Notes:

1. Turn off particles

IBM on flag : 0

1. Grid nx : 100

Grid ny : 100

Grid nz : 100

1. Number of particle : 1
2. Max Lagrangian markers : 1000
3. Moving top wall velocity

Moving wall velocity (top) : 1.0

1. Moving top wall velocity

Moving wall velocity (bottom) : 0.0

1. If initial velocity field not 1

Initial v field : 0.0

1. Set linear initial field

Linear v field flag : 1

1. Particle initial location in the center

Particle initial location (x) : 10

Particle initial location (y) : 25

Particle initial location (z) : 0.0

1. If ellipsoid particle

Ellipsoid semi-axis a : 0.6204e-0

Ellipsoid semi-axis b : 0.6204e-0

Ellipsoid semi-axis c : 0.6204e-0

1. Particle mass density : 2.0e0 ! default
2. Fluid mass density : 1.0 ! default
3. Gravity (y) : 1.0e1 ! default 0
4. Method for weight dv : 3 ! 0: exact 1:uniform ; 2: equal to local cell;3 : constant;4: file
5. Update weight dv : 0 ! 1: update dv every time step
6. Scale factor for particle : 1.0 ! default 1
7. Scale factor for dv : 1.0 ! scale the Lagrangian weight
8. Rigid body assumption : 1 ! default true
9. Translational motion : 1 ! default true
10. Rotational motion : 1 ! default true
11. Non-uniform z-grid : 0 ! default false
12. Z-grid stretching parameter : 0.99 ! default 0.99, more closer to 1, more uniform in the center
13. Additional checking flag : 0 ! flag to output intermediate variables
14. Sphere particle : 1 ! default true
15. clip x translation : 1 ! default 0 particle can translate
16. clip y translation : 0 ! default 0
17. clip z translation : 1 ! default 0
18. clip x rotation : 0 ! default 0 particle cannot rotate if “Rotational motion” is 0
19. clip y rotation : 1 ! default 0
20. clip z rotation : 1 ! default 0
21. Convection : 0 ! combined with “Additional checking flag” to include convection term in calculating IBM force
22. Particle volume : 1 ! if not ellipsoid particle
23. Rotational inertia : 1 1 1 ! if not ellipsoid particle
24. Principal axis-1 direction : 1 0 0 ! default along x-direction
25. Principal axis-2 direction : 0 1 0 ! default along y-direction
26. Lagrangian markers generation method : 3 ! read from file
    1. 1 ! random distributed, need to specify

Number of Lagrangian points : 10

* 1. 2 ! non-random, according to the mesh size

Surface mesh length : 1 ! default as x-direction Eulerian mesh size

* 1. 3 ! read from file
  2. Lagrangian makers file : lagrangian\_pts.plt ! default name

1. Movement type : 0 ! 0:still; 1:free 2:forced