. A graphics card with ps\_2\_0 shader and floating point texture support is required to run this screensaver.

## How to Install

First, simply copy FlowSaver.scr to your computer. You can place it in c:\WINDOWS\System32 with all of the default screensavers or you can place it anywhere else on your system. Next, simply right click on FlowSaver.scr as shown below.



You will see three choices (highlighted in pink above): **Test**, **Configure** and **Install**. To Install FlowSaver on your system, choose Install. This will bring up the usual Screen Saver dialog box and set FlowSaver to be your current screensaver. From here, you can adjust the **Settings** of FlowSaver or **Preview** it on your system.

## FlowSaver Settings

FlowSaver has a variety of settings including Mass, Radius, Longevity, Flow Options, Number of Injectors and Resolution as shown in the Settings Dialog.

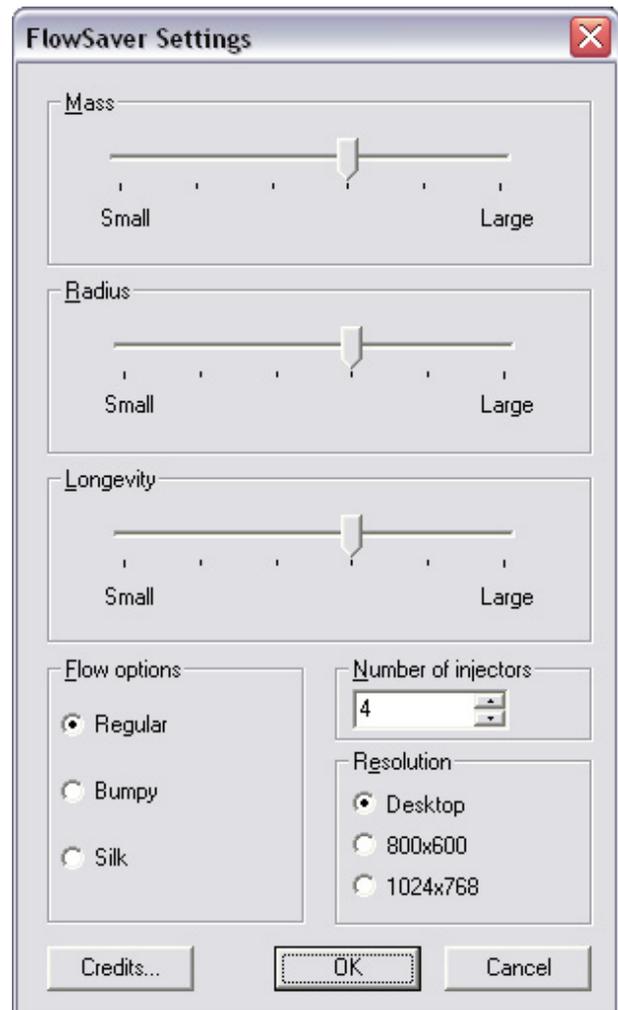
The **Mass** setting controls how much flow is injected into the simulation by each injector at each time step.

The **Radius** setting controls how large of a circular area each injector covers.

The **Longevity** setting controls how long a given amount of flow will remain visible before it fades out to black. A high Longevity setting can result in a jumble of flow, particularly if there are a lot of active injectors.

By default, there are four **injectors**, but the user can adjust this number to taste. By default, FlowSaver will run at your desktop resolution, but can be made to run at 800×600 or 1024×768. Either of these last two settings may cause a distracting mode set, so we recommend leaving the resolution at the default desktop resolution.

Finally, you can select one of three different **Flow options**. The **Regular** setting displays the flow as colored smoke while the **Bumpy** setting puts a subtle shading on this smoke. The **Silk** shading is an altogether different look and resembles flowing silk fabric lit from the side.



## Multihead

If you have two monitors hooked up to your video card in order to use the Windows extended desktop, FlowSaver will span your two monitors as shown below:



FlowSaver is the only 3D screensaver we're aware of which spans two monitors and looks particularly striking when spanning your entire dual-head workspace.

## What's This Screensaver Doing?

This screensaver is using the graphics processor to perform a highly sophisticated fluid simulation in real time and then rendering the simulation to the screen. Advanced readers can refer to the following technical report for more details: [Pedro V. Sander, Natalya Tatarchuk and Jason L. Mitchell, "Explicit Early-Z Culling for Efficient Fluid Flow Simulation and Rendering," ATI Research Technical Report. 2004.](#)