

## DAFTAR PUSTAKA

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# LAMPIRAN

## LAMPIRAN

Lampiran 1 Tabel Data Ketinggian Gelombang

<b>Tinggi Gelombang Tahun 2022</b>		
<b>Bulan</b>	<b>H(m)</b>	
	<b>BMKG</b>	<b>ECMWF</b>
<b>1</b>	1,403	0,263
<b>2</b>	1,4	0,289
<b>3</b>	1,4	0,211
<b>4</b>	1,398	0,220
<b>5</b>	1,399	0,235
<b>6</b>	1,401	0,268
<b>7</b>	1,4	0,412
<b>8</b>	1,402	0,413
<b>9</b>	1,397	0,369
<b>10</b>	1,403	0,258
<b>11</b>	1,399	0,219
<b>12</b>	1,402	0,228

Lampiran 2 Tabel Data Kecepatan Angin

<b>Kecepatan Angin</b>				
<b>Bulan</b>	<b>BMKG</b>		<b>ECMWF</b>	
	<b>T (s)</b>	<b>C (m/s)</b>	<b>T(s)</b>	<b>C(m/s)</b>
<b>1</b>	4,205	6,563	1,821	2,841
<b>2</b>	4,200	6,556	1,908	2,978
<b>3</b>	4,200	6,556	1,631	2,545
<b>4</b>	4,197	6,551	1,665	2,599
<b>5</b>	4,199	6,553	1,721	2,686
<b>6</b>	4,202	6,558	1,838	2,868
<b>7</b>	4,200	6,556	2,279	3,556
<b>8</b>	4,203	6,560	2,281	3,561
<b>9</b>	4,196	6,548	2,156	3,366
<b>10</b>	4,205	6,563	1,803	2,814
<b>11</b>	4,199	6,553	1,661	2,593
<b>12</b>	4,203	6,560	1,695	2,646

Lampiran 3 Tabel Spesifikasi Generator

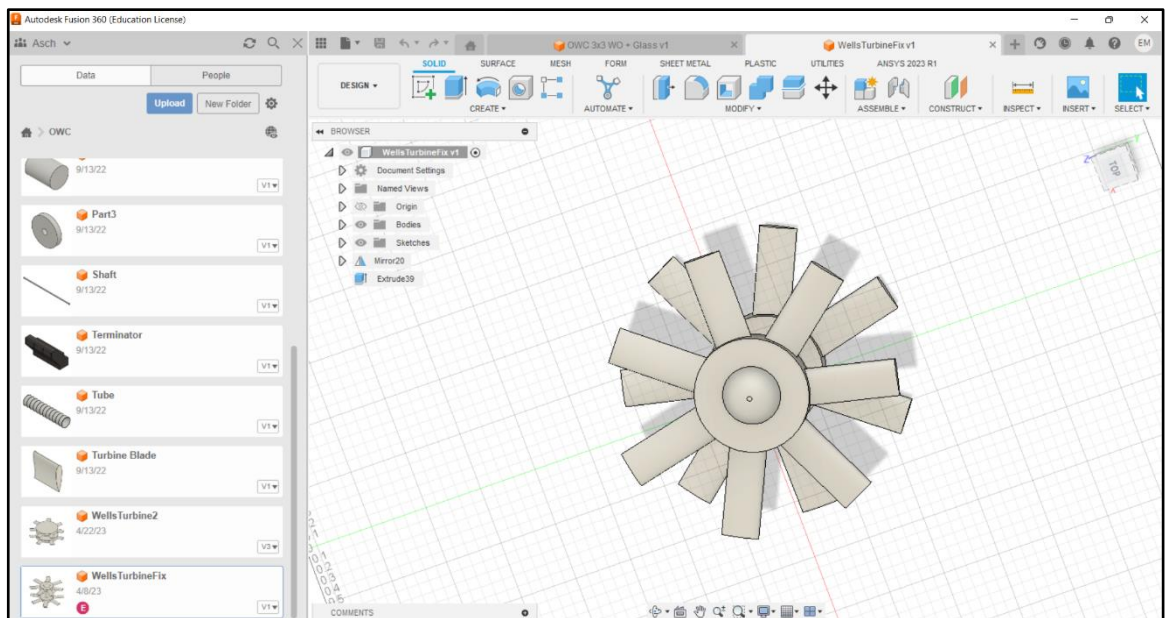
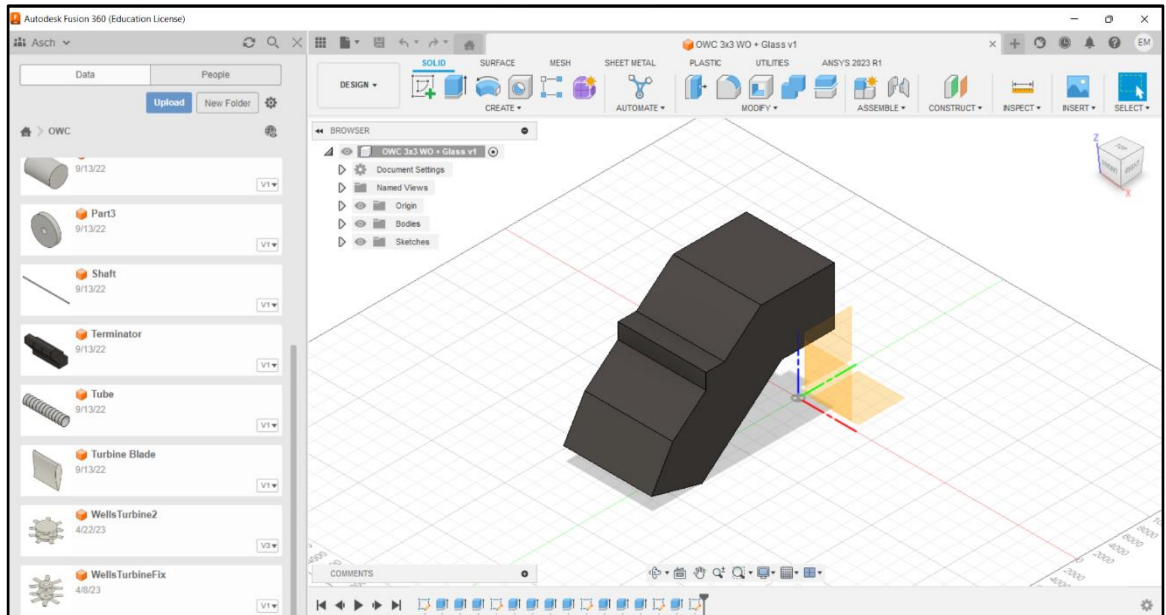
<b>Alternator Brand</b>	STAMFORD
<b>Alternator Type</b>	UCI274C
<b>Rated Power (kW/kVa)</b>	100/125
<b>Power Factor (Cos Phi)</b>	0,8
<b>Max Overspeed (rpm)</b>	2250
<b>Number of Pole</b>	4
<b>Frequency (Hz)</b>	60
<b>Rated Current (A)</b>	208
<b>Efficiencies (%)</b>	91,1

Lampiran 4 Tabel Hasil Penelitian

Tahun 2022 (BMKG)													
Lebar Kolom	Bulan	H (m)	T (s)	a (m)	Lebar Ombak (m)	$\lambda$ (m)	C (m/s)	n (rpm)	Torsi (Nm)	Pw (kW)	Pt (kW)	Pte (kW)	Pg (kW)
3 meter	1	1,403	4,205	0,702	9	27,595	6,563	1050	554,718	146,840	61,019	15,255	13,897
	2	1,400	4,200	0,700	9	27,536	6,556	1050	553,410	146,057	60,875	15,219	13,864
	3	1,400	4,200	0,700	9	27,536	6,556	1050	553,410	146,057	60,875	15,219	13,864
	4	1,398	4,197	0,699	9	27,497	6,551	1050	552,477	145,536	60,772	15,193	13,841
	5	1,399	4,199	0,700	9	27,516	6,553	1050	552,850	145,796	60,814	15,203	13,850
	6	1,401	4,202	0,701	9	27,556	6,558	1050	553,783	146,318	60,916	15,229	13,874
	7	1,400	4,200	0,700	9	27,536	6,556	1050	553,410	146,057	60,875	15,219	13,864
	8	1,402	4,203	0,701	9	27,575	6,560	1050	554,157	146,579	60,957	15,239	13,883
	9	1,397	4,196	0,699	9	27,477	6,548	1050	551,918	145,276	60,711	15,178	13,827
	10	1,403	4,205	0,702	9	27,595	6,563	1050	554,718	146,840	61,019	15,255	13,897
	11	1,399	4,199	0,700	9	27,516	6,553	1050	552,850	145,796	60,814	15,203	13,850
	12	1,402	4,203	0,701	9	27,575	6,560	1050	554,157	146,579	60,957	15,239	13,883
6 meter	1	1,4	4,205	0,702	18	27,595	6,563	1050	1304,060	293,681	143,447	35,862	32,670
	2	1,4	4,200	0,700	18	27,536	6,556	1050	1300,920	292,113	143,101	35,775	32,591
	3	1,4	4,200	0,700	18	27,536	6,556	1050	1300,920	292,113	143,101	35,775	32,591
	4	1,4	4,197	0,699	18	27,497	6,551	1050	1298,690	291,071	142,856	35,714	32,535
	5	1,4	4,199	0,700	18	27,516	6,553	1050	1299,580	291,592	142,954	35,738	32,558
	6	1,4	4,202	0,701	18	27,556	6,558	1050	1301,820	292,635	143,200	35,800	32,614
	7	1,4	4,200	0,700	18	27,536	6,556	1050	1300,920	292,113	143,101	35,775	32,591
	8	1,402	4,203	0,701	18	27,575	6,560	1050	1302,710	293,158	143,298	35,825	32,636
	9	1,397	4,196	0,699	18	27,477	6,548	1050	1297,350	290,551	142,709	35,677	32,502
	10	1,403	4,205	0,702	18	27,595	6,563	1050	1304,060	293,681	143,447	35,862	32,670
	11	1,399	4,199	0,700	18	27,516	6,553	1050	1299,580	291,592	142,954	35,738	32,558
	12	1,402	4,203	0,701	18	27,575	6,560	1050	1302,710	293,158	143,298	35,825	32,636
9 meter	1	1,4	4,205	0,702	27	27,595	6,563	1050	2318,950	440,521	255,085	63,771	58,095
	2	1,4	4,200	0,700	27	27,536	6,556	1050	2313,870	438,170	254,526	63,631	57,968
	3	1,4	4,200	0,700	27	27,536	6,556	1050	2313,870	438,170	254,526	63,631	57,968
	4	1,4	4,197	0,699	27	27,497	6,551	1050	2310,240	436,607	254,126	63,532	57,877
	5	1,4	4,199	0,700	27	27,516	6,553	1050	2311,690	437,388	254,286	63,571	57,914
	6	1,4	4,202	0,701	27	27,556	6,558	1050	2315,320	438,953	254,685	63,671	58,005
	7	1,4	4,200	0,700	27	27,536	6,556	1050	2313,870	438,170	254,526	63,631	57,968
	8	1,402	4,203	0,701	27	27,575	6,560	1050	2316,770	439,737	254,845	63,711	58,041
	9	1,397	4,196	0,699	27	27,477	6,548	1050	2308,060	435,827	253,887	63,472	57,823
	10	1,403	4,205	0,702	27	27,595	6,563	1050	2318,950	440,521	255,085	63,771	58,095
	11	1,399	4,199	0,700	27	27,516	6,553	1050	2311,690	437,388	254,286	63,571	57,914
	12	1,402	4,203	0,701	27	27,575	6,560	1050	2316,770	439,737	254,845	63,711	58,041

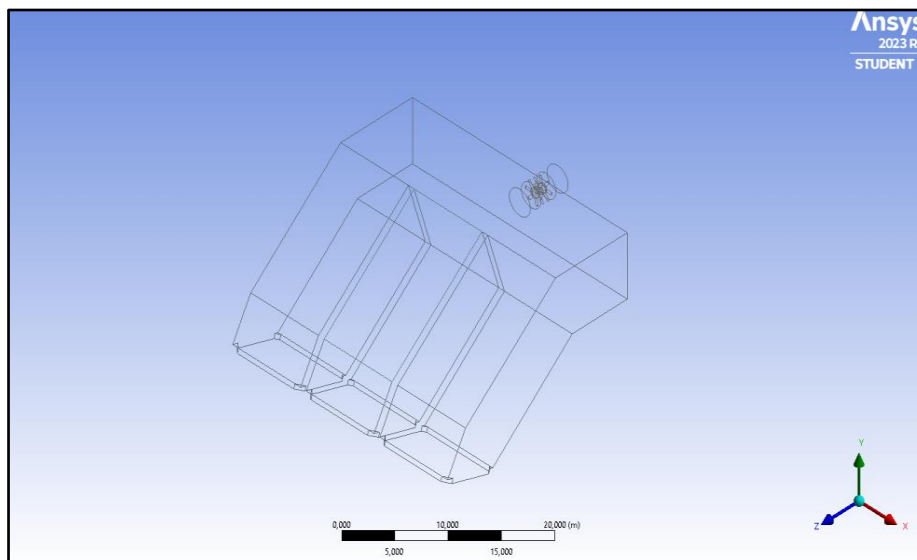
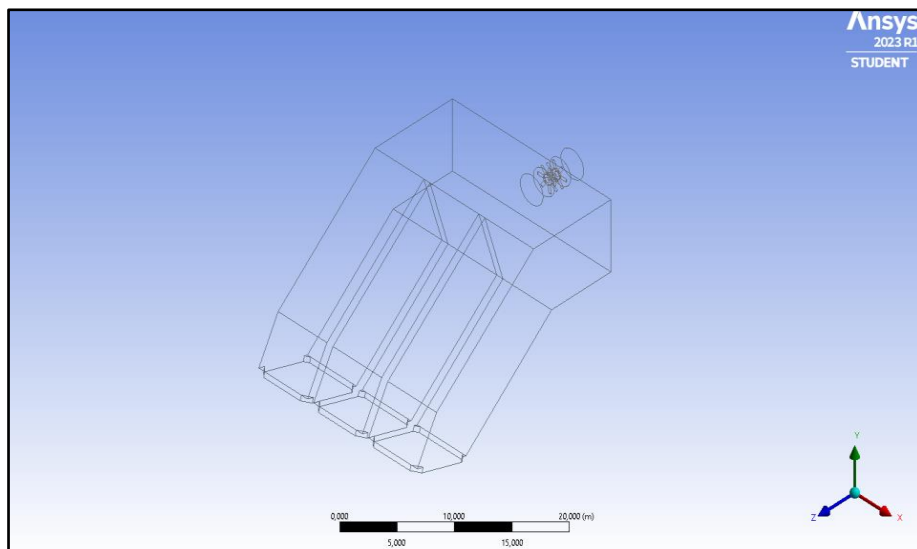
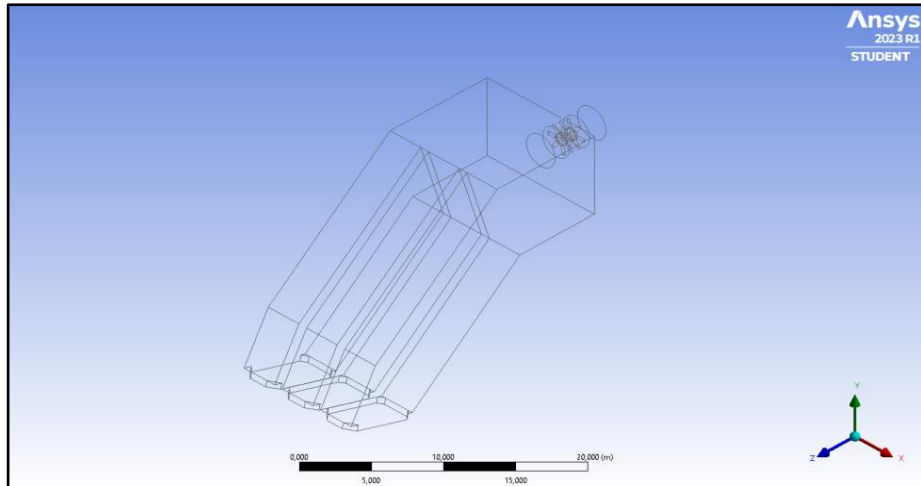
Tahun 2022 (ECMWF)													
Lebar Kolom	Bulan	H (m)	T (s)	a (m)	Lebar Ombak (m)	$\lambda$ (m)	C (m/s)	n (rpm)	Torsi (Nm)	Pw (kW)	Pt (kW)	Pte (kW)	Pg (kW)
3 meter	1	0,263	1,821	0,132	9	5,173	2,841	1050	89,557	2,234	9,851	2,463	2,244
	2	0,289	1,908	0,145	9	5,684	2,978	1050	99,193	2,828	10,911	2,728	2,485
	3	0,211	1,631	0,106	9	4,150	2,545	1050	74,170	1,288	8,159	2,040	1,858
	4	0,220	1,665	0,110	9	4,327	2,599	1050	76,378	1,430	8,402	2,100	1,913
	5	0,235	1,721	0,118	9	4,622	2,686	1050	80,217	1,686	8,824	2,206	2,010
	6	0,268	1,838	0,134	9	5,271	2,868	1050	91,380	2,342	10,052	2,513	2,289
	7	0,412	2,279	0,206	9	8,103	3,556	1050	146,914	6,862	16,161	4,040	3,681
	8	0,413	2,281	0,207	9	8,123	3,561	1050	147,316	6,904	16,205	4,051	3,691
	9	0,369	2,156	0,185	9	7,258	3,366	1050	130,646	5,209	14,371	3,593	3,273
	10	0,258	1,803	0,129	9	5,074	2,814	1050	87,768	2,129	9,654	2,414	2,199
	11	0,219	1,661	0,110	9	4,307	2,593	1050	76,128	1,414	8,374	2,094	1,907
	12	0,228	1,695	0,114	9	4,484	2,646	1050	78,289	1,563	8,612	2,153	1,961
6 meter	1	0,263	1,821	0,132	18	5,173	2,841	1050	225,285	4,468	24,781	6,195	5,644
	2	0,289	1,908	0,145	18	5,684	2,978	1050	247,321	5,656	27,205	6,801	6,196
	3	0,211	1,631	0,106	18	4,150	2,545	1050	179,422	2,576	19,736	4,934	4,495
	4	0,220	1,665	0,110	18	4,327	2,599	1050	187,534	2,859	20,629	5,157	4,698
	5	0,235	1,721	0,118	18	4,622	2,686	1050	203,988	3,372	22,439	5,610	5,110
	6	0,268	1,838	0,134	18	5,271	2,868	1050	229,625	4,683	25,259	6,315	5,753
	7	0,412	2,279	0,206	18	8,103	3,556	1050	321,371	13,724	35,351	8,838	8,051
	8	0,413	2,281	0,207	18	8,123	3,561	1050	321,854	13,807	35,404	8,851	8,063
	9	0,369	2,156	0,185	18	7,258	3,366	1050	301,866	10,418	33,205	8,301	7,562
	10	0,258	1,803	0,129	18	5,074	2,814	1050	220,947	4,259	24,304	6,076	5,535
	11	0,219	1,661	0,110	18	4,307	2,593	1050	186,629	2,827	20,529	5,132	4,676
	12	0,228	1,695	0,114	18	4,484	2,646	1050	194,653	3,127	21,412	5,353	4,877
9 meter	1	0,263	1,821	0,132	27	5,173	2,841	1050	333,159	6,702	36,647	9,162	8,346
	2	0,289	1,908	0,145	27	5,684	2,978	1050	376,233	8,483	41,386	10,346	9,426
	3	0,211	1,631	0,106	27	4,150	2,545	1050	244,917	3,864	26,941	6,735	6,136
	4	0,220	1,665	0,110	27	4,327	2,599	1050	259,965	4,289	28,596	7,149	6,513
	5	0,235	1,721	0,118	27	4,622	2,686	1050	285,470	5,058	31,402	7,850	7,152
	6	0,268	1,838	0,134	27	5,271	2,868	1050	341,544	7,025	37,570	9,392	8,557
	7	0,412	2,279	0,206	27	8,103	3,556	1050	582,891	20,586	64,118	16,030	14,603
	8	0,413	2,281	0,207	27	8,123	3,561	1050	584,914	20,711	64,341	16,085	14,654
	9	0,369	2,156	0,185	27	7,258	3,366	1050	509,501	15,627	56,045	14,011	12,764
	10	0,258	1,803	0,129	27	5,074	2,814	1050	324,794	6,388	35,727	8,932	8,137
	11	0,219	1,661	0,110	27	4,307	2,593	1050	258,260	4,241	28,409	7,102	6,470
	12	0,228	1,695	0,114	27	4,484	2,646	1050	273,552	4,690	30,091	7,523	6,853

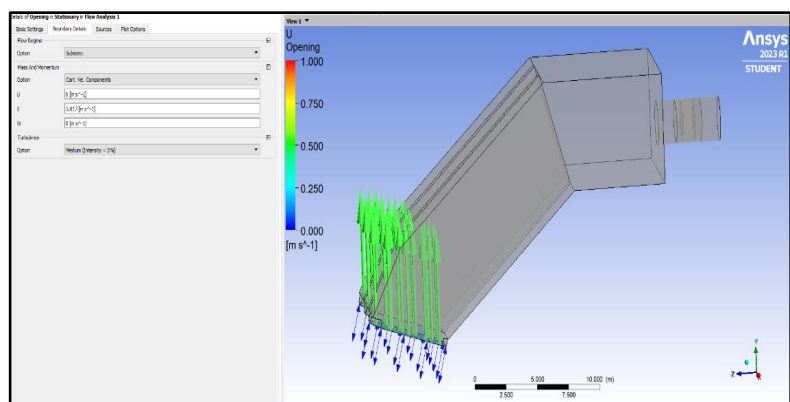
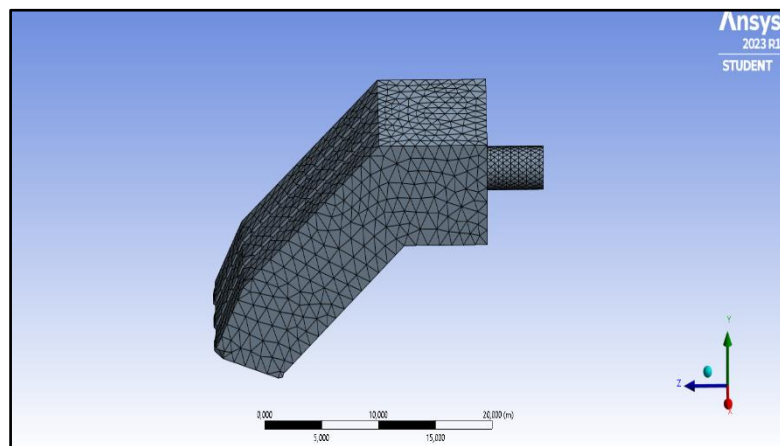
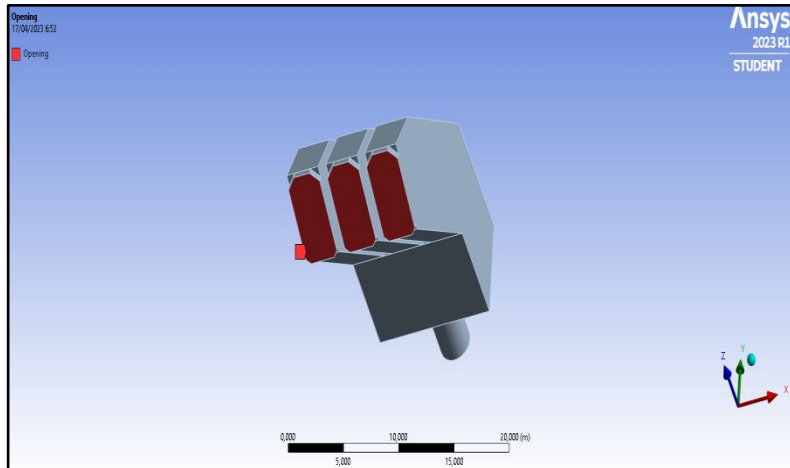
## Lampiran 5 Dokumentasi Pembuatan Desain Menggunakan Fusion 360

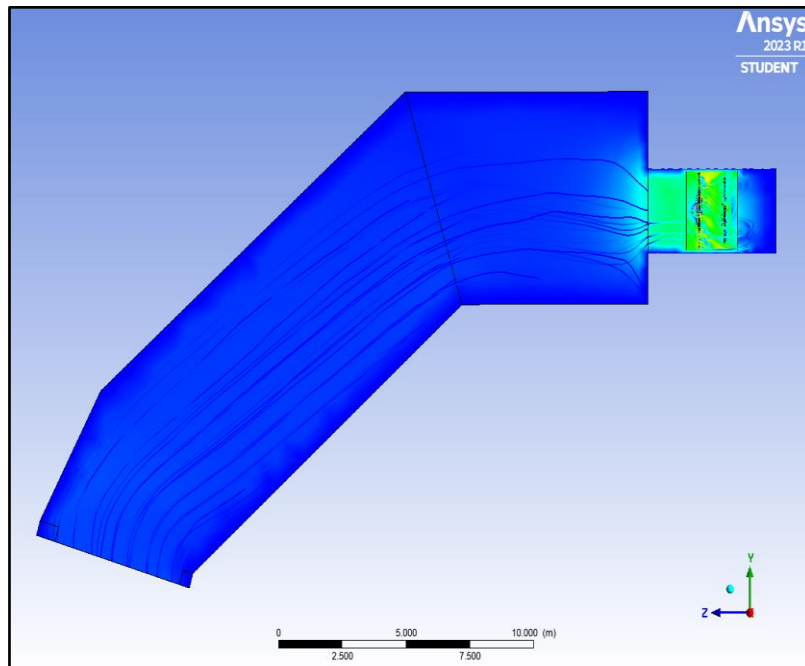




## Lampiran 6 Dokumentasi Pengambilan Data Menggunakan Ansys CFX







Outline Variables Expressions Calculators Turbo

- Default Legend View 1
  - Plane 1
  - Streamline 1
  - Vector 1
  - Wireframe
- Report
  - Title Page
  - File Report
  - Mesh Report
  - Physics Report
  - Solution Report
    - Boundary Flow for Copy of Fluid Flow CFX
    - Forces and Torques for Copy of Fluid Flow CFX
  - User Data
- Display Properties and Defaults

Details of Solution Report

Content

Force and Torque Summary

- Forces
- Torques

Insert: f Function Expression Variable Location C Constant Annotation

Force And Torque Table Copy of Fluid Flow CFX

E25 162.549

A	B	C	D	E	F
Location	Type	X	Y	Z	
1					
2	Pressure Force	0.0000e+0	0.0000e+0	0.0000e+0	
3	Viscous Force	0.0000e+0	0.0000e+0	0.0000e+0	
4	<b>Total Force</b>	0.0000e+0	0.0000e+0	0.0000e+0	
5	Default Fluid Fluid Interface Side 1				
6	Pressure Torque	0.0000e+0	0.0000e+0	0.0000e+0	
7	Viscous Torque	0.0000e+0	0.0000e+0	0.0000e+0	
8	<b>Total Torque</b>	0.0000e+0	0.0000e+0	0.0000e+0	
9	Pressure Force	0.0000e+0	0.0000e+0	0.0000e+0	
10	Viscous Force	0.0000e+0	0.0000e+0	0.0000e+0	
11	<b>Total Force</b>	0.0000e+0	0.0000e+0	0.0000e+0	
12	Default Fluid Fluid Interface Side 2				
13	Pressure Torque	0.0000e+0	0.0000e+0	0.0000e+0	
14	Viscous Torque	0.0000e+0	0.0000e+0	0.0000e+0	
15	<b>Total Torque</b>	0.0000e+0	0.0000e+0	0.0000e+0	
16	Pressure Force	2.4169e+2	-1.1362e+2	-2.1872e+2	
17	Viscous Force	5.9519e-4	2.5523e-2	-6.4354e-3	
18	<b>Total Force</b>	2.4169e+2	-1.1359e+2	-2.1872e+2	
19	Stationary Default				
20	Pressure Torque	4.9299e+3	4.6951e+3	2.8546e+3	
21	Viscous Torque	-4.3566e-1	1.1239e-2	-1.9419e-3	
22	<b>Total Torque</b>	4.9299e+3	4.6951e+3	2.8546e+3	
23	Pressure Force	3.2256e+1	8.9320e-1	-2.5558e+3	
24	Viscous Force	-1.3349e-1	-3.5051e-1	-4.3710e-1	
25	<b>Total Force</b>	3.2123e+1	5.4270e-1	-2.5558e+3	
26	Turbine				
27	Pressure Torque	-7.7817e+0	2.8135e+1	1.7040e+2	
28	Viscous Torque	-1.9315e-1	2.2005e-1	-7.8462e+0	
29	<b>Total Torque</b>	-7.9749e+0	2.8356e+1	1.6255e+2	
30	Pressure Force	-2.9953e+2	3.2552e+4	-5.1724e+3	
31	Viscous Force	9.0901e-2	7.5856e+1	-9.9067e+1	
32	<b>Total Force</b>	-2.9944e+2	3.2628e+4	-5.2715e+3	
33	Wall				
34	Pressure Torque	-6.4495e+5	-4.8549e+3	-2.8982e+3	
35	Viscous Torque	-9.8011e+2	-5.5333e+0	-1.2429e+0	
36	<b>Total Torque</b>	-6.4593e+5	-4.8603e+3	-2.8994e+3	