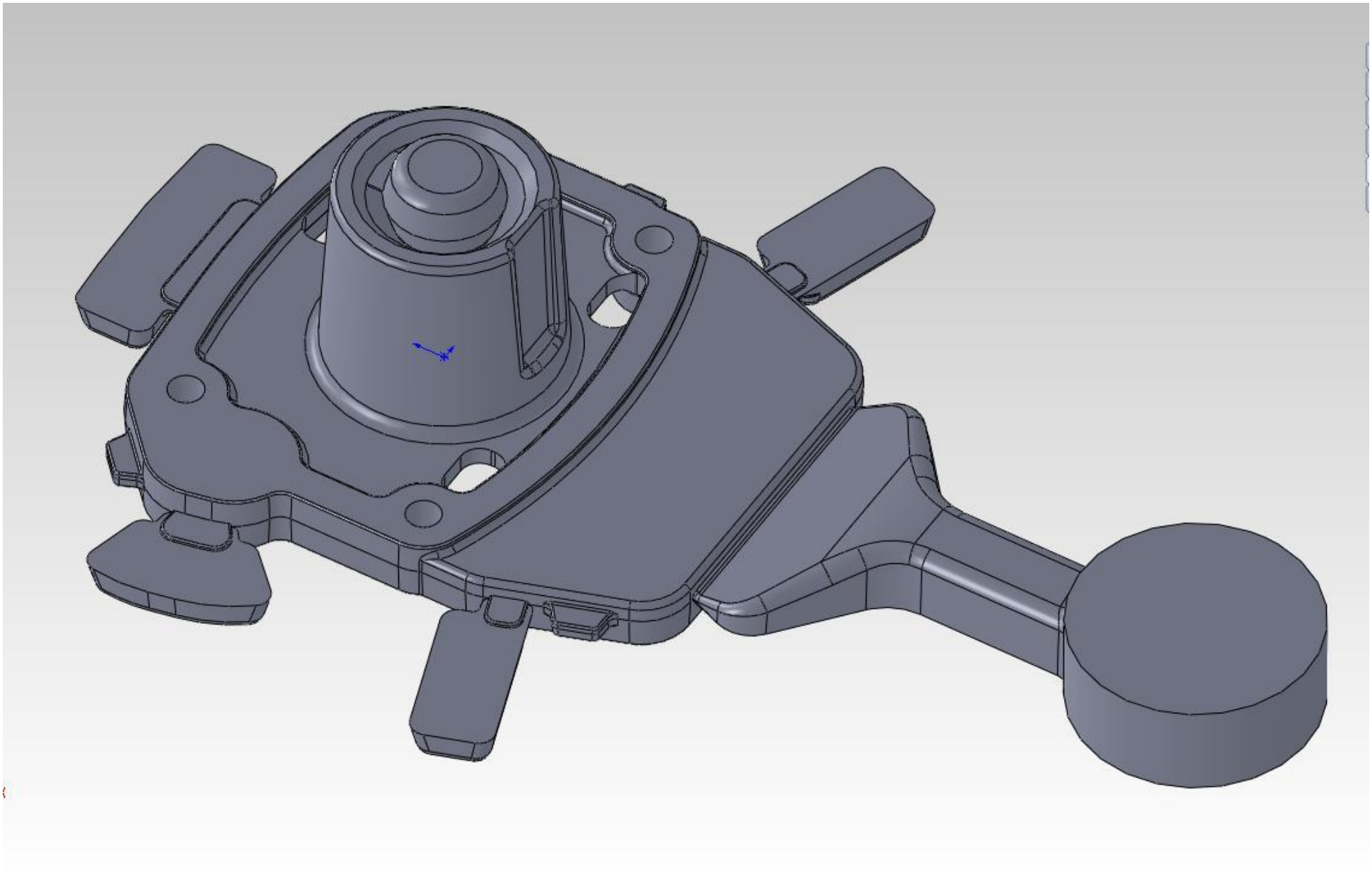
SIMULAZIONE STAMPATA COPERCHIO

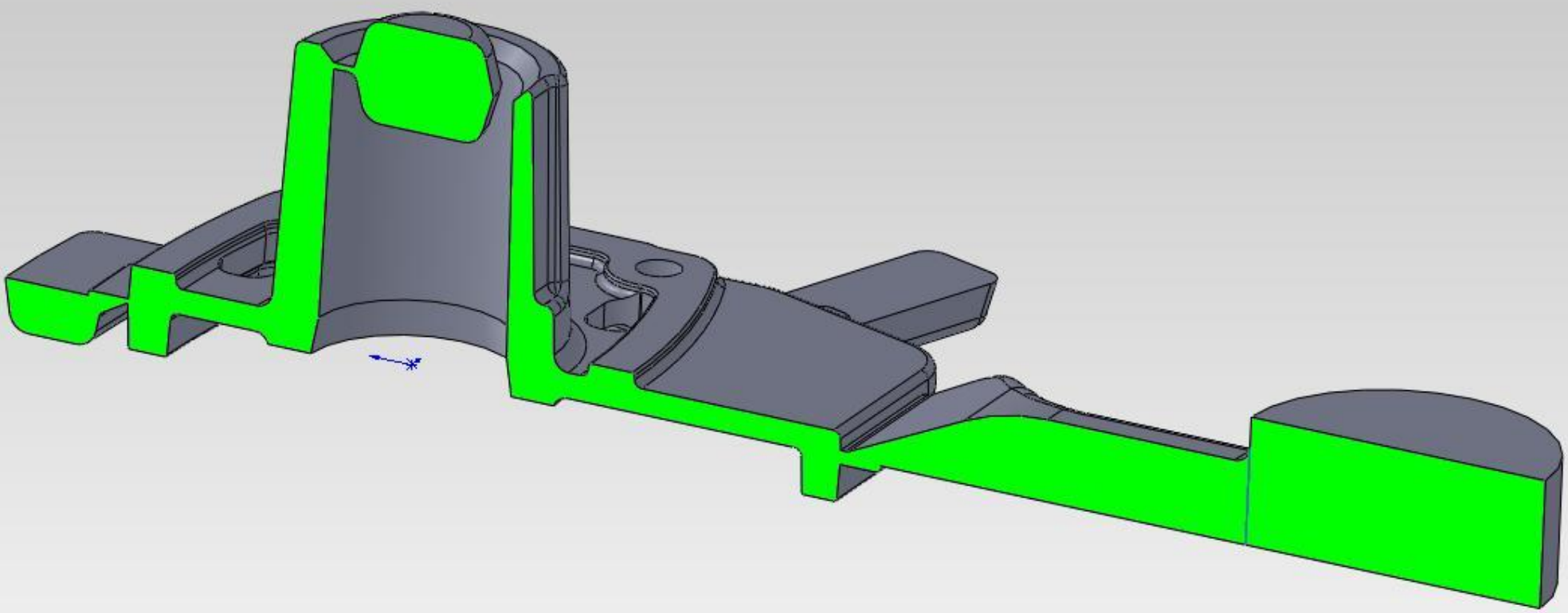
ALUMINIUM MOULD & DESIGN

Layout Stampata

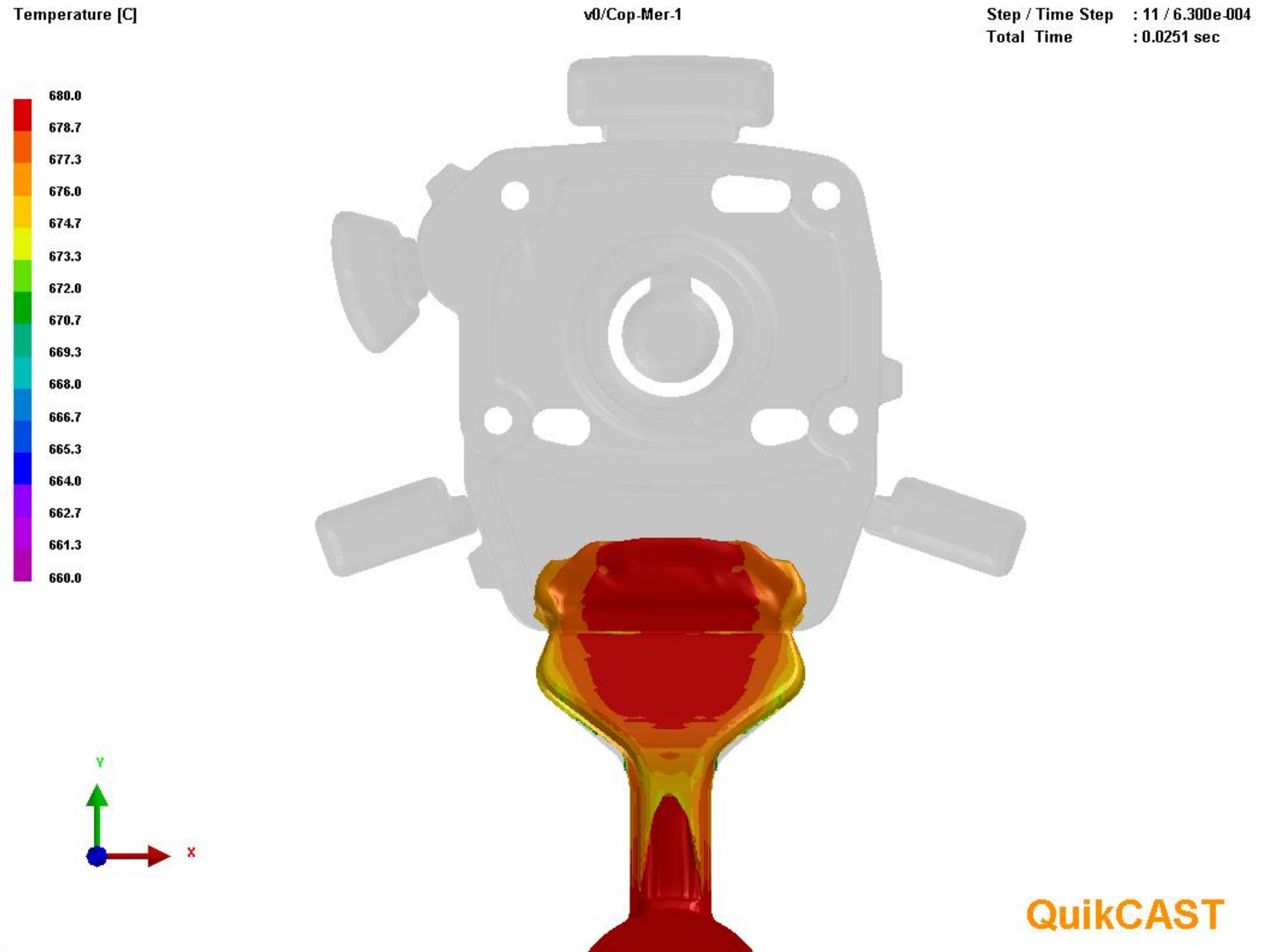
Layout Stampata



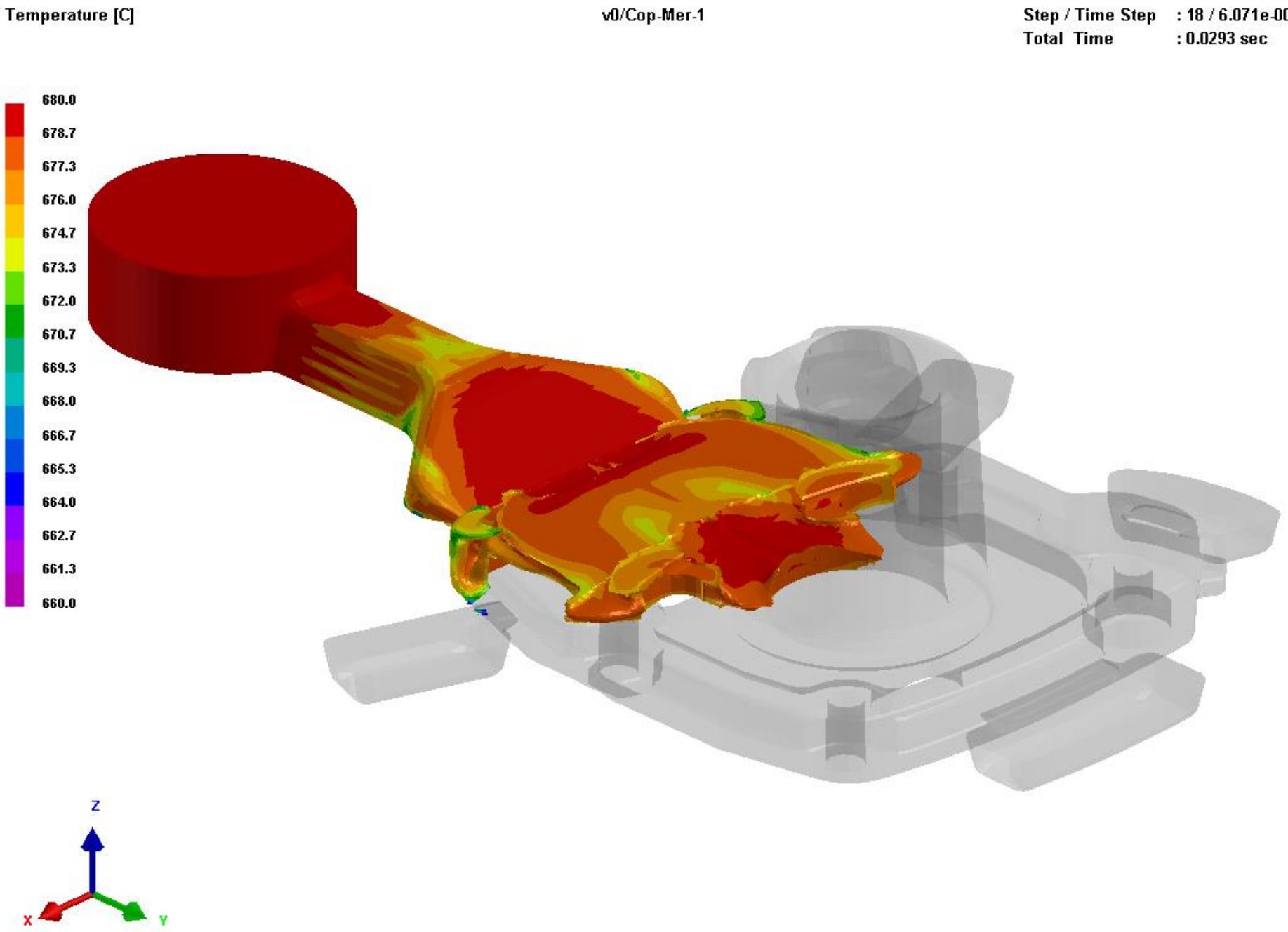
Layout Stampata



Temperature

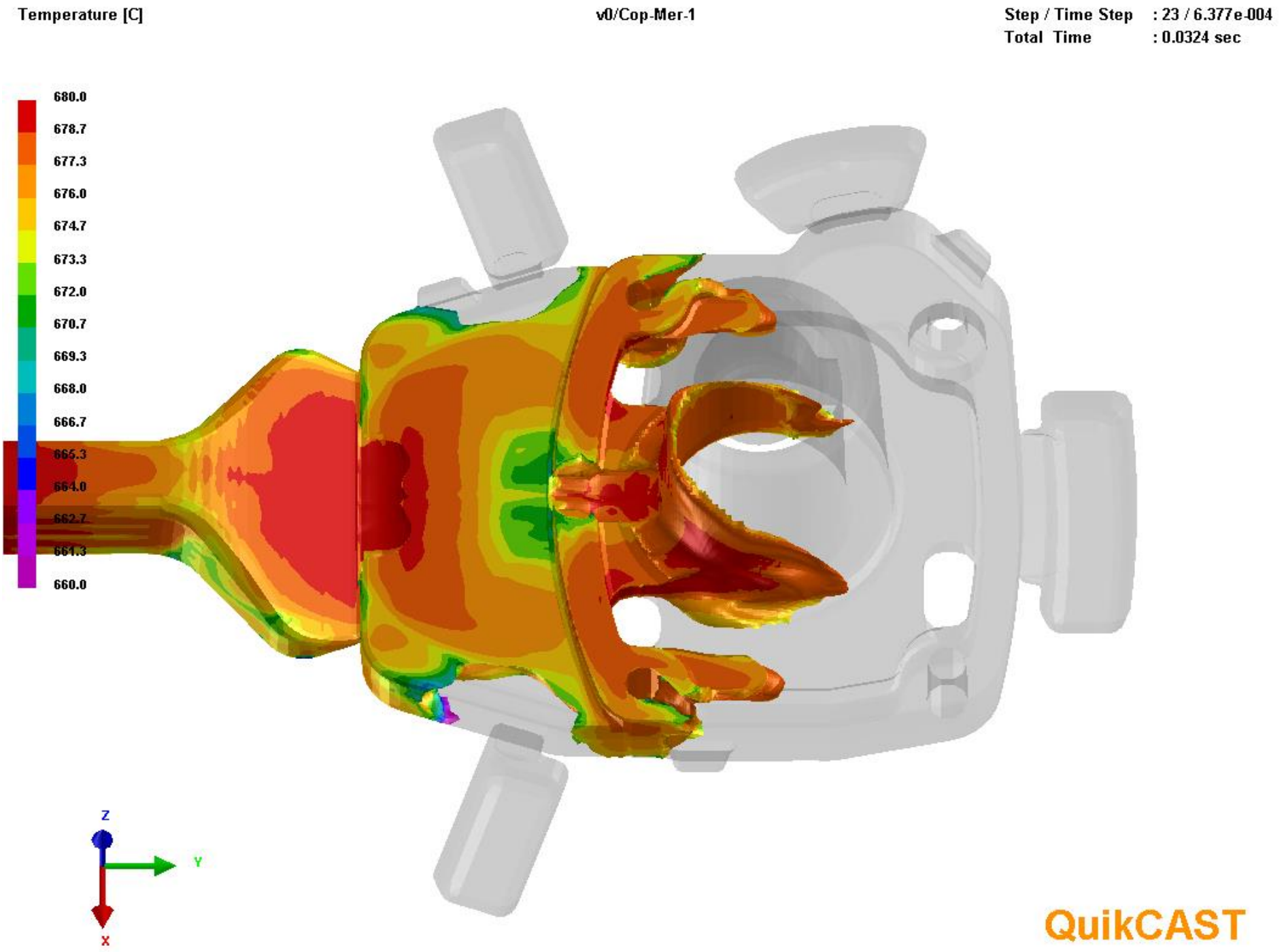


Temperature

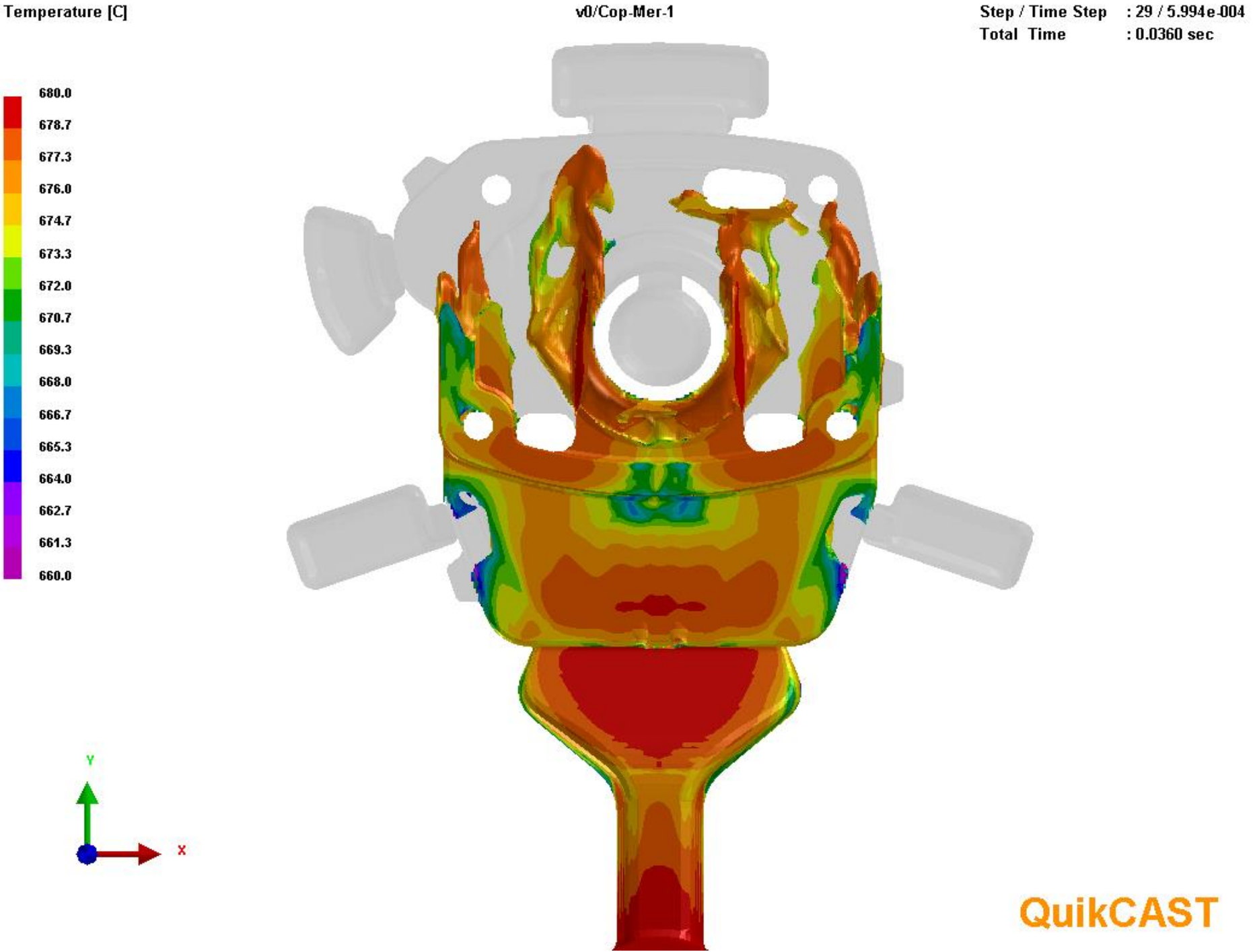


QuikCAST

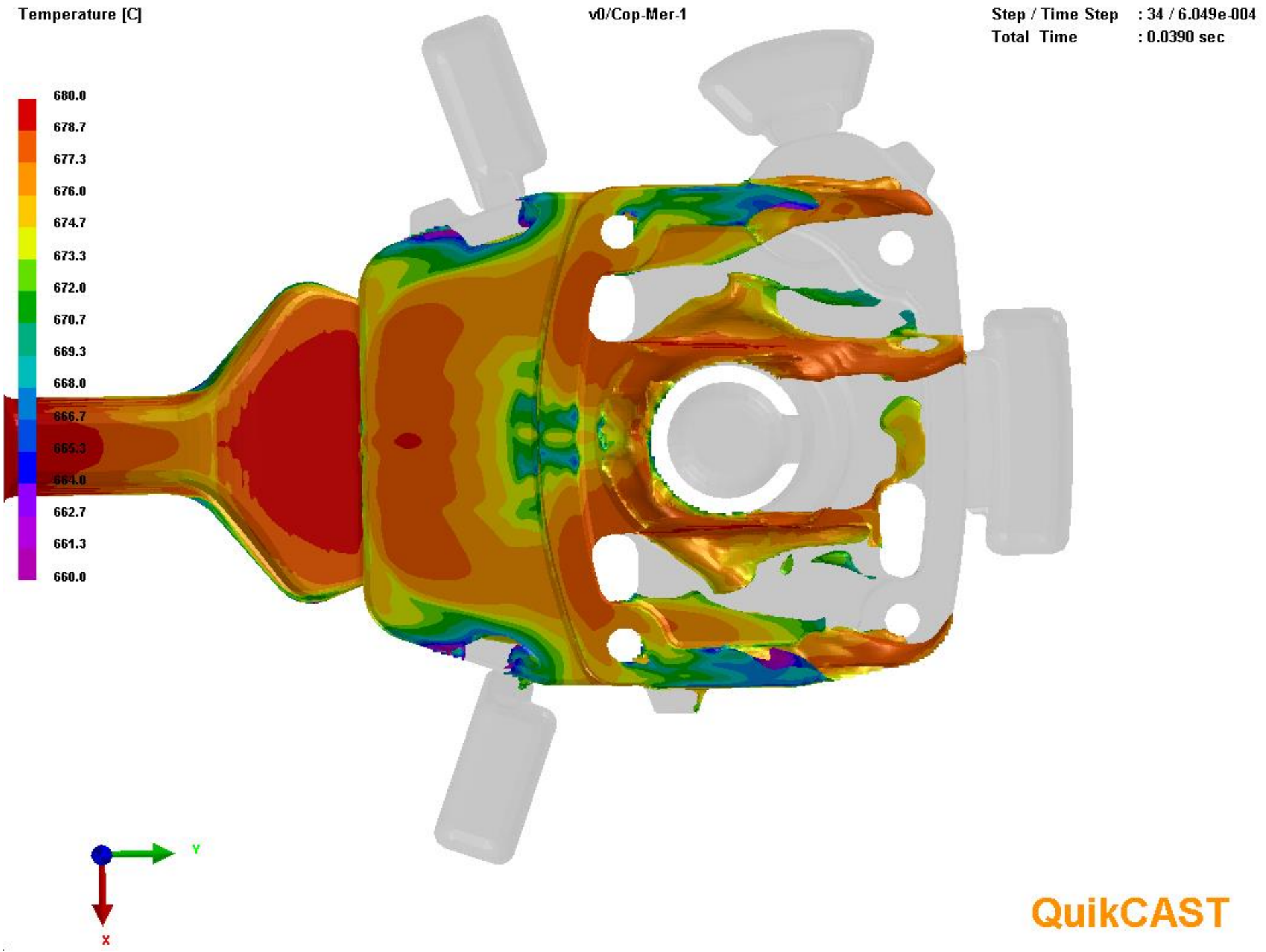
Temperature



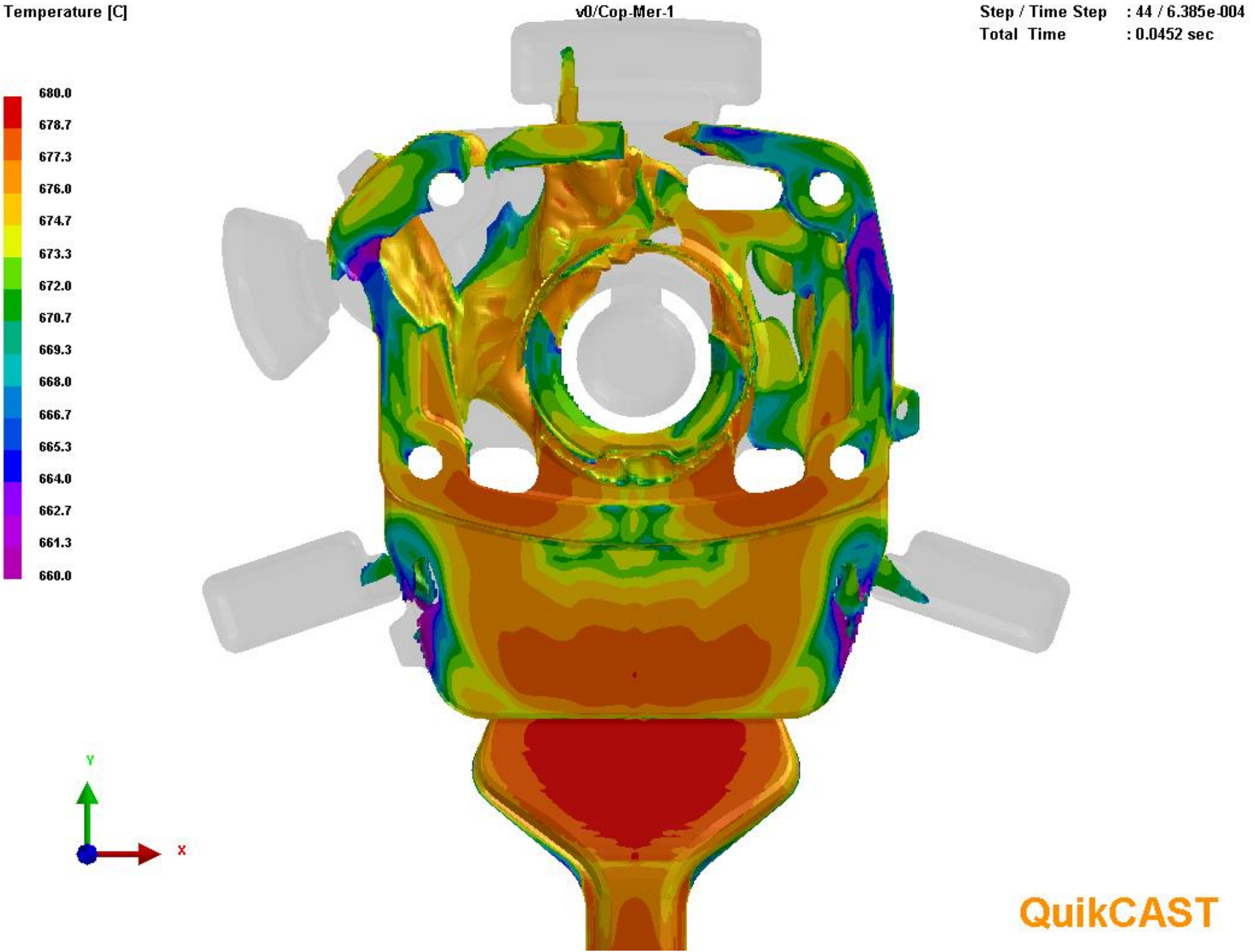
Temperature



Temperature



Temperature

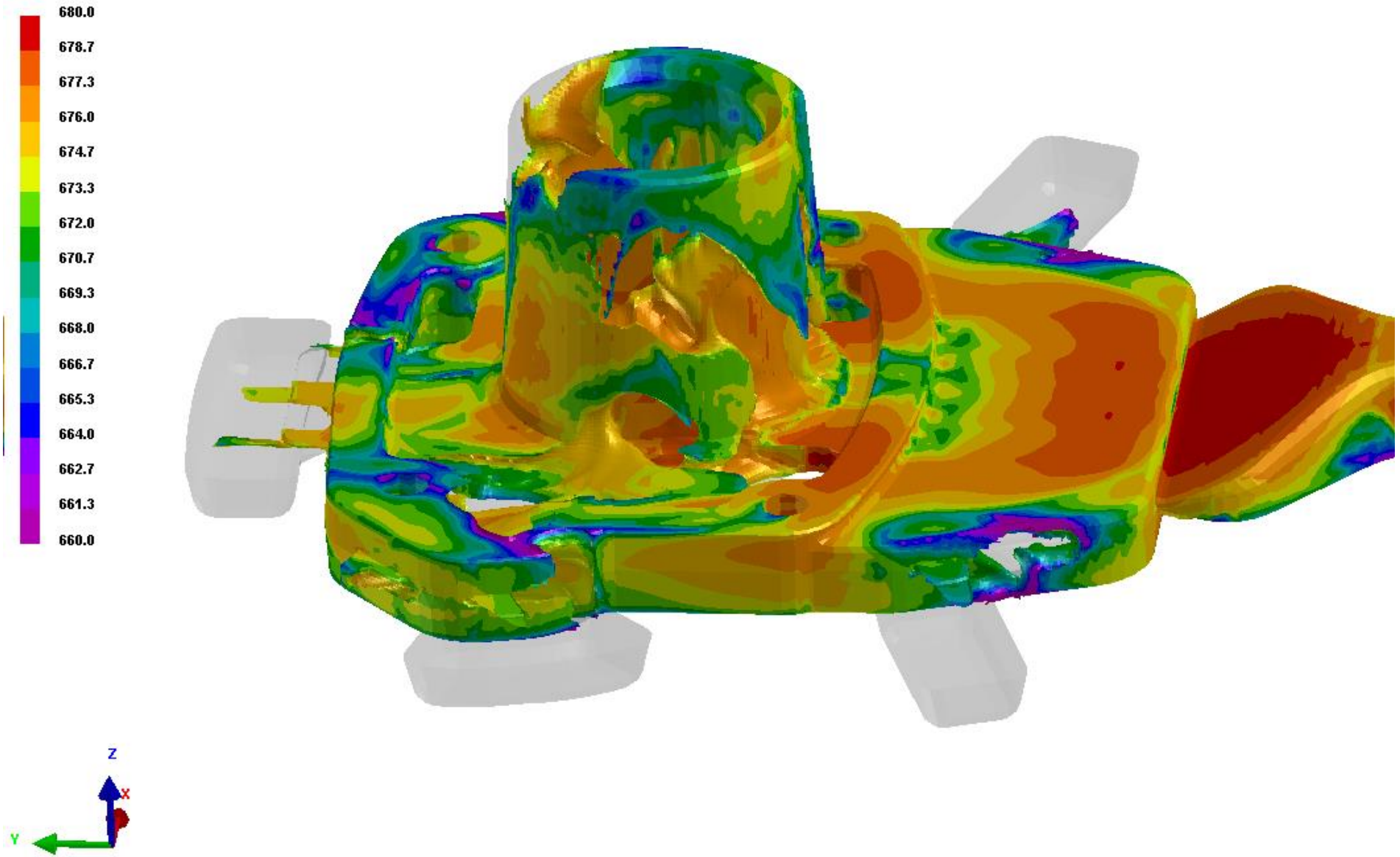


Temperature

Temperature [C]

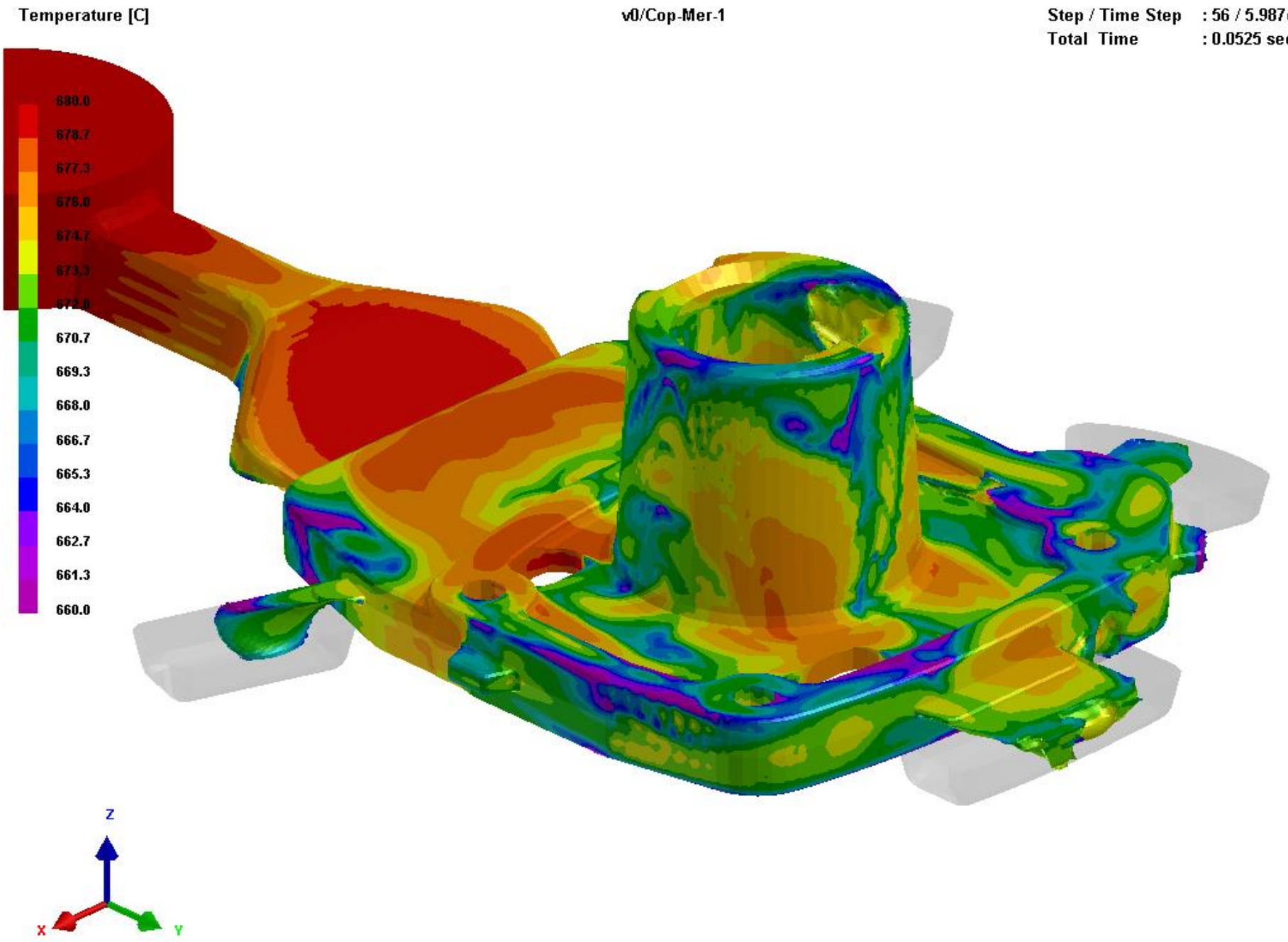
v0/Cop-Mer-1

Step / Time Step : 49 / 6.355e-004
Total Time : 0.0482 sec



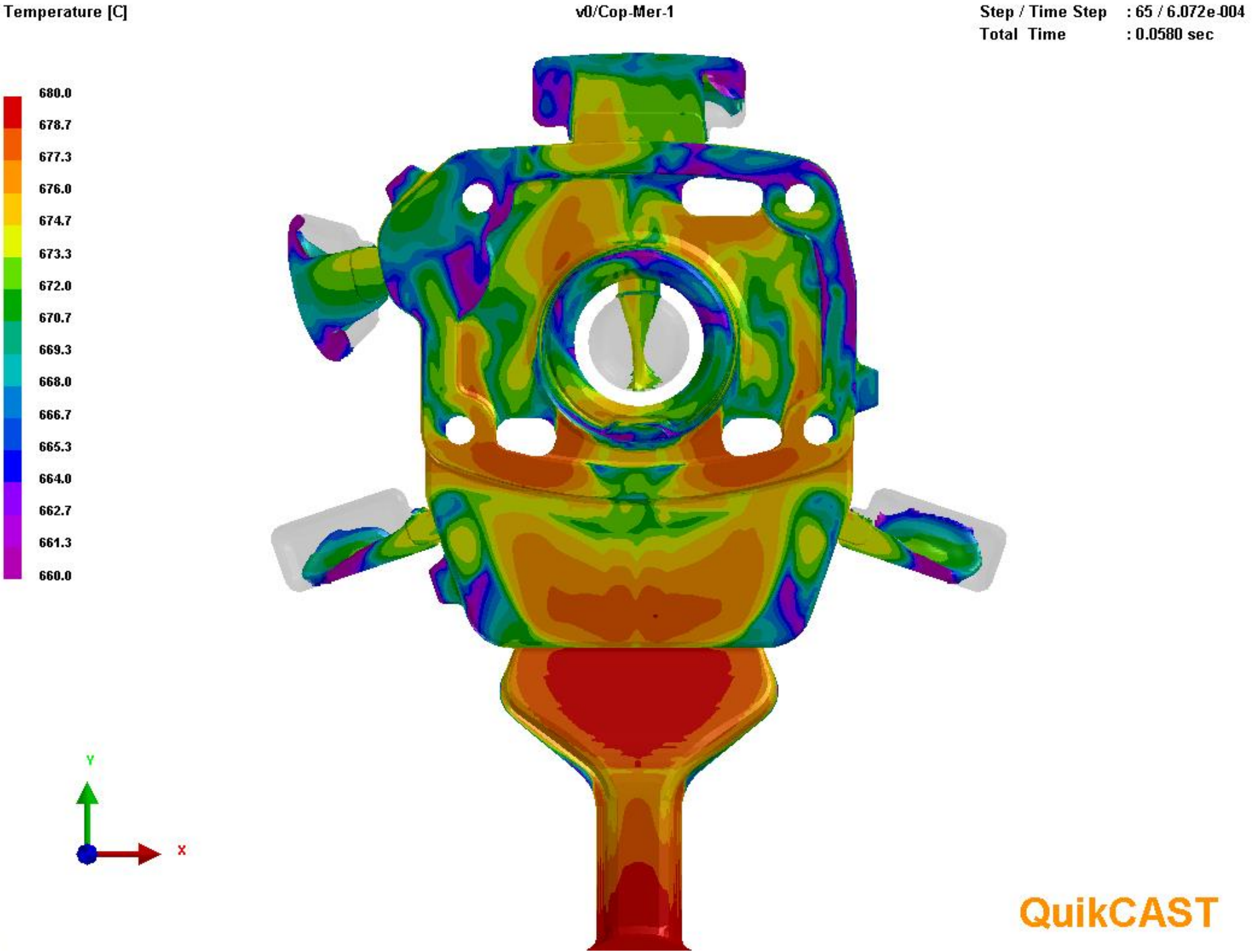
QuikCAST

Temperature



QuikCAST

Temperature



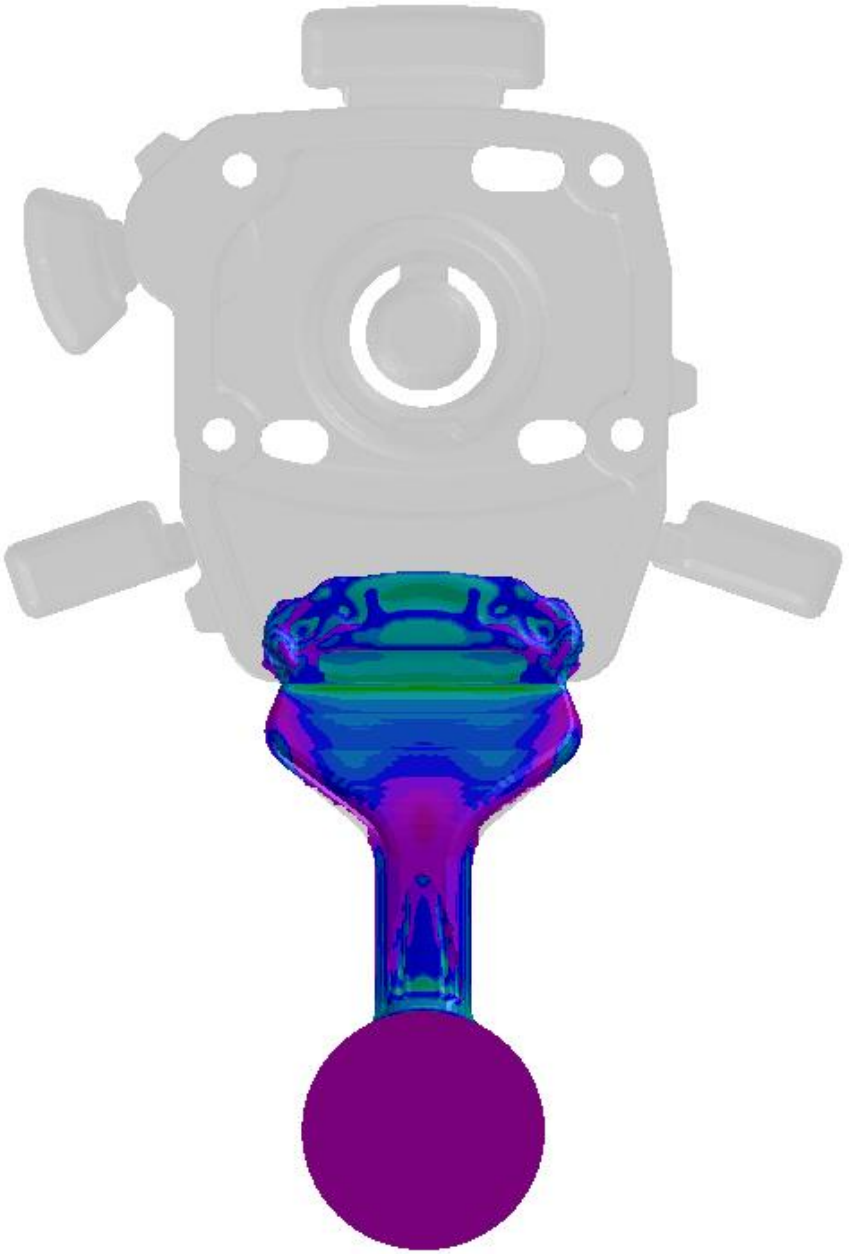
Velocity

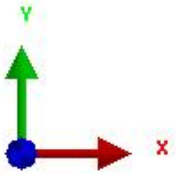
Fluid Velocity-Magnitude [m/sec]

v0/Cop-Mer-1

Step / Time Step : 11 / 6.300e-004
Total Time : 0.0251 sec

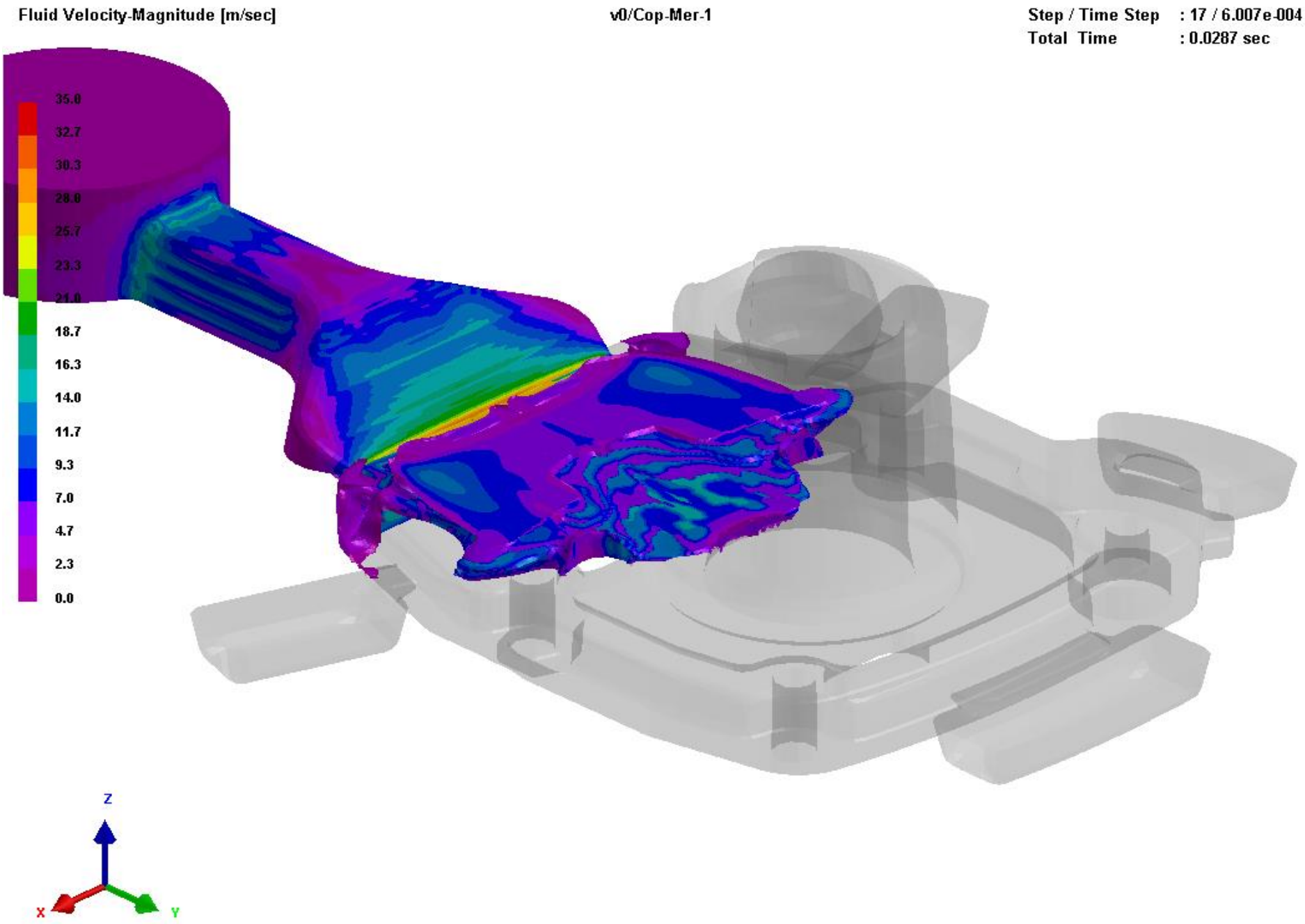
35.0
32.7
30.3
28.0
25.7
23.3
21.0
18.7
16.3
14.0
11.7
9.3
7.0
4.7
2.3
0.0





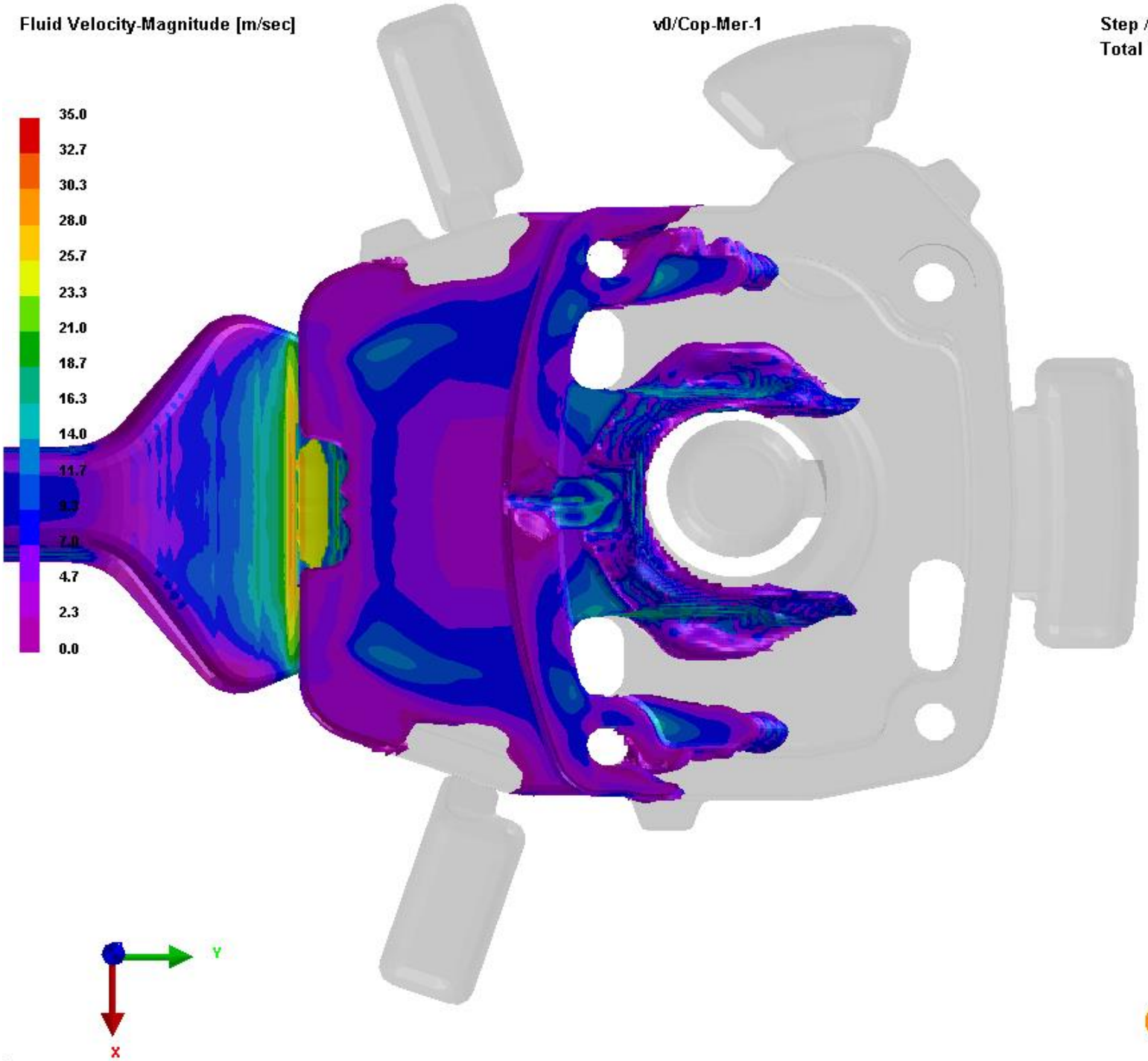
QuikCAST

Velocity



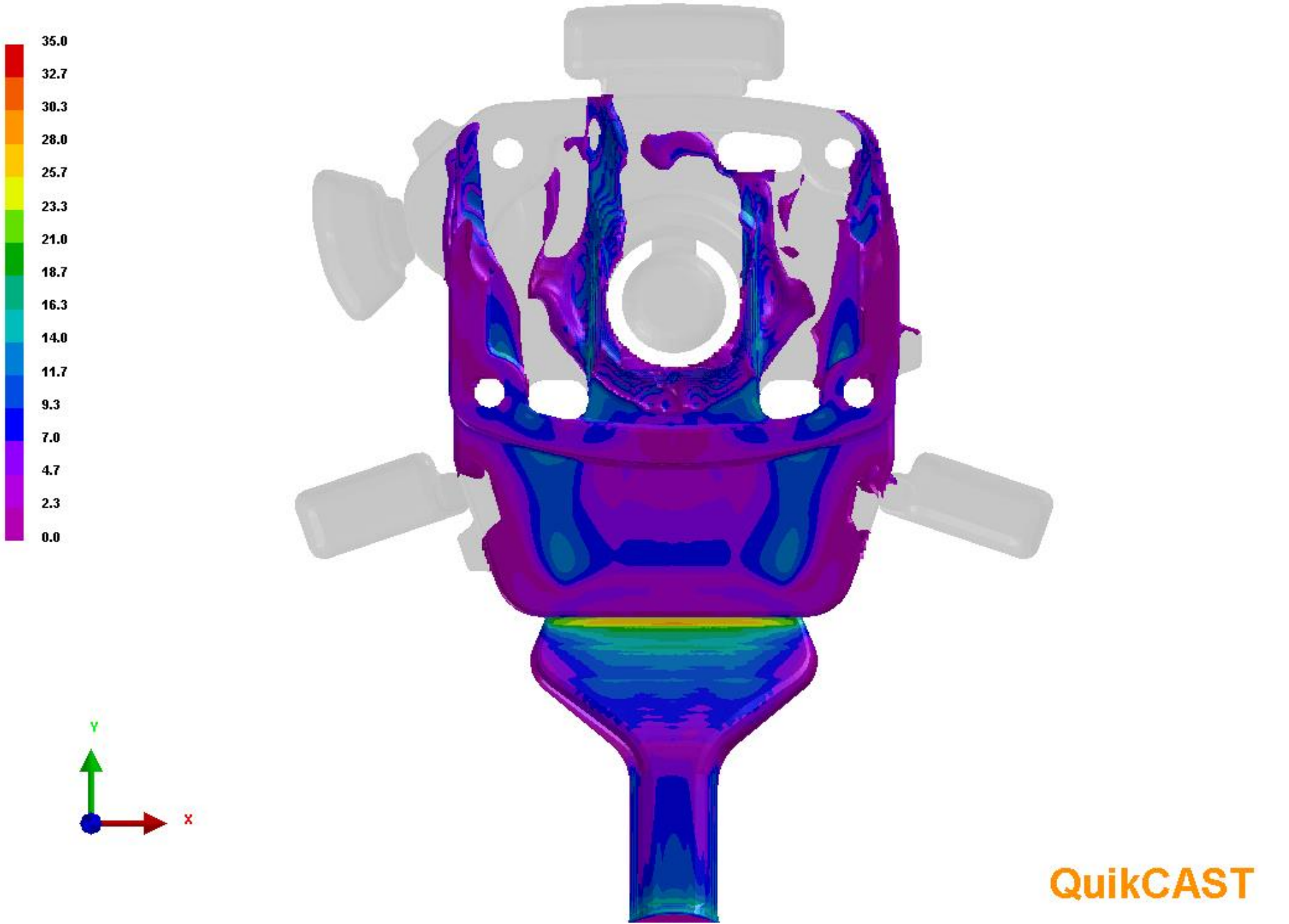
QuikCAST

Velocity

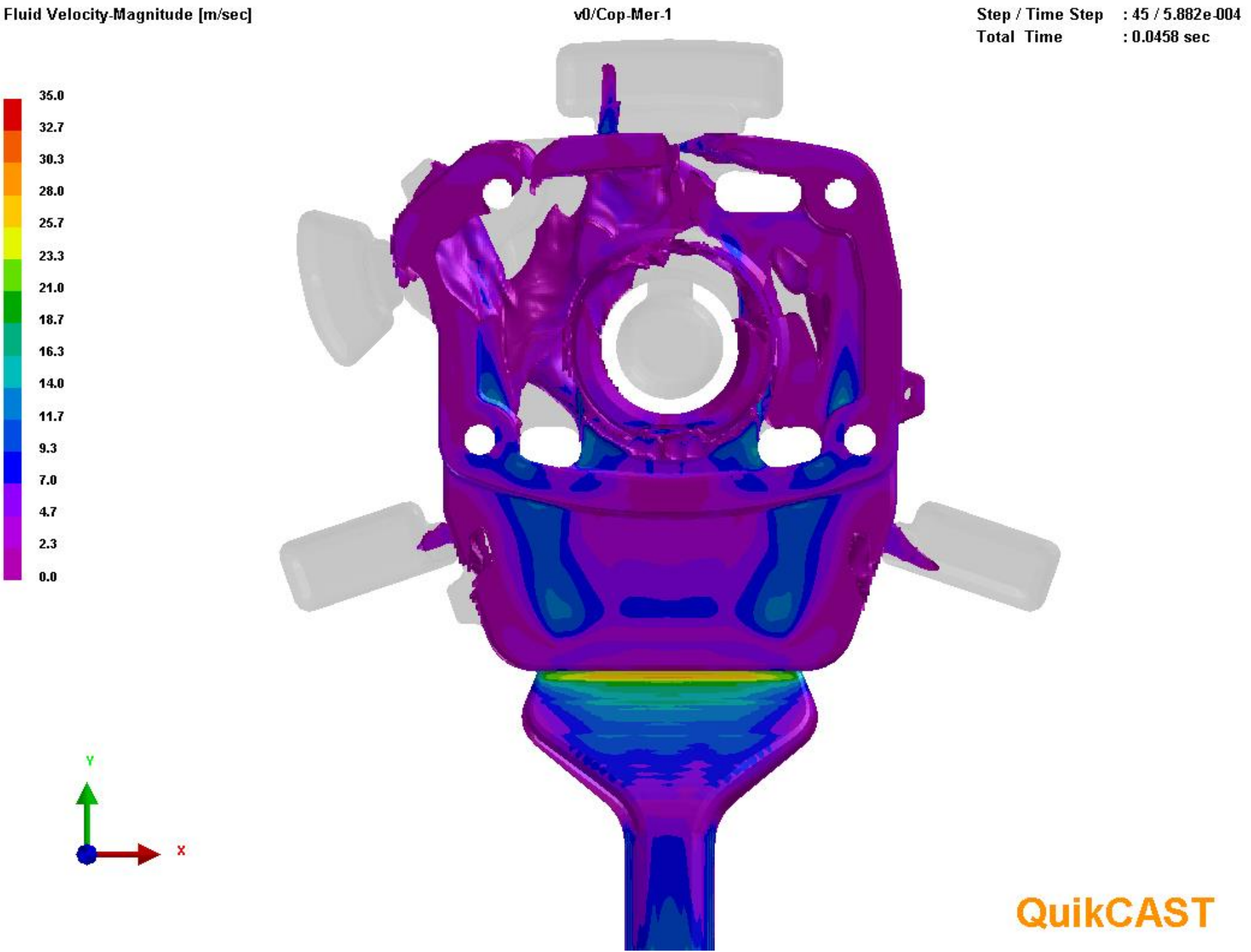


QuikCAST

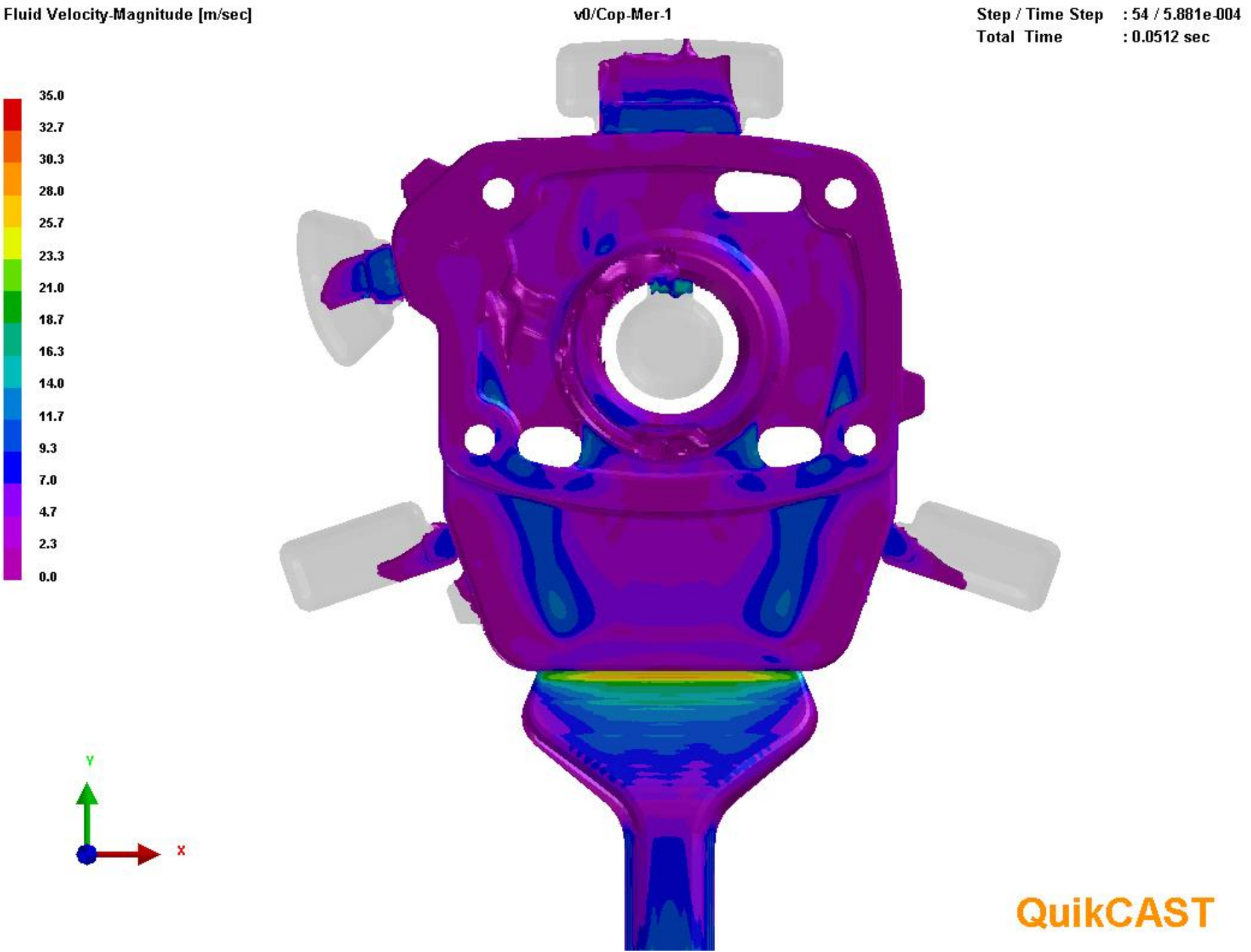
Velocity


Fluid Velocity-Magnitude [m/sec]
v0/Cop-Mer-1
Step / Time Step : 34 / 6.049e-004
Total Time : 0.0390 sec
35.0
32.7
30.3
28.0
25.7
23.3
21.0
18.7
16.3
14.0
11.7
9.3
7.0
4.7
2.3
0.0
Y
X
QuikCAST

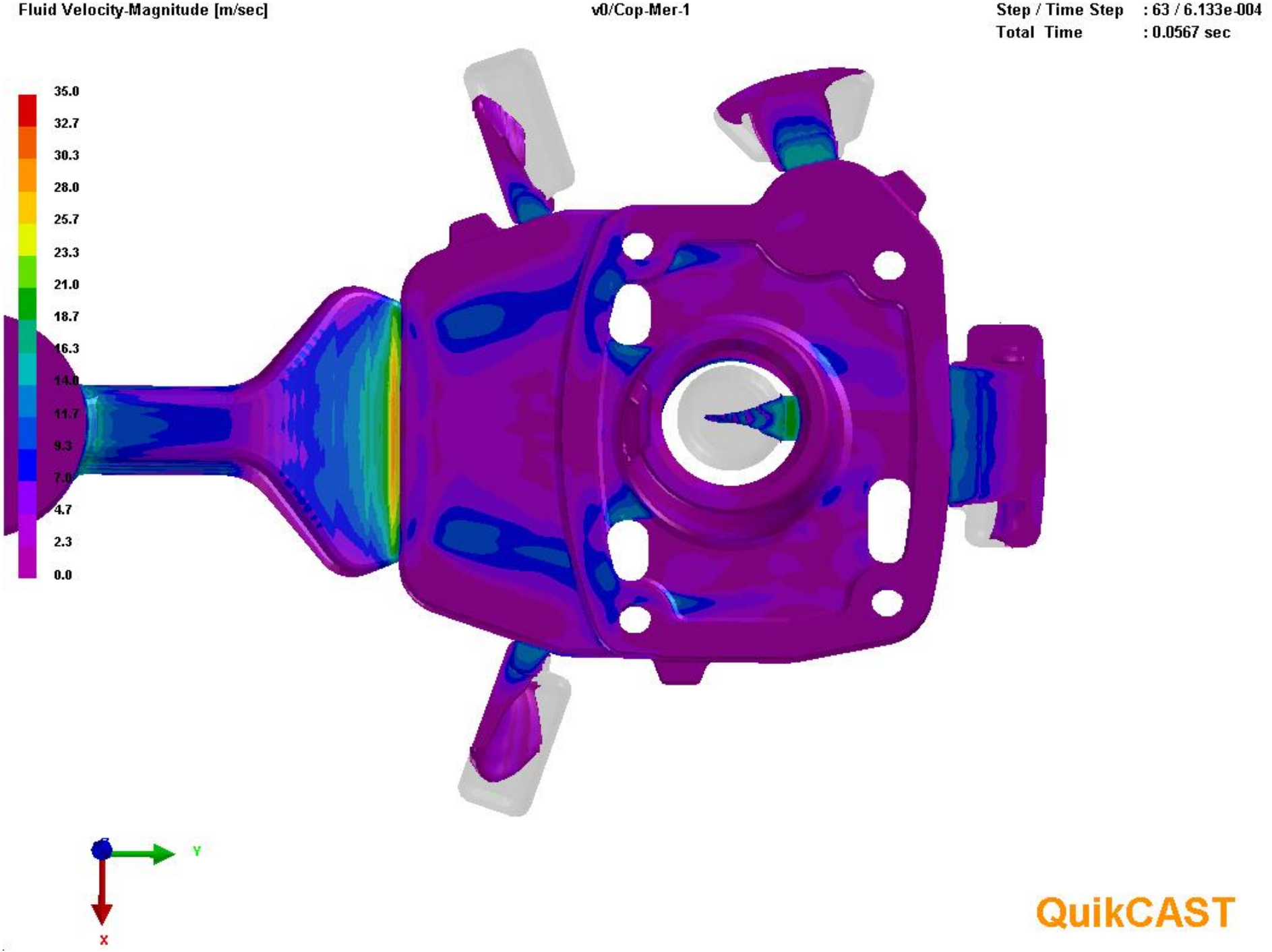
Velocity


Fluid Velocity-Magnitude [m/sec]
v0/Cop-Mer-1
Step / Time Step : 45 / 5.882e-004
Total Time : 0.0458 sec
35.0
32.7
30.3
28.0
25.7
23.3
21.0
18.7
16.3
14.0
11.7
9.3
7.0
4.7
2.3
0.0
Y
X
QuikCAST

Velocity

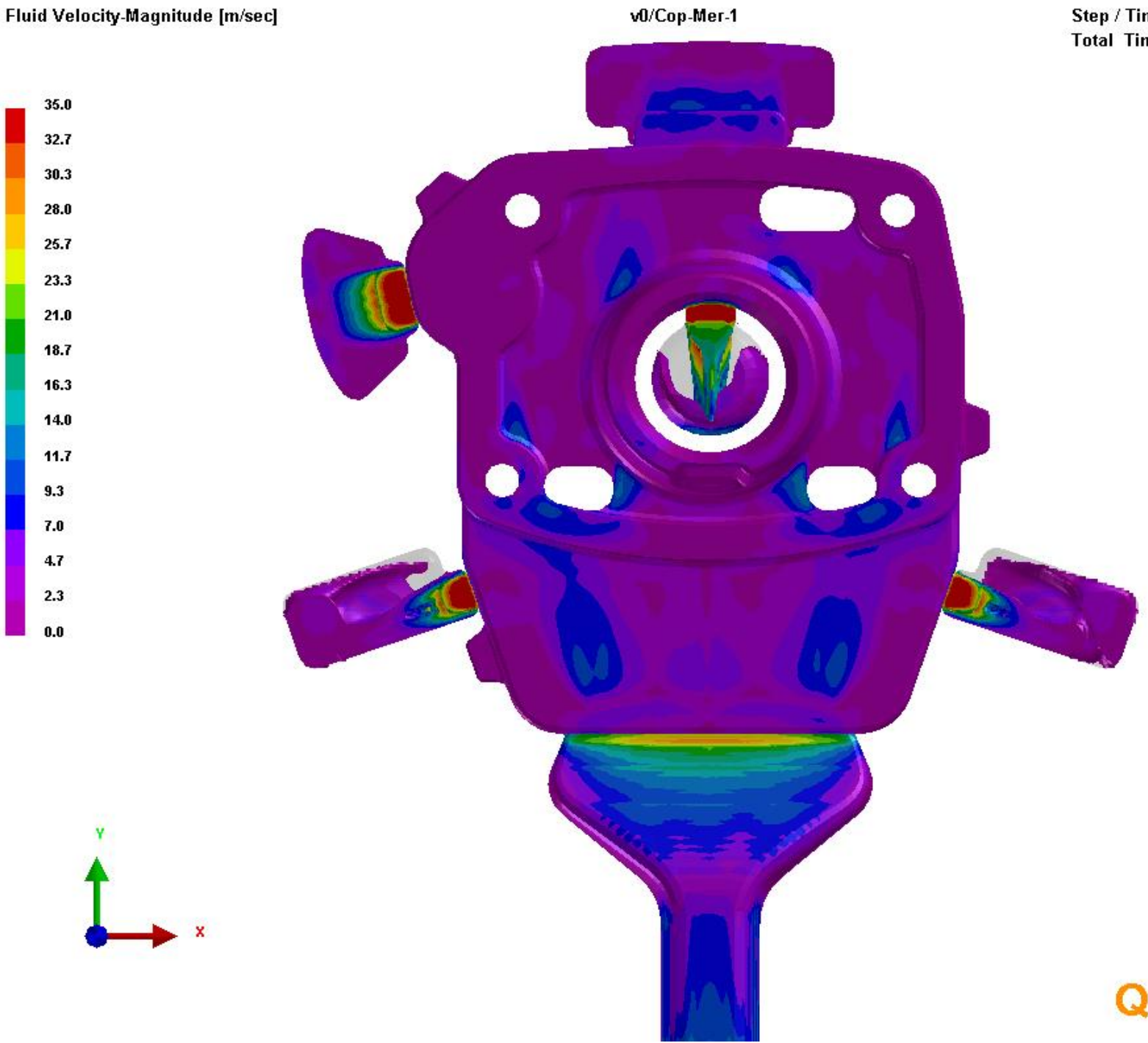

Fluid Velocity-Magnitude [m/sec]
v0/Cop-Mer-1
Step / Time Step : 54 / 5.881e-004
Total Time : 0.0512 sec
35.0
32.7
30.3
28.0
25.7
23.3
21.0
18.7
16.3
14.0
11.7
9.3
7.0
4.7
2.3
0.0
Y
X
QuikCAST

Velocity

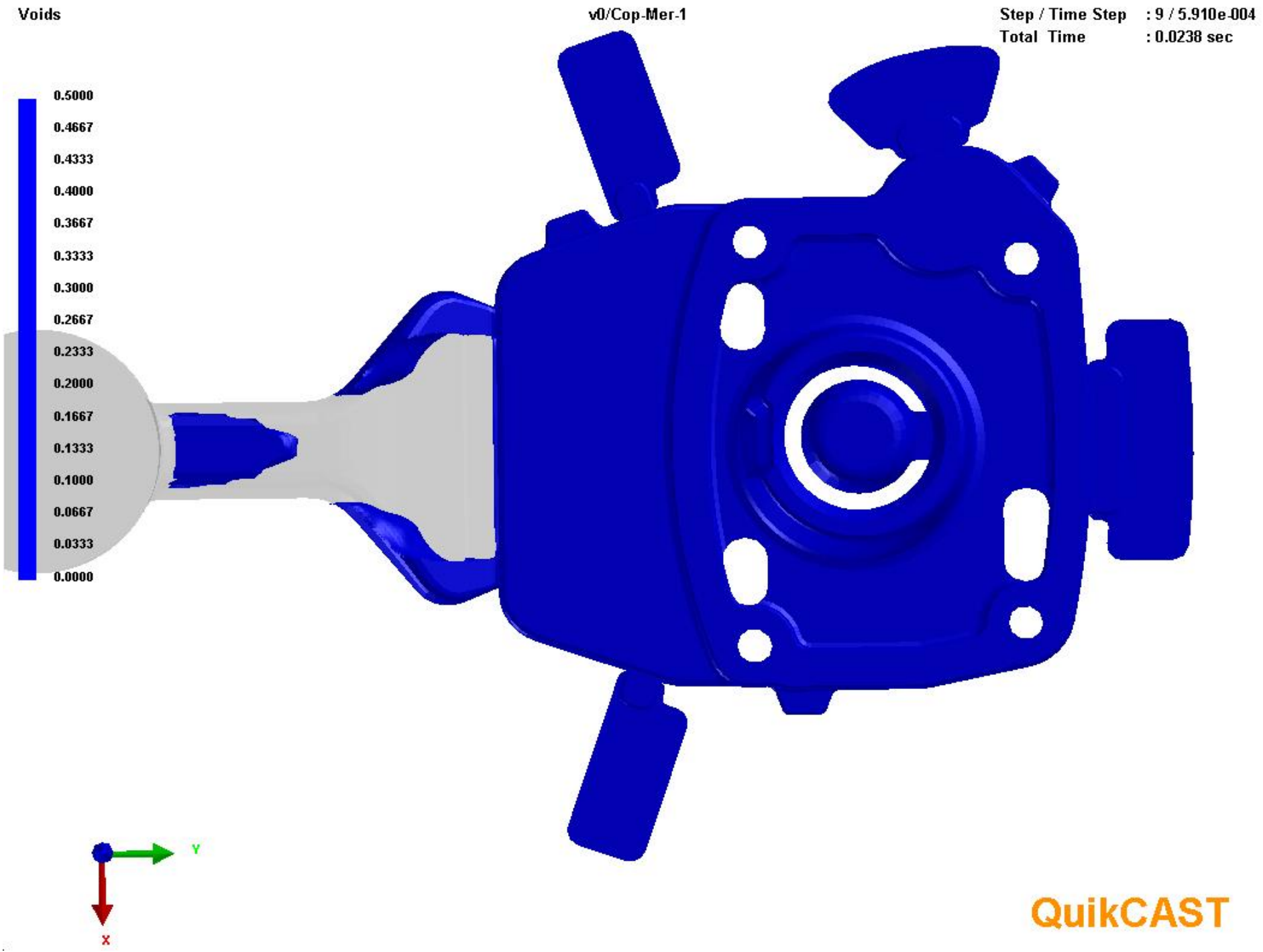


QuikCAST

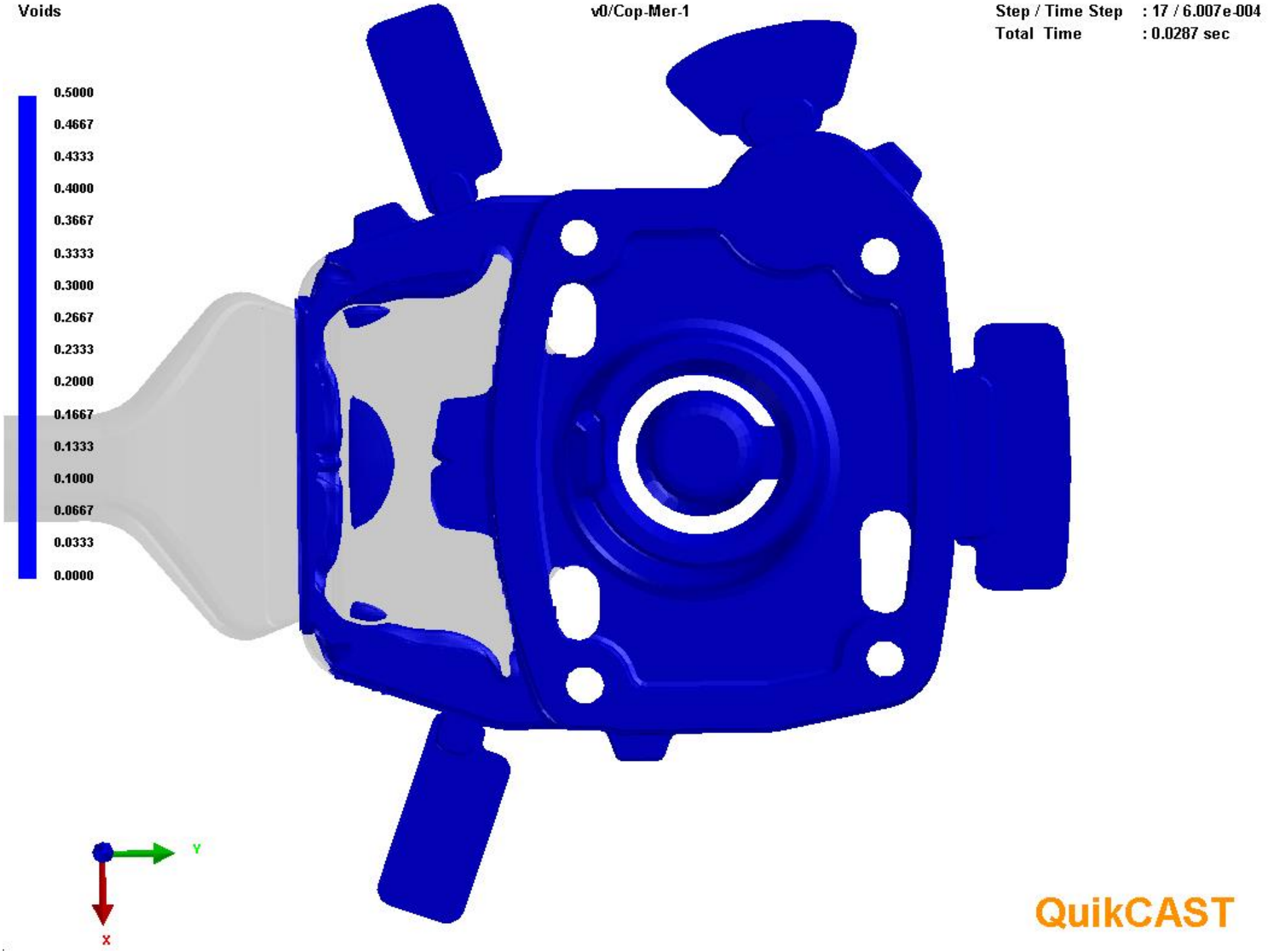
Velocity


Fluid Velocity-Magnitude [m/sec]
v0/Cop-Mer-1
Step / Time Step : 74 / 6.147e-004
Total Time : 0.0634 sec
35.0
32.7
30.3
28.0
25.7
23.3
21.0
18.7
16.3
14.0
11.7
9.3
7.0
4.7
2.3
0.0
Y
X
QuikCAST

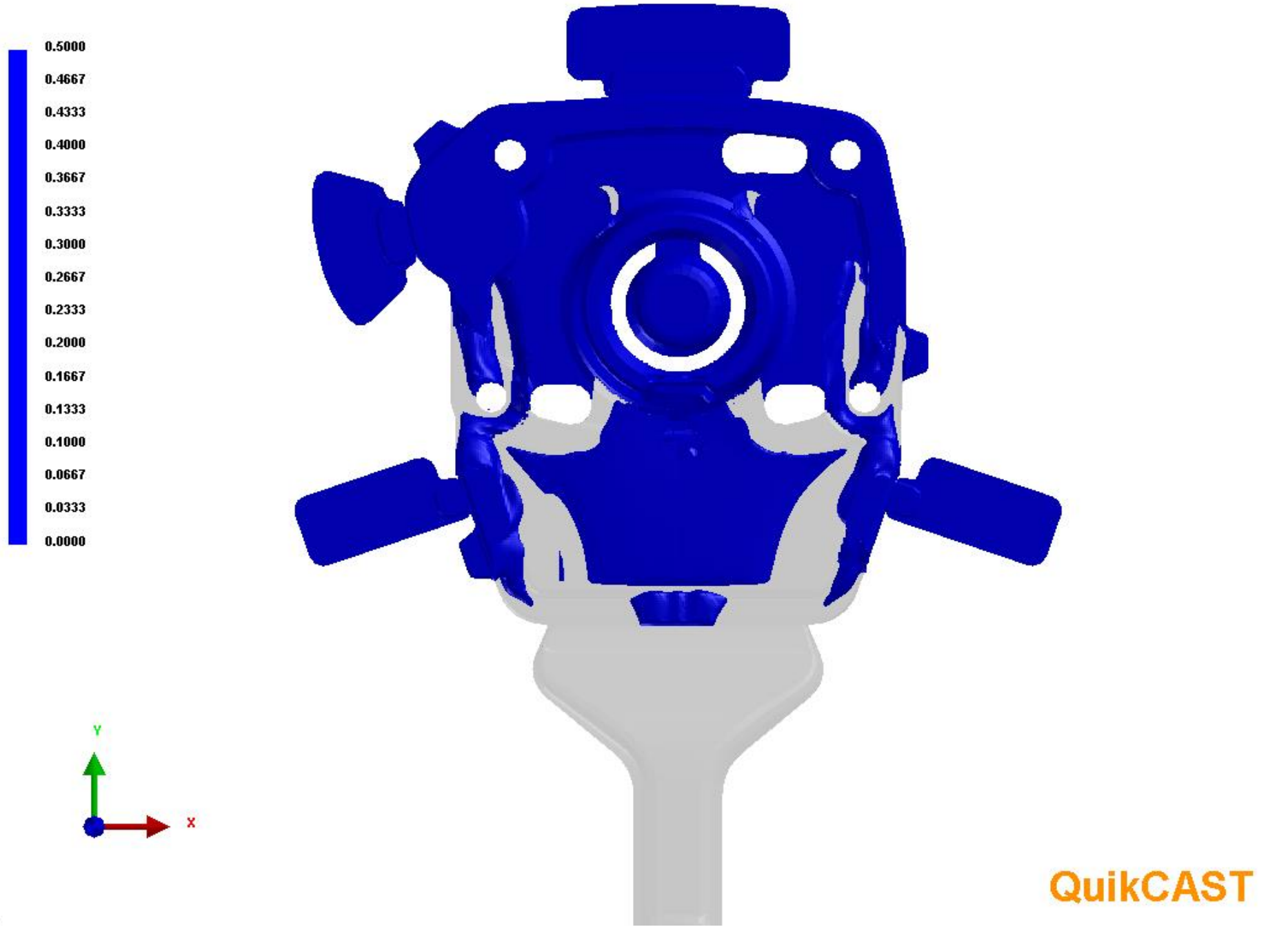
Gas Porosity



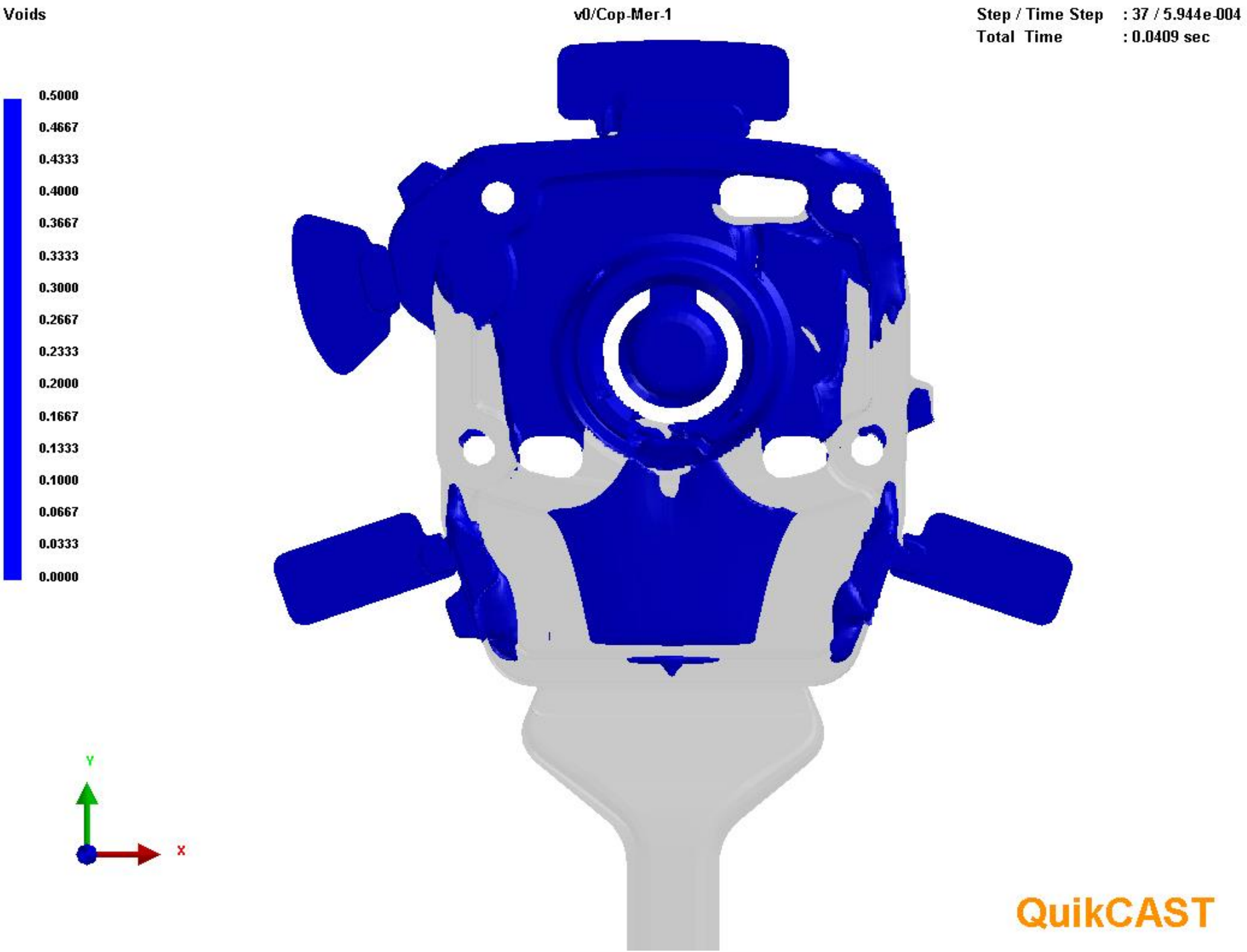
Gas Porosity



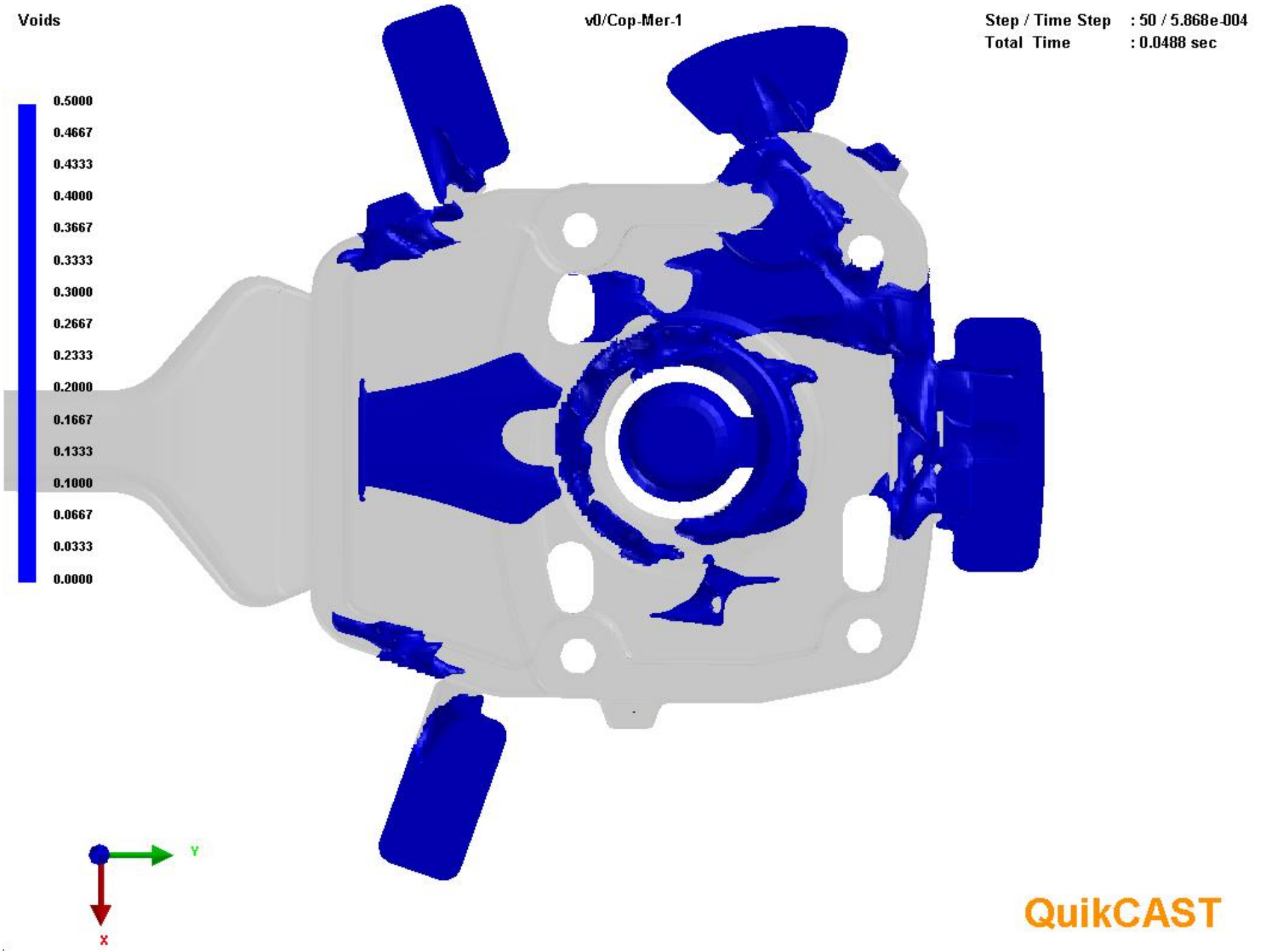
Gas Porosity



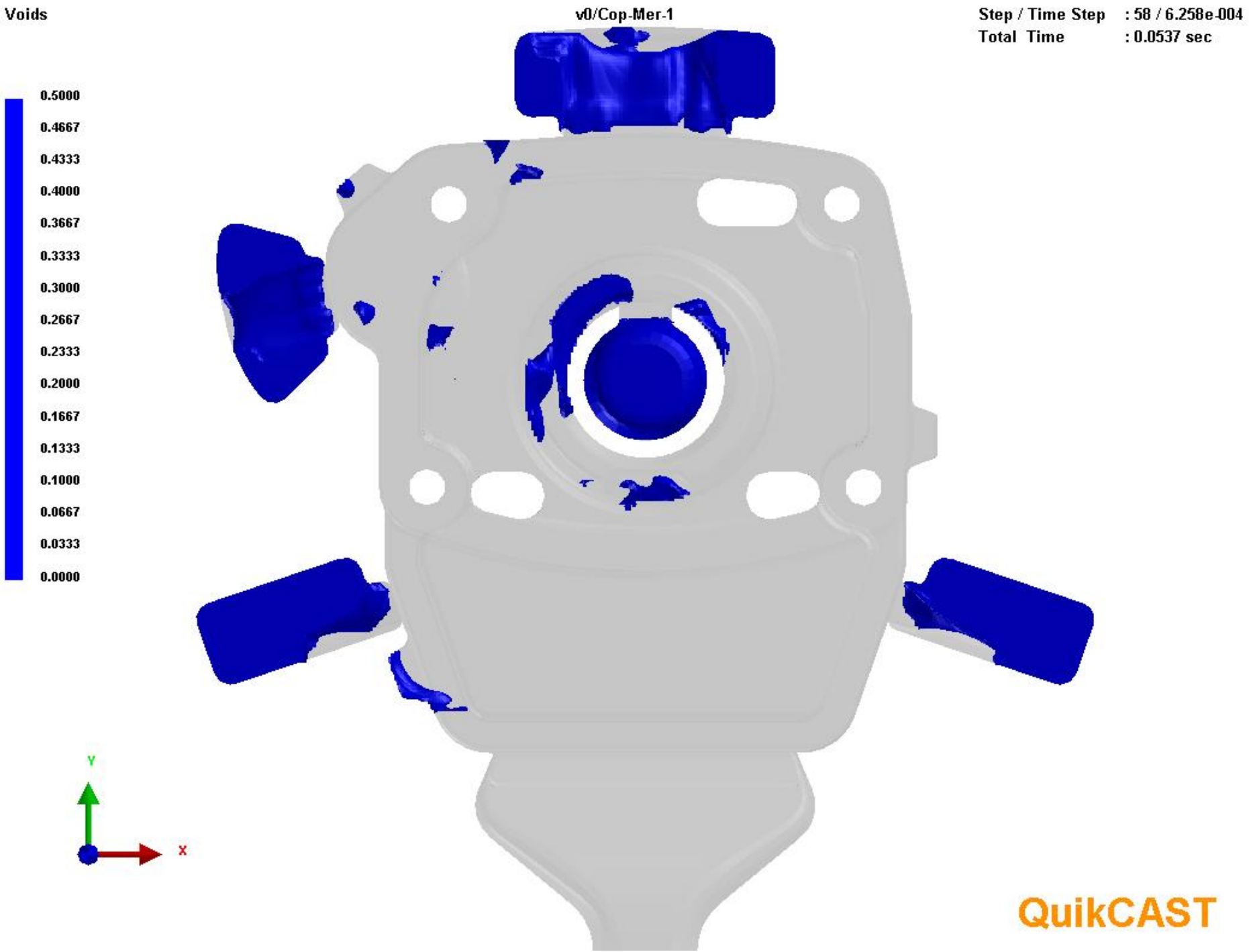
Gas Porosity



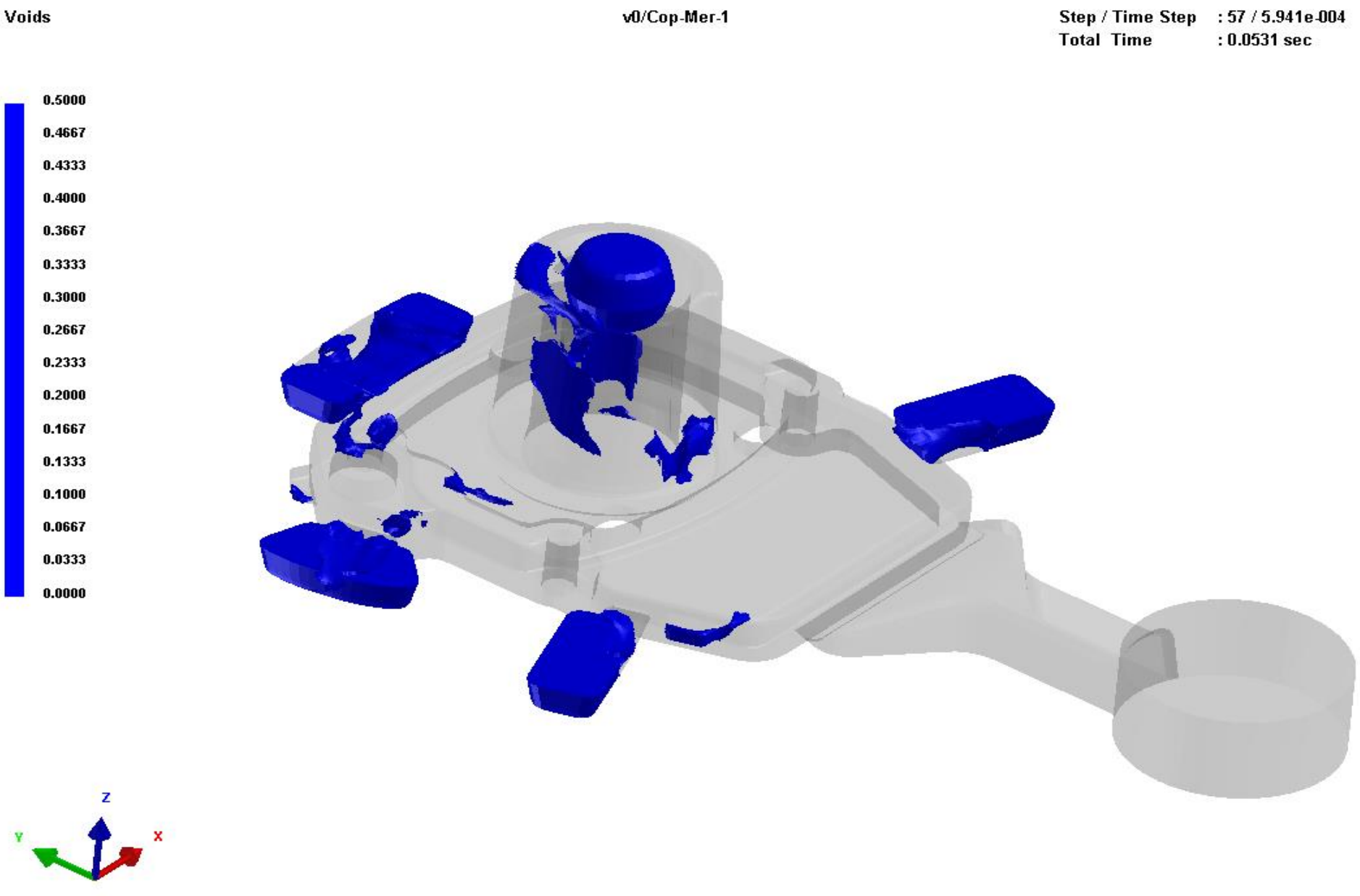
Gas Porosity



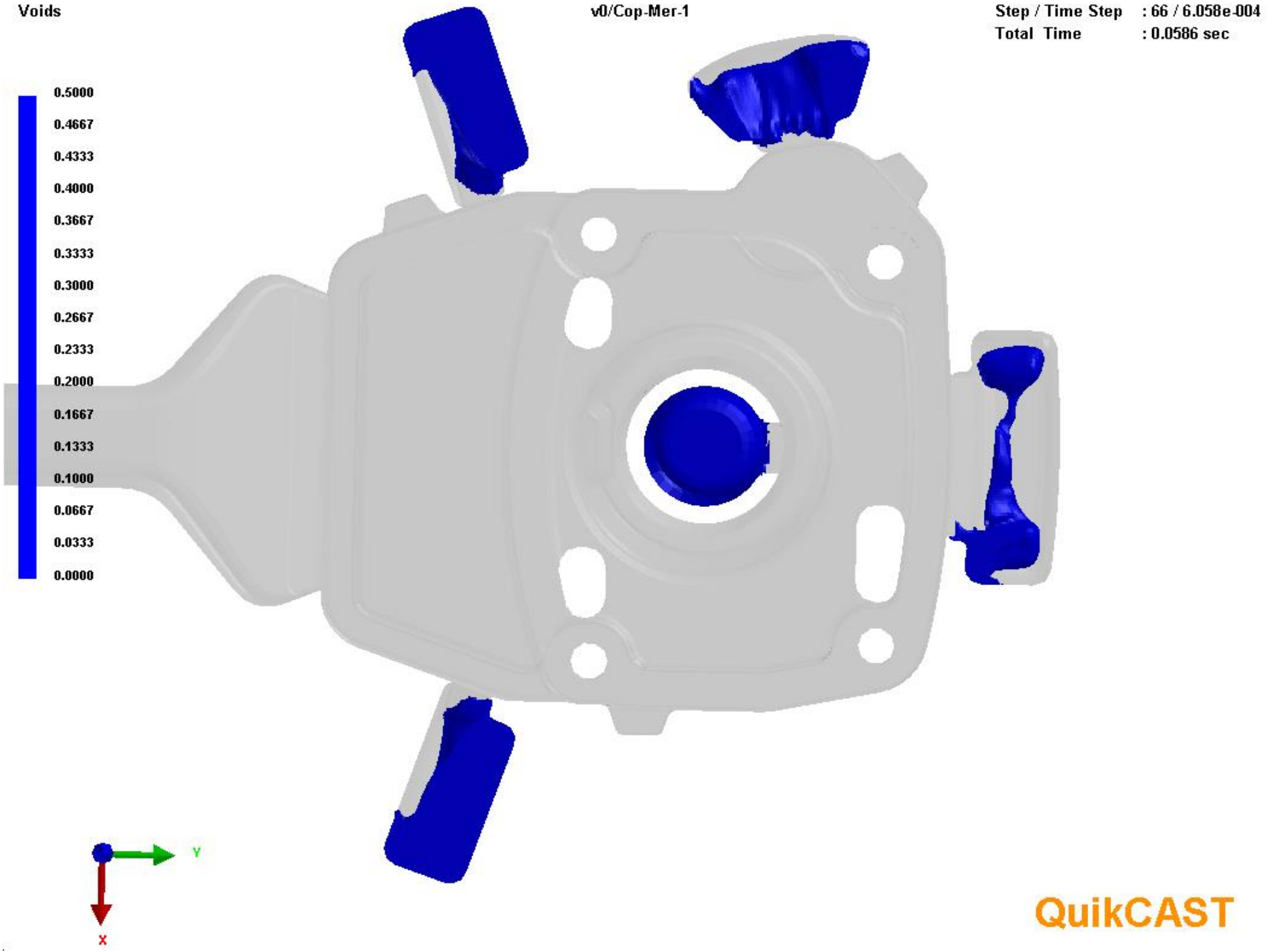
Gas Porosity



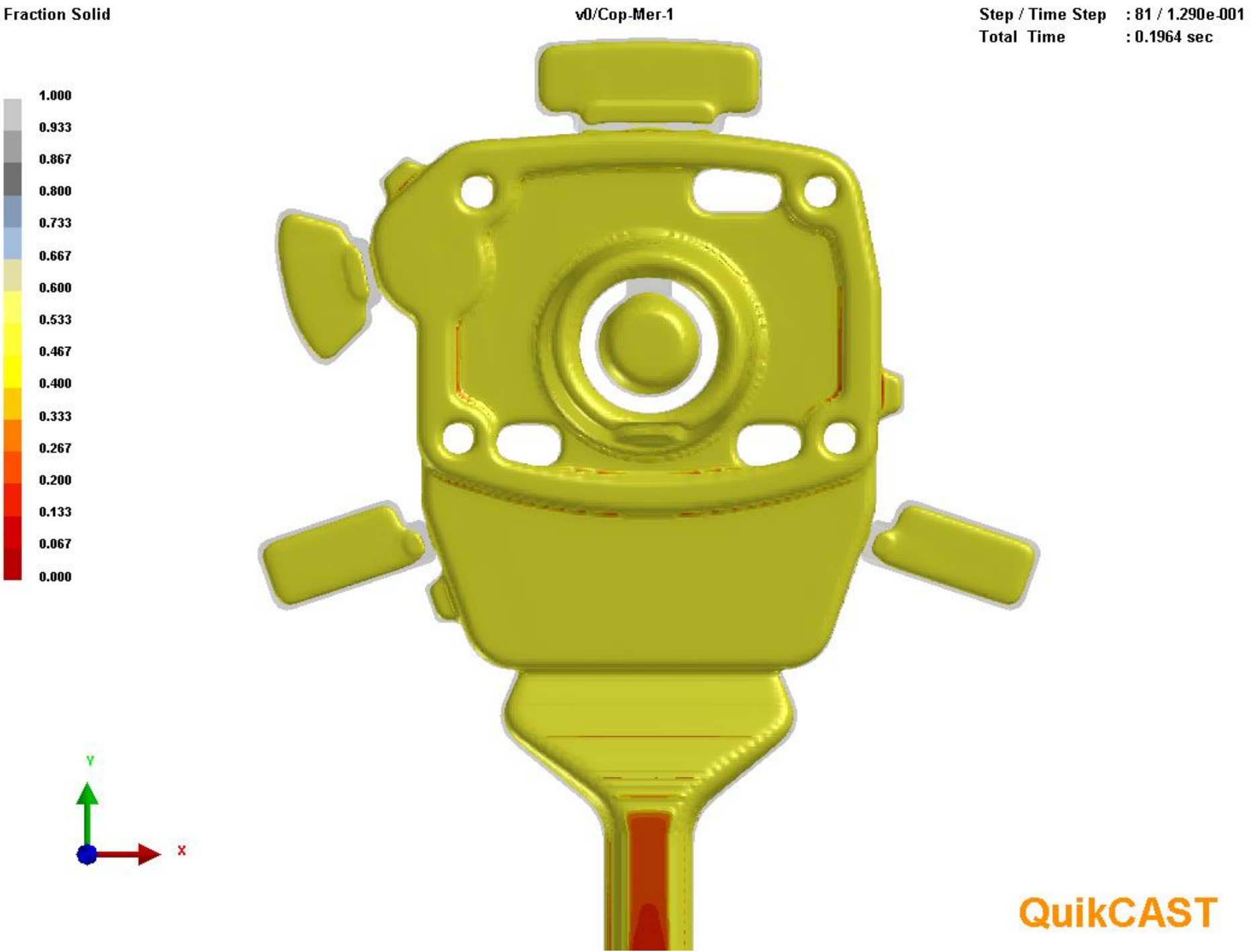
Gas Porosity



Gas Porosity



Solidification



Solidification

Fraction Solid

v0/Cop-Mer-1

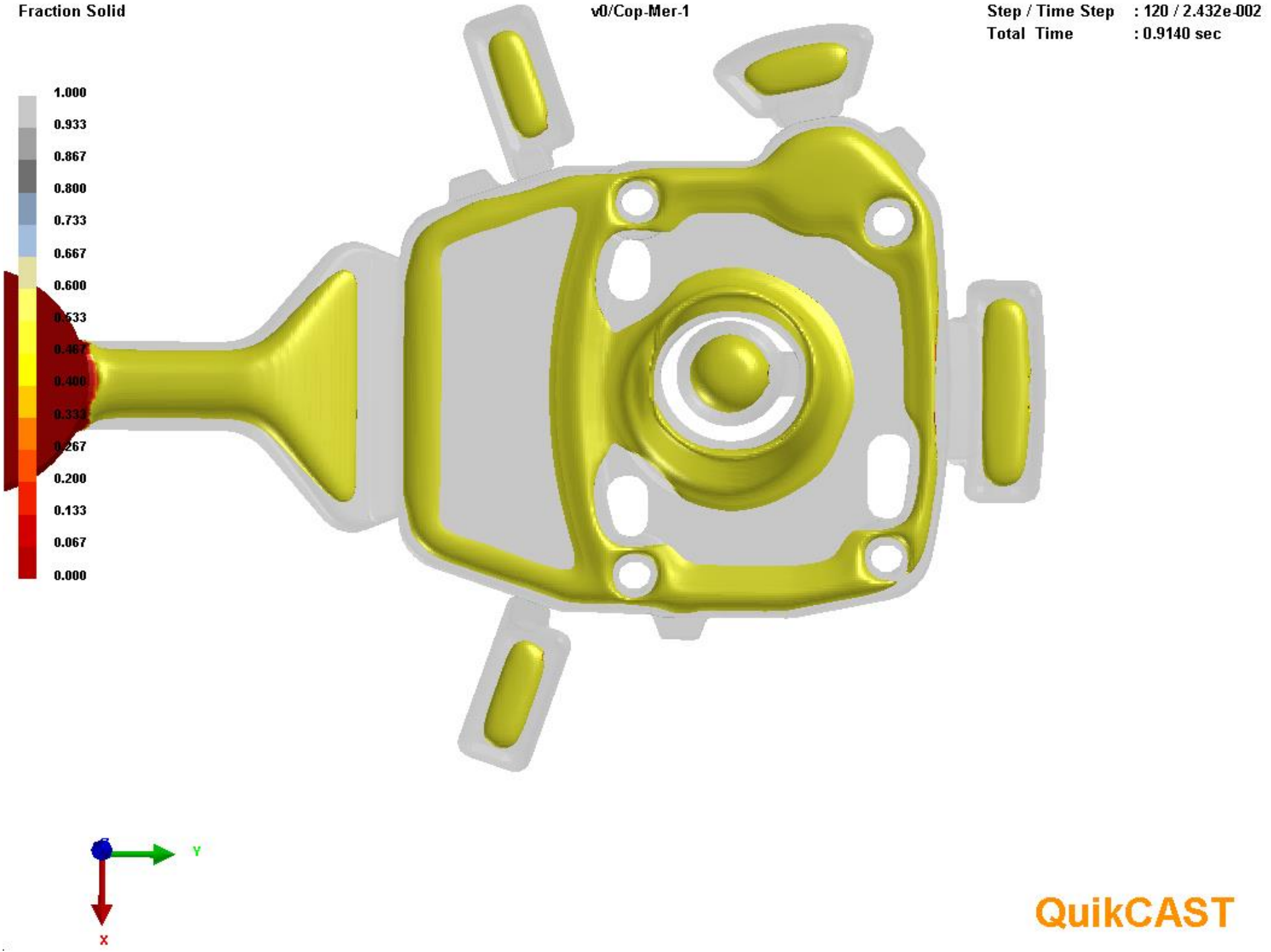
Step / Time Step : 102 / 1.964e-002
Total Time : 0.5329 sec

1.000
0.933
0.867
0.800
0.733
0.667
0.600
0.533
0.467
0.400
0.333
0.267
0.200
0.133
0.067
0.000

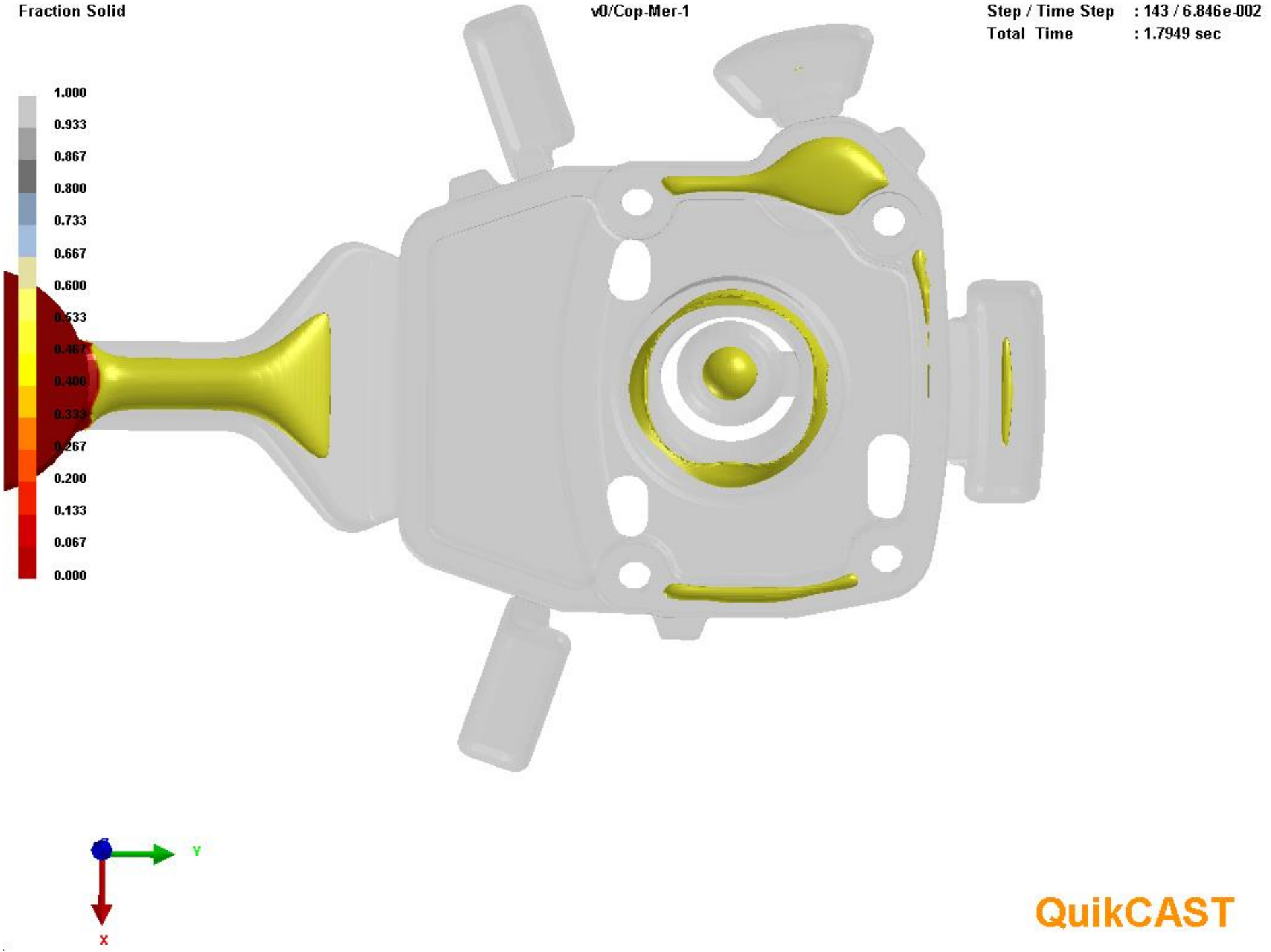
Y
X

QuikCAST

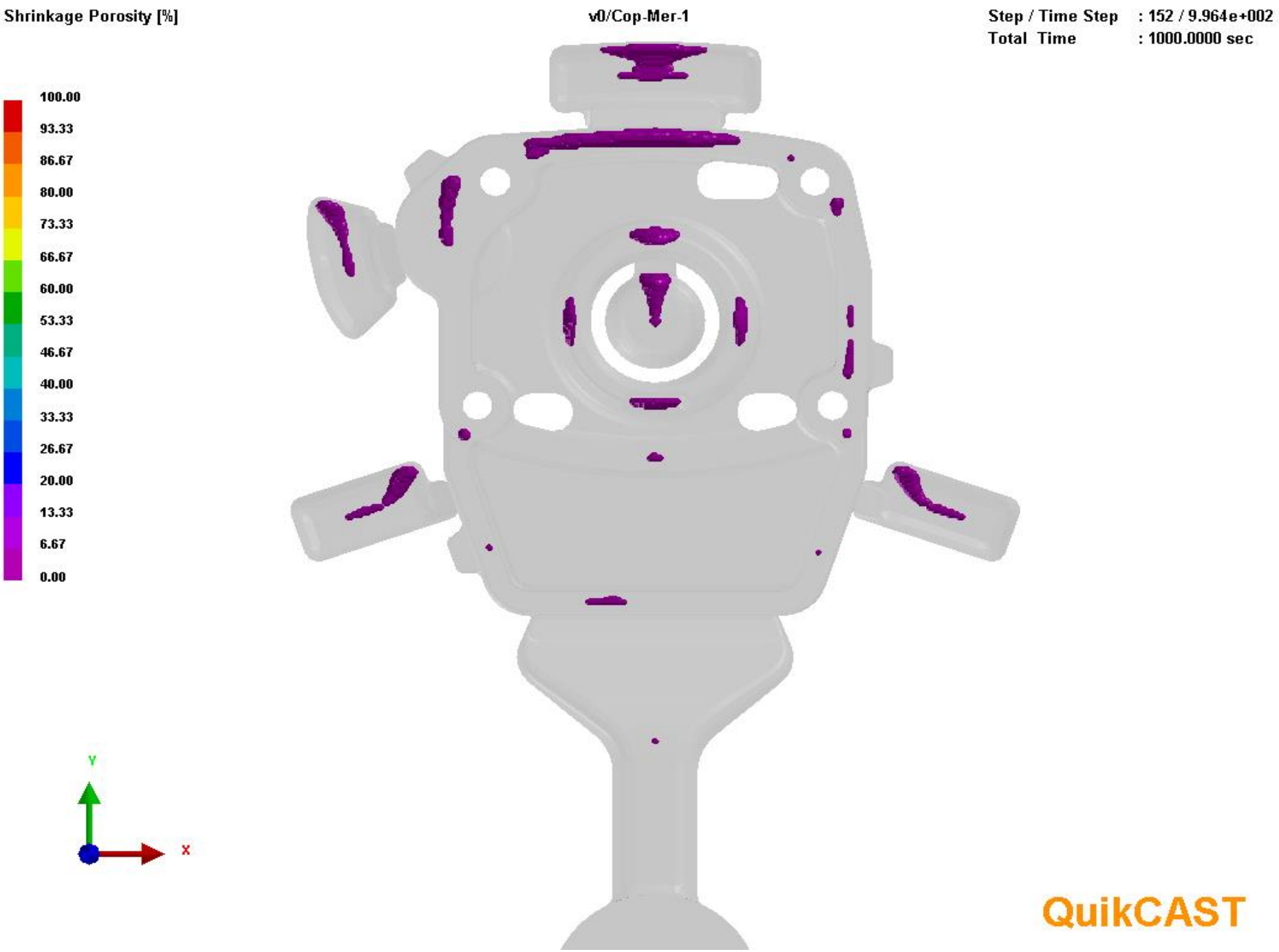
Solidification



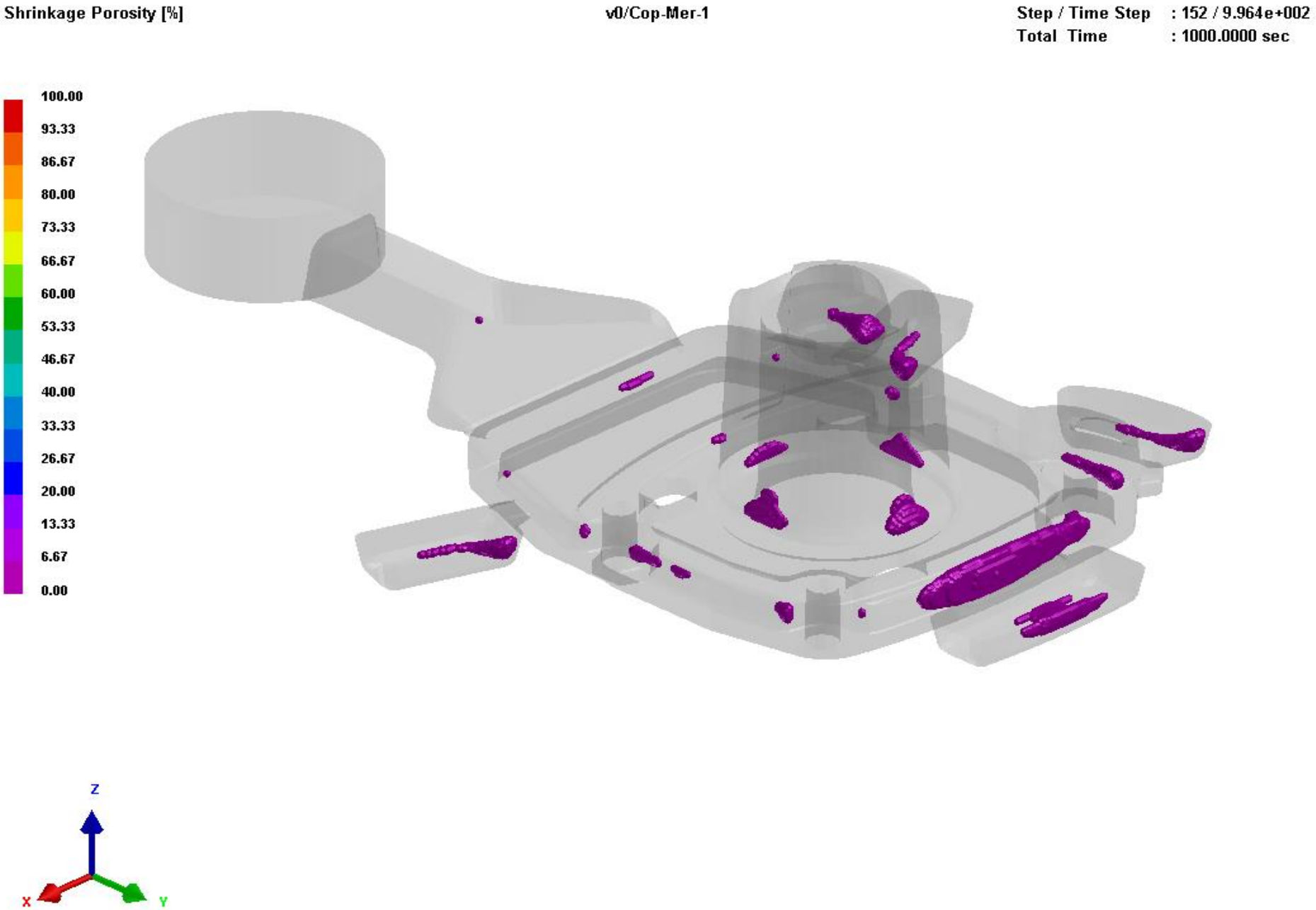
Solidification



Shrinkage Porosity

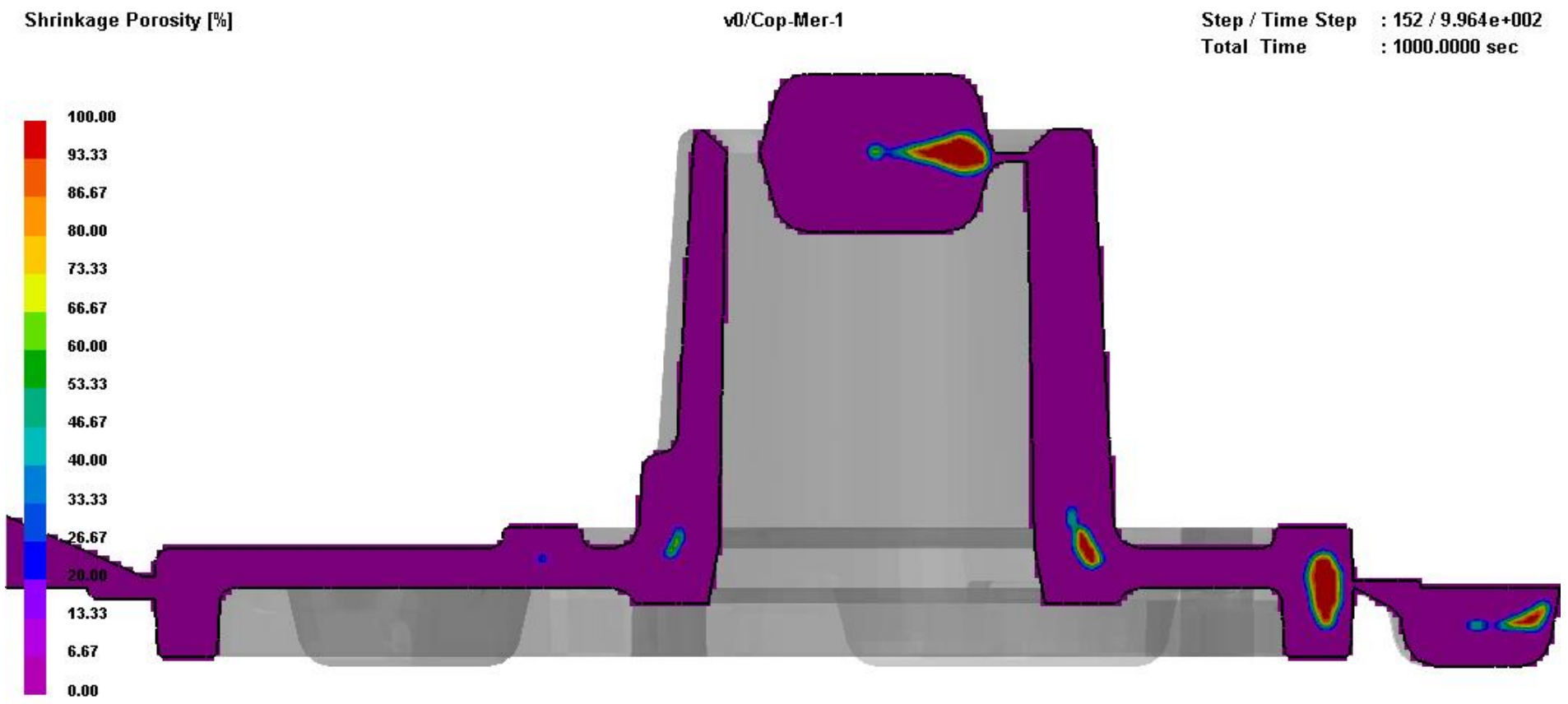


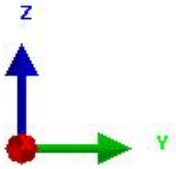
Shrinkage Porosity



QuikCAST

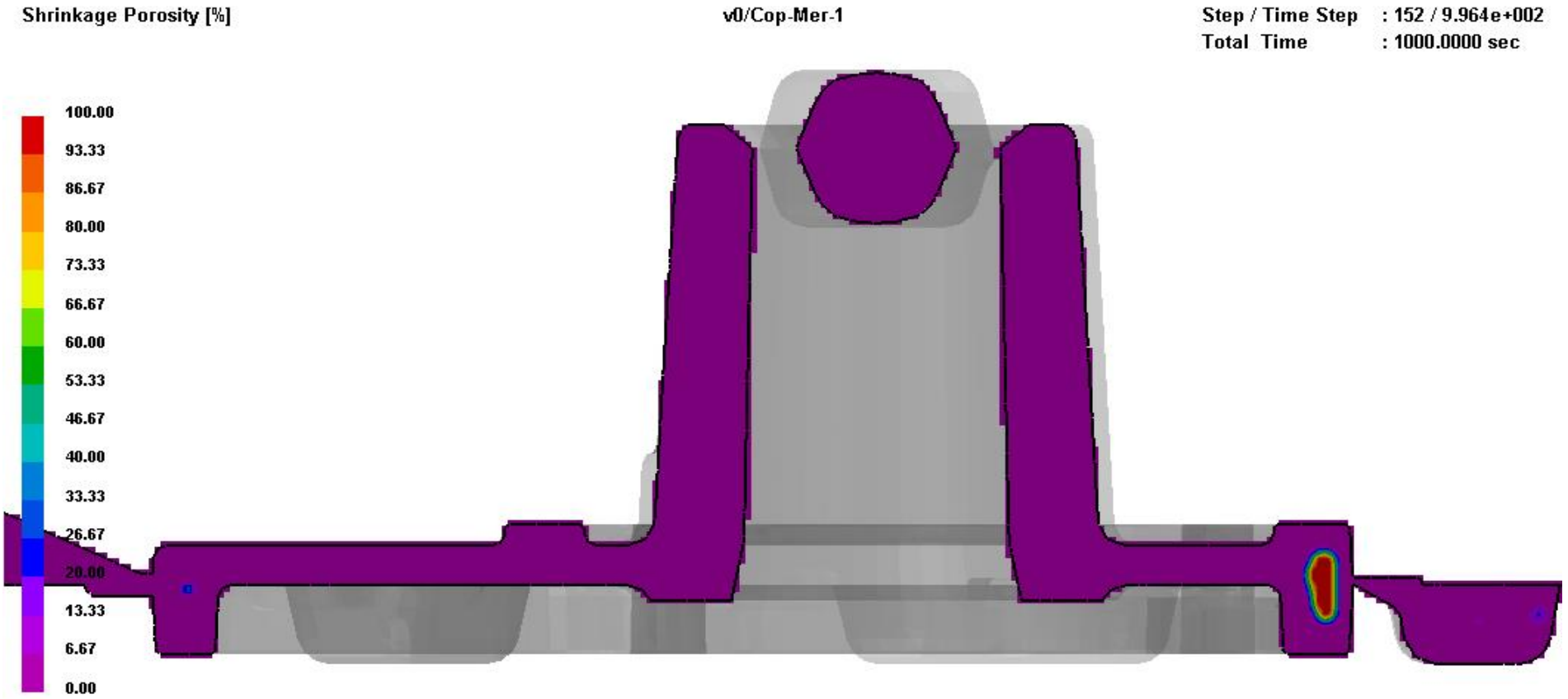
Shrinkage Porosity

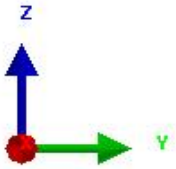




QuikCAST

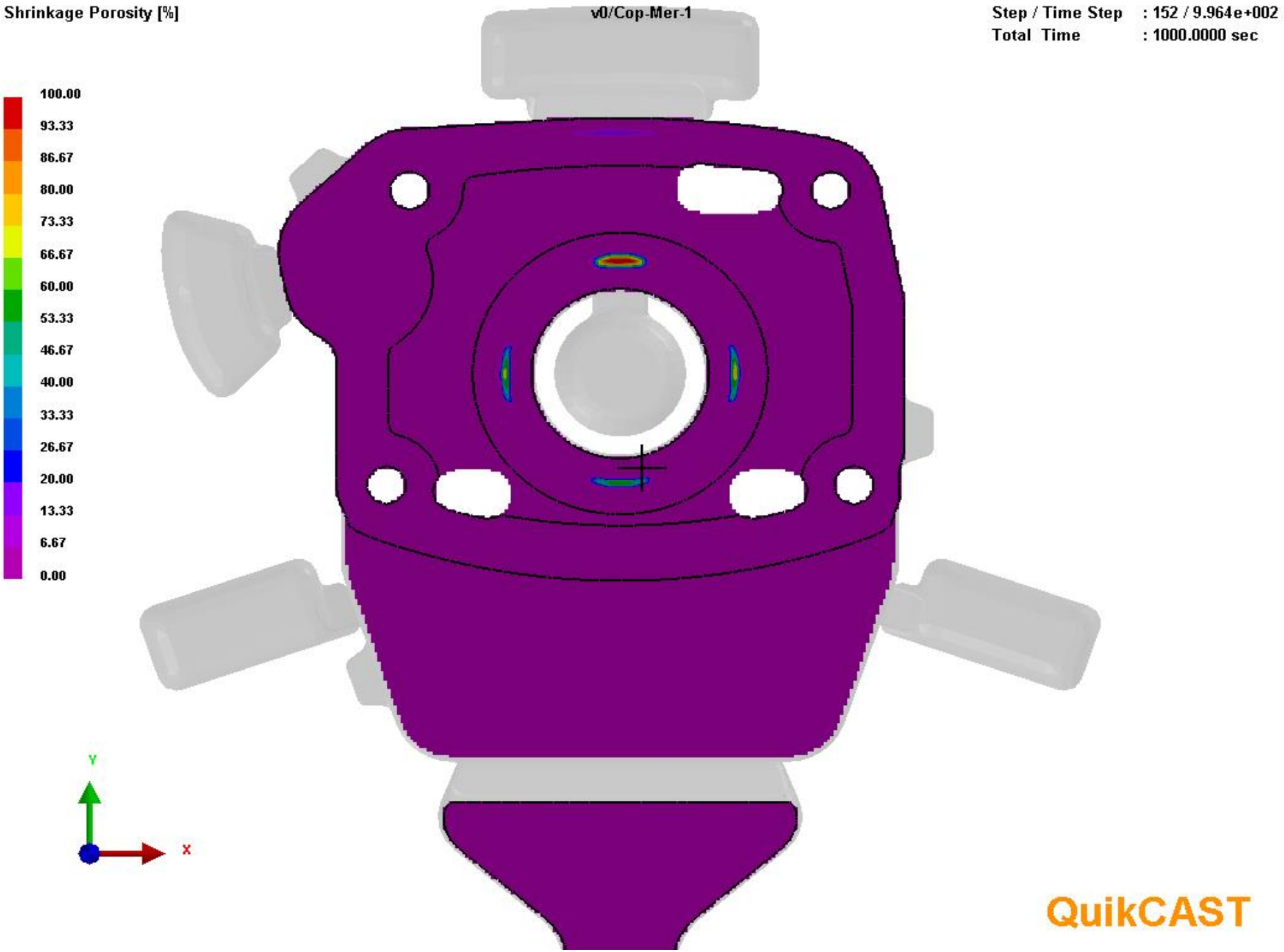
Shrinkage Porosity



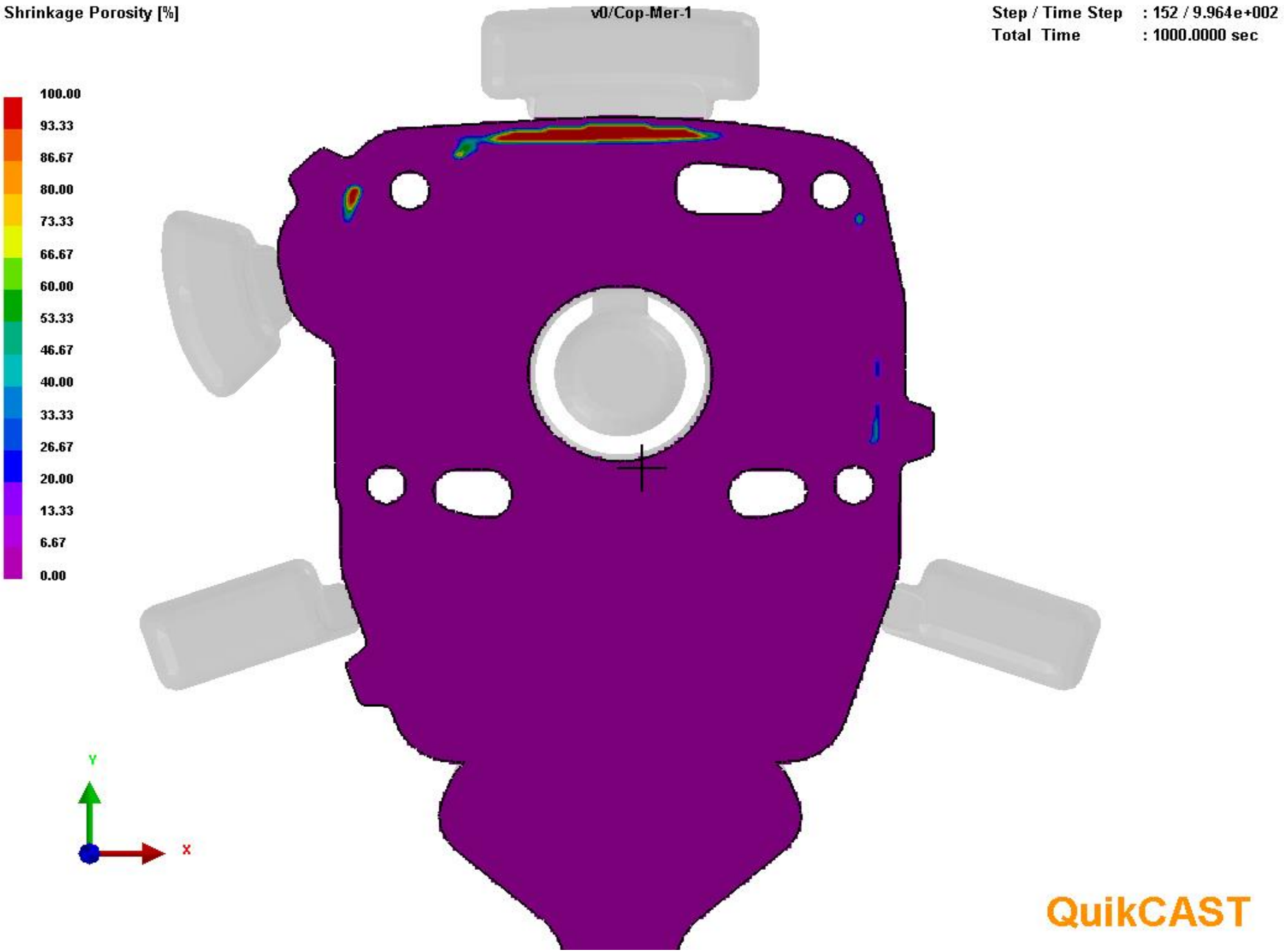


QuikCAST

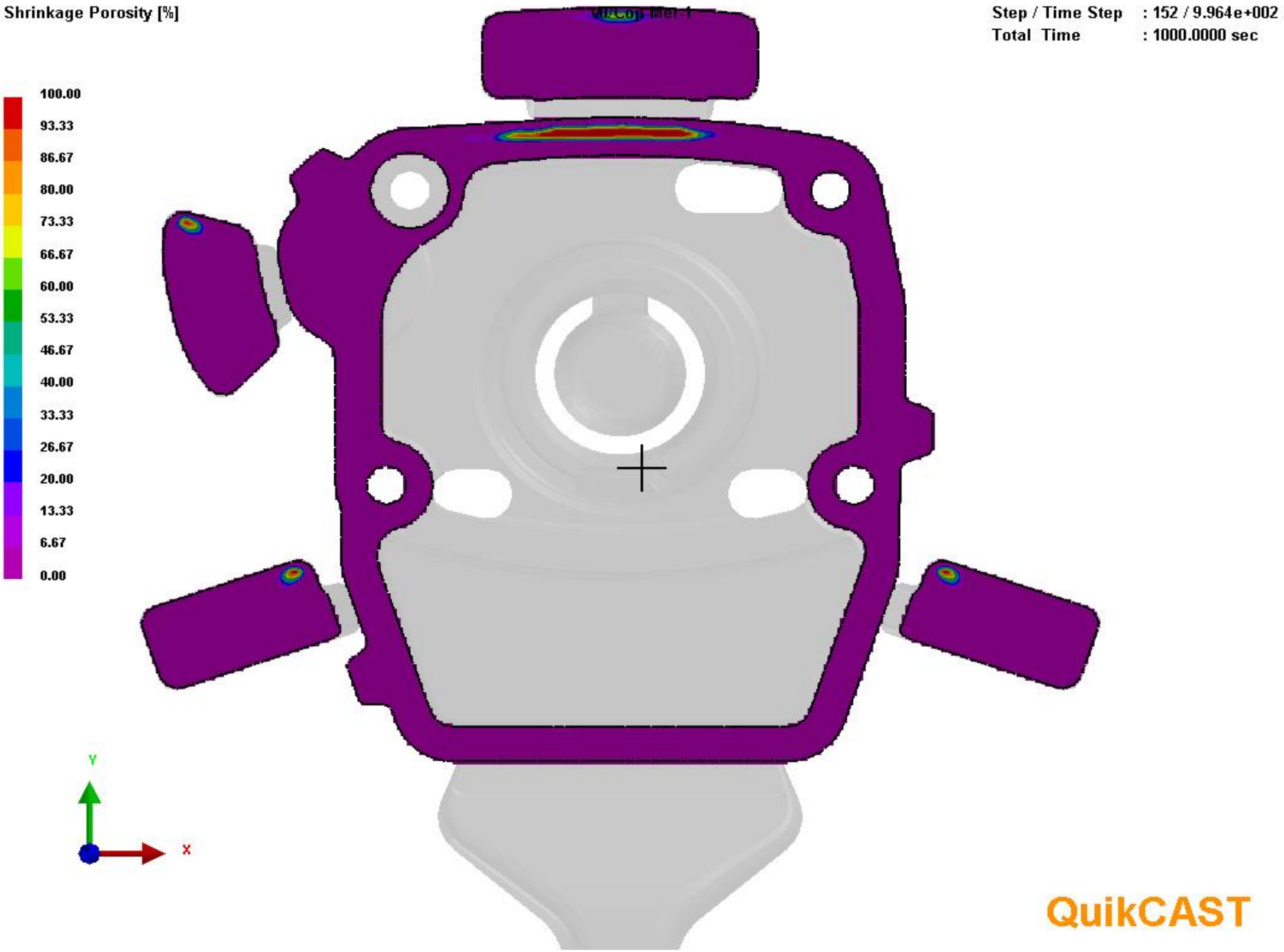
Shrinkage Porosity



Shrinkage Porosity



Shrinkage Porosity



Conclusioni

Lega stampata: UNI EN AB 46100
Velocità Prima fase: 0,2 m/sec
Velocità Seconda fase: 3 m/sec
Temperatura lega: 680 C°
Temperatura matrici stampo: 220 C°

Le temperature della lega risultano in generale buone.
Velocità adeguate sia all'attacco di colata che su tutto il pezzo.
Aria inglobata ridotta al minimo grazie alla conformazione della colata e dei pozzetti di sfiato, tuttavia piccole zone critiche rimangono in prossimità del canotto centrale.
Alcuni problemi risultano nella solidificazione a causa di zone con spessore massivo nel pezzo, creando così alcune porosità da ritiro.

N.B. Tutti i pozzetti sono da sfiatare.