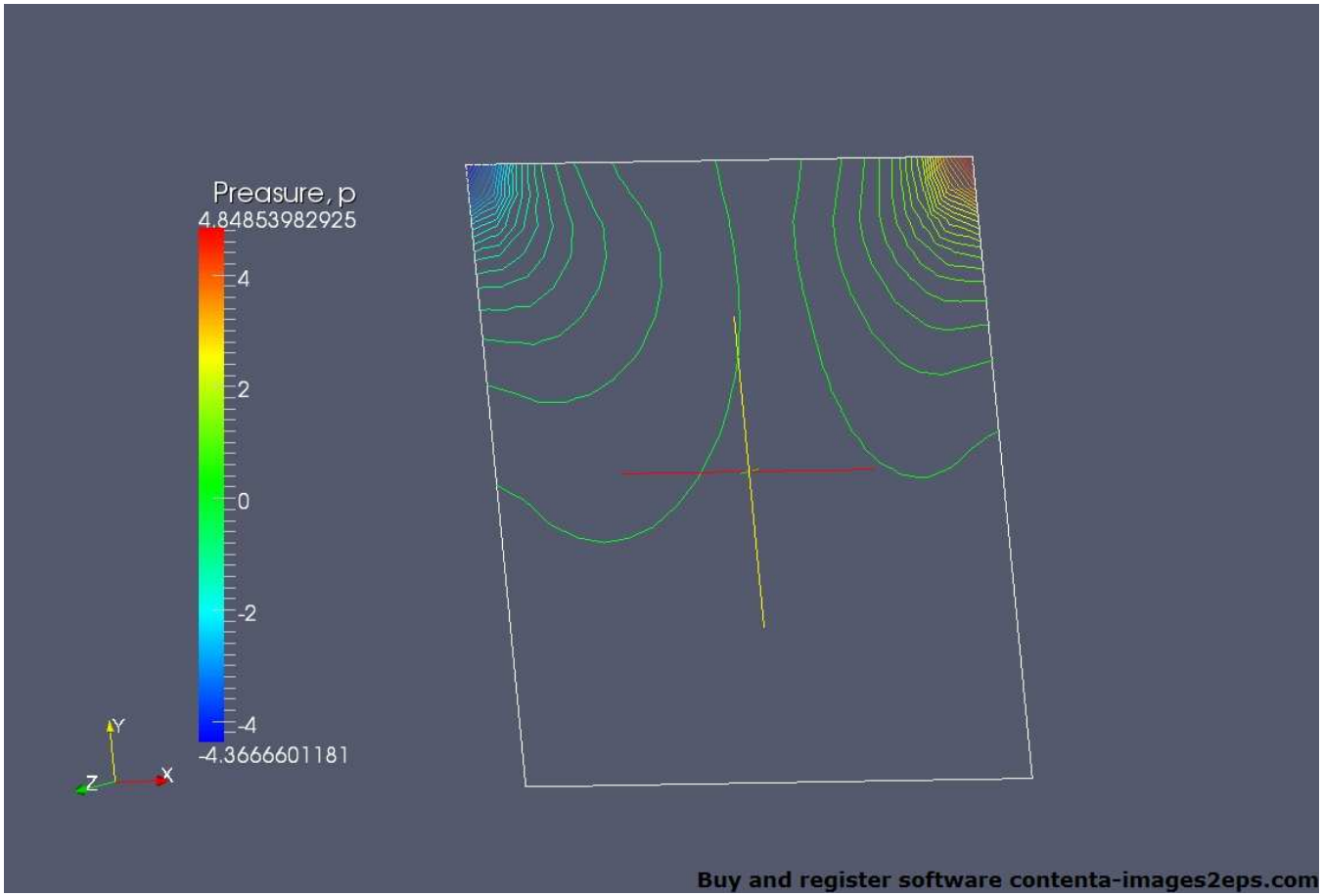
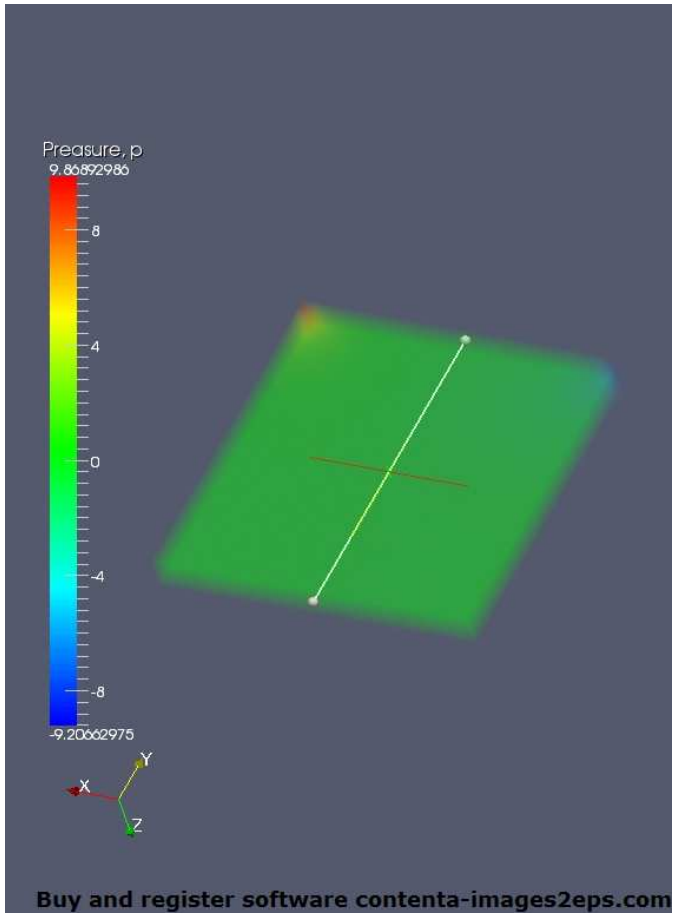
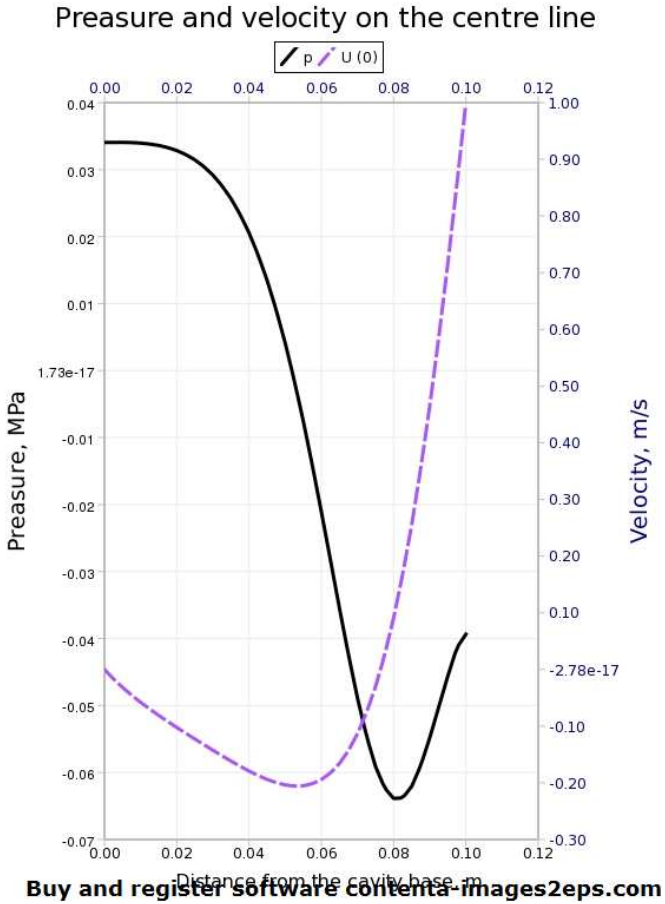
icoFoam tutorials(Cavity)



Cavity case sollution with Slice filter and contour lines for preasure distribution.

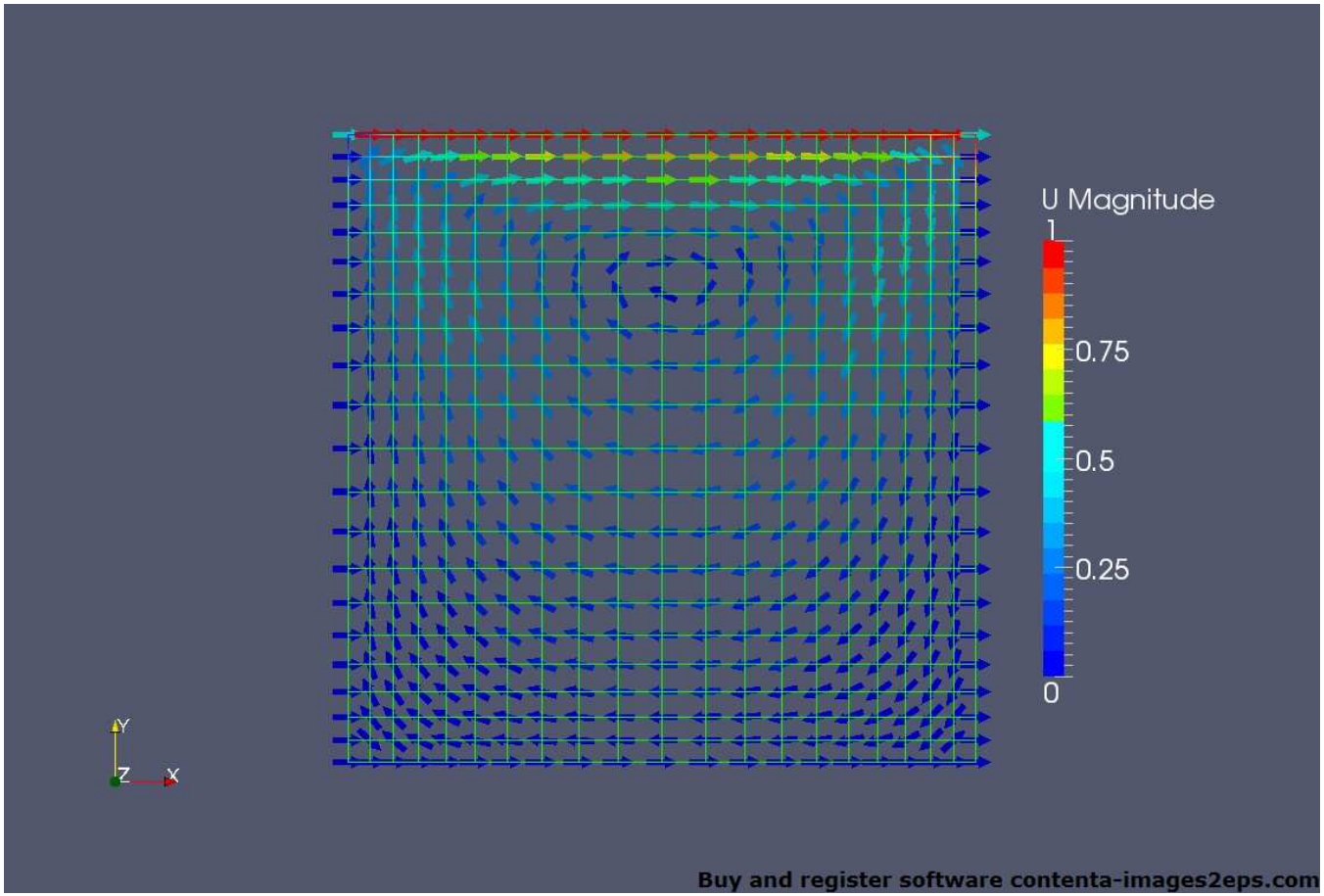
icoFoam tutorials(CavityFine)





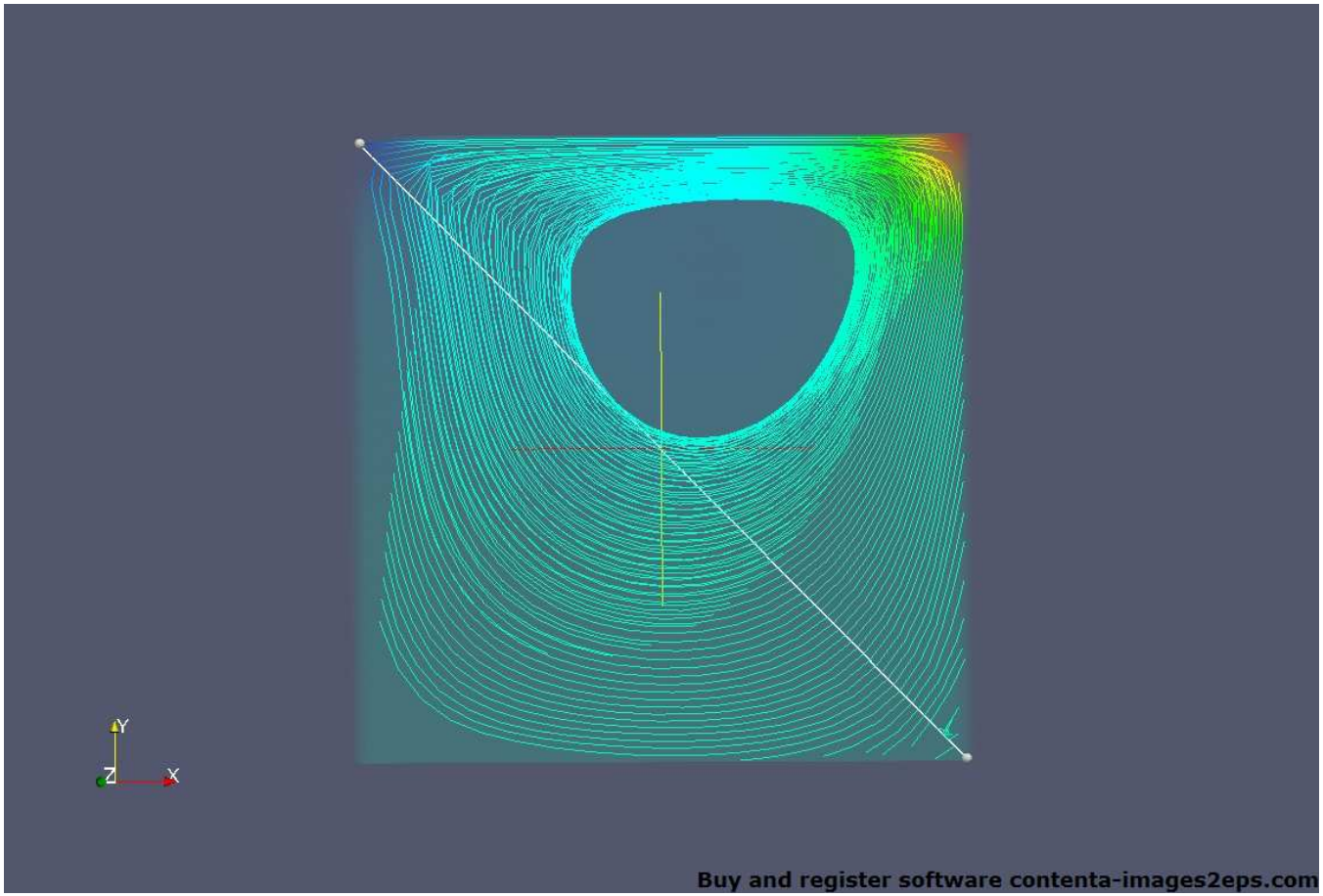
CavityFine case sollution with PlotOverLine filter.
(Preasure and velocity plotted over center line)

icoFoam tutorials(CavityGrade)



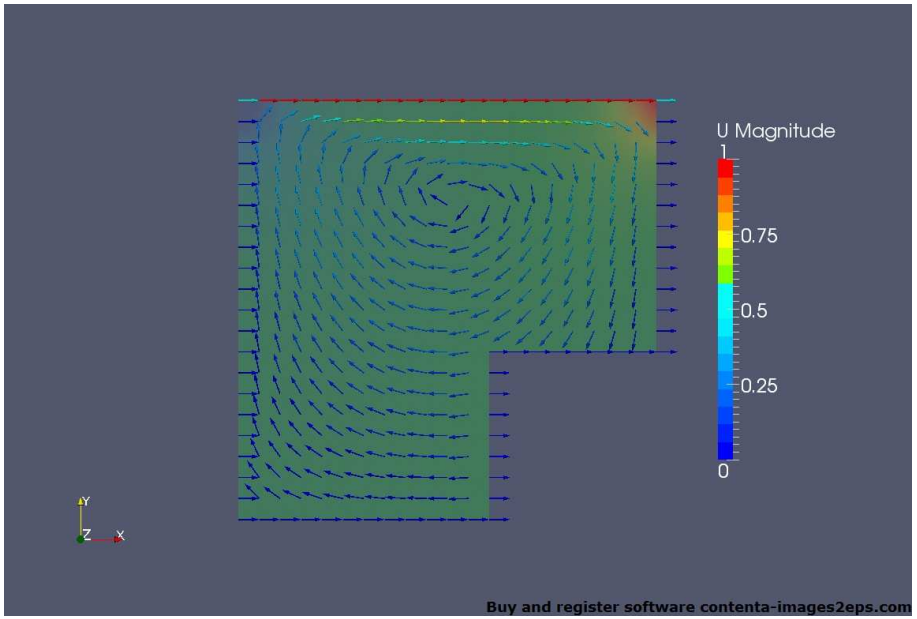
CavityGrade case meshing and sollution with Glyph filter showing velocity vectors and magnitude.

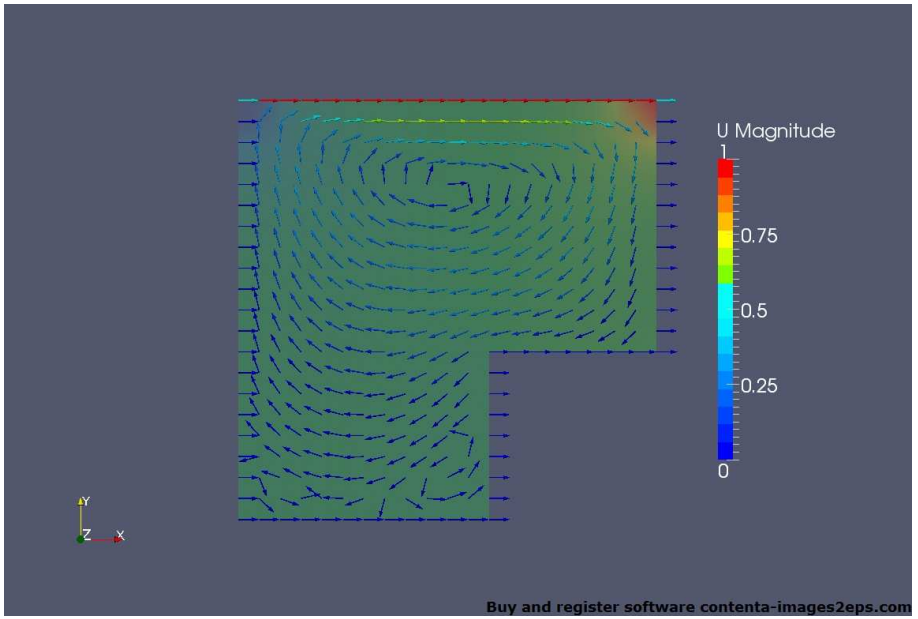
icoFoam tutorials(CavityHighRe)



Cavity case with High Reynolds number flow. StreamTracer filter used to visualise the results.

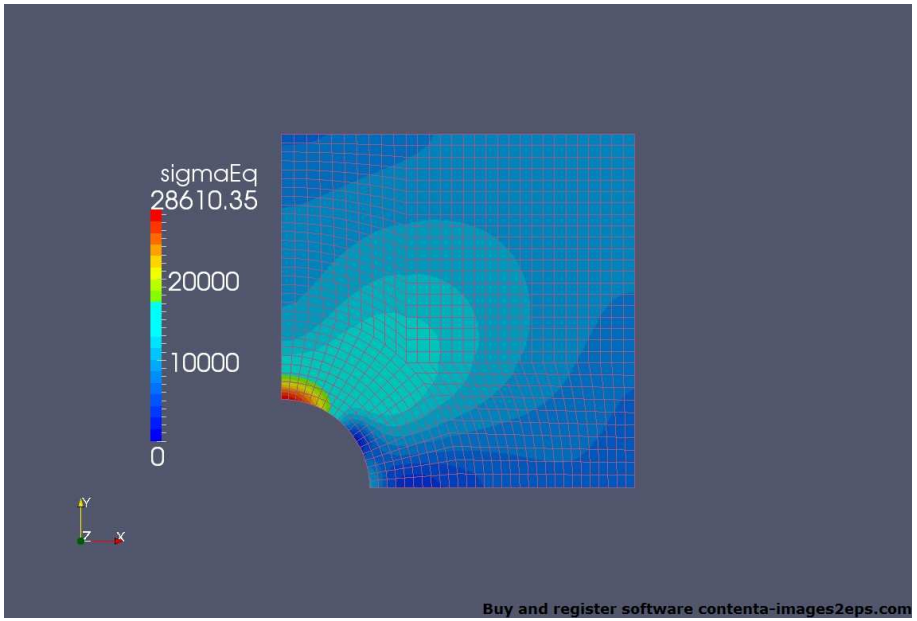
icoFoam tutorials(CavityClipped)

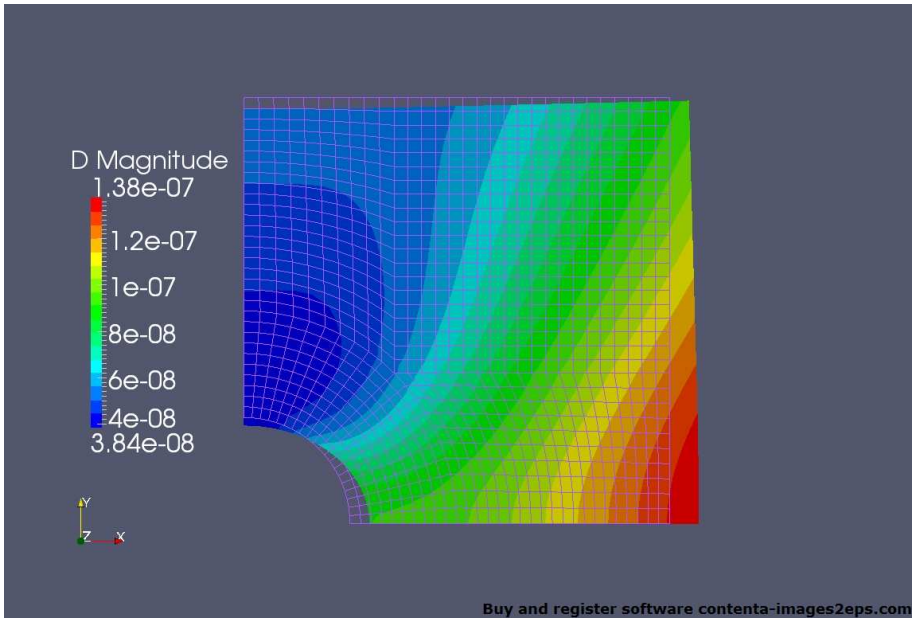




Cavity case with extracted block. Cavity solution velocity field mapped onto cavityClipped case and final sollution for the case.(Glyph filter used)

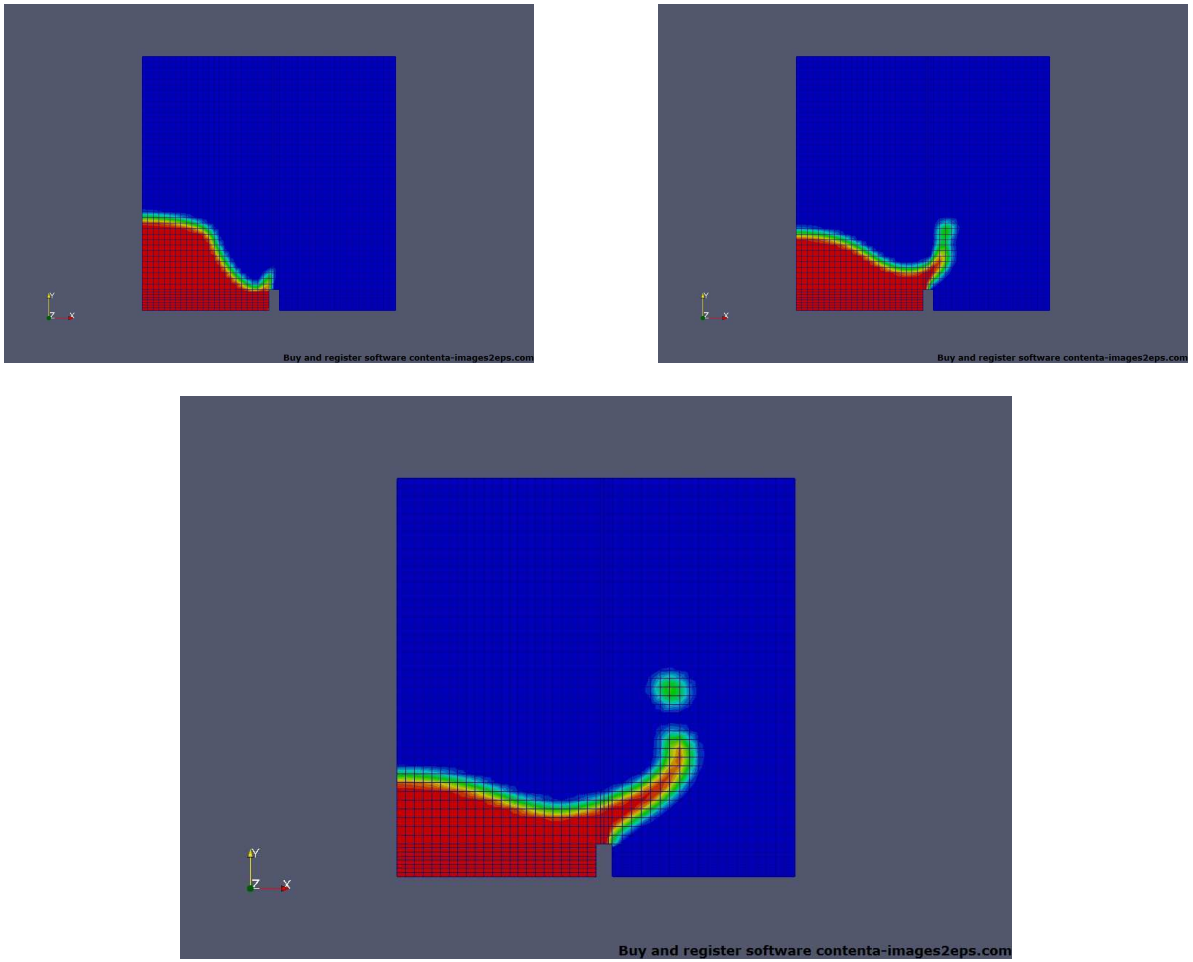
solidDisplacementFoam tutorials(plateHole)





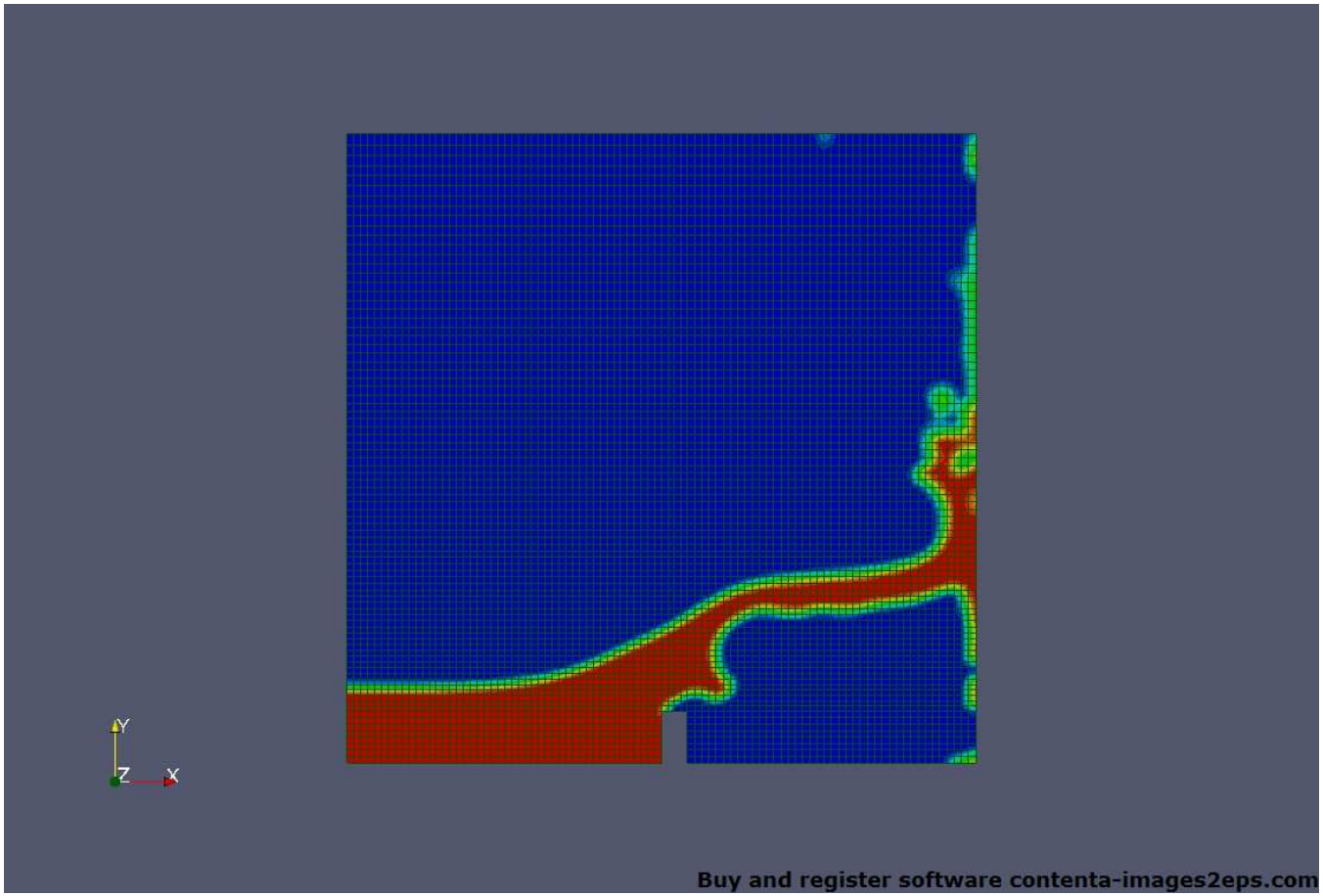
Loaded plate with a hole. Equivalent stresses shown and displacement with a scale factor of 1e6(WarpByVector filter used).

interFoam tutorials(damBreak)



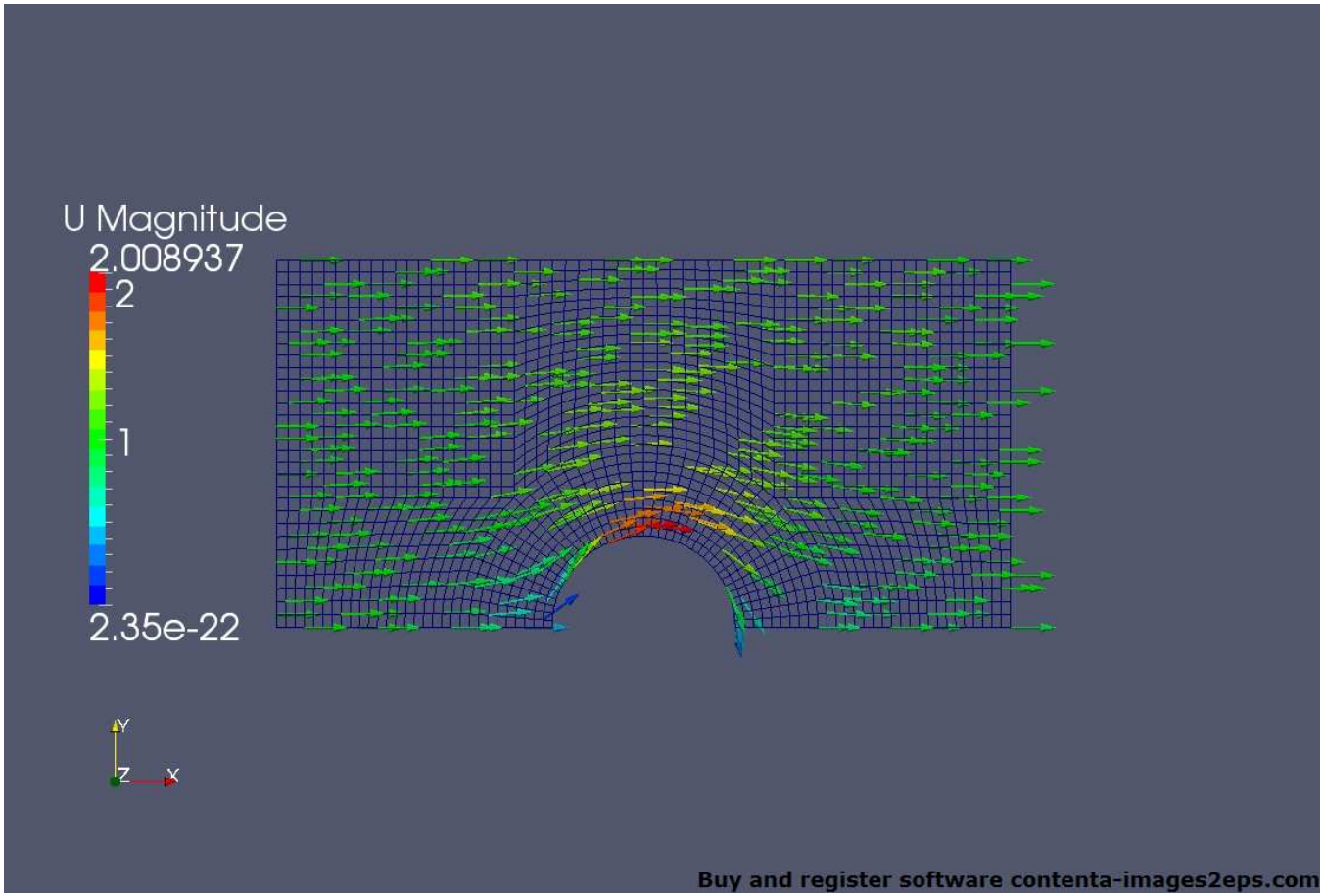
DamBreak case with alpha1 fraction distribution shown in different time steps.

interFoam tutorials(damBreakFine)



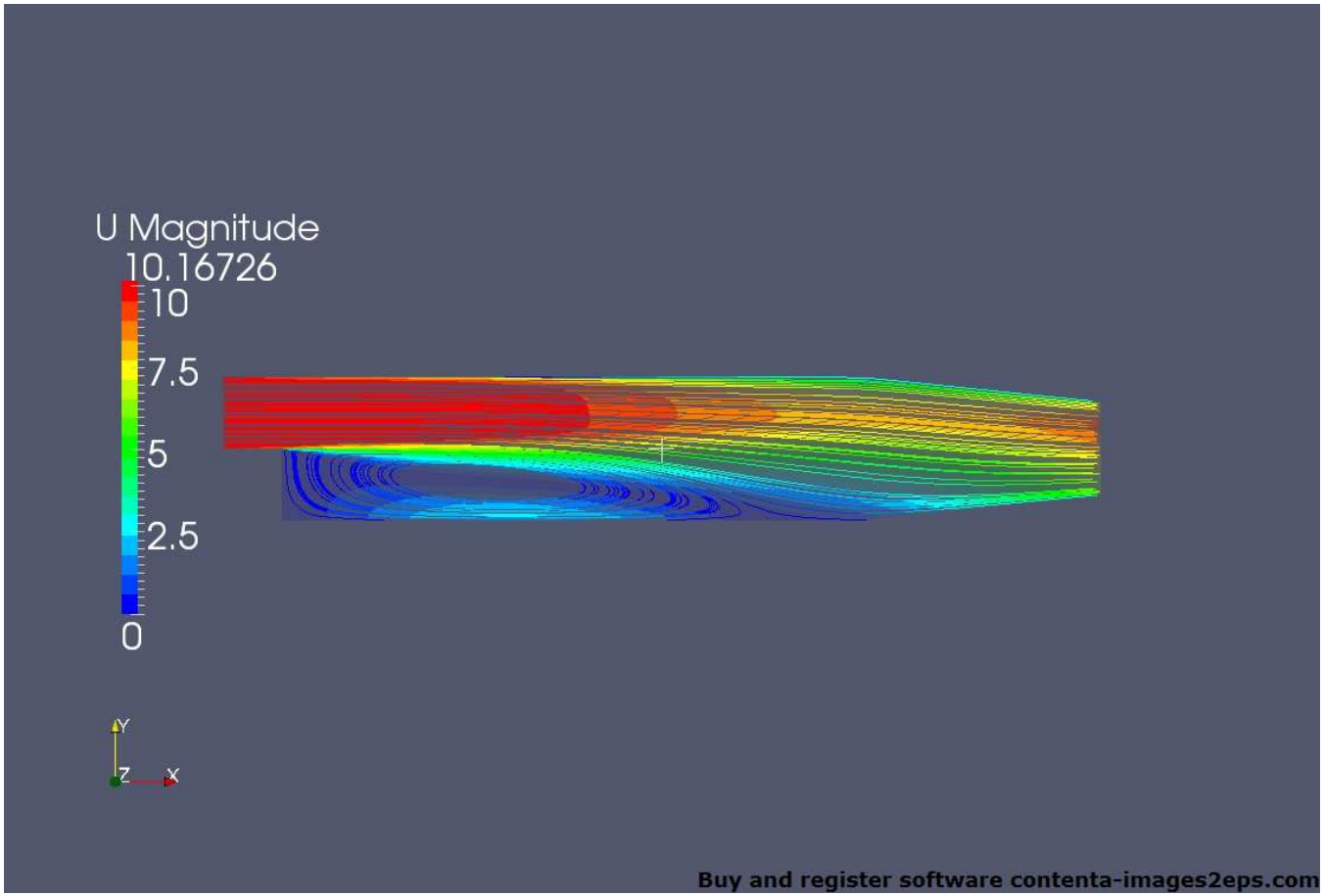
DamBreak with fine mesh. Alpha1 fraction distribution shown at the last step calculated.

potentialFoam tutorials(cylinder)



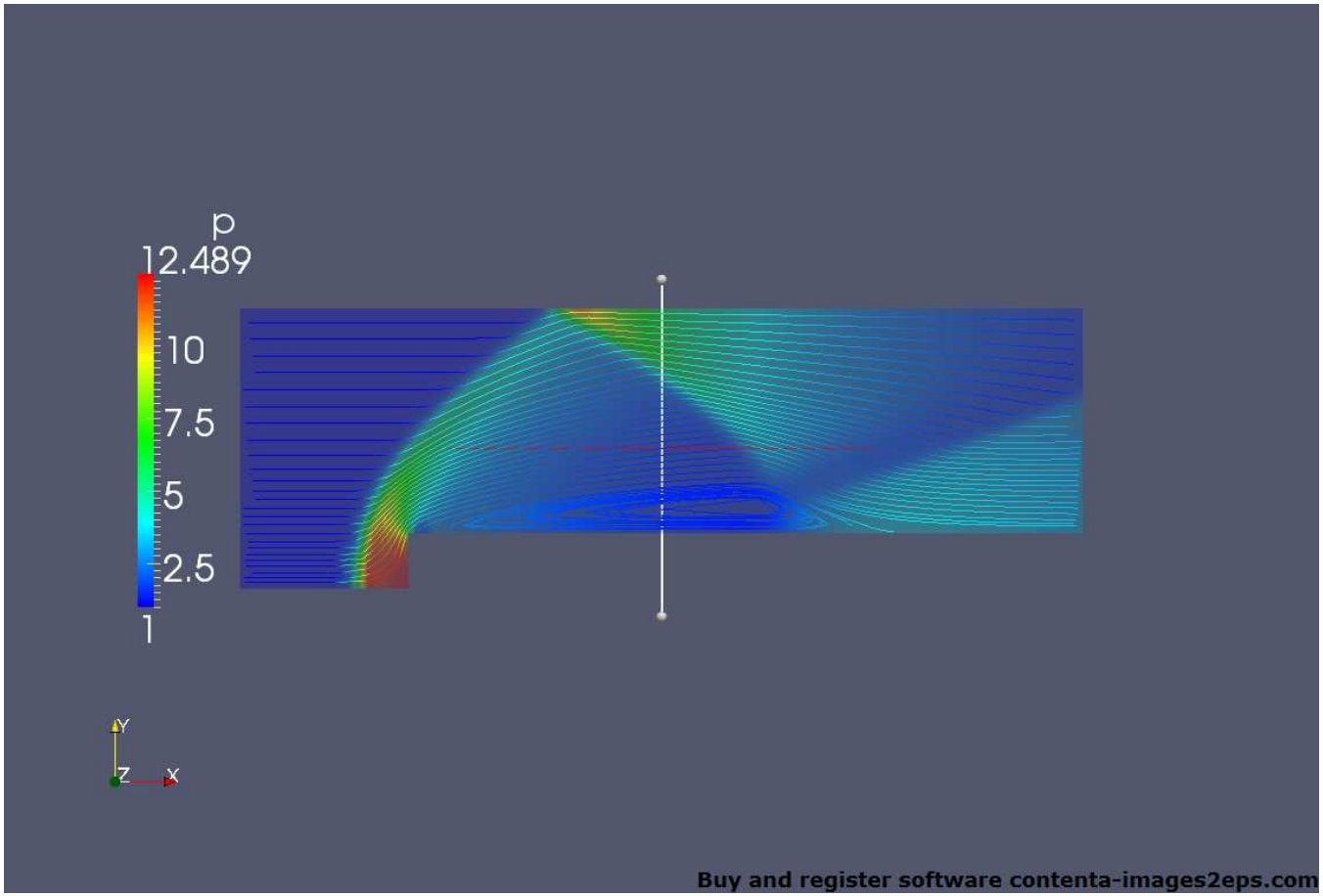
Glyph filter used to show the flow around the cylinder. Vectors are colored with velocity magnitude.

simpleFoam tutorials(pitzDaily)



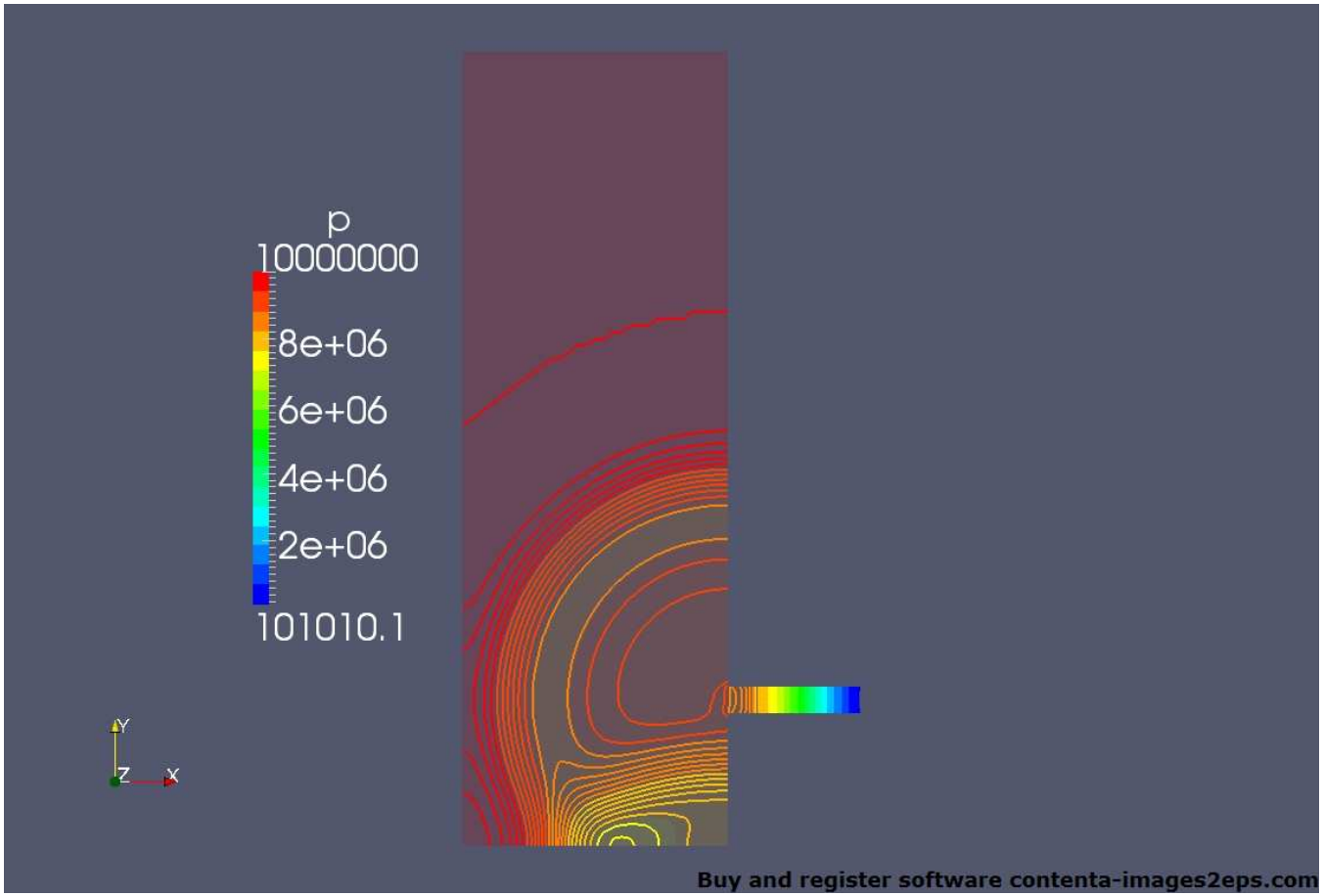
Streamlines in a steady turbulent flow over a backward-facing step.
(Streamlines are colored with the velocity magnitude)

sonicFoam tutorials(forwardStep)



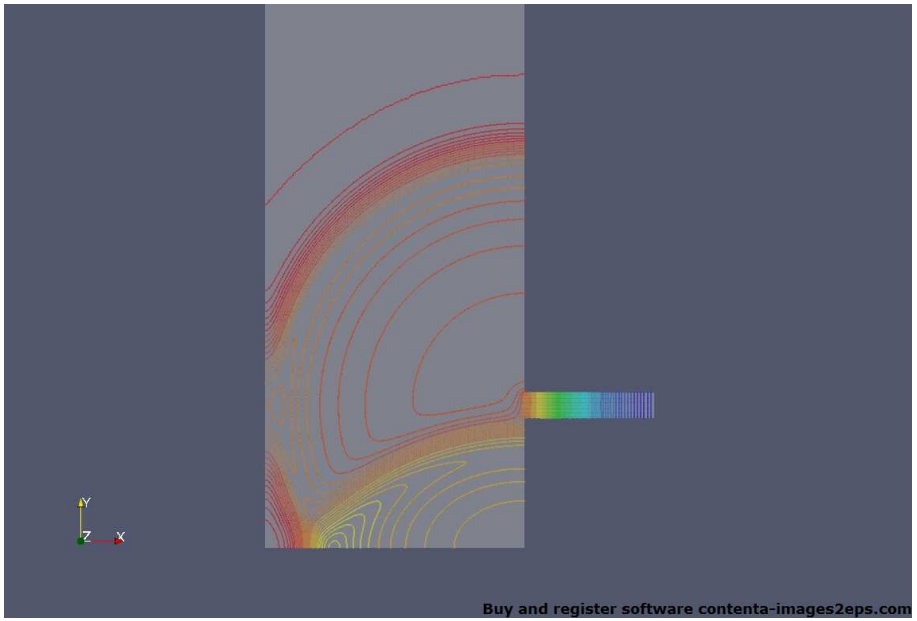
Streamlines and preasure waves for the forwardStep case.

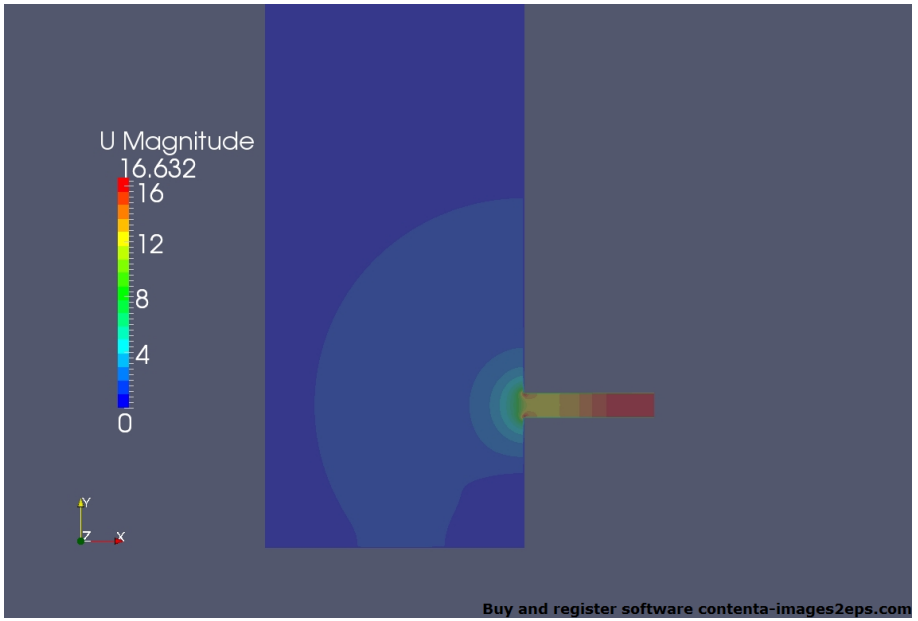
sonicLiquidFoam tutorials(decompressionTank)



Contour lines for preasure waves shown for decompression tank case.

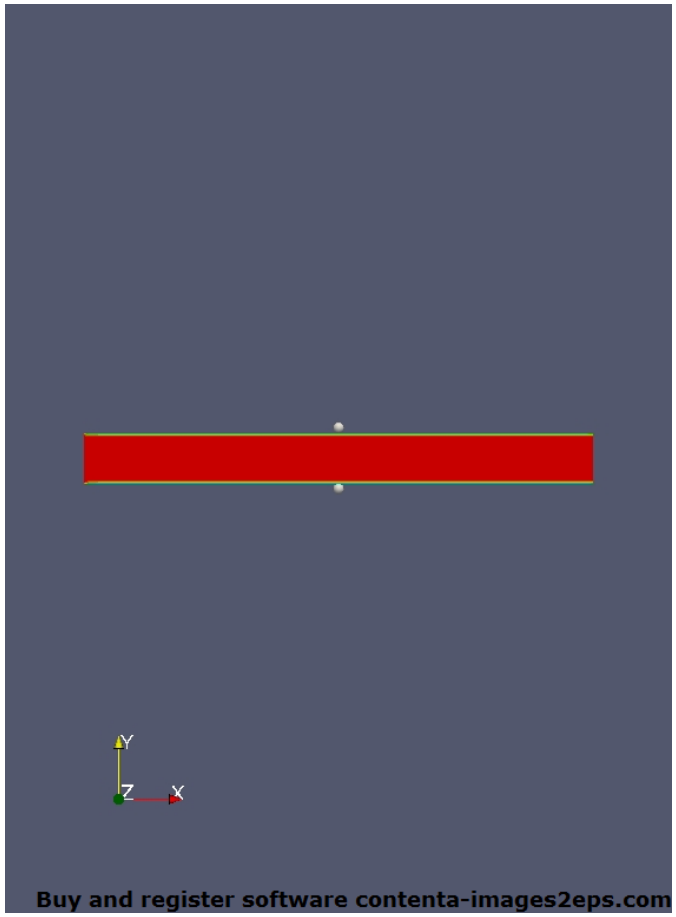
sonicLiquidFoam tutorials(decompressionTankFine)

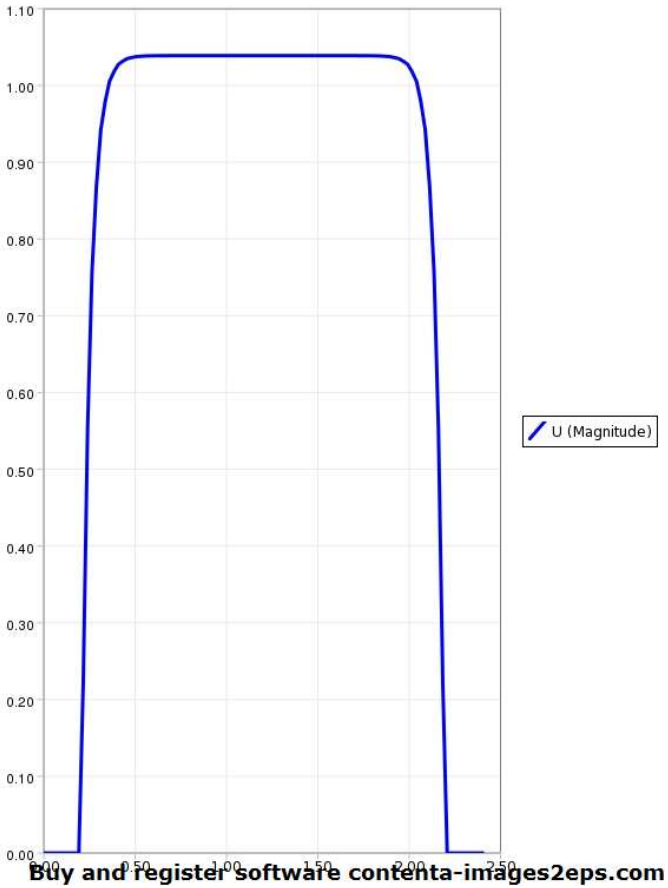




Contour lines for presure and velocity magnitude plots for the decompression tank case with fine mesh.

mhdFoam tutorials(hartmann)





Magnetohydrodynamic flow of a liquid, velocity distribution over the line for B=20T is shown.

Cavity case modified

As for doing interesting modification Cavity case was chosen. For this modification all four walls were specified to be moving walls. For this purpose movingWall type of patch was replaced by four of them movingWall1-movingWall4.
2 Modifications done to blockMeshDict:

```
    wall movingWall1
((3 7 6 2))
    wall movingWall2
((2 6 5 1))
    wall movingWall3
((1 5 4 0))
    wall movingWall4
((0 4 7 3))
```

Cavity case modified

Also modifications for 0 time were made for files /0/p and /0/u.
For the preasure file:

```
    movingWall1
    {type            zeroGradient;}
    movingWall2
    {type            zeroGradient;}
    movingWall3
    {type            zeroGradient;}
movingWall4  {type   zeroGradient;}
```

And for the velocity file vectors for different wall movements should be defined:

```
    movingWall1
    {   type            fixedValue; value           uniform (1 0 0);}
    movingWall2
    {   type            fixedValue; value           uniform (0 1 0);}
    movingWall3
    {   type            fixedValue; value           uniform (-1 0 0);}
    movingWall4
    {   type            fixedValue; value           uniform (0 -1 0);}
```

Cavity case modified

As a result one can get four independent zones and particles from one zone are never going to another one. Velocity vectors and streamlines are shown for the modified case.