

LAMPIRAN

1. Hasil data

VARIASI 5 CM

10GPM (0,0006 m³/s)

V air 8 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	111	14.3	9.295	0.00232375	1.7875	5.88	30.3996599
2	113	13.2	8.58	0.002145	1.65	5.88	28.0612245
3	114	12.8	8.32	0.00208	1.6	5.88	27.2108844
4	115	11.3	7.345	0.00183625	1.4125	5.88	24.0221088
5	116	11.5	7.475	0.00186875	1.4375	5.88	24.4472789
Rata-rata	113.8			0.00205075			26.8282313

12,5 GPM (0,0007 m³/s)

V air 9,6 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	100	12.7	8.255	0.00143316	1.5875	6.86	23.1413994
2	114	12.2	7.93	0.001376736	1.525	6.86	22.2303207
3	125	12.3	7.995	0.001388021	1.5375	6.86	22.4125364
4	138	12.4	8.06	0.001399306	1.55	6.86	22.5947522
5	151	12.4	8.06	0.001399306	1.55	6.86	22.5947522
Rata-rata	125.6			0.001399306			22.5947522

15 GPM (0,0009 m³/s)

V air 12 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	102	15.3	9.945	0.001105	1.9125	8.82	21.6836735
2	134	13.5	8.775	0.000975	1.6875	8.82	19.1326531
3	139	14	9.1	0.001011111	1.75	8.82	19.8412698
4	150	15.4	10.01	0.00112222	1.925	8.82	21.8253968
5	170	14.4	9.36	0.00104	1.8	8.82	20.4081633
Rata-rata	139			0.001048667			20.5782313

17,5 GPM (0,0011 m³/s)

V air 13,6 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	135	9.2	5.98	0.000524993	1.15	10.78	10.6679035
2	138	9.3	6.045	0.0005307	1.1625	10.78	10.783859
3	153	9.5	6.175	0.000542112	1.1875	10.78	11.0157699
4	192	9.6	6.24	0.000547819	1.2	10.78	11.1317254
5	221	9.2	5.98	0.000524993	1.15	10.78	10.6679035
Rata-rata	167.8			0.000534123			10.8534323

20 GPM (0,0013 m³/s)

V air 16,1 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout (N.m)	Densitas Air Pin (Watt)	Efisiensi (%)
1	156	10.2	6.63	0.000409243	1.275	12.74	10.0078493
2	190	10	6.5	0.000401219	1.25	12.74	9.81161695
3	193	10	6.5	0.000401219	1.25	12.74	9.81161695
4	196	10.6	6.89	0.000425292	1.325	12.74	10.400314
5	222	10	6.5	0.000401219	1.25	12.74	9.81161695
Rata-rata	191.4			0.000407639			9.96860283

VARIASI 6 CM

10 GPM (0,0006 m³/s)

V air 8 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	101	11.8	7.67	0.0019175	1.475	5.88	25.085034
2	101	11.7	7.605	0.00190125	1.4625	5.88	24.872449
3	102	11.9	7.735	0.00193375	1.4875	5.88	25.297619
4	104	11.5	7.475	0.00186875	1.4375	5.88	24.4472789
5	122	11.7	7.605	0.00190125	1.4625	5.88	24.872449
Rata-rata	106			0.0019045			24.914966

12,5 GPM (0,0007 m³/s)

V air 9,6 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	102	12	7.8	0.001354167	1.5	6.86	21.8658892
2	106	13.3	8.645	0.001500868	1.6625	6.86	24.2346939
3	111	14.3	9.295	0.001613715	1.7875	6.86	26.0568513
4	115	14.3	9.295	0.001613715	1.7875	6.86	26.0568513
5	120	14.2	9.23	0.001602431	1.775	6.86	25.8746356
Rata-rata	110.8			0.001536979			24.8177843

15 GPM (0,0009 m³/s)

V air 12 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	120	13.5	8.775	0.000975	1.6875	8.82	19.1326531
2	121	16.1	10.465	0.001162778	2.0125	8.82	22.8174603
3	123	14.9	9.685	0.001076111	1.8625	8.82	21.11678
4	125	14.2	9.23	0.001025556	1.775	8.82	20.1247166
5	131	13	8.45	0.000938889	1.625	8.82	18.4240363
Rata-rata	124			0.001035667			20.3231293

17,5 GPM (0,0013 m³/s)

V air 16,1 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	100	12.6	8.19	0.000708478	1.575	10.78	14.6103896
2	111	13	8.45	0.000730969	1.625	10.78	15.0742115
3	128	12.8	8.32	0.000719723	1.6	10.78	14.8423006
4	137	12.4	8.06	0.000697232	1.55	10.78	14.3784787
5	154	12.6	8.19	0.000708478	1.575	10.78	14.6103896
Rata-rata	126			0.000712976			14.703154

20 GPM (0,0013 m³/s)

V air 16,1 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	154	11.1	7.215	0.000445353	1.3875	12.74	6.9375
2	155	10.9	7.085	0.000437329	1.3625	12.74	6.8125
3	165	11.4	7.41	0.00045739	1.425	12.74	7.125
4	168	11	7.15	0.000441341	1.375	12.74	6.875
5	180	10.7	6.955	0.000429304	1.3375	12.74	6.6875
Rata-rata	164.4			0.000442143			6.8875

VARIASI 7 CM

10 GPM (0,0006 m³/s)

V air 8 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	100	12.6	8.19	0.0020475	1.575	5.88	26.7857143
2	118	12.5	8.125	0.00203125	1.5625	5.88	26.5731293
3	119	12.5	8.125	0.00203125	1.5625	5.88	26.5731293
4	120	12.4	8.06	0.002015	1.55	5.88	26.3605442
5	123	12.5	8.125	0.00203125	1.5625	5.88	26.5731293
Rata-rata	116			0.00203125			26.5731293

12,5 GPM (0,0007 m³/s)

V air 9,6 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	106	11.2	7.28	0.001263889	1.4	6.86	20.4081633
2	113	12	7.8	0.001354167	1.5	6.86	21.8658892
3	116	11.1	7.215	0.001252604	1.3875	6.86	20.2259475
4	123	11.1	7.215	0.001252604	1.3875	6.86	20.2259475
5	134	11.1	7.215	0.001252604	1.3875	6.86	20.2259475
Rata-rata	118.4			0.001275174			20.590379

15 GPM (0,0009 m³/s)

V air 12 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	107	11	7.15	0.000794444	1.375	8.82	15.5895692
2	112	11.2	7.28	0.000808889	1.4	8.82	15.8730159
3	123	10.8	7.02	0.00078	1.35	8.82	15.3061224
4	126	11.1	7.215	0.000801667	1.3875	8.82	15.7312925
5	128	10.7	6.955	0.000772778	1.3375	8.82	15.1643991
Rata-rata	119.2			0.000791556			15.5328798

17,5 GPM (0,0011 m³/s)

V air 13,6 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	105	14.6	9.49	0.000820934	1.825	10.78	16.9294991
2	109	14.3	9.295	0.000804066	1.7875	10.78	16.5816327
3	122	14.8	9.62	0.00083218	1.85	10.78	17.16141
4	151	13	8.45	0.000730969	1.625	10.78	15.0742115
5	158	13.8	8.97	0.000775952	1.725	10.78	16.0018553
Rata-rata	129			0.00079282			16.3497217

20 GPM (0,0013 m³/s)

V air 16,1 m/s

Luas Permukaan Turbin 0,125

Nomor Tes	RPM	Gaya (Newton)	Torsi (N.m)	Ct	Pout	Densitas Air Pin (Watt)	Efisiensi (%)
1	126	14.4	9.36	0.000577755	1.8	12.74	5.80645161
2	131	12.8	8.32	0.00051356	1.6	12.74	5.16129032
3	132	13.8	8.97	0.000553682	1.725	12.74	5.56451613
4	141	13.8	8.97	0.000553682	1.725	12.74	5.56451613
5	144	12.8	8.32	0.00051356	1.6	12.74	5.16129032
Rata-rata	134.8			0.000542448			5.4516129

2.Foto

