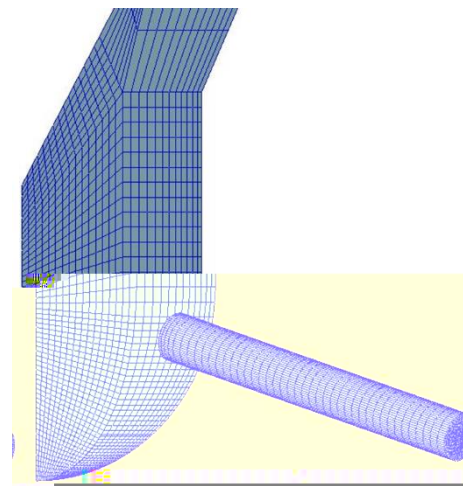




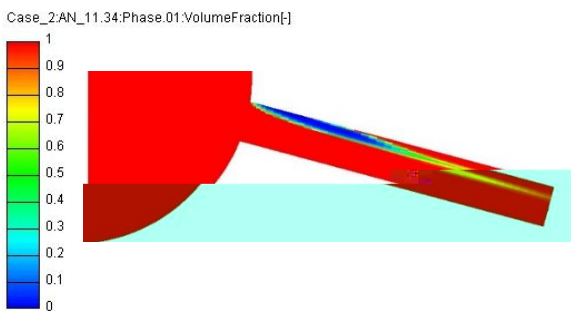
$$k = \frac{\dots}{\dots} \times 100 \quad (1)$$

**Table 1 Computational conditions.**

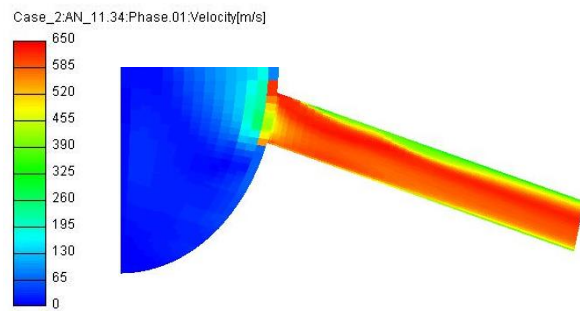
Geometry of inector	
Number of nozzle holes	10
Diameter of nozzle hole [mm]	0.070, 0.101, 0.122
Nozzle hole length [mm]	0.8
k-factor	0, 1.0, 3.0
Umbllera angle [deg]	0, 90, 150
Injection conditions	
Injection pressure [MPa]	200
Injection quantity [mm3]	2
Ambient conditions	
Ambient pressure [MPa]	1.5
Ambient temperature [K]	300
Turbulent model	



**Fig 1 Computational region.**



**Fig 2 Volume fraction of liquid phase under base condition.**



**Fig 3 Velocity under base condition.**



