INPUT DATA

Mesh

Global Mesh Settings

Automatic initial mesh: On

Result resolution level: 4

Advanced narrow channel refinement: Off

Geometry Resolution

Evaluation of minimum gap size: Automatic

Evaluation of minimum wall thickness: Automatic

Computational Domain

Size

|  |  |
| --- | --- |
| X min | -0.215 m |
| X max | 0.270 m |
| Y min | 0.040 m |
| Y max | 0.060 m |
| Z min | -0.204 m |
| Z max | 0.220 m |
| X size | 0.485 m |
| Y size | 0.020 m |
| Z size | 0.424 m |

Boundary Conditions

|  |  |
| --- | --- |
| 2D plane flow | XZ - plane flow |
| At X min | Default |
| At X max | Default |
| At Y min | Symmetry |
| At Y max | Symmetry |
| At Z min | Default |
| At Z max | Default |

EM Domain

Definition: Automatic

Physical Features

Heat conduction in solids: Off

Structural: Off

Electromagnetics: Off

Time dependent: On

Gravitational effects: Off

Rotation: Off

Flow type: Laminar and turbulent

High Mach number flow: Off

Humidity: Off

Free surface: Off

Default roughness: 0 micrometer

Default wall conditions: Adiabatic wall

Ambient Conditions

|  |  |
| --- | --- |
| Thermodynamic parameters | Static Pressure: 101325.00 Pa  Temperature: 293.20 K |
| Velocity parameters | Velocity vector  Velocity in X direction: 10.000 m/s  Velocity in Y direction: 0 m/s  Velocity in Z direction: 0 m/s |
| Turbulence parameters | Turbulence intensity and length  Intensity: 0.10 %  Length: 0.001 m |

Material Settings

Fluids

[Air](#74300ACC948F447CB05554E89F3CEC67)

Calculation Control Options

Finish Conditions

|  |  |
| --- | --- |
| Finish Conditions | If one is satisfied |
| Maximum physical time | 1.000 s |

Solver Refinement

Refinement: Disabled

Solving

Electromagnetic Settings

|  |  |
| --- | --- |
| Change material type to be linear | No |
| Non - linear convergence method | Newton - Raphson |
| Maximum Newton iteration | 50 |
| Newton tolerance | 1.00 % |
| CG tolerance | 0.01 % |
| EM-Thermal synchronization | Periodic |
| Periodicity | 25 |
| Maximum number of synchronizations | 3 |
| Time step | 0.100 s |
| Total time | 1.000 s |

Results Saving

|  |  |
| --- | --- |
| Save before refinement | On |
| Periodic Saving | Units: Physical time  Period: 0.010 s |

Advanced Control Options

Flow Freezing

|  |  |
| --- | --- |
| Flow freezing strategy | Disabled |

Manual time step (Freezing): Off

Manual time step: Off

Engineering Database

Gases

Air

Path: Gases Pre-Defined

Specific heat ratio (Cp/Cv): 1.399

Molecular mass: 0.0290 kg/mol

Dynamic viscosity

Specific heat (Cp)

Thermal conductivity