

LAMPIRAN

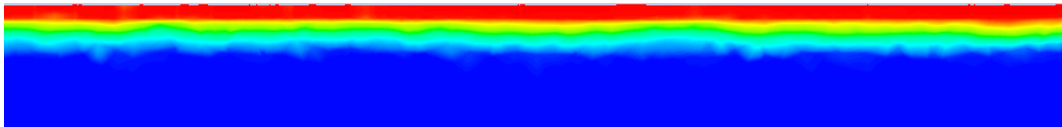
Lampiran1. Tabel nilai J_L dan J_G

J_L (m/s)	J_G (m/s)			
0,025	0,05	0,1	0,5	1
0,05	0,05	0,1	0,5	1
0,075	0,05	0,1	0,5	1
0,1	0,05	0,1	0,5	1

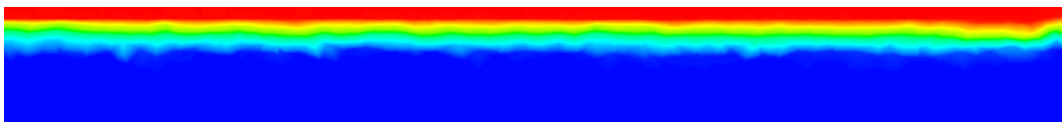
Lampiran 2. Hasil simulasi pola aliran pengaruh kecepatan udara (J_G) terhadap

$J_L = 0,025$ m/s saat (1,5 detik)

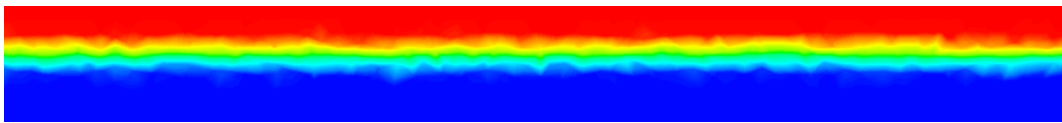
a) Pola aliran air-udara dengan $J_G = 0,05$ m/s dan $J_L = 0,025$ m/s



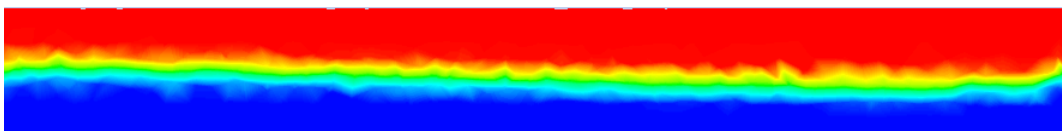
b) Pola aliran air-udara dengan $J_G = 0,1$ m/s dan $J_L = 0,025$ m/s



c) Pola aliran air-udara dengan $J_G = 0,5$ m/s dan $J_L = 0,025$ m/s



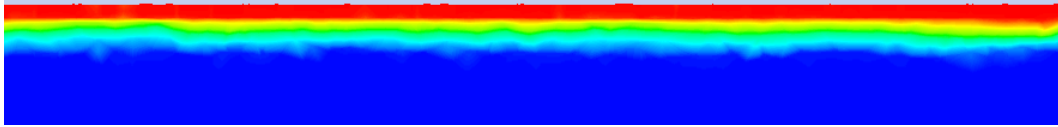
d) Pola aliran air-udara dengan $J_G = 1$ m/s dan $J_L = 0,025$ m/s



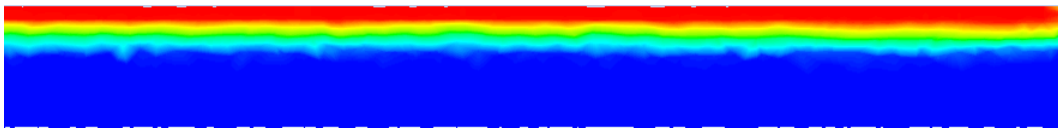
Gambar 1. Hasil simulasi pola aliran pengaruh kecepatan superfisial udara (J_G) terhadap $J_L = 0,025$ m/s saat (1,5 detik)

Lampiran 3. Hasil simulasi pola aliran pengaruh kecepatan superfisial udara (J_G) terhadap $J_L = 0,025$ m/s saat (2 detik)

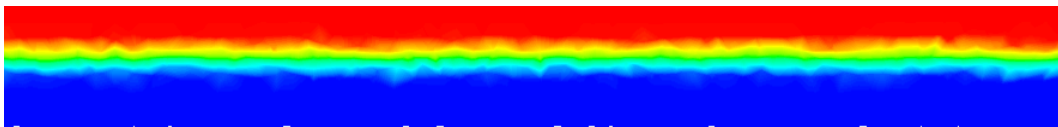
a) Pola aliran air-udara dengan $J_G = 0,05$ m/s dan $J_L = 0,025$ m/s



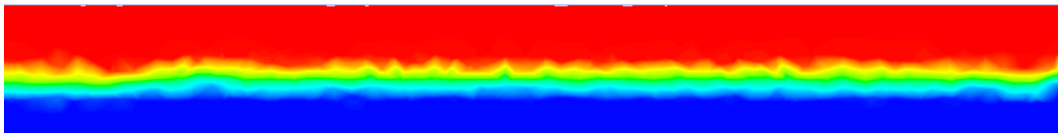
b) Pola aliran air-udara dengan $J_G = 0,1$ m/s dan $J_L = 0,025$ m/s



c) Pola aliran air-udara dengan $J_G = 0,5$ m/s dan $J_L = 0,025$ m/s



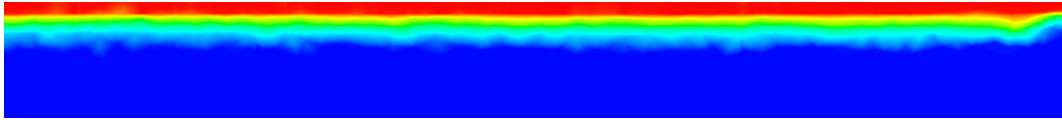
d) Pola aliran air-udara dengan $J_G = 1$ m/s dan $J_L = 0,025$ m/s



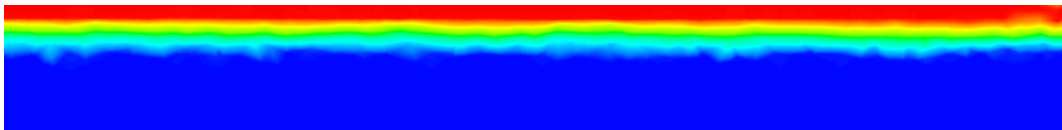
Gambar 2. Hasil simulasi pola aliran pengaruh kecepatan superfisial udara (J_G) terhadap $J_L = 0,025$ m/s saat (2 detik)

Lampiran 4. Hasil simulasi pola aliran terhadap pengaruh kecepatan superfisial udara (J_G) dengan $J_L = 0,05$ m/s saat (1,5 detik)

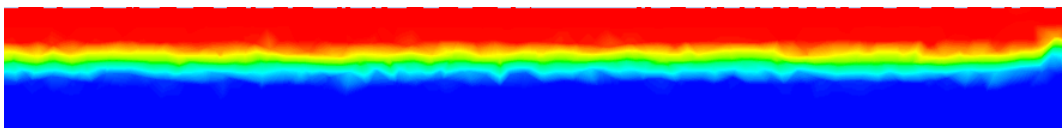
a) Pola aliran air-udara dengan $J_G = 0,05$ m/s dan $J_L = 0,05$ m/s



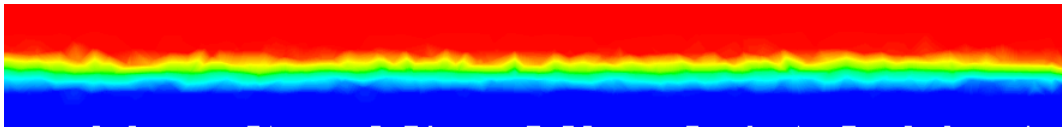
b) Pola aliran air-udara dengan $J_G = 0,1$ m/s dan $J_L = 0,05$ m/s



c) Pola aliran air-udara dengan $J_G = 0,5$ m/s dan $J_L = 0,05$ m/s



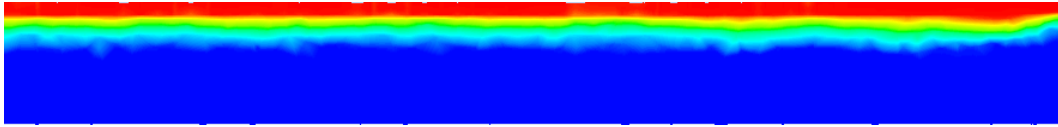
d) Pola aliran air-udara dengan $J_G = 1$ m/s dan $J_L = 0,05$ m/s



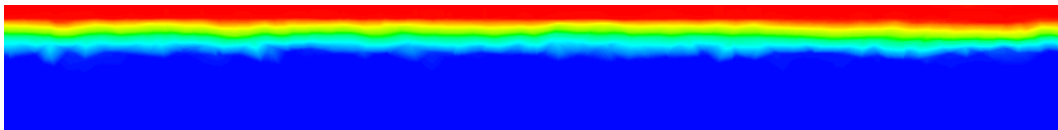
Gambar 3. Hasil simulasi pola aliran pengaruh kecepatan superfisial udara (J_G) terhadap $J_L = 0,05$ m/s saat (1,5 detik)

Lampiran 5. Hasil simulasi pola aliran pengaruh kecepatan superfisial udara (J_G) terhadap $J_L = 0,05$ m/s saat (2 detik)

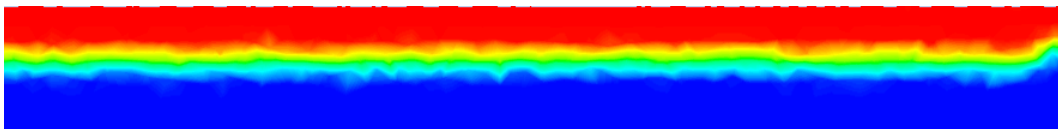
a) Pola aliran air-udara dengan $J_G = 0,05$ m/s dan $J_L = 0,05$ m/s



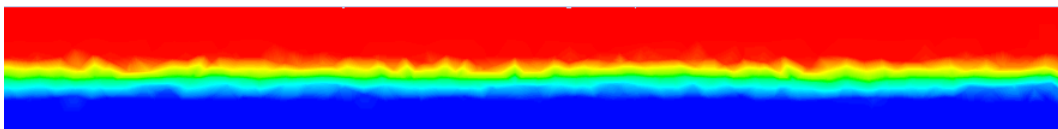
b) Pola aliran air-udara dengan $J_G = 0,1$ m/s dan $J_L = 0,05$ m/s



c) Pola aliran air-udara dengan $J_G = 0,5$ m/s dan $J_L = 0,05$ m/s



d) Pola aliran air-udara dengan $J_G = 1$ m/s dan $J_L = 0,05$ m/s

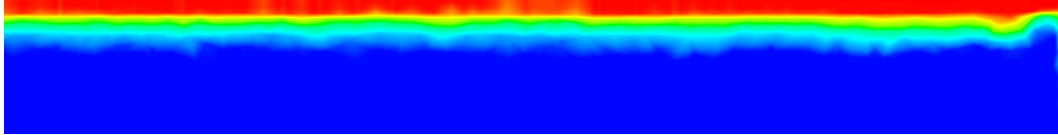


Gambar 4. Hasil simulasi pola aliran pengaruh kecepatan superfisial udara (J_G) terhadap $J_L = 0,05$ m/s saat (2 detik)

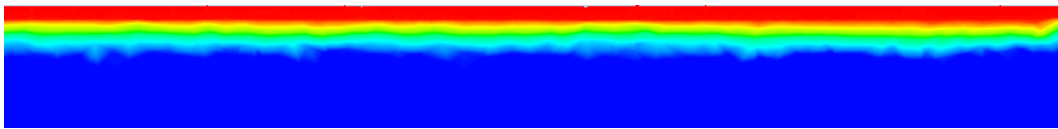
Lampiran 6. Hasil simulasi pola aliran pengaruh kecepatan udara (J_G) terhadap

$J_L = 0,075$ m/s saat (1,5 detik)

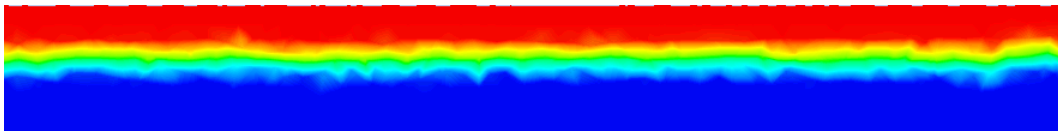
a) Pola aliran air-udara dengan $J_G = 0,05$ m/s dan $J_L = 0,075$ m/s



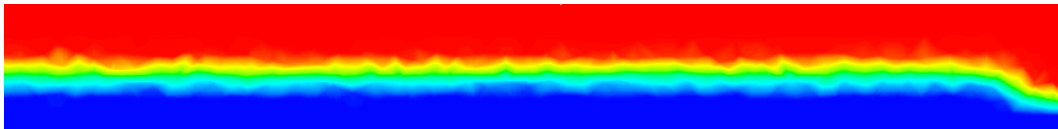
b) Pola aliran air-udara dengan $J_G = 0,1$ m/s dan $J_L = 0,075$ m/s



c) Pola aliran air-udara dengan $J_G = 0,5$ m/s dan $J_L = 0,075$ m/s



d) Pola aliran air-udara dengan $J_G = 1$ m/s dan $J_L = 0,075$ m/s

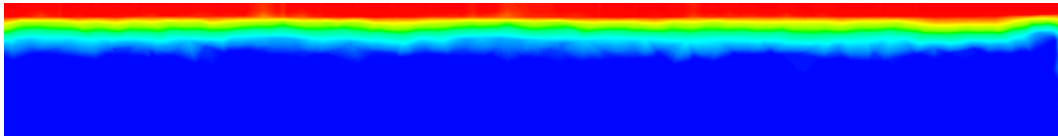


Gambar 5. Hasil simulasi pola aliran pengaruh kecepatan superficial udara (J_G) terhadap $J_L = 0,075$ m/s saat (1,5 detik)

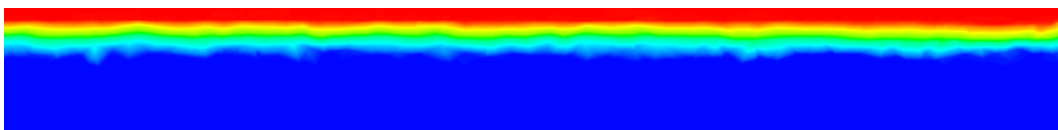
Lampiran 7. Hasil simulasi pola aliran pengaruh kecepatan udara (J_G) terhadap

$J_L = 0,075$ m/s saat (2 detik)

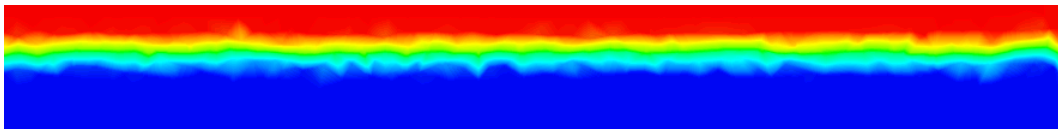
a) Pola aliran air-udara dengan $J_G = 0,05$ m/s dan $J_L = 0,075$ m/s



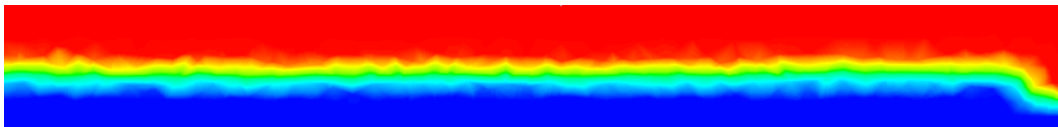
b) Pola aliran air-udara dengan $J_G = 0,1$ m/s dan $J_L = 0,075$ m/s



c) Pola aliran air-udara dengan $J_G = 0,5$ m/s dan $J_L = 0,075$ m/s



d) Pola aliran air-udara dengan $J_G = 1$ m/s dan $J_L = 0,075$ m/s

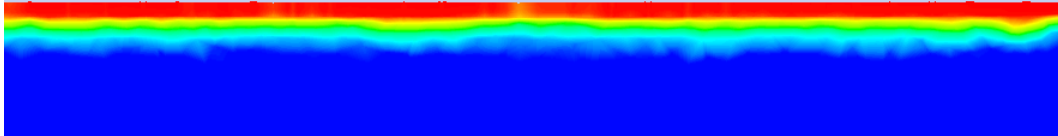


Gambar 6. Hasil simulasi pola aliran pengaruh kecepatan udara (J_G) terhadap

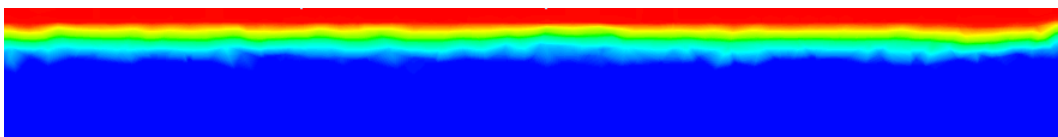
$J_L = 0,075$ m/s saat (2 detik)

Lampiran 8. Hasil simulasi pola aliran terhadap pengaruh kecepatan udara (J_G) dengan $J_L = 0,1$ m/s saat (1,5 detik)

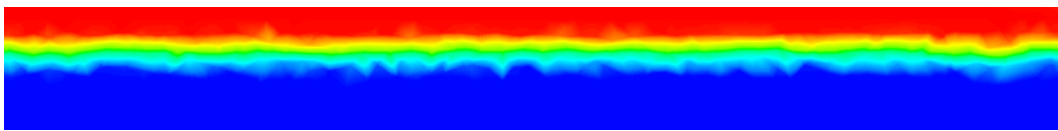
a) Pola aliran air-udara dengan $J_G = 0,05$ m/s dan $J_L = 0,1$ m/s



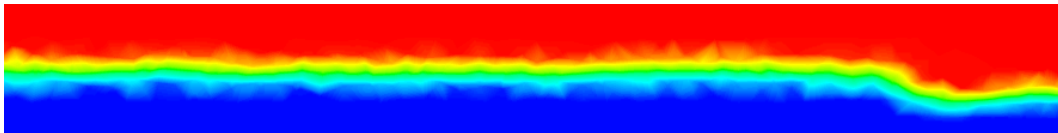
b) Pola aliran air-udara dengan $J_G = 0,1$ m/s dan $J_L = 0,1$ m/s



c) Pola aliran air-udara dengan $J_G = 0,5$ m/s dan $J_L = 0,1$ m/s



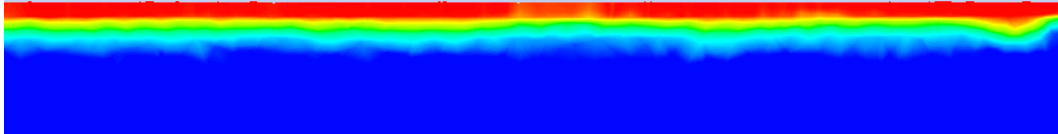
d) Pola aliran air-udara dengan $J_G = 1$ m/s dan $J_L = 0,1$ m/s



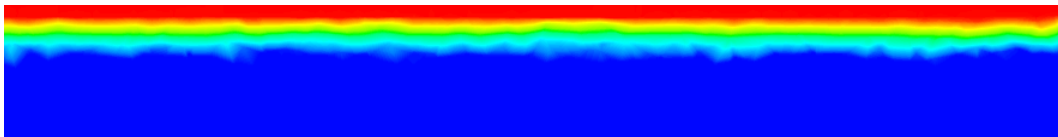
Gambar 7. Hasil simulasi pola aliran pengaruh kecepatan superficial udara (J_G) terhadap $J_L = 0,1$ m/s saat (1,5 detik)

Lampiran 9. Hasil simulasi pola aliran pengaruh kecepatan superficial udara (J_G) terhadap $J_L = 0,1$ m/s saat (2 detik)

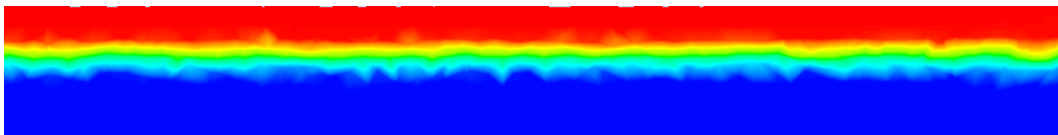
a) Pola aliran air-udara dengan $J_G = 0,05$ m/s dan $J_L = 0,1$ m/s



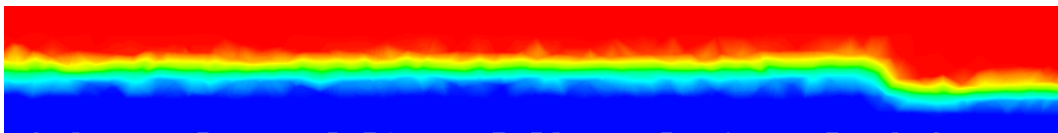
b) Pola aliran air-udara dengan $J_G = 0,1$ m/s dan $J_L = 0,1$ m/s



c) Pola aliran air-udara dengan $J_G = 0,5$ m/s dan $J_L = 0,1$ m/s

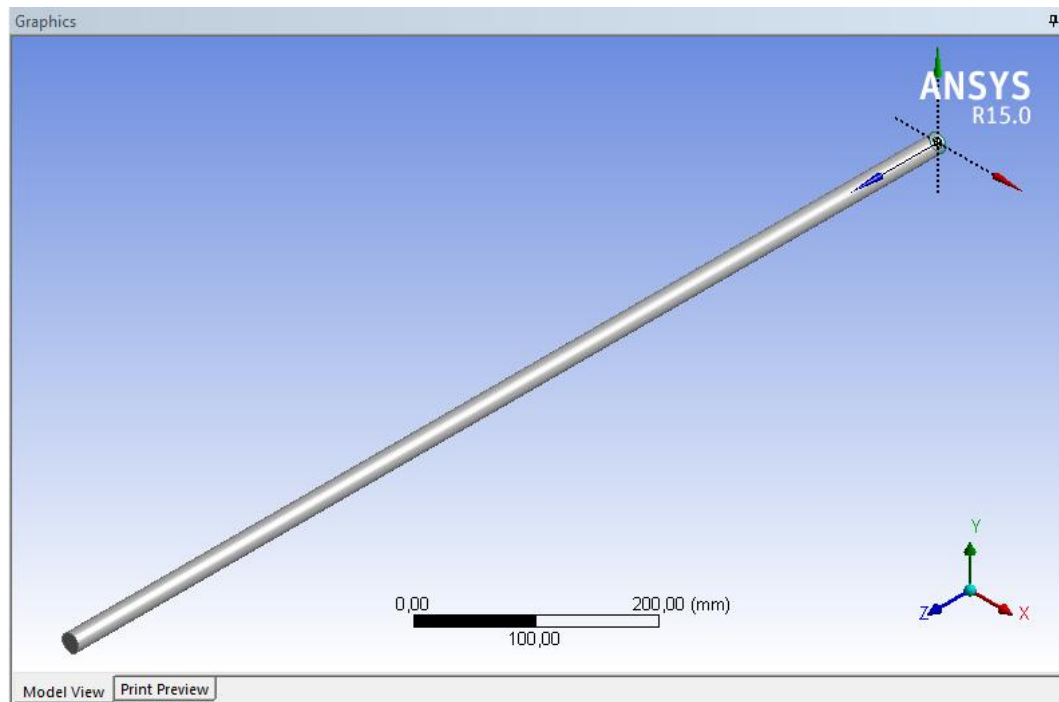


d) Pola aliran air-udara dengan $J_G = 1$ m/s dan $J_L = 0,1$ m/s



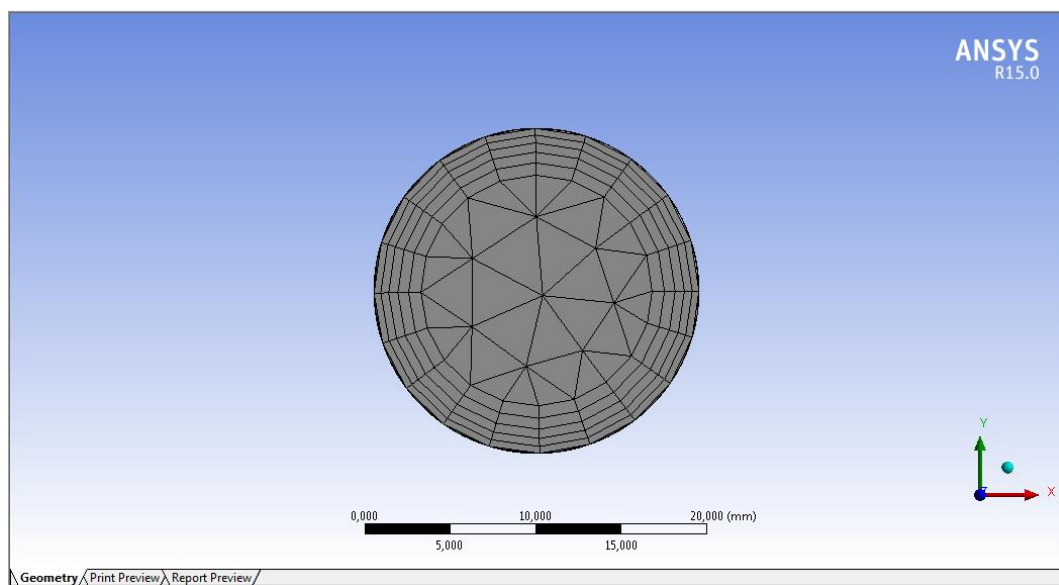
Gambar 8. Hasil simulasi pola aliran pengaruh kecepatan udara (J_G) terhadap $J_L = 0,1$ m/s saat (2 detik)

Lampiran 10. Geometri benda

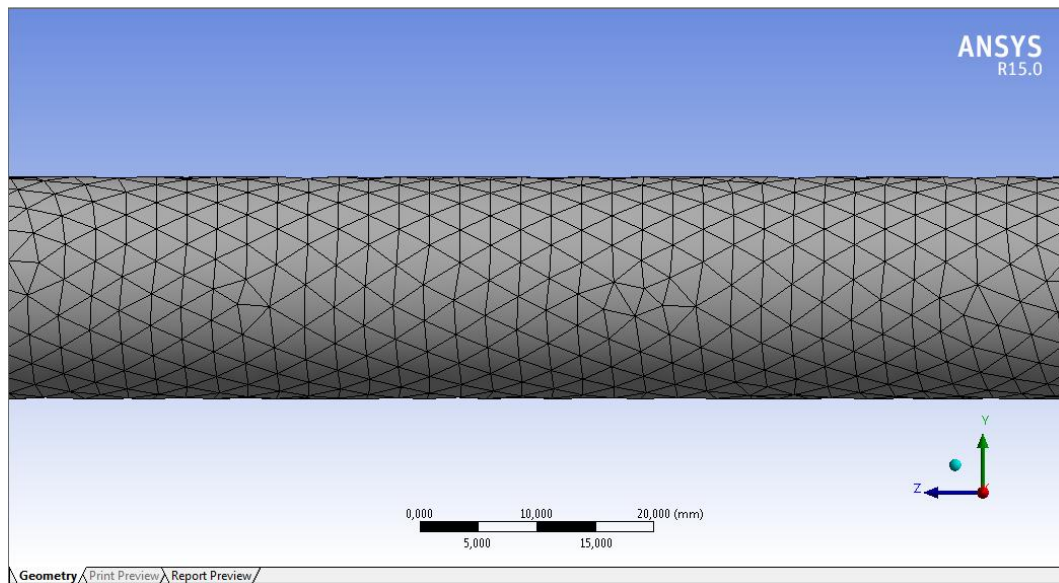


Gambar 9. Geometri benda (pipa)

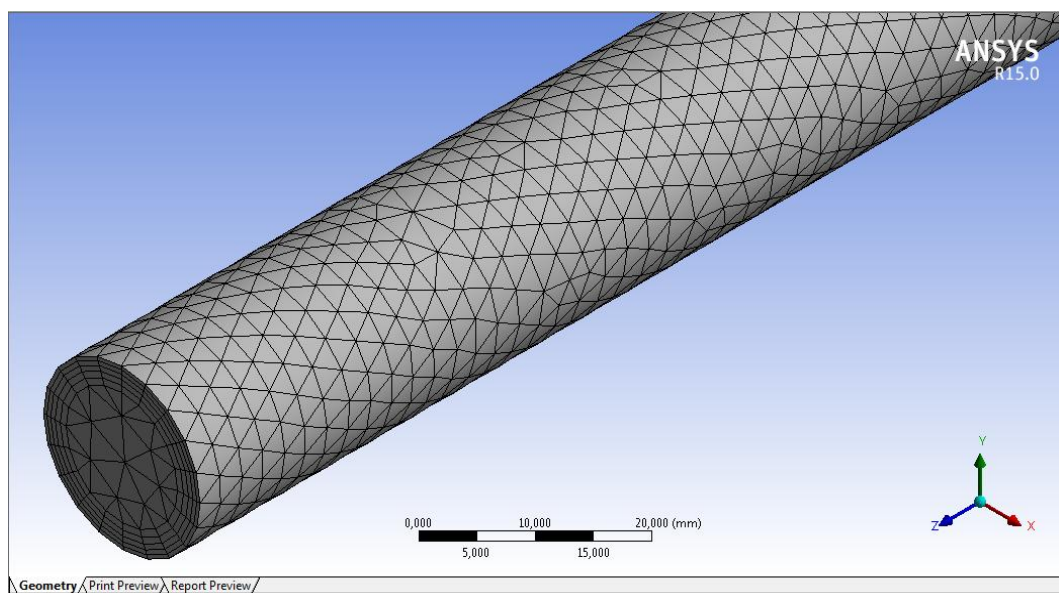
Lampiran 11. Meshing



Gambar 10. Meshing outlet



Gambar 11. *Meshing* tampak samping

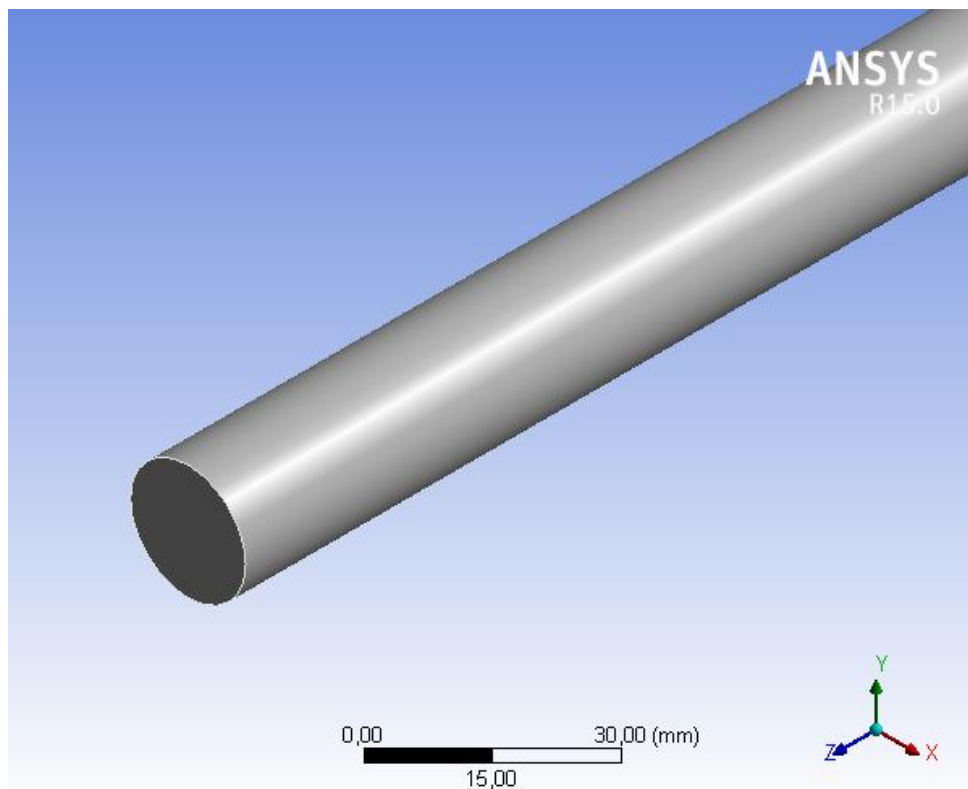


Gambar 12. *Meshing* body

Lampiran 12. *Report Meshing*

Project

First Saved	Tuesday, October 04, 2016
Last Saved	Tuesday, October 25, 2016
Product Version	15.0 Release
Save Project Before Solution	No
Save Project After Solution	No



Contents

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- [Model \(A3\)](#)
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 - [Mesh](#)
 - [Mesh Controls](#)
 - [Named Selections](#)

Units

TABLE 2.
Unit System *Meshing*

Unit System	Metric (mm, kg, N, s, mV, mA)	Degrees	rad/s	Celsius
Angle		Degrees		
Rotational Velocity			rad/s	
Temperature				Celsius

Model (A3)

Geometry

TABLE 3.
Model (A3) > Geometry

Object Name	<i>Geometry</i>
State	Fully Defined
Definition	
Source	D:\SKRIPSI DEDY\Ansys\Bahan Seminar\Bahan Simulasi_files\dp0\FFF\DM\FFF.agdb
Type	DesignModeler
Length Unit	Meters
Bounding Box	
Length X	19, mm
Length Y	19, mm
Length Z	1000, mm
Properties	
Volume	2,8196e+005 mm ³
Scale Factor Value	1,
Statistics	
Bodies	1
Active Bodies	1
Nodes	52350
Elements	132880
Mesh Metric	None

Lanjutan

Basic Geometry Options	
Parameters	Yes
Parameter Key	DS
Attributes	No
Named Selections	No
Material Properties	No
Advanced Geometry Options	
Use Associativity	Yes
Coordinate Systems	No
Reader Mode Saves Updated File	No
Use Instances	Yes
Smart CAD Update	No
Compare Parts On Update	No
Attach File Via Temp File	Yes
Temporary Directory	C:\Users\uSer\AppData\Local\Temp
Analysis Type	3-D
Decompose Disjoint Geometry	Yes
Enclosure and Symmetry Processing	No

TABLE 4
Model (A3) > Geometry > Parts

Object Name	<i>Solid</i>
State	Meshed
Graphics Properties	
Visible	Yes
Transparency	1
Definition	
Suppressed	No
Coordinate System	Default Coordinate System
Reference Frame	Lagrangian
Material	
Fluid/Solid	Defined By Geometry (Solid)
Bounding Box	
Length X	19, mm
Length Y	19, mm
Length Z	1000, mm
Properties	
Volume	2,8196e+005 mm ³
Centroid X	-3,9438e-017 mm

Lanjutan

Centroid Y	-8,6481e-016 mm
Centroid Z	502,73 mm
Statistics	
Nodes	52350
Elements	132880
Mesh Metric	None

Coordinate Systems

TABLE 5
Model (A3) > Coordinate Systems > Coordinate System

Object Name	Global Coordinate System	Coordinate System
State	Fully Defined	
Definition		
Type	Cartesian	
Coordinate System ID	0,	
Coordinate System		Program Controlled
Suppressed		No
Origin		
Origin X	0, mm	2,3459e-017 mm
Origin Y	0, mm	-3,8707e-016 mm
Origin Z	0, mm	1000, mm
Define By		Geometry Selection
Geometry		Defined
Directional Vectors		
X Axis Data	[1, 0, 0,]	
Y Axis Data	[0, 1, 0,]	
Z Axis Data	[0, 0, 1,]	
Principal Axis		
Axis		X
Define By		Global X Axis
Orientation About Principal Axis		
Axis		Y
Define By		Default
Transformations		
Base Configuration		Absolute
Transformed Configuration		[2,3459e-017 -3,8707e-016 1000,]

Mesh

TABLE 6
Model (A3) > Mesh

Object Name	<i>Mesh</i>
State	Solved
Defaults	
Physics Preference	CFD
Solver Preference	Fluent
Relevance	0
Sizing	
Use Advanced Size Function	On: Curvature
Relevance Center	Fine
Initial Size Seed	Active Assembly
Smoothing	Medium
Transition	Slow
Span Angle Center	Fine
Curvature Normal Angle	Default (18,0 °)
Min Size	0,50 mm
Max Face Size	4,0 mm
Max Size	4,0 mm
Growth Rate	Default (1,20)
Minimum Edge Length	31,4160 mm
Inflation	
Use Automatic Inflation	None
Inflation Option	Smooth Transition
Transition Ratio	0,272
Maximum Layers	5
Growth Rate	1,2
Inflation Algorithm	Pre
View Advanced Options	No
Assembly Meshing	
Method	None
Patch Conforming Options	
Triangle Surface Mesher	Program Controlled
Patch Independent Options	
Topology Checking	Yes
Advanced	
Number of CPUs for Parallel Part Meshing	Program Controlled
Shape Checking	CFD
Element Midside Nodes	Dropped
Straight Sided Elements	
Number of Retries	0
Extra Retries For Assembly	Yes
Rigid Body Behavior	Dimensionally Reduced
Mesh Morphing	Disabled
Defeaturing	
Pinch Tolerance	Default (0,450 mm)

Lanjutan

Generate Pinch on Refresh	No
Automatic Mesh Based Defeaturing	On
Defeaturing Tolerance	Default (0,250 mm)
Statistics	
Nodes	52350
Elements	132880
Mesh Metric	None

TABLE 7
Model (A3) > Mesh > Mesh Controls

Object Name	<i>Inflation</i>	<i>Inflation 2</i>
State	Fully Defined	
Scope		
Scoping Method	Geometry Selection	
Geometry	1 Body	
Definition		
Suppressed	No	
Boundary Scoping Method	Geometry Selection	
Boundary	1 Face	
Inflation Option	Smooth Transition	
Transition Ratio	Default (0,272)	
Maximum Layers	5	
Growth Rate	1,2	
Inflation Algorithm	Pre	

Named Selections

TABLE 8
Model (A3) > Named Selections > Named Selections

Object Name	<i>inlet udara</i>	<i>inlet air</i>	<i>wall</i>	<i>Outlet</i>
State	Fully Defined			
Scope				
Scoping Method	Geometry Selection			
Geometry	1 Face			
Definition				
Send to Solver	Yes			
Visible	Yes			
Program Controlled Inflation	Exclude			
Statistics				
Type	Manual			
Total Selection	1 Face			
Suppressed	0			
Used by Mesh Worksheet	No			